

AMENDMENT INSTRUCTIONS

AMENDMENT CHANGES

1. Changes to any specification section will result in the entire section being reissued, with the amendment changes shown underlined and the amendment number (i.e. #2) inserted in the left-hand margin to the left of the change or to the left of the paragraph number.
2. Each reissued section or new section will bear the following notation in the header, on every page:

“ACCOMPANYING AMENDMENT NO. 000_ TO SOLICITATION NO. DACA63-97-B-00__.”
3. New sections will be reissued with the amendment header above only.
4. Changes within a paragraph: The paragraph will be rewritten to the corrected version, with the changed phrases or sentences underlined.
5. Deletions:
 - (1) Paragraphs deleted by the amendment are indicated by the word “DELETED” next to the paragraph number. The previous paragraph text will be gone.
 - (2) Deleted lines, such as a deleted reference publication: The publication will be deleted from the REFERENCE paragraph but the space on the page where the publication was will be replaced by blank line with the “#2” in the left-hand margin.
 - (3) Deleted sentences are replaced by a blank line with a period at the end (_____).
6. Changes within a revised section can be located by reviewing the entire section or by searching for the “#” sign. On the Acrobat Reader screen, click on the binocular icon, type “#” or “Am” in the FIND WHAT space, then click on the FIND button.

2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 7 MAY 98	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
6. ISSUED BY Department of the Army Corps of Engineers Fort Worth District		7. ADMINISTERED BY (If other than Item 6)	

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(√)	9A. AMENDMENT OF SOLICITATION NO. DACA63-98-B-0003
	(X)	9B. DATED (SEE ITEM 11) 9 APRIL 1998
		10A. MODIFICATION OF CONTRACTS/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(√)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The Solicitation for BLOOD DONOR CENTER, LACKLAND AIR FORCE BASE, SAN ANTONIO, TEXAS, is amended as follows:

See Continuation Sheet.

NOTE: The Bid Opening date remains "19 MAY 1998, 2 p.m., CST as previously announced.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED
	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)
	16C. DATE SIGNED

Blood Donor Center, Lackland AFB, Texas

. Drawings

1. Drawing C1.01, Sequence 0008, SITE DETAILS, Details 04/C1.04/C1.04 and 05/C1.04/C1.04, FENCE SECTION and PILASTER SECTION - Revise details as per Attachments No. 1 and 2.
2. Drawing A2.01, Sequence 0029, FLOOR PLAN AREA A, ROOM A104 and ROOM A105 - Add the following note to each room: "Wainscot height at walls where plumbing fixtures are located shall be 2030mm high. Wainscot height at all other walls shall be 1320mm high".
3. Drawing A8.03, Sequence 0052, INTERIOR ELEVATIONS, ELEVATION 07 - Revise elevation as per Attachment No.3.
4. Drawing A8.04, Sequence 0053, INTERIOR ELEVATIONS, ELEVATION 06B - Revise elevation as per Attachment No.4.
5. Drawing A10.02, Sequence 0060, INTERIOR DETAILS, DETAIL 06 - Delete detail and replace with new attached detail(Attachment No.5).

. Specifications

1. Replace the following sections with the accompanying new sections of the same title and number, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-B-0003":

<u>Section No.</u>	<u>Title</u>
01451	CONTRACTOR QUALITY CONTROL
02935	TURF

End of Amendment

ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-B-0003

SECTION 01451

CONTRACTOR QUALITY CONTROL

10/94

PART

1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

\-ASTM D 3740-\ (1994a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

\-ASTM E 329-\ (1993b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause entitled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the contract. The project superintendent in this context shall mean the individual with the responsibility for the overall management of the project including quality and production.

3.2 QUALITY CONTROL PLAN

3.2.1 General

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The Contractor shall furnish for review by the Government, not later than 10 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause entitled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Government will consider an interim plan for the first 60 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters will also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section \=01300=\ SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.

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- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 5 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 General

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure contract compliance. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within his organization at the site of the work who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of two years construction experience on construction similar to this contract or a construction person with a minimum of five years in related work. This CQC System Manager shall be on the site at all times during construction and will be employed by the prime Contractor. The CQC System Manager shall be assigned no other duties. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate will be the same as for the designated CQC System Manager.

3.4.3 CQC Personnel

3.4.3.1 CQC Staff

A staff shall be maintained under the direction of the CQC system manager to perform all QC activities. The staff must be of sufficient size to ensure adequate QC coverage of all work phases, work shifts and work crews involved with the construction. These personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned QC responsibilities and must be allowed sufficient time to carry out these responsibilities.

Am #2

3.4.3.2 Specialized CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: electrical and mechanical. These individuals shall be directly employed by the prime Contractor; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals shall have no other duties other than quality control. One person, if qualified, can hold both positions.

Experience Matrix

Area	Qualifications
a. <u>Mechanical</u>	<u>Graduate Mechanical Engineer with 2 yrs experience or person with 5 yrs related experience</u>
b. <u>Electrical</u>	<u>Graduate Electrical Engineer with 2 yrs related experience</u>

or person with 5 yrs related
experience

3.4.4 Additional Requirement

In addition to the above experience and education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at the Fort Worth District, Corps of Engineers Office, Federal Building, Room 1A03, 819 Taylor Street, Fort Worth, Texas. It will be offered at the following times:

5 May 1998
28 July 1998
3 November 1998

Registration is required; call (817) 978-2161 for reservations. Each class will be limited to 30 students. If the demand is greater than what is currently scheduled, additional classes will be scheduled.

3.4.5 Organizational Changes

The Contractor shall maintain his CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS

Submittals shall be made as specified in Section \=01300=\ SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved. (Only coded A or B shop drawing submittals will be considered "as approved." Submittals other than those coded A or B required

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to be resubmitted will delay the preparatory phase meeting until they have been resubmitted and approved.)

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 72 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

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f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, onsite production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, will be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control

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number identifying the test will be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in \-ASTM D 3740-\ and \-ASTM E 329-\.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$500 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 On-Site Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Government-contract laboratory designated by the Area Office. Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Special Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second

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inspection to ascertain that all deficiencies have been corrected. Once this is accomplished the Contractor shall notify the Government that the facility is ready for the Government "Pre-Final" inspection. Written notice shall be given to the Contracting Officer at least 14 days prior to the pre-final inspection and shall include the Contractor's assurance that all specific items previously identified, along with all remaining work, will be completed and acceptable by the date scheduled for the pre-final inspection.

3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government "Pre-Final Punch List" may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected and so notify the Government so that a "Final" inspection with the customer can be scheduled. Any items noted on the "Pre-Final" inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, his superintendent or other primary management person and the contracting Officer's representative will be in attendance at this inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice will be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and must include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause entitled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

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- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 12 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

- a. Minimum construction quality control report and the required preparatory and initial inspection documentation.
- b. All tests of piping systems or portions thereof shall be recorded on the "Piping System Test Report."
- c. When operation and maintenance instructions for equipment are furnished to Government representatives by the Contractor, the Contractor's representative shall record on a form similar to that attached hereto the applicable data, including the name, organization, and signature of each person attending the instructions.

Sample forms enclosed at the end of this section.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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(Sample of typical Contractor Quality Control Report)

CONTRACTOR'S NAME
(Address)

DAILY CONSTRUCTION QUALITY CONTROL REPORT

Date: _____ Report No. _____

Contract No.: _____

Description and Location of work: _____

WEATHER: (Clear) (P. Cloudy) (Cloudy); Temperature: _____ Min. _____ Max;
Rainfall _____ inches.

Contractor/Subcontractors and Area of Responsibility with Labor Count for Each

- a. _____
- b. _____
- c. _____
- d. _____

Equipment Data: (Indicate items of construction equipment, other than hand tools, at the job site, and whether or not used.) _____

1. **Work Performed Today:** (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in Table above. If no work is performed, report the reason.) _____

2. **Results of Surveillance:** (Include satisfactory work completed, or deficiencies with action to be taken.)

- a. Preparatory Inspection: _____
- b. Initial Inspection: _____
- c. Follow-up Inspections: _____

3. **Test Required by Plans and/or Specifications performed and Results of Tests:**

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4. **Verbal Instructions Received:** (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

5. **Remarks:** (Cover any conflicts in plans, specifications, or instructions or any delay to the job.)

6. **Results of Safety Inspection:** (Include safety violations and corrective actions taken.)

Contractor's Inspector

CONTRACTOR'S VERIFICATION: The above report is complete and correct and all material and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications except as noted above.

Contractor's Chief of Quality Control

NOTE

DO NOT LEAVE REPORT ITEMS BLANK

Items 1. through 6. must be reported every day. If there is no other report on an item, enter the work "none" in the reporting space. Reports with items left blank will be returned as incomplete.

PREPARATORY PHASE CHECKLIST

Contract No. _____ Date: _____

Definable Feature: _____ Spec Section: _____

Gov't Rep Notified _____ Hours in Advance Yes _____ No _____

I. Personnel Present:

	<u>Name</u>	<u>Position</u>	<u>Company/Government</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

(List additional personnel on reverse side)

II. Submittals

1. Review submittals and/or submittal log 4288.

Have all submittals been approved? Yes _____ No _____

If no, what items have not been submitted?

- a. _____
- b. _____
- c. _____

2. Are all materials on hand? Yes _____ No _____

If no, what items are missing?

- a. _____
- b. _____
- c. _____

3. Check approved submittals against delivered materials. (This should be done as material arrives.)

Comments _____

III. Material storage

Are materials stored properly? Yes _____ No _____

If No, what action is taken? _____

IV. Specifications

1. Review each paragraph of specifications.

2. Discuss procedure for accomplishing the work.

3. Clarify any differences.

V. Preliminary Work and Permits

Ensure preliminary work is correct and permits are on file.

If not, what action is taken? _____

VI. Testing

1. Identify test to be performed, frequency, and by whom.

2. When required?

3. Where required?

4. Reviewing Testing Plan.

5. Have test facilities been approved?

VII. Safety

1. Review applicable portion of EM 385-1-1.

2. Activity Hazard Analysis approved? Yes _____ No _____

VIII. Corps of Engineers comments during meeting.

CQC REP

INITIAL PHASE CHECKLIST

Contract No. _____ Date: _____

Definable Feature: _____

Gov't Rep Notified _____ Hours in Advance Yes _____ No _____

I. Personnel Present:

	<u>Name</u>	<u>Position</u>	<u>Company/Government</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

(List additional personnel on reverse side)

ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-B-0003

II. Identify full compliance with procedures identified at preparatory. Coordinate plans, specifications, and submittals.

Comments

III. Preliminary Work. Ensure preliminary work is complete and correct. If not, what action is taken?

IV. Establish Level of Workmanship.

1. Where is work located? _____

2. Is a sample panel required? Yes _____ No _____

3. Will the initial work be considered as a sample?

Yes _____ No _____

(If yes, maintain in present condition as long as possible.)

V. Resolve any differences.

Comments

VI. Check Safety

Review job conditions using EM 385-1-1 and job hazard analysis.

Comments _____

CQC REP

ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-B-0003

PIPING SYSTEM TEST REPORT

STRUCTURE OR BUILDING _____

CONTRACT NO. _____

DESCRIPTION OF SYSTEM OR PART OF SYSTEM TESTED: _____

DESCRIPTION OF TEST: _____

NAME AND TITLE OF PERSON IN CHARGE OF PERFORMING TESTS FOR CONTRACTOR:

NAME _____

TITLE _____

SIGNATURE _____

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED SYSTEM HAS BEEN TESTED AS INDICATED ABOVE AND FOUND TO BE ENTIRELY SATISFACTORY AS REQUIRED IN THE CONTRACT SPECIFICATIONS.

SIGNATURE OF INSPECTOR _____

DATE _____

REMARKS: _____

SECTION 02935

TURF

PART

1 - GENERAL

1.1 REFERENCES

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

AGRICULTURAL MARKETING SERVICE (AMS)

\-AMS-01-\ (Amended thru: Aug 1988) Federal Seed Act Regulations (Part 201-202)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

\-ASTM C 136-\ (1984) Sieve or Screen Analysis of Fine and Coarse Aggregates.

\-ASTM D 977-\ (1991) Emulsified Asphalt

\-ASTM D 2028-\ (1976; R 1992) Cutback Asphalt (Rapid-Curing Type)

\-ASTM D 2607-\ (1969) Peats, Mosses, Humus, and Related Products

COMMERCIAL ITEM DESCRIPTIONS (CID)

\-CID A-A-1909-\ (Basic; Notice 1) Fertilizer

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section \=01300=\ SUBMITTAL PROCEDURES:

SD-01 Data\

Manufacturer's Literature\; *FIO*\.

Manufacturer's literature discussing physical characteristics, application and installation instructions for erosion control material, and for chemical treatment material.

SD-07 Schedules\

Equipment List\; *FIO*\.

A list of proposed pesticide application, seeding and mulching equipment to be used in performance of turfing operation, including descriptive data and calibration tests.

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SD-08 Statements\

Delivery\; *FI0*\.

Delivery schedule, at least 10 days prior to the intended date of the first delivery.

Application of Pesticide\; *FI0*\.

Pesticide treatment plan with proposed sequence of pesticide treatment work. The pesticide trade name, chemical composition, formulation, concentration, application rate of active ingredients and method of application for all materials; and the name and state license number of the state certified applicator shall be included.

Maintenance Report\; *FI0*\.

Written record of maintenance work performed.

Turf Establishment Period\; *FI0*\.

Written calendar time period for the turf establishment period. When there is more than one turf establishment period, the boundaries of the turfed area covered for each period shall be described.

SD-13 Certificates\

Certificates of compliance certifying that materials meet the requirements specified, prior to the delivery of materials. Certified copies of the reports for the following materials shall be included:

Seed\; *FI0*\.

For mixture, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, date tested and state certification.

Sod\; *FI0*\.

For species, mixture percentage, percent purity, field location.

Fertilizer\; *FI0*\.

For chemical analysis, composition percent.

Agricultural Limestone\; *FI0*\.

For calcium carbonate equivalent and sieve analysis.

Peat\; *FI0*\.

For compliance with \-ASTM D 2607-\.

Asphalt Adhesive\; *FI0*\.

For compliance with \-ASTM D 977-\ and \-ASTM D 2028-\.

Pesticide Material\; *FI0*\.

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For EPA registration number and registered uses.

Topsoil\; *FI0*\.

For pH, particle size, chemical analysis and mechanical analysis.

1.3 SOURCE INSPECTIONS

Sod material will be subject to inspection by the Contracting Officer at the growing site.

1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

1.4.1 *Delivery*\

1.4.1.1 Protection

Sod shall be protected from drying out and contamination during delivery.

1.4.1.2 Topsoil

A soil test shall be provided for topsoil delivered to the site.

1.4.1.3 Soil Amendments

Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

1.4.1.4 Pesticide

Pesticide material shall be delivered to the site in the original, unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration number and the manufacturer's registered uses.

1.4.2 Inspection

Seed, sod and/or sprigs shall be inspected upon arrival at the job site by the Contracting Officer for conformity to type and quality in accordance with paragraph MATERIALS. Other materials shall be inspected for meeting specified requirements and unacceptable materials shall be removed from the job site.

1.4.3 Storage

Materials shall be stored in areas designated by the Contracting Officer. Sod shall be lightly sprinkled with water, covered with moist burlap, straw, or other covering and protected from exposure to wind and direct sunlight until planted. Covering for sod shall allow air to circulate and prevent internal heat from building up. Seed, lime and fertilizer shall be stored in cool, dry locations away from contaminants. Chemical treatment materials shall not be stored with other landscape materials.

1.4.4 Handling

1.4.4.1 Materials

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Care shall be taken to avoid injury to sod. Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

1.4.4.2 Time Limitation

a. Sod: Limitation of the time between harvesting and placing of sod shall be 36 hours.

b. Sprigs: Limitation of time between harvesting and placing of sprigs shall be 24 hours.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Seed

2.1.1.1 Seed Classification

State-approved seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material. Labels shall be in conformance with \-AMS-01-\ and applicable state seed laws.

2.1.1.2 Seed Mixtures

Seed mixtures shall be proportioned by weight as follows:

Botanical Name	Common Name	Hulled or Unhulled	Percent Pure Live Seed
Cynodon Dactylon	Common Bermuda Grass	Hulled	82

2.1.1.3 Quality

Weed seed shall not exceed 1 percent by weight of the total mixture. Wet, moldy, or otherwise damaged seed shall be rejected.

2.1.1.4 Not used

2.1.1.5 Not used

2.1.1.6 Seed Mixing

The field mixing of seed shall be performed on site in the presence of the Contracting Officer.

2.1.2 Sod

2.1.2.1 Sod Classification

State-approved sod shall be provided as classified by applicable state laws. Each individual sod section shall be of a size to permit rolling and lifting without breaking.

2.1.2.2 Grass Species

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Grass species shall be proportioned as follows:

<u>Botanical Name</u>	<u>Common Name</u>	<u>Mixture Percent</u>
Cynodon Dactylon	Common Bermuda	90

2.1.2.3 Quality

The sod shall be relatively free of thatch, diseases, nematodes, soil-borne insects, weeds or undesirable plants, stones larger than 50 mm in any dimension, woody plant roots and other material detrimental to a healthy stand of turf. Sod that has become dry, moldy, or yellow from heating, or has irregularly shaped pieces of sod and torn or uneven ends shall be rejected.

2.1.2.4 Thickness

Sod shall be machine cut to a uniform thickness of 30 mm within a tolerance of 5 mm , excluding top growth and thatch. Measurement for thickness shall exclude top growth and thatch.

2.1.2.5 Anchors

Sod anchors shall be as recommended by the sod supplier.

2.1.3 Not used

2.1.4 Soil Amendments

Soil amendments shall consist of fertilizer, organic soil amendments and soil conditioners meeting the following requirements.

2.1.4.1 NOT USED

2.1.4.2 Fertilizer

Fertilizer shall be commercial grade, free flowing, uniform in composition and conforming to -CID A-A-1909- . Granular Fertilizer: Consists of nitrogen-phosphorus-potassium ratio: 16 percent nitrogen 20 percent phosphorus, and 0 percent potassium.

2.1.4.3 Organic Soil Amendments

a. Topsoil: The existing surface soil shall be stripped and stockpiled on the site in accordance with Section =02210= GRADING. When required beyond that available from stripping, the topsoil shall be delivered. Delivered topsoil shall conform to topsoil requirements specified in Section =02210= GRADING, and shall be amended as recommended by soil test.

b. Peat: Peat moss or Peat humus derived from a bog, swampland or marsh shall conform to -ASTM D 2607- .

c. Sand: Clean, free of toxic materials; 95 percent by weight shall pass a No. 10 sieve and 10 percent by weight shall pass a No. 16 sieve .

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d. Rotted Manure: Well rotted, horse or cattle manure containing a maximum 25 percent by volume of straw, sawdust, or other bedding materials, free of stones, sticks, soil and containing no chemicals or ingredients harmful to plants.

e. Decomposed Wood Derivatives: Ground bark, sawdust, or other wood waste material free of stones, sticks, soil, and toxic substances harmful to plants, stabilized with nitrogen and having the following properties:

Particle Size: Minimum percent by weight passing

Sieve Size	Percent
No. 4	95
No. 4	80

Nitrogen Content: Minimum percent based on dry weight

Material	Percent
Redwood Sawdust	0.5
Fir Sawdust	0.7
Fir or Pine Bark	1.0

f. Calcined Clay: Granular particles produced from montmorillonite clay calcined to minimum temperature of 650 degrees C to the following gradation: minimum 90 percent passing No. 8, 99 percent retained on No. 60 sieve and maximum 2 percent passing No. 100 sieve. Bulk density: maximum 640 kg per cubic m.

2.1.4.4 Soil Conditioner

Soil conditioner shall be for single use or in combination to meet requirements for topsoil. Gypsum shall be commercially packaged, free flowing, minimum 95 percent calcium sulfate by volume.

2.1.5 Mulch

Mulch shall be free from weeds, mold, and other deleterious materials.

2.1.5.1 Straw

Straw shall be stalks from oats, wheat, rye, barley, or rice furnished in air-dry condition and with a consistency for placing with commercial mulch-blowing equipment.

2.1.5.2 Hay

Hay shall be native hay, sudan-grass hay, broomsedge hay, or other herbaceous mowings furnished in an air-dry condition suitable for placing with commercial mulch-blowing equipment.

2.1.5.3 Wood Cellulose Fiber

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Wood cellulose fiber shall not contain any growth or germination-inhibiting factors and shall be dyed an appropriate color to facilitate visual metering during application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0.

2.1.5.4 Wood Chips

Wood chips shall be chips or shredded bark with maximum particle size of $\sqrt[5]{5 \text{ mm}}$.

2.1.5.5 Paper Fiber Mulch

Paper fiber mulch shall be recycled news print that is shredded for the purpose of mulching seed.

Am #1 2.1.5.6 Inert Mulch(Crushed Gravel)(At Mechanical Yard)

Inert Mulch(Crushed Gravel) shall be granite chips with an average aggregate size of 25 mm in accordance with ASTM C-136.

2.1.6 Asphalt Adhesive

Asphalt adhesive shall conform to the following:

2.1.6.1 Emulsified Asphalt

Conforming to \-ASTM D 977-\, Grade SS-1.

2.1.6.2 Cutback Asphalt

Conforming to \-ASTM D 2028-\, designation RC-70.

2.1.7 Water

Water shall not contain elements toxic to plant life.

2.1.8 Pesticide

Pesticide shall be insecticide, herbicide, fungicide, nematocide, rodenticide and miticide. For the purpose of this specification, soil fumigant shall have the same requirements as a pesticide. The pesticide material shall be EPA registered and approved insecticide, herbicide, fungicide, nematocide, rodenticide, miticide, and soil fumigant.

2.1.9 Erosion Control Material

Soil erosion control shall conform to the following:

2.1.9.1 Soil Erosion Control Blanket

Machine produced mat of wood excelsior formed from a web of interlocking wood fibers, covered on one side with either knitted straw blanket-like mat construction, covered with biodegradable plastic mesh, or interwoven biodegradable thread, plastic netting or twisted kraft paper cord netting.

2.1.9.2 Soil Erosion Control Fabric

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Knitted construction of polypropylene yarn with uniform mesh openings \^20 to 25 mm^\ with strips of biodegradable paper. Filler paper strips shall last 6 to 8 months.

2.1.9.3 Soil Erosion Control Net

Am #1 Heavy, twisted jute mesh weighing approximately \^605 grams per meter ___^\ and \^1200 mm^\ wide with mesh openings of approximately \^25 mm.^\

2.1.9.4 Soil Erosion Control Chemicals

High-polymer synthetic resin or cold-water emulsion of selected petroleum resins.

2.1.9.5 Hydrophilic Colloids

Hydrophilic colloids shall be physiologically harmless to plant and animal life, without phytotoxic agents. Colloids shall be naturally occurring, silicate powder based, and shall form a water insoluble membrane after curing. Colloids must resist mold growth.

2.1.9.6 Anchors

Erosion control anchor material shall be as recommended by the manufacturer.

PART 3 - EXECUTION

3.1 SEEDING AND SODDING TIMES AND CONDITIONS

3.1.1 Seeding Time

Seed shall be sown from 01 April to 01 June for summer planting and 01 September to 01 October for fall planting.

3.1.2 Sodding Time

Sod shall be placed from 01 April to 01 June for summer planting and 01 September to 01 October for fall planting.

3.1.3 Not used

3.1.4 Turfing Conditions

Turf operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the turf operations, proposed times shall be submitted to and approved by the Contracting Officer.

3.2 SITE PREPARATION

3.2.1 Grading

The Contractor shall verify that finished grades are as indicated on drawings, and the placing of topsoil and the smooth grading has been completed in accordance with Section \=02210=\ GRADING.

3.2.2 Application of Soil Amendments

3.2.2.1 \+Soil Test+\

A soil test shall be performed for pH, chemical analysis and mechanical analysis to establish the quantities and type of soil amendments required to meet local growing conditions for the type and variety of turf specified.

3.2.2.2 Not used

3.2.2.3 Fertilizer

Fertilizer shall be applied at the rate of 225 kilograms per hectare. Fertilizer shall be incorporated into the soil to a minimum depth of 100 mm and may be incorporated as part of the tillage.

3.2.2.4 Soil Conditioner

Am #2 Soil Conditioner shall be spread uniformly over the soil to a minimum depth of 50 millimeters and thoroughly incorporated by tillage into the soil to a minimum depth of 100 mm.

3.2.3 Tillage

3.2.3.1 Minimum Depth

Soil on slopes gentler than 3-horizontal-to-1-vertical shall be tilled to a minimum depth of $\wedge 100 \text{ mm.} \wedge$ On slopes between 3-horizontal-to-1-vertical and 1-horizontal-to-1 vertical, the soil shall be tilled to a minimum depth of $\wedge 50 \text{ mm} \wedge$ by scarifying with heavy rakes, or other method. Rototillers shall be used where soil conditions and length of slope permit. On slopes 1-horizontal-to-1 vertical and steeper, no tillage is required.

3.2.4 Finished Grading

3.2.4.1 Preparation

Turf areas shall be filled as needed or have surplus soil removed to attain the finished grade. Drainage patterns shall be maintained as indicated on drawings. Turf areas compacted by construction operations shall be completely pulverized by tillage. Soil used for repair of erosion or grade deficiencies shall conform to topsoil requirements specified in Section $\wedge 02210 \wedge$ GRADING. Finished grade shall be $\wedge 25 \text{ mm} \wedge$ below the adjoining grade of any surfaced area. New surfaces shall be blended to existing areas.

3.2.4.2 Lawn Area Debris

Lawn areas shall have debris and stones larger than $\wedge 25 \text{ mm} \wedge$ in any dimension removed from the surface.

3.2.4.3 Field Area Debris

Am #1 Field areas shall have debris and stones larger than $\wedge 38 \text{ mm} \wedge$ _____ in any dimension removed from the surface.

3.2.4.4 Protection

Finished graded areas shall be protected from damage by vehicular or pedestrian traffic and erosion.

3.3 SEEDING

3.3.1 General

Prior to seeding, any previously prepared seedbed areas compacted or damaged by interim rain, traffic or other cause, shall be reworked to restore the ground condition previously specified. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.

3.3.2 Equipment Calibration

The equipment to be used and the methods of turfing shall be subject to the inspection and approval of the Contracting Officer prior to commencement of turfing operations. Immediately prior to the commencement of turfing operations, the Contractor shall conduct turfing equipment calibration tests in the presence of the Contracting Officer.

3.3.3 Applying Seed

3.3.3.1 Broadcast Seeding

Am #1

Seed shall be uniformly broadcast at the rate of 67.18 ^{kg} per hectare ^{m²} using broadcast seeders. Half of seed shall be broadcast in one direction, and the remainder at right angles to the first direction. Seed shall be covered to an average depth of 5 mm by disk harrow, steel mat drag, cultipacker, or other approved device.

3.3.3.2 Not used

3.3.3.3 Rolling

Am #1

Immediately after seeding, except for slopes 3-horizontal-to-1 vertical and greater, the entire area shall be firmed with a roller not exceeding 130 kg ^{m²} for each meter of roller width. Areas seeded with seed drills equipped with rollers shall not be rolled.

3.3.4 Hydroseeding

Seed and fertilizer shall be added to water and thoroughly mixed at the rates specified. Wood cellulose fiber mulch shall be added at the rates recommended by the manufacturer after the seed, fertilizer and water have been thoroughly mixed, to produce a homogeneous slurry. Slurry shall be uniformly applied under pressure over the entire area. The hydroseeded area shall not be rolled.

3.3.5 Mulch

3.3.5.1 Straw or Hay Mulch

Straw or hay mulch shall be spread uniformly at the rate of 4.5 metric tons per hectare. Mulch shall be spread by hand, blower-type mulch spreader or other approved method. Mulching shall be started on the windward side of relatively flat areas or on the upper part of a steep slope and continued uniformly until the area is covered. The mulch shall

not be bunched. All seeded areas shall be mulched on the same day as the seeding.

3.3.5.2 Mechanically Anchoring

Immediately following spreading, the mulch shall be anchored to the soil by a V-type-wheel land packer, a scalloped-disk land packer designed to force mulch into the soil surface, or other suitable equipment.

3.3.5.3 Asphalt Adhesive Tackifier

When asphalt adhesive is applied to the in-place mulch, spraying shall be at the rate of between $\wedge 400$ to 500 liters per hectare. \wedge

3.3.5.4 Non-Asphaltic Tackifier

Hydrophilic colloid shall be applied at rate recommended by manufacturer. Apply with hydraulic equipment suitable for mixing and applying uniform mixture of tackifier.

3.3.5.5 Spreading Asphalt Adhesive Coated Mulch

Straw or hay mulch shall be spread simultaneously with asphalt adhesive at the rate of 2 tons per acre by using power mulch equipment which shall be equipped with suitable asphalt pump and nozzle. The adhesive-coated mulch shall be applied evenly over the surface. Sunlight shall not be completely excluded from penetration to the ground surface.

3.3.5.6 Wood Cellulose Fiber

Wood cellulose fiber mulch for use with the hydraulic application of seed and fertilizer shall be applied as part of the hydroseeding operation.

3.3.5.7 Inert Mulch(Crushed Gravel)

Inert Mulch(Crushed Gravel) shall be placed in two lifts at a depth of 100 mm and 50 mm and shall be adequately leveled with the surrounding concrete curb as shown on the drawings. The final 50 mm lift of material shall be performed with hand tools to insure proper leveling.

3.3.6 Water

Watering shall be started within 7 days after completing the seeded area. Water shall be applied at a rate sufficient to ensure moist soil conditions to a minimum depth of $\wedge 25$ mm. \wedge Run-off and puddling shall be prevented.

3.4 SODDING

3.4.1 General

Areas shall be sodded as indicated. Adequate soil moisture shall be ensured prior to sodding by spraying water on the area to be sodded and wetting the soil to a minimum depth of $\wedge 25$ mm. \wedge

3.4.2 Placing Sod

Rows of sod shall be placed parallel to and tightly against each other. Joints shall be staggered laterally. The sod strips shall not be stretched

or overlapped. All joints shall be butted tight. Voids and air drying of roots shall be prevented. On long slopes, sod shall be laid at right angles to slopes. In ditches, sod shall be laid at right angles to the flow of water. When required, the sod shall be anchored by placing anchors a minimum distance of $\wedge 600 \text{ mm} \wedge$ on center with a minimum of 2 anchors per sod section.

3.4.3 Finishing

Air pockets shall be eliminated and a true and even surface shall be provided by tamping or rolling the sod in place. Displacement of the sod shall be assured by knitting of sod to the soil. Frayed edges shall be trimmed and holes or missing corners shall be patched in the sod.

3.4.4 Watering Sod

Watering shall be started immediately after completing each day of sodding. Water shall be applied at a rate sufficient to ensure moist soil conditions to a minimum depth of $\wedge 25 \text{ mm} \wedge$. Run-off and puddling shall be prevented.

3.5 NOT USED

3.6 EROSION CONTROL

3.6.1 Erosion Control Material

Erosion control material, where indicated or required, shall be installed in accordance with manufacturer's instructions. Placement of the erosion control material shall be accomplished without damage to installed material or without deviation to finished grade.

3.7 \wedge *APPLICATION OF PESTICIDE*

When pesticide becomes necessary to remove a pest or disease, a state-certified applicator shall apply required pesticides in accordance with EPA label restrictions and recommendations. Hydraulic equipment shall be provided for the liquid application of pesticides with a leak-proof tank, positive agitation methods, controlled application pressure and metering gauges. A pesticide plan shall be provided to the Contracting Officer as stated in paragraph SUBMITTALS.

3.8 RESTORATION AND CLEAN UP

3.8.1 Restoration

Existing turf areas, pavements and facilities that have been damaged from the turfing operation shall be restored to original condition at Contractor's expense.

3.8.2 Clean Up

Excess and waste material shall be removed from the planting operation and shall be disposed of off the site. Adjacent paved areas shall be cleaned.

3.9 PROTECTION OF TURFED AREAS

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Immediately after turfing, the area shall be protected against traffic or other use by erecting barricades and providing signage as required, or as directed by the Contracting Officer.

3.10 *TURF ESTABLISHMENT PERIOD*\

3.10.1 Commencement

The Turf Establishment Period for establishing a healthy stand of turf shall begin on the first day of work under this contract and shall end three (3) months after the last day of turfing operations required by this contract. Written calendar time period shall be furnished to the Contracting Officer for the Turf Establishment Period. When there is more than one turf establishment period, describe the boundaries of the turfed area covered for each period.

3.10.2 Satisfactory Stand of Turf

3.10.2.1 Seeded Area

a. Lawn Area: A satisfactory stand of turf from the seeding operation for a lawn area is defined as a minimum of $\wedge 160 \wedge$ grass plants per square $\wedge \text{meter} \wedge$. Bare spots shall be no larger than $\wedge 150 \text{ mm} \wedge$ square. The total bare spots shall not exceed 2 percent of the total seeded area.

b. Field Area: A satisfactory stand of turf from the seeding operation for a field area is defined as a minimum of $\wedge 100 \wedge$ grass plants per square $\wedge \text{meter} \wedge$. The total bare spots shall not exceed 2 percent of the total seeded area.

3.10.2.2 Sodded Area

A satisfactory stand of turf from the sodding operation is defined as living sod uniform in color and leaf texture. Bare spots shall be no larger than $\wedge 50 \text{ mm} \wedge$ square.

3.10.3 Maintenance During Establishment Period

3.10.3.1 General

Maintenance of the turfed areas shall include eradicating weeds, eradicating insects and diseases, protecting embankments and ditches from erosion, maintaining erosion control materials and mulch, protecting turfed areas from traffic, mowing, watering, and post-fertilization.

3.10.3.2 Mowing

a. Lawn Areas: Lawn areas shall be mowed to a minimum height of 50 mm when the average height of the turf becomes 100 mm. Clippings shall be removed when the amount of cut turf is heavy enough to damage the turfed areas.

3.10.3.3 Watering

Watering shall be at intervals to obtain a moist soil condition to a minimum depth of $\wedge 25 \text{ mm} \wedge$. Frequency of watering and quantity of water shall be adjusted in accordance with the growth of the turf. Run-off, puddling and wilting shall be prevented.

3.10.3.4 Post-Fertilization

Nitrogen carrier fertilizer shall be applied at the rate of 2.5 kilograms per hectare after the first month and again prior to the final acceptance. The application shall be timed prior to the advent of winter dormancy and shall avoid excessively high nitrogen levels.

3.10.3.5 Pesticide

Treatment for disease or pest shall be in accordance with paragraph APPLICATION OF PESTICIDE.

3.10.3.6 Repair

The Contractor shall re-establish as specified herein, eroded, damaged or barren areas. Mulch shall also be repaired or replaced as required.

3.10.3.7 *Maintenance Report*\

A written record shall be furnished to the Contracting Officer of the maintenance work performed.

3.11 FINAL ACCEPTANCE

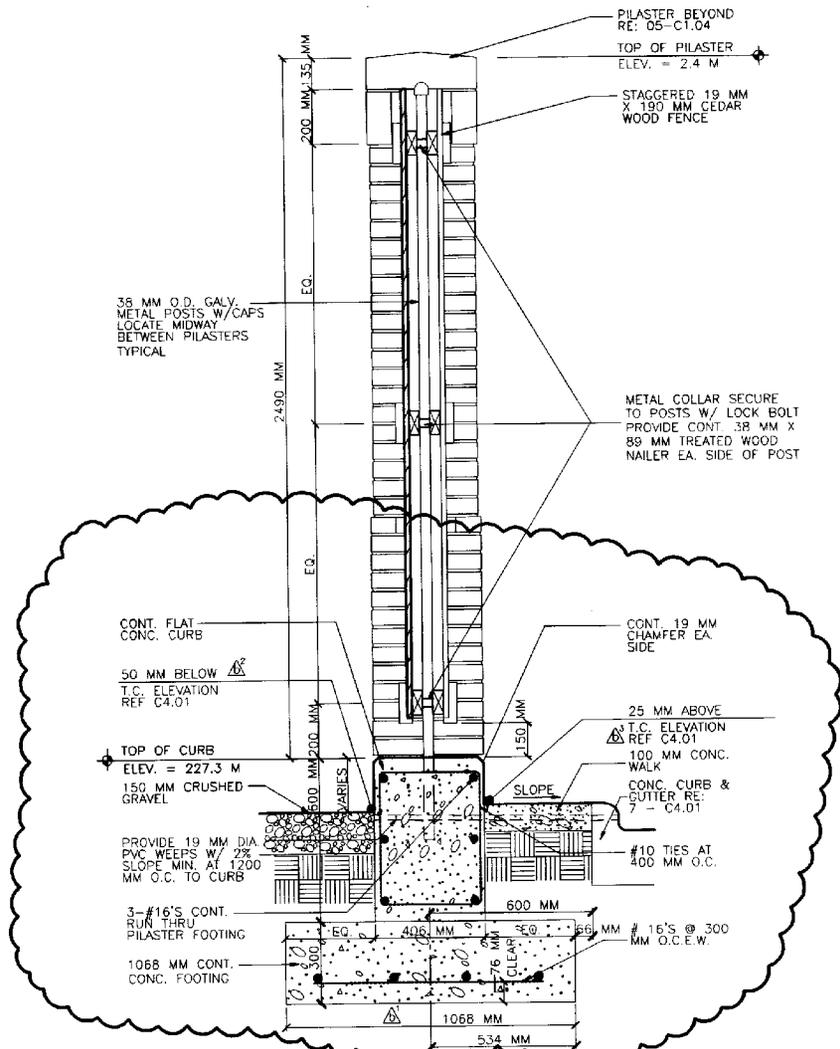
3.11.1 Preliminary Inspection

Prior to the completion of the Turf Establishment Period, a preliminary inspection shall be held by the Contracting Officer. Time for the inspection shall be established in writing. The acceptability of the turf in accordance with the Turf Establishment Period shall be determined. An unacceptable stand of turf shall be repaired as soon as turfing conditions permit.

3.11.2 Final Inspection

A final inspection shall be held by the Contracting Officer to determine that deficiencies noted in the preliminary inspection have been corrected. Time for the inspection shall be established in writing.

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C104
A401
A502

FENCE SECTION

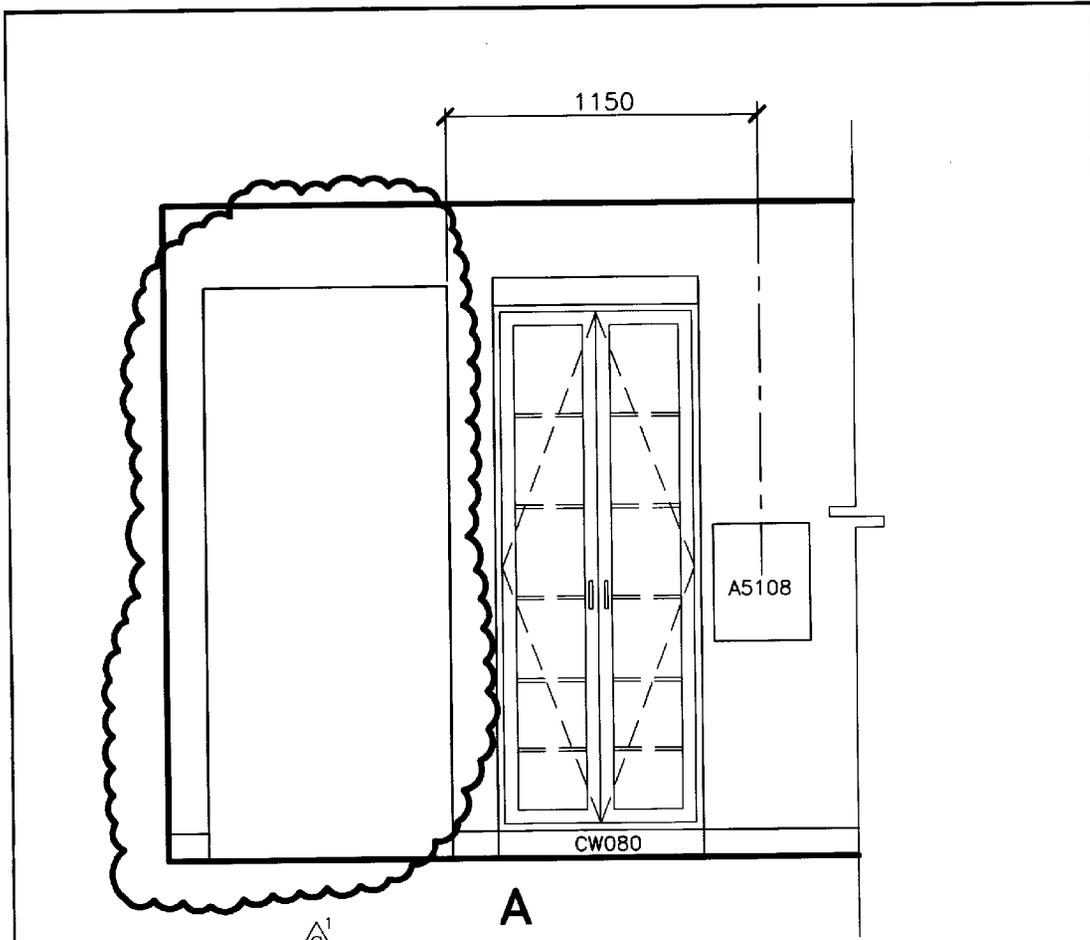
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PLANNERS INC

1717 10TH STREET
WICHITA FALLS
TEXAS
T: 840-322-3151
F: 840-322-2358
E: ww@winglerandsharp.com

DATE
MAY 1998

BLOOD DONOR CENTER
SAN ANTONIO, TEXAS

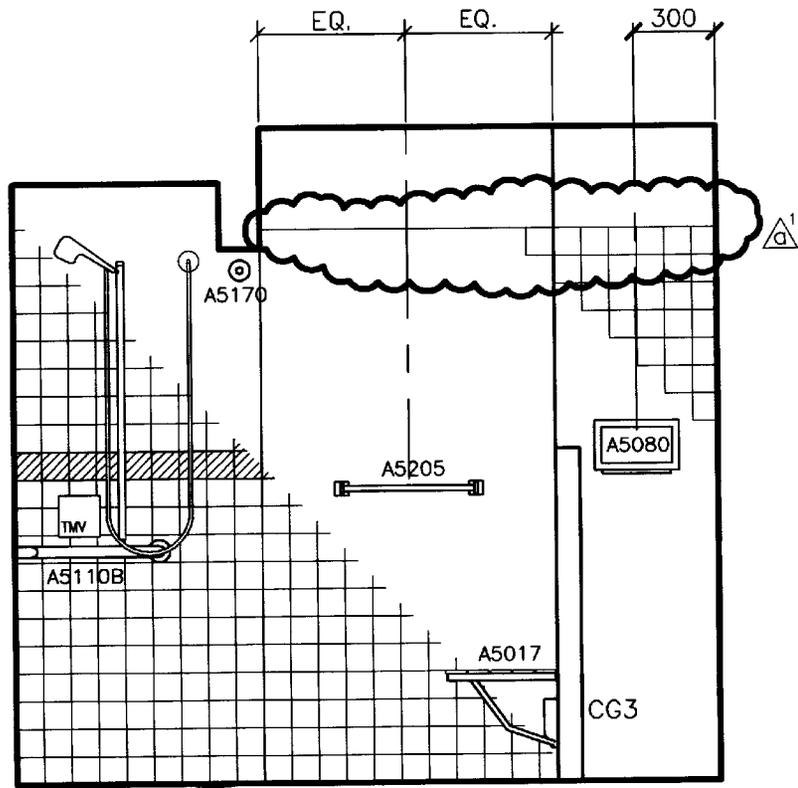
ATTACHMENT 001
AMENDMENT 002



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 A3.02 | A8.03

B102 FINGER STICK

WINGLER AND SHARP ARCHITECTS AND PLANNERS INC <small>E: us@winglerandsharp.com</small>	1717 10TH STREET WICHITA FALLS TEXAS T: 940-222-2151 F: 940-222-2358	DATE MAY 1998	BLOOD DONOR CENTER SAN ANTONIO, TEXAS ATTACHMENT 003 AMENDMENT 002



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A3.04 | A8.04

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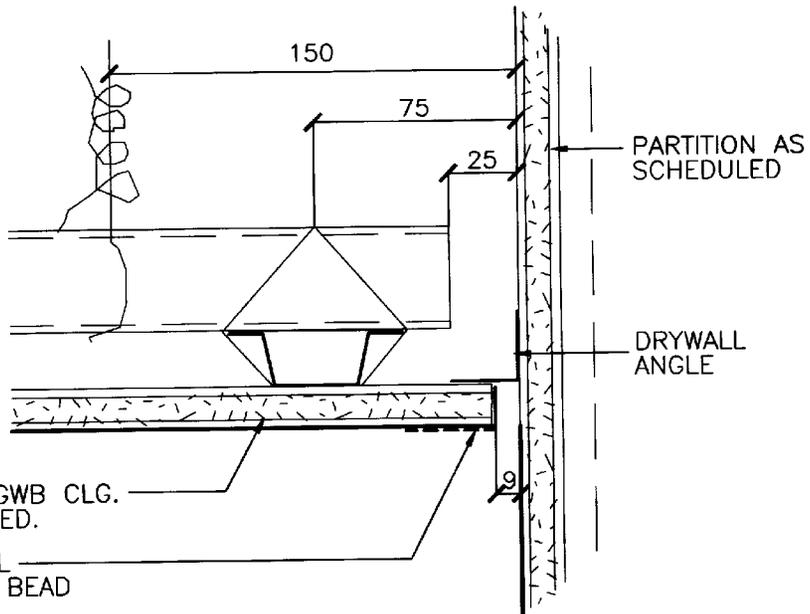
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WINGLER
AND
SHARP
ARCHITECTS AND
PLANNERS INC
1717 10TH STREET
WICHITA FALLS
TEXAS
TEL: 840-322-3181
FAX: 840-322-2388
E: w@winglerandsharp.com

DATE
MAY 1998

BLOOD DONOR CENTER
SAN ANTONIO, TEXAS

ATTACHMENT 004
AMENDMENT 002



SUSP. GWB CLG.
AS SCHED.

DRYWALL
CASING BEAD

PARTITION AS
SCHEDULED

DRYWALL
ANGLE

06

DETAIL \triangle

A9 SERIES

A10.02

1:2

**WINGLER
AND
SHARP**
ARCHITECTS AND
PLANNERS INC

1717 10TH STREET
WICHITA FALLS
TEXAS
TEL: 940-322-3151
FAX: 940-322-3366
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DATE
MAY 1998

BLOOD DONOR CENTER
SAN ANTONIO, TEXAS

ATTACHMENT 005
AMENDMENT 002