

NOTICE:

Bids to be opened at 2:00 P.M.
at the office of
Officer in Charge of Construction
Jacksonville, North Carolina Area
Building 1005, Marine Corps Base
Camp Lejeune, North Carolina 28542

CONTRACT NO. N62470-81-B-3563

NAVFAC SPECIFICATION
NO. 05-81-3563

Appropriation: O&MMC

REPLACE WATER PIPING, AS-110

at the

MARINE CORPS AIR STATION (HELICOPTER), NEW RIVER
JACKSONVILLE, NORTH CAROLINA

DESIGN BY: Design Division, Public Works Department
Marine Corps Base, Camp Lejeune, North Carolina

SPECIFICATION
PREPARED BY: J. H. Fitch, P.E.

APPROVED BY: John H. P. Cressman, P.E.
Director, Design Division

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for Commander, Naval Facilities Engineering Command

05-81-3563

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SECTION 00101. BIDDING INFORMATION

1. CONTENTS: This Invitation for Bids, IPB NO. N62470-81-B-3563, consists of the following documents:

(a) Bid Instruction Documents

- (i) Invitation for Bids (Standard Form 20, Jan 1961 Ed.)
- (ii) Bidding Information
- (iii) Instructions to Bidders, dated March 1979

(b) Bid Submittal Documents

- (i) Bid Form (Standard Form 21, December 1965 Ed.)
- (ii) Representations and Certifications, Standard Form 19-B, June 1976 Ed. (REV 1980 AUG), including Appendix "A", dated August 1980
- (iii) Bid Guaranty (Standard Form 24, June 1964 Ed.)
(See Instructions to Bidders)

(c) Contract Documents

- (i) Construction Contract (Standard Form 23, Jan 1961 Ed.)
- (ii) Performance Bond (Standard Form 25, June 1967 Ed.)
- (iii) Payment Bond (Standard Form 25A, June 1964 Ed.)
- (iv) Labor Standards Provisions, dated November 1979
- (v) General Provisions dated Nov 1979 (REV. 8-80)
- (vi) NAVFAC Specification No. 05-81-3563
- (vii) Drawings identified in Section 01011, Division 1 of the specifications
- (viii) Wage Determination Decision No. NC81-1201 for Building Construction

2. BIDS:

2.1 Instruction to Bidders: Instructions to Bidders and Invitation for Bids, Standard Form 20, January 1961 edition, shall be observed in the preparation of bids. Bidders shall affix their names and return addresses in the upper left corner of bid envelope. Envelopes containing bids must be sealed.

2.2 Bid Guaranty: A bid guaranty will be required as stipulated in the Instructions to Bidders.

2.3 Items of Bids: Bids shall be submitted, in duplicate, on Standard Form 21, Bid Form, and shall be accompanied by Standard Form 19B, Representations and Certifications, with Appendix "A" and by Bid Guaranty, all in accordance with the Bid Instruction Documents listed in paragraph 1(a) hereinbefore upon the following item(s):

BASE BID: Price for the entire work, complete in accordance with the drawings and specifications.

2.4 TELEGRAPHIC MODIFICATIONS OF BIDS in accordance with the instructions to Bidders may be made. Two signed copies of the telegram in a sealed envelope marked "Copies of telegraphic modification of bid for REPLACE WATER PIPING, AS-110, MCAS(H), NEW RIVER Specification No.05-81-3563" should be forwarded immediately to the office to which written bids were submitted.

2.5 TELEGRAPHIC MODIFICATIONS OR WITHDRAWAL OF BIDS will be considered as specified herein. TELEPHONIC RECEIPT OF TELEGRAPHIC MODIFICATIONS OR WITHDRAWAL OF BIDS WILL NOT QUALIFY THE TELEGRAM AS TIMELY. The telegram must be received at the place specified for receipt of bids prior to the exact time set for receipt of bids.

2.6 HAND DELIVERED BIDS: All hand delivered bids must be deposited with personnel in the Contract Branch, Room No. 26, Building 1005, Marine Corps Base, Camp Lejeune, North Carolina 28542, prior to the time and date set for bid opening. Any bids submitted by hand after the time set for receipt will not be accepted.

3. PRE-BID SITE VISITATION: To inspect the site of the work prior to bid opening, prior appointment must be made with the Officer in Charge of Construction, Jacksonville, North Carolina Area, telephone 919-451-2581. Bidders are urged and expected to inspect the site where services are to be performed and to satisfy themselves as to all general and local conditions that may affect the cost of performance of the contract to the extent such information is reasonably obtainable. In no event will a failure to inspect the site constitute grounds for withdrawal of a bid after opening or for a claim after award of the contract.

4. CONTROLLED MATERIALS DATA: The Contracting Officer will issue a DO-C2 priority rating for procurement of critical materials. See General Provision 46, "PRIORITIES, ALLOCATIONS AND ALLOTMENTS".

5. INQUIRIES:

5.1 Plans and Specifications: Questions regarding the plans and specifications occurring prior to bid opening shall be presented to the Public Works Design Division, Building 1005, Marine Corps Base, Camp Lejeune, North Carolina, 28542, telephone 919-451-5507. Questions requiring interpretation of drawings and specifications must be submitted at least 10 days before bid opening. Interpretations or modifications to specifications made as a result of questions will be made by amendment only, and unless so done, all bidders should base their bids on the plans and specifications as issued.

5.2 Bidding Procedures: All questions concerning the bidding procedures shall be presented to OICC-ROICC Contract Branch, Room 26, Building 1005, Marine Corps Base, Camp Lejeune, North Carolina, telephone 919-451-2581.

6. AVAILABILITY OF SPECIFICATIONS, STANDARDS AND DESCRIPTIONS
(1977 JUN): Specifications, standards and descriptions cited in this solicitation are available as indicated below:

a. Unclassified Federal, Military and Other Specifications and Standards (Excluding Commercial), and Data Item Descriptions: Submit request on DD Form 1425 (Specifications and Standards Requisition) to:

Commanding Officer
U. S. Naval Publications and Forms Center
5801 Tabor Avenue, Philadelphia, Pennsylvania 19120

The Acquisition Management Systems and Data Requirements Control List: DOD Directive 5000.19L, Volume II, may be ordered on the DD Form 1425. The Department of Defense Index of Specifications and Standards (DODISS) may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. When requesting a specification or standard, the request shall indicate the title, number, date and any applicable amendment thereto by number and date. When requesting a data item description, the request shall cite the solicitation. When DD Form 1425 is not available, the request may be submitted in letter form, giving the same information as listed above, and the solicitation or contract number involved. Such request may also be made to the activity by TELEX No. 834295, Western Union No. 710-670-1685, or telephone 215-697-3321 in case of urgency.

b. Commercial Specifications, Standards and Descriptions: These specifications, standards and descriptions are not available from Government sources. They may be obtained from the publishers.

c. Availability for Examination of Specifications, Standards, Plans, Drawings, and Other Pertinent Documents: The specifications, standards, plans, drawings, and other pertinent documents cited in this solicitation may be examined at the following location:

Public Works Department
Specifications and Estimates Branch
Building 1005, Marine Corps Base
Camp Lejeune, North Carolina

7. RECOVERED MATERIAL: The Contractor certifies by signing this bid/proposal/quotation that recovered materials as defined in DAR 1-2500.4 will be used as required by the applicable specifications.

8. REFERENCE TO AMENDMENTS: Each bidder shall refer in his bid to all amendments to this specification; failure to do so may constitute an informality in the bid.

9. CERTIFICATE OF CURRENT COST OR PRICING DATA: (This paragraph applies to negotiated contracts of \$100,000 or more, except where the price is based on adequate competition, and to change orders of \$100,000 or more, to any contract.) The Contractor shall submit to the Contracting Officer a certificate in the form set forth below as soon as practicable after agreement is reached on the contract price:

This is to certify that, to the best of my knowledge and belief, cost or pricing data as defined in DAR 3-807.1(a)(1) submitted, either actually or by specific identification in writing (see DAR 3-807.3(a)) to the Contracting Officer or his representative in support of _____* are accurate, complete, and current as of _____**

day month year

This certification includes the cost or pricing data supporting any advance agreement(s) and forward pricing rate agreements between the offeror and the Government which are part of the proposal.

Firm _____
Name _____
Title _____

Date of Execution

*Describe the proposal, quotation, request for price adjustment or other submission involved, giving appropriate identifying number (e.g. RFP No. _____).

**The effective date shall be the date when price negotiations were concluded and the contract price was agreed to. The responsibility of the Contractor is not limited by the personal knowledge of the Contractor's negotiator if the Contractor had information reasonably available at the time of agreement, showing that the negotiated price is not based on accurate, complete and current data.

***This date should be as close as practicable to the date when the price negotiations were concluded and the contract price was agreed to.

DIVISION 1. GENERAL REQUIREMENTS

SECTION 01011. GENERAL PARAGRAPHS

1. GENERAL INTENTION: It is the declared and acknowledged intention and meaning to provide and secure replacement water piping at Building AS-110, complete and ready for use.

2. GENERAL DESCRIPTION: The work includes the replacement of existing cast iron pipe and fittings with similar new pipe and fittings, and incidental related work.

3. LOCATION: The work shall be located at the Marine Corps Air Station (Helicopter), New River, approximately as shown. The exact location will be indicated by the Contracting Officer. "Officer in Charge of Construction (OICC)" and "Contracting Officer" are used interchangeably in this specification and have the same meaning.

4. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK: The Contractor will be required to commence work under the contract 15 calendar days after the date of receipt of Notice of Award, to prosecute said work diligently and to complete the entire work ready for use within 90 calendar days. The time stated for completion shall include final cleanup of the premises. The contract completion date will be computed starting 15 calendar days after the date of the Notice of Award. This 15-day period is to allow for mailing of the Notice of Award and the Contractor's submission of required bonds.

5. LIQUIDATED DAMAGES: In case of failure on the part of the Contractor to complete the work within the time fixed in the contract or any extensions thereof, the Contractor shall pay to the Government as liquidated damages pursuant to General Provisions clauses entitled "Termination for Default - Damages for Delay - Time Extensions", and "Damages for Delay - Defense Materials System and Priorities" the sum of \$10 for each day of delay.

6. DRAWINGS ACCOMPANYING SPECIFICATION: The following drawings accompany this specification and are a part thereof. Drawings are the property of the Government and shall not be used for any purpose other than that contemplated by the specification.

NAVFAC

<u>DWG. NO.</u>	<u>TITLE</u>
4068671	Location and Site Plan
4068672	Details

7. FACTORY INSPECTION: Factory inspection of material and equipment for which tests at the place of manufacture are required in referenced specifications will be waived if notarized copies of factory reports are furnished that show compliance with the specification requirements.

Factory inspection will be required only where specified herein or in the technical sections of this specification. The Government reserves the right to charge to the Contractor any additional cost of Government inspection and tests when materials and equipment are not ready at the time inspection and tests are requested by the Contractor.

8. NORTH CAROLINA SALES AND USE TAX IS REQUIRED. (See also section entitled "Additional General Paragraphs").

9. SCHEDULING THE WORK:

9.1 General Scheduling Requirements: Notwithstanding the requirements of Clause entitled "Progress Charts and Requirements for Overtime Work" of the General Provisions, immediately after award the Contractor shall meet with the Contracting Officer and present a schedule of work, prepared in accordance with said Clause, for review by the Contracting Officer. The schedule will be reviewed at this meeting and will be retained by the Contracting Officer for final review and approval.

9.2 Special Scheduling Requirements:

9.2.1 The Marine Corps Air Station (Helicopter) water plant, Bldg. AS-110 will remain in operation during the entire construction period and the Contractor shall conduct his operations so as to cause the least possible interference with the normal operations of the activity.

9.2.2 The existing building and its contents shall be kept secure at all times and the Contractor shall provide all temporary closures as required to maintain security as directed by the Contracting Officer. The Contractor shall remove all debris from all spaces being used by the activity at the end of each shift or more frequently if required to keep the space useable. Dust covers or protective enclosures shall be provided to protect existing work to remain and Government material located in the water plant during the construction period.

9.2.3 Permission to interrupt any utility service shall be requested in writing at least fifteen days in advance and approval of the Contracting Officer shall be received before any service is interrupted. Interruptions of utility services will be allowed only when they will cause no interference with the operations of the activity.

9.2.4 All utility cutovers shall be made after normal working hours or on weekends; anticipated costs shall be included in the bid.

10. SAFETY PROGRAM: The Contractor shall implement a safety program conforming to the requirements of Federal, State and Local laws, rules and regulations. The program shall include, but is not limited to, the following:

a. "Occupational Safety and Health Standards", which can be examined at the office of the Contracting Officer or be ordered from the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.

b. Department of the Army, Corps of Engineers, "General Safety Requirements", which may be examined at the office where bids are being received or may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Stock No. 008-022-00106-9.

c. General Provisions Clause entitled "Accident Prevention".

11. TRAILER OR STORAGE BUILDINGS will be permitted on the job site, where space is available, subject to the approval of the Contracting Officer. The trailers or buildings shall be suitably painted and kept in a good state of repair. Failure of the Contractor to maintain his trailers or storage buildings in good condition will be considered sufficient reason to require their removal from the job site.

12. SCHEDULE OF PRICES: The original and seven copies of the schedule of prices shall be submitted to the Contracting Officer for approval. Payments will not be made until the schedule of prices has been submitted and approved.

13. CONTRACTOR'S INVOICE AND CONTRACT PERFORMANCE STATEMENT: Requests for payment in accordance with the terms of the contract shall consist of:

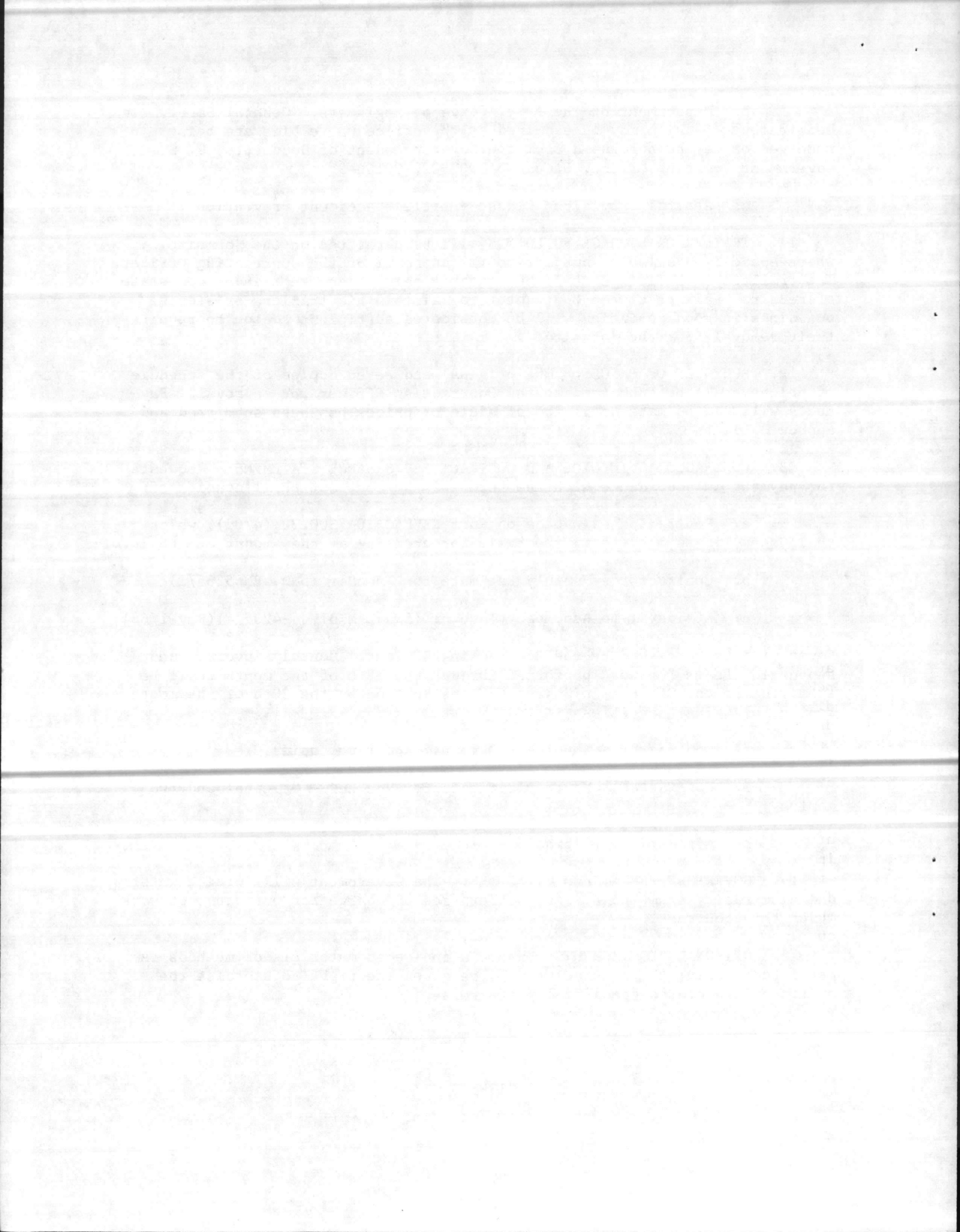
- a. Contractor's Invoice on Form NAVFAC 10-7300/30 (4/68), which shall show, in summary form, the basis for arriving at the amount of the invoice
- b. Contractor's Monthly Estimate for Voucher (5ND GEN 5265/1)
- c. Affidavit to Accompany Invoice (5ND LANTDIV 4-4235/4)(Rev 1/68)

Forms will be furnished by the Contracting Officer. Monthly invoices and supporting forms for work performed through the 15th of the month shall be submitted to the Officer in Charge of Construction by the 20th of the month in the following quantities:

- a. Contractor's Invoice - Original and five copies
- b. Contractor's Monthly Estimate for Voucher - Original and two copies
- c. Affidavit - Original

14. GOVERNMENT-FURNISHED UTILITIES: The Government will furnish water and electricity from the nearest outlet free of charge for pursuance of work under this contract.

15. OPTIONAL REQUIREMENTS: Where a choice of materials or methods is permitted herein, the Contractor will be given the right to exercise the option unless stated specifically otherwise.



SECTION 01012. ADDITIONAL GENERAL PARAGRAPHS

1. APPROVAL OF SAMPLES, CUTS, AND DRAWINGS: Matter submitted for approval shall be accompanied by complete information concerning the material, articles, and/or design proposed for use in sufficient detail to show compliance with the specification, and shall be approved before incorporation into the work. Approval thereof will not be construed as relieving the Contractor of compliance with the specification, even if such approval is made in writing, unless the attention of the Contracting Officer is called to the noncomplying features by letter accompanying the submitted matter. Partial submittals or submittals of less than the whole of any system made up of interdependent components, will not be considered. Approval of drawings, cuts, and samples by the Contracting Officer shall not be construed as a complete check or approval of the detailed dimensions, weights, gauges and similar details of the proposed articles. The conformance of such details with the contract requirements, together with the necessary coordination of dimensions and details between the various elements of the work and between the various subcontractors and suppliers, shall be solely the responsibility of the Contractor, approval of submitted matter notwithstanding.

2. OPERATION OF STATION UTILITIES: The Contractor shall not operate nor disturb the setting of any control devices in the station utilities system, including water, sewer, electrical and steam services. The Government will operate the control devices as required for normal conduct of the work. The Contractor shall notify the Contracting Officer giving reasonable advance notice when such operation is required.

3. CHANGED CONDITIONS: Wherever changed conditions as defined in Clause 4 of the General Provisions are encountered, and wherever conditions exposed during the course of the work necessitate a change from quantities indicated or specified as either estimated quantities or as a basis for bids, whether or not provision for a change in price for such variation is specified, the Contracting Officer must be notified in writing and written directions to do so must be obtained before quantities stated in the contract documents are exceeded.

4. SUBCONTRACTORS AND PERSONNEL: Promptly after the award of the contract, the Contractor shall submit to the Contracting Officer in triplicate, a list of his subcontractors and the work each is to perform. On this form shall appear the names of the key personnel of the Contractor and subcontractors, together with their home addresses and telephone numbers, for use in event of any emergency. From time to time as changes occur and additional information becomes available, the Contractor shall amplify, correct, and change the information contained in previous lists.

5. **AS-BUILT DRAWINGS:** During the progress of the work, one full-size print of each of the drawings accompanying this specification shall be neatly and clearly marked in red to show all variations between the construction actually provided and that indicated or specified in the contract documents. The as-built drawings shall be kept up-to-date at the work site at all times during the contract, and shall be available for inspection by the Contracting Officer upon request. The Contractor shall also mark the drawings to indicate the exact location of any underground utility lines discovered in the course of the work. Where a choice of materials and/or methods is permitted herein, and where variations in the scope or character of the work indicated or specified are permitted either by award on bidding items specified for that purpose or by subsequent change to the contract, the as-built drawings shall define the construction actually provided. The representation of such variations shall conform to standard drafting practice and shall include such supplementary notes, legends, and details as may be necessary for legibility and clear portrayal of the as-built construction; the marked prints shall be subject to approval of the Contracting Officer before acceptance. Upon completion of the work, the completed as-built drawings shall be presented to the Contracting Officer.

6. **PRINTS FURNISHED TO CONTRACTOR:** Six copies of the project specification, and six sets of the drawings accompanying the specification, will be furnished the Contractor. Additional sets of the specifications and drawings can be obtained, if required, by application to the Contracting Officer, providing that the need therefor is justified to the satisfaction of the Contracting Officer.

7. **LOCATION OF UNDERGROUND UTILITIES:** Where existing piping, utilities, and underground obstructions of any type are indicated in locations to be traversed by new piping, ducts, and other work provided hereunder, and are not indicated or specified to be removed, the elevations of the existing utilities and obstructions shall be determined before the new work is laid closer than the nearest manhole or other structure at which an adjustment in grade could be made. For any additional work required by reason of conflict between the new and existing work, an adjustment in contract price will be made in accordance with Clause 4 of the General Provisions. The Base Telephone Officer, phone 451-2531, will show the Contractor approximate locations of all buried telephone cables after receiving 10 days' notice. The locations of underground utilities shown is only approximate and the information is incomplete.

8. **QUARANTINE FOR IMPORTED FIRE ANT (7/76).** All of Onslow, Jones and Carteret Counties and portions of Duplin and Craven Counties have been declared a generally infested area by the United States Department of Agriculture for the imported fire ant. Compliance with the quarantine regulations established by this authority as set forth in USDA Quarantine No. 81 dated 9 October 1970, and USDA Publication 301.81-2A of 23 July 1976, is required for operations hereunder. Pertinent requirements of the quarantine for materials, originating on the Camp Lejeune reservation and the Marine Corps Air Station (Helicopter), New River, which are to be

transported outside the Onslow County or adjacent suppression areas include the following:

(a) Certification is required for the following articles, and they shall not be moved from the reservation to any point outside the Onslow County and adjacent designated areas unless accompanied by a valid inspection certificate issued by an authorized imported fire ant inspector:

(1) Bulk soil,

(2) Used mechanized soil-moving equipment.

(3) Any other products, articles, or means of conveyance if it is determined by an inspector that they present a hazard of spread of the imported fire ant and the person in possession thereof has been so notified.

(b) Authorization for movement of equipment shall be obtained from the Officer in Charge of Construction (OICC), and requests for inspection shall be made sufficiently in advance of the date of movement to permit arrangements for the services of authorized inspectors. The equipment shall be prepared and assembled so that it may be readily inspected. All soil on or attached to equipment, supplies and materials shall be removed by washing with water and/or such other means as necessary to accomplish complete removal. Resulting spoil shall be wasted as directed.

9. EMERGENCY MEDICAL CARE. Only emergency medical care is available by Government facilities at Marine Corps Base, Camp Lejeune to Contractor employees who suffer on-the-job injury or disease. Emergency care will be rendered at the prevailing rates established in BUMEDINST 6320.4 series. Reimbursement will be made by the Contractor to the Naval Regional Medical Center Collection Agent upon receipt of a monthly statement.

10. NORTH CAROLINA SALES AND USE TAX.

(a) As used throughout this clause, the term "materials" means building materials, supplies, fixtures and equipment which become a part of or are annexed to any building or structure erected, altered, or repaired under this contract:

(b) If this is a fixed-price type contract as defined in the Armed Services Procurement Regulation, the contract price includes North Carolina sales and use taxes to be paid with respect to materials, notwithstanding any other provision of this contract. If this is a cost-reimbursement type contract as defined in such regulation, any North Carolina sales and use taxes paid by the Contractor with respect to materials shall constitute an allowable cost under this contract.

(c) At the time specified in paragraph (d) below:

(1) The Contractor shall furnish the Contracting Officer a certified statement setting forth the cost of the materials purchased from each vendor and the amount of North Carolina sales and use taxes

paid thereon. In the event the Contractor makes several purchases from the same vendor, such certified statement shall indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices, and the North Carolina sales and use taxes paid thereon. Such statement shall also include the cost of any tangible personal property withdrawn from the Contractor's warehouse stock and the amount of North Carolina sales or use tax paid thereon by the Contractor. The Contractor shall furnish such additional information as the Commissioner of Revenue of the State of North Carolina may require to substantiate a refund claim for sales or use taxes.

(ii) The Contractor shall obtain and furnish to the Contracting Officer similar certified statements by its subcontractors.

(d) If this contract is completed before the next October 1, the certified statements to be furnished pursuant to paragraph (c) above shall be submitted within 60 days after completion. If this contract is not completed before the next October 1, such certified statements shall be submitted on or before the 30th day of November of each year and shall cover taxes paid during the twelve-month period which ended the preceding September 30.

(e) The certified statement to be furnished pursuant to paragraph (c) above shall be in the following form:

I hereby certify that during the period _____ to _____, (name of Contractor or subcontractor) paid North Carolina sales and use taxes aggregating \$ _____ with respect to building materials, supplies, fixtures and equipment which have become a part of or annexed to a building or structure erected, altered or repaired by (name of Contractor) for the United States of America, and that the vendors from whom the property was purchased, the dates and numbers of invoices covering the purchases, the total amount of the invoices of each vendor, the North Carolina sales and use taxes paid thereon, and the cost of property withdrawn from warehouse stock and North Carolina sales or use taxes paid thereon are as set forth in the attachments hereto.

END

SECTION 01401. QUALITY CONTROL

1. APPLICABLE PUBLICATION: The following publication of the issue listed below, but referred to thereafter by basic designation only, forms a part of this specification to the extent indicated by the references thereto:

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

ASTM E329-77 Standard Recommended Practices for Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

2. QUALITY CONTROL of this contract will be administered under the General Provisions Clause entitled "Contractor Inspection System".

3. DEFINITIONS:

3.1 Factory Tests: Tests made on various products and component parts prior to shipment to the job site, including but not limited to such items as transformers, boilers, air conditioning equipment, electrical equipment, and precast concrete.

3.2 Field Tests: Tests or analyses made at, or in the vicinity of, the job site in connection with the actual construction.

3.3 Product: The term "product" includes the plural thereof and means a type or a category of manufactured goods, construction, installations and natural and processed materials or those associated services whose characterization, classification or functional performance determination is specified by standards.

3.4 Person: The term "person" means associations, companies, corporations, educational institutions, firms, government agencies at the Federal, State and Local level, partnerships, and societies, as well as divisions thereof, and individuals.

3.5 Testing Laboratory: The term "testing laboratory" means any "person", as defined above, whose functions include testing, analyzing, or inspecting "products", as defined above, and/or evaluating the designs or specifications of such "products" according to the requirements of applicable standards.

3.6 Certified Test Reports: Reports of tests signed by a qualified professional attesting that the test results reported are accurate and that items tested either meet or fail to meet the stated minimum requirements. These test reports include those performed by Factory Mutual, Underwriters' Laboratories, Inc., and others.

3.7 Certified Inspection Reports: Reports signed by approved inspectors attesting that the items inspected meet the specification requirements other than any exceptions included in the report.

3.8 Manufacturer's Certificate of Conformance or Compliance: A certificate signed by an authorized manufacturer's official attesting that the material or equipment delivered meets the specification requirements.

4. SUBMITTALS shall be prepared in accordance with this specification and the General Provisions and submitted to the Contracting Officer for approval. Each submittal shall be accompanied with a cover letter signed by the Contractor. Each item proposed to be incorporated into the contract shall be clearly marked and identified in the submittals, and shall be cross-referenced to the contract drawings and specifications so as to identify clearly the use for which it is intended. Each sheet of submittal shall be stamped with the Contractor's certification stamp. Data submitted in a bound volume or on one sheet printed on two sides, may be stamped on the front of the first sheet only. The Contractor's certification stamp shall be worded as follows:

"It is hereby certified that the (equipment)(materials) shown and marked in this submittal is that proposed to be incorporated into Contract Number N62470-81-C-3563, is in compliance with the contract drawings and specifications, can be installed in the allocated spaces, and is submitted for Government approval. Certified by _____
Date _____ "

The person signing the certification shall be one designated in writing by the Contractor as having that authority. The signature shall be in original ink. Stamped signatures are not acceptable.

4.1 Submittal Status Logs: The Contractor shall maintain at the job site an up-to-date submittal status log showing the status of all submittals required by the contract. A sample format of an acceptable log is attached at the end of this section. While the use of this sample format is not required, any other format must contain the same information as shown on the sample.

4.2 Samples, shop drawings, manufacturer's data, certifications and data required of the Contractor: Specification MIL-D-1000 shall be used as a guide and its use is encouraged, for all drawings and data submitted by the Contractor. Conformance to the provisions of Specification MIL-D-1000 is not mandatory for maps, sketches, presentation drawings, perspectives, renderings, and all other drawings not requiring Naval Facilities Engineering Command drawing numbers. Before starting the fabrication or installation of any of this work, the Contractor shall submit to the Contracting Officer for, and receive approval of, in accordance with the General Provisions, such drawings as may be required, including all items specified in the applicable paragraphs of the technical sections of this specification. Seven copies of all submittals to be approved by the Contracting Officer shall be forwarded.

4.3 Identification: All catalog cuts, shop drawings, samples and other data submitted for approval shall specifically identify the specification paragraph or contract drawing by number where each item submitted is required to be provided. All submittals shall be clearly marked in

ink to indicate the specific item(s) submitted for approval. Samples shall be clearly labeled with strong tags, firmly affixed, or indelible markings to identify the contract number, contractor, manufacturer, and item name.

4.4 Certified Test Reports: Before delivery of materials and equipment, four certified copies of the reports of all tests listed in the technical sections and referenced publications shall be submitted and approved. The testing shall have been performed in a laboratory meeting the requirements specified herein. The tests shall have been performed within three years of submittal of the reports for approval. Test reports shall be accompanied by certificates from the manufacturer certifying that the material and equipment proposed to be supplied is of the same type, quality, manufacture, and make as that tested.

4.5 Manufacturer's Certificates of Conformance or Compliance: Manufacturer's certification furnished by the Contractor on items of materials and equipment incorporated into the work will be accepted only when this method will assure full compliance with the provisions of the contract, as determined by the Contracting Officer. Preprinted certifications will not be acceptable. All certifications shall be in the original. The original of all manufacturer's certifications shall name the appropriate item of equipment or material, specification, standard, or other document specified as controlling the quality of that item and shall have attached thereto certified copies of test reports upon which the certifications are based. All certificates shall be signed by the manufacturer's official authorized to sign certificates of conformance or compliance.

4.6 Laboratory Reports shall cite the contract requirements, the test or analysis procedures used, the actual test results, and include a statement that the item tested or analyzed conforms or fails to conform to the specification requirements. Each report shall be conspicuously stamped on the cover sheet in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements as the case may be. All test reports shall be signed by the representative of the testing laboratory authorized to sign certified test reports. The Contractor shall arrange for immediate and direct delivery of the signed original of all reports, certifications, and other documentation to the Contracting Officer.

4.7 Tabulation of Tests: In addition to the General Provisions requirements for CQC test reports, prior to final payment the Contractor shall obtain from each laboratory a tabulation of all tests it has performed in connection with the construction contract, including conforming or nonconforming, and repeated test results. The tabulation(s) shall be certified as complete, and signed by the authorized representative of the laboratory, and shall be delivered to the Contracting Officer:

5. QUALITY CONTROL REQUIREMENTS: In accordance with the General Provisions Clause entitled "Contractor Inspection System", the Contractor shall inspect and test all work under the contract and maintain records of the inspections and tests. Approvals, except those required for field

installations, field applications, and field tests, shall be obtained before delivery of materials and equipment to the project site. Surveillance of the inspection system will be performed by the Contracting Officer.

5.1 Factory Tests: Unless otherwise specified, the Contractor will arrange for factory tests when they are required under the contract.

5.2 Factory Inspection: Unless otherwise specified, the Contractor will arrange for factory inspection when required under the contract.

5.3 Field Inspections and Tests by the Contractor: The Contractor shall furnish all equipment, instruments, qualified personnel, and facilities necessary to inspect all work and perform all tests required by the contract. All inspections and tests performed and test results received each day shall be included in the Daily Report to Inspector.

5.5 Approval of Testing Laboratories: All laboratory work under this contract shall be performed by a laboratory approved by the Government, whether the laboratory is employed by the Contractor, or is owned and operated by the Contractor. The basis of approval includes the following:

a. Testing laboratories performing work in connection with concrete, steel, and bituminous materials shall comply with ASTM E329, except that the Contracting Officer will perform the function of paragraphs 3.4 and 3.5 therein in the absence of other Government approval.

b. Testing laboratories performing work not in connection with concrete, steel, or bituminous materials shall comply with sections 3 and 4 of ASTM E329, except that the Contracting Officer will perform the functions of paragraphs 3.4 and 3.5 therein in the absence of other Government approval.

5.6 Repeated Tests and Inspections: The Contractor shall repeat tests and inspections after each correction made to nonconforming materials and workmanship until tests and inspections indicate the materials, equipment, and workmanship conform to the contract requirements. The retesting and reinspections shall be performed at no additional cost to the Government.

5.7 Daily Report to Inspector: The Daily Report to the Inspector Form NAVFAC 4330/34 shall be submitted to the Contracting Officer by 10:00 A.M. on the working day following the day the work was performed.

INSTRUCTIONS

1. This form may be used by the contractor for listing all material submittals that require action by either the contractor or the government.
2. Columns (a) through (e) should be completed by the contractor and must include all submissions that are required by the specifications.
3. As submittals are received and processed, the remaining columns are to be completed by the contractor.
4. In those instances where the contractor has approved the submittal under his contract responsibility, there may be a dual Action Code under column (f); e.g., "A/E", indicating approved as submitted and forwarded to the ROICC for record purposes.
5. In column (f) for those items requiring ROICC action (Action Code "D"), the reason for forwarding to the ROICC should be entered in the column (l), the Remarks column; e.g., gov't approval required; waiver requested because of variance, substitution, etc.
6. Where no government action is required, (for contractor review/approval items), there need be no entry in columns (h) and (i).
7. Column (j) is completed when material or equipment is delivered to the project. Column (k) is completed only after verification that the delivered item is that represented by the approved submittal.

ACTION CODE: To be used when completing columns (f) and (h)

- A - Approved as submitted
- B - Approved as noted
- C - Disapproved
- D - Forwarded to ROICC for action
- E - Forwarded to ROICC for record purposes

END

SECTION 01507. ENVIRONMENTAL PROTECTION

1. ENVIRONMENTAL PROTECTION PLAN: The Contractor may be responsible for the preparation and submission of an Environmental Protection Plan. After the contract is awarded, but prior to the commencement of the work, the Contractor shall meet with the Contracting Officer, or his representative, and discuss the proposed Environmental Protection Plan. The meeting shall develop mutual understanding relative to details of environmental protection, including required reports and measures to be taken should the Contractor fail to provide adequate protection in an adequate and timely manner. Not more than 14 days after the meeting, the Contractor shall submit for approval his proposed Environmental Protection Plan, if so required.

2. GENERAL REQUIREMENTS: The Contractor shall provide and maintain environmental protection during the life of the contract as defined herein. The Contractor's operations shall comply with all Federal, State and Local regulations pertaining to water, air, solid waste, and noise pollution.

3. DEFINITIONS OF POLLUTANTS:

3.1 Non-Hazardous Wastes: Solid or liquid substances that are to be discarded by the Contractor and that normally do not constitute a hazard to man or to the environment. This includes, but is not limited to, paper, metal (other than toxic metals such as lead and mercury), masonry, wood, brick, stone, asphaltic concrete, plastics, rubber, rubbish and concrete.

3.2 Hazardous Wastes: Solid and liquid substances that are to be discarded by the Contractor and that constitute a significant active or potential hazard to man and/or to the remainder of the environment. This includes, but is not limited to, asbestos, glass, lead, mercury, pesticides, herbicides, other toxic chemicals and waste, liquid petroleum products, human excrement, garbage, sediment and radioactive materials.

4. PROTECTION OF NATURAL RESOURCES: It is intended that the natural resources within the limits of permanent work performed under this contract be preserved in their existing condition or be restored to an equivalent or improved condition upon completion of the work. The Contractor shall confine his construction activities to areas defined by the work schedule, plans, and specifications.

5. CONTROL AND DISPOSAL OF HAZARDOUS AND NON-HAZARDOUS WASTES:

5.1 Non-hazardous wastes, except rubble, shall be picked up and disposed of daily or placed in containers which are emptied on a weekly schedule. All handling and disposal shall be so conducted as to prevent contamination of the site and any other areas. The Contractor shall transport all such waste and dispose of it in the Base Sanitary Landfill, unless otherwise approved. If transporting any material off Government property, the Contractor shall provide the Contracting Officer a copy of State and/or local permit which reflects the responsible agency's approval of the disposal area and proposed waste disposal methods. Rubble such as masonry, stone, concrete without reinforcing steel, and brick shall be deposited as directed. Upon completion, the work and disposal

area shall be left clean and natural looking. All signs of temporary construction and activities incidental to construction of the required permanent work in place shall be obliterated.

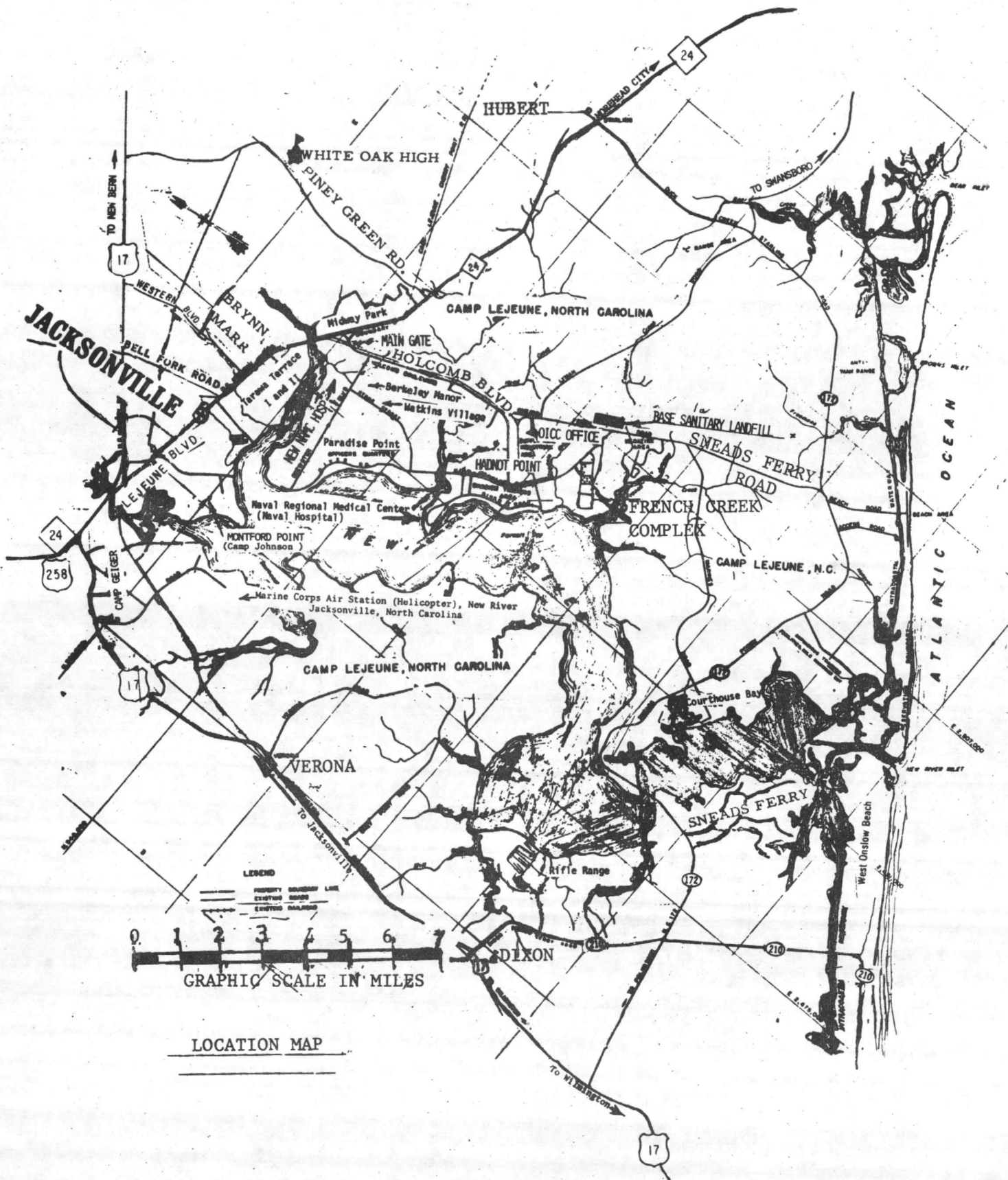
5.2 Hazardous Wastes:

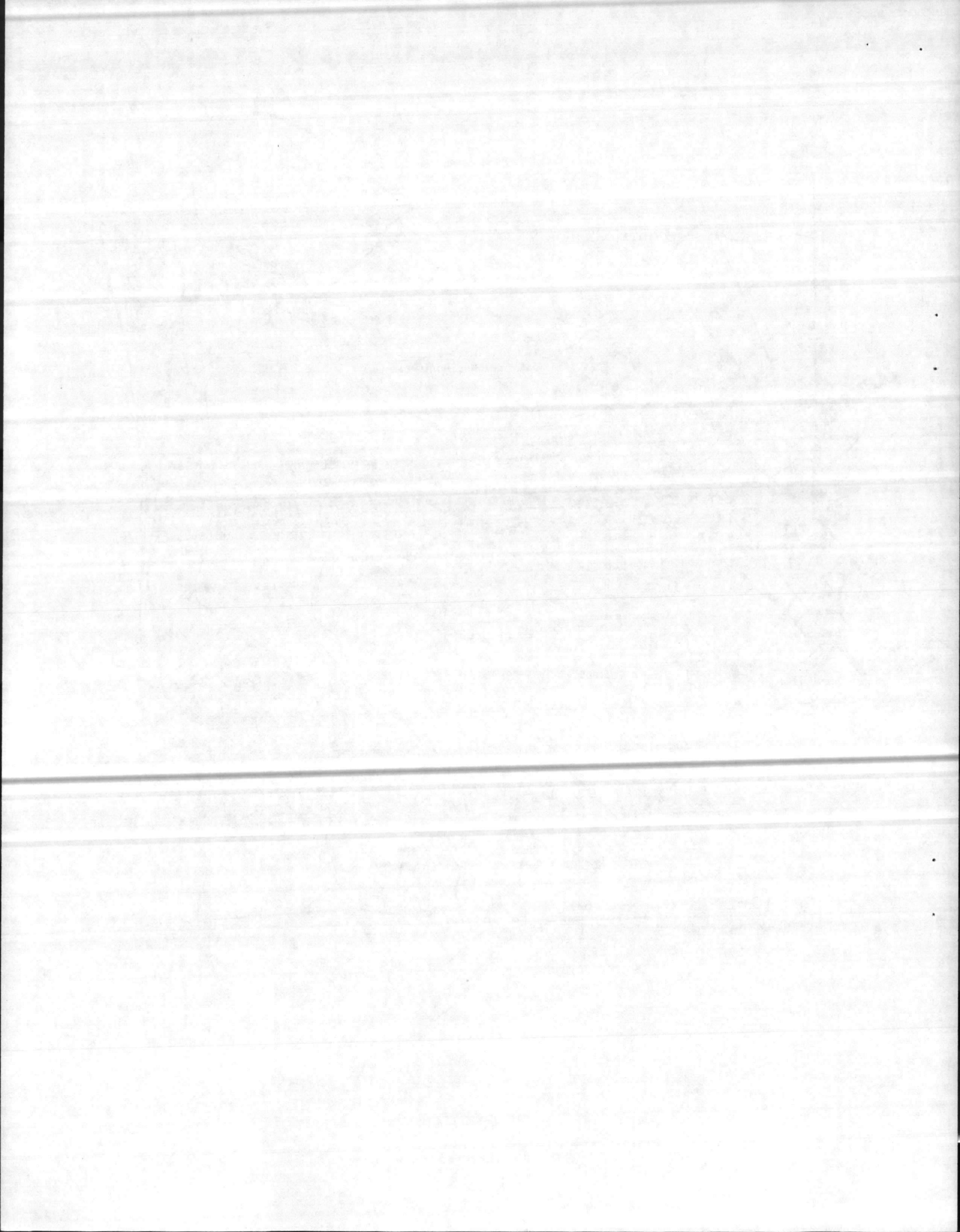
5.2.1 Garbage Disposal: The Contractor shall transport his garbage to the Base Sanitary Landfill. However, the preparation, cooking and disposing of food are strictly prohibited on the project site.

5.2.2 Liquid wastes shall be stored in corrosion-resistant containers, removed from the project site, and disposed of not less frequently than monthly unless directed otherwise. Disposal of liquid waste shall be in accordance with Federal, State and Local regulations. Fueling and lubricating of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. For oil and hazardous material spills which may be large enough to violate Federal, State and Local regulations, the Contracting Officer shall be notified immediately.

6. ATTACHED PLATE shows the interrelationship between the construction site and the Base Sanitary Landfill.

END



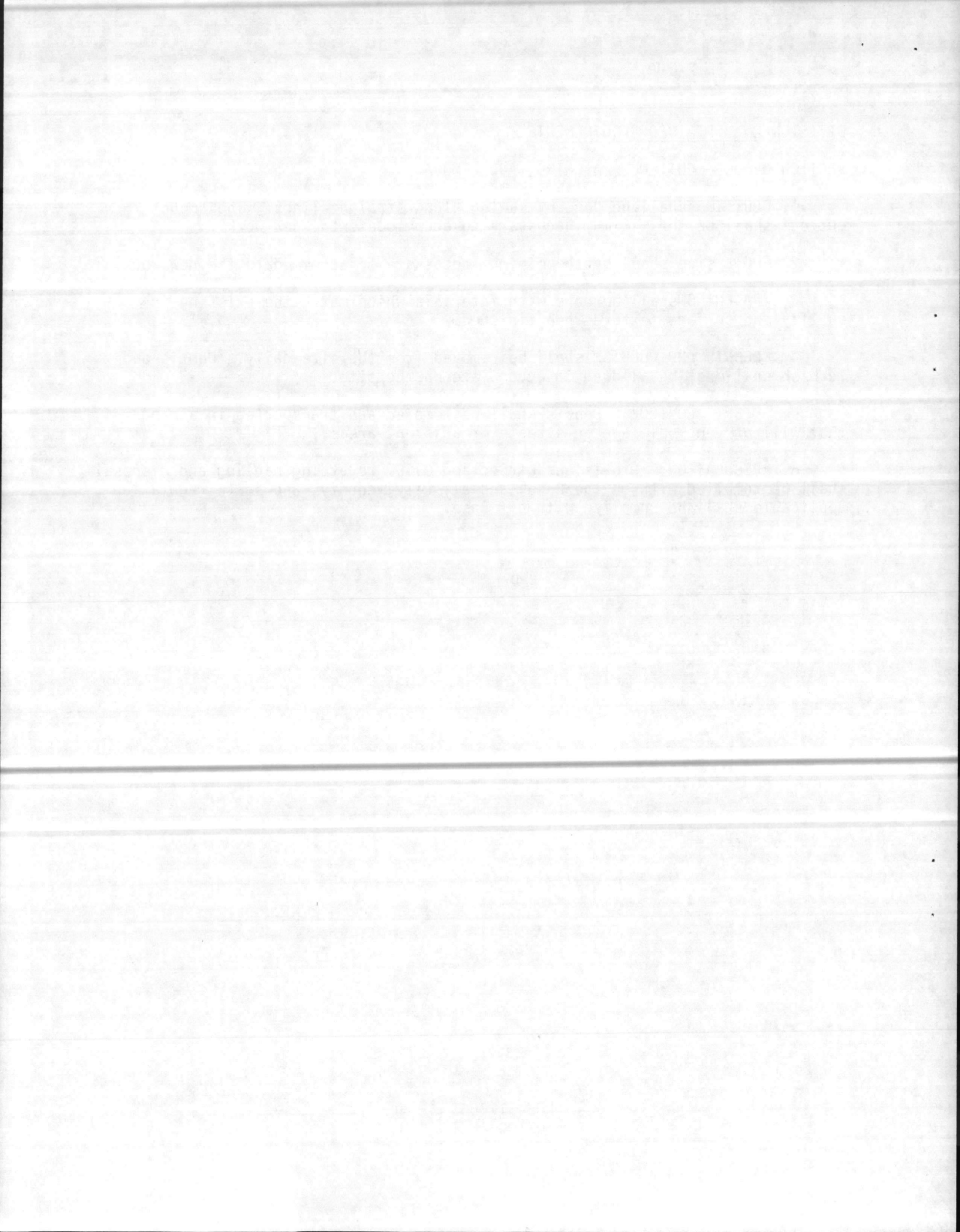


DIVISION 2. DETAILED REQUIREMENTS

SECTION 02100. CUTTING, PATCHING, AND REMOVAL

1. CUTTING shall be done by sawing along straight lines. The amount cut out shall be the minimum necessary to accommodate the new work.
2. HOLE size shall be the minimum necessary to accommodate the new work.
3. PATCHING shall be done with materials which match the existing in quality and surface texture when finished.
4. DEBRIS AND RUBBISH shall be removed from the site daily. Debris and rubbish shall not be allowed to accumulate on the site.
5. DEBRIS CONTROL: Debris shall be removed and transported in a manner that will prevent spillage on streets or adjacent areas.
6. REGULATION: Provisions of Section 01507 regarding hauling and disposal shall be complied with on the Base, and all city, county, and state regulation applicable shall be complied with off Base.

END



SECTION 02202. EARTHWORK FOR UTILITIES

1. APPLICABLE PUBLICATION: The following publication of the issue listed below, but referred to thereafter by basic designation only, forms a part of this specification to the extent indicated by references thereto:

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

D698-70 Moisture Density Relations of Soil.

2. DELIVERY AND STORAGE: Materials shall be delivered to and stored at the site in a manner which will maintain different material in segregated piles and preclude the introduction of deleterious materials.

3. ENVIRONMENTAL PROTECTION: All work and Contractor operations shall comply with the requirements specified in Section 01507.

4. PROTECTION OF UTILITY LINES: Existing utility lines which are indicated or the location of which are made known to the Contractor prior to excavating and trenching and that are to be retained, as well as utility lines constructed during excavation and trenching operations, shall be protected from damage during excavating, trenching, and backfilling and, if damaged, shall be repaired as directed by the Contracting Officer at the Contractor's expense.

5. MATERIALS:

5.1 Granular Fill for filling over excavation and for bedding of pipes shall consist of uniformly graded sand and gravel as indicated.

5.2 Soil Materials used as backfill for trenches shall consist of native material free from debris, roots, wood, and other vegetable matter and refuse. If borrow materials are needed, the Contractor shall remove them from Verona Loop borrow pit and transport to the site for use.

6. EXCAVATING, BACKFILLING AND GRADING:

6.1 General: Excavations shall be carried to contours and dimensions indicated or necessary. Excavations shall be kept free from water while construction is in progress. In the event that it is necessary to remove soft or weak soil to a depth greater than indicated, the Contracting Officer shall be notified and an adjustment in the contract price will be considered in accordance with the provisions of the contract respecting an adjustment for changed conditions. This additional excavation shall then be refilled to the proper grade with granular material and compacted to at least 95 percent ASTM D698 density. Excavations carried below the depths indicated without specific directions, shall be refilled to the proper grade with granular material and compacted to at least 95 percent ASTM D698 density. All additional work shall be at the Contractor's expense.

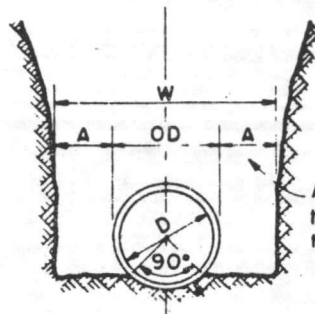
6.2 Trench Excavation: Trenches shall be of necessary width for proper laying of pipe and banks shall be as nearly vertical as practicable. Bottoms

of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of pipe sections where it is necessary to excavate for bell holes and/or proper making of pipe joints. Bell holes and depressions for joints shall be dug after trench bottom has been graded and shall be only 1/2-inch greater in length, depth, and width than the bell, as required for properly making the particular type of joint, and to insure that the bell does not bear on the bottom of the hole. When hard materials are encountered, trenches shall be cut to an over-depth of not less than 4 inches including bell holes, and backfilled to required grade for bedding with granular material to be backfilled to at least midpoint of pipe. At the option of the Contractor, the trenches may be cut to an over-depth of not less than 4 inches including bell holes, and backfilled to required grade as specified hereinbefore when hard materials are not encountered.

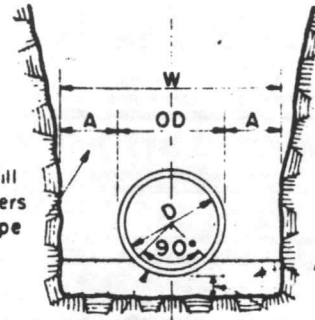
6.3 Grading: The Contractor shall perform all grading in the areas so indicated. Fill shall be brought to finished grades indicated within one-tenth of a foot and shall be graded to drain water away from structures. Existing grades which are to remain and which are disturbed by the Contractor's operations shall be graded to provide surfaces suitable for the proper use of mowing machines. Grades under areas to receive topsoil shall be brought to acceptable elevation.

7. DISPOSITION OF SURPLUS MATERIAL: Surplus material not required for filling, backfilling, or grading and other soil material shall be removed from the site by Contractor forces.

END



Approved backfill
tamped in 6" layers
to 1'-0" above pipe



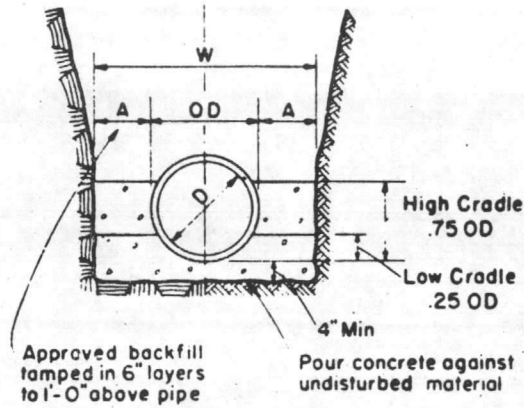
Approved fill

Bottom quadrant of pipe
bedded full length of barrel
(except pressure pipe)

4" Min

TRENCH IN EARTH

TRENCH IN ROCK



Approved backfill
tamped in 6" layers
to 1'-0" above pipe

Pour concrete against
undisturbed material

High Cradle
.75 OD

Low Cradle
.25 OD

4" Min

PIPE DIA "D"	MAXIMUM "A"
6" to 15"	8"
18" to 21"	10"
24" to 30"	12"
33" to 42"	15"
48" & Larger	18"

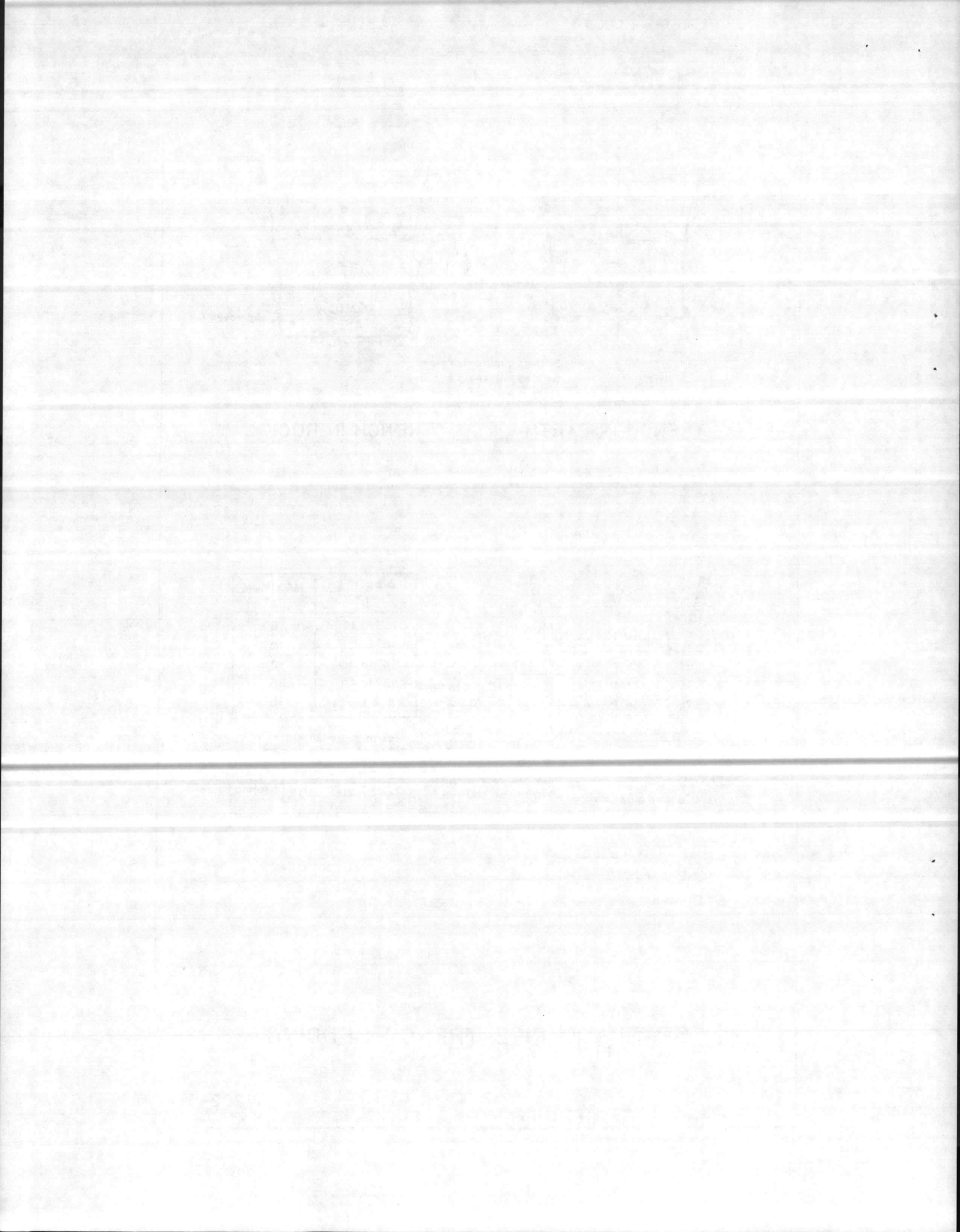
Maximum trench width "W"
taken at top of pipe

Low Cradle = 160% } of earth trench
High Cradle = 200% } bearing value

CRADLE (IN ROCK OR EARTH)

STANDARD PIPE TRENCH BEDDING

02202-1



SECTION 02713. EXTERIOR WATER DISTRIBUTION LINES

1. APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

- | | |
|----------------|---|
| D 1785-76 | Poly(Vinyl Chloride)(PVC) Plastic Pipe, Schedules 40, 80, and 120 (ANSI/ASTM D1785) |
| D 2855-78 | Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings (ANSI/ASTM D2855) |
| F 402-74 | Safe Handling of Solvent Cements Used for Joining Thermoplastic Pipe and Fittings |
| C110-77 | Gray-Iron and Ductile-Iron Fittings, 3 inch through 48 inches for Water and other Liquids (ANSI A21.10) |
| C111/A21.11-80 | Rubber Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings (ANSI/AWWA C111/A21.11) |
| C115-75 | Flanged Cast-Iron and Ductile-Iron Pipe with Threaded Flanges (ANSI/A21.15) |
| C500-71 | Gate Valves -- 3 inches through 48 inches -- for Water and other Liquids |
| C600-77 | Installation of Gray and Ductile Cast-Iron Water Mains and Appurtenances (ANSI/AWWA C600) |
| C601-68 | Disinfecting Water Mains |

2. SUBMITTALS

2.1 Manufacturer's Data: Submit manufacturer's standard drawings or catalog cuts of the following items, except where both are specified:

- a. Pipe and Fittings
- b. Joints and Couplings, including gaskets for joints (submit both drawings and cuts for push-on (and rubber-gasketed bell-and spigot) joints).
- c. Valves

2.2 Standards Compliance: Submit manufacturer's certificates of conformance or compliance for each of the following materials which are specified to conform to publications referenced under paragraph, "Materials" in this section:

- a. Pipe and Fittings
- b. Pipe Joint Materials
- c. Valves

All tests required by the applicable referenced publication shall have been performed, whether specified in that publication to be mandatory or otherwise. For tests which are not specified in the referenced publication to be performed at definite intervals during manufacture, the tests shall have been performed within three years of the date of submittal of certificates on the same type, class, grade, and size of material as is being provided for the project.

3. DELIVERY, STORAGE AND HANDLING OF MATERIALS:

3.1 Delivery and Storage: Inspect materials delivered to site for damage. Unload and store with minimum handling. Store materials on site in enclosures or under protective covering. Store plastic piping and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.

3.2 Handling: Handle pipe, fittings, valves, hydrants, and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition. Take special care to avoid injury to coatings and linings on pipe and fittings; make satisfactory repairs if coatings or linings are damaged. Carry pipe to the trench; do not drag it.

4. MATERIALS:

4.1 Piping

4.1.1 Ductile-Iron Piping (indicated as C.I.P.): Ductile-iron pipe shall conform to AWWA C151 and shall be Thickness Class 50 minimum, flanged pipe shall conform to AWWA C110. Fittings shall have pressure rating at least equivalent to that of the pipe. Ends of pipe and fittings shall be suitable for the joints specified in the following paragraph. Joints shall be flanged joints as recommended in the Appendix to AWWA C115/A21.15.

4.1.2 Polyvinyl Chloride (PVC) Plastic Piping: All plastic pipe and fittings shall bear the seal of approval of the National Sanitation Foundation for potable water service. Plastic pipe and fittings shall be supplied from the same source. Pipe shall conform to ASTM D 1785, Schedule 40; or to ASTM D 2241, with SDR as necessary to provide 150 psi minimum pressure rating. Fittings shall conform to ASTM D 2466. Pipe and fittings shall be of the same PVC plastic material and shall be one of the following pipe/fitting combinations, as marked on the pipe and fitting, respectively: (PVC 1120/PVC I; PVC 1220/PVC 12) PVC 2120/PVC II; PVC 2116/PVC II. Solvent cement for jointing shall conform to ASTM D 2564.

4.2 Gate Valves specified in this paragraph shall conform to AWWA C500, or inside-screw type with operating nut, shall have split wedge or double disc type gate, and shall be designed for a hydraulic working pressure of 175 psi. Valves shall open by counterclockwise rotation of the valve stem. Stuffing boxes shall have O-ring stem seals, except when gearing is specified in this paragraph, in which case conventional packing shall be used in place of O-ring seal. Stuffing boxes shall be bolted and constructed so as to permit easy removal of parts for repair. Valves shall have mechanical-joint or push-on joint ends and gaskets conforming to AWWA C111/A21.11. Valves shall have mechanical-joint ends only; ends and gaskets shall conform to AWWA C111/A21.11. Valves shall be of one make.

5. INSTALLATION OF PIPELINES:

5.1 General Requirements: These requirements shall apply to all pipeline installation except where specific exception is made in the "Special Requirements..." paragraphs hereunder.

5.1.1 Pipe Laying and Jointing: Pipe, fittings, valves, and accessories will be carefully inspected by the Contracting Officer before and after installation and those found defective will be rejected. Remove fins and burrs from pipe and fittings. Before placing in position, clean pipe, fittings, valves, and accessories and maintain in a clean condition. Provide proper facilities for lowering sections of pipe into trenches. Do not under any circumstances drop or dump pipe, fittings, valves, or any other water line material into trenches. Cut pipe accurately to measurements established at the site and work into place without springing or forcing. Replace by one of the proper dimensions any pipe or fitting that does not allow sufficient space for proper installation of jointing material. Blocking or wedging between bells and spigots will not be permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying. Grade the pipeline in straight lines, taking care to avoid the formation of any dips or low points. Support pipe at its proper elevation and grade, taking care to secure firm and uniform support. Wood support blocking will not be permitted. Lay pipe so that the full length of each section of pipe and each fitting will rest solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings. Provide anchors and supports (where indicated and) where necessary for fastening work into place. Make proper provision for expansion and contraction of pipelines. Keep trenches free of water until joints have been properly made. At the end of each day's work, close open ends of pipe temporarily with wood blocks or bulkheads. Do not lay pipe when conditions of trench or weather are unsuitable.

5.1.3 Connections to Existing Lines: Make connections to existing water lines in an approved manner and do so with a minimum interruption of service on the existing line. Where connections to existing lines are made under pressure, make these connections in accordance with the recommendations of a manufacturer of pipe of which the line being tapped is made.

5.2 Special Requirements for Installation of Ductile-Iron Piping:

5.2.1 Installation, General: Install pipe and fittings in accordance with the general requirements for installation of pipelines and with the requirements of AWWA C600 for pipe installation, joint assembly, valve-and-fitting installation and thrust restraint, except as otherwise specified in the other subparagraphs hereunder.

5.2.2 Jointing: Make mechanical-joints with the gaskets, glands, bolts, and nuts previously specified for this type joint; assemble these joints in accordance with the applicable requirements of AWWA C600 for joint assembly and with the recommendations of Appendix A to AWWA C111/A21.11. Make flanged joints with the gaskets, bolts, and nuts previously specified for this type joint. Make flanged joints up tight, taking care to avoid undue strain on flanges, fittings, valves, and other accessories. Align bolt holes for each flanged joint. Use full size bolts for the bolt holes; use of undersized bolts to make up for misalignment of bolt holes or for any other purpose will not be permitted. Do not allow adjoining flange faces to be out of parallel to such degree that the flanged joint cannot be made watertight without overstraining the flange. When any flanged pipe or fitting has dimensions that do not allow the making of a proper flanged joint as specified in this paragraph, replace it by one of proper dimensions.

5.2.3 Pipe Anchorage: Provide concrete thrust blocks. Thrust blocks shall be in accordance with the requirements of AWWA C600 for thrust restraint, except as otherwise indicated.

5.3 Installation of Valves: Install gate valves in accordance with the requirements of AWWA C600 for valve-and-fitting installation. (Install check valves in accordance with the applicable requirements of AWWA C600 for valve-and-fitting installation (except as otherwise indicated).) Make and assemble joints to gate valves (and check valves) as previously specified for making and assembling the same type joints between pipe and fittings.

5.4 Installation, General: Connect water service piping to the building service where the building service has been installed. Where building service has not been installed, terminate water service lines approximately five feet from the building line at a point directed by the Contracting Officer; such water service lines shall be closed with plugs or caps.

5.4.1 Metallic Piping Installation, General: Install pipe and fittings in accordance with the general requirements for installation of pipelines and with the applicable requirements of AWWA C600 for pipe installation, except as otherwise specified in the other subparagraphs hereunder.

5.4.2 Plastic Piping Installation, General: Install pipe and fittings in accordance with the general requirements for installation of pipelines and with the applicable requirements of ASTM D2855, except as otherwise specified in the other subparagraphs hereunder. Handle solvent cements used to join plastic piping in accordance with ASTM F 402.

5.4.2.1 Make solvent-cemented joints for PVC plastic piping using the solvent cement previously specified for this material; assemble joints in accordance with ASTM D 2855. Make plastic pipe joints to other pipe materials in accordance with the recommendations of the plastic pipe manufacturer, as approved.

5.5 Disinfection: Flush and disinfect new potable water lines and affected portions of existing potable water lines in accordance with AWWA C601. Apply chlorine by the continuous feed method.

6. FIELD TESTS AND INSPECTIONS:

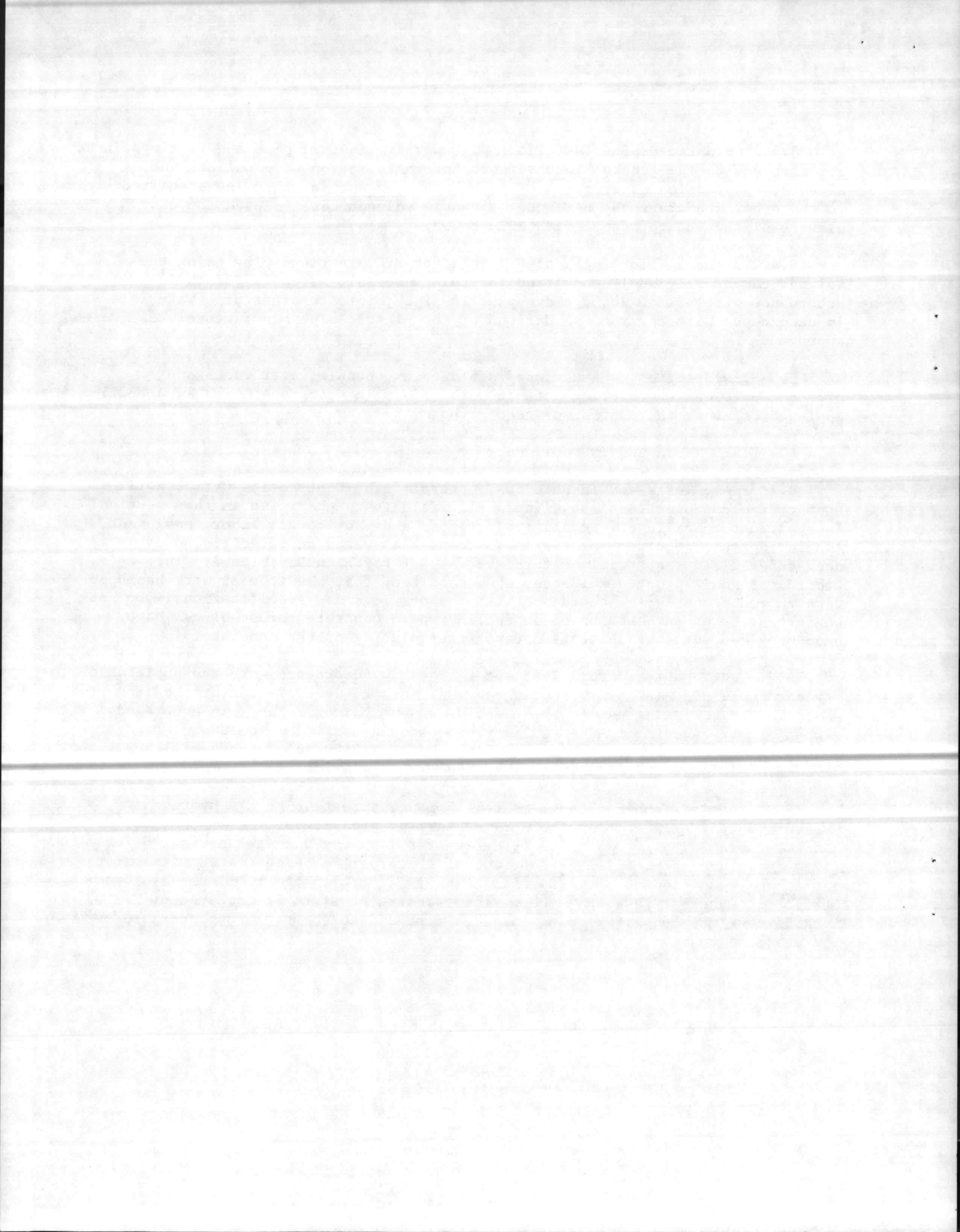
6.1 Field Tests and Inspections, General: The Contracting Officer will conduct field inspections and witness all field tests specified in this section. The Contractor shall perform all field tests, and provide all labor, equipment, and incidentals required for testing, except that water and electric power needed for field tests will be furnished as set forth in Division 1. The Contractor shall produce evidence, when required, that any item of work has been constructed properly in accordance with the drawings and specifications. Do not begin testing on any section of a pipeline where concrete thrust blocks have been provided until at least five days after placing of the concrete.

6.2 Testing Procedure: Test water lines in accordance with the applicable standard specified in this paragraph, except for the special testing requirements given in the following paragraph. Test ductile-iron water lines in accordance with the requirements of AWWA C600 for hydrostatic testing. The amount of leakage shall not exceed the amounts given in AWWA C600; no leakage will be allowed at joints made by any other method.

6.3 Special Testing Requirements: For pressure test, use a hydrostatic pressure 50 psi greater than the maximum working pressure of the system, but not less than 200 psi. Hold this pressure for not less than two hours. Prior to the pressure test, fill that portion of the pipeline being tested with water for a soaking period of not less than 24 hours. For leakage test, use a hydrostatic pressure not less than the maximum working pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test.

END

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02713 - 5



SECTION 02822. ESTABLISHING VEGETATION

1. GENERAL REQUIREMENTS: The work includes seedbed preparation, liming, fertilizing and seeding of all areas where natural soil conditions have been disturbed by this contract.

2. MATERIALS:

a. Fill shall be obtained from a Base-provided pit located within five miles of the construction site. Fill shall be free from roots, wood, or scrap material, and other vegetable matter and refuse. Fill shall be friable sandy loam with pH 6.0 to 7.0, soluble salts less than 550 ppm, high organic matter content, which is capable of producing satisfactory agricultural crops.

b. Lime shall be ground dolomitic agricultural limestone containing 10 percent Magnesium Oxide.

c. Fertilizer shall be standard commercial product of 10-10-10 analysis.

d. Seed shall be 65 percent Ky-31 Fescue, 15 percent Annual Ryegrass, and 20 percent Bermuda (unhulled) and shall be certified seed or equivalent based on North Carolina Seed Improvement Association requirements for certification.

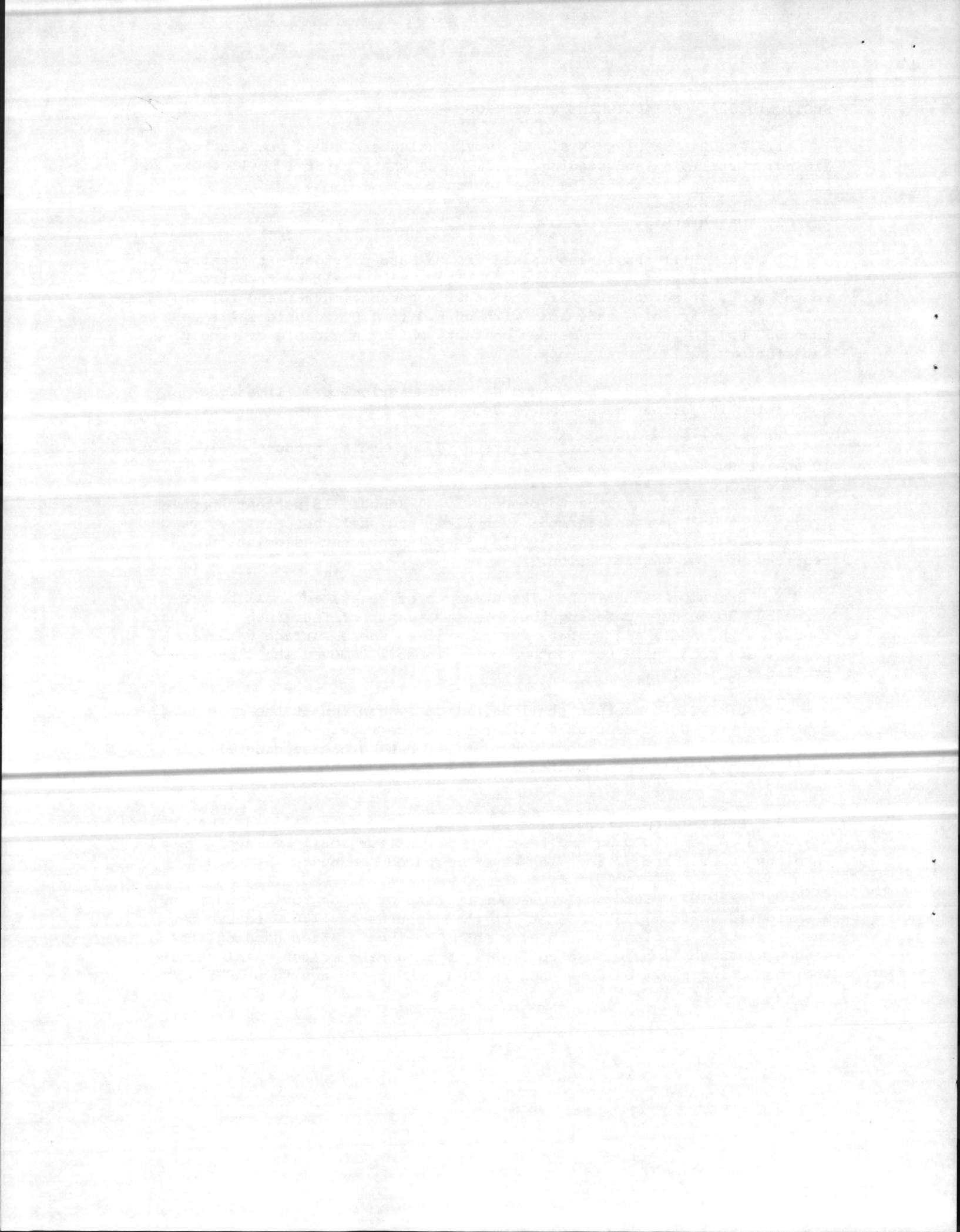
3. SEEDBED PREPARATION: The areas to be vegetated shall be prepared by thoroughly loosening the soil to a depth of four inches. After loosening the soil, all surface irregularities where surface water could collect and pond shall be smoothed out. Topsoil removed shall be reinstalled and leveled.

4. LIMING: Limestone shall be uniformly applied at the rate of 40 pounds per 1,000 square feet to all areas to be vegetated. Limestone shall be applied after seedbed preparation, but before seeding lime shall be thoroughly incorporated into the entire depth of prepared seedbed.

5. FERTILIZING: Fertilizer shall be uniformly applied at the rate of 25 pounds per 1,000 square feet. The fertilizer shall be incorporated into the upper three or four inches of prepared seedbed.

6. SEEDING: Seed shall be sown by hand or an approved seeder and distributed uniformly at the rate of three pounds per 1,000 square feet. The seed shall be planted no deeper than 1/4-inch. After seeding, the seeded areas shall be compacted lightly with a hand roller. All seeding and compacting shall be done when weather conditions are favorable and not when seedbed is wet.

END



SECTION 03300. CAST-IN-PLACE CONCRETE

1. APPLICABLE PUBLICATIONS: The following publications form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. Where a number in parenthesis is suffixed to the publication number, it denotes the effective amendment to the publication.

AMERICAN CONCRETE INSTITUTE (ACI):

ACI 305-1977	Recommended Practice for Hot Weather Concrete
ACI 306-1966	Recommended Practice for Cold Weather Concrete
ACI 308-1971	Curing Concrete
ACI 315-1974	Manual of Standard Practice for Detailing Reinforced Concrete Structures
ACI 318-1977	Building Code Requirements for Reinforced Concrete
ACI 347-1978	Recommended Practice for Concrete Formwork

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

C94-1978	Ready-Mixed Concrete
C150-1980	Portland Cement

2. QUALITY CONTROL provisions of Division 1 apply to this section.

3. SUBMITTALS: The testing requirements for materials incorporated in reference documents will be waived provided the Contractor submits notarized certificates from the manufacturer stating that the products furnished for this project conform to all requirements of the specifications and the reference documents.

4. MATERIALS shall conform to the requirements and reference documents listed.

4.1 Concrete shall be high early strength type ready-mixed concrete conforming to ASTM C94 and C150 with 3000 psi compressive strength at seven days.

4.2 Formwork shall conform to ACI 347.

4.3 Curing concrete shall conform to ACI 308.

5. WORKMANSHIP: All work shall meet requirements of ACI 318. The surface immediately under concrete installed on grade shall be wetted as directed immediately before the concrete is placed. Reinforcing shall be placed prior to beginning concrete pour. Where concrete abuts, adjoins, or overlays existing concrete, approved expansion joints, bonding agents, or surface preparations shall be used.

5.1 Cold weather concrete work shall conform to ACI 306.

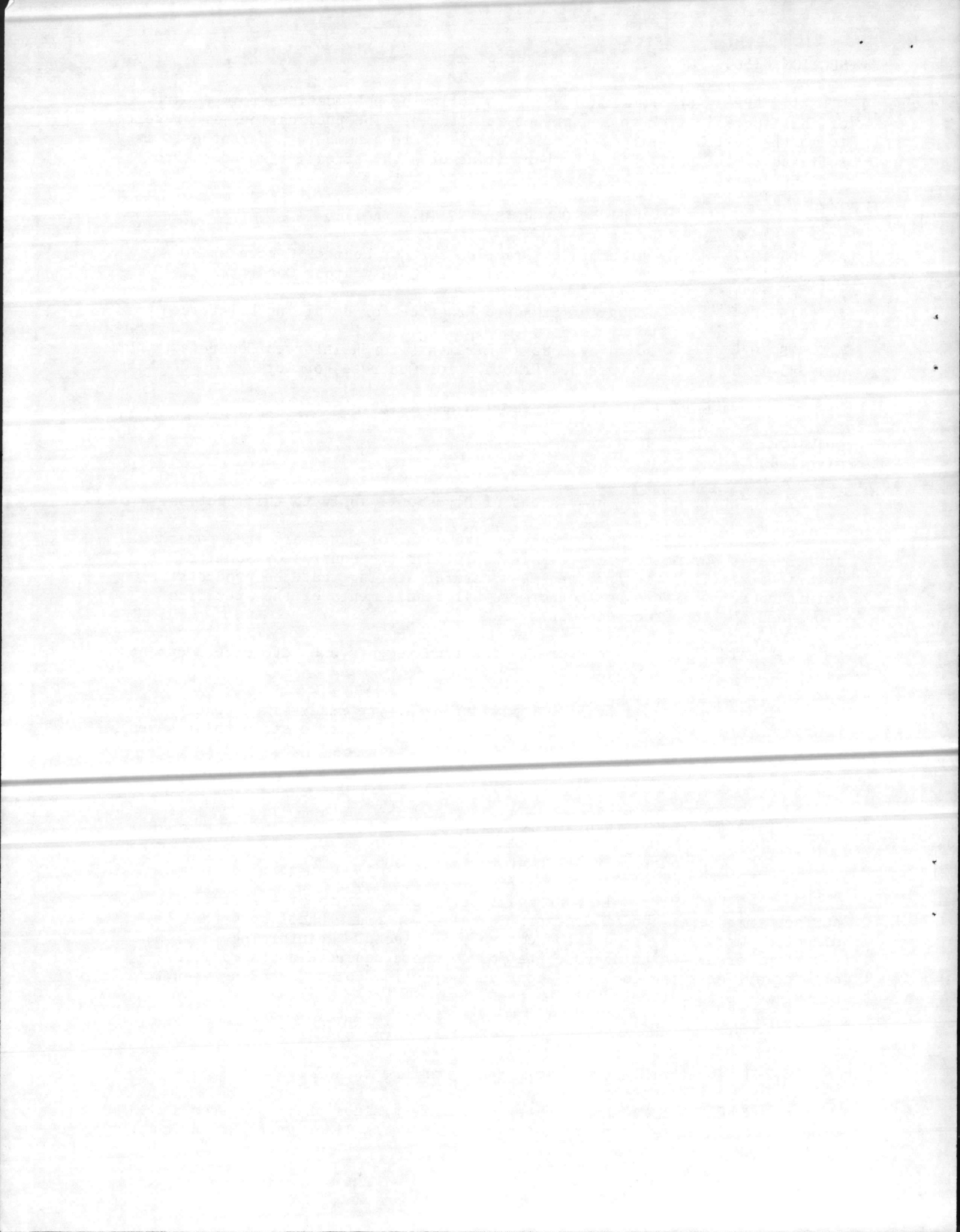
5.2 Hot weather concrete work shall conform to ACI 305.

6. CONCRETE FINISHES: Exterior concrete slabs shall be given a broomed finish after steel troweling. Brooming shall be at right angles to the long dimension of the slab.

END

05-81-3563

03300 - 1



SECTION 05500. MISCELLANEOUS METALS

1. APPLICABLE PUBLICATIONS: The following publications of the issues listed below, but referred to thereafter by basic designation only, form a part of this specification to the extent indicated by the references thereto.

American Society for Testing and Materials (ASTM):

A153-73 Zinc-Coating (Hot-Dip) on Iron and Steel Hardware.
A525-76 Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.

2. ZINC-COATING shall be applied to all ferrous metals. Zinc-coating shall conform to ASTM A153 or ASTM A525, coating G90.

3. NON-FERROUS METALS shall be protected from corrosion by a coating according to manufacturer's recommendation.

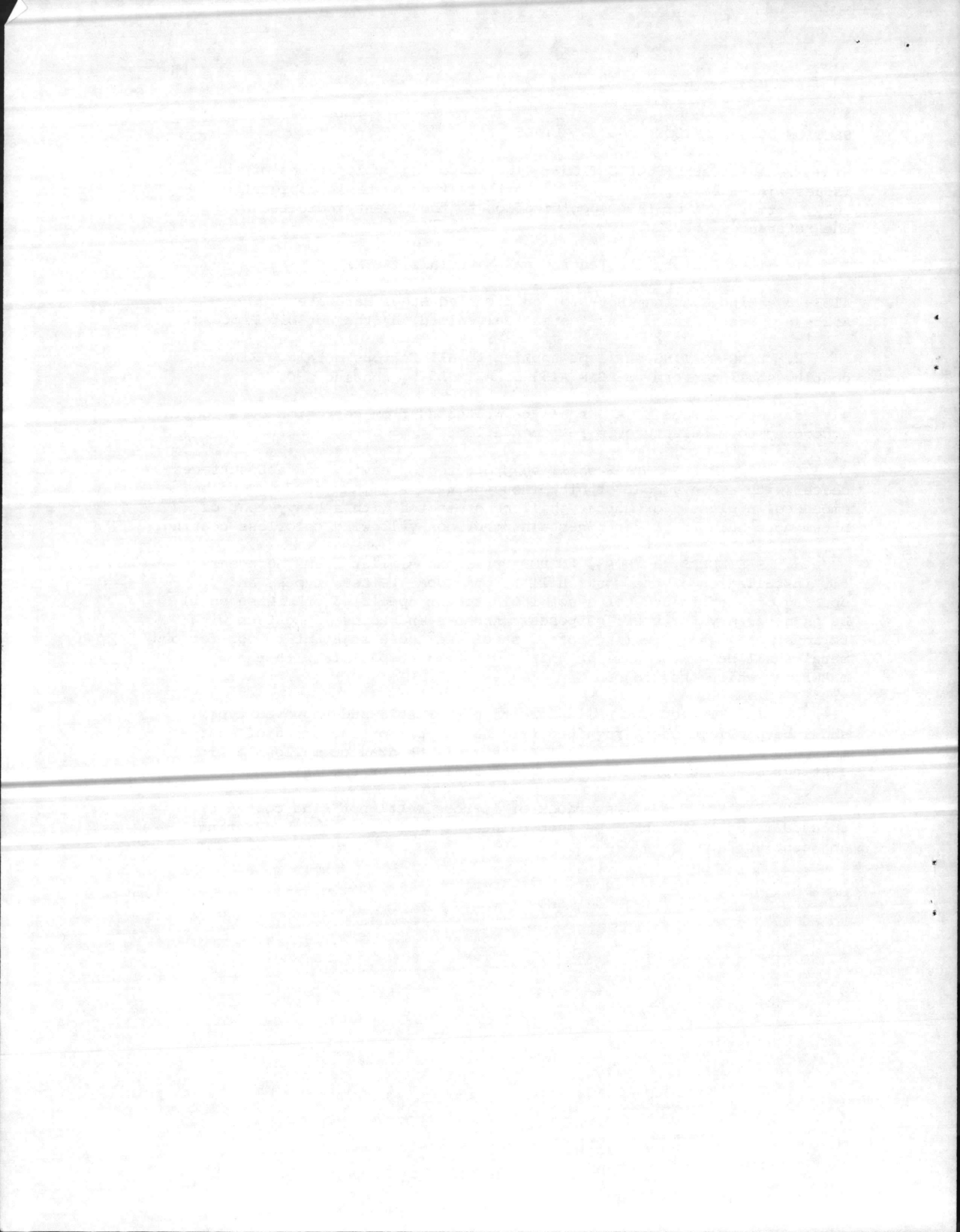
4. DISSIMILAR METALS shall be protected by having contact surfaces coated with a heavy coat of bituminous paint. Aluminum surfaces to be embedded in plaster or mortar shall be protected with a heavy coat of bituminous paint or clear non-staining or non-yellowing colorless coating.

5. FASTENERS, ANCHORS, ANCHOR BOLTS and similar items necessary for installation of the work shall be provided. Sizes, types, and spacing of anchors and bolts not indicated or specified otherwise shall be as necessary for their purposes. Anchors and bolts in contact with ferrous metal shall be zinc-coated steel and those adjacent to non-ferrous metal shall be of the same or approved metals compatible with the materials which they adjoin.

6. INSERTS AND SLEEVES: Inserts of suitable and approved types shall be provided where required for the support or anchorage of equipment and finish construction. Inserts shall be gray or malleable iron castings or of galvanized steel unless indicated or specified otherwise.

7. FINISHING: All surfaces of ferrous metal not zinc-coated or encased in concrete shall be shop painted in colors to match existing adjacent surfaces.

END



SUPERSEDEAS DECISION

STATE: NORTH CAROLINA

COUNTIES: BRUNSWICK, CARTERET, COLUMBUS, CRAVEN, DUPLIN, JONES, LENOIR,
NEW HANOVER, ONSLOW, PAMLICO, AND PENDER

DECISION NUMBER: NC81-1201

DATE: DATE OF PUBLICATION

Supersedes Decisions Number NC81-1181, dated January 23, 1981, 46 FR 7745;
Number NC81-1182, dated January 23, 1981, 46 FR 7744; Number NC81-1147, dated
December 30, 1980, 45 FR 86200.

DESCRIPTION OF WORK: BUILDING CONSTRUCTION PROJECTS (does not include single
family homes and apartments up to and including four stories).

	Basic Hr. Rate	Fringe Benefits Payments			
		H&W	Pensions	Vaca- tion	Edu and/or Appr. Tr.
Asbestos Workers	\$7.26				
Bricklayers	7.10				
Carpenters	6.02				
Cement masons	5.68				
Drywall mechanics	7.00				
Electricians	6.22				
Electronic Technicians	4.50				
Glaziers	5.38				
Ironworkers	6.66				
Laborers:					
Laborers - General	3.78				
Pipe layers	4.94				
Millworkers	9.45				
Painters	5.00				
Plasters	6.00				
Plumbers & Pipefitters	6.52				
Roofers	5.91				
Sheet Metal Workers	6.38				
Soft Floor Layers	7.00				
Sprinkler Fitters	7.95				
Tile Setters	6.00				
Truck Drivers	3.90				
Welders - Rate for Craft					
Power Equipment Operators:					
Asphalt Raker	4.27				
Backhoe	5.32				
Bulldozer	5.25				
Crane	6.80				
Distributor	4.70				
Fork lift	6.50				
Front end loader	4.50				
Motor grader	5.36				
Paver - screed	4.25				
Roller	5.00				
Scraper - pan	4.60				
Tractor	5.00				

Unlisted classifications needed for work not included within the scope of the
classifications listed may be added after award only as provided in the labor
standards contract clause (29 CFR, 5.5(a)(1)(ii)).

