



CITY OF ST. CHARLES

BIDDING REQUIREMENTS, CONTRACT FORMS, CONTRACT CONDITIONS AND SPECIFICATIONS

for

Illinois Street Bridge Rehabilitation

PREPARED BY:

**WBK ENGINEERING, LLC
116 WEST MAIN STREET
SUITE 201
ST. CHARLES, ILLINOIS 60174
(630) 443-7755**

March 18, 2016

I hereby certify that these documents were prepared under my direct supervision.

A handwritten signature in blue ink that reads "Andy Underwager". The signature is written in a cursive style and is positioned above a horizontal line.

**Andy Underwager, P.E., S.E.
Illinois Licensed Professional Engineer No. 062-053211
Expires November 30, 2017**

Illinois Street Bridge Rehabilitation

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**SECTION 00030
CITY OF ST. CHARLES
LEGAL NOTICE
INVITATION FOR BID**

Sealed bids will be received by the City of St. Charles at the Office of the Purchasing Manager, Two East Main Street, St. Charles, Illinois 60174 no later than 2:00 p.m., Friday, April 8, 2016 for the **Illinois Street Bridge Rehabilitation Project**. All bids will be opened publicly and read aloud in the Council Chambers located at, Two East Main Street, St. Charles, IL 60174, at 2:00 p.m. Friday, April 8, 2016.

The project is located in the City of St. Charles on Illinois Street over the Fox River from S. 1st Street to S. 2nd Avenue. The proposed improvements include: joint reconstruction, structural steel removal and replacement including painting of portions of existing structural steel, structural repair of various concrete elements, approach pavement reconstruction, sidewalk removal and replacement, curb and gutter removal and replacement, HMA pavement patching, pavement marking, staged traffic control and protection, site restoration and other appurtenant work for a complete improvement.

Any person, firm or corporation submitting a proposal shall have been in business a minimum of five years, and shall be fully experienced in all aspects of the project above. Bidders are advised of the following requirements of this contract: 1) Illinois Prevailing Wage of the State of Illinois, Kane County; 2) 10% Bid Security with the bid submittal in accordance with the Instructions to Bidders; 3) 115% Performance Bond and; 4) Certificate of Insurance meeting the City's requirements 5) IDOT Certificate of Eligibility.

Bid Documents and Proposal forms may be obtained at no charge at the City of St. Charles website at, <http://www.stcharlesil.gov/bids-proposals>. Addenda will be available to document holders via the website. It is the responsibility of the contractor to frequently check the City's website for any future addendums. Contractors will be required to submit all addendum acknowledgement forms with their bid submittal. All questions shall be directed to Mrs. Karen Young, Assistant Director of Public Works - Engineering, at 630-377-4405 or at kryoung@stcharlesil.gov.

The City expressly reserves the right to reject any or all bids or to accept the one that appears to be in the best interest of the City. The City expressly reserves the right to waive any informalities, discrepancies or technical irregularities in a bid if to do so is in the best interest of the City. The City reserves the right to defer the acceptance of any bid and the award of a Contract for a period not exceeding forty-five (45) days after the date of opening the bids. Prices quoted must be valid for a minimum of 75 days from the date of the bid opening.

The City reserves the right to require the low bidder to file proof of, within seven (7) days of the bid opening, his ability to finance and execute the project. This proof shall include, but not be limited to, a financial statement, list of equipment owned by bidder, backlog of jobs under a Contract only to a Bidder who furnishes satisfactory evidence that he has the ability, sufficient capital, facilities, and plant to enable him to prosecute the work successfully and promptly, and to complete the work within the time specified in the Contract Documents.

The City of St. Charles does not discriminate in admission, access to, treatment, or employment in its programs and activities.

END OF SECTION

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Defined Term.

Terms used in these Instructions to Bidders, which are defined in Section 00700 have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. Copies of Bidding Documents.

2.1 Bid Documents and Proposal forms may be obtained from the City of St Charles Website (www.stcharlesil.gov/bids-proposals).

2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. Bidder Qualifications.

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit written evidence of the types set forth in the Special Provisions, such as financial data, previous experience and evidence of authority to conduct business in the jurisdiction where the Project is located.

Each bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

4. Examination of Contract Documents and Site

4.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work, (c) become familiar with federal, state and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress, or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

4.2 Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress, or performance of the Work, which have been relied upon by Engineer in preparing the Drawings and Specifications. Owner will make copies of such reports available to any Bidder

requesting them. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Before submitting his Bid each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his/her bid for performance of the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.

- 4.3 On request Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his/her Bid.
- 4.4 The lands, upon which the Work is to be performed, rights of way for access thereto and other lands designated for use by contractor in performing the Work are identified in the Drawings.
- 4.5 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

5. Interpretations

All questions about the meaning or intent of the Contract Documents shall be submitted to Mrs. Karen Young, Assistant Director of Public Works - Engineering, at 630-377-4405 or at kryoung@stcharlesil.gov. Replies will be issued by Addenda. Addenda will be available to document holders via the website. It is the responsibility of the Bidder to frequently check the City's website for any addendums. Bidders will be required to submit all addendum acknowledgement forms with their bid submittal. Questions will be taken until Monday, April 4, 2016. Questions after this date will not be answered. Only questions answered by a formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. Bid Security

- 6.1 Bid Security shall be made payable to Owner, in an amount of TEN (10%) percent of the Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond.
- 6.2 The Bid Security of the Successful Bidder will be retained until such bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 15 days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the "effective date of the Agreement" (which term is defined in the General Conditions) by Owner to Contractor and the required Contract Security is furnished or the ninety-fifth day after the Bid opening. Bid Security of other Bidders will be returned within 60 days of the bid opening.

7. Contract Time

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement.

8. Prevailing Wage Rate

All work under this contract shall comply with the Prevailing Wage Rate Act of the State of Illinois, Illinois Compiled Statutes Ch. 820, par. 130/31, et seq. and as amended by Public Acts 86-799 and 86-693 and our City of St. Charles Ordinance No. 2003-M-59, in effect at the time work is performed.

The successful bidder and each subcontractor shall submit monthly, in person, by mail, or electronically, a certified payroll to the City of St. Charles. The certified payroll shall consist of records of all laborers, mechanics, and other workers employed by them on the project. The records shall include each worker's name, address, telephone number (when available), social security number, classification or classifications, the hourly wages paid in each period, the number of hours worked each day, and the starting and ending times of work each day. The certified payroll shall be accompanied by a statement signed by the bidder or subcontractor which avers that:

- A. Such records are true and accurate;
- B. The hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required; and
- C. The bidder or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class B misdemeanor.

The City of St. Charles is required to keep the certification records submitted for a period of not less than three years. Furthermore, these records, except an employee's address, telephone number, and social security number, shall be made available in accordance with the Freedom of Information Act.

9. Liquidated Damages

Should the Contractor fail to complete the work, including cleaning up, to the point of substantial completion and acceptance or final completion and acceptance of the work by the Assistant Director of Public Works - Engineering within the time specified in the Contract Documents for the Date of Substantial or Final Completion and agreed upon by the Contractors by accepting the Contract, or within such extra time as may be allowed in accordance with the Contract Documents, there shall be deducted from any monies due the contractor, or that may become due the Contractor, the sum of one thousand, two hundred and fifty dollars (\$1,250.00) per calendar day for each and every calendar day, including Sundays and Holidays that the work remains incomplete. (Other requirements for Liquidated Damages in Accordance with Section 108.09 of the Standard Specifications shall apply).

This sum shall be considered and treated not as a penalty but as fixed, agreed, and liquidated damages due the City of St Charles from the Contractor by reason of

inconvenience to the public, added costs of supervision, and other items which may have caused an expenditure of funds resulting from his failure to complete the work within the time specified.

Permitting the Contractor to continue and finish the work, or any part of it after the time fixed for its completion, or after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the City of St Charles of any of its rights under the Contract.

10. Substitute Material and Equipment

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the "effective date of the Agreement." The procedure for submittal of any such application by contractor and consideration by Engineer is set forth in paragraphs 6.05 of the General Conditions which may be supplemented in the General Requirements.

11. Subcontractors, etc.

11.1 All Bidders' shall submit to Owner a list of all Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person, and organization if requested by Owner. If Owner or Engineer after due investigation has reasonable objections to any proposed Subcontractor, other person, or organization, either may before giving the Notice of Award request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person, or organization so listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer.

11.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work plus a fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the Work that such Bidder proposes to subcontract and after the Notice of award may only subcontract other portions of the Work with Owner's written consent.

11.3 No Contractor shall be required to employ any subcontractor, other person, or organization against whom he has reasonable objection.

12. Bid Form

- 12.1 The Bid form, consisting of the Schedule of Prices, is attached hereto; additional copies may be obtained from Engineer.
- 12.2 Bid Forms must be completed in ink or by typewriter. The Bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence.
- 12.3 Bids by corporations must be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 12.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 12.5 All names must be typed or printed below the signature.
- 12.6 The Bid shall contain an acknowledgment of receipt of all addenda (the numbers of which shall be filled in on the Bid Form).
- 12.7 The address to which communications regarding the Bid are to be directed must be shown.

13. Submission of Bids

Bids shall be submitted at the time and place indicated in the "Notice To Bidders" and shall be included in an opaque sealed envelope, marked with the Project title, name and address of the Bidder and accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof. Bids received after the time specified in Section 00030 will be returned unopened. All bids submitted are binding for ninety (90) calendar days following the bid opening.

14. Modification and Withdrawal of Bids.

- 14.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 14.2 If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.

15. Opening of Bids

Bids will be opened and read aloud publicly. An abstract of the amounts of the Base Bids and major alternates (if any) will be made available after the opening of Bids.

16. Bids to Remain Open

All Bids shall remain open for Seventy Five (75) days after the day of the bid opening. However, the Owner may, in his sole discretion, release any bid and return the Bid Security prior to that date.

17. Award of Contract

17.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, non-responsive, or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between the indicated product of a unit price times a quantity and the correct product will be resolved in favor of the correct product.

17.2 In evaluating Bids, Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid forms. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but Owner may accept them in any order or combination.

17.3 Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identify of Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating Costs, maintenance considerations, performance data, and guarantee of materials and equipment may also be considered by Owner.

17.4 Owner may conduct such investigations as he deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of the Bidders, proposed Subcontractors, and other persons and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

17.5 Owner reserves the right to reject the bid of any Bidder who does not pass any such evaluation to owner's satisfaction.

17.6 If the contract is to be awarded it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

17.7 Owner reserves the right to award all, part or none of the project based on bid results and budget considerations.

18. Performance and Other Bonds.

A performance bond and payment bond in the amount of 115% of the bid submitted is required within seven (7) calendar days of acceptance of the bidder's proposal by the City.

The performance bond and payment bond of the successful bidder shall have a minimum "A" rating as defined in Best's Key Rating Guide, be conditioned on the faithful performance of the requirements of the contract, and shall have as surety a corporate surety authorized to act as such in Illinois. The performance bond and payment bond shall cover payment for all labor and material, and insure completion of the project. The bidder will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with his or her operations prior to the acceptance of the finished work or supplies, and that he or she will promptly make payments to all persons supplying him or her or them with labor or materials in the prosecution of the work provided for in the contract; and shall guarantee to indemnify and save the City and its officers and employees harmless from all costs, damages, and expenses arising out of or by reason of the bidder's failure to comply and perform the work and complete the contract in accordance with the specifications.

The performance bond and payment bond shall be in conformance with the requirements of the Illinois Act in relation to bonds of bidders entering into contracts for public construction. (Illinois Compiled Statutes Ch. 30, Sec. 550/1, et seq.)

19. Signing of Agreement.

When Owner gives a Notice of Award to the Successful Bidder, at least three unsigned counterparts of the Agreement and all other Contract Documents will accompany it. Within seven (7) days thereafter Contractor shall sign and deliver at least three counterparts of the Agreement to Owner with all other Contract Documents attached. Within seven (7) days thereafter Owner will deliver all fully signed counterparts to Contractor. Engineer will identify those portions of the Contract Documents not fully signed by Owner and Contractor and such identification shall be binding on all parties.

20. General Guaranty

Contractor agrees to save the City, its agents and employees harmless from liability of any nature or kind for the use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented, invention, article, or appliance furnished or used in the performance of the contract which the contractor is not the patentee, assignee, licensee, or owner. Protect the City against latent defective material or workmanship and to repair or replace any damages or marring occurring in transit or delivery. Pay for all permits, licenses, and fees and give all notices and comply with all laws, ordinances, and rules of the City and State of Illinois.

21. Assignment

Assignment of this contract or any part thereof, or any funds to be received thereunder by the contractor shall be subject to the approval of the City of St. Charles.

22. Equal Opportunity Employer

The City of St. Charles is an equal opportunity employer, and all bidders are required to be equal opportunity contractors as defined by all applicable State and Federal laws and regulations, including Public Act 87-1257 of the Illinois Human Rights Act.

23. Default

The contract may be canceled or annulled by the Purchasing Manager in whole or in part by written notice of default to the contractor upon nonperformance or violation of contract terms. The City may make an award to the next low Bidder or articles specified may be purchased on the open market similar to those so terminated. In either event, the defaulting contractor (or his surety) shall be liable to the City for costs to the City in excess of the defaulted contract prices provided. The contractor shall continue the performance of this contract to the extent not terminated under the provision of this clause. Failure of the contractor to deliver materials or services within the times stipulated on this bid, unless extended in writing by the City Engineer or his representative, or any other material breach shall constitute contract default.

24. Survival

The provisions hereof shall survive and shall not merge with the resulting purchase order or contract awarded to the successful bidder, but shall be additional terms thereof; and the submission of a bid shall be deemed as acceptance of these terms.

25. Insurance

Detailed insurance requirements are included under Section 00650.

The bidder shall secure and maintain in effect at all times, at his or her expense, insurance of the following kinds and limits to cover all locations of the bidder's operations in connection with work on his or her company's projects, naming the City of St. Charles as an additional insured. The bidder shall furnish Certificates of Insurance to the City before starting construction or within 10 days after the execution of the contract, whichever date is reached first. All insurance policies shall include a non-cancellation clause provision preventing cancellation without 30 days written prior notice to the City. In case of insurance cancellation, bidder shall obtain a new insurance policy in compliance with this paragraph prior to the effective date of cancellation.

Certificates of insurance must be completed on the ACCORD 25-S form, with the cancellation clause revised and revisions initialed.

26. Completion Date of Project

The City requires the CONTRACTOR to complete all contract work to Final Completion on or before Friday, September 2, 2016. Failure to comply with the deadline for the completion of the project within the specified dates shall result in the enforcement of liquidated damages in the amount of \$1,250.00 per day for each and every calendar day that these improvements remain incomplete after Final completion, in accordance with the Contract Documents and Section 108.05 and 108.09 of the Standard Specifications.

27. Maintenance Bond

The lowest responsible bidder is required to furnish a maintenance bond approved by the City in the amount equal to ten percent (10%) of the Contract Amount. This bond shall provide a guarantee against defective materials and workmanship in connection with said maintenance. The Principal agrees to make any and all repairs or replacements, which become necessary during the specified period of 12 months and commencing on the date of inspection and final approval of the work by the City of St Charles.

28. Working Hours

Normal working hours are from Monday thru Friday 7am- 8pm, Saturday 8am-5pm, and no work on Sundays or Holidays.

END OF SECTION

SECTION 00300

PROPOSAL

TO THE CITY OF ST. CHARLES, ILLINOIS (hereinafter called OWNER):

Proposal of _____
Name and Address of Bidder

_____ (Hereinafter called BIDDER) for the improvement, designated in Paragraphs 1-3 below, for:

The proposed consists of the rehabilitation of the Illinois Street Bridge over the Fox River. The project will include: joint reconstruction, structural steel removal and replacement including painting of portions of existing structural steel, structural repair of various concrete elements, approach pavement reconstruction, sidewalk removal and replacement, curb and gutter removal and replacement, HMA pavement patching, pavement marking, staged traffic control and protection, site restoration and other appurtenant work for a complete improvement.

1. The plans for the proposed improvement are those prepared by WBK ENGINEERING, LLC and are being administered by the CITY OF ST. CHARLES ENGINEERING OFFICE, Two East Main Street, St. Charles, Illinois 60174, which plans are designated as "**Illinois Street Bridge Rehabilitation**" and which cover the work described in the preceding paragraph above.
2. In submitting this Proposal, the BIDDER declares that the only persons or parties interested in the Proposal as principals are those named herein and that the Proposal is made without collusion with any person, firm, or corporation.
3. The BIDDER further declares that he has carefully examined the Proposal, Plans, Specifications, Agreement, and Contract Bond, and that he has inspected in detail the site of the proposed work, and that he has familiarized himself with all of the local conditions affecting the Contract and the detailed requirements of construction, and understands that in making this proposal he waives all right to plead any misunderstanding regarding the same.
4. The BIDDER further understands and agrees that, if this proposal is accepted, he is to furnish and provide all necessary machinery, tools, apparatus and other means of construction, and to do all of the work, and to furnish all of the materials specified in the contract, except such materials as are to be furnished by the OWNER in the manner and at the time therein prescribed, and in accordance with the requirements therein set forth.
5. The BIDDER agrees that if there is a discrepancy between the gross sum bid and that resulting from the summation of the quantities multiplied by their respective unit prices, the latter shall apply.

6. The BIDDER further agrees that, if the OWNER decides to extend or decrease the improvement, or otherwise alter it by extras or deductions, including the elimination of any one or more items, as provided in the specifications, he will perform the work as altered, increased, or decreased at the contract unit prices bid.
7. The BIDDER further agrees that the OWNER may at any time during the progress of the work covered by this contract order other work or materials incidental thereto and that all such work and materials as do not appear in the proposal or contract as a specific item accompanied by a unit price, and which are not included under the bid price for other items in this CONTRACT, shall be performed in accordance with Article 10 of the General Conditions.
8. The BIDDER further agrees to execute a contract for this work and present the same to the OWNER within seven (7) days after the date of Notice of the Award of the CONTRACT to him.
9. The BIDDER further agrees that he and his surety will execute and present within seven (7) days after the date of Notice of the Award, Contract Performance and Payment Bonds satisfactory to and in the form prescribed by the OWNER, in the amount of 115% of the contract amount, guaranteeing the faithful performance and payment of the work in accordance with the terms of the contract.
10. The BIDDER further agrees to begin work not later than fourteen (14) days after receipt of the NOTICE TO PROCEED and after the execution and approval of the Contract and Contract Bond, unless otherwise authorized or directed by the OWNER and to prosecute the work in such manner and with sufficient materials, equipment, and labor as will insure its completion within the time limit specified herein, it being understood and agreed that the completion within the time limit is an essential part of the contract. **BIDDER agrees to complete all contract work to Final Completion by Friday, September 2, 2016. Final Completion shall be defined as the completion of all pay items including restoration, punch list and all roadway lanes open to traffic.** Additional time may be granted by OWNER in accordance with Article 12 of the General Conditions. In case of failure to complete the Work within the time named herein or within such extra time as may have been allowed by extensions, **the BIDDER agrees to pay OWNER ONE THOUSAND, TWO HUNDRED AND FIFTY (\$1,250.00) as liquidated damages** for delay for each calendar day that expires after the date specified for Final Completion, which shall be considered and treated not as a penalty, but as damages due the OWNER resulting from the failure of the BIDDER to complete the work within the CONTRACT TIME.
11. Accompanying this Proposal is a bid bond, bank draft, cashier's check, or certified check, complying with the requirements of the Specifications, made payable to the City of St. Charles.

The amount of the check or draft is \$_____.

12. If this proposal is accepted and the BIDDER shall fail to execute a Contract and Contract Bond as required herein, it is hereby agreed that the amount of the bond, check, or draft shall become the property of the OWNER and shall be considered as payment of damages due to delay and other causes suffered by the OWNER because

of the failure to execute said Contract and Contract Bond; otherwise said bond, check, or draft shall be returned to the BIDDER.

**ATTACH BID BOND, BANK DRAFT, BANK CASHIER'S CHECK
OR CERTIFIED CHECK HERE**

13. The BIDDER submits herewith his schedule of prices covering the WORK to be performed under this CONTRACT; he understands that he must show in the schedule the unit prices for which he proposes to perform each item of work, and that the extensions must be made by him, and that if not so done, his proposal may be rejected as irregular.
14. The undersigned firm in signing this Proposal certifies that it is not barred from bidding on this Contract as a result of a conviction for the violation of State Laws prohibiting bid-rigging or bid-rotating.

SEAL

If an Individual

Signature of Bidder _____

Business Address _____

SEAL

If a Co-Partnership

Signature of Bidder _____

Business Address _____

Insert names and addresses _____

of all members of the Firm _____

SEAL

If a Corporation

Corporate Name _____

Signed By _____, President

Attested _____, Secretary

Business Address _____

ILLINOIS STREET BRIDGE REHABILITATION

No	Description	Quantity	Unit of Measure	Unit Price	Amount
1	TEMPORARY FENCE	FOOT	200		
2	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	230		
3	SIDEWALK REMOVAL	SQ FT	230		
4	HOT-MIX ASPHALT PATCHES, 3 INCH	SQ YD	95		
5	CONCRETE REMOVAL	CU YD	63.4		
6	STRUCTURE EXCAVATION	CU YD	60		
7	CONCRETE STRUCTURES	CU YD	15.7		
8	CONCRETE SUPERSTRUCTURE	CU YD	47.8		
9	PROTECTIVE COAT	SQ YD	65		
10	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	10,000		
11	REINFORCEMENT BARS, EPOXY COATED	POUND	10,880		
12	BAR SPLICERS	EACH	94		
13	PREFORMED JOINT STRIP SEAL	FOOT	245		
14	MOBILIZATION	L SUM	1		
15	PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS	SQ FT	177		
16	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	4,025		
17	PAVEMENT MARKING TAPE, TYPE III 6"	FOOT	272		
18	PAVEMENT MARKING TAPE, TYPE III 12"	FOOT	86		
19	PAVEMENT MARKING TAPE, TYPE III 24"	FOOT	109		

ILLINOIS STREET BRIDGE REHABILITATION

No	Description	Quantity	Unit of Measure	Unit Price	Amount
20	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1,728		
21	TEMPORARY CONCRETE BARRIER	FOOT	264		
22	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	224		
23	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	2		
24	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 2	EACH	1		
25	EPOXY PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	182		
26	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	2,371		
27	EPOXY PAVEMENT MARKING - LINE 6"	FOOT	1,193		
28	EPOXY PAVEMENT MARKING - LINE 24"	FOOT	139		
29	BARRIER WALL MARKERS, TYPE C	EACH	15		
30	PAVEMENT MARKING REMOVAL	SQ FT	1,602		
31	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1		
32	DETECTOR LOOP REPLACEMENT	FOOT	220		
33	TEMPORARY CONCRETE WASHOUT FACILITY	LSUM	1		
34	GRANULAR BACKFILL FOR STRUCTURES	CU YD	60		
35	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1		
36	CHANGEABLE MESSAGE SIGN	CAL DA	28		
37	REMOVE AND REPLACE CURB AND GUTTER (SPECIAL)	FOOT	24		
38	STRUCTURAL STEEL REMOVAL	POUND	10,000		

ILLINOIS STREET BRIDGE REHABILITATION

39	HOT-MIX ASPHALT REMOVAL (SPECIAL)	SQ YD	95		
40	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES	LSUM	1		
41	CLEANING AND PAINTING STEEL BRIDGE NO. 1	LSUM	1		
42	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	110.0		
43	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	17.6		
44	CONSTRUCTION LAYOUT	L SUM	1		
45	TEMPORARY TRAFFIC SIGNAL TIMINGS	EACH	1		
BID TOTAL					

SUPPLEMENTAL BID FORMS

**CERTIFICATE OF COMPLIANCE OF THE
ILLINOIS COMPILED STATUTES, CHAPTER 65, SECTION 11-42-1**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that

_____ (Contractor) is not currently delinquent in the payment of any tax administered by or owed to the Illinois Department of Revenue, or otherwise in default upon any such tax as defined under Chapter 65, Section 11-42-1, **Illinois Compiled Statutes**.

Name of Contractor

By: _____

Subscribed and sworn to

before me this _____ day

of _____, 2016.

Notary Public

**CERTIFICATE OF NON-DISQUALIFICATION
UNDER IL. COMPILED STAT., CH. 720, SEC. 33E-11**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that

_____ (Contractor) is not barred from contracting with any unit of State or local government, as a result of a violation of Ch. 720, Sec. 33E-11 of the **Illinois Compiled Statutes**.

Name of Contractor

By:

(print/type name)

Title

Subscribed and sworn to

before me this _____ day

of _____, 2016.

Notary Public

NOTE TO BIDDER: Anyone who makes a false statement, material to this Certification, commits a Class 3 Felony under IL. Compiled Stat., Ch. 720, Sec. 33E-11 (b).

CERTIFICATION OF COMPLIANCE WITH SAFETY STANDARDS

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____
(Contractor) shall comply with all local, State, and Federal safety standards.

Name of Contractor

By:

(print/type name)

Title

Subscribed and sworn

to before me this _____

day of _____, 2016.

Notary Public

**CERTIFICATION OF COMPLIANCE WITH PUBLIC ACT 87-1257
OF THE ILLINOIS HUMAN RIGHTS ACT**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____
(Contractor) complies with the Illinois Human Rights Act as amended by Section 2-105, Public Act 87-1257 in relation to employment and human rights.

Name of Contractor

By: _____

(print/type name)

Title

Subscribed and sworn

to before me this _____

day of _____, 2016.

Notary Public

CERTIFICATE OF NONDISCRIMINATION

This is to certify that this firm does not and will not discriminate in any of its employment practices against persons because of their race, color, religion, sex or place of national origin, or ancestry.

The undersigned will take all necessary affirmative action as may be required by all applicable Federal, State and Local laws, ordinances, rules, regulations and orders to ensure that applicants are employed and that employees are treated, during employment, without regard to their race, color, religion, sex or national origin or ancestry.

Firm: _____

By: _____

Title: _____

Date: _____

STATE OF ILLINOIS)
)
COUNTY OF KANE & DUPAGE)

AFFIDAVIT OF NONCOLLUSION

The undersigned, who has herewith submitted a bid to provide,

(describe nature of service or product)

in accordance with plans and specifications furnished by the City of St. Charles for

(describe project)

does hereby affirm that said undersigned person and/or firm into any agreement, understanding, or arrangement with any other bidder or prospective bidder or with any other person, firm, or corporation relating to the price named in said proposal, nor has said undersigned person and/or firm entered into any agreement, understanding, or arrangement under which any person, firm, or corporation is to refrain from bidding, nor any agreement, understanding, or arrangement for any act or omission in restraint of free competition among bidders.

The undersigned further affirms that said undersigned person and/or firm is not disqualified by law from contracting with the City of St. Charles; and that said undersigned person and/or firm has not disclosed to any person, firm, or corporation the terms of this proposal or the price named herein.

Company

Bid for

Address

Date

Duly authorized agent or officer

Subscribed and sworn to me

this _____ day of _____, A.D. 20_____

Notary Public

AFFIDAVIT OF EXPERIENCE

STATE OF _____)

COUNTY OF _____)SS

_____ being duly sworn, that he is
_____, of _____
(Sole owner, member of firm, corporate official) (Individual, firm, or corporate name)

Which has performed work of the general description and type identified in this contract for

_____ years and _____ months beginning in (year) _____

Has successfully completed work for the following entities of the general description and type identified in this contract:

<u>Name of Owner</u>	<u>Job Description/Location</u>	<u>\$ Amount</u>	<u>Completion Year</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

and that the contact information for each referenced project is as follows:

<u>Contact Person</u>	<u>Phone Number</u>	<u>FAX Number</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Signature: _____

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

Notary Public

AFFIDAVIT OF CCDD LICENSED FILL SITE

STATE OF _____)

COUNTY OF _____)SS

_____ being duly sworn, that he is
_____, of _____
(Sole owner, member of firm, corporate official) (Individual, firm, or corporate name)

Certify that the Illinois Environmental Protection Agency Licensed Fill Site for CCDD material disposal for this project shall be:

<u>Name of Fill Site</u>	<u>Address</u>	<u>Phone Number</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Signature: _____

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

Notary Public

END OF SECTION

SECTION 00500
CONTRACT AGREEMENT

THIS AGREEMENT is dated as of the ____ day of _____ in the year 2016 by and between The City of St. Charles, Illinois (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

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

Article 1. WORK

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

The proposed consists of the rehabilitation of the Illinois Street Bridge over the Fox River. The project will include: joint reconstruction, structural steel removal and replacement including painting of portions of existing structural steel, structural repair of various concrete elements, approach pavement reconstruction, sidewalk removal and replacement, curb and gutter removal and replacement, HMA pavement patching, pavement marking, staged traffic control and protection, site restoration and other appurtenant work for a complete improvement.

Article 2. ENGINEER

The project was designed by WBK Engineering, LLC as an agent for the City of St. Charles Engineering Office. The City of St. Charles Engineering Office, 2 East Main Street, St. Charles, Illinois, who is hereinafter called ENGINEER, will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. CONTRACT TIME

- 3.1 The work of the project will be Final Complete by Friday, September 2, 2016 and ready for final payment in accordance with paragraph 14.07 of the General Conditions by September 2, 2016.
- 3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that the OWNER may suffer financial loss if the Work is not final complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not final complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER ONE THOUSAND, TWO

HUNDRED AND FIFTY DOLLARS (\$1,250.00) for each calendar day that expires after the date specified in paragraph 3.1 for the FINAL completion of all work.

- 3.3 Final Completion shall be defined as the completion of all pay items including restoration, punch list and all roadway lanes open to traffic and the acceptance of all pay items by the City.
- 3.4 Working hours for the job will be Monday – Friday, 7:00am - 8:00pm, Saturday 8:00am - 5:00pm. No work shall be permitted on Sunday or legal Holidays.

Article 4. CONTRACT PRICE

- 4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Documents in current funds as follows:
- 4.2 Payment shall be made on the basis of monthly estimates of partial completion, approved by the ENGINEER. The unit prices for each pay item named in the Proposal shall be utilized for Change Orders (additions or deductions) except as otherwise provided in the detailed specifications for each class of work.

Article 5. PAYMENT PROCEDURES

- 5.1 Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions. Payments for completed work shall not be released until the CONTRACTOR has supplied the OWNER lien waivers.
 - 5.1a Payments shall be reviewed and payment issued to the Contractor in accordance with the “Local Government Prompt Payment Act” (50 ILCS 505/).
- 5.2 *Final Payment.* Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

Article 6. INTEREST (Deleted)

Article 7. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representation:

- 7.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and Federal, State, and local laws, Ordinances, rules, and regulations that in any manner may affect cost, progress, or performance of the work.

- 7.2 CONTRACTOR has studied carefully all available reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress, or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.
- 7.3 CONTRACTOR has made or caused to be made examinations, investigations, and tests and studies of such reports and related data in addition to those referred to in paragraph 7.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports, or similar data are or will be required by CONTRACTOR for such purposes.
- 7.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports, and data with the terms and conditions of the Contract Documents.
- 7.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- 7.6 THE CONTRACTOR shall notify the City of St. Charles 48 hours prior to the start of any construction. A signed copy of the Notice of Award and Notice to Proceed shall be returned to the OWNER acknowledging receipt of these documents.
- 7.7 THE CONTRACTOR shall notify "J.U.L.I.E.", the "Joint Utility Locating Information for Excavators", (1-800-892-0123) at least 72 hours (not including Saturdays, Sundays or Holidays) prior to commencement of any construction activities.

8. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consist of the following:

- 8.1 CONTRACTOR'S Proposal (pages 00300-1 to 00300-17, inclusive).
- 8.2 This Agreement (pages 00500-1 to 00500-6, inclusive).
- 8.3 Contract Payment and Performance Bonds (Section 00600).
- 8.4 Notice of Award.
- 8.5 Notice to Proceed.
- 8.6 General Conditions (pages 00700-1 to 00700-72).
- 8.7 Supplementary Conditions (pages 00800-1 to 00800-12, inclusive).

- 8.8 Engineering Drawings, standard details, and quantity schedules included Specifications bearing the title **Illinois Street Bridge Rehabilitation**.
- 8.9 Prevailing Wage Rates (Section 00750)
- 8.10 Addenda numbers ... to ..., inclusive.
- 8.11 Any modification, including Change Orders, duly delivered after execution of Agreement.

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be altered, amended, or repealed by a Modification (as defined in Section 1 of the General Conditions).

Article 9. MISCELLANEOUS

- 9.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- 9.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 9.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

Article 10. OTHER PROVISIONS.

- 10.1 ASSIGNMENT of the contract or any part thereof, or any funds to be received thereunder, shall be subject to the approval of the City of St. Charles.
- 10.2 DEFAULT - THE CONTRACT may be canceled or annulled by the Purchasing Manager in whole or in part by written notice of default to the contractor upon nonperformance or violation of contract terms. An award may be made by the City to the next low bidder, or articles specified may be purchased on the open market similar to those terminated. In either event, the defaulting contractor (or his surety) shall be liable to the City of costs to the City in excess of the defaulted contract prices. The contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause. Failure of the contractor to deliver materials or services within the time stipulated on his bid, unless extended in writing by the City Engineer or his representative, or any other material breach, shall constitute contract default.

- 10.3 HEALTH AND SAFETY ACT - All work under this contract shall comply with the occupational Safety and Health Act (OSHA) of 1975, and all other Federal, state or local statutes, rules, or regulations affecting the work done under the contract.
- 10.4 PREVAILING WAGE RATE - All work under this contract shall comply with the Prevailing Wage Rate Act of the State of Illinois, Illinois Revised Statutes, 1987, Chapter 48, par. 39s-1, et.seq. and as amended by Public Acts 886-799 and 886-693 and resolution of the City in effect at the time work is performed. Current copies of this information are provided in Section 0750 of this document.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR, and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on the _____ day of _____, 2016.

CITY OF ST. CHARLES CONTRACTOR _____

By _____
Raymond Rogina, Mayor

By _____

Title _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____
Nancy Garrison, City Clerk

Attest _____

Title _____

Address for giving notices

Office of the City Clerk
Two East Main Street

St. Charles, IL 60174

Address for giving notices

END OF SECTION



SECTION 00600
PERFORMANCE BOND &
PAYMENT BOND

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence,

to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims

for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

_____ *(seal)*

Contractor's Name and Corporate Seal

_____ *(seal)*

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
 - 16.1 **Claim:** A written statement by the Claimant including at a minimum:
 1. The name of the Claimant;
 2. The name of the person for whom the labor was done, or materials or equipment furnished;
 3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 4. A brief description of the labor, materials, or equipment furnished;
 5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 7. The total amount of previous payments received by the Claimant; and
 - 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
 - 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:



SECTION 00650

CERTIFICATE OF INSURANCE REQUIREMENTS



CITY OF ST. CHARLES
CERTIFICATE OF INSURANCE REQUIREMENTS

All Contractors, Manufacturers/Distributors, and Suppliers shall be required to carry and evidence insurance coverage with a standard Acord Certificate of Insurance with minimum limits applicable. Sample attached.

1. Minimum Insurance Requirements and Limits

	<i>Coverage</i>		<i>Limits</i>
A.	Automobile Liability	\$1,000,000	Combined single limit
B.	Commercial General Liability	\$1,000,000	Per occurrence
		\$2,000,000	General aggregate

All Commercial General Liability policies must include Blanket Contractual coverage and Broad Form Vendors' Liability coverage.

C.	Workers' Compensation (Employers' Liability)	\$500,000	Per accident
		\$500,000	Disease limit
		\$500,000	Each Disease
D.	Umbrella Liability	\$5,000,000	Limit

2. Cancellation or Alteration

The policies of insurance required by this exhibit shall provide that they cannot be cancelled or altered in any way changing coverage except after 30 days' prior written notice by certified mail to owner.

3. Workers' Compensation and General Liability Waiver of Subrogation in favor of the City.

4. Insurance Certificates

- A. Must be submitted ten (10) days prior to any work being performed to allow review of certificates.
- B. Certificates not meeting requirements must be revised and resubmitted within fifteen (15) days or the subcontractor will not be allowed on the jobsite.

5. Additional Insured and Broad Form Vendors' Liability in favor of the City.

The City must be named as an Additional Insured with the following wording appearing on the Certificate of Insurance: "The City of St. Charles and any official, trustee, director, officer, or employee of the City (plus any holder or mortgage as designated by the City) as to any and all projects, as an Additional Insured for the Commercial General Liability as respects any and all projects for any work being performed and this coverage will be primary and noncontributory."

6. Minimum Insurance Carrier

All contractors, manufacturers/distributors, and suppliers' insurance carriers must comply with the minimum A.M Best rating of A-VI for all insurance carriers.



SECTION 00700
GENERAL CONDITIONS

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 Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 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. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document 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, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice 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.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *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.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *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.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *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, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *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.
40. *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.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *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 a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *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 but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated 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 information in the Contract Documents and with the design concept of the 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 Article 10 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.
- 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 15.03 or 15.04).
- 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. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that 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. *Bonds*: 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 Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 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.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- 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 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *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 2.03.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 the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, 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, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract 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, reference standard, 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 part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
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 had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers 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 its consultants, including electronic media editions, or reuse any 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 adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions 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.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *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 Contract 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 Contract. 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 Contract, whichever date is earlier.

4.02 *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 such date.

4.03 *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.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 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 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. 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, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Times and Contract Price. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 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.
- 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 permanent improvements are to be made 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.

5.02 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all 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 directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site 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 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; 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 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
 - 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 Paragraph 13.03; and,

- c. 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.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent 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 do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; 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 information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then 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 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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 Paragraph 13.03;
 - c. 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; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors 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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. 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, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, 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 (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, 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. 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 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then 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 bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor’s employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. 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.
- C. *Commercial General Liability—Form and Content:* Contractor’s commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor’s contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against 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. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor’s pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, 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 (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, 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.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, 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 insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, 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 Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, 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 making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, 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 occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.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, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, 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 builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *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 the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- 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.

7.02 *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, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work 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.

7.04 "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 Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, 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:
 - 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
 - 4) it is not objectionable to Owner.
 - 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.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. 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:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether 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
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
 - C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
 - D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable 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.
 - E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
 - F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. 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 the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. 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.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. 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.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. 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 create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *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, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors 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 specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *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.

7.10 *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 or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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 such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

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

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. 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, other work in progress, 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 Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.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 at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer 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).
 - F. Contractor's duties and responsibilities for safety and protection 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 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *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.

7.14 *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.

7.15 *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.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
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 of that submittal, and that Contractor approves the 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 set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- 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 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall 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 7.16.D.
3. 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
 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 or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample 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 7.16.A.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 will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

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.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *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 officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on 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;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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 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 officers, directors, members, partners, employees, agents, consultants, or subcontractors 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 7.18.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 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, 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.

7.19 *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 Laws and Regulations.
- 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, 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, 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 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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 not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all 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 damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

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

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *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.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *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.

10.02 *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 10.08. 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.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. 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.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. 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, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, 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 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
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 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.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 Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - 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 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. 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;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety 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), 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.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 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 on the Work. 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, and 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 13.01.
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.
 - 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, as 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 6.05), 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 communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *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, expeditors, 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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here 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 Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole 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, Change Proposal, Claim, set-off, or other 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 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, 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.

13.02 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*: Contractor agrees that:
 - 1. 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
 - 2. 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*: 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.

13.03 *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. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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 the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price 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;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it 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 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

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

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *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, then 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.

14.07 *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, 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, then 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 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 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 during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *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, a warehouse bond, 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.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, 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 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 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, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and 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; or
 - b. 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 money 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 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

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

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- 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 preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- 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. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially 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 15.03 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 6.05 regarding builder's risk or other property insurance.

15.05 *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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *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, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

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 have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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 15.07. 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. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *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 Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 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 to 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. 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 repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- 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, 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 are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and 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);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds 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.

- F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *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; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) 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 16.03.
- 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *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, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract 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.

18.03 *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. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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



SECTION 00750
PREVAILING WAGE RATES

Kane County Prevailing Wage for July 2015

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng			
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====	=====			
ASBESTOS ABT-GEN		ALL		39.400	39.950	1.5	1.5	2.0	13.42	11.28	0.000	0.500			
ASBESTOS ABT-MEC		BLD		36.340	38.840	1.5	1.5	2.0	11.47	10.96	0.000	0.720			
BOILERMAKER		BLD		47.070	51.300	2.0	2.0	2.0	6.970	18.13	0.000	0.400			
BRICK MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030			
CARPENTER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.40	0.000	0.630			
CEMENT MASON		ALL		43.000	45.000	2.0	1.5	2.0	10.00	18.27	0.000	0.500			
CERAMIC TILE FNSHER		BLD		36.810	0.000	1.5	1.5	2.0	10.55	9.230	0.000	0.770			
COMMUNICATION TECH	N	BLD		36.360	38.460	1.5	1.5	2.0	12.27	10.25	0.000	0.640			
COMMUNICATION TECH	S	BLD		38.620	40.720	1.5	1.5	2.0	10.19	10.81	0.000	1.350			
ELECTRIC PWR EQMT OP		ALL		37.890	51.480	1.5	1.5	2.0	5.000	11.75	0.000	0.380			
ELECTRIC PWR EQMT OP		HWY		39.220	53.290	1.5	1.5	2.0	5.000	12.17	0.000	0.390			
ELECTRIC PWR GRNDMAN		ALL		29.300	51.480	1.5	1.5	2.0	5.000	9.090	0.000	0.290			
ELECTRIC PWR GRNDMAN		HWY		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300			
ELECTRIC PWR LINEMAN		ALL		45.360	51.480	1.5	1.5	2.0	5.000	14.06	0.000	0.450			
ELECTRIC PWR LINEMAN		HWY		46.950	53.290	1.5	1.5	2.0	5.000	14.56	0.000	0.470			
ELECTRIC PWR TRK DRV		ALL		30.340	51.480	1.5	1.5	2.0	5.000	9.400	0.000	0.300			
ELECTRIC PWR TRK DRV		HWY		31.400	53.290	1.5	1.5	2.0	5.000	9.730	0.000	0.310			
ELECTRICIAN	N	ALL		43.750	48.130	1.5	1.5	2.0	14.66	12.31	0.000	0.880			
ELECTRICIAN	S	BLD		45.950	50.550	1.5	1.5	2.0	10.57	12.87	0.000	1.610			
ELEVATOR CONSTRUCTOR		BLD		50.800	57.150	2.0	2.0	2.0	13.57	14.21	4.060	0.600			
FENCE ERECTOR		ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700			
GLAZIER		BLD		40.500	42.000	1.5	2.0	2.0	13.14	16.99	0.000	0.940			
HT/FROST INSULATOR		BLD		48.450	50.950	1.5	1.5	2.0	11.47	12.16	0.000	0.720			
IRON WORKER		ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700			
LABORER		ALL		39.200	39.950	1.5	1.5	2.0	13.42	11.28	0.000	0.500			
LATHER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.76	0.000	0.630			
MACHINIST		BLD		45.350	47.850	1.5	1.5	2.0	7.260	8.950	1.850	0.000			
MARBLE FINISHERS		ALL		32.400	34.320	1.5	1.5	2.0	10.05	13.75	0.000	0.620			
MARBLE MASON		BLD		43.030	47.330	1.5	1.5	2.0	10.05	14.10	0.000	0.780			
MATERIAL TESTER I		ALL		29.200	0.000	1.5	1.5	2.0	13.42	11.28	0.000	0.500			
MATERIALS TESTER II		ALL		34.200	0.000	1.5	1.5	2.0	13.42	11.28	0.000	0.500			
MILLWRIGHT		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.40	0.000	0.630			
OPERATING ENGINEER		BLD 1		48.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD 2		46.800	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD 3		44.250	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD 4		42.500	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD 5		51.850	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD 6		49.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		BLD 7		51.100	52.100	2.0	2.0	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		FLT		36.000	36.000	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER		HWY 1		46.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY 2		45.750	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY 3		43.700	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY 4		42.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY 5		41.100	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY 6		49.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
OPERATING ENGINEER		HWY 7		47.300	50.300	1.5	1.5	2.0	17.55	12.65	1.900	1.250			
ORNAMNTL IRON WORKER		ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700			
PAINTER		ALL		41.730	43.730	1.5	1.5	1.5	10.30	8.200	0.000	1.350			
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000			
PILEDRIVER		ALL		44.350	46.350	1.5	1.5	2.0	11.79	16.40	0.000	0.630			
PIPEFITTER		BLD		46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.780			
PLASTERER		BLD		43.430	46.040	1.5	1.5	2.0	13.05	14.43	0.000	1.020			
PLUMBER		BLD		46.650	48.650	1.5	1.5	2.0	13.18	11.46	0.000	0.880			
ROOFER		BLD		41.000	44.000	1.5	1.5	2.0	8.280	10.54	0.000	0.530			
SHEETMETAL WORKER		BLD		44.720	46.720	1.5	1.5	2.0	10.65	13.31	0.000	0.820			
SIGN HANGER		BLD		26.070	27.570	1.5	1.5	2.0	3.800	3.550	0.000	0.000			
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	11.75	9.650	0.000	0.550			
STEEL ERECTOR		ALL		45.060	48.660	2.0	2.0	2.0	10.52	20.76	0.000	0.700			
STONE MASON		BLD		43.780	48.160	1.5	1.5	2.0	10.05	14.43	0.000	1.030			
SURVEY WORKER			-->NOT IN EFFECT			ALL	37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000	0.500
TERRAZZO FINISHER		BLD		38.040	0.000	1.5	1.5	2.0	10.55	11.22	0.000	0.720			
TERRAZZO MASON		BLD		41.880	44.880	1.5	1.5	2.0	10.55	12.51	0.000	0.940			
TILE MASON		BLD		43.840	47.840	1.5	1.5	2.0	10.55	11.40	0.000	0.990			

TRAFFIC SAFETY WRKR	HWY	32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500
TRUCK DRIVER	ALL 1	35.920	36.120	1.5	1.5	2.0	8.280	8.760	0.000	0.150
TRUCK DRIVER	ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TUCKPOINTER	BLD	43.800	44.800	1.5	1.5	2.0	8.280	13.49	0.000	0.670

Legend: RG (Region)

TYP (Trade Type - All, Highway, Building, Floating, Oil & Chip, Rivers)

C (Class)

Base (Base Wage Rate)

FRMAN (Foreman Rate)

M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.)

OSA (Overtime (OT) is required for every hour worked on Saturday)

OSH (Overtime is required for every hour worked on Sunday and Holidays)

H/W (Health & Welfare Insurance)

Pensn (Pension)

Vac (Vacation)

Trng (Training)

Explanations

KANE COUNTY

ELECTRICIANS AND COMMUNICATIONS TECHNICIAN (NORTH) - Townships of Burlington, Campton, Dundee, Elgin, Hampshire, Plato, Rutland, St. Charles (except the West half of Sec. 26, all of Secs. 27, 33, and 34, South half of Sec. 28, West half of Sec. 35), Virgil and Valley View CCC and Elgin Mental Health Center.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Construction, installation, maintenance and removal of telecommunication facilities (voice, sound, data and video), telephone, security systems, fire alarm systems that are a component of a multiplex system and share a common cable, and data inside wire, interconnect, terminal equipment, central offices, PABX and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEERS - FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job

duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".



SECTION 00800
SUPPLEMENTARY CONDITIONS

SECTION 00800

SUPPLEMENTARY CONDITIONS

The following supplements shall modify, change, delete from, and/or add to the "Standard General Conditions of the Construction Contract" (Document No. EJCDC C-700)." Where any article, paragraph, or subparagraph in the General Conditions is supplemented by one of the following paragraphs, the provisions of such article, paragraph, or subparagraph shall remain in effect and the supplementary provisions shall be considered as added thereto. Where any article, paragraph, or subparagraph in the General Conditions is amended, voided, or superseded by any of the following paragraphs, the provisions of such article, paragraph, or subparagraph so amended, voided, or superseded shall remain in effect.

ARTICLE 1 - DEFINITIONS

CONTRACT TIMES Amend paragraph defining "CONTRACT TIMES" to read as follows:

Contract time shall be the time period commencing on the date of issuance of "Notice to Proceed" and concluding on the day specified in the Contract Documents by the CONTRACTOR for the satisfactory completion of the work.

OWNER Amend paragraph defining "OWNER" to read as follows:

Whenever the word "OWNER" is used in the Contract Documents, it shall be understood to be City of St. Charles, Illinois, and duly authorized representatives thereof.

ARTICLE 5 - BONDS AND INSURANCE

SC 5.01C Add the following language at the end of Paragraph 5.01C of the General Conditions.

In addition, no further progress payments under the Agreement will be made by owner until CONTRACTOR complies with the provisions of this Article.

SC 5.02 CONTRACTOR'S LIABILITY INSURANCE

The CONTRACTOR shall secure and maintain in effect at all times, at his expense, insurance of the following kinds and limits to cover all locations of the CONTRACTOR's operations in connection with work on his company's projects, naming the City of St. Charles as an additional insured. The CONTRACTOR shall furnish Certificates of Insurance to the owner before starting construction or within 10 days after the execution of the contract, whichever is reached first. All insurance policies shall include a non-cancellation clause provision preventing cancellation without 30 days written prior notice to the city. In case of insurance cancellation, CONTRACTOR shall obtain a new insurance policy in compliance with this paragraph prior to the effective date of cancellation. **Note: Liability**

umbrella is \$5,000,000. Certificates of insurance must be completed on ACCORD 25-S form with the cancellation clause revised and revisions initialed.

SC 5.02A The CONTRACTOR shall in all respects comply with any and all statutes and Ordinances which impose any duty or obligation upon either the CONTRACTOR or the City of St. Charles, Illinois with respect to the performance of any part of the work hereby undertaken by the CONTRACTOR and the CONTRACTOR agrees to do and perform any and all acts required by any statutes or Ordinances to be performed by either the CONTRACTOR or the City of St. Charles, Illinois with respect to such work. The CONTRACTOR HEREBY agrees to hold the City of St. Charles, Illinois, its employees, agents, and WBK Engineering, LLC (ENGINEER), harmless and to indemnify them against and to reimburse them for any loss, damage, costs, or expenses, together with reasonable attorney's fees, which they might or may incur by reason of failure of the CONTRACTOR to observe and comply with any and all such statutes and Ordinances.

SC 5.02B The CONTRACTOR shall also indemnify and hold harmless the City of St. Charles, Illinois, its employees, and agents and WBK Engineering, LLC (ENGINEER) from and against any and all claims and demands whatsoever, including costs, litigation expenses, counsel fees, and liabilities incurred in connection therewith, arising out of injury to, or death whatsoever, or damage to property of any kind by whomsoever owned, caused in whole or in part by the acts or omissions of the CONTRACTOR, any Subcontractor, the CONTRACTOR'S material, men, or any other person directly or indirectly employee by them, or any of them, while engaged in the performance of the work or any activity associated therewith or relative thereto.

SC 5.02C The CONTRACTOR shall also name WBK Engineering, LLC (ENGINEER), the ENGINEER'S subconsultants, and the City of St. Charles as additional insureds on his Contractor's General Liability policy on a "primary and non-contributory" basis.

SC 5.03 Delete paragraph 5.03 of the General Conditions in its entirety.

SC 5.04 Delete paragraph 5.04A and 5.04B of the General Conditions in their entirety and add the following:

SC 5.04A **APPLICABLE TO ALL POLICIES**

All policies shall be written with insurance companies licensed to do business in the State of Illinois and having a rating of not less than A VI, according to the latest edition of the A. M. Best Co.

Certificates of insurance evidencing the required coverage shall be submitted to the Owner and Engineer prior to commencing work on the project.

The limits of liability for the liability insurance shall not be less than the following amounts or greater where required by law and the other insurance coverage shall be as follows:

SC 5.04B LIABILITY INSURANCE (refer to sheets provided)

1. Workers' Compensation

Coverage A:	Statutory
	Coverage B: \$500,000
	\$500,000
	\$500,000

Shoremans coverage will be required when working on or above a navigable waterway.

2. Comprehensive General Liability Insurance

Automobile Combined Single Limit	\$1,000,000 per Occurrence
General Aggregate	\$2,000,000
Products/Completed Operations	\$1,000,000 per Occurrence
Personal and Advertising Injury	\$1,000,000 per Occurrence
Each Occurrence	\$1,000,000
Fire Damage (Any One Fire)	\$100,000
Umbrella/Excess Liability	\$5,000,000

Coverage will include:

- Blanket Contractual
- Employees as Insureds
- Broad Form Property Damage
- Broad Form Lenders Liability

- a. The term "caused by an accident" shall be replaced by the term "occurrence."
- b. The City must be named as an Additional Insured with the following wording appearing on the Certificate of Insurance: "The City of St. Charles and any official, trustee, director, officer, or employee of the City (plus any holder or mortgage as designated by the City) as to any and all projects, as an Additional Insured for the Commercial General Liability as respects any and all projects for any work being performed and this coverage will be primary and noncontributory."

- c. Insurance will provide "X", "C" and "U" (explosion, collapse and underground hazard coverage) as applicable.
- d. Workers Compensation and General Liability waiver of Subrogation in Favor of ENGINEER and CITY.

3. Comprehensive Automobile Liability Insurance

Combined Single Limit \$1,000,000

- a. All owned, hired, or non-owned vehicles including the loading or unloading thereof.
- b. The term "caused by an accident" if used in bodily injury or property damage coverage shall be replaced by the term "occurrence"

4. Umbrella/Excess Liability Insurance

Limit of Liability: \$5,000,000

In addition to the insurance coverage set forth in the contract documents, the CONTRACTOR shall maintain an Umbrella/Excess Liability policy with coverages for the same perils as covered under the primary policies, including any special requirements.

5. Special Terms/ Conditions:

If the additional insured has other insurance, which is applicable to the loss, it shall be on an excess or contingent basis. The amount of the company's liability under this policy shall not be reduced by the existence of such other insurance.

- a. The CONTRACTOR, and all subcontractors shall not commence work under this contract until he has obtained all insurance required under this section and such insurance has been approved by the City. The CONTRACTOR and Subcontractor shall maintain all insurance required under this section for one year after substantial completion.
- b. With respect to all insurance required herein, the CONTRACTOR shall provide such insurance naming the city and all of its employees and agents as additional named insureds, including the coverage with respect to damages, losses expense and claim, including attorney's fees; for all liability involving alleged bodily injury, all liability, and property damage, liability based upon any claims brought against the

City, its means or suppliers or the employees thereof arising from whatsoever cause, relating to, arising out of or concerning the performance of the subject property.

- c. To the extent permitted by law, the CONTRACTOR shall defend, indemnify, and hold harmless the City and its agents and employees from and against all claims, damages, losses and expense, including attorney's fees arising out of or resulting from the performance of work, provided that any such claim, damage, loss or expense: (1) is attributable to bodily injury, sickness, disease or death or to destruction of tangible property (other than work itself), including a loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, or anyone for whose acts any of them may be liable, regardless of whether or not it caused in part by a party indemnified hereunder. In any and all claims against the owner or any of its agents or employees by an employee of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them or anyone whose acts any of them may be liable, the indemnification obligation under this paragraph shall not be limited in any way by a limitation on the amount of, type of damage's, compensation for benefits payable by or for the CONTRACTOR or any subcontractor under worker's compensation acts, liability benefit acts or other employee benefit acts. Further, the CONTRACTOR hereby agrees to hold the owner harmless and to indemnify it against and to reimburse them for any loss, damage, fines, costs or expense, together with reasonable attorney's fees, which might or may occur by reason of the failure of the CONTRACTOR to observe and comply with any and all statutes and ordinance.

6. Property Insurance

Add the following sentence to the subparagraph:

The form of the policy for this coverage shall be Completed Value.

- a. The CONTRACTOR shall provide insurance coverage for portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also for portions of the work in transit.
- b. Property Insurance provided by Owner shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring and construction equipment, which may be on the site and the capital value of which is not included in the work. The CONTRACTOR shall make his own arrangements

for any insurance he may require on such construction equipment.

c. The CONTRACTOR shall furnish bonds covering faithful performance of Contract and payment obligations arising thereunder. Bonds may be obtained through the CONTRACTOR'S usual source and the cost there shall be included in the Contract sum. The amount of each bond shall be equal to 115% of the Contract Sum including assigned CONTRACTORS. The Owner requires all of the assigned CONTRACTORS provide bonds to the CONTRACTOR.

The policy shall be written a special form.

MISCELLANEOUS REQUIREMENTS

The CONTRACTOR is responsible for determining that subcontractors are adequately insured against claims arising out of or relating to the work. The premium cost and charges for such insurance shall be paid by each subcontractor.

The limits of liability as stated, may be arrived at using a Split-Limit or a combined Single limit basis. However, the total limit of liability shall not be less than that stated in the requirements.

Builders Risk: The CONTRACTOR shall provide and maintain Builder's Risk Insurance and installation insurance in the amount of 100% of the contract sum. The insurance must provide All Risk including Theft of Building Materials, and shall be written at 100% of completed value. The CONTRACTOR and the Owner shall be named insureds. The CONTRACTOR will be responsible for whatever deductible is used.

The CONTRACTOR shall in all respects comply with any and all statutes and ordinances which impose and duty or obligation upon either the CONTRACTOR or the City of St. Charles, Illinois with respect to the performance of any part of the work hereby undertaken by the CONTRACTOR and the CONTRACTOR agrees to do and perform any and all acts required by any statutes or Ordinances to be performed by either the CONTRACTOR or the City of St. Charles, Illinois with respect to such work.

APPLICABLE TO ALL POLICIES

All policies shall written with insurance companies licensed to do business in the state of Illinois and having a rating of not less than A VI, according to the latest edition of the A.M. Best Co.

Deductibles will not exceed \$5,000.00

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Add a new subparagraph immediately after Subparagraph 6.06G of the General Conditions, which is to read as follows:

- SC 6.06H CONTRACTOR shall not award Work to Subcontractor(s) in excess of 50% of the Contract Price without prior written approval of OWNER.
- SC 6.12A Add the following language at the end of paragraph 6.12A of the General Conditions.

The CONTRACTOR shall also be responsible for maintaining a marked set of drawings showing all deviations in line and grade, additions, and/or deletions to the scope of work. The CONTRACTOR shall furnish the ENGINEER with said marked set of drawings upon completion of the work for use in preparing the Record Drawings.

ARTICLE 7 - OTHER WORK AT THE SITE

- SC 7.02 DELETE Paragraph 7.02 of the General Conditions in its entirety and insert the following in its place:

When the OWNER contracts with others for performance of other work on the Project at the site, the OWNER will identify a construction coordinator who will have authority and responsibility for coordination of the activities among the various prime CONTRACTORS' work at the site.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

- SC 9.03 Add the following language to paragraph 9.03 of the General Conditions which is to read as follows:

The following is a listing of the "Duties, Responsibilities, and Limitations of Authority of Resident Project Representative" and supplements paragraph 9.03 of the General Conditions:

DUTIES, RESPONSIBILITIES, AND LIMITATIONS OF THE AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE.

A. GENERAL

The Resident Project Representative is the ENGINEER'S Agent and shall act under the supervision and direction of the ENGINEER. He shall confer with the ENGINEER regarding his

actions and shall generally communicate with the OWNER only through the ENGINEER.

B. DUTIES AND RESPONSIBILITIES

The Resident Project Representative shall:

1. Schedule: Review the progress schedule prepared by the CONTRACTOR for compliance with the contract and give written advice to the ENGINEER concerning its acceptability.
2. Conferences: Attend pre-construction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with the ENGINEER and notify those expected to attend in advance. Maintain and circulate copies of records of the meetings.
3. Liaison:
 - a. Serve as the ENGINEER'S liaison with the CONTRACTOR working principally through the CONTRACTOR'S superintendent. Alert the CONTRACTOR, through his superintendent, to the hazards involved in accepting and acting upon instructions from the OWNER or other, except such instructions transmitted through the ENGINEER.
 - b. Cooperate with the CONTRACTOR in his dealings with the Project in order to complete service connections to public utilities and facilities.
 - c. Assist the ENGINEER in obtaining from the OWNER additional details or information, when required, at the job site for proper execution of the work.
4. Approvals: When required, assist the ENGINEER in obtaining from the CONTRACTOR a list of his proposed supplies and subcontractors.
5. Samples: Assist the ENGINEER in obtaining field samples of materials delivered to the site which are required to be furnished, and keep record of actions taken by ENGINEER.

6. Shop Drawings:

- a. Receive approved shop drawings and other submissions from the ENGINEER, record data received, maintain a file of the drawings and submissions, and check construction for compliance with them.
- b. Alert the CONTRACTOR'S superintendent when he observes materials or equipment being installed before approval of shop drawings or samples, where such are required, and advise the ENGINEER when he believes it is necessary to disapprove work as failing to conform to the Contract Documents.

7. Review of Work, Inspections, and Tests

- a. Conduct on-site observations of the work in progress for the ENGINEER as a basis for determining that the Project is proceeding in accordance with the Contract Documents, and report to the ENGINEER when he believes that any work should be rejected or specially tested, or that the work should be stopped to ensure that the completed Project will comply with the requirements of the Contract Documents.
- b. Verify that tests, including equipment and systems start-up, which are required by the Contract Documents are conducted and that the CONTRACTOR maintains adequate records thereof, observe, record, and report to the ENGINEER appropriate details relative to the test procedures and start-ups.
- c. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the outcome of these inspections, and report to the ENGINEER.

8. Interpretations of Contract Documents: Transmit to the CONTRACTOR the ENGINEER'S interpretations of Contract Documents.

9. Modifications: Consider and evaluate CONTRACTOR'S suggestions for modification in drawings or specifications and report them with recommendations to the ENGINEER.

10. Records:

- a. Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings, and other submissions, reproductions of original Contract Documents including all addenda, change orders, field orders, and additional drawings issued subsequent to the award of the contract, the ENGINEER'S interpretations of the Contract Documents, progress reports, and other Project-related documents.
- b. Keep a diary or logbook, recording hours on the job site, weather conditions in general, and specific observations in more detail as in the case of observing test procedures.
- c. Record names, addresses, and telephone numbers of all CONTRACTORS, subcontractors, and major material suppliers.
- d. Maintain a set of drawings on which authorized changes are noted and deliver to the ENGINEER at the completion of the Project.

11. Reports:

- a. Furnish the ENGINEER periodic reports, as required, of progress of the Project and the CONTRACTOR'S compliance with approved progress schedule.
- b. Consult with the ENGINEER in advance of scheduled major tests, inspections, or start of important phases of the Project.

12. Payment Requisitions: Review applications for payment with the CONTRACTOR for compliance with the established procedure for their submission and forward them with recommendations to the ENGINEER, noting particularly their relation to the work completed and materials and equipment delivered at the site.

13. Guarantees, Certificates, Maintenance and Operation Manuals: During the course of the work, assemble Guarantees, Certificates, Maintenance and Operation Manuals, and other required data to be furnished by the CONTRACTOR; and upon acceptance of the project,

deliver this material to the ENGINEER for his review and forwarding to the OWNER.

14. Completion:

- a. Prior to inspection for substantial completion, submit to the CONTRACTOR a list of observed items required correction.
- b. Conduct final inspection in the company of the ENGINEER and the OWNER and prepare a final list of items to be corrected.
- c. Verify that all items on final list have been corrected and make recommendations to the ENGINEER concerning acceptance.

C. LIMITATIONS OF AUTHORITY

Except upon written instructions of the ENGINEER, the Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents;
2. Shall not undertake any of the responsibilities of the CONTRACTOR, the subcontractors, or the CONTRACTOR'S superintendent;
3. Shall not expedite the work for the CONTRACTOR;
4. Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences, or procedures of construction, unless such is specifically called for in the Contract Documents;
5. Shall not authorize the OWNER to occupy the Project in whole or in part;
6. Shall not participate in specialized field or laboratory tests.

SC 9.04

INSERT the following at the end of the last sentence, "Such authorized variations in work shall only involve engineering or plan-related issues, and shall not involve, nor be binding to the extent they relate to questions of legal interpretation of liabilities of the parties."

SC 9.9C INSERT the following to the end of the last sentence "with the exceptions of these items set forth in section 9.02, namely inspections to insure against defective work."

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

SC 10.04 DELETE Paragraph 10.03A in its entirety and INSERT the following:

"OWNER and CONTRACTOR shall execute appropriate and lawful change orders recommended by ENGINEER (or written Amendments) covering:"

END OF SECTION



DIVISION 01

GENERAL REQUIREMENTS

SECTION 01100

CONTRACT CONSIDERATIONS

1101 APPLICATIONS FOR PAYMENT

The Contractor shall submit three (3) copies of each application on Contractor's Standard form. The payment period will be a minimum of 30 days, and the application shall include Sworn Statements of Contractor and Sub-Contractors, together with supporting Lien Waivers.

1102 CHANGE ORDER PROCEDURES

The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Price or Contract Time as authorized by issuing supplemental instruction by Field Order.

Work Directive Change: The Engineer may issue a directive, on the Work Directive Change Order form, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

Document will describe changes in the Work, and designate method of determining any change in Contract Price or Contract Time. Promptly execute the change.

All conflicts involving a potential field change shall be brought to the attention of the City of St. Charles Engineering Office before construction of the field change begins. Failure to comply with this issue may result in construction that has not been approved and will therefore not be compensated for in final payment

1104 LIQUIDATED DAMAGES

Liquidated damages will be assessed as per Section 00500 of this document.

END OF SECTION

SECTION 01200

REFERENCE STANDARDS

1210 QUALITY ASSURANCE

For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

The Contractor shall conform to current reference standards consistent with the date at the opening bid.

The hierarchy of Specifications in order of precedence from highest to lowest is as follows:

1. Contract Documents and Specifications for “**Illinois Street Bridge Rehabilitation**” prepared by WBK Engineering, LLC, for the City of St. Charles.
2. Municipal code of the City of St. Charles.
3. "Standard Specifications for Road and Bridge Construction", Illinois Department of Transportation, (SSRBC), latest edition.

Should specified reference standards conflict with the Contract Documents, the Contractor shall request clarification from Engineer before proceeding.

The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

END OF SECTION

SECTION 01300

SUBMITTALS

1301 SUBMITTAL PROCEDURES

Contractor shall:

Identify Project, Contractor, Subcontractor, or supplier pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.

Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.

Schedule submittals to expedite the Project, and deliver to Engineer at business address. Coordinate submission of related items.

Revise and resubmit submittals as required, identify all changes made since previous submittal.

Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

END OF SECTION

SECTION 01400
QUALITY CONTROL

1401 QUALITY ASSURANCE/CONTROL OF INSTALLATION

The Contractor shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

The contractor shall comply fully with manufacturers' instruction, including each step in sequence.

Should manufacturers' instructions conflict with Contract Documents, the Contractor shall request clarification from Engineer before proceeding.

The Contractor shall comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

The Contractor shall perform work by persons qualified to produce workmanship of specified quality.

END OF SECTION

SECTION 01700
CONTRACT CLOSE-OUT

1701 CLOSE-OUT PROCEDURES

Submit written notice that Contract Documents have been reviewed and work has been completed in accordance to the Plans and Contract Documents and ready for Engineer's inspection. Final application for Payment must identify the total adjusted Contract Price, previous payments, and remaining sum due.

Inspections shall be requested by the Contractor to the Engineering Office and performed by the appropriate utility division or Street Department.

All punch-list items including site cleanup, drainage system cleaning, pavement sweeping, landscaping, and removal of all waste materials and construction equipment must be complete prior to final engineering approval and final payment.

END OF SECTION



SPECIAL PROVISIONS

**CITY OF ST. CHARLES
ILLINOIS STREET BRIDGE REHABILITATION**

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886001-01	Detector Loop Installations
886006-01	Typical Layouts for Detection Loops
BLR-17-4	Traffic Control Devices – Day Labor Construction

PERMITS: ARMY CORPS OF ENGINEERS (USACOE) (to be provided prior to start of construction)

LOCATION OF PROJECT

The project is located along the centerline of Illinois Street between 1st Street on the west side of the Fox River and Riverside Avenue on the east side of the river. The project is two blocks south of IL Rte. 64 in the downtown of the City of St. Charles, Kane County. The net and gross length of the bridge improvement is 228 feet (0.043 mile).

DESCRIPTION OF PROJECT

The project consists of the rehabilitation of the Illinois Street Bridge over the Fox River. The project will include: joint reconstruction, structural steel removal and replacement including painting of portions of existing structural steel, structural repair of various concrete elements and approach pavement reconstruction.

The City of St. Charles reserves the right to award a contract to the successful bidder.

REFERENCED SPECIFICATIONS AND CODES

The following Special Provisions supplement the following specification and codes and shall govern the work, which applies to, and the proposed improvement designated as the "ILLINOIS STREET BRIDGE REHABILITATION" and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern. Unless otherwise noted, specification shall be those in effect on the date of invitation for bids.

The "Standard Specifications for Road and Bridge Construction" (SSRBC), adopted April 1, 2016, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and the "Manual of Test Procedures for Materials" (MTPM) latest edition, the Guide Bridge Special Provisions (GBSP) latest edition, and the "Supplemental Specifications and Recurring Special Provisions" (SSRSP) indicated on the Check Sheet included herein.

The Illinois Environmental Protection - Agency Illinois Urban Manual (IUM), latest edition, except as modified herein or by any public agency permits issued for this work.

The Standard Specifications for Water and Sewer Main Construction in Illinois (SSWSMC), Sixth Edition, June 2009, except as modified herein or by any public agency permits issued for this work.

The Americans with Disabilities Act, the Illinois Accessibility Code.

All codes and ordinances of Kane County and the City of St. Charles.

Unless otherwise noted in the special provision, reference to "Standard Specification" refers to the "Standard Specifications for Road and Bridge Construction" (SSRBC).

CONTACTS

City of St. Charles is the lead agency for this project during construction. All questions to bid documents shall be through Karen Young, P.E. – Assistant Director of Public Works – Engineering at 630-377-4405.

PREQUALIFICATION

The Contractor or his/her specialty subcontractor shall have been in business a minimum of five (5) years and must be prequalified by the Illinois Department of Transportation in Contractor Prequalification Category Number 009, "Structures (Highway)" and Category Number 10 (Structures Repair).

The Contractor shall submit a list of five (5) similar projects with a minimum of value of one million (1,000,000) dollars that the Contractor or his/her specialty subcontractor has completed, along with points of contact for these projects (refer to supplemental bid form for "Affidavit of Experience"). The submittal shall include the location, contract name, number, total value and completion dates for the projects. The submittal shall also include names, telephone numbers and fax numbers of a supervisory level point of contact at each facility or installation who has knowledge of the Contractor's or specialty subcontractor's work performance and project with value of subcontracting contract.

SITE INSPECTION

The successful bidder shall, before submitting a proposal for a specific work site or project, carefully examine the Proposal, Plans, Details, Specifications, and Special Provisions. The successful bidder shall inspect in detail the site of the proposed work and be familiar with all the local conditions affecting the proposal and the detailed requirements of construction. In no event will the City assume any responsibility whatever for interpretation, deduction or conclusion drawn from the inspection of the site. Failure to acquaint themselves with all available information concerning these conditions will not relieve the successful bidder from responsibility for estimating difficulties and costs of successfully performing and completing the work

UTILITY LOCATIONS

The Contractor must exercise extreme caution while working around existing utilities. The Contractor shall notify JULIE (1-800-892-0123) and the City of St. Charles Electrical, Water and Sewer Department before commencing construction for utility locations within the limits of the project. It is recommended that the Contractor conduct a joint utility meet. It is the responsibility of the Contractor to contact agencies who may or may not be part of the JULIE system to obtain the horizontal and vertical field locations of their facilities within the limits of the proposed improvements.

When existing structures, services, utilities, pipelines and improvements (both above and below ground) are shown on the plans, the locations shown are approximate only. The City of St Charles does not guarantee the accuracy or completeness of this information. The Contractor shall make his own investigation to determine the existence, nature, and location of all utility lines and appurtenances within the limits of the improvement.

It has been determined that there are several utilities that run through the existing bridge abutment back wall. Before doing any work which will damage, disturb or leave unsupported or unprotected any utility lines or appurtenances encountered, the Contractor shall notify and coordinate with the prospective utility Owner thereof, to make arrangement for maintaining and provide the necessary "sleeving" of the utility line, or for relocating or abandoning the service on lines that fall within the limits of the proposed construction.

Illinois Street Bridge Rehabilitation
City of St. Charles
Kane County

No extra compensation will be allowed to the Contractor for any expenses incurred by complying with these requirements or because delay, inconvenience or interruption in his work resulting from the failure of any utility company to remove, relocate, reconstruct, or abandon their services.

COMPLETION DATE

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date is specified, the Contractor shall complete all contract items, including restoration and punch list items, and safely open all sidewalks and roadways for use on or before 11:59 PM on, **Friday, September 2, 2016** except as specified herein.

Article 108.09 or the Special Provision for "Failure to Complete the Work on Time" shall apply to both the completion date.

PERMIT COMPLIANCE

The Contractor shall comply with the all requirements of the project permits from the Army Corps of Engineers. A copy of the Permit(s) will be provided to the Contractor prior to the start of Construction.

NORTHERN LONG EARED BAT – SPECIAL USACOE PERMIT CONSIDERATION

As part of the U.S. Army Corps of Engineers permit, the bridge shall be inspected for the presence of the Northern Long-Eared Bat no more than seven (7) days prior to the start of construction activity to ensure bats have not started to use the bridge that will be removed as habitat.

The Contractor is **not** responsible for the inspection but will need to coordinate his schedule and work activities with the Engineer to assure that the inspection is completed as specified. If that species is found to be using the structure, the permittee (St. Charles) shall immediately contact the U.S. Fish and Wildlife Service, (847) 381-2253 and Kimberly Kubiak of the U.S. Army Corps of Engineers at (312) 846-5541 for further guidance. Work shall not commence until consultation with these two agencies has been satisfied.

WORK HOURS

The normal work hours for this project will from 7:00 a.m. to 8:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturday except in the case of urgent necessity in the interest of public health and safety, and then only with a permission from the City of St. Charles. No work will be allowed on Sundays or legal holidays without the permission of the Engineer. The Contractor will be allowed to undertake maintenance and fueling operation prior to the beginning times stated as long as these operations do not requiring starting of the equipment engines.

The Contractor shall submit his anticipated schedule and work hours to the Engineer and City of St. Charles for approval prior to starting any construction operations.

TRAFFIC SIGNAL MAINTENANCE AND OPERATION

Existing traffic signals at Illinois Street intersection with First Street and Riverside Avenue are to remain in service at all times. The realignment of traffic patterns to complete the work and loop detector installation in this contract will require modifications to the existing traffic signal at the intersection of Illinois street and Riverside Avenue and will require the transfer of traffic signal maintenance at this location from the City of St. Charles to this Contract's Contractor.

See additional requirements for "MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION" and "TEMPORARY TRAFFIC SIGNAL TIMINGS" in these special provisions.

CONTROL OF MATERIALS

All material used shall meet the requirements of Section 106, Control of Materials, of the Standard Specifications and these special provisions. All materials to be utilized in the project shall be approved by the Engineer prior to starting the work. The Contractor shall provide the Engineer with documentation of certification from each supplier.

The Quality Assurance (QA) plant and field testing of concrete, hot-mix asphalt, soils, or other materials as determined by the Engineer will be performed by a testing firm designated by the City of St. Charles at the City's expense. The Engineer shall be notified 48 hours in advance of the work to allow scheduling of the tester. Quality Control (QC) plant and field testing of aggregates, concrete and hot-mix asphalt materials will be the responsibility of the Contractor. The Quality Control (QC) testing firm shall have a representative present throughout the duration of all work requiring testing. The Contractor will provide copies of the material testing plant and field reports to both the Engineer and the District. Testing frequency and requirements shall be as required in IDOT's "Manual of Test Procedures for Materials" (MTPM) latest edition. This item will not be measured for payment and will be included in the various items to be tested.

RESPONSIBILITY OF WORK

During the progress of the work, the Contractor shall assume total risk and liability, and will be responsible of any and all damages to the work, or to persons, or to public or private property caused by, or in any way resulting from doing the work, including actions of Subcontractors or Material Suppliers.

WORK AREA

The Contractor shall confine all work to the project limits shown on the plans. Any damage to areas outside of the project limits shall be repaired, replaced or restored by the Contractor to the satisfaction of the owner and the City of St. Charles at the Contractor's expense. No additional compensation will be allowed.

WATER FOR CONSTRUCTION PURPOSES

City water for construction purposes will be available to the Contractor at his cost. Temporary hydrant meters are available to the contractor upon making a formal application at the Finance Office and deposit payment of an amount equal to the actual cost of meter, fittings, backflow prevention device and wrench. Once all these items are returned and found to be in good and working condition, the deposit minus the cost of water usage will be returned to the Contractor.

Temporary hydrant meters shall be removed from hydrants daily or when unattended. Under no circumstances shall unattended hydrant meters be installed on hydrants overnight.

CLEANING ALL STRUCTURES AND STAGING AREAS

Before final acceptance, all structures, construction and staging areas that were occupied by the Contractor in connection with this work shall be cleaned of all rubbish, excess materials, and other foreign materials deposited or accumulated on or in the structures and work areas. The cleaning shall be performed to the satisfaction of the Engineer and shall be at the Contractor's expense.

STOCK PILING OF DEBRIS AND EXCAVATED MATERIAL

The Contractor shall be responsible for removal and disposal of all waste material, asphalt, grindings, concrete, stone, dirt or debris generated in the course of the work. The Contractor will not be allowed to stockpile the debris and building waste materials on the existing bridge deck. The Contractor may temporarily stock piles these materials at other locations within the project site as long as the stockpile(s) do not interfere with traffic or pedestrian operations. The location shall be approved by the Engineer. These materials should be removed at the end of each day's operations. Any damage to the existing pavements or City property resulting from stockpiles will be repaired by the Contractor at his own expense.

PUBLIC SAFETY AND CONVENIENCE

The Contractor shall maintain drives, entrances, and side roads along the proposed improvement to allow emergency and local vehicle access to all adjacent properties. This access should not allow the passage of non-local vehicular traffic, which should abide by the approved traffic control plan. Interference with traffic movements and inconvenience to abutting property owners and the public shall be kept to a minimum. The Contractor worker's shall not park in any "private" parking lots. The Contractor shall maintain at least one lane open to traffic at all times for emergency vehicles on all streets affected by the construction of these improvements. Adequate use of flaggers and other traffic control devices shall be used to permit such arrangements during working hours.

Description: The roadway and pedestrian facilities adjacent to the Illinois Street Bridge Rehabilitation are expected to remain open during the duration of the project. The Contractor will be required to maintain portions of the roadways and pedestrian access points and walkways. This special provision specifies the Contractor requirements for accessing the project site and for maintaining public operations.

Contractor Staging Area: The contractor will be required to stage the bridge work in two (2) stages consisting of the north and south half of the bridge. The Contractor's staging area will be limited to the area within the "closure". If the contractor requires additional parking space for his employee's they will be required to park their vehicles in public provided parking spaces or parking lots. Parking of any vehicles in "private" parking lots is prohibited. If the contractor requires a changing area beyond the limits of the bridge, the Contractor will be required to secure his staging area from the public by installing temporary construction fencing around the staging area. **Fencing around the Contractors staging area will not be measured for payment.** The Contractors staging area shall be coordinated and approved by the Engineer.

Public Parking: All parking lots not part of the Contractor's staging area will remain open to the public. The contractor will not be allowed to park equipment, store or stockpile materials in these

parking areas. The Contractor will maintain unrestricted access for the public to and from the Park. The contractor will place warning signs to inform the public of construction vehicles are entering and leaving the site. The public parking areas to remain open are shown on the Site Plan.

Pedestrian Access: Only those sidewalks, bike paths and walkways shown in the plans that will be directly impacted by the construction operations will be closed to the public. All other walkways shall remain open at all times. Open walkways adjacent to the construction area shall be protected by the installation of orange construction or chain link fencing around the project area. The Contractor will not be allowed to use any open walkways for hauling or stockpiling materials or maneuvering or transporting construction equipment. This would include Contractor pickup trucks of passenger vehicles.

Bridge Restriction: The Contractor will be required to maintain at least one lane of traffic in both directions across the opened portion of the bridge. Contractor shall confine all equipment and building supplies to the staged work area behind the barriers and temporary fencing.

Maintenance of Roadways: Beginning on the date that the Contractor begins work on this project, he shall assume responsibility for normal maintenance of all existing roadways within the project boundary. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the plans or as directed by the Engineer.

Basis of Payment: Requirements specified under this special provision will not be measured separately for payment but shall be INCLUDED in the cost of the contract.

GUARANTEE AND MAINTENANCE BOND

The Contractor shall guarantee all equipment and materials furnished and installed by him against defects in material and workmanship for a period of one (1) year from the date of formal project closure. Any repair or replacement of defective equipment or materials shall be promptly executed to the Engineer's satisfaction at no cost to the owner.

The Contractor shall furnish a Maintenance Bond approved by the City of St. Charles in the amount equal to ten percent (10%) of the contract amount. This bond shall provide a guarantee against defective materials and workmanship in connection with said maintenance. The Principal agrees to make any and all repairs or replacements, which become necessary during the specified period of twelve (12) months and commencing on the date of inspection and final approval of the work by the City of St. Charles. This item shall not be paid for separately, but shall be considered incidental to the project.

SP-1 MOBILIZATION

Description. All work, materials and equipment will conform to Sections 671 of the Standard Specifications. The work shall consist of preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site.

Basis of Payment. This work will be paid for at the Lump Sum price for MOBILIZATION per Article 671.02 of the Standard Specifications.

SP-2 TEMPORARY FENCE

Description of Work. This work shall include all labor and materials necessary to install, maintain and remove temporary construction fencing to limit pedestrian access to the work site during the duration of construction. Construction fencing will be provided at the locations directed by the Engineer. The temporary construction fencing shall be in accordance with the applicable portions of Article 201.05(a) of the Standard Specifications. The fence shall be made of high-visibility (plastic) orange fencing with a minimum height of four (4) feet and shall be secured in place with posts at a maximum spacing of seven feet.

The Contractor shall be responsible for removing the Construction Fencing upon completion of the project.

Basis of Payment. This work shall be paid for at the contract unit price in Foot for TEMPORARY FENCE, which will be payment in full for supplying fencing and post, miscellaneous materials to install, maintaining and removing the fencing and all other required work to complete the work as set forth above.

A nominal quantity has been added to the quantities. Only the amount of actual fencing used will be measured for payment. There will be no adjustment to the contract unit cost if the amount of fencing utilized is less than the amount included in the plans.

SP-3 SAW CUTTING

Description. This item is for all locations where the a saw cut is required for the removal of pavement, curb, gutter, driveways, sidewalk, paths, butt joints, patches or any other structure which are all one piece with no construction joints. This saw cut shall be made at the limits of construction or other areas as required to perform the proposed improvements shown on the plans. The saw cut shall be accomplished with a "pavement saw". Vermeer type trenchers will not be allowed for final saw cut at the limits of construction.

Basis of Payment. Saw cutting shall not be paid for separately, but shall be considered INCLUDED in the unit contract price of the related removal items.

SP-4 SIDEWALK REMOVAL AND REPLACEMENT

Description. This item shall consist of the removal of existing sidewalks and the reconstruction of a one-course portland cement concrete sidewalk at the locations shown on the plans and in accordance with the applicable portions of Section 440 and 424 of the Standard Specifications. The work shall also include regrading and compaction of the existing base course or subgrade, and all backfilling necessary to complete the work, including the disposal of surplus material and cleaning up of the work.

Materials: The mix design for the new sidewalk will be Class SI Concrete.

Basis of Payment. This work shall be paid for at the contract unit price in Square Feet for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH and SIDEWALK REMOVAL, which will be payment in full for removal and replacement of the concrete sidewalk, form work, fine grading, preformed joint filler, all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans

SP-5 HMA PAVEMENT REMOVAL AND PLACEMENT

Description. This work shall consist of the removal and replacement of the existing asphalt surface for the removal and installation of the new bridge joints and combination concrete curb and gutter at the locations shown on the plans. Pavement removal shall be in accordance with the applicable portions of Section 440. The class and type of patch specified in accordance with the applicable portions of Section 442 of the Standard Specifications.

Construction Requirements. Removing surface to the top of concrete base course by surface milling or other method approved by the Engineer. The removal method shall not damage the concrete base course.

According to existing record drawings, the existing asphalt pavement is estimated to be three (3) inches in thickness. It will be the Contractor's responsibility to verify the exact thickness. There will be no additional compensation for variation in thickness.

All pavement edges shall have a final sawcut prior to placing the patch.

The concrete surface and vertical edges shall have a bituminous tack coat applied before placing the patch.

Basis of Payment. This work will be paid for at the contract unit price per Square Yard for HOT-MIX ASPHALT PATCHES, 3 INCH and HOT-MIX ASPHALT REMOVAL (SPECIAL), which will be payment in full for removal and replacement of the HMA pavement, tack coat, saw cuts, all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans

SP-6 REMOVE AND REPLACE CURB AND GUTTER (SPECIAL).

Description of Work. This work shall consist of furnishing all labor, tools, equipment, and materials to remove and replace existing concrete curb and gutter as shown on the plans. The work shall be performed in accordance with the applicable portions of Sections 440 and 606 of the Standard Specifications, the details in the plans and the City of St. Charles Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per lineal Foot for REMOVE AND REPLACE CURB AND GUTTER (SPECIAL). This work shall include all reshaping and compacting the aggregate base, supplemental aggregate material as needed, labor, material, and equipment needed to perform the work described herein and as specified on the plans.

SP-7 PAVEMENT MARKINGS

Description. This item shall be completed in accordance with the applicable portions of Section 780. This work shall consist of striping and lettering all pavement areas at the locations shown on the plans.

Materials. All permanent pavement markings shall be Epoxy.

Basis of Payment. This work will be paid for at the contract unit price per Foot for EPOXY PAVEMENT MARKING LINE, at the width of line specified and at the contract unit price per Square Foot for EPOXY PAVEMENT MARKING LETTERS AND SYMBOLS, which price shall be full compensation marking materials, equipment, and labor required for performing the work as herein specified and detailed on the plans.

SP-8 TRAFFIC CONTROL AND PROTECTION

Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the Recurring Special Provisions and Supplemental Specifications, the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways and any special details and Highway Standards contained herein and in the Traffic Specifications or Highway Specifications. Special attention is called to Article 107.09 of the Standard Specifications for Road and Bridge Construction.

Emergency Contact. The Contractor shall provide a traffic control contact person with 24-hour telephone number to address any questions or issues regarding traffic control for the duration of the project.

General. The Contractor shall submit to the Engineer or City Representative, at the pre-construction meeting, a "Traffic Control" plan for approval by the Engineer. The Contractor shall adhere to the approved "Traffic Control Plan". Alterations or deviations from the Traffic Control Plan shall be approved in writing by the Engineer forty-eight (48) hours prior to their implementation.

Included and in addition to other items in the Contractor's Traffic Control Plan, the Contractor shall furnish the following traffic control items:

Access to driveways shall be maintained at all times. The commercial driveway entrance at Sta. 15+43, rt. shall be marked with a "Driveway Entrance" sign as detailed on District One Standard Drawing TC-26.

All construction warning signs used shall be fluorescent orange in color. Deteriorated, damaged, or signs with non-original material on the front surface will not be allowed.

Prior to the start of work the Contractor shall have a sufficient number of barricades, signs, and flagmen at the jobsite for the scheduled work. If satisfactory traffic control as determined by the Engineer is not in place, the Engineer shall order the work to be halted. Traffic control devices shall not be removed without prior written notice and approval of the Engineer.

The Contractor shall obtain, erect, maintain, and remove all signs, barricades, flagmen and other traffic control devices as may be necessary for the purposes of regulating, warning or guiding traffic.

All barricades shall be equipped with mono directional steady-burning lights.

Contractor shall use Pavement Marking Tape, Type III for temporary lane marking on all pavements.

Traffic Control Standards

All traffic control standards referenced in the plans or directed by the Engineer required to complete the various stages of work will not be measured separately for payment but shall be included in the contract Lump Sum for "Traffic Control and Protection". Traffic Control Standard anticipated for this project:

701801 701901 704001 782006 BLR 17-4

Sequence of Construction.

Stage 1

- Set up Stage 1 traffic control, signing and temporary striping. Provide 2-way traffic, single lane in each direction on the south side of the bridge.
- Set up temporary concrete barrier wall and attenuators.
- Maintain traffic patterns on all legs of 1st Street.
- Change traffic pattern on east leg of Riverside Avenue.
 - Change dedicated southbound left turn lane to left turn and thru lane.
 - Change west bound through lane to northbound right turn only.
 - Make traffic signals modifications at Riverside Avenue.
- Complete bridge rehabilitation, sidewalk and HMA patching on north side of bridge.

Stage 2

- Set up Stage 2 traffic control, signing and temporary striping. Provide 2-way traffic, single lane in each direction on the north side of the bridge.
- Relocate temporary concrete barrier wall and attenuators.
- Maintain traffic patterns on the west, north and south legs of 1st Street.
 - Close inside westbound thru lane.
 - Maintain outside westbound thru lane.
 - Maintain dedicated southbound turn lane on to 1st street.
- Change traffic pattern on east leg of Riverside Avenue.
 - Change outside westbound right turn only (from stage 1) to combination westbound thru lane, right and left turn lane.
 - Change westbound thru lane and left turn lane (stage 1) to eastbound thru lane.
 - Close eastbound outside thru lane.
 - Make traffic signals modifications at Riverside Avenue. Traffic signal head adjustment may be required.
- Complete bridge rehabilitation, sidewalk and HMA patching on south side of bridge.

Basis of Payment. Providing all signs, barricades, barrels and other relayed traffic control devices necessary to provide temporary traffic control staging will be paid for at contract Lump Sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL). This item will be paid for only once per project.

SP-9 MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION

Description. The realignment of traffic patterns at the intersection of Illinois Street and Riverside Avenue are necessary to complete the work in this contract. The change in traffic patterns will require temporary modifications to the timing, and phasing of the traffic signal for the various stages of construction and will require the transfer of traffic signal maintenance at this location from the City of St. Charles to this Contract's Contractor. The work shall be in accordance with the applicable portion of Division 800 of the Standard Specifications and as specified herein.

Add to Articles 850.02 and 850.03 of the Standard Specifications:

Procedure.

The Contractor is advised that the existing traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

The contractor shall not be responsible for energy charges.

The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, uninterruptible power supply (UPS and batteries), telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.

Maintenance.

The maintenance shall be according to MAINTENANCE AND RESPONSIBILITY in Division 800 of these specifications and the following:

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified

herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the City for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

The Contractor shall respond to all emergency calls from the Engineer or City of St. Charles within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the City's Electrical Maintenance Contractor perform the maintenance work required. The City's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

Signal Acceptance.

When the construction work is complete and the road is open to traffic the Contractor will re-implement the existing programming and functionality of the existing intersection. The Contractor will schedule an inspection with the City or the City's Electrical Maintenance Contractor to verify all systems are operational and functioning satisfactorily. If required, the Contractor will invite local fire department personnel to the inspection when Emergency Vehicle Preemption (EVP) is part of the intersection.

Basis of Payment. This work will be paid for at the contract unit price per Each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. This item will be paid for each location it applies.

SP-10 TEMPORARY TRAFFIC SIGNAL TIMINGS

Description.

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by the temporary conditions. The work will also include temporary adjustment to the traffic signal head alignment for sight lines and covering or "bagging" of signal heads that are not necessary or considered conflicting.

All timings and adjustments necessary for this work shall be performed by an approved Contractor who has previous experience in optimizing Closed Loop Traffic Signal Systems.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMINGS.

- (a) Contractor shall attend temporary traffic signal inspection (turn-on) and conduct on-site implementation of the traffic signal timings. Make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (b) Contractor shall provide bi-weekly observation of traffic signal operations in the field.
- (c) Contractor shall provide on-site consultation and adjust timings as necessary for all construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, and other construction activities or as required by the Engineer. Modifications are anticipated, but not limited to, Stage 1, Stage 2 and the re-establishing of the original functionality of the intersection.
- (d) When construction is completed and all lanes of traffic are open to traffic, Contractor shall provide on-site consultation to re-establish the signalized intersection operation to its pre-construction functionality.
- (e) Contractor shall make timing adjustments and prepare comment responses as directed by the Engineer.
- (f) Contractor shall coordinate all work activities with Contractor's electrical sub-contractor to make necessary temporary adjustments the traffic signal head alignment (sight lines) and covering or "bagging" of signal heads as necessary.
- (g) Contractor will provide work forces and equipment as necessary to meet the requirements described in Part (f).

Basis of Payment.

The work shall be paid for at the contract unit price Each for TEMPORARY TRAFFIC SIGNAL TIMINGS, which price shall be payment in full for performing all work described herein per intersection, regardless of how many construction stages are in the project. When the temporary traffic signal maintenance is turned over to the Contractor, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the completion of the project and final signal acceptance.

SP-11 DETECTOR LOOP REPLACEMENT ON PATCHING OPERATIONS

The following Traffic Signal Special Provisions and the "District 1 Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction."

The intent of this Special Provision is to prescribe the materials and construction methods commonly used to replace traffic signal detector loops with detector loops during roadway resurfacing, grinding and patching operations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer.

The work to be provided under this contract consists of furnishing and installing all traffic signal work as specified on the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Acceptance of Material.

The Contractor shall provide:

All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.

The Contractor shall submit three (3) copies of the material catalog cut to the Engineer for approval.

The contract name and intersection location must be on material catalog cuts.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay item such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced as shown in the plans or in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded.

Removal, Disposal and Salvage of Existing Traffic Signal Equipment. This item shall be incidental to this contract. All material and equipment removed shall become the property of the Contractor and disposed of by the Contractor outside the City's right-of-way. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in this contract.

Detector Loop Replacement. This work shall consist of replacing existing detector loops which are destroyed during grinding, resurfacing, or patching operations.

If damage to the detector loop is unavoidable, replacement of the existing detection system will be necessary. This work shall be completed by an approved Electrical Contractor as directed by the Engineer.

Replacement of the loops shall be accomplished in the following manner: The Engineer shall mark the location of the replacement loops. The City of St. Charles shall be called to approve loop locations prior to the cutting of the pavement. The Contractor may reuse the existing conduit (duct) located between the existing handhole and the pavement if it hasn't been damaged. All burrs shall be removed from the edges of the existing conduit which may cause damage to the new detector loop during installation. If the existing conduit is damaged beyond repair, or if it cannot be located, or if additional conduits are required to provide one lead-in duct for each proposed loop; the Contractor shall be required to drill through the existing pavement into the appropriate handhole, and install 25 mm (1") unit duct conduit. This work and the required materials shall not be paid for separately but shall be included in the pay item Detector Loop Replacement. Upon establishment of the duct, the loop may be cut, installed, sealed and spliced to the twisted-shielded controller cable in the handhole.

Detector loop measurements shall include the saw-cut and the length of the loop lead-in leading to the edge of pavement. Unit duct, splicing, trench and backfill, and drilling of pavement or handholes shall be incidental to detector loop quantities.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Karen Young, Public Works - Engineering at (630) 377-4405 to make arrangement to have the City inspect and approve the loop layout.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details." Saw-cuts from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit 250W175C water proof tag or approved equal secured to each wire with nylon ties. The lead-in wire, including all necessary connections for proper operation, from the edge of pavement to the handhole, shall be incidental to the price of the detector loop.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement A/C Grade or an approved equal. The sealant shall be installed 3 mm (1/8") below the pavement surface, if installed above the surface the overlap shall be removed immediately.

Round loop(s) 1.8 m (six foot) diameter may be substituted for 1.8 m (six foot) by 1.8 m (six foot) square loop(s) and shall be paid for as 7.2 m (24 feet) of detector loop.

Resistance to ground shall be a minimum of 100 megohms under any conditions of weather or moisture.

Heat shrink splices shall be used according to the "District 1 Standard Traffic Signal Design Details."

Drilling handholes, sawing the pavement, furnishing and installing unit-duct to the appropriate handhole, cable splicing to provide a fully operable detector loop, testing and all trench and backfill shall be included in this item.

Detector loop replacement shall be measured along the sawed slot in the pavement containing the loop and lead-in, rather than the actual length of the wire in the slot.

Final Inspection. Final acceptance of the traffic signal equipment by the City of St. Charles shall be based upon final inspection of the work and functionality of the new detector loop.

Basis of Payment. Detector Loop Replacement shall be paid for at the contract unit price per Foot of DETECTOR LOOP REPLACEMENT.

SP-12 CHANGEABLE MESSAGE SIGN

Description. The project will require that electronic changeable message signs be placed on the east and west side of the project to warn the public of the pending road construction and road closures. The message boards will be placed on Illinois Street only and will need to be placed and set out for seven (7) days in advance of the anticipated first day of construction. The changeable message signs will remain in place after the first day of setup for fourteen (14) calendar days (total) to warn of the construction activities and closures. The contractor will

coordinate with the Engineer on the exact placement of the message boards and the message that is to be displayed.

Method of Measurement. Message board(s) will be paid for per Calendar Day for each message sign utilized (two are anticipated for this project).

Basis of Payment. The signs shall be removed after the specified duration of time. The contractor will coordinate with the Engineer on the exact placement of the message boards and the message that is to be displayed. The message boards will be paid for as CHANGEABLE MESSAGE SIGN per Calendar Day for each message sign utilized. There will be no additional compensation for periodically changing the message.

SP-13 TEMPORARY PAVEMENT MARKINGS

Description of Work. This item consists of applying temporary pavement markings within the limits of the construction project. These pavement markings shall be applied to the roadway in order to channelize traffic and provide delineation for the travel lanes during the various stages of the project. The temporary pavement markings shall be in accordance with the applicable portions of section 703 of the standard specifications and these special provisions.

Materials. All temporary pavement markings shall be removable Type III Temporary Marking Tape in accordance with Section 1095.06 of the Standard Specifications.

Construction Methods. The Contractor shall follow standard application practices to ensure straight lines with true edges a clean cut. The finished line markings shall be free from waviness and the lateral deviations shall exceed 2 inches in 15 feet. Any greater deviation shall be sufficient cause for requiring the Contractor remove and correct such markings at the Contractor's expense. The Contractor shall also remove and correct, at the Contractor's expense, any symbol markings not meeting the dimensional requirements shown in the applicable standard details.

Apply all temporary pavement markings to clean and dry pavement surfaces. Prior to the application of temporary pavement markings, clean the roadway surface by sweeping or high pressure air ensure a clean surface for proper adhesion of the markings. **Do not apply tape to a pavement surface within the first 24 hours after a rainfall.** The Contractor shall coordinate all traffic pattern revisions and construction operations to accommodate the restriction regarding rainfall.

Basis of Payment. This work shall include all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans. This work shall be paid for at the contract unit price per Foot for PAVEMENT MARKING TAPE, TYPE III of the line width specified or contract unit price per Square Feet for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS.

SP-14 PAVEMENT MARKING REMOVAL

Description. This item consists of removing all permanent pavement marking lines and symbols that will conflict with staged traffic configurations within the limits of the construction project.

Construction Methods. The acceptable methods for removal of pavement markings from hot-mix asphalt or concrete pavement courses is high pressure water. **Grinding is prohibited as an acceptable method for removing pavement markings from a concrete pavement course.**

Applying a black paint or any other color of paint or type of paint over pavement markings designated for removal as a singular method of removal of pavement markings is prohibited.

The Contractor is responsible for the removal of all residue from a blast cleaning method, including the components of the blast method. When operating within 10 feet of a travel lane open to traffic or in an area that the residue may encroach onto the adjacent travel lane, the Contractor shall remove the residue immediately after contact between the blast component and the treated surface. The removal process shall require a vacuum attachment operating concurrently with the blast operation or by an alternate method as approved by the Engineer.

Basis of Payment. This work shall include all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans. This work shall be paid for at the contract unit price per Square Feet for PAVEMENT MARKING REMOVAL.

SP-15 WORK ZONE PAVEMENT MARKING REMOVAL

Description. This item consists of removing all temporary pavement marking tape used for lines and symbols after Stage 1 and Stage 2.

Construction Methods. The acceptable methods for removal of the temporary marking tape from concrete or asphalt surface shall be (a) high pressure water, (b) heat and hand peeling.

Basis of Payment. This work shall be paid for at the contract unit price per Square Feet for WORK ZONE PAVEMENT MARKING REMOVAL. This work shall include all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans.

SP-16 TEMPORARY CONCRETE BARRIER

Description. This work shall consist of providing and installing Temporary Concrete Barrier wall and relocation of same for the various maintenance of traffic staging required to construct the bridge work shown in the plans. This work shall be in accordance with Section 704 of the Standard Specifications and IDOT Std. 704001.

This work shall also include anchoring and connection pins as required.

Materials. Materials shall meet the requirements of Article 704.02. The barrier wall shall be in a condition that is acceptable to the Engineer.

All temporary barrier wall shall equipment with Barrier Wall Reflectors in accordance with Section 782 of the Standard Specifications and IDOT Std. 782006. Barrier Wall Reflectors shall be Type C.

Installation. The attenuator shall be installed per manufacturer recommendations and include all necessary transitions between the impact attenuator and the item to which it is attached.

Maintenance. All maintenance of the temporary concrete barrier wall shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When the Engineer determines the temporary concrete barrier wall is specified, they shall be removed, relocated, and reinstalled at the new location. The reinstallation requirements shall be the same as those for the new installation.

Remove. When the Engineer determines the temporary concrete barrier wall are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

When temporary concrete barrier wall have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar; only enough water to permit placement and consolidation by the rodding shall be used and the material shall be struck-off flush.

Basis of Payment. This work shall be paid for at the contract unit price per Foot for TEMPORARY CONCRETE BARRIER and RELOCATE TEMPORARY CONCRETE BARRIER, which price will include supplying, installation, anchoring and pinning, relocation, removal, pavement repair, necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans.

Barrier wall reflectors shall be paid for at the contract unit price per Each for BARRIER WALL MARKERS, TYPE C.

SP-17 TEMPORARY ATTENUATORS

Description. This work shall consist of providing a non-redirective impact attenuator (crash cushion) to shield the ends of the temporary concrete barrier wall at the locations shown on the plans. Because of the limited space due to staged construction and installation will be on the concrete bridge deck, the crash cushion shall be a narrow, non-anchoring design. The attenuator shall be the Absorb 350 System by Barrier Systems or equal.

Requirements. The attenuator shall meet the following requirements:

Approved for use at permanent or work zone locations
Meets NCHRP 350 or MASH, Test Level 2
No ground anchoring required
Narrow footprint allowing placement in front of hazards close to a travel lane
Classification: Non-Redirective (NR) Impact Attenuator
Dimensions: Width - 24", Height - 32"

Installation. The attenuator shall be installed per manufacturer recommendations and include all necessary transitions between the impact attenuator and the item to which it is attached.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When the Engineer determines the temporary impact attenuator is specified, they shall be removed, relocated, and reinstalled at the new location. The reinstallation requirements shall be the same as those for the new installation.

Remove. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

Basis of Payment. This work shall include all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans. This work shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 2. When the attenuators are required to be relocated for the work stage, the relocations of the attenuators will be paid for at the contract unit price per Each IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 2, which price shall include removal at the end of the project.

SP-18 CONSTRUCTION LAYOUT

Description. The Contractor shall furnish and place construction layout marks or stakes for this project. The Contractor shall establish from the given survey points and bench marks shown on the plans all the control points necessary to construct the individual project elements.

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

Basis of Payment.: Providing construction layout as described herein will be paid for at the contract Lump Sum for CONSTRUCTION LAYOUT, which price shall be full compensation for layout stakes, flagging, and all labor, equipment and materials required for performing the work as herein specified and detailed on the plans.

SP-19 TEMPORARY CONCRETE WASHOUT FACILITY

Description: If the Contractor chooses to washout out concrete trucks within the project limits, he will be required to provide a temporary concrete washout facility. This item shall consist of constructing and maintaining a temporary concrete washout "basin" for concrete trucks and other construction vehicles in accordance with the application portions of Code 954 of the Illinois Urban Manual.

The contractor shall submit in writing a plan showing the detail and location of the concrete washout facility location to the Engineer for approval.

Basis of Payment: This work shall be paid for at the contract unit price per Lump Sum for TEMPORARY CONCRETE WASHOUT FACILITY, which prices shall include, plan submittal coordination, general cleaning and removal of all construction debris when two-thirds full or as directed by the Engineer, general maintenance or reconstruct as necessary throughout the duration of use, and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work. The washout basin will be measured for payment only once for the entire project duration.

SP-20 CLEANING AND PAINTING EXISTING STEEL STRUCTURES

Description. This work shall consist of the preparation of all designated metal surfaces by the method(s) specified on the plans. This work also includes the painting of those designated surfaces with the paint system(s) specified on the plans. The Contractor shall furnish all materials, equipment, labor, and other essentials necessary to accomplish this work and all other work described herein and as directed by the Engineer.

Materials. All materials to be used on an individual structure shall be produced by the same manufacturer.

The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material, except for the penetrating sealer, must be tested and approved before use. The specified colors shall be produced in the coating manufacturer's facility. Tinting of the coating after it leaves the manufacturer's facility is not allowed.

The paint materials shall meet the following requirements of the Standard Specification and as noted below:

<u>Item</u>	<u>Article</u>
(a) Waterborne Acrylic	1008.04
(b) Aluminum Epoxy Mastic	1008.03
(c) Organic Zinc Rich Primer	1008.05
(d) Epoxy/ Aliphatic Urethane	1008.05
(e) Penetrating Sealer (Note 1)	
(f) Moisture Cured Zinc Rich Urethane Primer (Note 2)	
(g) Moisture Cured Aromatic/Aliphatic Urethane (Note 2)	
(h) Moisture Cured Penetrating Sealer (Note 3)	

Note 1: The Epoxy Penetrating Sealer shall be a cross-linked multi component sealer. The sealer shall have the following properties:

- (a) The volume solids shall be 98 percent (plus or minus 2 percent).
- (b) Shall be clear or slightly tinted color.

Note 2: These material requirements shall be according to the Special Provision for the Moisture Cured Urethane Paint System.

Note 3: The Moisture Cured Penetrating Sealer manufacturer's certification will be required.

Submittals. The Contractor shall submit for Engineer review and acceptance, the following plans and information for completing the work. The submittals shall be provided within 30 days of execution of the contract unless given written permission by the Engineer to submit them at a later date. Work cannot proceed until the submittals are accepted by the Engineer. Details for each of the plans are presented within the body of this specification.

- a) Contractor/Personnel Qualifications. Evidence of Contractor qualifications and the names and qualifications/experience/training of the personnel managing and implementing the Quality Control program and conducting the quality control tests.
- b) Quality Control (QC) Program. The QC Program shall identify the following; the instrumentation that will be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and painting quality as a result of quality control findings. The program shall incorporate at a minimum, the IDOT Quality Control Daily Report form as supplied by the Engineer.
- c) Inspection Access Plan. The inspection access plan for use by Contractor QC

personnel for ongoing inspections and by the Engineer during Quality Assurance (QA) observations.

- d) Surface Preparation/Painting Plan. The surface preparation/painting plan shall include the methods of surface preparation and type of equipment to be utilized for washing, hand/power tool cleaning, removal of rust, mill scale, paint or foreign matter, abrasive blast or water jetting, and remediation of chloride. If detergents, additives, or inhibitors are incorporated into the water, the Contractor shall include the names of the materials and Material Safety Data Sheets (MSDS). The Contractor shall identify the solvents proposed for solvent cleaning together with MSDS.

The plan shall also include the methods of coating application and equipment to be utilized.

If the Contractor proposes to heat or dehumidify the containment, the methods and equipment proposed for use shall be included in the Plan for the Engineer's consideration.

- e) Paint Manufacturer Certifications and Letters. When a sealer is used, the Contractor shall provide the manufacturer's certification of compliance with IDOT testing requirements listed under "Materials" above. A certification regarding the compatibility of the sealer with the specified paint system shall also be included.

When rust inhibitors are used, the Contractor shall provide a letter from the coating manufacturer indicating that the inhibitor is compatible with, and will not adversely affect the performance of the coating system.

If the use of a chemical soluble salt remover is proposed by the Contractor, provide a letter from the coating manufacturer indicating that the material will not adversely affect the performance of the coating system.

The paint manufacturer's application and thinning instructions, MSDS and product data sheets shall be provided, with specific attention drawn to storage temperatures, and the temperatures of the material, surface and ambient air at the time of application.

A letter or written instructions from the coating manufacturer shall be provided indicating the length of time that each coat must be protected from cold or inclement weather (e.g., exposure to rain) during its drying period.

- f) Abrasives. Abrasives to be used for abrasive blast cleaning, including MSDS. For expendable abrasives, the Contractor shall provide certification from the abrasive supplier that the abrasive meets the requirements of SSPC-AB1. For steel grit abrasives, the certification shall indicate that the abrasive meets the requirements of SSPC-AB3.
- g) Protective Coverings. Plan for containing or controlling paint debris (droplets, spills, overspray, etc.). Any tarpaulins or protective coverings proposed for use shall be fire retardant. For submittal requirements involving the containment used to remove lead paint, the Contractor shall refer to Special Provision for Containment and Disposal of Lead Paint Cleaning Residues.
- h) Progress Schedule. Progress schedule shall be submitted per Article 108.02 and

shall identify all major work items (e.g., installation of rigging/containment, surface preparation, and coating application).

When the Engineer accepts the submittals, the Contractor will receive written notification. The Contractor shall not begin any paint removal work until the Engineer has accepted the submittals. The Contractor shall not construe Engineer acceptance of the submittals to imply approval of any particular method or sequence for conducting the work, or for addressing health and safety concerns. Acceptance of the programs does not relieve the Contractor from the responsibility to conduct the work according to the requirements of Federal, State, or Local regulations and this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor remains solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.

Contractor Qualifications. Unless indicated otherwise on the contract plans, for non-lead abatement projects, the painting Contractor shall possess current SSPC-QP1 certification. Unless indicated otherwise on the plans, for lead abatement projects the Contractor shall also possess current SSPC-QP2 certification. The Contractor shall maintain certified status throughout the duration of the painting work under the contract. The Department reserves the right to accept Contractors documented to be currently enrolled in the SSPC-QP7, Painting Contractor Introductory Program, Category 2, in lieu of the QP certifications noted above.

Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections. The Contractor shall implement the submitted and accepted QC Program to insure that the work accomplished complies with these specifications. The designated Quality Control inspector shall be onsite full time during any operations that affect the quality of the coating system (e.g., surface preparation and chloride remediation, coating mixing and application, and evaluations between coats and upon project completion). The Contractor shall use the IDOT Quality Control Daily Report form or equal to record the results of quality control tests. The completed reports shall be turned into the Engineer before work resumes the following day. The Engineer or designated representative will sign the report. The signature is an acknowledgment that the report has been received, but should not be construed as an agreement that any of the information documented therein is accurate.

Contractor QC inspections shall include, but not be limited to the following:

- Suitability of protective coverings and the means employed to control project debris and paint spills, overspray, etc.
- Ambient conditions
- Surface preparation (solvent cleaning, pressure washing including chalk tests, hand/power tool or abrasive blast cleaning, etc.)
- Chloride remediation
- Coating application (specified materials, mixing, thinning, and wet/dry film thickness)
- Recoat times and cleanliness between coats
- Coating continuity and coverage (freedom from runs, sags, overspray, dry spray, pinholes, shadow-through, skips, misses, etc.)

The personnel managing the Contractor's QC Program shall possess a minimum classification of Society of Protective Coatings (SSPC) BCI certified, National Association of Corrosion Engineers (NACE) Coating Inspector Level 2 - Certified, or shall provide evidence of successful inspection of 3 projects of similar or greater complexity and scope that have been completed in the last 2 years. Copies of the certification and/or experience shall be provided.

References for experience shall be provided and shall include the name, address, and telephone number of a contact person employed by the bridge owner.

The personnel performing the QC tests shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided. The QC personnel shall not perform hands on surface preparation or painting activities. Painters shall perform wet film thickness measurements, with QC personnel conducting random spot checks of the wet film. The Contractor shall not replace the QC personnel assigned to the project without advance notice to the Engineer, and acceptance of the replacement(s), by the Engineer.

The Contractor shall supply all necessary equipment to perform the QC inspections. Equipment shall include the following at a minimum:

- Psychrometer or comparable equipment for the measurement of dew point and relative humidity, together with all necessary weather bureau tables or psychrometric charts.
- Surface temperature thermometer
- SSPC Visual Standards VIS 1, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning; SSPC-VIS 3, Visual Standard for Power and Hand-Tool Cleaned Steel; SSPC-VIS 4, Guide and Reference Photographs for Steel Prepared by Water Jetting, and/or SSPC-VIS 5, Guide and Reference Photographs for Steel Prepared by Wet Abrasive Blast Cleaning, as applicable.
- Commercially available putty knife of a minimum thickness of 40 mils (1mm) and a width between 1 and 3 in. (25 and 75 mm). Note that the putty knife is only required for projects in which the existing coating is being feathered and must be tested with a dull putty knife.
- Testex Press-O-Film Replica Tape and Spring Micrometer
- Bresle Cell Kits or CHLOR*TEST kits for chloride determinations, or equivalent
- Wet Film Thickness Gage
- Blotter paper for compressed air cleanliness checks
- Type 2 Electronic Dry Film Thickness Gage per SSPC - PA2, Measurement of Dry Coating Thickness with magnetic Gages
- Calibration standards for dry film thickness gage
- Light meter for measuring light intensity during paint removal, painting, and inspection activities
- All applicable ASTM and SSPC Standards used for the work (reference list attached)

The instruments shall be calibrated by the Contractor's personnel according to the equipment manufacturer's recommendations and the Contractor's QC Program. All inspection equipment shall be made available to the Engineer for QA observations on an as needed basis.

Hold Point Notification. Specific inspection items throughout this specification are designated as Hold Points. Unless other arrangements are made at the project site, the Contractor shall provide the Engineer with a minimum 4-hour notification before a Hold Point inspection will be reached. If the 4-hour notification is provided and the Work is ready for inspection at that time, the Engineer will conduct the necessary observations. If the Work is not ready at the appointed time, unless other arrangements are made, an additional 4-hour notification is required. Permission to proceed beyond a Hold Point without a QA inspection will be granted solely at the discretion of the Engineer, and only on a case by case basis.

Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all phases of the work. The presence or activity of Engineer observations in no way relieves the Contractor of the responsibility to provide all necessary daily QC inspections of his/her own and to comply with all requirements of this Specification.

The Engineer has the right to reject any work that was performed without adequate provision for QA observations.

Inspection Access and Lighting. The Contractor shall facilitate the Engineer's observations as required, including allowing ample time to view the work. The Contractor shall furnish, erect and move scaffolding or other mechanical equipment to permit close observation of all surfaces to be cleaned and painted. This equipment shall be provided during all phases of the work. Examples of acceptable access structures include:

- Mechanical lifting equipment, such as, scissor trucks, hydraulic booms, etc.
- Platforms suspended from the structure comprised of trusses or other stiff supporting members and including rails and kick boards.
- Simple catenary supports are permitted only if independent life lines for attaching a fall arrest system according to Occupational Safety and Health Administration (OSHA) regulations are provided.

When the surface to be inspected is more than 6 ft. (1.8 m) above the ground or water surface, and fall prevention is not provided (e.g., guardrails are not provided), the Contractor shall provide the Engineer with a safety harness and a lifeline according to OSHA regulations. The lifeline and attachment shall not direct the fall into oncoming traffic. The Contractor shall provide a method of attaching the lifeline to the structure independent of the inspection facility or any support of the platform. When the inspection facility (e.g., platform) is more than 2 1/2 ft. (800 mm) above the ground, the Contractor shall provide an approved means of access onto the platform.

The Contractor shall provide artificial lighting in areas both inside and outside the containment where natural light is inadequate, as determined by the Engineer, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 30 foot candles (325 LUX). Illumination for cleaning and painting, including the working platforms, access and entryways shall be at least 20 foot candles (215 LUX). General work area illumination outside the containment shall be employed at the discretion of the Engineer and shall be at least 5 foot candles. The exterior lighting system shall be designed and operated so as to avoid glare that interferes with traffic, workers, and inspection personnel.

Surface Preparation and Painting Equipment. All cleaning and painting equipment shall include gages capable of accurately measuring fluid and air pressures and shall have valves capable of regulating the flow of air, water or paint as recommended by the equipment manufacturer. The equipment shall be maintained in proper working order.

Diesel or gasoline powered equipment shall be positioned or vented in a manner to prevent deposition of combustion contaminants on any part of the structure.

Hand tools, power tools, pressure washing, water jetting, abrasive blast cleaning equipment, brushes, rollers, and spray equipment shall be of suitable size and capacity to perform the work required by this specification. All power tools shall be equipped with vacuums and High Efficiency Particulate Air (HEPA) filtration. Appropriate filters, traps and dryers shall be provided for the compressed air used for abrasive blast cleaning and conventional spray

application. Paint pots shall be equipped with air operated continuous mixing devices unless prohibited by the coating manufacturer.

Test Sections. Prior to surface preparation, the Contractor shall prepare a test section(s) on each structure to be painted in a location(s) which the Engineer considers to be representative of the existing surface condition and steel type for the structure as a whole. More than one test section may be needed to represent the various design configurations of the structure. The purpose of the test section(s) is to demonstrate the use of the tools and degree of cleaning required (cleanliness and profile) for each method of surface preparation that will be used on the project. Each test section shall be approximately 10 sq. ft. (0.93 sq m). The test section(s) shall be prepared using the same equipment, materials and procedures as the production operations. The Contractor shall prepare the test section(s) to the specified level of cleaning according to the appropriate SSPC visual standards, modified as necessary to comply with the requirements of this specification. The written requirements of the specification prevail in the event of a conflict with the SSPC visual standards. Only after the test section(s) have been approved shall the Contractor proceed with surface preparation operations. Additional compensation will not be allowed the Contractor for preparation of the test section(s).

For the production cleaning operations, the specifications and written definitions, the test section(s), and the SSPC visual standards shall be used in that order for determining compliance with the contractual requirements.

Protective Coverings and Damage. All portions of the structure that could be damaged by the surface preparation and painting operations (e.g., utilities), including any sound paint that is allowed to remain according to the contract documents, shall be protected by covering or shielding. Tarpaulins drop cloths, or other approved materials shall be employed. The Contractor shall comply with the provisions of the Illinois Environmental Protection Act. Paint drips, spills, and overspray are not permitted to escape into the air or onto any other surfaces or surrounding property not intended to be painted. Containment shall be used to control paint drips, spills, and overspray, and shall be dropped and all equipment secured when sustained wind speeds of 40 mph (64 kph) or greater occur, unless the containment design necessitates action at lower wind speeds. The contractor shall evaluate project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a plan for containing or controlling paint debris (droplets, spills, overspray, etc.) to the Engineer for acceptance prior to starting the work. Acceptance by the Engineer shall not relieve the Contractor of their ultimate responsibility for controlling paint debris from escaping the work zone.

When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing. When removing coatings containing lead the containment and disposal of the residues shall be as specified in the Special Provision for Containment and Disposal of Lead Paint Cleaning Residues contained elsewhere in this Contract. When removing coatings not containing lead the containment and disposal of the residues shall be as specified in the Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues contained elsewhere in this Contract.

The Contractor shall be responsible for any damage caused to persons, vehicles, or property, except as indemnified by the Response Action Contractor Indemnification Act. Whenever the intended purposes of the controls or protective devices used by the Contractor are not being accomplished, as determined by the Engineer, work shall be immediately suspended until corrections are made. Damage to vehicles or property shall be repaired by the Contractor at

the Contractor's expense. Painted surfaces damaged by any Contractor's operation shall be repaired, removed and/or repainted, as directed by the Engineer, at the Contractor's expense.

Weather Conditions. Surfaces to be painted after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to insure that dust, dirt, or moisture do not come in contact with surfaces cleaned or painted that day.

- a) The surface temperature shall be at least 5°F (3°C) above the dew point during final surface preparation operations. The manufacturers' published literature shall be followed for specific temperature, dew point, and humidity restrictions during the application of each coat.
- b) If the Contractor proposes to control the weather conditions inside containment, proposed methods and equipment for heating and/or dehumidification shall be included in the work plans for the Engineer's consideration. Any heating/dehumidification proposals accepted by the Engineer shall be implemented at no additional cost to the department.
- c) Cleaning and painting shall be done between April 15 and October 31 unless authorized otherwise by the Engineer in writing.

The Contractor shall monitor temperature, dew point, and relative humidity every 4 hours during surface preparation and coating application in the specific areas where the work is being performed. The frequency of monitoring shall increase if weather conditions are changing. If the weather conditions after application and during drying are forecast to be outside the acceptable limits established by the coating manufacturer, coating application shall not proceed. If the weather conditions are forecast to be borderline relative to the limits established by the manufacturer, monitoring shall continue at a minimum of 4-hour intervals throughout the drying period. The Engineer has the right to reject any work that was performed, or drying that took place, under unfavorable weather conditions. Rejected work shall be removed, recleaned, and repainted at the Contractor's expense.

Compressed Air Cleanliness. Prior to using compressed air for abrasive blast cleaning, blowing down the surfaces, and painting with conventional spray, the Contractor shall verify that the compressed air is free of moisture and oil contamination according to the requirements of ASTM D 4285. The tests shall be conducted at least one time each shift for each compressor system in operation. If air contamination is evident, the Contractor shall change filters, clean traps, add moisture separators or filters, or make other adjustments as necessary to achieve clean, dry air. The Contractor shall also examine the work performed since the last acceptable test for evidence of defects or contamination caused by the compressed air. Effected work shall be repaired at the Contractor's expense.

Low Pressure Water Cleaning and Solvent Cleaning (HOLD POINT). The Contractor shall notify the Engineer 24 hours in advance of beginning surface preparation operations.

- a) Water Cleaning of Lead Containing Coatings Prior to Overcoating. Prior to initiating any mechanical cleaning such as hand/power tool cleaning on surfaces that are painted with lead, all surfaces to be prepared and painted, and the tops of pier and abutment caps shall be washed. Washing is not required if the surfaces will be prepared by water jetting.

Washing shall involve the use of potable water at a minimum of 1000 psi (7 MPa) and

less than 5000 psi (34 MPa) according to “Low Pressure Water Cleaning” of SSPC-SP12. Paint spray equipment shall not be used to perform the water cleaning. The cleaning shall be performed in such a manner as to remove dust, dirt, chalk, insect and animal nests, bird droppings, loose paint and other foreign matter prior to solvent cleaning. The water, debris, and any loose paint removed by water cleaning shall be collected for proper disposal. The washing shall be completed no more than 2 weeks prior to surface preparation.

If detergents or other additives are added to the water, the detergents/additives shall be included in the submittals and not used until accepted by the Engineer. When detergents or additives are used, the surface shall be rinsed with potable water before the detergent water dries.

After washing has been accepted by the Engineer, all traces of asphaltic cement, oil, grease, diesel fuel deposits, and other soluble contaminants which remain on the steel surfaces to be painted shall be removed by solvent cleaning according to SSPC – SP1, supplemented with scraping (e.g., to remove large deposits of asphaltic cement) as required. The solvent(s) used for cleaning shall be compatible with the existing coating system. The Contractor shall identify the proposed solvent(s) in the submittals. If the existing coating is softened, wrinkled, or shows other signs of attack from the solvents, the Contractor shall immediately discontinue their use. The name and composition of replacement solvents, together with MSDS, shall be submitted for Engineer acceptance prior to use.

Under no circumstances shall subsequent hand/power tool cleaning be performed in areas containing surface contaminants or in areas where the Engineer has not accepted the washing and solvent cleaning. Surfaces prepared by hand/power tool cleaning without approval of the washing and solvent cleaning may be rejected by the Engineer. Rejected surfaces shall be re-cleaned with both solvent and the specified mechanical means at the Contractor’s expense.

After all washing and mechanical cleaning are completed, representative areas of the existing coating shall be tested to verify that the surface is free of chalk and other loose surface debris or foreign matter. The testing shall be performed according to ASTM D4214. Cleaning shall continue until a chalk rating of 6 or better is achieved in every case.

- b) Water Cleaning of Non-Lead Coatings Prior to Overcoating. Thoroughly clean the surfaces according to the steps defined above for “Water Cleaning of Lead Containing Coatings Prior to Overcoating,” except that the wash water does not need to be collected, and if the shop primer is inorganic zinc, the chalk rating does not apply. All other provisions are applicable.
- c) Water Cleaning/Debris Removal Prior to Total Coating Removal. When total coating removal is specified, water cleaning of the surface prior to coating removal is not required by this specification and is at the option of the Contractor. If the Contractor chooses to use water cleaning, and the existing coating contains lead, all water and debris shall be collected for proper disposal.

Whether or not the surfaces are pre-cleaned using water, the tops of the pier caps and abutments shall be cleaned free of dirt, paint chips, insect and animal nests, bird droppings and other foreign matter and the debris collected for proper disposal.

Prior to mechanical cleaning, oil, grease, and other soluble contaminants on bare steel or rusted surfaces shall be removed by solvent cleaning according to SSPC-SP1.

- d) **Water Cleaning Between Coats.** When foreign matter has accumulated on a newly applied coat, washing shall be performed prior to the application of subsequent coats. The water does not need to be collected unless it contacts existing lead containing coatings.

Laminar and Stratified Rust. All laminar and stratified rust that has formed on the existing steel surfaces shall be removed. Pack rust formed along the perimeter of mating surfaces of connected plates or shapes of structural steel shall be removed to the extent feasible without mechanically detaching the mating surface. Any pack rust remaining after cleaning the mating surfaces shall be tight and intact when examined using a dull putty knife. The tools used to remove these corrosion products shall be identified in the submittals and accepted by the Engineer. If the surface preparation or removal of rust results in nicks or gouges, the work shall be suspended, and the damaged areas repaired to the satisfaction of the Engineer, at the Contractor's expense. The Contractor shall also demonstrate that he/she has made the necessary adjustments to prevent a reoccurrence of the damage prior to resuming work.

Surface Preparation (HOLD POINT). One or more of the following methods of surface preparation shall be used as specified on the plans. When a method of surface preparation is specified, it applies to the entire surface, including areas that may be concealed by the containment connection points. In each case, as part of the surface preparation process, soluble salts shall be remediated as specified under "Soluble Salt Remediation". The Contractor shall also note that the surface of the steel beneath the existing coating system may contain corrosion and/or mill scale. Removal of said corrosion and/or mill scale, when specified, shall be considered included in this work and no extra compensation will be allowed.

When a particular cleaning method is specified for use in distinct zones on the bridge, the cleaning shall extend into the existing surrounding paint until a sound border is achieved. The edge of the existing paint is considered to be sound and intact if it cannot be lifted by probing the edge with a dull putty knife. The sound paint shall be feathered for a minimum of 1 1/2 in. (40 mm) to achieve a smooth transition between the prepared steel and the existing coatings. Sanders with vacuum attachments, which have been approved by the Engineer, shall be used as necessary to accomplish the feathering.

- a) **Limited Access Areas:** A best effort with the specified methods of cleaning shall be performed in limited access areas such as the backsides of rivets inside built up box members. The equipment being used for the majority of the cleaning may need to be supplemented with other commercially available equipment, such as angle nozzles, to properly clean the limited access areas. The acceptability of the best effort cleaning in these areas is at the sole discretion of the Engineer.
- b) **Near White Metal Blast Cleaning:** This surface preparation shall be accomplished according to the requirements of Near White Metal Blast Cleaning SSPC-SP 10. Unless otherwise specified in the contract, the designated surfaces shall be prepared by dry abrasive blast cleaning, wet abrasive blast cleaning, or water jetting with abrasive injection. A Near White Metal Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining.

Random staining shall be limited to no more than 5 percent of each 9 sq. in. (58 sq. cm) of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. With the exception of crevices as defined below, surface discoloration is considered to be a residue that must be removed, rather than a stain, if it possesses enough mass or thickness that it can be removed as a powder or in chips when scraped with a pocketknife.

A surface profile shall be created on the steel as defined later under "Surface Profile."

At the discretion of the Engineer, after a best effort cleaning, slight traces of existing coating may be permitted to remain within crevices such as those created between rivets, bolts, and plates, and the underlying steel. When traces of coating are permitted to remain, the coating shall be tightly bonded when examined by probing with a dull putty knife. The traces of coating shall be confined to the bottom portion of the crevices only, and shall not extend onto the surrounding steel or plate or onto the outer surface of the rivets or bolts. Pitted steel is excluded from exemption considerations and shall be cleaned according to SSPC-SP10.

If hackles or slivers are visible on the steel surface after cleaning, the Contractor shall remove them by grinding followed by reblast cleaning. At the discretion of the Engineer, the use of power tools to clean the localized areas after grinding, and to establish a surface profile acceptable to the coating manufacturer, can be used in lieu of blast cleaning.

If the surfaces are prepared using wet abrasive methods, attention shall be paid to tightly configured areas to assure that the preparation is thorough. After surface preparation is completed, the surfaces, surrounding steel, and containment materials/scaffolding shall be rinsed to remove abrasive dust and debris. Potable water shall be used for all operations. An inhibitor may be added to the supply water and/or rinse water to prevent flash rusting. If a rust inhibitor is proposed, the Contractor shall provide a sample of the proposed inhibitor together with a letter from the coating manufacturer indicating that the inhibitor is suitable for use with their products. The surfaces shall be allowed to completely dry before the application of any coating.

- c) Commercial Grade Power Tool Cleaning: This surface preparation shall be accomplished according to the requirements of Commercial Grade Power Tool Cleaning, SSPC-SP15. The designated surfaces shall be completely cleaned with power tools. A Commercial Grade Power Tool Cleaned surface, when viewed without magnification, is free of all visible oil, grease, dirt, rust, coating, oxides, mill scale, corrosion products, and other foreign matter, except for staining. In previously pitted areas, slight residues of rust and paint may also be left in the bottoms of pits.

Random staining shall be limited to no more than 33 percent of each 9 sq. in. (58 sq. cm) of surface area. Allowable staining may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Surface discoloration is considered to be a residue that must be removed, rather than a stain, if it possesses enough mass or thickness that it can be removed as a powder or in chips when scraped with a pocketknife.

A surface profile shall be created on the steel as defined later under "Surface Profile."

At the Contractor's option, Near White Metal Blast Cleaning may be substituted for Power Tool Cleaning – Commercial Grade, as long as containment systems appropriate for abrasive blast cleaning are utilized and there is no additional cost to the Department.

- d) Power Tool Cleaning – Modified SP3: This surface preparation shall be accomplished according to the requirements of SSPC-SP3, Power Tool Cleaning except as modified as follows. The designated surfaces shall be cleaned with power tools. A power tool cleaned surface shall be free of all loose rust, loose mill scale, loose and peeling paint, and loose rust that is bleeding through and/or penetrating the coating. All locations of visible corrosion and rust bleed, exposed or lifting mill scale, and lifting or loose paint shall be prepared using the power tools.

Upon completion of the cleaning, rust, rust bleed, mill scale and surrounding paint are permitted to remain if they cannot be lifted using a dull putty knife.

Power Tool Cleaning of Shop Primed Steel. When steel coated with only a prime coat of inorganic or organic zinc is specified to be cleaned, this work shall be accomplished as follows. After cleaning the surface as specified under "Water Cleaning of Non-Lead Coatings Prior to Overcoating," damaged and rusted areas shall be spot cleaned according Power Tool Cleaning

-Modified SSPC-SP3. The edges of the coating surrounding the spot repairs shall be feathered.

Abrasives. Unless otherwise specified in the contract, when abrasive blast cleaning is specified, it shall be performed using either expendable abrasives (other than silica sand) or recyclable steel grit abrasives. Expendable abrasives shall be used one time and disposed of. Abrasive suppliers shall certify that the expendable abrasives meet the requirements of SSPC-AB1 and that recyclable steel grit abrasives meet AB3. On a daily basis, the Contractor shall verify that recycled abrasives are free of oil contamination by conducting oil content tests according to SSPC-AB2.

All surfaces prepared with abrasives not meeting the SSPC-AB1, AB2, or AB3 requirements, as applicable, shall be solvent cleaned or low pressure water cleaned as directed by the Engineer, and reblast cleaned at the Contractor's expense.

Surface Profile (HOLD POINT). The abrasives used for blast cleaning shall have a gradation such that the abrasive will produce a uniform surface profile of 1.5 to 4.5 mils (38 to 114 microns). If the profile requirements of the coating manufacturer are more restrictive, advise the Engineer and comply with the more restrictive requirements. For recycled abrasives, an appropriate operating mix shall be maintained in order to control the profile within these limits.

The surface profile for the Power Tool Cleaning - Commercial Grade shall be within the range specified by the coating manufacturer, but not less than 2.0 mils (50 microns).

The surface profile produced by the Contractor's surface preparation procedures shall be determined by replica tape and spring micrometer at the beginning of the work, and each day that surface preparation is performed. Areas having unacceptable measurements shall be further tested to determine the limits of the deficient area. The replica tape shall be attached to the daily report.

When unacceptable profiles are produced, work shall be suspended. The Contractor shall

submit a plan for the necessary adjustments to insure that the correct surface profile is achieved on all surfaces. The Contractor shall not resume work until the new profile is verified by the QA observations, and the Engineer confirms, in writing, that the profile is acceptable.

Soluble Salt Remediation (HOLD POINT). The Contractor shall implement surface preparation procedures and processes that will remove chloride from the surfaces. Surfaces that may be contaminated with chloride include, but are not limited to, expansion joints and all areas that are subject to roadway splash or run off such as fascia beams and stringers.

Methods of chloride removal may include, but are not limited to, steam cleaning or pressure washing with or without the addition of a chemical soluble salt remover as approved by the coating manufacturer, and scrubbing before or after initial paint removal. The Contractor may also elect to clean the steel and allow it to rust overnight followed by recleaning, or by utilizing blends of fine and coarse abrasives during blast cleaning, wet abrasive/water jetting methods of preparation, or combinations of the above. If steam or water cleaning methods of chloride removal are utilized over surfaces where the coating has been completely removed, and the water does not contact any lead containing coatings, the water does not have to be collected. The Contractor shall provide the proposed procedures for chloride remediation in the Surface Preparation/Painting Plan.

Upon completion of the chloride remediation steps, the Contractor shall use cell methods of field chloride extraction and test procedures (e.g., silver dichromate) accepted by the Engineer, to test representative surfaces that were previously rusted (e.g., pitted steel) for the presence of remaining chlorides. Remaining chloride levels shall be no greater than $7\mu\text{g}/\text{sq cm}$ as read directly from the surface without any multiplier applied to the results. The testing must be performed, and the results must be acceptable, prior to painting each day.

A minimum of 5 tests per 1000 sq. ft. (93 sq. m) or fraction thereof completed in a given day, shall be conducted at project start up. If results greater than $7\mu\text{g}/\text{sq cm}$ are detected, the surfaces shall be recleaned and retested at the same frequency. If acceptable results are achieved on three consecutive days in which testing is conducted, the test frequency may be reduced to 1 test per 1000 sq. ft. (93 sq. m) prepared each day provided the chloride remediation process remains unchanged. If unacceptable results are encountered, or the methods of chloride remediation are changed, the Contractor shall resume testing at a frequency of 5 tests per 1000 sq. ft. (93 sq. m).

Following successful chloride testing the chloride test areas shall be cleaned. Commercial Grade Power Tool Cleaning can be used to clean the test locations when the specified degree of cleaning is SSPC-SP10.

Surface Condition Prior to Painting (HOLD POINT). Prepared surfaces, shall meet the requirements of the respective degrees of cleaning immediately prior to painting, and shall be painted before rusting appears on the surface. If rust appears or bare steel remains unpainted for more than 12 hours, the affected area shall be prepared again at the expense of the Contractor.

All loose paint and surface preparation cleaning residue on bridge steel surfaces, scaffolding and platforms, containment materials, and tops of abutments and pier caps shall be removed prior to painting. When lead paint is being disturbed, cleaning shall be accomplished by HEPA vacuuming unless it is conducted within a containment that is designed with a ventilation system capable of collecting the airborne dust and debris created by sweeping and blowing with compressed air.

The quality of surface preparation and cleaning of surface dust and debris must be accepted by the Engineer prior to painting. The Engineer has the right to reject any work that was performed without adequate provision for QA observations to accept the degree of cleaning. Rejected coating work shall be removed and replaced at the Contractor's expense.

General Paint Requirements. Paint storage, mixing, and application shall be accomplished according to these specifications and as specified in the paint manufacturer's written instructions and product data sheets for the paint system used. In the event of a conflict between these specifications and the coating manufacturers' instructions and data sheets, the Contractor shall advise the Engineer and comply with the Engineer's written resolution. Until a resolution is provided, the most restrictive conditions shall apply.

Unless noted otherwise, if a new concrete deck or repair to an existing deck is required, painting shall be done after the deck is placed and the forms have been removed.

- a) **Paint Storage and Mixing.** All Paint shall be stored according to the manufacturer's published instructions, including handling, temperatures, and warming as required prior to mixing. All coatings shall be supplied in sealed containers bearing the manufacturers name, product designation, batch number and mixing/thinning instructions. Leaking containers shall not be used.

Mixing shall be according to the manufacturer's instructions. Thinning shall be performed using thinner provided by the manufacturer, and only to the extent allowed by the manufacturer's written instructions. In no case shall thinning be permitted that would cause the coating to exceed the local Volatile Organic Compound (VOC) emission restrictions. For multiple component paints, only complete kits shall be mixed and used. Partial mixing is not allowed.

The ingredients in the containers of paint shall be thoroughly mixed by mechanical power mixers according to the manufacturer's instructions, in the original containers before use or mixing with other containers of paint. The paint shall be mixed in a manner that will break up all lumps, completely disperse pigment and result in a uniform composition. Paint shall be carefully examined after mixing for uniformity and to verify that no unmixed pigment remains on the bottom of the container. Excessive skinning or partial hardening due to improper or prolonged storage will be cause for rejection of the paint, even though it may have been previously inspected and accepted.

Multiple component coatings shall be discarded after the expiration of the pot life. Single component paint shall not remain in spray pots, painter's buckets, etc. overnight. It shall be stored in a covered container and remixed before use.

The Engineer reserves the right to sample field paint (individual components and/or the mixed material) and have it analyzed. If the paint does not meet the product requirements due to excessive thinning or because of other field problems, the coating shall be removed from that section of the structure and replaced as directed by the Engineer.

- b) **Application Methods.** Unless prohibited by the coating manufacturer's written instructions, paint may be applied by spray methods, rollers, or brushes. If applied with conventional or airless spray methods, paint shall be applied in a uniform layer with

overlapping at the edges of the spray pattern.

The painters shall monitor the wet film thickness of each coat during application. The wet film thickness shall be calculated based on the solids by volume of the material and the amount of thinner added. When the new coating is applied over an existing system, routine QC inspections of the wet film thickness shall be performed in addition to the painter's checks in order to establish that a proper film build is being applied.

When brushes or rollers are used to apply the coating, additional applications may be required to achieve the specified thickness per layer.

- c) **Painting Shop Primed Steel.** After cleaning, rusted and damaged areas shall be touched up using the same primer specified for painting the existing structure. The intermediate and finish coats specified for painting the existing structure shall be applied to the steel. When inorganic zinc has been used as the shop primer, a mist coat of the intermediate coat shall be applied first in order to prevent pinholing and bubbling.
- d) **Recoating and Film Continuity (HOLD POINT for each coat).** Paint shall be considered dry for recoating according to the time/temperature/humidity criteria provided in the manufacturer's instructions and when an additional coat can be applied without the development of film irregularities; such as lifting, wrinkling, or loss of adhesion of the under coat. If surfaces are contaminated, washing shall be accomplished prior to intermediate and final coats. Wash water does not have to be collected unless the water contacts existing lead containing coatings.

Painting shall be done in a neat and workmanlike manner. Each coat of paint shall be applied as a continuous film of uniform thickness free of defects including, but not limited to, runs, sags, overspray, dryspray, pinholes, voids, skips, misses, and shadow-through. Defects such as runs and sags shall be brushed out immediately during application.

Paint Systems. The paint system(s) from the list below shall be applied as specified.

The paint manufacturer's relative humidity, dew point, and material, surface, and ambient temperature restrictions shall be provided with the submittals and shall be strictly followed. Written recommendations from the paint manufacturer for the length of time each coat must be protected from cold or inclement weather (e.g., exposure to rain), during the drying period shall be included in the submittals. Upon acceptance by the Engineer, these times shall be used to govern the duration that protection must be maintained during drying.

Where stripe coats are indicated, the Contractor shall apply an additional coat to edges, rivets, bolts, crevices, welds, and similar surface irregularities. The stripe coat shall be applied by brush and/or spray to thoroughly work the coating into or on the irregular surfaces, and shall extend onto the surrounding steel a minimum of 1 in. (25 mm) in all directions. The purpose of the stripe coat is to build additional thickness and to assure complete coverage of these areas. The stripe coat may be applied as part of the application of the full coat unless prohibited by the coating manufacturer. If applied as part of the application process of the full coat, the stripe coat shall be allowed to dry for a minimum of 10 minutes in order to allow Contractor QC personnel to verify that the coat was applied. If a wet-on-wet stripe coat is prohibited by the coating manufacturer or brush or roller application of the full coat pulls the underlying stripe coat, the stripe coat shall dry according to the manufacturers' recommended drying times prior

to the application of the full coat. In the case of the prime coat, the full coat can also be applied first to protect the steel, followed by the stripe coat after the full coat has dried.

a) System 1 – OZ/E/U – for Bare Steel: System 1 shall consist of the application of a full coat of organic (epoxy) zinc-rich primer, a full intermediate coat of epoxy, and a full finish coat of aliphatic urethane. Stripe coats of the prime and finish coats shall be applied. The film thicknesses of the full coats shall be as follows, measured according to SSPC-PA2:

- One full coat of organic zinc-rich primer between 3.5 and 5.0 mils (90 and 125 microns) dry film thickness. The prime coat shall be tinted to a color that contrasts with the steel surface.
- One full intermediate coat of epoxy between 3.0 and 6.0 mils (75 and 150 microns) dry film thickness. The intermediate coat shall be a contrasting color to both the first coat and finish coat.
- One full finish coat of aliphatic urethane between 2.5 and 4.0 mils (65 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 9.0 and 15.0 mils (225 and 375 microns).

b) System 2 – PS/EM/U – for Overcoating an Existing System: System 2 shall consist of the application of a full coat of epoxy penetrating sealer, a spot intermediate coat of aluminum epoxy mastic and a stripe and full finish coat of aliphatic urethane.

A full coat of epoxy penetrating sealer shall be applied to all surfaces following surface preparation. A spot intermediate coat shall consist of the application of one coat of the aluminum epoxy mastic on all areas where rust is evident and areas where the old paint has been removed, feathered and/or damaged prior to, during or after the cleaning and surface preparation operations. After the spot intermediate, a stripe coat and full finish coat of aliphatic urethane shall be applied. The film thicknesses shall be as follows, measured according to SSPC-PA2:

- One full coat of epoxy penetrating sealer between 1.0 and 2.0 mils (25 and 50 microns) dry film thickness.
- One spot coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The color shall contrast with the finish coat.
- One full finish coat of aliphatic urethane between 2.5 and 4.0 mils (65 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of the stripe coat, shall be between 8.5 and 13.0 mils (215 and 325 microns). The existing coating thickness to remain under the overcoat must be verified in order to obtain accurate total dry film thickness measurements.

c) System 3 – EM/EM/AC – for Bare Steel: System 3 shall consist of the application of two full coats of aluminum epoxy mastic and a full finish coat of waterborne acrylic. Stripe coats for first coat of epoxy mastic and the finish coat shall be applied. The film

thicknesses of the full coats shall be as follows, measured according to SSPC-PA2:

- One full coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The first coat of aluminum epoxy mastic shall be tinted a contrasting color with the blast cleaned surface and the second coat.
- One full intermediate coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The intermediate coat shall be a contrasting color to the first coat and the finish coat.
- A full finish coat of waterborne acrylic between 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 12.0 and 18.0 mils (360 and 450 microns).

- d) System 4 – PS/EM/AC – for Overcoating an Existing System: System 4 shall consist of the application of a full coat of epoxy penetrating sealer, a spot intermediate coat of aluminum epoxy mastic and a stripe and full finish coat of waterborne acrylic.

A full coat of epoxy penetrating sealer shall be applied to all surfaces following surface preparation. A spot intermediate coat shall consist of the application of one coat of the aluminum epoxy mastic on all areas where rust is evident and areas where the old paint has been removed, feathered and/or damaged prior to, during or after the cleaning and surface preparation operations. After the spot intermediate, a stripe coat and full finish coat of waterborne acrylic shall be applied. The film thicknesses shall be as follows, measured according to SSPC-PA2:

- One full coat of epoxy penetrating sealer between 1.0 and 2.0 mils (25 and 50 microns) dry film thickness.
- One spot coat of aluminum epoxy mastic between 5.0 and 7.0 mils (125 and 175 microns) dry film thickness. The color shall contrast with the finish coat.
- One full finish coat of waterborne acrylic between 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of the stripe coat, shall be between 8.0 and 13.0 mils (200 and 325 microns). The existing coating thickness to remain under the overcoat must be verified in order to obtain accurate total dry film thickness measurements.

- e) System 5 – MCU – for Bare Steel: System 5 shall consist of the application of a full coat of moisture cure urethane (MCU) zinc primer, a full coat of MCU intermediate, and a full coat of MCU finish. Stripe coats of the prime and finish coats shall be applied. The contractor shall comply with the manufacturer's requirements for drying times between the application of the stripe coats and the full coats. The film thicknesses of the full coats shall be as follows, measured according to SSPC-PA2:

- One full coat of MCU zinc primer between 3.0 and 5.0 mils (75 and 125 microns) dry film thickness. The prime coat shall be tinted to a color that contrasts with the steel surface.

- One full MCU intermediate coat between 3.0 and 4.0 mils (75 and 100 microns) dry film thickness. The intermediate coat shall be a contrasting color to both the first coat and finish coat.
- One full MCU finish coat between 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 8.0 and 13.0 mils (200 and 325 microns).

- f) System 6 – MCU – for Overcoating an Existing System: System 6 shall consist of the application of a full coat of moisture cure urethane (MCU) penetrating sealer, a spot coat of MCU intermediate, and a stripe and full coat of MCU finish.

A full coat of MCU penetrating sealer shall be applied to all surfaces following surface preparation. A spot intermediate coat shall consist of the application of one coat of MCU intermediate on all areas where rust is evident and areas where the old paint has been removed, feathered and/or damaged prior to, during or after the cleaning and surface preparation operations. After the spot intermediate, a stripe coat and full coat of MCU finish shall be applied. The contractor shall comply with the manufacturer's requirements for drying time between the application of the stripe coat and the full finish coat. The film thicknesses shall be as follows, measured according to SSPC-PA2:

- One full coat of MCU sealer between 1.0 and 2.0 mils (25 and 50 microns) dry film thickness.
- One full MCU intermediate coat between 3.0 and 4.0 mils (75 and 100 microns) dry film thickness. The color shall contrast with the finish coat.
- One full MCU finish coat 2.0 and 4.0 mils (50 and 100 microns) dry film thickness. Finish coat color shall be according to contract plans.

The total dry film thickness for this system, exclusive of areas receiving the stripe coats, shall be between 6.0 and 10.0 mils (150 and 250 microns). The existing coating thickness to remain under the overcoat must be verified in order to obtain accurate total dry film thickness measurements.

Repair of Damage to New Coating System and Areas Concealed by Containment. The Contractor shall repair all damage to the newly installed coating system and areas concealed by the containment/protective covering attachment points, at no cost to the Department. If the damage extends to the substrate and the original preparation involved abrasive blast cleaning, the damaged areas shall be prepared to Power Tool Cleaning - Commercial Grade. If the original preparation was other than blast cleaning or the damage does not extend to the substrate, the loose, fractured paint shall be cleaned to Power Tool Cleaning – Modified SP3.

The surrounding coating at each repair location shall be feathered for a minimum distance of 1 1/2 in. (40 mm) to achieve a smooth transition between the prepared areas and the existing coating.

If the bare steel is exposed, all coats shall be applied to the prepared area. If only the intermediate and finish coats are damaged, the intermediate and finish shall be applied. If only

the finish coat is damaged, the finish shall be applied.

Basis of Payment. This work shall be paid for at the contract Lump Sum price for CLEANING AND PAINTING STEEL BRIDGE, at the designated location. Payment will not be authorized until all requirements for surface preparation and painting have been fulfilled as described in this specification, including the preparation and submittal of all QC documentation. Payment will also not be authorized for non-conforming work until the discrepancy is resolved in writing.

Appendix 1 – Reference List

The Contractor shall maintain the following regulations and references on site for the duration of the project:

- Illinois Environmental Protection Act
- ASTM D 4214, Standard Test Method for Evaluating Degree of Chalking of Exterior Paint Films
- ASTM D 4285, Standard Test Method for Indicating Oil or Water in Compressed Air
- SSPC-AB 1, Mineral and Slag Abrasives
- SSPC-AB 2, Specification for Cleanliness of Recycled Ferrous Metallic Abrasives
- SSPC-AB 3, Newly Manufactured or Re-Manufactured Steel Abrasives
- SSPC-PA 2, Measurement of Dry Coating Thickness with Magnetic Gages
- SSPC-QP 1, Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Structures)
- SSPC-QP 2, Standard Procedure for Evaluating the Qualifications of Painting Contractors to Remove Hazardous Paint
- SSPC-SP 1, Solvent Cleaning
- SSPC-SP 3, Power Tool Cleaning
- SSPC-SP 10/NACE No. 2, Near White Metal Blast Cleaning
- SSPC-SP 12/NACE No. 5, Surface Preparation and Cleaning of Metals by Water jetting Prior to Recoating
- SSPC-SP15, Commercial Grade Power Tool Cleaning
- SSPC-VIS 1, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning
- SSPC-VIS 3, Visual Standard for Power- and Hand-Tool Cleaned Steel
- SSPC-VIS 4, Guide and Reference Photographs for Steel Cleaned by Water Jetting
- SSPC-VIS 5, Guide and Reference Photographs for Steel Prepared by Wet Abrasive Blast Cleaning
- The paint manufacturer's application instructions, MSDS and product data sheets

SP-21 STRUCTURAL REPAIR OF CONCRETE

Description. This work shall consist of structurally repairing concrete.

Materials. Materials shall be according to the following.

Item	Article/Section
(a) Portland Cement Concrete (Note 1)	1020
(b) R1 or R2 Concrete (Note 2)	
(c) Normal Weight Concrete (Notes 3 and 4)	

(d) Reinforcement Bars	1006.10
(e) Anchor Bolts	1006.09
(f) Water	1002
(g) Curing Compound.....	1022.01
(h) Cotton Mats	1022.02
(i) Protective Coat	1023.01
(j) Epoxy (Note 7).....	1025

Note 1. The concrete shall be Class SI, except the cement factor shall be a minimum 6.65 cwt/cu yd., the coarse aggregate shall be a CA 16, and the strength shall be a minimum 4000 psi compressive or 675 psi flexural at 14 days. A high range water-reducing admixture shall be used to obtain a 5-7 in. slump, but a cement factor reduction according to Article 1020.05(b)(8) is prohibited. A self-consolidating concrete mixture is also acceptable per Article 1020.04, except the mix design requirements of this note regarding the cement factor, coarse aggregate, strength, and cement factor reduction shall apply.

Note 2. The R1 or R2 concrete shall be from the Department's approved list of Packaged, Dry, Rapid Hardening, and Cementitious Materials for Concrete Repairs. The R1 or R2 concrete shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. A high range water-reducing admixture shall be used to obtain a 5-7 in. slump, and a retarder may be required to allow time to perform the required field tests. The admixtures shall be per the manufacturer's recommendation, and the Department's approved list of Concrete Admixtures shall not apply.

Note 3. The "high slump" packaged concrete mixture shall be from the Department's approved list of Packaged, Dry, Formed, Concrete Repair Mixtures. The materials and preparation of aggregate shall be according to ASTM C 387. The cement factor shall be 6.65 cwt/cu yd. minimum to 7.05 cwt/cu yd. maximum. Cement replacement with fly ash or ground granulated blast-furnace slag shall be according to Section 1020. The "high slump" packaged concrete mixture shall have a water soluble chloride ion content of less than 0.40 lb./cu yd. The test shall be performed according to ASTM C 1218, and the "high slump" packaged concrete mixture shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department. The coarse aggregate shall be a maximum size of 1/2 in. The packaged concrete mixture shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer's recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. A high range water-reducing admixture shall be used to obtain a 5-7 in. slump. The admixture shall be per the manufacturer's recommendation, and the Department's approved list of Concrete Admixtures shall not apply. A maximum slump of 10 in. may be permitted if no segregation is observed by the Engineer in a laboratory or field evaluation.

Note 4. The "self-consolidating concrete" packaged concrete mixture shall be from the Department's approved list of Packaged, Dry, Formed, Concrete Repair

Mixtures. The materials and preparation of aggregate shall be according to ASTM C 387. The cement factor shall be 6.65 cwt/cu yd. minimum to 7.05 cwt/cu yd. maximum. Cement replacement with fly ash or ground granulated blast-furnace slag shall be according to Section 1020. The “self- consolidating concrete” packaged concrete mixture shall have a water soluble chloride ion content of less than 0.40 lb./cu yd. The test shall be performed according to ASTM C 1218, and the “self-consolidating concrete” packaged concrete mixture shall have an age of 28 to 42 days at the time of test. The ASTM C 1218 test shall be performed by an independent lab a minimum of once every two years, and the test results shall be provided to the Department. The concrete mixture should be uniformly graded, and the coarse aggregate shall be a maximum size of 1/2 in. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used. The packaged concrete mixture shall comply with the air content and strength requirements for Class SI concrete as indicated in Note 1. Mixing shall be per the manufacturer’s recommendations, except the water/cement ratio shall not exceed the value specified for Class SI concrete as indicated in Note 1. The admixtures used to produce self-consolidating concrete shall be per the manufacturer’s recommendation, and the Department’s approved list of Concrete Admixtures shall not apply. The packaged concrete mixture shall meet the following self- consolidating requirements:

The slump flow range shall be 22 in. minimum to 28 in. maximum and tested according to Illinois Test Procedure SCC-2.

Note 7. In addition ASTM C 881, Type IV, Grade 2 or 3, Class A, B, or C may be used.

Equipment. Equipment shall be according to Article 503.03 and the following.

Chipping Hammer – The chipping hammer for removing concrete shall be a light-duty pneumatic or electric tool with a 15 lb. (7 kg) maximum class or less.

Blast Cleaning Equipment – Blast cleaning equipment for concrete surface preparation shall be the abrasive type, and the equipment shall have oil traps.

Hydrodemolition Equipment – Hydrodemolition equipment for removing concrete shall be calibrated, and shall use water according to Section 1002.

Construction Requirements

General. The repair methods shall be formed concrete repair. The repair method shall be adhered to by the Contractor with the following rules.

- (a) Rule 1. For formed concrete repair, a subsequent patch to repair the placement point after initial concrete placement will not be allowed. As an example, this may occur in a vertical location located at the top of the repair.
- (b) Rule 2. Formed concrete repair shall not be used for overhead applications.
- (c) Rule 3. If formed concrete repair is used for locations that have reinforcement with less than 0.75 in. (19 mm) of concrete cover, the concrete mixture shall contain fly ash

or ground granulated blast-furnace slag at the maximum cement replacement allowed.

Temporary Shoring or Cribbing. When a temporary shoring or cribbing support system is required, the Contractor shall provide details and computations, prepared and sealed by an Illinois licensed Structural Engineer, to the Engineer for review and approval. Whenever possible the support system shall be installed prior to starting the associated concrete removal. If no system is specified, but during the course of removal the need for temporary shoring or cribbing becomes apparent or is directed by the Engineer due to a structural concern, the Contractor shall not proceed with any further removal work until an appropriate and approved support system is installed.

Concrete Removal. The Contractor shall provide ladders or other appropriate equipment for the Engineer to mark the removal areas. Repair configurations will be kept simple, and squared corners will be preferred. The repair perimeter shall be sawed a depth of 1/2 in. or less, as required to avoid cutting the reinforcement. Any cut reinforcement shall be repaired or replaced at the expense of the Contractor. If the concrete is broken or removed beyond the limits of the initial saw cut, the new repair perimeter shall be recut. The areas to be repaired shall have all loose, unsound concrete removed completely by the use of chipping hammers, hydrodemolition equipment, or other methods approved by the Engineer. The concrete removal shall extend along the reinforcement bar until the reinforcement is free of bond inhibiting corrosion. Reinforcement bar with 50 percent or more exposed shall be undercut to a depth of 3/4 in. or the diameter of the reinforcement bar, whichever is greater.

If sound concrete is encountered before existing reinforcement bars are exposed, further removal of concrete shall not be performed unless the minimum repair depth is not met.

The repair depth shall be a minimum of 1 in. The substrate profile shall be $\pm 1/16$ in. The perimeter of the repair area shall have a vertical face.

If a repair is located at the ground line, any excavation required below the ground line to complete the repair shall be included in this work.

The Engineer shall be notified of concrete removal that exceeds 6 in. in depth, one fourth the cross section of a structural member, more than 6 consecutive reinforcement bars are exposed in any direction, within 1.5 in. of a bearing area, or other structural concern. Excessive deterioration or removal may require further evaluation of the structure or installation of temporary shoring and cribbing support system.

Surface Preparation. Prior to placing the concrete, the Contractor shall prepare the repair area and exposed reinforcement by blast cleaning. The blast cleaning shall provide a surface that is free of oil, dirt, and loose material.

The repair area and perimeter vertical face shall have a rough surface. Care shall be taken to ensure the sawcut face is roughened by blast cleaning. Just prior to placement, saturate the repair area with water to a saturated surface-dry condition. Any standing water shall be removed.

Concrete placement shall be done within 3 calendar days of the surface preparation or the repair area shall be prepared again.

Reinforcement. Exposed reinforcement bars shall be cleaned of concrete and corrosion by blast cleaning. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required.

Reinforcing bars that have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new in kind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed.

Intersecting reinforcement bars shall be tightly secured to each other using 0.006 in. or heavier gauge tie wire, and shall be adequately supported to minimize movement during concrete placement.

For reinforcement bar locations with less than 0.75 in. of cover, protective coat shall be applied to the completed repair. The application of the protective coat shall be according to Article 503.19, 2nd paragraph, except blast cleaning shall be performed to remove curing compound.

The Contractor shall anchor the new concrete to the existing concrete with 3/4 in. diameter hook bolts for all repair areas where the depth of concrete removal is greater than 8 in. and there is no existing reinforcement extending into the repair area. The hook bolts shall be spaced at 15 in. maximum centers both vertically and horizontally, and shall be a minimum of 12 in. away from the perimeter of the repair. The hook bolts shall be installed according to Section 584.

Repair Methods. All repair areas shall be inspected and approved by the Engineer prior to placement of the concrete.

- (a) Formed Concrete Repair. Falsework shall be according to Article 503.05. Forms shall be according to Article 503.06. Formwork shall provide a smooth and uniform concrete finish, and shall approximately match the existing concrete structure. Formwork shall be mortar tight and closely fitted where they adjoin the existing concrete surface to prevent leakage. Air vents may be provided to reduce voids and improve surface appearance. The Contractor may use exterior mechanical vibration, as approved by the Engineer, to release air pockets that may be entrapped.

The concrete for formed concrete repair shall be a Class SI Concrete, or a packaged R1 or R2 Concrete with coarse aggregate added, or a packaged Normal Weight Concrete at the Contractor's option. The concrete shall be placed and consolidated according to Article 503.07. The concrete shall not be placed when frost is present on the surface of the repair area, or the surface temperature of the repair area is less than 40 °F. All repaired members shall be restored as close as practicable to their original dimensions.

Curing shall be done according to Article 1020.13.

If temperatures below 45°F are forecast during the curing period, protection methods shall be used. Protection Method I according to Article 1020.13(d)(1), or Protection Method II

according to Article 1020.13(d)(2) shall be used during the curing period.

The surfaces of the completed repair shall be finished according to Article 503.15.

Inspection of Completed Work. The Contractor shall provide ladders or other appropriate equipment for the Engineer to inspect the repaired areas. After curing but no sooner than 28 days after placement of concrete, the repair shall be examined for conformance with original dimensions, cracks, voids, and delaminations. Sounding for delaminations will be done with a hammer or by other methods determined by the Engineer.

The acceptable tolerance for conformance of a repaired area shall be within 1/4 in. of the original dimensions. A repaired area not in dimensional conformance or with delaminations shall be removed and replaced.

A repaired area with cracks or voids shall be considered as nonconforming. Exceeding one or more of the following crack and void criteria shall be cause for removal and replacement of a repaired area.

1. The presence of a single surface crack greater than 0.01 in. in width and greater than 12 in. in length.
2. The presence of two or more surface cracks greater than 0.01 in. in width that total greater than 24 in. in length.
3. The presence of map cracking in one or more regions totaling 15 percent or more of the gross surface area of the repair.
4. The presence of two or more surface voids with least dimension 3/4 in. each.

A repaired area with cracks or voids that do not exceed any of the above criteria may remain in place, as determined by the Engineer.

If a nonconforming repair is allowed to remain in place, cracks greater than 0.007 in. in width shall be repaired with epoxy according to Section 590. For cracks less than or equal to 0.007 in. in width, the epoxy may be applied to the surface of the crack. Voids shall be repaired according to Article 503.15.

Method of Measurement. This work will be measured for payment in place and the area computed in square feet. For a repair at a corner, both sides will be measured.

Basis of Payment. This work will be paid for at the contract unit price per square foot for STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES) or STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES).

When not specified to be paid for elsewhere, the work to design, install, and remove the temporary shoring and cribbing will be paid for according to Article 109.04.

With the exception of reinforcement damaged by the Contractor during removal, the furnishing and installation of supplemental reinforcement bars, mechanical bar splicers, hook bolts, and protective coat will be paid according to Article 109.04.

SP-22 CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES

Description. This work shall consist of the containment, collection, temporary storage, transportation and disposal of waste from non-lead paint removal projects. Waste requiring containment and control includes, but is not limited to, old paint, spent abrasives, corrosion products, mill scale, dirt, dust, grease, oil, and salts.

General. This specification provides the requirements for the control of paint removal waste when the existing coatings do not contain lead. If the coatings contain lead, use specification "Containment and Disposal of Lead Paint Cleaning Residues." The Contractor shall take reasonable and appropriate precautions to protect the public from the inhalation or ingestion of dust and debris from their paint removal and clean-up operations and is responsible for the clean-up of all spills of waste at no additional cost to the Department.

The Contractor shall comply with the requirements of this Specification and all applicable Federal, State, and Local laws, codes, and regulations, including, but not limited to the regulations of the United States Environmental Protection Agency (USEPA), Occupational Safety and Health Administration (OSHA), and Illinois Environmental Protection Agency (IEPA). The Contractor shall comply with all applicable regulations even if the regulation is not specifically referenced herein. If a Federal, State, or Local regulation is more restrictive than the requirements of this Specification, the more restrictive requirements shall prevail.

Submittals. The Contractor shall submit for Engineer review and acceptance, the following drawings and plans for accomplishing the work. The submittals shall be provided within 30 days of execution of the contract unless given written permission by the Engineer to submit them at a later date. Work cannot proceed until the submittals are accepted by the Engineer. Details for each of the plans are presented within the body of this specification.

- a) Containment Plans. The containment plans shall include drawings, equipment specifications, and calculations (e.g., wind load). The plans shall include copies of the manufacturer's specifications for the containment materials and equipment that will be used to accomplish containment and ventilation.
- b) When required by the contract plans, the containment submittal shall provide calculations that assure the structural integrity of the bridge when it supports the containment and the calculations and drawings shall be signed and sealed by a Structural Engineer licensed in the state of Illinois.

When working over the railroad or navigable waterways, the Department will notify the respective agencies that work is being planned. Unless otherwise directed by the Engineer, the Contractor is responsible for follow up contact, and shall provide evidence that the railroad, Coast Guard, Corps of Engineers, and other applicable agencies are satisfied with the clearance provided and other safety measures that are proposed.

Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all of the QC monitoring inspections that are undertaken. The presence or activity of Engineer observations in no way relieves the Contractor of the responsibility to provide all necessary daily QC inspections of its own and to comply with all requirements of this Specification.

Containment Requirements. The Contractor shall install and maintain containment systems surrounding the work for the purpose of controlling emissions of dust and debris according to the requirements of this specification. Working platforms and containment materials that are used shall be firm and stable and platforms shall be designed to support the workers, inspectors, spent surface preparation media (e.g., abrasives), and equipment during all phases of surface preparation and painting. Platforms, cables, and other supporting structures shall be designed according to OSHA regulations. If the containment needs to be attached to the structure, the containment shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.

The containment shall be dropped in the event of sustained winds of 40 mph (64 kph) or greater and all materials and equipment secured.

The Contractor shall provide drawings showing the containment system and indicating the method(s) of supporting the working platforms and containment materials to each other and to the bridge.

When directed in the contract plans, the Contractor shall submit calculations and drawings, signed and sealed by a Structural Engineer licensed in the state of Illinois, that assure the structural integrity of the bridge under the live and dead loads imposed, including the design wind loading.

When working over railroads, the Contractor shall provide evidence that the proposed clearance and the safety provisions that will be in place (e.g., flagman) are acceptable to the railroad. In the case of work over navigable waters, the Contractor shall provide evidence that the proposed clearance and provisions for installing or moving the containment out of navigation lanes is acceptable to authorities such as the Coast Guard and Army Corps of Engineers. The Contractor shall include plans for assuring that navigation lighting is not obscured, or if it is obscured, that temporary lighting is acceptable to the appropriate authorities (e.g., Coast Guard) and will be utilized.

Engineer review and acceptance of the drawings and calculations shall not relieve the Contractor from the responsibility for the safety of the working platforms and containment. After the work platforms and containment materials are erected additional measures may be needed to ensure worker safety according to OSHA regulations. The Contractor shall institute such measures at no additional cost to the Owner.

Containment for the cleaning operation of this contract is defined as follows:

- The containment system shall confine emissions of dust and debris to the property line.
- The containment systems shall comply with the specified SSPC Guide 6 classifications, as applicable, as presented in Table 1 for the method of paint removal utilized.

The Contractor shall take appropriate action to avoid personnel injury or damage to the structure from the installation and use of the containment system. If the Engineer determines that there is the potential for structural damage caused by the installed containment system, the Contractor shall take appropriate action to correct the situation.

The containment systems shall also meet the following requirements:

a) Dry Abrasive Blast Cleaning - (SSPC Class 2A)

The enclosure shall be designed, installed, and maintained to sustain maximum anticipated wind forces. Flapping edges of containment materials are prohibited and the integrity of all containment materials shall be maintained for the duration of the project. When the location of the work on the bridge, or over lane closures permit, the blast enclosure shall extend a minimum of 3 ft (1 m) beyond the limits of surface preparation to allow the workers to blast away from, rather than into the seam between the containment and the structure.

b) Vacuum Blast Cleaning

Vacuum blasting equipment shall be fully automatic and capable of cleaning and recycling the abrasive. The system shall be designed to deliver cleaned, recycled blasting abrasives and provide a closed system containment during blasting. The removed coating, mill scale, and corrosion shall be separated from the abrasive, and stored for disposal. No additional containment is required but escaping abrasive, paint chips, and debris shall be cleaned from the work area at the end of each day.

c) Power Tool Cleaning (SSPC-Class 3P)

The Contractor shall use containment materials (e.g., tarpaulins) to capture removed paint chips, rust, mill scale and other debris.

d) Vacuum-Shrouded Power Tool Cleaning/Hand Tool Cleaning

The Contractor shall utilize hand tools or power tools equipped with vacuums and High Efficiency Particulate Air (HEPA) filters. No additional containment is required but escaping and paint chips and debris shall be cleaned from the work area at the end of each day.

e) Water Jetting or Wet Abrasive Blast Cleaning for the Removal of Paint (SSPC Class 4W)

Water jetting or wet abrasive blast cleaning for the purpose of removing paint and surface debris shall be conducted within a containment designed, installed, and maintained in order to capture paint chips and debris. Collection of the water is not required. Mesh containment materials that capture paint chips and debris while allowing the water to pass through shall have openings a maximum of 25 mils (625 microns) in greatest dimension.

f) Water Washing

Water washing of the bridge for the purpose of removing chalk, dirt, grease, oil, bird nests, and other surface debris can be performed without additional containment provided paint chips and removed debris are removed and collected prior to washing or are cleaned from the site after cleaning is completed each day. At the Contractor's option, SSPC Class 4W permeable containment materials described above under "Water Jetting or Wet Abrasive Blast Cleaning for the Removal of Paint" can be used to collect the debris while the washing is underway.

Environmental Controls

- a) Cleanliness of ground and water. At the end of each workday at a minimum, the work area outside of containment, including any ground tarpaulins that are used, shall be inspected to verify that paint removal debris (e.g., paint chips, abrasives, rust, etc.) is not present. If debris is observed, it shall be removed by hand, shoveling, sweeping, or vacuuming.

Upon project completion, the ground and water in and around the project site are considered to have been properly cleaned if paint chips, paint removal media (e.g., spent abrasives), fuel, materials of construction, litter, or other project debris have been removed, even if the material being cleaned was a pre-existing condition.

- b) Visible Emissions. Emissions of dust and debris from the project shall not extend beyond the property line. If unacceptable visible emissions or releases beyond the property line are observed, the Contractor shall immediately shut down the emission-producing operations, clean up the debris, and change work practices, modify the containment, or take other appropriate corrective action as needed to prevent similar releases from occurring in the future.

Hygiene Facilities/Protective Clothing. The Contractor shall provide clean lavatory and hand washing facilities according to OSHA regulations and make them available to IDOT project personnel.

The Contractor shall provide IDOT project personnel with all required protective clothing and equipment, including disposal or cleaning. Clothing and equipment includes but is not limited to disposable coveralls with hood, booties, disposable surgical gloves, hearing protection, and safety glasses. The protective clothing and equipment shall be provided and maintained on the job site for the exclusive, continuous and simultaneous use by the IDOT personnel. This equipment shall be suitable to allow inspection access to any area in which work is being performed.

Site Emergencies.

- a) Stop Work. The Contractor shall stop work at any time the conditions are not within specifications and take the appropriate corrective action. The stoppage will continue until conditions have been corrected. Standby time and cost required for corrective action is at the Contractor's expense. The occurrence of the following events shall be reported in writing to the Engineer and shall require the Contractor to automatically stop paint removal and initiate clean-up activities.

- Break in containment barriers.
- Visible emissions in excess of the specification tolerances.
- Serious injury within the containment area.
- Fire or safety emergency
- Respiratory system failure
- Power failure

- b) Contingency Plans and Arrangements. The Engineer will refer to the contingency plan for site specific instructions in the case of emergencies.

The Contractor shall prepare a contingency plan for emergencies including fire, accident, failure of power, failure of supplied air system or any other event that may require modification of standard operating procedures during paint removal and painting processes. The plan shall include specific procedures to ensure safe egress and proper medical attention in the event of an emergency. The Contractor shall post the telephone numbers and locations of emergency services including fire, ambulance, doctor, hospital, police, power company and telephone company.

A two-way radio, or equal, as approved by the Engineer, capable of summoning emergency assistance shall be available at each bridge during the time the Contractor's personnel are at the bridge site under this contract. The following emergency response equipment described in the contingency plan (generic form attached) shall be available during this time as well: an appropriate portable fire extinguisher, a 55 gal drum, a 5 gal pail, a long handled shovel, absorbent material (one bag).

A copy of the contingency plan shall be maintained at each bridge during cleaning operations and during the time the Contractor's personnel are at the bridge site under this contract. The Contractor shall designate the emergency coordinator(s) required who shall be responsible for the activities described.

An example of a contingency plan is included at the end of this Special Provision.

Collection, Temporary Storage, Transportation and Disposal of Waste.

All surface preparation/paint residues shall be collected daily and deposited in all-weather containers supplied by the Contractor as temporary storage. The storage area shall be secure to prevent unauthorized entry or tampering with the containers. Acceptable measures include storage within a fully enclosed (e.g., fenced in) and locked area, within a temporary building, or implementing other reasonable means to reduce the possibility of vandalism or exposure of the waste to the public or the environment (e.g., chains and locks to secure the covers of roll-off boxes). Waste shall not be stored outside of the containers.

No residues shall remain on uncontained surfaces overnight. Waste materials shall not be removed through floor drains or by throwing them over the side of the bridge. Flammable materials shall not be stored around or under any bridge structures.

The Contractor shall have each waste stream sampled for each project and tested by TCLP and according to EPA and disposal company requirements. The Engineer shall be notified in advance when the samples will be collected. The samples shall be collected and shipped for testing within the first week of the project, with the results due back to the Engineer within 10 days. Testing shall be considered included in the pay item for "Containment and Disposal of Non-Lead Paint Cleaning Residues." Copies of the test results shall be provided to the Engineer prior to shipping the waste. If the waste tests hazardous, the Contractor shall comply with all provision of "Collection, Temporary Storage, Transportation and Disposal of Waste" found in specification "Containment and Disposal of Lead Paint Cleaning Residues," except additional costs will be paid for according to Article 109.04.

If the waste is found to be non-hazardous as determined by TCLP testing, the waste shall be classified as a non-hazardous special waste, transported by a licensed waste transporter, and disposed of at an IEPA permitted disposal facility in Illinois.

The waste shall be shipped to the disposal facility within 90 days of the first accumulation of the waste in the containers. When permitted by the Engineer, waste from multiple bridges in the same contract may be transported by the Contractor to a central waste storage location(s) approved by the Engineer in order to consolidate the material for pick up, and to minimize the storage of waste containers at multiple remote sites after demobilization. Arrangements for the final waste pickup shall be made with the waste hauler by the time blast cleaning operations are completed or as required to meet the 90-day limit stated above.

All other project waste shall be removed from the site according to Federal, State and Local regulations, with all waste removed from the site prior to final Contractor demobilization.

The Contractor shall make arrangements to have other hazardous waste, which he/she generates, such as used paint solvent, transported to the Contractor's facility at the end of each day that this waste is generated. These hazardous wastes shall be manifested using the Contractor's own generator number to a treatment or disposal facility from the Contractor's facility. The Contractor shall not combine solvents or other wastes with cleaning residue wastes. All waste streams shall be stored in separate containers.

The Contractor is responsible for the payment of any fines and undertaking any clean-up activities mandated by State or federal environmental agencies for improper waste handling, storage, transportation, or disposal.

Basis of Payment. The containment, collection, temporary storage, transportation, testing and disposal of all project waste, and all other work described herein will be paid for at the contract Lump Sum price for CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES at the designated location. Payment will not be authorized until all requirements have been fulfilled as described in this specification, including the submittal of waste test results, and disposal of all waste.

Removal Method	SSPC Class²	Containment Material Flexibility	Containment Material Permeability³	Containment Support Structure	Containment Material Joints
Hand Tool Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/ Vacuum	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/o Vacuum ⁵	3P	Rigid or Flexible	Permeable	Minimal	Partially Sealed
Water Jetting, Wet Abrasive Blast ⁶	4W	Flexible	Permeable	Flexible or Minimal	Partially Sealed
Water Cleaning ⁷	None	See Note 7	See Note 7	See Note 7	See Note 7
Open Abrasive Blast Cleaning ⁸	2A	Rigid or Flexible	Impermeable	Rigid or Flexible	Fully Sealed
Vacuum Blast Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4

Table 1 (Continued)					
Containment Criteria for Removal of Paint and Other Debris ¹					
Removal Method	SSPC Class²	Containment Entryway	Ventilation System Required	Negative Pressure Required	Exhaust Filtration Required
Hand Tool Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/ Vacuum	None	See Note 4	See Note 4	See Note 4	See Note 4
Power Tool Cleaning w/o Vacuum ⁵	3P	Open Seam	No	No	No
Water Jetting, Wet Abrasive Blast ⁶	4W	Open Seam	No	No	No
Water Cleaning ⁷	None	See Note 7	See Note 7	See Note 7	See Note 7
Open Abrasive Blast Cleaning ⁸	2A	Resealable or Overlap	Yes	Yes	Yes
Vacuum Blast Cleaning	None	See Note 4	See Note 4	See Note 4	See Note 4

Notes:

¹This table provides general design criteria only. It does not guarantee that specific controls over emissions will occur because unique site conditions must be considered in the design. Other combinations of materials may provide controls over emissions equivalent to or greater than those combinations shown above.

²The SSPC Classification is based on SSPC Guide 6.

³Permeability addresses both air and water as appropriate. In the case of water removal methods, the containment materials must be resistant to water. When ground covers are used they shall be of sufficient strength to withstand the impact and weight of the debris and the equipment used for collection and clean-up.

⁴Containment is not required provided paint chips and debris are removed from the ground and surfaces in and around the worksite at the end of each day. Ground tarpaulins can be used to simplify the cleanup. At the Contractor's option, permeable containment materials may be suspended under the work area to capture the debris at the time of removal. Permeable materials for the purpose of this specification are defined as materials with openings measuring 25 mils or less in greatest dimension.

⁵This method involves open power tool cleaning. The containment consists of permeable materials suspended beneath the work area to capture debris. As an option, if the work is close to the ground or bridge deck, ground covers can be used to capture the paint chips and debris for proper disposal.

⁶This method involves water jetting (with and without abrasive) and wet abrasive blast cleaning where the goal is to remove paint. Permeable containment materials are used to capture removed paint chips, debris, and abrasives (in the case of wet abrasive blast cleaning) while allowing the water to pass through. Permeable materials for the purpose of this specification are defined as materials with openings measuring 25 mils (625 microns) or less in greatest dimension.

⁷Chips and debris can be removed from the ground at the end of each shift, or the Contractor can install a Class 4W containment in the work area to collect the debris while allowing the water to pass through (see note 6)

⁸This method involves dry abrasive blast cleaning. Dust and debris shall not be permitted to escape from the containment.

Containment Components - The basic components that make up containment systems are defined below. The components are combined in Table 1 to establish the minimum containment system requirements for the method(s) of paint removal specified for the Contract.

1. Rigidity of Containment Materials - Rigid containment materials consist of solid panels of plywood, aluminum, rigid metal, plastic, fiberglass, composites, or similar materials. Flexible materials consist of screens, tarps, drapes, plastic sheeting, or similar materials. When directed by the Engineer, do not use flexible materials for horizontal surfaces directly over traffic lanes or vertical surfaces in close proximity to traffic lanes. If the Engineer allows the use of flexible materials, the Contractor shall take special precautions to completely secure the materials to prevent any interference with traffic.
2. Permeability of Containment Materials - The containment materials are identified as air impenetrable if they are impervious to dust or wind such as provided by rigid panels, coated solid tarps, or plastic sheeting. Air penetrable materials are those that are formed or woven to allow air flow. Water impermeable materials are those that are capable of containing and controlling water when wet methods of preparation are used. Water permeable materials allow the water to pass through. Chemical resistant materials are those resistant to chemical and solvent stripping solutions. Use fire retardant materials in all cases.
3. Support Structure - Rigid support structures consist of scaffolding and framing to which the containment materials are affixed to minimize movement of the containment cocoon. Flexible support structures are comprised of cables, chains, or similar systems to which the containment materials are affixed. Use fire retardant materials in all cases.
4. Containment Joints - Fully sealed joints require that mating surfaces between the containment materials and to the structure being prepared are completely sealed. Sealing measures include tape, caulk, Velcro, clamps, or other similar material capable of forming a continuous, impenetrable or impermeable seal. When materials are overlapped, a minimum overlap of 8 in. (200 mm) is required.

5. Entryway - An airlock entryway involves a minimum of one stage that is fully sealed to the containment and which is maintained under negative pressure using the ventilation system of the containment. Resealable door entryways involve the use of flexible or rigid doors capable of being repeatedly opened and resealed. Sealing methods include the use of zippers, Velcro, clamps, or similar fasteners. Overlapping door tarpaulin entryways consist of two or three overlapping door tarpaulins.
6. Mechanical Ventilation - The requirement for mechanical ventilation is to ensure that adequate air movement is achieved to reduce worker exposure to toxic metals to as low as feasible according to OSHA regulations (e.g., 29 CFR 1926.62), and to enhance visibility. Natural ventilation does not require the use of mechanical equipment for moving dust and debris through the work area.
7. Negative Pressure - When specified, achieve a minimum of 0.03 in. (7.5 mm) water column (W.C.) relative to ambient conditions, or confirm through visual assessments for the concave appearance of the containment enclosure.
8. Exhaust Ventilation - When mechanical ventilation systems are specified, provide filtration of the exhaust air, to achieve a filtration efficiency of 99.9 percent at 0.5 microns.

CONTINGENCY PLAN
FOR
NON-LEAD BASED PAINT REMOVAL PROJECTS

Bridge No.: 045-6851_____

Note:

1. A copy of this plan must be kept at the bridge while the Contractor's employees are at the site.
2. A copy of the plan must be mailed to the police and fire departments and hospital identified herein.

Primary Emergency Coordinator

Name: _____
Address: _____
City: _____
Phone: (Work) _____
(Home) _____

Alternate Emergency Coordinator

Name: _____
Address: _____
City: _____
Phone: (Work) _____
(Home) _____

Emergency Response Agencies

POLICE:

1. State Police (if bridge not in city) Phone: _____
District No. _____
Address: _____
2. County Sheriff _____ Phone: _____
County: _____
Address: _____
3. City Police _____ Phone: _____
District No. _____
Address: _____

Arrangements made with police: (Describe arrangements or refusal by police to make arrangements):

FIRE:

1. City _____ Phone: _____
Name: _____
Address: _____
2. Fire District _____ Phone: _____
Name: _____
Address: _____

3. Other _____ Phone: _____

Name: _____

Address: _____

Arrangements made with fire departments: (Describe arrangements or refusal by fire departments to make arrangements):

HOSPITAL:

Name: _____ Phone: _____

Address: _____

Arrangements made with hospital: (Describe arrangements or refusal by hospital to make arrangements):

Properties of waste and hazard to health:

Places where employees working:

Location of Bridge:

Types of injuries or illness which could result:

Appropriate response to release of waste to the soil:

Appropriate response to release of waste to surface water:

Emergency Equipment at Bridge

Emergency Equipment List	Location of Equipment	Description of Equipment	Capability of Equipment
1. Two-way radio	Truck		Communication
2. Portable Fire Extinguisher	Truck		Extinguishes Fire
3. Absorbent Material	Truck		Absorbs Paint or Solvent Spills
4. Hand Shovel	Truck		Scooping Material
5. (55 Gallon) Drum	Truck		Storing Spilled Material
6. (5 Gallon) Pail	Truck		Storing Spilled Material

Emergency Procedure

1. Notify personnel at the bridge of the emergency and implement emergency procedure.
2. Identify the character, source, amount and extent of released materials.
3. Assess possible hazards to health or environment.
4. Contain the released waste or extinguish fire. Contact the fire department if appropriate.
5. If human health or the environment is threatened, contact appropriate police and fire department. In addition, the Emergency Services and Disaster Agency needs to be called using their 24-hour toll free number (800-782-7860) and the National Response Center using their 24-hour toll free number (800-824-8802).
6. Notify the Engineer that an emergency has occurred.
7. Store spilled material and soil contaminated by spill, if any, in a drum or pail. Mark and label the drum or pail for disposal.
8. Write a full account of the spill or fire incident including date, time, volume, material, and response taken.
9. Replenish stock of absorbent material or other equipment used in response.

SP-23 GRANULAR BACKFILL FOR STRUCTURES

Revise Section 586 of the Standard Specifications to read:

586.1 Description. This work shall consist of furnishing, transporting and placing granular backfill for abutment structures.

586.2 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Fine Aggregate	1003.04
(b) Coarse Aggregates	1004.05

CONSTRUCTION REQUIREMENTS

586.3 General. This work shall be done according to Article 502.10 except as modified below. The backfill volume shall be backfilled, with granular material as specified in Article 586.02, to the required elevation as shown in the contract plans. The backfill volume shall be placed in convenient lifts for the full width to be backfilled. Unless otherwise specified in the contract plans, mechanical compaction will not be required. A deposit of gravel or crushed stone placed behind drain holes shall not be required. All drains not covered by geocomposite wall drains or other devices to prevent loss of backfill material shall be covered by sufficient filter fabric material meeting the requirements of Section 1080 and Section 282 with either 6 or 8 oz/sq yd material allowed, with free edges overlapping the drain hole by at least 12 in. in all directions.

The granular backfill shall be brought to the finished grade as shown in the contract plans. When concrete is to be cast on top of the granular backfill, the Contractor, subject to approval of the Engineer, may prepare the top surface of the fill to receive the concrete as he/she deems necessary for satisfactory placement at no additional cost to the Department.

586.4 Method of Measurement. This work will be measured for payment as follows.

- (a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a).
- (b) Measured Quantities. This work will be measured for payment in place and the volume computed in cubic yards. The volume will be determined by the method of average end areas behind the abutment.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for GRANULAR BACKFILL FOR STRUCTURES.



IDOT STANDARD DETAILS

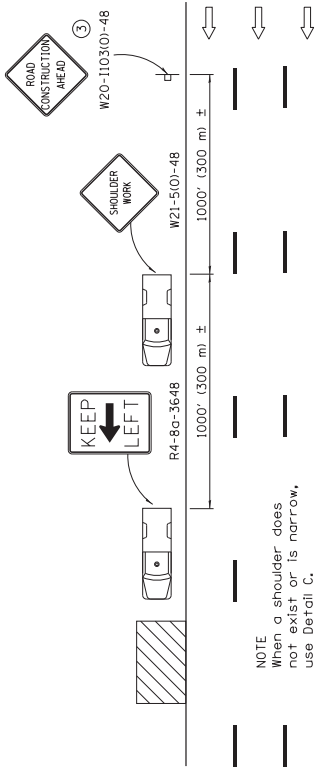
REINFORCEMENT BARS - ENGLISH (METRIC)

Bar Size English (metric)	Dia. in. mm	Cross- Sectional Area sq. in. (sq. mm)	Weight lbs./ft. kg/m	SPACING, in. (mm)												
				4 (100)	4 1/2 (115)	5 (125)	5 1/2 (140)	6 (150)	6 1/2 (165)	7 (175)	7 1/2 (190)	8 (200)	8 1/2 (215)	9 (225)	10 (250)	11 (275)
				AREA OF STEEL PER FOOT (METER), sq. in. (sq. mm)												
3 (10)	0.375 (9.5)	0.110 (7)	0.376 (0.560)	0.330 (710)	0.293 (67)	0.264 (568)	0.240 (507)	0.220 (473)	0.203 (430)	0.189 (406)	0.176 (374)	0.165 (355)	0.155 (330)	0.147 (316)	0.132 (284)	0.120 (237)
4 (13)	0.500 (12.7)	0.196 (129)	0.668 (0.944)	0.588 (1290)	0.523 (1122)	0.470 (1032)	0.428 (921)	0.392 (860)	0.362 (782)	0.336 (737)	0.314 (679)	0.294 (645)	0.277 (600)	0.261 (573)	0.235 (516)	0.196 (430)
5 (16)	0.625 (15.9)	0.307 (199)	1.043 (1.552)	0.921 (1990)	0.819 (1730)	0.737 (1592)	0.670 (1421)	0.614 (1327)	0.567 (1206)	0.526 (1137)	0.491 (1047)	0.461 (995)	0.433 (926)	0.409 (884)	0.368 (796)	0.307 (663)
6 (19)	0.750 (19.1)	0.442 (284)	1.502 (2.235)	1.326 (2840)	1.179 (2470)	1.061 (2272)	0.964 (2029)	0.884 (1893)	0.816 (1721)	0.758 (1623)	0.707 (1495)	0.663 (1420)	0.624 (1321)	0.589 (1262)	0.530 (1136)	0.442 (947)
7 (22)	0.875 (22.2)	0.601 (387)	2.044 (3.042)	1.803 (3870)	1.603 (3365)	1.442 (3096)	1.311 (2764)	1.202 (2580)	1.110 (2345)	1.030 (2211)	0.962 (2037)	0.902 (1935)	0.848 (1800)	0.801 (1720)	0.721 (1548)	0.601 (1290)
8 (25)	1.000 (25.4)	0.785 (510)	2.670 (3.973)	2.355 (5100)	2.093 (4435)	1.884 (4080)	1.713 (3543)	1.570 (3400)	1.449 (3091)	1.346 (2914)	1.256 (2684)	1.178 (2550)	1.108 (2372)	1.047 (2267)	0.942 (2040)	0.785 (1700)
9 (29)	1.128 (28.7)	1.000 (645)	3.400 (5.060)	3.000 (6450)	2.667 (5609)	2.400 (5160)	2.182 (4607)	2.000 (4300)	1.846 (3909)	1.714 (3686)	1.600 (3395)	1.500 (3225)	1.412 (3000)	1.333 (2867)	1.200 (2580)	1.000 (2150)
10 (32)	1.270 (32.3)	1.267 (819)	4.303 (6.404)	3.801 (8190)	3.379 (7122)	3.041 (6552)	2.764 (5850)	2.534 (5460)	2.339 (4964)	2.172 (4680)	2.027 (4311)	1.901 (4095)	1.789 (3809)	1.689 (3640)	1.520 (3276)	1.267 (2730)
11 (36)	1.410 (35.8)	1.561 (1006)	5.313 (7.907)	4.683 (10060)	4.163 (8748)	3.746 (8048)	3.406 (7186)	3.122 (6707)	2.882 (6097)	2.676 (5749)	2.498 (5295)	2.342 (5030)	2.204 (4679)	2.081 (4471)	1.873 (4024)	1.561 (3353)

Illinois Department of Transportation
 PASSED JANUARY 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED *Scott Boyd* JANUARY 1, 2009
Lee C. Ho
 ENGINEER OF DESIGN AND ENVIRONMENT

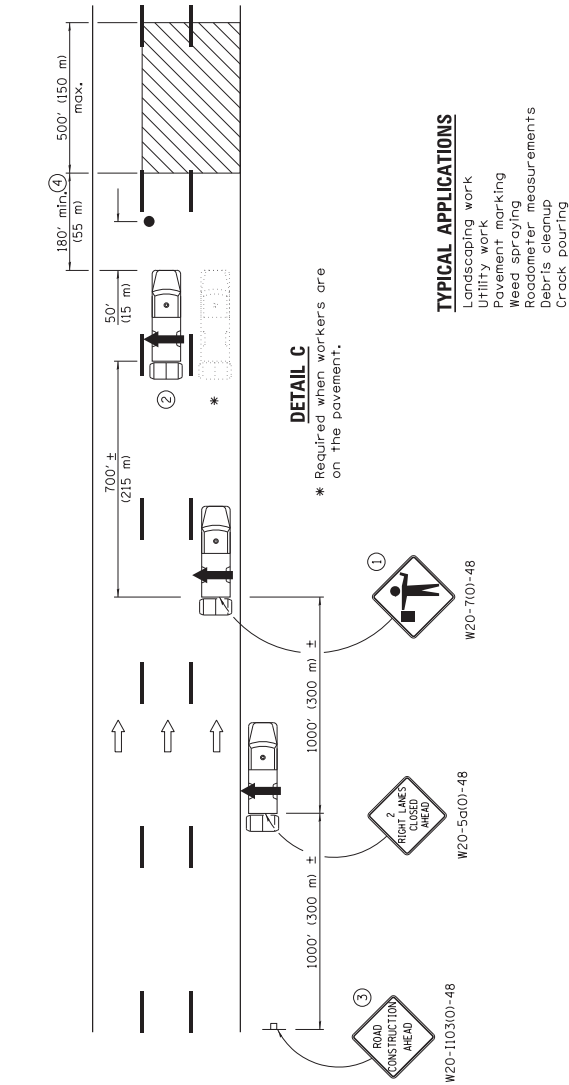
REVISIONS	
DATE	Switched units to English (metric).
1-1-09	
1-1-07	Deleted metric table. Soft converted English table.

AREAS OF REINFORCEMENT BARS
 STANDARD 001001-02



NOTE
When a shoulder does not exist or is narrow, use Detail C.

DETAIL A

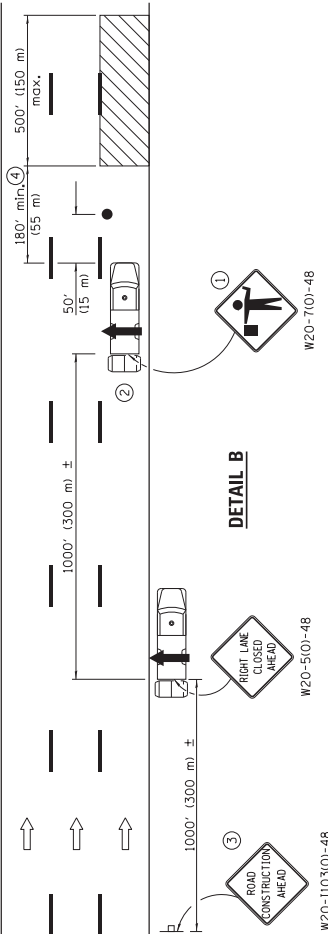


DETAIL C

* Required when workers are on the pavement.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Pavement marking
- Seed spraying
- Rodometer measurements
- Debris cleanup
- Crack pouring



DETAIL B

- 1) Flaggers are required when workers are on the pavement.
- 2) For striping operations only. See sign arrow detail on this standard.
- 3) For stationary operations which are on the roadway or shoulder, greater than 15 minutes and up to 1 hour.
- 4) The distance between the work and the lead truck may vary according to terrain or paint/crack sealing drying time.



G20-1101-2430
(appropriate arrow)
② (when striping only)

GENERAL NOTES

This Standard is used where any vehicle, equipment, workers or their activities will require:
1) stationary operations up to 1 hour, or 2) a continuous or intermittent moving operation where the average speed of movement is greater than 1 mph (2 km/h).

This Standard is also applicable when work is being performed in the left lane(s) or on the median shoulder. Under these conditions, KEEP RIGHT signs shall be substituted for KEEP LEFT signs and arrow board indications shall be directed to the right.

All dimensions are in inches (millimeter) unless otherwise shown.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- Truck with flashing amber light
- Truck/Trailer mounted attenuator
- Flagger with traffic control sign
- ⊥ Sign

LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS > 45 MPH

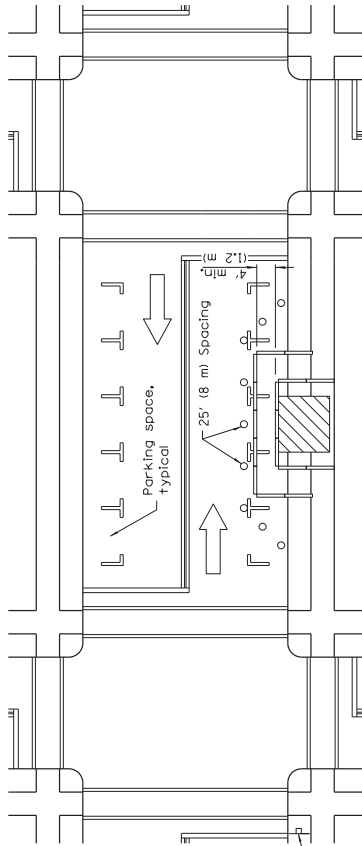
DATE	REVISIONS
4-1-16	Added trailer option for attenuator symbol. Added note (J). Revised gen. notes.
1-1-15	Added general note regarding vehicle spacing.
	Corr. KEEP LEFT sign no.

STANDARD 701426-08

Illinois Department of Transportation
ISSUED 1-1-97

APPROVED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

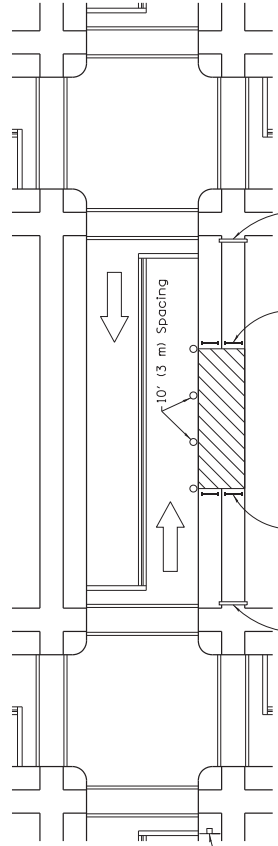


① W20-1103101-48 for contract construction projects

or

① W20-1101-48 for maintenance and utility projects

SIDEWALK DIVERSION



① W20-1103101-48 for contract construction projects

or

① W20-1101-48 for maintenance and utility projects

SIDEWALK CLOSURE

SYMBOLS

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade

① Omit whenever duplicated by road work traffic control.

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corner that closes the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

All dimensions are in inches (millimeters) unless otherwise shown.

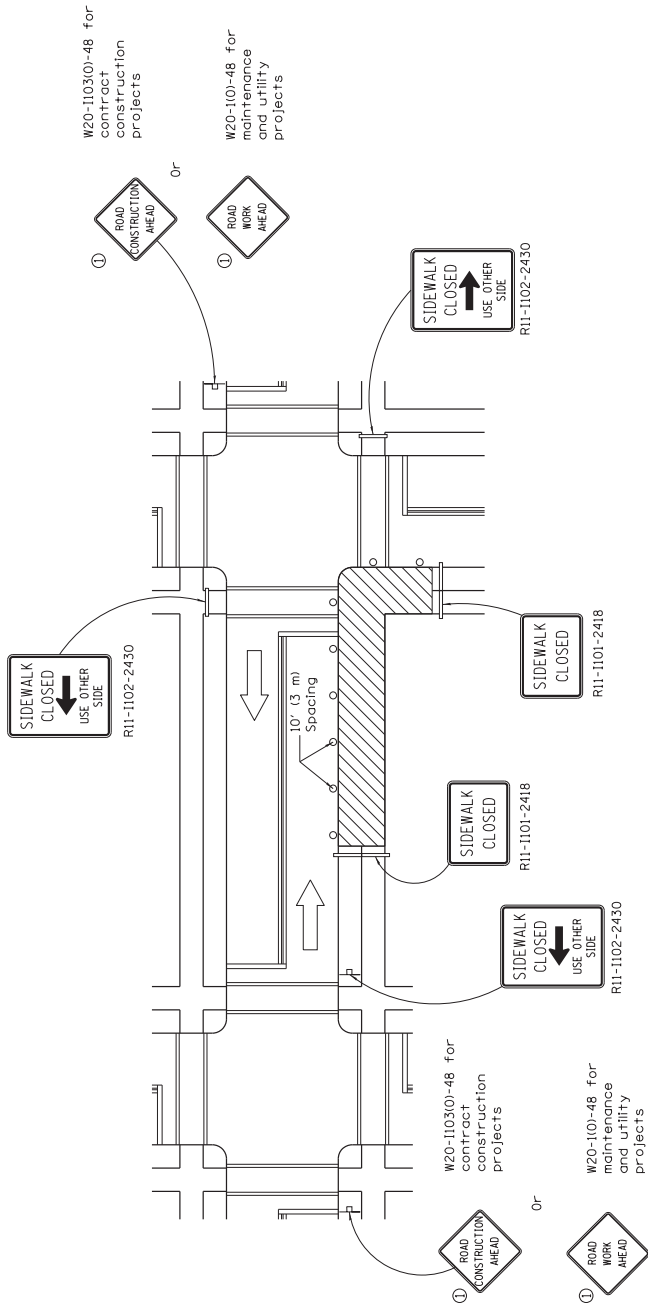
DATE	REVISIONS
4-1-16	Omitted orange safety fence from standard as this is covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION. Modified appearance of plan views. Renamed Std.

SIDEWALK, CORNER OR CROSSWALK CLOSURE

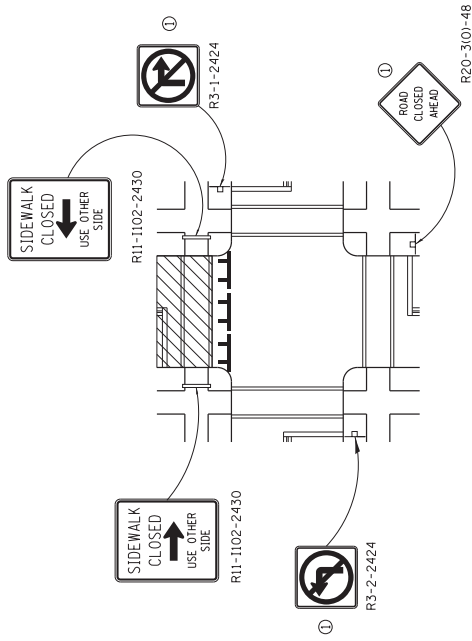
STANDARD 701801-06 (Sheet 1 of 2)

Illinois Department of Transportation
 APPROVED APRIL 1, 2016
 ENGINEER OF SAFETY ENGINEERING
 APPROVED APRIL 1, 2016
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



CORNER CLOSURE



CROSSWALK CLOSURE

Illinois Department of Transportation

APPROVER: *[Signature]* APR 11, 2016

ENGINEER OF SAFETY ENGINEERING

APPROVED: *[Signature]* APR 11, 2016

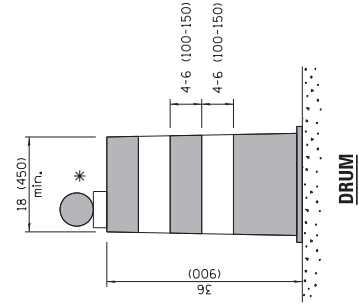
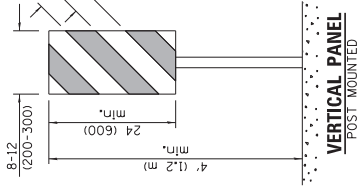
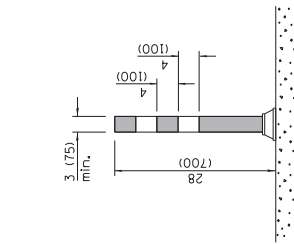
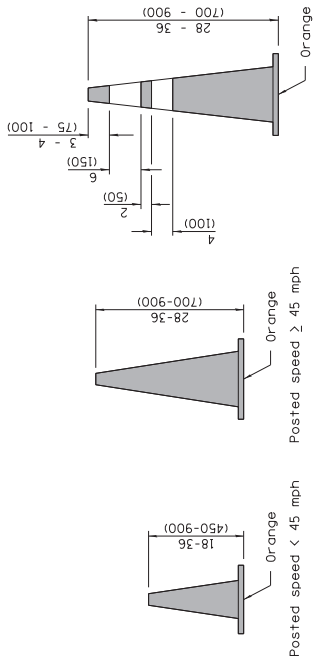
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

STANDARD 701801-06



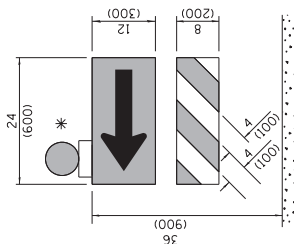
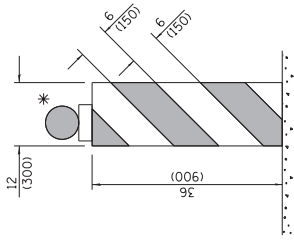
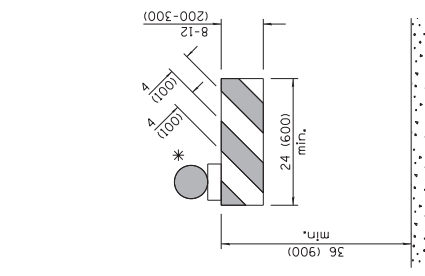
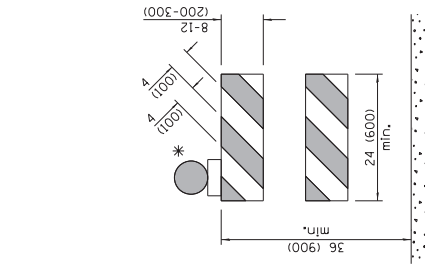
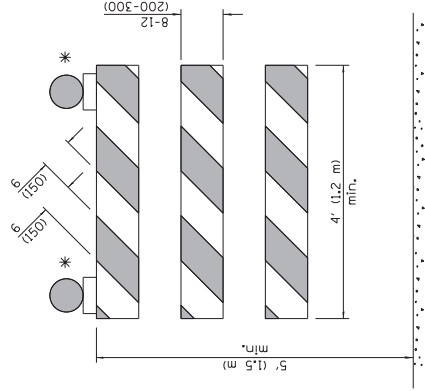
REFLECTORIZED CONE FOR NIGHTTIME

ORANGE CONE FOR DAYTIME

FLEXIBLE DELINEATOR

VERTICAL PANEL POST-MOUNTED

DRUM



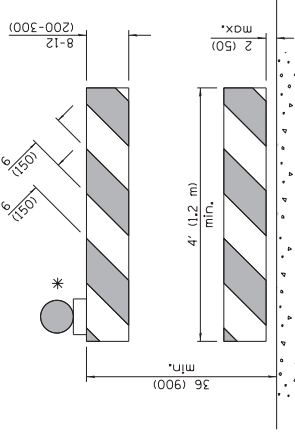
TYPE I BARRICADE

TYPE II BARRICADE

TYPE III BARRICADE

DIRECTION INDICATOR BARRICADE

VERTICAL BARRICADE



* Warning lights (if required)

GENERAL NOTES
 All heights shown shall be measured above the pavement surface.
 All dimensions are in inches (millimeters) unless otherwise shown.

APPROVED	April 1, 2016
ENGINEER OF OPERATIONS	
APPROVED	April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT	

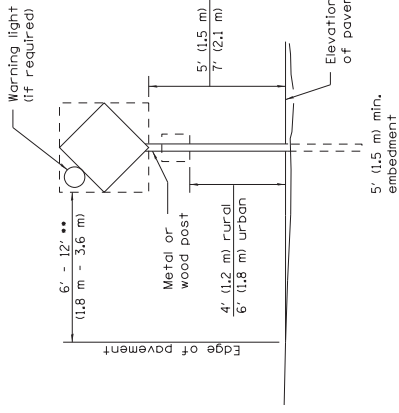
Illinois Department of Transportation
 ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Add dim's to barricades. Rev. note for post mnt. signs.
1-1-15	Rev. cone dths. Add W1Z-1103. Revised two sign numbers on sheet 2. Added note reg. PHOTO ENFORCED plaque.

TRAFFIC CONTROL DEVICES

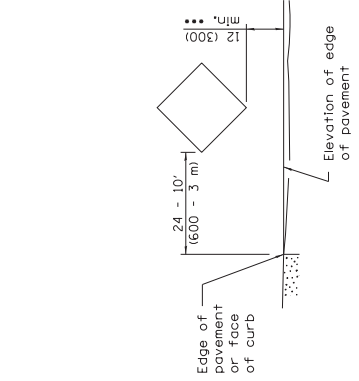
(Sheet 1 of 3)

STANDARD 701901-05



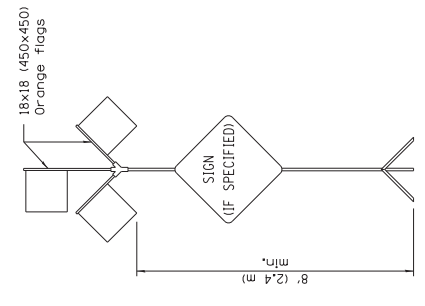
POST MOUNTED SIGNS

•• When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



SIGNS ON TEMPORARY SUPPORTS

••• When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



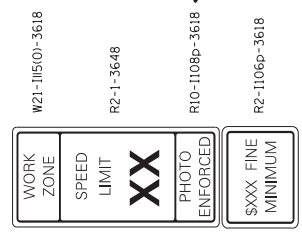
HIGH LEVEL WARNING DEVICE

ROAD CONSTRUCTION NEXT X MILES
G20-1104(O)-6036

END CONSTRUCTION
G20-1105(O)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.
ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).
Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING



Sign assembly as shown on Standards or as allowed by District Operations.

W21-1105(O)-3618
R2-1-3648
R10-1108p-3618 •••••
R2-1106p-3618
G20-1103(O)-6036

END WORK ZONE SPEED LIMIT
This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

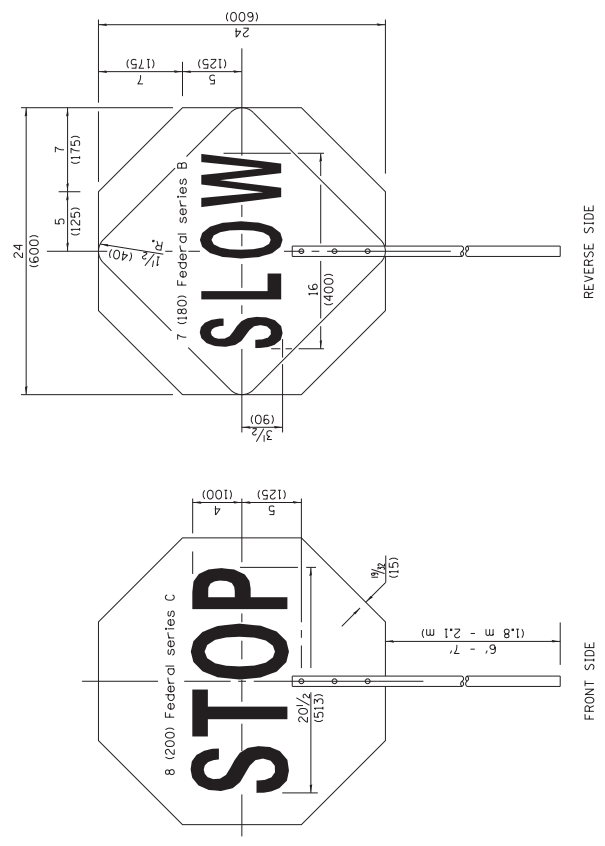
••••• R10-1108p shall only be used along roadways under the jurisdiction of the State.



W12-1103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



REVERSE SIDE

FRONT SIDE

FLAGGER TRAFFIC CONTROL SIGN

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

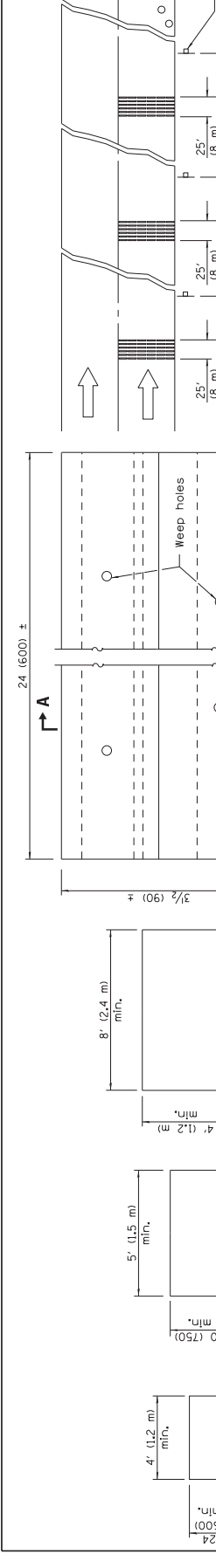
STANDARD 701901-05

Illinois Department of Transportation

APPROVED _____ 2016
ENGINEER OF OPERATIONS

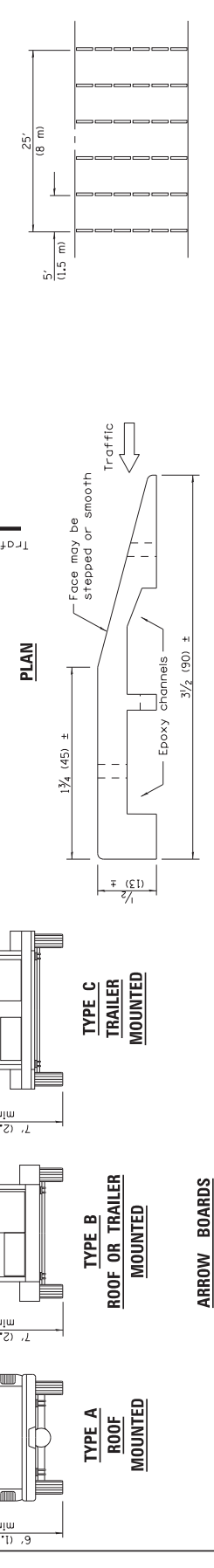
APPROVED _____ 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



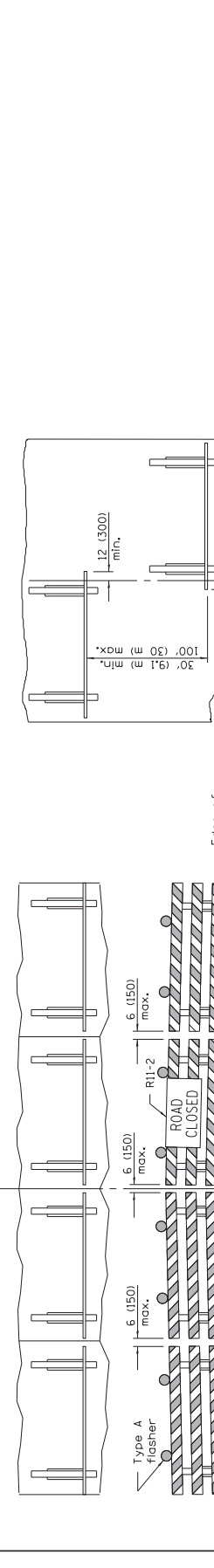
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



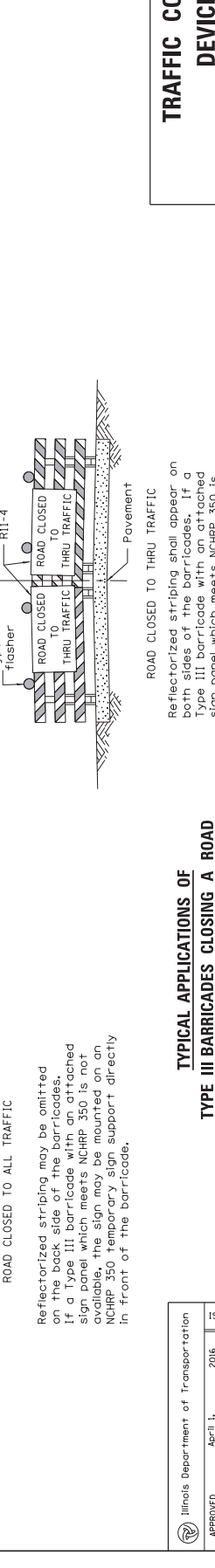
TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

ARROW BOARDS



TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

ARROW BOARDS



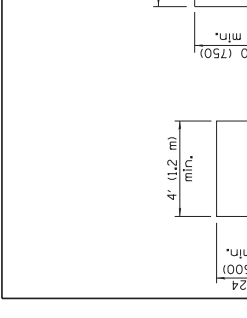
TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

ARROW BOARDS

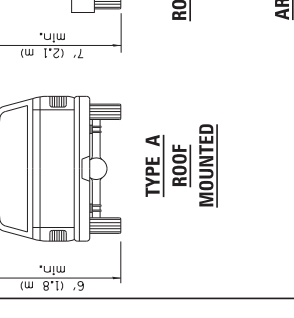


TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

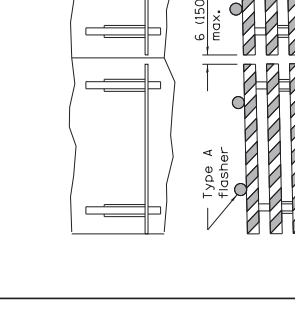
ARROW BOARDS



TYPE A ROOF MOUNTED

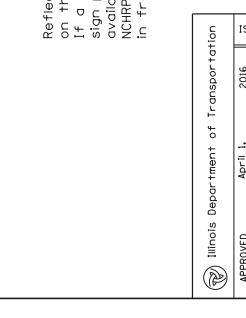


TYPE B ROOF OR TRAILER MOUNTED



TYPE C TRAILER MOUNTED

ARROW BOARDS



TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

ARROW BOARDS

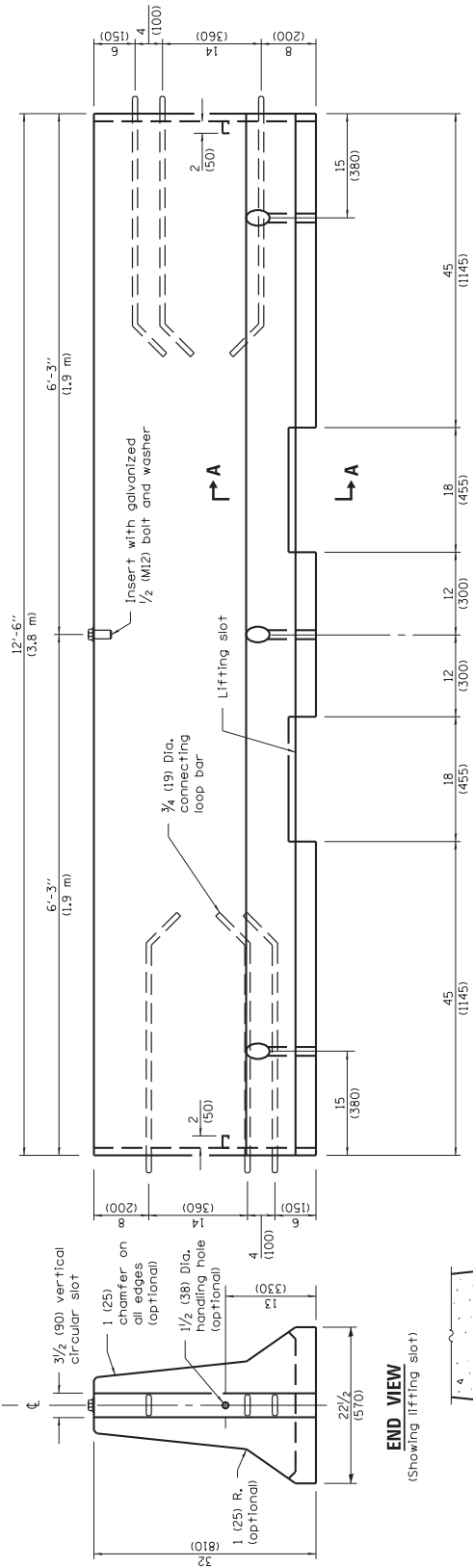
TRAFFIC CONTROL DEVICES
(Sheet 3 of 3)
STANDARD 701901-05

Illinois Department of Transportation
APPROVED _____ 2016
ENGINEER OF OPERATIONS
APPROVED _____ 2016
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

ReflectORIZED striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.

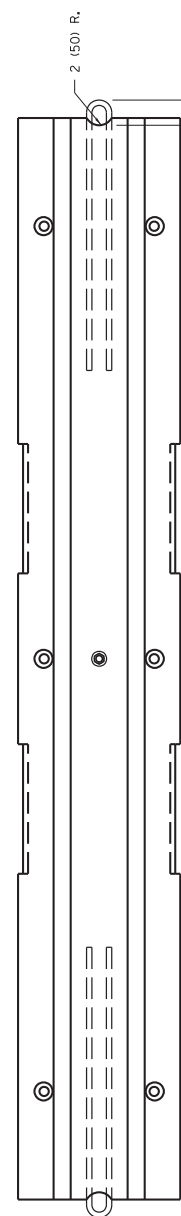
ReflectORIZED striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

F SHAPE DESIGN



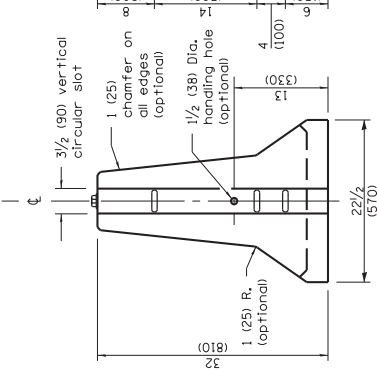
ELEVATION

(Showing connecting loop bars and vertical panel bolt/insert)



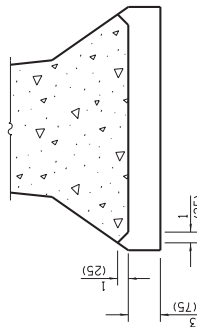
PLAN

2 1/2 (63) measured from face of barrier to end of loop bar

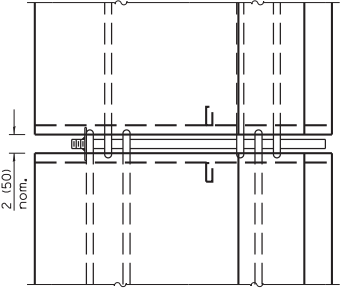


END VIEW

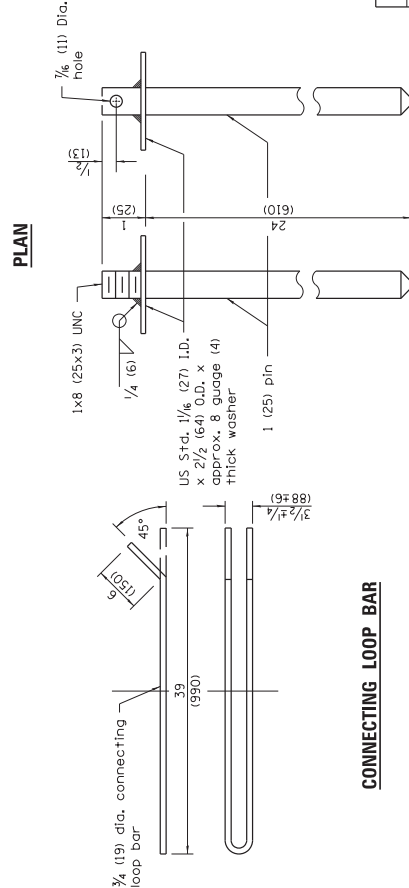
(Showing lifting slot)



SECTION A-A LIFTING SLOT



CONNECTING LOOP BAR



CONNECTING LOOP BAR

Illinois Department of Transportation	ISSUED 10-1-02
PASSED April 1, 2016	
APPROVED Michael Board	
ENGINEER OF POLICY AND PROCEDURES	
APPROVED April 1, 2016	
ENGINEER OF DESIGN AND ENVIRONMENT	

CONNECTING AND ANCHOR PINS

(End may be beveled 1/4 (6) max.)

DATE	REVISIONS
4-1-16	Rev. opt. chamfer on all edges to 1 (25). Reference to STD. 635011 now 782006. Omitted 'ALTERNATE' from connecting and anchoring pins detail.
1-1-12	

TEMPORARY CONCRETE BARRIER

STANDARD 704001-08 (Sheet 1 of 2)

GENERAL NOTES

Each F shape barrier shall be clearly marked with "ILLINOIS F SHAPE", the Producer's mark and the date of manufacture. The markings shall be indented on the barrier or painted thereon with waterproof paint/ink.

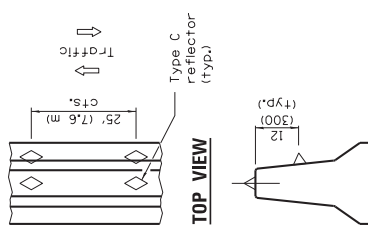
The insert for the 1/2 (M12) bolt shall be capable of 3,000 lb (13 kN) pull-out strength.

When barrier separates opposing flows of traffic markers shall be on both sides of barrier.

See Standard 782006 for dimensions of Type C reflector.

All dimensions are in inches (millimeters) unless otherwise shown.

BARRIER WALL REFLECTORS



TOP VIEW

END VIEW

Type C reflector (typ.)

25 (7.6)

12 (3.0)

1/2 (12.7)

2 (50)

1 (25)

7 (181)

22 (555)

5 (127)

8 (203)

2 1/2 (63)

1 (25)

4 (100)

14 (360)

8 (203)

15 (380)

45 (1145)

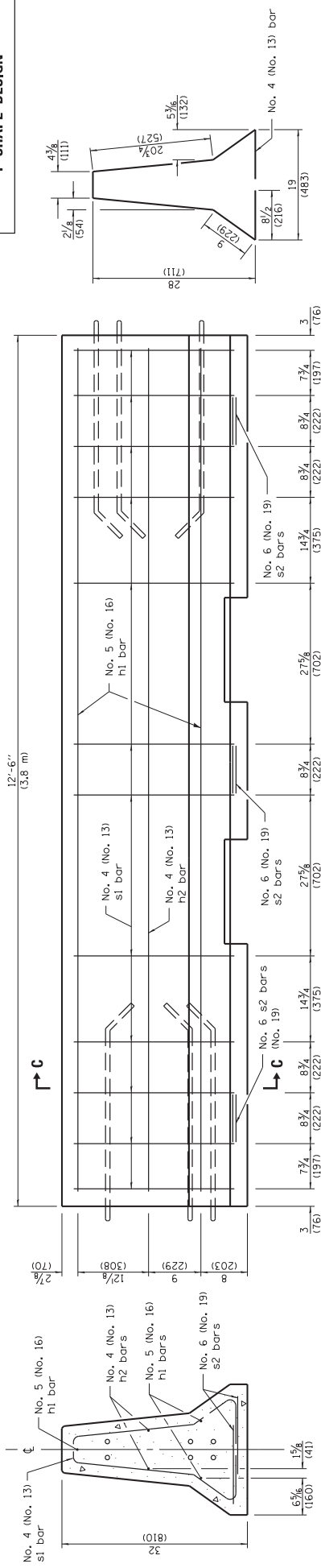
18 (455)

12 (300)

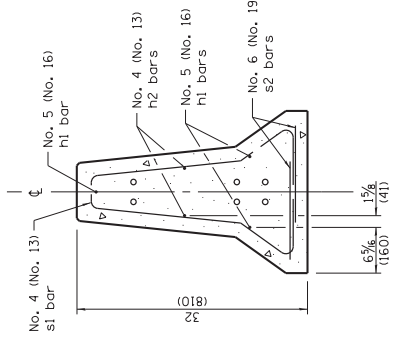
12 (300)

45 (1145)

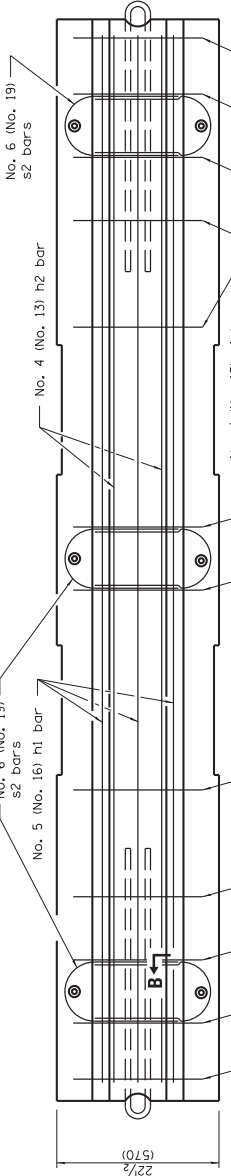
F SHAPE DESIGN



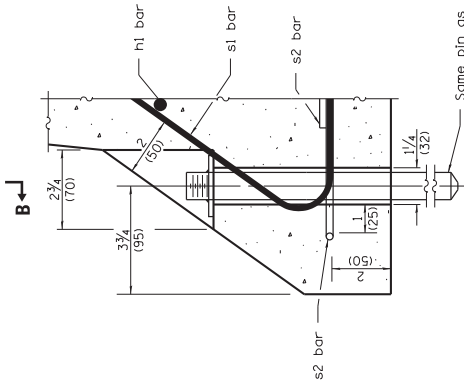
SECTION C-C



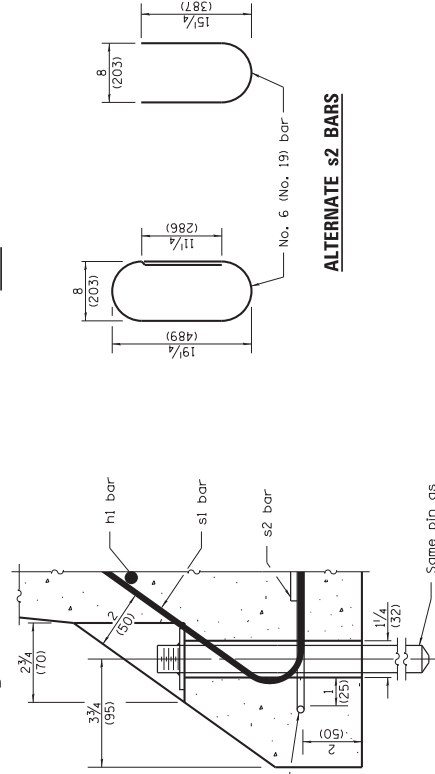
ELEVATION (Reinforcement)



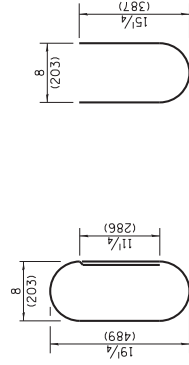
PLAN



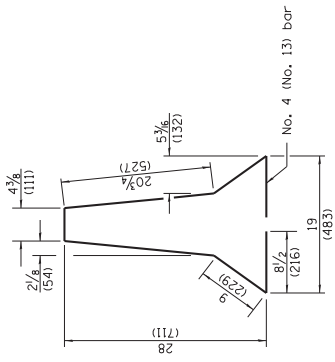
SECTION B-B ANCHORING DETAIL



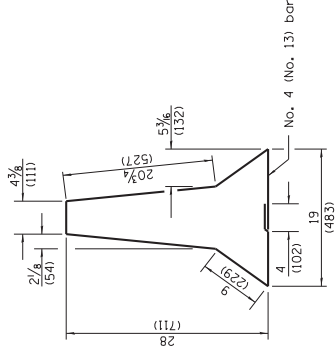
ALTERNATE s2 BARS



s1 BAR



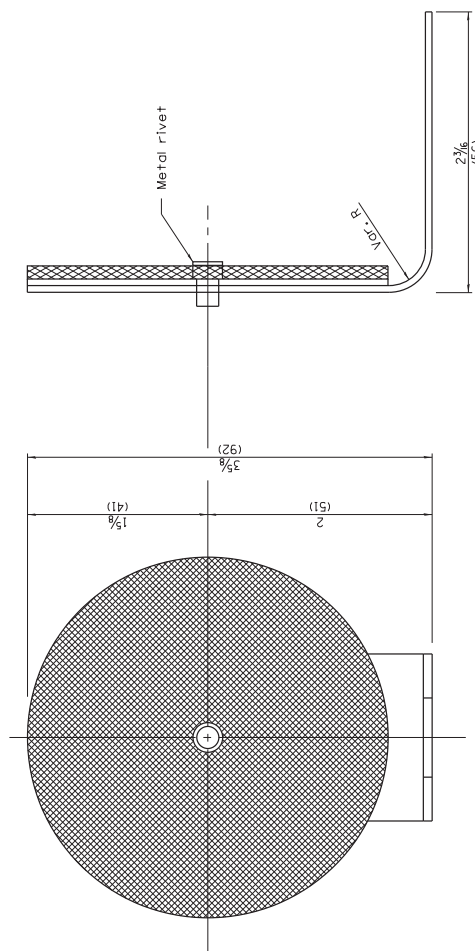
ALTERNATE s1 BAR



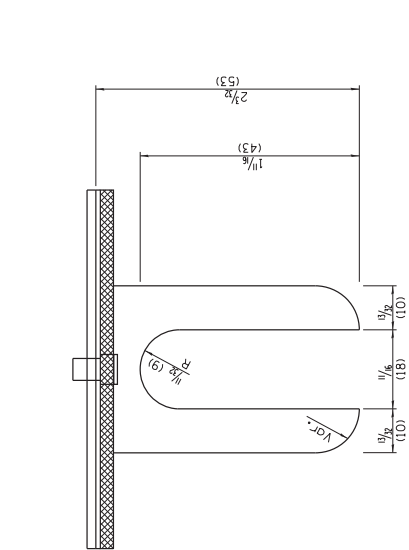
TEMPORARY CONCRETE BARRIER
(Sheet 2 of 2)
STANDARD 704001-08

Illinois Department of Transportation
ISSUED 10-1-02

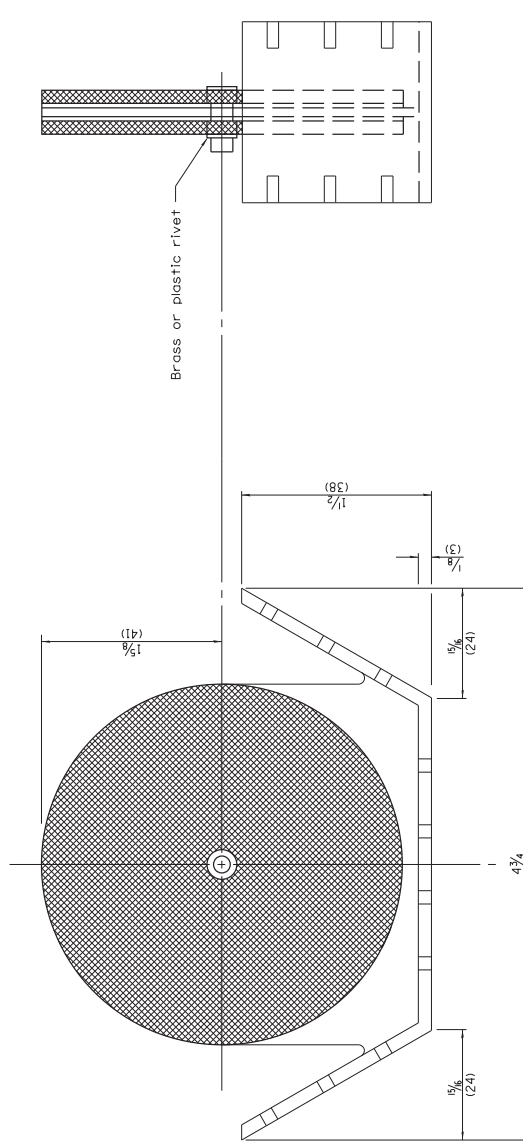
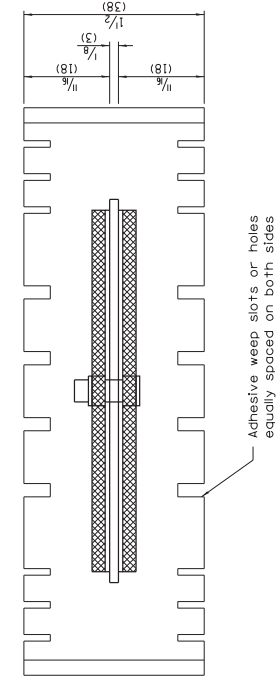
PASSED April 1, 2016
ENGINEER OF POLICY AND PROCEDURES
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT



REFLECTOR TYPE A
(monodirectional shown)



REFLECTOR TYPE B
(bidirectional shown)



All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Added reflector spacing detail. Moved TERMINAL MARKER to std. 725001.
1-1-09	Switched units to English metric.

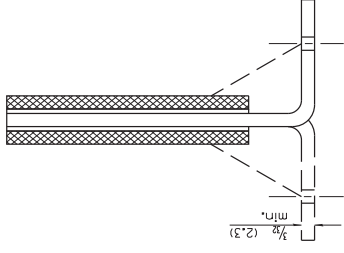
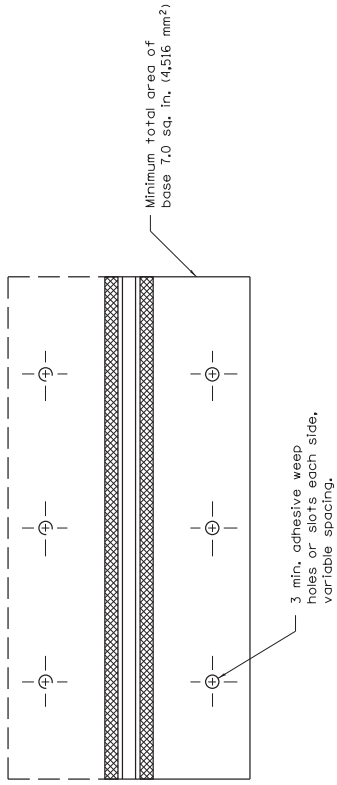
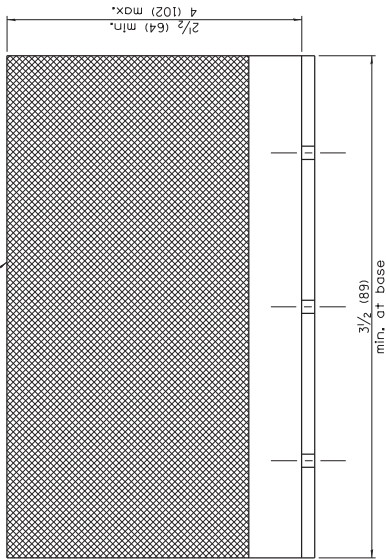
DATE	REVISIONS
4-1-16	Added reflector spacing detail. Moved TERMINAL MARKER to std. 725001.
1-1-09	Switched units to English metric.

Illinois Department of Transportation
 APPROVED _____ 2016
 ENGINEER OF OPERATIONS
 APPROVED _____ 2016
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-2000

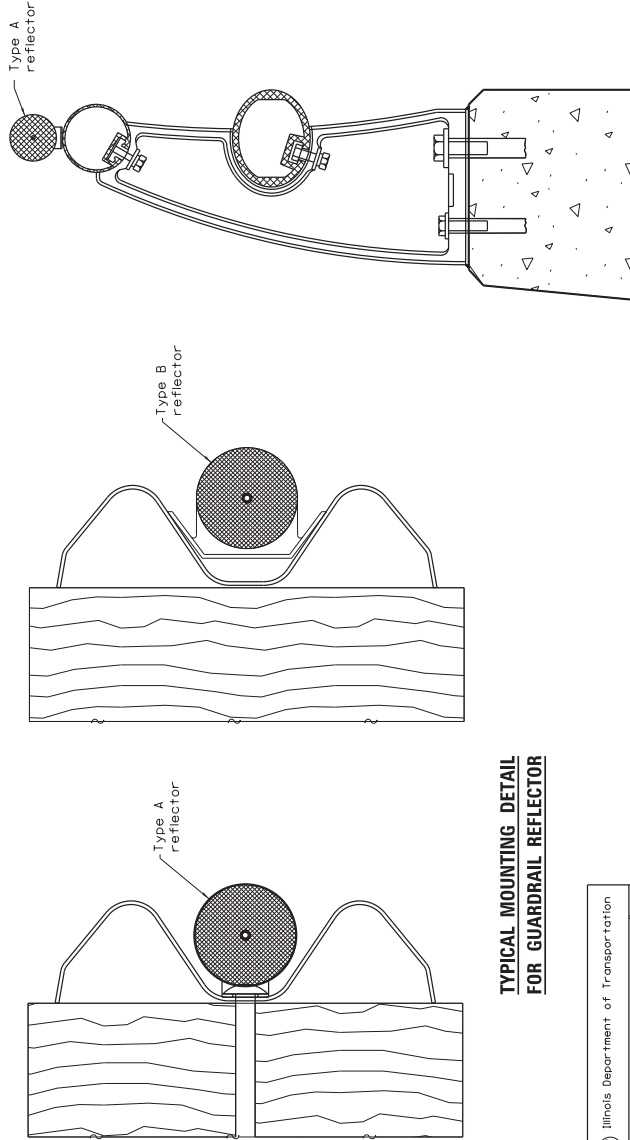
GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
 STANDARD 782006
 (Sheet 1 of 3)

Reflective area. May be rectangular or slight trapezoid.

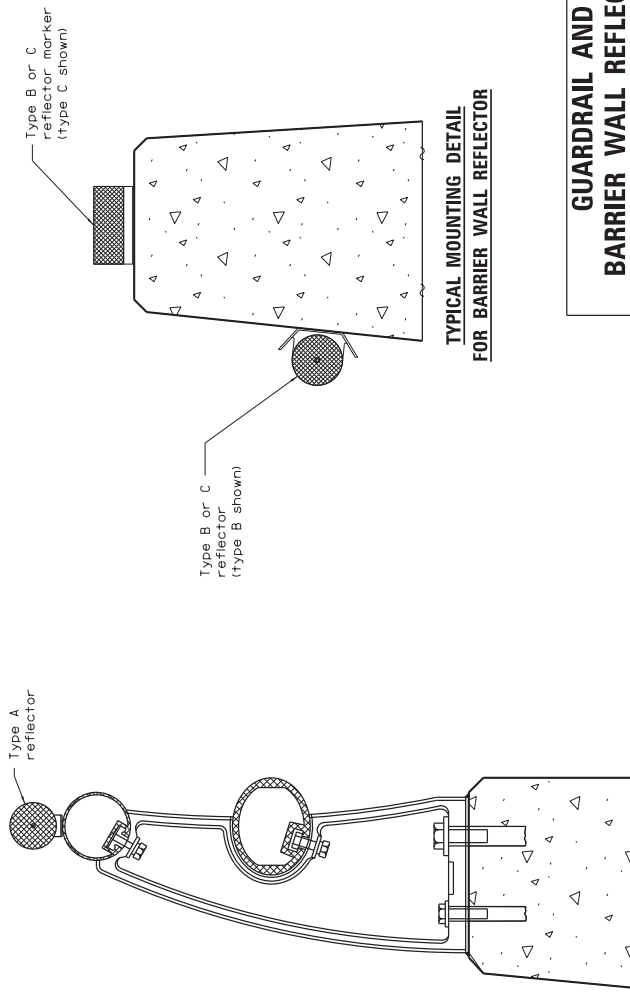


Cross section may be "T" or "L" shaped and may have side supports at ends.

REFLECTOR TYPE C



TYPICAL MOUNTING DETAIL FOR GUARDRAIL REFLECTOR

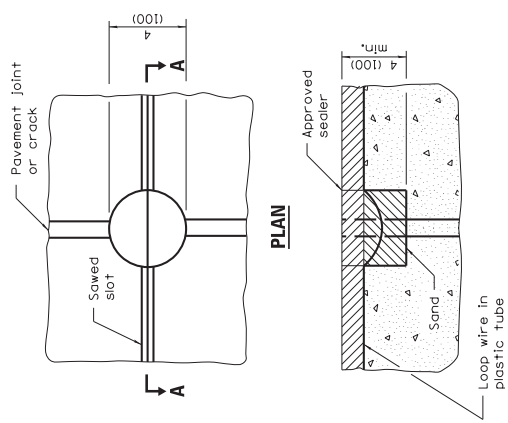


TYPICAL MOUNTING DETAIL FOR BARRIER WALL REFLECTOR

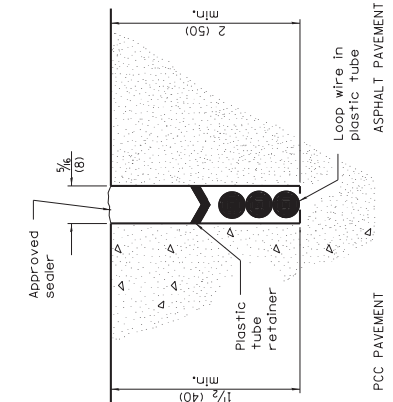
Illinois Department of Transportation
 APPROVED: _____ 2016
 ENGINEER OF OPERATIONS
 APPROVED: _____ 2016
 ENGINEER OF DESIGN AND ENVIRONMENT

GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
 (Sheet 2 of 3)
 STANDARD 782006

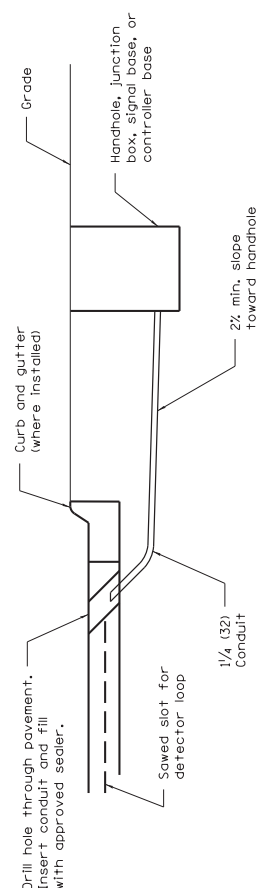
TYPICAL MOUNTING DETAIL FOR BRIDGE RAIL REFLECTOR



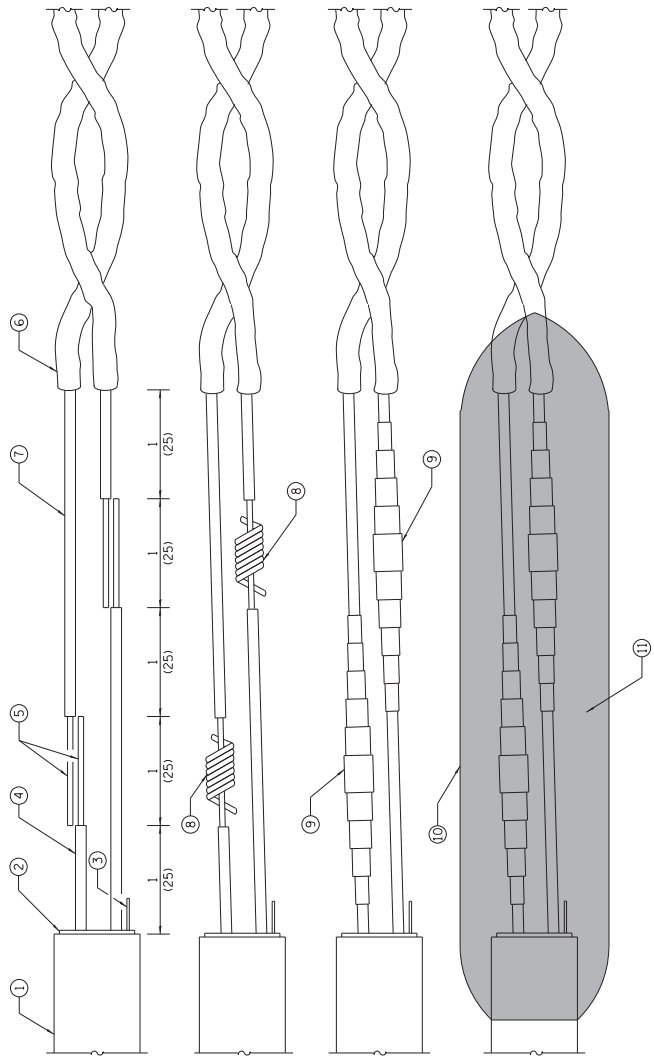
DETECTOR LOOP AT PAVEMENT JOINT OR PAVEMENT CRACK



DETECTOR LOOP LEAD-IN



LOOP WIRE AND LEAD-IN CABLE SPLICE



- ① = Lead-in cable (single pair or multipair)
- ② = Lead-in cable shield
- ③ = Lead-in cable shield drain-wire
- ④ = Lead-in cable shield insulated conductor
- ⑤ = Bare conductor
- ⑥ = Loop wire in tube
- ⑦ = Loop wire insulated conductor
- ⑧ = Twisted and resin soldered conductor
- ⑨ = Electrical tape insulated splice
- ⑩ = Rigid mold
- ⑪ = Waterproof and dielectric resin

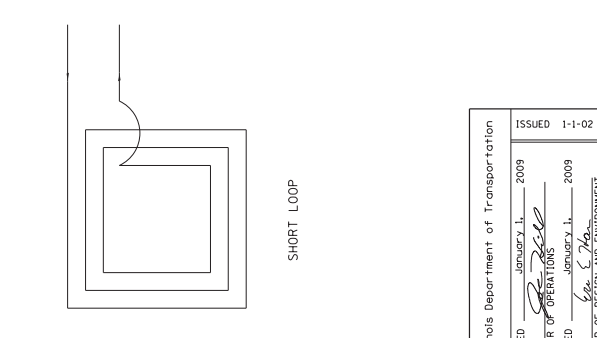
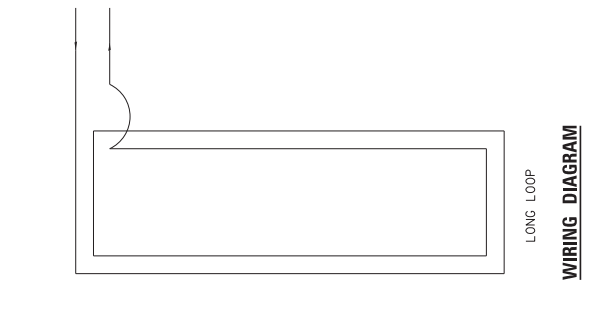
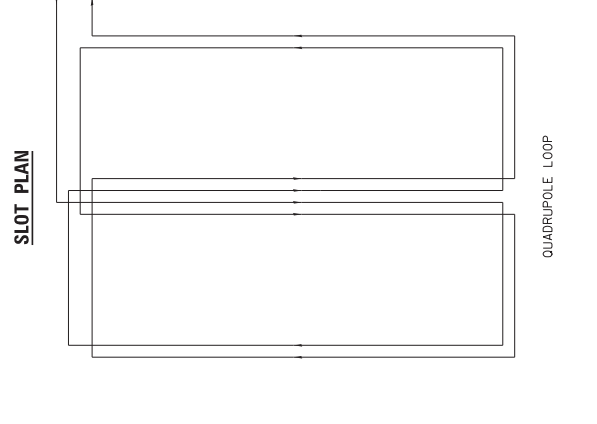
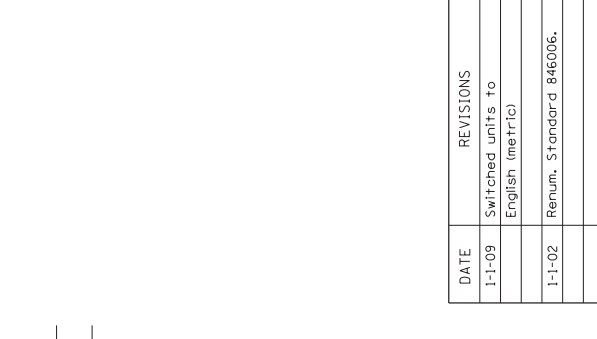
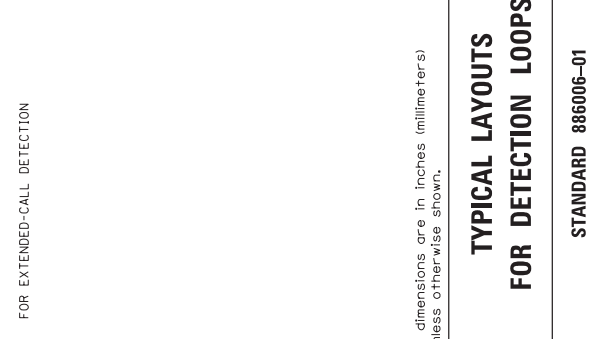
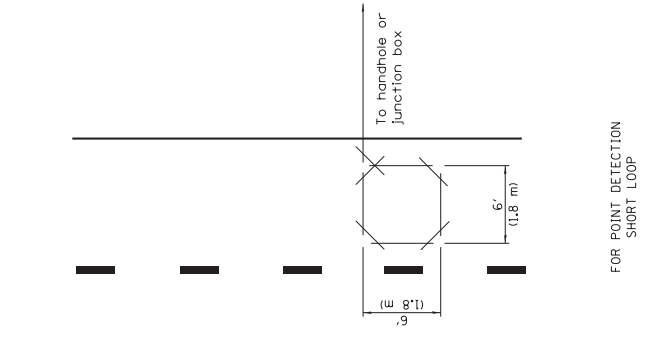
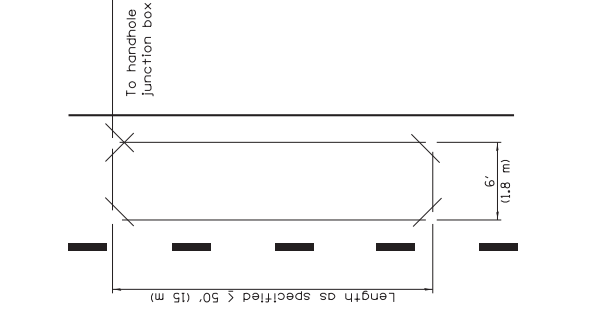
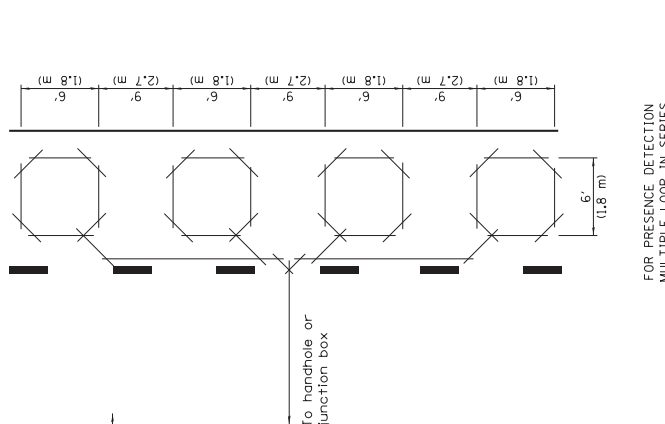
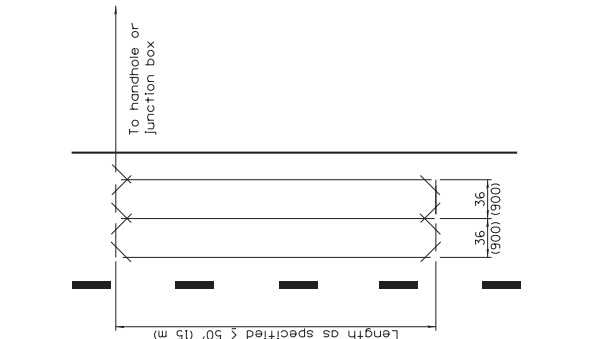
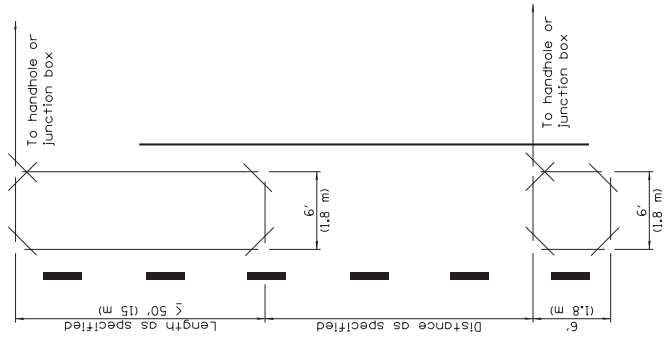
APPROVED	JANUARY 1, 2009	ISSUED	1-1-02
ENGINEER OF OPERATIONS	<i>[Signature]</i>	APPROVED	JANUARY 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT	<i>[Signature]</i>		

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-02	Renum. Standard 846001.

DETECTOR LOOP INSTALLATIONS

STANDARD 886001-01

All dimensions are in inches (millimeters) unless otherwise shown.



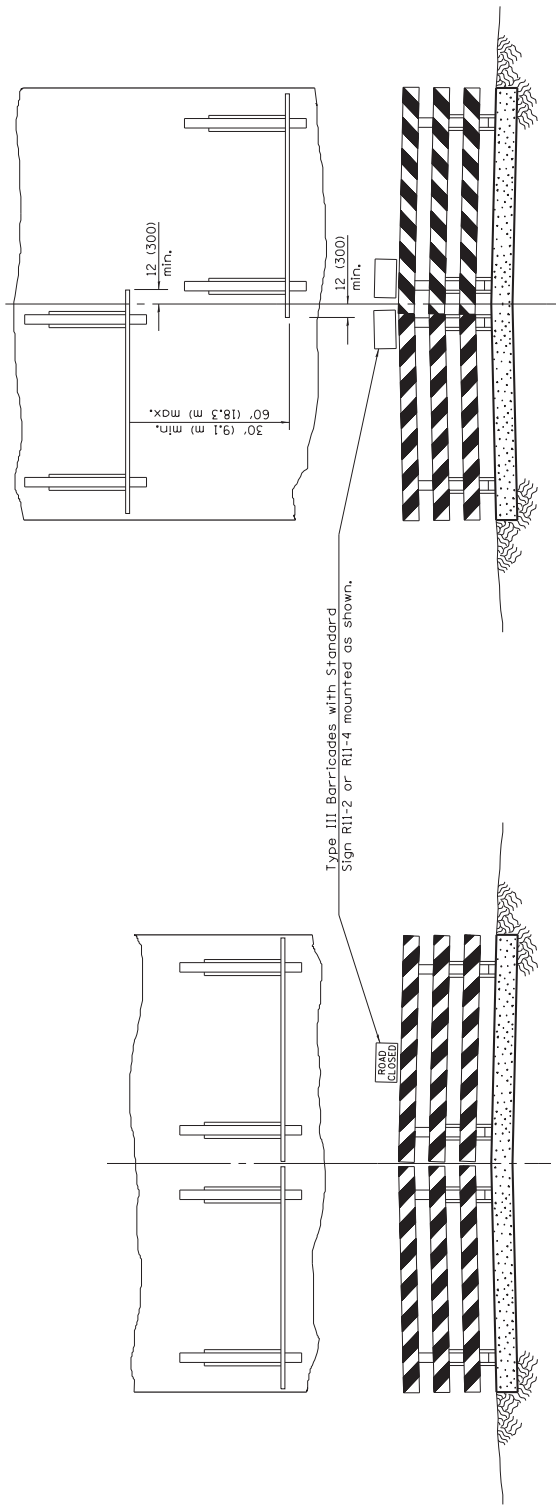
All dimensions are in inches (millimeters) unless otherwise shown.

APPROVED	JANUARY 1, 2009	ISSUED	1-1-02
ENGINEER OF OPERATIONS	<i>[Signature]</i>	APPROVED	JANUARY 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT	<i>[Signature]</i>		

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-02	Renum. Standard 846006.

TYPICAL LAYOUTS FOR DETECTION LOOPS

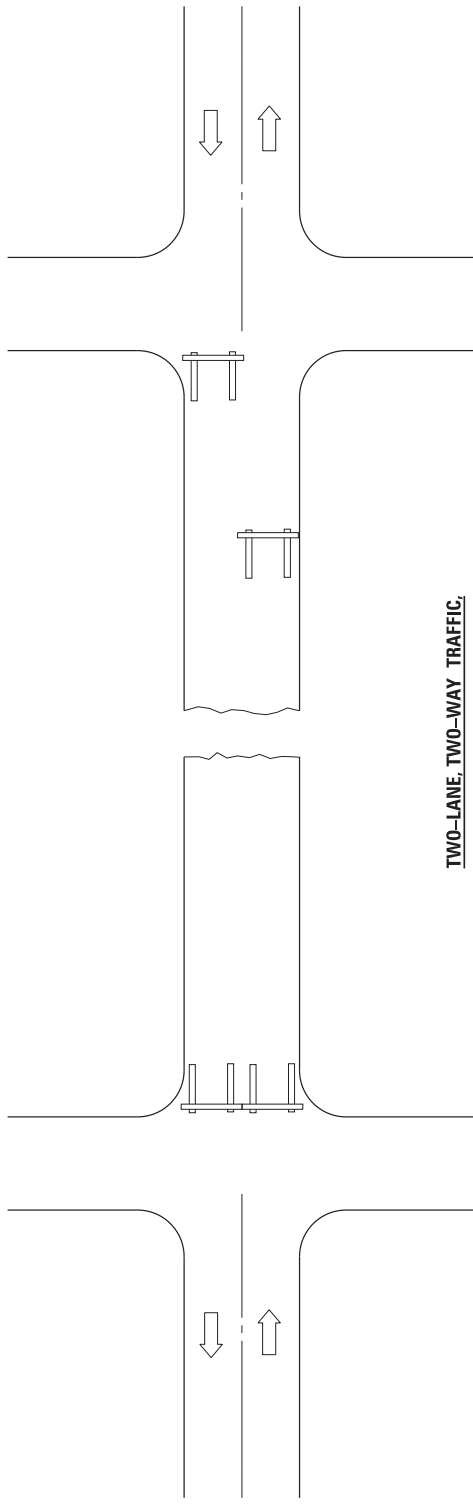
STANDARD 886006-01



Type III Barricades with Standard Sign R11-2 or R11-4 mounted as shown.

Resident traffic and day labor force's equipment to use road shoulder for passing barricade.

Use when shoulders are too narrow for passage of traffic.



**TWO-LANE, TWO-WAY TRAFFIC,
RURAL OPERATIONS EXCEEDING
ONE DAYLIGHT PERIOD**

GENERAL NOTES
Type III barricades to be width of pavement only.
Reflectorized striping shall appear on both sides of barricades. Barricades shall be positioned so that stripes slope downward toward the side on which traffic is to pass.
Although not shown, advance warning signs with minimum dimensions of 36x36 (900x900) and black legends on orange reflectorized backgrounds shall be utilized where needed.
This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-98	Rev. "R11-1" to "R11-4". Rev. 4th General Note.

**TRAFFIC CONTROL DEVICES –
DAY LABOR CONSTRUCTION**
STANDARD B.L.R. 17-4

Illinois Department of Transportation
 APPROVED *Charles J. [Signature]* 2009
 ENGINEER OF LOCAL ROADS AND STREETS
 APPROVED *[Signature]* 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97