04-SM-101 PM 19.2/26.1
04-SF-101 PM 0.0/2.0
04-SF-280 PM R4.2/T7.26
EA 04-3J100K
November 2018

PROJECT STUDY REPORT-
PROJECT DEVELOPMENT SUPPORT
(PSR-PDS)

To

Request Approval for Locally Funded Project to Proceed to the Project Approval and Environmental Document (PA&ED) Phase

On Route US 101 and I-280

Between South of US 101 / I-380 Interchange in San Mateo County

And 5th and King Streets in San Francisco County

REQUIRED SUPPLEMENTAL DOCUMENTS FOR PROJECT FILES

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SUPPLEMENTAL ATTACHMENTS (FOR PROJECT FILE)

- **Supplemental Attachment 1 - Quality Management Plan**
- **Supplemental Attachment 2 - Storm Water Data Report (SWDR)**
- **Supplemental Attachment 3 - Survey Needs Questionnaire**
- **Supplemental Attachment 4 - Traffic Engineering Performance Assessment (TEPA)**
- **Supplemental Attachment 5 - DES Scoping Checklist**
- **Supplemental Attachment 6 - Design Scoping Index**

Supplemental Attachment 1

QUALITY MANAGEMENT PLAN

04-SM-101 PM 19.3/26.1
04-SF-101 PM 0.0/2.3
04-SF-280 PM 3.9/7.5
EA 04-3J100K
July 2018

Quality Management Plan

For Preparation of the Project Initiation Document for the US 101 / I-280 Managed Lanes

AGREEMENT COVER SHEET

Abstract: This section briefly addresses the quality assurance and quality control procedures that will be implemented for the development, review and approval of Project Initial Documents (PIDs) for the US 101 / I-280 Managed Lanes Project.

QUALITY MANAGEMENT PLAN FOR US 101 / I-280 MANAGED LANES PROJECT

Approved by _____ _____
Al Lee, Caltrans Regional Project Manager — Date

Approved by _____ 7/10/18
Anna Harvey, SFCTA Project Manager — Date

Approved by _____ 7/2/18
Tim Lee, Consultant Project Manager — Date

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EXHIBITS

Exhibit A General List of Deliverables and Assigned QC Reviewers

Exhibit B Quality Control Review Sign-Off Form

Introduction

The purpose of this Quality Management Plan is to facilitate an effective and efficient process for the development, review and approval of Project Initial Documents (PIDs) for the US 101 / I-280 Managed Lanes. The San Francisco County Transportation Authority (SFCTA) will follow a Quality Management Plan that meets the standards of professional practice and satisfies requirements of the project scope, cost, and schedule. The Project Manager from Caltrans and SFCTA shall ensure that all Project Development Team (PDT) members utilize the Quality Management Plan elements as described in this document during the production and review of PID. QA/QC will be performed before deliverables are presented to Caltrans for review. Each team member must understand the project objectives, apply sound engineering principles and is expected to produce quality, accurate, and complete documents within the project schedule and budget. Project documents will be prepared in accordance with current Caltrans regulations, policies, procedures, manuals, and standards including compliance with Federal Highway Administration (FHWA) requirements.

The following information describes the quality procedures that will be implemented for work performed during all phases of development, review and approval of locally implemented PIDs.

Quality Control Reviews

1. Quality Control (QC) Reviews shall be conducted for all deliverables. A project schedule shall be developed with the consensus of the PDT that identifies anticipated reports, submittal dates and review periods.
2. Prior to submission to Caltrans, each deliverable will be subject to review by senior staff and the Local Agency Project Manager.
3. Project documents will be reviewed for conformance with project design criteria, legibility, and completeness and compliance with regulatory and code requirements.
4. All QC comments will be evaluated by the lead author for the document, discussed with the QC reviewer as needed and, if appropriate, incorporated into the deliverable. SFCTA and Caltrans Project Managers will review and approve the resolution of each comment.
5. The Project Quality Control Coversheet, as shown in Appendix B, shall be used to document all quality control reviews.

Checking of Calculations

Final report calculations associated with the conceptual alternatives, cost estimates, and traffic technical reports shall be checked for reasonableness. All calculations shall be reviewed by the Lead.

Checking of Drawings

Conceptual geometric plans figures, mapping, and preliminary bridge plans (if applicable) shall be checked in accordance with established standards (e.g. Highway Design Manual and local standards).

Quality Assurance

The Project Managers from Caltrans and SFCTA, along with its consultant will be responsible for the development of deliverables and assure that the stated quality control procedures are being followed. A

Quality Assurance Log that includes dates when documents were received reviewed, and names of the QC reviewers shall be maintained for each report or work product.

Reporting Structure

An organization chart that describes the reporting structure and assigned staff that are involved in the QA/QC shall be developed at the beginning of the PID project.

QA/QC Duties and Responsibilities

Quality control begins with assigning the most appropriate person to each task. Each member of the team should be responsible for controlling the quality of the product, beginning with the project staff through to the Project Managers. The qualifications of the team members overseeing and doing the work should be identified. All team members should be in constant communication with the each other and their respective Principals and Project Managers in regards to project status, schedule, and any issues that might arise during the development of the PID.

The duties and responsibilities of each of the project members in coordinating and guiding the project efforts are described below:

a. **Principals-in-Charge (PICs)** – Responsible for allocation of resources and monitoring of the project to ensure adherence to the project objectives, schedule, budget, approvals, and ensuring that the QC/QA plan is in place and being implemented. Provides periodic audits of technical work and performance of respective staff.
b. **Caltrans Project Manager** - Responsible for Independent Quality Assurance as described in the Cooperative Agreement.
c. **SFCTA Project Manager** – Responsible for completion of project scope and tasks, and adherence to project schedule and budget, including QA/QC program. The Project Managers allocate resources to various elements of the work, establish and implement the Quality Management Plan, schedule the various activities and adjust plans as the work progresses to identify potential problem areas and resolve them in a timely manner. Responsible for technical review and approval of project documents before issuance to the reviewing agency; certifies that each submittal has been prepared and checked in accordance with Caltrans standards, policies, and procedures, sound engineering practices and represents a quality product; and maintains frequent contact and communication with the Caltrans Project Manager to assure satisfaction with the progress and performance.
d. **Consultant Project Manager** - The Consultant Project Manager reviews and monitors the implementation of the QA/QC practices and processes and ensures consistency with Caltrans standards, policies, and procedures. The Consultant Project Manager identifies the quality control actions required to be taken, the resources to be applied to these quality control actions, and interaction of these activities with the other elements of work. In this process, it is essential that the Consultant Project Manager clearly identify the personnel involved and their duties; allocate time, effort, and resources to the quality control function; and reviews and revises the allocated resources appropriately as the work progresses. The Consultant Project Manager is responsible for production of the technical work produced by their staff. They also assist the Project Managers in the execution of the Quality Management Plan. The Consultant Project Manager reports administratively to the Project Managers and works closely with them in the early identification and resolution of any product deficiencies. This includes but is not limited to:

- Perform periodic reviews of quality control documentation;
- Identification and control of nonconforming conditions

e. Technical Staff – Technical staff are responsible to their Consultant Project Manager for the quality of the work produced within their respective disciplines. In this capacity, technical staff establishes operating guidelines and areas of responsibility within the activity; monitors the work periodically to assure adherence to the contract scope of services and to the established reviewing procedures to ensure consistency with Caltrans standards, policies, and procedures, advises the Consultant Project Manager regarding the progress of work and of any circumstances that may require particular attention; reviews work prior to submittal to the Project Managers for quality control review; resolves QC review comments; insures comments are incorporated into the final document and reviews completed work before it is transmitted to the Project Managers for approval and submittal to the reviewing agencies.

Document Control

The designated agency or consultant shall make available and maintain electronic records and hard copies of drafts and final reports for inspection upon request during the development of the PSR-PDS.

Control of Sub-Consultants

If a portion of the scope of work is subcontracted out by the implementing agency's consultant, then all subconsultants will have the same responsibilities as the Lead Agency consultant.

EXHIBIT A
GENERAL LIST OF DELIVERABLES AND ASSIGNED QC REVIEWERS

ID	Deliverable	Consultant Reviewer	Lead Agency Reviewer
1	Project Schedule	Tim Lee, WMH	Anna Harvey, SFCTA
2	Quality Management Plan	Tim Lee, WMH	Anna Harvey, SFCTA
3	Draft Purpose and Need Statement	Tim Lee, WMH	Anna Harvey, SFCTA
4	PID level Project Mapping	Carl Gibson, WMH	Anna Harvey, SFCTA
5	PID Risk Register	Carl Gibson, WMH	Anna Harvey, SFCTA
6	PID Cost Estimate	Tim Lee, WMH	Anna Harvey, SFCTA
7	Traffic Engineering Performance Assessment	Carl Gibson, WMH	Anna Harvey, SFCTA
8	Preliminary Environmental Assessment Report	Tim Lee, WMH	Anna Harvey, SFCTA
9	Storm Water Data Report	Tim Lee, WMH	Anna Harvey, SFCTA
10	Design Standards Risk Assessment	Carl Gibson, WMH	Anna Harvey, SFCTA
11	Other PID Attachments	Carl Gibson, WMH	Anna Harvey, SFCTA
12	Constructability Review	Tim Lee, WMH	Anna Harvey, SFCTA
13	Draft PID Report Review	Carl Gibson, WMH	Anna Harvey, SFCTA
14	Final Report Approval	Carl Gibson, WMH	Anna Harvey, SFCTA

SFCTA San Francisco County Transportation Authority
WMH WMH Corporation

EXHIBIT B
GENERAL LIST OF DELIVERABLES AND ASSIGNED QC REVIEWERS
Quality Control Review Sign-Off Form

Client:	SFCTA	**Date to Review:**	11/13/2018 (Estimate)
Project Name:	US 101 / I280 Managed Lanes Project	**Review Deadline:**	11/15/2018 (Estimate)
Task	PSR-PDS	**Actual Review Date:**	11/19/2018
Project Manager:	Tim Lee, WMH	**Deliverable Due Date:**	11/21/2018
QC Reviewer:	Carl Gibson, WMH	**Actual Hours:**	8
Item Reviewed:	Admin. Draft PSR-PDS	**Activity:**	Initial Quality Control Review

Deliverable %: 80% (Admin Draft) **Internal Review** X **External Review**

Type of Review	Comments	Completed by Reviewer	
		Initial	Date
Reports:			
Environmental (PEAR)	Initial submittal	TJL	11/19/2018
Traffic Studies (TEPA)	Initial submittal	CG	11/19/2018
Reports and Documents (PSR-PDS)	Initial submittal	TJL	11/19/2018
Technical Memorandum	Initial submittal	CG	11/19/2018
Other:			
Design:			
Civil		TJL	11/19/2018
Preliminary Cost Estimate	Initial submittal	TJL	11/19/2018
Plan & Typical Section	Initial submittal	TJL	11/19/2018
Structural	Initial submittal	CG	11/19/2018
Stormwater Data Report (SWDR)	Initial submittal	TJL	11/19/2018
Other:			
Miscellaneous:			
Submittal/Previous QC Backcheck	Initial submittal	TJL	11/19/2018
Other:			

Notes:
Please return "signed" QC Review Sign-off Form and markups to Project Manager for project file.

Signatures:

Tim Lee	11/19/2018
Project Manager	**Date**
Carl Gibson	11/19/2018
QC Reviewer	**Date**

Instructions:
1) Project Manager fills out QC Review form & transmits to assigned QC Reviewer with document(s); 2) After review, QC Reviewer returns reviewed document/completed QC Review form to PM with comments: 3) Project Manager is responsible for reviewing comments, making appropriate changes/notations, & informing QC Reviewer of changes made; 4) QC Reviewer completes form upon resolution.