

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>3</u>
QMP # <u>001</u>	Title: STANDARD METHOD FOR PROCEDURE PREPARATION	Section: QA/QCP-2	Date:	

Each department shall develop project procedures defining how a particular activity is to be performed and by whom. The D/B Quality Assurance/Quality Control Program contains twenty (20) sections that describe the activities that will be performed to assure the quality and technical requirements of the contract documents will be achieved. The project procedure should be structured using the following format:

1.0 PURPOSE

It is recommended that all "Purpose" paragraphs begin as follows:

1.1 To define the responsibilities and describe the methods and documents to be used to ..."

i.e., briefly describe the specific purpose of the procedure.

2.0 SCOPE

It is recommended that all "Scope" paragraphs begin as follows:

2.1 "This procedure applies to ..."

2.2 Additional paragraphs as necessary

i.e., briefly describe the extent of functional coverage and scope limitations of the procedure.

3.0 DEFINITIONS

List abbreviations here, if used in the procedure, unless they are shown in brackets following the first use of the phrase in the procedure. Abbreviations and acronyms to be written without period i.e , WSDOT etc.

3.1 Additional paragraphs as necessary . . .

i.e., define *words* or phrases having special meaning within the procedure.

4.0 RESPONSIBILITIES

Describe only individual or section responsibilities directly associated with the procedure.

4.1 Additional paragraphs as necessary...

i.e., identify the organization positions and very brief responsibilities of the individuals charged with the implementation of the procedure.

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5.0 PROCEDURE

Under this heading describe the specific step by step procedure or instructions to be followed, identifying all information necessary for proper implementation.

5.1 Breakdown the paragraph if necessary when describing the procedure following e.g.

5.1.1

5.1.1.2

Standardize the use of words and phrases within the procedure that mean the same thing.

Where possible use, i.e., supplier in lieu of vendor, subcontractor, manufacturer, bidder, etc. Avoid using the names of individuals, only titles of positions. If what is being performed is required by the contract documents, use shall and not, must, will, have, etc.

6.0 REFERENCES

List all D/B or WSDOT procedures or documents referred to in the procedure, or if they have a direct relationship with the procedure contents.

6.1 Additional paragraphs as necessary...

i.e., list all cited reference documents, such as related procedures, applicable regulatory guidelines, codes or standards.

7.0 ATTACHMENTS

Provide single sided only copies of any forms referred to in the procedure.

7.1 Show attachments separately as necessary with title and form #. SLV/QA-003
i.e., Notice of Inspection or Test

7.2 Flow Chart

8.0 NUMBERING OF PROCEDURES AND APPEARANCE

8.1 All QMP procedures and pages will be numbered in accordance with the document numbering system specified by the Quality Assurance/ Quality Control Documentation Manager.

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8.2 The front sheet shall be called the Title page.

8.3 All continuation pages shall be numbered consecutively.

8.4 All procedures shall be typed on a word processor with spacing, paragraph numbering, page design, layout and headings all as generally presented in this procedure.

8.5 **Bold** type procedure titles, significant actions, or abbreviations e.g. **NCR**, "**Initial Inspection**", as applicable.

8.6 The Quality Assurance/Quality Control Documentation Manager shall provide the QMP # from his master list. The Section # refers to the appropriate reference section in the D/B Quality Assurance/Quality Control Program.

9.0 APPROVAL OF PROCEDURES

9.1 All procedures shall be distributed for review and comments to appropriate D/B Project Management personnel before final approval signatures and distribution.

9.2 The procedure writer shall take note of the comments and revise the procedure as necessary .

9.3 The procedure shall be signed by the D/B QA/QC Manager and forwarded to the Project Director for approval and signature.

9.4 The completed procedure shall be returned to the Quality Assurance/ Quality Control Documentation Manager for distribution and file.

NOTICE OF INSPECTION OR TEST

Report No.:

Date:

Area:

Section:

Station:

- Notification of: Preparatory Mechanical
 Inspection Initial Partial Electrical Structural
 Test Completion Final Civil Other: _____

Requested By:

Organization:

Contractor:

Contract No.

Subcontractor/Vender

Location of Inspection or Test:

Type of Work Scheduled:

Date to be Performed:

Time:

Specifications and/or Drawing Reference(s):

Remarks or Special Instructions:

This notification should be completed and delivered to the Quality Assurance Manager at least 48 hours prior to the time of scheduled inspection or test.

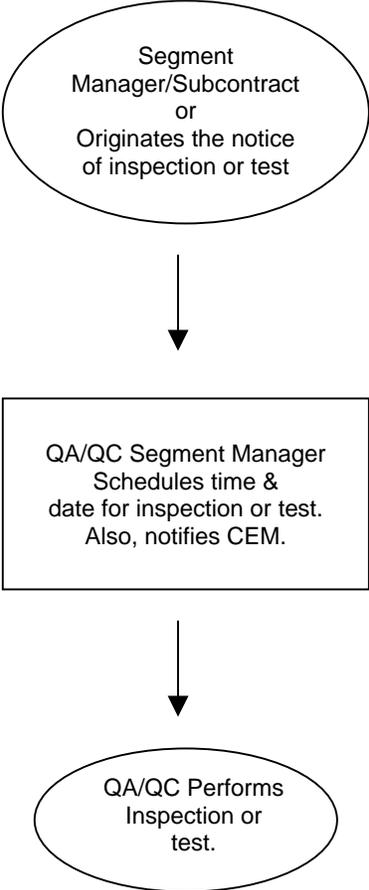
NOTIFICATION RECEIVED

Subcontractor QC Representative:	Date:	Design/Builder QA Representative:	Date:
Contractor QC Representative:	Date:	Others:	Date:
Construction Representative:	Date:	Others:	Date:

QUALITY MANAGEMENT PROCEDURES

Design Builder

STANDARD METHOD FOR PROCEDURE PREPARATION



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QMP # <u>002</u>	Title: MONTHLY QUALITY AWARD PROCEDURE	Section: QA/QCP-1	Date:	

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documents to be used to recognize outstanding contributions to the Quality Assurance/Quality Control Program on this project.

2.0 SCOPE

2.1 This procedure applies to the identification and recognition of outstanding contributions to the Quality Assurance/Quality Control Program for the project. Award candidates are those individuals who have contributed to Quality above and beyond the normal requirements and/or expectations.

3.0 DEFINITIONS

3.1 Quality Standards: Requirements as outlined in the Quality Assurance/Quality Control Program Manual.

3.2 Award: Recognition and a certificate of outstanding performance.

3.3 QA/QC: Quality Assurance/Quality Control.

3.4 Quality Committee: QA/QC Manager, Design QA/QC Manager, QA/QC Segment Manager and Laboratory Manager.

4.0 RESPONSIBILITIES

4.1 All team members: Any member of the Kirkland Phase 1 construction project, including WSDOT, Stake Holders, Design/Builder, and any and all Subcontractors, may nominate a Quality Award Candidate.

4.2 Segment Manager: Construction Segment Manager reviews and approves all nominations from his segment.

4.3 QA/QC Segment Manager: Reviews and approves nominations from his segment.

4.4 Quality Committee: Reviews and makes the final selection each month.

5.0 PROCEDURE

5.1 On a monthly basis individuals will be nominated for the Quality Person of the Month Award. Nominations must be submitted to the QA/QC Segment Manager by the last Wednesday of the month.

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The Construction Segment Manager will review and recommend all individuals he believes qualified. These nominations will be passed on to the QA/QC Segment Manager *for* his review and concurrence. All nominations will then be forwarded to the Quality Committee *for* review and selection during their meeting on the last Friday *of* each month.

6.0 REFERENCES

Not Used.

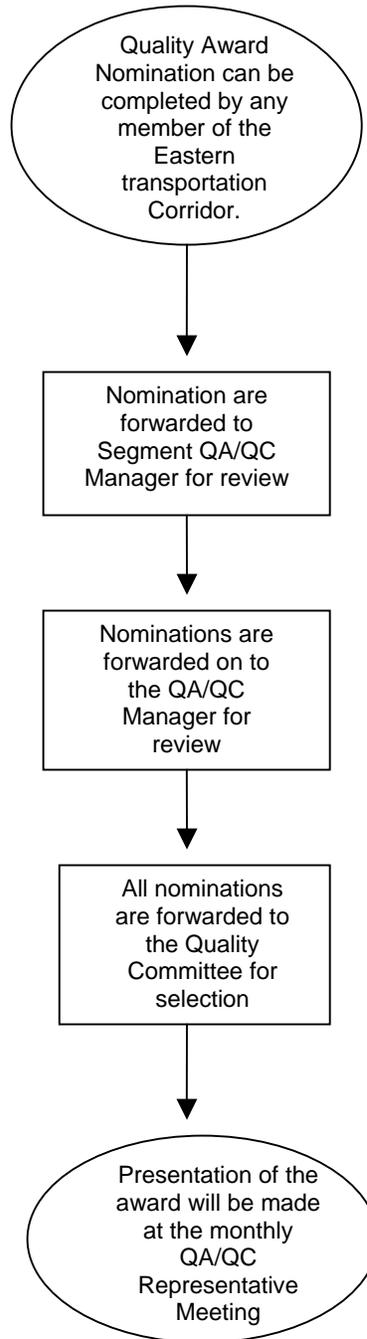
7.0 ATTACHMENTS

7.1 Quality Person Nomination Form

7.2 Flow Chart

QUALITY MANAGEMENT PROCEDURES

MONTLY QUALITY AWARD PROCEDURE



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QMP # 003	Title: CONSTRUCTION DEFICIENCY REPORT	Section: QA/QCP-2	Date:	

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documents used to collect information and data for completing a **Construction Deficiency Report**.

2.0 SCOPE

2.1 This procedure applies to the recording of deficiencies that are identified during all the inspection stages that take place during the construction of work item features.

2.2 **Construction Deficiency Reports** can be applied to but are not limited to: Initial Inspections, Follow-up or Daily Inspections, Completion Inspections, Partial/Final Inspections, Final Acceptance and Turnover Inspections.

3.0 DEFINITIONS

3.1 Deficiency: An item of work, condition or service not in compliance with the plans and specifications.

3.2 Item of Work: Work required to be performed by the Contract Documents.

3.3 Design/Builder

3.4 QA/QC: Quality Assurance/Quality Control

4.0 RESPONSIBILITY

4.1 All QA/QC inspectors and representatives are responsible to complete **Construction Deficiency Reports** during the conduct of inspections, and attach them to their Daily Report Form or applicable Inspection forms.

4.2 The QA/QC Documentation Manager is responsible for the input of deficiency lists of items, updating cleared items and producing and distributing the Weekly Deficiency Status Reports.

5.0 PROCEDURE

5.1 During the process of any inspection, those items which are not in conformance with plans or specifications are to be written up as deficient on a **Construction Deficiency Report** by the QA/QC representatives.

5.2 These sheets are to be attached to the appropriate inspection before, and after distribution to the inspection participants, the original copy is transmitted to the QA/QC Documentation Department at the end of each day by the QA/QC representatives.

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QMP # <u>003</u>	Title: CONSTRUCTION DEFICIENCY REPORT	Section: QA/QCP-2	Date:	

5.3 The QA/QC Documentation Manager shall input the deficiency items into the reporting system and file the original **Construction Deficiency Report** copy in QA Records.

5.4 Segment and Subcontractor Management/Superintendents must take the necessary action to clear deficient items and to sign-off the **Construction Deficiency Report**.

5.5 All QA/QC representatives are responsible for verification of all deficient items cleared by the construction superintendents in their applicable areas of work.

6.0 REFERENCES

6.1 Design/Builder Quality Assurance/Quality Control Program Manual.

6.2 Weekly Deficiency Status Report.

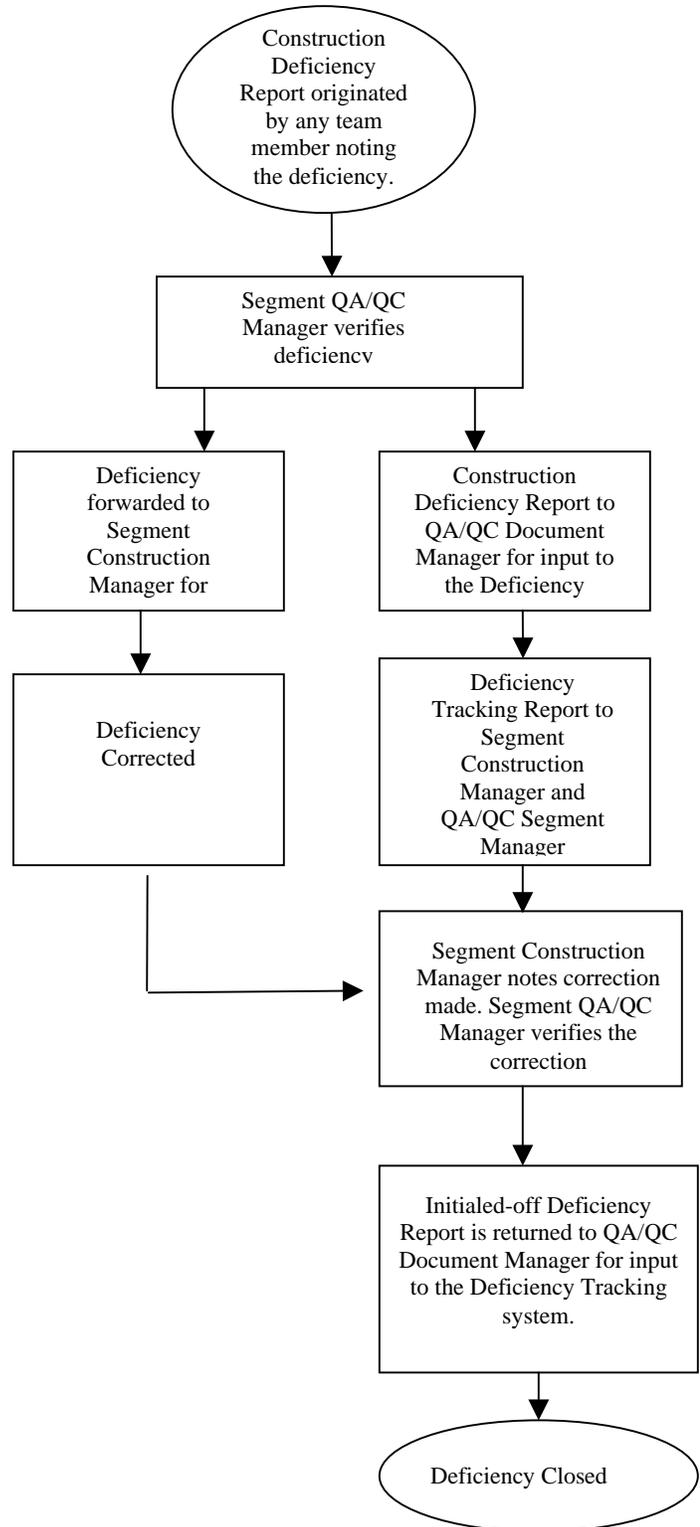
7.0 ATTACHMENTS

7.1 Construction Deficiency Report - Data Input Sheet

7.2 Flow Chart

QUALITY MANAGEMENT PROCEDURES

CONSTRUCTION DEFICIENCY REPORT



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QMP # <u>004</u>	Title: NONCONFORMANCE REPORT	Section: QA/QCP-13	Date:	

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documents to be used to control nonconforming items, conditions and services discovered in the course of design/construction activities and to prevent their inadvertent use or installation prior to corrective action to resolve the nonconforming conditions.

2.0 SCOPE

2.1 This procedure applies to nonconforming items, conditions and services discovered on D/B performed work as well as that performed by its Subcontractors on the construction site, including suppliers and consultants.

3.0 DEFINITIONS

3.1 **Nonconformance:** Items, conditions and services which do not conform to established requirements and that require disposition by the responsible Design/Build Section Design Manager.

3.2 **Deficiency:** Items of work, conditions and services which do not conform to the plans and specifications.

3.3 **Design/Builder**

3.4 **NCR: Nonconformance Report**

3.5 **Rework:** The reprocessing of a nonconforming item, condition or service to make it conform to the specified requirements.

3.6 **Reject:** The work item feature is not acceptable.

3.7 **Repair:** The processing of a nonconforming item of work so that it can function reliably and safely although the item of work may not conform to the specified requirements. (Requires cognizant Design Manager, Agency, CEM, and Caltrans concurrence.)

3.8 **Use As Is:** The disposition of a nonconforming item of work to allow its use without rework or repair being performed, as it is determined to be suitable for its intended purpose. (Requires cognizant Design Manager, Agency, CEM, and Caltrans concurrence.)

3.9 **Resolution:** How the nonconformance/deficiency will be corrected using one or a combination of the above methods.

3.10 **Item of Work:** Item of work required by the contract documents to be performed.

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QMP # <u>004</u>	Title: NONCONFORMANCE REPORT	Section: QA/QCP-13	Date:	

4.0 RESPONSIBILITIES

- 4.1 Any Design/Build project team member may initiate an NCR.
- 4.2 The Quality Assurance/Quality Control Manager will validate the nonconforming condition and approve issue of NCR.
- 4.3 The responsible Section Design Manager shall provide the disposition status and acceptability when required.

A copy of the **NCR** will be transmitted by the QA/QC Manager to:

- A. Project Manager for information and review.
- B. Design Manager for review and subsequent disposition/resolution.
- C. C. Subcontracts and Procurement Manager for information and review.
- D. Construction Manager for corrective action.
- E. Administration and Finance Managers for information and action when subcontractors are involved.
- F. Responsible QA/QC Segment Manager for verification *of* the corrective action taken to resolve the nonconformance.

5.0 PROCEDURE

Design/Builder Nonconformance's

- 5.1 An **NCR** can be initiated by any Design/Build project team member when nonconforming conditions occur.
- 5.2 The nonconforming condition will be reviewed by the QA/QC Manager who will validate the item, condition or service is nonconforming before approving and initialing the **NCR**. The QA/QC Manager shall ensure the **NCR** details are correct and if not valid, return the **NCR** to the originator.
- 5.3 Nonconforming items referred to in the **NCR** located on site shall be identified and segregated from conforming items, where applicable, to prevent inadvertent use.

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5.4 Following the discussions with the responsible Section Design Manager to recommend/determine corrective action, the QA/QC Manager shall issue the NCR to:

- The responsible Section Design Manager for disposition status, and to;
- Appropriate Design/Builder Managers for information and to verify that resolutions are being developed and nonconforming conditions are being addressed and;
- Enter the **NCR** details into the **NCR** Log.

5.5 The Section Design Manager shall disposition the **NCR** for: "repair", "use as is", or agree to a "resolution" if one has been provided.

5.6 When the **NCR** disposition is "repair" or "use as is" a documented technical justification shall be supplied by the Section Design Manager for approval of the WSDOT.

5.7 Following the completion of corrective action specified on the **NCR** disposition, the QA/QC Manager shall have the item reinspected to the specified acceptance criteria; unless other criteria was established in the NCR disposition.

5.8 The QA/QC Manager shall update the **NCR** Status Log and distribute weekly to Silverado, Design, Construction, Subcontracts and Procurement, Administration and Finance Managers, as appropriate

Subcontractor Nonconformance's

5.9 Nonconforming conditions found in Subcontractor performed work shall be handled in accordance with the Subcontractor approved Quality Program procedures.

5.10 Subcontractors shall supply a copy of all their NCR's to the Segment QA/QC Segment Manager and also a weekly and monthly NCR status report.

5.11 The QA/QC Segment Manager shall forward NCR's to the Design Manager who shall verify that the dispositions for "repair" or "use as is" are acceptable.

5.12 The QA/QC Segment Manager shall audit Subcontractor NCR systems for implementation and effectiveness including identification of nonconforming items.

When necessary, the QA/QC Manager may issue an **NCR** on Subcontractor performed work. These NCR's shall follow the same procedure as described above for Design/Builder **NCR**'s.

Control of nonconforming work for Subcontractors and Consultants performing work off-site will be in accordance with procedures contained in their approved Quality Program.

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QMP # <u>004</u>	Title: NONCONFORMANCE REPORT	Section: QA/QCP-13	Date:	

6.0 REFERENCES

- 6.1 Design/Builder Contract Document General Requirements
- 6.2 Design/Builder Quality Assurance/Quality Control Program.

7.0 ATTACHMENTS

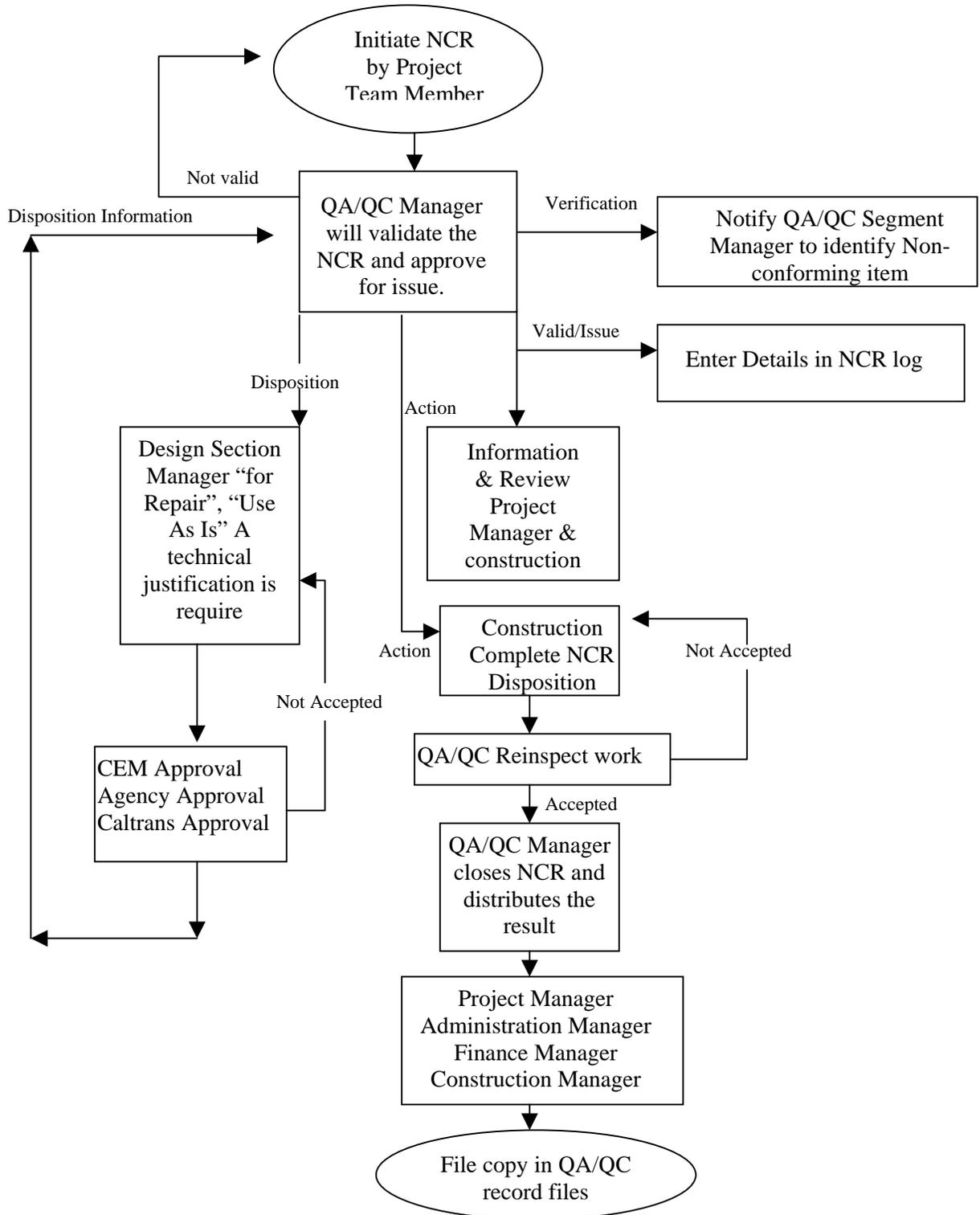
- 7.1 Nonconformance Report Form (Front Page)
- 7.2 Nonconformance Report Form
Completion Instruction (Rear Page)
- 7.3 Sample Nonconformance Report
- 7.4 Flow Chart

- A) **PAGE NO.** - Number is 1 of 1 if only one page used. If two (or more) the first page is 1 of 2 and the second is 2 of 2, etc.
- B) **REPORT NO.** - This number is in sequence for the entire project and is obtained from the NCR Log.
- C) **DATE** - Date the NCR is being submitted.
- D) **DESIGN/BUILDER** or **SUBCONTRACTOR/VENDOR** - Check appropriate box then write the name of the contractor or subcontractor/vendor involved.
- E) **CONTRACT NO.** - Number of contract as one contractor may have more than one concurrent contract.
- F) **SECTION** - Section number where problem was encountered.
- G) **SEGMENT** - The segment box is to be checked or in the case of "other", write in the specific location (shop inspections).
- H) **STATION** - Station number where problem was encountered.
- I) **INSPECTION AREA** - General location of problem to be inspected. Check one.
- J) **INSPECTION TYPE** - Check applicable category or fill in others on blank lines provided.
- K) **ITEM DESCRIPTION** - Brief description of item in non-conformance.
- L) **SPECIFICATION NO.** - Specific specification of work in non-conformance.
- M) **DRAWING NO./REVISION NO.** - Drawing number and revision number of drawing (if applicable which deals with the item in question).
- N) **REMEDIAL ACTION REQUIRED BY** - Date by which compliance is required.
- O) **COGNIZANT DEPARTMENT** - Name of Construction Management, AE, Owner, department most aware and or knowledgeable of the problem.
- P) **QA/QC REPORT NO. & DATE** - Julian Day preceded by the year (05, 06, etc.).
- Q) **Design/Builder /QA/QC MANAGER REVIEW DATE** - Date of: Quality Assurance/Quality Control Manager's review of NCR.
- R) **DESC. NO. (Description number)** - If the NCR covers more than one discrepancy in the subject item, number each problem consecutively.
- S) **DESCRIPTION OF NON-CONFORMANCE DWG./SPEC. REQ-INSP RESULTS** - Brief description of problem and results of inspection and variance from plans and specifications.
- T) **REQUIRED ACTION FOR RESOLUTION OF DISCREPANCY OR NON-CONFORMANCE** - Briefly describe possible solution of problem. Requires Section Design\Manager's approval.
- U) **DESIGN MANAGER/DATE** - Signature of the Design Manager and date of signing.
- V) **QA E/I CONCURRENCE DATE** - Signature of D/B QA Representative and date of signing.
- W) **FINAL ACCEPTANCE** - When problem is corrected signature of Quality Assurance/Quality Control Manager date is entered here. Check CLEARED or SELF CLEARING to indicate nature of corrective action.
- X) **DISTRIBUTION** - Indicate person(s) to receive copy of the NCR.

QUALITY MANAGEMENT PROCEDURES

Design Builder

NON-CONFORMANCE REPORT PROCEDURE FLOW CHART



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QMP # 005	Title: CORRECTIVE ACTION	Section: QA/QCP-14	Date:	

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods for identifying items and processes that require investigation for the purpose of correcting nonconforming conditions and to implement corrective actions needed to preclude recurrence.

2.0 SCOPE

2.1 This procedure is in addition to the formal project deficiency reporting methods described in the Quality Assurance/Quality Control Program Manual.

- Construction Deficiency Reports (punch lists) from various daily construction inspections.
- Nonconformance Reports (NCR's)
- Audit Finding Reports from internal and external audits

3.0 DEFINITIONS

3.1 Deficiency: Item of work that is not in compliance with the contract documents.

3.2 Non Conformance: Items, conditions and services which do not conform to established requirements, and that may require disposition by the D/B Design Manager.

3.3 Corrective Action: Measures taken to resolve a detected nonconformance within a product, service or quality system and those measures taken by management to prevent its recurrence.

3.4 Design/Builder

3.5 Item of Work: Work required to be performed by the contract documents.

4.0 RESPONSIBILITIES

4.1 The QA/QC Manager is responsible for identifying significant deficiencies that may warrant the issuance of a request for corrective action.

4.2 A copy of the corrective action request will be transmitted to the Design Manager/Construction Manager/Subcontractor, as appropriate, for review, approval, and action.

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QMP # <u>005</u>	Title: CORRECTIVE ACTION	Section: QA/QCP-14		Date:

4.3 Appropriate and timely corrective measures will be taken by the responsible organization *to* clear the

4.4 The Project Manager will be provided with copies of all corrective action requests and appraised of their status.

4.5 The QA/QC Department will maintain all records of all deficiencies, nonconformances and corrective action requests issued and the corrective action taken.

5.0 PROCEDURES

5.1 Nonconformance reports, "punch lists" and audit finding reports will be reviewed by the Quality Assurance/Quality Control Manager to determine significant deficiencies that may require a change in the contract drawings and specifications, policy, procedures, or processes *to* prevent recurrence. This review will include the following:

- Determination of the root cause of the deficiency.
- Review of the effect of the deficiency on other components, subsystems or systems.
- Determination of a proposed corrective action.
- Recommended responsibility for initiating the corrective action.

5.2 A copy of the corrective action request will be transmitted to the Project Manager for review. The QA/QC Manager will transmit the corrective action request to the organization responsible for the deficient item and the corrective action.

5.3 The organization responsible for completing the corrective action will notify the QA/QC Manager when the corrective action has been completed. QA/QC Department will verify and document the corrective action has been completed.

6.0 REFERENCES

6.1 D/B Quality Assurance/Quality Control Program

6.2 QMP #009 Nonconformance Report

6.3 QMP #010 Internal Quality Audit

6.4 QMP #011 External Quality Audit

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QMP # <u>005</u>	Title: CORRECTIVE ACTION	Section: QA/QCP-14	Date:	

6.5 QMP #006 Construction Deficiency Report

7.0 ATTACHMENTS

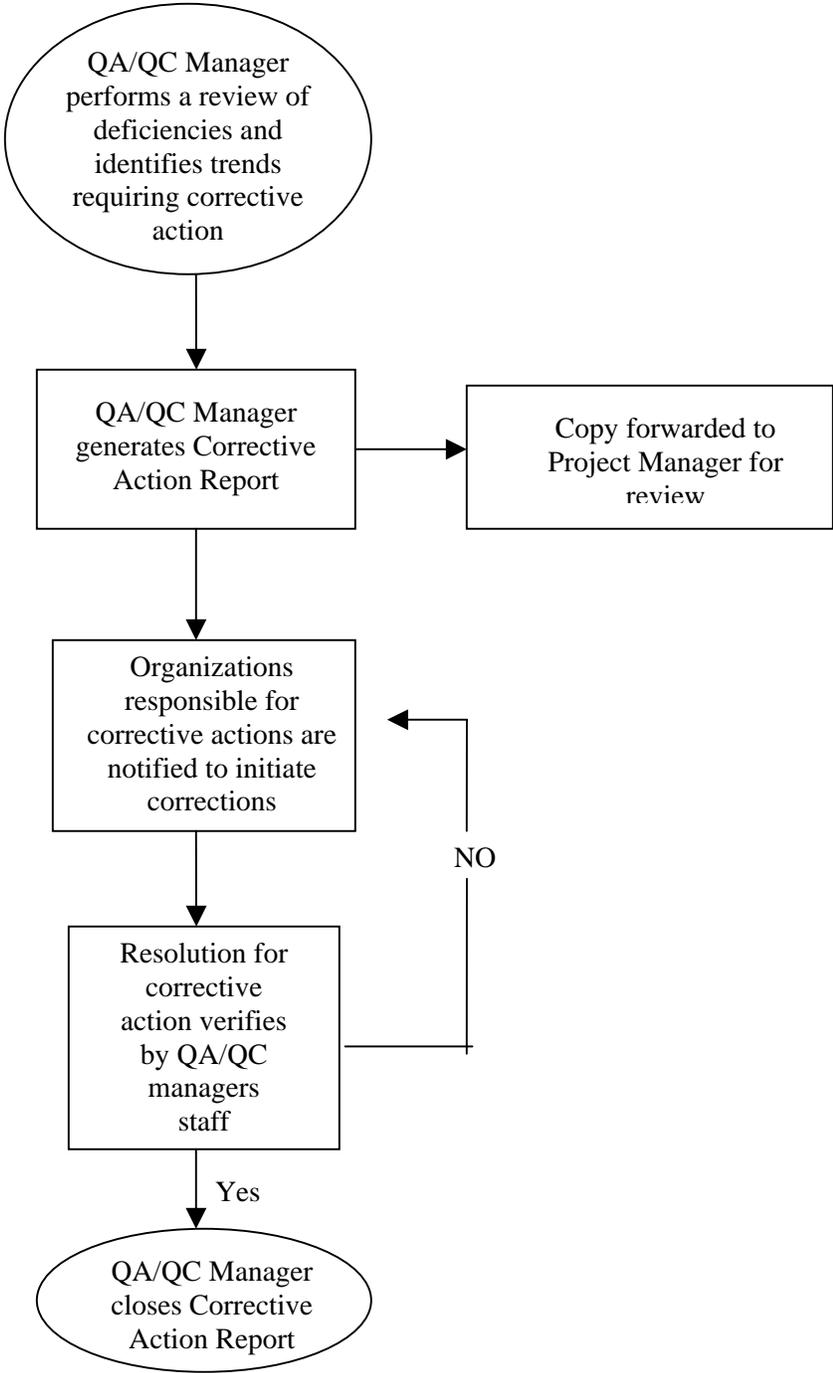
7.1 Corrective Action Request Form

7.2 Flow Chart

QUALITY MANAGEMENT PROCEDURES

Design Builder

CORRECTIVE ACTION



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QMP # <u>006</u>	Title: STOP WORK ORDER	Section: QA/QCP-14	Date:	

1. PURPOSE

- 1.1 To define the responsibilities and describe the methods and documents to be used to prevent the continuation of work being performed by Design/Builder and Subcontractors that is not in conformance with the requirements of the applicable contract documents.
- 1.2 Work shall not continue that will result in extensive rework, repair, removal or replacement to bring the work into conformance.

2. SCOPE

- 2.1 This procedure applies to items of work where it is obvious that continuation of the item of work using the same materials, processes or methods will result in an end product that does not conform to the contract requirements.
- 2.2 This procedure also applies to work that is performed contrary to or in the absence of approved methods and prescribed controls, safety standard requirements, or environmental plan requirements, and where further work would make it difficult or impossible to establish acceptability of the results.

3. DEFINITIONS

- 3.1 Rework: The processing of a non-conforming item of work to conform to the specified requirements.
- 3.2 Repair The processing of a non-conforming item of work so that it can function reliably and safely although the item of work may not conform to the original requirements. (Requires approval of Design Manager, and WSDOT.)
- 3.3 Design/Builder

4. RESPONSIBILITIES

- 4.1 The QA/QC Manager is responsible for issuing a **Stop Work Order**.
- 4.2 The Project Manager is responsible to stop work and develop corrective action to resolve the non-conforming work item.
- 4.3 Design/Build Construction Manager and/or the Subcontractor Project Manager is responsible to stop work on their work items and develop corrective action to resolve the non-conforming item.

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QMP # <u>006</u>	Title: STOP WORK ORDER	Section: QA/QCP-14	Date:	

4.4 Design/Builder Executive Committee shall respond when there is no action taken.

5. PROCEDURE

5.1 Normally a Stop Work Order action shall only be taken subsequent *to* other project procedural actions having been taken. i.e. Non-Conformance Report, verbal or written communications, corrective action or deficiency reports.

5.2 Only the QA/QC Manager shall issue a Stop Work Order.

5.3 The QA/QC Manager may provide recommended corrective action *to* resolve the problem. Additionally, the QA/QC Manager shall verify the corrective actions are implemented and the work is in conformance with the requirements *of* the contract documents.

5.4 If the recipient *of* the Stop Work Order elects *to* take no action, the QA/QC Manager shall refer the matter to Design/Builder Executive Committee.

5.5 The Design/Builder Executive Committee shall contact the Project Manager *to* resolve the Stop Work Order and formulate corrective action to be implemented by the appropriate project personnel.

5.6 The QA/QC Manager, upon implementation of the corrective action, will sign-off the Stop Work Order and distribute copies to the project personnel involved in the action. A copy will also be provided *to* QA Records for file.

5.7 Detailed instructions for completion *of* the Stop Work Order form are shown on the rear page of the form.

6. REFERENCES

6.1 Design/Builder Quality Assurance/Quality Control Program Manual.

7. ATTACHMENTS

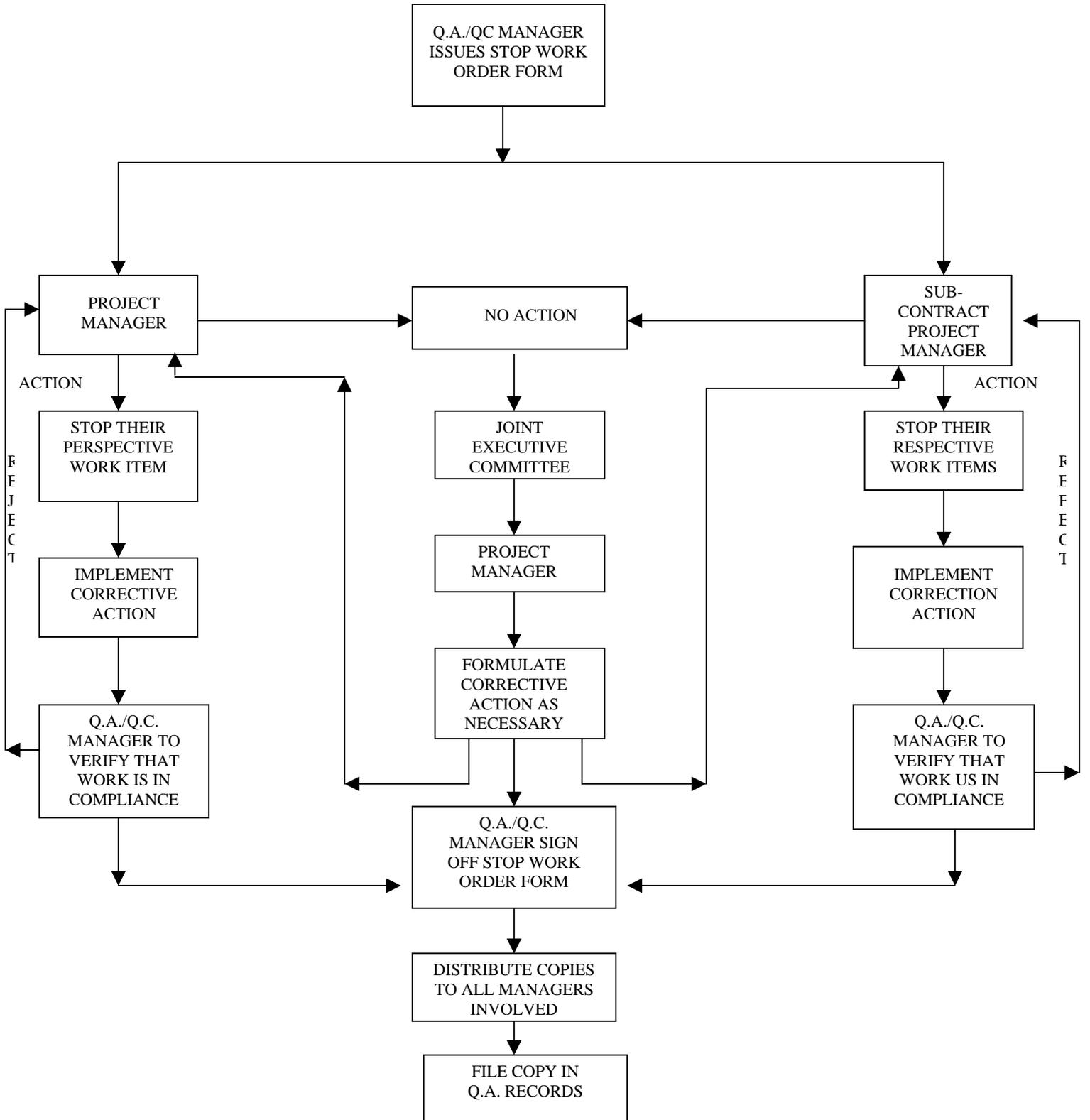
7.1 Stop Work Order Form (front page)

7.2 Flow Chart

QUALITY MANAGEMENT PROCEDURES

STOP WORK ORDER FLOW CHART

Design Builder



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QMP # <u>007</u>	Title: CONTROL OF MEASUREING AND TEST EQUIPMENT	Section: QA/QCP-11	Date:	

1.0 PURPOSE

1.1 To define a uniform method of identifying and controlling the calibration, inspection, and reliability of all measuring and test equipment used by any personnel under this contract.

2.0 SCOPE

2.1 This procedure applies to all inspection, measuring and test equipment and devices used on the project which assist in determining work item conformance to contract and quality requirements.

3.0 DEFINITIONS

3.1 WSDOT Washington State Department of Transportation

3.2 NIST: National Institute of Standards and Technology

3.3 EIL: Equipment Inventory Log

3.4 EHC: Equipment History Card

4.0 RESPONSIBILITIES

4.1 The organization or department responsible for using the measuring and test equipment is responsible for verifying it is maintained, calibrated in accordance with the manufacturer's recommendations.

4.2 The organization or department responsible for using the equipment shall maintain a pennant record of all calibrations.

4.3 The QA/QC Manager shall review calibration/maintenance records on a regular basis to verify they are current.

5.0 PROCEDURE

5.1 Identification

5.1.1 All measuring and test equipment used for acceptance inspections and tests shall be calibrated. Calibration frequencies shall be in accordance with the measuring or test equipment manufacturer's recommendations. Measuring and test equipment shall be classified as Category 1 or 2 as follows:

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>2</u> of <u>4</u>
QMP # <u>007</u>	Title: CONTROL OF MEASUREING AND TEST EQUIPMENT	Section: QA/QCP-11	Date:	

5.1.2 Category 1 -- Measuring and test equipment used to determine acceptability of the physical, mechanical, environmental, and/or chemical characteristics of items, products, processes, systems, and structures.

Scheduled calibration shall be required and documented.

5.1.3 Category 2 -- Measuring and test equipment such as rulers, tape measures, levels, beakers, etc. may be used to produce data where commercial accuracy is considered adequate for the intended purpose without calibrations and control measures applied.

5.1.4 Measuring and test equipment shall be identified and controlled to ensure proper selection and use, based on such items as type, range, accuracy and tolerance to accomplish the function of determining acceptability and conformance to specified requirements of items

5.1.5 Each Category 1 device requiring calibration shall be assigned a unique identification. The identification, when physically possible, shall be permanently placed on the device. Where marking the device is not possible, due to the size, configuration, complexity, or location of the device, the marking shall be in such a manner that identification control is ensured.

5.1.6 A controlled listing of all Category 1 devices requiring calibration with their associated unique identifications shall be maintained.

5.1.7 A record shall be established and maintained for each Category 1 device under the calibration program. The record shall include the following information:

- a. Description of the device.
- b. Manufacturer of the device.
- c. Model number.
- d. Unique assigned identification number.
- e. Frequency of calibration.
- f. Standard used for calibration.
- g. Required calibration range.
- h. Date of last calibration.
- i. Due date of next scheduled calibration.
- j. Name of calibrator.
- k. Environmental conditions necessary for storage and/or use.
- l. Accuracy deviation allowances as-found and as-calibrated.

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5.2 Calibration

5.2.1 The standards used for calibrations shall be traceable to its base source validating its qualification as a standard, e.g., National Institute of Standards and Technology. If no standard exists, the basis for calibration shall be documented.

5.2.2 Calibrations shall be performed by qualified personnel using approved procedures. The basis for personnel qualification shall be documented.

5.2.3 The appropriate organization shall be notified if an out-of-calibration condition is identified. An evaluation shall be performed and documented to validate previous inspections or tests utilizing the subject equipment.

Out-of-calibration devices shall be tagged or segregated and not used until they have been recalibrated

5.2.4 If equipment shows evidence of damage, does not function properly, or was exposed to actions or environmental conditions that may have jeopardized its accuracy, or if the calibration label or tamper resistant seals show evidence of tampering, the equipment shall be properly identified or segregated, removed from service, and recalibrated.

5.3 Equipment Use

5.3.1 Selection of equipment shall be controlled through implementing procedures to assure that such items are of the proper type, range, accuracy, and tolerance to accomplish the function.

5.3.2 Prior to the use of calibrated measuring and test equipment for acceptance inspections or tests, the current calibration status and condition of the measuring and test equipment will be verified. Measuring and test equipment that is out of calibration will not be used.

6.0 REFERENCES

6.1 QA/QC Program Manual

6.2 National Bureau of Standards

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7.0 ATTACHMENTS

7.1 Category I Devices - Frequency Intervals and Governing Documents For Equipment Calibrated

7.2 QA/QC Department Calibrated Equipment Inventory Log

7.2 Design/Builder QA/QC Department Equipment History Card

**CATEGORY 1 DEVICES- FREQUENCY INTERVALS AND GOVERNING DOCUMENTS
FOR EQUIPMENT CALIBRATED**

DEVICE DESCRIPTION	CALIBRATION			CHECK CRITERIA
	PRIOR TO 1 ST USE	6 MO.	12 MO.	

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>5</u>
QMP # 008	Title: INTERNAL QUALITY ASSURANCE AUDITS	Section: QA/QCP-17	Date:	

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documentation to be used to periodically examine products and systems to determine the adequacy of work and work processes in meeting the requirements of the Contract Documents and the effectiveness of the Design/Builders Quality Assurance/Quality Control Program.

2.0 SCOPE

2.1 This procedure applies to the auditing of all elements of the Design/Builder Quality Assurance/Quality Control Program and all other activities described in the QA/QC Program that affect the quality of the work.

3.0 DEFINITIONS

3.1 **Audit** means a documented activity aimed at verifying, by examination and evaluation, that the applicable elements of the quality program have been established, documented, and effectively implemented in accordance with specified requirements.

3.2 **Audit Finding Report (AFR)** is a formal notification issued to a Department when it has failed to comply with quality requirements specified in the contract or as detailed in the Quality Assurance/Quality Control Program Manual, Quality Management Procedures and other contract documents. These failures may render the quality of the product, services or documentation unacceptable or indeterminate.

3.3 Design/Builder

4.0 RESPONSIBILITIES

4.1 The Design/Builder QA/QC Manager is responsible for the scheduling, preparation, and performance of audits and for verifying the effective implementation of corrective action.

4.2 Design/Builder Department Managers are responsible for providing experienced personnel to participate in audit teams or as audit guides when requested to do so by the Design/Builder QA/QC Manager

4.3 Design/Builder Department Managers are responsible for taking prompt corrective action when audit findings indicate noncompliance(s) with the controlling procedures.

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u> </u> of <u>5</u>
QMP # <u>008</u>	Title: INTERNAL QUALITY ASSURANCE AUDITS	Section: QA/QCP-17	Date:	

5.0 PROCEDURE

5.1 Scheduling

5.1.1 The QA/QC Manager shall prepare schedules that provide for audit/evaluation of each element of the Quality System at least once a year.

These schedules shall be based upon the following:

- (a) The results of previous audit
- (b) The results of trend analysis.
- (c) The relative importance of the quality element at the particular stage of the project.
- (d) The dates and extent of revisions to applicable documents.
- (e) Major changes in a department's organizational structure.
- (f) Contract commitments.

5.2 Planning

5.2.1 The QA/QC Manager shall determine the element(s) of primary importance, or the area(s) for concentration of effort in the process or system to be audited, and when required, shall select appropriately qualified personnel to form an audit team. Such personnel shall not have direct responsibilities in the area to be audited.

5.2.2 The audit team shall be comprised of one or more persons, one of which shall be the Lead Auditor. Specialists with sufficient expertise to evaluate technical functions shall be included as required. This may include certified consultant auditors.

5.2.3 The auditor(s) shall review, as applicable, the Quality Control Plan, project implementing procedures, project contract requirements and applicable related procedures and documents for the area to be audited and prepare relevant questions in checklist form.

5.3 Audit Procedure

5.3.1 Audits shall be conducted as scheduled in the Quality Assurance Audit Schedule and affected departments shall be notified at least five (5) working days prior to the audit.

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QMP # <u>008</u>	Title: INTERNAL QUALITY ASSURANCE AUDITS	Section: QA/QCP-17	Date:	

5.3.2 Audits shall be initiated by a pre-audit meeting between the Lead Auditor and the Management of the function or department being audited where the following shall be addressed:

- Definition of the audit scope.
- Explanation of the methods used in conducting the audit.
- Establishing communication with personnel to be involved as audit guides.
- Checklists for the audit.

5.3.3. The auditors shall utilize the checklists prepared for the audit to evaluate compliance to the documented Quality Plan.

5.3.4 The auditors shall complete all items on the audit checklists.

5.3.5 The auditors shall verify that the system function is fully documented, controlled and implemented as identified in the applicable documents.

5.3.6 The Lead Auditor shall have total authority to investigate any aspect or avenue desired which is relevant to audit content and findings.

5.3.7 All. non-compliance's shall be recorded and evaluated as to whether they are endemic or isolated cases.

5.4 Post Audit Review Meeting

5.4.1 At the conclusion of the audit, a meeting shall be held with the following personnel:

- Audit Team Members.
- Guides provided by the department or system function being audited.
- Manager of the department or system function being audited.

5.4.2 At this meeting, all findings shall be discussed in detail to convey the overall results of the audit. The meeting may be waived if the audit findings indicate compliance to the requirements.

5.5 Audit Reports

5.5.1 At the conclusion of the Audit, a report shall be produced which details all the Audit Finding Reports (AFR) and other audit findings and outlines any deficiencies noted during the audit.

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5.5.2 All requests for corrective actions and/or auditor recommendations shall be reported in the Quality Assurance Audit Report and submitted to the QA/QC Manager.

5.5.3 The QA/QC Manager shall approve the Audit Report. The report shall be distributed to the manager of the department, or supplier and other affected personnel.

5.5.4 The QA/QC Manager shall ensure that the audit file containing the approved Audit Report, the completed Audit Checklists and any additional supporting documentation pertaining to the audit, are placed on file as Quality Records. The audit shall be closed only when no corrective actions remain outstanding.

5.6 Audit Finding Report (AFR)

5.6.1 When an audit reveals that procedures have not been fully implemented, or acceptable quality practice is not being followed, the auditor shall prepare an AFR. If the Lead Auditor determines that a non-compliance has a major impact on the quality of the product and/or system, a preliminary handwritten AFR shall be presented at the post audit meeting so that corrective action may be undertaken without delay.

5.6.2 The QA/QC Manager shall approve the AFR and forward the form and Audit Report to the responsible department manager.

5.6.3 Management responsible for the area audited shall review the deficiency, complete the appropriate parts of the AFR stating what action will be taken to correct the deficiency and specifying the target date for completion, and return the form to the QA/QC Manager by the required date.

5.6.4 Failure to respond to an AFR by the date specified shall result in an overdue response from the QA/QC Manager by means of an interoffice memo to the responsible department manager, with a copy to the Project Manager requesting a reply within 72 hours.

5.6.5 When the corrective action proposed is acceptable, the QA/QC Manager's approval shall be indicated on the AFR form and a follow-up verification arranged.

5.6.6 If there is no response to the AFR within thirty (30) working days from its issue date, or if the response is unacceptable, the Quality Assurance/Quality Control Manager will advise the Project Manager in writing.

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5.6.7 When follow-up verification indicates that corrective action has been fully implemented and is effective, the *QA/QC* Manager shall approve the closure of the AFR and close the audit report.

5.6.8 When major deficiencies in the Quality System are encountered or when major revisions are brought about as a result of system review, the *QA/QC* Manager shall notify the Project Manager in writing of these deficiencies and/or changes.

5.7 Records

5.7.1 All audit results shall be classified as Quality Records and filed for reference purposes.

5.7.2 The *QA/QC* Manager shall analyze completed AFR(s) to identify trends adverse to quality and determine areas for concentration for audits or further corrective action as described in project implementing procedures for Corrective Action. Such results shall be included in monthly reports to the Project Manager.

6.0 REFERENCES

6.1 Design/Builder Quality Assurance/Quality Control Program Manual.

7.0 ATTACHMENTS

7.1 Quality Audit Schedule

7.2 Quality Assurance Audit Log

7.3 Quality Assurance Audit Checklist

7.4 Audit Finding Report (AFR)

Design/Builder

AUDIT CHECKLIST NO. _____

AUDIT NO. _____

Kirkland Stage 1 Design/Build project

Page ___ of ___

ITEM	AUDIT ELEMENT	REFERENCE REQUIREMENT	METHOD OF VERIFICATION	RESULTS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

AUDITOR

DATE

**QUALITY ASSURANCE
AUDIT FINDING REPORT**

AFR No. _____

Page ____ of ____

Audit No. _____

Audit Date _____

Individual Contacted _____

Organization _____

Reference/Requirements: _____

Finding: _____

Recommended Action: _____

Auditor: _____ Issue Date: _____

Scheduled Response Date: _____

Responsibility: _____

**QUALITY ASSURANCE
AUDIT FINDING REPORT
Page 2**

Response to Correct/Resolve Finding: _____

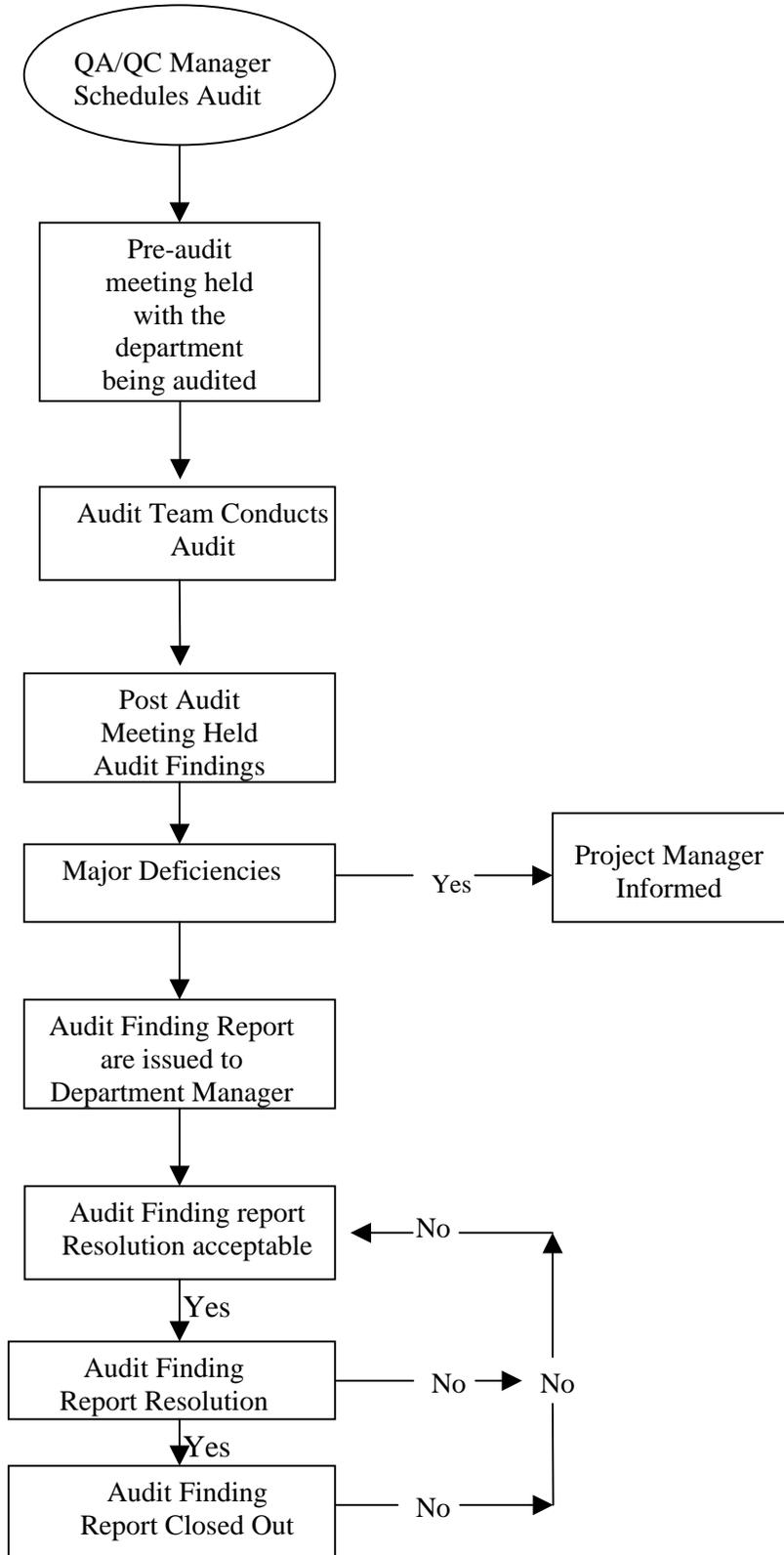
Signature _____ Date Completed _____

Response Acceptable _____ Date _____

Response Verified _____ Date _____

AFR Closed... YES or No QA Manager _____

QUALITY MANAGEMENT PROCEDURES INTERNAL QUALITY ASSURANCE AUDITS



Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>6</u>
QMP # <u>009</u>	Title: EXTERNAL QUALITY AUDITS	Section: QA/QCP-13	Date:	

1.0 PURPOSE

- 1.1 To define the responsibilities and describe the methods and documentation to be used to audit and evaluate Design/Builder, Subcontractor and Supplier quality programs in order to determine their status, adequacy and effectiveness in controlling the quality of their deliverable end item and quality program requirements as specified by their contract or purchase order.

2.0 SCOPE

- 2.1 This procedure applies to the auditing of all elements of Design/Builder, Subcontractor and Suppliers' quality programs specified by the Contract or Purchase Order.
- 2.2 External audits will take place on site with some Subcontractors and Suppliers, in addition to off site locations.

3.0 DEFINITIONS

- 3.1 Audit: A documented activity performed in accordance with written procedures/checklists to verify, by examination and evaluation of objective evidence, that applicable elements of the quality management program have been established, developed, documented and effectively implemented in accordance with specified requirements .
- 3.2 **Audit Finding Report (AFR):** A formal notification issued to Design/Builder, Subcontractor, or Supplier when they have failed to comply with the quality requirements specified in the contract or as detailed in their Quality Assurance Manual, Quality Assurance Program Procedures or Inspection and Test Plans. These failures may render the quality of the product, services or documentation unacceptable or indeterminate.
- 3.3 Audit Guide: A person representing the Auditor, having knowledge of the system element to be audited.
- 3.4 Design/Builder
- 3.5 Suppliers: Subcontractors (on and off site) Suppliers, Vendors, Sellers and Consultants.
- 3.6 Auditor: An individual qualified to plan and conduct Quality Assurance audits in accordance with this procedure. The term applies to lead auditor and technical specialists.
Contract:
- 3.7 A written covenant and other documents agreed to and legally binding between Design/Builder and the Supplier which specify requirements and conditions that must be met to successfully complete the work.

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4.0 RESPONSIBILITIES

4.1 The Design/Builder QA/QC Manager shall be responsible for authorizing the planning and conducting of quality audits of Subcontractors or Suppliers.

4.2 He shall be responsible for the scheduling, preparation and implementation of audits and for verifying effective corrective action(s) as and when required.

5.0 PROCEDURE

5.1 Scheduling

5.1.1 The Design/Builder QA/QC Manager shall prepare an external audit schedule to ensure that each contractor with a formal quality program required by contract is audited periodically throughout the duration of the contract.

5.1.2 The audit schedule shall be based on the following:

5.1.2.1 The results of previous audits;

5.1.2.2 The results of trend analyses and/or receiving inspection results;

5.1.2.3 The relative importance of the quality program element at any particular stage of the contract;

5.1.2.4 The dates and extent of revisions to quality program documents;

5.1.2.5 Design/Builder Source Surveillance Reports;

5.1.2.6 Audit meetings at Design/Builder Quality Assurance/Quality Control Department;

5.1.2.7 Changes in suppliers' management structure;

5.1.2.8 Specific problem issues.

5.2 Planning

5.2.1 The Design/Builder QA/QC Manager shall determine the element(s) of primary importance, or the area(s) for concentration of effort in the quality program to be audited, and shall request appropriately qualified personnel not directly responsible for supplier surveillance to form an audit team. This may include certified consultant auditors as required.

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5.2.2 The audit team shall be comprised of one or more persons, one of whom shall be Lead Auditor. Specialists with sufficient expertise to evaluate technical functions may be included, as and where required, as determined by the Design/Builder QA/QC Manager.

5.2.3 The auditor(s) shall prepare detailed audit checklists derived from suppliers' quality program documents and/or the quality program standard applicable to each contract (**CHECKLISTS MUST BE APPROVED BY THE DESIGN/BUILDER QA/QC MANAGER**).

5.2.4 In addition to the above, detailed questions derived from specific requirements within each contract may be added.

5.2.5 The auditor(s) shall review the detailed checklists and become conversant with the system elements to which they have been assigned.

5.3 Audit Notification

5.3.1 The Design/Builder QA/QC Manager shall notify the supplier by phone at least 15 days in advance of the planned audit to confirm the audit dates.

5.3.2 The Design/Builder QA/QC Manager shall communicate with the supplier in writing at least days prior to the audit specifying:

5.3.2.1 The scope of the audit;

5.3.2.2 The identity of the auditor(s);

5.3.2.3 The quality program standard against which the audit is to be conducted;

5.3.2.4 Quality system elements to be audited;

5.3.2.5 Schedule of meetings and length of visit.

5.4 Pre-Audit Meeting

5.4.1 A pre-audit meeting shall be established by the Lead Auditor between the auditor(s) and the supplier's representative(s). This meeting shall be used to:

5.4.1.1 Introduce the auditor(s).

5.4.1.2 Reiterate the audit scope from the notification letter

5.4.1.3 Describe the method to be employed to perform the audit.

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5.4.1.4 Establish the timing of the audit, i.e. which system elements will be audited daily.

5.4.1.5 Establish time frames for daily debrief.

5.4.1.6 Establish communication with personnel involved as Audit Guides.

5.4.1.7 Checklists for the Audit.

5.5 Audit Procedure

5.5.1 The auditor(s) shall verify that the documented system elements are/are not implemented and adequately controlled using the appropriate audit checklists.

5.5.2 All noncompliance's found shall be documented and evaluated to determine whether they are systemic or appear to be isolated case(s).

5.5.3 The Lead Auditor shall meet with the audited organization's quality representative on a daily basis to discuss the audit findings and ensure that they are fully conversant with the progress of the audit.

5.5.4 At the completion of the audit, the audit team shall meet to discuss all findings and evaluate all noncompliance's. At this time the Lead Auditor shall categorize the audit **AFR's**.

5.6 Post Audit Activity at Supplier's Location

5.6.1 A post audit briefing meeting shall be held among the audit team, the audited organization's quality department representatives and the audit guides, during which the findings of the audit shall be discussed in detail and dates for completion of any corrective actions established.

5.6.1.1 Copies of all **AFR(s)** shall be given to the audited organization's quality manager at the conclusion of this meeting and his signature obtained on the **AFR(s)** confirming that he is in receipt of the document.

5.6.2 The Lead Auditor shall, if deemed necessary due to the nature of the findings, request a meeting with the audited organization's senior management to present a briefing.

5.6.2.1 At this meeting a brief summary of the findings shall be given along with a statement that all findings have been discussed in detail and acknowledged by the audited organization's quality manager.

5.6.2.2 A statement shall be made by the Lead Auditor as to whether or not the audited organization's quality program currently meets Silverado Quality Assurance/Quality Control contract requirements.

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QMP # 009	Title: EXTERNAL QUALITY AUDITS	Section: QA/QCP-13		Date:

5.7 Post Audit Activity at Silverado

- 5.7.1 The Lead Auditor shall forward all relevant portions of the completed checklists to the Design/Builder QA/QC Manager for review and filing in Quality Assurance Records.
- 5.7.2 The Lead Auditor shall prepare a formal Quality Assurance Audit Report which shall be forwarded to the QA/QC Manager for review and approval.
- 5.7.3 The approved Quality Assurance Audit Report complete with all AFR(s) shall be forwarded by the QA/QC Manager to the audited organization and shall be distributed within Design/Builder as follows:
 - 5.7.3.1 Design/Builder Project Manager
 - 5.7.3.2 Design/Builder QA/QC Manager
 - 5.7.3.3.. Design/Builder Design Manager.
 - 5.7.3.4 Design/Builder Subcontracts and Procurement Manager
 - 5.7.3.5. Design/Builder Construction Manager.
 - 5.7.3.6 Quality Assurance Documentation Manager, for Quality Assurance Records.
 - 5.7.3.7 The Quality Assurance auditor shall ensure all relevant information is filed and information entered into Quality Assurance Records.

5.8 Audit Follow-up

- 5.8.1 When the Design/Builder QA/QC Manager has accepted the proposed corrective actions, they shall be passed to the auditor who shall verify that the stated action(s) have been implemented and are effective.
- 5.8.2 The completion of **AFR(s)** shall be verified by the person conducting the follow-up, and information submitted to the auditor for approval.
- 5.8.3 The Design/Builder QA/QC Manager shall advise the supplier by letter once all corrective actions have been satisfactorily completed.
 - 5.8.3.1 The letter shall be distributed in accordance with para 5.7.3.
- 5.8.4 If the audited organization's quality program is found noncompliant the Design/Builder Subcontracts and Procurement Manager shall be notified. Noncompliance action of an approved supplier shall be discussed by Design/Builder QA/QC Manager in consultation with the Design/Builder Subcontracts and Procurement Manager.

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QMP # 009	Title: EXTERNAL QUALITY AUDITS	Section: QA/QCP-13	Date:	

6.0 REFERENCES

- 6.1 Design/Builder Quality Assurance/Quality Control Program Manual.
- 6.2 Supplier Contracts and Purchase Orders.
- 6.3 Supplier Quality Plans and Procedures.

7.0 ATTACHMENTS

- 7.1 External Audit Schedule (Typical)
- 7.2 Quality Assurance Audit Log
- 7.3 Quality Assurance Audit Checklist
- 7.4 **Audit Finding Report (AFR)**
- 7.5 Flow Chart

Design/Builder

AUDIT CHECKLIST NO. _____

AUDIT NO. _____

Kirkland Stage 1 Design/Build project

Page ___ of ___

ITEM	AUDIT ELEMENT	REFERENCE REQUIREMENT	METHOD OF VERIFICATION	RESULTS
1				
2				
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12				
13				

AUDITOR

DATE

**QUALITY ASSURANCE
AUDIT FINDING REPORT**

AFR No. _____

Page ____ of ____

Audit No. _____

Audit Date _____

Individual Contacted _____

Organization _____

Reference/Requirements: _____

Finding: _____

Recommended Action: _____

**QUALITY ASSURANCE
AUDIT FINDING REPORT
Page 2**

Response to Correct/Resolve Finding: _____

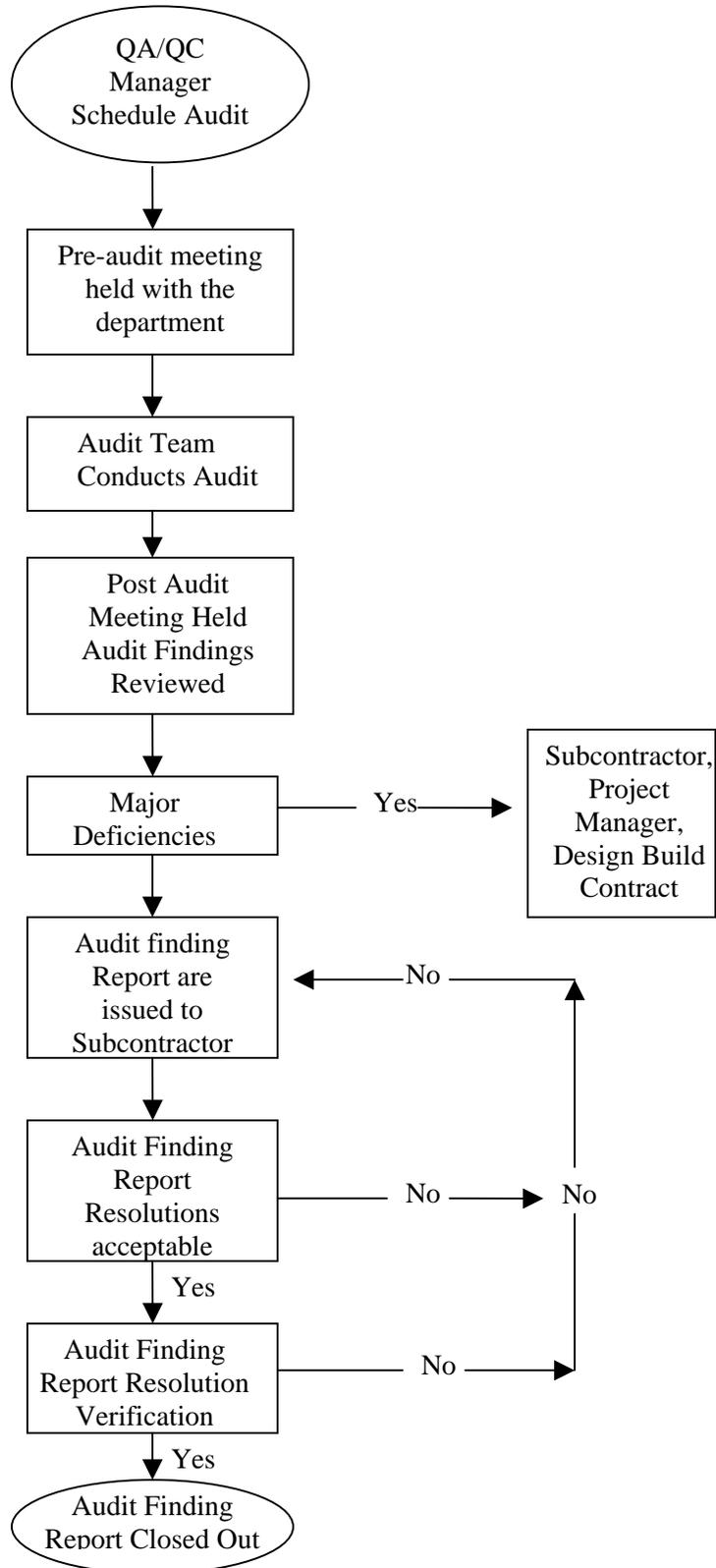
Signature _____ Date Completed _____

Response Acceptable _____ Date _____

Response Verified _____ Date _____

AFR Closed... YES or No QA Manager _____

QUALITY MANAGEMENT PROCEDURES INTERNAL QUALITY ASSURANCE AUDITS



Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>2</u>
QMP # 010	Title: NOTICE OF INSPECTION OR TEST		QA/QCP-10	Date:

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documents to be used to notify appropriate QA/QC project personnel for the inspection *or* test stages of the item of work.

2.0 SCOPE

2.1 This procedure applies to the notification of appropriate project QA/QC personnel and others who shall be required to attend inspection *or* test stages of item of work.

2.2 The scope of the inspections applies to the following stages: Preparatory, Initial, Follow-Up, Completion and Partial Final Inspections.

2.3 The scope *of* the tests applies to Civil, Structural, Mechanical, Electrical and others as applicable.

3.0 DEFINITIONS

3.1 Design/Builder

3.2 Item of Work: Work that is required to be performed by the contract documents.

4.0 RESPONSIBILITIES

4.1 Segment Managers/Subcontractors shall originate and issue the Notice *of* Inspection or Test to the appropriate QA/QC Segment Manager.

5.0 PROCEDURE

5.1 Notification *of* all Inspection *or* Test stages shall be communicated to the QA/QC Segment Manager using the **Notice of Inspection or Test** form.

5.2 Details required on the form shall be accurate and clearly describe the Inspection *or* Test to be performed.

5.3 The following information will be provided on the form:

5.3.1 Item Type.

5.3.2 Notification *of* Inspection *or* Test Phase

5.3.3 Requested By.

5.3.4 Organization

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>2</u> of <u>2</u>
QMP # <u>010</u>	Title: NOTICE OF INSPECTION OR TEST		QA/QCP-10	Date:

5.3.5 Contractor ofr Subcontractor

5.3.6 Location of Inspection or Test

5.3.7 Segment of Work Scheduling

5.3.8 Date of Test to be performed (To be added by QA/QC Rep.)

5.3.9 Time (To be added by QA/QC rep)

5.3.10 Specification and or Drawing Reference(s).

5.3.11 Remarks or Special Instructions.

5.4 List all specifications applicable on the Notice of Inspection or Test form.

5.5 List all drawings and references applicable on the Notice of Inspection or Test form.

6.0 REFERENCES

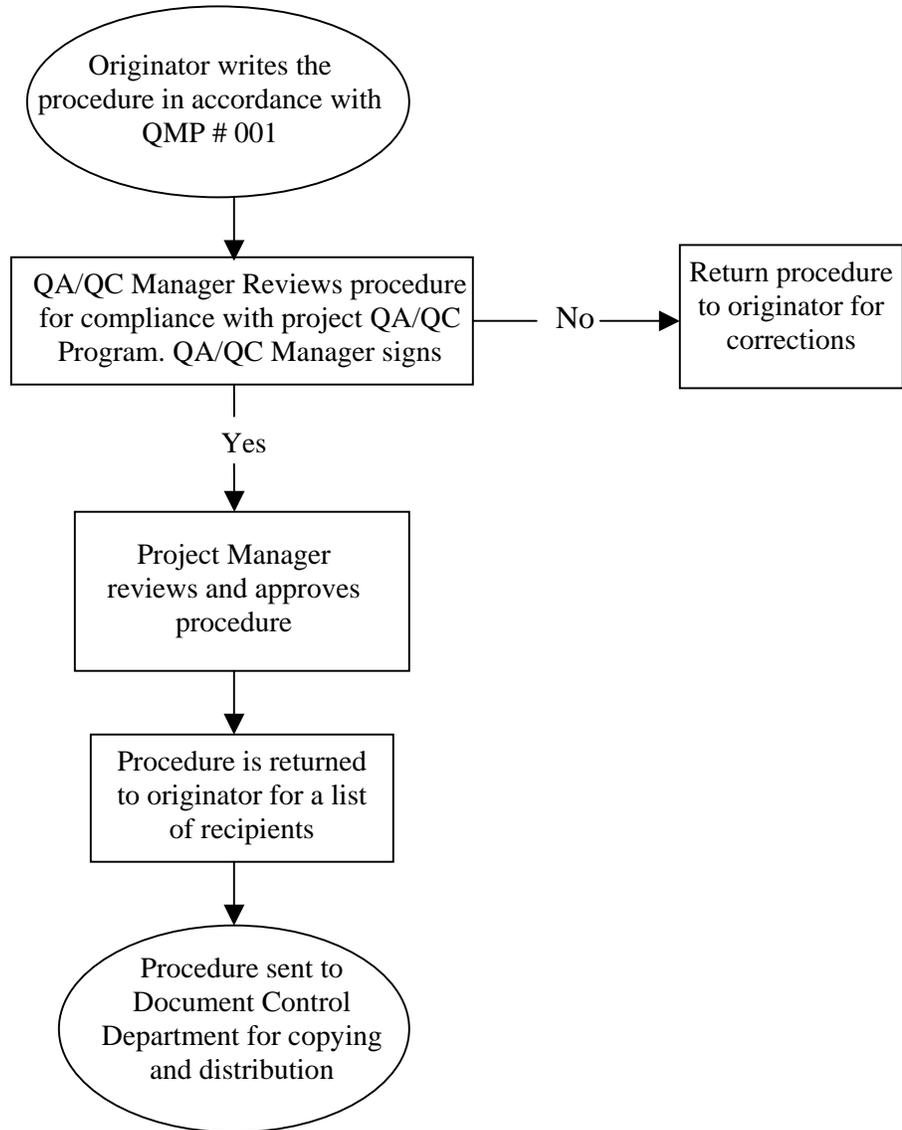
6.1 Design/Builder Quality Assurance/Quality Control Program.

7.0 ATTACHMENTS

7.1 Notice of Inspection or Test Form:

7.2 Flow Chart

QUALITY MANAGEMENT PROCEDURES NOTICE OF INSPECTION OR TEST



Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>3</u>
QMP # <u>011</u>	Title: PREPARATORY INSPECTION		QA/QCP-10	Date:

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documents to be used to carry out the **Preparatory Inspection** meeting for a feature of work.

2.0 SCOPE

2.1 This procedure applies to the **Preparatory Inspection** meeting for the feature of work prior to the start of work to ensure that quality, technical, safety and environmental features are discussed and understood.

3.0 DEFINITIONS

3.1 Feature of Work: Work required to be performed by the contract documents.

4.0 RESPONSIBILITIES

4.1 The Quality Assurance/Quality Control Manager or his designee shall lead the meeting.

4.2 The following personnel should attend or participate in the meeting, as applicable:

- Construction Superintendents.
- Subcontractor Superintendents and QC representatives.
- Representatives from other appropriate groups i.e. Construction, Engineering, QA/QC, Safety and Environmental.
- Other groups as required.

5.0 PROCEDURE

5.1 Prior to the commencement of a feature of work, the Segment Manager shall request the QA/QC Manager to schedule a Preparatory Inspection meeting for the specified work feature.

5.2 The Notice of Inspection or Test form shall be used to notify the attendees.

5.3 At the meeting the QA/QC Manager or his designee shall discuss as a minimum the requirements of the following items

5.3.1 Review contract drawings and specifications for the feature of work.

5.3.2 Approval of shop drawings, catalog cuts, etc. (submittals).

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QMP # 011	Title: PREPRATORY INSPECTION		QA/QCP-10	Date:

5.3.3 Approval of inspection and test reports on material and equipment.

5.3.4 Availability of materials and equipment required, including proper storage and protection.

5.3.5 Completion of previous operations or preliminary work.

5.3.6 Any preparatory steps dependent on the given feature of work.

5.3.7 Environmental and Safety precautions to be observed.

5.3.8 Quality Standards to be applied to the feature of work.

5.3.9 Testing requirements.

5.3.10 Preparatory Inspection requirements of the Inspection Procedure if required.

5.3.11 Utility outages.

5.3.12 Traffic control.

5.3.13 Administrative requirements.

5.3.14 Provisions for instruction of workers regarding workmanship.

5.4 Communications with other representative(s), third party inspection or regulatory personnel shall be identified where applicable.

5.5 A **Preparatory Inspection Report** shall be prepared with all the above applicable information. This shall be used as a record/reference document and signed by the QA/QC Manager or his designee, and all other attendees following the review.

5.6 The original **Preparatory Inspection Report** shall be given to the QA/QC Documentation Manager for filing with the Quality Records.

5.7 Preparatory **Inspection** meetings shall be reported in the Daily QA Report.

5.8 Minutes of the **Preparatory Inspection** meeting shall be prepared by the QA/QC Manager or his designee and distributed to all attendees.

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>3</u> of <u>3</u>
QMP # <u>011</u>	Title: PREPRATORY INSPECTION		QA/QCP-10	Date:

6.0 REFERENCES

6.1 Notice of Inspection or Test

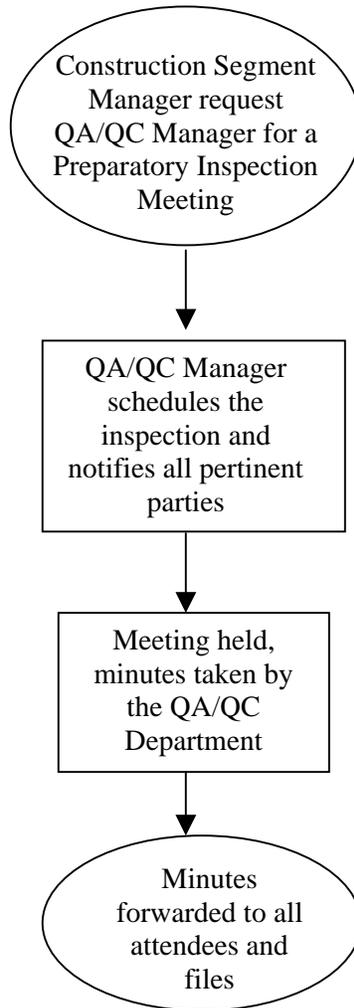
6.2 Design/Builder Quality Assurance/Quality Control Program.

7.0 ATTACHMENTS

7.1 QA Preparatory Inspection Report

7.2 Flow Chart

QUALITY MANAGEMENT PROCEDURES PREPARATORY INSPECTION



Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>2</u>
QMP # <u>012</u>	Title: INITIAL INSPECTION		QA/QCP-10	Date:

1.0 PURPOSE

1.1 To define the responsibilities and describe the method and documents to be used to carry out **Initial Inspection** of the work. The objective shall be to verify workmanship standards are being met, review adequacy of control testing, verify that dimensional requirements are being met, and verify that test results show compliance with the contract documents and approved submittals.

2.0 SCOPE

2.1 This procedure applies to the **Initial Inspection** of a representative sample of the item of work as soon as it has been completed and applies to all work for which a Preparatory Inspection has been performed.

3.0 DEFINITIONS

3.1 Item of Work: Work required to be performed by the contract documents.

4.0 RESPONSIBILITIES

4.1 The Quality Assurance/Quality Control Manager or his designee shall lead the Initial Inspection meeting.

4.2 The following personnel shall attend and participate in the meeting, as applicable:

- The Construction QC representative responsible for quality compliance inspections.
- The Construction Superintendents responsible for the sample item of work.
- Subcontractor Construction Representative, Superintendents and QC personnel.
- Others as required.

5.0 PROCEDURE

5.1 The **Initial Inspection** shall be requested by the Segment Managers when the sample of the item of work has been completed.

5.2 The QA/QC Manager or his designee shall use the **QA Initial Inspection Report** form to record the following items:

5.2.1 Conformance of item of work to established quality standards including workmanship.

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>2</u> of <u>2</u>
QMP # 012	Title: INITIAL INSPECTION		QA/QCP-10	Date:

5.2.2 Use of defective, damaged, or incorrect equipment or material.

5.2.3 Configuration of the work to the contract drawings and specifications.

5.2.4 Conformance of the control results to the requirements of the contract drawings and specifications.

5.2.5 Adequacy of construction methods and equipment and tools utilized.

5.2.6 Adequacy of the environmental and safety precautions taken.

5.2.7 Initial Inspection requirements of the Inspection Procedure for the given feature of work if required.

5.2.8 During the Initial Inspection, deficient items shall be noted on a Construction Deficiency Report Sheet (punch lists). These reports shall be signed by the QA/QC Manager or his designee, and all other attendees following the review.

6.0 REFERENCES

6.1 Design/Builder Quality Assurance/Quality Control Program.

6.2 Construction Deficiency Report

7.0 ATTACHMENTS

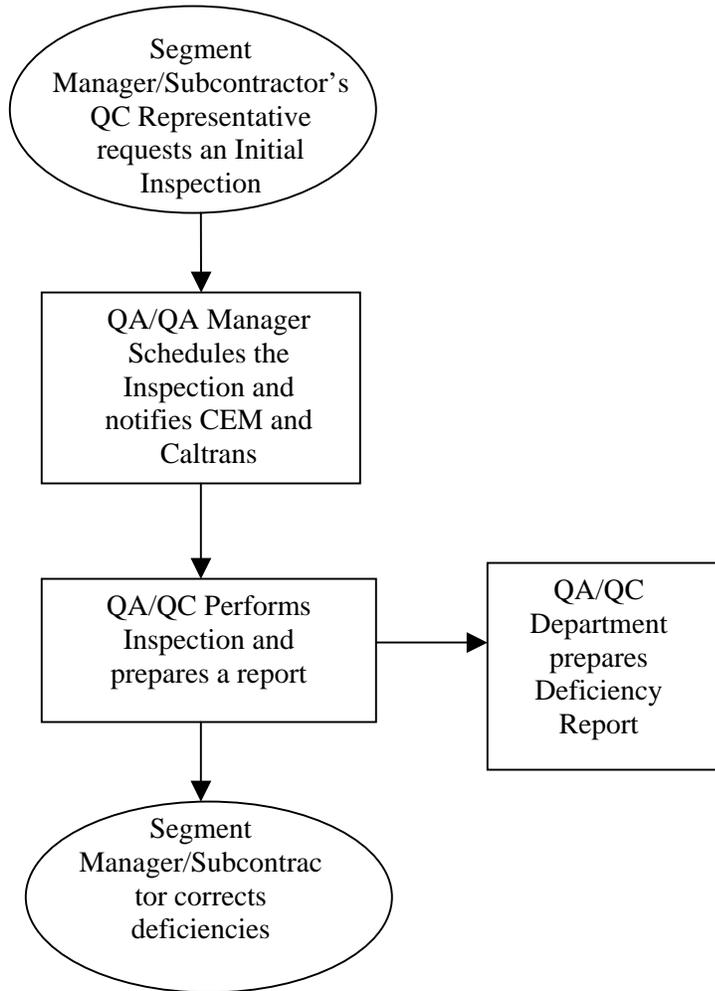
7.1 QA Initial Inspection Report

7.2 Construction Deficiency Report

7.3 Flow Chart

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QUALITY MANAGEMENT PROCEDURES INITIAL INSPECTION



Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>2</u>
QMP # 013	Title: CONCRETE PRE-PLACEMENT REPORT		QA/QCP-10	Date:

1.0 PURPOSE

- 1.1 To define the responsibilities and describe the methods and documents to be used to process a **Concrete Pre-Placement Report**.

2.0 SCOPE

- 2.1 This procedure applies to the Concrete Pre-Placement Report, initiated and processed to control and coordinate project Inspection activities leading up to a placement of concrete.

3.0 DEFINITIONS

- 3.1 Design/Builder
- 3.2 Project Team Member: Construction Foremen, Assistant Superintendents.
- 3.3 Item of Work: Work that is required to be performed by the Contract Documents, a work item, segment or structure. etc.

4.0 RESPONSIBILITIES

- 4.1 Each Design/Builder Project Team member is responsible for bringing construction work item features up to the point of a concrete placement and initiates the pre-placement concrete placement.
- 4.2 Design/Builder/Subcontractor's applicable Construction Superintendents inspect and accept each feature of work on the form.
- 4.3 Field Surveyor responsible for inspection and acceptance of line and grade of the placement check.
- 4.4 Silverado's Construction QC Representative/Subcontractor's QC Representative inspect all facets and sign-off on report.
- 4.5 Design/Builder Quality Assurance Representative does overall QA inspection of placement and approves the release for ordering concrete and initiates the Plant Inspection Request Form.
- 4.6 QA Field Technician performs field tests and reports the field test data to the Construction QC Representative and the QA Representative.

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>2</u> of <u>2</u>
QMP # <u>013</u>	Title: CONCRETE PRE-PLACEMENT REPORT		QA/QCP-10	Date:

5.0 PROCEDURE

- 5.1 A **Concrete Pre-Placement Report** shall be initiated by the Design/Build Project Team member on the work item feature prior to placement of concrete.
- 5.2 The **Concrete Pre-Placement Report** form requires information from the Construction Superintendents, the Field Surveyors and the Construction QC representative who will initial their response on the form.
- 5.3 The details for the completion of the form are described on the back of the form.
- 5.4 The QA Inspector shall inspect the placement for compliance and initial the form, and sign-off the authorization to order concrete.
- 5.5 Only approval of the QA Inspector shall release concrete ordering.
- 5.6 The QA Field Technician shall take samples as required by the Specifications during the placement and record/report all of the field test results. The QA/QC Structures Representative may perform concrete tests when necessary.
- 5.7 The form shall be signed by the QA Inspector and forwarded to QA Records for filing.

6.0 REFERENCES

- 6.1 Design/Builder

7.0 ATTACHMENTS

- 7.1 **Concrete Pre-Placement Form** (From Page):
- 7.2 **Concrete Pre-Placement Form**
Completion Instruction (Rear Page)
- 7.3 Plant Inspection Request
- 7.4 Flow Chart

Design/Builder _____

CONCRETE PREPLACEMENT REPORT

Kirkland Stage 1 Design/Build Project

Page __ of __

Contract No. E94-01

<input type="checkbox"/> Contractor <input type="checkbox"/> Subcontractor/Vendor	Report No.:	Date:
		Section:
	Station/Structure No.:	

Type of Placement (Circle structure):
 CIDH Piles Pile Shaft Wall Ftg. RCB Abutment Drainage Col. Soffit & Steam Deck Curb & Gutter Other (Specify) Approach Slab Barrier

Placement Date:	Time Start:	Time Finish:	Drawing No.:	Type:
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Concrete Mix No.:	Required Strength:	Estimated Volume:	Type of Finish:	Cure Time:
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Check list	Date	Foreman/Supt. Check (Initial)	layout Check (Initial)	Const. QC Rep Check (Initial)	QA Check (Initial)
Survey Control					
Form Work (Erected to Design Req.)					
Pour Grade					
Construction Joint / Key Way					
Rebar					
Rebar Clearance					
Anchor Bolts					
Embedments					
Electrical					
Utility Openings					
Deck Drains / Down Drains					
Prestress Ducts					

Replacement Approval	Date:
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Remarks:

This form is to be filled out prior to a concrete pour. Contractor initiates the form. The inspector coordinator checks the area and calls Quality Assurance to check through area and witness the pour.

- A) **Design/Builder or SUBCONTRACTOR/VENDOR** - Check appropriate box, then write name of the subcontractor/vendor involved.
- B) **REPORT NO.** - Leave Blank
- C) **DATE** - Date this report is initiated.
- D) **LOCATION** - Fill out the Segment, Section, and Station areas. Check appropriate box(es) and define as specifically as possible the location of the pour. (In the case of structure pours, the station will be the structure number.)
- E) **TYPE OF PLACEMENT** - Circle the type of concrete placement being conducted.
- F) **PLACEMENT DATE** - Anticipated date of placement.
- G) **TIME START/FINISH** - Anticipated start/finish time of placement.
- H) **DRAWING NO.** - Contract drawing or shop drawing dealing with the placement. Include revision number.
- I) **TYPE** - Contract drawing, shop drawing, or sketch.
- J) **CONCRETE MIX NO.** - Specify concrete mix design being utilized.
- K) **REQUIRED STRENGTH** - Show the strength (psi) required by the Plans or Specifications.
- L) **ESTIMATED VOLUME** - Include cubic yards to be placed.
- M) **TYPE OF FINISH** - List finish required or to be utilized.
- N) **CURE TIME** - List required curing time.
- O) **DATE** - Note date each item on the check list is checked.
- P) **CONSTRUCTION FOREMAN/SUPT.** - The Construction Foreman/Superintendent who is responsible for the item. Initial when item is complete.
- Q) **LAYOUT CHECK** - Contractor Engineering representative responsible for that item of work. Initial when check has been completed.
- R) **CONSTRUCTION QC REP.** - Contractor QC representative responsible for that item of work. Initial when check has been completed.
- S) **QA CHECK D/B** Quality Assurance representative. Initial when item is checked and ready for placement.
- T) **PREPLACEMENT APPROVAL** - Signature of D/B Quality Assurance representative followed by the date of approval.
- U) **REMARKS** - For any necessary additional information pertaining to the placement or placement conditions.

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>1</u> of <u>2</u>
QMP # 014	Title: FOLLOW-UP INSPECTION		QA/QCP-10	Date:

1.0 PURPOSE

1.1 To define the responsibilities and describe the methods and documents to be used to carry out **Follow-up or Daily Inspections** of work item features.

2.0 SCOPE

2.1 This procedure applies to the **Follow-up Inspections** performed daily by the QA Segment Manager and his QA representatives together with the construction and Subcontractor QC representatives of the items of work.

3.0 DEFINITIONS

3.1 Design/Builder

3.2 Items of Work: Work to be performed as required by the Contract Specifications.

4.0 RESPONSIBILITIES

4.1 Each QA Segment Manager and his QA representatives shall perform Daily Follow-up Inspections.

4.2 D/B QA and Subcontractor QC representatives shall perform Daily Follow-up Inspections and document the results.

5.0 PROCEDURE

5.1 Following the preparatory inspection and the start of work, **Follow-up Inspections** shall be performed daily by the Segment Quality Assurance representative, and the Design/Builder or the Subcontractor QC representatives.

5.2 The object is to assure the continuing conformance of the work to the contract requirements and the workmanship standards established during the preparatory and initial inspections.

5.3 **Follow-up Inspections** shall be performed daily and documented in the **Design/Builder Daily Quality Assurance Report** or the **Contractor Daily Quality Control Report**.

5.4 The **Follow-up Inspection** information shall be entered on the form by the Quality Assurance representatives.

Design/Builder	QUALITY MANAGEMENT PROCEDURES	Issue: <u>1</u>	Rev: <u>0</u>	Page <u>2</u> of <u>2</u>
QMP # 008	Title: FOLLOW-UP INSPECTION	QA/QCP-10		Date:

- 5.5 At the completion of **the Follow-up Inspection**, the report shall be signed by the appropriate QA/QC representatives.
- 5.6 During the **Follow-up Inspection**, any deficient or non-conforming item shall be referenced and noted on the report.
- 5.7 During the **Follow-up Inspection**, deficient items which are not immediately corrected, shall also be noted on a Construction Deficiency Report Sheet (punch lists). These reports shall be signed by the QA representative and included with the specific inspection report or the QA Daily Report. Copies will be given to Construction representatives for their action following the inspection.
- 5.8 When deficient or non-conforming work items are found during the **Follow-up Inspection**, it is essential to check that the necessary documentation has been issued for subsequent corrective action to the appropriate project personnel.
- 5.9 The **Daily Quality Assurance and Quality Control Reports** shall be completed daily and returned to the QA/QC Manager by **9:00 am** of the following day.

6.0 REFERENCES

- 6.1 D/B Quality Assurance/Quality Control Program

7.0 ATTACHMENTS

- 7.1 Design/Builder Daily Quality Assurance Report
- 7.2 Contractor Daily Quality Control Report
- 7.3 Construction Deficiency Report Sheets
- 7.3 Flow Chart

Design Builder **QUALITY MANAGEMENT PROCEDURES**
FOLLOW-UP INSPECTION

