



**SAN FRANCISCO UNIFIED SCHOOL DISTRICT
PROPOSITION A 2016 BOND PROGRAM**

**REQUEST FOR QUALIFICATIONS (RFQ)
for
MATERIAL TESTING AND INSPECTION SERVICES**

March 2017

REQUEST FOR QUALIFICATIONS
MATERIAL TESTING AND INSPECTION SERVICES

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ANNOUNCEMENT

REQUEST FOR QUALIFICATIONS NOTICE PROPOSITION A 2016 BOND PROGRAM

MATERIAL TESTING AND INSPECTION SERVICES

The San Francisco Unified School District is accepting Statements of Qualifications (SOQ) from firms to provide Materials Testing and Inspection services meeting the listed qualification requirements. Proposals must be submitted to Room 209 at 135 Van Ness Avenue, San Francisco no later than **2:00 PM, April 11, 2017**.

This request for qualifications seeks the following type of service providers:

Material Testing and Inspection Consultants to provide material testing and inspection consulting services as required by the construction documents during construction for the 2016 Prop A Bond school projects.

Material Testing and Inspection firms should be familiar and experienced with all procedures and requirements with respect to California public schools and the Division of State Architect. This program has rigid schedule requirements and firms will be expected to demonstrate the ability to provide services to schedule requirements.

Request for Qualification information packages will be available beginning **March 17, 2017**. Information will be made available at the District Website: <http://www.sfusd.edu/en/doing-business-with-sfusd/current-rfps-rfgs-and-rfis.html>

The information package will provide a detailed description of the information required in the submission package.

I. INTRODUCTION TO RFQ SUBMITTAL PROCESS

The San Francisco Unified School District Bond Program is seeking SOQs from qualified firms to provide Material Testing and Inspection Services for the SFUSD Proposition A 2016 Bond Program. The Prop A 2016 Bond Program consists of over 40 modernization sites of varying sizes. See Exhibit B for a complete list of the Prop A 2016 Bond project sites.

Construction projects may begin as early as Fall 2017 with more anticipated to start in 2018. Material Testing and Inspection companies must be able to start work immediately upon selection in order to provide cost proposals and services to support the current procurement and construction schedules.

The provisions of Public Contract Code Sections as defined in the State Allocation Board regulation for implementation of Disabled Veteran Business Enterprise Goals shall apply to these projects.

SOQs submitted shall be limited to twenty-five (25) pages and provide three (3) bound copies of the Statement of Qualifications should be submitted in 8-1/2" x 11" format with any supporting materials or documentation in a sealed envelope and delivered or mailed to:

Fe Bongolan
San Francisco Unified School District
135 Van Ness Avenue Room 207
San Francisco, California
Phone 415-241-6152- Ext.1528
Email: BongolanF@sfusd.edu

All participating Material Testing and Inspection Firms must have an existing working business location within a sixty (60) mile radius of the city limits of San Francisco, CA.

All questions and comments from Material Testing and Inspection firms must be in written format and addressed to Andrea Dawson, Senior Project Manager in writing via email to dawsona1@sfusd.edu or via fax at (415) 241-6635 by the close of business March 30, 2017.

Applicants shall submit Qualifications by 2:00 PM, April 11, 2017.
Late submittals will not be considered.

1. Insurance Requirements

Provide copy of current insurance coverage issued by Consultant's Insurance carrier that meets minimum District requirements:

The firm awarded a contract will be required to maintain, in full force and effect and at their own expense, insurance policies with companies certified with the California Insurance Commission. Please include the name of your insurance providers in your response. The following minimum insurance is required in order for your firm/joint venture group to qualify for participation in these projects:

- Worker's Compensation Insurance (\$1 million)
- General Liability Insurance (\$2 million/per occurrence)
- Automobile Insurance (any auto) (\$1 million/per occurrence)
- Professional Liability Insurance (\$2 million per occurrence)

If any policy is written on a Claims Made Form, the consultant must provide a project specific policy to continue the coverage for two (2) years beyond the date of the individual project completion.

Prior to commencing work, the selected firm must provide the District with original "wet signature" certificate(s) of insurance that includes the following: The San Francisco Unified School District and its Board, Officers and employees, shall be named as additional insured parties on General Liability and Automobile policies. Endorsements must be submitted with the certificate(s).

Should any of the above described policies be canceled before the expiration date thereof, the issuing company will provide written notice to the certificate holder a minimum of 30 days prior to said cancellation.

2. Description of Projects and Scope of Work

- The scope of each contract will be specific for each project. Most of the projects include accessibility, life safety and seismic improvements such as ramps, walkways, new elevators, fire sprinklers, fire alarm and structural upgrades.

3. Required List of Scope of Material Testing and Inspection Services

- See Exhibit A for a list of Scope of Material Testing and Inspection Services

II. DISTRICT SELECTION PROCESS

All SOQ's will be scored through a preliminary screening process which will include Part III below and may include contact of references.

Those firms who qualify through the preliminary screening process may be invited to participate in the final screening process which will consist of an interview and/or demonstration. Specific information regarding the interview will be available upon notification of the firm completing the preliminary screening.

The District reserves the right to make a selection anytime during the selection process in the event that the District can readily make a clear determination and selection from the proposals.

The District will determine project assignments for the selected pool of consultants firms. Contracts will be awarded to selected firms upon final project assignments and cost proposals. Being selected to the pool does not commit the District to contracting with any given consultant or guarantee work will be assigned.

Fees shall be based on the firm's standard billing rate as submitted in the SOQs and shall be a time and material contract with a not to exceed amount for the determined scope of work at each school projects.

II. CONTENTS OF PROPOSALS AND EVALUATION CRITERIA

Please provide the following information in the order given below. SOQs will be carefully evaluated for completeness and ability to perform the work indicated based on the information provided in the following categories:

1. Introductory/Cover Letter (maximum length: 1 page, 0 points).

Please provide information regarding the size of your firm, and include any joint venture, partnering, sub-consultants or subcontractors that you intend to include in your project team.

2. Professional Qualifications and Experience, Project Approach (maximum length: 10 pages, 20 points max.)
 - a) Firm information:
 1. The full name and address of the firm or project team. Confirm that the office is within sixty (60) miles of the SFUSD facilities office located at 135 Van Ness Avenue in San Francisco.
 2. Name, email address and phone number of a designated contact person
 3. A brief description of your firm or team including a description of your typical services.
 4. Describe the firm or project team's professional qualifications and experience. Clearly demonstrate your ability to successfully furnish the services described in Exhibit A and Exhibit C of this Request for Qualifications.
 - b) Staffing:
 1. Provide the names and brief resumes of the principal-in-charge, the assigned project manager and/or other key staff members who will comprise the core of your firm's project team. Identify the number of licensed/certified members on your staff. Also, provide brief resumes for any key sub-consultants as an appendix.
 2. Provide a narrative discussing your approach to staffing, sub-consultant management and delivering timely and quality service on multiple assignments running concurrently. Discuss your firm's understanding of the services required for these projects (primarily renovation and modernization scope).
 3. References--List of verifiable representative projects (minimum of 10 projects) undertaken in the last five years demonstrating your team's K-12 public school experience. Include project title, description of services provided, project duration, owner contacts and telephone numbers.
 - c) Quality Control -- Your team's approach to quality assurance and your process for quality control.
3. Insurance, List of Services and Rates Schedule – Exhibit D (10 points max.)
 - a) Provide current insurance coverage information listing Consultant's Insurance carrier that meets minimum District requirements (see page 5, section I.2).
 - b) Provide unit pricing for each type of service/test listed in Exhibit D, List of Services and Rate Schedule.
4. DVBE Goals (maximum length: 1 page, 10 points max.)

Describe your firm or team approach to encourage DVBE and in these projects.
5. Prior Claims (maximum length: 3 pages, 10 points max.)

Provide a complete listing of the formal (written) claims presented to the firm, joint venture partners, outside consultants, and/or subcontractors in the past three years. Include:

 - a) The name of the claimant.
 - b) A brief description of the claim.
 - c) The dollar value of the claim.
 - d) Whether the claim was accepted, rejected, or if settlement of any type was made in full or part without admission of guilt or negligence. If handling of the claim is still in process, clearly indicate "resolution pending".
 - e) End the list with statement "Under penalty of disbarment I certify this list to be complete and accurate." the statement dated and signed by a company principal or senior representative. In the case that the firm, joint venture partners, outside consultants, and/or subcontractors as a group do not have any errors or liability claims presented in the past three years submit the statement "Under penalty of disbarment I certify that firms, joint venture partners, outside consultants, and/or subcontractors represented by this Qualifications do not have any claims associated with errors or liability in the past three years.". Have this statement signed and dated by a company principal or senior representative.

Suggested length of proposal/submittal: 15 pages, single-sided
 Excluding resumes, DVBE forms, and Exhibit A

MAXIMUM POINTS POSSIBLE: 50 points

6. EVALUATION CRITERIA SCORING SHEET

Evaluation Criteria	Points	Score
Introductory Cover Letter	0	
Professional Qualifications, Experience and Project Approach	20	
a) Firm information: 1. The full name and address of the firm or project team. Confirm that the office is within 60 miles of the SFUSD facilities office located at 135 Van Ness Avenue in San Francisco. 2. Name, email address and phone number of a designated contact person 3. A brief description of your firm or team including a description of your typical services. 4. Describe the firm or project team's professional qualifications and experience. Clearly demonstrate your ability to successfully furnish the services described in Exhibit A of this Request for Qualifications.	<i>Poor: 0-5</i> <i>Marginal: 5-10</i> <i>Acceptable: 10-15</i> <i>Exceeds: 15-20</i>	
b) Staffing : 1. Provide the names and brief resumes of the principal-in-charge, the assigned project manager and/or other key staff members who will comprise the core of your firm's project team. Identify the number of licensed/certified members on your staff. Also, provide brief resumes for any key sub-consultants. 2. Provide a narrative discussing your approach to staffing, sub-consultant management and delivering timely and quality service on multiple assignments running concurrently. Discuss your firm's understanding of the services required for these projects (primarily renovation and modernization scope). 3. References--List of representative projects (minimum of 10 projects) undertaken in the last five years demonstrating your team's K-12 public school experience. Include project title, description of services provided, project duration, owner contacts and telephone numbers. The District may or may not contact those listed on this reference list.		
c) Quality Control -- Your team's approach to quality assurance and your process for quality control.		
Insurance, List of Services and Rates Schedule	10	
Provide unit pricing for each type of service/test listed in Exhibit D, List of Services and Rate Schedule.	<i>Poor: 0-3</i> <i>Marginal: 3-5</i> <i>Acceptable: 5-8</i> <i>Exceeds: 8-10</i>	
DVBE Goals	10	
Describe how your firm/joint venture group will encourage DVBE participation in these projects.		

Prior Claims	+/- 10	
<p>Provide a complete listing of the formal (written) claims presented to the firm, joint venture partners, outside consultants, and/or subcontractors in the past three years. Include:</p> <ol style="list-style-type: none"> The name of the claimant. A brief description of the claim. The dollar value of the claim. Whether the claim was accepted, rejected, or if settlement of any type was made in full or part without admission of guilt or negligence. If handling of the claim is still in process, clearly indicate "resolution pending". End the list with statement "Under penalty of disbarment I certify this list to be complete and accurate." Have the statement dated and signed by a company principal or senior representative. In the case that the firm, joint venture partners, outside consultants, and/or subcontractors as a group do not have any errors or liability claims presented in the past three years submit the statement "Under penalty of disbarment I certify that firms, joint venture partners, outside consultants, and/or subcontractors represented by this Qualifications do not have any claims associated with errors or liability in the past three years.". Have this statement signed and dated by a company principal or senior representative. 		
MAX SCORE	50	

V. RFQ SCHEDULE

The San Francisco Unified School District reserves the right to withdrawal this RFQ at any time. Proposers shall not be reimbursed for any costs associated with the preparation of proposals to this RFQ.

- Advertise RFQ Advertisement: **March 17, 2017**
- RFQ Available **March 17, 2017**
- Written Questions Accepted: **March 30, 2017**
- Addenda Issued Online By: **April 4, 2017**
- Proposals Due no later than: **April 11, 2017 at 2:00 P.M.**
- Final Selection: **May , 2017**

The District reserves the right, at its sole discretion, to modify RFQ requirements, cancel the selection process, amend the schedule.

Proposers shall not be reimbursed for any costs associated with the preparation of proposals in response to this RFQ.

The District will be confirming accuracy of all information submitted in response to this RFQ.

EXHIBIT A

MATERIAL TESTING AND INSPECTION SERVICES

SCOPE OF SERVICES

Scope of Services:

Services shall include, but not necessarily be limited to, Materials Testing and Inspection Services. Exhibit C, Section 01450 Testing and Inspection from Project Specifications is included for reference only. Exhibit A, C and D may be made a part of the contract. Testing and inspections are based upon the applicable codes and as identified on the respective project contract documents.

The Consultant shall work under the direction of the Inspector of Record (IOR) and will notify the IOR immediately of any discrepancy between construction and contract documents, deficiency of workmanship or unacceptable test results. The Consultant and IOR and District representatives shall meet periodically to plan and schedule testing and inspection services.

The testing laboratory shall be responsible for the quality of services provided and maintain the necessary equipment required to satisfy the testing requirements. Personnel who are not qualified or are not efficiently performing assignments shall be replaced as deemed necessary by the IOR or the District.

Upon completion of inspection services, the Consultant shall provide a field report to the IOR prior to leaving the project site. Formal reports shall be mailed or delivered within 7 working days to the IOR and District representatives as determined at the preconstruction meeting

Project Firm:

The respondent shall be fully qualified and experienced in the area of Materials Testing and Inspections. California K-12, DSA, school experience is required.

Project Management:

The respondent must have verifiable experience in managing numerous public school project(s). Any consultants working under the direction of this consultant must be experienced in the management and supervision of similar projects.

Project Requirements:

The Consultant shall furnish all labor, supervision, technicians, tools, equipment, supplies, reports, documentation and tests to perform all sampling and insure the contractor complies with all applicable regulations and procedures. Consultant's fees shall be all inclusive; reimbursable expenses including, but not limited to, communications, postal, transportation, photos, and per diem, as related to the services provided. Documentation of the reimbursable expenses shall be provided when invoicing for such expenses. **T&I firms selected will be allowed to charge no more than a two hour minimum.**

Required Laboratory and Personnel Qualification:

Certifications and Accreditations: Testing Laboratory personnel shall be certified by ICBO for the type of work they are performing and shall be accepted by DSA prior to performance of any work on or off the project site.

The laboratory must have been in operation for a minimum of five (5) years within the State of California.

Services/Deliverables

Construction Phase Services include but are not limited to:

The Consultant shall attend the Preconstruction Conference. The Consultant will establish the job start date with the District's representative.

The Consultant shall establish a 24-hour contact during construction.

Change Orders must be reviewed and approved by the District after a written request and justification is submitted by the Consultant. Approval can be issued only from the District designated representative. No Change Order work shall begin prior to approval.

Notification must be given to the District at least seventy-two (72) hours prior to overtime requirements for District staff. Approval of overtime shall be made by District designated representative.

The Consultant is required to monitor the quantity of testing units for each project and notify the District if it appears that any quantity may be exceeded regardless of reason.

Post Construction/Project Close-Out Services include but are not limited to

Upon completion of the project, the Consultant will submit to the District all logs, forms and information collected during the project and the Final Inspection Report, certifying the work area is released for normal activity.

1. These documents must be received by the District before final payment is made to the Consultant for the project and all outstanding issues of inspection, testing and accounting are closed.
2. The final inspection report, affidavit, is due eleven (11) working days following the written request from the District representative.

EXHIBIT B

Specification Section 01450 Testing and Inspection

SECTION 01450

TESTING AND INSPECTION

PART 1 - GENERAL

1.1 SUMMARY:

- A. Section Includes: Testing laboratory services and inspections required during the course of construction and per the requirements of the Division of the State Architect.
- B. Related Documents: The Conditions of the Contract and other sections of Division 1 apply to this section as fully as if repeated herein.

1.2 TESTS:

- A. General: Refer to the General Conditions Article 13.05.
- B. The District will select a qualified independent testing laboratory to perform tests and special inspections. Material required to be tested will be selected by the laboratory or the District's Project Inspector and not by the Contractor.
- C. The Contractor shall notify the District's Project Inspector a minimum of 5 working days in advance of the manufacture of material to be supplied by him under the Contract Documents, which must by terms of the Contract be tested, in order that the District may arrange for the testing of such material at the source of supply.
- D. Material shipped by the Contractor from the source of supply before having satisfactorily passed such testing and inspection or before the receipt of notice from said Inspector that such testing and inspection will not be required, shall not be incorporated in the Project.
- E. The District will select and pay testing laboratory costs for all tests and inspections, but may be reimbursed by the Contractor for such costs under the Contract conditions. Any direct payments by the Contractor to the testing laboratory on this project is prohibited.
- F. The Contractor, at its own expense, is responsible to make all repairs necessary related to destructive testing.

1.3 TESTING LABORATORY/TESTING AGENCY:

- A. Testing and inspections will be performed by an independent testing laboratory selected and employed by the District and approved by the Division of the State Architect (DSA). Qualification of a testing agency or laboratory will be under the jurisdiction of the DSA

Structural Safety Section (SSS). Procedural and acceptance criteria are set forth in the 2010 California Building Code (CBC).

- B. Testing and inspection services that are performed shall be in accordance with requirements of the 2010 CBC, and as specified herein. Testing and inspection services shall verify that work meets the requirements of the Contract Documents.
- C. In general, tests and inspections for structural materials shall include, as a minimum, all items enumerated on the Structural Tests and Inspections list for this project as prepared and distributed by the Architect.
- D. Test reports shall be signed by a Registered Civil Engineer licensed in the State of California.

1.4 PAYMENTS:

- A. Costs of initial testing and inspection, except as specifically modified herein, or specified otherwise in technical sections, will be paid for by the District, providing such testing and inspection indicates compliance with Contract Documents. Initial tests and inspections are defined as the first tests and inspections as herein specified.
- B. In the event a test or inspection indicates failure of a material or material placement to meet requirements of Contract Documents, the Contractor shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Project Inspector's or the Architect's services and expenses made necessary thereby. All costs will be paid by the District and back charged to the Contractor.
- C. Additional tests and inspections not herein specified but requested by District or Architect, will be paid for by District, unless results of such tests and inspections are found to be not in compliance with Contract Documents, in which case the District will pay all costs for initial testing as well as retesting and reinspection and back charge the Contractor.
- D. Costs for additional tests or inspections required because of change in materials being provided or change of source or supply will be paid by District and back charged to the Contractor.
- E. Costs for tests or inspections which are required to correct deficiencies will be paid by the District and back charged to the Contractor.
- F. Cost of testing and cost of salaried District employee's working day or night, which is required solely for the convenience of Contractor in his scheduling and performance of work, will be paid by the District and back charged to the Contractor.
- G. Overtime costs for testing and inspections performed and District employees required to work outside the regular work day hours, including weekends and holidays, will be paid for by the District and back charged to the Contractor. Such costs include overtime costs for the District's employees and Project Inspector and Testing Agency personnel.
- H. Testing Laboratory will separate and identify on the invoices, the costs covering all testing and inspections that are to be back charged to the Contractor as specified above.

- I. Testing Laboratory will furnish to District a cost estimate breakdown covering initial tests and inspections required by Contract Documents. Estimate will include number of tests, man-hours required for tests, field and plant inspections, travel time, and costs.

1.5 TEST AND INSPECTION REPORTS:

- A. Testing Laboratory will certify in writing that all work specified or required to be tested and inspected conforms to drawings, specifications and applicable building codes.
- B. Each and every test or inspection report shall bear the official File Number and Application Number assigned to this project by the DSA.

- C. The Testing Laboratory will make the following distribution of test and inspection reports:

School District	1
Architect	2
District's Representative	1
Structural Engineer	1
General Contractor	1
District Project Inspector	1
Division of the State Architect	1

- D. Test reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of the CBC, and with the approved specifications. They shall also state definitely whether or not the material or materials tested comply with requirements.

1.6 FINAL VERIFIED REPORTS:

- A. Each testing agency shall submit to the DSA a verified report covering all tests that are required to be made by that agency during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project. In addition, each special inspector, approved by DSA for such inspection as structural steel/welding and masonry shall submit a Final Verified Report to DSA.

1.7 REPORTING TEST FAILURES:

- A. Immediately upon determination of a test failure, the Laboratory will telephone the results of test to Architect. On the same day, Laboratory will send written test results to those named on above distribution list.

1.8 AVAILABILITY OF SAMPLES:

- A. Contractor shall make materials required for testing available to Laboratory and assist in acquiring these materials as directed by the District's Project Inspector. The samples shall

be taken under the immediate direction and supervision of the Testing Laboratory or Inspector.

- B. If work that is required to be tested or inspected is covered up without prior notice or approval, such work may be uncovered at the discretion of Architect at no additional cost to the District. Refer to paragraph "Payments" herein.
- C. Unless otherwise specified, Contractor shall notify Project Inspector a minimum of 10 working days in advance of all required tests, and a minimum of 2 working days in advance of all required inspections. All extra expenses resulting from a failure to notify the Laboratory will be paid by the District and back charged to the Contractor.
- D. Contractor shall give sufficient advance notice to Project Inspector in the event of cancellation or time extension of a scheduled test or inspection. Charges due to insufficient advance notice of cancellations or time extension will be paid for by the District and back charged to the Contractor.

1.9 REMOVAL OF MATERIALS:

- A. Unless otherwise directed, materials not conforming to the requirements of Contract Documents shall be promptly removed from the Project site.

1.10 INSPECTION BY THE DISTRICT:

- A. The District's Inspector shall at all times have access for the purpose of inspection to all parts of the work and to the shops wherein the work is in preparation, and the Contractor shall at all times maintain proper facilities and provide safe access for such inspection.
- B. The District shall have the right to reject materials and workmanship that are defective, or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the District. If the Contractor does not correct such rejected work within a reasonable time, fixed by written notice, the District may correct such rejected work and charge the expense to the Contractor.
- C. Should it be considered necessary or advisable by the District at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out the completed work, the Contractor shall on request promptly furnish necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of the Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor.

1.11 DISTRICT'S PROJECT INSPECTOR:

- A. A Project Inspector employed by the District in accordance with the requirements of the California Building Code will be assigned to the work. His duties are specifically defined in CCR Title 24 Part 1.

- B. The Contractor shall notify the Project Inspector a minimum of 2 working days in advance of execution of all work that requires inspection.
- C. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Project Inspector. He shall have free and safe access to any or all parts of the work at any time. The Contractor shall furnish the Project Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TESTS AND INSPECTIONS:

- A. All tests and inspections required in accordance with the DSA approved structural testing and inspection form (SS-103), or as required by the Division of the State Architect during the course of the work. All tests and inspections shall also conform to the edition of the California Building Code applicable to this contract.

3.2 EARTHWORK:

- A. The Geotechnical Engineer of record or a Geotechnical Engineer selected by the District will provide continuous inspection of fill and will field test fill and earth backfill as placed and compacted, and inspect excavations and subgrade before concrete is placed and provide periodic inspection of open excavations, embankments, and other cuts or vertical surfaces of earth. The Geotechnical Engineer will submit a report indicating that he has observed and tested fills and that in his opinion the fills were placed in accordance with the project specifications.
- B. Contractor shall remove unsatisfactory material, re-roll, adjust moisture, place new material, or in the case of excavations, provide proper protective measures, perform other operations necessary, as directed by the Geotechnical Engineer whose decisions and directions will be considered final.
- C. Soils Test and Inspection Procedure:
 - 1. Allow sufficient time for testing, and evaluation of results before material is needed. The Geotechnical Engineer shall be sole and final judge of suitability of all materials.
 - 2. Laboratory compaction tests to be used will be in accordance with ASTM D 1557-00.
 - 3. Field density tests will be made in accordance with ASTM D 1556-00.
 - 4. Number of tests will be determined by Geotechnical Engineer. Materials in question may not be used pending test results.

5. Excavation and embankment inspection procedure. Geotechnical Engineer will visually or otherwise examine such areas for bearing values, cleanliness and suitability.
6. Earthwork Test Reports: In order to avoid misinterpretations by the reviewing agencies, all retest results shall be reported on the same sheet, immediately following the previous failure test to which it is related. Retests shall be clearly noted as such.

3.3 PILE DRIVING INSPECTION:

- A. The District's Geotechnical Engineer will provide continuous inspection of pile operations and shall maintain a record for each pile. Records shall include the following information for each pile:
 1. Project name and location.
 2. Contractors name.
 3. Piling installers name.
 4. Actual pile location and code identification number.
 5. Pile dimensions and actual depths.
 6. Pile deviations.
 7. All unusual occurrences during pile installation.
 8. Concrete tests.

3.4 TESTING OF CONCRETE:

- A. Concrete Mix Design:
 1. The District will pay for the sampling of aggregate and preparation of mix design one time for each strength and aggregate size specified. Testing cost for additional mix designs will be paid by the District and back charged to the Contractor. Continuous plant inspection and all tests of materials will be paid by the District, but the Contractor will be back charged for all tests performed on materials that do not meet specification requirements. Two copies of the mix designs shall be filed with the Architect for record purposes only, not for review or approval.
 2. Test concrete aggregates for mix design only.
 3. Deliver samples of approved aggregate to Project for comparison with material delivered, if job mixed concrete is used.
 4. Test suitability of aggregates in accordance with ASTM C 88-99a if material is under suspicion and if so directed by Architect or DSA.
- B. If compressive test of core specimens fail to show compressive strength specified, remove and replace concrete or adequately strengthen in a manner acceptable to Architect and DSA.
- C. Make all tests, take samples, and prepare samples in accordance with the latest adopted standards by American Society for Testing and Materials, referred to as ASTM.

- D. Concrete mixed at certified automatic concrete batch plants shall have quality control as follows:
1. Laboratory designed mixes using adequate cement factors.
 2. Continuous batch plant inspection (unless waived).
 3. The batch plant shall provide legible compliance certificate for all batches for the days concrete supplied.
 4. Legible weighmaster's certificates shall be provided the Project Inspector for all structural and nonstructural concrete in accordance with DSA.
- E. Concrete mixed at non-certified plants shall have quality control as follows:
1. Laboratory designed mixes using adequate cement factors.
 2. Continuous batch plant inspection.
 3. Measure all water, including wash water, so total on truck does not exceed 95 percent maximum allowed in mix design.
 4. Legible weighmaster's certificates shall be provided the Project Inspector for all structural and nonstructural concrete in accordance with DSA.
 5. The batch plant shall provide legible compliance certificate for all batches for the days concrete supplied.
 6. At end of job, furnish affidavit to DSA on form provided, certifying that all concrete furnished conforms to requirements of the CBC.
- F. Waiver of Batch Plant Inspection: Continuous batch plant inspection may be waived if the concrete plant complies fully with the requirements of UBC Standard 19-3 and has been certified to comply with the requirements of the National Ready Mixed Concrete Association. The plant must be equipped with an automatic batcher in which the total batching cycle, except for the measuring and introduction of an admixture, is completed by activating a single starter device.
- G. District's Project Inspector will do the following:
1. Inspect placing of reinforcing steel and concrete at Project.
 2. Obtain weighmaster's certificate and identify mix before accepting each load. Keep daily record of concrete placement, identifying each truck load, time of receipt, and location of concrete in structure. Keep record until completion of Project and make available for inspection by DSA field engineer.
 - a. Obtain the batch's compliance certificate for the day from the last batch.
 3. During progress of work, take reasonable number of test cylinders as directed by Architect, but at least one set of cylinders for each 50 cubic yards or fractional part thereof for each class of concrete and at least one set from each day's placing or placement. Test cylinders need not be made for concrete used in walks.

4. One set of cylinders shall consist of 4 samples and 1 spare all taken from same batch, one to be tested at age of 7 days and two at 28 days.
5. Make and store cylinders according to ASTM C 31-00.
6. Store cylinders in a suitable protected environment for pick up by laboratory personnel.
7. Make slump test of wet concrete according to test for slump of portland cement concrete, ASTM C 143-00, at least at the same frequency that the cylinders are taken. Measure ambient and concrete temperatures.

3.5 REINFORCING STEEL:

A. Tests:

1. Tests shall be performed from the steel at the Project site upon delivery. Steel not meeting specifications shall be returned to the supplier.
2. Testing procedure shall conform to ASTM A 615-01.
3. Sample at the Jobsite: Make one tensile test and one bending test from samples out of 10 tons, or fraction thereof, of each size and kind of reinforcing steel, where taken from bundles as delivered from the mill and properly identified as to heat numbers. Mill analysis shall accompany report. Where identification number cannot be ascertained, or where random samples are taken, make one series of tests from each 2-1/2 tons, or fraction thereof, of each size and kind of reinforcing steel. Tests on unidentified reinforcing steel will be paid by the District and backcharged to the Contractor. Samples shall include not fewer than 2 pieces, each 18 inches long, of each size and kind of reinforcing steel. Inspection of welding of reinforcing steel shall be done by a specially qualified laboratory inspector and tested in accordance with AWS D1.4-98.

B. District's Project Inspector will inspect all reinforcement for concrete work for size, dimensions, locations and proper placement. Special inspector shall be present during welding of all reinforcing steel.

1. The mill certification papers shall be delivered with each load of steel. If this procedure is not followed the steel will be rejected and shall be returned to the supplier.

3.6 MASONRY:

A. Inspection:

1. Masonry work shall be continuously inspected during laying and grouting by a Project Inspector specially approved for that purpose by the DSA. The Project Inspector shall make test specimens and perform such tests as are required.
2. The Project Inspector shall check masonry materials, details of construction and construction procedure. The Project Inspector shall furnish a verified report that of his own personal knowledge the work covered by the report has been performed and

materials used and installed are in accordance with and in conformance to, the duly approved drawings and specifications.

B. Masonry Tests:

1. Concrete Masonry Units: Test each type of unit for strength in accordance with UBC Standard 21-4; for absorption in accordance with ASTM C 140-01b; for drying shrinkage in accordance with ASTM C 426-99; and for staining materials in lightweight masonry concrete in accordance with ASTM C 641-98e.
2. Mortar and Grout Tests: At the beginning of all masonry work, at least one test sample of the mortar and grout shall be taken on 3 successive working days and at least at one week intervals thereafter. The samples shall be continuously stored in moist air until tested. They shall meet the minimum strength requirement given in the CBC Title 24. Additional samples shall be taken whenever any change in materials or Project conditions occur or whenever in the judgment of the Architect or the DSA, such tests are necessary to determine the quality of the material. Test specimens for mortar and grout shall be made as set forth in UBC Standard Nos. 21-16 and 21-18. In making the mortar test specimens the mortar shall be taken from the unit soon after spreading. After molding, the molds shall be carefully protected by a covering that shall be kept damp for at least 24 hours, after which the specimens shall be stored and tested as required for concrete cylinders. In making grout test specimens. An absorbent paper liner shall be used and the mold left in place until the specimen has hardened. The prisms shall be stored as required for concrete cylinders. They shall be tested in the vertical position.
3. Masonry Core Tests: In accordance with California Building Code. Shear testing apparatus shall be of a design approved by DSA. Visual examination of all cores shall be made to ascertain if the joints are filled. The District's Project Inspector or testing agency shall inspect the coring of the masonry walls and shall prepare a report of coring operations for general distribution. Such reports shall include the total number of cores cut, the location, and the condition of all cores cut on the Project regardless of whether or not the core specimens failed during cutting operation. All cores shall be submitted to the laboratory for examination.

3.7 STRUCTURAL STEEL:

- A. Mill certificates or affidavits and manufacturers' certification shall be supplied to the Testing Laboratory and Project Inspector for verification of steel materials. Testing Laboratory shall be notified at least 2 working days in advance of fabrication and supplied with the reports so the Special Inspector can make a shop inspection of the steel material identification.
- B. Tests of Steel Materials: If structural steel cannot be identified by heat or melt numbers, or if its source is questionable, not less than one tension test and one bend test will be made for each 5 tons or fractional part thereof. Such testing shall be paid for by the District and backcharged to the Contractor. Structural steel identified by heat or melt numbers marked at the mill need not be tested, except testing is required of steel with Fy greater than 36 ksi.
- C. General Inspection:

1. Testing Laboratory will visit the fabricator's plant to verify that materials used check with the mill tests, affidavits of test reports, and that fabrication and welding procedures meet specifications.
2. Testing Laboratory will visually check fabricated steel against the contract drawings and reviewed shop drawings for compliance, and will make physical tests and measurements as required to meet the specifications. Single pass fillet welds may be visually checked.
3. Inspection of Shop Fabrication: Continuous or periodic inspection of shop fabrication may be required for important work if so designated on the Structural Tests and Inspections list. This inspection shall be made by a qualified inspector approved by the DSA. He shall furnish the Architect and the DSA a report duly verified by him that the materials and workmanship conform to the approved plans and specifications.
4. Fabricators: In addition to welding inspection, fabrication inspection will be required for all work done on the premises of a steel fabricator who does not hold a currently valid certificate CCR Title 24 Part 2, Approved Fabricators. The cost of the fabrication inspection will be paid by the District and backcharged to the Contractor.
5. Inspection of welding shall be in accordance with the requirements of all applicable codes such as AWS D1.1-98, AWS D1.2-98, AWS D1.3-98, AWS D1.4-98, and FEMA Guidelines.
6. Erection Inspection: If so designated on the Structural Tests and Inspections list, Testing Laboratory will visually inspect bolted and field welded connections, perform such additional tests and inspections of field work as are required by the Architect and prepare test reports for the Architect's review. Field inspection will be continuous or periodic per project requirements.
7. Shop Fabrication Inspection Outside of Area: The added cost of shop fabrication inspection, and material testing outside the nine (9) San Francisco Bay Area Counties will be paid by the District and backcharged to the Contractor.
8. Special inspection for high strength bolting will be provided by the Testing Laboratory. Inspection shall be in accordance with AISC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts, November 13, 1985.
9. Ultrasonic Testing: All complete joint penetration and partial penetration multi-pass groove welds shall be subject to ultrasonic testing per AWS D1.1-98.
 - a. Defective welds shall be repaired and retested with ultrasonic equipment.
 - b. Initially, all multi-pass groove field welds shall be tested at the rate of 100 percent of each individual welder. If rejectable defects occur in less than 5 percent of the welds tested, the frequency of testing may be reduced to 25 percent. If the rate of rejectable defects increases to 5 percent or more, 100 percent testing shall be reestablished until the rate is reduced to less than 5 percent. The percentage of rejects shall be calculated for each welder independently.
 - c. When ultrasonic indications arising from the weld root can be interpreted as either a weld defect or the backing strip itself, the backing strip shall be

removed at the expense of the Contractor, and if no root defect is visible, the weld shall be retested. If no defect is indicated on this retest, and no significant amount of the base and weld metal have been removed, no further repair or welding is necessary. If a defect is indicated, it shall be repaired at the Contractor's expense.

10. The ultrasonic instrumentation shall be calibrated by the technician to evaluate the quality of the welds in accordance with AWS D1.0-98.
11. Should defects appear in welds tested, repairs shall be similarly inspected at the Contractor's expense and at the direction of the Architect until satisfactory performance is assured.
12. Other methods of inspection, for example, X-ray, gamma ray, magnetic particle, or dye penetrant, may be used on welds if felt necessary by the Architect.

D. Inspection and Tests for End Welded Studs:

1. Inspection of all the shop and field welding operations for the automatic end welded studs shall be made in accordance with the 2010 CBC Title 24 Part 2, by a qualified welding inspector approved by the DSA. The type and capacity of the welding equipment shall be in accordance with the manufacturer's recommendations and shall be checked and approved by the welding inspector.
2. At the beginning of each day's work, a minimum of 2 test stud welds shall be made with the equipment to be used on metal that is the same as the actual work piece. The test studs shall be subjected to a 90-degree bend test by striking them with a heavy hammer. After the above test, the weld section shall not exhibit any tearing out or cracking.

E. Corrections:

1. Correct deficiencies in structural steel work which inspections and test reports indicate to be not in compliance with the specified requirements.
2. Perform additional tests required to reconfirm noncompliance of the original work and to show compliance of corrected work. Costs for all additional tests will be paid for by the District and backcharged to the Contractor.

3.8 METAL DECKING:

A. Mill certificates or affidavits and manufacturers' certification shall be supplied to the Project Inspector for verification of steel materials. Testing Laboratory shall be notified at least 2 working days in advance of fabrication and supplied with the reports so that he can make a shop inspection of the metal deck.

B. Tests of Steel Materials:

1. Metal decking identified by heat or melt numbers and accompanied by mill analysis and test reports do not require additional testing.
2. If metal decking cannot be identified or its source is questionable, not less than one tension and elongation test and one bend test will be made for each 5 tons, or

fractional part thereof, of each gage. Such testing shall be paid for by the District and backcharged to the Contractor.

C. General Inspection:

1. Testing Laboratory will visually check metal decking delivered to the Project against the working and reviewed shop drawings for compliance and he will make physical tests and measurements, as required to meet the specifications.
2. Inspection of welding shall be in accordance with the requirements of AWS D1.1-98 and AWS D1.3-98.

D. Metal Deck Welding:

1. Continuous inspection of all deck welding will be made. The Contractor shall supply samples and test pieces and provide facilities for inspection without extra charges.
2. Inspection of welding shall be made to insure that all welding such as seam welds and arc spot welds are made in accordance with these plans and project manual. Inspection shall insure that proper electrodes, current, travel speed and melt rates are used and that no cracks, serious undercutting, overlap, surface holes or slag inclusions occur.

3.9 PREFABRICATED PLYWOOD WEB JOISTS:

- A. Testing specified herein will not be required for TJI joists manufactured by Trusjoist/MacMillan.
- B. Inspector: Joist fabrication shall be continuously inspected by an inspector specifically approved for that purpose by the DSA. To be eligible for approval, the inspector shall be examined as to his knowledge and experience in glued construction.
- C. Cost of inspection will be paid for by the District and backcharged to the Contractor.
- D. Each member shall be stamped with an identifying mark. The inspector shall make a verified report identifying the members by mark and including pertinent data such as certification of flange material and species, type of glue, and other information, as may be required. The inspector's report shall show that the work performed and the materials used conform in all respects to the plans and specifications approved by the DSA; and that the foregoing is based on the inspector's own personal knowledge. The verified report shall be mailed to the Architect and DSA upon completion of fabrication.
- E. Flange material shall be stamped by an independent agency certified and visually checked for knots, slope of grain and other unacceptable wood defects. Defects as noted shall be cause for rejection. Tests on the material are to be performed at the plant a minimum of 2 times per shift in order to verify species, and establish modulus of rupture. The sample shall be third point loaded in a flatwise simple span bend test over a 21 by T span where "T" is the thickness of the flange. Calculated M.O.R.'s shall show a minimum of 7,500 P.S.I.
- F. Verify glue bond adequacy to a chisel test on each glue line of a specimen 3 inches long of the chord material being used with an 80 percent minimum wood failure. The results shall be included with the above-mentioned verified report.

- G. Every tenth bundle of plywood for webs of the joists shall be especially checked for grade, squareness, and thickness per standards on file at DSA. A specimen at the top, near the middle and near the bottom of the bundle shall be checked. Plywood webs shall be checked for squareness and width after each change in saw setting and at least one every 4 hours by measuring 5 specimens across the width at 3 points and diagonals, and visually check on the long edge for curvature.
- H. The inspector shall continuously check the assembly process to assure proper open time, glue spread, and glue tackiness for the butt joint as well as a visual check for quality of the plywood edge. He shall check the glue in the rout for placement of the bead and for glue squeeze out. He shall verify push up and alignment of the webs to assure a tight joint. The inspector shall check the finished product for full web flange joint penetration, joist depth, and straightness.
- I. Three test specimens of the finished product shall be randomly selected throughout a shift and tested as follows. Specimens shall be 8 feet long and contain a butt joint one foot from one end. Record name of mill supplying the plywood. Specimens shall be cured with the production run and tested approximately one hour after removal from the oven. Test by applying a concentrated load corresponding to one and one-half times rated joist capacity for each joist depth at mid-span through a six-inch long plate. If the specimen fails at a center span loading, two more specimens shall be tested. If either of them fail to meet these minima, the entire production run shall be set aside.

3.10 GLUE LAMINATED WOOD:

- A. Glue laminated construction shall be continuously inspected by an Inspector approved by the DSA.
- B. The Inspector shall check the materials, details of construction and construction procedures, and shall furnish a verified report that to his own personal knowledge, the construction covered by the report has been performed and materials used and installed are in every way in accordance with and in conformance to, the duly approved drawings and specifications. Particular attention shall be provided to assure that compliance is provided for the compression zone notching detail shown on the Drawings.

3.11 ASPHALTIC CONCRETE PAVING:

- A. Asphaltic concrete mix design proposed by the Contractor shall be submitted to the District for review. Proposed mix shall be tested for conformance with the specifications, including grading, asphalt content and stability.
- B. One sample of the mix shall be taken during each day's paving operation and tested for asphalt content and gradation.
- C. Continuous inspection of the paving operation shall be provided. Testing Laboratory shall check for proper thickness, proper mix temperatures, proper rolling procedures and general workmanship.

3.12 WATERPROOFING:

- A. The District's Inspector will check wall surfaces and approve before application of membrane materials and verify that substrate surfaces are in satisfactory condition to receive membrane materials and furnish continuous inspection during application of membrane.
- B. Check minimum specified thickness of membrane waterproofing. For fluid-applied membrane check thickness every 100 square feet during application with a mil-thickness gage especially manufactured for the purpose.

END OF SECTION 01450