



## PROJECT MANAGEMENT PLAN

# Project Management Plan for M4 Junction 18a Link Road Study (Version for inclusion in SOBC)

*Prepared for*

South Gloucestershire Council  
Highways England  
Department for Transport

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# Document history

Project Management Plan for M4 Junction 18a Link Road Study

This document has been issued and amended as follows:

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SECTION 1

# Project Background

## 1.1 Project Chartering and Endorsement

The intended audience of the *M4 Junction 18a Link Appraisal Study* Project Management Plan is all project stakeholders. This document is required to be endorsed by all members of the immediate project team partners. The endorsement of the document signifies a commitment by the team members to work to the project management requirements and to support the delivery of the project.

## 1.2 Project Description

The purpose of the study is to develop and assess scheme options for link between the M4 and the A4174 Ring Road. The scheme concept is to be developed and supported by a Strategic Outline Business Case delivered by March 2018 at the latest. The scheme development work is to be undertaken in line with WebTAG and the study is required to produce all appropriate PCF deliverables.

The study methodology will follow the WebTAG guidance on the process for appraisal. The study work can be divided into three main phases:

- Phase 1 – WebTAG Appraisal Stage 1, Steps 1-4 – identifying objectives
- Phase 2 – WebTAG Appraisal Stage 1, Step 5 and 6, Option development and sifting and Option Assessment Report (OAR)/Appraisal Specification Report (ASR)
- Phase 3 – Strategic Outline Business Case (SOBC)

## 1.3 Key Milestones and Deliverables

The study deliverables are listed in Section 3.1.

Proposed dates for key milestones and deliverables are shown in the table and figure below.

Milestone or deliverable	Date
Brief received from SGC	12 September 2016, Project Brief/PID reissued 16 October 2017
Provide initial estimate of fees	24 October 2016
Agreement to proceed	Within 10 days of provision of Schedule 2
Inception meeting	2 meetings have been held to clarify the scope
Work complete	As per programmes SOBC to be submitted no later than March 2018
Handover and closure	June 2018

The programme has been developed in association with other project members. Given the length of the programme and reliance on multiple parties there is a risk that the scope of technical work could creep. To avoid this impacting delivery the programme will be kept updated and presented to the Project Board meetings.



## 1.4 Reference Documents and Client Data Provided

At the beginning of the project the client has provided the document(s) below to assist the team:

- Project Brief / PID
- Letter from Department for Transport confirming the study.

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# Project Organisation

## 2.1 Project Management Team

The project management team primarily consists:

- South Gloucestershire Council (Client) Project Manager
- CH2M Project Director
- CH2M Package Manager
- CH2M Deputy Package Manager
- CH2M Workstream / Discipline Managers

### 2.1.1 Roles and Responsibilities

#### 2.1.1.1 CH2M Project Director

The Project Director is responsible for the overall execution of work contracted, including client interface and satisfaction, submitting offers for new work, and assigning technical reviewers. The Project Director is responsible, with assistance from the Package Manager and task leaders, for assembling a qualified team of staff with sufficient resources and availability to complete the work per the agreed contract.

#### 2.1.1.2 CH2M Package Manager

The Package Manager responsible for executing the work in accordance with the terms agreed in the proposal. This includes interfacing with the client, drafting and maintaining the PMP, coordinating work and assuring that the appropriate reviews have been budgeted, planned and completed. The Package Manager is also responsible for keeping the Project Director informed on the progress of the work, including mitigation/materialisation of risks and adherence to the agreed budget and schedule. As soon as the Package Manager becomes aware of any actual or potential change to the cost, schedule and/or scope of the work, they must inform the Project Director and the two of them must work together to issue an Early Warning Notice or Change Control Notice to the client.

#### 2.1.1.3 CH2M Deputy Package Manager

The Deputy Package Manager assists the Package Manager, particularly in regards to coordination and processes internal to CH2M, leaving the Package Manager to focus on client and other stakeholder related interfacing.

#### 2.1.1.4 Workstream / Discipline Manager and Project Team Members

Task leaders and team members for each project will be carefully selected for competence in their respective disciplines. Each individual is responsible for his or her own work. Review of the work, regardless of who may perform the review, shall not, in any way, relieve the originator of the work of their responsibility to perform within CH2M standards for delivery that represent best practice across the industry. This should include a self-check by every member of the project team by stepping back and thinking about how each element fits into the overall project, by running ideas by a peer, or by double-checking each calculation with a quick back-of-the-envelope estimate. All project team members are also responsible for appropriately engaging the appropriate defined technical reviewer throughout the delivery of the work to achieve the goal of continuous quality.



### 2.1.1.5 Technical Reviewers

Technical reviewers are senior technical staff drawn from the approved sector lists recommended by the defined task leaders and approved by the Project Director, to direct and shape the technical work up front, conduct deliverable reviews, support the project task leaders throughout the project, mentor staff, and conduct technology transfer to staff on the project.

The technical reviewers are committed to treating the assignments as equal to their other client work. The acceptance of this role means an uncompromising commitment to the quality review process, budget and schedule, as well as an overall commitment to the success of the project.

The objective of the technical review process is to identify errors and omissions or conflicts, to ask questions or to raise issues regarding items or design features that may present a problem. The reviewer does not have to find answers to all questions asked or resolve all issues raised. Reviewers will keep in mind that changes will not be made simply for a minor improvement or writing preference. Rather, the reviewer is to concentrate on “fixing things that are broken.”

In addition to task-specific queries the reviewers should evaluate and comment on the following:

- Do the data and results support the conclusions?
- Do the assumptions seem reasonable?
- Have the client's requirements been satisfied?
- Are the analysis methods appropriate?
- Are there requirements that were not met? Are these appropriately documented?

### 2.1.1.6 Highways England

Highways England holds an assurance role for the project comprising:

- Review of scopes for deliverables in order to advise on their robustness and completeness, where relevant sharing best practice examples of scoping documents and deliverables
- Participation in Project Board meetings and key stakeholder meetings
- Where requested, participation in the development of deliverables, inputting best practice and Highways England experience where of benefit
- Assurance of PCF products prior to approval by SGC.

## 2.2 Project Communications

### 2.2.1 Introduction

This Communication Plan outlines the acceptable channels through which information may be shared and requests may be made in relation to the M4 Junction 18a Link Appraisal study.

While communication procedures are standardised for CH2M local authority projects, further clarification on these have been deemed necessary as the M4 Junction 18a is a major scheme with the potential to result in considerable and long-term impacts on a wide range of people in South Gloucestershire, Greater Bristol, and further afield.

### 2.2.2 Internal communication

Communication internal to CH2M is per standard operating procedures. All channels are open within the project team, and those outside the project team may be included on an as-needed basis with the approval of the Package Manager.





The primary point of contact for internal communication is the Deputy Package Manager, who is responsible for ensuring smooth communication between the various involved technical workstreams. The Deputy Project Manager will regularly be in contact with the Package Manager, whose role is both outward- and inward-facing.

### 2.2.3 External communication

All CH2M employees involved in the project are permitted to communication with the Client Project Manager, who should be treated as one of the project team.

Any other communication with external parties, including with Highways England, must be through the CH2M Project Director or Project Manage (or assistant) or workstream leaders. This includes any requests for information of any kind. Communication with specific third parties for specific purposes may be vetted by the Project Director and Package Manager or relevant discipline lead.

#### 2.2.3.1 Highways England SharePoint access

CH2M will have access to a Highways England SharePoint for the purposes of this project. Access will only be provided to those who are deemed to have a need for it. These individuals will be identified at the outset of the project. Any further requests for access must be approved by the Package Manager.

### 2.2.4 Freedom of Information requests

Given the scale and potential impacts of the project, it is likely to generate good deal of interest among the public and feature heavily in the media. There is a strong possibility that the project will be subjected to one or more Freedom of Information (Fol) requests.

Should SGC receive a Freedom of Information request, it will be communicated to the Framework Project Manager and the Package Manager, who will then direct it as necessary within the CH2M team.

In the event of a Freedom of Information request, it is essential that information can be found and organised quickly.

## 2.3 Project Programme

A summary programme is provided on the next page. The programme allowed time at the end of the programme to review and refine reports.



SECTION 2 – PROJECT ORGANISATION

M4 Junction 18a Link Appraisal Study			2016												2017												2018			
Project Phase	Task Ref	Item	Year												Year												Year			
			Month Start												Month Start												Month Start			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
			Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr								
Inception		Project Brief & associated documentation																												
		Procure consultant																												
		ECS Committee 9th Nov (approve consultant appointment)			9th																									
		Appoint consultant			11																									
Phase 1 Objectives	PM1	Project Management & PCF Deliverables																												
	A1	Appraisal																												
	SE1	Stakeholder Engagement																												
	D1	Design																												
	TM1	Transport Modelling																												
	Ec1	Economic Assessment																												
	Env1	Environmental Assessment																												
Phase 2 Option Developme	PM2	Project Management & PCF Deliverables																												
	A2	Appraisal																												
	SE2	Stakeholder Engagement																												
	D2	Design																												
	TM2	Transport Modelling																												
	Ec2	Economic Assessment																												
	Env2	Environmental Assessment																												
Phase 3 Strategic Outline Business Case [SOBC]	PM3	Project Management & PCF Deliverables																												
	A3	Appraisal																												
	SE3	Public & Stakeholder Engagement																												
	D3	Design																												
	TM3	Transport Modelling																												
	Ec3	Economic Assessment																												
	Env3	Environmental Assessment																												

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# Project Delivery

## 3.1 Outline Business Case Delivery Plan

The delivery plan for the Outline Business Case is presented in the table below:

	<b>Phase 1 – Identifying objectives</b> <b>Approx. Timescale - Nov 16 - Feb 17</b>	<b>Phase 2 – Option development</b> <b>OAR/ASR</b> <b>Approx. Timescale - Feb 17 – Aug 17</b>	<b>Phase 3 – SOBC</b> <b>Approx. Timescale – Aug 17 - Mar 18</b>
<b>Project management</b>	<ul style="list-style-type: none"> <li>Highlight Reports (format to be agreed)</li> <li>PCF Client Scheme Requirements.</li> <li>PCF Risk Management Plan.</li> <li>PCF Risk Register.</li> <li>PCF Product Checklist.</li> <li>PCF Project Schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Updated products from Phase 1</li> </ul>	<ul style="list-style-type: none"> <li>Updated products from Phase 2</li> <li>PCF Stage Gate Assessment Review Certificate.</li> <li>PCF End of Stage Report.</li> </ul>
<b>Business case</b>	<ul style="list-style-type: none"> <li>Understand implication of Joint Spatial Strategy (JSS) and Joint Transport Plan (JTP)</li> <li>Understand the current situation, including considering emerging local/central government policy</li> <li>Understand future situation. Use of existing data/models to evidence problems/opportunities</li> <li>Establish the need for intervention and identify objectives and area of influence</li> </ul>	<ul style="list-style-type: none"> <li>Option generation workshop (officers and CH2M technical team)</li> <li>Initial social impact assessment</li> <li>EAST assessment</li> <li>PCF Option Assessment Report</li> <li>PCF Appraisal Speciation Report</li> </ul>	<ul style="list-style-type: none"> <li>Option assessment refinement</li> <li>Full social impact assessment</li> <li>PCF Strategic Outline Business Case</li> <li>PCF Appraisal Summary Table</li> </ul>
<b>Stakeholder Engagement</b>	<ul style="list-style-type: none"> <li>Review of JSP and other recent relevant consultation/engagement</li> <li>Stakeholder engagement strategy</li> <li>Set up a stakeholder steering group</li> <li>Stakeholder meeting 1 - develop scheme objectives</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholder meeting 2 - views on Option generation</li> <li>Confirm options for public engagement</li> <li>Share draft OAR and ASR with key delivery partners</li> </ul>	<ul style="list-style-type: none"> <li>Public and stakeholder engagement                             <ul style="list-style-type: none"> <li>Preparation and material production (assumed CH2M will book events)</li> <li>engagement events</li> <li>engagement reporting (aligned to PCF)</li> </ul> </li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>Collate engineering baseline information, Lidar data, and C2 inquiries</li> <li>Review previous scheme plans and plans for other proposals in the area</li> <li>Specify additional data collection requirements (if needed)</li> <li>Define constraints</li> <li>Develop scheme concepts to inform other Phase 1 activities (including initial scheme costs)</li> </ul>	<ul style="list-style-type: none"> <li>Design team to inform/attend option sifting</li> <li>Scheme concept plans</li> <li>Constructability of options</li> <li>Outline costs for options</li> </ul>	<ul style="list-style-type: none"> <li>Scheme plans for best performing options</li> <li>PCF Strategic Order of Magnitude Estimate</li> <li>PCF Value Management Plan</li> <li>PCF Value Management Workshop Report</li> </ul>
<b>Transport modelling</b>	<ul style="list-style-type: none"> <li>Review model GBATS validation in and around the study (including regional models)</li> <li>Review modelling of JSS/JTS</li> <li>Model specification (including consideration of forecast year assumptions/TEMPro7)</li> </ul>	<ul style="list-style-type: none"> <li>Procure data collection subcontractor (if needed)</li> <li>Data collection (if needed)</li> <li>Data processing (if needed)</li> <li>Data Collection Report (if needed)</li> </ul>	<ul style="list-style-type: none"> <li>Further refinement of modelling tools</li> <li>Testing of scheme options in finalised modelling tools</li> <li>Combined modelling and appraisal report (aligned to PCF)</li> </ul>



SECTION 3 – PROJECT DELIVERY

	<b>Phase 1 – Identifying objectives</b> <b>Approx. Timescale - Nov 16 - Feb 17</b>	<b>Phase 2 – Option development</b> <b>OAR/ASR</b> <b>Approx. Timescale - Feb 17 – Aug 17</b>	<b>Phase 3 – SOBC</b> <b>Approx. Timescale – Aug 17 - Mar 18</b>
	<ul style="list-style-type: none"> <li>Specify additional data collection requirements</li> </ul>	<ul style="list-style-type: none"> <li>Assess the schemes in existing strategic models including user benefits assessment</li> <li>Development of a modelling suite (which could include refinement of existing strategic models, development of micro-simulation model(s) and junction assessment modelling</li> <li>Commence model documentation</li> <li>Further modelling of scheme options (with tools available at the time)</li> </ul>	
<b>Economic assessment</b>	<ul style="list-style-type: none"> <li>Baseline data collation</li> <li>Speciation of approach</li> </ul>	<ul style="list-style-type: none"> <li>Regeneration assessment</li> <li>Wider economic impact assessment</li> </ul>	<ul style="list-style-type: none"> <li>Combined modelling and appraisal report (aligned to PCF)</li> </ul>
<b>Environmental assessment</b>	<ul style="list-style-type: none"> <li>Desktop assessment to establish environmental baseline and constraints</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of options</li> <li>Environmental specification for ASR</li> </ul>	<ul style="list-style-type: none"> <li>Reporting of environmental work</li> <li>PCF Preliminary Environmental Risk Assessment</li> </ul>

## 3.2 Risk Management Plan

### 3.2.1 Study Delivery Risk

An initial risk assessment for the study work is shown below:

<b>Risk</b>	<b>Response</b>	<b>Strategy/Action</b>
Proposed appraisal approach does not satisfy SGC/HE requirements	Manage	All aspects of the study work will be scoped in Phase 1, and adequate time will be allowed to liaise with SGC/HE about the approach.
Delays in baseline information	Manage	Allow adequate time for data collation, and track progress and highlight any issues
Completion of study by 1 March 2018	Manage	Review progress against programme fortnightly, and highlight potential issues to client. If there are issues, and with agreement for the client, adjust the approach to ensure study is completed on time Allow a float of 1 month in the programme
Unavailability of one or more of the nominated staff for an extended period due to sickness/ill health.	Manage	CH2M to prepare a succession plan for key roles
Technical work unsupported by stakeholders	Manage	Early engagement with stakeholders. Involvement of senior members of staff to from up to concerned stakeholders. Stakeholder engagement team informed of direction of study, to highlight potential objections
Resultant business case indicates a low value for money scheme (or failures in other cases)	Manage	Early development of scheme concepts and assessments will provide indicative information about the strength of the business case.



### 3.2.2 Quantitative Risk Assessment

The effective management of risk and uncertainty through accurate evaluation and proactive mitigation of risks is critical to the success of the project. To achieve this, the risk management team and other project stakeholders will be provided with a clear understanding of how risk management is performed across the project.

The following guiding principles will be adhered to:

- Risk management is part of all project management activities and decision-making
- Risk management will be proactively and consistently applied throughout the project lifecycle
- The management of risks is to ensure their reduction to a level as low as 'reasonably practical' or adopt appropriate mitigation strategy
- A risk management plan will be initiated at the beginning of the project
- Risk communication will be open and transparent to all stakeholders

A Quantified Risk Assessment (QRA) will be undertaken for the project, in line with the WebTAG guidance on Scheme Costs (DfT TAG Unit A1.2, November 2014).

The main purpose of a QRA is to support the scheme costing to cover the construction of the scheme, by predicting the level of risk contribution, having a defined level of confidence. QRA allows for uncertainty in unplanned and unforeseen additional cost items that cannot be included in the project costs. It helps focus attention on priority areas. Consideration will be given to both cost risks (financial) and schedule risks (delay).

The QRA process involves four steps. Step 1 is identification of all risks affecting the project through risk workshops and risk reviews, resulting in a risk register. Risk workshops will include a mixture of expertise such as engineers, designers, cost consultants, procurement specialists, and environmentalists.

Typically the risk register is instigated with a list of project risks with qualitative information, then through various workshops and iterations, it will be developed to a comprehensive risk register to log the full spectrum of potential risks (also opportunities if necessary). Appropriate risk owners will be allocated for each risk, and progress on the management of the key risks will be discussed at each Project Board meeting. Periodic risk workshops will review all risks, add new risks, and close expired risks as the project progresses.

Step 2 of the QRA process is analysis of the various risks by defining their distributions in terms of probabilities, impacts and knock-on effects. This information is gathered through risk workshops and other interactions. A qualitative risk ranking will be undertaken in the form of a standard decision matrix using the concept shown below. Each risk will be assessed using a score; High, Medium, Low, etc., for Cost, Time, Performance, and Probability to calculate an overall risk scoring and to categorise into Red, Amber, or Green. This process will be developed and tailored for better fit for this type of project.

Likelihood / Probability	High 3	3	6	9
	Medium 2	2	4	6
	Low	1	2	3



	1			
		High 1	Medium 2	Low 3
	<b>Severity</b>			

In addition to the above, for the QRA process, monetised risk quantities will be agreed through group consensus for each individual risk for the minimum impact, maximum impact, likely impact, and likelihood/probability of occurring.

An indicative likelihood/probability scale that will be used is shown below.

Probability		Likelihood	Scale
1	Almost Certain	Confident that risk is very likely to occur.	95%
2	Likely	Almost certain that risk will occur.	50%
3	Possible	Probable chance that risk will occur.	25%
4	Unlikely	Remote chance that risk will occur	12.5%
5	Rare	Very unlikely to happen, rare or exceptional occurrence.	5%

Step 3 is undertaking the risk modelling using Monte Carlo simulation (in this project @Risk® software was used). A risk model will be constructed by CH2M using the Microsoft Excel and @Risk® software packages. The model will use the Monte-Carlo simulation theory by replicating a large number of iterations (10,000) of likely project risk scenarios. Confidence levels relating to the cost of the scheme are obtained from the distribution of the averaged results produced by the simulations.

Step 4 is analysing the results against required contingency needs for the project. The 50% percentile value P(50) is reported in line with WebTAG guidance. The Project Board will use other results of the QRA, including other percentile values, to monitor and manage risks at overall project level.

The risk register will be reviewed and QRA updated on a regular basis. The management strategy will enforce a systematic approach to responding to the various risks during the project lifecycle, and will continuously look to avoid, mitigate, transfer, or accept risks. In many cases additional technical work or surveys, or early discussions with partners will reduce or mitigate risks. Risk control measures such as preventive, corrective, directive, or detective measures will be in place to treat risks. Delivery and contractor teams will be responsible for managing their risks and reporting any newly identified risks to the Project Manager. Risks escalated to Medium or High which could impact on the progress or financial position of the project will be referred by the Project Manager to the Project Board.

### 3.3 Health, Safety and Environment

CH2M’s Health, Safety and Environment policy provides overall direction to all CH2M employees. Maintaining a safe and healthy working environment is essential to the company’s goals. As such both internal and external meetings are to be started with a Health and Safety moment. In addition staff should consider Construction Design and Management Regulations (CDM).

There are also project-specific requirements in relation to health, safety and environment which will be fulfilled in the deliverables forming the Outline Business Case.





## 3.4 Quality and Compliance Management

CH2M quality procedures apply to the deliverables as described in the CH2M internal Quality Management Plan.

### 3.4.1 Deliverable Reviews

Deliverable reviews are conducted by the assigned technical reviewers prior to submittal of major project deliverables to the client and are overseen by the Quality Manager. Technical Reviewers should be assigned in advance. Comments and changes identified in these reviews shall be incorporated into the deliverables before submittal.

Proof of review, whether in the form of an email or of a report/drawing checklist, must be stored in the project file for each deliverable.

## 3.5 Change Management

### 3.5.1 Change Management Procedure

Whilst CH2M are responsible for delivering to the programme, all parties need to work together to monitor the scope and any creep that occurs. This will be facilitated by regular discussion, progress reporting and reviews at project progress meetings. Change will be managed using the agreed protocol under the contracts and agreements for the commission.

All deliverables will be subject to review and approval as defined in Section 3.4. Once this process is completed the deliverables will be presented to the Project Board for final approval. Changes that occur to deliverables following completion of this process will require full re-verification and re-submission to the Project Board for approval.

The CH2M Team recognize that change during projects is inevitable and that the effective management of this is essential. Planning for change by developing appropriate guidelines and processes is key to the successful execution of our project.

During project execution, deviations from the scope and contract will occur. The source of these deviations can be internal changes initiated by the project team, external changes initiated by the client; or external changes that are a result of third-party stakeholders, availability of resources, changing construction and implementation costs, or other factors.

### 3.5.2 Types of Change

#### 3.5.2.1 Internal Change

For each project, COC or work package produced under the framework, CH2M's Package Manager will use a Change Register to record and control any changes to the scope of work or to the requirements in terms of cost, time and quality. Changes in scope and amendments to deliverables will be recorded in writing as a CCN, through correspondence or records of meetings.

Any variations and their subsequent impact in terms of delays or additional cost will be reviewed regularly by the Framework managers.

#### 3.5.2.2 Client Change

Client-initiated changes may include:

- Personnel Changes: Client representatives may also leave during a project;
- Scope Creep: Client-initiated, incremental increases in scope may also result in a significant change,



- **Client Discretion:** The client may request a change, or a change may occur because of client action.

### 3.5.2.3 External Change

Changes originating from external sources (which may be manifested through either client- or team-initiated actions) may include:

- **Mandated Changes:** Changes linked to third-party regulatory requirements, and unforeseen conditions.
- **Availability Changes:** Changes in availability of materials, labour, and other resources.
- **Construction or Implementation Cost Changes:** These cost changes can include cost-savings opportunities.

## 3.5.3 Responsibilities for Managing Change

The Package Manager is the primary contact for the client and therefore is in the best position for early identification of client-initiated changes. As the primary contact, the Package Manager also has the opportunity to prepare the client PM or any required team-initiated or externally initiated change, eliminating the surprise that often accompanies change. The Project Director is responsible for managing change, including the authorization of any changes to the budget and schedule.

Team members must control and manage change in their areas of responsibility. Typically, team members can exercise the most control over changes created by increases in level of effort and, to a certain extent, scope creep. Team members can frequently identify potential changes to the project that can have either positive or negative effects. They have a responsibility to bring forth ideas that add value as well as potential circumstances that could result in negative change.

The Client Project Manager is responsible for understanding the potential for change in a project, reviewing and discussing potential and real changes with the Commission Manager as they are identified, and reaching agreement on a desirable course of action and endorsing that action.

## 3.5.4 Change Management Procedure

Following are descriptions of the five elements that comprise the change management plan:

1. Identify the change
2. Reporting the change
3. Analyse the effects of change
4. Develop a response strategy
5. Communicate the strategy and gain endorsement for the change
6. Revise the work plan and monitor the effects of change

These six elements not only represent the contents of the plan, but they also represent the change management process.

### 3.5.4.1 Develop a Response Strategy

Once the type and source of change have been identified and their effects on the project have been analysed, the next step is to develop a specific response strategy. The following key questions will be asked to build the response:

- What needs to be done?
- Who is going to do it?
- When is it going to be done?
- How much will it cost?





- How much time will it take?
- How will quality be ensured?
- How will the project team continue to meet the client's expectations?
- What will be the effects on other project activities?
- How will the COCPM involve and communicate with all stakeholders?

Change issues should be settled promptly but should remain open until the information needed to settle them fairly has been obtained.

#### 3.5.4.2 Communicate the Strategy and Gain Endorsement for the Change

Proposed changes will be communicated to the client, CH2M management, and other key parties. Changes that do not affect the scope may not necessarily require the approval of our client and will only be recorded in the monthly report. As a general rule of thumb, if the change affects the scope, schedule, budget, deliverables, or the client's expectations for the final product, the client must be involved in the disposition of the change.

#### 3.5.4.3 Revise the Work Plan and Monitor the Effects of Change

Once the planned response has been communicated and endorsed, it can be implemented. During implementation, two additional tasks will be performed.

- First, the Package Manager will ensure that the work plan is adjusted to account for the change.
- Second, the Package Manager will install a means to monitor the effects of the change. Any needed adjustments will be made based on the results of the monitoring.

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SECTION 3

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