

Exhibit J



Reviewed by Webcor/Obayashi

1751 Harbor Bay Parkway Ste. 200
Alameda, CA 94502

Review is for general coordination and conformance with design intent only and for submittal in accordance with the contract documents. Review by Webcor Builders does not relieve the subcontractor and/or supplier of responsibility for full coordination, accurate dimensions, correct quantities and full compliance with the contract documents. In the event subcontractor and/or supplier intends to propose any substitution or deviation to the contract documents, each substitution or deviation must be submitted and approved prior to submitting it in a shop drawing or other submittal. Review by Webcor does not imply acceptance of any substitution or deviation.

Submittal Pkg. Number: WO-CQC0001.10

Submittal Number: WO0000-011400W01.10

Webcor Job No.: 30100 Transbay Transit Center

Reviewed By: Jackson Tukuafu

Date: 11/12/2013

Subcontractor: WOJV

WOJV Cycle of Submittal: 10

7/12 V1.4



Transbay Transit Center

Webcor/Obayashi Joint Venture

Contractor Quality Control Plan

for the

Transbay Transit Center Project

November 04, 2013

REV. 10

WO0000-011400W01.10

REVISION LOG

- REVISION 0: SUBMITTED 10/07/2010 – REVISE AND RESUBMIT 10/29/2010
- REVISION 1: SUBMITTED 11/03/2010 – REJECTED 11/19/2010
- REVISION 2: SUBMITTED 01/04/2011 – REJECTED 01/13/2011
- REVISION 3: SUBMITTED 03/09/2011 – MAKE CORRECTIONS NOTED 12/21/2011
- REVISION 4: SUBMITTED 12/09/2011 – MAKE CORRECTIONS NOTED 2/23/2012
- REVISION 5: SUBMITTED 05/07/2012 – REVISE & RESUBMIT 06/01/2012
- REVISION 6: SUBMITTED 08/02/2012 – REVISE & RESUBMIT 08/27/2012
- REVISION 7: SUBMITTED 08/27/2012 – NO EXCEPTIONS TAKEN 02/14/2013
- REVISION 8: SUBMITTED 03/21/2013 – NO EXCEPTIONS TAKEN 04/17/2013
- REVISION 9: SUBMITTED 08/30/2013 – REVISE & RESUBMIT 10/04/2013
- REVISION 10: SUBMITTED 11/04/2013

**WEBCOR/OBIYASHI JOINT VENTURE
CONTRACTOR QUALITY CONTROL PLAN
TRANSBAY TRANSIT CENTER PROJECT**

- 1.0 ELEMENT 1: MANAGEMENT RESPONSIBILITY**
- 2.0 ELEMENT 2: DOCUMENTED QUALITY MANAGEMENT SYSTEM**
- 3.0 ELEMENT 3: DESIGN CONTROL**
- 4.0 ELEMENT 4: DOCUMENT CONTROL**
- 5.0 ELEMENT 5: PURCHASING**
- 6.0 ELEMENT 6: PRODUCT IDENTIFICATION AND TRACEABILITY**
- 7.0 ELEMENT 7: PROCESS CONTROL**
- 8.0 ELEMENT 8: INSPECTION AND TESTING**
- 9.0 ELEMENT 9: INSPECTION, MEASURING, AND TEST EQUIPMENT**
- 10.0 ELEMENT 10: INSPECTION, TEST & OPERATION STATUS**
- 11.0 ELEMENT 11: NONCONFORMANCE**
- 12.0 ELEMENT 12: CORRECTIVE ACTION**
- 13.0 ELEMENT 13: QUALITY RECORDS**
- 14.0 ELEMENT 14: QUALITY AUDITS**
- 15.0 ELEMENT 15: TRAINING**

This Webcor/Obayashi JV Contractor Quality Control Plan will be developed incrementally as the trade packages are awarded and trade subcontractors are brought on board. Each trade subcontractors QC plan will become part of the Webcor/Obayashi JV's overall Contractor's Quality Control Plan and will be submitted to the Transbay Joint Power Authority as they are received.

1.0 ELEMENT 1 **MANAGEMENT RESPONSIBILITY**

- 1.1** INTRODUCTION PLAN
- 1.2** FEDERAL TRANSIT ADMINISTRATION GUIDELINES
- 1.3** MANAGEMENT RESPONSIBILITY
- 1.4** PROJECT EXECUTIVE QUALITY RESPONSIBILITY
- 1.5** CQC ORGANIZATION CHART

1.0 MANAGEMENT RESPONSIBILITY

1.1 INTRODUCTION PLAN

Project quality is the responsibility of all members of the project team and starts at the highest level of management. This Quality Control Management Plan details the specific processes by which the Project's quality will be managed and forms the basis upon which Webcor/Obayashi JV will ensure that all quality policy requirements for the Transbay Transit Center are compliant, maintained and continually being evaluated and improved. This Plan integrates the quality management process into the Webcor/Obayashi JV organizational structure and construction management systems.

Key elements of this plan include:

- The commitment of the Webcor/Obayashi JV Senior management to delivering a project that meets the Transbay Transit Center Quality Management System Manual.
- Accepted project specific construction management policies, procedures and tools for the control of project information and the management of the construction documents, submittals and the work of the trade subcontractors.
- A Webcor/Obayashi JV project-specific quality plan that meets the TIPA and FTA quality requirements and contract requirements.
- Trade Subcontractor, site specific, quality plans that meet TIPA and FTA quality requirements and contract requirements.
- Consistent CQC staff oversight- the Webcor/Obayashi JV CQC Manager and the Trade Subcontractors CQC Managers will have a physical presence on site when work is in progress.

1.2 FEDERAL TRANSIT ADMINISTRATION GUIDELINES

The Webcor/Obayashi JV Contractor Quality Control Plan incorporates all 15 Essential Elements of the Federal Transit Administrations Quality Assurance and Quality Control Guidelines dated December 2012 as appropriate for Webcor/Obayashi's scope of work:

1. *Management responsibility*
2. *Documented quality management system*

3. *Design control*
4. *Document control*
5. *Purchasing*
6. *Product identification and traceability*
7. *Process control*
8. *Inspection and testing*
9. *Inspection, measuring and test equipment*
10. *Inspection, test and operating status*
11. *Nonconformance*
12. *Corrective action*
13. *Quality records*
14. *Quality audits*
15. *Training*

1.3 MANAGEMENT RESPONSIBILITIES

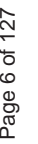
Webcor/Obayashi JV fully integrates this quality management plan into the organizational structure and performance management systems of the project.

- Maintain and follow a documented Quality System consisting of this Site Specific Quality Manual with policies and procedures.
- Establish and implement project management procedures.
- Maintain Quality System documents and records.

1.4 PROJECT EXECUTIVE QUALITY RESPONSIBILITIES

The Project Executive of Webcor/Obayashi JV is the one person in the company ultimately responsible for quality control function. Regardless of other duties, quality responsibilities of the Project Executive include:

- Empower the Webcor/Obayashi JV Transbay Transit Center CQC Manager to perform the CQC duties described in the contract documents.
- Oversee the projects quality plan and objectives.
- Ensure the availability of necessary resources and information for effective operation of the CQC System.
- Provide active oversight of the Trade Contractors Quality Control Plans



2.0 ELEMENT 2 DOCUMENTED QUALITY MANAGEMENT SYSTEM

- 2.1 INTRODUCTION**
- 2.2 CQC OVERVIEW**
- 2.3 THREE PHASES OF CONTROL**
- 2.4 TRADE SUBCONTRACTORS QUALITY CONTROL PLAN**
- 2.5 WEBCOR/OBIYASHI JV CQC MANAGER DUTIES & RESPONSIBILITIES**
- 2.6 WEBCOR/OBIYASHI JV ALTERNATE CQC MANAGER DUTIES AND RESPONSIBILITIES**
- 2.7 TRADE SUBCONTRACTOR'S QC MANAGER DUTIES AND RESPONSIBILITIES**
- 2.8 QC SPECIALISTS RESPONSIBILITIES**
- 2.9 APPOINTMENT LETTERS, RESUMES AND QUALIFICATIONS**
 - A. WEBCOR/OBIYASHI JV CQC MANAGER APPOINTMENT LETTER
 - B. WEBCOR/OBIYASHI JV ALTERNATE CQC MANAGER APPOINTMENT LETTER
 - C. CQC MANAGER RESUME
 - D. ALTERNATE CQC MANAGER RESUME
 - E. QC SPECIALIST QUALIFICATIONS
- 2.10 TRADE SUBCONTRACTORS QUALITY CONTROL MEETING**
- 2.11 DEFINITIONS**
- 2.12 LIST OF TRADE SUBCONTRACTORS DFOW'S**
- 2.13 PREPARATORY PHASE CHECK LIST FORM**
- 2.14 INITIAL PHASE CHECKLIST FORM**

2.0 DOCUMENT QUALITY MANAGEMENT SYSTEM

2.1 INTRODUCTION

Webcor/Obayashi JV is responsible for developing and maintaining attached written procedures and instructions regularly for activities affecting quality in design, procurement manufacturing and construction as applicable to the work performed. This will include implementing documentation of this Contractor Quality Control Plan and their assuring that Trade Subcontractors prepare, implement document trade package specific QC Plans. Webcor /Obayashi JV CQC Field Specialists will provide day to day oversight of the CQC System to assure Trade Subcontractor work conforms to the requirements of Transbay Transit Center Contract Documents and this Webcor/Obayashi JV CQC Plan.

Webcor/Obayashi JV will direct Trade Subcontractors to execute their CQC plans and maintain compliance with all project requirements as described in the Contract Documents. Contracts with Trade Subcontractors and Sub-tier Subcontractors shall include a requirement to comply with the provisions of this Plan, and to prepare and execute QC plans appropriate for their scope of work. The Trade Subcontractors, Sub-tier Subcontractors are authorized to manage their own QC Plans. All subcontractors, QC Managers, field personnel assigned to that work at the site shall conform to contract including the requirements described in this CQC Plan and their trade package specific QC Plans.

2.2 CQC OVERVIEW

Quality Control Written procedures and instructions have been developed for activities affecting quality in design, procurement, manufacturing, and construction as applicable to the work performed. Procedures and instructions have been developed for control of processes including inspection, testing, nondestructive examination, disposition of nonconforming product, corrective action, maintenance of quality records, quality audits, and training.

The procedures contain a statement of the purpose and scope, and contain any references to appropriate codes, standards, or specifications. In developing the quality approved and future procedures, consideration has been given to identifying and acquiring any inspection equipment, skills, or special quality processes needed to ensure quality performance. Inspection and testing techniques shall be kept up-to-date. Where new techniques are being used for construction or manufacturing, adequate time shall be allowed to develop appropriate quality procedures for the new techniques. The procedures and instructions shall contain formats for the quality records needed to ensure that the procedures and instructions are followed and documentation requirements are understood.

By providing these guideline to Trade Subcontractors and then meeting with them, along with other key members of the project team, W/OJV will assure that each of the subcontractors, whether large or small would be able to develop a CQC Quality plan that satisfies the requirements of the FTA Guidelines, and consistent from plan to plan.

Offsite Quality Control for Bradken Steel Nodes Casting, Skanska Structural Steel Fabrications, Skylight Glass and other offsite systems fabrication and equipment will be inspected in the shop for quality in coordination with special inspections by our trade subcontractors. This will cover all offsite construction operations as required per contract. This is in addition to Quality Assurance by Turner QA team as TJPA Representative.

2.3 THREE PHASE QUALITY CONTROL SYSTEM

The three phase of control for the Contractor's quality control is the means by which W/OJV, including Trade Subcontractors and supplier ensure that the construction complies with the requirements of the Contract:

PREPARATORY PHASE:

This phase is accomplished prior to beginning work on each definable feature of work, after all required contract submittals, documents, and materials are approved and accepted and after copies are at the work site. This meeting includes:

1. A review of applicable specifications, reference codes, and standards. The Trade Subcontractor QC Manager shall make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the Work to be accomplished in the field. The Trade Subcontractor QC Manager shall maintain and make available in the field for use by TJPA Representative until final acceptance of the Work.
2. Review of the Contract drawings and approved shop drawings (approved as noted shop drawings and record shop drawings) that incorporate all CD details.
3. Identify any submittals that have not been approved.
4. Check to assure that all materials and/or equipment have been pre-tested (if required per specification), submitted, and approved.
5. Review of provisions that have been made to provide required control inspection and testing.
6. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.

7. 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.
8. Review of the appropriate activity hazard analysis to assure environmental requirements are met.
9. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
10. Check to ensure that the portion of the CQC Plan for the work to be performed has been accepted by the TJPA Representative.
11. Discussion of the initial control phase, set the date, location and scope of activities.
12. Clarification of details may be added as required after work has commenced in the form of RFI's.
13. Review Status of any outstanding RFI's

The TJPA representative shall be notified at least 48 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the Trade Subcontractor's CQC Manager, other CQC personnel (as applicable), and the superintendent responsible for the definable feature of work. CQC System Manager shall document the results of the preparatory phase actions by separate minutes and attach the minutes to the weekly CQC report. CQC System Manager shall instruct applicable workers as to the acceptable level of workmanship required in order to meet Contract requirements (see the "Preparatory Phase Checklist Form" in this section; Tab/Element 7).

INITIAL PHASE:

This phase is accomplished at the beginning of each Definable Feature of Work (at least 1-2 days prior to start of work). This phase includes:

1. Reviewing the minutes of the preparatory meeting and ensuring any open issues have been resolved
2. Verifying the adequacy of controls to ensure full contract compliance, inspection and testing.

3. Establishing level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
4. Resolving all differences.

The CQC System Manager shall prepare separate minutes of this phase and attach the minutes to the daily CQC report. The TJPA shall be notified at least 72 hours in advance of beginning the initial phase. The initial phase shall be repeated for each new definable feature of work (see the "Initial Phase Checklist Form" in this section; Tab/Element 7).

FOLLOW-UP PHASE:

CQC System Manager and the Subcontractor QC manager shall perform daily checks to assure that control activities, including control testing, are providing continued compliance with contract requirements until completion of the particular feature of work. Record the checks in the CQC documentation, and file regularly in the appropriate DFOV file folder. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work that may be affected by the deficient work. New work shall not be built upon or conceal nonconforming work. Use FCR's on BIM 360 immediately to document deficiencies with materials, installation defects or un-approved shop drawings or products.

2.4 TRADE SUBCONTRACTORS QUALITY CONTROL PLAN

After contract award and prior to beginning construction activities each Trade Subcontractor will submit (per specification section 01 13 00 Submittals, paragraph 1.4) to the Webcor/Obayashi Joint Venture CQC Manager their project specific quality control plan for review and approval. Each Trade Subcontractor will designate and provide a project specific Trade Subcontractor Quality Control Manager who reports to the W/OJV CQC Manager and who's primary responsibility will be to implement and manage the Trade Subcontractor's quality control plan and certify the Trade Subcontractor's compliance with the Webcor/Obayashi Joint Venture Quality Control Plan and all quality control requirements contained in the project documents including specification section 01 14 00 Quality Control. The Trade Subcontractors CQC program will be reviewed for compliance to the Contract Documents. In addition to the requirements contained in other sections of this Plan, the Trade Contractors Quality Control Program will include:

- QC Organization chart.
- Procedures for fabrication and installation.
- Procedures for planning and verifying compliance and controlling quality of the work (including checklist forms).
- Procedures for layout verification.

- Coordination with related contractors.
- List of specified tolerances and workmanship standards for each DFOW.
- Daily CQC Reports.
- Program for identifying and correcting defective work.
- Inspection, test and acceptance procedures when specified in the Technical Specifications to be part of the Trade Subcontractors scope
- A quality control Plan that addressed the Federal Transit Administration (FTA Quality Control Guidelines (ref: Transbay Transit Center Quality Management System Manual)

2.5 WEBCOR/OBAYASHI JV CQC MANAGER DUTIES AND RESPONSIBILITIES

The CQC Manager, or his approved alternate, oversees the overall implementation of the Webcor /Obayashi JV Quality Control Plan. The CQC manager, will be independent of the “production organization”. The CQC Manager will:

- During performance of the Work will have complete authority to take any action necessary to ensure conformance with the requirements of the Contract Documents. The Webcor/Obayashi CQC Manager or Alternate CQC Manager will have a physical presence on site when work is in progress. In the event of the CQC Managers absence, the Alternate CQC Manager must be present and will have the same authority as the CQC Manager.
- Review for conformance and completeness and approve the Trade Subcontractors QC Plans prior to submittal to the TJPA for acceptance.
- Manage the development and maintenance of the list of Definable Features of Work.
- Meet with the TJPA representative at the Coordination Meeting (Meeting of Mutual Understanding) for each Trade Work Package.
- Provide WOJV management with monthly CQC updates.
- Ensure and document Trade Subcontractor’s application of Three Phases of Control for each Definable Feature of Work.
- Conduct the Preparatory, Initial and Follow-up phase activity meetings.
- Stop and document work that does not comply with requirements of the Contract Documents, and direct removal and replacement of any defective work.
- Ensure and document that all Trade Subcontractor Work performed, on and off the construction site, conforms to requirements of the Contract Documents. Ensure and document that all materials and equipment comply with the

requirements of the Contract Documents. Report any deficiencies and corrective action planned and taken in BIM 360 Systems

- Ensure that all Trade Subcontractors CQC Plans are in conformance with the Webcor /Obayashi JV CQC plan and with the requirements of the Contract Documents.
- Review for conformance, completeness and clarity that all Trade Subcontractors certify their submittals for conformance with the requirements of the Contract Documents.
- Ensure W/O staff document review and approval of submittals prior to transmission to the CMO.
- Review and approve Webcor/Obayashi JV Daily Quality Control reports
- Prepare and submit Weekly Contractor Quality Control reports
- Ensure that all Trade Subcontractors prepare, complete and submit Daily Quality Control reports.
- Maintain copies of all quality control and quality program documents in Constructware.
- Support and facilitate the Audit Process per the QMS and FTA Element 14 (Quality Audits).
- Conduct internal audits
- Ensure that RUP Contractors use preplanning sheets and work plans for improved Quality Control, improved record keeping for M&TE (Measuring and Testing Equipment) and calibration data.
- W/OJV CQC Manager will ensure that CQC team provides a written plan and schedule for resolution of non-conforming work.
- W/OJV CQC team provides a weekly summary and review of CQC activities at the Quality Meeting.

2.6 WEBCOR/OBIYASHI JV ALTERNATE CQC MANAGER DUTIES AND RESPONSIBILITIES

The Alternate CQC Manager performs all duties of the CQC Manager when the CQC Manager is not on-site. The Alternate CQC manager, when performing the duties of the CQC Manager, is independent of the “production organization”. The Alternate CQC Manager’s responsibilities are the same as the CQC Managers

2.7 TRADE SUBCONTRACTORS QC MANAGER DUTIES/RESPONSIBILITIES:

The Trade Subcontractor QC Manager reports to the Webcor /Obayashi JV CQC Manager and oversees the trade specific implementation of the quality control program and whose primary responsibility will be to implement the Trade

Subcontractor's quality control plan. The Trade Subcontractor QC manager will certify that the Trade Subcontractor's work is in compliance with the Contract Documents and complies with the Webcor/Obayashi Joint Venture Quality Control Plan and all quality control requirements contained in the Contract Documents, including specification section 01 14 00 Quality Control. The Trade Subcontractor QC Manager will:

- Manage the Trade Subcontractors Quality Control Program both onsite and offsite.
- Submit a QC Plan that meets the requirements of the Webcor/Obayashi CQC Plan, Specification 01 14 00 Quality Control and the TTC Quality Management System Manual and FTA 15 Essential Elements.
- The Trade Subcontractor QC Manager or alternate QC Manager will have a physical presence on site when work is in progress.
- Designate a qualified Alternate Trade Subcontractor QC Manager to serve in the event of the Trade Subcontractor QC Manager's absence.
- During performance of the Work, will have complete authority to take any action necessary to ensure conformance with the requirements of the Contract Documents.
- Submit daily Quality Control Reports to the Webcor/Obayashi JV CQC Manager.
- Submit Preparatory and Initial Phase Checklists, along with Follow-up Phase documentation for each DFOV to the Webcor/Obayashi JV CQC Manager for review and approval.
- Establish written procedures for Trade Subcontractor document control, submittal management and material procurement.
- Maintain review for conformance and submit copies of all quality control documentation, certifications, and materials delivery receipts as required in the Contract Documents.
- Attend the Coordination meetings (Meeting of Mutual Understanding).
- Manage the Three Phases of Control process for each DFOV, including attending the Preparatory, Initial and Follow-up phase activity meetings for each of the trade subcontractors DFOV.
- Immediately stop any work, for which they are responsible, that does not comply with requirements of the Contract Documents, and direct removal and replacement of any defective work.
- Conduct daily quality inspections of Work performed prior to request for agency or special inspections to ensure compliance with requirements of the Contract Documents.

- Ensure that all Work performed, on and off the construction site, and all materials and equipment conform to requirements of the Contract Documents.

Report nonconformances and corrective action planned and taken in BIM 360 Systems.

- Remove any person from the Project that consistently fails to perform Work properly.
- Ensure that the Trade Subcontractors submittals conform to the requirements of the Contract Documents.

2.8 QC SPECIALIST RESPONSIBILITIES

In addition to CQC personnel specified elsewhere in the Contract, Contractor shall provide as part of the CQC organization, QC specialists that are specialized personnel to implement the CQC Plan. The QC specialist will:

- Be responsible to the CQC System Manager
- Be physically present at the construction site during work on their areas of responsibility, and have the necessary education and experience.
- These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the CQC plan.
- Stop and document work that does not comply with requirement of the Contract documents, and direct removal and replacement of any defective work.



CONTRACTOR QUALITY CONTROL MANAGER APPOINTMENT LETTER

To: Adib Sassine
Quality Control Manager

From: Jes Pederson
President / CEO Webcor/Obayashi Joint Venture

Date: October 24, 2013

Subject: Appointment of Quality Control Manager for Transbay Project

Please be advised that you are hereby appointed as Quality Control Manager for the Transbay Transit Center Project. Your responsibilities include managing and implementing the Webcor/Obayashi Joint Venture Project Quality Control Plan.

You are assigned the following responsibilities:

- Implementing provisions of the Webcor/Obayashi JV Quality Control Plan as it pertains to the contract Documents.
- Assuring that the Quality Control Plan is established and implemented by persons doing work that impacts quality.
- Assuring that the Quality Control Plan complies to the FTA Guidelines, TJPA Quality Management System and Contract requirements.
- Acting as W/O JV liaison with parties outside of the company on matters relating to quality.
- Reporting to Senior Management on the performance of the Quality Control Plan, including needed improvements.
- Review for conformance, completeness and clarity of the quality control documents.
- Review for conformance, completeness and clarity of quality control records.
- Review for conformance, completeness and clarity of quality related contract submittals.
- Review for conformance, completeness and clarity of project inspection and QC activities.
- Review for conformance, completeness and clarity of subcontractors quality control programs.
- Reporting to the TJPA representative on matters pertaining to quality.
- Reviewing for conformance, completeness, clarity and distributing subcontract QC reports.

I grant you authority for carrying out the above responsibilities including:

- Stopping Work when continuing work may adversely affect quality or cover up a defect.
- To direct the removal and replacement of a nonconforming work or material by any subcontractor or supplier.

President / CEO signature and date:

W/O CQC Plan TTC Rev 1



ALTERNATE QUALITY CONTROL MANAGER APPOINTMENT LETTER

To: Duncan Sinclair
Alternate Quality Control Manager

From: Jes Pederson
President / CEO Webcor/Obayashi Joint Venture

Date: October 24, 2013

Subject: Appointment of Alternate Quality Control Manager for Transbay Project

Please be advised that you are hereby appointed as Quality Control Manager for the Transbay Transit Center Project. Your responsibilities include managing and implementing the Webcor/Obayashi Joint Venture Project Quality Control Plan.

You are assigned the following responsibilities:

- Implementing provisions of the Webcor/Obayashi JV Quality Control Plan as it pertains to the contract Documents.
- Assuring that the Quality Control Plan is established and implemented by persons doing work that impacts quality.
- Assuring that the Quality Control Plan complies to the FTA Guideline, TJPA Quality Management System and Contract requirements.
- Acting as W/O JV liaison with parties outside of the company on matters relating to quality.
- Reporting to Senior Management on the performance of the Quality Control Plan, including needed improvements.
- Review for conformance, completeness and clarity of the QC documents with contract documents and approval.
- Review for conformance, completeness and clarity of QC records with contract documents and approval.
- Review for conformance, completeness and clarity of quality related contract submittals with contract documents and approval.
- Review for conformance, completeness and clarity of project inspection and QC activities with contract documents and approval.
- Review for conformance, completeness and clarity of subcontractors quality control programs.
- Reporting to the TJPA representative on matters pertaining to quality with contract documents and approval.
- Reviewing for conformance, completeness, clarity and distributing subcontract QC reports and contract documents an approval.

I grant you authority for carrying out the above responsibilities including:

- Stopping Work when continuing work may adversely affect quality or cover up a defect.
- To direct the removal or replacement of and nonconforming work or material by any subcontractor or supplier.

President / CEO signature and date:

W/O CQC Plan TTC Rev 1

ADIB SASSINE, AIA CA RA
PRECON AND CONSTRUCTION QUALITY
CONTROL MANAGER



Design and Construction Experience: 35 years (1978)

Mr. Sassine is a California licensed architect and has over 35 years of strong experience in diverse large project types, including Construction Quality Control, Pre-construction and Construction Management. His extensive experience includes over 25 years of experience on new and renovated health care facilities primarily OSHPD projects; and balance of experience includes; education, schools, office buildings, public buildings, large airports, hotels and restoration of historic buildings.

RELEVANT EXPERIENCE

**Building Envelope Sr. Consultant and Architect – Allana Buick & Bers
(July 2011 to 7.2013)**

Architect and Quality Control Manager on several projects including the following:

New Stanford Hospital over \$1 billion; Performed peer review of the entire building envelope over 28 systems. (Rafael Vineolli)

9th and Broadway 17 story tower in San Diego; Design and construction quality control of the building envelope including several green roof areas. (Thornton Tomasetti)

Palo Alto Mitchell Park Library including several systems and green roof; Design of all building envelope and performed construction QC. (Group 4)

San Jose University Student Center, LA Harbor Science Building Design and construction monitoring of exterior envelope composite mock-up testing and similar other including UC Berkeley restorations. UCSF Parnassus MOB and Hospital forensic work and remediation of two major buildings.

San Mateo Medical Center MOB Exterior skin upgrade design.

And several other projects.

Healthcare



Acute Care Mock-up



Santa Clara Valley Medical Center SCVMC, San Jose, CA – Turner Construction Co (2007 to 2011)

OSHDP – Construction Quality Control Manager on the Bed Building One project which includes the following:

1. A 6 story with Basement and Penthouse nursing tower replacement over 350,000 sf, with 168 beds primarily ICU and Acute Care Units and Rehab Center utilizing SidePlate moment frame system and phased incremental approvals.
2. A 1500 stall Parking Garage with 850 KWp Photovoltaic tracking system over the new garage and retrofit existing Garage for the added solar panel system
3. Design-Build Central Plant upgrade with Site Utilities Loop to include 2-1000 tons absorption chillers, two cooling towers and 2-2000KW generators and two boilers
4. And the Design-Build of Renova Drive intersection relocation
5. Make-ready projects to relocate all underground utilities from the site while the hospital is in operation.

As a QC Manager, Adib is responsible for the construction quality control as well as assisting Purchasing to writing scopes, for all bid packages and reviewing contracts. Some of the quality control responsibilities are to develop the quality control plan and its implementation, pre-inspection of the work before submitting inspection requests by the IOR, reviewing all RFI's, reviewing schedule, reviewing shops and certifying them for compliance with the permitted contract documents, certifying pay applications and certifying milestone completion dates. Adib was involved in providing Pre-construction services such as Sr. Project analyst to provide planning, coordination with all enabling and make-ready projects, scheduling, progress plan check, constructability reviews, report writing and evaluations, phasing plans, cost control and site logistics of the Parking Garage and Solar Power design-build projects and other related hospital projects from Cath Lab to MRI renovation on campus.

CHW St Joseph Women and Children Hospital Stockton, CA (\$65M) - Turner

OSHDP – CM at Risk – Pre-construction

Addition of 100,000 sf of 78 beds hospital building with elevated bridge connector and underground parking Garage. Adib provided Constructability Reviews, Site Logistics and Cost Control.



Mills-Peninsula Medical Center Hospital, Burlingame, CA (\$400M+) - Turner

OSHDP – CM at Risk – Pre-construction up to NTP

Addition of 440,000 sf six (6) level Hospital designed with base isolation and damper structural systems. Adib provided constructability reviews and purchasing services to include bidding multiple packages, writing scopes and developing bid spread sheets and reviewing all subcontracts for fast-track incremental approvals while project was being reviewed by OSHDP.

Historic Laguna Honda Hospital Seismic Upgrade, San Francisco, CA (\$50M) - Turner

OSHDP – CM at Risk – Pre-construction PM



Adib Managed the project through bidding to include Constructability reviews, phasing, scheduling and budgeting for seismic retrofit of Wing H of the original historic Hospital project and coordination with the new Laguna Honda hospital replacement project.



John Muir Medical Center Hospital Expansion, Walnut Creek, CA (\$230M) - Turner

OSHDP – Pre-con services.

Addition of 429,000 sf 5-story tower and remodel of existing regional Trauma hospital including helipad and new Central Plant. Remodel consists of new Emergency Department and phased construction. Provided constructability reviews, phasing plans, cost controls and site logistics.

Lucille Packard Children Hospital Expansion, Palo Alto, CA (\$70M) - Turner

OSHDP – Lump Sum – Constructability review during early construction phase.

CPMC Cathedral Hill Hospital Preconstruction, San Francisco, CA (\$850 M) - Turner

OSHDP – Delivery Method CM at Risk – Adib provided comprehensive Constructability and Estimate Reviews in the latter part of Turner involvement on the project.

Ground up 550 beds for adults and women/children and 2,745,000 SF Women's and Children's Hospital in downtown San Francisco consisting of 19 stories above ground and 6 stories underground with base isolation. This project included a medical office building design-built with a connecting tunnel under Van Ness.

Sr. PM and Healthcare Business Development – Hathaway Dinwiddie (2004-05)

OSHDP – CM at Risk – during Schematics and DD

Responsible for managing small healthcare projects for Stanford ED and UC Clinical Lab. Adib was responsible to provide BD at Hathaway Dinwiddie. Also Adib managed and bid window replacement on 20 story high rise in Nob Hill in SF and performed cursory constructability review for the Millenium condo tower in SF during early design phase.

Sharp Memorial Hospital, San Diego, CA (\$185M) – Gilbane (2000-03)

OSHDP – Project Executive - CM at Risk – during Schematics and DD

This multi-phased project includes the construction of a new six and seven-story, 302 bed patient towers of 315,000 s.f. that include 158 Acute/IMCU beds, 24 SICU/CVICU beds, 64 AC/IMCU beds, 24 CCU/MICU beds, 32 AC/IMCU-Ortho beds and shell space for 32 beds for a total of 334 beds; 14 Operating Rooms and Surgery Suite; New Emergency Department, new Hospital Entrance and Lobby; and administrative spaces. In addition to the new hospital addition, and as part of the SB1953, the Critical Care Areas within the existing hospital will be relocated to the new HMP Addition. This project



also includes the Central Plant Expansion to accommodate new hospital replacement, Coordination with other projects on site such as an Ambulatory Care Center and OSHPD 600 stall parking Garage with Helipad.

UC Davis Medical Center, Sacramento, CA (\$260M) - Gilbane

OSHPD – Project Executive Agency CM - This Surgery and Emergency Services Pavilion addition at the UC Davis Medical Center. (During Schematics and DD)

This pavilion is a major addition to the Main Hospital building at UC Davis Medical Center. The project under construction will include approximately 420,000 s.f. of building construction and ten acres of site development. It includes Emergency Department, Dietary Department, Radiology, Cardiology and a 24-room Operating Room suite.

Kaiser Walnut Creek Hospital, Walnut Creek, CA – BFH (1989-96)

OSHPD – Design and Construction Administration - New multi-phase, three-story with full basement, 123 bed Hospital addition and replacement, 10 Operating Rooms, Surgery Suite, MRI Suite, Central Sterile, Clinical Lab, 4 C-Section Rooms, 24 LDR Rooms, ICN and other ancillary spaces. The Hospital was built while maintaining the entire existing hospital in operation on a 28-acre site with covered running creek and heritage Oak trees over 200 years old. Existing building had to be demolished in sections, and existing tower was later renovated and connected to the new Hospital.

Kaiser Walnut Creek Central Plant Expansion, Walnut Creek, CA – BFH

OSHPD – Design and CA - This Central Plant Expansion, Medical Gas Farm and Emergency Generator Plant. Project involved 3- 350-ton chillers, switchgear room, boiler room and 3-750KW Generators. Enclosure was adjacent to existing Parking garage with utilities running over creek lid in a high density site.

Kaiser Vallejo Medical Center MOB, Vallejo, CA (\$50M) – SOM (1986-89)

Design and CA - This two-story, 166,645 s.f. Medical Office Building with courtyards to accommodate 123 providers on a 38-acre site with on-site parking built with a connecting site utility loop to CUP.

Kaiser Vallejo Medical Center Central Utility Plant, Vallejo, CA - SOM

OSHPD – Design and CA - This Utility tunnel was added to connect to new Central Plant Expansion. Generator Plant

Kaiser San Rafael Medical Center MOB Renovations, San Rafael, CA (\$12M) - BFH

Design and CA - This 8,000 s.f. project, including OR, ER renovation, pharmacy and radiology renovations over 4-year plan.

Coalinga Community Hospital, Coalinga, CA (LHR)

OSHPD – Design and CA - This 56,000 s.f. project involving 35-bed hospital and 56-bed skilled nursing facility replacements to earthquake-damaged facility. Site is an approximately 12-acre parcel on a new development area.

Office Building

State Office Building at Butterfield Way, Sacramento, CA (\$171.5M) - Gilbane

Project Executive - Agency CM - Franchise Tax Board Campus addition and renovation project for the State of California, Department of General Services, and Project Management Branch on this project.



This project involves 1 Million SF of new construction and 843,000 s.f. of renovation on 93 acre site. It is located in Sacramento, California, and consists of phased construction with separate contracts for Sitework, a Central Utility Plant (\$25M), a Warehouse, four Building Office complex, and a Town Center. This project was designed to be a LEED certified project.

Wells Fargo Card Division Relocation Center, Concord, CA - BFH

Program Manager and Construction Administrator

Fast-track, 265,000 SF Data Center, with 100% access flooring office space and high security project completed without a single change order for the tenant improvement.

Office and Commercial Historic/Seismic Upgrade

Oakland Rotunda Seismic Upgrade, Oakland, CA (\$32M) - AD

Design and CA - This 265,000 s.f. historic building over 100 year old with elliptical dome and seven-story elliptical atrium sustained serious damage during Loma Prieta earthquake in 1989. The brick and steel building had to be retrofitted seismically, including replacing mechanical, plumbing, and electrical systems including provided complete tenant improvements as part of a design-build team. The building has multiple commercial tenants on the first floor and multiple office tenants on the upper floors.

Airports

SFO International Airport, San Francisco, CA (\$830M) – Skidmore Owings and Merrill – (1996-98)

Sr. Technical coordinator and Construction Administration as Owner's Rep - Over 1.8 million s.f. of base isolation SFO International Terminal Addition, two five-story office buildings, and light rail, BART station additions and elevated roadway fast-track projects, including coordination with adjacent Boarding Areas A and G. This included VE implementation of over \$35 million while project being bid on a fast track delivery model. Adib was also responsible to coordinate with Boarding Areas A and G of two different architectural firms and elevated roadways for total construction cost of \$2.3 billion.

Hotels/Convention Centers

Marriott Hotel Tower, Santa Clara, CA (\$28M) - JYA

Design - This 22-story tower consists of new tower with banquet facilities to accommodate 1,500 persons, a restaurant and conference center. Entire tower was designed as reinforced concrete structure with post tension slab and pre-fabricated EIFS system as the exterior skin.

Original Moscone Convention Center, San Francisco, CA – JA/HOK (1980-83)

CA assistance for the tub design by HOK/IM Pei at 40 feet below Howard and provided punch list for the entire building.

Other Education Facilities

Foothill and De Anza Community Colleges in Los Altos and Cupertino, CA (\$275M) - Gilbane

Agency CM - Measure "E" Bond improvements for FHDA. This program consists of new building and



existing building renovations over 60 major projects ranging from \$1Million to \$33 Million.

University of California at Berkeley, Berkeley, CA - JY

Design - Renovation projects, including Julia Morgan's Hearst Gymnasium, Manville Hall, and Administration renovations.

EDUCATION/LICENSE

Bachelor of Science, Architecture, Cogswell College, San Clara, (formerly in SF) CA

California Licensed Architect

UC Berkeley Extension Art and architecture Courses

Construction Management Certificate - Brown University thru Gilbane

CERTIFICATION

Occupational Health and Safety Administration (OSHA) 30-hour training

PROFESSIONAL AFFILIATIONS

American Institute of Architects (AIA)

OTHER LANGUAGES

Arabic and French

REFERENCES

By Request



Duncan J Sinclair Quality Alternate

EDUCATION AND BACKGROUND

As the Contractor's Alternate Quality Manager when the W/O JV Quality Manager is not on site, Mr. Sinclair will have the primary responsibility of managing the Contractors Quality Management System. His Duties include ensuring Trade Subcontractor compliance with the projects quality requirements via implementation of specified process controls and acting as the day to day interface between project production and quality management to assure the work conforms to the project requirements. He is responsible for documenting quality compliance and providing senior management with periodic quality reports.

Mr. Sinclair graduated with a BS in Mechanical Engineering from Washington State University in Pullman, Washington in 1971. Mr. Sinclair also earned a Masters in Business Administration from City University of Seattle in 1982. His 30 years of construction management and quality management experience includes implementing project-specific quality management programs for a variety of construction projects.

RELEVANT EXPERIENCE

Transbay Transit Center San Francisco, CA	Pre-Construction on Subcontractor Work Packages and analyze Commissioning Trade Specifications and correlations to Commissioning Coordinator (Cx) Specification on the Transbay Transit Center Project. Public Works; 2011- present. Total Public Works Projects is 17 years.
Lawrence Livermore National Lab Livermore, CA	LLNL Building HVAC Controls and Electrical Smart Meters. Construction Superintendent for Johnson Controls, Inc. (JCI) to manage field operations installing Electrical Power and HVAC DDC Controls in selective buildings at the Lawrence Livermore National Labs (LLNL) under Contract with Nuclear National Security Agency (NNSA). Duncan managed electricians and HVAC Controls Techs and field verified completeness, assured quality program compliance, Safety Program adherence & housekeeping while performing electrical power meter installations and HVAC DDC modifications and tracking. Daily Work Permits were written by JCI and approved by LLNL. Duncan verified the Work Permit was implemented and notified the JCI QC & LLNL Inspectors to witness the final installation. Public Works; 2010-2011 - 1 year.



Lawrence Livermore National Lab Livermore, CA	<p>Construction Manager for Jacobs Engineering Group assigned to National Ignition Facility Laser CM Team at Lawrence Livermore National Lab to manage various improvements including renovation of an adjacent 3 story office use for \$5M lab support facility. Duncan generated all the required Work Permits that includes Safety precautions, specific installation instructions, & Quality management to tie-in MEP Systems to existing Configured Systems under Engineering Management Control. Duncan was responsible for Safety, Facility Access, and interfaced with project QC Inspectors to confirm compliance to Contract Drawings, & Specifications. Coordinated operations with Facility personnel. Public Works; 2009-2010 - 1 year.</p>
Millennium Tower (301 Mission) San Francisco, CA	<p>This project is a high-end condominium/mixed-use project 60 stories tall. It also includes a 12 story condominium/amenity building connected by a 3-level Atrium/Podium. Mechanical, Electrical, Plumbing and Sprinkler (MEPS) Superintendent coordinating MEPS Subcontractors work and quality compliance, \$80M Subcontracts. Monitored, updated and planned the Project schedule for 3 week projections. Reviewed Submittals to confirm compliance with Projects Specifications. Inspect all MEPS installations to insure Quality compliance to Specifications. Managed the RFI process to resolve conflicts in drawings or obtain clarifications. Duncan Coordinated Subs to obtain Temporary Certificate of Occupancy with SFPD. Enforce OSHA, Company Safety and Quality Program requirements. \$348 million.</p>
St. Regis Museum Tower San Francisco, CA	<p>A five-star, 42-story mixed-use hotel and condominium project with 269 luxury hotel rooms and 102 high-end condominiums. The project also incorporates the renovation of the existing 9-story historic Williams Building, built in 1907. The renovation included a seismic upgrade and the building will house the hotel's restaurant and kitchen as well as a portion of the African American Cultural Museum. MEPS Superintendent coordinating with \$80M MEPS Subcontractors, Owners Rep's and project superintendents for Webcor Builders. Duncan monitored, updated and planned the Project schedule for 3 week projections. Reviewed Submittals and field inspected the MEPS installations for Quality compliance. Write RFI's to resolve conflicts in drawings or obtain clarifications. Duncan coordinated Subs to obtain TCO with City Officials. Enforce OSHA and Company Safety Program. \$173 million.</p>
Lawrence Livermore National Lab Livermore, CA	<p>Zone Manager for the Laser Bay for a \$5M contract for LLNL to install the major components used as the base equipment for the Laser Beams in the National Ignition Facility (NIF). Duncan was the Field Manager for the Subcontractor with 45 craft performing the installation. Duncan was responsible for Quality Control Management to assure exactness of tolerances and standards for welding and metal finishes, enforces Safety requirements during the installation process. Public Works; 1999-2000 - 1 year</p>
Lawrence Livermore National Lab Livermore, CA	<p>Field Area Manager for Jacobs' \$185M self performs activities with Union craft to install the Laser Beam Enclosures. Duncan enforced all Safety Regulations, Personal Protective Equipment, Clean Construction Protocol, Project Labor Agreement, and schedule activities. Duncan was the primary field contact with LLNL personnel for schedule coordination, engineering RFI's, Quality Control, managing non-conformance reports, and safety incidents. Conducted daily coordination with Superintendents, Subcontractors, and the Client to control installation activities in each area and avoid craft conflicts to maintain schedule objectives. Public Works; 2000-2003 - 3 years.</p>



San Francisco City Hall Renovation San Francisco, CA	<p>SF City Hall Seismic Retrofit & TI Modification-\$200M, w/GC: Managed MEPS Subcontractors through design coordination, submittal review, sequential scheduling. Quality management, installation, and start-up. Duncan worked closely with TI Architect to incorporate new systems with existing and new architectural designs. Worked hand in hand with SF DBI by pre-inspecting installations and notifying the Inspectors when systems were ready. Public Works; 1995-1999 - 4 years.</p>
Singapore US Embassy Livermore, CA	<p>US Fed Government Embassy at Singapore-\$50M, w/GC; Stateside coordinator controlling mechanical and electrical vendor's submittal documentation for approval for Quality management, construction installation and systems operations. Write requisitions and submittal requirements for mechanical equipment for purchase orders. Resolve conflicts between overseas site and domestic vendors. Public Works; 1993-1995 - 2 years.</p>
Sharks Hockey Arena San Jose, CA	<p>San Jose Sharks Ice Hockey Arena-\$150M, w/CM; Directed mechanical & plumbing subcontractors to comply with the City DPW ICBO Code requirements with project specifications involving wet and dry HVAC and plumbing including seismic bracing systems. Duncan verified all installation met Contract Specifications & Drawings and equipment start-up and systems operational modes. Assisted SJ DPW on completion of ICBO Plumbing Code required pipe testing and clearances. Duncan had an active ICBO Plumbing Certification from 1988 to 1998. Public Works: 1992-1993 - 1 year.</p>
US Postal Service 860 Main Street San Francisco, CA	<p>US Postal Service Lost Package Facility and the US Treasury Department. US Post Offices added HVAC & Fire Protection to floors that were modified from open rooms to partitioned offices. US Treasury Dept. upgraded office spaces, Computer Room and Automated check envelope wrapping machine. Duncan performed all Quality Control and code inspections for Fire Protection, plumbing, mechanical and HVAC Controls installations. Public Works: 1991-1992 - 1 year.</p>
Convention Center San Jose, CA	<p>The San Jose Convention Center is the main convention center for the city of San Jose, California. It is located in close proximity to several others of San Jose's convention and cultural structures. The San Jose McEnery Convention Center provides more than 425,000 square feet of space for conventions and events. Its flexible configuration offers 143,000 square feet of divisible, column-free prime exhibit space, a large ballroom, up to 30 meeting rooms with up to 2,400 theater-style seats and banquet facilities for up to 5,000 persons. In addition, the Convention Center has 30-foot-high finished ceilings, 12 loading bays with drive-on access to the exhibit hall floors, recessed utility boxes with electricity, water and drainage capabilities complete audio-visual, sound and lighting services, cellular, standard and ISDN telephony services and fiber optic and copper cabling throughout the facility with DS-3 high-speed Internet access. As the plumbing and mechanical inspector for O'Brien-Kreitzberg Inc., Duncan inspected all plumbing & mechanical installations to insure project Quality, and code compliance in conjunction with the ICBO Plumbing City Inspector. Active in resolving RFI and Code issues with plumbing Inspector. Duncan had an active ICBO Plumbing Certification from 1988 to 1998. Public Works 1987-1990 - 3 years.</p>



CERTIFICATIONS AND PROFESSIONAL MEMBERSHIPS

US Army Corps of Engineers/NAVFAC Quality Certified, 2012

OSHA 10 & 30 Hour Certified

American Society of Mechanical Engineers; Life Member

Professional Profile for Mario B. Saladana,
Webcor/Obayashi Quality Control Specialist

Current Position

Mario B. Saladana serves as a Quality Control Specialist/Senior Superintendent.

Experience

Mario has 35 years of construction experience and 28 years where with Webcor.

Mario has extensive familiarity with construction codes and practices, overseeing subcontractors and with residential, hospitality, and concrete projects.

Mario is familiar with a wide variety of project types and delivery methods.

As a Quality Control Specialist/ Senior Superintendent, Mr. Saldana assumes responsibility for on-site activities including overall coordination and scheduling of subcontractors and self-performed labor, safety, and quality. He develops and manages the schedule to ensure on-time performance. Together with the project management staff, Mr. Saldana collaborates in design, estimating and constructability reviews. He manages subcontractor performance on-site.

Professional Certifications

USACE Construction Quality Management for Contractors Certificate Awarded Oct 2012

Attachments

USACE CQM Certificate




CERTIFICATE

Mario Saldana

SW9-02-12-00496

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

San Francisco, California	10/1/2012 - 10/2/2012	SW9 - NAVFAC Southwest	Michael Haliburton PMP, PE
Location	Training Date(s)	Instructional District/ NAVFAC	COM-C Manager
Kugan Panchadsaram	kugan@kugan.com	858-212-2941	
Facilitator/Instructor	Email	Telephone	Facilitator/Instructor Signature


Director, USACE Learning Center

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Professional Profile for Jose Verduzco
Webcor/Obayashi Quality Control Specialist

Current Position

Jose Verduzco serves as a Quality Control Specialist/Assistant Superintendent.

Experience

Jose has extensive familiarity with construction codes and practices.

Jose is familiar with most major construction methods.

As a Quality control Specialist/Assistant Superintendent, Mrs. Verduzco plans, schedules, coordinates, sequences, and monitors procurement and construction activities for field teams. He conducts field reviews to inspect and assure compliance to construction policies, procedures, and standards. He reviews drawings, specifications, and subcontractor submittals and ensures that field staff and subcontractors comply with required safety standards. In addition, Mrs. Verduzco prepares correspondences and reports, generates short interval schedules, and manages self-performed labor. He assumes responsibility for weekly LDR quantities and orders necessary materials and equipment.

Education

Jose holds a Bachelor of Science, Business Management in Commerce, Santa Clara University, Santa Clara, CA 2007

Professional Certifications

USACE Construction Quality Management for Contractors Certificate Awarded Oct 2012

Attachments

USACE CQM Certificate



USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE

Jose Verduzco

SW9-02-12-00502

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

San Francisco, California	10/1/2012 -10/2/2012	SW9 - NAVFAC Southwest	Michael Haliburton PMP, PE
Location	Training Date(s)	Instructional District/ NAVFAC	COM-C Manager
Kugan Panchadsaram	kugan@kugan.com	858-212-2941	
Facilitator/Instructor	Email	Telephone	Facilitator/Instructor Signature
			Director, USACE Learning Center

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Professional Profile for Brian Perez
Webcor/Obayashi Quality Control Specialist

Current Position

Brian Perez serves as a Quality Control Specialist/Assistant Superintendent.

Experience

Brian has extensive San Francisco Building experience.

Brian has been involved in several of Webcor's marquis projects

Brian is familiar with construction codes and practices.

As a Quality control Specialist/Assistant Superintendent, Mr. Perez plans, schedules, coordinates, sequences, and monitors procurement and construction activities for field teams. He conducts field reviews to inspect and assure compliance to construction policies, procedures, and standards. He reviews drawings, specifications, and subcontractor submittals and ensures that field staff and subcontractors comply with required safety standards. In addition, Mr. Perez prepares correspondences and reports, generates short interval schedules, and manages self-performed labor. He assumes responsibility for weekly LDR quantities and orders necessary materials and equipment.

Education

Brian holds an Associate of Science, Fire Science, Diablo Valley College, Pleasant Hill, CA 1998

Professional Certifications

USACE Construction Quality Management for Contractors Certificate Awarded Jan 2012

Attachments

USACE CQM Certificate



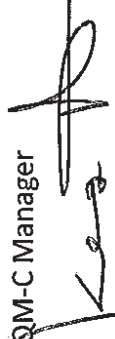
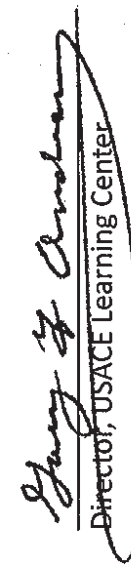
CERTIFICATE

Brian Perez

SW9-02-12-00062

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

Concord, California	January 26-27, 2012	SW9 - NAVFAC Southwest	Michael Haliburton PMP, PE
Location	Training Date(s)	Instructional District/ NAVFAC	CQM-C Manager
Kugan Panchadsaram	kugan@kugan.com	858-212-2941	
Facilitator/Instructor	Email	Telephone	Facilitator/Instructor Signature
			

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Professional Profile for Jordan Smith
Webcor/Obayashi Quality Control Specialist

Current Position

Jordan Smith serves as a Quality Control Specialist/Assistant Superintendent.

Experience

Jordan has extensive San Francisco Building experience.

Jordan has been involved in several of Webcor's marquis projects

Jordan is familiar with construction codes and practices.

As a Quality control Specialist/Assistant Superintendent, Mrs. Jordan plans, schedules, coordinates, sequences, and monitors procurement and construction activities for field teams. He conducts field reviews to inspect and assure compliance to construction policies, procedures, and standards. He reviews drawings, specifications, and subcontractor submittals and ensures that field staff and subcontractors comply with required safety standards. In addition, Mrs. Jordan prepares correspondences and reports, generates short interval schedules, and manages self-performed labor. He assumes responsibility for weekly LDR quantities and orders necessary materials and equipment.

Education

Jordan holds a Bachelors of Science, Construction Management, Cal Poly University, Los Posits, CA 2008

Professional Certifications

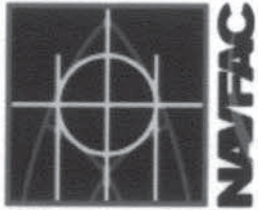
USACE Construction Quality Management for Contractors Certificate Awarded July 2013

Attachments

USACE CQM Certificate



USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



NAVFAC

CERTIFICATE

Jordan Smith

SW9-02-13-00319

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

San Francisco, CA	July 10-11, 2013	SW9 - NAVFAC Southwest	Michael Haliburton PMP, PE
Location	Training Date(s)	Instructional District/ NAVFAC	CQM-C Manager
Kugan Panchadsaram	kugan@kugan.com	858-212-2941	
Facilitator/Instructor	Email	Telephone	Facilitator/Instructor Signature
			
			Chief, USACE Learning Center

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE
CQM-C Recertification online course: <https://www.myuln.net>

2.10 TRADE SUBCONTRACTORS QUALITY CONTROL MEETINGS:

In addition to the Three Phase of Control Meetings, A Trade Subcontractor QC Meeting will be part of the Weekly Trade Subcontractors Meetings held by the Webcor/Obayashi JV Project Superintendent or Project Manager. W/OJV CQC Manager will review with the Trade Subcontractor QC Manager will review current QC issues as a segment of the weekly meeting; addressing the schedule, testing, inspection, re-work log, failed inspection status, short-term schedule of QC activities, project tests, submittal status, factory verification requirements, inspection results and any other QC issues relevant to the current activities.

2.11 DEFINITIONS:

- Project As-Built Drawings – All changes and modifications to the Contract work as required by site conditions and inspections in accordance with the requirements of Section 01 17 20.
- **Contractor** - Webcor/Obayashi Joint Venture (**WOJV**)
- **Coordination Meeting (Meeting of Mutual Understanding)** - A meeting held after the pre-construction conference for each Trade Work Package and before start of construction. Contractor shall meet with the TJPA Representative and TJPA QA Manager and discuss the Contractor's quality control system as it relates to the work of the trade package. Submit the CQC Plan a minimum of 15 days prior to the coordination meeting. During the meeting, a mutual understanding of the system details must 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 TJPA Representative's quality assurance. Minutes of the meeting will be prepared by the TJPA Representative, signed by both the Contractor and the TJPA Representative and will become a part of the Contract file. There may be occasions when subsequent conferences will be called by either party to confirm mutual understandings and/or address deficiencies in the CQC system or procedures that may require corrective action by the Contractor.
- **Corrective Action Plan** - A plan of action to correct nonconforming work or practices. A written document submitted by the Trade Subcontractor detailing the Trade Contractor's approach to correct an item of work that fails to conform to the project requirements.
- **Corrective Action Request** - A written request from TJPA to develop a Corrective Action Plan for non-conforming work (TJPA form QA-09-01) that establishes a method for ensuring deficiencies in process or implementation

W/O CQC Plan TTC Rev 9.1

adversely affecting quality are identified, cause determined, and an action plan to prevent recurrence is documented.

- **CQC Field Specialist** - specialized personnel to implement the CQC Plan be responsible to the CQC System Manager, be physically present at the construction site during work on their areas of responsibility, and have the necessary education or experience. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the CQC Plan.
- **CQC Manager** – The Webcor/Obayashi JV Manager who is responsible for managing the Contractor's CQC System.
- **CQC Manager's Monthly CQC Report** - A section of the Contractors monthly written report prepared and submitted by the CQC Manager which reports monthly CQC activities.
- **CQC Plan** - Webcor/Obayashi JV written quality management plan that meets the requirements of the TJPA Program QMS The means by which Webcor/Obayashi JV (the Contractor/CQC) and its Trade Subcontractors (QC) ensure project quality.
- **Daily Contractor Quality Control Report** - A daily written report providing evidence that required quality control activities and tests have been performed including the work of Trade Subcontractors and Suppliers. These reports shall address deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. These reports shall be within 5 working days after the date covered by the report. Reports shall be reviewed for completeness and accuracy, revised, signed and dated by the CQC System Manager. Reports shall be prepared by all subordinate quality control personnel and be included within the CQC System Manager's report.
- **Definable Feature of Work (DFOW)** - A definable feature of work is a task that is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may 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 and updated as more packages are awarded.

- **Federal Transit Administration (FTA)** - An administration within the U.S. Department of Transportation that provides stewardship to support a variety of locally planned, constructed, and operated public transportation systems throughout the United States.
- **Initial Phase Checklist** – A checklist prepared for each Definable Feature of Work (DFOW) in the Initial work Phase per 01 14 00 1.9.C.
- **Master Definable Feature of Work List** - The project list definable features of work for all trade subcontractors maintained by the Webcor/Obayashi JV CQC Manager.
- **Nonconformance Report** – A written report entered in BIM 360 Field Systems describing non-conforming Work.
- **Nonconforming Work** – Work that is unsatisfactory, faulty, defective, or deficient; Work that does not conform to the requirements of the Contract Documents; Work that does not meet the requirements of inspection, reference standards, tests, or approval referred to in the Contract Documents; or Work that has been damaged prior to Final Completion.
- **Phase 1: Preparatory Phase** – A controlled activity including a meeting conducted by the Webcor/Obayashi JV CQC Manager and with the Trade Subcontractors CQC Manager, the Subcontractor's Production Team, Trade Subcontractors Representatives, Inspectors, and TIPA representatives. This is the first of the three phases of control where all requirements of the work: drawings, specifications, submittals, RFI's, installation and coordination issues are reviewed before beginning any Definable Feature of Work (DFOW).
- **Phase 2: Initial** – A controlled activity including a meeting conducted by the Webcor/Obayashi JV CQC Manager with the Trade Subcontractors CQC Manager, the Subcontractor's Production Team, Trade Subcontractors Representatives, Inspectors, and TIPA representatives is held immediately prior to the start of the work. Using the meeting minutes from the Preparatory Phase meeting, this meeting transfers the information and requirements and agreements to the crews performing the work.
- **Phase 3: Follow-up Phase** Daily checks performed by the trade subcontractor QC an QC specialists and verified by QC System Manager to assure that control activities, including control testing, are providing compliance with contract requirements, until completion of that particular feature of work. Report the checks in the Daily QC report and upload to the DFOW records.

- **Preparatory Phase Checklist** - A checklist prepared by the CQC Manager for each Definable Feature of Work (DFOW) in the Preparatory Phase per 01 14 00 1.9.B.
- **Quality** - Conformance to the requirements established by the contract documents.
- **Quality Control Plan** - An approved written plan which includes plans, procedures, and organization necessary to produce an end product that complies with the Contract requirements. The plan covers all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence
- **Quality Inspection** - An Inspection of the work performed as the work progresses or prior to calling for an Agency, Code or Special Inspection to confirm the work meets the requirements of the Contract Documents. Contractor shall verify all dimensions in the field and shall check all field conditions continuously during construction. Contractor shall inspect related and appurtenant work and report in writing to the TJPA Representative any conditions that will prevent proper completion of the Work in accordance with the requirements of the Contract.
- **Quality Management** — Management of Quality Control and Quality Assurance activities instituted to achieve the quality levels established by the contract documents.
- **Quality Management System Manual** - Provides specific requirements for Program implementation based upon the Program Quality Policy and the FTA Quality Assurance and Quality Control Guidelines and is the guide for all members of the Program Management Team to deliver a project that meets the highest quality standards (reference: Transbay Transit Center QMSM, Introduction, page 1).
- **Submittal Log** - A written list indicating the status of all Submittals required by the Contract Documents, maintained by the Webcor/Obayashi Joint Venture production team.
- **Technical Specifications** – Divisions 01 through 33 of the project specifications.
- **Three Phases of Control** – The three meetings or actions that bring the Trade Subcontractors CQC Managers, Contractor's Production Team, Inspectors, TJPA representatives and/or field crews together to plan and implement project

quality: The three phases of control include: The Preparatory Phase, Initial Phase and Follow-up Phase.

- **TJPA Construction Management Oversight Manager:** - Turner Construction.
- **TJPA:** - Transbay Transit Center Joint Powers Authority.
- **Trade Subcontractor QC Manager** – The Trade Subcontractor employee who is responsible for managing the Trade Subcontractor’s QC System, and reports to the Webcor/Obayashi JV CQC Manager.
- **Trade Subcontractor’s QC Plan** – The Trade Subcontractors written quality control plan that meets the requirements of the TJPA Program QMS as appropriate for the Trade Subcontractors scope of work and is the means by which the Trade Subcontractors ensure project quality.
- **Trade Subcontractor’s Definable Feature of Work List.** - The list of definable features of the work prepared by the Trade Subcontractors and submitted for review and approval to the Webcor/Obayashi JV CQC Manager
- **Trade Subcontractors Daily Quality Control Report** - The Trade Subcontractors Quality Manager’s daily report that describes: the work completed, quality measures implemented, testing and inspections performed, rework items identified, and deliveries received and as-built drawings updated. (See Tab 12 “Forms” Trade Subcontractors Daily Quality Control Report).
- **BIM 360** – Field **Web-Based Data** Management Software for construction. BIM 360 Systems combines mobile technologies and BIM at the point of construction with reporting for management. BIM 360 Field Systems field management software uses a combination of technologies including the Internet, tablets, and email-capable phones. Licensed users must have a high-speed Internet connection in the office and are responsible for procuring the necessary hardware required for field staff to use the software. All Subcontractors are required to use the BIM 360 Field Systems software, as described in Specification Section 01 31 25 (The field management system will be used to manage CM/GC and Subcontractor quality control inspection and test processes including CM/GC and Subcontractor quality control inspection reports, CM/GC and subcontractor quality control inspection request, nonconforming conditions, punch list, and incomplete items list. The field management system will also be used to manage the commission process, documenting the completion of commissioning-related tests and the resolution of any identified deficiencies). Reporting features include Field Condition Reports, Inspection Requests, Nonconformance Reports and Punch lists.

W/O JV Transbay Terminal Center
DFOW List
Revised 02/021/2013

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Discription/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
BSE-001	SX-BB42160, SX-BB52100	TG03	TG0300-170 - Traffic Control TG0300-172 - Traffic Control Minna and Natoma TG0300-173 - Traffic Control Howard St. Gate TG0300-174 - Traffic Control Beale St. TG0300-177 - Traffic Control PG&E Phase II at Fremont St.	Traffic Control	5/11/2011	5/11/2011	Daily Report
BSE-002	SX-BB51900, SX-BB52000	TG03		Pre-Trench	3/30/2011	3/30/2011	Daily Report
BSE-003	SX-BB43140, SX-BB51600	TG03	TG0300-300 - Pile Removal - Trial Extraction Plan and Design Report	Test Pile Extraction	3/28/2011	3/29/2011	Daily Report
BSE-004	SX-BB51700, SX-BB51800	TG03	TG0300-310 - Pile Removal - Production Extraction Plan TG0300-311 - Existing Pile Extraction Documentation	Pile Extraction Production	4/11/2011	4/11/2011	Daily Report
BSE-005	SX-BB52400, SX-BB52500	TG03		Test CDSM Shoring Wall	5/2/2011	5/2/2011, 7/7/2011	Daily Report
BSE-006	SX-BB52600, SX-BB52700	TG03	TG0300-410 - Struct.I Steel - Part 1 TG0300-411 - Struct. Steel - Qualifications of Welders TG0300-412 - Struct. Steel - Mfr.'s Submittals (On-going) TG0300-413 - Struct. Steel - Contractor's QA Plan & Inspector Certs TG0300-414 - Struct. Steel - Add'l Weld Procedures TG0300-415 - Struct. Steel - Add'l Welding Wire Product Data TG0300-416 - Struct. Steel - Add'l Weld Procedure - 30 Degree Welding TG0300-580 - Shoring Wall TG0300-581 - Shoring Wall - LEED Submittal TG0300-582 - BBI - Shoring Wall - CDSM Test Section No. 2 (Zone 1) TG0300-583 - CDSM Wall Corrective Action Plans TG0300-584 - CDSM Wall Beam #859 Alignment Corrective Action Plan TG0300-585 - CDSM Corrective Action - Resilping Soldier Piles TG0300-590 - Shoring Wall - Record Doc.	CDSM Shoring Wall Production	6/1/2011	7/7/2011	Daily Report
			TG0300-380 - Concrete - General Site Mix Design TG0300-381 - Concrete - CLSM Mix Design TG0300-382 - Concrete - CLSM Mix Designs - Buttress Shoring Wall & Pile Extraction TG0300-383 - Concrete - CLSM & Concrete Mix Designs - Buttress Shoring Work Pad TG0300-385 - Buttress Concrete - Trial Batch Program TG0300-386 - Buttress Concrete - Type 'B' Secondary Shaft Mix Design TG0300-387 - Buttress Concrete - Primary Shaft Buttress Mix Designs TG0300-388 - Buttress Concrete - Primary Shaft Buttress Mix Designs - Add'l Mixes TG0300-389 - Buttress Concrete - Sechelt Coarse Aggregate TG0300-390 - Buttress Concrete - LEED TG0300-391 - Buttress Concrete - Primary Shaft Buttress Mix Designs - Add'l Mixes II TG0300-400 - Buttress Concrete - Closeout TG0300-600 - Drilled Shafts TG0300-601 - Drilled Shafts - Installation Plan - Supplemental Submittals TG0300-610 - Drilled Shafts - Close Out	Install Buttress Shafts	8/30/2011	9/13/2011	Daily Report
BSE-007	SX-BB52800, SX-BB52900	TG03					
BSE-008	SX-BB53000, SX-BB53100	TG03	TG0300-320 - Rebar - Informational Submittals and buttress Shop Dwgs.	Buttress Rebar	8/1/2011	10/26/2011, 10/31/2011	Daily Report
BSE-009	UT-203801, UT-203901	TG03	TG0300-901 - CR T-017R1 PG&E Phase II Work at First St. TG0300-903 - PG&E Phase II Work at Fremont St.	PG&E Phase 2 Infrastructure	10/18/2011	10/19/2011	Daily Report
BSE-010	SX-BB10780, SX-BB10880	TG03	Complete	Demo Basement	11/9/2011	11/28/2011, 6/11/2011	Daily Report

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Discription/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
BSE-011	SX-BB17300, SX-BB53400	TG03	TG0300-490 - Geotechnical Instrumentation & Monitoring TG0300-491 - Internal Bracing Performance Monitoring TG0300-540 - Internal Bracing - Engineer & Peer Reviewer Information & Qualifications TG0300-541 - Internal Bracing - 50% Design Dwg's & Calculations TG0300-542 - Internal Bracing - 100% Design TG0300-543 - Internal Bracing - Installer Qualification, QC/Construction, & Inspection Plan TG0300-544 - Internal Bracing - Manufacturer's Certifications or Coupon Testing TG0300-545 - Internal Bracing - Preloading Procedures TG0300-546 - Internal Bracing - Qualifications of Welders TG0300-547 - Internal Bracing - Welding Procedures TG0300-548 - Internal Bracing - Welding Procedures (Shop Welding) TG0300-549 - Internal Bracing - Welding Procedures - Add'l TG0300-550 - Internal Bracing - Re-Bracing TG0300-551 - Internal Bracing Erection Dwg's.	Install Walers (Internal Bracing)	11/15/2011	1/13/2012	Daily Report
WO000-011	SX-BB10680, SX-BB52300	TG03	TG0300-420 - Mass Excavation - Qualified Person and Quality Plan TG0300-430 - Mass Exc. - Material Samples TG0300-440 - Mass Exc. - Material Backfill TG0300-450 - Mass Exc. - LEED TG0300-460 - Mass Exc. - Work Plan	Mass Excavation/Wood Pile Extraction	12/14/2011	1/13/2011, 6/15/2012	Daily Report
BSE-013	SX-BB17600, SX-BB53300	TG03	TG0300-280 - Access Trestle TG0300-281 - CLSM Mix for Pin Pile & Trestle Pile Installation TG0300-290 - Access Trestle - Preconstruction Photos	Install Pin Piles	1/25/2012	1/27/2012	Daily Report
BSE-014	SX-BB15200, SX-BB52200	TG03	TG0300-280 - Access Trestle TG0300-281 - CLSM Mix for Pin Pile & Trestle Pile Installation TG0300-290 - Access Trestle - Preconstruction Photos	Zone 1 Trestle (Combined with Pin Piles)	1/25/2012	2/8/2012	Daily Report
BSE-015	SX-BB10620, SX-BB53200	TG03	TG0300-520 - Dewatering TG0300-521 - Dewatering - Initial Installation Report TG0300-522 - Dewatering - System Pump Test TG0300-525 - Dewatering - System Pumping Data (Weekly) TG0300-527 - Dewatering - Pre-trenching Only	Dewatering	3/2/2012	3/7/2012	Daily Report
BSE-016		TG03		Struct Installation	3/7/2012	3/9/2012	Daily Report
BSE-017	SX-BB56312, SX-BB56412	TG03	TG0300-490 - Geotechnical Instrumentation & Monitoring TG0300-491 - Internal Bracing Performance Monitoring TG0300-540 - Internal Bracing - Engineer & Peer Reviewer Information & Qualifications TG0300-541 - Internal Bracing - 50% Design Dwg's & Calculations TG0300-542 - Internal Bracing - 100% Design TG0300-543 - Internal Bracing - Installer Qualification, QC/Construction, & Inspection Plan TG0300-544 - Internal Bracing - Manufacturer's Certifications or Coupon Testing TG0300-545 - Internal Bracing - Preloading Procedures TG0300-546 - Internal Bracing - Qualifications of Welders TG0300-547 - Internal Bracing - Welding Procedures TG0300-548 - Internal Bracing - Welding Procedures (Shop Welding) TG0300-549 - Internal Bracing - Welding Procedures - Add'l TG0300-550 - Internal Bracing - Re-Bracing TG0300-551 - Internal Bracing Erection Dwg's.	Trestle Struts / Supports (Part of Bracing)	3/15/2012	3/16/2012	Daily Report
BSE-018		TG03		Trestle Deck	4/20/2012	4/20/2012	Daily Report
BSE-018	SX-BB56912, SXBB75012	TG03	TG0300-281 - CLSM Mix for Pin Pile & Trestle Pile Installation TG0300-283 BSE Trestle Pile Material Product Data TG0300-290 - Access Trestle - Preconstruction Photos	Trestle Superstructure	4/20/2012	4/20/2012	Daily Report
BSE-019	SX-BB17100, SX-BB17700	TG03		Remove Struts			

W/O JV Transbay Terminal Center
DFOW List
Revised 02/021/2013

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Discription/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
BSE-020	BG-BB12300, BG-BB42220	TG03	TG0300-620 - Micropiles TG0300-630 - Micropiles - Performance & Proof Test TG0300-640 - Micropiles - Grout Test	Test Micropiles	10/12/2012	12/6/2012	Daily Report
BSE-021	BG-BB42320, BG-BB42420	TG03	TG0300-620 - Micropiles - work Plan and Schedule, contractor Qualifications, Product Data, Equipment Descriptions, Installation Procedures, Working Drawings & calcs. TG0300-630 - Micropiles - Performance & Proof Test TG0300-640 - Micropiles - Grout Test	Micropile Production	10/12/2012	10/30/2012	Daily Report
BSE-022	SX-BB20800, SX-BB20900	TG03	TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	First Street Bridge	4/4/2012	4/5/2013	Daily Report
BSE-023	SX-BB21000, SX-BB21100	TG03	TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	First Street Bridge Utilities			Daily Report

WO0000-01100W01.10 - Contractor Quality Control Plan

W/O JV Transbay Terminal Center
DFOW List
Revised 02/021/2013

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Discription/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
BSE-024	SX-BB48420, SX-BB48520	TG03	TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	Fremont Street Bridge	4/4/2012	4/5/2012	Daily Report
			TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	Fremont Street Bridge Utilities			Daily Report
BSE-025	SX-BB48620, SX-BB48720	TG03	TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	Beale Street Bridge	4/4/2012	9/10/2013	Daily Report
			TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	Beale Street Bridge			Daily Report

WO0000-011400W01.10 - Contractor Quality Control Plan

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Discription/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
BSE-027	SX-BB53800, SX-BB53900	TG03	TG0300-200 - Temp Bridges - Qualifications Data TG0300-201 - Temp Bridges - Struct. Dwgs & Calc TG0300-202 - Temp Bridges - Peer Review TG0300-203 - Temp Bridges - Utility Supports TG0300-204 - Temp Bridges - Traffic Plan - First, Fremont, Beale Streets TG0300-205 - Temp Bridges Geometrics - First, Fremont, Beale Streets TG0300-210 - Temp Bridges - Product Data TG0300-215 - Temp Bridges - Misc. Materials TG0300-220 - MUNI OCS Installation Plan Beale St. TG0300-230 - Temp Bridges - MUNI OCS Installation Plan First St. TG0300-240 - Temp Bridges - Welder AWS Cert. TG0300-244 - Temp Bridges - Steel Manufacturers Certificates or Coupon Tests TG0300-248 - Temp Bridges - Concrete Mix Designs TG0300-250 - Temp Bridges - Rebar Manufacturer Certificates TG0300-260 - Temp Bridges - Preconstruction Photos First St. TG0300-264 - Temp Bridges - Preconstruction Photos Fremont St. TG0300-268 - Temp Bridges - Preconstruction Photos Beale St.	Beale Street Bridge Utilities	4/4/2012	9/10/2013	Daily Report
BSE-028	BG-BB11100, BG-BB42120	TG03	TG0300-340 - Rebar Shop Dwgs - Mud Slab TG0300-350 - Mud Slab Concrete - Submittal Schedule TG0300-355 - Mud Slab Concrete - Mix Design TG0300-360 - Mud Slab Concrete - Joint Locations TG0300-370 - Mud Slab Concrete - Hazardous Materials	FRP Concrete Mud Slab	12/20/2012	1/23/2013	Daily Report
BSE-029	BG-BB10600, BG-BB42520	TG03		Struct. Removal			

WO0000-01140001.10 - Contractor Quality Control Plan

WO-QQC0001 - Contractor Quality Control Plan

DFOW Number	Baseline Schedule Activity ID	Specification Section/ Trade Group	Required Submittals	Discription/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
UT - 4.1-001	UT-002910, UT-003310	TG04.1		Sewer Natoma & Fremont	2/4/2011	2/4/2011	Daily Report
UT - 4.1-002	UT-002610, UT-002810	TG04.1		Water Natoma & Fremont Street	1/13/2012	1/13/2012	Daily Report
UT - 4.2-001	UT-213800, UT-214500	TG04.2	TG0402-020-Dewatering Plan TG0434-024-Proposed Method of Pinholing TG0404-003-Formwork Material TG0434-002-Pipe Bedding (Crushed Rock)-Sample TG0434-003-Pipe Bedding (Crushed Rock)-Test Reports TG0434-005-Shoring Plan by Licensed CA Engineer	Trench and Excavation (AWSS)	3/26/2012	4/2/2012	Daily Report
UT - 4.2-002	UT-208000, UT-214600	TG04.2	TG0402-013-Welder Certification TG0402-008-Sample 8" pipe w/welded stops	Pipe Stop Welding (AWSS)	3/26/2012	4/2/2012	Daily Report
UT - 4.2-003	UT-208100, UT-208200	TG04.2	TG0402-016 M Squared - Cast in Place Valve Vault	CIP Concrete	6/7/2012	7/20/2012	Daily Report
UT - 4.2-004	UT-208300, UT-208400	TG04.2	TG0402-001 M Squared - Ductile Iron Pipe TG0402-006 M Squared - Pipe End Seal TG0402-008 M Squared - Sample 8" pipe w/welded stops TG0402-027 M Squared - Pipe Links and Sleeves TG0402-029 M Squared - Pipe Bedding Pea Gravel TG0406-008 M Squared - Steel Pipe Material TG0406-009 M Squared - Pipe Factory Test Results	Pipe Installation (AWSS)	3/26/2012	4/2/2012	Daily Report
UT - 4.2-005	UT-208500, UT-208600	TG04.2		Testing and Comissioning (AWSS)			
UT - 4.3-001	UT-030500, UT-030600	TG04.3		Water Howard and Beale Streets	1/13/2011	1/13/2011	Daily Report
UT - 4.4-001	UT-203700, UT-203800	TG04.4		AWSS Cap	3/3/2011	3/3/2011	Daily Report
UT - 4.4-002	UT-041000, UT-041100	TG04.4		Sewer on Natoma	2/4/2011	2/4/2011	Daily Report
UT - 4.4-003	UT-041400, UT-041500	TG04.4		Water on Natoma, First Streets	1/13/2011	1/13/2011	Daily Report
UT - 4.6-001	UT-002830, UT-002930	TG04.6		Pipe Installation Sewer/Sludge	6/21/2012	6/25/2012	Daily Report
UT - 4.6-002	UT-002830, UT-002930	TG04.6		Testing & Comissioning Sewer/Sludge	6/21/2012	6/25/2012	Daily Report
UT - 4.6-003	UT-002830, UT-002930	TG04.6		Trench and Excavation Sewer/Sludge	6/21/2012	6/25/2012	Daily Report

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Description/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
BGP-001	TBD	02 41 02	02 41 02 - 1.6	Shoring Wall Demolition			Daily Report
BGP-002	BGS01-1140	03 xx xx	03 xx xx	Concrete-Forms/Place, Protection Slab	4/19/2013	7/31/2013	Daily Report
BGP-003	BGS01-1130	03 xx xx	03 xx xx	Concrete-Forms/Rebar/Structural Embeds/Place, Foundation Slab	7/24/2013	8/1/2013	Daily Report
BGP-004	BGS01-1160	03 30 20	03 30 20 - 1.3	Concrete-Place, Foundation Slab	8/1/2013		Daily Report
BGP-005	BGS01-5160, BGS01-5170	03 xx xx	03 xx xx	Concrete-Forms/Rebar/Structural Embeds/Place, Lower Concourse			Daily Report
BGP-006	BGS01-4220	03 15 00	03 15 00 - 1.4	Concrete-Waterstop, Install			Daily Report
BGP-007	TBD	05 50 10	05 50 10 - 1.4	Metals-Pre Fabrication	3/28/2013		Daily Report
BGP-008	TBD	05 50 10	05 50 10 - 1.4	Metals-Install			Daily Report
BGP-009	TBD	07 09 16	07 09 16 - 1.4	T&MP-Seismic Joint Assemblies, Mock up			Daily Report
BGP-010	TBD	07 09 16	07 09 16 - 1.4	T&MP-Seismic Joint Assemblies, Install			Daily Report
BGP-011	TBD	07 12 10	07 12 10 - 1.4	T&MP-Waterproofing, Mud Slab Penetrations	1/21/2013	1/22/2013	Daily Report
BGP-012	TBD	07 12 10	07 12 10 - 1.4	T&MP-Waterproofing, Below Grade Package			Daily Report
BGP-013	TBD	Sections 22 xx xx, 23 xx xx, 26 xx xx, 27 xx xx, 28 xx xx	Sections 22 xx xx, 23 xx xx, 26 xx xx, 27 xx xx, 28 xx xx	MEP - Mechanical Piping & Drainage; Electrical Raceway & Boxes; Communications Ducts & Raceways; and Fire Management System			Daily Report
BGP-014	TBD	23 57 34 Note: - includes associated work covered under Section 31 23 34, Trenching and Backfill	23 57 34 - 1.4 Note: - includes associated work covered under Section 31 23 34, Trenching and Backfill	HVAC-Ground Loop Heat Exchanger, Install / Testing / Thermal Conductivity Analysis / Water Treatment / Commissioning	2/25/2013	3/18/2013	Daily Report
BGP-015	TBD	26 05 27 - 1.4	26 05 27 - 1.4	Electrical-Grounding System, Installation and Testing	1/9/2013	1/22/2013	Daily Report

WO-CQC0001 - Contractor Quality Control Plan

W00000-011400W01.10 - Contractor Quality Control Plan

DFOW Number	Baseline Schedule Activity ID	Specification Section	Required Submittals	Description/Feature of Work	Preparatory Phase Date	Initial Phase Date	Follow Through Phase Date
SSS-001	TBD	05 10 00	TBD	All Structural Steel			Daily Report
SSS-002	TBS	05 10 00	TBD	Elevator Guiderail Support Framing			Daily Report
SSS-003	TBS	5 10 00	TBD	Escalator Support			Daily Report
SSS-004	TBS	5 10 00	TBD	Stair Support Framing			Daily Report
SSS-005	TBS	5 10 00	TBD	Metal Decking Studs			Daily Report
SSS-006	TBS	5 10 00	TBD	Light Columns and Rings			Daily Report
SSS-007	TBD	5 10 00	TBD	OCS Attachment			Daily Report
SSS-008	TBD	5 10 00	TBD	Removal of Construction Trestle			Daily Report

WO-CQC0001 - Contractor Quality Control Plan

WO-CQC0001 - Contractor Quality Control Plan

PREPARATORY PHASE CHECKLIST		SPEC SECTION	DATE
(CONTINUED ON SECOND PAGE)		Enter Spec Section # Here	Enter Date (DD/MMM/YY)
CONTRACT NO	DEFINABLE FEATURE OF WORK	SCHEDULE ACT NO.	INDEX #
Enter Cnt# Here	Enter DFOV Here	Enter Sched Act ID Here	Enter Index# Here
PERSONNEL PRESENT	GOVERNMENT REP NOTIFIED _____ HOURS IN ADVANCE: YES <input type="checkbox"/> NO <input type="checkbox"/>		
	NAME	POSITION	COMPANY/GOVERNMENT
SUBMITTALS	REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER. HAVE ALL SUBMITTALS BEEN APPROVED? YES <input type="checkbox"/> NO <input type="checkbox"/>		
	IF NO, WHAT ITEMS HAVE NOT BEEN SUBMITTED? _____		
	ARE ALL MATERIALS ON HAND? YES <input type="checkbox"/> NO <input type="checkbox"/>		
	IF NO, WHAT ITEMS ARE MISSING? _____		
MATERIAL STORAGE	ARE MATERIALS STORED PROPERLY? YES <input type="checkbox"/> NO <input type="checkbox"/>		
	IF NO, WHAT ACTION IS TAKEN? _____		
SPECIFICATIONS	REVIEW EACH PARAGRAPH OF SPECIFICATIONS. _____		
	DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK. _____		
	CLARIFY ANY DIFFERENCES. _____		
PRELIMINARY WORK & PERMITS	ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE.		
	IF NOT, WHAT ACTION IS TAKEN? _____		

TESTING	IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM.
	WHEN REQUIRED?
	WHERE REQUIRED?
	REVIEW TESTING PLAN.
HAS TEST FACILITIES BEEN APPROVED?	
SAFETY	ACTIVITY HAZARD ANALYSIS APPROVED? YES <input type="checkbox"/> NO <input type="checkbox"/>
	REVIEW APPLICABLE PORTION OF EM 385-1-1.
MEETING COMMENTS	NAVY/ROICC COMMENTS DURING MEETING.
OTHER ITEMS OR REMARKS	OTHER ITEMS OR REMARKS:
<div style="text-align: right;">DATE _____</div>	

INITIAL PHASE CHECKLIST		SPEC SECTION	DATE
CONTRACT NO		DEFINABLE FEATURE OF WORK	SCHEDULE ACT NO.
		INDEX #	
PERSONNEL PRESENT	GOVERNMENT REP NOTIFIED _____ HOURS IN ADVANCE: YES <input type="checkbox"/> NO <input type="checkbox"/>		
	NAME	POSITION	COMPANY/GOVERNMENT
PROCEDURE COMPLIANCE	IDENTIFY FULL COMPLIANCE WITH PROCEDURES IDENTIFIED AT PREPARATORY. COORDINATE PLANS, SPECIFICATIONS, AND SUBMITTALS.		
	COMMENTS: _____		
PRELIMINARY WORK	ENSURE PRELIMINARY WORK IS COMPLETE AND CORRECT. IF NOT, WHAT ACTION IS TAKEN?		
WORKMANSHIP	ESTABLISH LEVEL OF WORKMANSHIP.		
	WHERE IS WORK LOCATED? _____		
	IS SAMPLE PANEL REQUIRED? YES <input type="checkbox"/> NO <input type="checkbox"/>		
	WILL THE INITIAL WORK BE CONSIDERED AS A SAMPLE? YES <input type="checkbox"/> NO <input type="checkbox"/>		
	(IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE) _____		
RESOLUTION	RESOLVE ANY DIFFERENCES.		
	COMMENTS: _____		
CHECK SAFETY	REVIEW JOB CONDITIONS USING EM 385-1-1 AND JOB HAZARD ANALYSIS		
	COMMENTS: _____		
OTHER	OTHER ITEMS OR REMARKS		
<div style="text-align: right;">_____ DATE</div>			

3.0 ELEMENT 3 DESIGN CONTROL

3.1 INTRODUCTION

3.2 DESIGN/BUILD PACKAGES

3.3 ROLES & RESPONSIBILITIES OF THE OWNER AND THE DESIGN BUILD TRADE SUBCONTRACTOR

3.4 AS-BUILT DRAWINGS

3.5 SUBMITTAL REVIEW

3.0 DESIGN CONTROL

3.1 INTRODUCTION

Design control as implied in this Element is limited to Design-Build packages where applicable, as-build drawings and submittal review and coordination by Webcor/Obayashi is primarily accomplished by QC Management, Oversight and coordination design/build package, where specified and ensuring that the design requirements are understood, planning the design interfaces and design verification activities, executing the design verification activities, and controlling design changes through project completion.

The designer shall prepare a plan for design/built activities. It should also identify the various organizational interfaces required between various groups producing and commenting on the design, and specify the information to be documented, transmitted, and regularly reviewed.

Appropriate procedures shall be established for the identification, documentation, review, and approval of all changes and modifications to the design. This responsibility should extend to those responsible for construction or manufacturing to ensure compliance to design requirements and for development of "as-built" documents as part of the design documentation at the end of the project.

Each group responsible for design/built shall provide its own written QC procedures. These include peer review of drawings and check calculations. QA activities are performed to verify compliance to established QC procedures and to determine the effectiveness of the procedures in meeting quality program objectives.

Specification Section 01-14-00 Quality Control Paragraph 1.6 B. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of Trade Subcontractors, offsite fabricators, Suppliers, and purchasing agents. These procedures must be in accordance with Section 01 13 00, Submittals.

3.2 DESIGN BUILD PACKAGES

W/OJV Shall:

- Clearly define requirements of the QA/QC Program in the contract documents.
- Coordinate with owner agency oversight activities in order to assure effectiveness of the QA/QC Program.

WO0000-011400WO1.10

- Require additional levels of reporting and/or detail by the DB contractor team.
- Clearly define roles and responsibilities of parties involved early in the bid documents.
- Maintain a proactive and systematic quality program that encompasses all the project lifecycle stages.

3.3 Roles and Responsibilities of the Owner and the Design-Build Trade Subcontractor

QC program effectiveness hinges on clear allocation of roles and responsibilities to the involved parties. QA/QC roles and responsibilities shall be defined clearly in the contract documents; and more importantly, are agreed upon by the parties at the outset. It is recommended that the owner agency conduct audits and testing at every stage of the QC process, and retain ownership of the resident database. TJPA has elected to retain the Quality Assurance (QA) role with the design-build contractor performing the Quality Control (QC) activities.

3.4 As-Built Drawings

Trade Subcontractors have design-build responsibilities (such as the access trestle and traffic bridges), their quality control plans shall include design control for their scope of work.

- The Trade Subcontractors shall keep an accurately marked, up-to-date set of as-built drawings for the work actually installed, and accurately indicate on as-built drawings all site conditions, locations of utilities, work scope changes, changes in dimensions, locations, and elevations of the Work, and changes in details as specified herein and as approved by the TJPA Representative. Trade Subcontractor shall keep the as-built drawings current as the Work is performed.
- Prior to acceptance of the Work, Trade Subcontractor shall furnish to the Webcor/Obayashi JV CQC Manager the final as-built drawings, showing all changes in the Contract Drawings neatly in red ink.
- Trade Subcontractors will delegate responsibility for maintenance, coordination, and accuracy of the as-built drawings to one person on their staff.
- Accuracy of as-built drawings shall be such that future searches for items shown on the Contract Documents may rely on information obtained from the approved as-built drawings.
- Trade Subcontractors shall store as-built drawings apart from documents used for performing the work; keep in a dry, legible condition, and in good order. Label each document "AS-BUILT DRAWINGS— JOB SET" in large, neatly printed letters.
- Trade Subcontractors shall record neatly on the as-built drawings all changes made by clarifications, Change Orders, Requests for Information, and other Modifications to the Contract Documents; and changes to reflect the actual

existing conditions and utility locations references to permanent accessible features of the Work.

- Trade Subcontractors shall clearly describe changes on as-built drawings by note as required.
- Trade Subcontractors shall date all entries, calling attention to the entry by a “cloud” drawing around the area or areas affected.
- Trade Subcontractors shall record in each Specification Section the manufacturer, trade name, catalog number, and supplier of each product and equipment item incorporated into the Work.
- Trade Subcontractors shall furnish a copy of the final shop drawings which have been updated to show actual conditions. Furnish additional drawings as necessary to record deviations from the sizes, locations, and other features of the Work and to locate piping, conduit, ductwork, and similar elements of utility installations by dimensions referenced to permanent accessible features of the Work.
- Trade Subcontractors shall show on the job set of as-built drawings, by dimension accurate to within 1 inch, the centerline of each run of conduits, circuits, piping, ducts, and similar items which are shown schematically on the Contract Drawings but where the final physical arrangement is determined by Trade Subcontractor.
- Trade Subcontractors shall keep as-built drawings up to date during the entire progress of the Work, and provide access for monthly. Updates shall be accurate and current and be done at the time work is performed.
- Trade Subcontractors shall also update and include the revised or newly issued drawings as part of the as built drawings. The work of reproducing and issuing Change Order drawings and updating of as built drawings shall be done as incidental work.

3.5 SUBMITTAL REVIEW

Submittals will be reviewed for coordination, completeness, clarity and coordination with other trades prior to submitting to the TJP. To obtain approval from the Architect/Engineer/Consultant for all materials, assemblies, equipment and shop drawing submittals required by the contract documents.

The purpose is to install materials, assemblies and equipment only after approval is obtained from the appropriate reviewing Architect/Engineer/Consultant responsible for the particular scope of work.

- Webcor/Obayashi and TJP process submittals using two different types of project management software. Webcor/Obayashi uses internal system and TJP uses ConstructWare.
- In WOJV System submittal packages contain submittals and all of the history of the submittal is tracked at the submittal level. The submittal package is simply the nest of the submittals that are attached to it.

- Submittals are transmitted to TJPA from Webcor/Obayashi via WOJV internal system and ConstructWare.
 - The naming format of the PDF submittal is crucial for the transmission to be successful.
- Submittal Actions Status:

ACTION	STATUS
Received	Open
Sent	Submitted
Returned	No Exceptions Taken, Make Corrections Noted, Revise and Resubmit, or Rejected
Forwarded	Same as Returned Status
<u>For the Record</u>	<u>Submit for record only</u>

4.0 ELEMENT 4 DOCUMENT CONTROL

4.1 INTRODUCTION

4.2 SUBMITTAL MANAGEMENT

4.3 SUBMITTAL MANAGEMENT AND DOCUMENT CONTROL PROCEDURES

4.3.1 DOCUMENT CONTROL

4.3.2 SUBMITTALS

SUBMITTAL REVIEW CHECKLIST

4.3.3 TRANSMITTALS

4.3.4 DISTRIBUTION MATRICES

4.3.5 MASTER PROJECT DOCUMENT LOG

4.3.6 CQC FILE STRUCTURE

4.0 DOCUMENT CONTROL

4.1 INTRODUCTION

Webcor/Obayashi's Document Control process is the means by which information Specified in the Contract Documents to be in Webcor/Obayashi's and the Trade Subcontractors' control are logged, filed, and updated to assure that the organization's staff is using the most current approved documents and they are following the most recently approved procedures and standards and that are compliance with contract and applicable FTA, 15 Element Guidelines.

Procedures for control of project documents and data have been established and shall be maintained. The document control measures should ensure that all relevant documents are current and available to all users who require them.

Control of project documents includes the review of documents by authorized personnel, the distribution and storage of these documents, the elimination of obsolete documents, and control of changes to the documents. Copies of the documents shall be distributed so that they will be available at all locations that need them for effective functioning of the quality management system. Obsolete documents will be promptly eliminated from each work location. Any superseded documents retained for the record will be clearly identified as such. The same authorized personnel who reviewed and approved the original documents, unless the control procedures specifically allow otherwise, should review changes to the documents and data. Changes will be promptly distributed to all locations, along with a master list enumerating the current revisions of each document.

Following are examples of the types of documents requiring control:

- Drawings
- Specifications
- Inspection procedures
- Test procedures
- Special work instructions
- Operational procedures
- QA program and procedures

4.2 SUBMITTAL MANAGEMENT

The Submittal process is designed to assure that all material, assemblies, equipment and shop drawings meet the Transbay Transit Center project requirements and are approved by the TJPA prior to procurement and installation. The Submittal process is the means by which the Trade Subcontractors control product purchasing. This submittal schedule will be developed incrementally and additional submittals will be added as trade packages are awarded and subcontractors are brought on board. Trade Subcontractors will submit their submittal schedules compliance with contract and FTA element guidelines for approval, as required in the Division 00, 01 and technical specifications, prior to the start of work. Element 4 guidelines state that control of project documents includes the review of documents authorized personnel, the distribution and storage of these documents, the elimination of obsolete documents and control of changes to the documents.

4.3 SUBMITTAL MANAGEMENT AND DOCUMENT CONTROL PROCEDURES

The Webcor/Obayashi JV Document Control and Submittal management procedures are part of Webcor/Obayashi's Transbay Transit Center Policy and Procedures Guide. The relevant sections of that guide addressing submittal management and document control are listed below and are included in this section of the Webcor/Obayashi JV CQC Manual:

- | | |
|------------------------|------------------------------------|
| 4.3.1 Document Control | 4.3.4 Document Distribution matrix |
| 4.3.2 Submittals | 4.3.5 Master project document log |
| 4.3.3 Transmittals | 4.3.6 CQC file structure |

4.3.1 DOCUMENT CONTROL

The purpose of this outline is to provide guidelines for establishing the appropriate D document control system for the management of the Transbay Transit Center project. This will include the review of documents by authorized personnel. All Controlled documents will go through Document Control to be logged and tracked.

What is a controlled document? A controlled document is defined for this project as any contract document or correspondence which includes i) contract requirements, or ii) scope definition or requirements, including distribution of all Contract Documents (e.g. addendum, ASI's bulletins, work orders, etc.) either to/from TJPA or Trade Subcontractor. Controlled documents received will be date stamped, logged, saved electronically (in some cases hard copies filed), distributed internally, monitoring response/process time (also referred to as work flow), distribute externally, and track the distribution list.

The following is a list of **controlled document** examples:

- Project Document Distribution – Internal/External
 - Design Documents
 - Construction Document
 - ASI's
 - Sketches- to be issued with ASI's or RFI's and not on their own.
 - Reference Documents
- Submittals, including all LEED submittal requirements and substitutions.
- Design Review Questions (DRQs) - Preconstruction
- Request for Information (RFIs) - Construction
- Daily Reports and Daily Quality Control Reports
- Safety Memos – Logged and tracked
- Schedules and schedule reports
- Permit Inspections
- Payment Applications
- Cash Flow Projections
- Monthly Progress Reports
- Permits
- Original Documents - Custodianship of all original documents in a Master File until they can be boxed and transferred for long term storage.
- Formal Correspondence; including all formal incoming/outgoing correspondence
- Contract Notification Correspondence; delay notification, etc.
- Contract Modifications
- Virtual Building/Models
- Meeting Minutes
- Transmittals
- Requests for Qualification (RFQ)
- Invitation for Bid (IFB)
- Subcontracts & Change Orders
- Long Form/Short Form Purchase Orders (PO)
- SBE/DBE
- Closeout documents

WO0000-011400WO1.10

- Reimbursements

Uncontrolled Documents: The following are some examples of uncontrolled documents:

- Email correspondence
- Field Tags – Collected and tracked by Cost Control
- Purchase Order – Managed by Procurement/Cost Control

4.3.2 SUBMITTALS

Submittals will be reviewed for coordination, completeness, clarity and coordination with other trades prior to submitting to the TJPA. To obtain approval from the Architect/Engineer/Consultant for all materials, assemblies, equipment and shop drawing submittals required by the contract documents.

The purpose is to install materials, assemblies and equipment only after approval is obtained from the appropriate reviewing Architect/Engineer/Consultant responsible for the particular scope of work.

- Webcor/Obayashi and TJPA process submittals using two different types of project management software. Webcor/Obayashi uses internal and TJPA uses ConstructWare.
- In WOJV System submittal packages contain submittals and all of the history of the submittal is tracked at the submittal level. The submittal package is simply the nest of the submittals that are attached to it.
- Submittals are transmitted to TJPA from Webcor/Obayashi via WOJV internal system and ConstructWare.
 - The naming format of the PDF submittal is crucial for the transmission to be successful.

- Submittal Actions Status:

ACTION	STATUS
Received	Open
Sent	Submitted
Returned	No Exceptions Taken, Make Corrections Noted, Revise and Resubmit, or Rejected
Forwarded	Same as Returned Status
<i>For the Record</i>	<i>Submit for record only</i>

Receive Submittal from Subcontractor – 0-5 days

Was it received on time? If not, have the Trade Scope PM notify the subcontractor that it was late. Is the submittal complete? If not, return the submittal to the subcontractor, transmittal shall include notification that the submittal is incomplete, give a date that the re-submittal is required, and notify them of their potential risk in missing the submittal date.

Review the submittal using the submittal process checklist once the submittal is deemed complete, stamp, (All pages of shop drawings; front page only for product data), distribute to PM, QC and Supt. to review for conformance, completeness, compliance, clarity and transmit to TJPA.

Design Team Review – 12 days Design team will review the submittal. Each layer of review (Architect and Consultants) will stamp ALL pages and return to Webcor/Obayashi's document control manger.

Returned Submittal - 5 days

Reviewed by Document Manager – Notify Author. Document Control will receive e-mail notification that the submittal has been reviewed in ConstructWare. Document Control will forward the e-mail notification along with all attachments to Author.

PM Triage – Notification Sent to Subcontractors

- Revise & Re-submit or Rejected
 - Return R&R or Rejected submittal to author subcontractor. PM will include in the transmittal a due date for re-submittal (5 days). Director will make a case-by-case determination on whether to send a preliminary submittal to other subcontractors for coordination.
- No Exceptions Taken & Make Corrections Noted
 - Email author subcontractor and all affected trade subcontractors the approved submittal. PM will include transmittal with the action required.

Is there a Cost / Schedule Impact or Scope Change?

Subcontractors have 5 days from the returned date to respond with a cost or schedule impact.

Written Notification to Owner, draft RFI to Capture Cost.

Shop drawings, product data, and samples "are not contract documents" per our contract language. Therefore, any change in scope change during submittal review by design team must be captured via ASI. Director should also send written notification to ownership of any scope change incurred from a returned Submittal.

Storing Approved Submittals

Author of submittal will file all documents and correspondence within the storage folder and post the documents electronically.

- Put approved electronic copy of submittal in the designated folder



SUBMITTAL PROCESS CHECKLIST

Submittal Package No.: _____ Date Received: _____

Submittal Name: _____

- ☐ Review each submittal to:
- ☐ Verify that the submittal's contents match the accompanying transmittal. Did we receive everything listed on the transmittal?
 - ☐ Verify that the submittal's contents are complete per the submittal register. Important: submittal packages need to be complete and should include all information necessary for review. Partial submittals are to be rejected by W/O (if we don't the TJPA will).
 - ☐ Verify that the contents of the submittal are in conformance with the technical specifications and other appropriate contract documents.
 - ☐ Is the Submittal a Substitution?
 - ☒ No- Continue Processing Submittal
 - ☐ Yes -Reject submittals that are substitution requests- There is a separate process for substitutions.
 - ☐ Verify that the trade subcontractor has checked and coordinated all dimensions, materials, field measurements, with the requirements of the Work and the Contract Documents.
 - ☐ Verify that the submittal complies with the requirements of reference specifications –SFDPW, PG&E etc.
 - ☐ Confirm that all professional certifications (stamp) w/license number and expiration date are provided and signed if required.
 - ☐ Note any variations from the Contract requirements (if there are create an issue in CMiC)
- No questions Address all questions raised or noted in the submittals; requests to verify dimensions, etc. If there are questions with the submittal:
- ☐ Can the questions be answered by W/O?
 - ☐ Does an RFI need to be submitted?
 - ☐ Does an issue need to be created in CMiC?
 - ☐ Identify who is responsible for answering the question
- ☐ Identify all affected and adjacent trades that can be potentially impacted by submittal. Develop an action plan to coordinate submittal information with ALL affected and adjacent trades.
- ☐ If the submittal is complete, stamp the first page of each item. If it is shop drawings, all sheets must be stamped.

Trade Scope Superintendent: _____

Date: _____

Trade Scope PM: _____

Date: _____

CQC Manager: _____

Date: _____

Safety

Manager: _____

Date: _____

WO0000-011400WO1.10

4.3.3 TRANSMITTALS

To ensure controlled contract documents leaving this office have a record.

Use and receipt of Transmittals is governed by the information herein.

All controlled contract document exchange with Ownership, Design Team, Subcontractor community and Agencies with Jurisdiction/Authority on the project requires a transmittal. All transmittals are created in CMiC with the reference documents listed and uploaded as attachments in CMiC. All transmittals with incoming documents are date stamped, scanned and uploaded with the documents to the pertinent folder and CMiC.

Below is a listing of all contract documents that require a transmittal to capture the exchange/submission:

- Billing
- Submittals
- Design Review reports
- Schedules & Reports
- Cost Estimates
- Drawings
- Close-out documents
- Attic Stock

Transmittal tracking numbers are auto populated in CMiC.

Subject (RE): The subject should be the same description used on other documents (ex. PCI's, Letters, e-mail, etc.) Subject should be descriptive and should include appropriate sub-job, TG Package # and description.

Remarks: In the section, the first sentence should read

RE: Transbay Transit Center [Preconstruction/TCB/Utilities/Bus Ramps select one] – 30100.[##]

4.3.4 DISTRIBUTION MATRIX

To establish guidelines for who receives what documents and in what form.

All documents received by Document Control will be distributed according to the matrices.

Distribution Matrices have been established for:

1. Internal Distribution
2. External Distribution

WO0000-011400WO1.10

Internal Distribution Matrix
WO-CC0000 - Contractor Quality Control Plan
Webcor/Obayashi Joint Venture

8/28/13
Rev17

		General							Construction					
P = Primary cc = copy		Contract Issues	Amendment/CR/CCO	Progress Billings	Schedule	Quality	Safety	Pre Construction	Transit Center Bldg				Utility Relocation - 30100.03	
									TG03-BSE	TG05-Logistics	TG06-Below Grade	TG07.1 Superstructure		
Group Name		All Correspondence							Field Orders					
									Submittals					
									Inspections					
									RFI's					
									PCO's					
MANAGEMENT	Jes Pedersen	cc												
	Hidetake Taniguchi	cc	cc	cc	cc	cc	cc	cc	cc					
	Steven Humphreys	P	P		cc	cc	cc		cc	cc	cc	cc	cc	cc
	Todd Mercer	cc	cc	cc		cc	cc	cc						
	Kurt Ricci	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc
PROJECT ACCT	Jasmin Lautt		cc	P										
PROJECT ASSISTANT / ADMIN	Anne Merics			cc										
	Sarah Boyd			cc					cc	cc	cc	cc	cc	cc
	Julie O'Brien		cc											
CONTROLS/SBE	Ted Williams	cc	cc	cc					cc	cc	cc	cc	cc	cc
SAFETY	Jack Storace						P							
QUALITY CTRL	Adib Sassine					P		cc	cc	cc	cc	cc	cc	cc
	Duncan Sinclair					cc		cc	cc	cc	cc	cc	cc	cc
	Lynn Kowallis					cc		cc	cc	cc	cc	cc	cc	cc
SCHEDULING	Ryan Burke	cc	cc		P	cc	cc	cc	cc	cc	cc	cc	cc	cc
	Jose Ramirez				cc									
VIRTUAL BLDG	Mike Brown							cc						
TRANSIT CENTER BLDG 30100.01	Joanne Verrips		cc		cc	cc	cc		P		cc			
	Spencer Sayles		cc		cc	cc	cc		cc		P			
	Ryan Burke		cc		cc	cc	cc		cc		cc			
	RJ Kjome		cc		cc	cc	cc		cc		cc	cc		
	Mike Spillane		cc		cc	cc	cc		cc		cc			
	Jose Verduzco		cc		cc	cc	cc		cc		cc			
	Mario Saldana		cc		cc	cc	cc		cc	cc	cc			cc
	Jordan Smith		cc		cc	cc	cc		cc		cc	cc		
	Jeff Galoyan		cc		cc	cc	cc				cc	P		
UTILITY RELOCATION 30100.03									cc	P	cc	cc		P
	Jackson Tukuafu													
BUS RAMPS 30100.05														
	Precon													
PRECONSTRUCTION 30100P	Jeff Heath				cc			P						
	Tomoya Imai							cc						
	Sihaya Roselle							cc						
	Dennis Blatchford							cc						
	Forrest McLain							cc						
	Tim Maxwell							cc						
	Masashi Kojima							cc						
	Lewis Hampton							cc						
	JD Flaming							cc						

TRANSBAY TRANSIT CENTER
WO-CQC0001 - Contractor Quality Control Plan
DISTRIBUTION MATRIX
WEBCOR/OBAYASHI
External

P = Primary
CC = Copy

P = Primary CC = Copy		General Correspondence										Trade Specific Correspondence				Precon		Engineering		
		Contract Issues	Amendments/CO	Progress Billings	Schedule Updates	NOPD/NOPC	Quality	Safety	Cost Estimating/Constructability	LEED	Field Orders/PCO	Transit Center Bldg 30100.01				Utility Relocation - 30100.03	Bus Ramps - 30100.05	Bid Packages and Correspondence	QBDs	RFI's and Submittals
												TG03 - BSE	TG05 - Logistics	TG08 - Glazing	TG19 - Mission Wall					
Group	Name																			
Turner	Steve Rule	P	CC	CC	P	P	CC	CC	CC		CC	CC	P	P	P	P	P	P		
	Jack Adams				CC	CC	P	P				CC	CC	CC	CC	CC	CC			
	Jeremy Lau		CC	CC							CC									
	Gary Krutsch	CC	P	P	CC	CC			CC		P	CC	CC	CC	CC	CC	CC	P	P	
	Judy Long															CC		CC	CC	
	Jeff Thiel																			
	Stacy Wilson											CC						CC	CC	
	Steve Cunningham				CC	CC		CC				CC				CC				
	Turner Doccontrol	CC	CC	CC	CC	CC	CC	CC	CC		CC	CC	CC	CC	CC	CC	CC	CC	CC	
PMPC	Kathleen Lasse	CC	CC		CC	CC			P		CC									
	Jim Coughlin	CC	CC		CC	CC			P		CC									
	Joyce Oishi									P										
	Mark O'Dell	CC	CC		CC				CC		CC	CC	CC	CC			CC	CC	CC	
	Dan Alvarado				CC				CC		CC	CC		CC			CC	CC	CC	
	Guy Hollins															CC	CC			
	Phil Sandri														CC		CC			
	Bill Seaver																			
	Prasad Nimmigadda								CC											
	Roger Rothenburger	CC	CC						CC		CC	CC								
	Doug Jacobson											CC								
	Larry Zarembinski																			
	Jason Partin				CC															
	PMPC DocControl	CC	CC	CC	CC	CC	CC	CC	CC		CC	CC	CC	CC	CC	CC	CC	CC	CC	
	Brian Dykes					CC						P								
	Eddie Phillips	CC	CC	CC					CC		CC							CC		
	Dennis Turchon																			
	Sara Gigliotti	CC	CC	CC					CC		CC							CC		
	*TJPA DocControl	CC	CC	CC	CC	CC	CC	CC	CC		CC	CC	CC	CC	CC	CC	CC	CC	CC	
TJPA																				

*All correspondence for TJPA will be sent to Doc. Control and will direct correspondence for action, information, etc.

4.3.5 MASTER PROJECT DOCUMENT LOG AND LIBRARY EXHIBIT

To track and document all drawings and specifications issued throughout the life of the project and where these documents live.

The master project document log will be updated by Document Control as new drawings and specifications are issued.

1. Review master drawing log against drawing log issued with new drawings.
2. Update master drawing log when new documents are received with date, revision number and location of where documents are saved.

NOTE – Master Drawing Log has not been established; PMPC to issue master log.

4.3.6 CQC FILE STRUCTURE

The CQC File Structure is outlined below and will be utilized on this project to store, organize and manage Webcor/Obayashi's CQC Plan, Daily CQC Reports and DFOWs. **This File Structure will mirror that of Constructware.**

Webcor/Obayashi will organize and store CQC documents such as the CQC Plan, Daily CQC Reports and DFOWs on the F:\ drive in a shared folder. **All required quality records** will be uploaded into Constructware as the system of record.

CQC documents on the F:\ drive may be found at the following location.

F:\Transbay\WEBCOR\Quality Control

CQC Plans

- CQC Plan Webcor-Obayashi JV:

Daily CQC Reports

- Transbay
 - o WEBCOR
 - Quality Control
 - Daily CQC Reports
 - o Year
 - Month
 - Day
 - o Year/Month/Day – Contractor

DFOW

- Transbay
 - o WEBCOR
 - Quality Control
 - DFOW (By Contractor)

WO-CQC Plan TTC Rev 0.1

WO0000-011400WO1.10

- DFW Number's
 - Preparatory Phase
 - Initial Phase
 - Follow up
 - DFW Record Documents

CQC Daily Reports in Constructware may be found at the following location.

Constructware CQC Daily Reports

140 - Transit Center Building

- File Director
 - 10 Quality
 - 12 CQC Reports
 - Year
 - Month
 - Day
 - Month/Day/Year – contractor

CQC DFW Reports in Constructware may be found at the following location.

Constructware CQC DFW

140 - Transit Center Building

- File Director
 - 10 Quality
 - Definable Features of Work (DFW)
 - Contractor's DFW (Ex. BSE-TG03 – BBI)
 - DFW Log
 - DFW (By Number and Title)
 - Preparatory Phase
 - Initial Phase
 - Follow up Phase
 - DFW Record Documents

DFW – Any Reference to a DFW requires filing a copy of each Sub's QC **checklists** to retrieve follow up documents in F/drive and Constructware.

5.0 ELEMENT 5 **PURCHASING**

5.1 INTRODUCTION

5.2 CONTROL OF PURCHASED MATERIALS, PARTS AND COMPONENTS

5.0 PURCHASING

5.1 INTRODUCTION

The contract requirements will clearly specify the expectations of WOJV, including relevant standards, drawings, specifications, process requirements, inspection instructions, and approval criteria for materials, processes, and product. The purchasing documents will be reviewed and approved by WOJV and TJPA for adequacy of specified requirements prior to release. WOJV will ensure that the supplier fully understands the contract, agrees with the contract, and has the capacity to perform the work as required.

Where construction or equipment procurement is involved, the contract between WOJV and the supplier will specify the right of WOJV or TJPA authorized representatives to carry out as required inspection and testing at the source and upon receipt to verify that the work or product meets specifications.

Where equipment procurement is involved, WOJV will define, as appropriate, the means and methods for handling, storage, packaging, and delivery of product and as required per contract documents. WOJV will establish procedures to receive, inspect, store, and maintain equipment procured. Any equipment that is damaged or is otherwise unsuited for use will be documented and reported to the supplier or Trade Subcontractor.

Purchasing requirements apply to all subcontractors and suppliers, including construction contractors, and manufacturers. The purpose of this element is to ensure that purchasing requirements are clear and complete, that the supplier or trade subcontractor understands them, and that appropriate quality elements are made part of the contract. Additional requirements, such as on-site required inspection and handling and receiving procedures, may be required for construction or equipment procurement contracts.

Specification Section 01-16-00 Material and equipment referenced in this section.

Immediately upon delivery, Contractor shall inspect shipments to assure compliance with the Contract Documents and reviewed submittals, and to verify that products are undamaged and properly protected from potential damage. Undamaged products shall be delivered to the job site in manufacturers' sealed containers or wrappings with legends and labels intact. Contractor shall maintain packaged materials with seals unbroken and labels intact until time of use. "

5.2 CONTROL OF PURCHASED MATERIALS, PARTS AND COMPONENTS

- As part of bid package development Webcor/Obayashi JV will prepare trade package specific subcontractor prequalification requirements. These prequalification's are submitted to, and reviewed by the TJPA.

WO0000-011400WO1.10



The pre-qualification requirements are then included in the project bidding manual.

- Prior to contract award Webcor/Obayashi JV verifies that all trade subcontractors and suppliers meet the project requirements as outlined in the project bidding manual and contract documents.
- Schedule work to be tested or inspected to allow test to be performed within reasonable time.

6.0 ELEMENT 6 **PRODUCT IDENTIFICATION & TRACEABILITY OF MATERIAL, PARTS & COMPONENTS**

6.1 OVERVIEW

6.2 MATERIAL IDENTIFICATION

6.3 PRODUCT IDENTIFICATION AND TRACEABILITY

WO0000-011400WO1.10

6.0 PRODUCT IDENTIFICATION AND TRACEABILITY

6.1 OVERVIEW

W/OJV and Trade Subcontractors will identify and document material and products delivered to the site using the material checklist. Material and products will be reviewed for deficiencies. Once a deficiency is identified by using the material checklist, there is a systematic method to control the item, correct it, and ensure that project quality is not adversely impacted.

When the material or product is identified as deficient it will immediately be segregated. Segregation may occur by physical isolation and cordoning off of work/materials, or conspicuously identified by tags/markings when physical isolation is not possible. BIM 360 will be used to identify deficient materials on equipment and track resolution and closure.

6.2 MATERIAL IDENTIFICATION

Measures shall be established and maintained for identifying and controlling items of production (batch, materials, parts, and components) to prevent the use of incorrect or defective items and to ensure that only correct and acceptable items are used or installed.

Physical identification and control shall be used to the extent possible. Where physical identification is impractical, physical separation, procedural control, or other appropriate means may be employed. Items that fail to possess identification, or items for which record traceability has been lost, or items that do not conform to requirements shall be segregated to prevent use or installation. An item shall be able to be identified by how it is marked or where it is located.

Specification Section 01-16-00 Material and equipment; 1.6 D & E
Immediately upon delivery, Contractor shall inspect shipments to assure compliance with the Contract Documents and reviewed submittals, and to verify that products are undamaged and properly protected from potential damage.

1. Undamaged products shall be delivered to the job site in manufacturers' sealed containers or wrappings with legends and labels intact. Contractor shall maintain packaged materials with seals unbroken and labels intact until time of use.

2. Contractor shall promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements at no increase in Contract Sum without impact to construction schedule.
3. Unsuitable materials and products not removed promptly from the job site by Contractor may be removed by the TJPA. Removal costs shall be paid by Contractor.
4. Contractor shall identify materials and equipment delivered to the Site to permit checking against submittals and shop drawings.

The TJPA may reject as non-complying such material and products that do not bear identification satisfactory to the TJPA as to manufacturer, grade, quality, and other pertinent information.

6.3 PRODUCT IDENTIFICATION & TRACEABILITY

Product identification and traceability shall take place during all the various production phases – from receipt of raw materials, components, or subassemblies through the manufacturing process, to delivery of final products or systems. Traceability shall mean traceable to Transbay Terminal Center project, specific warranty, test report, supplier, point in time, purchase order, or through production. Raw materials shall be traceable back to a particular batch number, shipment number, packing slip, or invoice and shall be accompanied by applicable test data sheets and material certifications. Store room or inventory tracking procedures shall allow for items to be traceable back to a particular order number, batch number, date received, test lot, or other pertinent source. Assemblies in production shall be traceable to Transbay Terminal Project through the use of some form of routing documentation. Routing documentation should contain sufficient manufacturing information, including work instructions, manufacturing standards, tooling, etc. Final assemblies should be clearly marked with project numbers, model numbers, serial numbers, bar codes, etc., so that all pertinent information regarding that assembly may be retrieved.

7.0 ELEMENT 7 PROCESS CONTROL

7.0 PROCESS CONTROL

The contractor quality control process is the means by which W/OJV, Trade Subcontractors and Suppliers shall identify and plan the production and installation processes.

Suppliers and Trade Subcontractors process control shall identify and plan the production and installation processes that directly affect quality and shall ensure these processes are performed under controlled conditions. Special processes, the results of which cannot be verified by subsequent inspection and testing of the product, shall be continuously monitored. To achieve accuracy and consistency in production and installation processes, the quality program shall provide for:

- Documented work instructions where such are needed to ensure quality, use of suitable production and installation equipment, a suitable working environment, personnel qualifications, and conformance with referenced standards/codes and Quality Plans
- Monitoring and controlling of processes and product characteristics during production and installation.

Continuous monitoring and/or conformance with documented procedures is required during special processes, such as welding, nondestructive testing, and heat treatment, where the results will impact quality of the final product, but where inspection after the fact will not reveal the deficiencies.

Ensure that work is performed in the proper sequence. For example, welds should be inspected before they are painted. Earth should be compacted before concrete is poured. Documented work instructions can help with sequence control where there is complex work or when there are multi-disciplined interfaces.

Procedures or guidance to be in conformance with contract and FTA Guidelines for Control of special processes by the Trade Contractors.

Sequence of work must be identified by subcontractor prior to final fabrication on installation. Documented work inspections are required per DFOW Preparatory meeting and will be the basis for process control.

8.0 ELEMENT 8 INSPECTION AND TESTING

- 8.1** QUALITY INSPECTIONS
- 8.2** INSPECTION AND TESTING LABORATORY SERVICES
- 8.3** COORDINATION MEETING
- 8.4** TESTS
- 8.5** INDEPENDENT TESTING FIRM REPORTING REQUIREMENTS
- 8.6** TJPA CODE AND AGENCY TESTING AND INSPECTION
- 8.7** TJPA SPECIAL INSPECTION AND TESTING
- 8.8** INSPECTION REQUEST PROCEDURE
- 8.9** TEST AND INSPECTION PROCEDURES BY TRADE SUBCONTRACTORS
- 8.10** CONTROL VERIFICATION AND ACCEPTANCE TESTING PROCEDURE
- 8.11** PUNCH-OUT INSPECTION
- 8.12** PRE-FINAL INSPECTION
- 8.13** FINAL ACCEPTANCE INSPECTION
- 8.14** EXAMPLES OF DFOW CHECKLISTS

8.0 INSPECTION AND TESTING

8.1 QUALITY INSPECTIONS

The Webcor/Obayashi JV Quality Control Manager or CQC Manager's alternate will verify that Trade Subcontractors are meeting the requirements outlined in the TJPA Quality Management System Manual, sections 8.5.1 Inspection and Test Planning and 8.5.2 Contractor Inspection Requirements, to provide documented evidence of inspections, lab reports and test results as required per contract. The Trade Subcontractors will also perform required inspections of all purchased items, perform source inspections, perform first article inspections and perform end process inspections and testing. Webcor & Trade Subcontractors personnel will receive training on methods to physically inspect and document critical structural DFOW components prior to ISI inspection as TJPA's 3rd Party Inspector.

Inspection and Testing- Inspection and testing procedures should be planned and executed as necessary to verify quality. Procedures should be specified, implemented, and the results documented for receiving incoming products, and for final inspection and testing.

When products are delivered to W/OJV, it is the responsibility of W/OJV and trade subcontractor QC Manager to verify they are in conformance with requirements. Verification should be in accordance with the Quality Plan or documented procedures. The extent of receiving inspection can vary with the amount of inspection at the source, the safety criticality of the product, and the confidence in the quality procedures of the supplier.

In process testing and inspection of the work to verify conformance of an item or work activity to specified requirements, should be in a conformance with the Quality Plan on documented procedure process and balance to quality. Both inspection and process monitoring methods shall be performed, as necessary, to ensure that the specified requirements for the control of work processes and the quality of the item are being achieved throughout the duration of the work.

Final inspection and testing should ensure that all specified inspections and tests, including those specified for receipt of product or in-process work, have been carried out and the resulting data meet specifications. Final inspection and testing should be carried out and properly documented to ensure conformance of the finished product to the specifications.

Records should be maintained of the various inspections and tests to provide evidence that the product has passed inspection and/or test with defined acceptance criteria.

8.2 INSPECTION AND TESTING LABORATORY SERVICES (SPEC. SECTION 01 14 00)

Where specified, the TJPA Representative will appoint, employ, and pay for services of an independent firm to perform inspections, testing, and other services specified in individual specification sections and as required by the TJPA Representative.

Where specified, trade subcontractors will appoint, employ, and pay for services of an independent firm to perform inspections, testing, and other services specified in individual specification sections.

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 approved by the TJPA Representative must be used.)

8.3 COORDINATION MEETING (SPEC. SECTION 01 14 00 - 1.7)

After the pre-construction conference for each Trade Work Package, before start of construction, Contractor and Trade subcontractor shall meet with the TJPA Representative and TJPA QA Manager and discuss the Contractor's quality control system as it relates to the work of the trade package. Submit the CQC Plan a minimum of 15 days prior to the coordination meeting. During the meeting, a mutual understanding of the system details must 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 TJPA Representative's quality assurance. Minutes of the meeting will be prepared by the TJPA Representative, signed by both the Contractor and the TJPA Representative and will become a part of the Contract file. There may be occasions when subsequent conferences will be called by either party to confirm mutual understandings and/or address deficiencies in the CQC system or procedures that may require corrective action by the Contractor.

8.4 TESTS (SPEC. SECTION 01 14 00 1.10)

Trade subcontractor shall perform specified or required tests to verify that control measures are adequate to provide a product that conforms to Contract requirements. Upon request, Contractor shall furnish to the TJPA duplicate samples of test specimens for possible testing by the TJPA. Testing includes operation and/or acceptance tests when specified. Procure the services of a certified testing laboratory. Perform the following activities and record and provide the following data.

- Verify that testing procedures comply with contract requirements.

- Verify that facilities and testing equipment are available and comply with testing standards.
- Check test instrument calibration data against certified standards.
- Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- Record results of all tests taken, both passing and failing on the CQC report for the date taken. Specify paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the TJPA Representative, actual test reports may be submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the TJPA Representative. 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.

1.2. B Trade Subcontractor's QC service responsibilities:

- "Cooperate with testing agency personnel.
- Provide access to the Work.
- Obtain and handle samples of materials and equipment as defined in Section 01 13 00, Submittals.
- Furnish storage and assistance as requested.
- Facilitate inspections and tests.
- Notify the TJPA Representative in writing a minimum of 48 hours, excluding weekends and holidays, but not more than 72 hours prior to expected time for operations requiring as needed testing or inspection services.
- Schedule work to be tested or inspected to allow tests to be performed within reasonable time period.
- Where required, deliver samples to testing agency.
- When a specified test or inspection is not performed due to Contractor's failure to notify the TJPA Representative as specified or when material, or workmanship is not ready at the time specified, the TJPA Representative will establish remedial work, and Contractor shall bear the cost of remedy.
- Take steps necessary to ensure no portion of the work requiring testing or inspection is covered prior to acceptance by authorized parties.

- Ensure that no testing or inspection is scheduled until all approvals for the work have been received. This includes welder's certifications, submittals, design/build engineering stamp, and certification".

1.3. A

"Contractor shall verify all dimensions in the field and shall check all field conditions continuously during construction. Contractor shall inspect related and appurtenant work and report in writing to the TJPA Representative any conditions that will prevent proper completion of the Work in accordance with the requirements of the Contract, Trade Subcontractor's QC service responsibilities."

1.3. B

"Contractor shall be responsible for any Work that is non-conforming. Any required removal, repair, or replacement caused by non-conforming work shall be done by Contractor at no cost to the TJPA. Such nonconforming work will be considered as defective and payments will be withheld in accordance with Section 00 07 00, General Conditions, paragraphs 9.05 and 9.08."

1.3. C

"Contractor shall be responsible for recording all changes and modifications to the Contract work as required by site conditions and inspections in accordance with the requirements of Section 01 17 20, Project As-Built Drawings."

8.5 INDEPENDENT TESTING FIRM REPORTING REQUIREMENTS

1.5. A

"Where specified, the TJPA Representative will appoint, employ, and pay for services of an independent firm to perform inspections, testing, and other services specified in individual specification sections and as required by the TJPA Representative, or the TJPA Representative will perform the inspection and testing services."

"Inspection reports will be submitted promptly by the independent firm in triplicate and distributed, one copy each, to the TJPA Representative, Webcor/Obayashi JV QC Manager, and the code authority having jurisdiction over the Project and will indicate observations and results of tests and compliance or noncompliance with the requirements as defined in the technical specifications."

8.6 TJPA CODE AND AGENCY TESTING AND INSPECTIONS

Work shall be subject to testing and inspection by representatives of the TJPA and other agencies having jurisdiction (Code and Agency Inspections) to assure compliance with all requirements of Section 00 07 00, General Conditions, and Paragraph 8.02 and as per code requirements.

8.7 TJPA SPECIAL INSPECTION AND TESTING

Where specified, the TJPA Representative will appoint, employ, and pay for services of independent firms to perform inspections, testing, and other services specified in individual specification sections and as required by the TJPA Representative or the TJPA Quality Assurance Representative will perform the inspection and testing services.

8.8 INSPECTION REQUEST PROCEDURE

- The Trade Subcontractors CQC Manager will verify that all prerequisites as defined by the contract specifications are completed prior to Code, Agency or Special Inspections. Inspection Request will be submitted to the Webcor/Obayashi JV CQC Manager or CQC Alternate and the TJPA Construction Management Oversight Manager 48 hours and not more than 72 hours prior to the inspection date. Inspection Requests for Code, Agency and Special Inspections require an "Inspection Request Form" to be completed in BIM 360 Systems by Webcor/Obayashi JV or the Trade Subcontractors CQC Manager. The Trade Subcontractor's CQC Manager will facilitate onsite inspections, sampling procedures, test reports, and provide notification to the Webcor/Obayashi JV CQC Manager and TJPA representative when inspections fail or test results fall below specified values. Notify Turner if 48 hour notice cannot be met. Inspections will be submitted 48 hours (by 3:00pm) prior to the inspection date.

- Day 1 3:00pm is cut off time for any inspection on Day 3
- Thursday 3:00pm is cut off time for any inspection on the weekend or following Monday:
- Friday 3:00pm is cut off time for any inspection on the following Tuesday or later.

8.9 TEST AND INSPECTION PROCEDURES BY TRADE SUBCONTRACTORS

When specified, the Trade Subcontractors shall include as part of their scope all tests to verify that the Work conforms to the Contract Documents and to the Quality Control specification section 01 14 00 Rev 0 paragraph 1.10A Tests. Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product that conforms to Contract requirements. Upon request, Contractor shall furnish to the TJPA Representative duplicate samples of

WO0000-011400WO1.10

test specimens for possible testing by the TJPA. Testing includes operation and/or acceptance tests when specified. Procure the services of a certified testing laboratory. Perform the following activities and record and provide the following data:

1. Verify that testing procedures comply with the contract documents-Per Code and Contract Requirements.
2. Verify that all inspection prerequisites are met prior to conducting inspections.
3. Submit a testing and inspection matrix with the design submittals showing all required inspections and the entity responsible for performing the tests or inspections, *per DFOW requirements*.
4. Track inspection and test status.
5. Verify that the facilities and testing equipment are available and comply with the testing standards. As per approved submittals.
6. Trade Contractors and Suppliers shall have documented procedures to ensure test equipment is in calibration and keep updated lists of all equipment requiring calibration. Trade Contractor shall make calibration records available for review.
7. Record results of tests taken, both passing and failing on the trade subcontractor's daily CQC report for the date taken. Specify paragraph reference, location where tests were taken. Maintain a current test results spreadsheet per each different component.
8. When the services of an independent firm are utilized, reports will be submitted promptly by the independent firm in triplicate and distributed, one copy each, for the TJPA Representative, Webcor/Obayashi JV, and the code authority having jurisdiction over the Project and will indicate observations and results of tests and compliance or noncompliance with the Contract.
9. When specified, the Trade Subcontractors shall produce test and inspection plans in accordance with the Program Quality Management System requirements. All testing and measurements specified to be performed by the Trade Subcontractors shall be performed with equipment whose calibration
10. Meets national standards and to documented standards when no national standard exists.
11. Maintain and submit a log indicating the status of the Trade Subcontractors inspections and tests.
12. Verify that facilities and testing equipment are available and comply with testing standards.
13. Check test instrument calibration data against certified standards.

14. Verify that recording forms and the test identification control number system, including all of the test documentation requirements, have been prepared. Upload test records to BIM 360.
15. Record results of all tests taken, both passing and failing, on the CQC report for the date taken. Specify paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the TJPA Representative, actual test reports may be submitted later with a reference to the test number and date taken. Provide directly to the TJPA Representative an information copy of tests performed by an offsite or commercial test facility. 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.
16. WOJV and Subcontractors must confirm activities are ready for inspection prior to ISI start.
17. Verify to the Webcor/Obayashi JV CQC Manager of Trade Subcontractors task completion prior to the work being inspected.
18. Verify to the Webcor/Obayashi JV CQC Manager of Trade Subcontractors task completion prior to requesting final inspections.
19. Facilitate inspections and tests.
20. Cooperate with testing agency personnel.
21. Provide access to the Work.
22. Obtain and handle samples and equipment as defined in section 01 13 00 Submittals. Furnish storage and assistance as requested.
23. Trade Subcontractor shall include within their quality control plan per Specification Section 01 16 00 Material and Equipment, article 1.3 Quality Assurance, procedures for full protection of Work and materials.
24. Where required, deliver samples to testing agency.
25. Take steps to ensure no portion of the work requiring testing or inspection is covered prior to the acceptance by authorized parties.
26. Ensure that no testing or inspection is scheduled until all approvals for the work have been received. This includes welder's certifications, submittals, design/build engineering stamp and certification.
27. Notify the TJPA Representative in writing a minimum of 48 hours. Excluding weekends and holidays, but not more than 72 hours prior to expect time for operations requiring as needed testing and inspections.
28. DFOV task checklist will be implemented to assist with inspections and comply with the required codes and contract requirements.
 - A. The frequency of checklist reviews and style of checklist will vary for each DFOV task. The DFOV initial phase process will identify which entity (TJPA, W/O, Subcontractor) is performing what type of checklist review, the

frequency for check list reviews during the initial installation and follow up phases, and the style of checklist reviews.. The base understanding is that, each entity shall maintain records.

i. Subcontractor's:

1. Procedural Review Checklist.

- a. Confirm that submittals are approved before starting work, confirm that inspections have been scheduled, confirm that inspections as-builds are being maintained, confirm that protection of material is in place.

2. Material Controls Checklist,

- a. Each sub, for each key sequence, need to identify how they maintain records such that a deficiency in the field can be tracked back to the delivery/fabrication process. A material control checklist is the sub's QC representative review and confirmation that those procedures are being followed.

3. Completed Installation Technical Verification Checklist,

- a. This is the detailed list of installation requirements that the sub confirms prior to calling for an inspection.

ii. W/O QC:

1. Procedural Review Checklist

- a. Has the sub completed their technical check list, are they protecting their materials, have they complete a material controls checklist, etc.

2. Select Installation Technical Verification Checklist

- a. Selected items within a particular W/OJV DFOV task checklist are checked by W/OJV and used to spot check/confirm that the sub's detailed checklist is accurate. Why will these vary? Because with some scopes, i.e. Welding we don't have the accreditation to make any technical evaluations – it will be a procedural review for us. On the other hand, Rebar – it's Quantity, spacing, type of bar – things that can be visually confirmed and therefore we will do some technical reviews.

iii. TIPA:

WO0000-011400WO1.10

1. Procedural Review Checklist

8.10 CONTROL VERIFICATION AND ACCEPTANCE TESTING PROCEDURES

When specified, The Trade Subcontractors CQC Managers will provide 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 approved by the TJPA Representative must be used.).

When specified, specific control verification and acceptance testing procedures will be provided by the Trade Subcontractors as part of the Trade Subcontractors CQC plans, and will be completed as the specification sections are defined and the Trade Subcontractors are added to the project

8.11 PUNCH-OUT INSPECTION

An inspection of the Work will be conducted by the Trade Subcontractor QC Manager and verified by the Webcor/Obayashi JV CQC Manager, near the end of Trade Subcontractor's work. The punch list, entered into BIM 360 Systems, will include items that do not conform to the approved Drawings and Specifications and the estimated date by which the deficiencies will be corrected. A second inspection by the Trade Subcontractor CQC Manager will ascertain that all deficiencies have been corrected. Once this is accomplished the TJPA Representative will be notified that the facility is ready for the TJPA pre-final inspection.

8.12 PRE-FINAL INSPECTION

The TJPA Representative will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A TJPA Representative pre-final punch list may be developed as a result of this inspection. Webcor/Obayashi JV will ensure that all items on this list have been corrected before notifying the TJPA Representative, so that a final inspection can be scheduled. Items noted on the pre-final inspection will be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph must be accomplished within the time slated for completion of the entire work or any particular increment of the Work if the Project is divided into increments by separate completion dates.

8.13 FINAL ACCEPTANCE INSPECTION

WO0000-011400WO1.10

The CQC System Manager, plus the Contractor's authorized representative and the TJPA Representative must be in attendance at the final acceptance inspection. Additional personnel from affected third parties may also be in attendance. The final acceptance inspection will be formally scheduled by the TJPA Representative based upon results of the pre-final inspection. The TJPA Representative will be notified at least 72 hours prior to the final acceptance inspection and include the Contractor's assurance that all punch list and nonconforming work will be complete and acceptable by the date scheduled for the final acceptance inspection.

Summary

Name	Mud Slab Checklist Details
Description	<ul style="list-style-type: none">• Printable version of your QA/QC, Safety, and Commissioning Checklists with responses and comments• Optionally include checklist attachments and details of issues generated from the checklist
Report run on	30 Aug 2013 11:59 AM
Number of pages	2 including this summary page

Parameters

Show attachments: Checklist Details
Include comments: Yes
Include custom fields: Yes
Include issue details: Yes
Include n/a and blank responses: Yes
Include signatures: Yes
Show cover page: Yes
Report name: Mud Slab Checklist Details
Output format: Checklist Details
Show related equipment as: Checklist Details, Equipment Name

Transbay Transit Center - P1				Mud Slab Checklist Details			
Details							
ID	000358		Company		<not set>		
Name	WO - Mud Slab Concrete Pre-Placement Form				Priority	Medium	
Description					Status	Open	
Author	lkowallis@webcor.com				Location	<Top level>	
Created On	30 Aug 2013 11:59 AM						
Tags							
Checklist Items							
Item #	Item Text	Response	Comments	# Issues			
Mud slab Concrete Pre-Placement Checklist							
MUDS-1	Enter Review Area			0			
MUDS-2	Subgrade elevation for 4" slab checked by BBII (+/- 1/2")	Yes		0			
MUDS-3	Location and count of pits per latest Drawings	Yes		0			
MUDS-4	Location of pits verified and surveyed	Yes		0			
MUDS-5	Backfill compaction acceptance testing (BY ISI)			0			
MUDS-6	Subgrade ready to inspect	Yes		0			
MUDS-7	Subgrade acceptance by Arup			0			
MUDS-8	Grounding installed and accepted			0			
MUDS-9	Geothermal piping installed, tested, backfilled, accepted			0			
MUDS-10	Subgrade elevation restored and checked	Yes		0			
MUDS-11	Waterproofing/Butyl tape on all penetrations accepted	Yes		0			
MUDS-12	Micropiles installed	Yes		0			
MUDS-13	Micripiles tested (and/or blocked out)	Yes		0			
MUDS-14	Rebar installed and accepted	Yes		0			
MUDS-15	Elevation benchmarks established for concrete finishing	Yes		0			
MUDS-16	Concrete placement area clearly delineated	Yes		0			
MUDS-17	Concrete placement area cleared of all debris	Yes		0			
MUDS-18	All micropiles grout tubes filled with grout	Yes		0			
MUDS-19	All micropile grout exposed and free of soil and ridges	Yes		0			
MUDS-20	Waterproofing protection installed	Yes		0			
MUDS-21	Subgrade screed bars, ridges and forms installed	Yes		0			

Summary

Name	Waterproofing Checklist Details
Description	<ul style="list-style-type: none">• Printable version of your QA/QC, Safety, and Commissioning Checklists with responses and comments• Optionally include checklist attachments and details of issues generated from the checklist
Report run on	30 Aug 2013 12:43 PM
Number of pages	3 including this summary page

Parameters

Show attachments: Checklist Details
Include comments: Yes
Include custom fields: Yes
Include issue details: Yes
Include n/a and blank responses: Yes
Include signatures: Yes
Show cover page: Yes
Report name: Waterproofing Checklist Details
Output format: Checklist Details
Show related equipment as: Checklist Details, Equipment Name

Transbay Transit Center - P1

Waterproofing Checklist Details

ID

000359

Name

QC - Grace Subgrade Waterproofing

Description

Author

lkowallis@webcor.com

Created On

30 Aug 2013 12:06 PM

Tags

Company

Priority

Status

Location

<not set>

Medium

Open

<Top level>

Checklist Items

Item #	Item Text	Response	Comments	# Issues
Substrate Sign-Off checklist				
	Enter Review Area			0
C01	Are there any voids greater than .5 inches?	No		0
C02	Is there missing grout around any penetrations?	No		0
C03	Is there loose aggregate?	No		0
C04	Are there sharp protrusions?	No		0
C05	Is there any standing water?	No		0
C06	Is there substrate more than .5" out of alignment for vertical surfaces?	No		0
Membrane Installation:				
F01	Is the temperature below 25 F (-4 C) during installation?	No		0
F02	Did installer fail to use Tape LT during installation when temperature is less than 55 F (13 C)?	No		0
Tape LT Installation on Membrane:				
G01	Was the surface dirty or have debris on it during installation?	No		0
G02	Was the surface wet during installation?	No		0
G03	Is the release liner still in place after installation?	No		0
Membrane Horizontal Applications:				
H01	Is the HDPE film side faced away from substrate?	No		0
H02	Are the end laps missing the stagger?	No		0
Membrane Horizontal Overlap Requirements				
I01	Is the overlap less than 3" along marked selvedge?	No		0
I02	Is/was the underside of succeeding sheet dirty or wet?	No		0
I03	Is the release liner remaining in the overlap?	No		0
I04	Did the overlap fail to achieve a continuous bond?	No		0

WO0000-011400W01.10 - Contractor Quality Control Plan

WO-CQC0001 - Contractor Quality Control Plan

Page 92 of 127

Page 2 of 3

Transbay Transit Center - P1		Waterproofing Checklist Details		
Item #	Item Text	Response	Comments	# Issues
<i>Membrane Vertical Applications:</i>				
J01	Is the HDPE film side faced away from substrate?	No		0
J02	Is/was the underside of succeeding sheet dirty or wet?	No		0
J03	Is the plastic release liner still in place?	No		0
J04	Are the fasteners different than the submittal?	No		0
J05	Are fasteners in selvage large or high profile?	No		0
<i>Vertical Roll Edges & Cut Edges</i>				
K01	Is the overlap less than 3"?	No		0
K02	Are their contaminants present?	No		0
K03	Is the Tape LT application off center?	No		0
K04	Is the release liner still in place on the LT tape?	No		0
<i>Membrane Repair (Small .5" or less)</i>				
L01	Is the damaged area dirty or otherwise not prep'd for repair?	No		0
L02	Is the damaged area missing Preprufe Tape?	No		0
L03	Is Preprufe Tape installed off center from the damaged area?	No		0
L04	Was the LT Tape release liner left in place?	No		0
<i>Membrane Repair (Large > .5")</i>				
M01	Is the damaged area dirty or otherwise not prep'd for repair?	No		0
M02	Is the damaged area missing a Preprufe membrane?	No		0
M03	Is edge of the repair membrane less than 6" beyond damaged area?	No		0
M04	Are the patched edges missing Preprufe tape?	No		0
M05	Is the Prepruf tape off center from the edge?	No		0
M06	Was the release liner left on the T Tape?	No		0
M07	Did the edges fail to achieve adhesion?	No		0

Summary

Name	Protection slab Pre-placement Checklist Details
Description	<ul style="list-style-type: none">• Printable version of your QA/QC, Safety, and Commissioning Checklists with responses and comments• Optionally include checklist attachments and details of issues generated from the checklist
Report run on	30 Aug 2013 12:09 PM
Number of pages	4 including this summary page

Parameters

Show attachments: Checklist Details
Include comments: Yes
Include custom fields: Yes
Include issue details: Yes
Include n/a and blank responses: Yes
Include signatures: Yes
Show cover page: Yes
Report name: Protection slab Pre-placement Checklist Details
Output format: Checklist Details
Show related equipment as: Checklist Details, Equipment Name

Transbay Transit Center - P1

Protection slab Pre-placement Checklist Details

Details

ID

000360

Name

WO - Protection Slab Concrete Pre-Placement Form

Description

Author

lkowallis@webcor.com

Created On

30 Aug 2013 12:08 PM

Tags

Company

Priority

Status

Location

<not set>

Medium

Open

<Top level>

Checklist Items

Item #	Item Text	Response	Comments	# Issues
Protection Slab Concrete Pre-Placement Checklist				
	Enter Review Area			0
PS-1	Horizontal Waterproofing Inst.			0
PS-2	Vertical Waterproofing Inst.			0
PS-3	Survey CJ's/Pour Area Est.			0
PS-4	Horizontal pre-prufe tape @ CJ's			0
PS-5	Vertical pre-prufe tape @ CJ's			0
PS-6	Protection of piles/penetration sleeves installed			0
PS-7	Protection of vertical waterproofing installed			0
PS-8	Protection of Horizontal waterproofing installed			0
PS-9	Pit corners surveyed and vertical line established			0
PS-10	Screeds set to elevation -40.67			0
PS-11	Edge form installed			0
PS-12	Access path for concrete placing crew installed			0
PS-13	Slick-line hose clamp protection discs installed			0
PS-14	Area clear of debris			0
PS-15	Clean soiled membrane			0
PS-16	Obtain as-build survey of mud slab elevations			0
PS-17	Sealed protection slab with foam against spill and bleeding concrete thru joint			0
PS-18	Reference Best check off list for completed items			0
PS-19	Cast Concrete within 56 days from WP membrane installation			0
PS-20	Concrete mix design approved			0
PS-21	SGH inspected WP prior to pour			0
PS-22	Sharp objects are not used in consolidating concrete			0

WO0000-011400W01.10 - Contractor Quality Control Plan

WO-CQC0001 - Contractor Quality Control Plan

Page 95 of 127

Page 2 of 4

Transbay Transit Center - P1

Protection slab Pre-placement Checklist Details

Item #	Item Text	Response	Comments	# Issues
PS-23	Formwork remains till concrete is 1500 psi			0
Best Waterproofing Installation Checklist				
	Enter Review Area			0
PS-24	CDSM Substrate sign off			0
PS-25	Protection Board - Fastened with Hilti pins at 12" on center			0
PS-26	Protection Board - 4" shingle at end laps and tightly buttred at side laps			0
PS-27	Drainage Composite - Adhesive applied to Protection Board and time allowed to flash off			0
PS-28	Drainage Composite - Extends 3" into gravel bed			0
PS-29	EPS insulation - Adhesive applied to Drainage Composite and time allowed to flash off			0
PS-30	EPS Insulation - No less then 1/4" gap in but joints			0
PS-31	ESP Substrate Sign off			0
PS-32	10 mil Visqueen - Fastened with temporaty Terminatin bar above line of concrete pour			0
PS-33	Grace Preprufe 300R - Fastened with temporaty terminatin bar above line of concrete pour			0
PS-34	Grace Preprufe 300R - 6" Bituthene 3000 back-seal at all laps			0
PS-35	Grace Preprufe 300R - Remove release sheet			0
PS-36	Grace Preprufe Tape - No Fishmouths			0
PS-37	Grace Preprufe Tape - Minimum 6" Liquid Membrane at all end laps before tape installation			0
PS-38	Grace Preprufe Tape - 8" CJ tape centered over all cold joints			0
PS-39	Final Inspection for damage prior to rebar installation			0
PS-40	Final Inspection for damage form installation and concrete pour			0
Pre-Pour Concrete Requirements:				
PS-41	Is release liner remaining on any surface	No		0
PS-42	Did placement crew fail to get training on protection of waterproofing prior placement	No		0
Waterstop - ADCOR ES (General)				
PS-43	Are there 90 degree, or more, bends missing ADCOR ES	No		0
PS-44	Are there damaged sections present	No		0
PS-45	Did ADCOR get wet prior to pouring concrete	No		0
PS-46	Is ADCOR ES encapsulated w/ less than 3" of concrete cover	No		0

Item #	Item Text	Response	Comments	# Issues
PS-47	Is ADCOR ES being stored in opened packaging	No		0
PS-48	Did the disposal of ADCOR ES fail to meet environmental requirements	No		0
PS-49	Is ADCOR ES being used in a movement joint	No		0
<i>Waterstop - ADCOR ES (Control Joints)</i>				
PS-50	Is the concrete surface dirty or have contaminants	No		0
PS-51	Is there debris or loose concrete at the control joint	No		0
PS-52	Are the irregular or unformed surfaces missing a bead of ADCOR ES adhesive	No		0
PS-53	Is the bead of ADCOR ES adhesive at irregular or unformed surfaces less than 1/2"	No		0
PS-54	Is the Adcor ES missing masonry nails	No		0
PS-55	Are the masonry nails less than 1-1/2" long	No		0
PS-56	Are the masonry nails less than 3/4" in diameter	No		0
PS-57	Are the washers at the masonry nails less than 3/4"	No		0
PS-58	Are 3/4 washers missing from the nails	No		0
PS-59	Are the fasteners spaced greater than 12"	No		0
<i>Waterstop - ADCOR ES (Pipe Penetrations)</i>				
PS-60	Was/Is the substrate wet at time of application	No		0
PS-61	Is the penetration missing a bead of ADCOR ES adhesive	No		0
PS-62	Is the bead of ADCOR ES adhesive less than 1/2"	No		0
PS-63	Is the bead un-tooled w/ brush / trowel	No		0
PS-64	Was the Adcor ES applied while adhesive was wet to touch	No		0
<i>Waterstop - ADCOR ES (ES Joints)</i>				
PS-65	Is the ADCOR ES joint missing an overlap	No		0
PS-66	Is the ADCOR ES joint overlap less than 4"	No		0
PS-67	Does overlap fail to achieve full contact between pieces	No		0

WO-CQC0001 - Contractor Quality Control Plan

WO0000-011400W01.10 - Contractor Quality Control Plan

9.0 ELEMENT 9 INSPECTION, MEASURING AND TEST EQUIPMENT

- 9.1** INTRODUCTION
- 9.2** INSPECTION, MEASURING AND TEST EQUIPMENT (M&TE)
- 9.3** CONTROL OF MEASURING AND TEST EQUIPMENT
- 9.4** RESOLUTION OF TESTS RESULTS FROM UN-CALIBRATED EQUIPMENT
- 9.5** TEST REPORTING

9.0 INSPECTION, MEASURING AND TEST EQUIPEMENT

9.1 INTRODUCTION

Trade Subcontractor and supplier shall comply with this Element as required per contract documents.

9.2 INSPECTION, MEASURING AND TEST EQUIPMENT (M&TE)

- Inspection, measuring, and testing equipment required to carry out inspection and testing shall be identified, controlled, calibrated, and maintained in order to demonstrate the conformance of work to the specified requirements. Provisions shall be made for recalibration of such equipment in a timely manner and documented.
- Inspection, measuring, and test equipment used will meet the standards of accuracy for the measurements which are required. The equipment shall be calibrated according to national standards where available, and to documented standards where no national standards exist. The equipment will be recalibrated at regular intervals, and the recalibration properly documented. A record of the equipment calibration status shall be maintained by the Contractor.
- A schedule of testing equipment that needs periodic and regulatory scheduled calibration shall be required of the contractor(s) and be checked by TIPA QA Representative.
- The equipment shall be properly maintained to ensure its fitness for use. When the equipment is in use, the user shall ensure that the environmental conditions are suitable for the use of the equipment. When inspection, measuring, or test equipment is found to be out of calibration, the validity of previous inspection and test results shall be assessed and documented.
- All calibrated gauges and calibrated testing equipment must be calibrated prior to its use on the project. Periodic calibrations must be performed in accordance with certifying agency requirements and industry practice. The equipment will be properly maintained to ensure its fitness for use. When in use, the user shall ensure that the environmental conditions are suitable for the use of the equipment. When inspection, measuring, or test equipment is found to be out of calibration, the validity of previous inspection and test results shall be assessed and documented.

9.3 CONTROL OF MEASURING AND TEST EQUIPMENT

Inspection, measuring, and test equipment used shall be identified, controlled, calibrated. M&TE shall be properly calibrated and currently certified.

Calibration records and procedures shall meet the following requirements:

- Measuring and test equipment will be positively identified as to its name, calibration lab, date of last calibration and calibration expiration.
- Measuring and test equipment shall be calibrated against standards that have a known, valid relationship to national standards prior to use, and periodically thereafter, if required, to provide for the accurate reporting of quality testing and inspection results. In case no national standard exists, the basis for calibration will be identified and documented.
- The tolerances used in calibration shall be in accordance with the manufacturer's recommendation or as otherwise specified.
- An independent calibration laboratory shall perform all calibration.
- Environmental conditions for calibration shall be consistent with the location where inspection and testing is performed.
- Each subcontractor must maintain a spreadsheet for all calibrated instruments and their re-calibration dates with reminders on when the next calibration is required.
- Calibration shall be performed in accordance with approved calibration procedures. These procedures shall specify the following:
 - Details of equipment type
 - Identification number
 - Location (as required)
 - Calibration method and frequency
 - Acceptance criteria
 - Action to be taken if results are unsatisfactory

9.4 RESOLUTION OF TESTS RESULTS FROM UN-CALIBRATED EQUIPMENT

Results from tests requiring calibrated equipment performed with equipment not currently in calibration shall be suspect. The test equipment used shall be tested and recalibrated. If the equipment is found to be within calibration limits, the test

results shall be accepted. If the equipment is not found to be within calibration limits, the tests results must be verified by other means, or the material in question replaced.

9.5 TEST REPORTING

Inspection and test status are documented in BIM 360 and includes the Trade Subcontractors Daily Quality Control reports.

10.0 ELEMENT 10 **INSPECTION, TEST AND OPERATING STATUS**

10.1 OVERVIEW

10.2 PROCEDURE

10.0 INSPECTION, TEST AND OPERATING STATUS

10.1 OVERVIEW

Where required by the contract documents, Trade Subcontractors shall provide means for identifying the inspection and test status of work during production and installation. The purpose of this Element is to ensure that only work that has passed the required inspections and tests are accepted.

10.2 PROCEDURE

The test and inspection status shall be identified by means of markings, stamps, tags, labels, routing cards, inspections records, test software, physical location, or other suitable means.

The status identification indicates the conformance or nonconformance with regard to inspections and tests performed.

The inspection of test status of planning and design documents shall be identified by suitable means that indicate the conformance on nonconformance of product with regard to checking and review performed.

While some operations may be easily tagged in the field, in the testing lab or shop as to their inspection status, most will be recorded in the construction management BIM 360 program through status reports.

11.0 ELEMENT 11 NONCONFORMANCES

- 11.1** OVERVIEW
- 11.2** NON-CONFORMANCE OBSERVATIONS AND REPORTING
- 11.3** NON-CONFORMANCE REPORT (NCR)
- 11.4** FIELD CONDITION REPORT (FCR)
- 11.5** NON-CONFORMANCE AND FIELD CONDITION REPORTS LOG
- 11.6** CONTROL THE CONTINUATION OF WORK

11.0 NONCONFORMANCE

11.1 OVERVIEW

W/OJV and Trade Subcontractors are responsible to identify and document nonconformance issues with W/OJV expected to use BIM 360 to document QA/QC issues, FCR's and Nonconforming construction. Once a nonconformance is identified by an inspection, there is a systematic method to control the item, correct it, and ensure that project quality is not adversely impacted by the event.

11.2 NONCONFORMANCE QA ISSUES, OBSERVATIONS, REPORTING AND FIELD CONDITION REPORTS (FCR)

A Nonconformance is an item that does not meet the requirements of the project Contract Documents. Nonconforming work will be immediately segregated. Segregation may occur by physical isolation and cordoning off of work/materials, or conspicuously identified by tags/markings when physical isolation is not possible. When Nonconforming work is discovered it is determined by the QA/QC and engineer of Record to be a Nonconformance. The Webcor/Obayashi JV CQC Manager or Trade Subcontractor QC Manager will complete a Non-Conformance Report (NCR) and enter the non-conformance issue into BIM 360 for status reporting and resolution/closure tracking.

Procedures will be established and maintained to control nonconforming work, in order to ensure that such work is not inadvertently used or installed. Nonconforming work will be identified, documented, and evaluated to determine appropriate disposition. Where practicable, nonconforming items will be segregated. Those activities affected by the nonconforming work will be notified. The responsibility for review and authority for the disposition of nonconforming work will be defined in documented procedures. Disposition of nonconforming work can include reworking it to meet requirements, accepting it with or without repair, using it for alternative applications, or scrapping it. A determination to accept nonconforming work, as is or with repair, shall have the concurrence of the engineer of record. It may be advantageous to the owner to negotiate some form of compensation for accepting nonconforming work (e.g., additional spare parts).

The TJPA Representative will notify the Contractor of any detected noncompliance. Take immediate corrective action after receipt of such notice. If the Contractor fails or refuses to comply promptly, the TJPA Representative 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 will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

Contractor shall be responsible for any Work that is non-conforming. Any required removal, repair, or replacement caused by non-conforming work shall be done by Contractor at no cost to the TJPA. Such non-conforming work will be considered as defective and payments will be withheld in accordance with Section 00 07 00, General Conditions, paragraphs 9.05 and 9.08.

Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the TJPA representative. Contractor shall bear all costs for such retesting at no additional cost to the TJPA.

Procedures in BIM 360 will be used for tracking construction deficiencies from identification through acceptable corrective action and there the closure of the issue. Established verification procedures that identified deficiencies have been corrected.

Follow-up Phase: CQC System Manager and Trade Subcontractor QC Managers shall perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work that may be affected by the deficient work. Do not build upon or conceal non-conforming work.

11.3 NON-CONFORMANCE REPORT (NCR)

When completing the Nonconformance Report, the W/OJV CQC Manager or Trade Subcontractor QC Manager shall describe the work in detail, its location, a description of the deficiency and the proposed resolution and actions taken to prevent the recurrence of the non-conformance on BIM 360. Supporting documentation shall be attached to clearly describe the issue. The report will be uploaded into BIM 360. Nonconformance Report contents are summarized as follows:

Section 1: Nonconformance identification info: Contractor, location date, etc.

Section 2: Description of Non-conformance

Section 3: Cause

WO0000-011400WO1.10

Section 4: Recommended Field Engineer Disposition (Trade Subcontractor CQC Manager)

Section 5: Project Engineering Disposition (TJPA)

Section 6: Disposition Results

Section 7: Corrective action and steps taken to prevent recurrence

Process steps when responding to the receipt of an NCR's

Step 1: QC Manager/QC Specialist notifies subcontractor, in writing (email), of NCR:

Step 1a: sub to provide in response:

- Is the NCR accurate?
- No, then what is the actual field condition (w/ supporting documentation)?
- Yes, then
 - What appears to be the root cause?
 - What remedial steps can the sub perform without the engineer's approval?

Step 1b: Project Manager/QC Manager to:

- Determine if a formal RFI or CAP (corrective action plan) needs to be submitted for prior approval?
- Trade subcontractor generates the RFI to seeking direction for remedial action.

Step 2: Webcor superintendent / QC Field Specialist – review condition in comparison w/NCR

- A. Determine if the NCR is accurate,
- B. Determine if there are any field indications for cause of the NCR,
- C. Review sub's field QC procedures and documentation of DFW task checklist associated with the subject NCR.

Step 3: Webcor pm, qc Manager, & superintendent meet w/ sub's pm, qc Manager, & foreman to review DFW preparatory meeting and initial install notes to determine:

- A. What step was missed to allow for the NCR?
- B. What lesson's learned need to be applied to avoid future NCR?
- C. Determine if changes need to be made to the frequency and type of qc reviews are done for the subject scope.

Step 4: submit the cap for the NCR based on information gathered from steps 1 - 3

WO0000-011400WO1.10

Step 5: to avoid future NCR of the same type:

- A. Schedule an initial phase review of DFOV CHECKLIST. Each DFOV process shall identify WHAT REVIEW is done by who and when. The frequency and type of reviews for the initial installation should be more intense than the follow up phases. An NCR shall reset the clock and increase the review documentation and confirm the corrective actions have been taken.
- B. Implement additional actions as determined by the cap review process.

Step 6: trade subcontractor completes the required tasks and generates an inspection request.

Step 7: populate all the pertinent blanks on the NCR form and obtain signatures for compliance...

11.4 FIELD CONDITION REPORTS (FCR)

Field Condition Report (FCR) are conditions that deviate from the approved submittals, installed incorrectly or damaged work, but may be resolved without damage to permanent installation. When completing the Field Condition Report, the Trade Subcontractor CQC Manager will describe the work in detail, its location, Specification, a description of the deficiency, and the proposed resolution and actions taken to prevent the recurrence. The Subcontractor can also provide the disposition, and proposes to close the FCR. W/O JV CQC Manager will review proposed resolution on BIM 360 and either request for TJPA to close it or request for additional information from Sub QC Manager till the issue is resolved in a timely Manner.

Process Steps for writing and closing an FCR issue and the process for completing a NCR

Step 1: A FCR is identified and written by:

- a) Observation - Webcor CQC Manager, superintendent/QC Field Specialist or TJPA representative monitoring the work observes a quality issue and create a QC/QA issue in BIM 360.

- b) Task checklist - Webcor superintendent/QC Field Specialist is completing a DFOW checklist and observes an issue and creates FCR issue in BIM 360
- c) Inspection request (Tasks) – When an inspector rejects an inspection request, a FCR is generated in BIM 360 and linked to the Inspection Request.

Step 1a: When FCR escalates to an NCR:

- a. FCR's point to a systemic issue
- b. Ignored FCR's (30, 60, 90 days)
- c. Latent Issue
- d. Corrective Action Plan (CAP) or RFI is required

Step 2: A QC/QA and FCR issue is closed by:

- a) Stating the cause of the issue and proposes a corrective action plan (CAP) and submits the CAP in BIM 360.
- b) Documents the corrective action taken in BIM 360.
- c) Documents the cause and actions taken to prevent recurrence in BIM 360.

Step 2a: A NCR is closed by:

- a. Submit the Corrective Action Plan (CAP) for the NCR,

Step 3: To avoid future NCR of the same type:

- a) Schedule an Initial Phase Review of DFOW checklist. Each DFOW process shall identify what review is done by who and when. The frequency and type of reviews for the initial installation should be more intense than the follow up phases. An NCR shall reset the clock and increase the scrutiny to review documentation and confirm the corrective actions have been taken.
- b) Implement additional action as determined by the CAP review process.

Step 4: Trade Subcontractor completes the required tasks and generates an Inspection Request.

Step 5: QC Manager populate all the pertinent blanks on the NCR Form and obtain signatures for compliance.

11.5 NONCONFORMANCE AND FIELD CONDITION REPORT LOG

The project-wide Non-Conformance Tracking Log in Autodesk BIM 360 is maintained by the TJPA Construction Management Oversight. Webcor/Obayashi JV and the Trade Subcontractors will maintain Non-Conformance logs appropriate for their scope of work.

11.6 CONTROL THE CONTINUATION OF WORK

After the item of work is identified and segregated from all other active work, the W/O JV CQC Manager or Trade Subcontractor QC Manager will determine if work can continue in the affected area. When continuing work can adversely affect quality or hide the defect, work must stop in the affected area until the disposition of the item is resolved. The W/OJV CQC Manager identifies and clearly labels the limits of the affected stop work areas. Non-conforming work may be reworked to meet requirements, accepted as is, repaired, or rejected. If accepted as is or repaired, the Engineer of Record needs to approve the deviation from original specifications. Nonconforming work may require an approved Corrective Action Plan.

12.0 ELEMENT 12 **CORRECTIVE ACTION**

12.1 INTRODUCTION

12.1 CORRECTIVE ACTION AND CORRECTIVE ACTION PLANS

12.0 CORRECTIVE ACTION PLAN

12.1 INTRODUCTION

The following CAP procedure shall cover all construction operations, both onsite and offsite, including work by Trade Subcontractors and Suppliers. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.”

12.2 CORRECTIVE ACTION AND CORRECTIVE ACTION PLANS (CAP)

Corrective action procedures should be established, documented, and maintained. These include procedures for investigation of the cause of nonconforming work and the corrective action needed to prevent recurrence, and procedures for analysis to detect and eliminate potential causes of nonconforming work. This element also includes implementing and recording changes in procedures resulting from corrective action.

Once a NCR cause has been determined, a written Corrective Action Plan (CAP) will be submitted by W/OJV in order to resolve and close the NCR. The CAP will be written by the Trade Subcontractor QC Manager and submitted to W/OJV’s CQC Manager who will review and post to Constructware after sign-off. W/OJV QC Manager or Trade Subcontractor QC Manager will attach the submitted CAP to the NCR in BIM 360 Systems for tracking. Once CAP is approved, the CAP will be implemented by the Trade Subcontractor.

Corrective action procedures shall be established for:

- Investigating the cause of the nonconforming work and taking the corrective actions needed to prevent recurrence
- Analyzing the CAP processes to detect and eliminate potential causes of nonconforming products.
- Initiating preventative actions to deal with problems to a level corresponding to the risks encountered
- Ensuring that corrective actions are taken and that they are effective

WO0000-011400WO1.10

- Implementing and recording changes in procedures resulting from corrective action

13.0 ELEMENT13 **QUALITY RECORDS**

13.1 INTRODUCTION

13.2 DOCUMENTATION

13.3 REPORTING

DAILY REPORTS

MONTHLY REPORTS

PERIODIC FORMS, REPORTS AND LISTS

13.4 DFW QC REPORTING FOLDER FILES STRUCTURE FOR CONSTRUCTWARE

W/OJV DAILY CQC REPORT FORM

NONCONFORMANCE REPORT FORM

13.0 QUALITY RECORDS

13.1 Introduction

Procedures are established and will be maintained for quality records. These procedures will identify which records shall be kept, responsibility for production and collection, and responsibility for indexing, filing, storage, maintenance, and disposition of quality records..

Quality records shall be maintained to show achievement of quality objectives and appropriate functioning of the Quality Management System. Supplier, contractor, and subcontractor quality records shall be included when pertinent, as defined by requirements agreed upon during DFOV Preparatory Meeting, based Specifications and Codes. Quality records shall be legible and specify the work involved. They shall be kept in an environment to minimize deterioration and damage. Retention times and final disposition shall be established and recorded.

The following types of Quality records requiring control:

- Inspection reports – (Code required inspection reports are uploaded by TIPA's QA team to BIM 360 and Constructware.) Trade subcontractors Reports are attached to Daily QC reports.
- Test Data – Code test uploaded by TIPA to BIM 360. Non-code tests are required per specs are included as part of Daily QC reports.
- Qualification records (BIM 360)
- Calibration Records (BIM360)
- Nonconformance (BIM 360)
- Corrective Actions (BIM 360)
- Daily QC reports with back up data and Documentation
- Material identification / batch tickets

13.2 Documentation

Each Subcontractor is required to produce a QC Daily Report within 3-4 days must include all sub tier documentation (Delivery tags, material traceability and heat number tags). W/O JV shall generate CQC Daily Reports that indicates interaction with Subcontractor's process in establishing Quality installation, inspection,

and documentation. DFOV checklists are used to identify items that require special attention and document any daily occurrences in QC Daily Reports

Maintain current and complete QC reports providing evidence that required quality control activities and tests have been performed. Include in these records the work of Trade Subcontractors and Suppliers on an acceptable form.

Address deficient features and include a statement that equipment and materials incorporated in the Work and workmanship comply with the Contract. Furnish these reports to the TIPA Representative daily within 5 working days after the date covered by the report. Reports must be signed and dated by the CQC System Manager. Include copies of reports prepared by all subordinate quality control personnel within the CQC System Manager's report

The W/OJV CQC will review for completeness, clarity and accuracy of W/O CQC staff or Trade Subcontractor reports.

Weekly meeting with key Trade subcontractors QC Manager will go over key QC issues to ensure timely QC reports are submitted on regular bases.

13.3 REPORTING

Daily Reports

- Webcor/Obayashi JV Daily CQC reports (see attached)
- Trade Subcontractors Daily CQC reports

Monthly Reports

- Webcor/Obayashi JV Construction Monthly Report
- Webcor/Obayashi JV CQC Managers Monthly Status Report (included in the Construction Monthly Report)

Periodic forms, reports and lists

- Definable Features of Work (DFOV) list per Trade Subcontractor (in W/OJV F: drive, Constructware and hard copies in section: Tab/Element 7).
- Non-Conformance Report (see attached)

13.4 DFLOW QC REPORTING FOLDER FILES STRUCTURE FOR CONSTRUCTWARE

The CQC File Structure is outlined below and will be utilized on this project to store, organize and manage W/OJV Daily CQC Reports and DFOWs. In Constructware

DFOW folder and file structure:

Each trade package has a folder and each DFOW has a subfolder with subsequent subfolders. The folders and files are managed by CM/GC Quality Control Manager and CM/GC Document Control. Files are located in File Management/File Director by Project. This arrangement puts all the records for each DFOW in one folder. It becomes the quality record for that DFOW.

- 10 Quality
 - 13 Definable Feature of Work (DFOW)
 - BSE- TG03- BBI
 - DFOW log
 - DFOW (By Number and Title)
 - Preparatory Phase
Preparatory Phase documents are filed in this folder.
 - Initial Phase
Initial Phase documents are filed in this folder.
 - Follow-up Phase
Follow-up documentation is appended to Daily QC Reports and filed in this folder by number and date.
 - DFOW Record Documents
As the work is completed but no later than after completion of the DFOW all quality records would be assembled and filed in this folder. In the event of an audit or record search this folder would contain all the records. Subfolders may be added as needed.
 - Material Records
 - Installation Records

CQC Daily Reports folder and file structure:

WO0000-011400WO1.10

Daily CQC Reports are prepared and filed in folders by date. Each folder contains the CM/GC QC Manager's Daily Report and all the Trade Contractors' QC Managers' Daily Reports. The folders and files are managed by CM/GC Quality Control Manager and CM/GC Document Control. Files are located in File Management/File Director by Project. This arrangement puts all the Daily QC reports for each day in one folder. It becomes the quality record for that day.

- 10 Quality
- 12 CQC Reports
- Year
 - Month
 - Day (By Contractor- year/month/day (i.e. BBI-13/08/29 OR 20130829)
 - CM/GC QC Daily Report
This report is prepared by the CM/GC QC Manager
 - TCQM Daily Report (Identified by Trade Package)
This report is prepared by each Trade Contractor QC Manager and submitted to the CM/GC Quality Control Manager for review and filing.

CONTRACTOR QUALITY CONTROL REPORT				DATE	
(ATTACH ADDITIONAL SHEETS IF NECESSARY)					
PHASE	TRANSBAY TRANSIT CENTER BUILDING		PROJECT NUMBER: 3100		
PREPARATORY	WAS A PREPARATORY MEETING HELD TODAY? YES <input type="checkbox"/> NO <input type="checkbox"/> IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.				
	Schedule Activity No.				
	Schedule Activity No.				
INITIAL	WAS AN INITIAL PHASE MEETING HELD TODAY? YES <input type="checkbox"/> NO <input type="checkbox"/> IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.				
	Schedule Activity No.				
	Schedule Activity No.				
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES <input type="checkbox"/> NO <input type="checkbox"/>				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present,			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS, ASSIGN REWORK ITEM TRACKING NUMBER)		REWORK ITEMS CORRECTED IN PROGRESS TODAY (FROM REWORK ITEMS LIST, IF COMPLETE RECORD CORRECTION ON TRACKING LOG)			
Issue No.	Description	Issue No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.					
Schedule Activity No.	Description				
On behalf of Webcor/Obayashi, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
				WEBCOR QC REPRESENTATIVE	DATE
WEBCOR/OBAYASHI QUALITY CONTROL MANAGERS REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
				WEBCOR/OBAYASHI JV CQC MANAGER	DATE



CONTRACTOR QUALITY CONTROL REPORT		DATE
(CONTINUATION SHEET) (ATTACH ADDITIONAL SHEETS IF NECESSARY)		
PHASE	TRANSBAY TRANSIT CENTER BUILDING	PROJECT NUMBER: 3100
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES <input type="checkbox"/> NO <input type="checkbox"/>	
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present
	REMARKS (Also Explain Any Checklist Item From Above That Was Answered "NO"), Manuf. Rep. On-Site, etc.	
	Schedule Activity No.	Description

W/O # _____

Assigned by CMO QA Manager NCR # _____

Contract # _____ Contractor/Sub(s) _____

Code/Spec/Dwg _____ Location _____

Reference #s _____

Part/Lot _____ Quantity _____ Supplier _____ P.O. _____

Initiated by/Co _____ Date Issued _____

Description of Non-Conformance

Code _____
See QMS QA-08-3, over

Cause

Code _____
See QMS QA-08-3, over

Recommended Disposition

Contractor Field Engineering

☐ **Reject** Remove, replace, meet spec☐ **Rework** Fix to meet specifications

—Requires FE Disposition/CQC Acceptance—

☐ **Accept-As-Is** Not to spec☐ **Repair*** Fix, but not to spec

—Requires EOR Approval/PM OK—

Resolve as Follows

☐ Proposed resolution, repair or rework plan attached (*required)Field Engineer *Print Name, Org; Initial* _____ Date _____

Engineer of Record Disposition

Resolve as Follows

☐ **Accept-As-Is** Not to spec☐ **Repair** Fix, but not to specEngineer of Record *Print Name, Org; Initial* _____ Date _____PM Concurrence *Print Name, Org; Initial* _____ Date _____

Quality Review
TJPA QA _____
CQC _____

Disposition Results

Contractor QC Acceptance *Print Name, Org; Initial* _____ Date _____PM Verification *Print Name, Org; Initial* _____ Date _____

Corrective and Preventive Action (CAPA)

*If required*CAPA Verification *Print Name, Org; Initial* _____ Date _____

ASSEMBLY

- 001 Interference/Improper Fit
- 002 Dis-bonding/Adhesive Defect
- 003 Incorrect Part Used
- 004 Assembly Error
- 005 Soldering Failure
- 006
- 007
- 008
- 009
- 010 Other Assembly Related Defect

CERTIFICATION / DOCUMENTATION

- 011 Information Missing
- 012 Information Incorrect
- 013 Information Illegible
- 014 Material Incorrect
- 015 Inspection/Test Incorrect
- 016 Data Out-Of-Spec.
- 017
- 018
- 019
- 020 Other Cert./Documentation Error

DIMENSIONAL

- 021 Thickness—Over/Under Size
- 022 Diameter – Over/Under Size
- 023 Length/Width—Over/Under Size
- 024 Depth Incorrect
- 025 Slope Incorrect
- 026 Angle Incorrect
- 027 Feature/Item Missing
- 028 Position/Location Incorrect
- 029 Radius Over/Under Size or Missing
- 030 Other Dimensional Defect

INSTALLATION

- 031 Missing Hardware
- 032 Missing Equipment
- 033 Non-Standard Installation
- 034 Incomplete Installation
- 035 Non-Conforming Materials Used
- 036 Equipment Damaged
- 037 Incorrect Location
- 038 Incorrect Orientation
- 039
- 040 Other Installation Defect

INSTALLATION / TEST FAILURE

- 041 Inspection/Test Equipment Failure
- 042 Equipment Not Calibrated
- 043 Procedural
- 044 Under-Test Condition
- 045 Electrical Test Failure
- 046 Leak Test Failure
- 047 Environmental Test Failure
- 048 Functional Test Failure
- 049 Mechanical Test Failure
- 050 Other Inspection/Test Failure**

MATERIAL / SOILS

- 051 Incorrect Material Used
- 052 Material Contaminated
- 053 Gradation Test Failure
- 054 Moisture Test Failure
- 055 Density (Compaction) Test
- 056 Sand Equivalent Test Failure
- 057 Organic Content of Soils
- 058 Durability Index
- 059 Resistance (R-value)
- 060 Other Material Defect

MATERIALS / CONCRETE & STEEL

- 061 Incorrect Materials Used
- 062 Concrete Slump Test Failure
- 063 Concrete Air Content
- 064 Concrete Compressive Strength Test Failure
- 065 Drying Shrinkage of Concrete
- 066 Concrete Honeycombing
- 067 Concrete Rock-Pocket/Voids
- 068 Mis-fabricated Reinforcing Steel Assemblies
- 069 Missing or Incorrect Reinforcing Steel
- 070 Other Material Defects

NON-DESTRUCTIVE EXAMINATION (NDE)

- 071 Cracked Welds
- 072 Foreign Material
- 073 Component Gap/Fit-up Defect
- 074 Undercut
- 075 Porosity/Slag
- 076 Lack of Penetration/Fusion
- 077 Discontinuities
- 078 Voids
- 079 Delamination
- 080 Other NDE Indications

SURFACE DEFECTS

- 081 Discoloration
- 082 Blisters
- 083 Sparing
- 084 Burrs/Chips/Nicks
- 085 Damaged/Bent/Torn/Twisted
- 086 Contaminated
- 087 Foreign Material
- 088 Plating/Coating Defects
- 089 Cracks
- 090 Surface Irregular/Finish

VISUAL & OTHER DEFICIENCIES

- 091
- 092
- 093
- 094
- 095
- 096
- 097
- 098
- 099
- 100 Other Visual Anomaly**

14.0 ELEMENT14. QUALITY AUDITS

14.0 QUALITY AUDITS

14.1 QUALITY AUDITS

The Trade Subcontractor QC Manager reports to the Webcor /Obayashi JV CQC Manager and oversees the trade specific implementation of the quality control program and whose primary responsibility will be to implement the Trade Subcontractor's quality control plan. The Trade Subcontractor QC manager will certify that the Trade Subcontractor's work is in compliance with the Contract Documents and complies with the Webcor/Obayashi Joint Venture Quality Control Plan and all quality control requirements contained in the Contract Documents, including specification section 01 14 00 Quality Control. The Trade Subcontractor QC Manager shall:

- Support and facilitate QMS Audit process by TJPA, FTA, and Agency Audits.

15.0 ELEMENT 15 **TRAINING**

15.1 TRAINING

WO0000-011400WO1.10

15.0 TRAINING

15.1 TRAINING

Webcor/Obayashi JV will ensure that only knowledgeable capable employees carry out the planning and execution of the work.

- **The W/OJV CQC Manager will provide and document training.**
Under the Direction of the W/OJV CQC manager the Trade Subcontractor QC Managers will provide training on the elements of the W/O JV and Trade Subcontractors site specific Contractor's Quality Control Plans to all trade subcontractor staff having CQC responsibilities.
- When specified in the Contract Documents, Trade Subcontractor CQC Managers will submit proof of tradespersons qualifications including licensing requirements, certifications or other required training qualifications for the specified task to Webcor /Obayashi JV and the TJPA.
- When specified in the Contract Documents, project or task specific training will be documented by the Trade Subcontractor. The Trade Subcontractor will provide Webcor/Obayashi JV with a copy of the training syllabus and list of attendees.
- Webcor/Obayashi JV Quality Control personnel will complete the U.S. Army Corps of Engineers/U.S. Navy Facilities Engineering Command, Construction Quality Management for Contractors
- The Trade Subcontractor QC Managers will maintain records of quality training for their personnel. The Webcor/Obayashi JV CQC Manager will maintain records of quality training for Webcor/Obayashi JV personnel.
- W/OJV continues to revise Superintendents and QC field staff procedures to improve on records and reports for field issues such as Material, installation, FCR's, and NCR's.
- As part of each DFOV's meeting process a DFOV checklist will be established and will determine the requirements for each DFOV checklists.
- W/OJV shall conduct training for Superintendent and QC staff to clarify DFOV requirements as well as what issues should be tracked and raised to the status of Field Condition Reports.
- W/OJV will conduct work sessions with TJPA QC representative and W/O Superintendents to clarify, when and who shall issue FCR's and/or NCR's.

WO0000-011400WO1.10

- Training of personal on the proper procedures to complete a DQC report.