

**IOWA DEPARTMENT OF NATURAL RESOURCES
PROJECT MANUAL**

**LACEY KEOSAUQUA
STATE PARK**

**BEACH HOUSE
CONVERSIONS
VAN BUREN COUNTY**



PREPARED BY

**IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING BUREAU
WALLACE STATE OFFICE BUILDING
DES MOINES, IOWA 50319-0034**

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VAN BUREN COUNTY, IOWA
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CERTIFICATION SHEET**

ARCHITECTURAL

I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly registered architect under the laws of the state of Iowa.

KEVIN G. FLECKY

6/30/2012

Printed or typed name

License Renewal Date

Signature

Date

Pages or sheets covered by this seal: A0-01, A1-01 TO A1-04.
Project manual sheets as identified in the index dated: 04/29/2011.

CIVIL

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the state of Iowa.

RANDY G. FEHL

12/31/2011

Printed or typed name

License Renewal Date

Signature

Date

Pages or sheets covered by this seal: C0-01, C1-01 & C1-02.
Project manual sheets as identified in the index dated: 04/29/2011.

ELECTRICAL

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the state of Iowa.

ROGER J. WOZNY

12/31/2011

Printed or typed name

License Renewal Date

Signature

Date

Pages or sheets covered by this seal: E0-01 & E1-01.
Project manual sheets as identified in the index dated: 04/29/2011.

LACEY KEOSAUQUA STATE PARK
BEACH HOUSE CONVERSION
PROJECT NO. 11-06-89-01

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Notice to Bidders - Iowa Department of Natural Resources

Sealed bids will be received by the Iowa Department of Natural Resources, Engineering Bureau, at the Wallace State Office Building, 502 East 9th Street, Des Moines, Iowa 50319-0034 until **11:00 A.M., June 16, 2010** for the public improvement projects listed below, at which time they will be opened publicly. No bids shall be accepted by FAX. After the bid opening, information concerning bid results may be obtained by visiting the Department's website at www.iowadnr.gov or by calling (515) 242-6720.

Project documents, including drawings, specifications, proposal forms and addenda items for the project are available at Beeline and Blue, at 2507 Ingersoll Ave., Des Moines, Iowa 50312. Please visit www.beelineandblue.com or contact (515) 244-1611 for more information. A \$30 refundable Plan Fee will be charged for each set of project documents, as well as a shipping charge (if applicable). Plan Fee will be refunded when documents are returned in good condition within 14 days after the Letting date. Alternatively, Bid Documents can be viewed or printed online at <https://programs.iowadnr.gov/engreal/projectlist.asp>

The Department shall comply with all public improvement procurement laws, as outlined in the plans and specifications and including but not limited to: Iowa Code chapter 26 related to public construction bidding; Iowa Code chapter 73 related to preferences; Iowa Code chapter 573 related to labor and materials on public improvements; rules promulgated by the Department of Administrative Services – General Services Enterprise as they may apply; rules promulgated by the Department of Natural Resources and the Natural Resources Commission, as they may apply; and any federal statutes, rules and/or executive orders that may be associated depending on funding sources. Bidders shall comply with these laws to be considered and are encouraged to be familiar with public improvement procurement requirements and the bidding documents before submitting a bid.

Each bidder shall accompany the bid with a bid security as defined in Iowa code section 26.8. The bid security must be in an amount set forth in the bidding documents and made payable to the Iowa Department of Natural Resources. Failure to execute a contract for the proposed work and file an acceptable Performance Bond in an amount equal to 100% of the contract price and a certificate of liability insurance within thirty (30) days of the date of the award of the contract will be just and sufficient cause for the rescinding of the award and the forfeiture of the bid security.

SPECIAL NOTICE TO CONTRACTORS

CONTRACTOR IS RESPONSIBLE FOR CONTACTING STATE STORMWATER PROGRAM COORDINATOR (515/281-7017) FOR INFORMATION RELATING TO STORM WATER PERMIT THAT IS NECESSARY IF CONSTRUCTION ACTIVITIES DISTURB ONE ACRE OR MORE.

Base Bid: Renovation of an existing Beach House building for conversion to rental space for family gatherings. Includes interior modification to finishes and exterior repairs to roof, siding and openings. Site repairs are also included to improve storm water drainage and repair of stone retaining walls.

Direct questions concerning the Project Design, Drawings and Specifications to:

Ryan Richey | Architect
Wallace State Office Building
Des Moines, Iowa 50319-0034
Ph: (515) 281-8647
Fax: (515) 281-8685

Direct questions concerning Site Review and Project Inspection to:

Jeff Felts, District Inspector
Hinton, Iowa
Ph: (515) 250-3712
Fax:

Direct questions concerning Bidding and Contract Procedures to:

Linda Miller, DNR Procurement
Wallace State Office Building
Des Moines, Iowa 50319-0034
Ph: (515) 281-3345

In accordance with House File 2622 implemented by Iowa Code Sections 442.42 (15) & (16) and 422.47.47(5), Contractors may purchase qualifying items for work on this contract exempt from sales tax. The DEPARTMENT will issue an authorization letter and exemption certificate to the prime contractor and each approved subcontractor." *Complete information on qualifying materials and supplies can be found at www.state.ia.us/tax, the Iowa Department of Revenue and Finance (IDRF) Web site. Links are found in the Business Taxes and Local Government categories. 701 IAC 19.1-20 is found in Tax Research/Tax Research Library.*

Recorded bid results can be accessed by calling 515/242-6720. Printed bid tabs will not be available for 3 working days after the Letting date.

Time and Date of Letting 11:00 AM, June 16, 2011

PROPOSAL

Project No. 11-06-89-01

Project Description and Location

**BEACH HOUSE CONVERSION
AT LACEY KEOSAUQUA STATE PARK
KEOSAUQUA, IA**

Proposal of: _____
(Name of Bidder)

Located at: _____ () _____
(Address) (Area) (Telephone)

Amount of Proposal Guarantee	Specified completion date or Number of Working Days	Approx. or Specified Starting Date or Number of Working Days	Liquidated Damages Per Day
\$5,000.00	DECEMBER 31, 2011	N/A	\$200.00

The undersigned hereby agrees, if awarded the contract, to execute the proposed contract and to furnish an approved performance bond in a amount not less than 100 percent of the contract award within 30 days after the date of approval of award of the contract, and to provide all labor, materials, and equipment required to complete the project designated above, for the price hereinafter set forth, in strict compliance with the contract documents prepared by the Iowa Department of Natural Resources.

The undersigned agrees, if awarded the contract, to commence the work within a reasonable time after the preconstruction conference or by the specific starting date, if so specified, and to complete the work within the contract period, or to pay liquidated damages in the amount stipulated herein for each calendar day the work remains uncompleted after the expiration of the contract period or any authorized reduction thereof.

A proposal guarantee in the amount stipulated herein is included with this proposal, to be forfeited to the Iowa Department of Natural Resources if the undersigned fails to execute the contract and furnish an approved performance bond, if awarded the contract.

By virtue of statutory authority, preference will be given to products and provisions grown and coal produced within the state of Iowa, and also, a resident bidder shall be allowed a preference against a nonresident bidder from a state or foreign country which gives or requires a preference to bidders from that state or foreign country on projects in which there are no federal funds involved.

By _____
Iowa Contractor Federal I.D. No. _____ (Signed) _____

_____ (Title) _____ (Date)
Iowa Contractor Registration No. _____

**THE FOLLOWING AFFIDAVIT MUST BE COMPLETED AND NOTORIZED, OR THIS BID WILL BE REJECTED.
- AFFIDAVIT -**

The signatory, being duly sworn, does depose and say that the undersigned is an authorized representative of:

(Name of Firm)

Located at: _____

Hereinafter referred to as "Bidder" and does hereby affirm to have personal knowledge that said bidder has examined the drawings and specifications, carefully prepared the proposal form, and has checked the same in detail before submitting; and that said bidder, or the agents, officers, or employees thereof, have not either directly or indirectly, entered into any agreement, participated in any collusion or fraud, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

(Signed)
_____ Day of _____, 20 _____

(Signed Notary)

My Commission Expires _____, 20 _____

SCHEDULE OF PRICES

Project Description and Location

BEACH HOUSE CONVERSATION AT LACEY KEOSAUQUA STATE PARK, KEOSAUQUA, IA

Name of Bidder

Item No.	Description	Estimated Quantity	Unit Price	Amount
1	CONCRETE DEMOLITION AND SITE WORK	LUMP SUM		
2	RETAINING WALL TUCKPOINTING	LUMP SUM		
3	BUILDING - GENERAL, PLUMBING AND ELECTRICAL	LUMP SUM		
		TOTAL		

Bidder Acknowledges Receipt of Any Issued Addenda Below (Number and Date)

**BEACH HOUSE RENOVATION AT LACEY-KEOSAUQUA STATE PARK
VAN BUREN COUNTY, IOWA**

THIS AGREEMENT, made this _____ day of, _____ 20____ by and between the state of Iowa acting through the Department of Natural Resources hereinafter called the **DEPARTMENT** and:

located at

hereinafter called the **CONTRACTOR**

WITNESSETH: That the **DEPARTMENT** agrees to pay the **CONTRACTOR** the contract price provided herein for the fulfillment of the work and the performance of the covenants set forth herein, and the **CONTRACTOR** agrees with the **DEPARTMENT** to commence and complete the project described as follows:

RENOVATION OF AN EXISTING BEACH HOUSE BUILDING FOR CONVERSION TO RENTAL SPACE FOR FAMILY GATHERINGS. INCLUDES INTERIOR MODIFICATION TO FINISHES AND EXTERIOR REPAIRS TO ROOF, SIDING AND OPENINGS. SITE REPAIRS ARE ALSO INCLUDED TO IMPROVE STORM WATER DRAINAGE AND REPAIR OF STONE RETAINING WALLS.

Base Bid Completion Date: DECEMBER 31, 2011

For the Sum of:

Dollars (\$)

and all extra work in connection therewith, all in accordance with the terms and conditions herein contained: and to furnish at the **CONTRACTOR'S** own proper cost and expense, all material, equipment, labor, insurance, and other accessories and services necessary to construct and complete, in a workmanlike manner, ready for continuous operation, the above mentioned project. The work shall be performed in accordance with the requirements and provisions of the following documents, all of which are made a part hereof and collectively evidence and constitute the contract:

1. Notice to Bidders.
2. Instructions to bidders.
3. IDNR Standard Specifications and Current Supplemental Specifications
4. Project Specifications Including Addenda Number _____ Through _____
5. Drawings, Sheet Number 0 Through E1-01 Inclusive
6. Contractor's Proposal.
7. Proposal Guarantee Bond.
8. Performance Bond.
9. This Instrument.
10. Modifications or Change Orders pursuant to IDNR Standard Specifications
11. Resident Bidder Preference Certification on Non-Federal-Aid Projects

The parties to this contract understand that time of completion of the work under this contract is the essence to the contract. The **CONTRACTOR** hereby agrees to commence work under this contract in accordance with Section 1108 of the IDNR Standard Specifications and to complete all the work by

DECEMBER 31, 2011

The **CONTRACTOR** hereby agrees that liquidated damages in the amount of Two hundred Dollars \$ 200.00

shall be retained or assessed against the **CONTRACTOR** for each day and every day the completion of the work is delayed beyond the time specified herein, not as a penalty, but as a mutually agreed to, predetermined amount to reimburse the **DEPARTMENT** for salaries of engineers and reviewers, clerk hire, interest charged during the period for delays and loss of use.

It is understood that the **CONTRACTOR** consents to the jurisdiction of the courts of Iowa, to hear, determine and render judgment as to any controversy arising hereunder, and that this contract shall be governed by, and construed according to, the laws of the state of Iowa.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, in the day and year first above mentioned.

FOR THE DEPARTMENT:

Deputy Director

This contract was approved by the **NATURAL RESOURCES COMMISSION** at its meeting held on

(Date)

FOR THE CONTRACTOR:

(Signature and Title)

(Firm)

(Address and Zip Code)

Seal if by a Corporation:

Identification
Number _____

Soc.
Sec.
No. _____

Or Fed. I.
D. No. _____

PERFORMANCE BOND

STATE OF IOWA
DEPARTMENT OF NATURAL RESOURCES

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
of _____ as PRINCIPAL,
and _____
of _____ as SURETY(S),
are hereby held and firmly bound unto the state of Iowa in the penal sum of:

TEN THOUSAND AND 00/100 Dollars \$10,000.00

for the payment, whereof, the said PRINCIPAL and SURETY(S) bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the PRINCIPAL entered a certain contract, hereto attached, and made part hereof to the state of Iowa, acting by and through the Iowa Department of Natural Resources, hereinafter called the DEPARTMENT, dated _____

for the BEACH HOUSE CONVERSION
at LACEY KEOSAUQUA STATE PARK
in VAN BUREN COUNTY, KEOSAUQUA, IOWA.

NOW THEREFORE,

the conditions of this obligation are such that, if the DEPARTMENT, shall faithfully perform the contract in accordance with the plans, specifications and contract documents, and shall fully indemnify and save harmless the state of Iowa from all cost and damage which the state of Iowa may suffer by reason of the PRINCIPAL's default or failure to do so and shall fully reimburse and repay the state of Iowa all outlay and expenses which the state of Iowa may incur in making good any such default, then this obligation shall be null and void, otherwise it shall remain in force and effect.

In the event that the PRINCIPAL is in default under this contract as defined herein, the DEPARTMENT shall by written notice inform the PRINCIPAL that this contract is in default. And may, at its option, without process or action at law:

1. Take over all or any portion of the work and complete it either by day labor or reletting the work. The DEPARTMENT may retain all material, equipment and tools on the work, at a rental which it considers reasonable, until the work has been completed.
2. Allow the surety to take over the work within fifteen (15) days and assume completion of said contract and become entitled to the balance of the contract price.
3. Allow the PRINCIPAL to complete the contract.

As required by Chapter of the Code of Iowa.

1. The PRINCIPAL SURETY(S) on this bond hereby agree to pay all persons, firms or corporations having contracts directly with the PRINCIPAL or with subcontractors, all just claims due them for labor performed or material furnished, in the performance of the contract on account of which this bond is given, when the same are not satisfied out of the portion of the contract price shall have been established as provided by law.
2. Every Surety on this bond shall be deemed and held, any contract to the contrary notwithstanding, to consent without notices:
 - a. To any extension of time to the contractor in which to perform the contract.
 - b. To any change in the plans, specifications, or contract, when such changes does not involve an increase of more than 20 percent of the total contract price, and then only as to such excess increase.
 - c. That no provision of this bond or any other contract shall be valid which limits less than one year from the time of the acceptance of the work, the right to sue on this bond for defect in workmanship or material not discovered or known to the DEPARTMENT at the time such work was accepted.

No provision of this bond or any other contract shall be valid which limits to less than five years after the acceptance of the work, the right to sue on this bond for defects in workmanship or material in connection with paving or concrete work.

IN WITNESS WHEREOF,

the above bounden parties have executed this instrument under their several seals this _____ day of _____, 20_____, the name and corporate seal of each party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

PRINCIPAL:

SURETY:

By _____

By _____

If a partnership all partners must sign.

This bond approved by the Iowa Department of Natural Resources this _____ day of _____, 20 _____

By _____

Director

**IOWA DEPARTMENT OF NATURAL RESOURCES
GENERAL COVENANTS AND PROVISIONS
SECTION NO. 007000
JANUARY 1993 (Revised 06/04/10)**

This section consists of the general provisions applying to all types of construction and maintenance as set forth in the following sections

- Part 1100. Definitions
- Part 1101. Instructions to Bidders
- Part 1102. Bidder Qualifications
- Part 1103. Award and Execution of Contract
- Part 1104. Scope of Work
- Part 1105. Control of Work
- Part 1106. Control of Materials
- Part 1107. Legal Relations and Responsibilities to the Public
- Part 1108. Prosecution and Progress
- Part 1109. Measurement and Payment

PART 1100. DEFINITIONS

1100.01 GENERAL

- A. Whenever in these specifications or in other contract documents, the following definitions, or terms or both, or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:
- B. In order to avoid cumbersome and confusing repetition of expressions in these specifications, it is provided that whenever anything is, or is to be done, if, as, or, when, or where "contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, unsatisfactory, sufficient, insufficient, rejected, or condemned," it shall be understood as if the expression were followed by the words "by the Engineer" or "to the Engineer."
- C. The titles or headings of the sections and articles herein, or referred to on the plans, are intended for convenience of reference and shall not be considered as having any bearing on their interpretation.
- D. Working titles and pronouns used for any person referred to in these specifications may be used with a masculine gender for the sake of brevity and are intended to refer to persons of either sex.

1100.02 DEFINITIONS OF ABBREVIATIONS

- A. Whenever the following abbreviations are used in these specifications or on the plans, they are to be construed the same as the respective expressions represented.

AAN - American Association of Nurserymen
AAR - Association of American Railroads
AASHTO (or AASHO) - American Association of State Highway and Transportation Officials
ACI - American Concrete Institute
AIA - American Institute of Architects
ANSI - American National Standards Institute
APWA - American Public Works Association
ARA - American Railway Association
AREA - American Railway Engineering Association
ASCE - American Society of Civil Engineers
ASLA - American Society of Landscape Architects

ASTM - American Society of Testing and Materials
AWPA - American Wood Preservers Association
AWS - American Welding Society
AWWA - American Water Works Association
CFR - Code of Federal Regulations
DNR - Iowa Department of Natural Resources
DOT - Iowa Department of Transportation
EEI - Edison Electric Institute
EPA - Environmental Protection Agency
FHWA - Federal Highway Administration
FSS - Federal Specifications and Standards
IEES - Institute of Electrical and Electronics Engineers
IES - Illuminating Engineering Society
ICEA (or IPCEA) - Insulated Cable Engineers Association
MUTCD - Manual on Uniform Traffic Control Devices
NEC - National Electrical Code
NECA - National Electrical Contractors Association
NEMA - National Electrical Manufacturers Association
NFPA - National Fire Protection Association
NRC - Natural Resource Commission
SBC - State Building Code
UBC - Uniform Building Code
UL - Underwriters Laboratories, Incorporated
UMC - Uniform Mechanical Code
UPC - Uniform Plumbing Code
US - United States
USC - United State Code

B. Abbreviations may be used for materials and classes of work:

AC - Asphalt cement
ACC - Asphalt cement concrete
ATB - Asphalt treated base
BSC - Bituminous seal coat
BTA - Bituminous treated aggregate
CTG - Cement treated granular
PCC - Portland cement concrete
SAS - Soil-aggregate subbase
SLS - Soil-lime subbase

1100.03 DEFINITIONS OF TERMS

1. Acceptable Work - Work in reasonably close conformance with the contract requirements.
2. Addendum or Addenda - Changes, revisions, or clarifications of the specifications of contract documents which have been issued to prospective bidders, prior to the time of receiving bids.
3. Advertisement - The public announcements, publications, or solicitations as required by the Contracting Authority, inviting bids for work to be performed.
4. Approval of Award - The acceptance by the Contracting Authority of a bid.
5. Approximate Starting Date - A calendar day shown on the proposal on which it is anticipated, at the time of the letting, that conditions will be such as to permit the Contractor to commence work.

6. Assignment of Contract -The written agreement whereby the Contractor sells, assigns, or transfers his rights in the contract to any person, firm, or corporation.
7. Award - The execution of the contract.
8. Bidder - An individual, firm, corporation, or joint venture submitting a bid for the advertised work.
9. Calendar Day - Every day shown on the calendar.
10. Change Order - A written order to the Contractor, signed by the Engineer, ordering a change which has been found necessary in the work from that originally shown by the plans and specifications. Change orders duly signed and executed by the Contractor constitute authorized modifications of the contract.
11. Channel - A natural or artificial water course.
12. Chief Engineer - An engineer appointed by the Iowa Department of Natural Resources as the head of the Construction Service Bureau.
13. Classes of Work - The divisions made for the purpose of measuring and paying for labor to be performed or materials to be furnished according to the methods of construction involved, as indicated by the items for which bids have been received for each specific contract.
14. Commencement of Work - Work will be considered commenced when the Contractor's operations are started on items of work covered by the contract documents and which require inspection, or when the Contractor notifies the Engineer, and the Engineer agrees, that the Contractor's equipment and personnel are available at the site, but his operations are prevented by weather or soil conditions.
15. Commission - The state Natural Resources Commission as constituted under the laws of the state of Iowa (which is the party of the first part in the contract, let in behalf of the State, of which these specifications are a part).
16. Commissioner - A member of the state Natural Resources Commission.
17. Contract (Also Contract Document) - The written agreement between the Contracting Authority and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment. The contract includes the notice to bidders, proposal, contract form, and contract bonds specifications, supplemental specifications, special provisions, all items covered on the table of contents, plans, notice to proceed, and any change orders and agreements which are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.
18. Contract Item (Pay Item) - A specifically described unit of work for which a price is provided in the contract.
19. Contract Period (Also Contract Time) - The number of working days or calendar days allowed for completion of the contract, including authorized time extensions. In case a calendar date of completion is shown in the proposal, in lieu of or in addition to the working days, the contract shall be completed by that date.
20. Contract Sum - The aggregate sum obtained by totaling the amounts arrived at by multiplying the number of units of each class of work, as shown in the contracts by the unit price specified in the contract for that class of work.
21. Contracting Authority - The governmental body, board, commission, or officer having authority to award a contract.

22. Contractor - The individual, firm, corporation, or joint venture contracting with the Contracting Authority for performance of prescribed work.
23. Contractor Registration - The registration number issued by the Division of Labor Service, in accordance with Chapter 91C of the Code of Iowa.
24. Deficient Work - Work not in reasonably close conformance with the contract requirements, or otherwise inferior, but in the opinion of the Engineer, reasonably acceptable for its intended use and allowed to remain in place.
25. Department of Economic Development - As defined in Chapter 15, Code of Iowa.
26. Department of Labor Services - As defined in Chapter 91, Code of Iowa.
27. Department of Natural Resources (Department)- The Department of Natural Resources, as defined in Chapter 455A, Code of Iowa.
28. Department of Revenue and Finance - As defined in Chapter 421, Code of Iowa.
29. Department of Transportation -The Department of Transportation, as defined in Chapter 307, Code of Iowa.
30. Director - The duly appointed executive officer for the Department of Natural Resources.
31. Drainage Ditch -An artificially constructed, open depression, other than a road ditch, which is constructed for the purpose of carrying surface water runoff .
32. Drawings (or Plans) - The approved plans, profiles, typical cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, including modifications, altered plan, revisions, and amendments, which show the locations characters dimensions, and details of the work to be done.
33. Employee - Any person working on the project, mentioned in the contract of which these specifications are a party, and who is under the direction or control, or receives compensation from, the Contractor or subcontractor.
34. Engineer - The Chief Engineer, or other Engineer of the Contracting Authority, acting directly or through a duly authorized representative, such representative acting within the scope of the particular duties assigned, or of the authority given.
35. Equipment - All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and tools and apparatus necessary for the proper construction and acceptable completion of the work.
36. Extra Work - Work not provided for in the contract, as awarded, but deemed essential to the satisfactory completion of the contract within its intended scope and authorized by the Engineer. Extra work shall not include additional materials, equipment, and labor used due to natural variations in the surface and subsurface conditions, except as specifically provided for elsewhere in the contract documents.
37. Extra Work Order - A change order concerning the performance of work or furnishing of materials involving additional work. Such additional work may be performed at agreed prices, or on a force-account basis, as provided elsewhere in these contract documents.
38. Independent Contractor - Any persons firms or corporation who contracts with the Contractor to perform a service for which the basis of payment is in terms of units of service rather than salary or wages.
39. Inspector - An employee of the Contracting Authority and who is the authorized representative of the Engineer, assigned to make detailed inspections of any or all portions of the work, or materials included in the work.

40. Instruction to Bidders - The clauses setting forth in detail the information relative to the proposed work and requirements for the submission of proposals.
41. Invitation for Bids - See Notice to Bidders.
42. Item -See Contract Item.
43. Joint Venture - Two or more individuals, firms or corporations combining any equipment, personnel or finances for the purpose of submitting a single bid.
44. Laboratory - The testing laboratory of the Contracting Authority, or any other testing laboratory which may be designated or approved by the Engineer.
45. Lands Acquired for the Work - The land area, reserved or secured by the Contracting Authority, upon which to construct the work, or where to obtain material therefrom.
46. Major Item of Work - Any contract item (Pay item) for which the original contract amount plus authorized additions is more than 10% of the total original contract sum or \$50,000 whichever is less.
47. Materials - Any substances specified for use in the construction of the project and its appurtenances.
48. Notice to Bidders - That portion of the contract documents, prepared and furnished by the Contracting Authority for the information of bidders submitting proposals, which notice specifies provisions, requirements, and instructions pertaining to the method, manner, and time of submitting bids.
49. Notice to Proceed - Written notice to the Contractor to proceed with the contract work including, when applicable, the date of beginning of contract time.
50. Official Publications - The official publications are the formal resolutions and notices relative to the proposed improvement that are required by law to be published in a prescribed manner and that have been published in accordance with the statutes relating to them. Official publications area by statutes vested with all of the force and effect of contract obligations.
51. Owner - The state of Iowa, acting through the Iowa Department of Natural Resources as constituted under the laws of the state of Iowa.
52. Performance Bond - The bond executed by the Contractor and its surety in favor of the owner, guaranteeing the faithful performance of the contract and the payment of all debts pertaining to the work.
53. Plans (or Drawings) - The approved plans, profiles, typical cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, including modifications, altered plan, revisions, and amendments, which show the locations characters dimensions, and details of the work to be done.
54. Project - One or more correlated improvements which constitute the complete improvement of a designated park, recreational reserve, state monument, lake, reserve, game area, fish hatchery, parkway, or other area under jurisdiction of the Department of Natural Resources.
55. Project Engineer - The representative of the Department of Natural Resources, regardless of actual title, directly in charge of the work.
56. Proposal - The formal offer of a bidders on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.
57. Proposal Form - The approved form on which the Contracting Authority requires formal bids to be prepared and submitted for the work.
58. Proposal Guarantee - The security furnished by the bidder with his/her proposal for a projects as guarantee he/she will execute the contract for the work if the proposal is accepted.

59. Reasonably Close Conformity - Reasonably close conformity means compliance with reasonable and customary manufacturing and construction tolerances where working tolerances are not specified. Where working tolerances are specified, reasonably close conformity means compliance with such working tolerances. Without detracting from the complete and absolute discretion of the Engineer to insist upon such working tolerances as establishing reasonably close conformity, the Engineer may accept variations beyond such tolerances, as reasonably close conformity, where they will not materially affect value or utility of the work and the interest of the State.
60. Right-of-Way - The land area, the right to possession of which is secured or reserved by the Contracting Authority for road purposes.
61. Road - A general term denoting a public way for vehicular travel, including the entire area within the right-of-way.
62. Shop drawings - See "working drawings".
63. Special Provisions - Additions and revisions to the standard and supplemental specifications covering conditions peculiar to an individual project, method and manner.
64. Specifications - The requirements contained herein and in any supplemental specifications, or special provisions applying to the contract, and pertaining to the method and manner of performing the work, or to the quantity and quality of the materials to be furnished under the contract.
65. Specified Completion Date - The date specified in the proposal for completion of the work. After work has commenced or if the completion date is not specified, the last day of the contract period shall be the completion date.
66. Specified Starting Date - A calendar day shown on the proposal on which date commencement of the work is expected.
67. State - The State of Iowa acting through its authorized representative.
68. Station - One hundred lineal feet.
69. Subcontractor - Any individual, firm, or corporation to whom the Contractor, with the written consent of the Contracting Authority, sublets any part of the contract.
70. Superintendent - The Contractor's authorized representative in responsible charge of the work.
71. Supplemental Agreement - Written agreement between the Contractor and the Contracting Authority, modifying the original contract.
72. Surety - The corporation, partnership, or individual, other than the Contractor, executing a bond furnished by the Contractor.
73. Targeted Small Business - Any enterprise, located in the state of Iowa, which is operated for profits under a single management, and which is 51 percent owned, operated, and actively managed by one or more women or minority persons, and has been certified by the Iowa Department of Economic Development.
74. Unacceptable Work - Work not in reasonably close conformance with the contract requirements and ordered to be removed and replaced.
75. Unauthorized Work - Work neither contemplated by the contract documents nor authorized by the Engineer, and work done contrary to the instructions of the Engineer.
76. Work - Work shall mean the furnishing of all labor, materials, equipment, and other incidentals, as detailed in the plans, specifications, and by the Engineer, necessary or convenient to the successful completion of the project and the carrying out of all the duties and obligations imposed by the contract.

77. Work Order - A written order, signed by the Engineer, of contractual status, requiring performance by the Contractor without negotiation of any sort, and which may involve starting, resuming, or the suspension of work. (Not to be confused with extra work order.)
78. Working Day - Prior to commencement of work, beginning on the date designated in the notice to proceed or beginning on the specified starting date, or as soon thereafter as provided in the specifications, a day other than Saturday, Sunday, or another recognized legal holiday. Any weekdays exclusive of Saturdays, Sundays, or a recognized legal holidays on which weather or other conditions not under control of the Contractor, will permit construction operations to proceed for not less than 3/4 of a normal workday in the performance of a controlling item of work. If such conditions permit operations to proceed for at least 1/2 but less than 3/4 of the normal working hours, 1/2 of a working day will be counted. The days counted will exclude Saturdays, Sundays, and recognized legal holidays the Contractor does not work, but will include Saturdays, Sundays, and recognized legal holidays the Contractor does work. Nonproductive work that does not require inspection may be done on Saturdays with no time charged. Working days will not be charged for the day before or after a holiday when the contract documents specifically prohibit work and the Contractor does not work. Working days will not be counted during periods of suspension of work ordered by the Engineer, except when the suspension is a result of a violation of terms of the contract.
79. Working Drawings - Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data which the Contractor is required to submit to the Engineer for approval. Also referred to as "shop drawings". After approval by the Engineer the working drawings became a part of the plans.

PART 1101. INSTRUCTIONS TO BIDDERS

1101.01 GENERAL

- A. These instructions are intended to serve as a guide to the requirements with which the bidder must comply prior to and in submitting a proposal, including various "conditions" affecting the award of the contract. They do not in themselves inform the bidder of all the requirements that must be complied with under the contract.
- B. The time for bid openings shall be the prevailing Central Standard or Daylight Savings time in force at Des Moines, Iowa on the date set forth in the Notice to Bidders.
- C. Before submitting a bid, the bidder shall examine all the drawings and specifications enumerated in the table of contents of this project manual. The successful bidder will be required to do all the work that is shown on the drawings, mentioned in the specifications, or reasonably implied as necessary to complete this contract.
- D. The bidder shall visit and examine the site to become acquainted with the adjacent areas, means of approach to the site, conditions of the actual job site, and the facilities for delivering, storing, placing, and handling of materials and equipment.
- E. Failure to visit the site or failure to examine any and all contract documents will not relieve the successful bidder from the necessity of furnishing any materials or equipment, or performing any work that may be required to complete the work, in accordance with the drawings and specifications. Neglect of the above requirements will not be accepted as reason for delay in the work or additional compensation.

1101.02 DRAWINGS AND SPECIFICATIONS

- A. The drawing and specifications, which are part of this contract, are enumerated in the table of contents of this project manual.
- B. It is the responsibility of the bidder to examine the plans, proposal form, specifications, supplemental specifications, special provisions, the site of the works and the state of the work of other contractors on the project to assure that all requirements of the contract and the plans are fully understood. It is the bidder's responsibility to satisfy herself/himself as to the nature of the work and all reasonably ascertainable conditions that may affect his/her performance under the contract.

1101.03 INTERPRETATION

- A. Nonverbal explanation or instructions will be given in regard to the meaning of the drawings or specifications during the bid period. Bidders shall bring all inadequacies, omissions, or conflicts to the Engineer's attention, at least ten days before the date set for the bidding. Prompt clarification will be supplied to all bidders of record by addendum.
- B. Neither the Department of Natural Resources nor the Engineer will be responsible for verbal instructions.
- C. Failure to request clarification or interpretation of the drawings and specifications will not relieve the successful bidder of responsibility. Signing of the contract will be considered as an implicit indication that the Contractor has thorough understanding of the scope of the work and comprehension of the contract documents.

1101.04 CONTENTS OF PROPOSAL FORMS

- A. Bidders will be furnished with proposal forms stating the location and description of the proposed work, the approximate quantities of work to be performed or materials to be furnished, the form and amount of the required proposal guarantee, and the contract period.
- B. The statement, "By virtue of statutory authority, preference will be given to products, provisions grown and coal produced within the state of Iowa where applicable," which is on the face of the proposal form shall not be applicable to contracts involving Federal-aid participation in construction.
- C. The following bidding and letting regulations shall apply to all construction projects for which the Department receives bids.
 - 1. Contracts will be recommended for approval for award on the basis of the greatest total savings in the public interest. The determination of which projects are to be awarded will be based on the approval by the appropriate Commission or other contracting agency.
 - 2. Contractors shall not be permitted to tie projects or to designate on the bidding proposal the limit of the amount they will accept.

1101.05 PREPARATION OF PROPOSALS

- A. Only signed proposals, submitted on forms furnished by the Contracting Authority, will be considered, and the bidder will be assumed to have familiarized himself with the requirements of all applicable contract documents. To insure consideration, the bidder shall specify a unit price in figures for each pay item for which a quantity is given and shall also show the products for the respective unit prices and quantities, written in figures in the column provided for the purposes and the total amount of the proposal obtained by adding the amounts of the several items. All the unit price figures shall be in ink or typed. If there is a discrepancy between unit bid prices, extensions, or total amounts of bid, the unit bid prices shall govern.
- B. If the proposal is made by a partnership or corporations the name of the partnership or corporations its agents and its principal place of business shall be shown. The proposal shall be signed by an authorized agent of the partnership of corporation.

- C. If the proposal is made on the basis of a joint bid, the proposal shall be signed by each of the joint bidders, or in the case of a firm's partnerships or corporations by an authorized agent for such firm's partnerships or corporations and the principal place of business for each shall be shown.
- D. For work let by the DNR, the sworn affidavit on the proposal shall be executed by the bidder of an agent thereof, on behalf of each person, firm, association, partnership, or corporation submitting a proposal certifying that such person, firm, association, partnership, or corporation has not, either directly or indirectly, entered into any agreements participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contracts and is not under debarment currently by the Federal government for a criminal violation which is reasonably related to bidding and contracting procedures.
- E. The attention of the bidders for the work covered by a proposal and referred to as this work, is directed to the fact that contracts for work other than the work covered in this proposal may have been awarded, are being advertised for letting on the same date as this work, or may be awarded in the future.
- F. Completion of work covered by this proposal may be contingent upon certain work covered by other contracts being performed on the project in advance of this work, likewise, completion of work covered by other contracts may be dependent upon completion of work covered by this proposal.
- G. The contract documents will list types of work involving other contracts anticipated to be let on the same letting date or same time within the contract period anticipated for this work. The contract documents will also list other governmental agencies, railroads, utilities, or other parties who will have work with which it is known that this work must be coordinated.
- H. The bidder is expected to be familiar with work already in progress or previously let on this project, the contract periods, the progress being made, and any other conditions regarding that work which may affect his/her bid or his/her performance under this contract.
- I. Cooperation and coordination of all contractors and other agencies authorized to do work on the project will be required.
- J. The bidder for this work acknowledges these facts and agrees that it is in the public interest to have the work of certain contracts and agencies performed concurrently rather than consecutively. The bidder further agrees to cooperate and coordinate his work with that of other contractors or agencies to the mutual interest of all parties doing work on the project, whether by contract with the State, County, or City or necessary work being done by governmental agency or utility force.
- K. By the submission of a bid on this work the bidder acknowledges and agrees that an investigation and inquiry has been made regarding the contracts for work with which this work must be coordinated.
- L. In the event disputes arise between contractors or other agencies, or both, doing work on the project as to their mutual rights or obligations, the Contracting Authority or its authorized representative will, when requested to do so or upon his own motion, act as referee and define the rights of all interested parties with regard to the conduct of the work, which decision shall be final as provided in 1105.01.
- M. If a prospective bidder, for a project for which the Department is the Contracting Authority, is in doubt as to the true meaning of any part of the contract documents, he may submit to the Contracting Authority a request for additional information, explanations, or interpretations. Interpretations may be in the form of an addendum to the proposal. The Contracting Authority will not be responsible for any information, explanation, or interpretation from any other source.

1101.06 IRREGULAR PROPOSALS

- A. Proposals will be considered irregular and may be rejected for any unauthorized changes in the proposal form or for any of the following reasons:

1. If on a form other than that furnished by the Contracting Authority, or if the form is altered or any part thereof is detached.
2. If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning.
3. If the bidder adds any provisions reserving the right to accept or reject an award because he is low bidder on another project in the same letting,
4. If the bidder adds any provisions reserving the right to accept or reject an award or to enter into contract pursuant to an award.
5. If a bid on one project is tied to a bid on any other project, except as specifically authorized on the proposal form by the Contracting Authority,
6. If the proposal does not contain a unit price for each pay item listed, except in the case of authorized alternate pay items.

1101.07 ESTIMATE OF QUANTITIES

- A. For all work let on a unit price basis, the Engineer's estimate of quantities, as shown in the notice to bidders and the proposals is understood to be approximate only, and will be used only for comparing bids except as otherwise provided in the basis of payment for the various classes of work.

1101.08 SUBMISSION OF PROPOSALS

- A. All proposals shall be submitted on the standard proposal form prepared specifically for this projects an example of which is bound in this specification volume. One separate, unbound copy of the standard proposal forms which has been specifically prepared for this projects is supplied by the Department of Natural Resources with the contract documents. Only proposals which are submitted on this form will be considered.
- B. One copy of the proposal shall be submitted.
- C. No proposal for any subdivision or any subclassification of the work , except as indicated, will be accepted. Any conditional bid, amendment to the proposal form, or the inclusion of any correspondence, written or printed matter, or details of any essential provision of the contract documents, or required consideration of unsolicited material or data in determining the award of the contracts will disqualify the proposal.
- D. The bid amounts shall be inserted in the spaces provided on the proposal form, setting forth clearly and concisely, all designations and prices. Erasures or other changes on the proposal form must be explained or noted over the signature of the bidder.
- E. Addenda issued during the time of bidding shall become part of the contract documents. Bidders shall acknowledge receipt of each addendum in the appropriate space provided on the proposal form. If no addenda are issued, the word "none" is to be entered in the space provided.
- F. When samples are required, they must be submitted by the bidder so as to arrive at the designated office prior to the hour set for opening the proposals. Samples shall be furnished free of expense to the Department of Natural Resources, properly marked by identifications and accompanied by a list when there is more than one sample. The Department of Natural Resources reserves the right to mutilate or destroy any samples submitted whenever it may be considered necessary to do so for the purpose of testing. Samples not so mutilated or destroyed, when no longer required to be retained in connection with the award or delivery of supplies, will be returned at the bidder's expense, if such return is requested in the proposal.

- G. All proposals must have the affidavit portion of the proposal completed and notarized affirming that the bidder is not guilty of collusion or fraud in connection with his proposal.
- H. All proposals must state the full business address of the bidder and be signed with the bidders usual signature. Proposals by partnerships must state the full names of all partners and must state the name of the partnership followed by the signature and designation of one of the members of the partnership or an authorized representative. Proposals by corporations must state the legal name of the corporation and the name of the state of incorporation followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation to the proposal. Contractors are required to include the Iowa Contractors registration number assigned to them by the Iowa Division of Labor Services. The name of each person signing the proposal shall be typed or printed below the signature.
 - 1. A proposal by a person who affixes to their signature the word "president", "secretary", "agent", or any other designation without disclosing their principals may be held to be the proposal of the individual whose name is signed thereon. When requested by the Department of Natural Resources, satisfactory evidence of the authority of the officers signing in behalf of the corporation shall be furnished.
- I. The proposal, with the proposal guarantee, must be securely sealed in the special envelope furnished by the Department of Natural Resources with the contract documents, and plainly marked as to its contents on the outside of the envelope. The bidder shall be responsible for the sealed envelope being delivered to the place designated for the bid opening on or before the date and time specified in the notice to bidders. The officer whose duty it is to open the proposal will decide when the specified time has arrived. Proposals received thereafter will not be considered and will be returned unopened.
- J. No bidder shall submit more than one proposal for identical work for the same project.

1101.09 WITHDRAWAL OF PROPOSALS

- A. Proposals may be withdrawn by written or telegraphic request received from the bidder or authorized representative prior to the time fixed for opening of bids, without prejudice to the right of the bidder to file a new proposal. No proposals may be withdrawn by telephone request. Withdrawn proposals will be returned unopened. Negligence on the part of the bidder in preparing the proposal confers no right for withdrawal of the proposal after it has been opened.

1101.10 TAXES

- A. The bidder shall include in the proposal all applicable federal and state taxes required by law. See Sales Tax Exemption below.
- B. For the purposes of retail sales tax and use tax, general construction contractors, special construction contractors, and construction subcontractors are regarded as consumers or users of all tangible personal property which they purchaser acquire, or manufacture for use in complying their respective construction contracts.
- C. Iowa retailers making sales, within the state of Iowa, of tangible personal property to a construction contractor for such use, are making sales at retail, the receipts of which are subject to retail sales tax. This means that a construction contractor should pay retail sales tax to his Iowa suppliers when purchases of tangible property are made within the state of Iowa. If a Contractor uses tangible personal property in completing the constructions which the Contractor has manufactured or fabricated, the tax will be 5% of the cost of manufacture.
- D. This likewise means that any construction contractor purchasing, acquiring, or manufacturing tangible personal property outside the state of Iowa, for such use in Iowa, owes use tax on such out-of-state purchases, measured at the rate of 5% of the purchase prices or in the case of a product manufactured by the Contractor, the Contractor owes 5% of the cost of manufacture.

- E. The use tax is to be paid by the Contractor directly to the Iowa Department of Revenue and Finance, using the retailers sales and use tax return, unless the out-of-state vendor from whom purchased is registered with the Use Tax Section of the Iowa Department of Revenue and does bill and collect the Iowa Use Tax for the state.
- F. In accordance with Iowa Code Section 442.42 (15) & (16) and 422.47 (5), the DEPARTMENT will issue a Sales Tax Exemption Certificate to CONTRACTOR and each approved contractor which will permit the material suppliers to sell material which will becomes an integral part of the structure exempt from Iowa sales tax and some applicable local option taxes and school infrastructure local option sales taxes.
- G. The CONTRACTOR is responsible for keeping records identifying the materials and supplies purchase and verifying they were used as an integral part of the structure governed by this Contract. Any material purchased tax free and not used on this project are subject to taxes payable within the same quarter as the project completion date.
- H. The Sales Tax Exemption Certificate must not be used to claim exemption for tax items not used on this project or thst do not qualify for exemption under the provisions of the Iowa Code Sections listed above. Such misuse will result in civil or criminal penalties.
- I. Bidders should enticipate that the sale and use tax couild increase the cost of non-exempted services and material by at least 5% andmake the necessary llowance before submitting a bid.
- J. The Department will reclaim sales taxes, after receiving a Contractor's Statement of Sales Tax for those projects for which a Tax Exemption Certificate was not issued.

1101.11 WORK BY THE DEPARTMENT OF NATURAL RESOURCES

- A. Unless specifically provided in the contracts the Department of Natural Resources will not furnish any labor, materials, or supplies necessary to complete the work under this contract.

1101.12 PREFERENCE FOR LABOR AND MATERIALS

- A. The Contractor shall observe all of the laws of the state of Iowa with regard to preference for labor and materials, except that preference for Iowa labor and materials shall not apply when federal funding is to pay for any part of the project. When a project is federally funded it is indicated in the notice to bidders.

1101.13 PROPOSAL GUARANTEE

- A. All proposals submitted by bidders must be accompanied by a proposal guarantee in the form of a certified check, cashier's check, or a proposal guarantee bond prepared on the standard proposal guarantee bond form furnished to the bidder by the Department of Natural Resources, an example of which is bound in this specification volume.
 - 1. The proposal guarantee shall be made payable to the Department of Natural Resources in the amount specified in the notice to bidders and on the proposal form.
 - 2. If the bond form is utilized in lieu of certified check or cashier's checks it must be executed by a surety company authorized by the Commissioner of Insurance for the state of Iowa to do business in Iowa and which has filed its certificate of authority with the Clerk of Court. One copy of the proposal guarantee bond form is furnished by the Department of Natural Resources with the contract documents. Only one executed copy must be submitted with the bid proposal.
- B. Any bid which is not accompanied by a proposal guarantee will be considered no bid and will not be read at the bid opening.
- C. All proposal guarantees submitted by unsuccessful bidders will be returned as stated in Section 1103.03 of the General Covenants and Provisions.

1101.14 AWARD OF THE CONTRACT

- A. Award of this contract will be at the place and at the time of the first regularly scheduled meeting of the appropriate commission of the Department of Natural Resources following the opening of the proposals, except for reasonable delays as provided in Section 1103.02 of the General Covenants and Provisions.
- B. The Department of Natural Resources reserves the right to reject all bids or any proposal or to waive informalities in any proposal or to accept any proposal which will best serve the interests of the state of Iowa.
- C. If, at the time this contract is to be awarded, the lowest proposal submitted by a qualified responsible bidder is in the best interest of the state of Iowa, the contract will be awarded, and the bidder to whom the award is made will be promptly notified after the Department of Natural Resources meeting.

1101.15 EXECUTION OF THE CONTRACT

- A. The successful bidder shall, within thirty calendar days after the date of the award of the contract, enter into a written contract with the Department of Natural Resources on the forms furnished by the Department for the performance of the awarded work.

1101.16 PERFORMANCE GUARANTEE BOND

- A. Simultaneously with delivery of the signed contracts, the Contractor shall furnish a performance guarantee bond prepared on the standard performance guarantee bond form furnished to the Contractor by the Department of Natural Resources, an example of which is bound in the specification volume.
 - 1. The bond must be executed by a surety company authorized by the Commissioner of Insurance of the State of Iowa to do business in Iowa and which has filed its Certificate of Authority with the Clerk of Court.
 - 2. A copy of the performance guarantee bond form will be attached to a copy of the contract furnished by the Department of Natural Resources to the Contractor after award of the contract. One executed copy of the bond must be returned to the Department of Natural Resources with the signed contract, one copy of the bond may be retained by the surety company for its own records.

1101.17 CERTIFICATE OF INSURANCE

- A. On or before execution of the contracts the Contractor shall furnish to the Department of Natural Resources a certificate of liability and property damage insurance.
 - 1. The bidder is directed to examine the insurance coverage limits section of this specification volume to determine the coverage limits which apply to this project. Insurance certificates furnished to the Department of Natural Resources showing inadequate limits of coverage will be rejected, thus delaying final execution of the contract. See Sections 1103.04, 1107.02, and 1107.03 of the General Covenants and Provisions.

1101.18 COMMENCEMENT AND COMPLETION

- A. The Contractor shall not commence work before the preconstruction meeting to be held after execution of the contract by all parties. The Contractor will be responsible for contacting the project Inspector to set up a time for the preconstruction meeting at the project site.
- B. The Contractor must agree to complete the work by the date specified, or within the number of working days indicated if so specified in the contract. Should it be found impossible to complete the work on or before the time specified for completion, a written request may be submitted for a time extension, setting forth the reasons believed to justify the granting of such requests.

PART 1102. BIDDER QUALIFICATIONS

1102.01 COMPETENCY AND OF BIDDERS

- A. Bidders submitting proposals must be recognized contractors, engaged in the class of work provided for in the plans and specifications, and must possess sufficient resources to complete the work. Before the contract is awarded, the bidder may be required to furnish evidence to the satisfaction of the Contracting Authority of the ability to perform and complete the contract.

1102.02 QUALIFICATIONS OF THE BIDDER

- A. Before award of the contract can be approved, the Department of Natural Resources shall be satisfied that the bidder involved:
 - 1. Maintains a permanent place of business.
 - 2. Has adequate equipment to do the work properly and expeditiously.
 - 3. Has suitable financial status to meet the obligations incident to the work.
 - 4. Has appropriate technical experience.
 - 5. Has satisfactorily completed past projects.
 - 6. Is not ineligible due to discrimination in employment.
- B. The Engineer will make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Engineer all such information and data for this purpose as the Engineer may request.
 - 1. The Department of Natural Resources reserves the right to reject a bid if the evidence submitted by, or an investigation of, such bidder fails to satisfy the Department of Natural Resources that the bidder is responsible and qualified to carry out the obligations of the contract and to complete the work contemplated therein.
- C. Targeted small business set-aside projects.
 - 1. All contractors submitting proposals for set-aside projects shall meet the "Targeted Small Business" definitions and be capable of being certified by the Department of Economic Development within thirty (30) days after the bid letting date. Failure of the low bidder to become certified within this time will be just and sufficient cause for the denial of the award.
 - 2. Contractors eligible for "Targeted Small Business" designation but not currently certified as such by the Department of Inspections and Appeals, should do so immediately by contacting the Targeted Small Business Officer, Lucas State Office Building, Des Moines, Iowa 50319 -0083.

1102.03 REDUCTIONS IN BIDDER QUALIFICATIONS RESTRICTIONS

- A. The requirements and conditions for bidder qualifications may be reduced by the Contracting Authority either for contractors who have well established performance records in other fields or for contractors having adequate financial responsibility and experienced supervisory personnel available for the work that is under consideration or for both the above reasons.
- B. Likewise, the requirements may be modified by the Contracting Authority for newly formed or reorganized firms or corporations whose basic organization is composed of individuals who are veterans of the construction industry, with proven records of satisfactory performance in the field in which they have elected to bid, provided, however, that they have adequate financial responsibility, equipment, and available experienced supervisory personnel.

1102.04 IMPOSITION OF INCREASE IN BIDDER QUALIFICATION REQUIREMENTS, SUSPENSIONS AND DISQUALIFICATION

- A. The requirements and conditions for bidder qualification in 1102.01 may be imposed or re-imposed or increased, or a contractor may be suspended or disqualified.
- B. The requirements and conditions for qualifications of a contractor may be imposed or re-imposed or increased if or when:
 - 1. The Contractor seriously delays commencement or completion of any work within the contract period or any extension thereof under circumstances that would normally give rise to a right of the Contracting Authority for liquidated damages or declaration of defaults or;
 - 2. The Contractor does any act or omits doing or performing any act which, in the judgment of the Contracting Authority, evidences a material change in the contractor's financial responsibility or work capability where, in the judgment of the Contracting Authority, the same will materially prejudice the contractor's ability to successfully prosecute such public improvement contracts, or he knowingly submits false information concerning prequalification, or;
 - 3. The Contractor takes or fails to take any action which the Contracting Authority deems to warrant an imposition of increase in bidder qualification requirements.
- C. A contractor may be suspended from bidder qualification if or when:
 - 1. The Contractor continually fails or refuses to remove and replace materials or work found by the Engineer not to be in reasonably close conformity with the contract documents or to correct such material or work so as to cause such materials or finished product to be reasonably acceptable work, or;
 - 2. The Contractor continually and, in the judgment of the Engineer, without good cause therefor, fails to carry on the work in an acceptable manner, or refuses to comply with a written order of the Engineer within a reasonable time, or;
 - 3. The Contractor fails to perform with his own organization the work as required in 1108.01, or otherwise assigns or disposes of work or the contract or any part thereof without approval of the Contracting Authority, or;
 - 4. The Contractor forfeits a proposal guaranty and fails to enter into the contract upon an offer of award by the guarantee Contracting Authority in response to a prior advertisement for bids for the same project for which award is currently being considered, or;
 - 5. The Contractor fails to comply with nondiscrimination requirements of the Standard Specifications or special provisions, or;
 - 6. The Contracting Authority deems a suspension is appropriate for reasons stated in Paragraph A, above.
 - 7. The Contractor is debarred from doing work for the federal government.
 - 8. The Contractor knowingly submitted false or misleading information concerning qualifications.
- D. A suspension is intended to be for an indefinite period of time or, in the case of Paragraph C4, for a specific project. A suspension shall continue until the contractor resolves, to the satisfaction of the Contracting Authority the problem for which the suspension was made.
- E. A contractor may be disqualified from bidder qualification if or when:
 - 1. Currently debarred by some other state or Federal agency, or;
 - 2. Subcontracts, employs, or otherwise uses services, for work of the Contracting Authority, of one who is debarred by the Contracting Authority or disqualified according to Paragraph 1, except to fulfill agreements for work on existing contracts, or;

3. Is convicted of or pleads guilty or nolo contendere to a charge of engaging in any conspiracy, combination, or other unlawful act in restraint of trade or of similar charges in any Federal court or a court of this or any other state, or;
 4. Has offered or given gifts or gratuities to employees of the Contracting Authority in violation of State law or has had as his employee a person who was at that time also an employee of the Contracting Authority, or
 5. The Contracting Authority deems a disqualification is appropriate for reasons stated in Paragraph C. above.
- F. A disqualification is intended to be for a specified time. A disqualification shall not exceed 36 months. The Contracting Authority will issue a written notice of any intent to disqualify or suspend a contractors except when suspended for a specific project according to Paragraph C4.
- G. Should the Contractor believe that the increase in bidder qualification requirements, intended suspensions or intended disqualification is based on false, biased, or incomplete information or that the increase or intended action is severe or unwarranted, the Contractor may make a written request to the Contracting Authority for an opportunity to be heard in a contested case pursuant to Chapter 17A, Code of Iowa.
1. If notice is given, the written request for a hearing must be filed with the Contracting Authority within 10 days of receipt of the notice of intended agency action.
 2. If the basis of the intended disqualification is a criminal violation which is reasonably related to bidding and contracting procedures, the intended disqualification may be applied to the organization, including a person, firm, association, partnership, or corporation, to an affiliated officer, representative, or employee thereof, and to any other such organization in which the organization or affiliate or the officer, representative, or employee has an interest as either officer or owner.
- H. When a notice is given or when any action is contested, the Contracting Authority will issue a notice of the final action taken.

1102.05 FOREIGN CORPORATIONS

- A. Before entering into a contract involving construction or maintenance work, corporations organized under the laws of any other state shall file with the Contracting Authority a certificate from the Secretary of State of the State of Iowa showing that they have complied with all of the provisions of Chapter 404 Code of Iowa, governing foreign corporations. For contracts involving only the furnishing of materials, the foregoing requirement does not apply.
- B. When a contract not involving federal-aid participation for a public improvement is to be awarded to the lowest responsible bidder, a resident bidder shall be allowed a preference over a nonresident bidder from a state or foreign country which gives or requires a preference to bidders from that state or foreign country. The preference is equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident.
- C. If another state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable to bidders from that state or foreign county.
- D. Any joint venture that includes a nonresident bidder will be considered nonresident, and the preference rule will be used.

1102.06 INCOME TAX DEDUCTION ON NON-RESIDENT CONTRACTORS

- A. Each nonresident person or firm doing business as an individual and each nonresident co-partnership will be required, as precedent to receiving an award, to file a certificate issued by the State Tax Commissions as

provided in Section 422.17, Code of Iowa, releasing the Contracting Authority from withholding any and all sums required by the provisions of Section 422.17, Code of Iowa.

PART 1103. APPROVAL FOR AWARD AND AWARD OF THE CONTRACT

1103.01 CONSIDERATION OF BIDS

- A. The Contracting Authority reserves the right to waive technicalities and to reject any or all proposals. Bidders may be denied a contract award for any one of the following reasons:
1. For failure to meet the Contracting Authority's requirements for qualification of bidders, as set forth in Section 1102.02 and in the special provisions for the project.
 2. For failure to maintain satisfactory progress on work already under contract.
 3. For failure to meet promptly financial obligations undertaken in connection with other work under contract.
 4. For filing more than one proposal at any letting for the same work under the same or different names.
 5. For an unsatisfactory record of performance and cooperation on previous contracts.
 6. For submitting an obviously unbalanced bid.
 7. For having sublet or otherwise assigned work without the approval of the Contracting Authority.
 8. For forfeiture of a proposal guarantee and failure to enter into contract upon an offer of an award by the Contracting Authority in response to a prior advertisement for bids for the same project or any combination of projects involving the project for which award is currently being considered.
 9. For failure to file and maintain with the Contracting Authority a current Certificate of Insurance meeting the requirements of 1107.02.
 10. For failure to provide a current Iowa contractor's registration number according to the provisions of Chapter 91C of the Code of Iowa.

1103.02 APPROVAL FOR AWARD

- A. In the approval for award of contracts consideration will be given not only to prices bid but also to the mechanical and other equipment available to the bidders the financial responsibility of the bidders and his ability and experience in performance of like or similar contracts.
- B. Approvals for award will be made as promptly as practical after bids have been opened and read. The Contracting Authority reserves the right to delay the approval for award for such time as is needed for consideration of bids and for receipt of concurrence in recommended approvals for award from other governmental agencies whose concurrence may be required.

1103.03 RETURN OF PROPOSAL GUARANTEE

- A. Proposal guaranties will be returned to the unsuccessful bidder by mail promptly after the approval for award has been made. Return to the successful bidder will be made promptly after the filing of the contract documents.

1103.04 CERTIFICATE OF INSURANCE

- A. The Contractor's certificate of liability and property damage insurance described in 1107.02 shall be filed with the Contracting Authority on or before the execution of the contract and shall be maintained

throughout the prosecution of the work and until final acceptance and completion of the contract. A separate verification shall be required for contracts awarded on the basis of joint bids.

1103.05 REQUIREMENT OF CONTRACT BOND

- B. In compliance with Section 573 of the Code of Iowa, the Contractor shall, at the request of the Contracting Authority, on all contracts amounting to five thousand (\$5,000.00) dollars or more, file an acceptable bond in an amount not less than 100 percent of the contract sum with the Contracting Authority.
 - 1. The bond shall be executed in quadruplicate on the standard form of the Contracting Authority. This bond shall be held to cover all work included in the contracts whether performed by the Contractor or under a subcontract or assignment. The bond shall be executed by the Contractor and by a surety company authorized to do business in the state of Iowa.
 - 2. The Contractor shall not begin work on any contract before he is notified, in writing, that the required bond has been approved and accepted, or until the signed contract is returned to him.
- C. Prime contractors that are certified through Iowa Department of Economic Development as a targeted small business may request a performance bond waiver.
 - 1. The waiver shall be applied only to a prime contract where the project does not exceed \$50,000.00, not withstanding Section 573.2 of the Iowa Code.
 - 2. The waiver shall only apply to those contractors which are able to demonstrate the inability of securing a bond because of a lack of experience.
 - 3. A waiver shall not apply to business with a record of repeated failure of substantial performance or material breach of contract in prior circumstances. The granting of a waiver shall in no way relieve the business from its contractual obligations and shall not preclude the Contracting Authority from pursuing any remedies under the law upon default or breach of contract.

1103.06 EXECUTION OF CONTRACT

- A. The bidder to whom a contract is being awarded shall execute and file four copies of such contract with the Contracting Authority.

1103.07 FAILURE TO EXECUTE CONTRACT

- A. Unless the time limit is modified by special provisions failure to execute a contract and file an acceptable bond within 30 days of the date of the approval for awards herein provided, will be just and sufficient cause for annulment of the approval for award and for forfeiture of the proposal guarantee to the Contracting Authority.

1103.08 SUBCONTRACTORS

- A. The bidder to whom a contract is being awarded shall file a list of subcontractors and a copy of each subcontract with the Contracting Authority within 30 days of the date of the approval for award. All subcontracts must comply with the provisions of 1106.01.

1103.09 MATERIAL SUBSTITUTION

- A. The bidder to whom a contract is being awarded shall file all requests for materials substitutions within 30 days of the approval of award of the contract.

PART 1104. SCOPE OF WORK

1104.1 INTENT OF PLANS AND SPECIFICATIONS

- A. The intent of the plans and specifications is to provide for the construction and completion of every detail of the work described therein. It shall be understood that the Contractor shall furnish all labor, material, tools, transportation, and supplies required for all or any part of the work to make each item complete in accordance with the spirit of the contract. It is understood that the apparent silence of the specifications as to any detail or the apparent omission of a detailed description concerning any point shall be regarded as meaning that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used.
- B. For the purpose of design and the preparation of the Engineer's estimate, the Contracting Authority or its representatives may perform a reasonable amount of exploratory work to gain information relative to surface and subsurface conditions relating to types of soils moisture content, and types and extent of rock strata.
 - 1. This information, when shown on the plans, represents a summary of conditions as of the date the survey was made, it is only an approximate estimation of the site conditions made merely to be suggestive to the Contracting Authority of construction conditions and quantities and classes of work. This information may be used as the bidder sees fit. The appearance of this information on the plans or specifications will not constitute a guarantee that conditions other than those indicated will not be encountered at the time of construction.
 - 2. The bidder is advised that all information concerning the project, compiled by the Contracting Authority preceding the design, is available for examination at the Contracting Authority's headquarters. The prospective bidder shall conduct an examination as provided in 1102.06 to satisfy himself as to the character of the work to be done, the probable construction conditions, and any other reasonably ascertainable conditions and the potential effect these could have on the performance of work under the contracts which shall be the basis for the bid to be prepared.
- C. Any bidder interested in the work is authorized to make whatever additional investigation he consider advisable. In making such additional investigation, the bidder is directed to the Engineer for information relating to available right-of-way. If there are, at that time, any parcels of land over which the Contracting Authority does not have jurisdiction, right of entry must be secured by the prospective bidder from those authorized to grant such permission.
 - 1. All such additional investigation work shall be performed without costing or obligating the Contracting Authority in any way.

1104.02 SPECIAL WORK

- A. Any conditions not covered by these standard specifications are stated in the special provisions.

1104.03 INCREASED OR DECREASED QUANTITIES

- A. The Contracting Authority reserves the right to make such increase or decrease in the quantities of the work shown on the plans as may be considered necessary to complete fully and satisfactorily the construction included in the contract. The compensation to the Contractor for such changes will be as provided in 1109.04.
- B. Except as provided in 1109.05, no significant change in quantities, as defined in 1109.17, shall be made by increasing or decreasing the project area to be improved as shown on the plans and described in the proposal forms unless the Contractor gives written consent to such increase or decrease. However, such consent will not be required for maintenance or restoration work ordered by the Engineer.
 - 1. For the purpose of this article a material change shall be defined as an increase or decrease of more than 20 percent in the measured quantity of any item in the contract.

1104.04 EXTRA WORK

- A. The Contracting Authority reserves the right to order, in writing, the performance of work of a class not contemplated in the proposal but which may be considered necessary to complete satisfactorily the work included in the contract. Such extra work will be paid for as provided in 1109.04B.

1104.05 MAINTENANCE OF DETOURS

- A. Unless so required by the plans or the special provisions, the Contractor will not be required to assume any responsibility in connection with the maintenance or marking of suitable detours.

1104.06 REMOVAL AND DISPOSAL OF STRUCTURES AND OBSTRUCTIONS

- A. The contractor for bridge and culvert work shall remove any existing structure, or part of structure, that in any way interferes with the new construction. If specific payment for such work has not been provided in the contract, it will be paid for as extra work.
- B. The contractor for road work shall remove any materials or structures found on the right-of-way which are not designated to remain in place or which have not been designated for use in the new construction.
 - 1. The removal and disposal of pipe culverts will not be paid for directly but shall be considered as incidental works and the cost of such removal and disposal shall be considered to be included in the contract price for other items. Pipe culverts designated for salvage shall be removed by methods that will cause a minimum of damage to the pipe culverts.
 - 2. The removal and disposal of bridges or other masonry or monolithic concrete construction will be paid for. If the contract does not contain an item for such work, it will be paid for as extra work.

1104.07 RIGHTS IN AND USE OF MATERIALS FOUND ON THE RIGHT-OF-WAY

- A. Unless stated to the contrary in the contract documents, all materials, such as stone, gravel, sand, timber, and structures or parts of structures, found on the right-of-way or on land acquired for the work, are the property of the Contracting Authority or the owner of the fee title to the land.
 - 1. If such materials are to be removed but use or salvage is not designated on the plans, they shall become the property of the Contractor, and shall be disposed of by the Contractor.
 - 2. When the Contractor is permitted to use materials found on the right-of-way, any excavations that are made below the grade elevations shall be backfilled with other suitable materials so that the finished road conforms to the grade shown on the plans. No extra compensation will be allowed for such backfilling.

1104.08 FINAL CLEANING UP

- A. Before final acceptance of the work, the Contractor shall remove all unused material and rubbish from the site of the work, remedy any objectionable conditions the Contractor may have created on private property, and leave the project site in a neat and presentable condition. The Contractor shall make no agreement which allows salvaged or unused material to remain on private property within view of the project except when consistent with previous land use.
- B. All ground occupied by the Contractor in connection with the work, which is within view of or adjacent to a road, shall be restored. Restoration shall include appropriate smoothing to its original condition and may include making the area suitable for cultivation and, where vegetation has been disturbed, seeding of the area.

1. Unless otherwise provided for, the Contractor shall be responsible for securing waste privileges on private property. The general Contractor shall be responsible for cleanup of subcontractors at the completion of all work.
- C. This article is not intended to restrict burning in accord with applicable regulations.
- D. Final clean up shall be subject to approval of the Engineer.

1104.09 RIGHT-OF-WAYS OR LANDS ACQUIRED FOR THE WORK

- A. Access to the construction site will be over designated routes of travel, on land owned or made available by the Contracting Authority for the specific use of the Contractor.
- B. Right-of-way or lands will be provided without cost to the Contractor, and it is contemplated that all of the needed right-of-way or lands will have been acquired for the work placed under contract.
 1. Whenever it is necessary to secure additional right-of-way or land, performance of the work affected thereby is contingent upon the securing of such right-of-way or land. No claims will be allowed for loss or damage occasioned by delays in securing right-of-way or lands.

1104.10 PERMITS AND ARRANGEMENTS WITH OTHER GOVERNMENTAL AGENCIES

- A. Whenever the work involves construction with which federal, state, or local governmental agencies are concerned, the performance of the work is contingent on arrangements and/or permits with those concerned agencies.
 1. The Contracting Authority shall secure all necessary permits, certificates, and licenses required to prosecute the work, except specifically designated permits, local building permits, and any cost for inspections required by local authorities, which shall be paid for and secured by the Contractor.
 2. No additional compensation will be allowed for any delays, inconvenience, or damages sustained by the Contractor due to actions of those concerned agencies with respect to any arrangements or permits they may require.

1104.11 RAILROAD CROSSINGS

- A. Whenever the work involves construction with which railroad companies are concerned, the performance of the work is contingent upon arrangements with the railroad companies for the proposed construction.
 1. The performance of the work shall be in accord with arrangements established by the Contracting Authority. The Contractor may make additional arrangements.
 2. No claim will be allowed for loss or damage caused by failure of the railroad to comply with provisions of the agreement with the Contracting Authority. Upon notice given, the Contracting Authority will institute necessary legal action to enforce the conditions of its agreement with the railroad company.

1104.12 PUBLIC UTILITIES

- A. The Contracting Authority will notify all utility companies, all pipeline owners, or other parties affected, and will endeavor to have all necessary adjustments of the public or private utility fixtures, pipelines, and other appurtenances within or adjacent to the limits of construction made as soon as practicable.
- B. The Contractor shall be responsible for notification concerning work near pipelines, required by Section 479.47, Code of Iowa, and for conducting his work as required therein.

- C. Waterlines, gaslines, wirelines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cableways, signals, and all other utility appurtenances within the limits of the proposed construction which are to be relocated or adjusted are to be moved by the owners at their expense, except as otherwise provided for in the special provisions or as noted on the plans.
- D. It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utility appurtenances in their present or relocated positions as shown on the plans and that no additional compensation will be allowed for any delays, inconvenience, or damage sustained by him/her due to any interference from the utility appurtenances or their operation or relocation.

1104.13 DRAWINGS AND SPECIFICATIONS

- A. Unless otherwise provided in the contract documents the Contracting Authority shall furnish to the Contractor, awarded the contract, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the work.

1104.14 THE CONTRACTING AUTHORITY'S RIGHT TO OCCUPY

- A. The Contracting Authority shall have the right to enter the building or work site and store or attach such fixtures or furniture as it may elect, or to do such other work providing that such storage or work will not interfere with the completion of the Contractor's work. Such occupancy by the Contracting Authority shall in no way imply final acceptance of any portion of the Contractor's work.

1104.15 CONTRACTOR'S UNDERSTANDING

- A. It is understood and agreed that the Contractor has, by careful examination, satisfied him/herself as to the nature, character and location of the work, conformation of the ground, character, quality and quantity of the materials to be encountered, character of the equipment and facilities needed, preliminary to and during the prosecution of the work, general and local conditions and all other matters which can in any way affect the work under this contract. No verbal agreement or conversation with any officer, agency, or employee of the Contracting Authority, either before or after the execution of the contracts shall affect or modify any of the terms or obligations herein contained.

1104.16 HISTORICAL AND ARCHEOLOGICAL

- A. If during the course of construction evidence of deposits of historical or archeological interest is found, the Contractor shall cease operations affecting the find and shall notify the Iowa Department of Natural Resources and the state Historic Preservation Officer. No further disturbance of the deposits shall occur until the contractor has been notified by the agency that he/she may proceed. The agency will issue a notice to proceed only after the state official has surveyed the find and made a determination to the Iowa Department of Natural Resources.
- B. Compensation to the contractor, if any, for lost time or changes in construction to avoid the finds shall be determined in accordance with changed conditions or change order provisions of the specifications.

PART 1105. CONTROL OF WORK

1105.01 AUTHORITY OF ENGINEER

- A. The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work, all disputed and mutual rights between contractors, all plans and specifications, and all questions as to the acceptable fulfillment of the contract on the part of the Contractor. Except as provided in Section 1109, the Engineer's decisions will be final.
- B. For authority to temporarily suspend work see 1105.08 and 1108.06.

1105.02 PLANS

- A. The official plans, profiles, and cross sections, on file in the office of the Contracting Authority, show the location, typical construction details, and dimensions of the work contemplated. The work shall be performed in conformity therewith, except in case of error or unforeseen contingency.
- B. The plans are made from careful surveys and represent the foreseen construction requirements. Any appreciable deviation from the plans made necessary to expedite construction, or because of errors shall be called to the attention of the other party, in writing, by the party discovering such conditions. If necessary, revised plans will be provided.

1105.03 WORKING DRAWINGS

- A. The plans will be supplemented by such working drawings as are necessary to adequately control the work. Working drawings shall be furnished by the Contractor, as required by the specifications or the plans.
 - 1. When certification by a professional structural or civil engineer registered in Iowa is required, it will be so designated on the plans or in other contract documents.
 - 2. Working drawings may include shop drawings of fabricated materials, erection plans, falsework plans, cofferdam plans, or other supplemental plans or data. Contractor submitted shop drawings for steel structures shall show fully detailed dimensions and sizes of all component parts of the structure, descriptions of drains, etc.
 - a. Prior to review of working drawings, any work done or material ordered shall be at the Contractor's risk.
 - 3. The Contractor shall expressly understand that the Contracting Authority's review of working drawings submitted by the Contractor covers only requirements for strength and arrangement of component parts.
 - 4. The Contracting Authority assumes no responsibility for errors in dimensions and assumes the Contractor will use material complying with requirements of the contract documents, or, where not specified, those of sound and reasonable quality, and will erect the subjects of such working drawings in accord with recognized standards of first-quality workmanship or, when specified, in accordance with standards of the contract documents.
 - 5. If unanticipated and either unusual or complex construction procedures or site conditions occur, the Engineer may require the Contractor to submit such working drawings as, in the judgment of the Engineer, are necessary to satisfactorily complete the proposed construction.

1105.04 ALTERATION OF PLANS OR CHARACTER OF WORK

- A. The Engineer will have the right to make alterations in plans or character of work as may be considered necessary or desirable during the progress of the work to satisfactorily complete the proposed construction. Such alteration will neither waive any conditions of the contract nor invalidate any of the provisions thereof.

1105.05 CONFORMITY WITH AND COORDINATION OF SPECIFICATIONS, PLANS AND SPECIAL PROVISIONS

- A. Discrepancies within contract documents:
 - 1. In case of any discrepancy between the drawings on the plans and the figures written thereon, the figures, unless obviously incorrect, are to govern.

2. In case of any discrepancy between the plans, including plan notes, and the general or supplemental specifications, the plans are to govern.
 3. In case of a discrepancy between the general specifications and supplemental specifications, the supplemental specifications are to govern.
 4. In case of any discrepancy between the general or supplemental specifications and the special provisions or between the plans and the special provisions, the special provisions shall govern.
- B. The Contractor shall not take advantage of any apparent error or omission in the plans, specifications, or of any discrepancy between the plans or specifications. The Engineer shall be permitted to make such correction in interpretation as may be deemed necessary for the fulfillment of the intent of the plans and specifications, subject to compensation as provided in 1109.03, 1109.05, and 1109.06.
- C. The plans shall not be so changed as to materially affect the cost or the difficulty of performing any item or work for which the contract amount is more than 20 percent of the total contract sum, except with the consent of the Contractor.
- D. All work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the plans or indicated in the specifications.
- E. If the Engineer finds the material, or the finished product in which the material, is used is not within reasonably close conformity with the plans and specifications, but that reasonably acceptable work has been produced, the Engineer shall determine, based on engineering judgment, if the work shall be accepted and remain in place.
1. In this events the Engineer will document the basis of acceptance and supplement it by contract modification which will provide for an appropriate adjustment in the contract price for such work or materials as deemed necessary to conform to the Engineer's determination.
- F. If the Engineer finds the material, the finished product in which the material is used, or the work performed is not in reasonably close conformity with the plans and specifications and has resulted in an inferior or unsatisfactory product, the work or material shall be considered unacceptable and shall be removed and replaced, or otherwise corrected, as acceptable to the Engineer, by and at the expense of the Contractor.

1105.06 SUPERVISION BY CONTRACTOR

- A. The Contractor, when absent from the construction site, shall have on site at all times, as its agent, a competent superintendent, capable of reading and thoroughly understanding the plans, specifications, and other contract documents and who shall be thoroughly experienced in the type of work being performed.
1. The superintendent shall supervise, direct, and control the Contractor's operations, personnel, work, and subcontractor's operations. The superintendent shall have full authority to execute orders or directions of the Engineer, without delays, and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required.
 2. The Contractor shall give the Engineer written notification of the name of the superintendent. The superintendent shall not be replaced, except with the consent of the Engineer, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in the Contractors employ.

1105.07 CONSTRUCTION STAKES AND BENCH MARKS

- A. If there is no provision in the Contract documents for a Construction Survey Bid Item, the Engineer will set the necessary centerline, slopes and grade stakes promptly upon notification by the Contractor that stakes are needed, unless otherwise noted on the Plans.

- B. For all structures, unless otherwise noted on the Plans, the Engineer will set stakes for centerline and such other stakes as are necessary to establish definitely, the location, elevations, and alignment of the structure. Every reasonable precaution will be taken by the Engineer and his technical assistants to insure that the construction stakes and/or computations are true and accurate, but the Contractor shall ensure that no gross error exists before beginning operations. Should such mistakes or errors be allowed to exist, and work completed on erroneous data, the Contractor will be held responsible to remedy the work to conform to the correct lines, grades, or standards without expense to the Contracting Authority or the Engineer.
- C. The Contracting Authority shall not be responsible for delays due to lack of grade or line stakes, unless the Contractor has given the Engineer 48-hour written notice that such stakes will be needed, and the Contractor's work is being conducted in a satisfactory manner and at the specified rate of progress.
- D. The Contractor shall be held responsible for the preservation of stakes and marks. If, in the opinion of the Engineer, any of the survey stakes or marks have been carelessly or willfully destroyed or disturbed by the Contractor, the cost of replacing them shall be charged against the Contractor.
- E. The Contractor shall provide and keep constantly upon the work site, first-class instruments for use in establishing the various lines, levels and grades for the construction and shall have a superintendent on the work who is thoroughly familiar with their use. The Contractor shall provide and maintain a permanent bench mark at the construction site for the use of mechanics and other subcontractors.

1105.08 AUTHORITY AND DUTIES OF INSPECTOR

- A. The Contracting Authority may appoint inspectors to represent the Engineer in the inspection of all materials used in and all work done under the Contract. Such inspection may extend to any part of the work and to preparation or manufacture of materials to be used.
 - 1. The inspector will not be permitted to modify in any way the provisions of the contract documents or to delay the work by failing to inspect materials and work with reasonable promptness. An inspector is placed on the work to keep the Engineer informed as to its progress and the manner in which it is being performed. The inspector will not be authorized to approve or accept any portion of the work.
 - 2. Results of inspection tests and examinations will be available to the Contractor on an informational basis. Absence or presence of representative test data does not alter the Contractor's responsibility for plan and specification compliance in accordance with 1104.01.
 - 3. The inspector will not act as foreman or perform other duties for the Contractors nor improperly interfere with management of the work.
 - 4. In case of dispute between the Contractor and inspector as to quality of materials or manner of performing the works the inspector will have authority to reject materials or suspend the work until the question at issue can be decided by the Engineer. Written notice of suspension of work will be given to the Engineer and Contractor by the inspector.

1105.09 INSPECTION OF WORK

- A. The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether the work is being performed in conformance with the contract documents. At any time before acceptance of the works upon request of the Engineer, the Contractor shall remove or uncover such portions of finished work as the Engineer may direct. After examination has been made, the Contractor shall restore such portions of the work to the standard required by the contract documents.
 - 1. If work thus exposed or examined proves acceptable, the uncovering or removing and replacing of coverings or the restoring of parts removed, shall be paid for as extra work, except that no payment will be made for work involved in checking smoothness of concrete surfaces.

2. If work thus exposed and examined proves unacceptable, the Contractor shall replace the defective work in accordance with the specifications.
 3. If work thus exposed and examined proves either unacceptable or deficient, the Contractor will be paid only for work as finally accepted.
 4. Work done without the Engineer having been afforded ample opportunity to provide suitable inspection, or unauthorized work, may be ordered removed and replaced at the Contractor's expenses or may be excluded from the quantities measured for payment.
- B. If the specifications, Engineer's instructions, laws, ordinances, or any public authority require any work and/or materials to be specially tested or approved, the Contractor shall give the Engineer timely notice of readiness for review. If the review is to be made by authority other than the Engineer, the Contractor shall notify the Engineer of the date fixed for review. Reviews by the Engineer will be promptly made and, where practicable, at the source of supply.

1105.10 REMOVAL OF DEFECTIVE WORK

- A. Any defective work shall be removed and replaced at the Contractor's expense.
- B. Should the Contractor fail or refuse to remove defective work when so ordered by the Engineer, the Engineer shall have authority to order the Contractor to suspend further operations, and may withhold payment on estimates until such defective work has been removed and replaced in accordance with the plans and specifications.
1. Continued failure or refusal on the part of the Contractor to correct defective work promptly shall be sufficient cause for the Contracting Authority to declare the contract in default and to complete the work in accordance with 1108.11.

1105.11 UNAUTHORIZED WORK

- A. Unauthorized work and work done in excess of that provided by the lines and grades shown on the plans or as given by the Engineer, or any work done without the authority of the Engineers will be considered as unauthorized and will not be paid for.
1. Unauthorized work may be ordered removed and replaced at the Contractors expense.

1105.12 OTHER CONTRACTS

- A. The Contracting Authority reserves the right to do, or to contract for other work adjacent to, or in the vicinity of, the work herein described.
- B. The Contractor agrees to permit such other work to progress and to arrange for joint occupation of the site under such provision as the Engineer determines necessary. If in the judgment of the Engineer, such joint occupation of the site impedes progress on the work herein described, the Contracting Authority will proportionally extend the time for completion of the work.
1. The Contractor hereby waives any claim for damages or extra compensation by reason of such interference with his work.

1105.13 FINAL INSPECTION

- A. Upon notification, by the Contractor or his authorized representative, that the work is completed, the Engineer shall make prompt final inspection of each item of work included in the contract. If the work is found not to be in accordance with the contract documents, the Contractor will be advised as to the particular defects to be remedied before final acceptance can be made.

1105.14 RESTRICTIONS ON MOVING AND USE OF HEAVY EQUIPMENT

- A. The following restrictions shall apply to the moving and use of heavy equipment:
1. Movement of equipment to and from the project shall be in compliance with the laws governing the operation of vehicles on the highways of Iowa. Movement and operation of equipment over completed portions of pavements, bituminous surfaces, base courses, and structures which are a part of the project shall be with legal axle loads, except as modified in this article.
 2. In the case of earthwork and shouldering to be done in connection with either rigid or flexible pavement, or pavement widening and resurfacing, no tractor-drawn, earth-moving equipment shall be operated, or driven on or across the pavements, except at designated crossovers, as authorized by the Engineer.
 - a. When crossovers are specifically permitted, the Contractor will designate, before use, the location and number of crossovers to be used. The Engineer will not approve crossovers in areas of limited sight distance, near structures, railroad crossings, or at any other location which will place safety of the traveling public in jeopardy. At these crossovers, equipment having axle loads greater than the maximum permitted by law may be used.
 - b. Crossovers shall be 30 feet in length measured along the centerline and shall not be closer than 300 feet to each other.
 - c. For each crossover used, the Contractor shall, at the Engineer's option, either replace the pavement or pay the Contracting Authority at the rate of five thousand (\$5,000.00) dollars on the basis of a two-lane pavement.
 - d. In lieu of the surface crossover, approved hauling bridges may be used. The hauling bridge shall accommodate two lanes of public traffic, and it shall be removed from the roadway at the close of each day's operations. When a hauling bridge is used, no payment will be required.
 - e. The provisions of the Supplemental Specification for Traffic Controls in effect on the contract letting date, shall apply.
 3. No dragline, cranes or power shovel shall be operated with any part of the machine resting upon a pavement, bituminous surface, base course, or structure except with approval of the Engineer and in accord with restrictions in that approval.
 4. Under no conditions shall machines equipped with metal lugs or similar projections on the treads be operated on the surface of a pavement, bituminous surface or base course.
 5. For building shoulders, on completed pavements of any type, the maximum axle load used for equipment operating on pavement shall not exceed the legal axle load, as defined herein.
 6. Crawler-type tractors shall not be moved on or off a pavement or base course except at places where the compacted earth adjacent to slab is at least 2 inches higher than the surface of the pavement or base course. Whenever heavy, crawler-type equipment, such as a crane or mixers is moved on or off the edge of a pavement or base course, a substantial timber approach shall be built, at the edge of slab, to prevent overloading or otherwise injuring the edge of the slab.
 7. Compacting equipment having axle loads greater than 20,000 pounds may be used on the work under the following provisions:
 - a. The equipment shall be transported to and from the work and across the bridges on the work in compliance with laws of the State of Iowa.

- b. For compaction of subbase, the weight of equipment used shall not be greater than that of compaction equipment used in correction of the roadbed for grade and cross section.
 - c. For compaction of base course, the weight of equipment used shall not be greater than the weight of equipment used in compaction of the subbase on which the base is placed.
 - d. For compaction of surface courses, the weight of equipment shall not be greater than that of equipment used in compaction of the base on which the surface course is placed.
8. For grading or any other type of work, no rollers or other equipment, having an axle load greater than 50,000 pounds or a total weight in excess of 60,000 pounds shall be operated over a culvert, except as may be authorized by the Engineer, and then, in strict compliance with prescribed precautionary measures.

1105.15 PLACEMENT OF FILL MATERIAL IN STREAMS AND WATERBODIES

- A. The placement of fill material in streams is regulated by Federal law. The intent of this specification is to require contractor operations in streams and other waterbodies and adjacent swamps, marshes, bogs, or similar areas, to be in compliance with Federal regulations.
- B. Fill material shall mean; any material used for the primary purpose of replacing an aquatic area with dry land, or of changing the bottom elevation of a waterbody.
- C. Fill material shall consist of clean, suitable, naturally occurring material, free from toxic pollutants in other than trace quantities.
- D. Temporary stream crossings shall be bridged or culverted so as not to restrict expected high flows or disrupt the movement of aquatic life native to the stream or waterbodies. Expected high flows are those flows, which the Contractor expects to experience during the period of time that the crossing is in place.
 1. Temporary stream crossings shall:
 - a. Not extend over 100 feet into any swampy, boggy, marshy, or similar area that is adjacent to the stream or waterbody.
 - b. Be maintained to prevent unnecessary erosion and other nonpoint sources of pollution.
 - c. Be removed after they are no longer needed.

1105.16 COST REDUCTION INCENTIVE

- A. The Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications, or other contract requirements for the sole purpose of reducing the total cost of construction.
 1. The proposals shall not impair, in any manner, essential functions or characteristics of the projects, including but not limited to, service life, economy of operation, ease of maintenance, desired appearance, or design and safety standards.
- B. Proposals shall contain the following changes:
 1. Existing requirements and proposed changes,
 2. Contract requirements that must be changed if the proposal is adopted,
 3. A detailed cost estimate of performing the work as stipulated and as proposed,
 4. The time within which the Engineer must make a decision thereon,

5. The items of work affected by the proposed changes, including any quantity variation attributable thereto.
- C. The provisions of this article shall not be construed to require the Engineer to consider any cost reduction proposal which may be submitted hereunder.
 1. Proposed changes in basic design of a bridge or pavement type will not be considered an acceptable proposal.
 2. The Contracting Authority will not be liable to the Contractor for failure to accept, or act upon, any proposal submitted pursuant to this article, or for any delays to the work attributable to any such proposal.
 3. If a proposal is similar to a change in plans or specifications under consideration by the Contracting Authority for the project at the time said proposal is submitted, or if such a proposal is based on, or similar to, standard specifications, special provisions, or plans adopted by the Contracting Authority after the advertisement for the contract, the Engineer will not accept such proposals and the Contracting Authority reserves the right to make such changes without compensation to the Contractor under provisions of this article.
 - D. The Contractor shall continue to perform the work in accordance with contract requirements until a change order, incorporating the cost reduction proposal, has been issued. If a change order has not been issued by the date on which the Contractor's cost reduction proposal specifies that a decision thereon should be made, or such other date as the Contractor may subsequently have specified in writing, such proposal shall be deemed rejected.
 - E. The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings in construction costs from adopting all, or any part of, such proposal. In determining the estimated net savings, the right is reserved to disregard the contract bid prices if, in the judgment of the Engineer, such prices do not represent a fair measure of the value of work to be performed or to be deleted.
 - F. The Contracting Authority reserves the right, where it deems such action appropriate, to require the Contractor to share in the Contracting Authority's costs of investigating a cost reduction proposal. Where such a condition is imposed, the Contractor shall indicate his acceptance thereof in writing, and such acceptance shall constitute full authority to deduct amounts, payable to the Contracting Authority from any money due, or that may become due, to the Contractor under the contract.
 - G. If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by change order, which shall specifically state that it is executed pursuant to this article. Such a change order shall incorporate the changes in the plans and specifications which are necessary to permit the proposal, or such part of it as has been accepted, to be put into effects and shall include any conditions upon which the Contracting Authority's approval is based, if the approval is conditional.
 1. The change order shall also set forth the estimated net savings in the cost of performing the work attributable to the proposal effectuated by the change order, and shall further provide that the Contractor be paid 50 percent of said estimated net savings amount.
 - H. Acceptance of the cost reduction proposal and performance of the work thereunder shall not extend the time of completion of the contract, unless specifically provided for in the change order authorizing use of the proposal.
 - I. The amount specified to be paid to the Contractor in the change order which effectuates a cost reduction proposal shall constitute full compensation to the Contractor for the proposal and performance of the work thereof pursuant to the said change order.

- J. The Contracting Authority expressly reserves the right to adopt a cost reduction proposal, for general use on contracts administered by the Contracting Authority, when it determines that said proposal is suitable for application to other contracts.
1. When an accepted proposal is adopted for general use, only the contractor who first submitted such proposal will be eligible for compensation pursuant to this article, and in that case, only to those contracts awarded to him/her prior to submission of the accepted proposal and as to which such proposal is also submitted and accepted.
 2. Cost reduction proposals identical or similar to previously submitted proposals will be eligible for consideration and compensation under provisions of this article, if the identical or similar previously submitted proposals were not adopted for general application to other contracts administered by the Contracting Authority.
 3. Subject to the provisions contained herein, the State or any other public agency shall have the right to use all, or any part of any submitted cost reduction proposal without obligation or compensation of any kind to the Contractor.

PART 1106. CONTROL OF MATERIAL

1106.01 QUALITY OF MATERIALS

- A. It is the intent of the specifications that first-class materials shall be used throughout the work, and that these first-class materials shall be incorporated in such a manner as to produce completed construction which is acceptable in every detail. Only materials conforming to the requirements of these specifications, approved by the Contracting Authority, shall be incorporated into the work
- B. When more than one kind of manufacture of a material is specified, the option will be with the Contractor, but the choice shall be confined to the materials mentioned.
- C. Whenever in any of the contract documents, an item of material or equipment is defined by describing a proprietary product or by using the name of a manufacturer or vendor, the terms "or equivalent", or "or equal", if not inserted, shall be implied. This specific item of material or equipment mentioned shall be understood as establishing a standard of type, function, efficiency, minimum basis of design, and quality desired. Other manufacturer's products of comparable quality, design and efficiency, and suitable for the service intended will be considered, but no change will be made without written approval of the Contracting Authority.
- D. Requests for materials substitutions must be submitted in duplicate, or in the quantities required elsewhere in the specifications, and meet the requirements of 1103.09

E. 1106.02 SOURCE OF MATERIALS

- A. At the option of the Engineer, the source of supply of each material shall be approved by the Contracting Authority before the delivery is stated.
 1. If requested by the Contracting Authority, representative preliminary samples, of prescribed character and quality, tested in accordance with the methods referred to under samples and tests, shall be submitted by the contractor or producer for examination.
 2. All materials proposed to be used may be inspected or tested at anytime during their preparation and use.
 3. If, after trial, it is found that sources of supply which have been approved do not furnish a uniform product or if products from any source do not meet the specifications, at any time, the Contractor shall furnish approved material from other approved sources. No material which, after approval has in any way become unfit for use, shall be used in the work.

1106.03 SAMPLES AND TESTS

- A. Each consignment of materials required by the Engineer, shall be tested or inspected before being incorporated into the work and approved by the same Engineer before it is used.
 - 1. The contractor shall afford facilities for collecting and forwarding samples as the Engineer may require.
 - 2. Unless otherwise designated in the standard, supplemental specifications, or instructional memorandums, the inspection, sampling, testing, and basis of acceptance of materials shall be in accordance with the current AASHTO "Standard Specifications for Sampling and Testing of Transportation Materials" including published interim standards.

1106.04 STORAGE OF MATERIALS

- A. The Contractor shall be responsible for care and storage of materials delivered for the work or purchased for use thereon. Material which has been delivered and has become damaged before actual incorporation in the work may be rejected by the Engineer even though it may have been previously acceptable. Stored materials shall be located to facilitate thorough inspections.

1106.05 UNACCEPTABLE MATERIALS

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

PART 1107. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

1107.01 LAWS TO BE OBSERVED

- A. The Contractor is presumed to be familiar with all laws, ordinances, and regulations that may, in any manner, affect those engaged or employed by the Contractor, the materials or equipment used, or which may in any way, affect the conduct of the Contractor's work. The Contractor shall conduct his work to avoid conflict with any such laws, ordinances, or regulations, and shall save harmless the Contracting Authority and its representatives against any claim arising from violation thereof.
- B. The Contractor shall give preference to Iowa domestic labor, in accordance with the provisions of Chapter 73 of the Code of Iowa, and this provision is hereby specifically made a part of any contract of which these contract documents are a part. A person shall be deemed a domestic laborer of this state if he/she is a citizen and has resided in this state for more than six months.
- C. The provisions of Chapter 73 of the Code of Iowa concerning preferences for Iowa products and labor shall not apply to contracts involving work financed wholly, or in part, by the federal government.
- D. The Contractor and all subcontractors shall have on file with the Contracting Authority, a valid state of Iowa contractors registration number, issued by the Iowa Department of Labor Services, in accordance with Chapter 91C of the Code of Iowa.

1107.02 LIABILITY INSURANCE

- A. It shall be the Contractor's responsibility to have liability insurance covering all of the construction operations incident to completion of this contract. The Contractor must have on file, with the Contracting Authority, a current "Certificate of Insurance" prior to award of contract. The certificate shall identify the following: insurance company firm name and address, contractor firm names policy period, type of policy, limits of coverage, and scope of work covered, (single project or statewide).

1. This requirement shall apply with equal forces whether the work is performed by -- (1) persons employed directly by the Contractors (2) by a subcontractor or his employees, or (3) by an independent contractor.
- B. In addition to the above, the Contracting Authority shall be included as an insured party, or a separate owner's protective policy shall be filed showing the Contracting Authority as an insured party.
- C. The liability insurance shall be written by an insurance company (or companies) qualified to do business in Iowa. For independent contractors engaged solely in the transportation of materials, the minimum coverage provided by such insurance shall not be less than required by Chapter 327, Code of Iowa, for truck operators or contract carriers as defined therein. For all other contractors, subcontractors, and independent contractors, the minimum coverage by such insurance shall be as follows:

Public Liability Insurance
Per person - \$100,000.00
Each occurrence - \$300,000.00
Property Damage Insurance
Each occurrence - \$50,000.00
- D. Failure on the part of the Contractor to comply with the requirements of this article will be considered sufficient cause to suspend the work, withhold estimates, and to deny the Contractor from receiving further contract awards, as provided in 1103.01.

1107.03 PATENTS AND ROYALTIES

- A. The Contractor shall be responsible for all claims for infringement of patents, or for royalties on tools, machinery, appliances, devices, or materials used in construction and completion of the work, except as are specifically required by the contract documents.
 1. The Contractor agrees that the Department may retain out of the money that is or may become due the Contractor an amount to cover all such claims and to retain the same, until all such claims are paid or adjusted.
- B. The Contracting Authority assumes responsibility for payment of claims for damages from patent or copyright infringement or for royalties on material processes, specifications, or types of construction that are required by the contract documents.

1107.04 RESTORATION OF CONSTRUCTION WORK OPENED BY PERMIT

- A. Prior to final acceptance, if any repairs to the work constructed hereunder are made necessary by construction or repair of drains or sewers, laying or repairing of pipes or conduits for telegraphy, telephone or electric wires, or from any other disturbance of said work under permission issued by the Contracting Authority, the Contractor shall, upon notification by the Engineer, immediately make necessary repairs in conformity with the specifications.
 1. Such repairs shall be paid for as extra work, however, no compensation will be allowed when such repairs are made necessary by the Contractor's negligence or carelessness.
- B. The Contractor shall not authorize any person or persons to make alterations or additions to the construction work unless a permit duly authorized by the Contracting Authority is presented.

1107.05 FEDERAL PARTICIPATION

- A. The attention of the Contractor is called to the provisions of the Acts of Congress known as the "Land and Water Conservation Fund Act", the "Federal Aid in Wildlife Restoration Act", the "Federal Aid in Fish Restoration Act", the "Boating Safety Act", the "Superfund Amendments and Reauthorization Act", the "

Clean Water Act” and amendments thereto, and any other acts of congress providing for fish and wildlife of conservation improvements.

1. When the United States Government is to pay for all or any portion of the cost of an improvement or project, the construction work, although it is under the direct supervision of the Contracting Authority and subject to the laws of the State of Iowa, is also subject to the above mentioned Acts of Congress and all rules, regulations, and reimbursements that may be imposed by the federal authority thereunder. Such construction work will, therefore, be subject to inspection by the duly authorized agents of the federal government, but such inspections will not make the federal government a party to the contract.
- B. On all contracts involving Federal aid, all steel products incorporated into the work must have been manufactured in the United States. The Engineer may allow minimal amounts of these materials from foreign sources, provided the cost does not exceed 0.1 percent of the contract sum or \$2,500 whichever is greater.

1107.06 SAFETY, HEALTH, POLLUTION AND SANITATION

- A. In the performance of his contract, the Contractor shall comply with all applicable laws, rules, regulations, and ordinances governing safety, health, pollution, sanitation, noise control, and disposal of waste materials, and shall make available such additional safeguards, safety devices, protective equipment, and take such actions as are reasonably necessary to protect life and health of employees and the public.
 1. The Engineer will not act as an enforcement agent for compliance of rules and regulations governing industrial safety. However, violations of properly promulgated laws, rules, regulations, and ordinances reported to the Engineer by responsible agencies may result in the issuance of a suspension order until such time as the violation is corrected.
- B. The Contractor shall make adequate provisions satisfactory to the Engineer for safety of inspectors, particularly at sampling locations. Provisions shall include guards for moving belts, pulleys, and wheels near the sampling point and a stable platform to be used when sampling is to be done from an elevated location.
- C. There shall be suitable retention dams, in areas where approved liquid asphaltic material, or asphalt cement are stored and used, to minimize pollution of nearby areas from effect of normal rains. The Contractor shall take other necessary precautions to prevent pollution of streams, lakes, ponds, reservoirs, and other areas with fuels, oily bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.
- D. The disposal by open burning of landscape waste originating on the construction site shall be permitted unless prohibited by local ordinances or regulations. However, the burning of landscape waste produced in clearing, grubbing, and construction operations shall be limited to areas located at least one-fourth mile from any inhabited buildings. Rubber tires will not be used to ignite landscape waste.
- E. The Contractor shall be specifically responsible for adhering to all local burning ordinances or regulations, and to ascertain what the local burning restrictions consist of in addition to the regulation stated above and to see that all subcontractors comply with those restrictions.
- F. All internal combustion engines, used for any purpose on the job, or related to the job, should be equipped with a muffler of the type recommended by the manufacturer. No internal combustion engine will be operated without a muffler. Faulty or damaged mufflers must be replaced. Machinery must be properly maintained at all times in order to limit engine noise, as well as other extraneous noise.
- G. When directed by the Engineer, the Contractor shall apply moisture to the construction area and haul routes, as necessary, to prevent the spread of dust, at no expense to the Contracting Authority.

1107.07 PUBLIC CONVENIENCE AND SAFETY

- A. The Contractor shall conduct the work as to assure the least possible obstruction to access by the residents along the project. The Contractor should schedule and conduct the work in such a way as to provide for their safety and convenience.
 - 1. Work and materials required by the Engineer for public convenience and safety in excess of that provided for in the contract, shall be considered as provided for in 1109.03.

1107.08 BARRICADES AND WARNING SIGNS

- A. The Contractor shall take every reasonable precaution to prevent the public from interfering with the work, and to prevent the work from interfering with the public, for providing for safety of the general public traveling to, through, within, along, and across the project, and shall take such precautions, measures, or acts as are required herein and as specifically required by the contract documents or by the Engineer. In additions the Contractor shall provide such additional safeguards as deemed necessary to protect equipment, the work, and the public at the Contractors own expense.
- B. The Contractor shall erect and maintain suitable barriers, and at night, such lights, as will prevent accidents to persons or property in and around the area of work.
- C. The Contractor shall provides at his own expense, such security guards as are necessary to protect equipment and to maintain proper lighting. Security guards that may be necessary for the protection of the public shall be provided by the contractor on written order from the Engineer.
- D. Whenever the work is under the Contractor's control, the Contractor shall be held responsible for any damage to the newly completed portions of the work resulting from public misuse.

1107.09 USE OF EXPLOSIVES

- A. When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property. The Contractor shall be responsible for all damage resulting from use of explosives.
- B. All explosives shall be stored in a secure manner in compliance with all laws and ordinances and in quantities maintained at a practical minimum. Storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided, satisfactory to the Engineer and, in general, not closer than 1,000 feet from the road or from any building, camping area , or place of human occupancy.
- C. The Contractor shall notify each public utility company, having structures in proximity to the site of the work, of the intent to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury.

1107.10 PROTECTION AND RESTORATION OF PROPERTY

- A. The Contractor shall replace or renew fences, sidewalks, or other property damage by reason of the work or the negligence of the Contractors employees. The Contractor shall take suitable precautions to prevent damage to telephone, telegraphy, and electric transmission lines along the highway and to pipes, conduits, and other underground structures. The Contractor shall carefully protect from disturbance all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their locations and shall not remove them until so directed.
 - 1. The Contractor shall be responsible for damage or injury to property resulting from the prosecution of his work, however, responsibility shall not extend to damage to fences, telephones, telegraph, or electric lines occupying the right-of-way unlawfully, provided due caution has been used in removing them. The Contractor's responsibility shall not be released until the work under the contract is completed and accepted.

1107.12 RESPONSIBILITY FOR DAMAGE CLAIMS

- A. The Contractor shall indemnify and save harmless the state of Iowa, the Contracting Authority and other agencies which have concurred in the award of contract, their officers and employees, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property because of any act, omissions or neglect in safeguarding or performing the work, or through use of unacceptable materials in constructing the work, and so much of the money due the said Contractor, under and by virtue of the contract, as may be considered reasonable and necessary by the Contracting Authority for such purpose, may be retained for the use of the State, or in case no money is due, the surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages, as aforesaid, shall have been settled and suitable evidence to that effect furnished to the Contracting Authority, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence of adequate protection by public liability and property damage insurance.
 - 1. Notwithstanding the above, it is specifically agreed between the parties executing this contract that it is not intended by any of the provisions of any part of the contract documents to create in the public or member thereof a third party beneficiary hereunder, or to authorize anyone not a party to this contract to maintain a suit for personal injuries or property damage pursuant to the terms of provisions of this contract.
 - 2. The duties, obligations, and responsibilities of the parties to this contract with respect to third parties shall remain as imposed by law. It being the intention of the parties that indemnity herein provided shall not extend to acts of omission, of negligence for which the Contracting Authority is solely responsible. But indemnity shall extend to all claims in which the Contractor and the Contracting Authority are found to be either jointly or concurrently negligent.
- B. Responsibility of the Contractor for providing warning devices, required by 1107.08 to avoid damages or injuries on any portion of the work covered by the contract, shall not cease until the work on such portion has been released by the Engineer.
 - 1. A release shall be construed to mean a written statement by the Engineer to the effect that the Contractor may cease to maintain barriers and lights, that the work may be opened to the public and that the Contractor is relieved of further maintenance of that portion of the work. Such release shall not constitute an acceptance of the work.
- C. The Contractor's responsibility for maintenance of lights on any individual structure shall cease upon final acceptance of such structure, or when specifically released in writing by the Engineer.

1107.13 OPENING OF SECTION OF CONSTRUCTED WORK TO THE PUBLIC

- A. When any substantial portion, part, or feature of a contract is completed to the extent that its stability and integrity is not dependent upon completion of the other item, or work required in the contract, that portion, part, or feature may be released by the Engineers after conferring with the Contractor, and opened to traffic or received for public usage prior to final approval and acceptance of all work involved in the contract.
 - 1. The Contractor will not be responsible for damages due to the elements or the ordinary use of the public to those portions, parts, or features of the work which have been released by the Engineer.
 - 2. The Contractor will be responsible for any damages which may be caused by defective work or failure to comply with the contract documents.
- B. The above provisions relating to a release by the Engineer will be applicable only to those portions, parts, or features of the contract for which the Engineer has furnished to the Contractor a written release.

1107.14 CONTRACTOR'S RESPONSIBILITY FOR WORK

- A. The Contractor shall be responsible for the care and maintenance of partially completed and furnished work on any portion of the project until released by the Engineer from such responsibility. It will be the Contractor's responsibility to adjust the Contractor's operation or method of operation to prevent any damage of any nature to any portion of the partially completed or completed work. Repair work shall be done promptly upon being so ordered by the Engineer.

1107.15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

- A. At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone, and power companies, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience. Work shall not be commenced until all arrangements necessary for the protection thereof have been made.
- B. The Contractor shall cooperate with owners of underground or overhead utility lines in their removal and rearrangement operations, in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.
- C. In the event of interruption to water or utility services, as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with said authority in restoration of service.
 - 1. If water service is interrupted, repair work shall be continuous until service is restored.
 - 2. No work shall be undertaken around fire hydrants until provision for continued service has been approved by the local fire authority.

1107.16 PERSONAL LIABILITY OF PUBLIC OFFICIALS

- A. In carrying out any of the provisions of the contract, or in exercising any power or authority granted to any agency or representative of the Contracting Authority thereby, there shall be no liability upon such agent or representatives including the Engineer or authorized agents, either personally or as an official of the Contracting Authority, it being understood that in such matters the agent acts as the agency and representative of the Contracting Authority.

1107.17 NO WAIVER OF LEGAL RIGHTS

- A. The Contracting Authority shall not be precluded or stopped by any measurement, estimate, or certificate made, either before or after the completion and acceptance of the work and payment therefor, from showing the true amount and character of the work performed and materials furnished by the Contractor, or from showing that any such measurement, estimate, or certificate is untrue or incorrectly made, or that the work or materials do not, in fact, conform to the contract.
- B. The Contracting Authority shall not be precluded or stopped, notwithstanding any such measurement, estimate, or certificate, and payment in accordance therewith, from recovering from the Contractor and the Contractor's sureties such damages as it may sustain by reason of the Contractor's failure to comply with the terms of his contract.
- C. Neither acceptance by the Contracting Authority, or any representative of the Contracting Authority, nor any payment for or acceptance of the whole or part of the work, nor any extension of time, nor any possession taken by the Contracting Authority, shall operate as a waiver of any portion of the contract, or for any power herein reserved, or any right to damages herein provided. A waiver of any breach of contract shall not be held to be a waiver of any other or subsequent breach.

PART 1108. PROSECUTION OF PROGRESS

1108.01 SUBLETTING OF CONTRACT

- A. The Contractor shall perform, with his/her own organization, work amounting to not less than 30% of the total contract cost, however, any items designated in the contract as "specialty items" may be performed by subcontracts and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his/her own organization.
- B. Any items that have been selected as "specialty items" for the contract are listed as such in the special provisions found elsewhere in the contract documents.
- C. At the time specified by the contract documents or when requested by the Engineer, the Contractor shall submit, in writing to the Contracting Authority, for approval the names of the subcontractors proposed for the work. Subcontractors may not be changed except at the request of and with the approval of the Contracting Authority.
 - 1. The Contractor is responsible to the Contracting Authority for the acts and omissions of the subcontractors, and of their direct and indirect employees, to the same extent as the Contractor is responsible for the acts and omissions of its own employees.
 - 2. The contract documents shall not be construed as creating any contractual relation between the subcontractor and the Contracting Authority.
- D. The Contractor shall bind every subcontractor and every subcontractor agrees to be bound by the terms of the contract, the contract documents, the plans, the general conditions of the contract, the supplementary general conditions, the special conditions, and the specifications as far as applicable to the subcontractors work.
- E. The subcontractor shall be bound to the Contractor by the terms of the contract, the contract documents, the plans, the general conditions, and specifications, and to assume toward the Contractor all the obligations and responsibilities that the Contractor, by those documents, assumes towards the Contracting Authority.
 - 1. The Contractor agrees to be bound to the subcontractor by all the same obligations that the Contracting Authority assumes to the Contractor under the terms of said documents, and by all the provisions thereof affording remedies and redress to the Contractor from the Contracting Authority.
- F. The Contractor shall not assign, sublet, or transfer in whole or part any of the work herein specified without the written consent of the Contracting Authority. Any such assignment, subletting, or transfer shall not in any manner relieve the Contractor from any of the responsibilities assumed herein.
- G. For convenience of reference and to facilitate the letting of contracts and subcontracts, the specifications are separated into title sections. Such separations shall not, however, operate to make the Engineer an arbitrator to establish limits to the contracts between Contractor and subcontractors.
- H. This article shall further be applicable to contracts involving Federal-aid participation in construction insofar as they are consistent with the required provisions for Federal-aid contracts attached to the contracts, and shall be additional specifications insofar as they cover matters not covered by the required provisions for Federal-aid contracts.

1108.02 PROSECUTION OF WORK

- A. The proposal form may designate the contract period by either completion date, approximate starting date, of specified starting date.
- B. Intermediate contract periods may be designated for completion of certain portions of the contract. The contract period for each portion and the liquidated damages, if any, will be listed in the special provisions.

- C. The return of the signed and executed contract to the Contractor shall serve as notice to the Contractor that the contract bond is acceptable, that the contract is in force, and that the Contractor may complete arrangements for materials and other work in accordance with the contract documents.
- D. Should delay become apparent before or after the work is started, the Engineer will immediately notify the Contractor, in writing, that work on the contract will be delayed and, if possible, the approximate duration of such delay. For delays exceeding 2 weeks, new construction dates may be established by the Engineer after consulting with the Contractor.
 1. Specified Starting Date: When a starting date is specified, working days will be charged to the Contractor starting on the specified starting date or 10 days after execution of the contract, whichever is later. Starting work prior to the specified date will be considered upon request, and working days will be charged when work starts.
 2. Approximate Starting Date:
 - a. Site available immediately, as determined by the Engineer: Anytime after execution of the contract and on or after the approximate starting date, the Contractor may work, weather and specifications permitting. Working days will be charged any time the Contractor is working on or after the approximate starting date. Starting work prior to the approximate starting date will be considered upon request. If allowed, working days will be charged.
 - b. Site Availability Date Unknown, as determined by the Engineer: It is expected the site will be available by the approximate starting date. If it appears the site will not be available by the approximate starting date, the Engineer will inform the Contractor of the delay and if possible the duration of the delay. The Contractor may commence work, weather and specifications permitting, any time after execution of the contract and on or after the approximate starting date provided the site has become available. If work is started under these conditions, working days will be charged. Starting work before the approximate starting date and before the site is available, will be considered only after the Contractor has submitted a signed waiver of any right to claim extra compensation for damages due to delays from any cause related to the early commencement. If approved, working days will not be charged when working prior to the date of site availability. If the Contractor is working on the project when the site becomes available, working days will be first charged on the following day.
 3. Specified Completion Date: The Contractor may commence work any time after execution of the contract, weather and specifications permitting.
 - a. Working days will begin to be charged whenever the Contractor starts work.
 4. Winter Work: The proposal may require winter work on all or portions of the project, and working days will be counted as indicated therein. When not so specified, the Contractor may work, unless advised to the contrary by the Engineers between November 15 and April 1 with no working time charged. If the best interest of the Contracting Authority so dictates, the Engineer may require the Contractor to continue work after November 15.
 - a. Working days will not be charged if working time remains on November 15, and working days may be charged for days worked if no working time remains on November 15.
 5. Notice to Proceed: A notice to proceed will be issued when, in the opinion of the Engineer, considering the approximate starting date, site availability, and working days allowed, failure of the Contractor to commence work places the timely completion of the project in jeopardy. The starting date in the notice to proceed will not be less than 15 calendar days after the date of the issuance of the notice. Working days will be charged beginning with the starting date established by the notice or when the Contractor starts work if prior thereto. A notice to proceed will be issued, except:
 - a. It will be assumed when a specified starting date is used.

- b. It will be assumed when a specified completion date is used, the number of working days allowed will be counted back from the specified completion date, exclusive of Saturdays, Sundays, and holidays, to determine the first day working days will be charged.
 - c. It may be included as an agreed starting date at a preconstruction conference for projects with an approximate starting date.
 - d. It will be assumed when the Contractor is working at the time for issuance of the notice.
 - e. It will be assumed, if an early work waiver is approved, as having been issued at the time of site availability, as documented in the project records.
6. Weekly Report of Working Days: Whenever the Contractor is subject to being charged with working days, the Engineer will furnish the Contractor a weekly statement indicating the working days to be charged against the Contractor for that period. Should the Contractor believe the statement to be inaccurate, a statement should be submitted to the Engineer, in writing, stating the objection and reasons, within 10 calendar days after receipt of the statement. If the Contractor fails to submit an objection within that time, the original statement may be considered as accurate and final.
7. Work Progress: The progress of the work shall be at a rate sufficient to complete the contract within the time allowed. If it appears that the rate of progress is such that the contract will not be completed within the time allowed, or if the work is not being executed in a satisfactory and workmanlike manner, the Engineer may order the Contractor to take such steps as necessary to complete the contract within the period of time specified or to prosecute the work in a satisfactory manner.
 - a. If the Contractor fails to comply with such order within 2 weeks after receipt of the order, the Contractor may be disqualified from receiving any additional bidding proposals, and the Contracting Authority shall have the right to declare the contract in default and to complete the work in accordance with 1108.11.
 - b. Failure of the Contracting Authority to issue such order shall not alter the Contractor's responsibility under the contract.
 - c. The Contractor's sequence of operations shall be such as to cause as little inconvenience to the general public as possible.
8. Schedule of Staging: On any project, or part of a project, on an existing road where the work may prohibit or restrict public or private access that has been previously available, the Contractor may be required to submit a schedule of staging for the Engineer's approval before work is started.
 - a. Preliminary work may be required in stage construction, even though the work involved in these operations is similar, in order to minimize the inconvenience to the public and those to whom access has been previously available. This requirement will apply equally to work that is subcontracted.
9. Accelerated Work Schedule: An accelerated work schedule may be required by a note on the proposal. When required, the Contractor shall marshal the necessary forces, including but not limited to: extra crews, subcontractors, extra work hours, or other acceptable methods to insure completion of the projects or various stages of the projects within the contract period and in compliance with the specifications.
 - a. A work plan shall be submitted to the Engineer for review prior to commencement of work. Work will be permitted on a 24-hour-day basis and on Sundays and holidays when traffic interference exists, though work may be restricted during peak traffic periods. No credit will be allowed for delayed or slow delivery of materials. The special provisions may include other requirements or modifications for the accelerated work schedule.

10. Preconstruction Conference: The Engineer shall schedule and conduct a preconstruction conference. The Contractor and intended subcontractors shall participate in this conference. The Engineer will invite utilities and others having responsibilities or interest in the work.

1108.03 LIMITATIONS OF OPERATIONS

- A. The Contractor shall conduct the work so as to create a minimum amount of inconvenience to the public. At anytime, when in the judgment of the Engineer, the Contractor has obstructed, closed, or is conducting his/her operations on a greater portion of the project vicinity than is necessary for the proper prosecution of the work, the Engineer may require the Contractor to finish the section on which work is in progress before work is started on any additional sections.
- B. Whenever work which is being done by other contractors or subcontractors is contiguous to, or a part of the work included in this contract, the Engineer shall in case of dispute, determine and define the respective rights of the various interests involved, in order to secure the completion of all parts of the work in general harmony and with satisfactory results.
- C. Except when an accelerated work schedule is required, no work will be permitted on Sundays or holidays observed by the Department of Natural Resources except with the permission of the Engineer.
 1. The Contractor should request a determination of the holidays to be observed at the beginning of each calendar year.

1108.04 METHODS AND EQUIPMENT

- A. The methods, equipment, and appliances used shall produce a satisfactory quality of work and shall be adequate to maintain the schedule of progress specified. Equipment used on any portion of the project shall be such and its use so regulated that no serious or irreparable damage to the adjacent property, or highways will result from its use. If damage does occur to the highways suitable repairs shall be made.
- B. When the methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the contract work in conformity with the requirements of the contract, as demonstrated to the satisfaction of the Engineer.
- C. When the contract specifies that the construction be performed by use of certain methods and equipment, such methods and equipment shall be used, unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he/she may request approval from the Engineer to do so.
 1. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with contract requirements.
 2. If after trial use of the substituted methods or equipment the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue use of the substitute method or equipment and shall complete the remaining construction with the specified method and equipment.
 3. The Contractor shall remove the defective work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the construction items involved or in contract time as a result of authorizing a change in methods or equipment under these provisions.

1108.05 CHARACTER OF WORKERS

- A. Any employee of the Contractor who is careless, incompetent, or disorderly, or who refuses or neglects to perform work in accordance with the specifications, or who shall commit trespass upon any public or private property in the vicinity of the work, shall be discharged upon the written request of the Engineer and shall not be reemployed on any of the work unless written permission is given by the Engineer.

1108.06 TEMPORARY SUSPENSION OF WORK

- A. Work shall be suspended, wholly or in part when, in the opinion of the Engineer, weather or other conditions are unfavorable to its satisfactory prosecution.
 - 1. Work shall also be suspended at the direction of the Engineer pending settlement of disputes arising of failure of the Contractor to comply with provisions of the contract. Written notice of suspension of work shall be given by the Engineer.
 - 2. When the conditions causing suspension no longer exists, written notice to resume work will be given to the Contractor by the Engineer. Promptly after such written notices the Contractor shall resume prosecution of the work as provided in 1106.02.
- B. The start of work may be delayed or work may be suspended upon request of the Contractor and with approval of the Engineer. The Engineer may require the request to be in writing and also may require the Contractor to include with the request a schedule for satisfactory completion of the work.

1108.07 EXTENSION OF CONTRACT PERIOD

- A. An extension of the contract period will be granted by the Engineer for additional work requiring additional construction time and may result from a modification of the plans or extra work.
 - 1. If any delay is caused by active interference by the Contracting Authority, the Contracting Authority will grant such an extension of time for completion of the contract as will, in the opinion of the Engineer, compensate for such delay. An extension of the contract period will be granted by the Contracting Authority for:
 - a. Additional work resulting from a modification of the plans for the project, or
 - b. Other reasons beyond the control of the Contractor which, in the Contracting Authority's judgment would justify such extension.
- A. All claims for extension of the contract period shall be made in writing to the Engineer no more than thirty days after the occurrence of the delays otherwise they shall be waived. In the case of continuing cause of delays only one claim is necessary.

1108.08 LIQUIDATED DAMAGES

- A. Time is an essential element of the contract and it is important that the work be pressed vigorously to completion.
- B. For each calendar day that any work shall remain uncompleted after the end of the contract period, number of working days allowed, or any extension granted under 1108.07, the amount per calendar day specified in the proposal form will be assessed, not as a penalty, but as predetermined and agreed liquidated damages.
 - 1. The Contracting Authority will prepare and forward to the Contractor an invoice for such liquidated damages.
 - 2. The final payment will be withheld until payment shall have been made on this invoice.
- C. Assessment of liquidated damages will be based only on the number of working days required to complete the work in excess of the specified working days allowed, plus authorized extensions thereto.

- D. This provision for the assessment of liquidated damages for failure to complete work within the contract period does not constitute a waiver of the Contracting Authority's right to collect any additional damages other than time delays which the Contracting Authority may sustain by failure of the Contractor to carry out the terms of the contract.

1108.09 FAILURE TO COMPLETE WORK WITHIN CONTRACT PERIOD

- A. If the Contractor fails to complete his work within the contract periods or any extension thereof, as provided in 1108.07, upon written notice to the Contractor and surety, said contract shall be in default. The Contracting Authority may, at its option, permit the Contractor or the Contractor's surety to complete the work included in the contracts or may proceed to complete the work in accordance with 1106.11. In either event, the Contractor or the Contractor's surety shall be responsible for all costs incident to the completion of the work, and also for the liquidated damages stipulated in the proposal form. The Contracting Authority may waive such portion of the liquidated damages as may accrue after the work is in condition for safe and convenient use by the public.

1108.10 CONTRACTS IN DEFAULT

- A. The Contracting Authority may declare a contract in default for any one of the following reasons:
1. Failure to complete the work within the contract period or any extension thereof,
 2. Failure or refusal to comply with an order of the Engineer within a reasonable time,
 3. Failure or refusal to remove rejected materials,
 4. Failure or refusal to correct any defective or unacceptable work,
 5. Bankruptcy or insolvency, or the making of an assignment for the benefit of creditors,
 6. Failure to carry on the work in an acceptable manner.

1108.11 COMPLETION OF CONTRACTS IN DEFAULT

- A. If for any reason a contract is declared in default, the Contracting Authority shall have the right, without process or action at law, to take over all or any portion of the work and complete it, at its option, either by day labor or by reletting the work.
1. Written notice shall be given the Contractor by the Contracting Authority that the contract has been declared in default, and upon receiving such notices the Contractor shall peaceably relinquish possession of the said work or the parts thereof specified in the notice.
- B. The Contracting Authority may, at its option and, at a rental which it considers reasonable, retain all material, equipment, and tools on the work until the work has been completed.
- C. Neither the Contracting Authority nor any member or employee thereof shall be in any way liable or accountable to the Contractor or the Contractor's surety for the method by which the completion of said work, or any portion thereof, may be accomplished, or for the price paid therefor.
1. Should the cost of completing work be in excess of the original contract prices the Contractor and the Contractor's surety shall be held responsible for such excess cost.
 2. Should the cost of such completion, including all proper charges, be less than the original contract price, the amount so saved shall be paid to the Contractor.

3. Neither by taking over the work nor by declaring the contract in default shall the Contracting Authority forfeit the right to recover damages from the Contractor or the Contractor's surety for failure to complete the entire contract.

1108.12 REMOVAL OF EQUIPMENT

- A. In the case of cancellation of this contract before completion from any cause whatsoever, the Contractor, if notified to do so by the Contracting Authority, shall promptly remove any part or all of his equipment and supplies from the property of the Contracting Authority. In the event of failure of the Contractor to remove such equipment and supplies within thirty days after the issuance of the notification for removal, the Contracting Authority shall have the right to remove such equipment and supplies at the expense of the Contractor.

1108.13 ORDER OF COMPLETION AND USE OF COMPLETED PORTIONS OF THE WORK

- A. The Contractor shall complete any portion or portions of the work in such order of time as the Engineer may require. The Contracting Authority shall have the right to take possession of, and use any completed or partially completed portion of the work at anytime, but such taking possession and use shall not be deemed as acceptance of the work so taken or used or any part thereof. If such prior use increases the cost or delays the work, the Contractor shall be entitled to such extra compensation or extension of time, or both, as determined by the Engineer.

1108.14 METHOD OF SERVING NOTICES

- A. Any notice to be given by the Contracting Authority to the Contractor under this contract shall be deemed to be served if delivered to any office used by the Contractor, or foreman, or agent, at or near the work, or deposited in the post office, postpaid, addressed to the Contractor at the last known place of business.

1108.15 TERMINATION OF CONTRACTOR'S RESPONSIBILITY

- A. The contract shall be considered completed when the work has been accepted in writing by the Contracting Authority.
 1. Such acceptance shall release the Contractor from all further obligation with respect thereto, except as to conditions and requirements set forth in the performance bond, and if, within one year after the final acceptance or a longer period of time, as may be prescribed by law or by the terms of any applicable guarantee required by the contract documents, any of the work is found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from the Contracting Authority to do so unless the Contracting Authority has previously given the Contractor a written acceptance of such conditions specifically stating the condition that is accepted.
 2. The Contracting Authority shall give such notice promptly after discovery of the condition. All such defective or non conforming work shall be removed from the site if necessary, and the work shall be corrected to comply with the contract documents without cost to the Contracting Authority.
- B. The Contractor shall bear the cost of making good, all work destroyed or damaged by such removal or correction of separate contractors.

PART 1109. MEASUREMENT AND PAYMENT

1109.01 MEASUREMENT OF QUANTITIES

- A. The work completed under the contract shall be measured according to United States standard measures. Payment will be based on the actual quantity of work performed under the various work classifications in

the contract, unless otherwise provided below, or by the method of measurement for the various classes of work.

- B. By written agreement between the Contractor and the Engineer, final settlement may be made on the basis of contract quantities without final field measurements. Such an agreement may be made before work is started or after work has been completed, if no material deviation from the original plans is involved.
 - 1. Except for those items for which quantities cannot be accurately predetermined, the contract quantities have been accurately and properly estimated, but adjustments will be made for obvious errors or authorized changes.
 - 2. The Engineer shall exercise such controls and make such measurements, as are necessary, to assure that each item of work is done in substantial compliance with the contract documents. The use of this agreement for payment shall not be considered as a change in the contract.

1109.02 SCOPE OF PAYMENT

- A. The Contractor shall accept the compensation herein provided as full payment for furnishing all materials labor, tools, and equipment for performing all work under the contract or any extension thereof allowed under 1108.07, also, for all costs arising from the action of the elements or other natural causes, agreements, and performance, nonperformance, or delays involving other contractors and third parties, or injunctions or lawsuits resulting therefrom, or from any unforeseen difficulties not otherwise provided for in the specifications and which may be encountered during prosecution of the work and up to the time of acceptance thereof, except damage to the work due to acts of war. Nothing herein shall in itself be construed to prejudice or deny any claim filed under provisions 1109.12.
- B. The contract price for any item shall be full compensation for acceptable work and for materials, equipment, tools, and labor for performance of all work necessary to complete the item in accordance with the plans and specifications, except as specifically exempt in the clauses covering the basis of payment for the item.

1109.03 ADJUSTMENT IN CONTRACT PRICE

- A. When the measured quantity of any item varies by more than 20% from the estimated quantity specified in the contracts an adjustment in price may be made for such item of work, and the adjustment will be made on the full variance from the contract quantity. Such adjustment may be requested by either party to the Contract.
 - 1. If the contract sum for an item is less than five thousand (\$5,000.00) dollars, the price of that item will not be subject to adjustment.
- B. If the increase or decrease in quantity is due to an alteration in plans, any price adjustment shall be requested and agreed upon before the work is done. If the increase or decrease in quantity is not the result of an alteration in plans, but results from errors in original estimates, or unforeseen conditions, price adjustments may be requested after the work is completed.
- C. In making price adjustments, consideration shall be given to the portion of the cost of the work that can be classified as fixed costs, independent of the exact quantity of work performed, such as transportation and installation costs on equipment, overhead costs, etc. Any price adjustment shall be arrived at from the standpoint that neither party to the contract shall be penalized by the increase or decrease in quantities which occasioned the price adjustment.
- D. If changes or alterations, as outlined in 1105.04, result in a substantial increase or decrease in cost or difficulty of the work, appropriate modifications will be made in the contract by extra work order, regardless of the quantity.

- E. All price adjustments shall be agreed to by the Engineer and the Contractor and shall be subject to the approval of the Contracting Authority.

1109.04 PAYMENT FOR WORK PERFORMED

- A. All contract price adjustments approved by the Engineer shall be subject to the concurrence of the Contracting Authority.
- B. The Contractor will receive and accept payment for work performed under his contract as follows:
 - 1. Items or Work Performed Which Are Covered by Definite Prices Stipulated in the Contract: For all items of acceptable work performed which are covered by definite unit prices or lump-sum amounts specified in the contract, the Contractor shall receive and accept compensation at the rate specified in the contract, except as provided in 1109.03 and for items identified as that of "significant change" as provided in 1109.17.
 - 2. Extra Work: Extra work ordered by the Engineer, of a quality or class not covered by the contract, will be paid for, either at an agreed price or on a force-account basis.
 - 3. Agreed-Price Basis: For extra work ordered by the Engineer and performed on an agreed-price basis, the Engineer and the Contractor shall enter into a written agreement before such work is undertaken. This written agreement shall describe the extra work that is to be done and shall specify the agreed price or prices.
 - 4. Force-Account Basis: Extra work performed on a force-account basis will be paid for in the following manner:
 - a. For laborers, timekeepers, foremen, and superintendents, the Contractor shall receive the rate of wage shown on previous payrolls for the time they are actually engaged in the extra work, to which shall be added an amount negotiated up to 15% thereof, plus the amount of social security tax imposed by law upon the Contractor because of such force-account work, plus the cost of worker's compensation, public liability insurance, and employment security contributions. The percentage shall cover compensation for furnishing of necessary small tools for the work together with all other overhead expense items.
 - b. The wage of the superintendent, timekeeper, or foreman who is employed partly on force-account work and partly on other work shall be prorated between the two classes of work according to the number of persons shown by the payroll, as employed on each class of work.
 - c. For materials used on force-account work, the Contractor shall receive the actual cost of materials delivered on the work, including the freight and handling charges as shown by original receipted bills, to which cost shall be added an amount negotiated to 15% thereof.
 - d. For machinery, tools, or equipment, fuel and lubricants therefor, except small hand tools which may be used, the Engineer shall allow the Contractor a reasonable rental rate to be agreed upon in writing before such work is begun. No profit percentage shall be added to the rate.
 - e. Compensation, as herein provided, shall be accepted by the Contractor as payment in full for extra work done on a force-account basis. It will be assumed that such payment includes the use of tools and equipment for which no rate is allowed, overheads and profit.
 - f. At the end of each day, the Contractor shall prepare payrolls in duplicate for labor furnished on a force-account basis, using the Contracting Authority's standard force-account forms. Both copies shall be signed by the inspector and Contractor's representative. One copy shall be furnished to the Engineer and one to the contractor.

- g. Claims for extra work performed on a force-account basis shall be submitted to the Engineer in triplicate. To the claims shall be attached such receipt or statements as the Engineer may require in support of such claims. Such claims shall be filed not later than the tenth day of the month following that in which the work was actually performed, and shall include all labor charges, rental charges on machinery, tools, and equipment, and all material charges insofar as they are available.
5. Deficient Work: Payment for work judged by the Engineer to be deficient work shall be made at the reduced rate specified in the contract documents or, if no such rate is specified, at a modification of the contract prices as determined by the Engineer.

1109.05 CANCELLED WORK

- A. The Contracting Authority shall have the right to cancel any or all items from the contract when unforeseen circumstances, failure to secure permits, approvals, loss of funding, unanticipated design changes, or other reasons beyond the control of the Contractor prevent or unreasonably delay completion of the contract, or of certain items of the contract, or when the Contracting Authority determines that cancellation is in the public or national interest.
- B. The Contractor may be prevented from starting work on a contract, or an identified phase of a contract, as a result of a delay caused by the Contracting Authority or others.
- C. When the contract period is defined by approximate starting date and the delay prevents the Contractor's starting work on the contract or an identified phase of the contract for 30 days beyond the date which, by notice to the Engineer, the Contractor proposed to start work, the Contractor may request cancellation by written notice to the Engineers stating the reasons.
- D. In either case, within 30 days from the date of the request, the Engineer will eliminate or minimize, if possible, the cause for the delay and issue a notice to proceed, redefine the basis on which the work is to proceed, or cancel the contract or phase of the contract.
- E. The Contractor shall not use delays that occur prior to starting work or an identified phase of the work as a basis of a claim against the Contracting Authority except for an extension of contract period.
- F. Notices described in this article should be transmitted by certified mail.
- G. For finished portions of items canceled, the Contractor will be paid at the contract unit prices, in accordance with the provisions of 1109.04. For finished portions of major items canceled, the Contractor will be paid as provided in 1109.17. For all items, materials ordered and delivered for the unfinished portion of such canceled, or omitted items, the Contracting Authority will pay cost plus 10 percent as an overhead charge. The Contractor's expense for work of handling or transporting such material shall be included in computing the cost.
- H. The Contracting Authority will also pay any actual expenses sustained by the Contractor by reason of such cancellation or omission and not represented by work completed or material delivered. In computation of material cost or expenses sustained, no anticipated profit will be included.
 - 1. Material paid for shall become the property of the Contracting Authority and shall be disposed of as directed by the Engineer.

1109.06 PARTIAL PAYMENTS

- A. If the work extends over a period of more than one month, the Engineer may, upon request from the Contractor, prepare monthly estimates based on the amount of work completed in an acceptable manner.
 - 1. On contracts for which the contract sum is \$10,000.00 or more, monthly estimates may be allowed, based on 90% of invoiced value of processed or fabricated materials which have been delivered on the

- project site, provided the materials are of acceptable quality and the manner of storage is satisfactory to the Engineer.
2. The Engineer's monthly estimates shall be partial payments on the contract, and the allowance of a monthly estimate by the Contracting Authority does not constitute final acceptance of the work upon which the estimates are based. Each estimate shall be filed by the Contractor in the form of a claim against the Contracting Authority and certified to by the Engineer on a payment request form supplied by the Contracting Authority.
- B. Five percent (5%) of each progress estimate shall be deducted and held as a suspended payment. Payments may be made on the remainder of the progress estimate, except under circumstances which would prejudice the rights of those who have filed claims pursuant to Chapter 573, Code of Iowa.
1. The retained percentage will not be due and payable for a period of at least 30 days after the date of final acceptance of the entire contract or following the release or adjudication of claims that may have been filed, or until the Contractor has filed the sworn final estimate and sales and use tax statement with the Contracting Authority.
 2. Should a reasonable doubt arise as to the integrity of any part of the completed work, the estimate for that portion shall not be allowed until the cause for such doubt has been removed.
 3. The progress estimates and payments are approximate only, and shall be subject to correction in the final estimate and payment.
- C. Failure to make partial payment within 30 days after receipt and approval of the monthly estimate by the Engineer, will cause interest to accrue and additional payment therefor to be made in accordance with provisions of Chapter 573, Code of Iowa, subject to limitations included therein.

1109.07 SUPPLEMENTAL CONTRACT FOR WORK INTERRUPTED

- A. After ninety-five (95%) of the work has been performed to the satisfaction of the Contracting Authority, including consideration of the contract period, and it is apparent that conditions beyond the control of the Contractor will delay the completion of the contract for more than 60 days, the Contractor may request a supplemental contract for the uncompleted portion of work on the same terms as those of the original contract.
1. If the Contracting Authority agrees, and the surety for the Contractors consents to the extension of the bond for the time required to complete the supplemental contract, the supplemental contract will be issued. After the contract has been entered into, full payment will be made for the work completed, except under circumstances which would prejudice the rights of those who have filed claims pursuant to Chapter 573, Code of Iowa.
- B. The unpaid money, held by the Contracting Authority as a retainer of the original contract price, will be due and payable to the Contractor 30 days after the date of the Contracting Authority's approval of the supplemental contract, except as provided for the release and adjudication of claims in 1109.06.

1109.08 CERTIFIED STATEMENT OF SALES TAX AND USE TAX PAID

- A. Unless the Contracting Authority has issue an authorization letter and a Sales Tax Exemption Certificate for this project, before final payment can be made on a contract, the Contractor and subcontractors shall file a certified statement on forms provided by the Contracting Authority, showing the amount of Iowa sales tax and use tax paid by them on all materials which have become a component part of the finished, completed contract and on such supplies for this construction as were actually consumed on this work.
- B. These statements shall be submitted in duplicate to the Contracting Authority at the completion of the contract.

1109.09 ASSIGNMENT OF MONIES

- A. The Contractor shall not assign, by power of attorney or otherwise, any of the monies to become due and payable under this agreement unless the Contractor has received written consent of the Contracting Authority.

1109.10 SUBMITTALS REQUIRED BEFORE FINAL PAYMENT

- A. Before final payment can be made on this contract, the Contractor shall submit to the Engineer the following:
 - 1. A request for prefinal and final payment.
 - 2. One copy of any guarantees for products incorporated into the work.
 - 3. Two copies of the operating instructions on each piece of equipment incorporated into the work.
 - 4. Statements of Sales Tax from the Contractor and subcontractors, unless in receipt of an authorization letter and a Sales tax Exemption Certificate issued by the Contracting Authority for this project.

1109.11 FINAL ACCEPTANCE AND PAYMENT

- A. Final acceptance is stipulated to mean a written acceptance by the Contracting Authority. The Contracting Authority shall make final acceptance promptly upon the satisfactory completion of the work. Final payment shall be made as soon as possible following the expiration of statutory time for filing claims, or following adjudication or release of claims against the amount withheld.
- B. Failure to make final payment within 70 days after completion of the work, and if all requirements of the contract are completed, will cause interest to accrue and additional payment therefor to be made in accordance with provisions of Chapter 573, Code of Iowa, subject to limitations included therein, however, this provision shall not apply when final payment includes a supplemental contract for work interrupted, as provided for in 1109.07.
- C. Completion of the work will be considered as the date of approval and work acceptance by the Contracting Authority. When interest is to be paid, the date from which interest is to be calculated will be the thirty-first day after all required materials, certifications, and other documentation required to be submitted by the Contractor are received by the Engineer, however, the Contractor will be paid no interest if final payment is made within 70 days from the date of approval and work acceptance. The signed final payment request is not required documentation, but if not returned to the Engineer within 30 days, it will be considered required documentation.
- D. Signing of the final payment request or acceptance of payment based thereon, shall not waive any rights of either party in the resolution of any claim filed in accordance with 1109.12.
- E. The Contracting Authority shall satisfy itself as to the faithful completion of each part of the work, and may reject any portion found to be inconsistent with the terms of the contract.

1109.12 DISPUTED CLAIMS FOR EXTRA COMPENSATION

- A. In any case where the Contractor deems that extra compensation is due for work or material not clearly covered in the contract and not ordered by the Engineer as extra work as defined herein, the Contractor shall notify the Engineer in writing of the intention to make a claim for extra compensation before beginning the work on which the claim is based.
- B. The Contracting Authority shall be responsible for damages attributable to the performance, nonperformance, or delay of any other contractor, governmental agency, utility, firm, corporation, or

individual authorized to do work on the project, only when such damage is a result from negligence on the part of the Contracting Authority, Engineer, or any of its officers or employees.

1. In any case where the Contractor deems that extra compensation is due from the Contracting Authority as damages resulting from such performances, nonperformances, or delays, the Contractor shall notify the Engineer in writing at the time the delay occurs.
- C. In either cases if such notification is not given, or if after such notification is given, the Engineer is not afforded facilities for keeping strict account of actual cost, as defined for force-account construction, the Contractor thereby agrees to waive the claim for extra compensation for such work. Such notice by the Contractors and the fact that the Engineer has kept account of the cost as aforesaid, shall not be construed as establishing the validity of the claim.
1. The claims when filed, shall be in writing and in sufficient detail to permit auditing and evaluation by the Contracting Authority. Claims shall be supported by such documentary evidence as the claimant has available and shall be verified by affidavit of the claimant or other persons having knowledge of the facts.
 2. In the event the claimant wishes an opportunity to present the claim in person, then the claim shall be accompanied by a written request to do so.
 3. Where the claimant asks an opportunity to present the claim in person, the Contracting Authority, within a reasonable period of time after the filing of the claim, shall fix a time and place for a meeting between the claimant and the Contracting Authority or its designated representatives.
 - a. The Contracting Authority shall, within a reasonable time from filing of the claim or the meeting above referred to, whichever is later, rule upon the validity of the claim and notify the claimant in writing, of its ruling together with the reasons therefor. In case the claim is found to be just, in whole or in part, it shall be allowed and paid to the extent so found.
- E. The Contractor shall not institute any court action against the Contracting Authority for the adjudication of any claims until such claim has first been presented to Contracting Authority pursuant to this articles and submitted to arbitration or a request for arbitration is denied pursuant to 1109.13.

1109.13 ARBITRATION

- A. If a Contractor's claim, as outlined in 1109.12, has been disallowed, in whole or in part, then the Contractor may, within 30 days from the date the ruling of the Engineer is mailed to the Contractor, make a written request to the Engineer that the claim or claims be submitted to a board of arbitration.
 1. The Engineer shall decide whether the matter is one which is subject to arbitration and shall, within 30 days of the receipt of the request for arbitration, grant or deny the request.
 2. The Engineer's decisions shall be final.
- B. Said board of arbitration shall consist of three persons, one to be chosen by the Engineer, one by the Contractor, and the third by the two arbitrators.
- C. The arbitrators selected shall be persons experienced and familiar with construction or engineering practices in the general type of work involved in the contract, but shall not have been a regular employee or an individual retained by either party at the time involved in the controversy, or at the time of arbitration.
- D. The board of arbitration shall make its own rules of procedure and shall have authority to examine records kept by the Engineer and the Contractor.
 1. If the desired records are not produced within 10 days after they are requested, the board of arbitration shall proceed without them as best it may.

2. In determining the findings, or awards, or both, the majority vote of the board shall govern. Copies of the findings or awards or both, signed by the arbitrators shall be filed with the Engineer and the Contractor.
 3. A majority report or minority report may be filed. The board of arbitration shall fix the cost of the proceedings, including a reasonable compensation to the arbitrators, and shall determine how the total cost shall be borne.
- E. The board of arbitration shall have jurisdiction to pass upon questions involving compensation to the Contractor for work actually performed or materials furnished and upon claims for extra compensation which have not been allowed by the Engineer. Jurisdiction of the board shall not extend to:
1. A determination of quality of workmanship, or materials furnished, or to an interpretation of the intent of the plans and specifications, except as to matters of compensation.
 2. Setting aside or modifying the terms or requirements of the contract.
- F. The findings or awards or both, of the arbitration board, if acceptable to both parties to the contract, may become a basis for final payment.
- G. If the findings of the arbitration board are unacceptable to either party to the contract, said findings may become the basis for further negotiations between the parties. If a solution agreeable to both parties has not been reached through the filing of a claims through arbitration, or if arbitration has been denied, either party may resort to whatever other methods for resolving the claim are available.

1109.14 CLAIMS AGAINST CONTRACTOR

- A. The Contractor guarantees the payment of all just claims against him/her or any subcontractor, in connection with the work. If another contractor on the project submits a claim for alleged damages caused by delay due to the Contractor not having completed its work in a timely manner, the Contractor's bond shall remain in effect until payment of such claim is made, or until litigation is started, at which time the bond will be released.

1109.15 TIME LIMITS FOR FINAL ADJUSTMENT

- A. The Contractor shall understand that the Contracting Authority will not be bound to consider applications for correction of estimates and payments after the Contractor has signed the final estimate, or after 30 days from the date when the final estimate is submitted to the Contractor for approval. Should an error be discovered as a result of the Contractor's annual audit, an application for corrections promptly made will be considered.

1109.16 NATIONAL EMERGENCY PROVISIONS

- A. The Contracting Authority may, with written notice, terminate the contract, or a portion thereof, when the Contractor is prevented from proceeding with the construction contract as a direct result of an executive order of the President with respect to the prosecution of war, or in the interest of national defenses as provided in Chapter 573A of the Code of Iowa.
- B. When contracts, or any portion thereof, are terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract unit prices or as mutually agreed for items of work partially completed or not started. No claim for loss of anticipated profits shall be considered.
1. Reimbursement for organization of work (when not included in the contract) and moving equipment to and from the job will be considered where the volume of work completed is too small to compensate the contractor for these expenses under the contract unit prices, the intent being that an equitable settlement will be made with the Contractor.

- C. Acceptable materials, obtained by the Contractor for the work, which have been inspected, tested, and accepted by the Engineer, and which are not incorporated into the work, shall be purchased from the Contractor at actual cost, as shown by receipted bills and actual cost records, at such points of delivery as may be designated by the Engineer.
- D. Termination of a contract, or a portion thereof, shall not relieve the Contractor of its responsibilities for the completed work, nor shall it relieve the Contractor's surety of its obligation for and concerning any just claims arising out of the work performed.

1109.17 STANDARD CONTRACT CLAUSES

- A. Differing site conditions.
 - 1. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party, in writing, of the specific differing conditions before they are disturbed and before the affected work is performed.
 - 2. Upon written notification, the Engineer will investigate the conditions, and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly.
 - a. The Engineer will notify the Contractor of his/her determination whether or not an adjustment of the contract is warranted.
 - 3. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.
 - 4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work.
- B. Suspension of work ordered by the Engineer.
 - 1. If the performance of all or any portion of the work is suspended or delayed by the Engineer, in writing, for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the Contractor shall submit to the Engineer, in writing, a request for adjustment within seven (7) calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
 - 2. Upon receipt, the Engineer will evaluate the Contractor's request. If the Engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers, or Subcontractors at any approved tier, and not caused by weather, the Engineer will make an adjustment, excluding profit, and modify the contract in writing accordingly.
 - a. The Engineer will notify the Contractor of his/her determination, whether or not an adjustment of the contract is warranted.
 - 3. No contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time prescribed.
 - 4. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract.

- C. Significant changes in the character of work.
 - 1. The Engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work, as are necessary to satisfactorily complete the project.
 - a. Such changes in quantities and alternations shall not invalidate the contract nor release the Surety, and the Contractor agrees to perform the work as altered.
 - 2. If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any anticipated profits, adjustments will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If such a basis cannot be agreed upon, an adjustment will be made either for or against the Contractor in such amount as the engineer may determine to be fair and equitable.
 - 3. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contracts the altered work will be paid for as provided elsewhere in the contract.
 - 4. The term "significant change" shall be construed to apply only to the following circumstances:
 - a. When the character of the work as altered, differs materially in kind or nature from that involved or included in the original proposed construction or;
 - b. When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity, any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work.

1109.18 INTEREST PAYMENTS

- A. Interest on monthly payment estimates.
 - 1. Interests shall be paid to the Contractor on any progress payment approved by the Chief Engineer under paragraph A of paragraph 1109.06 of these General Covenants and Provisions, which remains unpaid after thirty (30) days of the receipt by the Contracting Authority.
 - a. Receipt by the Contracting Authority shall be defined as the date the Contracting Authority's central office mail staff receives the progress payment request and stamp it. All progress payment requests which are delivered directly to the central office by the Contractor or the Inspector of the Contracting Authority shall have a date of receipt entered by the mail room staff.
 - b. Interest shall accrue on the 31st day after receipt by the Contracting Authority, if approved by the Chief Engineer, and shall end on the date the warrant is issued by the Iowa Department of Revenue. The rate of interest shall be the same as the rate of interest in effect under 453.6 of the Iowa Code, as the date interest begin to accrue.
- B. Interest on retainage.
 - 1. Interest shall be paid on any retained funds held under paragraph B of section 1109.06 of these General Covenants and Provisions. Interest shall be paid as outlined in Iowa Administrative Code section 561, Chapter 8.7.

END OF SECTION 00700

SECTION 007100

(Revised 9/8/95)

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES

Notice of Requirements for Affirmative Action to ensure Equal Employment Opportunity (Executive Order 11246 as amended) and Iowa Executive Orders 15 and 34. This includes employment goals for minorities and women in construction.

60-1.4 EQUAL OPPORTUNITY CLAUSE.

A. Federally assisted construction contracts.

1. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause.

B. The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loans insurance, or guarantee, the following equal opportunity clause:

C. During the performance of this contracts the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee, or applicant for employment because of race, colors, religion, sex, national origin, or disability.
 - a. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following; Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
 - b. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, national origin, or disability.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor or as otherwise provided by law.
7. The Contractor will include the portion of the sentence immediately preceding paragraph 1. and the provisions of paragraphs 1. through 7. in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor.
 - a. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.
 - b. Provided, however, that in the event a Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

I. DEFINITIONS.

A. Definitions as used in these specifications:

1. **Covered Area** means the entire State of Iowa, however, those areas of a Hometown Plan approved by the U.S. Department of Labor will be considered separately.
2. **Director** means Director, Office of Federal Contract Compliance Program, United States Department of Labor or any person to whom the Director delegates authority.
3. **Employer Identification Number** means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Returns U.S, Treasury Department Form 941.
4. **Designated Geographical Areas.**
 - a. **Standard Metropolitan Statistical Area (SMSA).** These areas represent a reasoned judgement as to how metropolitan areas are defined statistically in a uniform manner, using data items that are:
 - (1) widely recognized as indicative or metropolitan character, (population, urban character, nonagricultural employment, population, density, and commuting ties), and
 - (2) available from a body of Federal statistics which has been uniformly and simultaneously collected in all parts of the country, and processed and tabulated according to consistent standards. Thus, if a project is located within an SMSA, it can be concluded that a reasonable commuting area exists within the SMSA, and that goals based on SMSA statistics are accurate.
 - b. **Economic Area (EA).** These areas are viewed as centers of commerce, and they generally cover areas which include the places of work and residence for most workers. There are 183 such areas, defined along county lines, covering the entire country. Counties were assigned to these economic areas in accordance with commuting patterns based primarily on data gathered by the Bureau of the Census.

5. **Minority** includes:

- a. **Black** (all persons having origins in any of the Black African racial groups not of Hispanic origin);
- b. **Hispanic** (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture or origin, regardless of race),
- c. **Asian and Pacific Islander** (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands), and
- d. **American Indian or Alaskan Native** (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(Note: Minority women from the above referenced groups shall be counted as satisfying both the minority and female employment goals in each geographic area.)

II. GENERAL.

- A. Equal Employment Opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375. The requirements set forth in this specification shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

III. EQUAL OPPORTUNITY POLICY.

- A. The Contractor will accept as his/her operating policy the following statement which is designed to farther the provision of equal employment opportunity to all persons without regard to their age, race, color, religion, sex, national origin, or disability, and to promote the full realization of equal employment opportunity through a positive, continuing program.

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their age, race, religion, sex, color, national origin, or disability. Such action shall include: employment, upgrading, demotion, and transfer, recruitment and recruitment advertising, layoff, and termination, rates of pay and other forms of compensation, and selection of training, including apprenticeship, preapprenticeship, and/or on-the-job training."

IV. GOALS.

- A. Specific goals for female and minority participation have been established.
- B. The goals for female participation, expressed in percentage terms for the total hours worked by the Contractor's aggregate workforce in each trade on all construction work, is 6.9 percent, with no timetable. This goal applies nationwide.
 1. Goals for minority participation in Iowa, expressed in percentage terms for the total hours worked by the Contractor's aggregate workforce in each trade on all construction work, are shown on the map of Iowa that follows. The goals shown apply to each designated geographical area, as shown on the map.
- C. These goals are applicable to all the Contractor's construction work (whether or not it is non-Federal or Federally assisted) performed in the designated area. For each contract and/or subcontract in excess of \$10,000, the goals for minority participation will apply for all work to be performed in geographical areas designated by the Director pursuant to 41 CFR 60-4.6, and the goal for female participation will apply nationwide.

1. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on his/her implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and his/her efforts to meet the goals established for minority participation for the geographical area where the work is to be performed, or nationwide goal for female participation.
 2. The hours of minority and female employment and training must be substantially uniform throughout the time period for the work of the contracts and within each trade, and the Contractor shall make a good-faith effort to employ minorities and women evenly on each of his/her projects.
 3. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Orders and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.
- D. The Contractor shall provide written notification to the Department of Natural Resources (on behalf of the Director of the Office of Federal Contract Compliance Programs) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under this contract.
1. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontracts and the geographical area in which the contract work is to be performed.

E. Application of Minority Participation Goals.

1. **Minority Participation.** A single minority participation goal is established for each SMSA and EA. Timetables for the achievement of minority goals are not provided. A separate goal is established for each SMSA and for each EA. When a contract or subcontract to which this specification applies is for work located within a SMSA, the goal for what SMSA applies. When a contract or subcontract to which this specification applies is for work located outside an SMSA, the goal for that EA applies.
 - a. The applicable goal for the Contractor or subcontractors is the goal for each geographical area where the work is being performed, and all the work of the Federal or Federally assisted construction contractor or subcontractor is covered, whether the work is being performed for a contract to which the specification applies or not. Therefore, a contractor with work in SMSA "X" would apply the goal for SMSA "X" for that work. The same contractors however, would apply the SMSA "Y" goal to all his/her work in SMSA "Y", even though the Contractor's work in SMSA "Y" is neither Federal nor Federally assisted.
2. **Participation of Minority Women.** The Contractor and required subcontractors will be permitted to count minority women belonging to one of the recognized minority groups listed in Article I of this specification as satisfying both the minority goal for each designated geographic area and the overall female goals. Conversely, nonminority women will only count toward satisfying the overall female goal.

V. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246).

- A. Whenever the Contractors or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, he/she shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation set forth herein.

- B.** If the Contractor is participating (pursuant to 41 CFR 60-4.5) In a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, his/her affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan.
- 1.** Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved Plan is individually required to comply with his/her obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which he/she has employees.
 - 2.** The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to make good faith efforts to achieve the Plan goals and timetables.
- C.** The Contractor shall implement the specific affirmative action standards provided in paragraphs 6a through p. Article V, of these specifications. The goals set forth in the specifications are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which he/she has employees in the covered area. The Contractor is expected to make substantially uniform progress toward his/her goals in each craft during the period specified.
- D.** Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- E.** In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training program, approved by U.S. Department of Labor.
- F.** The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluations of the Contractor's compliance with these specifications shall be based upon his/her effort to achieve maximum results from his/her actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
- 1.** Endure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project.
 - a.** The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of, and carry out, the Contractor's obligations to maintain such a working environments with specific attention to minority or female individuals working at such sites or such facilities.
 - 2.** Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - 3.** Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization, and of what action was taken with respect to each such individual.

- a. If such individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
4. Provide immediate written notification to the Director, when the union or unions with which the Contractor has a collective bargaining agreement, have not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet his/her obligations.
5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. Training programs may be specifically required elsewhere in the contract documents. The Contractor's responsibility for training opportunities is not necessarily limited to training programs that are specifically required. The Contractor shall provide notice of these programs to the sources compiled under 6b above.
6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting his/her EEO obligations, by including it in any policy manual and collective bargaining agreement, by publicizing it in the company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female employees, at least once a year, and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items with on-site supervisory personnel, such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained, identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to, and discussion the Contractor's EEO policy, with other Contractors and subcontractors with whom the Contractor does or anticipates doing business.
9. Direct the Contractor's recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment sources the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after schools summer, and vacation employment to minority and female youths both on the site and in other areas of the Contractor's workforce.
11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
12. Conduct, at least annually, an inventory and evaluation, of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

13. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect, by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 14. Ensure that all facilities and company activities are nonsegregated, except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractor and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 16. Conduct a reviews at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- G.** Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (6a through p).
1. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of the obligations under 6a through p of these specifications, provided the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet his/her individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor.
 2. The obligation to comply, however, is the Contractor's, and failure of such group to fulfill an obligation shall not be a defense for the Contractor's noncompliance
- H.** A single overall goal for women and goals for minorities in each designated area are included in Article IV of these specifications. The Contractor is required to provide equal opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved the goal for women generally, the Contractor may be in violation of the Executive Order if a specific minority group or women are underutilized.
- I.** The Contractor shall not use the goal, or affirmative action standards to discriminate against any person because of age, race, color, religion, sex, national origin, or disability.
- J.** The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts, pursuant to Executive Order 11246.
- K.** The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- L.** The Contractors in fulfilling his/her obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph G of these specifications, so as to achieve maximum results from his/her efforts to endure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

- M.** The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records.
- 1.** Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed.
 - 2.** Records shall be maintained in an easily understandable and retrievable form, however, to the degree that existing records satisfy this requirement, Contractor shall not be required to maintain separate records.
- N.** Nothing herein provided shall be construed as a limitation upon the application of other Iowa which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

VI. SUPPLEMENTAL REPORTING REQUIREMENTS.

- A.** The Contractor and subcontractors are required to make available upon request its Affirmative Action Program containing goals and time specifications. These contractual provisions shall be fully enforced. Any breach of the provisions shall be regarded as a material breach of contract.
- B.** The Contractor will keep such records as are necessary to determine compliance with equal employment opportunity obligations. The records kept by the Contractor will be designed to indicate the number of minority and nonminority group members and women employed in each work classification on the project. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Department of Natural Resources and any Federal Agency funding any part of this project.

5. DNR Construction Inspector: The Department of Natural Resources Construction Inspector will be the direct representative of the department at the project location with the authority to verify compliance with the provisions of each and all divisions of this Project Manual. Contact the DNR Construction Inspector regarding questions on site review, inspections and project coordination.
6. Procurement Supervisor: The Procurement Supervisor will answer all questions regarding Bidding and Contract Procedures.
7. General Requirements: The provisions of requirements of Division-1 sections. General requirements apply to entire work of Contract and, where so indicated, to other elements which are included in project.
8. Indicated: The term "indicated" is a cross-reference to details, notes or schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for the purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
9. Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "directed by Project Engineer," "requested by the Project Engineer," etc. However, no such implied meaning will be interpreted to extend Project Engineer's responsibility into Contractor's area of construction supervision.
10. Approve: Where used in conjunction with Project Engineer's or Project Inspector's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of the term "approved," will be held to limitations of responsibilities and duties as specified in General Covenants and Provisions and Supplementary Covenants and Provisions. In no case will "approval" be interpreted as a release of Contractor from responsibilities to fulfill requirements of contract documents.
11. Project Site: The space available to Contractor for performance of the work, either exclusively or in conjunction with others performing other work as part of the project. The extent of project site is shown on Drawings, and may or may not be identical with description of land upon which project is to be built.
12. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
13. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
14. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

1.08 CONSTRUCTION STAKES AND BENCHMARKS:

- A. Article 1105.07 "Construction Stakes and Benchmarks" is supplemented and modified as follows:
1. The contractor shall be responsible for providing all labor, equipment and material necessary to complete the work covered in paragraph A & B of the General Covenants and Provision of this contract. The Contractor or his/her assigned representative shall assume the function of the Engineer as described herein in addition to those assigned to the Contractor and be held responsible for such. The cost of this work shall be paid for as "Construction Survey" Bid Item.

1.09 SAMPLES AND TESTS:

- A. Article 1106.03 "Samples and Tests" is supplemented and modified as follows:
1. All testing required by the contract documents or the DNR Construction Inspector shall be considered a part of the Contract and shall be paid for by the Contractor.

1.10 SUBMITTAL REQUIRED BEFORE FINAL PAYMENT:

- A. Article 1109.10 "Submittals Required Before Final Payment" is supplemented and modified as follows:
1. Submit to the Engineer or the DNR Construction Inspector all submittals required in Section 01300 before final payment can be made, unless otherwise specified.
 2. Other submittals may be required in other sections.

PART 1 PRODUCTS - Not Applicable To This Section

PART 2 EXECUTION - Not Applicable To This Section

END OF SECTION 008110

SECTION 01 00 00
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the contract, including the General Covenants and Provisions and the Supplementary Covenants and Provisions.

1.02 SUMMARY OF WORK

- A. Work Covered by Contract Documents:

- 1. Name of the project is "BEACH HOUSE CONVERSION AT LACEY KEOSAUQUA STATE PARK", Project Number 11-06-89-01. Drawings and Specifications are dated MAY 29, 2011.
- 2. Briefly and without force and effect upon contract documents, work of the contract can be summarized as follows:
 - a. Renovation of an existing Beach House building for conversion to rental space for family gatherings. Includes interior modification to finishes and exterior repairs to roof, siding and openings. Site repairs are also included to improve storm water drainage and repair of stone retaining walls.

- B. Occupancy:

- 1. Owner: The DNR shall have the right to enter the building or work site and store or attach such fixtures or furniture as it may elect, or to do other work providing that such storage or work will not interfere with the completion of the Contractor's work. Such occupancy by the DNR shall in no way imply final acceptance of any portion of the Contractor's work.

1.04 MEASUREMENT AND PAYMENTS

- A. Measurements and payments shall be in accordance with Section 01250 of these specifications.
- B. Before ordering any fabricated material or doing any work, verify all measurements at the project site. No additional compensation will be allowed because of difference between actual dimensions and the measurements indicated on the drawings. Report any difference immediately to the DNR for instructions before proceeding with the work.

1.06 COORDINATION

- A. Project Coordination:
1. Take out and pay for any building permit which may be required, secure and pay for all permits, certificates and licenses required to prosecute the work, and arrange and pay for all inspections required by local authorities.
 2. Visit the site, compare the Drawings and Specifications with any work in place, and verify all conditions, including other work, if any, being performed. Failure to visit the site will in no way relieve the Contractor from necessity of furnishing any materials or performing any work that may be required in accordance with Drawings and Specifications.
- B. Job Site Administration: Take complete charge of work under this contract. Coordinate the work of all trades and all phases of general, structural, plumbing, mechanical, and electrical work.

1.07 FIELD ENGINEERING

- A. Provide such field engineering services as are required for a proper completion of the work.
1. Immediately upon entering project site for the purpose of beginning work:
 - a. Establish actual project location, set back and side yards, if any, with the DNR Construction Inspector.
 - b. Establish and maintain all lines and levels.
- B. Additional requirements for field engineering may also be described in other sections of these specifications.
- C. Verify all figures shown on Drawings before laying out work and report all discrepancies to the DNR Construction Inspector. Contractor will be held responsible for any error resulting from failure to do so.

1.09 ABBREVIATIONS AND SYMBOLS

- A. Reference to a technical society, institution, association, or government authority is made in the Specifications in accordance with the following abbreviations:

AAMA	Architectural Aluminum Manufacturers Association
AASHO	American Association of State Highway Officials
ACI	American Concrete Institute
AIA	American Institute of Project Engineers
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALS	American Lumber Standards

APA	American Plywood Association
ATI	Asphalt Tile Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWI	Project Architectural Wood Work Institute
AWPA	American Wood Preservers' Association
AWS	American Welding Society
CS	Commercial Standard, U.S. Department of Commerce
FGJA	Flat Glass Jobbers Association
FS	Federal Specification
GA	Gypsum Association
IES	Illuminating Engineering Society
MIA	Marble Institute of America
MLMA	Metal Lath Manufacturers Association
MS	Military Specification
MSTD	Military Standard
NAAMM	National Association of Metal Manufacturers, The
NHLA	National Hardwood Lumber Association
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NEC	National Electric Code of NBFU
NFPA	National Fire Protection Association
NLMA	National Lumber Manufacturers Association
NTMA	National Terrazzo and Mosaic Association, Inc.,
NWMA	National Woodwork Manufacturers Association
SDI	Steel Deck Institute
SSPC	Steel Structures Painting Council
SCPI	Structural Clay Products Institute
SPR	Simplified Practice Recommendations, U.S. Department of Commerce
TCA	Tile Council of America
UL	Underwriters' Laboratories, Inc.
USA	United States of America Standards Association

1.13 PROJECT MEETINGS

- A. Preconstruction Conference: Soon after award of contract and prior to the start of construction, attend a preconstruction conference with the representative of the Owner to define the requirements for contract administration and construction operation.
 - 1. Contact the DNR Construction Inspector who will determine the time, date and place of the conference.
- B. Progress Meetings: The Contractor or the Contractor's representative shall be available at the job site to meet with the DNR Construction Inspector, as frequently and as arranged during the preconstruction conference, to discuss work progress.

1. Give verbal report of progress, discuss work schedule, and present all conflicts, discrepancies and other difficulties for resolution.

1.16 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- A. Definitions: Specific administrative and procedural minimum actions are specified in this section, as extension of provisions in other contract documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication by Project Engineer that such temporary activity is not required for successful completion of the work and compliance with contract documents.
- B. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have replaced the need.
- C. Temporary Utilities: The types of services required may include, but not by way of limitation, water, sewerage, surface drainage, electrical power and telephones. Where possible and reasonable, connect to existing franchised utilities for required services; comply with service company's recommendations on materials and methods, or engage service companies to install services. Locate and relocate services (as necessary) to minimize interference with construction operations.
 1. Sanitary Facilities:
 - a. Temporary Toilets: When such or permanent facilities do not exist, provide and maintain toilets for use by workers. Keep toilets in sanitary condition.
 - b. Temporary toilet facilities shall meet OSHA requirements.
- D. Security:
 1. Protection of Work and Property:
 - a. Place and maintain such barricades as may be necessary to prevent public access to the project site at no cost to the Owner.
- E. Options and Substitutions:
 1. Bid shall include all equipment, materials, and services as specified, noted on the Drawings or required for a complete and proper installation.

1.19 CONTRACT CLOSEOUT

- A. Final Cleaning:
 1. Remove waste material and rubbish caused by the Work and leave all work clean and free of debris of any kind.

2. Keep the site and access road reasonably clean and free of rubbish or waste material in order that the work may progress efficiently. Remove such rubbish or waste material entirely from the premises at each time of such cleaning.
3. When the Work is completed and ready to turn over to the Owner, leave such work clean. This applies to all areas affected by contract work.
4. On completion of the Work, thoroughly police and clean-up the premises surrounding the building.

B. Final Inspection:

1. Request a final inspection in writing, at least ten days prior to the anticipated date of completion, from the DNR Construction Inspector.
2. Work will not be considered ready for final inspection until all the work has been completed and the Contractor has certified that all items are properly operating and in strict compliance with the Contract Documents.
3. The Contractor or project supervisor shall be at the job site during the final inspection.
4. After the inspection, the DNR Construction Inspector will present the Contractor a list of items not meeting contract requirements which must be made acceptable before final payment is made.

END OF SECTION 010000

SECTION 01 10 00
SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Project Identification: BEACH HOUSE CONVERSION AT LACEY KEOSAUQUA STATE PARK (VAN BUREN COUNTY, Iowa).
- B. Project Summary: RENOVATION OF AN EXISTING BEACH HOUSE BUILDING FOR CONVERSION TO RENTAL SPACE FOR FAMILY GATHERINGS. INCLUDES INTERIOR MODIFICATION TO FINISHES AND EXTERIOR REPAIRS TO ROOF, SIDING AND OPENINGS. SITE REPAIRS ARE ALSO INCLUDED TO IMPROVE STORM WATER DRAINAGE AND REPAIR OF STONE RETAINING WALLS.
- C. Particular Project Requirements: All work is to be meet a completion date of 12/31/2011.
- D. Permits and Fees: Apply for, obtain, and pay for permits, fees, and utility company charges required to complete the work. Submit copies to Architect.
- E. Codes: Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices and similar communications to Architect.
- F. Dimensions: Verify all dimensions indicated on drawings with field dimensions before fabrication and/or ordering of materials. Do not scale drawings.
- G. Existing Conditions: Notify Architect of existing conditions differing from those indicated on the drawings. Altering of structural components is not permitted.
- H. Coordination:
 - 1. Coordinate the work of all trades.
 - 2. Prepare coordination drawings for areas above ceilings where close tolerances are required between building elements and mechanical and electrical work.
 - 3. Verify location of utilities and existing conditions.
- I. Installation Requirements, General:
 - 1. Inspect substrates and report unsatisfactory conditions in writing.
 - 2. Do not proceed until unsatisfactory conditions have been corrected.
 - 3. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
 - 4. Install materials in exact accordance with manufacturer's instructions and approved submittals.
 - 5. Install materials in proper relation with adjacent construction and with proper appearance.

6. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.
 7. Refer to additional installation requirements and tolerances specified under individual specification sections.
- J. Limit of Use: Limit use of work as indicated. Keep driveways and entrances clear.
- K. Definitions:
1. Provide: Furnish and install, complete with all necessary accessories, ready for intended use. Pay for all related costs.
 2. Approved: Acceptance of item submitted for approval. Not a limitation or release for compliance with the Contract Documents or regulatory requirements. Refer to limitations of 'Approved' in General and Supplementary Conditions.
 3. Match Existing: Match existing as acceptable to the Owner.
- L. Intent: Drawings and specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonable implied or necessary for proper performance of the project shall be included.
- M. Writing Style: Specifications are written in the imperative mode. Except where specifically intended otherwise, the subject of all imperative statements is the Contractor. For example, 'Provide tile' means 'Contractor shall provide tile.'

PART 2 PRODUCTS - Not Applicable To This Section

PART 3 EXECUTION - Not Applicable To This Section

END OF SECTION 011000

SECTION 01 25 00
MEASUREMENT AND BASIS OF PAYMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and Provisions and General Requirements.

1.02 LUMP SUM / UNIT PRICE BID

- A. Bid each item on a Unit Price basis or Lump Sum basis as required, including furnishing all labor, equipment and materials necessary to complete all the work indicated in the Contract Documents.

1.03 QUANTITIES

- A. Various estimated quantities are furnished within the Contract Documents to assist the Contractor in reviewing the Project prior to bidding. The estimated quantities are not intended to be used by the Contractor as sole basis for determining the scope and volume of the work. The Contractor is responsible for verifying all quantities necessary to submit bids for the construction of a proper and complete project.

1.04 MEASUREMENT

- A. The contractor is responsible for constructing the project to the final lines and grades shown. Owner will measure construction units only to ensure that at least minimum quantities have been properly installed.

1.05 SCOPE

- A. Each item in the Bidder's Proposal Schedule of Prices will be paid at the unit or lump sum price. The price for each item shall be considered full compensation for furnishing superintendence, overhead, bonds, insurance, mobilization, testing and profit necessary to complete the construction of the item of the project listed in the Bidder's Proposal.
- B. It is not the intent of the Bidder's Proposal to itemize each and every item and system required. Items required for project completion and not specifically mentioned in Bidder's Proposal shall be included with items which they would be considered subsidiary.

1.06 ESTIMATED QUANTITIES

- A. The items and quantities described above, as well as others listed throughout the Contract Documents, are provided for the bidder's review and consideration. The quantities listed herein are not guaranteed by the owner or the Project Engineer to be totally accurate nor to include all items of work. They are provided for the bidder's convenience to assist in the preparation of the bid. The bidder is responsible for preparing his own quantity takeoff and bid preparation.

END OF SECTION 012500

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 01 30 00
SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and Provisions and General Requirements.

1.02 SUMMARY

- A. Provide submittals required in this Section, refer to technical specification for submittal requirements for each section of the work to be performed.

1.03 PROGRESS SCHEDULE

- A. Submit a project schedule to the Project Engineer for approval within 30 days after award of contract, but not later than the contract start date. The type of schedule required is at Contractor's option.
- B. Prepare an approved, reproducible form and include the following:
 - 1. Breakdown of work activities in categories so approved and segmented as necessary to allow close monitoring of progress of the work during construction.
 - 2. Order of the work necessary to meet time for completion.
 - 3. Breakdown of the work schedule of all subcontractors scheduled in cooperation with Contractor's work.
 - 4. Anticipated monthly value for work completed.
 - 5. Space for the additional display of actual performance on the schedule.
- C. After necessary revisions have been made and approved, present one print of schedule to each subcontractor and three copies to the Owner.
- D. Upon request, update the schedule to reflect changes required by actual conditions and indicate actual work completed. Provide same number of copies as required for original submission.
- E. Payment will be withheld until progress schedule in acceptable form has been received by Project Engineer.

1.04 PRICE BREAKDOWN

- A. Within 30 days after award of contract, but not later than the contract start date, submit to the Project Engineer for approval a price breakdown of major lump sum bid items into smaller components for the purpose of determining monthly progress payments.
- B. Include profit and overhead prices in each item.
- C. Payment will be withheld until receipt of price breakdown.
- D. Provide breakdown as follows:
- E. Items listed above include, but are not limited to, the following:

1.05 SHOP DRAWINGS AND MANUFACTURER'S LITERATURE

- A. Prior to installation of any item specified as requiring submittal, submit two (2) copies for Owner's use plus the number required for return to the Contractor, of manufacturer's literature containing detailed specifications and performance data, or shop drawings fully describing the items showing fabrication, layout, setting or erection details, including erection plan and details as required.
- B. Number all submittals consecutively . Re-submittals shall bear the original submittal number plus a letter suffix: Example - #30A is the first re-submittal of item #30; #30B is the second re-submittal, etc.
- C. Shop drawings used at site must be approved by the Project Engineer.
- D. Do not construe the approval of shop drawings to be a complete check. This approval will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of the responsibility to comply with all terms and conditions of the plans and specifications. The Contractor shall be responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work.

1.06 SAMPLES

- A. Submit in Duplicate:
- B. Provide samples of sufficient size to permit an accurate appraisal of color, texture, finish, workmanship, and other appropriate characteristics.
- C. Submit samples with shop drawings when both are required.
- D. Field Samples and Mock-Ups:
 - 1. Erect mock-ups at location acceptable to the DNR Construction Inspector, at project site.

2. Construct each sample or mock-up complete to the dimension indicated, including work of all crafts required in finish work.

1.07 QUALITY ASSURANCE

A. Coordination of Submittals:

1. Prior to submitting required material, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and its submittal conform in all respects with the specified requirements.
3. Prior to sending submittals to Project Engineer, the stamp and sign each submittal, certifying that they conform in all respects with the specified requirements.

B. Substitutions:

1. The contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed with the Project Engineer prior to the bid date, and when substantiated by Contractor's submittal of required data within 35 calendar days after award of contract.
2. The following products do not require further approval except for interface within the work:
 - a. Products specified by reference to standard specifications such as ASTM or similar standards.
 - b. Products specified by manufacturer's name and catalog model number for which another product is not substituted.
3. Do not substitute materials, equipment or methods unless such substitutions have been specifically approved in writing.

C. Or Equal:

1. Where the phrase "or equal," or "or equal as approved by the Project Engineer," occurs in the Contract Documents, do not assume that the materials, equipment or methods will be approved as equal unless the item has been specifically approved for this work by the Project Engineer.
2. The Project Engineer's decision shall be final.

1.08 RESUBMISSION REQUIREMENTS

A. Shop Drawings:

1. Revise initial Drawings as directed and resubmit in accordance with submittal procedures.

2. Indicate on Drawings all changes which have been made in addition to those requested by the Project Engineer.
- B. Product Data and Samples: Resubmit new data and samples as specified for initial submittal.
 - C. Make all re-submittals within 7 calendar days after date of Project Engineer's previous review.

1.09 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

- A. Project Engineer will distribute copies of shop drawings and product data, after review, to:
 1. DNR Construction Inspector (1 copy)
 2. Project Engineer's File (1 copy)
 3. General Contractor (remaining copies)
- B. Project Engineer will distribute samples in accordance with requirements.

1.10 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings, product data, and samples prior to submission to the next level of control.
- B. Verify:
 1. Field dimensions.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
- C. Coordinate each submittal with requirements of:
 1. The work.
 2. The contract documents.
 3. The work of other contractors.
- D. Contractor's responsibility for errors and omissions in submittals is not relieved by Project Engineer's review of submittals.
- E. Notify Project Engineer, in writing, of proposed deviations in submittals from contract requirements, prior to or at the time of submission.
- F. Contractor's responsibility for deviations in submittals from contract document requirements is not relieved by Project Engineer's review of submittals.
- G. Do not begin any work which requires submittals without having Project Engineer's stamp and initials or signature indicating approval.

- C. All contract time extensions required as a result of a proposed change must be justified and supported in detail at the time of the proposal.

1.16 TEST REPORTS

- A. Refer to Section 01400 of these specifications.

1.17 DELIVERY TICKETS

- A. Submit to the DNR Construction Inspector one legible copy of each delivery ticket for all material delivered to the construction site.
- B. The delivery ticket shall show brand name, catalog number and number of items received.

END OF SECTION 013000

SECTION 01 30 10
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Administration of Contract: Provide administrative requirements for the proper coordination and completion of work including the following:
 - 1. Supervisory personnel.
 - 2. Preconstruction conference.
 - 3. Project meetings, minimum of two per month; prepare and distribute minutes.
- B. Reports: Submit daily and special reports.
- C. Work Schedule: Submit progress schedule, updated monthly.
- D. Submittal Schedule: Prepare submittal schedule; coordinate with progress schedule.
- E. Schedule of Values: Submit schedule of values.
- F. Schedule of Tests: Submit schedule of required tests including payment and responsibility.
- G. Perform Surveys: Lay out the work and verifying locations during construction. Perform final site survey.
- H. Emergency Contacts: Submit and post a list of emergency telephone numbers and address for individuals to be contacted in case of emergency.
- I. Record Documents: Submit record drawings and specifications; to be maintained and annotated by Contractor as work progresses.

1.2 SUBMITTALS

- A. Types of Submittals: Provide types of submittals listed in individual sections and number of copies required below.
 - 1. Shop drawings, reviewed and annotated by the Contractor - 4 copies.
 - 2. Product data - 4 copies.
 - 3. Samples - 2, plus extra samples as required to indicate range of color, finish, and texture to be expected.
 - 4. Inspection and test reports - 4 copies.
 - 5. Warranties - 4 copies.
 - 6. Survey data - 4 copies.

7. Closeout submittals - 4 copies.
 8. Project photographs - 12 digital images each month submitted on CD. Submit cumulative CD at each subsequent submittal. Label each image with date.
- B. Submittal Procedures: Comply with project format for submittals. Comply with submittal procedures established by Architect including Architect's submittal and shop drawing stamp. Provide required resubmittals if original submittals are not approved. Provide distribution of approved copies including modifications after submittals have been approved.
- C. Samples and Shop Drawings: Samples and shop drawings shall be prepared specifically for this project. Shop drawings shall include dimensions and details, including adjacent construction and related work. Note special coordination required. Note any deviations from requirements of the Contract Documents.
- D. Warranties: Provide warranties as specified; warranties shall not limit length of time for remedy of damages Owner may have by legal statute. Contractor, supplier or installer responsible for performance of warranty shall sign warranties.

PART 2 PRODUCTS - Not Applicable To This Section

PART 3 EXECUTION - Not Applicable To This Section

END OF SECTION 013010

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Project meetings.
 - 2. Requests for Interpretation (RFIs).

1.3 DEFINITIONS

- A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 PROJECT MEETINGS

- A. Preconstruction Conference: Architect will schedule conference before the start of construction, at a time convenient to Owner and Architect, but no later than 15 working days after execution of the Agreement.
 - 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; and other concerned parties. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
- B. Progress Meetings: Architect will conduct progress meetings at bi-monthly intervals.
 - 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
- C. Minutes: Architect will record and distribute meeting minutes.

1.5 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFIs shall originate with Prime Contractor. RFIs submitted by entities other than Prime Contractor will be returned with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
 2. Date.
 3. Name of Contractor.
 4. Name of Architect.
 5. RFI number, numbered sequentially.
 6. Specification Section number and title and related paragraphs, as appropriate.
 7. Drawing number and detail references, as appropriate.
 8. Field dimensions and conditions, as appropriate.
 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 10. Contractor's signature.
 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
 - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Hard-Copy RFIs: Form at end of this Section.
1. Identify each page of attachments with the RFI number and sequential page number.
- D. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."

- a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 working days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven working days if Contractor disagrees with response.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

Request For Information

No. _____

Date:

Project No.: 11-06-89-01

Attention:

Project Name: BEACH HOUSE CONVERSION AT
LACEY KEOSAUQUA STATE
PARK

Initiated By:

Required Response Date:

Description:

Specification Section:

Drawing No. (s):

Question:

Proposed Solution:

Will this request and proposed solution have any associated cost impacts? YES NO

Will this request and proposed solution have any schedule impacts? YES NO

In the event the response constitutes a change in the contract scope, please provide Construction Change Authorization or Proposal Request such that work may proceed as quickly as possible, minimizing potential schedule impact.

Response:

Response by: _____

Date: _____

cc:

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Quality Monitoring: Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Perform quality control procedures and inspections during installation.
- B. Standards: Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Tolerances: Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate. Comply with manufacturers' tolerances.
- D. Reference Standards: For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- E. Manufacturer's Field Services: When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to perform the following as applicable, and to initiate instructions when necessary.
 - 1. Observe site conditions.
 - 2. Conditions of surfaces and installation.
 - 3. Quality of workmanship.
 - 4. Start-up of equipment.
 - 5. Test, adjust and balance of equipment.
- F. Mock-Ups: Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes. Accepted mock-ups shall be a comparison standard for the remaining Work.
- G. Removal of Mock-Ups: Where mock-up has been accepted by Architect and no longer needed, remove mock-up and clear area when directed to do so.

PART 2 PRODUCTS - Not Applicable To This Section

PART 3 EXECUTION - Not Applicable To This Section

END OF SECTION 014000

SECTION 01 42 00
REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	ACI International (American Concrete Institute) www.aci-int.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000

AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association (Now part of CPA)	
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)	
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(405) 780-7372
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)	
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300

ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWCI	AWCI International (Association of the Wall and Ceiling Industry International) www.awci.org	(703) 534-8300
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood-Preservers' Association www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI www.bicsi.org	(800) 242-7405 (813) 979-1991
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880

CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CPA	Composite Panel Association www.pbmdf.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	Canadian Standards Association	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Cast Stone Institute www.caststone.org	(717) 272-3744
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300

CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association www.esda.org	(315) 339-6937
FM Approvals	FM Approvals www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FMRC	Factory Mutual Research (Now FM Global)	
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Now GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	

HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 255-1561
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
	Available from ANSI www.ansi.org	(202) 293-8020
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (702) 567-8150
ITS	Intertek Testing Service NA www.intertek.com	(972) 238-5591
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11

LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698

NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (303) 697-8441
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWWDA	National Wood Window and Door Association (Now WDMA)	
OPL	Omega Point Laboratories, Inc. (Now ITS)	

PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America) www.landcarenetwork.org	(800) 395-2522 (703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995

SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 649-5555
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USGBC	U.S. Green Building Council www.usgbc.org	(202) 828-7422

WASTECH	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICBO	International Conference of Building Officials (See ICC)	
ICBO ES	ICBO Evaluation Service, Inc. (See ICC-ES)	
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and Provisions and General Requirements.

1.02 SCOPE

- A. Supplementary tests and reports required in this section with any tests, reports, and other information that may be required additionally in any section of the specifications.
- B. Inspection, sampling, and testing is required, but not limited to, the following:
 - 1. Section 03300 – Cast In Place Concrete
- C. Sampling and testing frequencies and requirements are to comply with IDOT IM-204.

1.03 TESTS BY INDEPENDENT TESTING LABORATORY

- A. Testing Laboratory:
 - 1. Contractor to select and pay for an independent testing laboratory, acceptable to the Project Engineer, to perform specified services required by the contract.
 - 2. Employment of testing laboratory will in no way relieve Contractor's obligations to perform work in accord with the contract.
 - 3. Include in lump sum bid the cost for all testing services required. No separate payments will be made for testing. Include all associated costs in the various appropriate bid items. Project Engineer/DNR Construction Inspector will direct all tests. The Contractor shall pay the testing firm.
- B. Contractor Shall:
 - 1. Make available at no cost, all material to be tested.
 - 2. Provide labor necessary to supply samples and assist in making tests.
 - 3. Advise laboratory of the identity of material sources and instruct suppliers to allow inspections by laboratory.
- C. Testing laboratory shall:
 - 1. Submit written report promptly, covering each inspection and test to the Project Engineer, including:
 - a. Date issued.

- b. Project title and number.
 - c. Testing laboratory name and address.
 - d. Name and signature of laboratory technician.
 - e. Date of inspection and sampling.
 - f. Record of temperature and weather.
 - g. Date of test.
 - h. Identification of product and specification section.
 - i. Location of project.
 - j. Type of inspection or test.
 - k. Observations regarding compliance with Contract Documents.
2. Promptly notify Project Engineer of irregularities or deficiencies of work which are observed during performance of testing services.
 3. Perform additional services required by the Project Engineer/DNR Construction Inspector.
- D. Laboratory is not authorized to:
1. Release, revoke, alter or enlarge on, contract requirements.
 2. Approve or accept any portion of work.
 3. Perform any duties of the Contractor.
- E. Conduct tests in accordance with the requirements of the designated specifications or, where not specified, the latest appropriate standard of the American Society for Testing and Material.

1.04 LABORATORY SERVICES AND TESTS REQUIRED

- A. Concrete:
1. Secure samples of aggregates Contractor proposes to use and test for compliance with specifications.
 2. Certify compliance with specification of cement proposed for use by the Contractor.
 3. Review concrete design mix proportions for the required concrete strengths using materials Contractor proposes to use on the project. Incorporate specified admixtures and not less than amount of cement specified. Perform appropriate laboratory tests, including compression tests of cylinders and slump test to substantiate mix designs. Submit one copy of report to the Project Engineer, one copy to the DNR Construction Inspector, and one copy to the Contractor, clearly indicating the results of the mix design review.
 4. When requested by the DNR Construction Inspector, inspect and test material during concrete work to substantiate compliance with specifications and mix requirements.
 5. Slump Test: The DNR Construction Inspector will require slump tests to be performed as he desires in accordance with the provisions of these specifications.
 6. Test Cylinders:

- a. Each test shall consist of a set of three cylinders provided by the Contractor. Sampling and testing frequencies and requirements are to comply with IDOT IM-204.
 - b. Provide a minimum of one set of test cylinders each day concrete is placed.
 - d. The Contractor shall make and cure test cylinders in conformity with ASTM C-31.
 - e. Note on record drawings placement locations represented by test cylinders.
7. Perform compression tests in accordance with applicable sections of IDOT specifications.
 8. Identify all test cylinders with symbols to indicate location on the job where concrete tests were made. Note on record drawings.
- C. Aggregate gradation and compaction as per applicable specifications.

1.05 CONTRACTOR'S RESPONSIBILITIES

- A. Furnish product mix design to meet or exceed Contract Documents.
- B. Cooperate with laboratory personnel and provide access to work, as well as to manufacturer's operations.
 1. Monitor each inspection, sampling and test.
- C. Provide to laboratory, preliminary representative samples of material to be tested, in specified quantities.
- D. Furnish copies of mill test reports.
- E. Furnish verification of compliance with contract requirements for material and equipment.
- F. Furnish casual labor and facilities:
 1. To provide access to work to be tested.
 2. To obtain and handle samples at site.
 3. To facilitate inspections and tests.
 4. For laboratory's exclusive use for storage and curing of test samples.
- G. Notify laboratory sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests. Notify DNR Construction Inspector when work is ready for testing. Schedule testing after approval of the DNR Construction Inspector. The Department of Natural Resources will not pay for any testing scheduled without the DNR Construction Inspector's specific authorization.
- H. Correct work which is defective or which fails to conform to the Contract Documents in accordance with the general condition. Do not delay the project schedule or the work of other contractors with corrective work.

- I. Pay all costs of re-testing when test results indicate non-compliance with contract requirements.
- J. Patch all surfaces and areas disturbed by testing operations.

PART 2 PRODUCTS - Not Applicable To This Section

PART 3 EXECUTION - Not Applicable To This Section

END OF SECTION 014500

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Sections include the following:
 - 1. Division 01 Section "Summary" for work restrictions.
 - 2. Division 01 Section "Execution" for progress cleaning requirements.

1.3 USE CHARGES

- A. Owner will pay the cost for Contractor's use of electricity and water.

1.4 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY UTILITIES

- A. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITY INSTALLATION

- A. Self-Contained Toilet Units: Provide separate facilities for male and female personnel. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities. Service, clean, and maintain the facilities and enclosures.
 - 1. Locate facilities away from the public. Coordinate location with Owner.

3.2 SUPPORT FACILITIES INSTALLATION

- A. Parking: Coordinate parking areas for construction personnel with Owner.
- B. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution" for progress cleaning requirements.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- B. Refer to Drawings for other protection.
- C. Temporary Fire Protection: Provide temporary fire-protection equipment.
 - 1. Prohibit smoking in construction areas.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3.4 OPERATION, TERMINATION, AND REMOVAL

- A. Maintenance: Maintain facilities in good operating condition until removal.
- B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

3.5 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and turf that are damaged by construction operations, in a manner approved by Architect.

END OF SECTION 015000

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Manufactures: Provide products from one manufacturer for each type or kind as applicable. Provide secondary materials as acceptable to manufacturers of primary materials.
- B. Product Selection: Provide products selected or equal approved by Architect. Products submitted for substitution shall be submitted with complete documentation, and include construction costs of substitution including related work.
- C. Substitutions: Request for substitution must be in writing. Conditions for substitution include:
 - 1. An 'or equal' phrase in the specifications.
 - 2. Specified material cannot be coordinated with other work.
 - 3. Specified material is not acceptable to authorities having jurisdiction.
 - 4. Substantial advantage is offered to the Owner in terms of cost, time, or other valuable consideration.
- D. Substitution Requests: Substitutions shall be submitted prior to award of contract, unless otherwise acceptable. Approval of shop drawings, product data, or samples containing substitutions is not an approval of a substitution unless an item is clearly presented as a substitution at the time of submittal.

PART 2 PRODUCTS - Not Applicable To This Section

PART 3 EXECUTION - Not Applicable To This Section

END OF SECTION 016000

SECTION 01 73 00
EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
1. General installation of products.
 2. Progress cleaning.
 3. Protection of installed construction.
 4. Correction of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Verify compatibility with and suitability of substrates.
 2. Examine roofs for suitable conditions where products and systems are to be installed.
 3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

1. Request for Information Procedure: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 1. Make vertical work plumb and make horizontal work level.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

3.4 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.6 CORRECTION OF THE WORK

- A. Remove and replace defective construction. Remove and replace damaged existing items.

END OF SECTION 017300

SECTION 01 73 10
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: To aid the instruction of operating and maintenance personnel, and to provide a source of information regarding the systems incorporated into the Work, furnish and deliver the data described in this section and in pertinent other sections of these specifications.

- 1. Additional data requirements may be described in individual sections.

- B. Related Sections: Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and Provisions and General Requirements.

1.02 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Submit two copies of a preliminary draft of the proposed manual or manuals to the Engineer for review and comments.
- C. Unless otherwise directed in other sections, or in writing by the Engineer, submit two copies of the final manual to the DNR Construction Inspector.

1.03 QUALITY ASSURANCE

- A. In preparing required data, use only personnel thoroughly trained and experienced in operation and maintenance of the described items, completely familiar with this section's requirements, and sufficiently skilled in technical writing to communicate the essential data.

PART 2 - PRODUCTS

2.01 INSTRUCTION MANUALS

- A. Where instruction manuals are required to be submitted under other sections of these specifications, prepare in accordance with the provisions of this section.

- B. Format:

- 1. Size: 8-1/2" x 11"
 - 2. Paper: White bond, at least 20 lb. weight
 - 3. Text: Neatly written or printed

4. Drawings: 11" in height preferable; bind in with text; foldout acceptable; larger drawings acceptable but fold to fit within the manual and provide a drawing pocket inside rear cover or bind in with text.
 5. Flysheets: Separate each portion of the manual with neatly prepared flysheets briefly describing contents of the ensuing portion; flysheets may be in color.
 6. Binding: Use heavy-duty plastic or fiberboard covers with 3-ring binders. All binding is subject to the Owner's approval.
 7. Measurements: Provide all measurements in U.S. standard units: feet-and-inches, lbs., and cfm.
- C. Provide front and back covers for each manual, using durable Owner's approved material, clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

- (name and address of work)
- (name of contractor)
- (general subject of this manual)
- (space for approval signature of)
- (the owner and approval date)

- D. Contents include at least the following:
1. Neatly typewritten index near the front of the manual, giving immediate information as to location within the manual of all emergency information regarding the installation.
 2. Detailed list of subcontractors, including address, phone number and product or equipment installed.
 3. Complete instructions regarding operation and maintenance of all equipment involved, including lubrication, disassembly, and reassembly.
 4. Complete nomenclature of all parts of all equipment.
 5. Complete nomenclature and part number of all replaceable parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
 6. Copy of all guarantees and warranties issued.
 7. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.
 8. Such other data as required in pertinent sections of these specifications.

PART 3 - EXECUTION

3.01 INSTRUCTION MANUALS

A. Preliminary:

1. Prepare a preliminary draft of each proposed manual.
2. Show general arrangement, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering.
3. Secure the Architect's approval prior to proceeding.

B. Final: Complete the manuals in strict accordance with the approved preliminary drafts and the Architect's review comments.

C. Revisions:

1. Following the instruction of operation and maintenance personnel, review all proposed revisions of the manual with the DNR Construction Inspector.

END OF SECTION 017310

SECTION 01 73 29
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - 7. Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety. Operating elements include the following:
 - 1. Primary operational systems and equipment.
 - 2. Fire-suppression systems.
 - 3. Mechanical systems piping and ducts.
 - 4. Control systems.
 - 5. Communication systems.
 - 6. Conveying systems.
 - 7. Electrical wiring systems.
 - 8. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
 - 1. Water, moisture, or vapor barriers.
 - 2. Membranes and flashings.
 - 3. Exterior curtain-wall construction.
 - 4. Equipment supports.
 - 5. Piping, ductwork, vessels, and equipment.
 - 6. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.

5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329

SECTION 01 77 00
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and Provisions and General Requirements.

1.02 CLEANING UP

- A. Keep premises free of accumulation of surplus materials and rubbish from contractor and subcontractor operations.
 - 1. Remove all rubbish from premises.
- B. Remove rubbish weekly and at other times as required by the DNR Construction Inspector. Keep interior of building free at all times of unattended combustible rubbish.
- C. Immediately prior to final inspection:
 - 1. Clean all surfaces to condition acceptable for immediate occupancy.
 - 2. Remove all marks, stains, fingerprints, paint droppings, and other foreign matter from all finished items.

1.03 GUARANTEES, BONDS AND AFFIDAVITS

- A. Submit all written guarantees, bonds and affidavits required to the Owner prior to final payment.
- B. Guarantees shall extend the full period of the required guarantee period after:
 - 1. Replacement of work found defective during guarantee period.
 - 2. Repair of inoperative items or adjustments to proper working conditions of items not operating properly at time of inspection at final completion.

1.04 RECORD DRAWINGS

- A. Required prior to final payment. Refer to Section 01300 of these specifications. Submit to DNR Construction Inspector.

1.05 SHOP DRAWINGS

- A. Refer to Section 013000 of these specifications.

1.06 TESTS

- A. Complete all tests required to prove actual operating performance of equipment and systems incorporated into the project. Refer to Section 01400 of these specifications.
- B. Submit reports of all tests to the Owner prior to final payment.

1.07 MAINTENANCE AND OPERATING

- A. Refer to Section 01730 of these specifications, if applicable.

1.08 DAMAGE TO EXISTING STRUCTURES

- A. Prior to final acceptance by the Owner, repair or otherwise return to original condition any parts of the existing facilities which have been damaged during construction.

1.09 FINAL INSPECTION

- A. Request a final inspection in writing, at least ten days prior to the anticipated date of completion, from the DNR Construction Inspector.
- B. Work will not be considered ready for final inspection until all the work has been completed and the Contractor has certified that all items are properly operating and in strict compliance with the contract documents.
- C. The Contractor or his project supervisor shall be present at the job site during the final inspection.
 - 1. The DNR Construction Inspector will present the Contractor, after the final inspection, a list of any items not meeting contract requirements. This list will be confirmed in writing and all items listed must be made acceptable before final payment will be made.

PART 2 PRODUCTS - Not Applicable To This Section

PART 3 EXECUTION - Not Applicable To This Section

END OF SECTION 017700

SECTION 01 78 10
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents as indicated.
- B. Related Sections include the following:
 - 1. Division 01 Section "Closeout Procedures" for general closeout procedures.
 - 2. Technical Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up Record Prints.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one copy of each Product Data submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017810

**SECTION 024119
SELECTIVE STRUCTURE DEMOLITION**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Salvage of existing items to be reused or recycled.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 CLOSEOUT SUBMITTALS

- A. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.4 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. Hazardous materials will be removed by Owner before start of the Work.
 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. Disconnect, demolish, and remove plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.

3.3 PREPARATION

- A. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people.

- B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

- B. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

- C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

**SECTION 040121
STONE AND MASONRY RESTORATION**

PART 1 - GENERAL

1.1 SUMMARY

- A. All areas to be tuckpointed are identified on the drawings. Before starting the Work, inspect the entire work area and identify all areas as shown. All mortar joints (100 percent) shall be pointed. The area identified on the drawings shall be a guide to determine the limit of work, but the Contractor shall be responsible for determining the full limits of the work to be performed.
- B. Section Includes:
 - 1. STONE AND MASONRY CLEANING
 - 2. MASONRY MORTARING

1.2 QUALITY ASSURANCE

A. Reference Standards

- 1. The following American Society of Testing and Materials (ASTM) Standards of the issues in effect on the date of the invitation for bids forms a part of this specification and is applicable to the extent specified herein.
 - a. ASTM A-82 Cold Drawn Steel Wire for Concrete Reinforcement
 - b. ASTM A-116 Zinc Coated Steel Wire, Class 1 and Class 3
 - c. ASTM C-39 Standard Method of Test for Compressive Strength of Molded Concrete Cylinders
 - d. ASTM C-67 Laboratory Test Brick
 - e. ASTM C-216 Brick, Grade SW, Type FBS
 - f. ASTM D-2240 Durometer Hardness Test
- 2. Comply with the applicable provisions, to the extent indicated of the ACI - "American Concrete Institute" current code.
- 3. Comply with the applicable provisions, to the extent indicated of N.C.M.A. - "National Concrete Masonry Association".
- 4. Comply with the applicable provisions, to the extent indicated of S.C.P.I. - "Structural Clay Products Institute".

- B. Testing Agency: Samples and tests, as required are to be made by an independent testing laboratory selected by the Contractor and approved by the Owner. Costs for sampling and testing shall be paid by the Contractor.

1.3 SUBMITTALS

- A. Certificates: Provide Manufacturer's certificates of compliance and/or testing for all new masonry units and accessories.
- B. Samples: Submit two full size masonry units of each type including special shapes all of which should show range of colors, textures, finishes and dimensions. Provide samples on all areas which require replacement of damaged masonry and no salvage brick is available from Owner's storage or from project area.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Storage: Store materials under cover in a dry place and in a manner to prevent damage or intrusion of foreign matter. During freezing weather protect all masonry units with tarpaulins or other suitable material. Store masonry units under cover that will permit circulation of air and prevent the accumulation of moisture.
- B. Handling: Handle masonry units on pallets or flat bed barrows. Reinforcing, metal ties and anchors shall be protected from contact with soil and water and before being placed shall be free of loose rust and other coatings that will destroy or reduce bond.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Hot Weather Installation: Protect masonry construction from direct exposure to wind and sun when erected in an ambient air temperature of 99 degrees F (37 degrees C) in the shade with relative humidity less than 50% for a period of 48 hours after installation. Do not spread mortar beds more than 4 feet ahead of masonry units. Units shall be laid within one minute of spreading mortar. Cover the new wall areas as required to preserve the moisture needed for proper hydration of the mortar.
- B. Cold Weather Installation: For all masonry work, when the ambient temperature is below 40 degrees F then the following conditions shall be maintained:
 - 1. The working area shall be completely enclosed and adequate heaters shall be provided to maintain the temperature of the masonry construction above 40 degrees F for the first thirty-six hours after the last portion thereof has been completed. The masonry construction shall have additional protection thereafter so that damage from freezing does not occur.
 - 2. All masonry units and all work on which new masonry is constructed shall be free of frost, ice, snow and surface moisture and their temperature shall not be lower than 40 degrees F. Also, in the event the ambient temperature drops from above 40 degrees F to below 40 degrees F during construction or within thirty-six hours after any masonry work has been constructed, the Contractor shall then provide such protection and/or heat as is required to maintain the temperature of the masonry at 40 degrees F or higher for the balance of a thirty-six hour period following the completion of any given section of the work.
- C. Acceptance: Failure of the Contractor to maintain the above conditions during the construction of masonry work will be just and sufficient cause for such work to be rejected.

PART 2- PRODUCTS

2.1 STONE

- A. Coppled Stone:
 - 1. Provide stone for patching of similar in color, texture and physical properties to the actual stone at the project site.
 - 3. Stone shall not exceed variations in color and texture of accepted samples.
 - 4. Stone that is salvaged from removal areas may be cleaned of all mortar prior to placement into the new construction. When chemicals are used to clean the stone, follow manufacturer's written instructions, and properly rinse s with clean water and allow to dry as directed.
- B. Ties: Corrugated or crimped metal ties shall be galvanized sheet steel not less than 7/8 inch wide; 16 gage in thickness and 6 inches in length. Wire ties not specified otherwise shall be of not lighter than 10 gage zinc-coated steel wire. All ties shall be zee-shaped or looped at both ends. Attachment shall be as required to securely fasten the tie to stone back up material.

PART 3- EXECUTION

3.1 GENERAL

- A. Stone shall be plumb, true to line, with level courses accurately spaced and built to the thickness and bond pattern indicated. Units shall be dry when laid. Each unit shall be adjusted to final position in the wall while mortar is still soft and plastic. Any unit disturbed after mortar has stiffened shall be removed and relaid with fresh mortar. Anchors, wall plugs, accessories, flashings and other items to be built in shall be installed as the masonry work progresses. All cutting and fitting of stone, including that required to accommodate the work of other sections shall be done by hand chipping.
- B. Provide joint reinforcement where indicated on the plans for reconstruction of face stone veneer. Where no joint reinforcement is indicated continuous joint reinforcement shall be laid in every other horizontal joint of all masonry walls. Joint reinforcement shall be continuous around corners and shall not be continuous through control joints.
- C. If blowouts, misalignment or cracking of face shells should occur during construction, the wall shall be torn down and rebuilt at no additional cost to the Owner.

3.2 PROTECTION OF WORK

- A. Protect work against staining and keep tops of walls covered with non-staining waterproof coverings when work is not in progress.
- B. Provide adequate bracing for all walls against wind and other forces during construction. If any forces damage the wall, then the wall shall be rebuilt at no additional cost to the Owner.

3.3 MORTAR BEDS AND JOINTS

- A. Solid units shall be laid with full head and bed joints.

3.4 TUCKPOINTING

- A. All areas to be tuckpointed are identified on the drawings. Before starting the Work, inspect the entire work area and identify all areas as shown.
- B. Identify a portion of the wall to be used as a "panel to match". This panel shall be an area approximately 5 feet square. The panel to match should be clearly identified and used as the standard of comparison for color, size of joint, and quality of workmanship for those portions that will be tuckpointed. Removal of old mortar shall be accomplished by means of hand tools or small grinders. The Contractor will be required to provide a sample panel on each school to indicate the mason's ability to use hand tools and grinders to the satisfaction of the Architect/ Engineer. The panel shall also serve as a color match and procedure panel for the building. This panel shall be installed a minimum of seven (7) days prior to actual pointing procedures are started.
- C. All joints (both bed and head joints) to be tuckpointed should be cut out to a uniform depth of $\frac{3}{4}$ inch minimum, or until sound mortar is reached. Joints are to be cut out to a square profile, and cleaned of dust and debris with air or clean water. Extreme care shall be taken not to damage the edges and corners of the masonry for either removal by hand tools or grinders.
- D. Mortar:
 - 1. A sample or samples of mortar shall be mixed dry by hand mixing and compared with the existing mortar sample for color and texture. The sample shall be allowed to cure to reflect its final color prior to being approved by the Architect. Sample panel(s) shall be power washed to allow completed work to match adjacent surfaces.

2. Coloring, if needed, to match existing 'clean' mortar shall be of metallic oxides, not organic. Color may be added to the mix in quantities not to exceed 6% by weight of the cement in the mix.
 3. Mortar composition and mixing procedures shall be in accordance with Section 040513 MASONRY MORTARING.
 4. Chemical bonding agents may be used in the exposed joints prior to tuckpointing at the mason's option, with the Architect's approval. No chemical additives shall be permitted without written authorization of the Architect.
- E. All joints shall be prepared by cleaning just prior to placing mortar, followed by an application of clean water to ensure a good bond. The mortar shall be brought to working consistency and tuckd into the joints in approximately one-quarter ($\frac{1}{4}$) inch layers and tightly compressed. When each layer is "thumbprint" hard, another one-quarter ($\frac{1}{4}$) inch layer shall be tuckd into the joint. Care must be exercised to fully fill the joints to the proper depth, and finally to tool them at the appropriate time to avoid tool burn and/or slicking. Tool the joint to match the existing joint in the areas of partial pointing. Where the entire area is being pointed, tool the joints in a concave profile. Coordinate with the Architect.
- F. Tuckpointing must be accomplished carefully by experienced craftsmen. The work area (surface of the walls) shall be kept clean during the tuckpointing operation in order to avoid necessitating additional clean-down.

3.5 FIELD QUALITY CONTROL

- A. All testing of masonry shall be performed by an independent testing laboratory approved by the Owner. The materials used shall be supplied by the Contractor at no expense to the Owner.

3.6 TOOLING AND CLEANING

- A. Walls shall be dry brushed at the end of each day's work and also after final pointing, and shall be left clean and free from mortar spots and droppings. Any cracks in wall shall be repaired. Defective joints shall be cut out and repointed.
- B. Remove efflorescence and mortar spots and other areas within the tuckpointing work that appear unclean with a cleaning agent. Apply cleaning agent to a wall sample 24 inch x 48 inch located on the site. Architect retains the right to change proposed cleaning methods and shall be notified before any additional cleaning agent is used. The cleaning agent shall be applied to a small section of the wall at a time and work shall proceed from the top to the bottom. Protect all metal sashes, lintels, louvers, and other corrodible parts when masonry is cleaned. Apply cleaner only once to the surface and shall be flushed freely with clean water to remove traces of the chemical. Remove larger particles by hand with wooden paddles, and nonmetallic scrape hoes or chisels. Rinse thoroughly with clean water from top of work area to bottom.

END OF SECTION

**SECTION 040122
STONE AND MASONRY CLEANING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Although such work is not specifically shown or specified, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
- B. Section Includes:
 - 1. STONE AND MASONRY RESTORATION
 - 2. SEALANTS

1.2 QUALITY ASSURANCE

- A. Reference Standards. Comply with the most current, applicable regulations of:
 - 1. National Fire Protection Association (NFPA)
 - 2. American National Standards Institute (ANSI)
 - 3. Occupational Safety and Health Act (OSHA)
- B. Cleaning shall be done to improve the appearance of the building and to minimize deterioration. Cleaning shall not be done simply to make the structure look "new", but rather its purpose is to prevent future problems from developing not only on the surface but to the basic structure of the building wall.
- C. Work shall be by an individual or firm of established reputation (or, if newly organized whose personnel have previously established a reputation in the same field) which is regularly engaged in, and which maintains a regular force of, workmen skilled in the cleaning of masonry.
- D. Prior to proceeding with general cleaning at the site, cleaning operators shall demonstrate their ability by cleaning a sample panel area of not less than 100 square feet of each type of surface to be cleaned where selected by the Owner's Representative. Sample panel area shall be cleaned using the methods, materials, equipment, and pressures to be used for the general cleaning, and shall be performed in the presence of the Owner's Representative. During the sample cleaning, the working pressures shall be varied up to the specified pressure to determine the best working pressure. Written approval shall be obtained from Owner's Representative on cleaning methods, working pressures, materials, equipment used and sample panels before proceeding with general cleaning operations. For this written approval the Contractor shall allow a minimum of seven calendar days after completion of sample panel cleaning permit study of possible negative reactions on sample panel. Each approved sample panel shall be used as a standard for similar work throughout the project. After sample panels are approved, the Contractor shall cover each panel with a clear plastic cover, which shall be removed upon completion of all cleaning operations.

1.3 SUBMITTALS

- A. Submit detailed product data sheets, to include recommended application procedures, and coverages. Submit Material Safety Data sheets on each product being used on the project directly to the Owner.

- B. Submit record of experience qualifying the firm as a specialist in stone and masonry cleaning. As a minimum, this shall include a written record indicating the projects on which the specialist has worked with the name and address of the purchasers of the service, and location of work performed.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in sealed original labeled containers, bearing manufacturer's name, type of water cleaning agent, brand name, and instructions for mixing and/or reducing.
- B. Provide adequate storage facilities. Store materials at minimum ambient temperature of 45 degrees F (7 degrees C) in well ventilated area.
- C. Take precautionary measures to prevent fire hazards.

1.5 ORDINANCES AND CODES

- A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, state and local regulations pertaining to the protection of workers, visitors to the site, and persons occupying areas adjacent to the site.

PART 2- PRODUCTS

2.1 MATERIALS

- A. **CLEANING AGENTS: IF AUTHORIZED BY THE OWNER**, provide a cleaning and prewash application compatible with any existing waterproofing system which may be present, in order to produce optimal cleaning results. Material manufactured by ProSoCo, Inc. of Kansas City, Kansas; or approved equal shall be utilized, following a test of compatibility. Physical properties of the cleaning solutions shall be of the manufacturer's standard line, suitable for removing all of the exterior discoloration caused by atmospheric dirt, mildew and pollutants.
- B. Manufacturer named is a standard of reference and does not necessarily limit supply to the named manufacturer. Items of similar chemical composition, function and performance are acceptable in conformance with **GENERAL CONDITIONS**.
- C. Masonry and stone surfaces shall be cleaned as specified hereinafter. As directed by the Architect and **AUTHORIZED BY THE OWNER**, heavily soiled masonry and stone shall be cleaned by a product similar to Restoration Cleaner as manufactured by ProSoCo, Inc., or approved equal.
- D. Concentrated dirt and stained areas on stone trim or masonry surfaces shall be cleaned with products similar to Limestone Prewash and Limestone Afterwash as manufactured by ProSoCo, Inc., or approved equal. The application rates shall be as tested and specified herein.
- E. Heavily strained limestone shall be cleaned by pre-wetting and spray or brush applied cleaner similar to Limestone Restorer, as manufactured by ProSoCo, Inc., or approved equal.
- F. **RELATED MATERIALS:**
 - 1. Equipment used in the cleaning shall be as recommended by the material manufacturer as being appropriate for use on this project.
 - 2. Water shall be potable, non-staining and free of materials detrimental to the surface being cleaned.

PART 3- EXECUTION

3.1 INSPECTION

- A. Prior to beginning work, the Contractor shall test those parts of the drainage system he plans to use, to assure that drains are functioning properly prior to performing masonry cleaning operations in those areas. A report shall be prepared outlining the location of drains which are found to be clogged or blocked prior to commencement of work. During cleaning operation, the Contractor shall provide a method to prevent solids such as cleaning residue from entering the drains and drain lines. Contractor will be held responsible for cleaning out strainers and drain lines which become blocked or filled by cleaning residue due to work performed under this contract.

3.2 PREPARATION

- A. The Contractor shall take all necessary precautions to protect all parts of the building not being cleaned from effects of the cleaning process. Contractor shall site test materials which he proposes to use, to prove that etching of glass and chemical damage to surfaces of window units, painted surfaces, shrubbery, trees, and grass will not occur; or in lieu thereof may provide plastic, approved sprayed-on/peel-off type liquid material or other type coverings, to completely cover painted surfaces, shrubbery, trees and grass. Masking tape shall be used where necessary to seal edges of coverings during masonry cleaning operations. Remove coverings as masonry cleaning operations are completed on each section of the building as specified hereinbefore.
- B. The application methods specified herein are potential cleaning techniques. The actual methods and materials or combinations thereof to be used will be determined by the results of cleaning of the sample panel areas as stated in the paragraph QUALITY ASSURANCE.

3.3 POWER WASHING

- A. The initial basis of cleaning the exterior of the building shall be achieved by power washing the exterior surface, beginning at the upper level of a given elevation. Progressing downward, residue shall be washed away from the lower portions of the building. Do not power wash surfaces which are open to the building veneer.
- B. Allow washed surfaces to thoroughly dry to determine the adequacy of the wash. Uneven appearance of the cleaning will be result in a subsequent cleaning in a similar manner as described.

3.4 MASONRY AND STONE CLEANING

- A. Cleaning applications when AUTHORIZED BY THE OWNER, shall be applied in strict accordance with the manufacturer's instructions for prewetness, direction of application, and dilution. Rinse surfaces with clean water and with equipment as directed by the manufacturer.
- B. Reapply cleaning application as directed by the manufacturer to satisfy the complete cleaning of the masonry and stone.
- C. All cleaning methods involving water or water vapor shall be used only when there is no danger of frost during application and drying time which can range from a week or more.
- D. Dilution and dwell time for cleaning process shall be based on the results of the sample panel and the approved sequence and methods as identified in paragraph QUALITY ASSURANCE.
- E. **Sandblasting and surface applied "waterproofing" treatments are prohibited.**

3.5 ADJUSTMENT AND CLEANING

- A. Surfaces cleaned with power washing shall be left clean with reasonable appearance, free from dirt stains, oils, grease, and runoff discoloration from water flow from surfaces above. The Owner's Representative shall review the completed work for approval of a uniform appearance.
- B. Surfaces cleaned with chemical agents shall be left clean and free from bird excrement, dirt, dust, soot, stains, oils, grease, and run off discoloration from use of cleaners. The Owner's Representative shall review the surfaces for approval of the treatment. Replace with new stock any glass, shrubbery, trees, grass, or other building components or ground cover damaged or destroyed by scaffolding, workmen, cleaning materials, or cleaning operations.
- C. Cleaning contractor shall be responsible for removal and disposal of necessary masking materials following completion of cleaning operation. Windows and non-masonry areas shall be wiped clean following the cleaning process.
- D. All residual washed from building surface shall be swept or flushed away from surrounding sidewalk and service areas nightly. All premises shall be clean and neat at all times.

END OF SECTION

**SECTION 040513
MASONRY MORTARING**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. STONE AND MASONRY RESTORATION

1.2 QUALITY ASSURANCE

A. Reference Standards:

1. The following American Society for Testing and Materials (ASTM) Standards of the issues in effect on the date of the invitation for bids forms a part of this specification and is applicable to the extent specified herein.

- a. ASTM C-144 Aggregate for Masonry Mortar
- b. ASTM C-150 Portland Cement
- c. ASTM C-207 Hydrated Lime for Masonry Purposes
- d. ASTM C-404 Aggregates for Masonry Grout
- e. ASTM C-476 Grout for Reinforced and Nonreinforced Masonry

2. The A.C.I.- "American Concrete Institute" Standards and Codes of the issues in effect on the date of the invitation for bids forms a part of this specification and is applicable to the extent specified herein.

- B. Testing Agency: Samples and tests, as required are to be made by an independent testing laboratory selected by the Contractor and approved by the Owner. Costs for sampling and testing shall be paid by the Contractor.

1.3 SUBMITTALS

- A. Testing Reports: Submit in accordance with Section: TESTING LABORATORY SERVICES.

- B. Certificates: Provide manufacturer's certificates of compliance and/or testing for all new and existing mortar and accessories.

- C. Test Materials: Remove an existing mortar sample from the building requiring tuckpointing for laboratory testing. Where multiple mortars are encountered, each type shall be tested.D.

- D. Samples: If a sample panel is specifically called for in the specifications, or directed by the architect, the mortar used in the sample panel shall be representative of the range of color texture and finish of the final mortar in the masonry wall.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. General: Cementitious materials and aggregates associated with such shall be handled and stored in such a manner as to prevent deterioration or intrusion of foreign material. Any material that has become unsuitable for good construction shall not be used. All cementitious materials shall be protected from moisture at all times.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Hot Weather Construction: Protect masonry construction from direct exposure to wind and sun when erected in an ambient air temperature of 99 degrees F (37 degrees C) in the shade with relative humidity less than 50% for a period of 48 hours after installation.
- B. Cold Weather Construction: Do not lay masonry or place pointing mortar when the temperature of the outside air is below 40 degrees F unless suitable means are provided to heat materials, protect work from cold and frost and insure that mortar will harden according to the manufacturer's recommendations. Do not use antifreeze additives in any mortar. Cold weather construction requirements for brick and concrete masonry are specified in Section: MASONRY.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement: Portland cement shall conform to ASTM C-150, Type I, without air entrainment, natural color. Maximum percent of alkalis shall be 0.60.
- B. Hydrated Lime: Hydrated lime shall conform to ASTM C-207, Type S.
- C. Aggregates: Fine aggregates for grout and mortar shall conform to ASTM C-144, coarse aggregates for grout and mortar shall conform to ASTM C-404; maximum size No. 8.
- D. Grout: Grout shall conform to ASTM C-476.
- E. Water: Water used shall be potable.
- F. Mortar Pigments: Mortar pigments shall be commercial colorants suitably compounded for use in mortar mixes and in compliance with ASTM C-91. Do not exceed manufacturer's recommended pigment-to-cement ratios.

PART 3 - EXECUTION

3.1 MORTAR

- A. Mortar for tuckpointing shall conform to ASTM C-270, to duplicate existing mortar. Match mortar compressive strength as closely as possible, as determined by laboratory testing. Minimum compressive strength shall be 750 p.s.i. (Type N) mortar.
- B. Materials shall be accurately measured and mixed with as much water as may be necessary to produce the wettest workable consistency possible. Mortar shall be placed in final position within 2 hours after mixing. Mortar not used or that has started to set within this time interval shall be discarded. Mortar shall be retempered to restore its work ability.
- C. Colored mortar shall conform to the approved sample as to color texture and finish. Colored mortar shall be mixed to produce a uniform color throughout. The recommendations of the manufacturer of the color, as to tooling, mixing and cleaning shall be followed. Colored mortar shall be used for all exposed joints on exterior walls unless noted otherwise.
- D. All cementitious materials and aggregates should be mixed in a mechanical paddle batch mixer for a minimum period of 3 minutes, with the amount of water required to produce the desired work ability.

- E. Mortar consistency should be to the satisfaction of the mason but as much water should be added as is compatible with convenience in using the mortar. If the mortar on the mortar board begins to stiffen from evaporation or absorption of a part of the mixing water, the mortar should be retempered to workable consistency by adding water and re-mixing thoroughly.
- F. Following the established cure period for the mortar, the Contractor shall inspect the color match to the existing building color and make any required changes in the color as directed by the Architect.

3.2 GROUT

- A. Grout, unless noted otherwise, shall conform to ASTM C-476, Table 2. Use no antifreeze additives.
- B. Grout should be mixed with sufficient water to produce pouring consistency without segregation of the constituents. Grout that has started to set shall not be used.
- C. Use fine grout for all cells less than 4 inches in least lateral dimension.
- D. All cementitious materials and aggregates should be mixed in a mechanical mixer for a minimum period of 5 minutes, after all the materials are in the mixer, with the amount of water required to produce the desired work ability.

END OF SECTION

**SECTION 061053
MISCELLANEOUS ROUGH CARPENTRY**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Framing with dimension lumber.
 2. Wood blocking, cants, and nailers.
 3. Wood furring

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
1. Wood nailers, blocking, and similar members in connection with flashing.
 2. Wood sills, sleepers, blocking, furring, and similar concealed members in contact with concrete.

3. Wood framing and furring attached directly to the interior of below-grade exterior concrete walls.
4. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Other Framing: Construction or No. 2 grade and any of the following species:

1. Hem-fir (north); NLGA.
2. Southern pine; SPIB.
3. Douglas fir-larch; WCLIB or WWPA.
4. Mixed southern pine; SPIB.
5. Spruce-pine-fir; NLGA.
6. Douglas fir-south; WWPA.
7. Hem-fir; WCLIB or WWPA.
8. Douglas fir-larch (north); NLGA.
9. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Furring.

B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber of any species.

C. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:

1. Mixed southern pine, No. 3 grade; SPIB.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Power-Driven Fasteners: NES NER-272.

C. Screws for Fastening to Metal Framing: ASTM C 1002, length as recommended by screw manufacturer for material being fastened.

2.6 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Self-adhesive butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Do not splice structural members between supports unless otherwise indicated.
- D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- E. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.

END OF SECTION

**SECTION 061600
SHEATHING**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wall sheathing.
 - 2. Ceiling paneling.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preserved treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

- A. Plywood: Either DOC PS 1 or DOC PS 2 unless otherwise indicated.
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

2.2 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete.

2.3 WALL SHEATHING

- A. Plywood Sheathing: Exposure 1, Structural I sheathing.
 - 1. Span Rating: Not less than 16/0.
 - 2. Nominal Thickness: As indicated.

2.4 CEILING PANELING

- A. Plywood Paneling: Manufacturer's stock hardwood plywood panels complying with HPVA HP-1, made without urea-formaldehyde adhesive.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Chesapeake Hardwood Products, Inc.
 - b. Georgia-Pacific Corp.
 - c. Holland Southwest International
 - d. Approved equal.
 - 2. Face Veneer Species and Cut: Rotary-cut white birch.
 - 3. Veneer Matching: Random match.
 - 4. Backing Veneer Species: Any hardwood compatible with face species.
 - 5. Construction: Veneer core.
 - 6. Thickness: 7/16 inch.
 - 7. Panel Size: 48 by 96 inches.
 - 8. Glue Bond: Type II (interior).

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

END OF SECTION

**SECTION 062013
EXTERIOR FINISH CARPENTRY**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Exterior wood trim.
- 2. Lumber siding.

B. Related Requirements:

- 1. Section 061053 "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
- 2. Section 079200 "Joint Sealants" for caulking at dissimilar materials.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

1.5 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed and at least one coat of specified finish can be applied without exposure to rain, snow, or dampness.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
 - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Regional Materials: The following wood products shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
 - 1. Exterior trim.
 - 2. Exterior lumber siding.
- B. Certified Wood: The following wood products shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":
 - 1. Exterior trim.
 - 2. Exterior lumber siding.
- C. Lumber: DOC PS 20 and the following grading rules:
 - 1. WWPA: Western Wood Products Association, "Western Lumber Grading Rules."
- D. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.

2.2 EXTERIOR TRIM

- A. Lumber Trim for Painted Finish:
 - 1. Species and Grade: Western red cedar, Grade A.
 - 2. Maximum Moisture Content: 15 percent.
 - 3. Finger Jointing: Allowed if made with wet-use adhesive complying with ASTM D 5572.
 - 4. Face Surface: Surfaced (smooth).
 - 5. Factory Priming: Factory coated on faces and edges with exterior primer compatible with topcoats specified.
- B. Moldings for Painted Finish: WMMPA WM 4, P-grade wood moldings. Made from kiln-dried stock to patterns included in WMMPA WM 12.
 - 1. Species: Western red cedar.
 - 2. Finger Jointing: Allowed if made with wet-use adhesive complying with ASTM D 5572.
 - 3. Factory Priming: Factory coated on faces and edges with exterior primer compatible with topcoats specified.
 - 4. Brick-Mold Pattern: WM 180, 1-1/4 by 2 inches.

2.3 LUMBER SIDING

- A. Provide kiln-dried lumber siding complying with DOC PS 20, factory coated with exterior primer compatible with topcoats specified.
- B. Species and Grade: Grade A western red cedar.
- C. Board and batten wood siding: Where board and batten wood siding is called for, provide nominal 1x12 dimensional lumber, oriented vertically, with vertical trim at vertical seams (battens) sized to match existing board and batten areas.

- D. Horizontal wood siding: Where horizontal wood siding is called for, install 1x dimensional lumber horizontally using board sizes to match existing areas of horizontal wood siding.

2.4 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.
 - 1. For face-fastening siding, provide ringed-shank siding nails or hot-dip galvanized-steel siding nails.
 - 2. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.
 - 3. For applications not otherwise indicated, provide hot-dip galvanized-steel or aluminum fasteners.
- B. Wood Glue: Waterproof resorcinol glue recommended by manufacturer for exterior carpentry use.

2.5 FABRICATION

- A. Back out or kerf backs of standing and running trim wider than 5 inches, except members with ends exposed in finished work.
- B. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Prime lumber and moldings to be painted, including both faces and edges, unless factory primed. Cut to required lengths and prime ends. Comply with requirements in Section 099113 "Exterior Painting."

3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
 - 1. Do not use manufactured units with defective surfaces, sizes, or patterns.

- B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
 - 1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
 - 2. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - 3. Coordinate exterior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install flat-grain lumber with bark side exposed to weather.
- B. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary.
 - 1. Use scarf joints for end-to-end joints.
 - 2. Stagger end joints in adjacent and related members.
- C. Fit exterior joints to exclude water. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.
- D. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.

3.5 SIDING INSTALLATION

- A. Install siding to comply with manufacturer's written instructions.
- B. Horizontal Lumber Siding: Apply starter strip along bottom edge of sheathing or sill. Install first course of siding with lower edge at least 1/8 inch below starter strip and subsequent courses lapped 1 inch over course below. Nail at each stud. Do not allow nails to penetrate more than one thickness of siding.
 - 1. Leave 1/8-inch gap at trim and corners unless otherwise recommended by manufacturer, and apply sealant.
 - 2. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.
- C. Flashing: Install metal flashing as indicated on Drawings.
- D. Finish: Apply finish within two weeks of installation.

3.6 ADJUSTING

- A. Replace exterior finish carpentry that is damaged or does not comply with requirements. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.7 CLEANING

- A. Clean exterior finish carpentry on exposed and semiexposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.8 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
 - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

**SECTION 062023
INTERIOR FINISH CARPENTRY**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Interior trim, including non-fire-rated interior door frames.
- 2. Interior hardboard paneling.

B. Related Requirements:

- 1. Section 061053 "Miscellaneous Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
- 2. Section 099123 "Interior Painting" for priming and backpriming of interior finish carpentry.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

- B. Samples for Initial Selection: For each type of product involving selection of colors, profiles, or textures.

C. Samples for Verification:

- 1. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq. in. for lumber and 8 by 10 inches for panels.
- 2. For each finish system and color of lumber and panel products with factory-applied finish, 50 sq. in. for lumber and 8 by 10 inches for panels.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's warranty.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

- B. Deliver interior finish carpentry materials only when environmental conditions meet requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and the temperature and relative humidity is at occupancy levels during the construction period.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
 - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Regional Materials: The following wood products shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
 - 1. Interior trim.
 - 2. Interior hardboard paneling.
- B. Certified Wood: The following wood products shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":
 - 1. Interior trim.
 - 2. Interior hardboard paneling.
- C. Lumber: DOC PS 20 and the following grading rules:
 - 1. SPIB: The Southern Pine Inspection Bureau, "Standard Grading Rules for Southern Pine Lumber."
 - 2. WCLIB: West Coast Lumber Inspection Bureau, Standard No. 17, "Grading Rules for West Coast Lumber."
 - 3. WWPA: Western Wood Products Association, "Western Lumber Grading Rules."
- D. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.
- E. Hardboard: AHA A135.4.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2.
 - 1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 18 percent respectively.

2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
3. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.
4. Do not use material that is warped or does not comply with requirements for untreated material.
5. Mark lumber with treatment-quality mark of an inspection agency approved by the American Lumber Standard Committee's Board of Review.
 - a. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
6. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
7. Application: Where indicated.

2.3 INTERIOR TRIM

A. Softwood Lumber Trim for Transparent Finish (Stain or Clear Finish):

1. Species and Grade: Southern pine, B & B finish; SPIB.
2. Maximum Moisture Content: 15 percent.
3. Finger Jointing: Allowed.
4. Face Surface: Surfaced (smooth).

2.4 PANELING

A. Interior wood-board paneling:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide "Tongue and Groove Knotty Pine Paneling" by Duragroove (www.duragroove.com) or comparable approved product.
3. Species: Southern Pine.
4. Grade: Knotty No. 1.
5. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less.
6. Panel Size: 1x6 nominal.
7. Net Coverage Width: 5-1/8".
8. Pattern: V-joint, tongue and groove, WP-4.
9. Thickness: 21/32 inch.
10. Finish: Prefinished - to be selected from manufacturer standard finishes.

2.5 MISCELLANEOUS MATERIALS

- ### A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

- B. Low-Emitting Materials: Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
 - 1. Wood glue shall have a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- D. Paneling Adhesive: Comply with paneling manufacturer's written recommendations for adhesives.
 - 1. Adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- E. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.
 - 1. Adhesive shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.6 FABRICATION

- A. Back out or kerf backs of the following members except those with ends exposed in finished work:
 - 1. Interior standing and running trim except shoe and crown molds.
 - 2. Wood-board paneling.
- B. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, too small to fabricate with proper jointing arrangements, or with defective surfaces, sizes, or patterns.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
 - 1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
 - 2. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
 - 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - 4. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
 - 1. Match color and grain pattern of trim for transparent finish (stain or clear finish) across joints.
 - 2. Install trim after gypsum-board joint finishing operations are completed.
 - 3. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.

3.5 PANELING INSTALLATION

- A. Board Paneling: Install according to manufacturer's written instructions. Arrange in random-width pattern suggested by manufacturer unless boards or planks are of uniform width.
 - 1. Install in full lengths without end joints.
 - 2. Select and arrange boards on each wall to minimize noticeable variations in grain character and color between adjacent boards. Install with uniform tight joints between boards.
 - 3. Fasten paneling with trim screws, set below face and filled.

3.6 ADJUSTING

- A. Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.7 CLEANING

- A. Clean interior finish carpentry on exposed and semiexposed surfaces. Restore damaged or soiled areas and touch up factory-applied finishes, if any.

3.8 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
 - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

**SECTION 064023
INTERIOR ARCHITECTURAL WOODWORK**

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Interior standing and running trim.
 - 2. Plastic-laminate countertops.
 - 3. Miscellaneous laminate clad woodwork items shown on the drawings.
- B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product and process specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
- C. Samples:
 - 1. Lumber and panel products for transparent finish, for each species and cut, finished on one side and one edge.
 - 2. Plastic-laminates, for each type, color, pattern, and surface finish.

1.3 INFORMATIONAL SUBMITTALS

- A. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Firm experienced in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units without delaying the Work.
- B. Installer Qualifications: Arrange for interior architectural woodwork installation by a firm that can demonstrate successful experience in installing architectural millwork items similar in type and quality to those required for this Project.
- C. Single-Source Responsibility for Fabrication and Installation: Engage a qualified woodworking firm to assume undivided responsibility for fabricating, finishing, and installing woodwork specified in this Section.
- D. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork, construction, finishes, and other requirements.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Wood Species and Cut for Transparent Finish: White oak, rift sawn or cut (except where noted otherwise).
- B. Wood Products:
 - 1. Low-Emitting Materials: Composite wood products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
 - 2. Hardboard: AHA A135.4.
 - 3. Particleboard: ANSI A208.1, Grade M-2-Exterior Glue.
 - 4. Softwood Plywood: DOC PS 1.
- C. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
- D. Adhesive for Bonding Plastic Laminate: Urea-formaldehyde.

2.2 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Adhesives, General: Adhesives shall not contain urea formaldehyde.
- C. VOC Limits for Installation Adhesives: Installation adhesives shall have a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- D. Low-Emitting Materials: Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.3 FABRICATION

- A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
 - 1. Interior Woodwork Grade: Custom.
- B. Interior Standing and Running Trim:
 - 1. Backout or groove backs of flat trim members, except for members with ends exposed in finished work.
 - 2. Assemble casings in plant except where limitations of access to place of installation require field assembly.

C. Plastic-Laminate Countertops:

1. High-Pressure Decorative Laminate Grade: HGS.
2. Colors, Patterns, and Finishes: As indicated by manufacturer's designations.
3. Edge Treatment: Same as laminate cladding on horizontal surfaces.

2.4 SHOP FINISHING

- A. Finish architectural woodwork at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.
- B. Finishing Materials: Products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling.
- D. Transparent Finish:
1. Grade: Custom.
 2. AWI Finish System: Acrylic lacquer.
 3. Staining: Match approved sample for color.
 4. Wash Coat for Stained Finish: Apply a wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
 5. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.
- B. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- C. Install woodwork level, plumb, true, and straight to a tolerance of 1/8 inch in 96 inches. Shim as required with concealed shims.
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.

- G. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Caulk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

END OF SECTION

**SECTION 073129
WOOD SHINGLES AND SHAKES**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood roof shingles.
 - 2. Underlayment.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each type of wood shake indicated.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For wood shingles to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Grading Agency Qualifications: An independent testing and inspecting agency recognized by authorities having jurisdiction as qualified to label wood shingles for compliance with referenced grading rules.

PART 2 - PRODUCTS

2.1 ROOF SHINGLES

- A. Certified Wood: Provide shingles produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- B. Cedar Roof Shingles: Smooth-sawn western red cedar shingles.
 - 1. Grading Standards: CSSB's "Grading Rules for Certigrade Red Cedar Shingles."
 - 2. Grade: No. 1, with starter courses of No. 1.
 - 3. Size: 16 inches long; 0.40 inch thick at butt.
- C. Ridge and Hip Units: Site-fabricated units of same thickness as roof shingle, 7 inches wide; beveled, alternately overlapped, and nailed.
 - 1. Grade: No. 1.
 - 2. Length: 16 inches.

2.2 WOOD TREATMENTS

- A. Fire-Retardant Treatment: Exterior-type pressure treatment complying with AWPA C1.

- B. Identification: Attach a label to each bundle of wood shingles or shakes; identify manufacturer, references to model-code approval, type of product, grade, dimensions, and approved grading agency.
 - 1. Include chemical treatment, method of application, purpose of treatment, and warranties available.

2.3 UNDERLAYMENT MATERIALS

- A. Felt Underlayment: ASTM D 226 Type I or ASTM D 4869 Type II, asphalt-saturated organic felt.

2.4 ACCESSORIES

- A. Roofing Nails: ASTM F 1667, hot-dip galvanized-steel wire nails, sharp pointed, and of sufficient length to penetrate a minimum of 3/4 inch into sheathing.
- B. Felt Underlayment and Interlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized-steel wire nails; with 1-inch minimum diameter, low-profile capped heads or disc caps.

2.5 METAL FLASHING AND TRIM

- A. Sheet Metal: Galvanized steel.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Single-Layer Felt Underlayment: Install on roof deck parallel with and starting at the eaves. Lap sides a minimum of 2 inches over underlying course. Lap ends a minimum of 4 inches. Stagger end laps between succeeding courses at least 72 inches. Fasten with felt underlayment nails.
 - 1. Install felt underlayment on roof deck with laps not less than 3 inches in direction to shed water.

3.2 METAL FLASHING INSTALLATION

- A. General: Install metal flashings and other sheet metal to comply with requirements in Section 076200 "Sheet Metal Flashing and Trim."
 - 1. Install metal flashings according to recommendations for wood roofing in NRCA's "The NRCA Roofing and Waterproofing Manual."

3.3 ROOF-SHINGLE INSTALLATION

- A. General: Install wood-shingle roofing according to manufacturer's written instructions and to recommendations in CSSB's "New Roof Construction Manual" and NRCA's "The NRCA Roofing and Waterproofing Manual."
- B. Install drainage mat perpendicular to roof slope in parallel courses, butting edges and ends to form a continuous layer, and fasten to roof deck.
 - 1. Maintain weather exposure of 5 inches for 16-inch long shingles.

- C. Ridge Vents: Install continuous ridge vents over wood shingles according to manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate roof sheathing.
- D. Ridge and Hip Units: Install units over wood shingles trimmed at apex. Maintain same exposure dimension of units as roof-shingle exposure. Lap units at ridges to shed water away from direction of prevailing winds. Alternate overlaps of units and fasten with concealed roofing nails of sufficient length to penetrate sheathing.

END OF SECTION

**SECTION 076200
SHEET METAL FLASHING AND TRIM**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formed roof drainage sheet metal fabrications.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show installation layouts of sheet metal flashing and trim, including plans, elevations, and keyed details. Distinguish between shop- and field-assembled work.
 - 1. Include details for forming, joining, supporting, and securing sheet metal flashing and trim, including pattern of seams, termination points, fixed points, edge conditions, special conditions, and connections to adjoining work.
- C. Samples: For each exposed product and for each finish specified.
- D. Maintenance data.

1.3 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

1.4 WARRANTY

- A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.
 - 1. Exposed Coil-Coated Finishes:
 - a. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat.
 - 2. Color: Match existing.

2.2 UNDERLAYMENT MATERIALS

- A. Polyethylene Sheet: 6-mil- thick polyethylene sheet complying with ASTM D 4397.
- B. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- D. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
 - 1. Obtain field measurements for accurate fit before shop fabrication.
 - 2. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
 - 3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.
- B. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

- C. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- D. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
- E. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.

2.5 STEEP-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Valley Flashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.028 inch thick.
- B. Drip Edges: Fabricate from the following materials:
 - 1. Aluminum: 0.032 inch thick.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement so that completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 3. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
 - 4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
 - 5. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.

1. Coat back side of uncoated aluminum sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene sheet.

C. Fastener Sizes: Use fasteners of sizes that will penetrate wood sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws .

D. Seal joints as shown and as required for watertight construction.

E. Rivets: Rivet joints in uncoated aluminum where indicated and where necessary for strength.

3.3 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

3.4 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION

**SECTION 079200
JOINT SEALANTS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Preformed joint sealants.

1.2 PRECONSTRUCTION TESTING

- A. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates. Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each kind and color of joint sealant required.

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Preconstruction compatibility and adhesion test reports.
- C. Preconstruction field-adhesion test reports.
- D. Field-adhesion test reports.
- E. Warranties.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.6 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Architectural Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.
- B. Low-Emitting Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

2.2 SILICONE JOINT SEALANTS

- A. Mildew-Resistant Silicone Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems.
 - b. Dow Corning Corporation.
 - c. GE Advanced Materials - Silicones.
 - d. May National Associates, Inc.
 - e. Pecora Corporation.
 - f. Polymeric Systems, Inc.
 - g. Schnee-Morehead, Inc.
 - h. Sika Corporation; Construction Products Division.
 - i. Tremco Incorporated.
 - 2. Type: Single component (S).
 - 3. Grade: nonsag (NS).
 - 4. Class: 50.
 - 5. Uses Related to Exposure: Nontraffic (NT).

2.3 URETHANE JOINT SEALANTS

- A. Urethane Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems.
 - b. Bostik, Inc.
 - c. Lymtal, International, Inc.

- d. May National Associates, Inc.
- e. Pacific Polymers International, Inc.
- f. Pecora Corporation.
- g. Polymeric Systems, Inc.
- h. Schnee-Morehead, Inc.
- i. Sika Corporation; Construction Products Division.
- j. Tremco Incorporated.

2. Type: Single component (S).
3. Grade: nonsag (NS).
4. Class: 50.
5. Uses Related to Exposure: Nontraffic (NT).

2.4 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.5 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
 1. Remove laitance and form-release agents from concrete.
 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces JS-1.
 - 1. Joint Locations:
 - a. Control and expansion joints in unit masonry.
 - b. Joints between different materials listed above.
 - c. Perimeter joints between materials listed above and frames of doors and windows.
 - d. Control and expansion joints in ceilings and other overhead surfaces.
 - e. Other joints as indicated.

2. Joint Sealant: Urethane.
 3. Joint-Sealant Color: As selected from manufacturer's full range of colors.
- B. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces JS-2.
1. Joint Sealant Location:
 - a. Joints between adjoining walls, floors, and counters.
 - b. Other joints as indicated.
 2. Joint Sealant: Silicone.
 3. Joint-Sealant Color: As selected from manufacturer's full range of colors.

END OF SECTION

**SECTION 081433
STILE AND RAIL WOOD DOORS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Exterior stile and rail wood doors.
 - 2. Priming stile and rail wood doors.
 - 3. Prehanging doors in frame.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Indicate size and hand of each door; elevation of each kind of door; construction details not covered in Product Data, including those for stiles, rails; and other pertinent data.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Use only materials that comply with referenced standards and other requirements specified.
 - 1. Assemble exterior doors, including components, with wet-use adhesives complying with ASTM D 5572 for finger joints and with ASTM D 5751 for joints other than finger joints.
- B. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.
- C. Safety Glass: Provide products complying with testing requirements in 16 CFR 1201, for Category II materials, unless those of Category I are expressly indicated and permitted.

2.2 EXTERIOR STILE AND RAIL WOOD DOORS

- A. Thermal Transmittance: Maximum whole fenestration product U-factor of 0.65, according to AAMA 1503, ASTM E 1423, or NFRC 100.

- B. Exterior Stile and Rail Wood Doors: Exterior doors complying with WDMA I.S.6, "Industry Standard for Wood Stile and Rail Doors," and with other requirements specified.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Model 510 by Jeld-Wen or comparable product by one of the following:
 - a. Belentry Doors LLC.
 - b. International Door and Latch.
 - c. Karona, Inc.
 - d. QSM Enterprise, Inc.
 - e. Simpson Door Company.
 - 2. Wood Species: Manufacturer's standard softwood species and cut.
 - 3. Stile and Rail Construction: Edge-glued solid lumber.
 - 4. Glass: Uncoated, clear, glass units which have a total thickness of 1/4" thick, made from fully tempered glass with interspace complying with Section 088000 "Glazing."

2.3 STILE AND RAIL WOOD DOOR FABRICATION

- A. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.
 - 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- B. Glazed Openings: Factory install glazing in doors, complying with Section 088000 "Glazing." Install glass using manufacturer's standard elastomeric glazing sealant complying with ASTM C 920. Secure glass in place with removable wood moldings. Miter wood moldings at corner joints.
- C. Exterior Doors: Factory treat exterior doors after fabrication with water-repellent preservative to comply with WDMA I.S.4. Flash top of outswinging doors with manufacturer's standard metal flashing.
- D. Prehung Doors: Provide stile and rail doors complete with frames, weather stripping, and hardware.
 - 1. Provide wood door frames that comply with Section 062023 "Interior Finish Carpentry."
 - 2. Provide hardware, including weather stripping, that complies with door hardware listed on drawings.

2.4 SHOP PRIMING

- A. Doors for Opaque Finish: Shop prime faces, all four edges, edges of cutouts, and mortises with one coat of wood primer specified in Section 099113 "Exterior Painting."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hardware: Install door hardware as listed on the drawings. All door hardware shall be installed to comply with manufacturer's written instructions.

- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
- C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

3.2 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.

END OF SECTION

**SECTION 085200
WOOD WINDOWS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes operable wood-framed windows.

1.3 DEFINITIONS

- A. Performance class designations according to AAMA/WDMA 101/I.S.2/NAFS:
 - 1. AW: Architectural.
- B. Performance grade number according to AAMA/WDMA 101/I.S.2/NAFS:
 - 1. Design pressure number in pounds force per square foot used to determine the structural test pressure and water test pressure.
- C. Structural Test Pressure: For uniform load structural test, is equivalent to 150 percent of the design pressure.
- D. Minimum Test Size: Smallest size permitted for performance class (gateway test size). Products must be tested at minimum test size or at a size larger than minimum test size to comply with requirements for performance class.

1.4 ACTION SUBMITTALS

- A. Product Data: Include construction details, material descriptions, fabrication methods, dimensions of individual components and profiles, hardware, finishes, and operating instructions for each type of wood window indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware, attachments to other work, operational clearances, installation details, and the following:
 - 1. Mullion details, including reinforcement and stiffeners.
 - 2. Joinery details.
 - 3. Expansion provisions.
 - 4. Flashing and drainage details.
 - 5. Weather-stripping details.
 - 6. Glazing details.
 - 7. Window cleaning provisions.
- C. Samples: For each color specified for hardware and accessories involving color selection.
- D. Samples for Verification: For wood windows and components required, prepared on Samples of size indicated below.
 - 1. Main Framing Member: 12-inch- long, full-size sections of window frame with factory-applied primed finish.

2. Window Corner Fabrication: 12--by-12-inch- long, full-size window corner including full-size sections of window frame with factory-applied primed finish, weather stripping, and glazing. Hardware: Full-size units with factory-applied finish.
3. Weather Stripping: 12-inch- long sections.

- E. Product Schedule: For wood windows. Use same designations indicated on Drawings.
- F. Maintenance Data: For operable window sash, operating hardware, weather stripping and finishes to include in maintenance manuals.
- G. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An installer acceptable to wood window manufacturer or supplier for installation of units required for this Project.
- B. Manufacturer Qualifications: A manufacturer capable of fabricating wood windows that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.
- C. Source Limitations: Obtain wood windows through one source from a single manufacturer.
- D. Product Options: Drawings indicate size, profiles, and dimensional requirements of wood windows and are based on products supplied by Pella Corporation. Refer to Division 1 Section "Product Requirements." Do not modify size and dimensional requirements.
 1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- E. Fenestration Standard: Comply with AAMA/WDMA 101/I.S.2/NAFS, "North American Fenestration Standard Voluntary Performance Specification for Windows, Skylights and Glass Doors," for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
 1. Provide WDMA-certified wood windows with an attached label.
- F. Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify wood window openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace wood windows that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Failure to meet performance requirements.
 - b. Structural failures including excessive deflection, water leakage, or air infiltration.
 - c. Faulty operation of operable sash and hardware.

- d. Deterioration of wood, metals, vinyl, other materials, and finishes beyond normal weathering.
 - e. Failure of insulating glass.
2. Warranty Period:
- a. Window: Ten years from date of Substantial Completion.
 - b. Insulating Glass: Twenty years from date of Substantial Completion.
 - c. Metal Finish (Baked Enamel): Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide Pella Architect Series or comparable product by a previously approved manufacturer providing windows of comparable performance and meeting or exceeding listed criteria.

2.2 MATERIALS

- A. Wood: Clear ponderosa pine or another suitable fine-grained lumber; kiln dried to a moisture content of 6 to 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch deep by 2 inches wide; water-repellent preservative treated.
- B. Wood trim: Material and finish to match frame members.
- C. Fasteners: Aluminum, nonmagnetic stainless steel, epoxy adhesive, or other materials warranted by manufacturer to be noncorrosive and compatible with wood window members, trim, hardware, anchors, and other components.
 - 1. Exposed Fasteners: Unless unavoidable for applying hardware, do not use exposed fasteners. For application of hardware, use fasteners that match finish of member or hardware being fastened, as appropriate.
- D. Anchors, Nail Fins, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions; provide sufficient strength to withstand design pressure indicated.
- E. Reinforcing Members: Aluminum, or nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions; provide sufficient strength to withstand design pressure indicated.
- F. Compression-Type Weather Stripping: Provide compressible weather stripping designed for permanently resilient sealing under bumper or wiper action and for complete concealment when wood window is closed.
 - 1. Weather-Stripping Material: Dual weather stripping, consisting of continuous, flexible polyvinyl chloride material in dual durometer design. Vent units have welded corners, compressed between frame and sash for positive seal on all four sides. Secondary polyvinyl chloride leaf-type weather strip between edge of sash and frame.
- G. Replaceable Weather Seals: Comply with AAMA 701/702.

2.3 WINDOW

- A. Window Types: Hopper. Provide with integral jamb extensions. Field verify all depths.
- B. AAMA/WDMA Performance Requirements: Provide wood windows of performance indicated that comply with AAMA/WDMA 101/I.S.2/NAFS.
- C. Outside-Inside Transmission Class (OITC): Provide glazed windows rated for not less than 22 OITC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 1332.
- D. Windborne-Debris Resistance: Provide glazed windows capable of resisting impact from windborne debris, based on the pass/fail criteria as determined from testing glazed windows identical to those specified, according to ASTM E 1886 and testing information in ASTM E 1996 or AAMA 506 and requirements of authorities having jurisdiction.

2.4 GLAZING

- A. Glass and Glazing Materials: Provide manufacturers standard glazing units.
- B. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.

2.5 HARDWARE

- A. General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with wood; designed to smoothly operate, tightly close, and securely lock wood windows, and sized to accommodate sash or ventilator weight and dimensions. Do not use aluminum in frictional contact with other metals. Where exposed to the exterior, provide extruded or stamped aluminum. Where exposed on the interior, provide baked enamel, champagne.

2.6 INSECT SCREENS

- A. General: Design windows and hardware to accommodate screens in a tight-fitting, removable arrangement, with a minimum of exposed fasteners and latches. Fabricate insect screens to fully integrate with window frame. Locate screens on outside of window and provide for each operable exterior sash or ventilator.
 - 1. Aluminum Tubular Frame Screens: Comply with SMA 1004 or SMA 1201, "Specifications for Aluminum Tubular Frame Screens for Windows".
 - 2. Screen Type for Hopper Windows: Full.
- B. Aluminum Insect Screen Frames: Manufacturer's standard aluminum alloy complying with SMA 1004 or SMA 1201. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
 - 1. Aluminum Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet with minimum wall thickness as required for class indicated.
 - 2. Finish for Exterior Screens: To be selected from manufacturer's standard range of colors.

2.7 FABRICATION

- A. Fabricate wood windows in sizes indicated. Include a complete system for assembling components and anchoring windows.

- B. Weather Stripping: Provide full-perimeter concealed weather stripping for each operable sash and ventilator, unless otherwise indicated.
- C. Factory machine windows for openings and for hardware that is not surface applied.
- D. Mullions: Provide mullions for true divided lites as shown, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design loads of window units.
- E. Factory-Glazed Fabrication: Except for light sizes in excess of 100 unites inches, glaze wood windows in the factory where practical and possible for applications indicated. Comply with requirements in Division 8 Section "Glazing" and with AAMA/WDMA 101/I.S.2/NAFS.
- F. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

2.8 INTERIOR WOOD FINISHES

- A. Site-Finished Windows: Apply finish to all exposed wood surfaces per Interior Painting.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate, and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weathertight window installation.
 - 1. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches of opening.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing windows, hardware, accessories, and other components.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- C. Install windows to be weather-tight and freely operating.
- D. Separate any corrodible surfaces from sources of corrosion or electrolytic action (dissimilar materials, treated lumber, etc.) at points of contact with other materials.
- E. Place interior seal around window perimeter using insulating foam sealant to maintain continuity of building thermal and air barrier.

- F. Seal window to exterior wall cladding with sealant and related backing materials at perimeter of assembly.
- G. Leave window units closed and locked.

3.3 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.
- B. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- C. Clean factory-glazed glass immediately after installing windows. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.
- D. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- E. Protect window surfaces from contact with contaminating substances resulting from construction operations. In addition, monitor window surfaces adjacent to exterior masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written recommendations.

END OF SECTION

**SECTION 088000
GLAZING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Stile and Rail Wood Doors.
 - 2. Wood Windows.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E 1300 by a qualified professional engineer, using the following design criteria:
 - 1. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.

1.3 ACTION SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.

1.4 QUALITY ASSURANCE

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. GANA Publications: GANA's "Glazing Manual."

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

- A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
- B. Strength: Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
- C. Windborne-Debris-Impact Resistance: Provide exterior glazing that passes basic-protection testing requirements in ASTM E 1996 for Wind Zone 4 when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated for use on the Project and shall be installed in same manner as glazing indicated for use on the Project.
 - 1. Large-Missile Test: For all glazing, regardless of height above grade.

2.2 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:

1. Neoprene complying with ASTM C 864.
2. EPDM complying with ASTM C 864.
3. Silicone complying with ASTM C 1115.
4. Thermoplastic polyolefin rubber complying with ASTM C 1115.

2.3 GLAZING SEALANTS

A. General:

1. **Compatibility:** Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. **Suitability:** Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Sealants used inside the weatherproofing system, shall have a VOC content of not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
4. Sealants used inside the weatherproofing system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- B. **Glazing Sealant:** Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.4 MISCELLANEOUS GLAZING MATERIALS

- A. **Cleaners, Primers, and Sealers:** Types recommended by sealant or gasket manufacturer.
- B. **Setting Blocks:** Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- C. **Spacers:** Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- D. **Edge Blocks:** Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- E. **Cylindrical Glazing Sealant Backing:** ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.5 GLASS TYPES

- A. **Glass Type G-1:** 1/4" clear tempered glass.

PART 3 - EXECUTION

3.1 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

- B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- F. Provide spacers for glass lites where length plus width is larger than 50 inches.
- G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

3.2 CLEANING AND PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and stone surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

END OF SECTION

**SECTION 096513
RESILIENT BASE AND ACCESSORIES**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Resilient base.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For each type of product indicated, in manufacturer's standard-size Samples but not less than 12 inches long, of each resilient product color, texture, and pattern required.

1.3 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.4 PROJECT CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer in spaces to receive resilient products.

B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer.

C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE

A. Resilient Base:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Armstrong World Industries, Inc.
 - b. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
 - c. Endura Rubber Flooring; Division of Burke Industries, Inc.
 - d. Johnsonite.
 - e. Roppe Corporation, USA.
 - f. VPI, LLC; Floor Products Division.
 - g. Approved Equal.

- B. Resilient Base Standard: ASTM F 1861.
 - 1. Material Requirement: Type TS (rubber, vulcanized thermoset) or Type TP (rubber, thermoplastic).
 - 2. Manufacturing Method: Group I (solid, homogeneous).
 - 3. Style: Cove (base with toe).
- C. Minimum Thickness: 0.125 inch (3.2 mm).
- D. Height: 4 inches (102 mm).
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Job formed.
- G. Inside Corners: Job formed.
- H. Finish: Satin.
- I. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
 - 1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until they are same temperature as the space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- D. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.2 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls where indicated.
- C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.

3.3 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
- B. Cover resilient products until Substantial Completion.

END OF SECTION

**SECTION 099110
EXTERIOR PAINTING**

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Wood.
 - 2. Galvanized metal.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each finish and for each color and texture required.
- C. Product List: Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.3 QUALITY ASSURANCE

- A. MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.

1.4 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.
- C. Colors: As indicated in Color Schedule 099990.

2.2 METAL PRIMERS

- A. Alkyd Anticorrosive Metal Primer: MPI #79.
 - 1. VOC Content: E Range of E2.

2.3 WOOD PRIMERS

- A. Exterior Latex Wood Primer: MPI #6.
 - 1. VOC Content: E Range of E2.

2.4 EXTERIOR LATEX PAINTS

- A. Exterior Latex (Semigloss): MPI #11 (Gloss Level 5).
 - 1. VOC Content: E Range of E2.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Wood: 15 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION AND APPLICATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

- D. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.3 EXTERIOR PAINTING SCHEDULE

- A. Galvanized-Metal Substrates:
 - 1. Latex Over Water-Based Primer System: MPI EXT 5.3H.
 - a. Prime Coat: Waterborne galvanized-metal primer.
 - b. Intermediate Coat: Exterior latex matching topcoat.
 - c. Topcoat: Exterior latex (semigloss).
- B. Dimension Lumber Substrates, Nontraffic Surfaces: Including trim.
 - 1. Latex System: MPI EXT 6.2M.
 - a. Prime Coat: Exterior latex wood primer.
 - b. Intermediate Coat: Exterior latex matching topcoat.
 - c. Topcoat: Exterior latex (semigloss).

END OF SECTION

**SECTION 099123
INTERIOR PAINTING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on interior substrates.

1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples: For each type of paint system and in each color and gloss of topcoat.
- C. Product List: For each product indicated. Include printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Primers, Sealers, and Undercoaters: 200 g/L.
4. Pretreatment Wash Primers: 420 g/L.

D. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

E. Colors: As indicated in the Finish Schedule 099990.

2.3 PRIMERS/SEALERS

- A. Primer Sealer, Interior, Institutional Low Odor/VOC: MPI #149.
- B. Primer, Latex, for Interior Wood: MPI #39.
- C. Primer Sealer, Alkyd, Interior: MPI #45.

2.4 WATER-BASED PAINTS

- A. Latex, Interior, Institutional Low Odor/VOC, (Gloss Level 3): MPI #145.
- B. Latex, Interior, Institutional Low Odor/VOC, Semi-Gloss (Gloss Level 5): MPI #147.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Wood: 15 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

- A. Wood Substrates.
 - 1. Institutional Low-Odor/VOC Latex System:
 - a. Prime Coat: Primer, latex, for interior wood, MPI #39.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC, (Gloss Level 3), MPI #145.

END OF SECTION

**SECTION 099990
FINISHES**

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section contains the color requirements for materials specified in other sections of this specification and shown on the drawings. Specific manufacturer's trade names and numbers are used herein to specify color, finish, and texture and pattern only and are not intended to exclude in any way other manufacturer's products of equal or better quality and design. Subject to written approval of the Architect, products of other manufacturers will be considered, provided they are equivalent to the colors, finishes, textures and patterns listed, and meet the requirements of the specifications and drawings.
- B. T. B. D. indicates, "To Be Determined as selected by Owner".
- C. Provide samples to owner for final approval on all finishes, materials and stains. Provide eight samples for each item. Stain samples shall be provided with all final finishes and coatings as specified. Provide paint draw downs for all paint colors.

PART 2 GENERAL

2.1 COLOR SCHEDULE

- A. Floor Finishes:
 - 1. Exposed Concrete
Stain: T.B.D.
- B. Base Finishes:
 - 1. Resilient Base
Color: T.B.D.
 - 2. Wood Base
Species: Select Pine
Finish: Clear
- C. Wall Finishes:
 - 1. Interior Wood Board and Batten
Color: White
 - 2. Wood Paneling
Species: Select Pine
Finish: Clear
 - 3. Exterior Wood Board and Batten
Color: White

- D. Miscellaneous Finishes:
 - 1. Plastic Laminates
 - Color: T.B.D.

END OF SECTION

SECTION 329210
FIELDSTONE SLOPE PROTECTION AND EROSION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: All material, labor and equipment necessary for the placement of Fieldstone riprap required for the protection of designated surfaces as shown on the drawings and as specified herein. Also included are material, labor and equipment necessary for placement of cement mortar as shown on the drawings not included elsewhere.
- B. Related Sections:
 - 1. Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and provisions and General Requirements.

1.2 REFERENCES

- A. Standards of materials and construction shall conform with these Specifications, Section 02271.
- B. Where conflicts arise between the Drawings and Code Requirements, the latter shall prevail, unless Drawings are more stringent. Bring all conflicts to the attention of the Project Engineer and the DNR Construction Inspector.

1.3 SUBMITTALS

- A. Samples: Submit, for verification purposes, samples of each type of material to be used in the work of this section, as requested by the DNR Construction Inspector.

1.4 QUALITY ASSURANCE

- A. Qualification of Workers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the requirements and the methods needed for proper performance of the work of this section.

1.5 MATERIAL HANDLING

- A. Fieldstone Riprap: Use a loading method which assures reasonable compliance with specified requirements and is acceptable to the DNR Construction Inspector.
- B. Rejection of Unsuitable Materials: The DNR Construction Inspector will visually inspect material prior to loading and may reject material too fine or too coarse and require Contractor to load from another area.

1.6 PROJECT/SITE CONDITIONS

- A. Existing Conditions: Review job conditions prior to commencing work. Bring any discrepancies between existing conditions and the Drawings and Specifications to the attention of the Project Engineer/DNR Construction Inspector.
 - 1. Interface with existing conditions in accordance with the obvious intent of Drawings and Specifications. Claims for extra payments as a result of failure to examine existing conditions at the site will not be allowed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Revetment Stone: Provide Revetment Stone (Fieldstone), where indicated on the drawings, meeting the requirements of these Specifications. The stone will be hard and durable and have the necessary composition to withstand the effects of exposure to air and water.
1. Fieldstone Riprap: Provide sound and durable igneous or metamorphic rock, which is to be obtained from deposits of glacial till, making any additional processing unnecessary.
 2. Provide well graded material of the following size limitations:

<u>Stone Weight, Lbs</u>	<u>Minimum % Larger than</u>
Max. 125	---
30	95

- B. Reasonable uniformity in size of stone furnished is intended under this specification, with individual stones to weigh not more than 125 pounds nor less than 30 pounds.
- C. Tolerance in the weight requirement will be permitted with not more than 5% of the total weight of stone to be furnished exceeding an individual stone weight of 125 pounds, and not greater than 5% of the total weight of stone less than the individual stone weight requirement of 30 pounds.
- D. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the DNR Construction Inspector.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Surface Preparation: Clean the wall faces to be protected so that the revetment surface will be in compliance with the lines and grades shown on the Drawings.
1. The DNR Inspector will inspect the prepared wall faces directly prior to placement of revetment.

3.3 APPLICATION

- A. Special Techniques: Distribute over the surface as approved by the DNR Construction Inspector.

- B. Place stone riprap to produce a reasonably well-graded mass of stone with the minimum practicable percentage of voids and in full-course thickness in one operation.
 - 1. Distribute and place mortar base and joints as approved by the DNR Construction Inspector.
 - 2. Where necessary, allow some roughness in surface to break up wave action and decrease the velocity of the mass while keeping the mass fairly compact with all sizes of material in proper proportions.
 - 3. Hand place or re-arrange individual stones with mechanical equipment as necessary to secure results as specified.

- C. Tolerances: Control distribution based on the assumed density of 120 lbs per cubic foot and the actual weights delivered.

END OF SECTION