SOLICITATION, OFFER AND AWARD (Construction, Alteration, or Repair)	1. SOLICITATION NO.	2. TYPE OF SOLICITA	3. DATE ISSUED	PAGE OF PAGES
		☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)		1 37

IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.
NRC-10-10-405	10-10-405	

7. ISSUED BY	CODE	8. ADDRESS OFFER TO
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: James Leedom Mail Stop TWB-01-B10M Washington, DC 20555	3100	KIC Development, LLC 2461 South Clark Street Suite 270 Arlington VA 22202

9. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE NO. (include area code) (NO COLLECT CALLS)
	Jim Leedom	315-405-8102

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date):

The Contractor shall provide all supervision, labor, material and equipment needed to remove the current perimeter fence and construct a new perimeter fence around the NRC's One and Two White Flint North Buildings. All work shall be performed in accordance with the Statement of Work and schematic drawings dated 2/3/10.

Davis Bacon Act general decision number MD080056 and Service Contract Act wage determination number 2005-2103 apply to this procurement.

The period of performance is April 5, 2010 through August 1, 2010..

The contract type is Firm Fixed Price and the Firm Fixed Price of the contract is $500,204.72.

11. The Contractor shall begin performance within 5 calendar days and complete it within 92 calendar days after receiving ☒ award, ☐ notice to proceed. This performance period is ☐ mandatory, ☒ negotiable. (See 52.211-10.)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in item 12B.)	12B. CALENDAR DAYS
☒ YES ☐ NO	15 DAYS

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and _____ copies to perform the work required are due at the place specified in Item 8 by _____ (hour) local time _____ (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, the date and time offers are due

B. An offer guarantee ☒ is, ☐ is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference

D. Offers providing less than _____ calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

TEMPLATE - ADM001 SUNSI REVIEW COMPLETE APR 19 2010 ADM002

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)	15. TELEPHONE NO. (Include area code)
KIC DEVELOPMENT, LLC 557 E FIREWEED LN STE B ANCHORAGE AK 995032234	(315) 405-8102
CODE118125678 FACILITY CODE	16. REMITTANCE ADDRESS (Include only if different than Item 14)

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of the solicitation, if this offer is accepted by the Government in writing within 30 calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)

AMOUNTS

AS PRESENTED IN OFFEROR'S FINAL QOUTE DATED MARCH 24, 2010.

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)	20B. SIGNATURE	20C. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
$500,204.72	04015-5AA303 D2316 252A X0200 Obligate: $500,204.72 DUNS# 118125678 FFS# ADM-10-405

24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO
	27	☐ 10 U.S.C. 2304(c)( ) ☒ 41 U.S.C. 253(c) (5) ☐

26. ADMINISTERED BY CODE 3100	27. PAYMENT WILL BE MADE BY 3100
U.S. Nuclear Regulatory Commission Div. of Contracts ATTN: James Leedom Mail Stop TWB-01-B10M Washington, DC 20555	Department of Interior/NBC NRCpayments@nbc.gov Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue Denver CO 80235-2230

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☒ 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 1 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	☐ 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.
30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print) Anthony Acri, President + CEO	31A. NAME OF CONTRACTING OFFICER (Type or print) William Adams Contracting Officer
30B. SIGNATURE: [signature] 30C. DATE: 4/5/10	31B. UNITED STATES OF AMERICA BY [signature] 4/5/10

STANDARD FORM 1442(REV. 4-85)BACK

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PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS

B.1 PROJECT TITLE

The title of this project is as follows:

NRC Perimeter Fence Project

B.2 BRIEF DESCRIPTION OF WORK (MAR 1987)

The contractor shall provide all supervision, labor, materials, and equipment needed to meet the requirements of the Statement of Work. (See Attachment 1.)

B.3 CONSIDERATION AND OBLIGATION--FIRM FIXED PRICE (JUN 1988)

The firm fixed price of this contract is $500,204.72.

SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

SECTION D - PACKAGING AND MARKING

D.1 PACKAGING AND MARKING (MAR 1987)

The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Interstate Commerce Commission Regulations, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation. On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

SECTION E - INSPECTION AND ACCEPTANCE

E.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.246-12	INSPECTION OF CONSTRUCTION	AUG 1996

E.2 PLACE OF INSPECTION AND ACCEPTANCE (MAR 1987)

Inspection and acceptance of the deliverable items to be furnished hereunder shall be made by the Project Officer at the destination.

SECTION F - DELIVERIES OR PERFORMANCE

F.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.242-14	SUSPENSION OF WORK	APR 1984
52.242-17	GOVERNMENT DELAY OF WORK	APR 1984
52.247-34	F.O.B. DESTINATION	NOV 1991

F.2 2052.211-70 PREPARATION OF TECHNICAL REPORTS (JAN 1993)

All technical reports required by Section C and all Technical Progress Reports required by Section F are to be prepared in accordance with the attached Management Directive 3.8, "Unclassified Contractor and Grantee Publications in the NUREG Series." Management Directive 3.8 is not applicable to any Contractor Spending Plan (CSP) and any Financial Status Report that may be included in this contract. (See List of Attachments).

F.3 PLACE OF DELIVERY--REPORTS (JUN 1988)

The items to be furnished hereunder shall be delivered, with all charges paid by the Contractor, to:

(a) Project Officer (1 copies)

11545 Rockville Pike Mail Stop: T-6-E-46 Rockville, MD 20852 (PROJ-OFFICER-ADD1) (PROJ-OFFICER-ADD2) (PROJ-OFFICER-ADD3) (PROJ-OFFICER-ADD4)

(b) Contracting Officer (1 copy)

F.4 DURATION OF CONTRACT PERIOD (MAR 1987) ALTERNATE 2 (MAR 1987)

This contract shall commence on April 5, 2010 and will expire on August 1,2010. The term of this contract may be extended at the option of the Government for an additional six (6) months.

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 PROJECT OFFICER AUTHORITY ALTERNATE 2 (FEBRUARY 2004)

(a) The contracting officer's authorized representative hereinafter referred to as the project officer for this contract is:

Name: Rick Branch

Address: U. S. Nuclear Regulatory
Mail Stop: T-6-E-46
11545 Rockville Pike
Rockville, MD 20852

Telephone Number: 301-415-8389

(b) The project officer shall:

(1) Monitor contractor performance and recommend changes in requirements to the contracting officer.

(2) Inspect and accept products/services provided under the contract.

(3) Review all contractor invoices/vouchers requesting payment for products/services provided under the contract and make recommendations for approval, disapproval, or suspension.

(4) Immediately notify the Security Branch, Division of Facilities and Security (SB/DFS) (via e-mail) when a contractor emplyee no longer requires access authorization and return of any NRC issued badge to SB/DFS within three days after their termination.

(c) The project officer may not make changes to the express terms and conditions of this contract.

*To be incorporated into any resultant contract

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 DETERMINATION OF MINIMUM WAGES AND FRINGE BENEFITS (NOV 1989)

Each employee of the Contractor or any subcontractor performing services under this contract shall be paid at least the minimum allowable monetary wage and fringe benefits prescribed under the U.S. Department of Labor Wage Determination which is attached (See Section J for List of Attachments).

H.2 NOTICE OF REQUIRED PERFORMANCE SECURITY

If a contract exceeds $25,000, the successful offeror shall furnish security to guarantee faithful performance of the contract in the amount of 100% of the total contract price. Security may be in the form of a performance bond on Standard Form 25 (furnished on request), or in the form of a certified or cashier's check, bank draft, Post Office money order, or currency, or United States Government bonds or notes (at par value) deposited in accordance with Treasury Regulations. Money orders and checks shall be drawn payable to: U.S. Nuclear Regulatory Commission, Office of the Controller, Division of Accounting.

H.3 NOTICE OF REQUIRED PAYMENT SECURITY

If a contract exceeds $25,000, the successful offeror shall furnish security to guarantee payment to all persons supplying labor or materials in the performance of the contract. Such security may be in the form of a payment bond on Standard Form 25A (furnished on request), or in the form of a certified or cashier's check, bank draft, Post Office money order, or currency, or United States Government bonds or notes (at par value) deposited in accordance with Treasury Regulations. Money orders and checks shall be drawn payable to: U.S. Nuclear Regulatory Commission, Office of the Controller, Division of Accounting. The penal sum of the payment bond shall equal 50% of the contract price.

H.4 MINIMUM INSURANCE COVERAGE

The Contractor shall obtain and maintain insurance coverage as follows for the performance of this contract:

(a) Worker's compensation and employer's liability insurance as required by applicable federal and state worker's compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with the Contractor's commercial operations that it would not be practical. The employer's liability coverage shall be at lease $100,000, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(b) Comprehensive general (bodily injury) liability insurance of at least $500,000 per occurrence.

(c) Motor vehicle liability insurance written on the comprehensive form of policy which provides for bodily injury and property damage liability covering the operation of all motor vehicles used in connection with performing the contract. Policies covering motor vehicles operated in the United States shall provide coverage of at least $200,000 per person and $500,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

(d) Comprehensive general and motor vehicle liability policies shall contain a provision worded as follows:

"The insurnace company waives any right of subrogation against the United States of America which may arise by reason of any payment under the policy."

H.5 GOVERNMENT FURNISHED EQUIPMENT/PROPERTY - NONE PROVIDED (JUN 1988)

The Government will not provide any equipment/property under this contract.

H.6 SEAT BELTS

Contractors, subcontractors, and grantees, are encouraged to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented, or personally owned vehicles.

H.7 Compensation for On-Site Contractor Personnel (Alternate 1)

a. NRC facilities may not be available due to (1) designated Federal holiday, any other day designated by Federal Statute, Executive Order, or by President's Proclamation; (2) early dismissal of NRC employees during working hours (e.g., special holidays or emergency situations); or (3) occurrence of emergency conditions during nonworking hours (e.g., inclement weather).

b. When NRC facilities are unavailable, the compensation and deduction policy stated below shall be followed for contractor employees performing work on-site at the NRC facility:

*

c. The contractor shall not charge the NRC for work performed by on- site contractor employees who were reassigned to perform other duties off site during the time the NRC facility was closed.

d. On-site contractor staff shall be guided by the instructions given by a third party (e.g., Montgomery County personnel, in the case of a water emergency) in situations which pose an immediate health or safety threat to employees.

e. The contractor's Project Director shall first consult the NRC Project Officer before authorizing leave for on-site personnel in situations which do not impose an immediate safety or health threat to employees (e.g., special holidays). That same day, the contractor must then alert the Contracting Officer of the NRC Project Officer's direction. The contractor shall continue to provide sufficient personnel to perform the requirements of essential tasks as defined in the Statement of Work which already are in operation or are scheduled.

*To be incorporated into the resultant contract

H.8 Compliance with U.S. Immigration Laws and Regulations

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States Immigration and Naturalization (INS) laws and regulations, including employment authorization documents and visa requirements.

Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Alien Registration Receipt Card Form 1-151 or must present other evidence from the Immigration and Naturalization Services that employment will not affect his/her immigration status. The INS Office of Business Liaison (OBL) provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on the INS website, http://www.ins.usdoj.gov/graphics/services/employerinfo/index.htm#obl.

The NRC reserves the right to deny or withdraw Contractor use or access to NRC facilities or its equipment/services, and/or take any number of contract administrative actions (e.g., disallow costs, terminate for cause) should the Contractor violate the Contractor's responsibility under this clause.

(End of Clause)

H.9 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS

Review and Approval of Reports

(a) Reporting Requirements. The contractor/grantee shall comply with the terms and conditions of the contract/grant regarding the contents of the draft and final report, summaries, data, and related documents, to include correcting, deleting, editing, revising, modifying, formatting, and supplementing any of the information contained therein, at no additional cost to the NRC. Performance under the contract/grant will not be deemed accepted or completed until it complies with the NRC=s directions. The reports, summaries, data, and related documents will be considered draft until approved by the NRC. The contractor/grantee agrees that the direction, determinations, and decisions on approval or disapproval of reports, summaries, data, and related documents created under this contract/grant remain solely within the discretion of the NRC.

(b) Publication of Results. Prior to any dissemination, display, publication, or release of articles, reports, summaries, data, or related documents developed under the contract/grant, the contractor/grantee shall submit them to the NRC for review and approval. The contractor/ grantee shall not release, disseminate, display or publish articles, reports, summaries, data, and related documents, or the contents therein, that have not been reviewed and approved by the NRC for release, display, dissemination or publication. The contractor/grantee agrees to conspicuously place any disclaimers, markings or notices, directed by the NRC, on any articles, reports, summaries, data, and related documents that the contractor/grantee intends to release, display, disseminate or publish to other persons, the public, or any other entities. The contractor/grantee agrees, and grants, a royalty-free, nonexclusive, irrevocable worldwide license to the government, to use, reproduce, modify, distribute, prepare derivative works, release, display or disclose the articles, reports, summaries, data, and related documents developed under the contract/grant, for any governmental purpose and to have or authorize others to do so.

(c) Identification/Marking of Sensitive Unclassified and Safeguards Information. The decision, determination, or direction by the NRC that information possessed, formulated or produced by the contractor/grantee constitutes sensitive unclassified or safeguards information is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/ grantee shall clearly mark sensitive unclassified and safeguards information, to include for example, AOUO-Allegation Information@ or AOUO-Security Related Information@ on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 ASafeguards Information@) in maintaining these records and documents. The contractor/grantee shall ensure that sensitive unclassified and safeguards information is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified and Non-Safeguards Information policies, and NRC Management Directive and Handbook 12.6.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements.

H.10 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES (JULY 2006)

(a) The U.S. Nuclear Regulatory Commission (NRC) contractor and its subcontractor are subject to the Whistleblower Employee Protection public law provisions as codified at 42 U.S.C. 5851. NRC contractor(s) and subcontractor(s) shall comply with the requirements of this Whistleblower Employee Protection law, and the implementing regulations of the NRC and the Department of Labor (DOL). See, for example, DOL Procedures on Handling Complaints at 29 C.F.R. Part 24 concerning the employer obligations, prohibited acts, DOL procedures and the requirement for prominent posting of notice of Employee Rights at Appendix A to Part 24.

(b) Under this Whistleblower Employee Protection law, as implemented by regulations, NRC contractor and subcontractor employees are protected from discharge, reprisal, threats, intimidation, coercion, blacklisting or other employment discrimination practices with respect to compensation, terms, conditions or privileges of their employment because the contractor or subcontractor employee(s) has provided notice to the employer, refused to engage in unlawful practices, assisted in proceedings or testified on activities concerning alleged violations of the Atomic Energy Act of 1954 (as amended) and the Energy Reorganization Act of 1974 (as amended).

(c) The contractor shall insert this or the substance of this clause in any subcontracts involving work performed under this contract.

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	SEP 2006
52.204-7	CENTRAL CONTRACTOR REGISTRATION	APR 2008
52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT 1997
52.219-6	NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE	JUN 2003
52.219-11	SPECIAL 8(A) CONTRACT CONDITIONS	FEB 1990
52.219-12	SPECIAL 8(A) SUBCONTRACT CONDITIONS	FEB 1990
52.219-14	LIMITATIONS ON SUBCONTRACTING	DEC 1996
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB 1999
52.222-26	EQUAL OPPORTUNITY	MAR 2007
52.222-35	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	SEP 2006
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	JUN 1998
52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	SEP 2006
52.222-41	SERVICE CONTRACT ACT OF 1965	NOV 2007
52.223-4	RECOVERED MATERIAL CERTIFICATION	MAY 2008
52.222-50	COMBATING TRAFFICKING IN PERSONS	FEB 2009
52.223-5	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION	AUG 2003
52.223-15	ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS	DEC 2007
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN 2008
52.227-4	PATENT INDEMNITY--CONSTRUCTION CONTRACTS	DEC 2007
52.228-2	ADDITIONAL BOND SECURITY	OCT 1997
52.232-5	PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS	SEP 2002
52.232-23	ASSIGNMENT OF CLAIMS	JAN 1986
52.232-33	PAYMENT BY ELECTRONIC FUNDS--CENTRAL	OCT 2003

	CONTRACTOR REGISTRATION	
52.233-1	DISPUTES	JUL 2002
52.233-3	PROTEST AFTER AWARD	AUG 1996
52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT 2004

I.2 52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

52.236-2	DIFFERING SITE CONDITIONS	APR 1984
52.236-5	MATERIAL AND WORKMANSHIP	APR 1984
52.236-6	SUPERINTENDENCE BY THE CONTRACTOR	APR 1984

I.3 52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

52.236-8	OTHER CONTRACTS	APR 1984
52.236-9	PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS	APR 1984
52.236-10	OPERATIONS AND STORAGE AREAS	APR 1984
52.236-11	USE AND POSSESSION PRIOR TO COMPLETION	APR 1984
52.236-12	CLEANING UP	APR 1984
52.236-14	AVAILABILITY AND USE OF UTILITY SERVICES	APR 1984
$ 52.236-15	SCHEDULES FOR CONSTRUCTION CONTRACTS	APR 1984

52.236-17	LAYOUT OF WORK	APR 1984
52.236-26	PRECONSTRUCTION CONFERENCE	FEB 1995
52.243-4	CHANGES	JUN 2007
52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS	DEC 2009
52.249-1	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SHORT FORM)	APR 1984
52.249-10	DEFAULT (FIXED-PRICE CONSTRUCTION)	APR 1984
52.253-1	COMPUTER GENERATED FORMS	JAN 1991
52.228-11	PLEDGES OF ASSETS	SEP 2009
52.228-12	PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS	OCT 1995
52.228-14	IRREVOCABLE LETTER OF CREDIT	DEC 1999

I.4 52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within 30 days of the end of the period of performance.

I.5 52.223-9 ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED ITEMS (MAY 2008)

(a) Definitions. As used in this clause--

"Postconsumer material" means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material."

"Recovered material" means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall--

(1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of postconsumer material content; and

(2) Submit this estimate to James Leedom, Contract Specialist @ james.leedom@nrc.gov.

I.6 52.223-2 AFFIRMATIVE PROCUREMENT OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS (DEC 2007)

(a) In the performance of this contract, the contractor shall make maximum use of biobased products that are United States Department of Agriculture (USDA)-designated items unless--

(1) The product cannot be acquired--

(i) Competitively within a time frame providing for compliance with the contract performance schedule;

(ii) Meeting contract performance requirements; or

(iii) At a reasonable price.

(2) The product is to be used in an application covered by a USDA categorical exemption (see 7 CFR 2902.10 et seq.). For example, some USDA-designated items such as mobile equipment hydraulic fluids, diesel fuel additives, and penetrating lubricants are excluded from the preferred procurement requirement for the application of the USDA-designated item to one or both of the following:

(i) Spacecraft system and launch support equipment.

(ii) Military equipment, i.e., a product or system designed or procured for combat or combat-related missions.

(b) Information about this requirement and these products is available at http://www.usda.gov/biopreferred.

I.7 52.225-9 BUY AMERICAN ACT--CONSTRUCTION MATERIALS (FEB 2009)

(a) Definitions. As used in this clause--

"Commercially available off-the-shelf (COTS) item"--

(1) Means any item of supply (including construction material) that is--

(i) A commercial item (as defined in paragraph (1) of the definition at FAR 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in section 3 of the Shipping Act of 1984 (46 U.S.C. App. 1702), such as agricultural products and petroleum products.

"Component" means any article, material, or supply incorporated directly into construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

"Cost of components" means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

"Domestic construction material" means--

(1) An unmanufactured construction material mined or produced in the United States;

(2) A construction material manufactured in the United States, if--

(i) The cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic; or

(ii) The construction material is a COTS item.

"Foreign construction material" means a construction material other than a domestic construction material.

"United States" means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference.

(1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In accordance with 41 U.S.C. 431, the component test of the Buy American Act is waived for construction material that is a COTS item (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

None

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON

Construction material description	Unit of Measure	Unit of Quantity	Price (dollars)*
Item 1:			
Foreign construction material	.....	.....	.....
Domestic construction material	.....	.....	.....
Item 2:			

Foreign construction material	.....	.....	.....
Domestic construction material	.....	.....	.....

[List name, address, telephone number, and contact for suppliers surveyed Attach copy of response; if oral, attach summary.]
[Include other applicable supporting information.]
[*Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]

I.8 52.232-16 PROGRESS PAYMENTS (JUL 2009) ALTERNATE I (MAR 2000)

The Government will make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts of $2,500 or more approved by the Contracting Officer, under the following conditions:

(a) Computation of amounts.

(1) Unless the Contractor requests a smaller amount, the Government will compute each progress payment as 85 percent of the Contractor's total costs incurred under this contract whether or not actually paid, plus financing payments to subcontractors (see paragraph (j) of this clause), less the sum of all previous progress payments made by the Government under this contract. The Contracting Officer will consider cost of money that would be allowable under FAR 31.205-10 as an incurred cost for progress payment purposes.

(2) The amount of financing and other payments for supplies and services purchased directly for the contract are limited to the amounts that have been paid by cash, check, or other forms of payment, or that are determined due and will be paid to subcontractors-

(i) In accordance with the terms and conditions of a subcontract or invoice; and

(ii) Ordinarily within 30 days of the submission of the Contractor's payment request to the Government.

(3) The Government will exclude accrued costs of Contractor contributions under employee pension plans until actually paid unless-

(i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's total costs for progress payments until paid).

(4) The Contractor shall not include the following in total costs for progress payment purposes in paragraph (a)(1) of this clause:

(i) Costs that are not reasonable, allocable to this contract, and consistent with sound and generally accepted accounting principles and practices.

(ii) Costs incurred by subcontractors or suppliers.

(iii) Costs ordinarily capitalized and subject to depreciation or amortization except for the properly depreciated or amortized portion of such costs.

(iv) Payments made or amounts payable to subcontractors or suppliers, except for-

(A) Completed work, including partial deliveries, to which the Contractor has acquired title; and

(B) Work under cost-reimbursement or time-and-material subcontracts to which the Contractor has acquired title.

(5) The amount of unliquidated progress payments may exceed neither (i) the progress payments made against incomplete work (including allowable unliquidated progress payments to subcontractors) nor (ii) the value, for progress payment purposes, of the incomplete work. Incomplete work shall be considered to be the supplies and services required by this contract, for which delivery and invoicing by the Contractor and acceptance by the Government are incomplete.

(6) The total amount of progress payments shall not exceed 85 percent of the total contract price.

(7) If a progress payment or the unliquidated progress payments exceed the amounts permitted by paragraphs (a)(4) or (a)(5) of this clause, the Contractor shall repay the amount of such excess to the Government on demand.

(8) Notwithstanding any other terms of the contract, the Contractor agrees not to request progress payments in dollar amounts of less than $2,500. The Contracting Officer may make exceptions.

(9) The costs applicable to items delivered, invoiced, and accepted shall not include costs in excess of the contract price of the items.

(b) Liquidation. Except as provided in the Termination for Convenience of the Government clause, all progress payments shall be liquidated by deducting from any payment under this contract, other than advance or progress payments, the unliquidated progress payments, or 85 percent of the amount invoiced, whichever is less. The Contractor shall repay to the Government any amounts required by a retroactive price reduction, after computing liquidations and payments on past invoices at the reduced prices and adjusting the unliquidated progress payments accordingly. The Government reserves the right to unilaterally change from the ordinary liquidation rate to an alternate rate when deemed appropriate for proper contract financing.

(c) Reduction or suspension. The Contracting Officer may reduce or suspend progress payments, increase the rate of liquidation, or take a combination of these actions, after finding on substantial evidence any of the following conditions:

(1) The Contractor failed to comply with any material requirement of this contract (which includes paragraphs (f) and (g) of this clause).

(2) Performance of this contract is endangered by the Contractor's-

(i) Failure to make progress; or

(ii) Unsatisfactory financial condition.

(3) Inventory allocated to this contract substantially exceeds reasonable requirements.

(4) The Contractor is delinquent in payment of the costs of performing this contract in the ordinary course of business.

(5) The fair value of the undelivered work is less than the amount of unliquidated progress payments for that work.

(6) The Contractor is realizing less profit than that reflected in the establishment of any alternate liquidation rate in paragraph (b) of this clause, and that rate is less than the progress payment rate stated in paragraph (a)(1) of this clause.

(d) Title.

(1) Title to the property described in this paragraph (d) shall vest in the Government. Vestiture shall be immediately upon the date of this contract, for property acquired or produced before that date. Otherwise, vestiture shall occur when the property is or should have been allocable or properly chargeable to this contract.

(2) "Property," as used in this clause, includes all of the below-described items acquired or produced by the Contractor that are or should be allocable or properly chargeable to this contract under sound and generally accepted accounting principles and practices.

(i) Parts, materials, inventories, and work in process;

(ii) Special tooling and special test equipment to which the Government is to acquire title under any other clause of this contract;

(iii) Nondurable (i.e., noncapital) tools, jigs, dies, fixtures, molds, patterns, taps, gauges, test equipment, and other similar manufacturing aids, title to which would not be obtained as special tooling under paragraph (d)(2)(ii) of this clause; and

(iv) Drawings and technical data, to the extent the Contractor or subcontractors are required to deliver them to the Government by other clauses of this contract.

(3) Although title to property is in the Government under this clause, other applicable clauses of this contract; e.g., the termination or special tooling clauses, shall determine the handling and disposition of the property.

(4) The Contractor may sell any scrap resulting from production under this contract without requesting the Contracting Officer's approval, but the proceeds shall be credited against the costs of performance.

(5) To acquire for its own use or dispose of property to which title is vested in the Government under this clause, the Contractor must obtain the Contracting Officer's advance approval of the action and the terms. The Contractor shall (i) exclude the allocable costs of the property from the costs of contract performance, and (ii) repay to the Government any amount of unliquidated progress payments allocable to the property. Repayment may be by cash or credit memorandum.

(6) When the Contractor completes all of the obligations under this contract, including liquidation of all progress payments, title shall vest in the Contractor for all property (or the proceeds thereof) not-

(i) Delivered to, and accepted by, the Government under this contract; or

(ii) Incorporated in supplies delivered to, and accepted by, the Government under this contract and to which title is vested in the Government under this clause.

(7) The terms of this contract concerning liability for Government-furnished property shall not apply to property to which the Government acquired title solely under this clause.

(e) Risk of loss. Before delivery to and acceptance by the Government, the Contractor shall bear the risk of loss for property, the title to which vests in the Government under this clause, except to the extent the Government expressly

assumes the risk. The Contractor shall repay the Government an amount equal to the unliquidated progress payments that are based on costs allocable to property that is damaged, lost, stolen, or destroyed.

(f) Control of costs and property. The Contractor shall maintain an accounting system and controls adequate for the proper administration of this clause.

(g) Reports, forms, and access to records.

(1) The Contractor shall promptly furnish reports, certificates, financial statements, and other pertinent information (including estimates to complete) reasonably requested by the Contracting Officer for the administration of this clause. Also, the Contractor shall give the Government reasonable opportunity to examine and verify the Contractor's books, records, and accounts.

(2) The Contractor shall furnish estimates to complete that have been developed or updated within six months of the date of the progress payment request. The estimates to complete shall represent the Contractor's best estimate of total costs to complete all remaining contract work required under the contract. The estimates shall include sufficient detail to permit Government verification.

(3) Each Contractor request for progress payment shall:

(i) Be submitted on Standard Form 1443, Contractor's Request for Progress Payment, or the electronic equivalent as required by agency regulations, in accordance with the form instructions and the contract terms; and

(ii) Include any additional supporting documentation requested by the Contracting Officer.

(h) Special terms regarding default. If this contract is terminated under the Default clause, (i) the Contractor shall, on demand, repay to the Government the amount of unliquidated progress payments and (ii) title shall vest in the Contractor, on full liquidation of progress payments, for all property for which the Government elects not to require delivery under the Default clause. The Government shall be liable for no payment except as provided by the Default clause.

(i) Reservations of rights.

(1) No payment or vesting of title under this clause shall-

(i) Excuse the Contractor from performance of obligations under this contract; or

(ii) Constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause-

(i) Shall not be exclusive but rather shall be in addition to any other rights and remedies provided by law or this contract; and

(ii) Shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

(j) Financing payments to subcontractors. The financing payments to subcontractors mentioned in paragraphs (a)(1) and (a)(2) of this clause shall be all financing payments to subcontractors or divisions, if the following conditions are met:

(1) The amounts included are limited to-

(i) The unliquidated remainder of financing payments made; plus

(ii) Any unpaid subcontractor requests for financing payments.

(2) The subcontract or interdivisional order is expected to involve a minimum of approximately 6 months between the beginning of work and the first delivery; or, if the subcontractor is a small business concern, 4 months.

(3) If the financing payments are in the form of progress payments, the terms of the subcontract or interdivisional order concerning progress payments-

(i) Are substantially similar to the terms of this clause for any subcontractor that is a large business concern, or this clause with its Alternate I for any subcontractor that is a small business concern;

(ii) Are at least as favorable to the Government as the terms of this clause;

(iii) Are not more favorable to the subcontractor or division than the terms of this clause are to the Contractor;

(iv) Are in conformance with the requirements of FAR 32.504(e); and

(v) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if-

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(4) If the financing payments are in the form of performance-based payments, the terms of the subcontract or interdivisional order concerning payments-

(i) Are substantially similar to the Performance-Based Payments clause at FAR 52.232-32 and meet the criteria for, and definition of, performance-based payments in FAR Part 32;

(ii) Are in conformance with the requirements of FAR 32.504(f); and

(iii) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if-

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(5) If the financing payments are in the form of commercial item financing payments, the terms of the subcontract or interdivisional order concerning payments-

(i) Are constructed in accordance with FAR 32.206(c) and included in a subcontract for a commercial item purchase that meets the definition and standards for acquisition of commercial items in FAR Parts 2 and 12;

(ii) Are in conformance with the requirements of FAR 32.504(g); and

(iii) Subordinate all subcontractor rights concerning property to which the Government has title under the subcontract to the Government's right to require delivery of the property to the Government if-

(A) The Contractor defaults; or

(B) The subcontractor becomes bankrupt or insolvent.

(6) If financing is in the form of progress payments, the progress payment rate in the subcontract is the customary rate used by the contracting agency, depending on whether the subcontractor is or is not a small business concern.

(7) Concerning any proceeds received by the Government for property to which title has vested in the Government under the subcontract terms, the parties agree that the proceeds shall be applied to reducing any unliquidated financing payments by the Government to the Contractor under this contract.

(8) If no unliquidated financing payments to the Contractor remain, but there are unliquidated financing payments that the Contractor has made to any subcontractor, the Contractor shall be subrogated to all the rights the Government obtained through the terms required by this clause to be in any subcontract, as if all such rights had been assigned and transferred to the Contractor.

(9) To facilitate small business participation in subcontracting under this contract, the Contractor shall provide financing payments to small business concerns, in conformity with the standards for customary contract financing payments stated in FAR 32.113. The Contractor shall not consider the need for such financing payments as a handicap or adverse factor in the award of subcontracts.

(k) Limitations on undefinitized contract actions. Notwithstanding any other progress payment provisions in this contract, progress payments may not exceed 80 percent of costs incurred on work accomplished under undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes. This limitation shall apply to the costs incurred, as computed in accordance with paragraph (a) of this clause, and shall remain in effect until the contract action is definitized. Costs incurred which are subject to this limitation shall be segregated on Contractor progress payment requests and invoices from those costs eligible for higher progress payment rates. For purposes of progress payment liquidation, as described in paragraph (b) of this clause, progress payments for undefinitized contract actions shall be liquidated at 80 percent of the amount invoiced for work performed under the undefinitized contract action as long as the contract action remains undefinitized. The amount of unliquidated progress payments for undefinitized contract actions shall not exceed 80 percent of the maximum liability of the Government under the undefinitized contract action or such lower limit specified elsewhere in the contract. Separate limits may be specified for separate actions.

(l) Due date. The designated payment office will make progress payments on the 30th day after the designated billing office receives a proper progress payment request. In the event that the Government requires an audit or other review of a specific progress payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date. Progress payments are considered contract financing and are not subject to the interest penalty provisions of the Prompt Payment Act.

(m) Progress payments under indefinite-delivery contracts. The Contractor shall account for and submit progress payment requests under individual orders as if the order constituted a separate contract, unless otherwise specified in this contract.

I.9 52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (OCT 2008)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer.Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless

otherwise specified. (However, see paragraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--

(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project.

(A) The due date for making such payments is 14 days after the designated billing office receives a proper payment request. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date is the 14th day after the date of the Contractor's payment request, provided the designated billing office receives a proper payment request and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, is as specified in the contract or, if not specified, 30 days after approval by the Contracting Officer for release to the Contractor.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract).

(A) The due date for making such payments is the later of the following two events:

(1) The 30th day after the designated billing office receives a proper invoice from the Contractor.

(2) The 30th day after Government acceptance of the work or services completed by the Contractor. For a final invoice when the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance is deemed to occur on the effective date of the contract settlement.

(B) If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through (a)(2)(xi) of this clause. If the invoice does not comply with these requirements, the designated billing office must return it within 7 days after receipt, with the reasons why it is not a proper invoice. When computing any interest penalty owed the Contractor, the Government will take into account if the Government notifies the Contractor of an improper invoice in an untimely manner.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., discount for prompt payment terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232- 38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(xi) Any other information or documentation required by the contract.

(3) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval is deemed to occur constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. If actual acceptance or approval occurs within the constructive acceptance or approval period, the

Government will base the determination of an interest penalty on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes, and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(5) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(6) Additional interest penalty.

(i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of $1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(b) Contract financing payments. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to--

(i) Include a payment clause and an interest penalty clause conforming to the standards set forth in paragraphs (c)(1) and (c)(2) of this clause in each of its subcontracts; and

(ii) Require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) The Contractor furnishes to the Contracting Officer a copy of any notice issued by a Contractor pursuant to paragraph (d)(3)(i) of this clause.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to paragraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph (e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under paragraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under paragraph (e)(5)(i) of this clause.

(f) Third-party deficiency reports--

(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a "second-tier subcontractor") a written notice in accordance with the Miller Act (40 U.S.C. 3133), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under paragraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts DisputesAct of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. The Contractor shall issue a written notice of any withholding to a subcontractor (with a copy furnished to the Contracting Officer), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the Government is a party. The Government may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the Government for such interest penalty. A cost- reimbursement claim may not include any amount for reimbursement of such interest penalty.

(l) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall--

(1) Remit the overpayment amount to the payment office cited in the contract along with a description of the overpayment including the--

(i) Circumstances of the overpayment (e.g., duplicate payment, erroneous payment, liquidation errors, date(s) of overpayment);

(ii) Affected contract number and delivery order number if applicable;

(iii) Affected contract line item or subline item, if applicable; and

(iv) Contractor point of contact.

(2) Provide a copy of the remittance and supporting documentation to the Contracting Officer.

I.10 52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least fifteen percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

I.11 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997) ALTERNATE II (APR 1984)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed," "required," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the "direction," "requirement," "order," "designation," or "prescription," of the Contracting Officer is intended and similarly the words "approved," "acceptable," "satisfactory," or words of like import shall mean "approved by," or "acceptable to," or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated," "as detailed," or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed."

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for

complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor. Upon completing the work under this contract, the Contractor shall furnish 2 sets of prints of all shop drawings as finally approved. These drawings shall show changes and revisions made up to the time the equipment is completed and accepted.

I.12 52.243-3 CHANGES--TIME-AND-MATERIALS OR LABOR-HOURS (SEPT 2000)

(a) The Contracting Officer may at any time, by written order, and without notice to the sureties, if any, make changes within the general scope of this contract in any one or more of the following:

(1) Description of services to be performed.

(2) Time of performance (i.e., hours of the day, days of the week, etc.).

(3) Place of performance of the services.

(4) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the Government in accordance with the drawings, designs, or specifications.

(5) Method of shipment or packing of supplies.

(6) Place of delivery.

(7) Amount of Government-furnished property.

(b) If any change causes an increase or decrease in any hourly rate, the ceiling price, or the time required for performance of any part of the work under this contract, whether or not changed by the order, or otherwise affects any other terms and conditions of this contract, the Contracting Officer will make an equitable adjustment in any one or more of the following and will modify the contract accordingly:

(1) Ceiling price.

(2) Hourly rates.

(3) Delivery schedule.

(4) Other affected terms.

(c) The Contractor shall assert its right to an adjustment under this clause within 30 days from the date of receipt of the written order. However, if the Contracting Officer decides that the facts justify it, the Contracting Officer may receive and act upon a proposal submitted before final payment of the contract.

(d) Failure to agree to any adjustment will be a dispute under the Disputes clause. However, nothing in this clause excuses the Contractor from proceeding with the contract as changed.

I.13 52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

ATTACHMENT NUMBER	TITLE	DATE	NO. PAGES
1.	Statement of Work		62
2.	NRC FORM 187		2
3.	Billing Instructions		1

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*** The Word segment 'NRC FORM 187 FENCE CONTRACT.DOC' could not be inserted ***
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ATTACHMENT 1
STATEMENT OF WORK U.S. NRC HQ PERIMETER FENCE CONTRACT

STATEMENT OF WORK

WORK RESTRICTIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. This Statement of Work is used in conjunction with the Site Plan drawings provided by Oudens Knoop Knoop and Sachs, dated 2/3/2010.

1.2 CONTRACTOR USE OF PREMISES

A. The Contracting Officer or Contracting Officer's Representative will conduct a pre-construction survey with the Contractor to review and document the existing conditions surrounding the project premises prior to the beginning of any construction activity.

B. The Contractor shall limit use of the premises to the work in areas indicated, to allow for Government occupancy and public use.

1. Confine operations at the site to areas indicated. Do not disturb portions of the site beyond the areas in which Work are indicated.
2. Keep driveways and entrances serving the premises clear and available at all times to the Government, Government employees and visitors. Do not use these areas for parking or storage of materials.
3. Schedule deliveries to minimize space and time requirements for storage of material and equipment on site.
4. Maintain existing building in a safe and weathertight condition throughout the construction period. Repair damage caused by construction operations. Take precautions to protect the building, its occupants and the public during the construction period.
5. Keep public areas, such as hallways, stairs, lobbies and toilet rooms, free from accumulation of waste material, rubbish, construction debris and construction materials.
6. Space on the premises will be made available for the Contractor's storage and related activities provided that its use will not interfere with operations of the Government. Arrange and gain approval for use of this space through the Contracting Officer or NRC Project Officer.
7. Use of the existing loading dock facilities will be shared with Government activities on a first-come-first-served, wait-your-turn basis.
8. Existing materials and equipment that are removed as part of the construction operations, and that are not reused or designated to be salvaged as Government or other's property, shall become the property of the Contractor and shall be removed from the site. Storage or sale of excess salvageable materials and equipment is not permitted on site.
9. Pollution producing equipment shall not be located near air intakes where airborne smoke or fumes could be drawn into the building.
10. A parking space will be made available on site during working hours of the building occupants. The Contractor and Contractor's employees shall make their own arrangements for additional vehicle parking off site.

ATTACHMENT 1
STATEMENT OF WORK U.S. NRC HQ PERIMETER FENCE CONTRACT

1.3 GOVERNMENT OCCUPANCY

A. The Government will occupy the site and the existing building during the entire period of construction. Cooperate with the Government's representatives during construction operations to minimize conflicts and facilitate Government usage. Perform the Work in a manner that does not interfere with the Government's operations.

1.4 WORKING HOURS

A. Normal working hours at NRC headquarters facility are 5 am to 8 pm. Monday through Friday. Except for established Government Holidays.
B. The Contractor shall schedule work to generally occur between 5 am to 8 pm.
C. Work that will disrupt building occupants or disrupt traffic flow at the site shall be scheduled for off hours.
D. The Contractor shall submit a proposed schedule for approval by the NRC Project Officer at least 48 hours before proceeding with work during unoccupied hours.
E. Working hours shall be coordinated with the NRC Project Officer.

PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes certain administrative provisions for managing and coordinating construction operations, including but not limited to the following:
    1. General project coordination.
    2. Coordination drawings.
    3. Conservation.
    4. Administrative and supervisory personnel.
    5. Conferences and meetings.
    6. Utility service interruptions.
    7. Cleaning and protection.

1.2 GENERAL PROJECT COORDINATION

A. Coordination of Trades: Coordinate construction operations included in the various sections of the Specifications to provide an efficient and orderly installation of each part of the Work. Coordinate construction operations included under different sections of the Specifications that depend on each other for proper installation, connection or operation.
    1. Schedule construction operations in the sequence required to obtain the best results where the installation of one part of the Work depends on installation of other components before or after that part.
    2. Coordinate installation of different components to provide maximum accessibility for required maintenance, service, testing and repair.
    3. Accommodate items scheduled for later installation.

B. Notification: Where necessary, prepare and distribute memoranda to each party involved, outlining special procedures required for coordination. When applicable, include notices, reports and meeting minutes as part of the memoranda.

C. Administrative Procedures: Coordinate scheduling and timing of administrative procedures with other construction activities to avoid conflicts and promote orderly progress of the Work. Administrative procedures include but are not limited to the following:
    1. Preparation of schedules.
    2. Installation and removal of temporary facilities.
    3. Delivery and processing of submittals.
    4. Progress meetings.
    5. Project closeout activities.

1.3 CONSERVATION

A. Consider conservation of energy, water and materials in the conduct of construction operation. Salvage materials and equipment involved in the performance of, but not incorporated into, the Work.

1.4 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. In addition to the project superintendent, the Contractor shall provide other administrative and supervisory personnel as required for proper performance of the Work. The following administrative and supervisory positions may be filled by one or more individuals.

B. Project Coordinator: Provide a full-time project coordinator, experienced in the administration and supervision of building construction, including mechanical and electrical work. The project coordinator shall be authorized to act as the coordinator of construction activities, including but not limited to the following:
    1. Scheduling and sequencing of Work.
    2. Sharing access to work spaces.
    3. Installations.
    4. Protection of work.
    5. Cutting and patching.
    6. Selections for compatibility.
    7. Preparation of coordination of drawings.
    8. Inspection and tests.
    9. Temporary services and facilities.

C. Safety and Health Officer: Provide a safety and health officer whose duties shall consist of developing and implementing safety and health programs specified in Division 1 Section "Safety and Health."

1.5 CONFERENCES AND MEETINGS

A. Preconstruction Conference: The Contracting Officer or NRC Project Officer shall schedule a preconstruction conference before starting construction at a time and place convenient to the Contractor. The conference shall review responsibilities and personnel assignments.
    1. Attendees: Participants at the conference shall be familiar with the project, shall be authorized to conclude matters relating to the Work, and shall minimally include representatives of the following parties:
        a. Contracting Officer.

b. Contractor.
c. Major subcontractors.
d. Major suppliers.
e. Other concerned parties.

1. Coordination Meetings: The Contractor shall conduct project coordination meetings at regular intervals, to verify detailed coordination procedures for the upcoming construction operations in order to avoid potential problems and misunderstandings.
2. Frequency of Meetings: To be determined by Contractor and NRC Project Officer.
3. Attendees: In addition to the Contractor's and Contracting Officer's representatives, each subcontractor, supplier or other entity involved in coordination or planning construction activities shall be represented. All participants shall be authorized to conclude matters relating to the Work.
4. Agenda: Review the plans and requirements of each entity present, including but not limited to the subjects listed for Progress Meetings.
5. Reporting: No later than 3 calendar days after each meeting, the Contractor shall distribute minutes of meeting to each party present and to other concerned parties, including the Contracting Officer.

1.6 UTILITY SERVICE INTERRUPTIONS

A. Utility Service Interruption Plan: Contractor shall submit a utility service interruption plan for the project. Plan shall include dates and times of each scheduled interruption, with estimated period of outage, list of existing equipment that will be affected by the interruption, proposed sequence of equipment shut-down and start-up, and responsible personnel. The following items shall be considered when scheduling utility outages:

    1. Keep interruptions and periods of interruption to a minimum.
    2. Schedule interruptions during times when the facility is unoccupied.
    3. Plan must be approved in writing by the Contracting Officer or the Contracting Officer's representative.

B. Coordination of Interruptions: 15 days in advance of each scheduled utility interruption, the Contractor shall issue a notice to all affected parties, confirming each provision of the interruption, or canceling and rescheduling. Coordinate with the Contracting Officer or Contracting Officer's representative and confirm that the responsible personnel are prepared to execute the shut-down and start-up of affected existing equipment, prior to each interruption.

1.7 SUBMITTALS

A. Staff Names: 15 calendar days prior to commencement of construction, submit a list of principal staff assignments, including the superintendent and other primary personnel at the Project site. Identify individuals by name, duties and responsibilities, home address, and business and home telephone numbers.
B. Conference and Meeting Minutes: Within times specified for reporting, distribute minutes to concerned parties.

1.8 GENERAL COORDINATION PROVISIONS

A. Inspection of Conditions: Prior to installations, require the installer of each major component to inspect both the substrate and conditions under which work is to be performed.
   1. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
   2. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

B. Construction in Progress: Keep construction in progress, and adjoining materials in place, clean during handling and installation. Apply protective coverings where required for protection from damage or deterioration.

C. Completed Construction: Clean completed construction, and provide maintenance, as frequently as necessary to prevent damage or soiling or other deterioration through the remainder of the construction period. Adjust and lubricate operable components as necessary to assure operability without damage.

D. Limiting Exposures: Supervise construction operations to prevent exposure of any part of construction, completed or in progress, to harmful, dangerous, damaging or otherwise deleterious conditions during the construction period. Such conditions include but are not limited to the following:
   1. Pollution and air contamination.
   2. Water or ice.
   3. Chemicals and solvents.
   4. Light.
   5. Radiation.
   6. Puncture.
   7. Abrasion.
   8. Heavy traffic.
   9. Soiling, staining, and corrosion.
   10. Bacteria.
   11. Rodent and inset infestation.
   12. Combustion.
   13. Electrical current.
   14. Improper lubrication.
   15. Unusual wear or other misuse.
   16. Contact between incompatible materials.
   17. Destructive testing.
   18. Misalignment.
   19. Excessive weathering.
   20. Unprotected storage.
   21. Improper shipping or handling.
   22. Theft or vandalism.

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes certain schedules and reports required for documenting the progress of construction during performance of the Work.

B. Requirements for construction progress scheduling are included in this Section.

C. Coordinate the timing for preparation and processing of schedules and reports with the performance of other construction activities, and maintain a consistent and logical correlation between updated schedules and reports.

1.2 CONSTRUCTION PROGRESS SCHEDULING

A. Preliminary Construction Schedule: Prepare a preliminary horizontal bar-chart-type construction schedule for the project. Submit the Preliminary Construction Schedule to the Contracting Officer and NRC Project Officer within 7 calendar days after the date established for commencement of the contract, unless otherwise required by the Construction Contract Clauses.

1.3 SUBMITTAL SCHEDULE

A. Prepare and submit a complete schedule of submittal with 10 calendar days after the notice to proceed.

B. The submittal schedule shall list all submittals required by the specifications, listed in order by the specification section in which they are required. Coordinate the Submittal Schedule with the Contractor's Construction Schedule and other related documents. The Submittal Schedule shall include the following information:
   1. Submittal Number.
   2. Submittal Description.
   3. Related specification section and paragraph numbers.
   4. Category of Submittal (Sample, Shop Drawing, Certified Test Report, etc.)
   5. Name of Subcontractor, if applicable.
   6. Description of the part of the Work covered by the submittal.
   7. Corresponding activity or event number on the Contractor's Construction Schedule, if applicable.
   8. Scheduled date for first submittal (planned and actual dates).
   9. Schedule dates for resubmittal of disapproved submittals (planned and actual dates).
   10. Type of action by Contracting Officer's Representative (approved; approved as noted; not approved, revise and resubmit).
   11. Date of action by Contracting Officer's Representative (planned and actual dates).

C. Schedule a resubmittal for each submittal. Except where specified otherwise in the contract documents, provide not less than 14 calendar days for the review of each submittal and resubmittal.

D. Distribution: Initially submit 1 copy of the Submittal Schedule to the Contracting Officer for review. After the Contracting Officer's response, print and distribute revised copies to the Contracting Officer and entities designated by the Contracting Officer, and to subcontractors and other parties required to comply with upcoming submittal dates.

E. Updating: The Submittal Schedule shall be kept up-to-date by the Contractor. A current updated copy of the Submittal Schedule shall be submitted with each Contractor payment request, and at other times as requested by the Contracting Officer, until all submittals are approved. Failure to provide the requested information, or delay in submitting required submittals may result in the payment request being returned to the Contractor until the required schedule or submittals are received.

1.4 SCHEDULE OF INSPECTIONS AND TESTS

A. Prepare and submit a schedule of inspections, tests and similar services required by the Contract Documents within 30 calendar days after the date established for commencement of the Contract.

B. Coordinate the schedule of inspections and tests with the Contractor's Construction Schedule and other related documents. Prepare the schedule in tabular form, including but not limited to the following information:
   1. Specification section number.
   2. Description.
   3. Identification of applicable standards.
   4. Identification of methods to be used.
   5. Number of inspections, tests or similar services.
   6. Time schedule or time span.
   7. Responsible entity.
   8. Requirements for taking samples.
   9. Unique characteristics.

C. Distribution: Submit copies of the schedule of inspection and tests to the Contracting Officer, entities designated by the Contracting Officer, and each party involved in performance of portions of the Work where inspections, tests and similar serviced are required.

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes certain administrative and procedural requirements for shop drawings, coordination drawings, schedules, samples and certain other quality assurance submittals.

B. For clarity purposes, shop drawings, coordination drawings and schedules are further categorized as follows:
   1. Shop drawings include drawings and schedules specifically prepared for the project, except for coordination drawings.
   2. Product data includes manufacturer's standard catalogs, pamphlets and other printed materials, and includes but is not limited to the following:
      a. Product specifications.
      b. Installation instructions.
      c. Color charts.

d. Catalog cuts.
e. Rough-in diagrams and templates.
f. Wiring diagrams.
g. Performance curves.
h. Operational range diagrams.
i. Mill reports.

C. Samples may include samples of such scale to allow delivery for review, as well as field samples or mock-ups of full-size physical examples erected on-site or elsewhere, or establish a true-scale standard by which the corresponding work will be judged or a standard for compliance testing.

D. Other quality assurance submittals include materials specifically prepared for the project, except drawings and schedules, and include but are not limited to the following:
   1. Design data and calculations.
   2. Certifications of compliance or conformance.
   3. Manufacturer's instructions and field reports.

1.2 GENERAL SUBMITTAL REQUIREMENTS

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities and with the Submittal Schedule specified in the Section titled "Construction Progress Documentation". Submittals shall be transmitted to the Contracting Officer's designated representative within 30 calendar days after receipt of notice to proceed, unless the approved Submittal Schedule specifically provides for a later submission. Transmit each submittal sufficiently in advance of the scheduled performance of related construction activities to avoid delaying the Work, allowing for the review times specified for submittals in the Section titled "Construction Progress Documentation" and elsewhere in the Contract documents.
   1. Coordinate each submittal with other submittals and related activities that require sequential scheduling, to allow for testing, purchase, fabrication and product delivery in a timely manner.
   2. Schedule transmittal of different categories of submittals for the same element of Work and for different elements of related parts of the Work at the same time.
   3. Allow sufficient time for submittal review, corrections following the initial review and resubmittal review before activities scheduled after the submittal approval.
   4. Any resubmission required after Government review shall be made within 10 calendar days after return of the submittal, unless specifically authorized otherwise by the Contracting Officer.
   5. Submittals which are determined to be incomplete or otherwise substandard will be returned to the Contractor with no further review. Delays due to incomplete or rejected submittals will not be excused.
   6. Construction will not be allowed to proceed if submittals are not received in a timely manner. Failure by the Contractor to provide the required submittals in a timely manner will not result in an extension to the Contractor's Construction Schedule.
   7. Failure by the Contractor to provide the required submittals in a timely manner may result in progress payment requests being returned to the Contractor until submittals are up-to-date.

B. Submittal Preparation: Identify and prepare drawings and samples as specified in the Construction Contract Clauses. Minimally include the following on a permanent label for other submittals:
   1. Project name and number.
   2. Date.
   3. Name, address and telephone number of firm or entity that prepared the submittal.
   4. Name and address of the Contractor.
   5. Name of the manufacturer.
   6. Number and title of appropriate specification section.
   7. Drawing number and detail references, as appropriate.
   8. Space to record Contractor's review and approval markings, and for Contracting Officer's or Contraction Officer's Representative's action; approximately 5 by 5 inches (250 by 250 mm).

C. Submittal Transmittal: Package each submittal for transmission and handling. Transmit each submittal from the Contractor to the Contracting Officer or Contracting Officer's representative by use of a transmittal form. Minimally include the following information on the transmittal form.
   1. Project name and number.
   2. Date.
   3. Destination (To :).
   4. Source (From :).
   5. Names of subcontractor, manufacturer and supplier, as applicable.
   6. Category of submittal.
   7. Description of submittal
   8. Number and title of appropriate specification section.
   9. Submittal number, including means to separately identify initial submittal and each resubmittal.
   10. Certification by Contractor stating that submittal complies with the Contract Documents, or statement of deviations from the requirements of the Contract Documents including minor variations and limitations. Deviations may be listed on an attached sheet referenced on the transmittal form.
   11. Signature of transmitter.

1.3 SHOP DRAWINGS AND COORDINATION DRAWINGS

A. Submit originally prepared information, drawn accurately to scale. Do not reproduce Contract Documents or copy standard printed materials as the basis for Shop Drawings and Coordination Drawings.

B. Minimally include the following information on Shop Drawings and Coordination Drawings:
   1. Dimensions.
   2. Identification of products and materials.
   3. Compliance with specified standards.
   4. Notation of coordination requirements.
   5. Notation of dimensions established by field measurements, if any.
   6. Highlighted or encircled deviations from the Contract Documents, if any.

C. Sheet size: Except for templates, patterns and similar full-size drawings, submit Shop Drawings and Coordination Drawings on sheets of at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).

D. Submittals: Unless otherwise indicated, submit one correctable, translucent, reproducible print and two blue-line or black-line prints of each drawing submittal. Reproducible print will be marked with action taken and returned.

E. Distribution: When submittal is approved, Contractor shall prepare final blue-line or black-line print copies from the approved reproducible print, for the following purposes.
   1. One print shall be marked and retained as a "Record Document."
   2. Unless otherwise requested, two prints shall be provided to the Contracting Officer.
   3. Additional prints shall be provided to the entities involved in the effected construction.

1.4 PRODUCT DATA

A. Collect Product Data into a single submittal for each system or element of construction. Mark each copy to show specific product choices and options applicable to the project. Product Data shall include the following information, where applicable:
   1. Manufacturer's printed recommendations.
   2. Compliance with recognized trade association standards.
   3. Compliance with recognized testing standards.
   4. Applicability of testing agency labels and seals.
   5. Notation of dimensions verified for fit by field measurements.
   6. Notation of coordination requirements.

B. Preliminary Submittal: Prior to submittal of complete Product Data, submit a preliminary single copy of that part of Product Data when selection of options is required, such as for color charts. Preliminary submittal will be returned, with selection noted, for the Contractor's use in subsequent submittals.

C. Submittals: Unless otherwise indicated, submit not less than six (6) copies of each Product Data submittal. Two copies will be retained, and the remaining copies will be marked with action taken and returned.

D. Distribution: When submittal is approved, Contractor shall distribute approved copies for the following purposes:
   1. One copy shall be marked and retained as a "Record Document."
   2. Additional copies shall be provided to the manufacturers, subcontractors, suppliers, installers, governing authorities and others as required for performance of the applicable construction activities.

1.5 SAMPLES

A. Submit full-size, fully fabricated samples, cured and finished in the manner specified. Samples shall be physically identical to the material or product proposed for use.
B. Mount, display, or package samples to facilitate review of kind, color, pattern, texture and other qualities indicated, as a final check of these characteristics with other elements and for comparison of these characteristics with those of the actual component delivered and installed.

C. Where variation in color, pattern, texture or other characteristic is inherent in the material or product, submit at least 3 multiple units that show approximate limits of the variations.
D. Refer to other specification sections for requirements for samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operations and similar construction characteristics.
E. Refer to other specification sections for samples to be returned to the Contractor for incorporation in the Work. Such samples must be in undamaged condition at time of use.
F. Preliminary Submittal: Where color, pattern, texture or similar characteristics are specified to be selected from a manufacturer's range of standard choices, submit a preliminary single set sample of available choices prior to submittal of the complete sample. Preliminary submittal will be returned, with selection noted, for the Contractor's use in subsequent submittals.
G. Submittals: Unless otherwise indicated and except for field samples or mock-ups of full-size physical examples erected on-site or elsewhere, submit not less than 3 sets of each sample submittal. One copy will be marked with action taken and returned. Comply with requirements in the individual specification section for field samples and mockups.
H. Distribution: Except for field samples or mockups, when submittal is approved, Contractor shall distribute approved copies for the following purposes:
   1. One copy shall be marked and retained as a "Record Document" at the Project Site, and shall be available for comparison throughout the course of construction activity.
   2. Additional copies shall be provided to manufacturers, subcontractors, suppliers, installers, governing authorities and others as required for performance of the applicable construction activities.

SECURITY REGULATIONS

PART 1 – GENERAL

1.1 GENERAL SECURITY REQUIREMENTS

A. Bidding Clearances: Bidders will be required to comply with security regulations imposed by the occupying agency including any necessary clearances. Access to the project site will be limited to specific times established by the Government.

B. Construction Clearances: After award of the Contract, all Contractor employees shall be required to furnish information for security clearances and shall comply with security regulations as imposed by the occupying agency.

C. Notification: Notify the Contracting Officer, or his designated representative, not less than 48 hours prior to performing work in a security area. Include the following:
   1. Companies: Name of each company performing the work.
   2. Personnel: Name, social security number and date of birth of each individual who is to work.
   3. Time: The exact time, date, and hours of work.
   4. Areas: Specific areas of the building in which work is to be performed.

ATTACHMENT 1
STATEMENT OF WORK U.S. NRC HQ PERIMETER FENCE CONTRACT

1.2 GENERAL SECURITY REGULATIONS

A. No publicity: It is a specific condition of this Contract that the Contractor, or any subcontractors performing work on this project, shall not use or allow to be used any aspect of this project for publicity or advertising brochures.

B. Agency Security Regulations: All persons employed within the boundaries of the property or restricted-access areas therein, and all persons permitted to enter such property and areas shall comply with the security regulations that have been established for this Contract.

1. The Contractor agrees on behalf of himself and all subcontractors that the following security regulations will be observed by Contractor and subcontractor personnel on the property. The Contractor shall make it a specific provision of his subcontracts that these regulations be accepted.

2. At the commencement of the work under this Contract, the following security facilities and procedures will apply:
   a. The Contractor shall provide information about all Contractor and subcontractor personnel and others who require continuing access to the site, before access is required and when access ceases.
   b. Within 10 calendar days after the award of the Contract, the Contractor shall submit a list on the Contractor's letterhead stationary of all employees, subcontractors and their employees, and others who will perform work or otherwise require access to the site. Personnel shall be listed in alphabetical order by company. The list shall include the full name, social security number and date of birth for each individual.
   c. Name of any employee added later to the original list shall be submitted with the same information on the Contractor's letterhead stationary at least 8 calendar days in advance of the date of access by the employee.
   d. The Contractor shall notify the Government in writing when personnel are no longer employed by the Contractor or a subcontractor. Individual's name, social security number and date of birth, and company who employed the individual, shall be included.
   e. In order to permit the Government to supply badges for on-site personnel, the Contractor shall cause each individual to complete a personnel identification form. These forms will be provided by the Government to the Contractor at the preconstruction conference. Processing of the forms will be performed by the Government at Government expense.
   f. At a time designated by the Contracting Officer or NRC Project Officer or when an individual reports to the site for work the first time, a period of 2 hours will be required for security processing, including review of identification forms and fabrication of a permanent badge. Personnel will then be permitted to go to work without further processing of identification forms by the Government, but 15 minutes should be allowed each day for signing in with security to obtain access to the site.
   g. The permanent badge furnished by the Government to each Contractor employee or other person granted access to the site will serve to authorize the wearer to enter and leave the security area. The badge must be worn so as to be clearly visible at all times when on the work site. The badge will be retained by the individual as long as he requires continued admittance to the

site, but the Contractor will arrange for its immediate return to the Government when such need ceases. Temporary or visitor badges will be provided for persons who are identified as having an infrequent or temporary legitimate business need for access to the site.

3. At the commencement of the work under this contract, the following security procedures shall apply to the Contractor and all subcontractors.

   a. Do not enter the building without building passes or park without parking permits. Vehicle authorization requests shall be required for any vehicle entering the site, and shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies, and, with a permit issued by the Government, to parking in designated areas.
   b. Comply with the security regulations of the building.
   c. In the case of any questions as to the eligibility of an individual to obtain a pass, notify the Contracting Officer, who will obtain a determination whether the individual can obtain a pass.
   d. Cameras are not permitted without written permission from the Occupant Agency and the Contracting Officer or his designated representative. If approved, permission will be granted in writing and will provide additional guidelines. In any case, all film will be turned over to the Contracting Officer or his designated representative. The Contractor shall be responsible for the costs of developing film.
   e. Personnel may be subject to inspection of their personal effects when entering and leaving the facility. In addition, unscheduled inspections of personnel may be made while on site. In any work is canceled; notify the Contracting Officer or his designated representative.

4. The Occupant Agency reserves the right to close down the job site and order Contractor personnel off the premises in the event of a national emergency or a shut-down, for as long as security problems persist. The Contractor may only return to the site with verbal approval from the Occupant Agency and the Contracting Officer or his authorized representative.

5. The Government reserves the right to exclude or remove from the site or building any employee of the Contractor or a subcontractor whom the Government deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the work is deemed by the Government to be contrary to the public interests. The Government further reserves the right to complete processing of the security documentation for personnel assigned to work within restricted access areas prior to access to such areas by the personnel.

SAFETY AND HEALTH

PART 1 – GENERAL

1.1 SUMMARY

A. References: In addition to publications referenced in the Construction Contract Clauses, the following Code of Federal Regulations (CFR) publications designate and define

hazardous materials and conditions, and establish procedures for handling these materials and conditions.

1. 29 CFR, Part 1910: Occupational Safety and Health Administration (OSHA) General Industry and Health Standards.
2. 29 CFR, Part 1926: OSHA Construction Industry Standards.
3. 40 CFR, Part 61: National Emission Standards for Hazardous Air Pollutants.
4. 40 CFR, Part 261: Environmental Protection Agency (EPA) Characteristics of Hazardous Waste.
5. 40 CFR, Part 761, EPA Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce and Use Prohibitions.
6. 40 CFR, Part 763: EPA Asbestos.

1.2 SAFETY MEETING

A. Prior to commencing construction, representatives of the Contractor, including the principal onsite project representative and one or more safety representatives, shall meet with designated representatives of the Contracting Officer for the purpose of reviewing the Contract's safety and health requirements.
B. The Contractor's safety and health program shall be reviewed, and implementation of safety and health provisions pertinent to the Work shall be discussed.

1.3 COMPLIANCE WITH REGULATIONS

A. The Work, including contact with or handling of hazardous materials, disturbance or dismantling of structures containing hazardous materials, and disposal of hazardous materials, shall comply with the applicable requirements of 29 CFR Parts 1910 and 1926, and 40 CFR Parts 61, 261, 761 and 763.

    1. Work shall comply with applicable state and local safety and health regulations.
    2. In case of a conflict between applicable regulations, the more stringent requirements shall apply.

B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable codes, standards and regulations pertaining to the health and safety of personnel during execution of the Work, and shall hold the Government harmless for any action on the Contractor's part, or that of the Contractor's employees or subcontractors, that results in illness, injury or death.

    1. The Contractor shall have written safety and health programs in compliance with 29 CFR Parts 1910 and 1926.

1.4 SUBMITTALS

A. Safety and Health Programs: The Contractor shall submit, for approval, copies of the project safety and health programs, as applicable to the work scope, or required as a result of the safety meeting, including but not necessarily limited to the following:

    1. Occupational Noise Exposure.
    2. Fall Protection.
    3. Personnel Protective Equipment.

4. Control of Hazardous Energy.
5. Electrical Safety Related Work Practices.
6. Lead.
7. Asbestos.
8. Respirator Protection.
9. Confined spaces.

B. Contractor's Safety Plan: In addition to specific safety and health programs applicable to the project, Contractor shall submit firm's general safety plan listing emergency procedures and contact persons with home addresses and telephone numbers.

C. Permits: If hazardous materials are disposed of off-site, submit copies of shipping manifests and permits from applicable federal, state or local authorities and disposal facilities, and submit certificates that the material has been disposed of in accordance with regulations. Obtaining permits is the sole responsibility of the contractor.

D. Accident Reporting: Submit a copy of each accident report that the Contractor or Subcontractors submits to their insurance carriers, within seven calendar days after the date of the accident.

PART 2 – PRODUCTS

2.1 PERSONNEL PROTECTIVE EQUIPMENT

A. Special facilities, devices, equipment and similar items used by the Contractor in execution of the Work shall comply with 29 CFR Part 1910, Subpart I and other applicable regulations.

2.2 HAZARDOUS MATERIALS

A. The Contractor shall bring to the attention of the Contracting Officer, or the Contracting Officer's authorized representative, any material encountered during execution of the Work that the Contractor suspects it is hazardous.
B. The Contracting Officer shall determine whether the Contractor shall perform tests to determine if the material is hazardous.
C. If the Contracting Officer directs the Contractor to perform tests and the material is found to be hazardous, or if the material is found to be hazardous without Contractor testing, a change to the Contract price may be provided, subject to the applicable provisions of the Contract.

PART 3 – EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK

A. When the Contractor is notified by the Contracting Officer, or the Contracting Officer's authorized representative, of non-compliance with the safety or health provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe or unhealthy condition.
   1. If the Contractor fails to comply promptly, all or part of the Work will be stopped by notice from the Contracting Officer or the Contracting Officer's authorized representative.

2. When, in the opinion of and by notice given by the Contracting Officer or the Contracting Officer's authorized representative, satisfactory corrective action has been taken by the Contractor, work shall resume.
3. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a work stoppage for an unsafe or unhealthy condition.

3.2 PROTECTION OF PERSONNEL

A. The Contract shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.

B. Wherever practical, the work area shall be fenced, barricaded or otherwise blocked off from the public or occupants to prevent unauthorized entry into the work area.
   1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.
   2. Corridors, doors and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe or unhealthy condition to the public or occupants.
   3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupants by accidental shifting, ignition or other hazardous activity.
   4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers, and remove refuse on a frequent regular basis acceptable to the Contracting Officer. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks.

3.3 ENVIRONMENTAL PROTECTION

A. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
B. Comply with applicable federal, state and local noise control laws, ordinances and regulations, including but not limited to 29 CFR 1910.95 and 29 CFR 1926.52.

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project, including manufacturers' standard warranties on products and special warranties.
B. The following definitions are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms that are self-explanatory and have well-recognized meanings in the construction industry.
   1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and other terms of similar intent.

2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
3. "Equipment" are products with operational parts, whether motorized or manually operated, and products that require service connections, such as wiring or piping.

C. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
   1. Substitutions requested during the bidding period and accepted by Addendum prior to award of the Contract.
   2. Revisions to the Contract Documents requested by the Contracting Officer.
   3. Specified options for products and construction methods included in the Contract Documents.
   4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

D. Warranties: Standard and special warranties required by the individual sections of the Specifications shall provide guarantees in terms of time limits or rights of the Government in addition to those contained in the Construction Contract Clauses.
   1. Standard product warranties shall be preprinted written warranties published by individual manufacturers for particular products, and shall be specifically endorsed to the Government by the manufacturer.
   2. Special warranties shall be specifically written to incorporate particular requirements of the Contract Documents, and shall be endorsed to the Government by the entities responsible for the work, as stated in the individual section.

1.2 SUBMITTALS

A. Warranty submittals shall follow the same process as identified in the Submittal Procedures section of this document.

B. Substitution requests shall be submitted in accordance with the requirements of the Construction Contract Clauses.
   1. Submit 3 copies of each request for substitution.
   2. Identify the product or the fabrication or installation method to be replaced in each request. Include related specification section and Drawing numbers.
   3. Provide complete documentation including but not limited to the following information, as appropriate:
      a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by others that will be necessary to accommodate the proposed substitution.
      b. A detailed comparison of the significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include performance, weight, size, durability and visual effect.
      c. Test reports and manufacturer's certifications substantiating performance of the proposed substitution.
      d. Product data and drawings, including descriptions of products and fabrication and installation procedures.
      e. Samples, where applicable or requested.
      f. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.

g. Cost information, including a proposal of the net change, if any, in the Contract price.
h. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.

4. Contracting Officer's Action: If necessary, the Contracting Officer will request additional information or documentation for evaluation. The Contracting Officer will notify the Contractor of acceptance or rejection of the substitution. Acceptance will be in the form of a change order.

C. Submit written warranties to the Contracting Officer prior to the date for Project Completion, unless an earlier time of submission is specified elsewhere in the Contract Documents or requested by the Contracting Officer. When a designated portion of the Work is completed and occupied or used by the Government, by a separate agreement with the Contractor during the construction period, submit properly executed warranties within 15 days after completion of that designated portion of the Work.
   1. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, provide a written document that contains the appropriate terms and identification, executed by the required parties.

1.3 QUALITY ASSURANCE

A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source. Equipment of the same function shall be manufactured by the same entity, unless otherwise indicated.
B. Compatibility of Options: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
C. Labels and nameplates: Except for required labels and operating data, do not attach or imprint manufacturer or producer's nameplates or trademarks on surfaces of products that will be exposed to view in occupied spaces or on the exterior.
   1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
   2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate nameplate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information:
      a. Name of product manufacturer.
      b. Model and serial numbers.
      c. Operating data such as capacity, speed and ratings.
   3. Protection: Labels and nameplates shall be protected from defacement and other damage during the remainder of the Work.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.
   1. Schedule product delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to provide minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
3. Deliver products to the site in an undamaged condition, in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
7. Store products subject to damage by the elements above ground, under cover in a weather-tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 – PRODUCTS

2.1 PRODUCT COMPLIANCE AND REQUIREMENTS

A. Provide products complete with accessories, trim, finish, safety guards, devices and other items needed for a complete installation and the intended use and effect. Where specified and available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
B. Product Selection Procedures: The Contract Documents, including the Construction Contract Clauses, govern product selection. Requirements for product selection include the following:
   1. Where the Specifications lists manufacturers' names or product designations, the Contractor may provide any product that complies with the requirements, subject to the following conditions:
      a. Manufacturers: Where a Specification paragraph or subparagraph titled "Manufacturers" lists manufacturers' names, provide a compliant product by one of the manufacturers named, or request a Substitution of another compliant product by another manufacturer.
      b. Available Manufacturers: Where a Specification paragraph or subparagraph titled "Available Manufacturers" lists manufacturers' names, provide a compliant product by one of the manufacturers named or by another manufacturer.
      c. Products: Where a Specification paragraph or subparagraph titled "Products" lists product designations, provide one of the products designated, or request a Substitution of another compliant product.
      d. Available Products: Where a Specification paragraph or subparagraph titled "Available Products" lists product designations, provide one of the products designated or another compliant product.
      e. Basis of Design: Where a Specification paragraph or subparagraph titled "Basis of Design" includes a product designation, provide the product designated, or request a Substitution of another compliant product by one of the other manufacturers named, if any, or by another manufacturer.

2. Descriptive Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
3. Performance Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
4. Prescriptive Requirements: Where Specifications require products that are produced using specified ingredients and components, including specific requirements for mixing, fabricating, curing, finishing, testing and similar operations in the manufacturing process, provide products produced in accordance with the prescriptive requirements that otherwise comply with Contract requirements.
5. Codes, Standards and Regulations: Where Specifications require compliance with an imposed code, standard or regulation; select a product that complies with the codes, standards or regulations specified.
6. Visual Matching: Where Specifications require matching an established Sample, the Contracting Officer's Representative's decision will be final on whether a proposed product matches satisfactorily. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions concerning "substitutions" for selections of a matching product in another product category.
7. Visual Selection: Where specified product requirements include the phrase" as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Contracting Officer's Representative will select the color, pattern and texture from the manufacturer's product line.

2.2 SUBSTITUTIONS

A. Conditions: The Contracting Officer and NRC Project Officer will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied. If the following conditions are not satisfied, the Contracting Officer will return the requests without action except to record noncompliance with these requirements.
   1. Extensive revisions to the Contract Documents are not required.
   2. Proposed changes are in keeping with the general intent of the Contract Documents.
   3. The request is timely, fully documented, and properly submitted.
   4. The specified product or method of construction cannot be provided within the Contract Time. The Contracting Officer will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
   5. The requested substitution offers the Government a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Government must assume as a result of the substitution.
   6. The specified product or method of construction cannot receive necessary approval by a governing authority and the requested substitution can be approved.
   7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.

8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.

B. The Contractor's submittal and the Contracting Officer's Representative's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

2.3 WARRANTY REQUIREMENTS

A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work.
D. Rejection of Warranties: The Contracting Officer reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
E. Where the Contract Documents require a special warranty or similar commitment for the Work or part of the Work, the Contracting Officer reserves the right to refuse to accept the Work in behalf of the Government until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

EXECUTION REQUIREMENTS

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes certain general procedural requirements governing the Contractor's execution of the Work, including, but not limited to laying out the work, general installation of products, correction of defective work, and cleaning.
B. Substitutions: Changes in methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract shall comply with the procedures and conditions specified for Substitutions in the Construction Contract Clauses.

1.2 SUBMITTALS

A. Certificates: Submit a certificate signed by the land surveyor or professional engineer certifying that the location and elevation of improvements comply with requirements indicated.
B. Final Property Survey: Submit 3 copies of the final property survey.
C. Field Correction Requests: Immediately upon discovery of the need to deviate from requirements of the Contract Documents, submit a field correction request to the Contracting Officer's Representative for review. Include a detailed description of the problem encountered, together with recommended changes and detailing the reasons for deviating from the Contract Documents.
D. Manufacturer's Field Services Submissions: Where product manufacturers are required by the individual sections of the Specifications to provide qualified personnel to observe conditions of surfaces or other project conditions, installation or workmanship, start up or adjustment of equipment, tests or other activities, and to initiate instructions when necessary, the following shall be submitted to the Contracting Officer's Representative:
    1. Qualifications: For approval, submit qualifications of observer at least 30 calendar days in advance of scheduled activities.
    2. Report: For information, submit report of activities and findings within 15 calendar days after the successful execution of the specified work. Include logs and other documented data where applicable.

1.3 QUALITY ASSURANCE

A. Surveyor Qualifications: Engage a land surveyor or qualified professional engineer registered in the state where the Project is located, to perform required land-surveying services.
B. Workmanship Standards: Initiate and maintain procedures to ensure personnel performing the work are skilled and knowledgeable in the methods and craftsmanship needed to produce the required levels of workmanship in the completed work. Remove and replace work that does not comply with workmanship specified and standards recognized in the construction industry for the applications indicated. Remove and replace work damaged or deteriorated by faulty workmanship or replacement of other work.
    1. Manufacturer's Instructions: Where installations include manufactured products, comply with manufacturer's applicable installation instructions and recommendations to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in the Contract Documents.
    2. Specialists: Where the individual sections of the specifications require specialists to perform the work; comply with the requirements specified in the Construction Contract Clauses. The assignment of a specialist shall not relieve the Contractor from complying with applicable regulations, union jurisdictional settlements or similar conventions, and the final responsibility for fulfillment of the entire requirements remains with the Contractor.
    3. Minimum Quality and Quantity: The quality level or quantity shown or specified shall be the minimum required for the work. Except as otherwise indicated, the actual work shall comply exactly with that minimum or may be superior to that minimum within limits acceptable to the Contracting Officer's Representative. Specified numeric values are either minimums or maximums as indicated or as appropriate for the context of the requirements.

1.4 LAYING OUT THE WORK

A. Identification: The Government will identify existing benchmarks, control points, and property line corner stakes.
B. Reference Points: Locate existing permanent benchmarks, control points and similar reference points before beginning Work. Preserve and protect permanent benchmarks and control points during construction operations.
   1. Do not change or relocate existing benchmarks or control points without prior written approval of the Contracting Officer's Representative. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate benchmarks or control points to the Contracting Officer's Representative before proceeding.
   2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original control points.
C. Before proceeding to lay out the Work, verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered notify the Contracting Officer's Representative promptly.
D. Establish and maintain a minimum of 2 permanent benchmarks on the site, referenced to data established by survey control points.
   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
   2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
   3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Make the log available for reference by the Contracting Officer's Representative.
F. Existing Utilities and Equipment: The existence and location of underground and other utilities and construction indicated as existing is not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction.
   1. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping.
   2. Furnish location data for work related to the Project which must be performed by public utilities serving the Project site.
G. Layout the Work using accepted surveying practices.
   1. Establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to locate each element of the Project.
   2. Establish dimensions within tolerances indicated.
   3. Inform installers of lines and levels to which they must conform.
   4. Check the location, level and plumb of every major element as the work progresses.
   5. Notify the Contracting Officer's Representative (NRC Project Manager) when deviations from required lines and levels exceed allowable tolerances.

1.5 EXAMINATION

A. Examine applicable substrates and conditions under which the Work will be performed before starting construction operations.

B. If unsafe or otherwise unsatisfactory conditions are encountered take corrective action before proceeding.

1.6 PREPARATION

A. Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes, and invert elevations.
B. Take field measurements as required to fit the Work properly. Recheck measurements before installing each product.
C. Verify space requirements of items shown diagrammatically on Drawings.
D. Removal of existing white aluminum fence as identified on OKKS drawings dated February 3, 2010 shall be performed in conjunction with the installation of the new fence. This material shall be recycled in accordance with requirements in this statement of work.

1.7 INSTALLATION

A. Locate the Work and components of the Work accurately.
    1. Make vertical work plumb and horizontal work level.
    2. Where space is limited, install components to maximize space available for maintenance and to maximize ease of removal for replacement.
    3. Conceal pipes, ducts, and wiring in finished areas.
B. Install products at the time and under conditions that will produce satisfactory results.
    1. Maintain temperature, humidity and other weather controls for best performance.
    2. Isolate units of noncompatible work to prevent deterioration.
C. Conduct construction operations so that no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
D. Tools and Equipment: Do not use tools or equipment that produces harmful levels of noise.
E. Anchors and Fasteners: Provide anchors and fasteners as required to withstand stresses, vibration and physical distortion. Anchor each component securely in place, accurately located and aligned with other Work.
    1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the Contracting Officer's Representative.
F. Joints: Make like joints of uniform width within contiguous surfaces. Where joint locations in exposed work are not indicated, arrange joints for a uniform and balanced visual effect.
G. Adjust operating components for proper operation without binding.
H. Final Property Survey: Prepare a final property survey showing the significant real property features of the Project. Include on the survey a certification, signed by the surveyor, that principal metes, bounds, lines, and levels of the Project are accurately positioned as shown on the survey.

1.8 CORRECTION OF DEFECTIVE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
B. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and proper adjustment of operating equipment.
C. Restore permanent facilities used during construction to their specified condition.

D. Remove and replace damaged surfaces that are exposed to view if the surfaces cannot be repaired without visible evidence of repair.
E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired to operate properly.
F. Remove and replace chipped, scratched or broken surfaces.

1.9 CLEANING

A. Maintain the project work areas free of waste material and debris.
B. Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the work, broom- or vacuum-clean the entire work area.
C. Keep installed work clean. Clean installed surfaces in accordance with the recommendations of the manufacturer or fabricator of the product installed, using only the cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and will not damage exposed surfaces.
D. Remove debris from concealed spaces prior to enclosing the space.
E. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at the time of project completion.

1.10 PROTECTION

A. Protect installed work from soiling and damage.
B. Protective Coverings: Provide appropriate protective coverings for work that might be damaged by subsequent operations. Maintain protective coverings in place until project completion.

CUTTING AND PATCHING

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes procedural requirements for cutting and patching.
B. Definition: Cutting and patching includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and repair required to restore surfaces to their original condition.
C. Refer to other sections for other requirements and limitations applicable to cutting and patching individual parts of the Work.
D. Coordinate cutting and patching with demolition requirements specified in Division 1 Section "Selective Demolition".

1.2 SUBMITTALS

A. Cutting and Patching Plan: Submit a proposal to the Contracting Officer's representative, describing procedures at least 14 calendar days in advance of the time cutting and patching will initially be performed.
   1. Include the following information, as applicable:

a. Description of the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
b. Description of the anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in appearance and other significant visual elements.
c. List of products to be used and entities that will perform work.
d. Dates and hours of operation when cutting and patching will be performed.
e. List of utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
f. Compatibility and cohesion characteristics of patching compounds with adjacent materials.
g. Details and engineering calculations showing integration of reinforcement with the original structure, where cutting and patching involve adding reinforcement to structural elements.

2. Approval by the Contracting Officer or Contracting Officer's Representative to proceed with cutting and patching does not waive the right to later require complete removal and replacement of unsatisfactory work.

1.3 QUALITY ASSURANCE

A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
   1. The cutting and patching plan shall include but not be necessarily limited to work required at the following structural elements:
      a. Foundation construction.
      b. Bearing and retaining walls.
      c. Structural concrete.
      d. Structural steel.
      e. Equipment supports.
      f. Structural systems of other construction.
B. Operational Limitations: Do not cut and patch operating elements, safety related systems, or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements, safety related systems or related components in a manner that would result in increased maintenance or decreased operational life or safety.

C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Contracting Officer's Representatives opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction that is cut and patched in a visually unsatisfactorily manner.
   1. Retain the original installer or fabricator to cut and patch exposed work if the original installer or fabricator is identified in the Contract Documents or is known to the Contractor and is available for the work.
   2. If it is not possible to engage the original installer or fabricator, engage a Specialist who is specifically experienced in the work.
   3. The cutting and patching plan shall include but not be necessarily limited to work required at the following visual elements:
      a. Processed concrete finishes.

b. Stonework and stone masonry.
c. Ornamental metal.

1.4 EXISTING WARRANTIES

A. Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to avoid any existing warranties.

PART 2 - EXECUTION

2.1 INSPECTION

A. Before cutting, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.
B. Before proceeding with cutting and patching involving two or more trades, meet at the Project site with the entities providing or affected by the cutting and patching. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

2.2 PREPARATION

A. Provide temporary support of work to be cut.
B. Protect existing conditions during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
D. Bypass in-service existing pipe, conduit, or ductwork scheduled to be removed or relocated before cutting.

2.3 PERFORMANCE

A. Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

B. Cutting: Cut existing construction using methods least likely to damage elements retained and adjoining construction. Where possible, review proposed procedures with the original installer and comply with the original installer's recommendations.
   1. In general, use hand or small power tools designed for sawing or grinding, not for hammering and chopping.
   2. 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.
   3. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
   4. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
   5. Comply with requirements of applicable Division 2 sections where cutting and patching requires excavating and backfilling.
   6. After utility services are bypassed, cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
   1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
   2. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   3. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface that contains the patch after the area has received primer and other undercoats.
D. Perform cutting and patching work listed in Division 1 Section "Work Restrictions" during Government Unoccupied Hours.

2.4 CLEANING

A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items.
B. Thoroughly clean piping, conduit, and similar features before applying paint, restored pipe coverings or other finishing materials.

SELECTIVE DEMOLITION

PART 1 – GENERAL

1.1 SUMMARY
A. This section includes the following:
   1. Demolition and removal of selected site elements.
   2. Repair procedures for selective demolition operations.

B. Definitions:
   1. Remove: Detach items from existing construction and legally dispose of them.
   2. Remove and Salvage: Detach items from existing construction and deliver them to Government ready for reuse.
   3. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
   4. Existing to Remain: Existing items of construction that are not to be removed.

1.2 MATERIALS OWNERSHIP
A. Except for items or materials indicated to be salvaged, reinstalled or otherwise indicated to remain the Government's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at Contractor's option.

1.3 SUBMITTALS
A. Qualification Data: List of demolition firm's completed projects with project addresses, and names and addresses of architects and owners.
B. Proposed dust-control measures.
C. Proposed noise-control measures.
D. Schedule of Selective Demolition Activities: Indicate the following:
   1. Detailed sequence of selective demolition work, with starting and ending dates for each activity.

2. Interruption of utility services.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Locations of temporary partitions and means of egress.
5. Procedures to ensure uninterrupted progress of Government's on-site operations.
6. Coordination of Government's continuing occupancy of portions of existing building and of Government's partial occupancy of completed Work.

E. Inventory: Items to be removed and salvaged.
F. Photographs: Before work begins, submit sufficiently detailed photographs or videotapes showing existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations.
G. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
B. Standards: Comply with NFPA 241 and ANSI A10.6.
C. Pre-Demolition Conference: Conduct conference at Project site to comply with requirements in Division 1 section "Project Management and Coordination." Review methods and procedures related to selective demolition including, but not limited to, the following:
   1. Inspect and discuss condition of construction to be selectively demolished.
   2. Review and finalize demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
   3. Review requirements of work performed by other trades that rely on substrates exposed by demolition operations.

1.5 PROJECT CONDITIONS

A. Government will occupy portions of the site immediately adjacent to selective demolition area.
   1. Conduct selective demolition so Government operations will not be disrupted.
   2. Provide the Contracting Officer's Representative with not less than 72 hours notice prior to activities that will affect Government operations.
B. Maintain access to existing walkways, corridors and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
C. The Government will remove the existing items so indicated on the Drawings.
D. The Contractor shall remove and salvage the existing items so indicated on the Drawings.
E. The Contractor shall remove and reinstall the existing items so indicated on the Drawings.
F. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work. If any material suspected of containing hazardous materials is encountered, do not disturb the material.
   1. Immediately notify the Contracting Officer's Representative.
   2. Hazardous materials will be removed by the Government.

G. Hazardous Materials: Hazardous materials are present. A report on the presence of hazardous materials is included elsewhere in the Contract Documents. Examine the report to become aware of locations where hazardous materials are present.
   1. Hazardous materials abatement is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or any material suspected of containing hazardous materials except under the procedures specified elsewhere in the Contract Documents.
H. On-site storage or sale of removed items or materials will not be permitted.
I. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
J. Fire Protection: Maintain emergency fire access during selective demolition operations.

1.6 WARRANTIES

A. Existing Special Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials that do not void existing warranties.

PART 2 – PRODUCTS

2.1 REPAIR MATERIALS

A. Where available and appropriate for use, provide repair materials that are identical to existing materials.
B. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
C. Use materials whose installed performance equal or surpasses that of existing materials.

PART 3 – EXECUTION

3.1 EXAMINATION
A. Verify that utilities to be removed have been disconnected and capped.
B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
C. Inventory and record the condition of items to be removed and reinstalled, and items to be removed and salvaged.
D. When encountering unanticipated mechanical, electrical or structural elements that conflict with the intended function or design, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Contracting Officer's Representative.
E. Survey the condition of any structure to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.
F. Perform surveys as the selective demolition progresses to detect hazards resulting from the activities.

3.2 UTILITY SERVICES
A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.
B. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by NRC Property Manager.

1. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
2. Provide not less than 72 hours notice to the Contracting Officer's Representative if shutdown of service is required during changeover.

C. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving areas to be selectively demolished.
1. Government will arrange to shut off indicated utilities when requested by Contractor.
2. Where utility services are required to be removed, relocated or abandoned, provide bypass connections to maintain continuity of service to other parts of the buildings or site before proceeding with selective demolition.
3. Do not start selective demolition work until utility disconnection and sealing have been completed and verified.

3.3 PREPARATION

A. Temporary Site Control: Remove debris and conduct demolition operations in a manner to ensure minimum interference with roads, streets, walks, walkways, corridors, and other adjacent occupied or used facilities.
1. Do not close or obstruct streets, walks, walkways, corridors, or other adjacent occupied or used facilities without permission from the Contracting Officer's Representative and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

B. Temporary Facilities: Conduct demolition operations in a manner to prevent injury to people and damage to adjacent building and facilities to remain. Provide for safe passage of people around selective demolition area.
1. Erect temporary protection, such as walks, fences, railings, canopies and covered passageways, where required by authorities having jurisdiction.
2. Protect existing site improvements, appurtenances and landscaping to remain.
3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
4. Provide temporary weather protection, during interval between demolition and removal of existing construction, on exterior surfaces and new construction to prevent water leakage or damage to structure or interior areas.

3.4 POLLUTION CONTROLS

A. Dust Control: Use temporary enclosures and other suitable methods complying with governing environmental protection regulations to limit the spread of dust and dirt.
1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding or pollution.

B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Cleaning: Clean adjacent structures and site improvements of dust, dirt and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

3.5 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete selective demolition within limitations of governing regulations and as follows:
   1. Proceed with selective demolition systematically. Conduct work in an order that avoids transporting removed items and debris through areas with completed selective demolition work, and that allows for removal of items before supports for those items are removed in another area.
   2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage adjoining construction to remain. Use hand or small power tools designed for sawing or grinding, not for hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
   3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
   4. 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, and maintain adequate ventilation when using cutting torches.
   5. Remove decayed, vermin-infested and other dangerous or unsuitable materials, and promptly dispose of these materials off-site.
   6. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.
   7. REMOVE ALL SECTIONS OF THE EXISTING FENCE (White Aluminum) AND PROPERLY DISPOSE OF IAW CONTRACT STIPULATIONS (Local, State, and Federal Laws).
B. Existing Facilities: Comply with building manager's regulations for using and protecting walkways, loading docks, building entries and other building facilities during selective demolition operations.
C. Repair and Storage of Salvaged Items and Items to be Reinstalled:
   1. Repair: Clean and repair the materials and equipment to functional condition adequate for intended reuse. Paint damaged or deteriorated painted surfaces of equipment to match new equipment.
   2. Storage: Store the materials and equipment in a secure area until final disposal.
D. Disposal of Salvaged Items and Items to be Reinstalled:
   1. Reinstallation: Where items are indicated to be removed and reinstalled, install the materials and equipment in locations indicated. Comply with installation requirements for new materials and equipment.
   2. Delivery to Government: Where items are indicated to be removed and salvaged, transport the materials and equipment to the area on-site designated by the Contracting Officer's Representative or indicated on the Drawings.
E. Protection of Salvaged Items: Pack or crate salvaged materials and equipment after removal. Identify contents of containers. Protect items from damage during transport and storage.
F. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Contracting Officer's Representative, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

G. Concrete and Masonry: Demolish concrete and masonry in small sections. At junctures with construction to remain, cut concrete and masonry using power-driven masonry saw or hand tools; do not use power-driven impact tools.

3.6 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.
B. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
   1. Completely fill holes and depressions in existing masonry walls to remain with an approved masonry patching material, applied according to the manufacturer's written recommendations.
C. Finishes: Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
B. Do not burn demolished materials.
C. Disposal: Transport demolished materials off Government property and legally dispose of them.

FIRE PREVENTION PRECAUTIONS FOR HOT WORK

PART 1 – GENERAL

1.1 SUMMARY
A. This section applies to safeguards to be observed in performing hot work, including welding, soldering, brazing and other operations where open flames or implements utilizing heat are used.

1.2 SAFETY PRECAUTIONS
A. The Contractor shall ensure that operations involving the use of open-flame, electrical arc equipment or flammable substances are not conducted until a permit for welding, cutting, and burning has been completed, signed and issued by the Building Manager.
B. Prior to commencing operations, a positive determination shall be made that it is impractical to conduct the hot work in a shop area or outside of the building. Coordinate suitable locations for hot equipment operations agreeable to the Contracting Officer's Representative.

1.3 NOTIFICATON
A. The Contractor shall notify the Contracting Officer's Representative of the area of operations for each day and of all subsequent changes that occur.
B. The Contractor shall notify the Building Manager of all locations where hot work has been performed not less than 30 minutes or more than 90 minutes after work is completed or stopped for the day.

1.4 INSPECTION

A. Before starting operations, the Contractor shall furnish trained personnel to provide fire watches for locations where hot work is to be performed. One fire watcher may observe several locations in a relatively small contiguous area if approved by the Contracting Officer's Representative.1.Contractor shall furnish suitable type, fully-charged, operable portable fire extinguisher to each fire watcher.
   1. The Contractor shall provide fire watchers, who know how to operate the fire extinguisher, how to turn on a fire alarm and how to summon the fire department.
B. Before starting operations, take suitable precautions to minimize the hazard of a fire communicating to the opposite side of walls, floors, ceilings and roofs from the operations.

1.5 SAFETY MEASURES

A. Hot work shall not be done in or near rooms or areas where flammable liquids or explosive vapors are present or thought to be present. A combustible gas indicator (explosimeter) test shall be conducted to assure that each area is safe. The Contractor is responsible for arranging and paying for each test.
B. Insofar as possible, the Contractor shall remove and keep the area free from all combustibles, including rubbish, paper and waste within a radius of 25 feet (7.62 m) from hot operations.
   1. If combustible material cannot be removed, the Contractor shall furnish fireproof blankets to cover such materials. At the direction of the Building Manager or Contracting Officer's Representative, floors, walls, and ceilings of combustible material shall be wetted thoroughly with water before, during, and after operations sufficiently to afford adequate protection.
   2. Where possible, the Contractor shall furnish and use baffles of metal or gypsum board to prevent the spraying of sparks, hot slag and other hot particles into surrounding combustible material.
C. The Contractor shall prevent the spread of sparks and particles of hot metal through open windows, doors, and holes and cracks in floors, walls, ceilings and roofs.D.Cylinders of gas used in hot work shall be placed a safe distance from the work. The Contractor shall provide hoses and equipment free of deterioration malfunction and leaks. Suitable supports shall be provided to prevent accidental overturning of cylinders. All cylinder control valves shall be shut off while in use with the gas pressure regulator set at 15 psi (103 kPa) or less.
D. When hot work operations are completed or ended for the day, each location of the day's work shall be inspected by the Contractor 30 to 60 minutes after completion of operations to detect for hidden or smoldering fires and to ensure that proper housekeeping is maintained. Contractor shall cleanup the area of work at the end of each shift or workday.
E. Where sprinkler protection exists, the sprinkler system shall be maintained without interruption while operations are being performed. If operations are performed close to automatic sprinkler heads, gypsum board sheets or damp cloth guards may be used to shield the individual heads temporarily. The heads shall be inspected by the Contractor immediately after hot work operations cease, to ensure all materials have been removed from the heads and that the heads have not been damaged.
F. Suitable type, fully-charged, operable portable fire extinguisher shall be available at all times during hot work operations.
G. If any of the above safeguards are not employed, or are violated, the Contracting Officer's Representative may, by written notice, stop the work until compliance is

obtained. Such stoppage shall not relieve the Contractor form performing his work within the Contract period for the Contract price.

CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for Contract closeout including, but not limited to, the following:
   1. Inspection procedures.
   2. Project record document submittal.
   3. Operation and maintenance manual submittal.
   4. Restoration of site and grounds.
   5. Final cleaning.
B. Closeout requirements for specific construction activities are included in the individual sections in Divisions 2 through 16.
C. Substantial Completion is defined as that state when the Contractor has complied with the Contract requirements, except for minor deviations, and the project is sufficiently complete and capable of being occupied and used by the NRC for the intended purpose.

1.2 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for Substantial Completion, complete the following:
   1. Provide supporting documentation for completion as indicated elsewhere in the Contract Documents and a statement showing an accounting of changes to the Contract Summary.
   2. Submit a list to the Contracting Officer, of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
   3. Obtain and submit releases enabling the Government unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   4. Submit operation and maintenance manuals, final project photographs, damage or settlement survey, and utility lines survey.
   5. Make final changeover of permanent locks and transmit keys to the Contracting Officer's Representative. Advise the Government user personnel of changeover in security provisions.
   6. Complete startup testing of systems and instruction of the Government operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
   7. Contractor will return grounds and vegetation to their original condition, ensuring that all grading and leveling of dirt and topsoil is complete.
B. Inspection Procedures: On receipt of a request for inspection, the Contracting Officer's Representative (NRC Project Manager) will either proceed with inspection or advise the Contractor of unfilled requirements. The Contracting Officer will notify the Contractor of Substantial Completion following the inspection or advise the Contractor of construction that must be completed or corrected before Substantial Completion.
   1. The Contracting Officer's Representative will repeat the inspection when requested and when assured that the Work is substantially complete.

2. Results of the completed inspection will form the basis of the requirements for Final Acceptance.

1.3 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting re-inspection for Final Acceptance, complete the following:
   1. Submit final payment request with releases and supporting documentation not previously submitted and accepted.
   2. Submit an updated final statement, accounting for final additional changes to the Contract price.
   3. Submit a certified copy of the previous Substantial Completion inspection list of items to be completed or corrected. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance, and shall be endorsed and dated by the Contractor.
   4. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
   5. Submit record documents and similar final record information.
   6. Deliver tools, spare parts, extra stock and similar items.
   7. Complete final clean-up requirements including touch-up painting of marred surfaces.
   8. Complete final touch-up of grounds including raking, leveling, seeding, planting and re-sodding.
B. Re-inspection Procedure: The Contracting Officer's Representative (NRC Project Manager) will re-inspect the Work upon receipt of notice from the Contractor that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Contracting Officer.
   1. Upon completion of re-inspection, the Contracting officer will notify the Contractor of Final Acceptance or will advice the Contractor of Work that is incomplete or of obligations that have not been fulfilled and are required for Final Acceptance.
   2. If necessary, re-inspection will be repeated.

1.4 RECORD DOCUMENT SUBMITTALS

A. Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Contracting Officer's Representative's (NRC Project Manager) reference during normal working hours.
B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark the drawing that is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
   1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
   2. Mark new information not shown on Contract Drawings or Shop Drawings.
   3. Note related Change Order numbers where applicable.

4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets. Print suitable titles, dates, and other identification on the cover of each set.

C. Record Specifications: Maintain one complete copy of the Specifications with addenda. Include one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
   1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
   2. Give particular attention to substitutions and selection of options, and information about concealed construction that cannot otherwise be readily determined later by direct observation.
   3. Note related record drawing information and Product Data.

D. Record Product Data: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of Record Drawings and Specifications.
   1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer=s installation instructions and recommendations.
   2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily determined later by direct observation.

E. Miscellaneous Record Submittals: Refer to other Specification sections for requirements for miscellaneous record keeping and submittals in connection with actual performance of the Work. Place miscellaneous records in good order. Identify records properly and bind or otherwise organize to allow for use and reference. Retain the following article if Section 01782 is not included. This article is usually sufficient except for large projects where detailed records are required.

1.5 CLOSEOUT PROCEDURES

A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the NRC Project Manager to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following:
   1. Maintenance manuals.
   2. Record documents.
   3. Spare parts and materials.
   4. Tools.
   5. Lubricants.
   6. Cleaning.
   7. Warranties and bonds.
   8. Maintenance agreements and similar continuing commitments.

1.6 FINAL CLEANING

A. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial cleaning and maintenance program. Comply with manufacturer's instructions.
   1. Complete the following cleaning operations before requesting inspection for Final Acceptance.
      a. Remove labels that are not permanent labels.

b. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean, and remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.

B. Removal of Protection: Remove temporary protection and facilities installed for the protection of the Work during construction.

C. Compliance: Comply with the regulations of authorities having jurisdiction and with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Government property. Do not discharge volatile, harmful, or dangerous materials Do not bury debris or excess materials into drainage systems. Remove waste materials from the site and dispose of it lawfully.

D. Remaining Materials: Extra materials of value that remain after completion of associated work, become Government property. Dispose of these materials as directed by the Contracting Officer's Representative.

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes administrative and procedural requirements for Project Record Documents. Required Project Record Documents include the following:
   1. Marked-up copies of Contract Drawings.
   2. Marked-up copies of Shop Drawings.
   3. Newly prepared drawings.
   4. Marked-up copies of Specifications, addenda, and Change Orders.
   5. Marked-up Product Data submittals.
   6. Record Samples.
   7. Field records for variable and concealed conditions.
   8. Record information on Work that is recorded only schematically.

B. Maintenance of 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. Make documents and samples available at all times for the Contracting Officer's Representative's inspections.

1.2 RECORD DRAWINGS

A. Markup Procedure: During construction, maintain a set of blue- or black-line white prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
   1. Mark these Drawings to show the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:
      a. Dimensional changes to the Drawings.
      b. Revisions to details shown on the Drawings.
      c. Depths of foundations below the 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 Directives.
k. Changes made following the Architect's written orders.
l. Details not on original Contract Drawings.

2. Mark record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
3. Mark record sets with red erasable colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
4. Mark important additional information that was either shown schematically or omitted from original Drawings.
5. Note alternate numbers, Change Order numbers, and similar identifications.

B. Responsibility for Markup: The individual, installer, subcontractor or other entity who obtained the record data shall prepare the markup on record drawings.
1. Accurately record information in an understandable drawing technique.
2. Record data as soon as possible after obtaining it. Record and check the markup prior to enclosing concealed installations.
3. Prior to Final Acceptance, submit record drawings to the Contracting Officer for the Governments records. Organize into sets, and bind and label.

C. Preparation of Transparencies: Prior to Final Acceptance, review completed marked-up record drawings with the Contracting Officer's Representative. When authorized, prepare a full set of corrected transparencies of the Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each drawing. Include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each drawing.
   a. Encircle each area of change or additional information with a free-form cloud shape drawn on the reverse side of the transparency.
   b. Identify changes and additional information by printing the Change Order Number or other change reference designation, when applicable, within the cloud-shape encircled area.
2. Refer instances of uncertainty to the Contracting Officer's Representative for resolution.
3. The Government will furnish the Contractor with one set of transparencies of original Contract Drawings for use in recording changes and additional information. Other printing is the Contractor's responsibility.
4. The Contractor is responsible for printing original Contract Drawings and other drawings as required to produce transparencies. The Contracting Officer's Representative will make original Contract Drawings available to the Contractor's print shop.
5. Review of Transparencies: Before copying and distributing, submit corrected transparencies and the original marked-up prints to the Contracting Officer's Representative for review and acceptance of the general scope of changes, additional information recorded and quality of drafting. If acceptable, the Contracting Officer's Representative will return transparencies and the original marked-up prints to the Contractor for organizing into sets, printing, binding, and final submittal.

D. Copies and Distribution: After completing the preparation of transparency record drawings, print 3 blue- or black-line prints of each drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets. Bind

each set with durable-paper cover sheets. Include appropriate identification, including titles, dates, and other information on the cover sheets.

1. Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.
2. Organize record transparencies into sets matching the print sets. Place these sets in durable tube-type drawing containers with end caps. Mark the end cap of each container with suitable identification.
3. Submit the marked-up record set, transparencies, and the copy sets to the Contracting Officer for the Government's records.

E. Newly Prepared Record Drawings: Prepare new drawings instead of following procedures specified for preparing record drawings where new drawings are required when neither the original Contract Drawings nor Shop Drawings are suitable to show the actual installation. New drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.

1. Provide Drawings in a scale that allows for the scope of detailing and notations required to record the actual physical installation and its relationship to other construction.
2. When completed and accepted, integrate newly prepared Drawings with procedures specified for organizing, copying, binding and submitting record drawings.

1.3 RECORD SPECIFICATIONS

A. During the construction period, maintain 3 copies of the Project Specifications, including addenda and other modifications issued, for Project Record Document purposes.

1. Mark the Specifications to indicate the actual installation where the installation varies from that indicated in Specifications. Note related project record drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
   a. In each Specification section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
   b. Record the name of the manufacturer, supplier, installer, and other information necessary to provide a record of selections made and to document coordination with record Product Data submittals and maintenance manuals.
2. Upon completion of markup, submit Record Specifications to the Contracting Officer for the Government's records.

1.4 RECORD PRODUCT DATA

A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.

1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site and changes in manufacturer's instructions and recommendations for installation.
2. Give particular attention to information about concealed products and installations that cannot be readily identified and recorded later.
3. Note related Change Orders and markup of record Drawings, where applicable.

4. Upon completion of markup, submit a complete set of record Product Data to the Contracting Officer for the Government's records.
5. Where record Product Data is required as part of maintenance manuals, submit marked up Product Data as an insert in the manual instead of submittal as record Product Data.

1.5 RECORD SAMPLE SUBMITTAL

A. Immediately prior to the date of Substantial Completion, the Contractor shall meet with the Contracting Officer's Representative (NRC Project Manager) at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Government for record purposes.

1.6 MISCELLANEOUS RECORD SUBMITTALS

A. Refer to other Specification sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Prior to Final Acceptance, complete miscellaneous records and place in good order, properly identified and bound or otherwise organized to allow for use and reference.
B. Submit to the Contracting Officer for the Government's records.
C. Miscellaneous records include, but are not limited to, the following:
    1. Field records on excavations and foundations.
    2. Field records on underground construction and similar work.
    3. Survey showing locations and elevations of underground lines.
    4. Invert elevations of drainage piping.
    5. Surveys establishing building lines and levels.
    6. Authorized measurements utilizing unit prices or allowances.
    7. Records of plant treatment.
    8. Ambient and substrate condition tests.
    9. Certifications received in lieu of labels on bulk products.
    10. Batch mixing and bulk delivery records.
    11. Testing and qualification of tradespersons.
    12. Documented qualification of installation firms.
    13. Load and performance testing.
    14. Inspections and certifications by governing authorities.
    15. Leakage and water-penetration tests.
    16. Fire-resistance and flame-spread test results.
    17. Final inspection and correction procedures.

OPERATION AND MAINTENANCE DOCUMENTATION

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes administrative and procedural requirements for operation and maintenance manuals and instruction, including the following.
    1. Preparing and submitting instruction manuals covering the care, preservation and maintenance of materials and finishes.
    2. Preparing and submitting operation and maintenance manuals for equipment and building operating systems.

3. Instruction of Government operating personnel in the operation and maintenance of building systems and equipment.

B. Additional Requirements: Refer to the individual Specification sections for additional requirements for the care and maintenance of materials and finishes, and for the operation and maintenance of the various pieces of equipment and operating systems.

1.2 QUALITY ASSURANCE

A. Operation and Maintenance Manual Preparation: In preparation of manuals, use personnel thoroughly trained and experienced in the maintenance of the material or finish involved, or in the operation and maintenance of the equipment or system involved.
   1. Where manuals require written instructions, use the personnel skilled in technical writing where necessary for communication of essential data.
   2. Where manuals require drawings or diagrams, use draftspersons capable of preparing drawings clearly in an understandable format.

B. Instructions for the Government Personnel: Use instructors thoroughly trained and experienced in the operation and maintenance of the equipment or system involved to instruct Government operation and maintenance personnel.

1.3 SUBMITTALS

A. Submittal Schedule: Comply with the following schedule for submitting operation and maintenance manuals:
   1. The Contracting Officer's Representative will return 1 copy of the draft with comments within 15 calendar days after receipt.
   2. Make corrections or modifications to comply with the Contracting Officer's Representative's comments.
   3. Submit 2 copies of each approved manual to the Contracting Officer within 15 calendar days after receipt of the Contracting Officer's Representative's comments.

B. Form of Submittal: Prepare operation and maintenance manuals in the form of an instructional manual for use by operating and maintenance personnel. Organize into suitable sets of manageable size. Where possible, assemble instructions for similar products into a single binder.
   1. Binders: For each manual, provide heavy-duty, commercial-quality, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to receive 8- 1/2-by-11-inch (115-by-280-mm) paper. Provide a clear plastic sleeve on the spine to hold labels describing contents. Provide pockets in the covers to receive folded sheets.
      a. Where 2 or more binders are necessary to accommodate data, correlate data in each binder into related groupings according to the Specifications table of contents. Cross-reference other binders where necessary to provide essential information for proper operation or maintenance of the product.
      b. Identify each binder on front and spine, with the printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter covered. Indicate volume number for multiple volume sets of manuals.
   2. Dividers: Provide heavy paper dividers with celluloid-covered tabs for each separate section. Mark each tab to indicate contents. Provide a typed description of the product or major parts of equipment included in the section on each divider.
   3. Protective Plastic Jackets: Provide protective, transparent, plastic jackets designed to enclose diagnostic software for computerized electronic equipment.

4. Text Material: Where maintenance manuals require written material, use the manufacturer's standard printed materials, where available. If manufacturer's standard printed materials are not available, provide specially prepared data, neatly typewritten, on 115-by-280-mm (8-1/2-by-11-inch), 75-g/sq. m (20-lb/sq. ft.) white bond paper.
5. Drawings: Where manuals require drawings or diagrams, provide reinforced, punched binder tabs on drawings and bind in with text.
    a. Where oversize drawings are necessary, fold drawings to the same size as text pages and use as a foldout.
    b. If drawings are too large to be used practically as a foldout, place the drawing, neatly folded, in the front or rear pocket of binder. Insert a typewritten page indicating drawing title, description of contents and reference to the applicable location in the manual.

C. Optional Form of Submittal for Final Manuals: If specifically requested by the Contractor and approved by the Contracting Officer, written and graphic portions of final manuals may be submitted in a CD ROM electronic format acceptable to the Building Manager. Manual content and specific information to be included in each type of manual shall comply as specified for bound manuals. Content that is not included in CD ROM electronic format shall be assembled into binders with dividers and other requirements specified for bound manuals. CD ROM disks and binders shall be fully and clearly labeled, with disks and associated binders for each manual boxed or otherwise packaged for accessible storage together.

1.4 MANUAL CONTENT

A. In each manual, include information specified in the individual Specification section and the following information where applicable for each major component:
    1. General material, finish, system or equipment description.
    2. Design factors and assumptions
    3. Copies of applicable Shop Drawings and Product Data.
    4. Material, finish, system or equipment identification, including:
    DOCUMENTATION
        a. Name of manufacturer.
        b. Model number.
        c. Serial number of each component.
    5. Equipment operating data:
        a. Operation instructions.
        b. Emergency instructions.
        c. Wiring diagrams.
        d. Inspection and test procedures.
    6. Maintenance procedures and schedules.
    7. Precautions against improper use and maintenance.
    8. Copies of warranties and service contracts.
    9. Repair instructions, including listings of spare parts for equipment.
    10. Sources of required maintenance materials and related services.

B. Organize each manual into separate sections for each related product or piece of equipment. To the extent applicable, each manual shall contain a title page, table of contents, general information, copies of Product Data, written text, drawings and copies of each warranty and service contract issued.
    1. Title Page: Provide a title page in a transparent, plastic envelope as the first sheet of each manual. As a minimum, provide the following information:
        a. Subject matter covered by the manual.

b. Name and address of the Project.
c. Name of Government user agency.
d. Date of submittal.
e. Name, address, and telephone number of the Contractor.
f. Cross-reference to related products in other operation and maintenance manuals, if applicable.

2. Table of Contents: After title page, include a typewritten table of contents for each volume, arranged systematically according to the Specifications format. Include a list of each product included, identified by product name or other appropriate identifying symbol and indexed to the content of the volume. Where more than one volume is required to accommodate the data, provide a comprehensive table of contents for all volumes in each volume of the set.
3. General Information: Provide a general information section immediately following table of contents, listing each product included in the manual, identified by product name. Under each product, list the name, address, and telephone number of the subcontractor or installer and the maintenance contractor. Clearly delineate the extent of responsibility for each of these entities. Include a local source for replacement parts for equipment.
4. Product Data: Where the manuals include manufacturer's standard printed data, include only those sheets that are pertinent to the part or product installed. Mark each sheet to identify each part or product included in the installation. Where the Project includes more than one item contained in the product data, identify each item, using appropriate references from the Contract Documents. Identify data that is applicable to the installation, and delete references to information that is not applicable.
5. Written Text: Prepare written test to provide necessary information where manufacturer's standard printed data is not available, and the information is necessary for proper maintenance of materials or finishes, or for proper operation and maintenance of equipment or systems. Prepare written text where it is necessary to provide additional information or to supplement data included elsewhere in the manual. Organize text in a consistent format under separate headings for different procedures. Where necessary, provide a logical sequence of instruction for each operation or maintenance procedure.
6. Drawings: Provide specially prepared drawings where necessary to supplement manufacturer's printed data to illustrate the relationship of component parts of equipment or systems or to provide control or flow diagrams. Coordinate these drawings with information contained in Project Record Drawings to assure correct illustration of the completed installation.
7. Warranties and Service Contracts: Provide a copy of each warranty or service contract in the appropriate manual for the information of the Government's operating personnel. Provide written data outlining procedures to follow in the event of product failure. List circumstances and conditions that would affect the validity of the warranty.

C. Where required for full understanding, include a copy of applicable Project Record Drawings. Do not use original Project Record Documents as part of operation and maintenance manuals.

1.5 MATERIAL AND FINISHES MAINTENANCE MANUALS

A. Submit 3 copies of each materials and finishes manual, in final form, to the Contracting Officer's Representative. Provide one section for architectural products, including applied

materials and finishes. Provide a second section for products designed for moisture protection and products exposed to the weather.

B. Architectural Products: Provide manufacturer's data and instructions for the care and maintenance of architectural products, including applied materials and finishes.
   1. Manufacturer's Data: Provide complete information on architectural products, including the following, as applicable:
      a. Manufacturer's catalog number.
      b. Size.
      c. Material composition.
      d. Color.
      e. Texture.
      f. Reordering information for custom manufactured products.
   2. Care and Maintenance Instructions: Provide care and maintenance information, including manufacturer's recommendations for types of cleaning agents to be used and methods of cleaning. Provide information about cleaning agents and methods that could prove detrimental to the product. Include manufacturer's recommended schedule for cleaning and maintenance.

C. Moisture Protection and Products Exposed to the Weather: Provide complete manufacturer's data with instructions for the inspection, maintenance and repair of products exposed to the weather or designed for moisture-protection purposes.
   1. Manufacturer's Data: Provide detailed manufacturer's information, including the following, as applicable.
      a. Applicable standards.
      b. Chemical composition.
      c. Installation details.
      d. Inspection procedures.
      e. Maintenance information.
      f. Repair procedures.

D. Schedule: Provide complete information in the materials and finishes manual on products specified in the following sections:

1.6 EQUIPMENT AND SYSTEMS OPERATION AND MAINTENANCE MANUALS

A. Submit 6 copies of each equipment and systems maintenance manual, in final form, to the Contracting Officer's Representative. Provide separate manuals for each unit of equipment, each building operation system, and each electric and electronic system.

B. Equipment and Systems: Provide the following information for each piece of equipment, each building operation system, and each electric or electronic system, where applicable:
   1. Description: Provide a complete description of each unit and related component parts, including the following, as applicable:
      a. Equipment or system function.
      b. Operating characteristics.
      c. Limiting conditions.
      d. Performance curves.
      e. Engineering data and tests.
      f. Complete nomenclature and number of replacement parts.
   2. Manufacturer's Information: For each manufacturer of a component part or piece of equipment, provide the following, as applicable:
      a. Printed operation and maintenance instructions.
      b. Assembly drawings and diagrams required for maintenance.

c. List of items recommended to be stocked as spare parts.

3. Maintenance Procedures: Provide information detailing essential maintenance procedures, including the following, as applicable:
   a. Routine operations.
   b. Troubleshooting guide.
   c. Disassembly, repair, and reassembly.
   d. Alignment, adjusting, and checking.
4. Operating Procedures: Provide information on equipment and system operation procedures, including the following, as applicable:
   a. Startup procedures.
   b. Equipment or system break-in.
   c. Routine and normal operating instructions.
   d. Regulation and control procedures.
   e. Instructions on stopping.
   f. Shutdown and emergency instructions.
   g. Summer and winter operating instructions.
   h. Required sequences for electric or electronic systems.
   i. Special operating instructions.
5. Servicing Schedule: Provide a schedule of routine servicing and lubrication requirements, including a list of required lubricants for equipment with moving parts.
6. Controls: Provide a description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.
7. Piping Identification: Provide as-installed, color-coded, piping diagrams, where required for identification.
8. Valve Tags: Provide charts of valve-tag numbers, with the location and function of each valve.
9. Circuit Directories: For electric and electronic systems, provide complete circuit directories of panel boards, including the following, as applicable:
   a. Electric service.
   b. Controls.
   c. Communication.

C. Schedule: Provide complete information in the equipment and systems manual on products specified in the following sections:

1.7 INSTRUCTIONS FOR GOVERNMENT PERSONNEL

A. Prior to the Substantial Completion inspection, instruct the Government's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Provide instruction at mutually agreed times.

B. Use operation and maintenance manuals for each product, piece of equipment or system as the basis of instruction. Review contents in detail to explain all aspects of operation and maintenance.

C. Posted Logs and Instructions: Place operating logs and instructions in see-through vinyl or other weather protective sleeves or framed enclosures, and post for use by Government personnel in locations approved by the Contracting Officer's Representative.
   1. Post operating log sheets with spares at or near the applicable equipment.
   2. Post flow schematics, wiring diagrams, valve lists, control sequences, start-up and shutdown instructions, and similar information and instructions in the appropriate equipment rooms.

FENCES AND GATES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Polymer-coated steel framework.
   2. Grounding and bonding.
B. Related Sections include the following:

1.3 DEFINITIONS

A. CLFMI: Chain Link Fence Manufacturers Institute.
B. Zn-5-Al-MM Alloy: Zinc-5 percent aluminum-mischmetal alloy.

1.4 SUBMITTALS

A. Product Data: Material descriptions, construction details, dimensions of individual components and profiles, and finishes for the following:
   1. Fence and gate posts, rails, and fittings.
   2. Gates and hardware.
B. Shop Drawings: Show locations of fence, each gate, posts, rails, and tension wires and details of extended posts, extension arms, gate swing, or other operation, hardware, and accessories. Indicate materials, dimensions, sizes, weights, and finishes of components. Include plans, elevations, sections, gate swing and other required installation and operational clearances, and details of post anchorage and attachment and bracing.
   1. Gate Operator: Show locations and details for installing operator components, switches, and controls. Indicate motor size, electrical characteristics, drive arrangement, mounting, and grounding provisions.
   2. Wiring Diagrams: Power and control wiring and communication features and access control features. Differentiate between manufacturer-installed and field-installed wiring and between components provided by gate operator manufacturer and those provided by others.
C. Samples for Initial Selection: Manufacturer's color charts or 150-mm (6-inch) lengths of actual units showing the full range of colors available for components with factory-applied color finishes.
D. Samples for Verification: For the following products, in sizes indicated, showing the full range of color, texture, and pattern variations expected. Prepare Samples from the same material to be used for the Work.
   1. PVC-coated steel wire (for fabric) in 150-mm (6-inch) lengths.
   2. PVC coated steel samples of posts, rails, gate framing, wires, and on full-sized units for accessories.
E. Product Certificates: Signed by manufacturers of chain-link fences and gates certifying that products furnished comply with requirements.

F. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
G. Field Test Reports: Indicate and interpret test results for compliance of chain-link fence and gate grounding and bonding with performance requirements.
H. Maintenance Data: For the following to include in maintenance manuals specified in Division 1:
   1. Polymer finishes.
   2. Gate operator.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed Steel Wire Mesh fences and gates similar in material, design, and extent to those indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
B. Testing Agency Qualifications: Testing agency as defined by OSHA in 29 CFR 1910.7 or a member company of the International Electrical Testing Association and that is acceptable to authorities having jurisdiction.
   1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies, to supervise on-site testing specified in Part 3.
C. Source Limitations Fences and Gates: Obtain each color, grade, finish, type, and variety of component for fences and gates from one source with resources to provide fences and gates of consistent quality in appearance and physical properties.
D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
E. UL Standard: Provide gate operators that comply with UL 325.
F. Emergency Access Requirements: Comply with requirements of authorities having jurisdiction for automatic gate operators serving as a required means of access.

1.6 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by US NRC unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
   1. Notify NRC Project Manager not less than two days in advance of proposed utility interruptions.
   2. Do not proceed with utility interruptions without NRC Project Manager's written permission.
B. Field Measurements: Verify layout information for fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. WELDED WIRE MESH FENCE SYSTEM.
      a. Manufactured by Riverdale Mills Corp.
B. A product of equal technical capability to Riverdale Mills' product may be proposed, but all technical specifications shall be provided with the proposal. The specifications shall clearly show how the proposed items meet the agency's requirements and it technically equal to Riverdale Mills' product. The NRC shall determine if the proposed item meets the agency's specifications.

2.2 CHAIN-LINK FENCE FABRIC

A. Steel Wire Mesh Fabric: Height 8 feet (2.4 Meters). Provide fabric fabricated in one-piece widths for fencing in height of 8 feet (2.4 Meters). Comply with CLFMI's "Product Manual" and with requirements indicated below:
   1. WireWall anti-climb, anti-cut 1/2 inch x 3 inch 8 gauge coated with heavy duty marine grade PVC black. PVC-Coated Fabric: ASTM F 668, Class 2b over metallic-coated steel wire.
      a. Color: Black, as selected by NRC Project Officer from manufacturer's full range complying with ASTM F 934.
   2. Coat salvage ends of fabric that is metallic coated during the weaving process with manufacturer's standard clear protective coating.

2.3 INDUSTRIAL FENCE FRAMING

A. Square Steel Tubing: Standard weight, Schedule 40, galvanized steel tubing complying with ASTM F 1083. Comply with ASTM F 1043, Material Design Group IA, external and internal coating Type A, consisting of not less than 0.55-kg/sq. m (1.8-oz./sq. ft.) zinc; and the following strength and stiffness requirements:
   1. Line, End, Corner, and Pull Posts and Top Rail: Per requirements for Heavy Industrial Fence.
B. Square Steel Pipe: Cold-formed, electric-resistance-welded steel pipe. Comply with ASTM F 1043, Material Design Group IC, with minimum yield strength of 344 MPa (50,000 psi); and the following external and internal coatings and strength and stiffness requirements:
   1. Coatings: Type B, zinc with organic overcoat, consisting of a minimum of 0.27 kg/sq. m (0.9 oz. /sq. ft.) of zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film.
   2. Coatings: External, Type B, zinc with organic overcoat, consisting of a minimum of 0.27 kg/sq. m (0.9 oz. /sq. ft.) of zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film. Internal, Type D, consisting of 81 percent, not less than 0.0076- mm- (0.3-mil-) thick, zinc pigmented coating.
   3. Coatings: Type C, Zn-5-Al-MM alloy, consisting of not less than 0.55-kg/sq. m (1.8-oz. /sq. ft.) coating.
   4. Coatings: Any coating above.
   5. Line, End, Corner, and Pull Posts and Top Rail: Per requirements for Heavy Industrial Fence.
   6. Line, End, Corner, and Pull Posts and Top Rail: Per requirements for Light Industrial Fence.
C. Roll-Formed Steel Shapes: C-sections or other shape, produced from structural steel. Comply with ASTM F 1043, Material Design Group II, with minimum yield strength of 310 MPa (45,000 psi); and the following coating and strength and stiffness requirements:

1. Coating: Type A, consisting of not less than minimum 0.61-kg/sq. m (2.0-oz./sq. ft.) average zinc coating per ASTM A 123/A 123M or 1.22-kg/sq. m (4.0-oz./sq. ft.) zinc coating per ASTM A 653/A 653M.
2. Coating: Type C, Zn-5-Al-MM alloy, consisting of not less than 0.55-kg/sq. m (1.8-oz. /sq. ft.) coating.
3. Line, End, Corner, and Pull Posts and Top Rail: Per requirements for Heavy Industrial Fence.

D. Roll-Formed Steel Shapes: Hot-rolled H-beams or other shape, produced from structural steel. Comply with ASTM F 1043, Material Design Group III, with minimum yield strength of 310 MPa (45,000 psi); Heavy Industrial Fence strength and stiffness for line posts, and external and internal coating Type A, consisting of not less than minimum 0.61-kg/sq. m (2.0-oz. /sq. ft.) average zinc coating per ASTM A 123/A 123M or 1.22-kg/sq. m (4.0-oz. /sq. ft.) zinc coating per ASTM A 653/A 653M.

E. Square Steel Tubing: Galvanized steel-tubing end, corner, and pull posts and top rail with coating Type A, consisting of not less than 0.55-kg/sq. m (1.8-oz./sq. ft.) zinc according to ASTM F 1043, and complying with CLFMI's "Product Manual," Type I for the following components and fence fabric height:
   1. End, Corner, and Pull Posts: For fence fabric height not exceeding 1.83 m (8 feet).
   2. End, Corner, and Pull Posts: For fence fabric height more than 1.83 m (8 feet).

F. Post Brace Rails: Match top rail for coating and strength and stiffness requirements. Provide brace rail with truss rod assembly for each gate, end, and pull post. Provide two brace rails extending in opposing directions, each with truss rod assembly, for each corner post and for pull posts. Provide rail ends and clamps for attaching rails to posts.

G. Top Rails: Fabricate top rail from lengths 6.4 m (21 feet) or longer, with swedged-end or fabricated for expansion-type coupling, forming a continuous rail along top of chain-link fabric.

H. Intermediate Rails: Match top rail for coating and strength and stiffness requirements.

I. Bottom Rails: Match top rail for coating and strength and stiffness requirements.

J. Extended Members: Extend end and corner pull posts above top of chain-link fabric 300 mm (12 inches) as required to attach barbed wire or tape assemblies.

2.4 INDUSTRIAL SWING GATES

A. General: Comply with ASTM F 900 for the following swing-gate types:
   1. Single gate.
   2. Double gate.

B. Metal Pipe and Tubing: Galvanized steel. Comply with ASTM F 1083 and ASTM F 1043 for materials and protective coatings.

C. Frames and Bracing: Fabricate members from square galvanized steel tubing with outside dimension and weight according to ASTM F 900 for the following gate fabric height:
   1. Gate Fabric Height: 2.4 m (8 feet) or less.
   2. Gate Fabric Height: More than 2.4 m (8 feet).

D. Frame Corner Construction: As follows:
   1. Welded.
   2. Assembled with corner fittings and 7.9-mm- (5/16-inch-) diameter, adjustable truss rods for panels 1.52 m (5 feet) wide or wider.
   3. Welded or assembled with corner fittings and 7.9-mm- (5/16-inch-) diameter, adjustable truss rods for panels 1.52 m (5 feet) wide or wider.

E. Gate Posts: Fabricate members from square metal tubing with outside dimension and weight according to ASTM F 900 for the following gate fabric heights and leaf widths:

1. Gate Fabric Height by Leaf Width: 2.4 m (8 feet) or less by 1.22 m (4 feet) or less.
2. Gate Fabric Height by Leaf Width: 2.4 m (8 feet) or less by over 1.22 m (4 feet) but not over 3.05 m (10 feet).
3. Gate Fabric Height by Leaf Width: 2.4 m (8 feet) or less by over 3.05 m (10 feet) but not over 5.49 m (1).
4. Gate Fabric Height by Leaf Width: Over 2.4 m (8 feet) by 2.4 m (8 feet) or less.
5. Gate Fabric Height by Leaf Width: Over 2.4 m (8 feet) by over 2.4 m (8 feet) but not over 3.66 m (12 feet).
6. Gate Fabric Height by Leaf Width: Over 2.4 m (8 feet) by over 3.66 m (12 feet) but not over 5.49 m (1).
7. Gate Fabric Height by Leaf Width: Over 2.4 m (8 feet) by over 5.49 m (1) but not over 7.32 m (24 feet).

F. Extended Gate Posts and Frame Members: Extend gate posts and frame end members above top of chain-link fabric at both ends of gate frame 300 mm (12 inches) as indicated on Drawings as required to attach barbed wire or tape assemblies.

G. Hardware: Latches permitting operation from both sides of gate, hinges, center gate stops and, for each gate leaf more than 1.5 m (5 feet) wide, keepers. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.

2.5 INDUSTRIAL HORIZONTAL SLIDE GATES

A. General: Comply with ASTM F 1184 for the following slide-gate types:
   1. Single gate.
   2. Double gate.
   3. Classification: Type II Cantilever Slide, Class 1 with external roller assemblies.
   4. Classification: Type II Cantilever Slide, Class 2 with internal roller assemblies.

B. Metal Pipe and Tubing: Galvanized steel. Comply with ASTM F 1083 and ASTM F 1043 for materials and protective coatings.

C. Frames and Bracing: Fabricate from square galvanized steel tubing with outside dimension and weight according to ASTM F 1184 for the following gate characteristics:
   1. Gate Fabric Height: 2.4 m (8 feet) or less.
   2. Gate Fabric Height: Over 2.4 m (8 feet).
   3. Gate Fabric Height by Opening Width: 2.4 m (8 feet) or less by 1.22 m (4 feet) or less.
   4. Gate Fabric Height by Opening Width: All fabric heights by over 1.22 m (4 feet).

D. Frame Corner Construction: As follows:
   1. Type II Cantilever Slide Gates: Welded.

E. Gate Posts: Fabricate members from square galvanized steel pipe with outside dimension and minimum weight according to ASTM F 1184 for the following gate characteristics:
   1. Type I Gate Opening Width by Overhead Clearance: 3.05 m (10 feet) or less by 4.27 m (14 feet) or less.
   2. Type I Gate Opening Width by Overhead Clearance: Over 3.05 m (10 feet) but not over 7.32 m (24 feet) by 6.71 m (22 feet) or less.
   3. Type I Gate Opening Width by Overhead Clearance: Over 7.32 m (24 feet) but not over 12.2 m (40 feet) by 6.71 m (22 feet) or less.
   4. Type II Gate Opening Width: 3.7 m (12 feet) or less.
   5. Type II Gate Opening Width: Over 3.7 m (12 feet) but not over 9.1 m (30 feet).

F. Extended Gate Posts and Frame Members: Extend gate posts and frame end members above top of chain-link fabric at both ends of gate frame 300 mm (12 inches) as required to attach barbed wire or tape assemblies.

G. Overhead Track Assembly: Manufacturer's standard track, with overhead framing supports, bracing, and accessories, engineered to support size, weight, width, operation, and design of gate and roller assemblies.
I. Guide Posts and Roller Guards: As required per ASTM F 1184 for Type II, Class 1 gates.
J. Hardware: Latches permitting operation from both sides of gate, locking devices, hangers, roller assemblies, and stops fabricated from galvanized steel casting with stainless-steel fasteners. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.]

2.6 FITTINGS

A. General: Provide fittings for a complete fence installation, including special fittings for corners Comply with ASTM F 626.
B. Post and Line Caps: Hot-dip galvanized pressed steel. Provide weather tight closure cap for each post.
   1. Provide line post caps with loop to receive tension wire or top rail.
C. Rail and Brace Ends: Hot-dip galvanized pressed steel. Provide rail ends or other means for attaching rails securely to each gate, corner, pull, and end post.
D. Rail Fittings: Provide the following:
   1. Top Rail Sleeves: Hot-dip galvanized pressed steel. Not less than 153 mm (6 inches) long.
   2. Rail Clamps: Hot-dip galvanized pressed steel. Provide line and corner boulevard clamps for connecting intermediate and bottom rails in the fence line to line posts.
E. Tension and Brace Bands: Hot-dip galvanized pressed steel.
F. Tension Bars: Hot-dip galvanized steel, length not less than 50 mm (2 inches) shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.
G. Truss Rod Assemblies: Hot-dip galvanized steel rod and turnbuckle or other means of adjustment.
H. Tie Wires, Clips, and Fasteners: Provide the following types according to ASTM F 626:
   1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:
      a. Hot-Dip Galvanized Steel: 2.69-mm- (0.106-inch-) diameter wire; galvanized coating thickness will match coating thickness of chain-link fence fabric.
      b. Hot-Dip Galvanized Steel: 3.76-mm- (0.148-inch-) diameter wire; galvanized coating thickness will match coating thickness of chain-link fence fabric.
   2. Power-driven fasteners.
   3. Round Wire Clips: Hot-dip galvanized steel or aluminum for attaching chain-link fabric to H-beam posts.
I. Pipe Sleeves: For posts set into concrete, provide preset hot-dip galvanized steel pipe sleeves complying with ASTM A 53, not less than 150 mm (6 inches) long with inside dimensions not less than 13 mm (1/2 inch) more than outside dimension of post, and flat steel plate forming bottom closure.

2.7 CAST IN-PLACE CONCRETE

A. General: Comply with ACI 301 for cast-in-place concrete.

B. Materials: Portland cement complying with ASTM C 150, aggregates complying with ASTM C 33, and potable water [for ready-mixed concrete complying with ASTM C 94]. [Measure, batch, and mix Project-site-mixed concrete according to ASTM C 94.]
   1. Concrete Mixes: Normal-weight concrete air entrained with not less than 34.47-MPa (5000-psi) compressive strength (28 days), 75-mm (3-inch) slump, and 25-mm (1-inch) maximum size aggregate.
C. Contractor shall provide drainage for sliding gate trough to prevent build up of water and ice that would prevent operation of the gate during inclement weather.

2.8 GROUT AND ANCHORING CEMENT

A. No shrink, Nonmetallic Grout: Premixed, factory-packaged, no staining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout, recommended in writing by manufacturer, for exterior applications.
B. Erosion-Resistant Anchoring Cement: Factory-packaged, no shrink, no staining, hydraulic controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer for exterior applications.

2.9 FENCE GROUNDING

A. Conductors: Bare, solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.
   1. Material above Finished Grade: Copper.
   2. Material On or Below Finished Grade: Copper.
   3. Bonding Jumpers: Braided copper tape, 25 mm (1 inch) wide, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.
B. Connectors and Ground Rods: Listed in UL 467.
   1. Connectors for Below-Grade Use: Exothermic welded type.
   2. Ground Rods: Copper-clad steel.
      a. Size: 16 by 2400 mm (5/8 inch by 96 inches).

2.10 POLYMER FINISHES

A. Metallic-Coated Steel Tension Wire: PVC-coated wire complying with ASTM F 1664, Class: 2b (Black).
B. Metallic-Coated Steel Framing: Comply with ASTM F 1043 for polymer coating applied to exterior surfaces and, except for tubular shapes, to exposed interior surfaces.
   1. Polymer Coating: Not less than 0.254-mm- (10-mil-) thick PVC or 0.076-mm- (3-mil) thick polyester finish.
C. Fittings, Post and Line Caps, Rail and Brace Ends, Top Rail Sleeves, Tension and Brace Bands, Tension Bars, Truss Rod Assemblies, Barbed Wire Arms, Tie Wires, Clips, and Fasteners: Must comply with ASTM F 626 for polymer coating applied to exterior surfaces and, except inside cap shapes, to exposed interior surfaces.
   1. Polymer Coating: Not less than 0.254-mm- (10-mil-) thick PVC.
D. Metallic-Coated Steel Barbed Wire: PVC-coated wire complying with ASTM F 1665, Class: 2b (Black).
E. Color: Black complying with ASTM F 934.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance; NRC will provide copy of final design document.
   1. Do not begin installation before final grading is completed, unless otherwise permitted by NRC Project Officer.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 152.5 m (500 feet) or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. General: Install fencing to comply with ASTM F 567 and more stringent requirements specified.
   1. Install fencing on established boundary lines inside property line.
   2. Post holes shall comply with the requirements in note 2 on OKKS drawing S001, Structural notes. The soil bearing values shall be verified by a Geotechnical engineer. Documentation shall be provided to the owner for all post holes.
B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.
C. Post Setting: Hand-excavate holes for post foundations in firm, undisturbed or compacted soil. Set, terminal, line, gate, gate operator-mounting, posts in concrete footing. Protect portion of posts aboveground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Using mechanical devices to set line posts per ASTM F 567 is not permitted. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured.
   1. Dimensions and Profile: As indicated on Drawings.
   2. Exposed Concrete Footings: Extend concrete 50 mm (2 inches) above grade, smooth, and shape to shed water.
   3. Concealed Concrete Footings: Stop footings [50 mm (2 inches) below grade to allow covering with surface material.
   4. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.
   5. Posts Set into Concrete in Voids: Form or core drill holes not less than 125 mm (5 inches) deep and 20 mm (3/4 inch) larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

D. F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended by fencing manufacturer.

3.5 GATE INSTALLATION

A. General: Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.
B. Gate PG-4, shown on drawing A402 requires the addition of a concrete sidewalk from the gate to the curb and the addition of 2 curb cuts for handicap access.
C. Materials: Portland cement complying with ASTM C 150, aggregates complying with ASTM C 33, and potable water [for ready-mixed concrete complying with ASTM C 94]. [Measure, batch, and mix Project-site-mixed concrete according to ASTM C 94.]
   1. Concrete Mixes: Normal-weight concrete air entrained with not less than 34.47-MPa (5000-psi) compressive strength (28 days), 75-mm (3-inch) slump, and 25-mm (1-inch) maximum size aggregate.

3.6 GROUNDING AND BONDING

A. Fence Grounding: Install at maximum intervals of [450 m (1500 feet)] except as follows:
   1. Fences within 30 m (100 Feet) of Buildings, Structures, Walkways, and Roadways: Ground at maximum intervals of [225 m (750 feet)]
      a. Gates and Other Fence Openings: Ground fence on each side of opening.
         1) Bond metal gates to gate posts.
         2) Bond across openings, with and without gates, except openings indicated as
         3) Intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 460 mm (18 inches) below finished grade.
B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a maximum distance of 45 m (150 feet) on each side of crossing.
C. Fences Enclosing Electrical Power Distribution Equipment: Ground as required by IEEE C2, unless otherwise indicated.
D. Grounding Method: At each grounding location, drive a ground rod vertically until the top is 150 mm (6 inches) below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at the grounding location, including the following:
   1. Each Barbed Wire Strand. Make grounding connections to barbed wire with wire-to-wire connectors designed for this purpose.
   2. Each Barbed Tape Coil: Make grounding connections to barbed tape with connectors designed for this purpose.
E. Bonding Method for Gates: Connect bonding jumper between gate post and gate frame.
F. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
   1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
   2. Make connections with clean, bare metal at points of contact.

3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

G. Bonding to Lightning Protection System: If fence terminates at lightning-protected building or structure, ground the fence and bond the fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor complying with NFPA 780.

3.7 FIELD QUALITY CONTROL

A. Ground-Resistance Testing Agency: Engage a qualified independent testing agency to perform field quality-control testing.
B. Ground-Resistance Tests: Subject completed grounding system to a megger test at each grounding location. Measure ground resistance not less than two full days after last trace of precipitation, without soil having been moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform tests by two-point method according to IEEE 81.
C. Desired Maximum Grounding Resistance Value: 25 ohms.
D. Excessive Ground Resistance: If resistance to ground exceeds desired value, notify Architect promptly. Include recommendations to reduce ground resistance and proposal to accomplish recommended work.
E. Report: Prepare test reports, certified by testing agency, of ground resistance at each test location. Include observations of weather and other phenomena that may affect test results.

3.8 ADJUSTING

A. Gate: Adjust gate to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
B. Automatic Gate Operator: Energize circuits to electrical equipment and devices. Adjust operators, controls, safety devices, alarms, and limit switches.
   1. Electrohydraulic Operator: Purge operating system, adjust pressure and fluid levels, and check for leaks.
   2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation. Test controls, alarms, and safeties. Remove damaged and malfunctioning units, replace with new units, and retest.
C. Lubricate hardware, gate operator and other moving parts.

3.9 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain gates.
   1. Test and adjust operators, controls, alarms, safety devices, hardware, and other operable components. Replace damaged or malfunctioning operable components.
   2. Train Owner's personnel on procedures and schedules for starting and stopping, troubleshooting, servicing, and maintaining equipment and schedules.

3. Review data in maintenance manuals. Refer to Division 1 Section "Contract Closeout."
4. Review data in maintenance manuals. Refer to Division 1 Section "Operation and Maintenance Data."
5. Schedule training with NRC Project Manager, with at least seven calendar days' advance notice.

4.0 GATE BREAKDOWN

1 each 19 foot 1 inch motorized sliding gate
4 each 6 foot 11 inch non-motorized swing gates
4 each 4 foot pedestrian swing gates with crash-bar
2 each 13 foot 9 inch non-motorized swing gates
2 each 15 foot 3 inch non-motorized swing gates
2 each 5 foot maintenance gates

***Pricing option 1 (Price same gates above with Electric-Motorized Gates with Push Button Control):

1 each 19 foot 1 inch motorized sliding gate
4 each 6 foot 11 inch motorized swing gates
4 each 4 foot pedestrian swing gates with crash-bar
2 each 13 foot 9 inch motorized swing gates
2 each 15 foot 3 inch motorized swing gates
2 each 5 foot maintenance gates

ALL MEASUREMENTS (Gates) ARE APPROXIMATE

WELDED WIRE MESH FENCE SYSTEM

PART 1

1 GENERAL

1.1 STIPULATIONS

A. The specifications section, "General Conditions", "Special Requirements" and "General Requirements" form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.

1.2 SCOPE

A. This specification covers fencing materials for a complete galvanized coated welded wire mesh fence system and gates, including accessories and installation.

1.3 REFERENCE ASTM DOCUMENTS:

A. A 307 - Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile (414 MPa.).
B. A 853 - Standard Specification for Steel Wire, Carbon, For General Use
C. C 94 - Ready-Mix Concrete.
D. F 567 - Standard Practice for Installation of Chain Link Fence.
E. F 626 - Specification for Fence Fittings
F. F 900 - Specification for Industrial and Commercial Swing Gates.

G. F 1043 - Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.

PART 2 - PRODUCTS

2.1 Material

A. Strength requirements for posts shall conform to ASTM F 1043. The product of the yield strength and section modulus shall not be less than that for pipe conforming to ASTM F 1083.
B. Products shall be new from recognized, reputable manufacturers. The manufacturers shall have a minimum of 2 years experience. Used, re-rolled or re-galvanized material is not acceptable.
C. Welded Wire Fabric shall be fabricated from low carbon steel wire and electronically control welded, forming a mesh size of ½ inch by 3 inch. The wire shall be 8 gauge.
   1. Manufacturer:
      a. Riverdale Mills Corp., Northbridge, MA., Tel: 1-800-762-6374, www.wirewall.com
   2. A product of equal technical capability to Riverdale Mills' product may be proposed, but all technical specifications shall be provided with the proposal. The specifications shall clearly show how the proposed items meet the agency's requirements and it technically equal to Riverdale Mills' product. The NRC shall determine if the proposed item meets the agency's specifications.
D. The wire shall conform to ASTM A 853 Grade AISI 1006, having a minimum tensile strength of 70,000 PSI (485 MPa.) After welding, the fabric is hot-dipped, galvanized with a minimum 1.2 oz zinc/ft^2 followed by a 10 mil (0.25 mm) minimum PVC coating.
   1. PVC coating shall be thermally fused and adhered to a primer, which is thermally cured onto the galvanized steel core wire.
   2. PVC coating shall be applied in a continuous process.
      Note: Welded mesh is measured wire center to wire center, whereas, chain link mesh openings are measured inside to inside of the diagonal wires with 1/8" (3 mm) tolerance. I.e. Welded mesh wires located 2¼ inches o.c. (57 mm) and compared to 2 inch (51 mm) chain link have the same mesh openings.
E. Fabric Heights:
   1. Perimeter Fence is 8 feet high
F. Framework: Framework strength and coating shall be in accordance with ASTM F 1043. PVC Coating shall be in accordance with ASTM F 668.
   1. Grade A Pipe, hot-dipped galvanized Schedule 40 pipe conforming to ASTM F 1043 Group 1A.
   2. Grade B Pipe, Manufactured by cold rolling and radial frequency welding, the steel shall conform to ASTM F 1043 Group IC with minimum yield strength of 50,000 PSI. (344.0 MPa.). Exterior and Interior coatings shall be in accordance with ASTM F 1043.
   3. "C" post, manufactured by cold forming shall conform to ASTM F 1043 Group II with minimum yield strength of 60, 000 PSI. (413.7MPa) "C" post size 3¼ "x 2½" x .150 walls. (83 mm x 64 mm x 3.81mm)
   4. Wind loads: Post shall withstand 90 M.P.H. minimum wind load.
   5. Manufacturers:
      a. Gregory Galvanizing, Canton, OH. Tel: 330-477-4800, www.gregorycorp.com
      b. A product of equal technical capability to Gregory Galvanizing's product may be proposed, but all technical specifications shall be provided with the

proposal. The specifications shall clearly show how the proposed items meet the agency's requirements and it technically equal to Gregory Galvanizing's product. The NRC shall determine if the proposed item meets the agency's specifications.

6. Post Sizes, determined in accordance with previous approved practices Line, terminal and gate post shall not be less than 95% of the nominal weight conforming to (ASTM F 1043 Group 1A, 1C. and 11.)
   a. "C" Post 3¼" x 2½x 0.150 wall are acceptable "C" line post with flat attaching bars used to secure welded mesh to post. "C" post brackets spaced 15" o.c. also acceptable for attaching welded mesh to "C" line post. Minimum 4" diameter tubular post shall be used as terminal and gate posts. Sizing of gate post shall be coordinated with gate manufacturer.
7. Rail Size:
   a. "C" rails 1.625 x 1.25 x 0.80" wall shall be used for top, intermediate and bottom rail locations. Rails are to be galvanized and coated with a black PVC coating to match the fence material.
   b. Secure welded mesh to rails with 9 gauge tie wires (Section 2.1G 5, 6, and 7)

G. Fittings and Accessories
1. Post Tops: Pressed steel or malleable iron, designed as a weather tight enclosure for tubular post. Post caps to be galvanized and coated with a black PVC coating. Weather tight enclosures not required for "C" post.
2. Provide one cap for each exposed tubular post end and "C" line post.
3. Preformed Power Twisted Ties: Fabric attachment to rails, 9 gauge ties for fabric sizes 10.5 gauge and larger. Ties shall be aluminized with a minimum coating of 0.40 oz. aluminum/ft² or galvanized. Wire shall be coated with black PVC to match fence fabric.
4. Tie Spacing for top rails are at intervals not exceeding 24", (bottom rail tie spacing intervals not to exceed 12".
5. Line Post and Terminal Post Brackets: Spacing for line and terminal posts are at intervals not exceeding 15" See drawing for bracket locations.

PART 3 EXECUTION

3.1 INSTALLATION

A. Installation of the Framework Components shall be in accordance with ASTM F 567 when applicable and as specified herein.
B. Installation of Welded Wire Fabric components: follow the manufacturer's recommendations.
   1. Tolerance: Top to bottom of panel one inch post to panel misalignment tolerance. This tolerance covers those areas where minor grade change can be accommodated; panels are out of square, occasional workmen's oversight and post out of plumb.
C. Site Preparation: Prior to the installation, all necessary grading and cleaning on both sides of fence shall be performed by the General Contractor or others responsible for site grading.
   1. Grading shall be done in such a manner as to provide a straight flat and level surface, Soil or stone fill shall be thoroughly compacted.

2. All excavation shall be coordinated with respect to electrical and mechanical component installations. All existing utilities shall be located prior to starting excavation.
3. Erect the fencing in straight lines between angle points. Erect framework in accordance with ASTM F 567 and as approved by shop drawings. All fencing shall be grounded as shown on the drawing and as specified herein. (3.1 K).
   Note: Grounding in section (3.1 K) shall be completed by electrical contractor.

D. Minimum Post Hole Diameters for 2.375" (60 mm) are 10.0" (254 mm), 2.875" (73 mm) are 12.0" (305 mm, 4.0" (102 mm) are 16" (406 mm), 6.625" (168 mm) are 24.0" (610 mm), and 8.625" (219 mm) are 32.0" (813 mm) (Table 1 for Post Hole Depth.).

Post Hole Depth Table 1

Exposed Height of Fabric	Line Post	Corner/End Pull Post	Setting Depth
6ft. 1.8m	2.375 60 mm	2.375 60mm	30 762 mm
7ft. 2.1 m	2.375 60 mm	2.375 60mm	33 838 mm
8 ft. 2.4 m	2.375 60 mm	2.375 60 mm	36 914 mm
9 ft. 2.7 m	2.875 73 mm	2.875 73 mm	39 990 mm
10 ft. 3 m	2.875 73 mm	2.875 73 mm	42 1066 mm
11 ft. 3.4 m	2.875 73 mm	2.875 73 mm	45 1143 mm
12 ft. 3.7 m	2.875 73 mm	2.875 73 mm	48 1219 mm
13 ft. 4 m	2.875 73 mm	2.875 73 mm	51 1295 mm
14 ft. 4.3 m	4.0 102 mm	4.0 102 mm	54 1372 mm
15 ft. 4.6 m	4.0 102 mm	4.0 102 mm	57 1447 mm
16 ft. 4.9 m	4.0 102 mm	4.0 102 mm	60 1524 mm

Note: Posts depths shall be a minimum of 24", (610 mm) plus 2" (76 mm) for each 1 - Ft. (.305 m) increase in the fence height over 4 ft. (1.2 m) (ASTM A 567) Refer to design drawing package for specific footing depths. The most conservative footing depth/diameter shall be used.

E. Post Holes in Solid Rock or Concrete: Drill holes into solid rock or concrete 1/2" (13 mm) wider than pipe diameter, and 18" (457 mm) deep for end, corner and gate posts and 12" (305 mm) deep for line post. Half-fill the void with non-shrinkable grout and force the post to the bottom of the hole, leaving no voids. Crown the grout to shed water. The use of sleeves in new concrete is recommended.

F. Concrete Mix: Shall be in accordance with ASTM C 94 with maximum 3/4" (19 mm) aggregate, and having a minimum compression strength of 5000 PSI (34.47 MPa.) at 28 days. Concrete shall be thoroughly worked into the post holes leaving no voids.

G. Allow concrete to cure a minimum of (7 days) before installing fence fabric or fittings. The top surface of the post footing shall have a crown water shed finish.

H. Post Spacing: Space post equal distance in the fence line to a maximum of 81' on center (2.4 m). Line posts are to be Super "C" posts with a wall thickness of 0.150 inches. The posts shall be zinc coated and then covered with black PVC to match fence fabric. Terminal and gate posts shall be a minimum of 4 inch and conform to ASTM F 1043. Terminal and gate posts shall be galvanized and then covered with a black PVC coating to match the fence fabric. All hardware used for post/fence installation shall be PVC coated black to match fence fabric.

I. Rails: Install rails as called for on the drawings and in these Specifications. A top, intermediate and bottom rail shall be installed. All rails shall be installed on the side of the fence which is being protected to provide the least access for climbing. No corner bracing required for welded wire fabric installations:
   1. Top rails, with the use of 7" (178 mm) sleeve, shall run continuously through the top caps or extension arms. Bottom rails shall be connected to the line and terminal post using boulevards or bands and rail ends. Attachment bolts for bands shall be 5/16" (7.9 mm) x 1 ½ " (38 mm) carriage bolts with nuts.
   2. Boulevard bolts shall be 3/8" (10 mm) minimum in diameter. Bottom rails locations shall correspond with this specification and drawings.
   3. Two way brace bands and rail ends may be used in place of boulevards.

J. Welded Wire Fabric General: Welded wire panels are fabricated to correspond with the widths and heights specified. Welded mesh panels are attached with a combination of brackets and tie wire in accordance with the manufacturer's installation information. Wire fabric panels are to be attached to the line posts with a Continuous flat bar drilled 12" (305 m) o.c. running top to bottom of exposed fabric. Terminal post connections are comprised of tension bands. Band spacing not exceeds 15" (381 mm) for terminal post. See corner connection detail for securing tension bands. Welded wire fence material height will be 8 feet.

K. Grounding to the Earth: Grounding and bonding of the perimeter systems shall be in accordance with the N.E.C. (National Electric Code), N.E.S.C. (National Electric Safety Code) ASTM F 1916 and as specified herein.
   1. Fences crossing power lines of 600 volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150 feet (46 m) on each side of crossing. Where electronic detection is an integral part of the fence, grounding electrodes shall be installed at 200'. (61 m) intervals along the fence line (For additional information consult with the electronic system manufacturer.)
   2. The grounding electrodes shall be a minimum 3/4"(19 mm) diameter x 10' (3 m) long copper clad rod, driven into the earth until the top is 12 in (305 mm) below grade. Attach a No. 2 AWG bare stranded copper conductor by exothermically welding to the ground rods and extend underground in the immediate vicinity of the fence post Secure the grounding conductor to the post with 5/16" (7.9 mm) self-tapping galvanized or stainless steel bolts and approved copper compression terminal ends or clamps.
   3. After grounding connections have been completed, perform a ground resistance test in the presence of the Owner's Representative. The ground resistance shall not exceed 25 OHMS under normal dry conditions. Where resistance requirements cannot be attained, install additional rods no closer than 6'. (1.8 m) o.c. Install no more than two additional rods at each location.

L. Fence length is approximately 1,350 linear feet of 8 foot high welded wire material.

3.2 CLEANING

A. Cleanup: Upon completion of the installation, clean up all waste material resulting from the fence construction to the satisfaction of the Project Officer.

INSTPECTION AND ACCEPTANCE

PART 1

1.1 CONTRACTOR INSPECTION:

A. The Contractor shall inspect the quality of work being performed to assure that the scope of services requested in the contract is being accomplished in the manner as described in the objectives and specifications of the contract.

1.2 GOVERNMENT INSPECTION and ACCEPTANCE of SERVICES:

A. The Government shall inspect all services requested in the contract at various times. These inspections will be performed in such a manner that will not unduly interfere or delay the work that is being performed by the Contractor. If any of the requirements of the contract do not conform in accordance with the terms and conditions, the Government may require the Contractor to correct such deficiencies at no additional cost to the Government. If such deficiencies cannot be corrected by the Contractor, the Government may correct the deficiencies and deduct the cost from the amount of the contract and/or terminate the contract and deduct the costs from the amount of the contract and/or terminate the contract for default.

B. Once the project is deemed complete by the contractor, NRC and the contractor will walk the space to create a punch list. The punch list items shall be completed by the contractor with seven (7) calendar days of notification. Following final acceptance of the space, any warranty service shall be performed in accordance to manufacturer's specifications.

ATTACHMENT 2

NRC FORM 187
(7-2008)
NRCMD 12

U.S. NUCLEAR REGULATORY COMMISSION

CONTRACT SECURITY AND/OR CLASSIFICATION REQUIREMENTS

AUTHORITY
The policies, procedures, and criteria of the NRC Security Program, NRCMD 12, apply to performance of this contract, subcontract or other activity.

COMPLETE CLASSIFIED ITEMS BY SEPARATE CORRESPONDENCE

1. CONTRACTOR NAME AND ADDRESS

To be determined

A. CONTRACT NUMBER FOR COMMERCIAL CONTRACTS OR JOB CODE FOR DOE PROJECTS (Prime contract number must be shown for all subcontracts.)

B. PROJECTED START DATE	C. PROJECTED COMPLETION DATE
09/30/2009	10/30/2009

2. TYPE OF SUBMISSION

- [x] A. ORIGINAL
- [ ] B. REVISED (Supersedes all previous submissions)
- [ ] C. OTHER (Specify)

3. FOR FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND PROJECTED COMPLETION DATE

A. DOES NOT APPLY	B. CONTRACT NUMBER	DATE
[x]		

4. PROJECT TITLE AND OTHER IDENTIFYING INFORMATION

U.S. Nuclear Regualtory Commission Headquarters Perimeter Fence Project.

5. PERFORMANCE WILL REQUIRE

A. ACCESS TO CLASSIFIED MATTER OR CLASSIFIED INFORMATION

- [ ] YES (If "YES," answer 1-7 below)
- [x] NO (If "NO," proceed to 5.C.)

	NOT APPLICABLE	NATIONAL SECURITY		RESTRICTED DATA	
		SECRET	CONFIDENTIAL	SECRET	CONFIDENTIAL
1. ACCESS TO FOREIGN INTELLIGENCE INFORMATION	[ ]	[ ]	[ ]	[ ]	[ ]
2. RECEIPT, STORAGE, OR OTHER SAFEGUARDING OF CLASSIFIED MATTER. (See 5.B.)	[ ]	[ ]	[ ]	[ ]	[ ]
3. GENERATION OF CLASSIFIED MATTER.	[ ]	[ ]	[ ]	[ ]	[ ]
4. ACCESS TO CRYPTOGRAPHIC MATERIAL OR OTHER CLASSIFIED COMSEC INFORMATION.	[ ]	[ ]	[ ]	[ ]	[ ]
5. ACCESS TO CLASSIFIED MATTER OR CLASSIFIED INFORMATION PROCESSED BY ANOTHER AGENCY.	[ ]	[ ]	[ ]	[ ]	[ ]
6. CLASSIFIED USE OF AN INFORMATION TECHNOLOGY PROCESSING SYSTEM.	[ ]	[ ]	[ ]	[ ]	[ ]
7. OTHER (Specify)	[ ]	[ ]	[ ]	[ ]	[ ]

B. IS FACILITY CLEARANCE REQUIRED? [ ] YES [ ] NO

C. [ ] UNESCORTED ACCESS IS REQUIRED TO NUCLEAR POWER PLANTS.

D. [ ] ACCESS IS REQUIRED TO UNCLASSIFIED SAFEGUARDS INFORMATION.

E. [ ] ACCESS IS REQUIRED TO SENSITIVE IT SYSTEMS AND DATA.

F. [ ] UNESCORTED ACCESS TO NRC HEADQUARTERS BUILDING.

G. [ ] REQUIRE OPERATION OF GOVERNMENT VEHICLES OR TRANSPORT PASSENGERS FOR THE NRC.

H. [ ] WILL OPERATE HAZARDOUS EQUIPMENT AT NRC FACILITIES.

I. [ ] REQUIRED TO CARRY FIREARMS.

J. [ ] FOUND TO USE OR ADMIT TO USE OF ILLEGAL DRUGS.

FOR PROCEDURES AND REQUIREMENTS ON PROVIDING TEMPORARY AND FINAL APPROVAL FOR UNESCORTED ACCESS, REFER TO NRCMD 12.

NOTE: IMMEDIATELY NOTIFY DRUG PROGRAM STAFF IF BOX 5 A, C, D, G, H, I, OR J IS CHECKED.

ATTACHMENT 2

e. INFORMATION PERTAINING TO THESE REQUIREMENTS OR THIS PROJECT, EVEN THOUGH SUCH INFORMATION IS CONSIDERED UNCLASSIFIED, SHALL NOT BE RELEASED FOR DISSEMINATION EXCEPT AS APPROVED BY:

NAME AND TITLE	SIGNATURE	DATE
Robert Webber, Director DFS		

7. CLASSIFICATION GUIDANCE

NATURE OF CLASSIFIED GUIDANCE IDENTIFICATION OF CLASSIFICATION GUIDES

8. CLASSIFIED REVIEW OF CONTRACTOR / SUBCONTRACTOR REPORT(S) AND OTHER DOCUMENTS WILL BE CONDUCTED BY:

☐ AUTHORIZED CLASSIFIER (Name and Title) ☐ DIVISION OF FACILITIES AND SECURITY

9. REQUIRED DISTRIBUTION OF NRC FORM 187 *Check appropriate box(es)*

☐ SPONSORING NRC OFFICE OR DIVISION (Item 10A) ☐ DIVISION OF CONTRACTS AND PROPERTY MANAGEMENT

☐ DIVISION OF FACILITIES AND SECURITY (Item 10B) ☐ CONTRACTOR (Item 1)

☐ SECURITY/CLASSIFICATION REQUIREMENTS FOR SUBCONTRACTS RESULTING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIALS NAMED IN ITEMS 10B AND 10C BELOW.

10. APPROVALS

SECURITY/CLASSIFICATION REQUIREMENTS FOR SUBCONTRACTS RESULTING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIALS NAMED IN ITEMS 10B AND 10C BELOW.

NAME (Print or type)	SIGNATURE	DATE
A. DIRECTOR, OFFICE OR DIVISION	SIGNATURE	DATE
B. DIRECTOR, DIVISION OF FACILITIES AND SECURITY Robert Webber	SIGNATURE	DATE 6/30/09
C. DIRECTOR, DIVISION OF CONTRACTS AND PROPERTY MANAGEMENT (Not applicable to DOE agreements) Jeffrey L. McDermott	SIGNATURE	DATE 8/17/09

REMARKS

ATTACHMENT 3

BILLING INSTRUCTIONS FOR FIXED PRICE CONTRACTS (JUNE 2008)

1. Contractor's Data Universal Number (DUNS) or DUNS+4 number that identifies the contractor's name and address. The DUNS+4 number is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the contractor to identify alternative Electronic Funds Transfer (EFT) accounts for the same parent concern.

2. Contract number.

3. Sequential voucher/invoice number.

4. Date of voucher/invoice.

5. Payee's name and address. Show the name of the Payee as it appears in the contract and its correct address. If the Payee assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Payee shall require as a condition of any such assignment, that the assignee shall register separately in the Central Contractor Registration (CCR) database at http://www.ccr.gov and shall be paid by EFT in accordance with the terms of this contract. See Federal Acquisition Regulation 52.232-33(g) Payment by Electronic Funds Transfer - Central Contractor Registration (October 2003).

6. A description of articles or services, quantity, unit price, and total amount.

7. For contractor acquired property, list each item with an initial acquisition cost of $50,000 or more and provide: (1) an item description, (2) manufacturer, (3) model number, (4) serial number, (5) acquisition cost, (6) date of purchase, and (7) a copy of the purchasing document.

8. Weight and zone of shipment, if shipped by parcel post.

9. Charges for freight or express shipments. Attach prepaid bill if shipped by freight or express.

10. Instructions to consignee to notify the Contracting Officer of receipt of shipment.

11. For Indefinite Delivery contracts or contracts under which progress payments are authorized, the final voucher/invoice shall be marked "FINAL VOUCHER" OR "FINAL INVOICE."

Currency: Billings may be expressed in the currency normally used by the contractor in maintaining his accounting records and payments will be made in that currency. However, the U.S. dollar equivalent for all vouchers/invoices paid under the contract may not exceed the total U.S. dollars authorized in the contract.

Supersession: These instructions supersede any previous billing instructions.