

CHAPTER 4

Construction Management

Overview

This chapter provides guidelines to Engineering Services Division staff on the oversight and inspection of Capital Improvement Projects during the construction phase. The guidelines outlined standardize procedures to be followed and define the roles and responsibilities of staff involved in construction management. The chapter covers the following topics:

- Pre-Construction Meetings
- Submittals
- Monitoring Construction Schedules and Costs
- Construction Staking
- Quality Assurance Testing
- Construction Inspection Practices
- Pay Requests
- Change Orders
- Completion of Improvements
- Warranty Inspections

It is the Division's intent to ensure that the roles and responsibilities of the staff involved in construction management are well defined.

SECTION 4-1

Pre-Construction Meetings

PURPOSE

This section sets forth the steps to be followed in scheduling and conducting pre-construction meetings.

DEFINITIONS / ABBREVIATIONS

Pre-Construction MeetingA mandatory meeting held between the General Contractor (Contractor) and the City prior to construction, that includes presentations by City staff of a project overview, issues, potential changes, administration, labor compliance, submittals, and notice requirements, and concludes with the Contractor receiving the Notice to Proceed.

Notice to Proceed(NTP) A formal notice from the City to the Contractor authorizing the Contractor to begin work and establishing the start of Working Days.

Working DaysThe number of business days specified in the contract in which the contractor is required to complete the work.

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

A pre-construction meeting is required on all projects prior to construction. An NTP is issued at the pre-construction meeting for all Capital Improvement Projects.

AUTHORITY

Under the direction of the Project Manager, the Contracts Manager has the authority to issue the NTP at the preconstruction meeting.

RESPONSIBILITIES

Project Manager

The PM is responsible for scheduling a planning meeting with the RCI prior to the pre-construction meeting to discuss project specific issues and concerns during construction, establishing the time and date for the pre-construction meeting, preparing the agenda and completing the Pre-Construction Meeting Request Form (Attachment 1). The PM also coordinates the issuance of the NTP with the Contracts Manager.

Resident Construction Inspector

The RCI is responsible for assisting the PM in completing the pre-construction meeting request form, completing the Pre-Construction Meeting Checklist (Attachment 2), assisting in the preparation of the agenda, conducting the pre-construction meeting, and distributing the agenda and sign-in sheet at the meeting.

General Contractor

The Contractor must attend the pre-construction meeting. Subcontractors should be invited to attend by the Contractor.

Contracts Manager

The Contracts Manager is responsible for issuing the NTP and presenting labor compliance requirements during the pre-construction meeting.

PRE-CONSTRUCTION MEETING REQUEST FORM

The PM completes the Pre-Construction Meeting Request Form to schedule the pre-construction meeting, to secure the meeting location, and to invite the Contractor, utility companies, affected facility owners, and City representatives (Contracts Manager, City Arborist, supervising surveyor, Street Services supervisors, and electrical inspector).

AGENDA

Preparation of the agenda is to be initiated by the RCI who will be assisted by the Construction Section's support staff. The agenda format should follow the standard Agenda Template (Attachment 3). The agenda is developed by the PM and RCI based on discussions held during the planning meeting. The PM approves the agenda and the Construction Section's support staff provides the agenda to the RCI for distribution during the pre-construction meeting.

Typical project items to be included in the agenda include:

- Introduction
- Emergency contact list
- NTP date
- Project overview
- Communication
- Working days
- Labor compliance
- Construction staking

- Utilities
- Other affected facilities
- Erosion and sediment control
- Right of entry
- City-supplied materials
- Weather and temperature
- Coordination
- Material testing
- Tree issues
- Notifications
- Water shut downs
- Temporary signage

PRE-CONSTRUCTION MEETING

The purpose of the pre-construction meeting is to provide information to the Contractor and all attendees about the project and to answer any project related questions. The meeting includes a project overview by City staff, project issues, potential changes, administrative processes, labor compliance, submittals, and noticing requirements. The meeting concludes with the issuance of the NTP.

The RCI facilitates the pre-construction meeting after distributing the agenda and sign-in sheet (Attachment 4) and ensures that all contact information is correct. The RCI also distributes copies of the sign-in sheet to all attendees.

The RCI should follow the standard agenda template when conducting the meeting to ensure all required information is conveyed.

ATTACHMENTS

- Attachment 1: Pre-Construction Meeting Request Form
- Attachment 2: Pre-Construction Meeting Checklist
- Attachment 3: Agenda Template
- Attachment 4: Pre-Construction Meeting Sign-In Sheet

Pre-Construction Meeting Request Form

(Engineer/Inspector Fill In Shaded Areas)

PROJECT NAME: _____ **PN:** _____

PROJECT BOUNDARIES: _____

OF CONSTRUCTION DAYS: _____ **WORKING** _____ **CALENDAR DAYS** _____ **LIQUIDATED DAMAGES:** _____
 (PLEASE "X" ONE ABOVE)

IS THE CONTRACT FULLY EXECUTED (has it been routed for signature and returned to the PM yet)? **YES** _____ **NO** _____

NOTICE TO PROCEED DATE: _____ **DATE OF MTG:** _____ **TIME OF MTG:** _____

LOCATION OF MEETING: _____

NAME	PHONE	DATE CONFIRMED
CONTRACTOR COMPANY _____	_____	_____
CONTRACTOR NAME _____	_____	_____
ADDRESS _____	EMERGENCY PH # _____	_____
PROJECT MGR _____	_____	_____
CIVIL INSPECTOR _____	_____	_____
ELECTRICAL INSPECTOR _____	_____	_____
LABOR COMP. OFFICER <u>DAVID FLORES & JOSE LEDESMA</u> <small>(Always David Flores unless otherwise noted)</small>	8277/8195 916-837-8111	_____
<u>VICKY CASTANEDA</u> <small>(Alternate consultant labor officer)</small>	_____	_____

TRAFFIC ENG <u>Erick Talavera</u>	2272	_____
STREETS <u>JACK TILLMAN(S)/JIM VIETHEER(N)</u>	2255	_____
TRAF SIGNALS <u>JACK WYSCARVER & DAVE GEOFFROY</u>	6314	_____
SIGNS & MARKINGS <u>RON SMITH</u>	804-7592	_____
UTILITIES STORM DRAINAGE <u>JEFF HEARD & JIM SILVESTER & WARD COX</u>	6955	_____
SURVEY <u>ROY HEAVENSTON</u>	6362	_____
CONSTR ADMIN <u>DAVE CULLIVAN</u>	7303	_____
STREET MAINTENANCE <u>JUAN MONTANEZ</u>	433-2254	_____
TREES <u>DAN PSKOWSKI</u>	_____	_____
OTHER _____	_____	_____
OTHER _____	_____	_____
OTHER _____	_____	_____
OTHER _____	_____	_____
COMCAST <u>KIP MILLER</u>	648-8351	_____
PG&E <u>TERRY BURTON</u>	386-5167	_____
AT&T/SBC <u>ASTRID WILLARD</u>	453-6136	_____
SMUD <u>JIM MORRISON</u>	732-5276	_____

REVISED AUGUST 2006

ATTACHMENT 2

Pre-Construction Meeting Checklist

	YES	INITIAL
1. Awarded project.	<input type="checkbox"/>	_____
2. Developed list of specific issues and potential problems.	<input type="checkbox"/>	_____
3. Developed list of invitees (General Contractor, utility owners, City representatives).	<input type="checkbox"/>	_____
4. Developed project contact list of all invitees, including name, organization, role, mailing address, telephone, emergency, cell, and fax numbers, and e-mail address.	<input type="checkbox"/>	_____
5. Scheduled the pre-construction meeting.	<input type="checkbox"/>	_____
6. Prepared agenda.	<input type="checkbox"/>	_____
7. Prepared Notice to Proceed.	<input type="checkbox"/>	_____
8. Issued Notice to Proceed to Contractor.	<input type="checkbox"/>	_____
9. Made copies and distributed the Pre-Construction Meeting Sign-In Sheet to meeting attendees.	<input type="checkbox"/>	_____

Agenda Template

Title (PN:)

Location: 915 I Street, Room 2000 – CH2105 Conference Room

Date: type in here

Time: type in here

AGENDA PRECONSTRUCTION MEETING

- I. Introduction and sign in
Please print your name company and telephone number

- II. Labor compliance –Certified Payroll, Affirmative Action, Reporting, Other
Contract compliance by: **David Flores (916) 808-8277**

- III. Official Communication
City Of Sacramento
All communication shall be through the Resident Construction Inspector
Resident Construction Inspector: **name**
Phone: **(916) 808-8300 (office), (916) number (cellular)**
FAX: **(916) 808-7903**
Address: **915 I Street Room 2000, Sacramento, CA 95814**

Project Manager: **name**
Phone: **(916) 808-XXXX**
FAX: **(916) 808-7903**
Address: **915 I Street, Room 2000, Sacramento, CA 95814**

Contractor: **Company's Name**
Contractor's Superintendent: **Contact Person**
Phone: **(916) number**
FAX: **(916) number**
Address: **Address**

- IV. General
Calendar days: **xx**
Liquidated Damages: **\$xxx**
Notice to Proceed Date (NTP): **TBA**
Start Date (15 working days from and including
the date of the NTP): **TBA**
Completion Date: **TBA**

- V. Utility Coordination/Relocation
 - A. Comcast
 - B. PG&E
 - C. SBC Pacific Bell
 - D. SMUD

- VI. Progress Schedule (Section 7-2)

An acceptable progress schedule shall be submitted in accordance with the Special Provisions prior to the start of work. The Contractor shall submit a revised schedule to reflect any extra work or delays, if any or upon request from the City of Sacramento.

VII. Construction and Materials Testing

Contractor shall notify the Construction Inspector two working days prior to proceeding with construction operations (Section 5-16).

Contractor shall submit a list of Materials to be used for review and approval of the Construction Inspector prior to placing such materials (Section 5-18).

Survey request form shall be submitted to the Construction Inspector two working days prior to need (Section 5-5).

The City shall provide material testing, unless otherwise specified.

Re – testing of failed areas to be paid for by contractor (Section 26-6).

VIII. Public Relations and Traffic Safety

24 hour emergency phone numbers shall be provided to facilitate emergency repairs during non-work hours (Section 6-9).

A traffic control plan shall be submitted and approved by Traffic Engineering prior to lane or sidewalk closures Section 6-9): **Erick Talavera (916) 808-2272**

Traffic Investigator: _____
Phone: _____
FAX: _____
Address: _____

Closures shall be restricted to 8:30 am to 4:00 pm unless otherwise specified in the Special Provisions (Section 6-9).

Access to private driveways shall be maintain at all times.

Contractor shall take appropriate measures to control dust (Section 16).

IX. Extra Work/Change Orders (Section 15 and 16)

Change orders for extra work shall be processed monthly.

Change orders shall be submitted by the 10th of each month to be processed before the 20th of each month.

Extra work shall be authorized in writing prior to work (Section 4-6).

Extra work shall be paid for by a fair and reasonable process (Section 8-15).

The Construction Inspector may require the Contractor to submit a foreman's report during forced account work at the end of each working or non-working day (Section 4-7).

Contract administrator shall provide copies of approved change orders to the Project Manager, the Construction Inspector, and the Contractor.

X. Request for Payment (per contract)

Contractor shall generate pay statements for the review and approval of the Construction Inspector prior to the 20th of each month.

Change orders, which have not been approved, shall not be included in the pay statement.

The Construction Inspector shall monitor status of the pay statement and distribute to Contract Administrator.

The Contractor shall not be paid until the pay statement is correctly completed.

XI. Preconstruction Photographs (section 11)

Preconstruction photographs shall be taken prior to construction. The construction Inspector shall take the photos if not provided for in the Special Provisions.

XII. Plans and Specifications

City should provide three copies of plans and specifications. Additional copies can be obtained from Century Graphics at the Contractor's expense.

XIII. Record Drawings (section 36-4)

The Contractor shall maintain record drawings throughout the course of the work.

XIV. Project specific issues:

Erosion and sediment control

R.O.W. (right of entry for staging, etc.)

Additional submittals (shop drawings etc.)

City supplied material (traffic signal, poles)

Weather temperature (paving or slurry)

Coordination w/others (encroachments)

Special testing (slurry of concrete samples)

Arborist coordination (cutting of tree roots)

Public Notifications (submittal of written notice)

Water shut downs (seven day advance notice w/construction inspector)

Temporary Signing and Striping Needs

Project Title
(PN: XXXX)

SIGN IN SHEET

	NAME	COMPANY/AGENCY	PHONE NO.
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

DATE of Meeting Here

Pre-Construction Meeting Sign-In Sheet

DATE OF MEETING: _____

Attended Pre-Con Meeting	Name	Agency	Role	Mailing Address	Telephone/Fax/Cell Nos.	Emergency Telephone No.	E-Mail Address
<input type="checkbox"/>					Tel: Fax: Cell:		
<input type="checkbox"/>					Tel: Fax: Cell:		
<input type="checkbox"/>					Tel: Fax: Cell:		
<input type="checkbox"/>					Tel: Fax: Cell:		
<input type="checkbox"/>					Tel: Fax: Cell:		
<input type="checkbox"/>					Tel: Fax: Cell:		

SECTION 4-2

Submittals

PURPOSE

This section establishes policies and procedures for the review and approval of contractor submittals such as: schedule, traffic control plans, materials, request for information, substitutions, and falsework plans, and to define the roles and responsibilities of the Project Manager and Construction Inspector.

DEFINITIONS / ABBREVIATIONS

Traffic

Control Plan(TCP) A plan prepared by the Contractor and submitted to the City for review and approval that shows the proposed handling of traffic during construction.

Request for

Information(RFI) A Contractor's written request for clarification of a contract item or issue.

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

All Contractor submittals requiring review and approval are to be specified in the contract documents and processed in a timely manner by the RCI and PM. The Contractor is not to begin work on items which require a submittal without written approval.

AUTHORITY

The PM has the authority to approve all submittals. The RCI has the authority to

approve submittals under the direction or oversight of the PM.

Submittals for standard items may be approved by the RCI; all other submittals are to be approved by the PM.

RESPONSIBILITIES

Contractor

The Contractor is responsible for providing all contract required submittals within the specified timeframe to the RCI.

Resident Construction Inspector

The RCI is responsible for receiving, logging and tracking all submittals, and returning the submittals to the Contractor.

The RCI ensures that submittals are complete before logging and prior to review.

The RCI is responsible for ensuring that approval has been granted before any work begins.

Project Manager

The PM is responsible for reviewing and approving submittals and for approving any requests to substitute materials or products. The PM also provides all responses to RFI's.

PROCESS OF REVIEWING SUBMITTALS OTHER THAN TRAFFIC CONTROL PLANS

At the pre-construction meeting, the Contractor is notified of all contractor required submittals to be submitted to the RCI for review and approval. The Contractor then prepares and provides all required submittals to the RCI for

review and approval. The Contractor must obtain written approval prior to placing any materials or products that require approval.

The RCI must coordinate with the PM to determine what submittals will be approved by the PM and what submittals will be delegated to the RCI for approval. The PM is ultimately responsible for ensuring the submittals are reviewed and approved, but may delegate approval of commonly used materials and products to the RCIs.

If the PM is reviewing the submittals, the RCI must deliver the submittal to the PM who then returns them to the RCI. The RCI must then deliver the reviewed submittal to the Contractor. All communication goes through the RCI whenever practicable. Submittals are returned to the Contractor at the earliest possible time, and no later than the number of days indicated in the Contract Documents.

Submittals must be returned to the Contractor: "Approved", "Approved as Noted", or "Returned for Corrections". If the submittal is rejected, the RCI will describe the requirements and the reason(s) for the rejection.

REQUEST FOR INFORMATION OR SUBSTITUTIONS

Any written RFI or written requests for substitutions are to be submitted to the RCI and forwarded to the PM. The PM prepares a response and copies the RCI.

Requests for subcontractor substitutions are to be forwarded to Contract Services for approval.

PROCESS OF REVIEWING THE TRAFFIC CONTROL PLAN

At the pre-construction meeting, the Contractor is notified of the submittal requirements, and that the TCPs are to be submitted to the RCI for review. The RCI determines if the essential information is provided in the TCP submittal. The TCP is to be reviewed and approved by the Construction Supervisor for the Downtown core area, and the Right of Way Manager for outside the Downtown core area.

The RCI should review the approved TCP to determine whether the TCP may result in extra work impacting project cost. If any requirements clearly result in additional project cost or if there is potential for an increase in project cost, the traffic control requirements must be approved by the PM prior to returning the TCP to the Contractor.

APPROVED SUBMITTALS REQUIRED PRIOR TO PLACING OR CONSTRUCTING

The RCI is responsible for knowing the submittal requirements for the contract and ensuring that the Contractor obtains approval for placing or constructing items of work. The RCI should direct the Contractor to stop work, with the PM's consent, if the necessary approvals are not obtained. The RCI is responsible for all enforcement and quality requirements during the course of the work.

SECTION 4-3

Monitoring Construction Schedules and Costs

PURPOSE

This section establishes policies and procedures for monitoring construction schedules and costs and to provide guidance on obtaining contractor compliance.

DEFINITIONS / ABBREVIATIONS

Please see the Abbreviations section at the end of this Manual.

POLICY

The project construction cost and schedule is established in the Project Report approved by the Division for each project. All projects must follow the approved budget and schedule set forth in the Project Approval and Authorization Form included in the Project Report. The Contractor's working schedule is to be closely monitored to ensure that it falls within the allowable working days specified in the contract.

AUTHORITY

The PM has the authority to accept the work schedule submitted by the Contractor.

The PM and RCI have authority to authorize payments to the Contractor up to the approved construction contract amount.

RESPONSIBILITIES

Contractor

The Contractor is responsible for submitting a reasonable construction schedule that indicates the controlling operations and sequence of work and that the work shown will be completed

within the number of working days provided for in the contract documents.

Resident Construction Inspector

The RCI is responsible for reviewing the schedule and for ensuring that the information is reasonable and complete. The RCI is responsible for providing the PM with recommendations, and for facilitating the review and acceptance of the schedule.

The RCI is also responsible for informing the PM of the progress of the work on a weekly basis or as requested by the PM.

The RCI is responsible for monitoring construction expenditures and construction management costs which include construction staking, material testing, and inspection, to ensure that they are kept within the approved budget.

Project Manager

The PM is responsible for monitoring the project expenditures and the project budget during the course of the work. The PM is responsible for ensuring that funds are available to complete the work, and for requesting additional funding, if necessary.

The PM is responsible for verifying that the construction schedule is reasonable and complete, and for accepting the schedule. The PM is responsible for knowing the project status and to verify that the Contractor is progressing according to the accepted schedule.

The PM is responsible for completing the Monitoring Construction Schedules and Costs Checklist (Attachment 1).

REVIEWING AND APPROVING SCHEDULES

The Contractor must submit a schedule prior to the start of work, and with every progress pay request. The schedule must accurately reflect the Contractor's progress and plans for carrying out the work. The RCI reviews the schedule and determines whether the controlling items of work are clearly identified, and that the schedule is reasonable and accurate. The RCI provides the schedule to the PM within two working days along with recommendations for acceptance or modification. The PM reviews the schedule within three working days and accepts the schedule or returns the schedule to the RCI for corrections. If necessary, the RCI will meet with the Contractor and explain the corrections needed.

WITHHOLDING PAY REQUESTS

If the Contractor fails to submit an acceptable schedule, the PM must withhold the processing of pay requests in accordance with the Construction Standard Specifications. The RCI is to provide a written notice to the Contractor that pay requests are being withheld until a schedule is submitted and accepted by the PM.

MONITORING CONSTRUCTION COSTS

The RCI monitors construction expenditures during the course of the work on a daily basis, and as part of the progress pay request process on a monthly basis. If the construction expenditures exceed a contract bid item amount, the RCI is to inform the PM immediately to initiate the preparation of a change order. The RCI is also responsible for monitoring the construction staking costs, material testing costs, and inspection costs, and reporting to the PM the status on a monthly basis.

The PM is responsible for monitoring the project budget in its entirety to assess the budget status. If construction costs exceed the contract amount, the PM must process a change order and utilize the project contingency. If the costs exceed the funds available in the project budget, the PM is to follow the procedure for requesting additional funding.

ATTACHMENT

Attachment 1: Monitoring Construction
Schedules and Costs
Checklist

Monitoring Construction Schedules and Costs Checklist

MONITORING SCHEDULES:

YES

INITIAL

- | | | | |
|----|---|--------------------------|-------|
| 1. | Contractor submitted schedule. | <input type="checkbox"/> | _____ |
| 2. | RCI determined schedule appears reasonable indicating controlling items of work. | <input type="checkbox"/> | _____ |
| 3. | Schedule shows work completed within number of working days provided for in contract. | <input type="checkbox"/> | _____ |
| 4. | RCI forwarded schedule to PM within two working days. | <input type="checkbox"/> | _____ |
| 5. | PM reviewed and either accepts or rejects schedule within three days. | <input type="checkbox"/> | _____ |
| 6. | PM determined if pay request will be held. | <input type="checkbox"/> | _____ |
| 7. | RCI or PM requested schedule be updated. | <input type="checkbox"/> | _____ |

MONITORING CONSTRUCTION COSTS:

YES

INITIAL

- | | | | |
|----|---|--------------------------|-------|
| 1. | Contractor submitted schedule. | <input type="checkbox"/> | _____ |
| 2. | PM established construction management budget. | <input type="checkbox"/> | _____ |
| 3. | RCI reviewed quantities on a daily basis as work progresses. | <input type="checkbox"/> | _____ |
| 4. | RCI notified PM if field quantities exceed bid proposal quantities. | <input type="checkbox"/> | _____ |
| 5. | PM processed change order if quantities are exceeded. | <input type="checkbox"/> | _____ |
| 6. | PM amended project budget if necessary. | <input type="checkbox"/> | _____ |
| 7. | PM requested additional funding if necessary. | <input type="checkbox"/> | _____ |

SECTION 4-4 Construction Staking

PURPOSE

This section establishes policies and procedures for construction staking.

DEFINITIONS / ABBREVIATIONS

RCIResident Construction Inspector

PC.....Survey Party Chief

PMProject Manager

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

City survey crews are to provide to the Contractor all lines, grades, and measurements necessary to construct the work to be prosecuted. For large CIP's where a construction management firm has been retained, staking may be provided by the CM firm. The Contractor has no claim for any costs or extensions of time caused by the Contractor's submittal of an unreasonable schedule request or incomplete staking request form.

AUTHORITY

If construction stakes are required as part of a construction contract, the issuance of the Notice to Proceed authorizes the Contractor to request construction staking.

RESPONSIBILITIES

Project Manager

The PM is responsible for: establishing the construction staking budget, sending construction plans to the Supervising Surveyor,

and inviting the Supervising Surveyor to the pre-construction meeting. The PM also determines if the Contractor will be charged for re-staking should any construction stakes be destroyed through carelessness or negligence on the part of the Contractor or any subcontractor.

Supervising Surveyor

The Supervising Surveyor is responsible for assigning the project to a PC, estimating project costs, and requesting the PC to attend the pre-construction meeting.

Contractor

The Contractor provides the RCI with a reasonable and complete Construction Staking Request Form at least three working days before construction stakes are required.

Resident Construction Inspector

The RCI is required to review the Construction Staking Request Form and verify that the staking request is reasonable, complete, and timely. The RCI will take into consideration the nature of the work, the controlling operations, and preservation of the stakes. The RCI is required to review, approve, and forward the request to the PC as soon as possible so that stakes can be provided within three working days.

Survey Party Chief

The PC is responsible for coordinating with the RCI and Contractor to provide construction stakes within one working day of receiving a reasonable and complete request. The PC shall also be responsible for attending the

pre-construction meeting as directed by the Supervising Surveyor, and for tracking any re-staking costs. The PC is responsible for monitoring the construction staking budget throughout the project's construction, to ensure that services are delivered within the approved budget.

INITIATING CONSTRUCTION STAKING REQUESTS

The Contractor completes the Construction Staking Request Form by indicating the type of operation and location of stakes, the date that the stakes are needed, and whether the stakes are original or being reset. If there are a number of operations that need staking, the Contractor will assign a priority number to indicate the order of staking work.

The Contractor then submits this form to the RCI who reviews the form for completeness, reasonableness, and timelines. If any corrections are necessary, the RCI will immediately notify the Contractor. The RCI will also field verify and coordinate with the Contractor to ensure that the site is properly prepared for construction staking. The Contractor's methods and operations should not unreasonably hinder the PC from efficiently providing construction staking.

PROVIDING CONSTRUCTION STAKING

After the RCI has reviewed and approved the Construction Staking Request Form, the RCI delivers the form to the PC as soon as possible. The PC coordinates with the Contractor and makes every effort possible to provide the construction stakes within three working days of the Contractor's request. When staking for more than one operation is requested, the PC should coordinate with the Contractor to prioritize the staking and to provide staking for the controlling operation of work.

When re-staking is requested, the PC will note the total survey hours required. The RCI and PC should discuss whether re-staking charges should be paid by the Contractor, and the RCI forwards the information to the PM for a

decision. If the PM decides to charge for re-staking, the PM processes a change order.

QUALITY ASSURANCE

The PC is responsible for ensuring that the construction stakes are placed per the plans and specifications. The PC will periodically field verify that the construction staking is correct and resolve any questions that may arise during the course of the work. The PC will also review the lines and grades and come forth with any recommendations for adjustments that may improve the quality of the work. The PM reviews any recommendations and provides direction to the PC.

AVOIDING DELAYS

Claims for delay may be avoided by discussing the construction staking process with the Contractor during the pre-construction meeting. Issues to be discussed include: the Contractor's responsibility related to submitting timely and reasonable staking requests, and the ability of the PC to provide staking for concurrent operations.

The PC must require the Contractor to submit all construction staking requests in writing to the RCI. If the Contractor directly contacts the PC for staking requests, the PC may facilitate the submittal of the form, but should not bypass the RCI's review and approval.

The RCI must deliver a properly completed Construction Staking Request Form to the PC as soon as possible, and the PC must provide enough stakes so that the Contractor can begin work on the controlling operation within three working days of the Contractor completing and submitting the form.

The PC is expected to provide a reasonable number of stakes within three working days of receiving the staking request, and continue staking at a reasonable pace until all the stakes are provided by the PC. The Contractor should not request more staking than is necessary, or more staking than can be reasonably provided within three working days.

COMPLETION OF CONSTRUCTION STAKING

Upon completion of the construction staking, the Supervising Surveyor determines the construction staking cost, updates the construction surveying database which indicates project cost and budget, and submits the costs to the PM.

SECTION 4-5

Quality Assurance Testing

PURPOSE

This section defines the process for assuring that materials and workmanship incorporated into construction projects are in conformance with the contract documents. This section also covers determining the types of tests required, engaging material testing firms to perform sampling and testing, retesting, and documenting test results.

DEFINITIONS / ABBREVIATIONS

MTFMaterials Testing Firm

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

Quality assurance sampling and testing, and implementation of other quality assurance procedures are required to ensure materials and workmanship are in conformance with the contract documents.

For projects funded with federal funds, quality assurance testing is to adhere to the City's Quality Assurance Program which includes independent assurance testing and Caltrans Certifications (Attachment 1).

AUTHORITY

The RCI has the authority to request sampling and testing of materials, scheduling appropriate testing procedures, and accepting the test results under the direction of the PM.

The PM has the authority to determine the appropriate testing procedures and methods, and for resolving issues related to defining the

quality of materials and workmanship or the intent of the contract documents.

RESPONSIBILITIES

Contractor

The Contractor is responsible for requesting that the RCI schedule materials testing with the MTF two (2) working days before testing is needed.

The Contractor is responsible for performing procedures as indicated in the contract documents, such as the television inspection of sewer and drain pipe.

Resident Construction Inspector

The RCI is responsible for ensuring with reasonable certainty that construction materials or products are randomly tested so that they are in compliance with the contract documents. The RCI is responsible for knowing the range of acceptable limits for passing tests, the required sample size and the testing frequency to ensure conformance with the contract documents.

For projects funded with federal funds, the RCI is responsible for knowing and obtaining the required sample size and frequency, and verifying test results with independent assurance testing pursuant to the Caltrans Local Assistance Procedures Manual.

Project Manager

The PM is responsible for determining the test method and range of acceptable limits for passing tests in accordance with the plans, special provisions, standard specifications, and accepted testing standards.

For projects funded with federal funds, the PM is to verify that all federal testing requirements are being implemented.

The PM is responsible for establishing an adequate budget to provide for materials testing.

DETERMINING ASSURANCE TESTING REQUIREMENTS

For locally funded projects, testing requirements are set forth in the City Standard Specifications for Public Works Construction. Where a particular test is not specified in the City Standards, the Caltrans Standard Specifications or other accepted standards are to be used.

For projects funded with federal funds, the assurance testing requirements are detailed in the Caltrans Local Area Procedures Manual. The City is required to have a quality assurance program which includes provisions for independent assurance testing.

The RCI should review the contract documents, City Standard Specifications, and Caltrans standards if applicable, and notify the Contractor at the pre-construction meeting and during the course of the work of the assurance testing required for project acceptance. Should the RCI be uncertain or unfamiliar with the testing requirements, the RCI should consult with the SCI.

ASSIGNING MATERIALS TESTING FIRM

Materials testing firms are to be chosen from the Master Services Agreement list on a rotating basis. A firm on the list will not be chosen out of turn unless there is reasonable justification and is approved by the Supervising Engineer for Construction.

To request assignment of a MTF, the RCI completes the "Master Materials Testing Agreement Addendum" form and returns it to the Construction Section's support staff for approval.

The Construction Section support staff will inform the RCI of the name of the MTF and the

approved budget within two (2) working days after the form has been submitted.

For projects funded with federal funds, the RCI must ensure that all MTF testing staff is certified by Caltrans, that the sample frequency and size is correct, and that an additional MTF is engaged to verify the test results taken by the primary MTF.

PROCESS FOR REQUESTING AND PERFORMING MATERIALS TESTING

The Contractor is to request that the RCI schedule materials testing services at least two (2) working days before testing is needed. The Contractor is not to contact the MTF directly to schedule tests unless given specific authorization to do so.

The RCI is to contact the MTF and schedule the test as requested by the Contractor. The MTF reports directly to the RCI upon arrival. If the MTF arrives at the site and the site is not ready for testing, the request for testing is to be considered a failed test. Any subsequent site visits by the MTF is considered to be re-tests.

Tests are to be taken using a random method. Additional testing may be necessary when there are areas of specific concern or areas with obvious visual defects. These tests are in addition to random tests.

The results of the test are to be given to the RCI unless otherwise directed. The Contractor may be present during testing, but may not influence the tester in any way during the tests.

COSTS FOR TESTING AND RE-TESTS

The costs for initial materials testing are provided for in the project budget. The MTF is to submit invoices for payment to the Construction Section support staff. The invoice is to be logged and routed to the Supervising Construction Inspector and the PM for payment approval.

For private development projects, the costs for re-tests are the responsibility of the Contractor. If there are a number of failures with a significant cost, the RCI is to direct the

Contractor to make arrangements to provide a MTF at the Contractor's expense for re-tests. However, if there are less than three failures, the RCI may provide the necessary testing at no cost to the Contractor.

DOCUMENTING PASSED AND FAILED TESTS

The RCI is to request a daily detailed report of the test results from the MTF prior to leaving the project site. For compaction tests, the documentation includes a compaction curve, the location, station, relative compaction and moisture content of the materials tested. For other materials, the MTF submits a written report or certificate of compliance that the product meets the contract requirements.

The materials testing documentation is to be placed in the RCI's construction file on a daily basis. All documentation is to be placed in the construction file.

TELEVISION INSPECTION OF SEWER AND DRAIN PIPE

For construction projects outside County Sanitation District No. 1, the RCI is to schedule television inspection with the Utilities Department prior to acceptance of the project.

For construction projects within County Sanitation District No. 1, the RCI must ensure that all television testing procedures are in accordance with County requirements. The Contractor must coordinate with the County to obtain County manhole numbers pursuant to the County's inspection process prior to testing. The RCI must deliver the testing results directly to the County noting any defects in materials or workmanship. The RCI is to coordinate with the County to ensure that all required repairs are made to the County's satisfaction.

Prior to performing television inspection of sewer and drain pipe, the Contractor must notify the RCI to ensure that the RCI is present. If the RCI is not present, the television recording must be rejected and retested.

ATTACHMENT

Attachment 1: City Quality Assurance Program

ATTACHMENT 1

City Quality Assurance Program

City of Sacramento Construction Quality Assurance Program

1.0 Purpose

This Quality Assurance Program (QAP) is a sampling and testing program that will provide assurance that the workmanship incorporated into the City's street and highway construction projects are in conformance with the contract specifications. The main elements of the QAP are procedures for:

- Acceptance Testing (AT)
- Independent Assurance Sampling and Testing (IAST)
- Testing of Manufactured Materials

2.0 Applicability

This QAP applies to ISTEA and TEA-21 funded (Federal aid) local agency projects off the National Highway System (NHS).

- 2.1 On-NHS system projects are governed by Caltrans' FHWA-approved QAP, found in section 16.14 of the Local Assistance Procedures Manual, Chapter 16- Administer Construction Contracts, Section 14 – Quality Assurance Program ("LAPM - 16.14").
- 2.2 Off- NHS system, Federally funded projects are governed by the procedures this City of Sacramento QAP. Its use is mandatory for Federal-aid projects and is recommended for other City street and highway projects. This local QAP is based upon the requirements for local QAP's contained in the aforementioned Section 16.14. Federally funded projects that mix on-and off- NHS sites should utilize the Caltrans QAP.

3.0 Approval

This local QAP has been approved by the City of Sacramento Public Works Director, who is a registered Civil Engineer. It shall be kept on file and available for Caltrans review.

4.0 Testing Required

This local QAP describes procedures for three types of required testing, described as follows:

- a. Acceptance Testing - procedures for regular testing of materials entering a construction project to verify that the materials, or products, comply with contract specifications or standards.
- b. Independent Assurance Sampling and Testing - procedures to verify that acceptance testing is being performed correctly by:
 - 1) Verifying that equipment used for acceptance testing is properly calibrated and in good working condition.
 - 2) Witnessing sampling and testing by the Acceptance Tester.
 - 3) Splitting material samples and comparing the test results between the Acceptance Tester and Independent Assurance Sampler and Tester.

- c. Testing of Manufactured Materials - procedures for inspecting, accepting and testing of manufactured and prefabricated materials either by source inspection, job site inspection or certificate of compliance.

5.0 Coordinating Sampling and Material Testing

5.1 **Construction Documents.** Because the City does not provide its own testing and inspection of materials, provision of such services shall be arranged prior to advertising a project and addressed appropriately in the construction documents.

5.2 **Sampling and Testing Options.** The City may select from the following sources to perform sampling and testing:

- Another agency's laboratory
- Caltrans' laboratory
- Private consultant laboratory

Non-Caltrans laboratories shall have a QAP that meets LAPM- 16.14 requirements.

5.3 **Engineer-In-Charge.** All laboratories shall be under the responsible engineering management of a California registered professional engineer who shall certify results of tests performed under his supervision.

5.4 **Contractor Influence.** The contractor shall not select or exercise any authority over the laboratory utilized.

5.5 **Certification of Laboratory Personnel.** The certification requirements of LAPM-16.14 shall apply. Generally:

- Current certification is required for the following sampling and testing personnel: construction management/inspection, local agency, consultant laboratory and their sub-consultants.
- For on-NHS projects, certification shall be a "Certificate of Proficiency for an Acceptance Tester" (MR-011), issued to an individual by the Caltrans District Materials Engineer or his designee, based either on Caltrans training, or on submittal of evidence of non-Caltrans training, experience or certification such as the "National Institute for Certification in Engineering Technologies" (NICET)
- For off-NHS projects, certification of personnel for AT and IAST shall be either Caltrans (MR-011) or MR-100), NICET, or similar certificate acceptable to the Public Works Director.
- Certificates for personnel on a project shall be retained in the Resident Engineer's (RE) project files.
- Sampling and testing by an uncertified person is acceptable only in extreme, unforeseen emergencies, upon assurance by the Resident Engineer that the uncertified person is competent to perform the work.

5.6 **Laboratory Equipment Calibration.** The City shall obtain documentation of consultant laboratory's calibration of its equipment in accordance with LAPM-16.14 and nationally recognized calibration standards. The laboratory is responsible for performing the calibrations and providing such records to the City. Calibration records shall be provided to the Caltrans District Materials Engineer upon request.

Calibration of laboratory equipment and field test equipment (e.g. sand cones, scales, moisture test, slump cones, air meters) shall occur prior to use on a construction project and on regular, appropriate intervals not exceeding one year.

- 5.7 **Cost Recovery.** Materials testing and sampling costs are eligible to be charged to the construction engineering phase of the project.
- 5.8 **Compliance.** Failure to comply with the local agency QAP may result in loss of Federal funds.
- 5.9 **Records.** City's QAP and consultant's QAP material records of samples and tests, material releases, and certificates of compliance for a project shall be incorporated into the RE's project file. For Federally funded projects, records shall be retained for a period of three years.
- 5.10 **Project Certification.** Upon project completion, the RE shall complete and sign a "Materials Certificate" (Caltrans LAPM Exhibit 17-G). The Certificate shall be submitted to the Caltrans Local Assistance Engineer (for Federally funded projects) and retained in the project construction files. All non-conforming materials must be explained and justified on the Certificate.

6.0 Acceptance Sampling and Testing

- 6.1 **Definition.** Acceptance Testing ("AT") is defined as regular testing of materials entering a construction project to verify compliance with contract specification or standards.
- 6.2 **Timing.** Sampling should begin as soon as materials are placed on a project. Testing should be performed promptly to enable data evaluation and necessary measures to be taken by the RE and contractor.
- 6.3 **Test Methods.** Both California and American Society of Testing and Materials (ASTM) test methods are acceptable.
- 6.4 **Frequency.** Sampling and testing shall occur in accordance with Caltrans' "Frequency Tables" (LAPM Exhibit 16-R), except as modified in writing by the Director of Public Works for a special project. The tables are intended as a guide: the actual quality of materials tested may justify decreasing or increasing the frequency of subsequent similar samples and tests.
- 6.5 **Tests to be Performed.** The tests to be performed shall be in accordance with Caltrans "Frequency Tables" (LAPM Exhibit 16-R), and the Caltrans Standard Specifications as modified by the project Special Provisions, except as modified in writing by the Director of Public Works.

As a guideline, the following tests comprise a minimum scope for commonly used materials:

Aggregate Base – Sieve Analysis, Sand Equivalent, R-value, and Durability for each new source.

Aggregate Sub-base – Sieve Analysis, Sand equipment, and R-value.

Asphalt Concrete – Sieve Analysis for aggregate sampled at the plant. Asphalt content, Maximum Density, and In-Place Density for AC sampled at the site. (A Certificate of Compliance may be accepted for Liquid Asphalt).

Soil – Maximum Density, In-Place Density (relative Compaction) at the site.

Concrete – Sieve analysis for aggregate sampled at the plant. (A Certificate of Compliance may be accepted for aggregate Cleanliness, aggregate Sand Equivalent, Admixtures, and Portland Cement concrete.) Compressive Strength (Cylinders).

- 6.6 **Test Result Reporting Guidelines.** Results should be submitted to the RE within 3 working days of sampling, or as dictated by the construction schedule. Results may be expedited by using fax, telephone, or e-mail.
- 6.7 **Summary Logs.** “Material Testing Summary Logs” shall be maintained by the RE for each material requiring multiple sampling and testing. Log data shall include station location, test sample depth, approximate quantity of sample material, test result, and tester.
- 6.8 **Minor Quantities.** Relatively minor quantities of materials from a known reliable source may be accepted with testing if:
- a. The RE performs visual examination of materials, or
 - b. The manufacturer or supplier certifies that the material furnished complies with specification requirements.

Such records of acceptance shall be placed in the RE’s project files with related inspection notes.

Examples of maximum “minor quantities” include (from LAPM-16.14):

- Aggregates used for other than Portland Cement concrete: 100 tons per day or 500 tons per project.
- Bituminous mixtures: 50 tons per day or 500 tons per project.
- Bituminous material: 100 gallons per project.
- Paint: 20 gallons per project.
- Non-reinforced or clay pipe: 100 lineal feet.

- 6.9 **Re-testing.** Failing test results require re-testing to isolate the failed area. The Log Summary shall cross-reference the retest to the initial failed test.

7.0 Independent Assurance Sampling and Testing (IAST)

- 7.1 **Definition.** The purpose of these procedures is to verify that Acceptance Testing is being performed correctly and reliably, and to ensure that equipment is properly calibrated.
- 7.2 **Applicability.** IAST procedures are required for Federally funded projects on and off the NHS system. For on-NHS projects, LAPM-16.14 procedures apply. For off-NHS projects, the City will verify that its consultant laboratory’s QAP includes IAST procedures for “testing its own testers.” IAST procedures are optional, and may be required at the discretion of the Public Works Director, for non-Federally funded projects.
- 7.3 **IAST Testers.** Only persons holding an Independent Assurance Sampler Tester Certificate (Caltrans Form MR-0100) may perform IAST. These may include individually certified Caltrans or City REs, laboratory personnel of consultant testers. Testers shall be free of conflict of interest if also performing other testing work.

- 7.4 **Frequency of IAST.** The IAST frequency shall be as specified in the consultant laboratory's QAP for each project where IAST is required.
- 8.0 Testing of Manufactured and Assembled Materials**
- 8.1 **Definition.** This procedure provides methods for inspecting, accepting and testing materials that are manufactured or prefabricated off the project site.
- 8.2 **Certificate of Compliance.** The City may accept manufactured products, materials, or assemblies if accompanied by a Certificate of Compliance, provided they do not involve structural integrity or public safety. Such Certificate shall be signed by the manufacturer and shall state that materials and workmanship conform to the specific project specifications.
- 8.3 **Source Inspection.** As an alternative to a Certificate of Compliance, the City or its consultant, may request Caltrans to do a Source Inspection in accordance with LAPM-16.14 procedures.
- 8.4 **Applicable Materials.** Contract documents shall specify that materials require a Certificate of Compliance (or optional Source Inspection.) Typical materials are listed in LAPM Exhibit 16-T.
- 8.5 **Responsibility.** The Resident Engineer shall ensure that Certificates are furnished with material deliveries and are kept in the RE's project file.
- 8.6 **Documentation.** The certified material's lot number shall be identified on the certificate. In addition, this data shall be referenced on the inspector's daily logs and laboratory reports.
- 8.7 **Re-Testing.** Certified materials may be sampled and tested again on the job site, and rejected for cause whether in place or not.

SECTION 4-6

Construction Inspection Practices

PURPOSE

This section establishes roles and responsibilities for inspecting construction projects.

DEFINITIONS / ABBREVIATIONS

Please see the Abbreviations section at the end of this Manual.

POLICY

All projects are to be inspected in accordance with these procedures in order to ensure that construction complies with the requirements of the contract documents which include the plans, special provisions, and standard specifications.

AUTHORITY

The PM assigned to the project has the authority to exercise full control and supervision of the work.

The RCI acts as the PM's representative in the field and has the authority to give direction to the Contractor.

RESPONSIBILITIES

Contractor

The Contractor is responsible for completing the work in accordance with the contract documents and all applicable regulations.

Resident Construction Inspector

The RCI is responsible for ensuring that the Contractor constructs the project in accordance

with the requirements of the contract documents.

In addition, the RCI is responsible for ensuring compliance with safety regulations, producing daily reports, tracking extra work, initiating and documenting change orders, coordinating materials testing, logging all communications, processing traffic control plans, reviewing submittal packages, measuring quantities, preparing punch lists, and maintaining the construction file.

Project Manager

The PM is responsible for overseeing all construction related activities including public relations, budget considerations, client status reports, approving design changes, and resolving conflicts.

CONSTRUCTION INSPECTION PROCESS

In most cases, the RCI is assigned a project prior to project award. The RCI assumes the construction management responsibilities and is delegated the construction management authority at the pre-construction meeting.

After the pre-construction meeting, the RCI becomes the Contractor's point of contact. To avoid miscommunications and duplicative efforts, all communications go through the RCI.

The RCI coordinates with the Contractor to obtain the contractor's schedule, submittals, staking request form, and traffic control plans.

Once the NTP is issued, the RCI must complete daily field reports and weekly statement of working days.

Any extra work or work that may be potentially deemed extra work must be tracked and documented by completing extra work reports.

The RCI must review pay requests on a monthly basis and coordinate with the Contractor to ensure that pay requests are completed properly and that certified payroll documentation is provided. The RCI also coordinates the processing of change orders.

The RCI facilitates the completion of the project by preparing a punch list and processing the Inspector's Completion Report. The RCI also performs a warranty inspection within one year of project completion to ensure that any defective materials or workmanship is repaired.

CONSTRUCTION INSPECTION TRAINING MANUAL

The Construction Inspection Training Manual contains a basic overview, construction administration requirements, construction inspection guidelines, and construction administration documents.

The Manual provides new inspectors with a tool to understand goals, project specific roles and responsibilities, technical processes, and forms that are used during the course of the work.

The RCI is required to be familiar with the manual, following the guidelines, and utilizing the forms to create a construction file.

COORDINATION WITH THE PROJECT MANAGER

The RCI coordinates with the PM on a weekly basis, and as needed when problems arise. The RCI is responsible for construction management while the PM is responsible for the entire project, making coordination essential.

The RCI is responsible for informing the PM of all issues that may be of concern. If there is any doubt, the RCI notifies the PM of any situation that has the potential to be a problem.

The RCI is responsible for understanding the definition of quality and ensuring that a quality product is being constructed. The RCI notifies the PM immediately when a question arises to the definition of quality and the perceived quality of the work.

The RCI is responsible for tracking construction costs and for coordinating issues related to cost with the PM during the course of the work.

RESOLVING CONFLICTS

When a conflict arises, the RCI is to inform the PM and make a recommendation to resolve it. If the RCI and PM disagree on an issue or have difficulties resolving an issue, the RCI and PM are to notify their direct supervisors and request guidance in the matter. If there is still a disagreement after speaking with their supervisors, the PM should refer the matter to their supervisors for resolution.

SECTION 4-7 Pay Requests

PURPOSE

This section establishes policies and procedures for processing Contractor pay requests and provides guidance on handling stop notices and retention of funds.

DEFINITIONS / ABBREVIATIONS

ContractorA private contractor undertaking to construct public improvements for the City.

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

The Contractor must provide the RCI with a Pay Request Form to be compensated for work completed and materials stored for the contract by the 20th of each month. The Contractor has no claim for interest expense if the Contractor fails to submit a properly completed Pay Request Form.

AUTHORITY

Approval from the RCI, PM, and Contracts Manager is required to process pay requests. No change orders may be included in the progress payment until fully approved and processed by the City so as not to exceed the authorized contract amount.

RESPONSIBILITIES

Contractor

The Contractor is responsible for submitting a pay request on or before the 20th day of the month with a schedule of values to the RCI.

Resident Construction Inspector

The RCI is responsible for reviewing the pay request and schedule of values to ensure that the information is complete and accurate.

Upon review and approval of the pay estimate, the RCI is responsible for tracking the pay request until the Contractor is paid. The RCI is responsible for answering any questions that the Contractor may have regarding the approval, processing, or status of the payment. The RCI is responsible for reviewing the approved progress payment and forwarding it to the PM within five working days of receiving it.

Project Manager

The PM is responsible for verifying that the pay request and schedule of values is complete and accurate. The PM is responsible for knowing the project status to verify that the Contractor is being compensated accordingly. The PM is responsible for approving or rejecting the pay request within three (3) working days. It is the PM's responsibility to ensure that the progress payment is within the authorized change order and contract amounts.

Contracts Manager

The Contracts Manager is responsible for ensuring that certified payroll records have been submitted with each pay request and that

no stop work notices are on file prior to forwarding pay requests to Accounting for payment.

SUBMITTAL PROCESS

The Contractor must submit a Pay Request Form and Schedule of Values to be compensated for work done on or before the 20th of each month. The Contractor may only include change orders which have been approved and fully executed prior to the 20th of the month. It is the City's policy that all properly submitted invoices be processed and paid within twenty (20) calendar days of submission.

SCHEDULE OF VALUES

The Schedule of Values must be reviewed by the RCI. The RCI may only approve work completed and stored as of the 20th of each month. The RCI will verify that all quantities, extended unit prices, and pro-rated payments toward lump sum line items are correct.

The RCI must review each individual bid item. If a bid item exceeds the authorized amount, the RCI initiates a change order. Payment amounts exceeding the authorized amount will not be paid until a change order is approved and processed.

STOP NOTICES

Stop notices are filed by subcontractors and suppliers with the City when payment has not been received from the prime contractor. All stop notices must be cleared before progress payments can be made. Stop notices are to be delivered to the Contracts Manager for processing. Once a stop notice is received, the Contracts Manager prepares a memorandum and sends a copy of the stop notice to the Engineering Services Account Technician and the Department of Finance. The Department of Finance then sends the Contractor written notification that a stop notice has been filed. The Contractor must post a bond, obtain a release, or agree to the issuance of a joint check before the pay request can continue to be processed. Upon release of the stop notice,

the Contracts Manager must send a memorandum to the Engineering Services Account Technician and the Department of Finance.

REDUCTION OF RETENTION

The purpose for holding retention is to ensure that the Contractor completes minor deficiencies in the work and submits all required contract documents (pay requests, record drawings, DBE participation forms, etc.). The retention may only be reduced if the retained amount exceeds \$100,000, minor deficiencies in the work do not exceed twenty percent (20%) of the retained amount, and all other work is satisfactorily completed. (See City Standard Specifications).

The Contractor must submit a request, in writing, to the PM to reduce the amount of retention to be held. The amount of the reduction is determined by the PM after careful consideration of the value of deficiencies remaining in the contract. The PM must inform the Contracts Manager, in writing, of the reduced retention amount.

Upon satisfactory completion of all items of the contract, and before completion of the landscape establishment and maintenance period, the retention may be reduced up to the value of the plant material in place for the landscape work.

Note: The pay request indicates that the retention is ten percent (10%) regardless of the actual retention percentage. The accounting for the retention is performed by the Account Technician on a separate ledger and will not be correct on the pay request application if the retention is less than ten percent (10%).

RELEASE OF RETENTION

Release of retention is to be processed within 35 days of issuance of the Notice of Completion filed at the County Recorder's Office, unless a hold is requested by the PM. The PM will request a hold if there are contractual obligations unmet by the Contractor such as submitting record drawings, pay requests, DBE

Utilizations forms, etc. The PM will provide written notification to the Contractor and Contracts Manager of the reason for the hold.

ATTACHMENT

Attachment 1: Pay Request Application



DEPARTMENT OF
TRANSPORTATION

PROJECT DELIVERY
DIVISION

Pay Request Application

PAY REQUEST APPLICATION

PROJECT: _____
CONTRACTOR: _____
PURCHASE ORDER NO.: _____ COST CENTER (PROJ NO.): _____
INVOICE NO.: _____ PERIOD ENDING DATE: _____

ORIGINAL CONTRACT AMOUNT: _____

CHANGE ORDER NO. 1 _____
CHANGE ORDER NO. 2 _____
CHANGE ORDER NO. 3 _____
CHANGE ORDER NO. 4 _____

NET CHANGE BY CHANGE ORDERS: _____

TOTAL ADJUSTED CONTRACT AMOUNT TO DATE: _____

BALANCE OF CONTRACT TO FINISH: _____

TOTAL COMPLETE AND STORED TO DATE: _____

LESS 10% RETENTION: _____

LESS PREVIOUS PAYMENTS: _____

AMOUNT DUE THIS INVOICE: _____

Labor compliance (payrolls, etc.) is current and submitted for this Pay request

Submitted By: _____ Date: _____

Submit To: Department of Transportation
915 "I"(eye) Street, Room 2000
Sacramento, CA 95814
Attn: Robert Rueff

Approved
By (Resident Const. Inspector) _____ Date: _____
Approved
By (Project Manager) _____ Date: _____
Approved
By (Labor Compliance) _____ Date: _____

In accordance with Public Contract Code Sec. 20104.50 the City shall pay the Contractor interest on any progress payment which is made by City more than 30 days after City receives an undisputed and properly submitted written payment request. Said interest shall be equal to the rate set forth in CCP Sec.685.010(a), and shall begin to accrue upon the expiration of said 30 day period. Any written request for a progress payment which City determines to be disputed, improper or not suitable for payment for any reason shall be returned to Contractor within 7 days after receipt by City, along with a written statement of the reason or reasons why such request is disputed, improper or not suitable for payment.

SECTION 4-8 Change Orders

PURPOSE

This section establishes policies and procedures for preparing and approving change orders.

DEFINITIONS / ABBREVIATIONS

- SSStandard Specifications
- COChange Order – Properly executed written authorization to modify or amend the plans, specifications, schedule or contract amount
- DOTCity Department of Transportation
- FOField Order – A written instruction from the RCI to the Contractor
- RCI.....Resident Construction Inspector
- PMProject Manager (“Engineer” in control of the work)

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

Changes to construction contract documents must be made in writing and executed in accordance with this change order process, City Code Section 3.60.210, and Administrative Policy Instruction No. 22.

With the proper signatures, the change order becomes part of the contract. No verbal instructions or commitments changing the provisions of the contract are to be made to the Contractor without a properly executed CO or FO.

A FO may only be issued if the aggregate amount of all proposed change orders does not exceed the City Manager’s authority. It is the Division’s policy that the project will be managed in such a way that the available City Manager contract authority will be adequate to cover all necessary change orders. The PM should have City Council reset City Manager authority at the appropriate times to ensure that there is adequate City Manager authority to execute the necessary change orders.

AUTHORITY

The City Manager or the Director of DOT, as his designee, has the financial authority to approve change orders within the amounts shown in Attachment 1, Section 8-13. If those amounts are exceeded, change orders must be approved by the City Council. The PM and RCI do not have the financial authority to approve change orders.

FOs are issued by the RCI under the delegated authority and direction of the PM.

RESPONSIBILITIES

Project Manager

The PM is responsible for managing and processing change orders. The PM may delegate a portion of the responsibilities to the RCI as necessary, but retains control and responsibilities for the execution of the change

order. After agreement is reached with the Contractor, the PM is responsible for obtaining approval of the change order. If the City Council is the approving authority, the PM prepares a City Council letter for approval. A PM Checklist is included as Attachment 1.

Resident Construction Inspector

The RCI is responsible for informing the PM of a potential change order at the earliest practicable time. The RCI details the reason for the change order, and prepares a Daily Extra Work Report (Attachment 3) or Daily Extra Work in Dispute Report (Attachment 4). At the direction of the PM, the RCI may negotiate the change order, establish the method and amount of payment, and prepare "Exhibit A" to be incorporated into the change order. An RCI Checklist is included as Attachment 2.

CHANGE ORDERS AND FIELD ORDERS

Change Orders

A CO is a properly executed written authorization to modify or amend the plans, specifications, and schedule or contract amount.

COs may be necessary for a variety of reasons such as scope changes, design errors, omissions, differing site conditions, additional work days, and assessment of liquidated damages.

When a change is required due to field conditions, the RCI must follow the CO Checklist (Attachment 2).

Field Orders

A FO is a written instruction given to the Contractor by the RCI in the field to provide direction to the Contractor. Often FOs are necessary to avoid delays or to resolve design issues.

In those instances where the work would be delayed by waiting for the City to execute a CO, the PM may direct the work to be done by authorizing the RCI to issue a FO. In those

cases, the PM must process a CO for the ordered work as soon as possible.

In those cases where the work would be delayed by waiting for PM approval, the RCI may direct the work to be done by issuing a FO if the value of the work is less than \$500.00 and does not exceed City Manager authority. If the work exceeds \$500.00, the PM must be consulted.

PREPARING CHANGE ORDERS

Processing

The PM will process any outstanding COs as soon as possible and prior to the 20th of each month so that the Contractor may be compensated for work completed during the next pay period. PMs should process COs in accordance with the Checklist (Attachment 2).

Method of Payment

The PM will determine the method of payment and any extension of time after considering the RCI's recommendations.

If the Contractor submits a claim for extra work, the PM must determine the validity of the claim, and may request the RCI to provide input in determining costs and schedule impacts, if any. The PM may direct the RCI to negotiate a change order with the Contractor. If negotiations for a lump sum or per unit price fail, the PM should meet with the Contractor. If an agreement cannot be reached, the PM must direct the work to be done pursuant to force account (time and materials).

Creating Change Orders

The PM will process the CO as soon as possible. The CO is prepared by entering the Contractor's information and CO information into File Maker Pro. The CO is then routed for approval.

The CO submittal package shall include:

- Change Order Form
- Budget Analysis Form (Attachment 1, Section 3-1)
- Funding Request Information, if needed (Attachment 1, Section 1-6)

Unilateral Change Orders

If the Contractor rejects the City proposed compensation for any extra work, the PM should execute a unilateral change order and pay the Contractor up to the disputed amount. The Contractor may file a notice of potential claim for the difference.

Claims

Should the Contractor disagree with the amount, scope, or the extension of time indicated in the CO, the RCI with the PM's approval, should direct the Contractor to submit a notice of potential claim in accordance with the City Standard Specifications.

If the Contractor submits a potential claim in writing, the RCI must evaluate the claim and prepare an appropriate response for the PM's approval. Should the PM and Supervising Design Engineer be unable to resolve the claim, the Contractor is to be advised to file written request for a claim hearing with the Engineering Services Manager.

ATTACHMENTS

- Attachment 1: Project Manager's Checklist
- Attachment 2: Resident Construction Inspector's Checklist
- Attachment 3: Daily Extra Work Report
- Attachment 4: Daily Extra Work in Dispute Report

ATTACHMENT 1

Project Manager's Checklist

		YES	N/A
1.	The RCI (immediately) informed the Project Manager of potential change order.	<input type="checkbox"/>	<input type="checkbox"/>
2.	The RCI is tracking any potential delay costs or extra work in dispute.	<input type="checkbox"/>	<input type="checkbox"/>
3.	The Project Manager has determined that the work should be considered extra work.	<input type="checkbox"/>	<input type="checkbox"/>
	(A) If not, inform Contractor that work is part of the contract.	<input type="checkbox"/>	<input type="checkbox"/>
4.	The Project Manager has determined if the extra work is controlling item, or work will be interrupted substantially increasing cost.	<input type="checkbox"/>	<input type="checkbox"/>
	(A) If not controlling item, process a change order prior to start of work.	<input type="checkbox"/>	<input type="checkbox"/>
	(B) If a controlling item, then authorize the issuance of a field order.	<input type="checkbox"/>	<input type="checkbox"/>
	(C) If work is interrupted, substantially increasing cost, authorize the issuance of a field order.	<input type="checkbox"/>	<input type="checkbox"/>
5.	The Project Manager has determined the method of payment based on the RCI's recommendation.	<input type="checkbox"/>	<input type="checkbox"/>
6.	The Project Manager has determined the amount of payment.	<input type="checkbox"/>	<input type="checkbox"/>
	(A) If yes, process a change order for the exact amount.	<input type="checkbox"/>	<input type="checkbox"/>
	(B) If no, process a change order for an estimated amount.	<input type="checkbox"/>	<input type="checkbox"/>
	(C) If amount is over City Manager's authority, Council Resolution to authorize Director of Transportation to execute change order.	<input type="checkbox"/>	<input type="checkbox"/>
7.	The Project Manager has determined the extension of time based on the RCI's recommendation.	<input type="checkbox"/>	<input type="checkbox"/>
	(A) If yes, process a change order indicating the number of days, if any.	<input type="checkbox"/>	<input type="checkbox"/>

	YES	N/A
(B) If no, process a subsequent change order indicating the number of days, if any.	<input type="checkbox"/>	<input type="checkbox"/>
8. The RCI has prepared daily extra work reports until work is completed.	<input type="checkbox"/>	<input type="checkbox"/>
9. The RCI has prepared and submitted "Exhibit A" to the Project Manager.	<input type="checkbox"/>	<input type="checkbox"/>
10. If the project is Federally funded, follow the requirements indicated in the Local Assistance Procedure Manual, Chapter 16.13.	<input type="checkbox"/>	<input type="checkbox"/>
11. The Project Manager has prepared the Change Order approval package.	<input type="checkbox"/>	<input type="checkbox"/>
12. If Change Order is over the City Manager's Delegated Authority, Project Manager has prepared a Council Report for review and approval.	<input type="checkbox"/>	<input type="checkbox"/>
13. Discuss outstanding Change Order issues or potential Change Orders with Supervising Engineer.	<input type="checkbox"/>	<input type="checkbox"/>

ATTACHMENT 2

Resident Construction Inspector’s Checklist

	YES	N/A
1. Immediately notify the Project Manager of any conflicts that have the potential to become Change Orders.	<input type="checkbox"/>	<input type="checkbox"/>
2. If the field change is minor in nature, and the Project Manager and Supervising Engineer are not available, approve necessary changes that would result in delay if less than \$500.00 in cost.	<input type="checkbox"/>	<input type="checkbox"/>
(A) Notify the Project Manager as soon as the Project Manager becomes available.	<input type="checkbox"/>	<input type="checkbox"/>
3. Track potential costs of extra work as soon as possible using extra work form.	<input type="checkbox"/>	<input type="checkbox"/>
4. Recommend method of payment to Project Manager.	<input type="checkbox"/>	<input type="checkbox"/>
5. Recommend whether extra work is controlling item.	<input type="checkbox"/>	<input type="checkbox"/>
6. Recommend the number of additional working days to be added to contract.	<input type="checkbox"/>	<input type="checkbox"/>
7. Submit “Exhibit A” indicating the description of work, amount for each item of work, and any extension of time to the Project Manager.	<input type="checkbox"/>	<input type="checkbox"/>
8. If the cost is unknown, has the Inspector estimated the cost, and submitted “Exhibit A” as a potential change order?	<input type="checkbox"/>	<input type="checkbox"/>
9. Monitor the Change Order Approval Process to coordinate pay statements.	<input type="checkbox"/>	<input type="checkbox"/>
10. Should the Contractor disagree with the amount, scope, or the extension of time indicated in the change order, discuss with Project Manager and suggest to the Contractor that he file a notice of potential claim, and adhere to the “disputed claim” process if directed by Project Manager.	<input type="checkbox"/>	<input type="checkbox"/>
11. While the claim is being disputed, coordinate with the Project Manager to determine whether or not to process a potential change order, and to obtain approval from the appropriate authority for the work in dispute.	<input type="checkbox"/>	<input type="checkbox"/>
12. Discussed outstanding change order or potential change orders with Construction Services, Supervising Engineer.	<input type="checkbox"/>	<input type="checkbox"/>

Daily Extra Work Report



DEPARTMENT OF
PUBLIC WORKS

PROJECT DELIVERY
DIVISION

DAILY EXTRA WORK REPORT

CCO # _____

DATE PERFORMED _____
DATE OF REPORT _____
RESUBMITTAL DATE _____
SUBCONTRACTOR _____ YES _____ NO _____

REPORT # _____
SHEET _____ OF _____
CITY PROJECT # _____
CITY PROJ. NAME _____

WORK PERFORMED BY _____
DESCRIPTION OF WORK _____

EQUIPMENT BREAKDOWN				
EQUIP. NO	EQUIPMENT DESCRIPTION	HOURS	HOURLY RATE	EXTENDED AMOUNT
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
TOTAL EQUIPMENT COSTS				\$0.00
INVOICED MATERIALS AND SPECIALISTS				
DESCRIPTION & INVOICE #	QUANTITY	RATE	AMOUNT	
			\$0.00	
			\$0.00	
			\$0.00	
TOTAL INVOICED COSTS				\$0.00
B. TOTAL EQPMNT / MATRL / SPECLST COSTS				\$0.00

LABOR BREAKDOWN					
LABOR NAME	LABOR CLASS.	TYPE	HOURS	HOURLY RATE	EXTENDED AMOUNT
		REG			\$0.00
		OT			\$0.00
		REG			\$0.00
		OT			\$0.00
		REG			\$0.00
		OT			\$0.00
		REG			\$0.00
		OT			\$0.00
		REG			\$0.00
		OT			\$0.00
		REG			\$0.00
		OT			\$0.00
		REG			\$0.00
		OT			\$0.00
A. TOTAL LABOR COSTS					\$0.00

MARK-UPS AND SURCHARGES	%	AMOUNTS
LABOR SURCHARGE (LS) = A x %		\$0.00
LABOR MARK-UP = (A + LS) x %		\$0.00
EQPT/MATRL/SPCLST MARK-UP = B x %		\$0.00
IF APPL. SUBCONTRACTOR MARK-UP		\$0.00

EXTRA WORK BILL TOTAL	\$0.00
------------------------------	---------------

CONTRACTOR REPRESENTATIVE _____

OWNER REVIEWER _____

OWNER APPROVAL SIGNATURE _____

DATE _____

Daily Extra Work in Dispute Report



DEPARTMENT OF
PUBLIC WORKS

PROJECT
DELIVERY
DIVISION

REPORT FOR WORK IN DISPUTE

City Job No. & Name:

DATE OF WORK _____

CCO # (IF KNOWN) _____

CONTRACTOR(S) PERFORMING WORK _____

LOCATION AND DESCRIPTION OF WORK _____

LABOR

COMPANY	LABOR CLASS'FCTN	NAME	START TIME	END TIME	HOURS WORK'D	HOURS IDLE	COMMENTS

EQUIPMENT/MATERIAL

COMPANY	EQUIPMENT #	EQUIPMENT/MATERIAL DESCRIPTION	START TIME	END TIME	HOURS OPER'TN	HOURS IDLE	COMMENTS

The undersigned agree that these hours, labor, equipment and material have been provided by the Contractor to perform the work in dispute, which may result in a contract change order or a potential claim for extra work.

INSPECTOR SIGNATURE

CONTRACTOR SIGNATURE

DATE

TIME

THIS AGREEMENT MAY BE USED FOR PROGRESS OR EXTRA WORK PAYMENT

SECTION 4-9

Completion of Improvements

PURPOSE

This section establishes policies and procedures for the completion of projects.

DEFINITIONS / ABBREVIATIONS

RCI.....Resident Construction Inspector

PMProject Manager

ICR.....Inspector's Completion Report (Green Slip)

NOC.....Notice of Completion

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

The NOC must be issued upon completion of the work per the plans, specifications, and contract change orders. The NOC is to be issued when construction is complete regardless of whether there are unresolved issues related to pay requests, claims, and contract administration. If a contract includes landscape maintenance, the NOC is not to be issued until the maintenance period has elapsed.

AUTHORITY

Approval from the RCI, electrical inspector, PM, and Supervising Construction Inspector is required on the ICR prior to issuance of the NOC. Upon receipt of the ICR, the Contracts Officer prepares and files the NOC with the County Recorder's Office to provide

constructive notice to the Contractor and subcontractors.

RESPONSIBILITIES

Contractor

The Contractor is responsible for completing the work pursuant to the number of allowable working days as provided for in the contract documents including all punch list items.

Resident Construction Inspector

The RCI is responsible for preparing the punch list in a timely manner, coordinating with the electrical inspector, requesting a final walk through, and completing the ICR. The RCI is also responsible for routing the ICR, and ensuring that the NOC is issued.

Project Manager

The PM is responsible for reviewing and approving the ICR. The PM is also responsible for verifying that the information on the ICR is correct.

Contracts Officer

The Contracts Officer is responsible for issuing and filing the NOC.

PROJECT COMPLETION PROCESS

The Contractor is required to request a punch list in writing upon substantial completion of the project; however, the RCI may facilitate the completion of the work by providing the Contractor a preliminary punch list. If the Contractor requests a punch list, the RCI determines if the project is substantially

complete before issuing a punch list. The RCI may either provide a punch list within two working days, or provide notification to the Contractor that the project is not substantially complete with a brief description of the remaining work items.

WALK-THROUGH PROCESS

Upon completion of the punch list items, the RCI requests a walk-through of the project site by City Departments that are responsible for maintenance of the newly constructed facilities and any existing facilities that were protected during construction. The RCI typically requests a walk-through from the Department of Utilities (storm, sewer, and water), the Department of Transportation (Street Maintenance and Landscape Maintenance), Caltrans, County of Sacramento, and appropriate regulatory agencies.

Departments have (10) working days to respond to a request for a walk-through. If no response is given, the RCI proceeds with the ICR; otherwise the RCI contacts the Contractor to resolve the outstanding issues.

INSPECTION COMPLETION PROCESS

Once the contractual items have been completed, the RCI completes the ICR (Attachment 1). The RCI indicates, by checking a box on the ICR form that curb ramps are certified, record drawings are received and

approved, and a construction debrief meeting has been scheduled. The RCI should note any outstanding issues that have not been resolved, but are not significant enough to hold up the NOC.

The RCI signs the ICR and routes it to the electrical inspector and the PM for signature. The RCI then routes the ICR to the Supervising Construction Inspector for final review and approval. The Supervising Construction Inspector routes the ICR to the Contracts Officer and distribute copies.

NOTICE OF COMPLETION

Upon receipt of the ICR, the Contracts Officer provides written notice to the Contractor of any outstanding issues. After the issues are resolved, the Contracts Manager prepares the NOC, records the NOC at the County Recorder's Office, and distributes notification via email. After thirty-five (35) calendar days have elapsed and when all stop notices have been cleared, the Contracts Officer notifies accounting staff to release the retention. (Attachment 2).

ATTACHMENTS

- Attachment 1: Completion of Projects Checklist
- Attachment 2: Inspector's Completion Report

ATTACHMENT 1

Completion of Projects Checklist

YES	N/A	Initial	
<input type="checkbox"/>	<input type="checkbox"/>	_____	Contractor requests punch list.
<input type="checkbox"/>	<input type="checkbox"/>	_____	RCI determines if work is substantially complete.
<input type="checkbox"/>	<input type="checkbox"/>	_____	RCI prepares punch list.
<input type="checkbox"/>	<input type="checkbox"/>	_____	RCI requests walk through.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Contractor completes all work.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Contractor submits all closing documents (Record Drawings, Federal and State exhibits, etc, but excluding pay request).
<input type="checkbox"/>	<input type="checkbox"/>	_____	RCI processes ICR.
<input type="checkbox"/>	<input type="checkbox"/>	_____	RCI distributes copies of ICR.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Contracts Officer releases retention.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Final Pay request is processed.

Inspector's Completion Report

City of Sacramento
Department of Transportation
Engineering Services Division

Inspector's Completion Report

Project No.:	Notice to Proceed:	Days Allowed:	Days Expended:
Contract No.:		Date Completed:	Walk Through Date:
Project Name:			
Contractor Name:			

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED CONTRACT HAS BEEN COMPLETED IN ACCORDANCE WITH THE "SPECIAL PROVISIONS" AND/OR THE "STANDARD SPECIFICATIONS" OF THE CITY OF SACRAMENTO.

- Yes NA CURB RAMPS CERTIFIED
- Yes NA CIP OR PRIVATE DEV. AS-BUILTS RECEIVED AND APPROVED
- Yes NA ELECTRICAL AS-BUILTS RECEIVED AND APPROVED
- Yes NA CIP CONSTRUCTION DEBRIEF MEETING
- Yes NA TRENCH CUT FEES CALCULATED & PAID
- Yes NA BRIDGES (as-built to be sent to bridge coordinator)

Remarks:	
FOR CONTRACT SERVICES ONLY	
Total PO Amount:	Date of Last Pay Estimate:
Total Work Completed:	Date of Last CO:
Total Retention:	LC:
	FUND

	PRINT NAME	SIGNATURE	DATE
Inspector:			
Electrical Inspector:			
Project Manager:			
Construction Engineer:	Jon Blank		

SECTION 4-10

Warranty Inspections

PURPOSE

This section establishes policies and procedures for conducting warranty inspections under the warranty contract provisions and to provide for repair or rehabilitation of defective work.

DEFINITIONS / ABBREVIATIONS

Warranty InspectionAn inspection performed by the City on a constructed project during the one (1) year warranty period.

Notice of Completion.....(NOC) A written, dated notice to the Contractor that the constructed project has been successfully completed and that the one (1) year warranty period has started.

For additional abbreviations, please see the Abbreviations section at the end of this Manual.

POLICY

A warranty inspection is to be performed by Construction Services Staff and the Contractor noticed of any defective work or materials within one (1) year of the project's completion date, as documented in the NOC.

AUTHORITY

The City has the authority under the contract documents to require the Contractor to repair defective materials or workmanship for a period

of one (1) year after final acceptance of the work.

RESPONSIBILITIES

Construction Section Support Staff

Under the supervision of the Supervising Construction Engineer, the Support Staff is responsible for generating and distributing a monthly notification that a warranty inspection is necessary. The first notice begins ten (10) months after the NOC is issued.

Resident Construction Inspector

The RCI is responsible for performing the warranty inspection and notifying the Contractor in writing of any defects prior to the one (1) year expiration date. It is also the RCI's responsibility to invite Operations and Maintenance Staff from all affected departments on a warranty walk-through.

Contractor

The General Contractor is responsible for repairing any defects in materials or workmanship upon written notification of the needed repairs.

Project Manager

The PM is responsible for ensuring that a warranty inspection is conducted on his/her project and that the Contractor repairs any defective materials or workmanship. Where Consultants are used for construction management, it is the Project Manager's responsibility to ensure that the project is listed in the Construction Section Project Database which tracks warranty time frames.

Contracts Services Manager

The Contracts Services Manager is responsible for assisting the PM to assure that the Contractor is in compliance with his/her warranty responsibilities.

DISTRIBUTING WARRANTY INSPECTION LIST

On a monthly basis, the Construction Section Support Staff generates a list of projects that have reached ten (10) months since completion. The list is then distributed to the appropriate inspection staff to begin warranty inspections.

WARRANTY INSPECTIONS AND REPAIRS

The RCI assigned to a project is required to perform the warranty inspection and to invite the appropriate operations and maintenance personnel from affected departments to a walk-through for the inspection. If any defects in materials or workmanship are found, the RCI is to discuss the repairs needed with the PM and other stakeholders.

The PM is to direct the RCI to write a letter, sent via certified mail, detailing the defect(s) to the Contractor prior to the expiration of the warranty period. If the Contractor fails to correct the work, the PM coordinates with the Contracts Services Manager to utilize the available remedies to repair the defect(s).

WARRANTY EXPIRATION

The warranty period automatically expires one (1) year after the issuance date of the NOC. Failure to notify the Contractor of any defects within that one (1) year period will relieve the Contractor from the responsibility of repairing defects in materials or workmanship.

Performing the warranty inspections and notifying the Contractor in writing prior to warranty expiration is imperative for repairs to be made. At the Contractor's request, the warranty period may be extended if the request is made in writing and accompanied with the appropriate performance security.