

TABLE OF CONTENTS

1			
2			
3	1.0	Introduction.....	7
4	1.1	Project Management Plan Purpose	8
5	1.2	Project Location.....	8
6	2.0	Project Description	10
7	2.1	Project Background	10
8	2.2	Project and Study Purpose	11
9	2.3	Project Authority and Appropriation	11
10	2.4	The Local Sponsor	12
11	2.5	Study Objectives	12
12	2.6	Scope of Work Assumptions	13
13	2.7	Early Action Projects	15
14	2.8	Planning Constraints	15
15	3.0	Project Teams, Stakeholders, and Representatives.....	16
16	3.1	Project Delivery Team	16
17	3.2	Resource Management.....	17
18	3.3	Executive Committee.....	18
19	3.4	Tribal Coordination	18
20	3.5	Local Partners	18
21	3.6	Chehalis River Basin Flood Authority	19
22	3.7	The Chehalis Basin Partnership	19
23	3.8	Stakeholders & Interested Parties	19
24	3.9	Federal and State Elected Representatives	19
25	3.10	Vertical Team	20
26	3.11	Responsibilities.....	20
27	4.0	Work Accomplished and Current Effort.....	22
28	4.1	Corps of Engineers Projects that Preceded this Project.....	22
29	4.2	Reconnaissance Phase	22
30	4.3	Feasibility Phase	23
31	4.4	Non-Corps of Engineers Work Accomplished and Current Effort	24
32	5.0	Project Scope and Work Breakdown Structure	27
33	5.1	Work Breakdown Structure	27
34	6.0	Schedule.....	33
35	6.1	Schedule Estimation Methodology.....	33
36	6.2	Baseline and Current Schedule.....	33
37	6.3	Expected Stability of Schedule.....	34
38	6.4	Schedule Management.....	34
39	7.0	Budget.....	35
40	7.1	Cost Engineering Methodology.....	35
41	7.2	Budget Baseline, Status, and Current Estimate	35
42	7.3	Cost Management	36
43	7.4	Fiscal Year Funding Breakdown	37
44	8.0	Quality Control Plan	37
45	8.1	Intent	37
46	8.2	Methodology.....	38

1	8.3	Review Plan	39
2	8.4	Quality Control Responsibilities.....	39
3		Resource Managers	40
4	8.5	Technical Review Team Leader and Technical Review Team Members	40
5	8.6	Consultant and In-Kind Products.....	40
6	9.0	Communications	40
7	9.1	Team Communication	40
8	9.2	Agency Communication	40
9	9.3	Public Communication	41
10	9.4	Communications Formats.....	44
11	10.0	Risk Management	45
12	10.1	Risk Identification	45
13	10.2	Risk Assessment.....	46
14	10.3	Risk Response.....	46
15	10.4	Risk Register.....	47
16	11.0	Acquisition Plan.....	47
17	12.0	Change Management	47
18	13.0	Conflict Resolution.....	47
19	14.0	Value Engineering	48
20	15.0	Study Termination and Close Out Plan	48
21	16.0	Lessons learned report	48
22	17.0	Project Management Plan Approvals	49

LIST OF TABLES AND FIGURES

27	Figure 1:	Map of the Chehalis River Basin (USACE 2009)	9
28	Table 1:	Rank of Cities and Towns in the Chehalis Basin by Population Size	10
29	Table 2:	Project Delivery Team.....	16
30	Table 3:	Resource Managers.....	17
31	Table 4:	Executive Committee.....	18
32	Table 5:	Federal and State Elected Representatives	19
33	Table 6:	Vertical Team	20
34	Table 7:	Baseline Schedule.....	33
35	Table 8:	Baseline Feasibility Budget	35
36	Table 9:	Fiscal Year Funding.....	37
37	Table 10:	Change Management	47

LIST OF APPENDICES

42	Appendix A:	Schedule
43	Appendix B:	Scope of Work
44	Appendix C:	Risk Management
45	Appendix D:	Feasibility Phase Planning Process
46	Appendix E:	Centralia Project and General Investigation Decision Point Timeline

1
2
3
4

CHEHALIS PROJECT ACRONYMS

AFB	Alternative Formulation Briefing (see ER1105-2-100)
ASA (CW)	Assistant Secretary of the Army for Civil Work
BA	Biological Assessment
ATR	Agency Technical Review
BCO	Bidability / Constructability / Operability
CAP	Continuing Authority Program
CBP	Chehalis Basin Partnership
CEFMS	Corps of Engineers Financial Management System
CR	Cultural Resources
DA	Design Agreement
DQC	District Quality Control
EIS	Environmental Impact Statement
EO	Executive Order
ERS	Environmental Resources Section
ESA	Endangered Species Act
FCSA	Feasibility Cost Sharing Agreement
FIR	Flood Insurance Study
FR	Feasibility Report
FSM	Feasibility Scoping Meeting
GI	General Investigation Program - A Federal funding appropriation for planning and design
HEMP	Hydrologic Engineering Management Plan
HTRW	Hazardous Toxic Radiological Waste
H&H	Hydrology and Hydraulics
HQUSACE	Headquarters United States Army Corps of Engineers
IEPR	Independent External Peer Review
LLP	Locally Preferred Plan
MCACES	Micro-Computer Aided Cost Engineering System
NEPA	National Environmental Policy Act 1969
NED	National Economic Development
NER	National Economic Restoration
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NWD	Northwest Division USACE

OMB	Office of Management and Budget
OMRR&R	Operation, Maintenance, Repair, Replacement & Rehabilitation
PAO	Public Affairs Office
P2	Primavera scheduling software
PDT	Project Delivery Team
PED	Pre-Construction Engineering and Design
PL	Public Law
PMBP	Project Management Business Process
PMP	Project Management Plan
QC	Quality Control
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Office
SOW	Scope of Work
TRC	Technical Review Conference
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VE	Value Engineering
WBS	Work Breakdown Schedule
WMP	Watershed Management Plan
WRIA	Water Resources Inventory Area
WRDA	Water Resources Development Act

1.0 INTRODUCTION

This Project Management Plan describes the work to occur during the feasibility study phase of the Chehalis Basin General Investigation for Ecosystem Restoration and Flood Risk Management, in the Chehalis River Basin, located in Southwestern Washington State. This study was initially authorized in 1999, after a reconnaissance report indicated that there was a federal interest in pursuing further studies. The feasibility study phase began in 2000, as a single-purpose Ecosystem Restoration study with incidental Flood Risk Management benefits. The recent addition of a new project purpose, Flood Risk Management, as well as additional partnerships, such as the Chehalis River Basin Flood Authority, has brought on the need for a re-scoped and updated Project Management Plan.

The Corps of Engineers will participate with Federal, tribal, state, and local agencies, organizations, and the local community to ensure that their interests are considered and assistance garnered in the formulation and implementation of this planning effort. Due to the complexity and interrelation of systems within the watershed, an array of technical experts, stakeholders, and decision-makers will be involved in the process of identifying these actions. This involvement will provide a better understanding of the consequences of actions and provide a mechanism for sound decision making when addressing the watershed resource needs, opportunities, conflicts, and trade-offs.

The feasibility study phase will follow the Corps of Engineers planning process in order to establish the without-project conditions and identify, evaluate and compare alternatives for both project purposes: Ecosystem Restoration and Flood Risk Management. The study will identify a National Ecosystem Restoration plan that maximizes ecosystem restoration benefits, and a National Economic Development plan that maximizes Flood Risk Management benefits. The term "National" indicates that each plan must improve the net environmental and economic benefits on a national level rather than merely shifting benefits from one region to another. Each identified plan will contain a suite of actions that provide benefits to these respective purposes. A trade-off analysis will be conducted to reconcile any conflicts between the National Environmental Restoration and National Economic Development plans and will result in a multi-purpose, multi-action recommended plan for the Chehalis Basin. A Locally Preferred Plan may also be identified by the local sponsor that consists of either additional or lesser features than the National Environmental Restoration and National Economic Development plans .

This Project Management Plan is to be incorporated into the feasibility cost sharing agreement entitled "Agreement between the Department of the Army and Grays Harbor County for the Chehalis River Basin, WA General Investigation". This Project Management Plan defines the Scope of Work, documents the process for conducting the feasibility phase study, and is a means for those involved in the study (i.e., Corps of Engineers Seattle District, Grays Harbor County, Corps of Engineers Northwestern Division, and Corps of Engineers Headquarters) to formally agree to the scope of the study before it is initiated. The Project Management Plan does not attempt to repeat study-related details provided in the final reconnaissance report for this study, the reconnaissance studies, or related investigations conducted prior to initiating the feasibility phase of project development.

The most substantial product of the feasibility phase is the feasibility report. The feasibility report is the decision document outlining the recommended plan(s) as well as information supporting selection of the recommended plan. Within the feasibility report is an incorporated Environmental Impact Statement necessary to fulfill all National Environmental Policy Act

51 Requirements. The feasibility report is the basis for Grays Harbor County (the local sponsor) and
52 Corps of Engineers to recommend that Congress authorize the recommended plan(s) for
53 construction. The feasibility report will provide a complete presentation of the study analyses
54 and results, including those developed in the reconnaissance report. The feasibility report will
55 also document compliance of the design with all applicable guidance, statutes, Executive Orders,
56 and policies, and provide a sound basis for decision makers to judge the recommended plan(s).

57

58 **1.1 Project Management Plan Purpose**

59 This Project Management Plan details the scope of work, costs and schedule for the Chehalis
60 Basin, Ecosystem Restoration and Flood Risk Management feasibility study. The feasibility
61 study scope includes all work from signature of the Feasibility Cost Sharing Agreement up until
62 the signature of the Design Agreement. The Project Management Plan includes all work
63 necessary for completion of the Feasibility Report, integrated Environmental Impact Statement
64 and Biological Assessment and all work necessary for routing of the report and approval by
65 Office of Management and Budget and specific authorization of the Feasibility Report and
66 Integrated Environmental Impact Statement by Congress.

67

68 The Project Management Plan addresses the following:

69

- 70 • Study tasks and deliverables.
- 71 • The estimated cost of individual study tasks and total study cost, including the negotiated
72 cost of work items to be accomplished by the local sponsor as in-kind services.
- 73 • Corps of Engineers and other professional criteria to assess the adequacy of the
74 completed work effort, including references to regulations and other guidance that will be
75 followed in performing and evaluating tasks.
- 76 • The schedule of performance and milestones (i.e., key decision points, in-progress
77 reviews, issue resolution conference, etc.).
- 78 • The specific coordination mechanism between parties to this agreement, such as
79 communication and decision making procedures.
- 80 • Procedures for reviewing and accepting the work of the parties to this agreement.

81

82 With clearly defined work tasks among the Project Delivery Team, the Project Management Plan
83 will provide a basis for cost and schedule control of the feasibility study as well as facilitate
84 communication and reviews. The Project Delivery Team is made up technical members from the
85 Corps of Engineers, the local sponsor, stakeholders, and all entities with inter-local cost sharing
86 agreements with the local sponsor. The Project Management Plan is a living document and
87 expected to be revised and modified as needed throughout the feasibility phase. The Project
88 Management Plan will be updated as needed to document changes to the scope, schedule, costs,
89 status and processes of the feasibility study. All changes in the Project Management Plan will be
90 coordinated with the Project Delivery Team and the Executive Committee. The Executive
91 Committee consists of the Executive leaders of the Corps of Engineers and the local sponsor.
92 Any significant schedule or cost changes require written agreement between the local sponsor
93 and the Corps of Engineers. Approvals will be coordinated through the Executive Committee.

94

95 **1.2 Project Location**

96 The project boundary is defined by the Chehalis River drainage basin; which is further delineated*
97 by 11 sub-basins (see
98 [Figure 1](#)). The basin is located in southwest Washington State and covers approximately 2,600
99 square miles. It is the second largest self-contained river basin, after the Columbia River, in

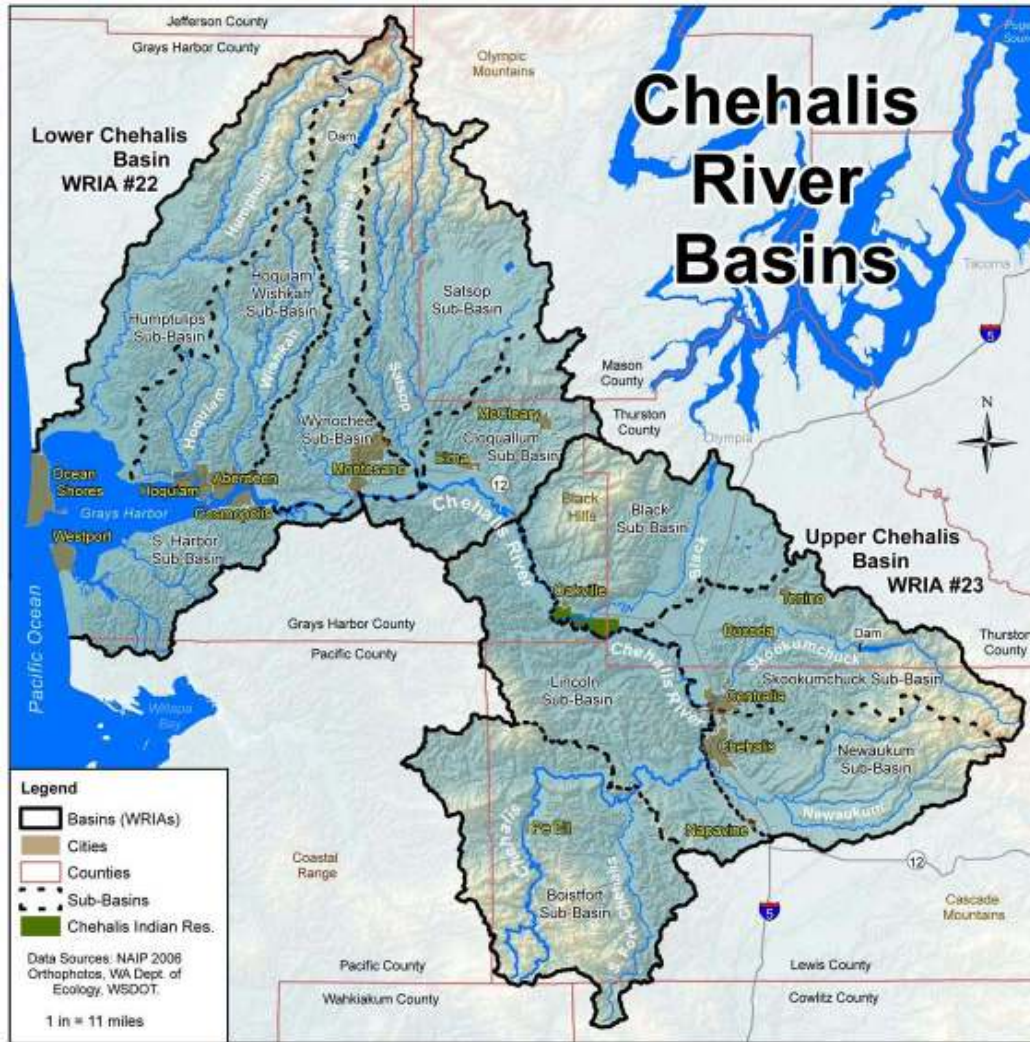
Formatted: Normal, Indent: First
line: 0"

Deleted: ¶
Figure 1

100 Washington State. It occupies major portions of Lewis, Thurston, Mason, and Grays Harbor
 101 Counties, and minor portions of Wahkiakum, Cowlitz, Pacific, and Jefferson Counties. The
 102 Chehalis Indian Reservation and the estuary of Grays Harbor also is included within the study
 103 area. Cities within the basin are Aberdeen, Tenino, Hoquiam, Elma, Oakville, Montesano,
 104 Chehalis, Cosmopolis, McCleary, Napavine, Ocean Shores, Westport, and Centralia. Towns
 105 within the basin are Bucoda and Pe Ell. The designation of “city” and “town” is arbitrary since,
 106 unlike many other states, Washington State has no specific definition. The project lies within the
 107 3rd, 6th, and 9th Congressional Districts.
 108
 109
 110

111 **Table 1** lists each incorporated municipality in the basin by the latest 2009 estimated population
 112 and their ranking in the State of Washington.
 113

Deleted: 1
 Table 1



114

Figure 1: Map of the Chehalis River Basin (USACE 2010)

Table 1: Rank of Cities and Towns in the Chehalis Basin by Population Size

Municipality	Total population	Population rank
Aberdeen	16,440	60
Centralia	15,570	61
Hoquiam	8,765	87
Chehalis	7,185	93
Ocean Shores	4,860	115
Montesano	3,565	127
Elma	3,110	133
Westport	2,345	151
Napavine	1,690	172
Cosmopolis	1,640	175
McCleary	1,555	176
Tenino	1,535	177
Oakville	715	215
Pe Ell	670	219
Bucoda	665	220

2.0 PROJECT DESCRIPTION

The project background, goals and purpose are presented in this section.

2.1 Project Background

The Chehalis River Basin 905(b) Reconnaissance Report was initiated in 1999 and approved by Corps Headquarters on December 5, 2000. This report found that there is a federal interest in pursuing a feasibility phase study. During the reconnaissance study, it was found that major flooding occurs during the winter season, from November through February. Flooding may be localized within sub-basins or widespread throughout the basin. Coupled with the serious flooding problems within the basin, the natural aquatic ecosystem has been degraded and populations of many fish and wildlife species are in decline. Habitat conditions were significantly altered during the 1920's through the 1940's when logging activities were the most active and where limited replanting occurred. Stream alterations, lands use, and construction of infrastructure have also degraded aquatic and riparian ecosystems within the basin. In addition, one salmonid species (bull trout) has been listed as threatened under the Endangered Species Act (ESA) and Grays Harbor green sturgeon, river lamprey, and pacific lamprey have been listed as species of concern.

The Centralia, Chehalis Flood Damage Reduction Project (also known locally as the "Twin Cities Project"), authorized in Section 1001(46) of the Water Resources Development Act 2007, is focused on relieving the flood damages within the cities of Centralia and Chehalis along the I-5 corridor. While the Centralia Flood Damage Reduction (Centralia) Project considered only a limited area of the Upper Chehalis Basin (Water Resource Inventory Area #23), the Chehalis River Basin General Investigation will include the entire river basin, including the six sub-basins

148 in the Lower Chehalis Basin (Water Resource Inventory Area #22). For the Chehalis basin-wide
149 effort, the study will identify solutions to both Flood Risk Management and Ecosystem
150 Restoration problems. Coordination with the Centralia authorized project is essential as
151 mitigation and flood storage features continue to be designed and finalized. Additionally, the
152 without-project conditions for the Chehalis Basin Project will be considered assuming Centralia
153 project complete and fully functional.

154
155 Both the frequency and the peak flows of floods have increased over the last 10 years, since the
156 Chehalis Basin reconnaissance report was complete. In particular, flood events in 2007 and 2009
157 in the Chehalis River Basin caused widespread damage. The Interstate 5 corridor was closed and
158 upper basin flooding led to a renewed interest in Flood Risk Management in the areas not served
159 by the Centralia project. In March 2009, the local sponsor requested that the study be expanded
160 from a single purpose Ecosystem Restoration study with incidental flood reduction to a
161 multipurpose project. The study will now have equal purposes for Ecosystem Restoration and
162 Flood Risk Management, whereas previously, the project would have only provided incidental
163 flood benefits where the primary solution was Ecosystem Restoration based.

164
165 Following the Reconnaissance Report, a Project Management Plan and Feasibility Cost Sharing
166 Agreement were finalized in 2001 in order to identify solutions for Ecosystem Restoration and
167 reduce flood damage by restoring natural basin functions of the Chehalis River Basin. However,
168 since this project will now include Flood Risk Management as an equal purpose, the Project
169 Management Plan and Feasibility Cost Sharing Agreement are being revised.

170
171 **2.2 Project and Study Purpose**
172 The Chehalis River Basin General Investigation is a basin wide evaluation for two purposes:
173 Ecosystem Restoration and Flood Risk Management. A feasibility evaluation will be conducted
174 for each of the project purposes with equal importance, resulting in a full analysis of both basin
175 wide Ecosystem Restoration solutions and basin wide Flood Risk Management solutions for
176 construction.

177
178 The Chehalis Basin Feasibility Study phase identifies the problems and opportunities in the basin
179 as well as Ecosystem Restoration and Flood Risk Management projects for recommendation in
180 the Feasibility Report. The purpose of the feasibility study is to identify, evaluate, compare and
181 recommend Ecosystem Restoration and Flood Risk Management actions for authorization and
182 construction.

183
184 **2.3 Project Authority and Appropriation**
185 The study of the Chehalis River Basin was initiated as part of House Resolution 8455 - Flood
186 Control Act of 1936, dated June 22, 1936. Section 1 of this authority states: “that it is the sense
187 of Congress that flood control on navigable waters or their tributaries is a proper activity of the
188 Federal Government in cooperation with States, their political subdivisions, and localities...”
189 Section 2 of this authority states: “Federal investigation and improvements of rivers and other
190 waterways for flood control and allied purposes shall be under the jurisdiction of and shall be
191 prosecuted by the War Department under the direction of the Secretary of War and the
192 supervision of the Chief of Engineers.” Authority for ecological restoration for the Chehalis
193 Basin is provided by the United States House of Representatives Committee on Transportation
194 and Infrastructure Resolution 2581. This authority allows for study of the Chehalis Basin “with
195 particular reference to flood control and environmental restoration and protection, including non-
196 structural floodplain modification.”

197

198 The work shall generally be performed in accordance with established criteria and guidance
199 including the following:

- 200 a. ER 1105-2-100, “Planning Guidance Notebook”, U.S. Army Corps of Engineers, April
201 22, 2000.
- 202 b. ER 1110-2-1150, “Engineering and Design for Civil Works Projects,” U.S. Army Corps
203 of Engineers, August 31, 1999.
- 204 c. ER 5-1-11 (FR), “Program and Project Management,” U.S. Army Corps of Engineers,
205 February 27, 1998.
- 206 d. “Economic and Environmental Principles and Guidelines for Water and Related Land
207 Resources Implementation Studies,” U.S. Water Resources Council, March 10, 1983.
- 208 e. ER 200-2-2, “Procedures for Implementing NEPA,” U.S. Army Corps of Engineers,
209 March 4, 1988.
- 210 f. ER 405-1-12, “Real Estate Handbook,” U.S. Army Corps of Engineers.
- 211 g. ER 1165-2-501, “Civil Works Ecosystem Restoration Policy,” Corps of Engineers, 30
212 September 1999.
- 213 h. ER 1165-2-502, “Ecosystem Restoration – Supporting Policy Information,” Corps of
214 Engineers, 30 September 1999.
- 215 i. “Environmental Operating Principles,” Corps of Engineers, 26 March 2002.
- 216 j. EC 1165-2-209, “Civil Works Review Policy,” 31 January 2010.
- 217
- 218

219 2.4 The Local Sponsor

220 The Chehalis Basin Project non-federal local sponsor is Grays Harbor County. The local sponsor
221 requested the Corps to initiate an Ecosystem Restoration study in 1999 and signed the Feasibility
222 Cost Share Agreement in September 2001. The Feasibility Cost Share Agreement will need to be
223 amended for the two purposes.

224
225 Point of Contact: Terry Willis, Commissioner, District No.1
226 Grays Harbor County Administration Building
227 100 West Broadway, Suite #1
228 Montesano, WA 98563
229 (360) 249-3731 / 1-800-230-1638
230 (360) 249-3783 (FAX)
231 Email: TWillis@co.grays-harbor.wa.us
232

233 Grays Harbor County is the nonfederal sponsor for the project. Other stakeholders include
234 Lewis County, Thurston County, the Confederated Tribes of the Chehalis Reservation, the
235 incorporated cities in the basin, and the State of Washington. Local stakeholders have requested
236 the State to become the nonfederal sponsor. The State is considering the request. Grays Harbor
237 County will fulfill the obligations under the Feasibility Cost Share Agreement until the potential
238 relinquishment of its role as nonfederal sponsor to the State at such time the state offers to be the
239 nonfederal sponsor and assume the obligations through signing an amended Feasibility Cost
240 Share Agreement.

Formatted: Font: (Default) Times
New Roman, 12 pt

242 2.5 Study Objectives

243 Planning Objectives are statements that describe the results the Corps of Engineers and local
244 sponsor want to achieve by solving stated problems and taking advantage of opportunities. The
245 objectives for this study are:

Deleted: Grays Harbor County serves as the local sponsor and is also the lead agency for the Chehalis Basin Partnership. Lewis County is the lead agency for the Chehalis River Basin Flood Authority. As the lead agency for the Flood Authority, Lewis County will enter into an inter-local agreement with Grays Harbor County. The inter-local agreement will articulate the role of each agency, the desired outcomes or funding commitment, and any other responsibilities to the study.¶

- 247 • To identify Ecosystem Restoration measures that would most economically provide long
- 248 term ecosystem restoration to the Chehalis river basin;
- 249 • To define roles and responsibilities in the execution of this plan.
- 250 • To define a process to fund and implement creation of Flood Risk Management and
- 251 Ecosystem Restoration solutions in the Chehalis river basin.
- 252 • Reduce flood hazards and flood damage costs in the project area to the maximum extent
- 253 practicable.
- 254 • Identify residual flooding risks, educate citizens, and develop emergency and land use
- 255 plans to reduce potential catastrophic damages from residual flooding risk
- 256 • Reduce the adverse effects of flooding in the towns, cities, and unincorporated areas of
- 257 the Chehalis River floodplain to the maximum extent practicable.
- 258 • Reduce the adverse effects of flooding on transportation delays to critical transportation
- 259 corridors including, but not limited to, Interstate 5, State Routes 6, 8, 12, 20, 507, 508 and
- 260 536, and Burlington Northern-Santa Fe Railroad to the maximum extent practicable.
- 261 • Provide a systems wide approach to reducing flood damages to cities, towns, and other
- 262 unincorporated areas in the basin.
- 263 • Protect existing public utility infrastructure from flood hazards to the maximum extent
- 264 practicable.
- 265 • Reduce the threat of catastrophic levee failure and reduce flood damages to the
- 266 agricultural community and rural residents to the maximum extent practicable.
- 267 • Avoid adverse impacts to the socio-economic and cultural aspects of the basin
- 268 • Maintain Corps's Tribal Trust Responsibilities under Treaties, Laws, and Executive
- 269 Orders.
- 270 • Develop sustainable projects with the intent of minimizing operation and maintenance
- 271 requirements, minimizing risk for catastrophic failure, and in conformance with Corps
- 272 Environmental Operating Principles
- 273 • Restore existing degraded riverine habitats for salmonid and improve Chehalis River
- 274 ecosystem functions and processes for Endangered Species Act listed species and other
- 275 wildlife dependent upon the local habitat.
- 276 • Ensure active public input in the planning process

277

278 **2.6 Scope of Work Assumptions**

279 Upon approval of the Project Management Plan and amended Feasibility Cost Share Agreement,
280 the amended Feasibility Cost Share Agreement will be signed by the Corps of Engineers and the
281 local sponsor. The proposed feasibility study will use existing information to gain a clear
282 understanding of repetitive flooding problems and ecosystem restoration issues within this basin
283 and the potential solutions already studied, as well as new studies to determine the best means of
284 proceeding.

285

286 The current feasibility cost estimate will be based on development of a proposed number of
287 ecosystem restoration and Flood Risk Management actions that are not specifically identified at
288 this stage of development. Potential measures are identified in Section 5.1.6 of the Project
289 Management Plan. For the purposes of scoping the work, the tasks for each of the project
290 purposes are assumed to be widely varying to capture a wide potential variation in study costs. It
291 is currently assumed that there will be 35 Flood Risk Management measures and 75 Ecosystem
292 Restoration measures. For alternatives, it is assumed there will be 15 Flood Risk Management
293 alternatives and 50 Ecosystem Restoration alternatives. *Measures are defined as single*
294 *components or actions, sometimes with a specified location. Alternatives are defined as several*
295 *measures combined together to enhance or compliment function and contributing to a large*

296 *scale action.* The final document will be a feasibility report with a programmatic Environmental
297 Impact Statement and Biological Assessment. The document will incorporate local efforts
298 targeted for Ecosystem Restoration which provides Flood Risk Management as integral parts of
299 the overall action in the Chehalis River Basin. The feasibility report will be based upon existing
300 information, revised or updated information provided by the local sponsor, and new studies. The
301 Corps of Engineers, the local sponsor, or contract resources will perform new studies. The
302 decision as to which entity will conduct the studies will be based upon who has the technical
303 capacity to complete the task and will be identified in the amended, or reinitiated, Feasibility
304 Cost Share Agreement. Dollar values proposed for the feasibility cost estimate are based on
305 Corps of Engineers cost engineering guidance and processes. Scheduling of work and
306 expenditures is based on capability. The schedule for the study could lengthen if adequate
307 funding is not allocated for each fiscal year.
308

309
310 Normally Corps studies only include one “without project condition,” largely based on existing
311 conditions. However, the Corps is required to look at any uncertainties with existing and future
312 conditions in the study area. The Corps does this to ensure that the proposed measures and
313 alternatives will deliver benefits for the community, regardless of the future condition of the
314 study area. For the Chehalis Basin study, the local sponsor and stakeholders have expressed an
315 interest in developing two “without project condition” scenarios. This proposal has received
316 concurrence from the Corps and is integrated into the scope, budget, and schedule presented in
317 this PMP.

318 The first “without project condition” will assume that the Centralia Project is built in the basin.
319 The Water Resources Development Act of 2007 authorized the construction of the Centralia,
320 Chehalis Flood Damage Reduction (Centralia) Project. Currently, the project delivery team is
321 moving forward with the design and implementation phase of this project. Therefore, analysis of
322 the first “without project condition” of the Chehalis Basin GI will consider and analyze all
323 impacts assuming the Centralia Project is constructed.
324

325 The Corps will also analyze a second “without project condition” scenario that assumes the
326 Centralia Project is not constructed. The project delivery team will analyze the economic
327 damages, hydraulic conditions, environmental resources, and other characteristics that would
328 exist in the basin if the Centralia Project is not constructed. This analysis may or may not result
329 in a different set of possible measures and alternatives than those formulated under the Centralia
330 Project.

331
332 As the study completes each phase of evaluation, the continued analysis and development of two
333 without project condition scenarios will result in greater impacts to the overall study schedule
334 and budget. The recommended plan that will be submitted to Congress for authorization must
335 contain the evaluation and analysis of a single without project condition scenario. The Corps has
336 established a timeline and decision point for identifying the “without project condition” scenario
337 that will be carried forward for advanced measures and alternatives analysis. The Feasibility
338 Scoping Meeting (Section 5.1.5) will serve as a decision point for which the Corps, non-Federal
339 sponsor, and local stakeholders will present the most likely “without project condition” expected
340 to exist based on the status of the Centralia Project and any additional analyses that aid in the
341 decision. This decision can be reached prior to the Feasibility Scoping Meeting if the appropriate
342 information has been presented and the concurrence of all parties is received. An earlier decision
343 point could result in a shorter schedule and could reduce the overall study costs. Appendix E,
344 Centralia Project and General Investigation Decision Point Timeline, provides an illustration of

Deleted: Because the authorized Centralia Flood Risk Management Project is geographically located in the center of the Upper Chehalis Basin and does specifically address significant flooding within highly populated areas of that basin, the Centralia project will affect the Chehalis project without-project assumptions. A management decision was made by Colonel Wright and upper management to consider future construction of the congressionally authorized Centralia Flood Risk Management Project for incorporation into the without-project condition for the Chehalis Basin Project. Final confirmation for inclusion of the Centralia Project into the Chehalis River Basin General Investigation will come with the Centralia Project local sponsor’s (State of Washington) acceptance of updated costs and project requirements presented in the Post Authorization Change Report due out in 2011. Until that point, the Chehalis River Basin General Investigation will operate on the assumption that the Centralia Project is in place in the without-project condition analysis.

Deleted:

Deleted: ¶

345 how the Centralia Project and Chehalis Basin GI interact in terms of schedule and where the
346 decision point is made to move forward a single “without project condition”.
347

Deleted: ‘
Deleted: ’

348 The Corps of Engineers will coordinate regarding on-going or proposed Corps of Engineers
349 projects within the basin (i.e., maintenance dredging of Grays Harbor, authorized Centralia Flood
350 Damage Reduction Project, etc.) to continually update current study assumptions pertinent to the
351 Chehalis Basin project. In addition, the Corps of Engineers will coordinate plans and actions
352 with the activities for the Chehalis Basin Partnership’s Chehalis Watershed Management Plan,
353 Detailed Implementation Plan, and the Flood Authority’s Comprehensive Flood Hazard
354 Management Plan.
355

356 **2.7 Early Action Projects**

357 Projects formulated to address Flood Risk Management or Ecosystem Restoration objectives
358 may be eligible for consideration in the Corps of Engineers Continuing Authorities Program at a
359 significant savings in project implementation time .There are three applicable Continuing
360 Authorities that could be used in association with the purposes of this General Investigation: 1)
361 Section 1135 of Water Resources Development Act of 1986, Project Modifications for
362 Improvement of the Environment, 2) Section 206 of Water Resources Development Act of 1996,
363 Aquatic Ecosystem Restoration, provide for ecosystem restoration to restore degraded ecosystem
364 structure, function, and dynamic processes to a less degraded, more natural condition, and 3)
365 Section 205 of the 1948 Flood Control Act, Construction of Small Flood Control Projects for
366 structural and non-structural solutions for flooding in urban areas, towns and villages.

367 Section 1135 is used to restore a degraded ecosystem that resulted from Corps of Engineers
368 project impacts and Section 206 can be used to restore degraded aquatic ecosystem in the public
369 interest .Each of these authorities has a Federal project limit of \$5,000,000 and requires a non-
370 Federal sponsor to share 25% of the Sec 1135 project costs or 35% of the Section 206 project
371 costs.
372

373 Section 205 provides authority to the Corps of Engineers for studies of small flood control
374 projects for structural and non-structural solutions in urban areas, towns and villages .Structural
375 solutions can be levees, floodwalls, channel enlargement, realignment, obstruction removal and
376 bank stabilization .Non-structural can be flood-warning systems, relocations, land management
377 actions, and watershed management plans .This authority has a Federal project limit of
378 \$7,000,000 and requires the non-Federal local sponsor to be responsible for 35 to 50% of the
379 total implementation costs.
380

381 The development of these projects requires the preparation of a Preliminary Restoration Plan, at
382 full Federal expense, and a Feasibility Study Report, Plans & Specifications and Construction
383 cost shared with a non-Federal sponsor .These authorities typically require under two years to
384 conduct a feasibility level study prior to start of construction, a significant savings over the
385 comparable 5 to 10 years required for feasibility level studies when specific project
386 Congressional authorization is required .Projects that are selected for further consideration in the
387 project selection process of this feasibility study will be reviewed to determine if they can be
388 implemented in the Continuing Authorities Program .If accepted into the Continuing Authorities
389 Program, these projects will be deleted from the short list and monitored throughout the General
390 Investigation project to determine success.
391

392 **2.8 Planning Constraints**

393 The following constraints are identified for the study phase of the General Investigation:

394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434

- Operation and maintenance costs must be acceptable to the local sponsor
- Actions must be feasible for construction (able to permit and physically possible)
- Actions must be compliant with Corps of Engineers policy
- Mitigation plan must be approved by the Chief of Engineers
- Alternatives will be limited to the study area.
- The formulation of alternatives must avoid adverse impacts to significant cultural resources; and if avoidance is not feasible, then adverse impacts to cultural resources must be minimized. Unavoidable adverse impacts to cultural resources must be mitigated.
- The formulation of alternatives should avoid areas that are either known or suspected to be contaminated and/or contain hazardous, toxic, and radioactive waste.
- The formulation of alternatives should avoid adverse impacts to structures.
- The recommended plan must be generally accepted by the public.
- The recommended plan must have a local sponsor(s). During the Preconstruction, Engineering, and Design Phase (successor to the Feasibility Phase) the local sponsor(s) should be prepared to and capable of providing all permanent and temporary lands, easements, rights of way, and land disposal necessary for project construction and operation and maintenance of the project into perpetuity.
- Adheres to Corps of Engineers Environmental Operating Principles
- Acceptable for environmental compliance
- Impacts from the project, both up and downstream, must be minimal and able to be mitigated.
- A project must comply, to the extent possible, with the objective of Executive Order 11988, Floodplain Management. It is the intent of Executive Order 11988 – and Corps of Engineers policy – to:
 - Reduce the hazards and risk associated with floods;
 - Minimize the impact of floods on human safety, health and welfare; and
 - Restore and preserve natural floodplain values.
 - Avoid inducing floodplain development unless it is the only practicable alternative
- Design the project with features compatible with existing agricultural and open space uses in rural areas to the maximum extent practicable.
- The study process must recognize the special status of tribal nations and fully incorporate them into the planning process

3.0 PROJECT TEAMS, STAKEHOLDERS, AND REPRESENTATIVES

3.1 Project Delivery Team

The Project Delivery Team is the staff responsible for executing the scope of work.

Table 2: Project Delivery Team

Name	Role/Organization	Phone
Bill Goss	Project Manager	206-764-3267
TBD	Program Manager	206-764- 3514
Paul Massart	Assistant Project Manager	206-764-3514
Cecile Viray	Budget Analyst, LCM	206-764-6661
Dean Holsberry	Scheduler	206-764-6959
Patti Bauccio	Program Analyst	206-764 3787
Andrea Takash	Public Affairs	206-764-3464

Deleted: Nancy Chin

Deleted: 3590

Name	Role/Organization	Phone
Kristen Kerns	Planner	206-764-3474
<u>Rachel Mesko</u>	Planner	206-764-3622
TBD	Environmental Coordinator	206-764-
	Environmental Coordinator	206-764-
Ron Kent	Cultural resources	206-764-3576
Lauren McCroskey	Historical Preservation	206-764-3538
TBD	Mechanical engineer	206-764-
Glenn Kato	Civil/Soils engineer	206-764-3549
Wayne Kutch	Structural engineer	206-764-3791
TBD	Electrical engineer	206-764-6595
Pat Wheeler	Hydraulic Engineer	206-764-3490
<u>TBD</u>	Environmental Scientist	206-764-
<u>TBD</u>	Geology	206-764-6586
Laura Orr	Cost Engineering	206-764-6759
Kevin Kane	Real Estate Specialist	206-764-6652
Don Bisbee	Economist	206-764-3713
Charyl Francois	Economist	206-764-5522
Sue Leong	Office of Counsel	206-764-3731
<u>TBD</u>	Grays Harbor Project Manager	
TBD	State of Washington	360-902-0490

Deleted: Linda Smith

Deleted: Senior Planner

Deleted: 206-764-6721

Deleted: Steven Garrett

Deleted: 48

Deleted: Evan Lewis

Deleted: 6922

Deleted: Sandy Lemich

Deleted: 3527

Deleted: Jeff Powers

Deleted: Lee Napier

435

436

3.2 Resource Management

437

Resource Managers (the functional supervisors of internal Corps of Engineers organizations) are responsible for providing Project Delivery Team members based on the project scope, schedule, and availability. Resource managers may assign their own staff, seek staff at other districts, or contract out some or all of the work.

438

439

440

Resource commitment is managed through work requests at the time of work assignment and then through monthly use of turnaround reports, team meetings, or one-to-one contact by the Project Manager to verify the information needed to status the project:

441

442

443

444

- Remaining effort (in dollars or man-days)
- Remaining duration
- % of work complete (optional at this time, but needed for earned value calculations)

445

446

Resources Managers are identified in the table below.

447

448

449

450

Table 3: Resource Managers

Name	Section/Branch	Phone
Beth Coffey	Chief of Civil Programs and Projects	206-764-6747
Evan Lewis	Chief of Environmental Resources	206-764-6922
Sven Lie	Chief of Mechanical/Electrical	206-764-3680
John Maciejewski	Chief of Structural/Architecture	206-764-3444
Dennis Fischer	Chief of Soils	206-764-3555
Travis Shaw	Chief of Environmental Engineering	206-764-3527
Richard Smith	Chief of Geology & Instrument.	206-764-3309
Dan Katz	Chief of Hydraulic Engineering	206-764-3271
John Dudgeon	Chief of Cost Engineering	206-764-6758

Deleted: Mike Padilla

... [1]

Christopher Borton	Chief of Real Estate	206-764-6571
Pat Blackwood	Chief of Civil Contracting	206-764-3772
TBD	Chief of Planning	206-764-3600
Jennifer West	Chief of Civil	206-764-3511
Siri Nelson	District Counsel	206-764-6834

Deleted: Mona Thomason

451
452
453
454
455
456
457
458
459
460

3.3 Executive Committee

The Executive Committee is comprised of members from the Corps of Engineers and the local sponsor executives who generally oversee study progress in accordance with the Project Management Plan, as prescribed in Article IV of the Feasibility Cost Share Agreement. The Executive Committee is in charge of decision making associated with the general direction and progress of the study. The Executive Committee will meet periodically throughout the feasibility phase.

Table 4: Executive Committee

Name	Organization
Col. Anthony Wright	Corps of Engineers
Beth Coffey	Corps of Engineers
TBD	Corps of Engineers
Comm. Terry Willis	Grays Harbor County
Comm. Karen Valenzuela	Thurston County
Comm. Ron Avrill	Lewis County
TBD	(A jurisdiction may become a member of the executive committee upon signing an interlocal agreement with the local sponsor.)

Formatted Table

Deleted: Mona Thomason

Deleted: TBD

Deleted: (if an interlocal agreement is signed)

461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483

3.4 Tribal Coordination

The Federal government has a unique legal and political relationship with Indian tribal governments. Coordination with the Confederated Tribes of Chehalis Reservation, Cowlitz Indian Tribe, and Quinault Indian Nation will be conducted in conformance with Executive Order 13175 of November 6, 2000, Executive Memorandum dated November 5, 2009, and Executive Memorandum April 29, 1994. The Corps will hold Nation to Nation meetings with the tribes as requested and will reach out to ensure that the tribal nations have the opportunity to review and comment on all significant documents and reports, including decision and National Environmental Policy Act documents.

3.5 Local Partners

Local partners will be established through inter-local agreements to allow additional contributors to the 50% non-federal cost share of the study. Grays Harbor County is expected to sign the inter-local agreements once the Project Management Plan is approved and finalized. The primary inter-local agreements anticipated for this study will be between Grays Harbor County as the local sponsor and other participants in the Chehalis Basin Partnership as well as participants in the Chehalis River Basin Flood Authority (Flood Authority). For work to be creditable as in-kind services to the Chehalis Basin Study by any other entities, the scope, budget and schedule of the work must be agreed upon by the Corps and Grays Harbor County in writing and an inter-local agreement must be in place between Grays Harbor County and the other entity performing the work, prior to the initiation of that work.

484 **3.6 Chehalis River Basin Flood Authority**

485 The Flood Authority was established in April 2008 to evaluate flooding issues throughout the
486 basin and identify and prioritize flood hazard mitigation projects. An inter-local agreement was
487 signed in April 2008. The membership includes: Grays Harbor, Lewis and Thurston Counties;
488 The Confederated Tribes of the Chehalis Reservation; the cities of Aberdeen, Centralia,
489 Chehalis, Montesano, and Oakville; and the towns of Bucoda and Pe Ell. All other state, tribal,
490 local and federal agencies that are located and/or involved in the basin with activities related to
491 the goals of the Flood Authority are stakeholders. In addition, all interested nongovernmental
492 entities and citizens have opportunities to engage with the Flood Authority.
493

494 **3.7 The Chehalis Basin Partnership**

495 The Chehalis Basin Partnership (The Partnership) was established in 1998 by local governments
496 in the Chehalis River basin to implement watershed planning. Its goals are to coordinate
497 cooperative efforts on: 1) Improvement of water quality, 2) Management of water supplies for
498 farms, fish, industry, and people, 3) Reduction of effects of flooding, 4) Increase in recreational
499 opportunities, and 5) Increase in public awareness through education. Their primary focus is on
500 preparing a watershed management plan that will address water quality, water quantity, and fish
501 habitat.
502

503 **3.8 Stakeholders & Interested Parties**

504 Stakeholders are all entities that have signed an interlocal agreement with the local sponsor.
505 Residents within the basin are also identified as stakeholders associated with the study.
506

507 Interested parties are all parties directly or indirectly affected by the project and have a
508 significant interest in the project.
509

510 Federal resource agencies such as US Fish and Wildlife Service and National Marine Fisheries
511 Service have authority through the National Environmental Policy Act consultation process to
512 require that the Corps of Engineers include specific actions in the project in order to be in
513 compliance with the Endangered Species Act. The Environmental Protection Agency will also
514 have National Environmental Policy Act review authority under Section 404 of the Clean Water
515 Act.
516

517 **3.9 Federal and State Elected Representatives**

518 Table 5: Federal and State Elected Representatives
519

Federal		
Congress	District	Representative
	3	Brian Baird
	9	Adam Smith
	6	Norm Dicks
Senate	Maria Cantwell and Patty Murray	
State		
District	Senator	Representative
20 th	Dan Swecker	Richard DeBolt & Gary Alexander
19 th	Brian Hatfield	Dean Takko & Brian Blake
24 th	James Hargrove	Kevin Van De Wege & Lynn Kessler
2 nd	Randi Becker	Jim McCune & Tom Campbell
35 th	Tim Sheldon	Kathy Haigh & Fred Finn

520
521
522
523
524
525
526
527

3.10 Vertical Team

The Vertical Team is responsible for addressing federal policy issues and facilitating reviews and major study milestones throughout the study phase. The Vertical Team is also responsible for upward communications and reporting between Seattle District, Northwestern Division, and Corps of Engineers Headquarters.

Table 6: Vertical Team

Name	Role/Organization	Contact info
TBD	Headquarters Corps of Engineers, Planning/Policy	
TBD	Northwestern Division, Project Management/Planning	
TBD	Planning	206-764-3600
Bill Goss	Project Manager	206-764-3267
TBD	Program Manager	206-764-
Patti Bauccio	Program Analyst	206-764-3787

Deleted: Mona Thomason

Deleted: Nancy Chin

Deleted: 3590

528
529

3.11 Responsibilities

530
531

3.11.1 Federal

The Corps of Engineers will lead in the management of all tasks within the scope of this study. The Corps of Engineers will provide technical expertise in the areas of engineering, plan formulation, environmental planning and economic analysis for the purpose of furthering the project. The Corps of Engineers will lead in obtaining all federal permits that may be required in support of study completion and project authorization.

532
533
534
535
536
537
538

3.11.2 Non-Federal

The local sponsor is responsible for providing 50% cost share of the study, in the form of work-in-kind or cash. The local sponsor is responsible for obtaining all necessary local and state permits that may be required in support of study completion and project authorization. During the Preconstruction, Engineering, and Design Phase they are also responsible for providing all necessary lands, easements, and rights-of-way, rights of entry, relocations, and disposal sites in support of the study or the project. The local sponsor is responsible for all operation, maintenance and repair of all the authorized project features.

539
540
541
542
543
544
545
546
547
548

In-Kind Services

During the feasibility phase the local sponsor is allowed to provide in-kind services as a means for supplementing their 50% cash cost share. Per Section 225 of the Water Resources Development Act of 2000, the entire local sponsor share of the feasibility phase can be provided as in-kind services. In-kind services include, but are not limited to, project management and coordination, public coordination, agency and stakeholder coordination, development of the without-project conditions, development and analysis of alternatives, assistance with National Environmental Policy Act requirements, and preliminary design. In-kind services can either be performed by the local sponsor with in-house capability or through a contractor. Stakeholders who have an interlocal agreement with the local sponsor may also perform in-kind services and be recognized as a

549
550
551
552
553
554
555
556
557
558
559

560 contractor to the local sponsor. A list of all potential in-kind services should be
 561 developed jointly by the Corps of Engineers and local sponsor. In-kind services proposed
 562 by the local sponsor are not fixed and can be increased or decreased at any time as long
 563 as the changes are mutually agreed upon by the Corps of Engineers and local sponsor.
 564 These identified tasks will be updated as needed and included in the Project Management
 565 Plan and updated as needed. Below is a table to be filled in at a later date and as the study
 566 progresses identifying in-kind services agreed on by the Corps of Engineers and local
 567 sponsor:

	<u>In Kind Service</u>	<u>Performed By</u>	<u>Date Agreed Upon</u>	<u>Cost</u>
569				
570	1.) TBD			
571	2.) TBD			
572	3.) TBD			
573	4.) TBD			
574	5.) TBD			
575	6.) TBD			
576	7.) TBD			
577	8.) TBD			
578	9.) TBD			
579	10.) TBD			

580 The local sponsor will provide quarterly reports tracking expenditures associated with in-
 581 kind services. The Corps of Engineers will provide a template to the local sponsor for
 582 tracking and reporting in-kind expenditures. Neither the local sponsor nor any of the
 583 stakeholders will be reimbursed for in-kind services. In-kind services may only be
 584 credited to the remaining balance of the local sponsor's cost share. The Corps of
 585 Engineers will be responsible for reviewing all work submitted by the local sponsor to
 586 ensure it is adequate, relevant to the project, and meets Corps of Engineers standards. In
 587 some cases formal Agency Technical Review will be performed on local sponsor
 588 products. All in-kind services are subject to auditing. The local sponsor should maintain
 589 detailed records and retain all invoices associated with creditable in-kind services. In-
 590 kind services associated with advanced design and construction after the feasibility phase
 591 will be discussed and negotiated at a later time.
 592
 593

594 **3.11.3 Project Managers**

595 The Corps of Engineers and local sponsor will each appoint Project Managers who will
 596 be responsible for the day-to-day management of the study. They will maintain close
 597 coordination with the entire Project Delivery Team. The Project Delivery Team will
 598 ensure timely execution of the study and compliance with the Project Management Plan
 599 and the Feasibility Cost Share Agreement. The Project Managers from each jurisdiction
 600 will meet and confer regularly and will maintain a written record of such meetings, with
 601 a copy provided to the members of the Project Delivery Team.
 602

603 The Project Managers from the Corps of Engineers and from the local sponsor will
 604 coordinate to submit annual study progress reports to the Executive Committee and PDT,
 605 identifying progress of all study tasks during the period, and documenting unresolved
 606 conflicts or policy issues requiring action by the Executive Committee.
 607

608 The Project Managers from each jurisdiction will be responsible for re-scoping, re-
609 costing, and recommending funding share contributions to the Executive Committee for
610 approval annually prior to proceeding with subsequent stages of the feasibility study.

611 612 **4.0 WORK ACCOMPLISHED AND CURRENT EFFORT**

613
614
615 The project has completed the reconnaissance phase, completed in 2000, and is currently in the
616 feasibility phase, begun in 2001. In March 2009, the local sponsor requested that the study be
617 expanded equally for dual purposes, Ecosystem Restoration and basin-wide Flood Risk
618 Management. The Feasibility Cost Share Agreement will be amended to capture the multi-
619 purpose scope and cost while current efforts to characterize the basin remain ongoing.

620
621 The without-project conditions and preliminary environmental actions have been identified. The
622 Chehalis River Basin General Investigation and other Corps of Engineers work completed to
623 date and current effort are summarized in this section as well as efforts by other agencies, such as
624 the Chehalis Basin Partnership, Chehalis River Basin Flood Authority, and the U.S. Geological
625 Service Study.

626 627 **4.1 Corps of Engineers Projects that Preceded this Project**

- 628 • “Centralia-Chehalis Flood Warning and Flood Response Study”, 1990. This
629 reconnaissance report indicated that substantial benefits would accrue from improved
630 flood warning, public awareness, and an updated flood response plan for the area. The
631 study produced three products: (1) a public brochure covering what to do before, during
632 and after a flood, (2) a flood warning map, and (3) a flood warning checklist to assist
633 local officials with public facilities threatened during flood events. No construction
634 measure was identified for implementation.
- 635 • “Chehalis River at South Aberdeen and Cosmopolis, Washington – Flood Control
636 Project”, 1990. This project enabled construction of an earthen levee, high ground and a
637 sheetpile floodwall within the cities of Cosmopolis and Aberdeen, and unincorporated
638 Grays Harbor County.
- 639 • “Floodplain Management Special Study, Floodplain Delineation, Chehalis River at the
640 Chehalis Indian Reservation Near Oakville, WA”, 1999. This study estimates and maps
641 the 100-year floodplain of the Chehalis River in the vicinity of the Chehalis Indian
642 Reservation. The purpose was to assist the tribe in identifying flood hazard areas.
- 643 • “Post Flood Verification Report, February 1996 Floods, Upper Chehalis River Basin,
644 Western Washington”, 1999. Federal Emergency Management Agency requested that the
645 Corps of Engineers perform a verification study to compare the existing Flood Insurance
646 Study data for the upper Chehalis River Basin with the February 1996 flood data to see if
647 criteria for significant change had been exceeded. The study determined that the Chehalis
648 River in the Grays Harbor County Flood Insurance Study, Thurston County Flood
649 Insurance Study, Lewis County Flood Insurance Study in the vicinity of Centralia and
650 Chehalis, the city of Centralia, and the city of Chehalis needs to be restudied. In addition,
651 the Skookumchuck River in Centralia, and the Newaukum River in Chehalis also need to
652 be restudied. Only the Lewis County Flood Insurance Study upstream of Chehalis to Pe
653 Ell did not need to be restudied.

654 655 **4.2 Reconnaissance Phase**

656 The Chehalis River Basin Reconnaissance Report, dated 20 November 2000, and approved by
657 Corps of Engineers Headquarters on 5 December 2000 found that there is a federal interest in

658 pursuing the feasibility study phase. The problems identified in the Reconnaissance Report
659 include:

- 660 • Flood damage on both the basin-wide and sub-watershed level
- 661 • Chronic flooding
- 662 • Sporadic means of notifying the public of impending floods
- 663 • Bank erosion
- 664 • Degradation of existing infrastructure
- 665 • Damage to agricultural properties
- 666 • Degraded water quality

667 Degraded ecosystem functions and processes, causes include:

- 669 • Heavy logging
- 670 • Manipulation of watercourses
- 671 • Road and railroad building
- 672 • Persistent flooding
- 673 • Land use practices have contributed to a degraded ecosystem in this basin

674 The types of restoration and Flood Risk Management actions listed in the 905(b) report include:

- 676 • Basin-wide flood warning notification system
- 677 • Construction of bypass channels
- 678 • Upstream storage
- 679 • Protection of existing municipal infrastructure
- 680 • Dredging of waterways
- 681 • Fish and wildlife habitat restoration
- 682 • Streambank stabilization
- 683 • Land use modifications (i.e., buyouts, easements, fencing stream corridors)
- 684 • Assessment of instream structures (i.e., culverts, bridges)
- 685 • Water quality improvements
- 686 • Floodway modifications
- 687 • Structural modifications
- 688 • Replacement or placement of structures to alleviate flooding.

689 **4.3 Feasibility Phase**

691 The feasibility phase for a study for Ecosystem Restoration with secondary Flood Risk
692 Management was initiated in September 2001. The focus area of the study was the lower
693 Chehalis Basin, within the jurisdiction of Grays Harbor County, Washington. The intent of the
694 studies was to identify Ecosystem Restoration projects that had a secondary benefit for reducing
695 flooding (eg. setting back levees to increase riparian and wetland habitat) .Lewis County and the
696 Chehalis River Basin Flood Authority have requested the expansion of the feasibility study to
697 include two equally weighted project purposes: Ecosystem Restoration and Flood Risk
698 Management for the entire Chehalis River basin, including areas within the jurisdiction of Lewis
699 County. The study area will be expanded and pertinent analyses of without project conditions,
700 measures, and alternatives for Flood Risk Management, will commence with the signature by the
701 local sponsor of an amended Feasibility Cost Sharing Agreement to reflect the additional costs
702 and scope .In the interim, the Corps of Engineers and local sponsor will continue with the
703 technical studies required for Ecosystem Restoration within the lower basin in concurrence with
704 the previous Project Management Plan and Feasibility Cost Share Agreement.

705

706 **4.3.1 Without-project Conditions Report**

707 A final draft Without-project Conditions Report was completed in February 2005 after going
708 through internal agency review. The without-project conditions report provided an inventory and
709 forecast of critical resources relevant to the problems and opportunities under consideration in
710 the planning area (ER 1105-2-100). Characterizations of basin conditions include: climate,
711 geologic setting, fluvial geomorphology, land use, hydrology, marine, aquatic, wetland, riparian,
712 and terrestrial habitat, aquatic species, wildlife species, water quality, and socioeconomics. The
713 report is a component of the feasibility study that quantifies and qualifies important study area
714 resources by identifying the existing conditions in the project area and forecasting future
715 without-project conditions in the basin. The report defines and characterizes the problems and
716 opportunities previously identified at a general level in the reconnaissance study report. The
717 future without-project condition provides the basis from which alternative plans are formulated
718 and impacts are assessed in the feasibility report.

719
720 **4.4 Non-Corps of Engineers Work Accomplished and Current Effort**

721
722 **4.4.1 Lewis and Grays Harbor County**

723 This section outlines work accomplished by basin-wide partnerships, with Lewis and Grays
724 Harbor County serving as lead agencies. These partnerships are principally the Chehalis Basin
725 Partnership (Grays Harbor County lead agency) and the Chehalis River Basin Flood Authority
726 (Lewis County lead agency).

727
728 The **Chehalis Basin Partnership** (The Partnership) created a Salmon Habitat Restoration
729 Strategy for the Basin to use as a tool in prioritizing habitat projects to recommend for state and
730 federal assistance. In addition, the Partnership has developed a Watershed Management Plan
731 which was adopted in 2004 to help better manage the water resources in the Chehalis Basin. The
732 goals of the plan include:

- 733 • Use the Citizen Advisory Committee and increase public information and involvement to
734 raise awareness of citizens about watershed issues and gain input from the public in
735 developing and adopting the Plan.
- 736 • Encourage basin residents to implement the Plan, with government support.
- 737 • Bridge the gap between existing stream flows and target flows for fish, wildlife and
738 human use.
- 739 • Clarify Washington State water law to citizens.
- 740 • Conduct a water balance for the Basin, including complete groundwater data and identify
741 tools available to meet this goal.
- 742 • Prevent degradation of and/or improve water quality to have clean water (as defined in
743 Washington State water quality standards) for all fish, wildlife and human uses.
- 744 • Consider improving water quality through increasing water quantity.
- 745 • Implement current and future water quality cleanup plans.
- 746 • Develop strategies to identify and prevent water quality degradation.
- 747 • Prevent degradation and improve habitat to support self-sustaining fish and wildlife
748 populations and to support water quality and quantity goals.

749
750 The Partnership is conducting and/or have finished studies to characterize the ecosystem health
751 of the basin. These studies and reports include:

- 752 • The *Chehalis Basin Level 1 Assessment*, published in December 2000 (Envirovision et
753 al., 2000), presents extensive analysis of the basin characteristics that need to be
754 understood for the planning effort.

- 755
- 756
- 757
- 758
- 759
- 760
- 761
- 762
- 763
- 764
- 765
- 766
- 767
- 768
- 769
- 770
- 771
- 772
- 773
- 774
- 775
- 776
- 777
- 778
- 779
- 780
- 781
- 782
- 783
- 784
- 785
- 786
- 787
- 788
- 789
- 790
- 791
- 792
- 793
- 794
- 795
- 796
- 797
- 798
- 799
- 800
- 801
- 802
- 803
- *The Chehalis Basin Detailed Summary of Level I Assessment* this document reorganizes the Level 1 information by study area, as well as to summarize the data for easier use in the planning process.
 - *Chehalis Basin Water Quantity Evaluation*, published in October 2003 (Tetra Tech Inc.) addresses the magnitude and distribution of consumptive water use in the basin. Water use information represents the most significant data gap identified in previous Chehalis Basin studies.
 - The *2002 Chehalis Basin Instream Flow Study* documents the results of an instream flow study conducted by the Tetra Tech/KCM and Triangle Associates consulting team for Grays Harbor County on behalf of the Chehalis Basin Partnership.
 - The *Multi-Purpose Water Storage Assessment*, September 2003 documents the results of a multipurpose water storage analysis conducted by the Tetra Tech/KCM and Triangle Associates consulting team for Grays Harbor County on behalf of the Chehalis Basin Partnership.
 - The *Municipal Water System Inchoate Water Rights Analysis* Project, September 2006, was conducted in response to the Chehalis Basin Partnership’s commitment to address municipal water supply issues as part of its Watershed Planning and Management Phase IV Implementation.
 - Pilot Water Right Mapping Project – Skookumchuck River. In 2008, a partnership between the City of Centralia and the Chehalis Basin Partnership produced a water rights mapping project in the Skookumchuck Basin. Two primary products were delivered as part of this project; a base map of the Skookumchuck River Basin water rights and an excel spreadsheet with attribute information for each water right and application.
 - *The Chehalis/Grays Harbor Watershed Dissolved Oxygen, Temperature, and Fecal Coliform Bacteria TMDL: Detailed Implementation (Cleanup) Plan*
 - *The Chehalis Basin Partnership Watershed Management Plan Detailed Implementation Plan* plans developed and adopted (2007 and 2009) articulate the strategies, timelines, milestones, and coordination to implement the Watershed Management Plan.
 - *The Fecal Coliform Monitoring in Grays Harbor County: Summary Report* summarizes the fecal coliform data collected in the Humptulips, Wynoochee and Satsop Rivers between 2001 and 2003.
 - *The Chehalis Watershed Monitoring Plan and Quality Assurance Project Plan Framework*, December 2003 provided the Chehalis Basin Partnership with the necessary information and work plan to implement a basin-wide coordinated watershed monitoring program.
 - *The State of the River Reports (2006-2009)* summarizes the basin-wide coordinated water quality monitoring program. This project began as a partnership between the Chehalis Basin Partnership, Chehalis Basin Partnership’s Water Quality Committee, and Confederated Tribes of the Chehalis Reservation with oversight provided by Grays Harbor College.
 - The *Chehalis Basin Salmon Habitat Restoration and Preservation Work Plan* is the Lead Entity strategy for providing guidance to project planners and funding agencies in developing, evaluating, and implementing salmon habitat restoration and protection actions within Water Resource Inventory Areas (WRIA) 22 and 23.
 - The Conservation Districts of Lewis and Mason counties jointly inventoried barrier data into a single dataset resulting in the identification of 2,662 fish passage barriers within the Chehalis Basin.
 - The *Lower Chehalis Riparian Assessment*, December 2003, examined the riparian condition of the Lower Chehalis Basin Water Resource Inventory Area (WRIA) 22

804 streams in the Lower Humptulips, Lower Wishkah, Wynoochee, Middle Fork Satsop,
805 and East Fork Satsop Rivers where no watershed analysis had been conducted.
806

807 The **Chehalis River Basin Flood Authority** has, since its formation in spring 2008, undertaken
808 several important steps towards the goal of developing a basin-wide package of actions to reduce
809 flood damage. The Authority completed the first draft of a basin-wide Comprehensive Flood
810 Hazard Management Plan in June 2009. This plan:

- 811
- 812 1. Gathers information on Chehalis Basin watershed and river characteristics
- 813 2. Summarizes information about flooding in the basin
- 814 3. Identifies studies needed to analyze and mitigate flooding problems
- 815 4. Identifies potential projects to reduce flood damages
- 816

817 The Authority is currently conducting studies and developing models to evaluate different
818 actions to reduce flood damage in the basin. Some of the studies are related to specific on-the-
819 ground projects the Authority may choose to pursue. The studies include:

- 820
- 821 • *Reconnaissance-Level Geotechnical Report, Geologic Reconnaissance Study, and*
822 *Chehalis River Water Retention Structures Scoping Document and Proposed Studies*
823 reports, published October 2009 by EES Consulting and Shannon & Wilson, Inc.,
824 presented initial feasibility analyses on proposed Chehalis River and South Fork Dam
825 Sites. Additional studies on geology and economic feasibility for the proposed dam sites
826 are currently underway.
- 827 • LiDAR digital elevation data will be acquired in 2010 to provide consistent topographical
828 information to support modeling and analysis of future projects by filling gaps in
829 coverage of the mainstem and several tributaries of the Chehalis River.
- 830 • A hydraulic model will be developed in 2010 for the basin below Grand Mound to
831 provide consistent information for the entire basin and, in combination with the existing
832 model for the upper basin, would be used to evaluate the benefits of flood mitigation
833 projects.
- 834 • *Flood Protection and Ecosystem Services in the Chehalis River Basin*, published in draft
835 form in March 2010 by Earth Economics, conducted an economic analysis to evaluate
836 flood protection and other ecosystem services in the basin. This analysis will help the
837 Flood Authority select alternatives for flood mitigation.
- 838 • *Chehalis River Basin Stream and Precipitation Gauge Report*, published in March 2009
839 by ESA Adolfson, presented an inventory of stream and rain gauges in the basin based on
840 information provided by the National Weather Service and USGS (U.S. Geologic
841 Survey).
- 842 • In 2008 and 2009, the Flood Authority assisted Lewis and Thurston Counties in
843 upgrading several existing stream and rain gauges.
- 844 • *Chehalis River Basin Early Flood Warning Program Conceptual Design*, published in
845 March 2010 by WEST Consulting, presented a needs assessment for an early warning
846 system based on information provided by emergency management staff of local
847 jurisdictions. Design work for the system is currently underway and implementation is
848 expected to be complete by July 2011.
- 849 • *Regulatory Work Group Staff Report*, presented to the Flood Authority in January 2010,
850 evaluated land use regulations across the basin and put forward possible changes to
851 regulations that would help reduce flood damage.
- 852

853 **4.4.2 The U.S. Geological Service Study**

854
855 The U.S. Geological Service is currently working on a study to provide resource managers
856 in the Chehalis River Basin with a quantitative tool to assist in the development of a long-
857 term, basin-wide watershed management plan for normal to extreme hydrologic
858 conditions. The major objectives of the study are to characterize the surface-water system
859 in the Chehalis River Basin and to evaluate the potential regional impacts of various
860 management scenarios and climatic conditions on the surface-water systems. Tasks
861 include:

- 862
863 1. Collect, compile, and evaluate relevant spatial and temporal data required for the
864 construction and calibration of a watershed model
865 2. Construct and calibrate the Chehalis River Basin Precipitation Runoff Modeling
866 System model
867 3. Build the Object User Interface
868 4. Assess the basin's response to management alternatives and climate change
869 5. Model transfer and instruction

870
871 The U.S. Geological Service will prepare and publish a Scientific Investigations Report.
872 The report will be published and the model, including input files and Geographic
873 Information System datasets, will be transferred to the Corps of Engineers by September
874 30, 2010. A project website will be established and maintained for the duration of the
875 study.
876

877 **5.0 PROJECT SCOPE AND WORK BREAKDOWN STRUCTURE**

878
879 The end products will be a feasibility report and a National Environmental Policy Act and State
880 Environmental Policy Act Programmatic Environmental Impact Statement and Biological
881 Assessment. These documents will describe the identified problems and opportunities, plans
882 formulated, engineering and economic feasibility and public acceptability of each alternative, the
883 social and environmental constraints and impacts for each alternative, and the plan recommended
884 for implementation.
885

886 The study task descriptions to complete the feasibility report are summarized in the sections
887 below. Details regarding specific work are supplied for each discipline in the appendices.
888

889 **5.1 Work Breakdown Structure**

890
891 **5.1.1 Project and Program Management**

892 Both the Corps of Engineers and the local sponsor perform project management, the oversight of
893 the budget, schedule, work tasks, and team efforts for the feasibility study. This task will include
894 all activities related to day-to-day program and project management. Activities include: overall
895 coordination with local, state, tribal and federal governmental agencies, industry, interest groups,
896 and the general public; oversight management of in-house, local sponsor in-kind services, and
897 contracted efforts; coordination between the non-federal local sponsors and the Corps of
898 Engineers; attending meetings and conducting briefings throughout the course of the study;
899 responding to congressional and other inquiries; preparation of budgetary documents and upward
900 reporting; programming, managing and tracking study obligations and expenditures; and
901 accounting for in-kind services. Management of internal and independent technical reviews of
902 project outputs, including the draft and final decision document, is included. Feasibility

903 Management also includes costs incurred by the study Executive Committee members who will
904 generally oversee study progress in accordance with the Project Management Plan, as prescribed
905 in Article IV of the Feasibility Cost Share Agreement. The Corps of Engineers and the local
906 sponsor will jointly share and perform study management activities. Feasibility Management is
907 distinct from plan formulation, report preparation, and Headquarters level review support
908 activities, which are separately described below. Reference: ER 1105-2-100, Planning Guidance
909 Notebook.

910

911 **5.1.2 Update Project Management Plan/Amend Feasibility Cost Share Agreement**

912 The Corps of Engineers will coordinate with the local sponsor to develop the amended
913 Feasibility Cost Share Agreement. The purpose of the amendment is to include two equal
914 purposes of the study, Ecosystem Restoration and Flood Risk Management. The amendment
915 specifies the change in project scope, cost, schedule, and expansion of the geographic boundaries
916 of the study area to include the upper Chehalis basin. The result of this task will be signature of
917 the amendment.

918

919 **5.1.3 Without Project Condition**

920 The Corps of Engineers will expand on the Without Project Conditions Report completed in
921 2005 for ecosystem restoration within the lower Chehalis Basin to include the existing and future
922 without project conditions for the entire basin for ecosystem conditions and for establishing the
923 needs for Flood Risk Management. This report will benefit from information already collected
924 from previous Corps of Engineers work, as well as existing information and reports. Where
925 existing information is deemed by the Corps of Engineers to be adequate to meet our planning
926 and engineering standards, this work will not be duplicated in the new study, reducing overall
927 study costs and efforts. The Without Project Condition Report will incorporate two without
928 project condition scenarios. One scenario will assume the Centralia Project is constructed. The
929 second scenario will assume that the Centralia Project is not constructed. Section 2.6 provides
930 additional information on these two scenarios.

Deleted: For purposes of this Project Management Plan, it is assumed that the authorized Centralia Flood Project is implemented under the future without project conditions.

931

932 **5.1.4 Public Involvement**

933 Public Involvement will consist of activities to inform and obtain input from the public during
934 the planning process. A Communication Plan is presented in the Project Management Plan. The
935 study will present for public consideration and comment potentially controversial measures. The
936 public involvement/outreach process will include workshops, meetings with individual
937 stakeholder groups. A Corps of Engineers website will also provide key contacts and study
938 updates. The public will be encouraged to review the Project Management Plan, Review Plan,
939 and study documents and provide comments.

940

941 **5.1.5 Feasibility Scoping Meeting**

942 The Feasibility Scoping Meeting is an opportunity for the Corps of Engineers Vertical Team
943 (District, Division, Headquarters and the Executive Committee) to evaluate whether the Future
944 Without-project Conditions are correctly stated, measures under consideration are adequate, and
945 whether the screening criteria are sufficient. The Feasibility Scoping Meeting process results in a
946 memorandum noting any Vertical Team concerns, and ultimately providing assurance that the
947 feasibility evaluation process is adequate. Completed, technically reviewed Future Without-
948 project Condition Reports are required for the Feasibility Scoping Meeting with Corps of
949 Engineers Headquarters on the plan formulation process. The Feasibility Scoping Meeting will
950 also serve as a decision point for determining which of the two without project condition
951 scenarios will be carried forward for advanced measures and alternatives development. Prior to
952 development of the FSM Read Ahead Report and FSM, the Executive Committee will determine

953 which without project scenario is most likely to exist. This decision will be presented to
954 Headquarters at the FSM. Development of measures and alternatives will be based off the chosen
955 without project scenario.
956

957 **5.1.6 Measures Analysis**

958 The analysis of measures follows the completion and approval of the Without Project and Future
959 Without Project Conditions Report. The Without Project Condition Reports pinpoint the specific
960 needs of the study area for the defined study purposes (ecosystem and Flood Risk Management)
961 and are a basis for identifying appropriate measures to address these needs. The effectiveness of
962 the measures and their impacts on environmental, social, cultural, and other resources are
963 measured against the conditions stated in the Without Project Reports to determine measure
964 benefits.

965
966 The purpose of the evaluation and screening of measures is to methodically narrow down the
967 range of individual project elements so that analysis is focused on those measures that have the
968 highest potential to maximize the Federal interest. A Federal interest for Flood Risk Management
969 measures is determined by a positive benefit-to-cost ratio, environmental acceptability,
970 engineering feasibility, acceptable risk, and acceptable socio-economic impacts. Each measure
971 can have multiple designs with corresponding differences in costs and impacts. Ecosystem
972 Restoration measures are evaluated using the same criteria with a specific focus on ecosystem
973 benefits versus costs. Measures will be developed separately for Ecosystem Restoration and
974 Flood Risk Management.

975
976 The measures to be developed and evaluated for Ecosystem Restoration will include, but are not
977 limited to: habitat (e.g. wetland) restoration and creation, shoreline restoration, floodplain
978 reconnection, barrier removal (e.g. culverts), riparian plantings, and improved spawning habitat.
979 The measures to be developed and evaluated for the expanded project purpose of Flood Risk
980 Management will include, but not be limited to: nonstructural (e.g. relocations, floodproofing,
981 debris management), new levees, improvements to existing levees, setback levees, levees with
982 excavation, retention structures, dams, ring dikes, bridge modifications, flood walls, dredging
983 and bypass channels. The water retention structure measure will be the first Flood Risk
984 Management measure to be evaluated following the Without Project Condition Reports.

985
986 The Project Delivery Team will develop screening criteria to apply to the measures under
987 consideration by the Project Delivery Team. Screening will occur on a quantitative basis, where
988 possible, to determine suitability of measures moving forward for consideration in alternatives
989 formulation. This screening will be based on benefit-to-cost ratio, environmental acceptability,
990 engineering feasibility and hydraulic effectiveness, acceptable risk, and acceptable socio-
991 economic impacts.

992
993 The remaining measures will be a complete list of feasible measures that the Project Delivery
994 Team will use as a foundation for formulating alternatives. It is possible that certain measures are
995 determined by the Corps of Engineers to be excluded from further consideration but because of
996 local sponsor support for the measure and potential for the measure to be included in a Locally
997 Preferred Plan. Measures excluded from further analysis by the Corps of Engineers may be
998 carried for further consideration and analyzed at the local sponsor's expense.
999

1000 **5.1.7 Alternatives Formulation**

1001 Measures will provide the basis for alternative development. Separate alternatives for Ecosystem
1002 Restoration and Flood Risk Management will be developed. Measures will be combined so that
1003 benefits are maximized and most feasible and cost effective alternatives are identified.

1004

1005 **5.1.8 Alternatives Analysis**

1006 The Project Delivery Team will direct technical experts for each analytical discipline to prepare
1007 an analysis of impacts of the project consistent with the level of detail known at the time about
1008 each alternative. Impact analysis will support future alternative refinement and optimization,
1009 preferred alternative decision-making, required economic justification, and regulatory review of
1010 National Environmental Policy Act documentation. Each discipline will follow guidance
1011 consistent with the latest Engineering Regulations furnished by the Corps of Engineers at the
1012 time the analysis is completed.

1013

1014 **5.1.9 Additional Alternatives Analysis**

1015 With the assumption that the original Range of Alternatives (as discussed in Section 5.1.7) is not
1016 sufficient to satisfy the Purpose and Objectives of the project, a revision stage will be conducted
1017 to generate additional alternatives while considering the outcome of the original alternatives
1018 analysis. These alternatives will then be submitted to the same rigorous alternatives analysis as
1019 the original range of alternatives. This analysis will be submitted to the project decision-makers
1020 for their consideration. It is assumed that a National Environmental Restoration and a National
1021 Economic Development plan will be recommended along with a locally preferred plan.

1022

1023 **5.1.10 Trade Off Analysis**

1024 A trade off analysis will be performed between the Flood Risk Management alternative(s) and
1025 the Ecosystem Restoration alternative(s) to ensure compatibility. Optimization or reformulation
1026 of alternatives may be required to ensure the goals and objectives of the alternatives are met and
1027 there are no competing components.

1028

1029 **5.1.11 10% Design**

1030 10% design will be performed for the developed preliminary alternatives to give a conceptual
1031 understanding of each alternatives benefits, impacts, and costs. 10% design will incorporate
1032 information from civil, hydraulic engineering, and real estate. These conceptual designs will be
1033 used to help initiate the screening process and optimize alternatives.

1034

1035 **5.1.12 35% Design**

1036 35% design will be performed on the final array of alternatives selected to go forward for final
1037 selection of the recommended plan. Typically, only the National Environmental Restoration,
1038 National Economic Development, and Locally Preferred plans are designed to 35%. However, if
1039 there are other competing alternatives that present similar benefits and costs, then those
1040 remaining alternatives will also be designed to 35% to more accurately determine differences
1041 between the competing alternatives.

1042

1043 **5.1.13 Alternative Formulation Briefing**

1044 The Alternative Formulation Briefing is held when the Project Delivery Team is prepared to
1045 present the results of the alternative formulation, evaluation and comparison of plans and has
1046 identified a tentatively selected plan. The Alternative Formulation Briefing is concerned with the
1047 adequacy of the formulation, evaluation and comparison of alternative plans, the reasonableness
1048 of the costs, benefits, and impacts of the final array of plans, and the proper application of cost
1049 sharing and other legal and policy requirements in arriving at the tentatively selected plan.

1050
1051 **5.1.14 Feasibility Report/Programmatic Environmental Impact Statement**
1052 The final product for the Feasibility Phase is the Feasibility Report, which serves as the decision
1053 document. The feasibility report will also have an integrated programmatic Environmental
1054 Impact Statement. The feasibility report will document the without-project conditions as well as
1055 the future without-project conditions. The process for developing and selecting the recommended
1056 alternative(s) will be presented as well as a full description of the recommended alternative(s)
1057 proposed for authorization.
1058

1059 **5.1.15 Technical and Policy Reviews**
1060 Technical review is performed through District Quality Control, Agency Technical Review, and
1061 Independent External Peer Review. These reviews are conducted on all major products of the
1062 feasibility phase. Additionally, policy review is conducted by headquarters at various
1063 checkpoints during the study. Policy review is also performed on the final feasibility report
1064 before it is submitted to Congress for approval.
1065

1066 **5.1.16 Project Authorization**
1067 After review and approval of the feasibility report by headquarters, the Assistant Secretary of the
1068 Army for Civil Works approves the study and recommends it to the Office of Management and
1069 Budget then Congress for authorization. Congress must authorize the project in a Water
1070 Resources Development Act in order for the study to move into the design and construction
1071 phase.
1072

1073 **5.2 Plan Formulation**

1074 Plan formulation is a distinct evaluation process used by the Corps of Engineers that ensures a
1075 systematic evaluation of alternatives for meeting civil works project goals and objectives. The
1076 process is prescribed in the Corps of Engineers Principles and Guidance document which
1077 mandates the processes for Corps of Engineers water project development. Plan formulation
1078 includes the formulation and evaluation of a range of Flood Risk Management and Ecosystem
1079 Restoration alternatives to meet specific project goals and objectives. Alternatives will be
1080 screened based on costs, benefits, environmental impacts, engineering feasibility, socio-cultural
1081 impacts, and output. The resulting product will be a series of alternative plans for detailed
1082 evaluation. Reference: ER 1105-2-100, Planning Guidance Notebook.
1083

1084 **5.3 Hydrology and Hydraulics**

1085 The Hydrology and Hydraulic activities associated with this General Investigation include both
1086 general overarching, basin wide studies, as well as more measure or alternative-specific efforts.
1087 The more general, basin wide efforts, are geared to characterize and promote understanding of
1088 physical processes such as rainfall-runoff, stream and river geomorphology, sediment transport,
1089 water quality and groundwater-surface water interaction. Study elements required to support the
1090 development, design, and evaluation of measures and alternatives provide a more location-
1091 specific characterization of with and without-project conditions. These activities include
1092 development of hydrology, hydraulic modeling, risk-based analysis, as well as as-needed
1093 activities like site specific sediment transport and water quality analyses.
1094

1095 **5.4 Hazardous, Toxic, and Radioactive Waste**

1096 Literature review of Hazardous, Toxic, and Radioactive Waste issues in the Chehalis Basin will
1097 be conducted. If an alternative appears to have Hazardous, Toxic, and Radioactive Waste issues,
1098 the Project Management Plan will need to be modified. Resolution and remediation of
1099 Hazardous, Toxic, and Radioactive Waste issues are the local sponsor's responsibility.
1100 Reference: 1105-2-100, Planning Guidance Notebook, ER 1110-1-263, Chemical Data Quality
1101 Management for Hazardous, Toxic, Radioactive Waste Remedial Activities.
1102

1103 **5.5 Environmental Compliance**

1104 Environmental and cultural studies include a number of discrete tasks. Work will include the
1105 preparation of a National Environmental Policy Act compliance document, State Historic
1106 Preservation Officer report under the National Historic Preservation Act section 106, and an
1107 Endangered Species Act section 7 consultation, as necessary. The evaluation and
1108 recommendation of projects will take into full consideration the Corps of Engineers
1109 Environmental Sustainability requirements.

1110 Additionally, Fish and Wildlife coordination and studies will be conducted by U.S. Fish and
1111 Wildlife Service as required by the Fish and Wildlife Coordination Act. U.S. Fish and Wildlife
1112 Service activities will include interagency and tribal coordination, planning and evaluation of the
1113 impacts of alternative measure and plans on fish and wildlife resources, preparation of planning
1114 aid letters, and a draft and final Fish and Wildlife Coordination Act Report for inclusion in the
1115 feasibility report. Reference: Fish and Wildlife coordination Act of 1958 (PL 85-624, as
1116 amended).
1117
1118

1119 **5.6 Real Estate**

1120 Real estate tasks identify and provide the land rights required for studies and investigations and
1121 project implementation and operation/maintenance. Rights-of-entry for study purposes will be
1122 provided via standard Corps of Engineers Right of Entry permits obtained from landowners by
1123 the local sponsor(s) with Corps of Engineers coordination and guidance. The local sponsor(s)
1124 will provide real estate input for Corps of Engineers screening of measures based on tax
1125 assessment information. When the project footprint for the preferred alternative(s) has been
1126 developed by the local sponsor(s) and approved by Corps of Engineers review, the Corps of
1127 Engineers will conduct preliminary appraisals. Real estate costs for alternatives will consider the
1128 type of taking (fee, easement, etc), and will provide access to the site for maintenance and
1129 monitoring, construction access, and staging areas. The local sponsor will provide disposal sites.
1130 The footprint of the project will be minimized to fit the project purpose, and will not include
1131 extraneous land unless specifically required to support the project. Access for recreational or
1132 other uses must be stated in the real estate documents. Where possible, project footprints will be
1133 adjusted to avoid disruption of structures, transportation routes, or minor pieces of property.
1134 Corps of Engineers Real Estate will coordinate technical review of all real estate products. The
1135 Corps of Engineers will prepare real estate maps in support of the project, but will look for
1136 strong support from the local sponsor.
1137

1138 **5.7 Socio-Economics**

1139 Socio-Economic conditions will be characterized for the without-project conditions as well as the
1140 with project conditions. Socio-economic analyses will provide supporting justification for
1141 proposed measures and alternatives. Through these analyses the monetary benefits and costs of

1142 the measures and alternatives will be provided. A project for Flood Risk Management can only
 1143 be justified if the benefit to cost ration is greater than or equal to 1. Ecosystem Restoration will
 1144 also be evaluated in terms of benefits and costs. However, because the outputs of Ecosystem
 1145 Restoration projects are non-monetary, a benefit to cost ratio is not developed.
 1146

1147 **5.8 Cost Engineering**

1148 Cost Engineering provides the costs for constructing and maintaining a project, based on data
 1149 provided by civil engineers and real estate. Included in project costs are all costs for feasibility,
 1150 design, and implementation including costs of labor, material, and equipment necessary to affect
 1151 the selected project. Real estate determines the costs for land acquisition, easements, or use,
 1152 relocations, and other estate issues. Cost engineering will review designs and costs for
 1153 alternatives, the National Economic Development plan, the National Ecosystem Restoration
 1154 plan, and the Locally Preferred Plan provided by the local sponsor for accuracy. Funding to
 1155 conduct additional studies if data is not sufficient for Corps of Engineers use is not included in
 1156 this Project Management Plan. An MII cost estimate will be prepared for the recommended
 1157 plans. Cost engineering will coordinate technical review of costs, and coordinate review with
 1158 Walla Walla District Corps of Engineers Cost Engineering Center of Expertise.
 1159

1160 **6.0 SCHEDULE**

1161
 1162 The current schedule was estimated during the multipurpose scoping activities. The feasibility
 1163 schedule will finalized and re-baselined when the Feasibility Cost Share Agreement amendment
 1164 is signed.
 1165

1166 **6.1 Schedule Estimation Methodology**

1167 Activity durations will be updated by the responsible team member as the Project Management
 1168 Plan is updated. The Schedule estimates are to be the most probable duration for the activity.
 1169 Project management estimates schedule contingency to add to the Work Breakdown Structure,
 1170 with the intent that the contingency will be sufficient to ensure that the project is 90% likely to
 1171 be completed within the reported schedule.
 1172

1173 **6.2 Baseline and Current Schedule**

1174 The baseline schedule is the schedule completion date at the signature of the amended Feasibility
 1175 Cost Share Agreement. The current schedule is the most recent approved schedule in P2 (the
 1176 Corps of Engineers scheduling software). Major milestones completion dates are found in [Table](#)
 1177 [7](#).
 1178

Deleted: Table 7

1179 Table 7: Baseline Schedule

Task	Baseline Completion Date
Update Project Management Plan	1 December 2010
Review Plan Complete	1 December 2010
Feasibility Cost Share Agreement Signed and Executed	7 Jan 2011
Complete Without Project Conditions Report	3 Nov 2011
Feasibility Scoping Meeting Report Complete	21 Jun 2012
Feasibility Scoping Meeting Complete	20 Sep 2012
Alternative Formulation Briefing	TBD
Decision Document Complete	TBD

Deleted: 14 May

Deleted: 18 Mar 2010

Decision Document Approval	TBD
Project Authorization	TBD

1180 Notes: See P2 Schedule in Appendix A
1181

1182 **6.3 Expected Stability of Schedule**

1183 The project schedule is subject to change and the Corps of Engineers will work with the local
1184 sponsor to re-schedule as needed.

1185
1186 The project schedule includes dependencies on higher Corps of Engineers authorities, outside
1187 agencies, including other Federal agencies, state and local agencies, landowners, and
1188 stakeholders able to delay the schedule.

1189
1190 The reality of Federal appropriations requires that the team demonstrate an awareness of possible
1191 scheduling impacts related to delayed or minimized funding requests, appropriations or
1192 apportionments, and recognize that these factors may impact the stability of the project schedule.

1193

1194 **6.4 Schedule Management**

1195 Once the project has a baseline schedule developed, the project management team is responsible
1196 to ensure that actual costs, and start and end dates are entered in P2 for each activity. These data
1197 is essential to establish whether schedule variances exist. If actual effort is entered, then an
1198 earned value report will be available to predict schedule performance.

1199

1200 The Project Manager will communicate current schedule to the team through work requests, and
1201 monthly turnaround reports. The Project Manager will submit a work request for each activity.
1202 The team will report anticipated schedule changes to the Project Manager through turnaround
1203 reports or informally.

1204

1205 On a monthly basis, the Project Manager and team will create turnaround reports to update the
1206 status of the project. Also, the Project Manager will create an earned value report if that data
1207 exists. Using the turnaround reports and the earned value report, the Project Manager will
1208 determine monthly if a schedule variance exists.

1209

1210 If there is a schedule variance for either an activity (5%) or for the project (20%), or if the
1211 schedule contingency is less than zero, the Project Manager will report the variance to the
1212 program manager. When the variance exceeds the limits above, the Project Manager and
1213 responsible team members will determine the root cause, and what corrective action is required,
1214 if any. If the variance is relatively minor, it may be absorbed within the schedule contingency, or
1215 corrected by crashing (adding resources) or fast tracking activities (beginning activities before
1216 dependencies are complete). The Project Manager and team will review the corrective action for
1217 cost impact.

1218

1219 If a delay variance is too significant to correct, the Project Manager and team will propose a
1220 corrected schedule, including contingency, to the program manager for approval.

1221

1222 If the project is ahead of schedule, funds or other resources may not be available when needed to
1223 maintain the accelerated schedule. The Project Manager and team will identify needed resources
1224 and coordinate with program manager and resource managers.

1225

1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264

7.0 BUDGET

The feasibility total project cost is \$20,849,000. This amount represents expected future expenditures to date and will be cost shared under the terms of the amended Feasibility Cost Share Agreement. The scope of work described in this Project Management Plan for the feasibility phase is cost shared 50% federal (Corps of Engineers) 50% non-federal (local sponsor). The non federal (local sponsor) match can be cash or work-in-kind.

7.1 Cost Engineering Methodology

Resource costs will be estimated by the responsible team member. The estimate is to be the most probable cost for the activity. The Project Manager estimates budget contingency to add to the work breakdown structure, with the intent that the contingency will be sufficient to ensure that the project is 90% likely to be completed within the reported budget.

Detailed estimates by discipline and supporting documentation are found in the Appendices, except for management and supervision, which were estimated as lump sum assuming the current project schedule.

7.2 Budget Baseline, Status, and Current Estimate

Table 8 shows the estimated cost of each study work item in 2010 dollars, followed by the estimate of government and the local sponsor’s cost share. This table will be updated annually with the expenses to date, the remaining costs, and the current estimate.

Table 8: Baseline Feasibility Budget

Chehalis River Basin GI	
Feasibility Phase Cost Estimate	
Resource:	Estimated Cost
Environmental (ERS)	\$2,017,000
H&H	\$3,601,000
Project Management Team	\$3,934,400
HTRW	\$71,000
Plan Formulation	\$2,461,400

Deleted: 3,001,000
Deleted: 3,434,400
Deleted: 1,661,400

Geology	\$3,138,000	
Economics	<u>\$1,480,372</u>	Deleted: 680,372
Cost Engineering	\$982,000	
Civil Engineering	<u>\$1,252,940</u>	Deleted: 952,940
Soils Section	\$2,590,000	
Structures	\$1,079,750	
Real Estate	\$686,500	
Arch & Ethnohistory	\$400,000	
Historic Structures	\$155,000	
Total	<u>\$23,849,326</u>	Deleted: 20,849,362
Federal Resources	<u>\$11,924,663</u>	Deleted: 10,424,681
Non-Federal Resources	<u>\$11,924,663</u>	Deleted: 10,424,681

1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283
1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298

7.3 Cost Management

The Project Manager manages costs through regular review of actual and projected costs, comparing to the approved budget. If variances become apparent, the Project Manager can use the contingency. If variances exceed the contingency, or as the contingency exceeds acceptable amounts, the Project Manager will report to the Program Manager, and will discuss corrective actions.

Once the project is baselined, the Project Manager team is responsible to ensure that actual costs, and start and end dates are entered in P2 for each activity. This data is essential to establish whether schedule variances exist. If actual effort is entered, then an earned value report will be available to predict cost performance.

The Project Manager will communicate current budget to the team through work requests, and monthly turnaround reports. The Project Manager will submit a work request for each activity. The team will report anticipated schedule changes to the Project Manager through turnaround reports or informally.

On a monthly basis, the Project Manager and team will create turnaround reports to update the status of the project. Also, the Project Manager will create an earned value report if that data exists. Also, the Project Manager will review monthly expenditure reports from CEFMS (the Corps of Engineers Financial Management System). Using the turnaround reports and the earned value report, the Project Manager will determine monthly if a cost variance exists.

If there is a cost variance for either an activity (5%) or for the project (20%), the Project Manager will report the variance to the program manager. When the variance exceeds the limits above, Project Manager and responsible team members will determine the root cause, and what corrective action is required, if any. If the variance is relatively minor, it may be absorbed within the budget contingency. In addition, the program manager will inform the Project Manager if the monthly project expenditure varies from the projected expenditure by more than 5%. The Project Manager will submit a brief report to the program manager in that case.

If the variance is too significant to correct, the Project Manager and team will propose a corrected budget, including contingency, to the program manager for approval, or will

1299 recommend a scope revision to accommodate increased costs, or will recommend funds as
 1300 surplus to the project.

1301
 1302 **7.4 Fiscal Year Funding Breakdown**

1303 The funding breakdown is based on a schedule, which requires the submittal of the final
 1304 feasibility report to the Northwestern Division Commander 40 months after signing the
 1305 Feasibility Cost Sharing Agreement and initiating the study. Note that the “study period”, as
 1306 defined in the Feasibility Cost Sharing Agreement (Article 1 D), commences with the release to
 1307 the U.S. Army Corps of Engineers, Seattle District, of initial federal feasibility funds following
 1308 execution of the Agreement. The study period, and thus the feasibility phase itself, ends when the
 1309 Division Engineer signs the Public Notice.

1311 The feasibility study cost estimate shown in [Table 9](#) is summarized by fiscal year (1 Oct - 30
 1312 Sept). Detailed study cost estimates for individual study tasks have been assembled in the
 1313 appendix. The detailed estimates will be used by the Project Manager in issuing work requests
 1314 during the course of the feasibility phase. An annual work plan will be developed by the project
 1315 delivery team, for each fiscal year based on actual funds appropriated. This will serve as the
 1316 basis for work in kind, contracting, and Corps of Engineers work requests. The work plan will
 1317 need the approval of the local sponsor, project delivery team, and Corps resource managers.

Deleted: Table 9

1318
 1319 Table 9: Fiscal Year Funding

Source	FY11	FY12	FY13	FY14	FY15
Federal Cash	\$1,016	\$1,537	\$1,618	\$995	\$885
Non-Federal Cash	\$1,016	\$1,537	\$1,618	\$995	\$885
In-Kind Services	TBD	TBD	TBD	TBD	TBD
Total (\$1,000s)	\$2,032	\$3,073	\$3,235	\$1,990	\$1,770

Deleted: FY10
 Deleted: \$341
 Deleted: 675
 Deleted: \$341
 Deleted: 675
 Deleted: TBD
 Deleted: \$682
 Deleted: 1,350

1320 *In-Kind cash will decrease non-Federal cash requirement.

1321
 1322
 1323 **8.0 QUALITY CONTROL PLAN**

1325 **8.1 Intent**

1326 This Quality Control Plan presents the process that assures quality products for the feasibility
 1327 study. Corps of Engineers policy is to develop, integrate and implement quality control and
 1328 quality assurance as a part of the Corps of Engineers Project Management Business Process. The
 1329 project delivery team will ensure that services and products meet the agreed upon requirements
 1330 and are performed in accordance with appropriate laws, policies and technical criteria. The
 1331 Quality Control Plan defines the responsibilities and roles of each member of the project delivery
 1332 team and the technical review teams. District Quality Control, Agency Technical Review, and
 1333 Independent External Peer Review will be performed independent of the technical production of
 1334 the product to be reviewed. It will include all relevant technical disciplines, along with necessary
 1335 legal sufficiency and policy compliance review.

1337 Reference: ER 5-1-11, U.S. Army Corps of Engineers Business Process; ER 1110-1-12,
 1338 Engineering and Design Quality Management; ER 1110-1-8159, Design and Review Checking
 1339 System, DrChecks; NWSOM 5-1-3, Quality Management Plan, Seattle District; Northwestern
 1340 Division Quality Management Plan.

1342 **8.2 Methodology**

1343
1344 Project Delivery Team, Executive Committee, Vertical Team. The project delivery team is an
1345 interdisciplinary group formed to execute the feasibility study in accordance with the Project
1346 Management Plan. The project delivery team is comprised of qualified staff from within the
1347 Seattle District, the local sponsor and consultants and contractors. The Executive Committee,
1348 which oversees the work of the project delivery team and consistency with the Project
1349 Management Plan, is comprised of senior members representing both the Corps of Engineers and
1350 the local sponsor. The Executive Advisory Board includes senior members from the Corps of
1351 Engineers and the local sponsor. The Vertical Team is comprised of Corps of Engineers policy
1352 level staff from the District, Division, and Headquarters and the local sponsor. They represent
1353 the key technical areas of focus of the feasibility study, including planning and plan formulation.
1354 The Vertical Team has the task to ensure that the feasibility study is following appropriate Corps
1355 of Engineers process for planning and technical issues. The Vertical Team reviews the project
1356 delivery team's products at Alternative Briefing Meeting, and is available to resolve study issues
1357 throughout the feasibility process through interim project reviews. Reference: ER1105-2-100.

1358
1359 Work performed under contracts with third parties administered by either the local sponsor or the
1360 Corps of Engineers will be technically reviewed to ensure that quality objectives have been met.
1361 The Corps, the local sponsor, and, where pertinent, the tribes will perform internal review of all
1362 study-related work products, whether prepared by the Corps of Engineers or by the local sponsor
1363 as in-kind services. Quality control review by the Corps of Engineers of in-kind services
1364 performed by the local sponsor will ensure that such products qualify for credit as in-kind
1365 services.

1366
1367 District Quality Control. All draft products and deliverables will be reviewed by the project
1368 delivery team as they are developed to ensure they meet project and customer objectives, comply
1369 with regulatory and engineering guidance, and meet customer expectations of quality. Informal
1370 team reviews, consisting of presentations and discussions of interim documents, shall be
1371 documented with meeting minutes. Appropriate senior staff members from the organizations
1372 completing the tasks will also review all technical work before it is submitted forward to the
1373 ATR. Reference: ER 1105-2-410, Review of Decision Documents, 22 August 2008.

1374
1375 Agency Technical Review. The objective of the Agency Technical Review is to ensure the
1376 product is consistent with established criteria, guidance, procedures, and policy. The Agency
1377 Technical Review will assess whether the analyses presented are technically correct and comply
1378 with published Corps of Engineers guidance, and that the document explains the analyses and
1379 results in a reasonably clear manner for the public and decision makers. Products will be
1380 reviewed against published guidance, including Engineering Regulations, Circulars, Manuals,
1381 Engineering Technical letters and Bulletins.

1382
1383 Coordination of the Agency Technical Review will be performed by the Corps of Engineers
1384 Ecosystem Restoration Planning Center of Expertise and the Corps of Engineers Flood Risk
1385 Management Planning Center of Expertise. Corps of Engineers personnel external to the Seattle
1386 District will perform this Agency Technical Review. Technical disciplines to be represented on
1387 the Agency Technical Review will, at a minimum, include hydraulics, economics,
1388 environmental, cultural, design, and plan formulation. The cost estimates produced for the
1389 project will undergo Agency Technical Review through the Corps of Engineers Cost Engineering
1390 Planning Center of Expertise at Walla Walla District. All decision documents require Agency
1391 Technical Review. A detailed Review Plan has been approved by Corps of Engineers Division

1392 offices and the Centers of Expertise and is posted at their website. Policy issues will be reviewed
1393 by Corps of Engineers Division and Headquarters, and the Chief of Engineer's office. EC 1105-
1394 2-410 appendix C, page 4 provides additional review criteria. Reference: ER 1105-2-410,
1395 Review of Decision Documents, 22 August 2008; EC 1165-2-209, Public Works Review Policy,
1396 31 January 2010.

1397
1398 Independent External Peer Review. Independent External Peer Review is the most independent
1399 level of review and is applied in cases that meet certain criteria where the risk and magnitude of
1400 the proposed project are such that a critical examination by a qualified team outside of Corps of
1401 Engineers is warranted. Independent External Peer Review is conducted by nationally recognized
1402 technical experts outside of the Corps of Engineers. The Independent External Peer Review
1403 panel will be established by the responsible Planning Center of Expertise through contract with
1404 an independent scientific and technical advisory organization.

1405
1406 The scope of the review will address all underlying planning, engineering, including safety
1407 assurance, economics, and environmental analyses performed, not just one aspect of the project.
1408 The Independent External Peer Review panel will use appropriate analytical methods for each
1409 technical section. The panel will meet with the study project delivery team and the public to
1410 determine areas of controversy in the decision document. If determined necessary, the panel will
1411 tour the study area and interview participants as needed. Reference: ER 1105-2-410, Review of
1412 Decision Documents, 22 August 2008; EC 1165-2-209, Public Works Review Policy, 31 January
1413 2010.

1414
1415 Model Approval and Certification. All models utilized for the study will be required to undergo
1416 either model approval or certification. This includes models used by the local sponsor or their
1417 consultants. All model approval or certification will be in compliance with EC 1105-2-412,
1418 Assuring Quality of Planning Models, 30 Jul 2009.

1419 1420 **8.3 Review Plan**

1421 To ensure transparency and accountability in the Corps of Engineers planning process, the Corps
1422 of Engineers requires the preparation of a Review Plan. The Review Plan outlines the parameters
1423 of District Quality Control, Agency Technical Review, and Independent External Peer Review.
1424 In addition to these reviews, the project delivery team, local sponsor, interesting agencies, and
1425 public will provided review opportunities. This plan recommends the level of technical review –
1426 either within the Corps of Engineers, or with an external panel of nationally recognized
1427 specialists. Technical review is for technical data only. Policy review remains within the Corps
1428 of Engineers chain of command. All policy compliance milestones will be implemented in
1429 accordance with ER 1105-2-100, Planning Guidance Notebook; EC 1105-2-410, Planning -
1430 Review of Decision Documents; EC 1165-2-209 Civil Works Review Policy.

1431 1432 **8.4 Quality Control Responsibilities**

1433 1434 **Project Managers**

1435 The Corps of Engineers and the local sponsor Project Managers shall be responsible for
1436 coordinating the District Quality Control, Agency Technical Review, and Independent External
1437 Peer Review effort with the review team leader, and shall:

- 1438 1. Ensure that the schedule contains sufficient time to perform reviews of completed
1439 products.
- 1440 2. Ensure that the project has sufficient funds to perform reviews of completed products.
- 1441 3. Manage responses to technical review comments and resolve technical issues with the

1442 technical review team leader, consult with Northwestern Division and the Centers of
1443 Expertise as appropriate, and forward all unresolved technical review issues to the
1444 Corps of Engineers managers for resolution.
1445

1446 **Resource Managers**

1447 Each Corps of Engineers Resource Manager is responsible for ensuring that all work prepared by
1448 or for his/her Section or Branch has received any necessary internal quality control checks prior
1449 to the product being furnished to the review team for review. The local sponsor shall follow the
1450 same procedure for all work performed as an in-kind service for which credit is to be granted by
1451 the Corps of Engineers.
1452

1453 **8.5 Technical Review Team Leader and Technical Review Team Members**

1454 The Agency Technical Review team leader is responsible for coordinating all activities
1455 associated with the technical review of assigned work products. The team leader will be assigned
1456 by either the Flood Risk Management Planning Center of Expertise or the Ecosystem Restoration
1457 Planning Center of Expertise and will be from outside the Northwestern Division. The technical
1458 review team leader will coordinate the technical review and assemble all technical review
1459 comments and other review-related documents for the use of the technical review team and
1460 project delivery team. Each technical review team member is responsible for performing a
1461 technical review of assigned work products and providing written comments to the technical
1462 review team leader for consolidation in a review memorandum. Technical review team members
1463 will also conduct a back check of project delivery team responses to technical review comments
1464 and provide results of the back check to the technical review team leader.
1465

1466 **8.6 Consultant and In-Kind Products**

1467 Consultants are an extension of the Corps of Engineers or local sponsor staff. Accordingly, all
1468 products prepared by consultants will have a technical review just as if they had been prepared
1469 by the project delivery team. Products and services provided by the local sponsor or their
1470 consultant as in-kind services will also undergo the same technical review process as done for
1471 Corps of Engineers products prepared in-house.
1472

1473 **9.0 COMMUNICATIONS**

1476 **9.1 Team Communication**

1477 Corps of Engineers and the local sponsor Project Managers will provide oversight of the
1478 communication plan to ensure that all parties are informed of pertinent project decisions. Project
1479 Delivery Team meetings will be held as needed to discuss study schedule, work requirements,
1480 and findings. In addition, the Corps of Engineers Project Manager will update the project
1481 delivery team with email and frequent phone contacts. All significant meetings/emails/phone
1482 calls will be documented with memos and/or shared by email with the project delivery team. The
1483 project delivery team will be encouraged to hold open, frank discussions with the Project
1484 Manager, local sponsor, and other stakeholders. Senior technical Corps of Engineers and local
1485 sponsor staff will be involved throughout the study process as key decisions are made, not only
1486 at the end of the study.
1487

1488 **9.2 Agency Communication**

1489 Coordination will be maintained with Grays Harbor County, who is the official the local sponsor,
1490 (representing the Chehalis Basin Partnership) and Lewis County (representing the Chehalis River

1491 Basin Flood Authority), who is signing an inter-local partnership agreement with Grays Harbor
1492 County, to identify any information that they collect or develop that would be beneficial in the
1493 study. The local sponsor will be invited to all pertinent meetings and be included on pertinent
1494 emails and memos. Communication will be frequent and informal, supported by letters and
1495 formal communication as needed. The local sponsor will provide the key avenue to contacting
1496 stakeholders throughout the study. As alternatives are developed, these will be discussed with the
1497 local sponsor to obtain their comments on the possible projects, their potential impacts, and
1498 questions and concerns that should be addressed as part of the report preparation.
1499

1500 The interested federal and state resource agencies are primarily National Marine Fisheries
1501 Service and United States Fish and Wildlife Interested Washington State resource agencies are
1502 Ecology, and Fish and Wildlife. Resource agency approval is required for project success. The
1503 primary contact with resource agencies and groups will be through the Corps of Engineers'
1504 Environmental Coordinator, as part of the environmental scoping process for the study. In
1505 addition, resource agencies will be notified of key study findings/changes, and their input will be
1506 requested on both a formal and informal level.
1507

1508 A Feasibility Working Group will be chaired by the local sponsor, Grays Harbor County, to
1509 facilitate communication between the Corps and sponsor project delivery team and key
1510 stakeholders within the study area. The working group will provide a critical advisory role to the
1511 study, insuring that local concerns, issues and ideas are represented in the study process and
1512 incorporated into the General Investigation study. The working group will review and comment
1513 on all key study documents, including technical reports and decision and National Environmental
1514 Policy Act documents. The working group will consist of representatives from local
1515 municipalities, Lewis and Grays Harbor counties, Federal and state agencies, tribal nations, and
1516 any other pertinent non-governmental agencies.
1517

1518 **9.3 Public Communication**

1520 **9.3.1 Communication Strategy**

1521 Frequent coordination between the Project Manager, Project Delivery Team, and Corps of
1522 Engineers Public Affairs Office is needed to effectively communicate with the public. All
1523 communication about the General Investigation will be consistent with the communication on
1524 the Centralia Project. The established Centralia communication team, which includes
1525 representatives from the state and Flood Authority, also will serve for communication
1526 planning on the General Investigation. A representative from the local sponsor will be asked
1527 to serve on this team.
1528

- 1529 • Corps of Engineers Public Affairs is the first line of contact on media inquires.
- 1530 • Public Affairs representative should attend as many local monthly meetings as possible
1531 with the Project Manager and/or the Planner.
- 1532 • Public Affairs will work with the joint communication team to continue to distribute
1533 newsworthy news releases, ensure that the joint Web site is updated with current
1534 information and support public meetings.
- 1535 • Public Affairs will stay in contact with local media to keep them informed about the
1536 progress on the General Investigation.
- 1537 • Public Affairs will send significant study updates via email to a list of stakeholders and
1538 interested public. Public Affairs will also maintain a public website with current study
1539 information and updates.

1540
1541
1542
1543
1544
1545
1546
1547
1548
1549
1550
1551
1552
1553
1554
1555
1556
1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586
1587
1588

9.3.2 Public Involvement

Education and increased awareness and exchange of viewpoints are vital to the development of acceptable and successful recommendations for improvements to the existing situation. The public involvement strategy will consist of 1) a series of workshops and public meetings, 2) National Environmental Policy Act Environmental Impact Statement scoping and draft Environmental Impact Statement public meetings, 3) workshop and meeting notices, news releases, and fact sheets; and 4) speaking engagements at community service clubs and local organizations by the Corps of Engineers and the local sponsor and possibly other experts, if available.

The study will have extensive review throughout the process by agencies at the federal, state, local and Tribal governmental level, and by, special interest groups, and the general public. Those entities most directly involved in review will include the project local sponsor and project stakeholders. Other entities who may be involved at various phases of review could include Washington Department of Fish and Wildlife, Washington Department of Transportation, Washington Department of Ecology, United States Fish and Wildlife, National Marine Fisheries Service, non-stakeholder Counties (such as Mason), Confederated Tribes of the Chehalis Reservation and the Quinault Indian Nation, other local governments (such as cities), the Chehalis Basin Partnership, Chehalis River Basin Flood Authority and private citizen groups and interest groups.

The local sponsor will provide meeting facilities. The Corps of Engineers and the local sponsor will maintain a mailing list. The Corps of Engineers will distribute meeting notices. The Corps of Engineers and the local sponsor will jointly conduct workshops and public meetings and participate in the community outreach engagements.

Recognizing that the active involvement of all interested publics in the planning and design process is critical, as well as obtaining valuable input from interested stakeholders in the community, the local sponsor will solicit the active involvement of local land use planners, environmental groups, local governmental agencies, tribes, businesses, resource agencies, interest groups, and private citizens. Participation of people with scientific and technical expertise also will be encouraged to increase the amount of relevant information available to the Project Delivery Team. Coordination with several groups will be maintained to facilitate dialogue among basin residents and interest groups.

9.3.3 Communication Standards

- Timely, frequent, and accurate information.
- Use of common and consistent language and avoid use of technical jargon.
- Clear communication about the differences between the Centralia Project and the Chehalis River Basin General Investigation.
- Effective internal communication among the Corps of Engineers and the local sponsor is critical to a consistent message.
- All external communication by the Corps of Engineers and the local sponsor should be consistent.
- The Corps of Engineers and the local sponsor will share all existing communication tools (leadership and agency groups, Internet sites, postal and email lists) in order to be more efficient.

- Agencies should speak publicly on issues that fall within their expertise and/or control and refer inquiries about other agencies' responsibilities to those other agencies.

9.3.4 Key Messages

This project has high interest among federal, state, tribal, and private stakeholders. It is important to differentiate between the Centralia Project and the Chehalis River Basin General Investigation when communicating with the public.

- This is a comprehensive study that will look at Flood Risk Management and Ecosystem Restoration for the entire Chehalis River Basin.
- The Corps of Engineers and the local sponsor are partnering in a study to identify, evaluate and recommend Ecosystem Restoration and Flood Risk Management projects.
- The Project Delivery Team will look at each project purpose — Flood Risk Management and Ecosystem Restoration — with equal importance, resulting in a basinwide analysis of both.
- During the evaluation, the team will consider influence and impact of the Centralia Project.
- The Corps of Engineers will use information provided by the local residents, local governments, tribal entities, environmental organizations, and resource agencies to develop the most optimal plan for the basin.
- The basinwide study moves the local communities another step closer to solutions which manage the flood risks while protecting and improving the environment.
- Through an in-depth look at various solutions the local sponsor and the Corps of Engineers will make the most optimal choice to address flood risk and ecosystem restoration in the basin
- Public involvement in evaluating basin alternatives will help the local sponsor and the Corps of Engineers to find the most optimal solutions to manage the flood risks and environmental restoration.

9.3.5 Audiences

Audiences include, but are not limited to:

- Business: Chambers of commerce, businesses in the floodplains, agriculture, Farm Bureau, TransAlta, timber and wood fiber industries, and the Satsop Development Park.
- Transportation: Port districts located within Mason, Grays Harbor, Lewis, and Thurston Counties, Burlington Northern Santa Fe Railroad, Union Pacific Railroad, Puget Sound & Pacific Railroad, bicyclists, American and Oregon Trucking Associations, Washington Trucking Association, and pedestrians.
- Environment: Trout Unlimited, Ducks Unlimited, Coastal Conservancy Association, the Chehalis River Council and other non-governmental organizations
- Elected officials: City, county, state and federal
- State departments: Transportation, Agriculture, Ecology, Fish & Wildlife, Governor's Office, and Dept. of Natural Resources.
- Federal Agencies: National Marine Fisheries Service, United States Fish and Wildlife, Environmental Protection Agency, Natural Resources Conservation Service, Federal Emergency Management Agency, United States Geological Service, and the Forest Service
- General public: Interested residents, casual observers, affected property owners, One Voice
- Tribal: Chehalis and Quinault

- 1638 • Utilities: Boistfort Valley Water Company, Lewis and Grays Harbor County Public
1639 Utility Districts, Grays Harbor Water District #2 and other local utility companies
- 1640 • Media: The Daily World, The Chronicle, The Olympian, Drops of Water (Chehalis River
1641 Council), KUOW, KITI, KPLU, KAOS, KELA, Rochester Sun, Montesano Vidette,
1642 KGY KXRO, Business to Business, TVW, South Beach Bulletin, Seattle and Portland
1643 area TV and newspaper outlets (when pertinent).
- 1644 • Special Purpose Districts: Conservation and other special purpose districts in Districts of
1645 Mason, Grays Harbor, Lewis, and Thurston Counties
1646

1647 **9.4 Communications Formats**

1648 **9.4.1 Email Communications**

1650 Email communication between the local sponsor and the Corps of Engineers will contain a
1651 subject line starting with “Chehalis,” followed by more specific information. The Corps of
1652 Engineers Project Manager and local sponsor Project Manager will each be included on (or
1653 forwarded) project related email correspondence sent (or received) by one another. Emails
1654 directed to either the Corps of Engineers project manger or the local sponsor Project Manager
1655 (and requiring a response) shall be acknowledged within a timely manner.
1656

1657 **9.4.2 Monthly Management Briefings**

1658 The Corps of Engineers Project Manager and the Local sponsor Project Manager will
1659 communicate frequently to review project progress. The anticipated format is a verbal update on
1660 each project scope category to be provided by the Corps of Engineers Project Manager to the
1661 local sponsor Project Manager. Other staff may participate at the Corps of Engineers option.
1662 Stakeholders will be invited to meetings as needed and all stakeholders will receive a
1663 Memorandum for Record documenting meeting minutes after each briefing. Besides standard
1664 schedule-based progress, these briefings are intended to provide early notice of anticipated or
1665 unanticipated risks, findings, and deliverables.
1666

1667 **9.4.3 Internal Corps of Engineers Project Update Meetings and Line Item Reviews**

1668 The Corps Project Manager will provide reasonable notice with the associated topic to the Local
1669 sponsor Project Manager about internal management briefings pertaining to the project. If the
1670 Local sponsor Project Manager is not among allowable attendees at a subject briefing, then a
1671 note to that effect will accompany the notice. Line item review reports will be provided to the
1672 Local sponsor Project Manager at the time they are presented.
1673

1674 **9.4.4 Occasional Subject Briefings**

1675 The Local sponsor Project Manager may request a more detailed briefing on the topic of one or
1676 more evaluation findings, project design features, or contract deliverables. These will normally
1677 be provided within a two weeks of an email request by the local sponsor, and involve the Local
1678 sponsor Project Manager, the Corps of Engineers Project Manager and the Corps of Engineers
1679 subject matter expert(s).
1680

1681 **9.4.5 Occasional Communication Team Meetings**

1682 The joint project communications team is responsible for developing project communication
1683 goals, strategies, methods, and products. The membership includes communication specialists
1684 from the Corps of Engineers and the local sponsor. The Corps of Engineers Project Manager and
1685 the Local sponsor Project Manager also are expected to attend. Meetings are normally called by
1686 the Corps of Engineers Project Manager and/or the Local sponsor Project Manager to address

1687 ongoing or emergent project issues. The team also has agreed to meet immediately after any
1688 flood events in the basin to share information and lessons learned.

1689

1690 **9.4.6 Task Delivery Briefings**

1691 Whenever a task is complete and a draft task deliverable is sent to the local sponsor for review,
1692 the Corps of Engineers Project Manager will offer to convene a briefing between the Local
1693 sponsor's Financial Manager and Project Manager, and the appropriate Corps of Engineers team
1694 members. The briefing will be scheduled by the Corps of Engineers Project Manager at the local
1695 sponsor's request upon receipt of the task deliverable. The purpose of the briefing is to provide
1696 local sponsor reviewers with a summary presentation on the subject covered and conclusions.

1697

1698 **9.4.7 Chehalis River Basin Flood Authority/Chehalis Basin Partnership/Public Briefings**

1699 Quarterly update briefings will be held within the basin to update concerned parties of the status
1700 of the Centralia Project and the Chehalis River Basin General Investigation.

1701

1702 **9.4.8 Quarterly Written Reports**

1703 The Corps of Engineers Project Manager will compile and submit to the Local sponsor Project
1704 Manager a narrative project report. The report will be submitted on the last day of September,
1705 December, March, and June. The report will be divided into sections based on the discipline
1706 areas identified in the scope of work. Each section will have a listing of each scope item with an
1707 estimate of the percent complete in that item, a narrative describing budget spent,
1708 accomplishments, identified concerns, schedule risks, and potential opportunities uncovered in
1709 the subject quarter.

1710

1711

1712 **10.0 RISK MANAGEMENT**

1713

1714 A risk is an event or condition that may occur that will change the schedule or budget, or will
1715 affect the quality of the project. Risk management is the process the project team uses to
1716 methodically address risks in order to achieve the project goals. Risk can be defined as the
1717 combination of the probability of an event and its consequences. The team will use risk
1718 management throughout the project to identify and address project risks. The steps of Risk
1719 Management are identification, analysis, response planning, and monitoring.

1720

1721 **10.1 Risk Identification**

1722 The Project Manager and the project delivery team will identify risks, either at a formal meeting
1723 with that purpose after initiation of feasibility, or at any time that a risk becomes apparent. Team
1724 members should make the Project Manager aware of risks at any time one becomes apparent.

1725

1726 Risks can be within the frame of the current project effort, or may be during the life of the
1727 project. A risk within the frame of the current project may affect the delivery of the project,
1728 while a risk during the life of the project may affect the operation, or may result in a cost during
1729 the operation of the project. The Project Manager and the team should consider both types of
1730 risk.

1731

1732 In order to facilitate risk assessment, it is best to phrase risks as "Because <cause>, <risk> may
1733 occur, causing <impact>." Such as: "Because the site is in the floodway, the construction site
1734 may be flooded in between construction seasons, increasing costs". Assessment of probability
1735 and the response plan are typically based on the cause, not the risk.

1736

1737 **10.2 Risk Assessment**

1738 The risk identified should be assessed for the probability and impact. Probability will be shown
1739 as:

- 1740 • Very Likely. The event or condition will probably occur, and is nearly certain. This
1741 relates to an 80% - 99% chance of occurrence.
- 1742 • Likely. The event or condition will probably occur, but is not nearly certain. This relates
1743 to a 60% - 80% chance of occurrence.
- 1744 • Neutral. This means that the team can not determine any preference for whether the event
1745 will occur or not. This relates to a 40% - 60% chance of occurrence.
- 1746 • Unlikely. The event will probably not occur, but might. This relates to a 20% - 40%
1747 chance of occurrence.
- 1748 • Very unlikely. The event will probably not occur, and is nearly impossible. This relates to
1749 a 1% - 20% chance of occurrence.

1750
1751 If an event is certain to occur, it is no longer a risk and will be assumed to occur. That will be
1752 treated as an assumption in the project description section, and should be considered for a scope
1753 change. If an event is impossible, it will not be addressed. Examples of impacts within categories
1754 high, medium, or low:

1755
1756 High impact:

- 1757 • Will extend construction beyond the currently scheduled season
- 1758 • Will increase costs beyond amount budgeted for the phase
- 1759 • Will add new scope or will prevent the accomplishment of the current scope
- 1760 • Will prevent long-term attainment of project goals
- 1761 • Will reduce costs by significantly
- 1762 • Will provide significant reduction in Operation & Maintenance effort

1763
1764 Medium impact:

- 1765 • Will increase/decrease phase cost by over ¼ of the contingency

1766
1767 Low Impact:

- 1768 • Costs are easily absorbed by contingency

1769
1770 **10.3 Risk Response**

1771 Based on the probability and impact, the Project Manager will determine whether a response is
1772 warranted. The team will plan a response if the analysis determines that it is warranted. The
1773 possible responses are: Accept, Mitigate, and Avoid.

- 1774
1775 • Accept involves accepting the loss when it occurs. Contingency funds must be available
1776 for the loss, or the Program Manager must be informed of a risk that exceeds the budget.
- 1777 • Mitigate involves methods that reduce the probability or severity of the loss. Examples
1778 include sprinklers designed to put out a fire to reduce the risk of loss by fire. This method
1779 may cause a greater loss by water damage and therefore may not be suitable. Halon fire
1780 suppression systems may mitigate that risk, but the cost may be prohibitive as a strategy.
1781 A study related example would include a foreseen lack of resources and preparation of
1782 contracting out work in order to avoid loss of progress.
- 1783 • Avoid involves not taking the action that incurs the risk.
- 1784

1785 **10.4 Risk Register**
 1786 Record all risks identified by the team, and how the risk was addressed according to the risk
 1787 management plan. Keep all risks identified through the life of the project. As risks are assessed
 1788 and treatments are determined, Project Manager will add the risks to the risk register (Appendix
 1789 C).

1792 **11.0 ACQUISITION PLAN**

1793
 1794 The acquisition strategy will be determined on a case by case basis. During the feasibility phase,
 1795 there is likely to be several contracts for data collection, report writing, planning, and design. For
 1796 all contracts shown in the resource plan, show what the contract is anticipated to be, what
 1797 contracting method is planned, and when the contract is expected to be awarded. The total of
 1798 contracts in this plan should match the amount in the resource plan. During feasibility, contracts
 1799 are not well known.

1800
 1801 Architectural Engineer contracts for consulting firms are anticipated for completion of the
 1802 without-project conditions report, the environmental alternatives plan formulation and 10%
 1803 design, and the Flood Risk Management alternatives plan formulation and 10% design.

1806 **12.0 CHANGE MANAGEMENT**

1807
 1808 The decision-making processes for the project will be highly dependent upon various issues. For
 1809 the most part, the Corps of Engineers and the local sponsor Project Managers will make
 1810 decisions in coordination with their management/supervisory chains. If any issues cannot be
 1811 resolved at the staff level, the management team will become involved to develop a solution.
 1812 Members of the basic change management team are listed below. Depending upon the issue, the
 1813 change management team could require more members.

1814
 1815
 1816
 1817
 1818 Table 10: Change Management

<u>The Corps of Engineers</u>	
TBD	General Investigations Program Manager
Beth Coffey	Chief, Civil Programs and Projects Branch
TBD	Chief, Planning Branch
Guy Green	Chief, Design Branch
<u>The Local sponsor</u>	
Terry Willis	Grays Harbor County

Deleted: Nancy Chin

Deleted: Mona Thomason

1819
 1820
 1821 **13.0 CONFLICT RESOLUTION**

1822
 1823 The Corps of Engineers, the local sponsor, and partnering agencies recognize that disputes may
 1824 arise in the course of conducting the feasibility phase that will require resolution at a lower
 1825 functional level and agree to use the dispute resolution levels outlined below. The Corps of

1826 Engineers, local sponsor, and partnering agencies will make every effort to resolve disputes at
1827 the lowest level possible. If disputes cannot be resolved at a given level within a reasonable
1828 timeframe, the dispute will be referred to the next level.

- 1829 • Level one: Project managers from both the Corps of Engineers and local sponsor
- 1830 • Level two: Program manager for the Continuing Authorities Program
- 1831 • Level three: Chief, Programs and Civil Project; or, Chief, Planning, depending on
1832 applicability of the dispute issue
- 1833 • Level four: Executive Committee

1834 In the event that disputes cannot be resolved at the functional levels outlined above, they may be
1835 submitted for non-binding alternative dispute resolution by a qualified third party.

1836
1837

1838 **14.0 VALUE ENGINEERING**

1839

1840 Value engineering is required for all Civil Works projects exceeding \$1,000,000 in value. The
1841 purpose of value engineering is to improve the efficiency of the recommended plan. It is
1842 performed during the 35% design process for all projects over \$1 million, and is intended to
1843 reduce construction and maintenance costs, improve engineering features, and generally provide
1844 a better Federal product. Value Engineering will consist of an independent team of experts
1845 selected to review the 35% design and propose additional design features or changes that could
1846 be of cost savings to the project. These proposals will be evaluated by the project delivery team
1847 and taken into consideration for inclusion into the final design. The team is not obligated to
1848 include proposals from the value engineering exercise into the final design.

1849
1850

1851 **15.0 STUDY TERMINATION AND CLOSE OUT PLAN**

1852

1853 A project can be terminated at any time at the request of the local sponsor. At the time of
1854 termination, federal and non-federal expenditures must meet the applicable cost share. If the
1855 local sponsor has not met the cost share at the time of termination, funds must be provided by the
1856 local sponsor for the balance. Projects are closed out when completed. Interim close out occurs
1857 following the completion of the feasibility phase. All study expenditures (labor, contacts,
1858 equipment, and work in-kind) are accounted for. The amount of federal and nonfederal cash
1859 provided to the study is tabulated, along with credited work in kind (submitted to Chief, Finance
1860 and Accounting by the Project Manager) The close out ensures that expenditures are balanced, if
1861 nonfederal funds need to be given back to the local sponsor, or if there is a need for additional
1862 nonfederal cash to balance the books. Expenditures and obligations of work are tracked through
1863 the Corps of Engineers CEFMS and P2 systems.

1864
1865

1866 **16.0 LESSONS LEARNED REPORT**

1867

1868 A Lessons Learned report will be prepared at the conclusion of the feasibility study, and
1869 following key decision point meetings during feasibility. The Lessons Learned report will be the
1870 responsibility of the Project Manager, with input from the project delivery team, local sponsor,
1871 and other key players involved in the particular issues. The intent of a Lessons Learned Report is
1872 to clarify what happened, why, and how. The project delivery team then proposes ways to ensure
1873 that these errors are not repeated again by this team, and as guidance for other Corps feasibility
1874 studies. Lessons Learned are discussed within the District and posted on the District webpage.

1875 "Lessons Learned" can also represent examples of studies where things went unusually well,
1876 providing guidance for other studies.

1877
1878

1879 **17.0 PROJECT MANAGEMENT PLAN APPROVALS**

1880

1881 Review of the draft Project Management Plan is conducted by the project delivery team and local
1882 sponsor team members. The Project Management Plan will be provided to the general public,
1883 resource agencies, stakeholders, and tribal nations for review and comment. Significant
1884 comments will be addressed in later modifications of the Project Management Plan. The Project
1885 Management Plan will be reevaluated in response to fiscal year federal funding limits, technical
1886 or policy issues, at the request of the Executive and Vertical team. For the Corps, approval of the
1887 Project Management Plan is by the Chief of Civil Project. For the local sponsor, approval is
1888 coordinated by the local sponsor Project Managers, with ultimate approval by the local sponsor
1889 Commissioners.

1890

1891

1892

1893

1894

1895

DRAFT

**APPENDIX A
SCHEDULE**

1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938

DRAFT

**APPENDIX B
SCOPE OF WORK &
COST ESTIMATES**

1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981

DRAFT

1982
 1983
 1984

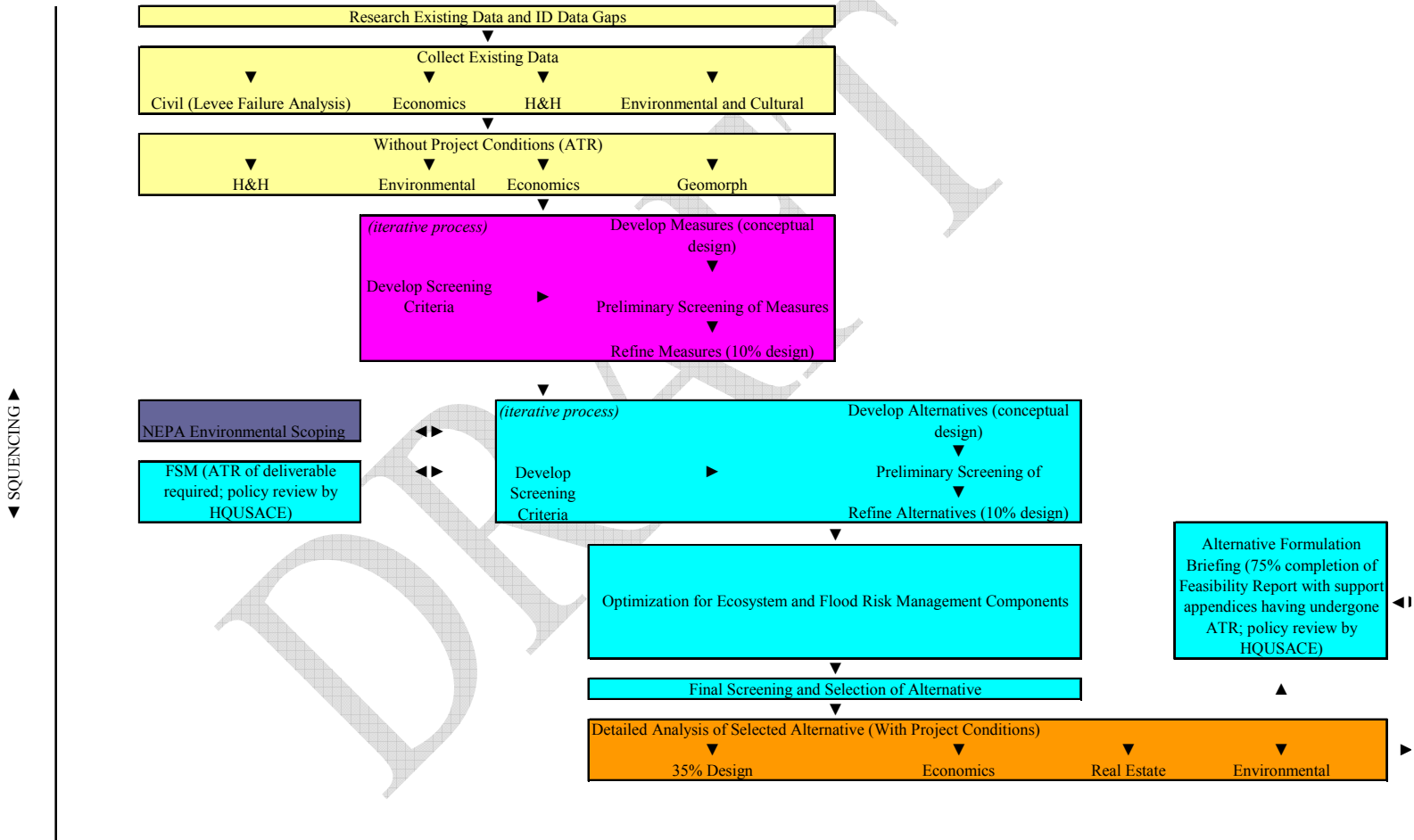
**APPENDIX C
 RISK REGISTER**

RISK REGISTER							
Risk Identification	Qualitative Analysis			Response		Monitoring & Controlling	
Specific Threat or Opportunity	Probability (very likely, likely, unlikely)	Impact H-High M-Medium L-Low	Overall Rating	Strategy (decline, mitigate, accept)	Planned response	Responsible Person	Current status, Date
Federal funding not available for an FY							
HTRW at site							
Cultural resources							
Mitigation Plan							
New flooding in the basin							
Storage Plan							
Construction Progress							
Support from the local sponsor for construction of project							
Property acquisition							

1985
 1986
 1987
 1988
 1989
 1990
 1991
 1992
 1993
 1994
 1995
 1996
 1997

APPENDIX D: FEASIBILITY PHASE PLANNING PROCESS

Chehalis River General Investigation Planning Process: Tasks and Deliverables



APPENDIX E

CENTRALIA PROJECT AND GENERAL INVESTIGATION DECISION POINT TIMELINE

Formatted: Left: 0.28", Right: 0.28", Top: 1", Bottom: 1", Width: 11", Height: 8.5"
 Formatted: Centered

Chehalis River Basinwide General Investigation (GI) Schedule

Assumes:

- Adequate funding from federal and non-federal sponsor.
- The study team chooses to look at two without project conditions.
 * **Note: decision not made yet.**
- Construction authorization around 2020.

Key Points:

- Anticipate \$4.5 – \$6 million (50/50 cost share) to get to the Feasibility Scoping Meeting (FSM).
- At the FSM (in 3-4 years) will decide which projects merit further study.
- At the FSM, should decide which without project conditions scenario to use going forward.

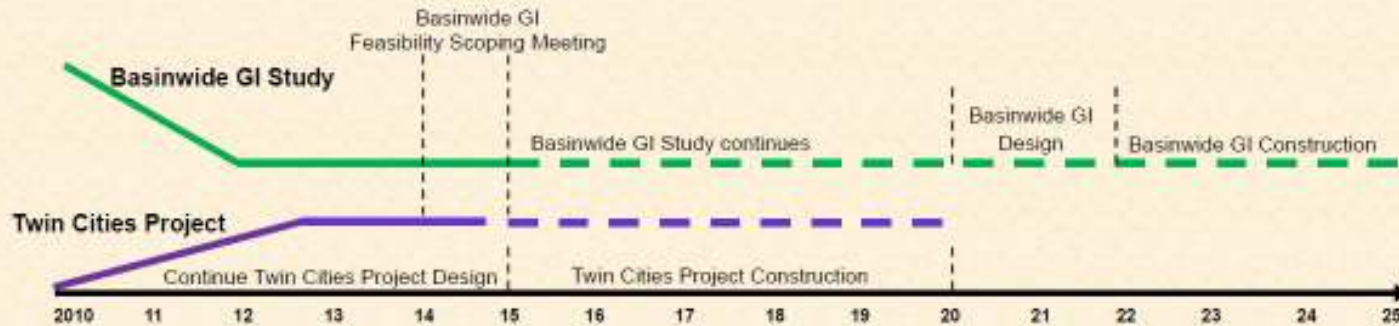
Twin Cities Project Schedule

Assumes:

- Adequate funding from federal and non-federal sponsor.
- State/locals willing to proceed with construction.

Key Points:

- Updating the levee design to ensure 100-year protection across entire 11-miles.
- Consider go/no go decision at about the same time as the Basinwide GI Feasibility Scoping Meeting.
- The State of Washington is the non-federal sponsor for the design, but the sponsor can change at the construction phase.



Mike Padilla	Chief of Civil Projects	206-764-6734
--------------	-------------------------	--------------