CONTRACT DOCUMENTS AND SPECIFICATIONS

2014-2015 PAVEMENT REHABILITATION PROJECT

CITY OF GALLATIN

ENGINEERING DIVISION
132 WEST MAIN STREET
GALLATIN, TENNESSEE 37066

DATE: August 10, 2014

NOTICE TO BIDDERS

Sealed bids will be received by the City of Gallatin in the Finance Department, room 106, City Hall, 132 West Main Street, Gallatin, Tennessee, until 2 p.m., August 28, 2014, at which time they will be opened and read aloud for the 2014-2015 PAVEMENT REHABILITATION PROGRAM.

Specifications, Proposal Forms, and Contract Documents may be inspected at, and obtained from, the City Engineer's office after 2 p.m., August 14, 2014, or by downloading from the City's home page www.gallatinonthemove.com under "Doing Business – Bid Notices/Public Notices."

All bidders must be licensed contractors and eligible to bid Contracts in the State of Tennessee. The City of Gallatin reserves the right to reject any or all bids.

INFORMATION FOR BIDDERS

All bidders must satisfy themselves by personal examination of the locations of the proposed work, by examination of the Specifications and requirements of the work and the accuracy of the estimate of the quantities of the work to be done, and shall not at any time after the submission of a bid dispute or complain of such estimate nor assert that there was any misunderstanding in regard to the nature or amount of work to be done. The City shall not be responsible for bidders' errors and misjudgments, nor any information on local conditions or general laws and regulations.

The Specifications, Contract Documents, and Proposal Forms contain the provisions required for the 2014-2015 Pavement Rehabilitation Project. No information obtained from any officer, agent, or employee of the City on any such matters shall in any way affect the risk or obligation assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract.

Each proposal must be accompanied by a **certified check or surety with power of attorney**, executed by the Bidder and a surety company licensed to do business in Tennessee, in a sum equal to ten percent (10%) of the amount of the base proposal. The successful bidder will be required to execute a performance bond covering and including labor and materials in the amount of one hundred percent (100%) of the contract price. The performance surety is to remain in place for a period of one year after project completion.

All bids must be made on the blank form of proposal attached hereto. **Bids must be submitted in a sealed envelope clearly marked "BID – 2014-2015 PAVEMENT REHABILITATION PROJECT – CITY OF GALLATIN."** Bids arriving after the announced opening time or absent of the aforementioned markings will not be accepted.

All bidders must be licensed contractors and eligible to bid Contracts in the State of Tennessee. **No bid will be opened if the following information does not appear on the envelope containing the bid.**

1. Bidder's Name
2. Address
3. Tennessee Contractor's License Number
4. License Classification Applying to Bid
5. License Expiration Date
6. Name of Project for which Bid is submitted
7. Name and License information for all Subcontractors who will perform work.

Proposals which are incomplete, unbalanced, conditional, or obscure or which contain additions not called for, erasures, alterations or irregularities of any kind or which do not comply with the Invitation to Bid and Information for Bidders may be rejected at the option of the City. Bids must be written with typewriter, ink or indelible pencil; otherwise they may not be considered. Faxed bids will not be accepted.

The City of Gallatin reserves the right to disregard all nonconforming, nonresponsive, or conditional bids; to reject any or all bids; to limit quantities; to waive informalities; and to

evaluate proposals and accept any proposal or any part of any proposal that is judged, in our opinion, to be of the best quality, value, and service to the City of Gallatin.
A bidder may withdraw any proposal he has submitted at any time prior to the hour set for the closing of the bids, provided the request for withdrawal is signed in a manner identical with the proposal being withdrawn. No withdrawal or modification will be permitted for 30 days after the hour and date designated for opening the bids.

All questions or explanations requested by Bidders shall be submitted in writing to the City in ample time to permit consideration before the bid date. Necessary replies will be issued to all bidders of record as Addenda and receipt thereof shall be acknowledged on the proposal. Bidders shall check with the City prior to bid opening to secure any Addenda that may affect bidding. Oral instructions will not be given and do not form a part of the bidding package.

Contractor will be paid based on quantities complete and in place.

In case of default of the Contractor, the City may procure the articles of services from other services and hold the Contractor responsible for any excess cost occasioned thereby.

Bids must be executed in the Company name and signed by an officer or individual who has authority to bind the Company.

In cases of errors in the extension of prices in the bid, the unit price will govern. No bid shall be altered or amended after the specified time for opening bids.

All material and workmanship shall be subject to inspection and test at all times and places. In case any articles are found to be defective in material or workmanship, or otherwise not in conformity with the specification requirements, the City shall have the right to reject such articles or require their correction. Final inspection shall be conclusive except as regards latent defects, fraud, or such gross mistakes as amount to fraud.

A change order will be issued only in the event of a change in the scope of work.

All bid proposals must include the following:

1. Sealed envelope with required information on the outside.
2. 10% Bid Surety with power of attorney (if over $25,000)
3. Bid Proposal Form including Drug-Free Workplace Affidavit

The successful bidder must provide the following, each of which shall be in accordance with the contract documents:

1. Certificate of Insurance naming the **City of Gallatin** additionally insured with any exclusions listed, including
   - General Liability
   - Worker's Comp
   - Auto Insurance
2. Proof of Worker's Comp for all Subcontractors
3. Performance Surety and Materials & Labor Surety for 100% of the Total Bid with Power of Attorney (if over $25,000)
4. W-9 Form, if a new vendor

Additional Requirements:

- The successful bidder will also be responsible for payment of all taxes levied under the laws of the State of Tennessee.
- The successful bidder shall have the responsibility to insure that all persons employed under a contract with the City, whether directly or by subcontract, be legal residents and be authorized to work in the United States.
- Affirmative Action compliance is required.

All interested parties, without regard to race, color, or national origin, shall be afforded the opportunity to bid and shall receive equal consideration.

Additional information may be obtained by contacting Dewayne Rogers, Project Engineer, at (615) 451-5965.

EQUAL OPPORTUNITY TITLE VI POLICY STATEMENT

It is the policy of the City of Gallatin to ensure compliance with Title VI of the Civil Rights Act of 1964; 49 CFR, Part 21; related statutes and regulations to the end that no person shall be excluded from participation in or be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance from the U. S. Department of Transportation on the grounds of race, color, sex, age, disability or national origin.

PROPOSAL

ENGINEERING DIVISION
GALLATIN, TENNESSEE 37066

In response to the Invitation to Bid, the undersigned Bidder submits the following proposal for the **2014-2015 Pavement Rehabilitation Project** within the City of Gallatin as described and specified in the drawings, contract documents, and technical specifications.

The Bidder declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Contract Documents and the Specifications for the work, and has read all the Special Provisions furnished prior to the opening of bids; and that he has satisfied himself relative to the work to be performed.

The quantities shown in the Proposal are approximate only, are subject to increase or decrease and, should the quantities of any of the items of work be increased, the undersigned proposes to do the additional work at the unit prices set out herein; and should the quantities be decreased, the undersigned will make no claim for anticipated profits.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 calendar days after the opening of bids.

The Bidder hereby agrees that if he is awarded the Contract for this Work, he will commence work before a date to be specified in a written Notice to Proceed of the Owner and to fully complete the work as directed by the City Engineer.

The undersigned Bidder does hereby declare and stipulate that this Proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same work, and that it is made in pursuance of and subject to all the terms and conditions of the Contract Documents and the Specifications pertaining to the Work to be done.

Attached is the required Bid Surety or Certified Check in the amount of 10% of the total bid which the Bidder agrees will be retained by the City as liquidated damages in the event that the Bidder's proposal is accepted and the Bidder fails to execute the contract within the time stated in the proposal.

Contract unit prices shall be for a one-year period, at which time the City of Gallatin, at their option, may elect to extend the Contract for one additional year.

BID PROPOSAL
2014-2015 PAVEMENT REHABILITATION PROJECT

In compliance with your legal Invitation to Bid for the City of Gallatin 2014-2015 Pavement Rehabilitation Project, the undersigned Bidder, a corporation organized and existing under the laws of the State of _____, or a partnership of _____, or an individual doing business as _____ of the City of _____
State of _____, having examined the Specifications and Contract forms thereto attached, and being fully advised as to the extent and character of the work to be performed, and the equipment to be furnished, hereby proposes to furnish all labor, tools, material, plant, and equipment necessary for the Project.

The Bidder shall complete all tables (including ones with no estimated quantities) to establish his Bid. The undersigned further proposes to perform all work and furnish all equipment in accordance with the Specifications and Contract stipulations thereof, within the time limit specified, for the price so stated below.

BASE PROPOSAL: Bidder agrees to perform all of the asphalt overlay on roadways described in the Specifications and as directed by the City Engineer for the estimated sum of
_____($_____)
(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

BID SCHEDULE:

Item No.	Description	Unit	Estimated Quantity	Price Per Unit	Estimated Total Price Per Item
5.1	Mineral Aggregate Base, Class "A", Grading "D"	Ton	_____	_____	_____
6.1	Prime Coat	Ton	5	_____	_____
7.1	Tack Coat	Ton	45	_____	_____
9.1	Bituminous Plant Mix Base, Grading "BM" (2")	Ton	300	_____	_____
9.2	Bituminous Plant Mix Base, Grading "A" (4")	Ton	_____	_____	_____
10.1	Asphaltic Concrete Surface Course, Grading "D" (1-1/2")	Ton	_____	_____	_____

Item No.	Description	Unit	Estimated Quantity	Price Per Unit	Estimated Total Price Per Item
10.2	Asphaltic Concrete Grading Surface Course, Grading "E" (1-1/2")	Ton	10,650	_____	_____
38.1	Milling or Grinding of Asphalt from Streets (Surface Milling)	Ton	2500	_____	_____

Total Bid $_____

Respectfully submitted:

_____
Contractor

By: _____

Title: _____

Business Address: _____

_____
Zip Code

Contractor's License No: _____

Telephone Number: _____

DRUG-FREE WORKPLACE AFFIDAVIT

State of Tennessee)
County of Sumner)

The undersigned, principal officer of _____ , an employer of five (5) or more employees contracting with the City of Gallatin, 132 W. Main Street, Gallatin, TN 37066 to provide construction services, hereby states under oath as follows:

1. The undersigned is a principal officer of _____(hereinafter referred to as the "Company"), and is duly authorized to execute this Affidavit on behalf of the Company.

2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the State or any local government to provide construction services, to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9, of the Tennessee Code Annotated.

3. The Company is in compliance with T.C.A § 50-9-113.

Further affidavit saith not,

_____
Principal Officer President

Before me personally appeared _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this _____ day of _____, 2012.

_____
Notary Public

My commission expires:

AGREEMENT BETWEEN
OWNER AND CONTRACTOR

THIS AGREEMENT made as of the _____ day of _____, ____, by and between the OWNER: CITY OF GALLATIN, TENNESSEE, and.

WITNESSETH THAT the OWNER and the CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK. The CONTRACTOR will perform all Work as shown in the Contract Documents for the completion of the Project generally described as follows: Installation of Sidewalks and Handicap Ramps.

Article 2. ENGINEER. The Project has been designed by the City of Gallatin City Engineer, 132 West Main Street, Gallatin, Tennessee. The City Engineer will act as the ENGINEER in connection with completion of the Project in accordance with the Contract Documents.

Article 3. CONTRACT TIME. The Work for this Contract shall be completed within the timeframe of one year after the date which the CONTRACTOR is to start the Work as provided in the Contract Documents.

Article 4. CONTRACT PRICE. The OWNER will pay the CONTRACTOR for performance of the Work and completion of the Project in accordance with the Contract Documents subject to adjustment by Modifications as provided therein in current funds as follows:

_____and _____ Cents ($_____) in accordance with the conditions and prices stated in the Proposal.

Article 5. PAYMENT. The OWNER will pay the CONTRACTOR upon completion and acceptance of all the Work covered in this Contract based on the unit prices stated in the proposal and quantities actually in place.

Article 6. MISCELLANEOUS.

6.1 Neither the OWNER nor the CONTRACTOR shall, without the prior consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents and, specifically, the CONTRACTOR shall not assign any monies due or to become due without consent of the OWNER.

6.2 The OWNER and the CONTRACTOR each binds himself, his partners, successors, assigns, and legal representatives to the other party hereto in respect to all covenants, agreements, and obligation contained in the Contract Documents.

6.3 The Contract Documents constitute the entire agreement between the OWNER and the CONTRACTOR and may only be altered, amended, or repealed by a duly-executed written instrument.

Article 7. TIME FOR COMPLETION AND LIQUIDATED DAMAGES. It is hereby understood and mutually agreed, by and between the CONTRACTOR and the OWNER, that the time for completion as specified in the Contract is an ESSENTIAL CONDITION of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced on a date to be specified in the Notice to Proceed, and that said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within twelve weeks thereafter. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the time for the completion of Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality. If the said CONTRACTOR shall neglect, fail, or refuse to complete the Work within the time herein specified, or any proper extension thereof granted the OWNER, then the CONTRACTOR does hereby agree, as a partial consideration for the awarding of this Contract, to pay to the OWNER, not as a penalty but as liquidated damages for such breach of Contract as hereinafter set forth, $100 for each and every calendar day that the CONTRACTOR shall be in default after the time stipulated for completing the Work of the total Contract.

The same amount is fixed and agreed upon by and between the CONTRACTOR and the OWNER because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the OWNER would in such event sustain, and said amount shall be retained from time to time by the OWNER from current periodical estimates.

It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever and, where under the Contract, an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided, that the CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due:

7.1 To any preference, priority, or allocation order duly issued by the Government;

7.2 To unforeseeable cause beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to, acts of God or of the public enemy, acts of the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; and

7.3 To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections 7.1 and 7.2 of this article;

Provided, further, that the CONTRACTOR shall, within ten days from the beginning of such delay, unless the OWNER shall grant a further period of time prior to the date of final settlement of the Contract, notify the OWNER, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the CONTRACTOR within a reasonable time of its decision in the matter.

ARTICLE 8 - CONTRACT DOCUMENTS

8.01 The Contract Documents will consist of the following:

A. This Agreement (6 pages, inclusive).

B. Supplementary Conditions, Standard General Conditions and Technical Specifications as listed in this contract.

C. Addenda (numbers ___ to ___ , inclusive).

8.02 There are no Contract Documents other than those listed above in this Article 8. Approved Shop Drawings and Samples, other Contractor's submittals and the reports and drawings of subsurface and physical conditions are not Contract Documents.

IN WITNESSETH WHEREOF the parties hereto have executed this Agreement the day and year first above written.

OWNER: CITY OF GALLATIN, TENNESSEE

CONTRACTOR: _____

BY: _____

BY: _____

JO ANN GRAVES, MAYOR

ATTEST:

_____

CONNIE KITTRELL, CITY RECORDER

ACKNOWLEDGEMENT OF ADDENDA

Acknowledgment is hereby made or receipt of Addenda Nos. _____, the provisions of which are incorporated herein.

Respectfully Submitted,

_____

BY_____

TITLE_____

ADDRESS_____

TENNESSEE LICENSE NUMBER_____

Seal-If Bid is by Corporation

BID SURETY

KNOW ALL MEN BY THESE PRESENTS, that we, _____ _____, as principal (the "Principal") ,and _____ as surety (the "Surety"), are hereby held and firmly bound unto The City of Gallatin, Tennessee (the "Obligee") in the sum of 10% of the Bid Amount for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for the 2012-2013 Pavement Rehabilitation Project.

NOW THEREFORE, (a) If said Bid shall be rejected, or in the alternate, (b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the form of contract attached hereto (properly completed in accordance with said Bid) and shall furnish a Surety for his faithful performance of said Contract, and for the payment of all persons performing labor of furnishing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the amount of this obligation as herein stated. The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its surety shall be in no way impaired or affected by any extension of the time within which the City may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers.

Signed, this _____ day of _____, 20__.

PRINCIPAL

_____

By: _____

Its: _____

Date: _____

SURETY

_____

By: _____

Its: _____

Date: _____

SUPPLEMENTARY CONDITIONS

General Notes:

1. Proposed Work

   All items shall be bid with the understanding that the quantity for any item may be increased or decreased at the direction of the Engineer. The list of streets may be added to or deleted from, as may be determined by the Engineer, within the time frame of this contract. Additionally, streets designated for milling may be added or deleted as determined by the Engineer.

   Project quantities are for bid purposes only.

2. Pavement Preparation

   The existing pavement surface shall be thoroughly cleaned of all dirt and loose particles prior to the application of tack coat. Joints and cracks shall be cleaned of dirt and vegetation growth. No additional compensation will be provided for pavement preparation; the cost shall be included in the prices bid.

   All speed bumps shall be removed prior to paving; the cost shall be included in prices bid.

   Driveway ramps shall be removed prior to paving; the cost to be included in prices bid.

   A proper crown of 0.02 ft/ft shall be maintained for the length of overlay.

   Tack coat shall be applied prior to overlay at a rate of 0.10 gallon per square yard and shall be paid for under item 7.1.

3. Driveways

   Driveway aprons will be paved a minimum of three foot from the edge of pavement.

   Driveway aprons shall be paved within close proximity of the existing driveway edges a minimum of 12 foot and a maximum of 35 foot wide.

4. Utilities

   Utility adjustments necessitated by this work will be performed by the City of Gallatin Department of Public Utilities (615 451-5922). The Contractor and the Utilities Department will cooperate to expedite the work required by this Contract.

The Contractor shall notify Public Utilities and the Engineer in writing of his plan of operation three business days prior to commencing work.

The Contractor shall notify Tennessee One Call (1-800-351-1111) three working days prior to excavation in public street right-of-way.

5. Milling

Special attention shall be given to the milling operation and subsequent paving. A street shall not be considered ready for asphalt until it is cleaned to the satisfaction of the Engineer.

At intersection, the milling operation shall be taken through the radius of the intersecting street unless otherwise directed by the Engineer.

Milling depth at curb shall be 1.5" tapering to 0.0" at width of milling machine or as directed by the Engineer.

6. Pavement Removal

Any failures in existing pavement shall be removed and backfilled with crushed stone base up to the bottom of the surrounding pavement structure and with appropriate asphaltic base, leveling of surface material to the existing surface, as directed by the Engineer. Crushed stone base material, asphaltic base, leveling, and surface materials to be paid at the contract unit prices for those items. The surface measurements of any pavement, base, or subbase removal shall be made in square yards by the Engineer prior to backfilling.

7. Mineral Aggregate Shoulder

Blade existing shoulders and maintain slope.

Mineral aggregate for shoulders shall be placed with a self-propelled shouldering machine.

Final surface elevation of shoulder after compaction shall be flush with new pavement surface.

New pavement surface shall be broom cleaned after placement and compaction of shoulders.

This work shall be constructed and paid for under item 5.1.

8. Maintenance of Traffic

The cost associated with maintenance of traffic shall be included in the unit prices of items in the bid schedule. There shall be no direct payment for maintenance of traffic per this contract. Total road closures are typically not permitted on arterial or collector roadways. Total road closures on local streets will be considered on a case-by-case basis.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE

CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

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and Sustaining
the Built Environment

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These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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TABLE OF CONTENTS

Page

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY 6
1.01 *Defined Terms* 6
1.02 *Terminology* 8
ARTICLE 2 - PRELIMINARY MATTERS 9
2.01 *Delivery of Bonds and Evidence of Insurance* 9
2.02 *Copies of Documents* 9
2.03 *Commencement of Contract Times; Notice to Proceed* 9
2.04 *Starting the Work* 9
2.05 *Before Starting Construction* 9
2.06 *Preconstruction Conference* 9
2.07 *Initial Acceptance of Schedules* 9
ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE 10
3.01 *Intent* 10
3.02 *Reference Standards* 10
3.03 *Reporting and Resolving Discrepancies* 10
3.04 *Amending and Supplementing Contract Documents* 11
3.05 *Reuse of Documents* 11
3.06 *Electronic Data* 11
ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS 11
4.01 *Availability of Lands* 11
4.02 *Subsurface and Physical Conditions* 12
4.03 *Differing Subsurface or Physical Conditions* 12
4.04 *Underground Facilities* 13
4.05 *Reference Points* 13
4.06 *Hazardous Environmental Condition at Site* 13
ARTICLE 5 - BONDS AND INSURANCE 14
5.01 *Performance, Payment, and Other Bonds* 14
5.02 *Licensed Sureties and Insurers* 15
5.03 *Certificates of Insurance* 15
5.04 *Contractor's Liability Insurance* 15
5.05 *Owner's Liability Insurance* 16
5.06 *Property Insurance* 16
5.07 *Waiver of Rights* 17
5.08 *Receipt and Application of Insurance Proceeds* 17
5.09 *Acceptance of Bonds and Insurance; Option to Replace* 17
5.10 *Partial Utilization, Acknowledgment of Property Insurer* 18
ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES 18
6.01 *Supervision and Superintendence* 18
6.02 *Labor; Working Hours* 18
6.03 *Services, Materials, and Equipment* 18
6.04 *Progress Schedule* 18
6.05 *Substitutes and "Or-Equals"* 19
6.06 *Concerning Subcontractors, Suppliers, and Others* 20
6.07 *Patent Fees and Royalties* 21
6.08 *Permits* 21
6.09 *Laws and Regulations* 21
6.10 *Taxes* 22
6.11 *Use of Site and Other Areas* 22
6.12 *Record Documents* 22

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6.13 *Safety and Protection* ... 22
6.14 *Safety Representative* ... 23
6.15 *Hazard Communication Programs* ... 23
6.16 *Emergencies* ... 23
6.17 *Shop Drawings and Samples* ... 23
6.18 *Continuing the Work* ... 24
6.19 *Contractor's General Warranty and Guarantee* ... 24
6.20 *Indemnification* ... 24
6.21 *Delegation of Professional Design Services* ... 25
ARTICLE 7 - OTHER WORK AT THE SITE ... 25
7.01 *Related Work at Site* ... 25
7.02 *Coordination* ... 26
7.03 *Legal Relationships* ... 26
ARTICLE 8 - OWNER'S RESPONSIBILITIES ... 26
8.01 *Communications to Contractor* ... 26
8.02 *Replacement of Engineer* ... 26
8.03 *Furnish Data* ... 26
8.04 *Pay When Due* ... 26
8.05 *Lands and Easements; Reports and Tests* ... 26
8.06 *Insurance* ... 26
8.07 *Change Orders* ... 26
8.08 *Inspections, Tests, and Approvals* ... 26
8.09 *Limitations on Owner's Responsibilities* ... 27
8.10 *Undisclosed Hazardous Environmental Condition* ... 27
8.11 *Evidence of Financial Arrangements* ... 27
ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION ... 27
9.01 *Owner's Representative* ... 27
9.02 *Visits to Site* ... 27
9.03 *Project Representative* ... 27
9.04 *Authorized Variations in Work* ... 27
9.05 *Rejecting Defective Work* ... 27
9.06 *Shop Drawings, Change Orders and Payments* ... 28
9.07 *Determinations for Unit Price Work* ... 28
9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work* ... 28
9.09 *Limitations on Engineer's Authority and Responsibilities* ... 28
ARTICLE 10 - CHANGES IN THE WORK; CLAIMS ... 28
10.01 *Authorized Changes in the Work* ... 28
10.02 *Unauthorized Changes in the Work* ... 29
10.03 *Execution of Change Orders* ... 29
10.04 *Notification to Surety* ... 29
10.05 *Claims* ... 29
ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK ... 30
11.01 *Cost of the Work* ... 30
11.02 *Allowances* ... 31
11.03 *Unit Price Work* ... 31
ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES ... 32
12.01 *Change of Contract Price* ... 32
12.02 *Change of Contract Times* ... 33
12.03 *Delays* ... 33
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK ... 33
13.01 *Notice of Defects* ... 33
13.02 *Access to Work* ... 33
13.03 *Tests and Inspections* ... 33
13.04 *Uncovering Work* ... 34
13.05 *Owner May Stop the Work* ... 34
13.06 *Correction or Removal of Defective Work* ... 34
13.07 *Correction Period* ... 34
13.08 *Acceptance of Defective Work* ... 35
13.09 *Owner May Correct Defective Work* ... 35
ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION ... 36
14.01 *Schedule of Values* ... 36

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14.02 *Progress Payments* 36
14.03 *Contractor's Warranty of Title* 37
14.04 *Substantial Completion* 37
14.05 *Partial Utilization* 38
14.06 *Final Inspection* 38
14.07 *Final Payment* 38
14.08 *Final Completion Delayed* 39
14.09 *Waiver of Claims* 39
ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION 39
15.01 *Owner May Suspend Work* 39
15.02 *Owner May Terminate for Cause* 39
15.03 *Owner May Terminate For Convenience* 40
15.04 *Contractor May Stop Work or Terminate* 40
ARTICLE 16 - DISPUTE RESOLUTION 41
16.01 *Methods and Procedures* 41
ARTICLE 17 - MISCELLANEOUS 41
17.01 *Giving Notice* 41
17.02 *Computation of Times* 41
17.03 *Cumulative Remedies* 41
17.04 *Survival of Obligations* 41
17.05 *Controlling Law* 41
17.06 *Headings* 41

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

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19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

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42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. *Intent of Certain Terms or Adjectives*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered", "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

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D. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review**:**

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and

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completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the

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Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

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C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection

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therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

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2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party

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may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

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5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the

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Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party

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making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with

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the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

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1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified , and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish

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additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued . No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer,, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds

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(and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

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3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

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6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:* Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review*

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1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission

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of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall

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not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

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8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment , a Claim may be made therefor as provided in Paragraph 10.05.

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9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections,

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tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A.Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

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C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

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c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*

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1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation , overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

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1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times , or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

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13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions

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in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may

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make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a

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specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substan-

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tially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of

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Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice

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of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

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2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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CONTENTS OF TECHNICAL SPECIFICATIONS

1.0 Mobilization of Forces, Supplies, and Equipment

5.0 Mineral Aggregate Base

6.0 Prime Coat

7.0 Tack Coat

9.0 Bituminous Plant Mix Base

10.0 Asphaltic Concrete Surface

34.0 Construction Area Traffic Control

37.0 Reworking and Resurfacing Existing Asphalt Pavements

38.0 Milling or Grinding of Asphaltic Concrete from Streets

Section 1.0

TECHNICAL SPECIFICATIONS
FOR
MOBILIZATION OF FORCES, SUPPLIES, AND EQUIPMENT

1. Description

This work shall consist of the mobilization of forces, supplies, equipment, and incidentals at the project site. It shall include all preconstruction costs incurred after award of the contract which are necessary costs to the project.

3. Basis of Payment

Payment for Mobilization will be made in accordance with the provisions set out in the Payment Schedule above, which price shall be full compensation for organizing the moving all forces, supplies, equipment, and incidentals to the project site, regardless of the number of times such moves are made and also for all preconstruction costs incurred after award of the contract. Mobilization cost shall be included in the unit prices of the items listed in the bid schedule. There will be no direct payment made for mobilization.

Section 5.0

TECHNICAL SPECIFICATIONS
FOR
MINERAL AGGREGATE BASE

1. Description

This work shall consist of furnishing and placing one or more courses of aggregates and additives, if required, on a prepared subgrade in accordance with these Specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or established by the Engineer. This work also includes furnishing and placing Maintenance Stone and Backfill Stone in accordance with these Specifications and the Plans.

2. Materials

All materials used in this construction, in addition to the general requirements of these Specifications, unless otherwise stipulated, shall conform to the following:

a. Mineral Aggregate Base shall be crushed stone, Class A Aggregate Grading D, as specified in Subsection 903.05 of the TDOTSS, 2006, and all Special provisions pertaining thereto through the date of advertisement for this Contract.

Sieve Size	Total Percentage by Weight Passing Sieves
1-1/2 inch	100
1 inch	85-100
3/4 inch	60- 95
3/8 inch	50- 80
No. 4	40- 65
No. 16	20- 40
No. 100	9- 18

b. Calcium Chloride shall meet the requirements of the AASHTO Specification for Calcium Chloride, Designation M-144 and shall be Type 2.

c. Maintenance Stone and Backfill Stone shall be of quality and gradation as specified in Subsection 2a above. The Backfill Stone in the roadway or less than 5 foot from the outside edge of the roadway, curbs, gutters, and sidewalks shall be compacted to 100 percent of the Standard Proctor Density at 2 percent less than the optimum moisture content as determined by AASHTO T99 Method D.

3. Equipment and Construction Requirements

a. Equipment and Construction Requirements shall conform to Subsections 303.05 to 303.12 of the TDOTSS, 2006, and all special Provisions pertaining thereto through the date of advertisement of this Contract. In addition, the following compaction will be required: Mineral Aggregate Base shall be compacted to 100 percent of the Standard Proctor Density at 2 percent less than the optimum moisture content as determined by AASHTO T99 Method D.

b. The maximum speed of trucks hauling or traveling over any part of the project under construction shall be 20 m.p.h.

4. Method of Measurement

a. Mineral Aggregate Base, Maintenance Stone, and Backfill Stone will be measured by the ton in place, as by the actual scale weight.

b. All moisture in the Aggregate, at the time of weighing, in excess of eight percent will be deducted from the weight of the Aggregate.

c. Any water added on the road will be at the Contractor's expense.

5. Basis of Payment

a. The accepted quantities of Mineral Aggregate Base, Maintenance Stone, and Backfill Stone of the type specified will be paid for at the Contract unit price per ton, complete in place. This price shall be full compensation for all work, materials, including calcium chloride, where specified, and water, labor, and other incidentals required to complete the work in accordance with the Specifications.

b. Payment will be made under the following Bid Item as set forth in the Bid Schedule:

Mineral Aggregate Base
Mineral Aggregate Base with Calcium Chloride
Maintenance Stone

Section 6.0

TECHNICAL SPECIFICATIONS
FOR
PRIME COAT

1. Description

This work shall consist of an application of bituminous material on a designated base in accordance with the requirements of these Specifications.

2. Materials

a. All materials used shall conform to the following:

Emulsified Asphalt, SS-1	AASHTO M-140
Cut-Back Asphalt	
Grade No. MC-70 or MC-250	AASHTO M-82
Grade No. RC-70 or RC-250	AASHTO M-81

b. The Contractor has his choice of the above materials unless otherwise stipulated.

3. Equipment & Construction Requirement

a. Equipment and Construction Requirements shall conform to Subsections 402.03 to 402.06, and 402.08 TDOTSS, 2006.

b. Rate of application of bituminous prime coat shall be .20 gallons per square yard.

c. Temperature of application of the bituminous prime coat shall be between 100 degrees and 150 degrees Fahrenheit.

4. Method of Measurement

Bituminous material will be measured by the number of gallons used in the accepted work, as determined by the Engineer, and at the temperature of application.

5. Payment

Prime Coat will be paid at the Contract unit price per gallon and shall be full compensation for all work, materials, labor, and incidentals required to complete the work in accordance with the Plans and Specifications.

Section 7.0

TECHNICAL SPECIFICATIONS
FOR
TACK COAT

1. Description

This work shall consist of the application of bituminous material on a prepared base course, binder course, or existing pavement to provide a bond for superimposed course, in accordance with the requirements of these Specifications.

2. Materials

Bituminous materials used shall conform to the following:

AC-20	AASHTO M-226
Cut-Back Asphalt Grade No. RC-70 or RC-250	AASHTO M-81
Emulsified Asphalt SS-1, SS-1H, CSS-1, or CSS-1H	AASHTO M-140

3. Equipment and Construction Requirements

a. Equipment and Construction Requirements shall conform to Subsections 403.03 to 403.05 of the TDOTSS, 2006, and all Special Provisions pertaining thereto through the date of advertisement of this Contract.

b. The ranges of application temperatures in degrees Fahrenheit shall be as follows:

AC-20	375-400 F
RC-70	80-150 F
RC-250	100-175 F
SS-1, SS-1H CSS-1, or CSS-1H	60-140 F

c. Special care shall be given to the application of a “paint coat” of tack coat material to curbs, the edges of manholes and catch basins, and to the cold edge of bituminous material to secure an even coating of tack coat material so that a tight, waterproof bond is secured when the hot plant mix material is placed against these surfaces. The application rate of tack coat shall be as noted on Plans or as directed by the Engineer. Tack coat shall be applied only so far in advance of the paving operation as is necessary to obtain the proper condition of tackiness.

4. Method of Measurement

Bituminous material will be measured by the tons used in the accepted work, determined by the Engineer, and at the temperature of application.

5. Payment

Tack Coat will be paid at the Contract unit price per ton and shall be full compensation for all work, materials, labor, and incidentals required to complete the work in accordance with the Plans and Specifications.

Section 9.0

TECHNICAL SPECIFICATIONS
FOR
BITUMINOUS PLANT MIX BASE

1. Description

This work shall consist of a foundation composed of hot mixture of aggregate and asphalt prepared in a hot bituminous mixing plant. It shall be constructed in one or more layers, on a prepared subgrade, subbase, or base, in accordance with these Specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or as directed by the Engineer. Each course shall have a thickness after compaction of not more than 4 inches. This construction shall include a leveling course if specified on the Plans.

2. Materials

a. Asphalt Cement shall conform to the requirements of AASHTO Designation M 226 for Viscosity Grade AC-20.

b. Aggregates shall conform to Subsection 903.06 of TDOTSS, 1995, and all Special Provisions through the date of the advertisement for this Contract. Grading B shall be used for base placed upon subgrade or base, and grading C shall be used on existing pavement for leveling courses, Grading C-S and C-W shall be used for surface unless otherwise specified in the Contract or Plans.

3. Composition of Mixtures

a. The bituminous base shall be composed of aggregate and bituminous material. The mix shall comply with the applicable requirements of Subsection 407.03 of TDOTSS, 2006.

b. The proportions by weight of the total mixture shall be as follows:

Mixtures	Combined Mineral Aggregate	Asphalt Cement
Grading “B”	93.8-95.8	4.2-6.2
Grading “C” and “C-W”	93.8-95.8	4.2-6.2
Grading “C-S”	92.3-94.7	5.3-7.7

4. Equipment

All equipment necessary for the construction shall be approved before the work will be permitted to begin. The equipment shall meet the requirements of Subsections 407.04 through 407.08 of TDOTSS, 2006, and as revised by all Special Provisions dated through the date of the advertisement for this Contract.

5. a. The construction requirements shall be as prescribed in Subsection 407.09 and Subsections 407.11 through 407.16 TDOTSS, 2006, and as revised by all Special Provisions dated through the date of this advertisement and the requirements listed below.

b. The Plans will indicate whether the bituminous pavement is to be constructed on a subbase, mineral aggregate base, asphalt base, or an existing surface. The surface of the base or subbase upon which the construction is to be placed shall meet the requirements of the applicable sections of the Grading, Mineral Aggregate Base, and Bituminous Plant Mix Base Specifications.

c. When bituminous mixes are placed upon existing concrete pavement, with or without bituminous overlay, all excess bituminous material shall be removed from joints and cracks.

When bituminous mixes are placed upon existing bituminous pavement, any areas containing excess bitumen and any failures in existing pavement shall be removed to a depth up to three foot and backfilled with crushed stone base up to the bottom of the surrounding pavement structure and with appropriate asphaltic base, leveling, or surface material to the existing surface, all as directed by the Engineer. Crushed stone base material, asphaltic base, leveling, and surface materials to be paid at the Contract Unit Price for those items. Pavement removal and undercut up to three foot will be measured and paid in accordance with subparagraphs 6c and 7b of this section.

The existing pavement surface shall be thoroughly cleaned of all dirt and loose particles prior to the application of tack coat or prime coat as specified in Specifications for Tack Coat and Prime Coat.

d. Thickness shall be controlled during the spreading operation by frequent measurements taken of the freshly spread mixture to establish relationship between the uncompacted mixture and the completed course. Thickness or pounds per square yard shall be within reasonably close conformity with that specified on the Plans.

e. Under Subsection 407.18 of TDOTSS, 2006, the surface of the bases meet the requirements specified and, when tested in accordance with the provisions of that subsection, the deviation of the surfaces from the testing edge of the straightedge shall not exceed the amounts shown below for the several types of mixtures.

Grading B Mixture	3/8 inch
Grading C Mixture	3/8 inch
Grading C-W Mixture	3/8 inch
Grading C-S Mixture	3/8 inch

f. Subsection 307.03 (b), Recycled Asphalt Pavement, will be accepted for Grading B and Grading C with the following exception: The Contractor shall be responsible for providing a fully coated and workable mixture that shall have a marshal stability of not less than 1,000 pounds when tested in accordance with AASHTO T-245, and the compactive effort for all specimens shall be 75 blows of the hammer on each end. No adjustments for asphalt content increases or decreases shall be provided under these Specifications.

6. Method of Measurement

a. Bituminous plant mix base, including the mineral aggregate and asphalt cement as specified or required by these Specifications, will be measured by the ton of 2,000 pounds, accepted and placed as indicated or directed.

b. Materials for prime or tack coat will be measured for payment as prescribed in their Specifications.

c. the surface measurements of any pavement, base, or subbase removal shall be made in square yards by the Engineer prior to backfilling.

d. Bituminous mixtures used to fill openings left by pavement removal will be measured for payment. Base materials used to fill openings left by base removal will be measured as provided for in the respective sections for each type specified.

e. Adjustment of sewer manholes and castings will be measured for payment as prescribed in its Specification.

f. No allowance will be made for unacceptable material, for material used in replacing defective or condemned construction, or for material wasted in handling, hauling, or otherwise.

7. Basis of Payment

a. The accepted quantity of bituminous plant mix base, complete in place, will be paid for at the Contract Unit Price per ton for each "Grading" listed in the Bid Schedule and constructed in accordance with the Plans and Specifications.

b. The accepted quantity of pavement, base, and subbase removal up to three foot in depth will be paid for at the Contract Unit Price per square yard listed in the Bid Schedule and performed in accordance with the Plans, Specifications, and under the direction of the engineer.

Section 10.0

TECHNICAL SPECIFICATIONS
FOR
ASPHALTIC CONCRETE SURFACE

1. Description

This work shall consist of an asphaltic concrete pavement composed of a mixture of coarse aggregate, fine aggregate, mineral filler, if specified or required, and asphalt cement, constructed on a prepared roadbed in accordance with thee Specifications and in reasonably close conformity with the lines, grades, typical cross sections and rate of application shown on the Plans or established by the Engineer.

2. Materials

a. Asphalt Cement

1. Asphalt cement shall conform to the requirements of AASHTO Designation M 226 for Viscosity Grade AC-20.

2. Asphalt cement used with aggregate Grading D and E mixtures shall be treated with an anti-stripping additive as specified in Subsection 918.09(B) TDOTSS, 1995, and all special provisions pertaining thereto through the date of the advertisement for this Contract.

b. Mineral Aggregate

Mineral aggregates shall conform to the following requirements and Subsection 903.11, TDOTSS, 2006, and as revised by all Special Provisions dated through the date of the advertisement of this Contract, with the following exceptions and additions:

The Combined Grading:

The several aggregate fractions shall be sized, graded, and combined in such proportions that the resulting composite blend will meet one of the following grading requirements, as specified, together with the stipulations pertaining to the constituents of the blend hereinafter specified.

ASPHALTIC CONCRETE SURFACE COURSE
MIXTURE DESIGNATION

MASTER RANGE OF GRADATIONS

Total Percent Passing, by Weight

Grading Sieve Size	D	E
1/2”	95-100	95-100
3/8”	80-93	80-93
No. 4	54-76	54-76
No. 8	35-57	35-57
No. 30	17-29	17-29
No. 50	10-18	10-18
No. 100	3-10	3-11
No. 200	0-6.5	0-8

Grading D

The coarse aggregate shall consist of crushed gravel, crushed granite, crushed slag, crushed quartzite or crushed gneiss. Other crushed aggregate may be used provided it has the following chemical, physical, and performance characteristics for Type I, Type II, or type III aggregate, per TDOTSS 903.11.

The fine aggregate shall consist of natural sand or sand manufactured from gravel, slag or from crushed stone aggregate meeting the physical and chemical requirements listed above. The use of carbonate rocks such as limestone and dolomite or other aggregates tending to polish under traffic will not be permitted in the coarse aggregate and will be permitted only to the extent specified herein in the fine aggregate.

In addition to the other requirements of these Specifications, the composition of the mineral aggregate shall be such that when combined with the required amount of bitumen the resultant mixture shall have:

High Volume Roads (ADT over 1000)

*Minimum Stability, kN (lbs)	9.0 (2000)
*Void Content (%)	3-5.5
*Flow, mm (.01 inch)	2-4 (8-16)
*Minimum VMA (%)	14
**Dust to Asphalt Ratio	0.6-1.2

*Tested in accordance with AASHTO T 245 with 75 blows of the hammer on each side of the test specimen, using a Marshall Mechanical Compactor.

**The dust to asphalt ratio is the percent of the total aggregate sample that passes the 75 um (200 mesh) sieve as determined by AASHTO T11 divided by the percent asphalt in the total mix.

The addition of limestone screenings or agricultural limestone in a maximum amount of 25 percent by weight of the mineral aggregate may be required to comply with this section. When crushed stone screenings meeting the requirements of Subsection 902.11(c) are used, all additional fines shall be natural or manufactured sand. A maximum of 5 percent mineral filler meeting the requirements of Subsection 903.16 may be substituted for an equal quantity of the limestone fines. If the mixture does not comply with the design criteria, another source of aggregate shall be required.

When gravel is used as the coarse aggregate for a 411 Grading "D" mix, a minimum of 20 percent by went limestone screenings, agricultural limestone and/or mineral filler shall be required.

Grading E:

When Grading E is to be used as a surface for traffic lanes, the mineral aggregate shall be composed of not less than 50 percent, not more than 80 percent crushed limestone, and not more than 50 percent or not less than 20 percent natural sand, slag sand, sand manufactured from gravel, or any combination of these materials, except as herein specified. All or any part of this mix may be calcareous sandstone, including Size 10 (screenings) or manufactured sand.

The sand percentage on the job mix formula shall be in the range of 20-50 percent. However, if needed to meet or improve the specified design criteria, the limestone and sand percentage may be altered by the numerical value of 5 percent from the percentage shown by the Contractor on the original job mix formula. If the aggregate percentages shown on the original job mix formula are altered, the Contractor shall submit a new job mix formula using the aggregate percentages shown on the Design.

In addition to the other requirements of these Specifications where Grading "E" is used for the riding surface, the composition of the mineral aggregate shall be such that when combined with the required amount of bitumen, the resultant mixture shall have:

High Volume Roads (ADT over 1000)

*Minimum Stability, kN (lbs)	9.0 (2000)
*Void Content (%)	3-5.5
*Flow, mm (.01 inch)	2-4 (8-16)
*Minimum VMA (%)	14

*Tested in accordance with AASHTO T245 with 75 blows of the hammer on each side of the test specimen, using a Marshall Mechanical Compactor.

If the design criteria above cannot be obtained with the aggregate submitted to the laboratory for design, another source of aggregate will be necessary.

3. Composition of Mixtures

a. The asphaltic concrete surface shall be composed of aggregate, filler if required, and bituminous material. The mix shall meet all applicable requirements of Subsection 407.03 of TDOTSS, 2006.

b. The proportions by weight of the total mixture shall be combined in such proportions as to produce mixtures within the following master composition limits.

Proportions of Total Mixture, Percent by Weight

Surface Courses	Combined Mineral Aggregate	Asphalt Cement
Grading D and E*	93.0 – 94.7%	5.3 – 7.0

*If Grading "E" is used as a roadway surface mix, the above proportions shall be changed to 93.0-95.5 and 4.5-7.0 for mineral aggregate and asphalt cement respectively.

4. Equipment

All the equipment necessary for the construction shall be approved before the work will be permitted to begin. The equipment shall meet the requirements of Subsections 407.04 through 407.08, TDOTSS, 2006, and as revised by all Special Provisions dated through the date of advertisement for this Contract.

5. Construction Requirements

a. The construction requirements shall be as prescribed in Subsection 407.09 and Subsections 407.11 through 407.16 of TDOTSS, 2006, and the requirements listed below.

b. The Plans will indicate whether the bituminous pavement is to be constructed on an asphalt base or an existing surface.

c. When bituminous mixes are placed upon existing bituminous pavement, any areas containing excess bitumen and any failures in existing pavement shall be removed to a depth up to three foot and backfilled with crushed stone base up to the bottom of the surrounding pavement structure and with appropriate asphaltic base, leveling, or surface material to the existing surface, all as directed by the Engineer. Crushed stone base material, asphaltic base, leveling, and surface materials to be paid at the Contract Unit Price for those items. Pavement removal and undercut up to three foot will be measured and paid in accordance with subparagraph 6c and 7b of Section 9.0 of the Standard Specifications. The existing pavement surface shall be thoroughly cleaned of all dirt and loose particles prior to the application of tack coat as specified in Specifications for Tack Coat.

d. The joints between new asphaltic pavement and bridges, concrete pavement, etc. shall have a joint prepared with the existing pavement by grinding, scarifying or saw cutting the existing pavement for a length of six foot, the full width of the existing pavement, and to the depth of the overlay of new material. The six-foot length of cut may be a wedge cut varying from zero to the required depth over six foot. On new construction projects, all joints shall be constructed as above.

e. Thickness shall be controlled during the spreading operation by frequent measurements taken of the freshly spread mixture to establish relationship between the noncompacted mixture and the completed course. Thickness or pounds per square yard shall be within reasonably close conformity with that specified on the Plans.

f. The surface shall meet the requirements of Subsection 407.18 of TDOTSS, 2006, and, when tested, the deviation of the surface from the testing straightedge shall not exceed 1/4 inch.

g. Costs for joints shall be included in the cost of the aggregate for asphaltic concrete surface.

6. <u>Method of Measurement</u>

a. Asphaltic concrete surface shall include mineral aggregate and asphaltic cement. Measurement shall be by the ton of 2,000 pounds of asphaltic concrete surface accepted and placed as indicated or directed.

b. Material for tack coat will be measured for payment as prescribed in the Specifications for tack coat.

c. Adjustment of sewer manholes and castings will be measured for payment as prescribed in its Specifications.

d. No allowance will be made for unacceptable material, for material used in replacing defective or condemned construction, or for materials wasted in handling, hauling, or otherwise.

e. The surface measurements of any pavement, base or subbase removal shall be made in square yards by the Engineer prior to backfilling.

7. Basis of Payment

a. The accepted quantity of Mineral Aggregate and Asphalt Cement (AC-20) for Asphaltic Concrete Surfaces, complete in place, shall be paid for at the Contract unit price per ton listed in the Bid Schedule. This price shall be full compensation for all work, materials, labor and other incidentals required to complete the work in accordance with the Plans and Specifications.

b. The acceptance of the mixture shall be as determined in Subsection 407.20(B) of TDOTSS, 2006, and all special Provisions pertaining thereto through the date of the advertisement for the Contract.

Section 34.0

TECHNICAL SPECIFICATIONS
FOR
CONSTRUCTION AREA TRAFFIC CONTROL

1. Contractor Responsibility and General Provisions

   a. The Contractor shall provide, erect, and maintain all traffic control devices necessary to preserve the safe and orderly movement of traffic. All operations shall be scheduled and conducted in such a manner and sequence as to cause the least practicable interference with the traveling public, fire protection, and public utility service.

   b. Payment for materials and labor associated with the required construction area traffic control shall normally be included in the pay item(s) provided by the Contract. In the event that no such pay item(s) are included, the Contractor shall include such costs in the prices bid for other appropriate Contract items.

   c. All necessary protective devices and operations shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), published by the Federal Highway Administration. A Traffic Control Plan is included with many projects to define specific or typical traffic control needs. However, the Contractor may request a revision or addition to these plans of operation by making a written request in advance to the Director of the Department of Engineering.

   d. A project safety officer or other similarly responsible individual shall be made known to the Director of the Department of Engineering prior to the commencement of construction. This notification shall include a telephone number or numbers where the individual(s) may be reached on a 7 day, 24 hour basis.

   e. Except as otherwise noted in the "Special Conditions," total road closures are not permitted. However, if the Contractor determines in his opinion that one is required, a written request shall be made at least 72 hours in advance to the Director of the Department of Engineering for his consideration. This request shall state the reason for the closure, estimated duration of the closure, proposed traffic control devices, and the routing of detours, if necessary.

   f. Except as otherwise noted in the project "Special Conditions," the Contractor shall provide one adequate traffic lane, minimum of 10' in width, in each direction during the hours of 7:00 A.M. - 9:00 A.M. and 3:00 P.M. - 6:00 P.M.

      During hours when work is not in progress, the Contractor shall also maintain one similarly adequate traffic lane in each direction. Exceptions to the above must be approved by the Director of the Department of Engineering.

g. The Contractor's attention is called to the *City of Gallatin Policy on Work Zone Traffic Control* (a copy of which is included at the end of this Specification).

2. Installation and Maintenance of Traffic Control Devices

a. The Contractor shall be fully responsible for the supplying, erection, and maintenance of all traffic control devices. These functions shall occur in a workmanlike manner such that all supports are vertical, sign panels generally perpendicular to the travelway and legends horizontal so that they effectively convey the intended message. Signs shall be mounted on stationary or portable supports dependent on the type work being performed. In general, work being performed at spot locations and of short duration will necessitate the use of portable supports properly weighted for stability.

b. All existing traffic signs within the limits of this project shall also be the maintenance responsibility of the contractor for the duration of construction. This includes STOP and street name signs on side streets which intersect within the project limits. This responsibility shall include temporary sign relocations caused by construction activities.

The Contractor shall provide continuous and expeditious maintenance of all required traffic control devices. This shall include replacement of sign panel, barricades, and other devices which in the opinion of the Department of Engineering are damaged or deteriorated beyond continued use, replacement of broken supports, plumbing of leaning signs, cleaning of dirty signs, barricades and other devices, repair of defaced sheeting and legends, replacement of stolen items, etc. All items used for traffic control shall be generally maintained in their original placement condition and such maintenance will be considered a part of the original installation cost. Failure to maintain all traffic control devices in such a manner as to provide continuous safety to the public will be cause for suspension of construction operations until proper traffic control is re-established.

c. In the event that the Contractor, in the opinion of the Director of the Department of Engineering, has failed to provide or maintain adequate traffic control devices, the City of Gallatin shall have the right to provide the necessary items and deduct the expense of same from payments due the Contractor.

3. Application and Use of Traffic Control Devices

a. Cones are not permissible as channelizing devices during hours of darkness. Standard barricades, drums or vertical panels are permissible, but where used to delineate vehicle paths during hours of darkness, they must be accompanied by steady burn lights.

b. Except as otherwise directed by the Director of the Department of Engineering or his representative, the contractor shall maintain centerline striping throughout the duration of this project. Where a newly asphalted section of roadway is to be maintained overnight, temporary centerline and lane line stripes shall be provided by the Contractor at the conclusion of each work day. These stripes shall be a temporary reflective tape or paints with four inch wide line segments. The segments shall be two feet long with thirty-eight foot gaps. Skip lines shall not be used for lane lines separating a turn lane from a through lane or for edge lines.

c. All conflicting and confusing pavement marking shall be removed or obliterated in a fashion consistent with MUTCD, Section 6D-1. Painting over existing striping is not considered to meet the requirements for removal or obliteration. The methods listed below are considered acceptable:

   1. Sand blasting using air or water
   2. High pressure water
   3. Steam or super-heated water
   4. Mechanical devices such as grinders, sanders, scrapers, scarifiers, and wire brushes
   5. Solvents and chemicals
   6. Burning

   Any damage to the pavement or surfacing caused by the Contractor's pavement marking removal shall be repaired by the Contractor at his expense and by methods and materials acceptable to the Department of Engineering.

d. Short term operations will be permissible which conflict with existing pavement markings, but proper vehicle path must be ensured through the appropriate use of warning signs, flagmen and/or channelizing devices.

e. Mesh or other fabric type signs are not considered acceptable for use during hours of darkness.

f. Except in operations of short duration, where good sight distance is available, "Flagger Ahead" signs shall be installed where flaggers are required. Flaggers shall utilize STOP/SLOW paddles and proper attire, including a reflectorized orange vest.

   Flagmen will be considered a general requirement of traffic control and no direct payment will be made for such.

g. During periods of non-use, warning signs and other devices shall be promptly removed from the work area, covered or otherwise positioned so they do not convey their message to the traveling public. If covered, the covering material shall be maintained in a neat and workmanlike manner.

h. The official maximum speed limit is to be used for determining taper lengths, device spacing, sign placement and other pertinent details unless otherwise notified.

4. Materials

Materials for all traffic control and marking devices shall be in accordance with the provisions of the current edition of the MUTCD. Exceptions are listed below with reference to the appropriate subsections of the TDOTSS, 2006.

Material	Subsection
Signs:	
Aluminum	916.02 (a)
Reflective Sheeting	916.06, Type III
Paint	916.09
Cold Rolled Carbon Steel-16 gal.	ASTM A366
Drums and Barricades:	
Reflective Sheeting	916.06, Type I

Temporary Pavement Marking Material:

The material for temporary traffic centerline and lane line marking shall be a pressure-sensitive, adhesive backed, reflective pavement marking tape, or reflectorized paint.

Cones:

Cones shall be a minimum of 28 inches high and weighted at the base.

In addition to the materials certifications required above, the Contractor shall submit a signed, notarized statement that the materials to be used for temporary traffic control comply with the above provisions. This statement shall be submitted prior to the beginning of the work.

5. Method of Measurement:

When the Bid Schedule stipulates that payment will be made for Construction Area Traffic Control on a Lump Sum basis, the pay item Construction Area Traffic Control will include all sign, barricades, lights, flag persons, temporary pavement markings and all incidentals required by this specification, the Traffic Control Plan included in the Contract Drawings, if any, and the Manual on Uniform Traffic Control Devices for Streets and Highways. Where the Bid Schedule stipulates that payment will be made for Specific Items on a unit basis, measurement will be made by the unit stipulated. Where the Special Conditions and/or notes on the construction drawings stipulate that the cost of Construction Area Traffic Control will be included in other Items Bid, no measurement will be made.

6. Basis of Payment

The accepted quantity of Construction Area Traffic Control will be paid for at the lump sum price bid, which price shall be full compensation for providing Construction Area Traffic Control for the duration of the project in accordance with the Traffic Control Plan provided with the construction drawings and/or submitted by the Contractor and these Specifications. This compensation shall include all labor, materials, equipment and incidentals necessary to complete the work.

The compensation shall be paid in accordance with the following schedule.

Percent of Total Contract on Partial Pay Estimate	Total Percent Allowed for Compensation for Lump Sum Item
5%	30%
50%	50%
75%	75%
100%	100%

POLICY ON WORK ZONE TRAFFIC CONTROL
CITY OF GALLATIN, TENNESSEE

I. Introduction

A. The proper use of warning devices in roadway construction and maintenance work areas must be planned in advance to meet the individual requirements of the job site. The objective of this policy is to provide maximum protection to employees, plant, equipment, and to the public while causing minimum interference to vehicular and pedestrian traffic.

B. When guarding work areas, always provide more protection than may appear necessary rather than under-protecting. Inadequate protection may promote accidents by presenting the driver or pedestrian with a false impression of the extent of the work area and the deviations that he must take from his route in order to safely pass the work area.

C. Early project planning for traffic control in construction and maintenance areas and implementation and surveillance of these controls during construction are very important.

II. Need for Standards

A. Problems of traffic control occur when traffic must be moved through, around, or adjacent to road or street construction, maintenance operations, and utility work. No one standard sequence of signs or other control devices can be set up as an inflexible arrangement for all situations due to the variety of conditions encountered.

B. The Manual on Uniform Traffic Control Devices (MUTCD) has been adopted as Federal and Tennessee Law. The MUTCD established principles to be observed in the design, installation, and maintenance of traffic control devices.

C. These principles and standards are directed to the safe and expeditious movement of traffic through work areas and to the safety of the work force performing those operations.

III. Responsibility

A. Adequate public protection shall be provided by contractors, public utility companies, railroads, State and City agencies performing any work on roadways or so closely adjacent as to create hazards for the public or for themselves.

B. It is important that the authorities having jurisdiction be able to require proper protection, that responsibility be clearly assigned, adequate training of personnel be provided, and that there be adherence to the provisions of the MUTCD.

C. A traffic control plan (TCP) should include, but not be limited to such items as signing, application and removal of pavement and markings; construction; scheduling; methods and devices for delineation and channelization; placement and maintenance of devices; roadway lighting; traffic regulations; and surveillance and inspection.

D. A TCP in detail appropriate to the complexity of the work project and noting the date of planned beginning of construction and duration shall be prepared by the contractor, public utility company, State or City agency proposing to do work on or adjacent to the roadway.

E. The TCP shall be reviewed and approved by the City Engineer or his designee. Although every effort will be made to review the TCP immediately upon submittal, a minimum of 48 hours should be allowed for review of the TCP. The TCP is to be approved by Nick Tuttle of the Engineering Division, 132 Main Street, telephone 451-5965. In order to expedite the process, make an appointment before submitting the TCP for review.

F. When the TCP is approved, notification of when work is scheduled to begin and when work is completed will be supplied to the Department of Engineering. The Engineering Division will fax the information to the following agencies:

AGENCY	PHONE NUMBER	FAX NUMBER
E-911 (Buddy Shaffer)	451-1200	
Gallatin Police Department (Chief Bandy)	452-1313	
Tennessee Dept. Of Transportation ( )		
City Sign Shop (Roger Thurber)	452-2062	

G. When construction is required that will block one or more lanes of collector or arterial roadways or close any collector or arterial roadway, the responsible contractor shall notify all emergency agencies.

H. Construction on or adjacent to local streets (traffic volumes of less than 1,000 vehicles-per-day) will require only implementation of an approved TCP.

IV. Road Closures

A. Total road closures for construction and maintenance activities are typically not permitted on arterial or collector roadways. Total road closures on local streets will be considered on a case-by-case basis.

B. In the event of an emergency and there is no alternative but to close the roadway, adequate work zone traffic control procedures as outlined in the MUTCD shall be implemented.

. Hours of Work

A. When construction is required that will block one or more lanes of a collector or arterial roadway, the hours of work shall be limited on weekdays to avoid conflict with peak hour traffic movement. Work on weekdays is permitted before 6:00 a.m., from 9:00 a.m. to 3:00 p.m., and after 6:00 p.m. Work is permitted during off peak conditions and on weekends (except for unusual circumstances). More liberal hours are typically allowed on local streets. Work during peak hours in the off peak travel direction is often permitted. Other arrangements may be approved on a case-by-case basis.

B. When an emergency occurs that requires total road closure on an arterial or collector roadway, every effort should be made to make the repairs as soon as possible. Overtime should be authorized for evening and weekend work.

VI. Street Cut Permits

A. When the work requires that city streets be cut, a permit shall be required from the Engineering Division, 132 West Main Street. On an emergency basis, these permits may be obtained by notifying Nick Tuttle at 451-5965 and then following up with a written request as soon thereafter as practical. In routine situations, a written request outlining the need for cutting the street, the proposed location, the proposed date of work and the contractor involved shall be supplied in writing to the individuals at the Engineering Division at 132 West Main Street, preferably 48 hours in advance of the cut.

B. Construction standards are available at the Engineering offices at 132 West Main Street.

Section 37.0

TECHNICAL SPECIFICATIONS
FOR
REWORKING AND RESURFACING EXISTING ASPHALT PAVEMENTS

1. Description

This work shall consist of heating and scarifying an existing asphaltic concrete pavement, the addition of an asphalt or emulsified asphalt recycling agent, the redistribution of the heated and scarified processed material, and the overlay with an asphaltic concrete surface course in a single operation.

2. Materials

a. Asphalt Recycling Agent shall be a soft asphalt cement, or asphalt cement blended, as required, with a softening agent or flux oil and which will meet the following requirement:

Absolute Viscosity, (V60) (after thin film oven test)	3:1 Ratio Min.
Smoke Point	260° F Min.
Flash Point	400° F Min.
Solubility	97.5%

The asphalt recycling agent shall contain an approved anti-stripping agent.

Silicone shall be added to the asphalt recycling agent at the rate of 25 cubic centimeters silicone mixed to each 5,000 gallons of asphalt recycling agent. If a dispersing fluid is used in conjunction with the silicone, the resulting mixture containing the full 25 cubic centimeters of silicone shall be added in accordance with the manufacturer's recommendation. The blending of the silicone mixture with the asphalt recycling agent shall be accomplished by the asphalt producer prior to shipment. The producer shall certify in writing the compliance with the above requirements.

b. Emulsified Asphalt Recycling Agent shall meet the following requirements:

Storage Stability (24 hrs)	1.0% max
Sieve Test	0.1% max
Residue by Evaporation	65% min

Residue from the emulsified asphalt recycling agent shall meet requirements of Federal Department of Transportation Specifications, 329-34.1

The emulsified asphalt recycling agent shall contain an approved anti-stripping agent.

Silicone shall be added to the base stock of asphalt prior to emulsifying at the rate of 25 cubic centimeters of silicone mixed to each 5,000 gallons of asphalt. If a dispersing fluid is used in conjunction with the silicone, the resulting mixture containing the full 25 cubic centimeters of silicone shall be added in accordance with the manufacturer's recommendations. The blending of the silicone mixture with the emulsified asphalt recycling agent shall be accomplished by the producer prior to shipment. The producer shall certify in writing the compliance with the above requirements.

c. The recycling agent shall be of the type and grade capable of producing a resultant viscosity (140° F) of from 3,000 to 6,000 poises in the recycled pavement when applied at a rate not to exceed 0.1 gallon per square yard.

d. Asphaltic Concrete Surface course shall conform to the requirements set forth in Section 10 of these Specifications for the Grading specified.

3. <u>Equipment</u>

The equipment used to recycle and resurface the existing asphaltic concrete pavement shall be of the type specifically designed and built for this specific purpose. The equipment must be capable of a continuous single pass, multi-step process of heating, scarifying, application of recycling agent, redistribution of the existing pavement materials, and the placement of an asphaltic concrete surface source. The single pass of the multi-step process shall be a minimum of 10 feet in width.

The equipment must also be capable of raising and lowering sections of the scarifiers in order to recycle the material around manholes, and other obstacles as required on City streets. The machine shall be equipped with Transverse augers, leveling blade, receiving hopper, and screed for the placement of the Asphaltic Concrete Surface Course over the recycled layer. The screed shall be a 4 foot section heated vibratory screed equipped with crown controls on each section and be capable of adjustment to regulate the thickness of the Asphaltic Concrete Surface Course in order to produce the specified longitudinal grade and transverse cross section.

The machine shall be on the site in operating condition sufficiently in advance of beginning of the surface recycling project to allow for full evaluation. As required by the Engineer, the Contractor shall demonstrate the equipment proposed for use that will achieve the results specified.

4. Construction Requirements

a. Prior to beginning the recycling and resurfacing operation, the existing pavement shall be cleaned so as to be reasonably free from sand, dirt, and other deleterious materials that would affect the quality of the recycled mix.

b. The entire width of pavement surface being processed in a single pass shall be uniformly heated by indirect heat in such a manner as to soften the existing pavement to the extent that it can be scarified to a minimum depth of 1 inch. The operation must be conducted in a manner such that the existing pavement is not damaged by exposure to direct heat or heat of excessive intensity or prolonged duration.

c. Immediately following heating, the existing pavement shall be scarified in a manner which will result in a layer of uniformly loosened material without appreciable ridges of undistributed material and to a depth of at least one inch, but in no case to a depth less than that which will produce sufficient scarified material to allow the pavement surface to be restored to the shape specified. The heated and scarified material shall then be distributed by transverse augers over the width being processed so as to form a uniform cross section.

d. An approved recycling agent as specified in item 2 shall be applied uniformly to the scarified material. The exact amount of recycling agent will be determined by an approved testing laboratory to meet the requirements set forth in 2(c) of this section.

e. The Asphaltic Concrete Surface Course shall be placed in the same operation as recycling and addition of the recycling agent, and shall be placed immediately after the scarified material is distributed over the area being processed such that the scarified material shall be hot enough to be properly compacted. The scarified material shall be compacted in conjunction with the compaction of the new Asphaltic Concrete Surface Course.

The rolling pattern required to achieve compaction shall be established by the Contractor using the Nuclear Density Backscatter Method as specified by FM-1-T238 (Method B, D.D.O.T.). This is accomplished by recording the nuclear density measurement after each roller pass until no additional increase in density is obtained and the highest density obtained is in excess of 85% of the theoretical density. The compactive effort applied at this point will become the rolling pattern and will be applied at the relative same temperature uniformly throughout the project.

5. Method of Measurement

The reworking and resurfacing of existing asphaltic concrete pavement shall be measured in square yards for the recycled pavement. The Asphaltic Concrete Surface Course shall be measured by the Ton of 2,000 pounds as provided for in section 10 of these Specifications.

6. Basis of Payment

The accepted quantity of recycled pavement in place will be paid for at the contract unit price per square yard.

The accepted quantity of Asphaltic Concrete Surface Course placed in the single operation over the recycled pavement will be paid for at the Contract unit price per ton for each "Grading" listed in the Bid Schedule and constructed in accordance with the Plans and/or these Specifications, or under the direction of the Engineer.

Section 38.0

TECHNICAL SPECIFICATIONS
FOR
MILLING OR GRINDING OF ASPHALTIC CONCRETE FROM STREET

1. Description

This work shall consist of pavement removal by milling or grinding in conformity with the lines, grades, and dimensions shown on the construction drawings and/or as directed by the Engineer and in accordance with these Specifications.

Milling or grinding of asphaltic concrete from streets is divided into two distinct categories for pay purposes under these Specifications. Milling or grinding of asphaltic concrete from streets (surface milling) consists of removing a specified depth of asphaltic concrete or a variable depth to either improve drainage or profile of the street. Milling or grinding of asphaltic concrete from streets (full depth to concrete) is to remove all of the existing asphaltic concrete over an underlying Portland cement concrete pavement regardless of depth.

2. Materials

The materials removed from the street may be recycled and used in asphaltic concrete base courses and leveling course as provided for in Section 9 of these Specifications. The material becomes the property of the Contractor.

3. Equipment

The equipment shall consist of one or more milling machines or grinders with the capability to remove up to three inches of asphaltic concrete in one pass. The milling or grinding machine shall be equipped with a broom or series of brooms to collect the milled asphaltic concrete for picking up and loading a conveyor, which, in turn, will load the material into trucks for disposal. Additional brooms and loading equipment sufficient to remove all the loose material from the streets may be required.

4. Construction Requirements

The depth, width, and length of cut as established by the Construction Drawings or as specified by the engineer shall be obtained to a tolerance of 1/4" +/- for the depth and to width and length as marked or otherwise specified. Milling or grinding of asphaltic concrete from streets (full depth to concrete) requires the removal of all asphaltic concrete from the underlying Portland cement concrete pavement.

Once milling or grinding of a street has begun, the operation must continue through the paving stage without interruption or delay unless interruptions or delays are expressly approved in writing by the Engineer.

Milling or grinding around utility manholes and catch basins shall be accomplished with care to prevent damage to utility property and/or the Contractor's equipment. Unless otherwise approved by the Engineer, milling or grinding shall be carried to within one foot of all manholes or catch basins. The utility companies will be responsible for hand chipping the remaining one foot on all utility company manholes. The Paving Contractor will be required to hand grind or chip around all storm sewer catch basins and manholes. Milling adjacent to curbs or gutters shall be carried the full depth specified to the concrete curb or gutter. Over grinding or milling to a greater depth than specified shall be corrected by the Contractor by replacing the material with new material at no additional cost to the City of Gallatin.

All loose material shall be removed from the streets, gutters, driveways, sidewalks, and shoulders; and, in general, the construction area shall be left in a condition after milling or grinding as clean or cleaner than before beginning the operation.

When milling the entire width of the street, joints to match the milling depth shall be made at all intersecting driveways and streets. These joints will be located by the Engineer.

5. Method of Measurement

The milled material taken from the street shall be weighed on certified scales with a bonded and certified weight person and measured by the ton of 2,000 pounds or fraction thereof. The project representative of the City of Gallatin will designate under which item each truck load of material will be paid for and will reconcile each day the total quantities for each item with the Contractor's project superintendent.

6. Basis of Payment

a. Milling or grinding of asphaltic concrete from streets (surface milling) shall be paid for at the Contract unit price per ton of 2,000 pounds or fraction thereof.

b. Milling or grinding of asphaltic concrete from streets (full depth to concrete) shall be paid for at the Contract unit price per ton of 2,000 pounds or fraction thereof.

Compensation for either of the above items shall constitute full payment for all work, materials, labor, and other incidentals required to complete the work and dispose of the materials in accordance with these Specifications.