



Washington State
Department of Transportation

SR 520 Bridge Replacement and HOV Program

Pontoon Construction Project



Pontoon Construction Project Project Management Plan

July 2009

Part 1: Preconstruction



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Washington State
Department of Transportation

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APPENDIX A: SR 520 PROGRAM CHARTER

APPENDIX B: PONTOON CONSTRUCTION PROJECT INTEGRATED SCHEDULE SUMMARY

APPENDIX C: PONTOON CONSTRUCTION PROJECT WORK BREAKDOWN STRUCTURE

APPENDIX D: CURRENT PONTOON CONSTRUCTION PROJECT RISK ASSESSMENT MATRIX

INTRODUCTION

This document is the Project Management Plan for the SR 520 Bridge Replacement and HOV Program's *Pontoon Construction Project*. The Pontoon Construction Project is one of several projects that make up the larger corridor construction effort.

The Pontoon Construction Project will be constructed as a Design-Build project. This Project Management Plan is presented in two parts in order to describe the adjustment in approach after the Design-Build contractor has been added to project team.

Part 1: Preconstruction

Part 1 of the project management plan describes project management for preliminary engineering activities up to award of the design-build contract in January 2010. For the most part, schedule dates that are presented in Part 1 are the assumed dates that were used for development of the Design-Build Request for Proposals. In some instances, notation has been added to this document to provide updated information for clarification of delivery status. However, the reader is advised that Part 1 was completed in April 2009 and applies primarily to activities through January 2010. Except for the limited updates described above, Part 1 has not been revised beyond that time frame because project management from that point forward is described in Part 2.

Part 2: Design-Build Construction Project


Part 2 of the project management plan is a second volume and describes project management including the role of the design-build contractor. Completion of the final design and construction of the project are both included in the design-build phase.

1. PROJECT ENDORSEMENT


The Pontoon Construction Project Team created the Project Management Plan in May 2009 and reviewed the attached SR 520 Bridge Replacement and HOV Program charter. The charter (*Appendix A*) describes the following:

- The program's mission statement
- The vision
- Key goals and objectives
- Operating principles and shared values

Members of the project team demonstrated their commitment to achieving the program objectives by signing the charter, and have officially initiated the procedures and requirements as described in the Project Management Plan. By endorsing this Project Management Plan, we agree to undertake the duties, responsibilities and directives per Executive Order E 1042.00, dated July 1, 2008.¹



Jerry Lenzi, Assistant Secretary for Engineering and Regional Operations



Julie Meredith, SR 520 Program Director



Mike Cotten, SR 520 Design Build Director



John Villager, Pontoon Construction Project Manager



Alan Chan, Pontoon Construction Project Engineer

¹ See www.wsdot.wa.gov/NR/rdonlyres/1947248A-2F32-47D7-B2A4-8823FBF25B2D/0/1042.pdf

2. PROJECT SCOPE

The purpose of the Pontoon Construction Project is to expedite construction of pontoons needed to replace the existing traffic capacity of the Evergreen Point Bridge. The pontoons will be stored in case they are needed for catastrophic failure response, or until they can be incorporated into the proposed Evergreen Point Bridge replacement.

To achieve this purpose, WSDOT is proposing to build a new casting basin facility that could accommodate simultaneous construction of multiple pontoons. WSDOT would retain ownership of the facility at least until it is determined whether the facility would be needed to construct the additional pontoons needed for the proposed SR 520, I-5 to Medina: Bridge Replacement and HOV Project. A secondary purpose of the SR 520 Pontoon Construction Project is to ensure access to the proposed facility if it were needed to build pontoons for unforeseen WSDOT floating bridge repairs or replacements.

2.1 Team Mission/Assignment

The Pontoon Construction Project Team's mission is to expedite pontoon construction for replacing the Evergreen Point Bridge in case of catastrophic failure, while at the same time incorporating best engineering practices, developing the most cost effective design, and minimizing effects on the environment.

2.2 Major Milestones

The following major milestones apply to the Pontoon Construction Project. Completion dates provided are based on the April 2009 Pontoon Construction Schedule. *(Updates to the construction schedule are provided based on October 2010 information):*

2.2.1 Pre-Construction Phase

- Project Definition Complete.....May 2008
- Begin Preliminary EngineeringJuly 2005
- Environmental Documentation Complete.....August 2010
Update, December 2010: FEIS published in December 2010. ROD to be signed in January 2011.
- Right of Way Certification.....June 2010
- Request for Qualification (RFQ)June 2009
- Request for Proposal (RFP)August 2009
- Announce Best Value/Bid OpeningDecember 2009

2.2.2 Construction Phase

- Contract AwardJanuary 2010
- Contract ExecutionMarch 2010
Update, December 2010: Contract was executed in February 2010.
- ConstructionDecember 2010 – April 2014
Update, December 2010: Physical construction of the casting basin is scheduled to begin after all permits are received, which will be two to four months after ROD is signed. Pontoons to be complete before approximately June 2014.
- Final Contract Completion.....March 2014
Update, December 2010: Contract and project closeout to be completed by the end of 2014.

2.3 Project Boundaries

The new casting basin will be built on one of two potential sites in Grays Harbor County. One site is located within the City of Hoquiam, and the other is in the City of Aberdeen. WSDOT has signed options to purchase both privately owned sites. WSDOT has identified the Aberdeen Log Yard as the preferred site for pontoon construction. Purchase of this site is expected in the fall of 2010.

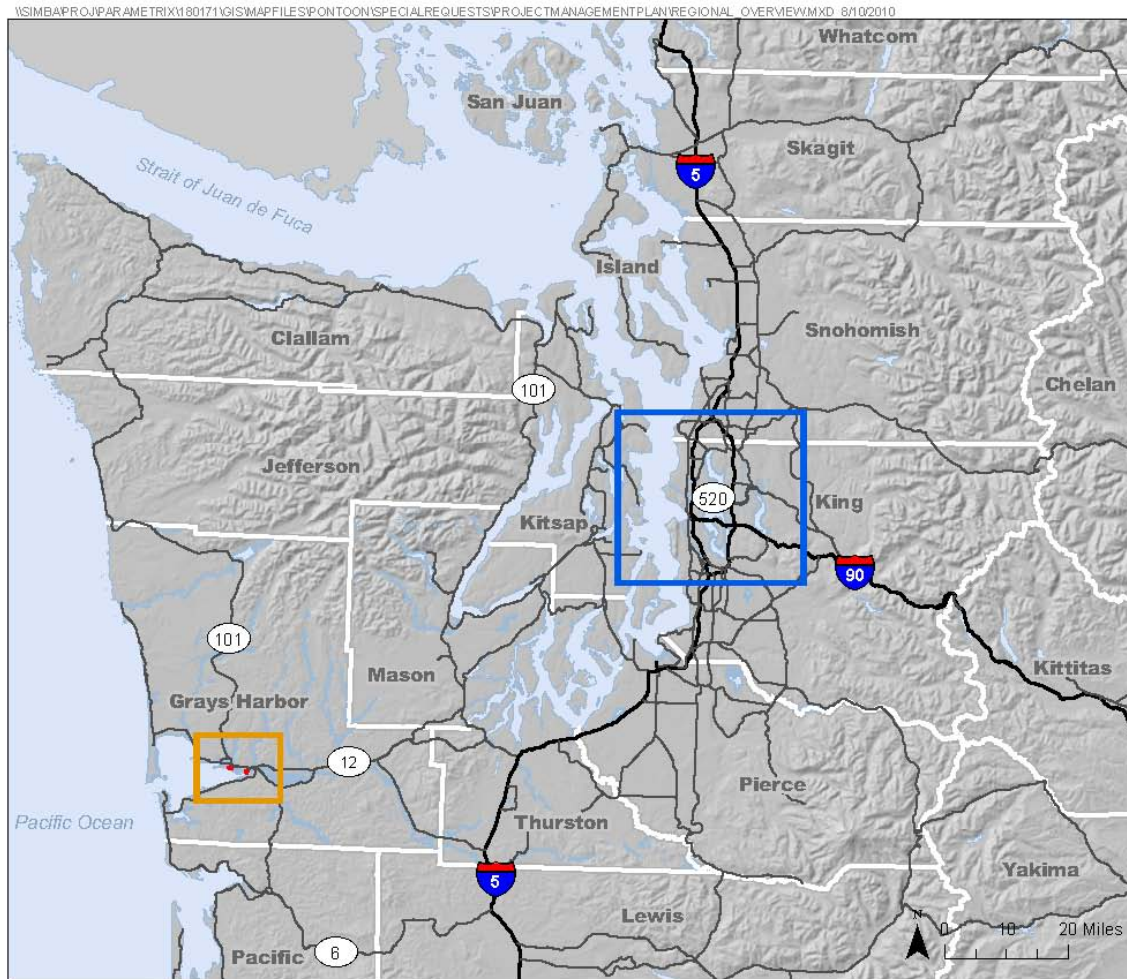
(Update, December 2010: The Aberdeen Log Yard site was purchased in November 2010.)

The casting basin and project pontoons will be constructed at the newly purchased site in Grays Harbor County. The Concrete Technology Corporation's facility in Tacoma has been provided to the construction industry as addition pontoon construction capacity, but will require a complete ESA Analysis if utilized. Based on the schedule described above, all project pontoons will be complete by early 2014 and ready for use in case of a catastrophic event on the existing SR 520 Evergreen Point Bridge.

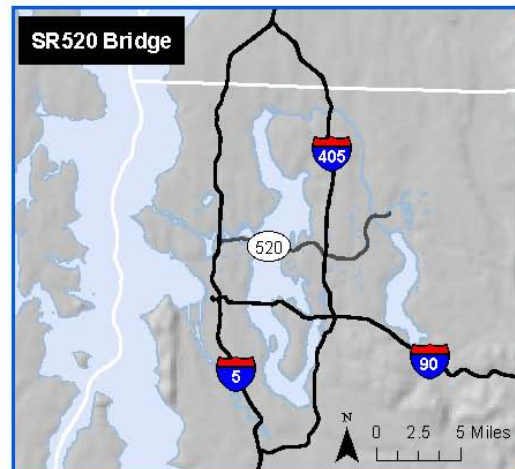
The 2010 Legislative supplemental budget provided \$2.641 billion for the SR 520 Program with intent to complete a new floating bridge across Lake Washington and Eastside corridor. Of the total program funding, the Pontoon Construction Project will receive approximately \$591 million to complete all work and deliver pontoons into storage for use on the SR 520 floating bridge. The approximate allocation of funds to each project phase is as follows:

- Preliminary Engineering – \$43 million
- Right of Way – \$7 million
- Construction – \$541 million

Figure 1: Pontoon Construction Project Map



Site Boundary



Source: WSDOT (2007) GIS Data (Potential Site).
Horizontal datum for all layers is State Plane Washington
South NAD 83; vertical datum for layers is NAVD88.

3. TEAM ALIGNMENT

To achieve the SR 520 Program goals and objectives as effectively and efficiently as possible, WSDOT has formed an integrated project management team composed of state staff and partners, such as consultants and contractors. Integrated team members work side-by-side in a collaborative environment. The integrated team structure was initiated to bring the best people together to work seamlessly toward successful completion of the complex and costly SR 520 Program.

Timely communication with no surprises is critical to successful delivery of the Pontoon Construction Project. Project designers and environmental planners work together in a co-located Pontoon Construction Project Design Office. Regularly scheduled communication meetings are held between 1) internal project team members, 2) project managers and SR 520 Program senior management, 3) project managers and regulatory agencies, 4) project managers, FHWA managers and WSDOT HQ staff, and 5) project managers and internal project team members. Successful team alignment depends on a commitment from all team members to actively communicate at all times. This takes much work and planning by all.

3.1 Team Identification

During preconstruction activities for the Pontoon Construction Project, the project team consists of the following groups:

- The Pontoon Construction Project Design Office
- The SR 520 Bridge Replacement and HOV Program
- WSDOT HQ Support

These groups are involved in work planning, and schedule development and maintenance.

3.1.1 Pontoon Construction Project Design Office

The Pontoon Construction Project Design Office consists of a staff made up of both state and consultant resources. The following disciplines and specialty services are participating in the Pontoon Construction Project Team:

| | |
|---|-----------------------|
| x | Access |
| x | Bridge & Structures |
| x | Construction |
| x | Consultant Liaison |
| x | Design & Plans Review |
| x | Environmental |
| x | Geographical Services |
| x | Geotechnical Services |
| x | Hydraulics |

| | |
|---|---------------------------|
| x | Local Agencies |
| x | Maintenance |
| x | Materials |
| x | Program Management |
| x | Public Information Office |
| x | Real Estate Services |
| x | Right-of-Way |
| x | Traffic |
| x | Utilities |

3.1.2 External Partners

3.1.2.1 Pontoon Construction Project Agency Coordination Team

As required by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) the Pontoon Construction Project Agency Coordination Team (PCPACT) provides a forum for ongoing collaboration with regulatory agencies and tribes. The PCPACT aims to make the environmental review process more efficient and timely, while enhancing interagency coordination.

The PCPACT is currently focused on NEPA and ESA compliance and will later shift to project permitting. SAFETEA-LU overlays a procedural process on traditional NEPA coordination, including creation of a group of “Participating Agencies,” in addition to “Cooperating Agencies.” SAFETEA-LU also establishes specific review and comment points prior to issuing a draft environmental impact statement. The additional steps include:

- Public and agency involvement when developing the project’s purpose and need.
- Public and agency involvement when developing project alternatives.
- Collaboration with the participating agencies in determining the appropriate impact assessment methodologies to be used and the level of detail required for the analysis of alternatives.

The PCPACT meets bi-monthly as a large group to exchange information and develop strategies to advance technical work on specific project topics. The team is supported by technical working groups, which are formed as needed to address issues in more detail. Technical working groups have been convened on topics such as pontoon moorage, ecosystems, water resources and the built environment. Issues may also be elevated to staff and agency decision-makers, as needed, to resolve conflicts.

Implementation-level staff from the following entities have been invited to attend regular PCPACT meetings to receive project updates, note topics of concern and convene appropriate technical working groups:

| |
|--|
| Federal Agencies |
| <ul style="list-style-type: none"> ▪ Environmental Protection Agency ▪ Federal Highway Administration (co-lead agency) ▪ NOAA Fisheries ▪ U.S. Army Corps of Engineers ▪ U.S. Coast Guard ▪ U.S. Fish and Wildlife |
| State Agencies |
| <ul style="list-style-type: none"> ▪ Department of Archaeology and Historic Preservation ▪ Department of Ecology ▪ Department of Fish and Wildlife ▪ Department of Natural Resources ▪ Department of Transportation |
| Local Authorities |
| <ul style="list-style-type: none"> ▪ City of Aberdeen ▪ City of Hoquiam ▪ Grays Harbor County ▪ Port of Grays Harbor |
| Tribal Authorities |
| <ul style="list-style-type: none"> ▪ Quinault Indian Nation ▪ Shoalwater Bay Tribe ▪ The Confederated Tribes of the Chehalis Reservation ▪ Skokomish Tribal Nation ▪ Hoh Tribe ▪ Squaxin Island Tribe ▪ Other tribes as appropriate |
| Regional Groups |
| <ul style="list-style-type: none"> ▪ Olympic Region Clean Air Agency |

3.1.3 Federal Highways Administration (FHWA)

The Pontoon Construction Project will work closely with FHWA to effectively deliver the SR 520 Program through an ongoing partnership and stewardship program during the Pre-Construction and Construction phases of the project. During Pre-Construction, FHWA will approve Design Deviations and the Environmental Impact Statement for the project and any subsequent re-evaluations of environmental impacts. FHWA will be a member the Executive Team Oversight Committee in the review of the Design Builder selection process.

During Construction, the Pontoon Construction Project Team will follow and adhere to the WSDOT stewardship agreement with the FHWA.

3.1.4 SR 520 Bridge Replacement and HOV Program

The Pontoon Construction Project is one of several projects being executed as part of the SR 520 Bridge Replacement and HOV Program. The program aims to enhance safety by replacing the aging floating bridge and to keep the region moving with vital transit and roadway improvements throughout the SR 520 Corridor. Procedures and policies established by the SR 520 Program shall apply to the Pontoon Construction Project. Program management will have oversight over the Pontoon Construction Project and will monitor its progress through regular reports and meetings with project leaders.

The SR520 Project desires a strong owner role. With this in mind key project management positions for decision making and contracting will be staffed with WSDOT employees. Examples of these are the Engineering Managers and Project Engineers.

3.1.5 WSDOT HQ Support

The Project Design Office will carry out many of the environmental and engineering activities associated with the Pontoon Construction Project. However, certain key activities will be performed and/or supported by WSDOT personnel located within the WSDOT Headquarters. These activities include:

| WSDOT Headquarters |
|---|
| <ul style="list-style-type: none">▪ Capital Program Development and Management – Funding approval, change management, executive reporting of cost and schedule.<ul style="list-style-type: none">• Program Management – CPMS and work order management.• Project Controls and Reporting – Region reporting of cost, schedule and progress; change management to HQ PC&R.▪ Environmental – Review, compliance, monitoring, oversight.▪ Hydraulics – Review and approval of Hydraulics Report. |

- Utilities, Railroads & Agreements – Coordination, agreements with railroad.
- Real Estate Services – Property appraisal, negotiation, option, purchase/lease.
- Right of Way Plans – Review and approval for Record of Survey, prepare sundry site plan, prepare DNR aquatic plat.
- Project Development – RFQ/RFP review, design review.
- Materials Laboratory – Geotechnical design.
- Bridge & Structures – Casting basin and pontoon design.
- Environmental – Review, compliance, monitoring, oversight.

Olympic Region

- Materials Laboratory – Pavement design(s).
- Traffic Operations Design & Traffic Control – Work zone traffic control.
- Construction – Reviews, contract administration.

3.2 Project Organizational Charts

The following high-level organizational charts illustrate the structure of the Pontoon Construction Project Team. Chart A (*Figure 2*) illustrates the staff who report to the Project Engineer, whose responsibilities include implementing project direction, handling project communications and overseeing contracting for the project. Chart B (*Figure 3*) illustrates the team structure beneath the Assistant Project Engineer, whose responsibilities include structural, geotechnical and coastal engineering design. The Assistant Project Engineer reports to the Project Engineer, who reports to the Project Manager.

All Pontoon Construction Project construction will occur at sites in Grays Harbor County. Construction sites are located in the WSDOT Olympic Region, which will provide direct construction management for the Pontoon Construction Project. The SR 520 Program, the HQ Construction Office and the Olympic Region management groups are in the process of establishing a construction organization and protocols for management of the construction process. An organizational breakdown is currently being developed and will be included at the next Project Management Plan update.

Figure 2: Pontoon Construction Project Organizational Chart (A)

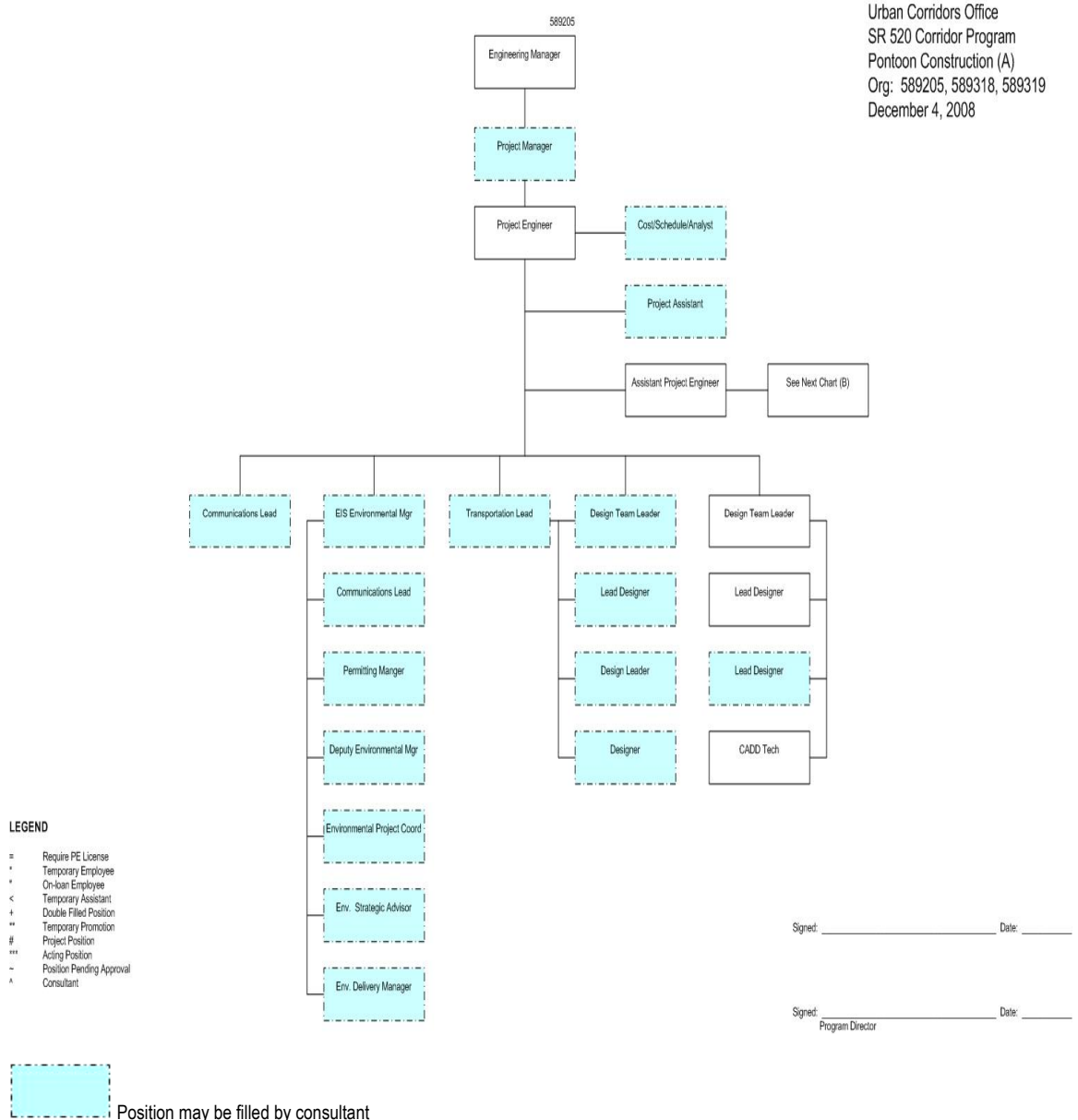
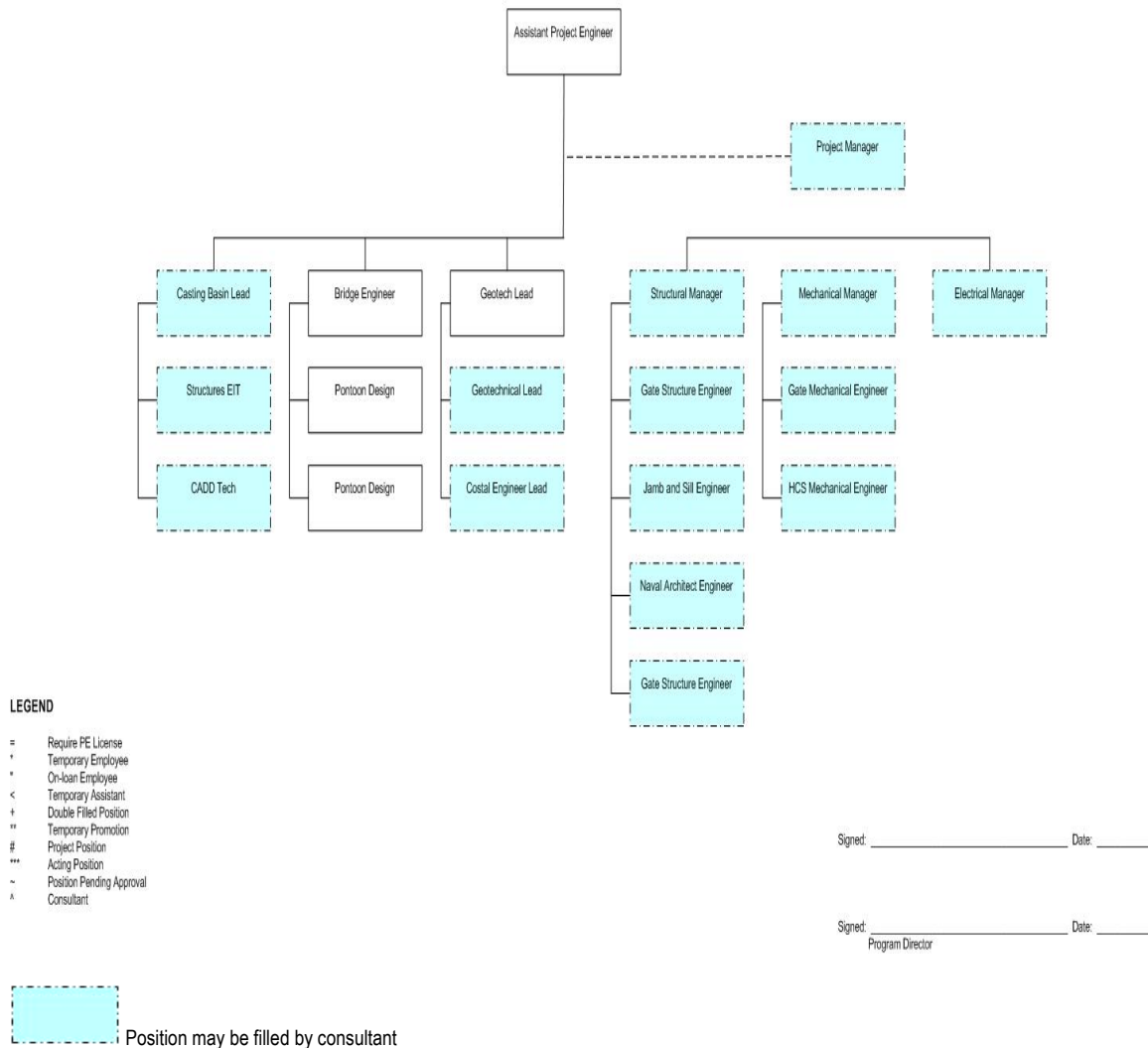


Figure 3: Pontoon Construction Project Organizational Chart (B)

Urban Corridors Office
 SR 520 Corridor Program
 Pontoon Construction Project (B)
 Org: 589205, 589318, 589319
 January 8, 2008



3.3 Roles and Responsibilities

3.3.1 Integrated Project Team

3.3.1.1 Senior Management Team (WSDOT)

- Oversight group for the SR 520 Program consisting of senior managers with knowledge and expertise in the following areas:
 - Environmental NEPA/SEPA compliance
 - Project Development
 - Construction Administration
 - Business and Financial Reporting
 - Public Outreach and Communications
- Maintains program consistency across all projects
- Provides guidance to Project Delivery Teams on WSDOT policies and procedures

3.3.1.2 Project Engineering Manager (WSDOT)

- Project Manager for the Pontoon Construction Project.
- Liaison between the Project Delivery Team and the Senior Management Team.
- Liaison between the Project Delivery Team and FHWA Major Projects Oversight Manager
- Maintains the direction of purpose and mission.
- As the project progresses, sets goals and provides guidance and advice.
- Monitors the schedule and budget.

3.3.1.3 Project Engineer (WSDOT)

- Deputy Project Manager for the Pontoon Construction Project.
- Engineer of Record for design documents, where applicable.
- Works with an integrated team of consultants and WSDOT staff to implement project direction, and serves as a positive communication link between program leadership and project staff.
- Represents WSDOT on contracting.

3.3.1.4 Assistant Project Engineer

- Manages structural design for Pontoon Construction Project.
- Manages geotechnical design for Pontoon Construction Project.

- Coordinates coastal engineering design with other disciplines.
- Represents WSDOT in the absence of the Project Engineer.

3.3.1.5 Civil Design

3.3.1.5.1 Civil Design Leader

- Coordinates design team operations and incorporates products from specialty groups into the design approval process.
- Responsible for design oversight, including meeting requirements of the Design Manual, other manuals, and the Team Mission.
- Provides technical advice regarding individual design elements.
- Develops and provides project information as needed.
- Brings concerns from the design team to the management team.
- Updates the design team on decisions/recommendations of management.
- Develops and maintains the project schedule.
- Tracks the project budget.

3.3.1.5.2 Hydraulic Engineering

- Develops the project hydraulic design in compliance with local, state and federal regulations.
- Prepares treatment plan to manage runoff to meet objectives and goals outlined in WSDOT Hydraulic Manual and Highway Runoff Manual.
- Responsible for developing design to meet the permit conditions and supporting the application process for hydraulic-related permits.

3.3.1.5.3 Utilities

- Identifies existing utilities in the project vicinity for inclusion in the base map.
- Develops utility relocation plan, as needed.
- Coordinates with affected utility owners for identification and relocation of facilities.

3.3.1.5.4 Roadway

- Develops roadway geometrics in accordance with state and local guidelines.
- Coordinates and provides design for traffic mitigation measures.
- Coordinates pavement design, and develops paving plans and roadway sections.

- Coordinates site access design.
- Develops work zone traffic control plans.

3.3.1.6 Structural Design

3.3.1.6.1 Structural Design Lead

- Manages Structural Design Team to develop deliverables pertaining to structural elements of SPCS project, such as design, analysis, plans, specifications, and estimates.
- Coordinates flow of information between Structural Design Team and other project teams.
- Provides structural guidance such as wall type, location, etc.
- Provides alternative schemes or options.
- Acts as an advocate for the Bridge and Structures office by communicating concerns and issues between the design team and the Bridge office.

3.3.1.7 Gate and Hydraulic Control Structure Design

3.3.1.7.1 Gate Structural Design Lead

- Manages structural design of the gate, jamb, sill and hydraulic control structure.

3.3.1.7.2 Gate and Hydraulic Control Structure Mechanical Lead

- Manages mechanical design of the gate and hydraulic control structure.

3.3.1.7.3 Gate and Hydraulic Control Structure Electrical and Controls Lead

- Manages electrical and controls design of the gate and hydraulic control structure.

3.3.1.8 Geotechnical Engineering

3.3.1.8.1 Geotechnical Services

- Assesses project subsurface conditions.
- Assists the structural engineer in preparing design-level foundation recommendations.
- Provides geotechnical recommendations related to development, design and construction of retaining walls, piling supports, and soil characteristics for stormwater treatment facilities.

3.3.1.9 Environmental

3.3.1.9.1 Environmental Manager

- Develops project environmental strategy and provides guidance to Environmental Lead on implementing the strategy.
- Manages project environmental risks (identify, monitor, mitigate and report).
- Ensures the project is managed consistently and complies with WSDOT, federal, state and local policies.
- Promotes, builds and maintains relationships that facilitate agreement and trust with resource agencies, key stakeholders, tribal nations and the public.
- Provides oversight on environmental documentation and permits.

3.3.1.9.2 Deputy Environmental Manager

- Manages environmental team to develop appropriate NEPA/SEPA compliance documentation.
- Coordinates flow of information between environmental team and other project teams.
- Prepares the project Environmental Review Summary.
- Provides environmental documentation and applicable permits for project advertisement.
- Coordinates any mitigation to address environmental impacts.
- Communicates with the appropriate state, federal and local agencies to obtain the appropriate permits required.
- Acts as an advocate for the environmental office by communicating concerns or issues between the design team and the environmental office.

3.3.1.10 Geographical Services, Survey, Right-of-way, Real Estate

3.3.1.10.1 Geographical Services

- Prepares the elements of project base map including topography, photogrammetry, and site features.

3.3.1.10.2 Land Survey

- Provides data for the Geographical Services team.
- Provides support for the geotechnical exploration effort.

3.3.1.11 Communication, Public Outreach

3.3.1.11.1 Strategic Communication

- Develops public involvement plan.
- Plans community meetings.
- Develops information fliers, folios, etc.
- Maintains database of members of the affected communities.

3.4 Measures of Success – Project Metrics

The overall objective of the Pontoon Construction Project is to design, permit and construct the pontoons required for replacement of the Evergreen Point Bridge, within project budget and meeting scheduled dates for advertisement of the contract and pontoon construction completion. The following metrics will be used to evaluate the project's performance in meeting this objective:

| Success Factor | Measure of Success |
|---|---|
| Obtain project environmental approval (NEPA ROD, ESA biological opinion) for one of the two potential casting basin sites in Grays Harbor County, by the end of 2010. | <i>Update, December 2010: Biological Opinion signed by NMFS in October 2010, FEIS published in December 2010, and ROD to be signed in January 2011.</i> |
| Obtain all necessary project permits by the end of 2010. | <i>Update, December 2010: Permits scheduled to be obtained within two to four months after ROD is signed.</i> |
| Obtain acceptable contract bids the first time each construction project is advertised. (Whether D/B or D/B/B.) | Yes – Pontoon CN Design build bid were opened on December 23 rd 2009 |
| Award and execute a contract the first time each construction project is advertised. (Whether D/B or D/B/B.) | Yes – Pontoon CN Design Build contract was awarded on January 8 th 2010 |
| Complete construction of all project pontoons by June 2014. | Ongoing |

Measures of Success – Key Goals

- **Safety:** No Recordable or lost time injuries and reportable injuries lower than the industry average
- **Schedule:** Meet or beat established project milestones

- **Budget:** Manage risks to contain costs within budget
- **Quality:** Conform to project requirements without adverse effects on milestones or budget
- **Environmental Compliance:** Complete project without permit violations
- **Public Perception:** Strong community support through effective communication

3.5 Operating Guidelines

The Pontoon Construction Project Team will be governed by the operating principles contained in the SR 520 Bridge Replacement and HOV Program charter (*Appendix A*), as well as the following guidelines specific to the Pontoon Construction Project. These principles and guidelines will be incorporated into all project processes and procedures.

- **Team Decision-Making Process.** Each Pontoon Construction Project office group will have the authority to make decisions within their area of technical expertise and level of authority. However, this authority comes with the responsibility to consult with each group that will be affected by the decision and to identify, address and resolve any issues and concerns. When significant differences of opinion remain unresolved, the team will refer the decision to Senior Management / Leadership director for resolution. Contractual authority to make decisions during construction will be as defined in the Construction Manual. The entire Pontoon Construction Project Team will support all final decisions.
- **Team Meetings.** At the project level, the following key meetings currently occur:
 - Civil Team Meeting – Once a week.
 - Pontoon Design-Build Coordination Meeting – Once a week.
 - Pontoon RES Check-in – Once a month.
 - Pontoon Project Bi-weekly Check-in – Twice a month.
 - PCPACT and TWG Meetings – As needed.
 - Pontoon Project Cost & Schedule Review with Task Leads – Once a month.
 - Monthly Task Contract Status – Once a month.
 - Bi-weekly Task Lead Meeting – Twice a month.
 - Construction Team Meetings – To begin as project nears end of design phase.
- **Communication.** The Pontoon Construction Project Team will use a variety of communication methods, including formal correspondence (e.g.,

letters, memos, reports, review and comment records), emails, meetings, Web pages, and Quarterly Project Delivery Reports. Formal correspondence and informal correspondence (e.g., emails) that significantly affect the project will be reviewed, approved, distributed and controlled in accordance with the SR 520 Program Communication Plan and Quality Assurance Plan. All project decisions will be documented appropriately (e.g., formal correspondence, meeting minutes, emails entered into the project files) and distributed to all affected parties.

- **Manage Team Change.** As the Pontoon Construction Project Team's staffing needs change, staff hiring decisions will be made in accordance with WSDOT policy and procedure. Anticipated changes in project scope, schedule and budget, and their potential impact on work assignments, will be clearly and promptly communicated to the team.
- **Manage Team Conflict.** All members of the Pontoon Construction Project Team are expected to interact in a professional manner. Team members will attempt to resolve disagreements between themselves directly, recognizing that disagreements center on opinions, ideas and concepts, and not the individual. When significant differences cannot be resolved directly, the team will elevate the issue to the appropriate level of management for resolution.
- **Risk Management.** Proactive risk management is vital to the success of the Pontoon Construction Project. The project team has implemented a systematic process to identify, analyze and respond to project risk in all phases of the project. The effort includes creation and maintenance of a project-specific Risk Management Matrix (*Appendix D*) and regular reporting of risk-related issues and concerns to project and program management.

4. PROJECT CONTROLS AND ACCOUNTABILITY

4.1 Project Management Strategy

Effective control systems are required to manage major projects such as the Pontoon Construction Project. The many agencies, consultants and contractors involved in the program must be provided proper control tools. Central among these tools is a control system that provides accurate and timely information about the program schedule, actual cost, projected cost and revised budgeting. To that end, the Pontoon Construction Project, and the entire SR 520 Program, will use a standard project controls software suite of programs, selected and developed by the WSDOT Headquarters Capital Program Development and Management Office as the tools to track and control program and project performance. The software tools were developed using a “best of breed” approach to select and integrate various software products to control schedule and costs for all capital improvement projects. The selected software packages are Primavera Contract Manager, and the Primavera Scheduler.

In addition, the project team has prepared a work plan that addresses the tasks and deliverables for the current biennium as well as the project’s work breakdown structure and budget. This project work plan is reviewed monthly with the SR 520 Program Management Team, and quarterly with the task leads. The work plan will be revised as necessary throughout the current biennium. Three months prior to the start of a new biennium the work plan will be updated to include revised and new tasks associated with the current scope of the project.

4.1.1 Financial Plan

4.1.1.1 FHWA Requirement

Initial financial plans and annual updates are required for all major projects, defined as projects costing \$500 million or more. Any major project receiving federal funds for construction, regardless of the federal percentage compared to state, local, or private funding will require the submission of financial plans. The initial financial plan will be submitted to FHWA in the fall of 2010 for review. The financial plan must be approved by FHWA before authorization of federal funding for the project construction. Financial plans and annual updates should be prepared in accordance with the FHWA Financial Plan Guidance and with recognized financial reporting standards such as the “Guide for Prospective Financial Information” of the American Institute of Certified Public Accountants. The content of the initial financial plan and each annual update should be certified and signed by the WSDOT Secretary of Transportation prior to submission to the FHWA.

4.1.1.2 Project Financial Plan

In January 2008, a 2007 SR 520 Program Finance Plan was prepared for the Governor as required by Engrossed Substitute Senate Bill (ESSB) 6099. This

plan was developed for the entire SR 520 Program, estimated at \$4.38 billion at that time.

A detailed Finance Plan has been developed for the SR 520 Pontoon Construction Project to meet FHWA requirements. This plan was completed in December 2010, and is expected to be approved in January 2011. The Pontoon Construction Project Initial Finance Plan includes finance information for the Pontoon Mitigation and Pontoon Moorage Projects, which will be constructed under contracts separate from the Pontoon Construction Design-Build Contract.

4.1.1.3 Design and Construction Financing

This project currently has \$591 million in committed funds. The following breakdown of fund sources is taken from the 2010 Legislative Budget detail for the SR 520 Pontoon Construction Project as of April 2010:

- \$134 Million – State Transportation Partnership Account
- \$457 Million – State SR 520 Account (Toll Bond Revenue)

A 2009 CEVP provided an estimated total project cost of \$746 million, which includes an estimated project cost reduction of \$29 million in sales tax deferral.

The initial estimate for pontoon construction was \$600 million. Bids lower than expected resulted in an initial project construction budget of \$419 million and risk reserve of \$63 million. The balance of funding was used for preconstruction and right-of-way activities and will be used to complete environmental mitigation and the construction of the moorage facility.

The entire Pontoon Construction Program is considered fully funded.

4.1.2 Conflict Resolution

Conflict in project management is inevitable. The potential for conflict in the development of projects is usually high because it involves individuals from different backgrounds and orientations working together to complete a complex task. The cause of conflict in the project is typically due to differences in values, attitudes, needs, expectations, perceptions, resources, and personalities. Proper skills in dealing with conflict can assist project managers and other organization members to handle and effectively resolve the conflict.

Understanding Conflict

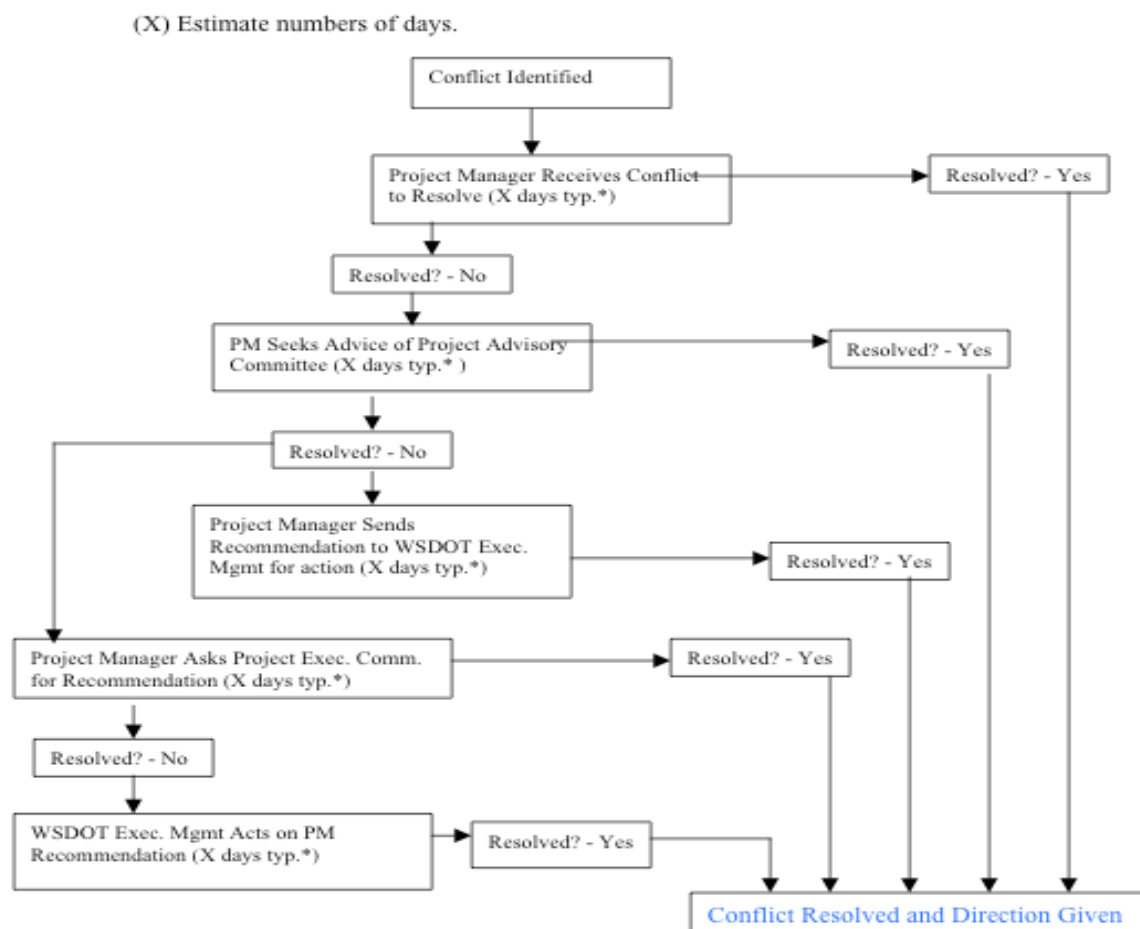
Conflict is “a situation of competition in which the parties are aware of the incompatibility of potential future positions and in which each party wishes to occupy a position which is incompatible with the wishes of the other.” Conflict can be constructive and healthy for an organization. However, if conflict cannot be managed properly, it can be detrimental to an organization by threatening organizational unity, business partnerships, team relationships, and interpersonal connections.

It is important for a project manager to understand the dynamics of conflict before being able to resolve it. The internal characteristics of conflict include perception of the goal, perception of the other, view of the other's actions, definition of problem, communication, and internal group dynamics.

Approach to Conflict Resolution

The SR 520 Program and project teams will use an approach referred to as confronting, which is described as problem solving, integrating, collaborating or win-win style. It involves the conflicting parties meeting face-to-face and collaborating to reach an agreement that satisfies the concerns of both parties, if after the first meeting a successful resolution does not occur the project manager will involve a neutral third party to facilitate resolution. If this approach does not work, then the process shown on the fourth line of the flow chart below will be enacted.

Figure 4: Conflict Resolution Process



4.2 Project Controls

Project controls are used to manage cost, schedule and scope. The controls include procedures to uniformly document changes in the project during the procurement and preliminary engineering phases. Status reports on the project are prepared monthly and presented to WSDOT as the Monthly Project Report. These reports are designed to apprise management of emerging issues so they can be addressed expeditiously.

The following sub-section on change management mentions both design and construction. However, the discussion focuses on design changes, specifically changes to design task orders. Procedures and processes for each element (section) in the PMP that addresses the construction phase will be developed when an acquisition method is chosen and before the construction phase begins.

4.2.1 Change Process and Documentation

The Headquarters Capital Program Development and Management Office, in conjunction with the Project Manager, is responsible for implementing a Change Control process for each project, encompassing changes during design and contract Change Orders during construction. However, it is the responsibility of the Project Management Team to initiate the Change Control process.

The objective of Change Control is to identify the various scope, cost and schedule impacts to the project, and to help HQ and the projects' managers deliver projects on time and on budget as expected. The scope, schedule and cost, as identified in the budget approved by the Legislature, establish the baseline from which all work is measured, managed and reported.

Monitoring the baseline parameters and documenting any changes to those parameters is Change Control, a process used to identify the various cost impacts of changes to the project. Changes are measured both for immediate and cumulative impacts.

These changes can result from a variety of causes. Often, an item is added to the scope at a partner's request, after the estimate has been completed and the agreement signed. The causes of other types of scope and cost change may be more difficult to identify. For example, the project team may be asked to perform additional traffic or environmental discipline studies, or the project team during the design phase directs a change after a drawing is 90 percent complete and the drawing has to be taken back to the 30 percent design level. These two examples demonstrate the importance of all members of the project team knowing the scope of the project.

The specific document used to identify the impacts of such change is called a Change Request Form. The form requires a written description of the change

and identifies the approximate cost and schedule impacts, which help manage change control.

The Project Task Manager uses the form to determine whether the identified item is truly a change in the scope of work. If the Project Task Manager determines the item constitutes a change, the Change Request is forwarded to the Project Scheduler and Cost Engineer for analysis. Once Project Controls is complete, the Project Task Manager determines which review and approval process must be followed.

WSDOT HQ's Project Control process has been aligned to coincide with the development of the quarterly Gray Notebook/Beige Page and Quarterly Project Report (QPR) updates. (See HQ's website on Change Management at <http://wwwi.wsdot.wa.gov/ppsc/pgmmgt/dpsb/>) The Project Control and Reporting Manual and the Project Management Online Guide will guide Change Control for the SR 520 Program.

4.2.2 Schedule Management

Scheduling provides a planning framework for project team staff, public and private utility companies, railroads, local community groups, businesses, consultants, suppliers, contractors, and federal, state and local agencies.

The Pontoon Construction Project Design Office will develop and maintain the Project Master Schedule. (See *Appendix B: SR 520 Pontoon Construction Project Integrated Schedule Summary* for more detail.) Subsidiary or subnet schedules to the Project Master Schedule will be assigned to and developed by the design and construction teams as the project progresses. The Project Controls Lead will review and manage subsidiary or subnet schedule effects and inputs to the Project Master Schedule. The Project Master Schedule establishes the project timeline with emphasis on the timing of the production of key deliverables and review of project progress.

The Project Master Schedule follows the project's scope of work breakdown by task and budget, as outlined in the Work Breakdown Structure. (See *Appendix C: SR 520 Pontoon Construction Project Work Breakdown Structure* for more detail.) The Master Schedule shows procurement activities; indicates the performance of work relating to the NEPA process, preliminary engineering and environmental permitting; and shows specified times for delivery, review and approval by WSDOT, as well as local and federal agencies with jurisdiction. The Master Schedule integrates all existing consultant schedules, and ties the schedule through inter-project links so consultants and SR 520 staff maintain their baselines.

4.2.2.1 Scheduling Software

Primavera Project Management Release 6.0 (P6) has the capabilities to control and monitor project work. It is the software package that will be used for the

project, and has been recommended by the state's project management consultant.

4.2.2.2 Schedule Progress Monitoring and Updating

The schedule monitoring process detects adverse trends, including costs, early enough in the project to address them. Established procedures provide sound, efficient, timely and accurate methods of schedule control, monitoring and reporting, including monthly progress reporting, monthly management team meetings and quarterly reviews of the work plan with task managers.

Monthly Progress Report

The project's status, schedule conflicts and changes are reported on in the Monthly Progress Report prepared by task leaders and distributed to the project team and other involved parties. It provides a consistent vehicle for reporting and evaluating progress, and allows the various managers to focus on exceptional events and negative trends. The Project Controls Lead can also produce special studies and analyses of particular topics as needed. The format and distribution of such reports will be tailored to the specific needs of the situation.

Procedure for Schedule Updates

All "active" tasks are a collection of executed work (whether by WSDOT or a consultant), and all executed work is required to create a baseline schedule prior to issuance of Notice to Proceed. Once a baseline schedule is approved, a "schedule worksheet" will be issued to the parties responsible for updating their portions of the schedule. The worksheet will be updated and returned to the controls lead at least once a month in order to process a regular update of the entire project schedule.

Each discipline manager or reporting party will provide the percentage complete, remaining duration, and actual start and finish of each task. In addition, progress reports will be provided for each task. The Project Controls Lead will incorporate the information into the Project Master Schedule, determine the overall status of the work and produce a series of schedule reports.

The schedule updating process is intended to provide the most accurate picture possible of the progress achieved by all levels and organizations involved in the project and to demonstrate the effect of this progress on the overall project schedule. (See the Business Procedures Manual for more details.)

Schedule Audits

The Project Controls Lead will closely monitor and perform periodic audits of the consultants and contractors to verify that scheduling software is used properly; that the resulting schedules and updates meet contractual requirements; and that

the schedules can be updated electronically and incorporated into the Project Master Schedule.

In addition, the SR 520 Program Controls Group will perform routine audits of the Project Master Schedule to ensure that the content and form are consistent with the project's scope and goals.

Schedule Analyses

Schedule analyses will be prepared on an as-needed basis to review proposed schedule issues, concerns and changes; to model "what-if" scenarios; and to evaluate potential delays and methods of recovery.

4.2.2.3 Construction and Supplier Schedule Management

During the design phases, the baseline schedule will reflect general, summary-level estimates of the construction schedule. Once specific construction contracts are awarded, the contractors will prepare detailed construction schedules and submit them to the project management team for acceptance.

The construction schedule specifications will be applied as appropriate, given the size and complexity of the contract packages. Packages with large budgets, long durations and/or complicated construction require more schedule control than projects with small budgets, short durations and/or simple construction. As a result, the specification for larger projects will be based on Critical Path Method (CPM) scheduling, while specification for smaller projects may not require CPM scheduling, but could require the contractor to regularly submit horizontal bar chart type schedules. The Project Manager, with the advice and concurrence of WSDOT, will decide which specification to include in the contract package.

4.2.2.4 Budget and Cost Management

The project management team is responsible for controlling the risk of project cost increases. The project will use a risk analysis process to address potential cost overruns by identifying and examining the particular risks, opportunities and uncertainties faced by each project element. A likely range of costs will be developed to quantify the probability that particular cost levels will be realized. This information will be used to develop strategies to reduce risk and cost, and to streamline the project schedule. Risks and their potential costs will be identified, evaluated and mitigated, or resolved as the project proceeds.

4.2.2.5 Cost Control

The Project Controls Lead maintains a cost control and reporting system. Through this system, the Project Controls Lead provides WSDOT with monthly summary-level cost information derived from approved budgets, current estimates, progress payments and other actual costs. This information is presented in the Monthly Progress Report.

The Project Controls Lead prepares project financial analysis, funding plans, earned value status, budgets, forecasts, cost estimates, project breakdown schedules, cost reduction evaluations and financial data to meet the project's specific needs. Additional tasks include tracking and evaluating cost trends, as well as variances in procurement, preliminary engineering, administration, utility, right-of-way, public involvement and costs, and recommending adjustments when adverse trends occur. The Project Controls cost management process includes the following elements: budgeting, cost tracking, project cost reports, earned value, chart of accounts, and cost estimating.

4.2.2.6 Cost Estimating

The SR 520 Program develops base cost estimates in accordance with the Cost Estimating Manual for WSDOT Projects, which can be found at <http://www.wsdot.wa.gov/publications/fulltext/CEVP/EstimatingGuidelines.pdf>. Cost estimating for SR 520 is performed at the project level.

4.2.2.6.1 Preliminary Engineering Costs

Preliminary engineering includes all work prior to award of the construction contract, including the ad, bid and award process. The basis for Preliminary Engineering Costs on the SR 520 Program projects were calculated using one or both of the following methods:

- Estimating by a percent of the construction value (typically 10 percent). This is usually done early in the design phase of the project, when scope has yet to be determined.
- A detailed evaluation of anticipated work and estimated value of labor hours and direct expenses for each estimated work activity. This is typically done at a more advanced design stage, when scope has been clearly defined.

4.2.2.6.2 Right of Way Costs

Basis of Quantities

Right of Way needs are identified during the design process by overlaying the proposed design onto existing right of way limits and examining the differences.

Basis of Unit Prices

The WSDOT Real Estate services office will help the project determine property value assessments. Additional markups may be added for appraisals, labor, property management and other right of way expenses.

4.2.2.6.3 Construction Costs

The SR 520 Program has created Cost Estimating guidelines for use in the development of the base costs estimated for construction costs. The guiding principles for cost estimating in the SR 520 Program are as follows:

Basis of Quantities

Quantities of individual items of work are obtained from various disciplines such as roadway, traffic, illumination, urban design, existing utilities, structures, environmental mitigation, and stormwater management. These disciplines estimate the quantities for items of work that relate to their section of the project. The quantities are developed using CADD drawings, design standards and engineering judgment.

Basis of Unit Prices

The unit prices are based on historical bid prices for similar road construction projects that were recently advertised, as well as updated prices provided by the WSDOT Bridge and Structure Office. If historical data is unavailable, unit prices will be developed from built-up prices based on material, equipment, labor, markup, etc. If historical data is available but outdated, estimates will rely on a price escalation factor that accounts for inflation. The final base cost estimate is calculated by multiplying quantities by the unit prices. WSDOT Region and HQ support and regional traffic management support should also be considered in program cost estimate determinations.

4.2.2.6.4 Soft Costs

Construction estimates for the SR 520 Program include soft costs, such as local sales tax, construction engineering and construction contingencies.

4.2.2.6.5 Escalation/Inflation

Cost estimates will be inflated to the Year of Expenditure according to WSDOT Instructional letter IL 4071.01 dated May 7, 2010

<http://wwwi.wsdot.wa.gov/docs/OperatingRulesProcedures/4071.pdf>

Inflation rates for construction, right of way, and preliminary engineering will be estimated using the CPMS inflation tables. (For additional information visit <http://www.wsdot.wa.gov/NR/rdonlyres/FC8BA06E-6561-49FB-AFB9-27A3B98EA228/0/4071.pdf>)

4.2.2.7 Cost Validation

As with all major WSDOT projects, the SR 520 Program uses the WSDOT Cost Estimate Validation Process (CEVP) to validate base cost estimate, perform risk assessment and determine a cost estimate range.

CEVP is a systematic project review and risk assessment method that identifies and describes cost and schedule risks, and evaluates their impact on the available project estimate. CEVP performs a project cost and schedule validation, and develops updated cost and schedule ranges using probabilistic risk assessment. The process examines, from the very beginning, how risks can be lowered and cost vulnerabilities managed or reduced. The result of the CEVP process is a range of costs associated with the project. This reflects the limits of estimating precision at the planning stage when crucial decisions have yet to be made and the specific risks cannot be priced exactly.

Based on an evaluation of project risk events and sound engineering judgment, project leadership will determine a risk percentile to determine the project Agency Cost Opinion, a single point cost estimate for public discussion and budgeting proposes.

Project Cost Estimates are reviewed annually in a weeklong CEVP workshop session to update the base estimate and risk register. The SR 520 Program held its first CEVP session in 2002 and will continue to hold annual CEVP workshops until the major construction contracts are issued for bid. (For more information visit www.wsdot.wa.gov/Projects/ProjectMgmt/RiskAssessment/)

4.2.2.8 Construction Cost Targets

Construction cost targets were initially based on the 2009 CEVP information. Construction Project costs targets will be updated and managed as construction contracts are bid and awarded.

4.2.2.9 Contingency Management

The SR 520 Project Management Team will manage the program budget as defined by the Legislature. Modifications in scope, where necessary within each segment, will be used to maintain the budget. Project construction contingencies will be managed by the construction Project Manager as part of the construction budget. The SR520 Program may hold a separate “Risk Reserve” managed by the Program Director. Changes to the Risk Reserve will be documented with the HQ Capital Program Development and Management Office

4.2.2.10 Funds Accounting

WSDOT uses funds accounting procedures to comply with federal and state requirements. The procedures are incorporated into the accounting system.

4.2.2.11 Cash Flow Management

The Project Management Team will derive the initial cash flow from the appropriate CEVP and the Project Master Schedule. The projected cash flows will be analyzed against the anticipated funding availability, and any project adjustments to optimize the project schedule will be suggested. As projects are executed and budgeted, managers will analyze budget and spending trends and report monthly updates to the SR520 Program Finance Controls.

4.2.2.12 Cost Tracking Software and System

The Project Controls Lead for the Pontoon Construction Project is responsible for monitoring project estimates, commitments/obligations, actuals, and forecasts. The lead uses a computerized cost control system to gather and analyze cost information. The cost tracking system is based upon the WBS, which is broken down into a chart of accounts. Information is gathered and entered into the computer system at the detailed account level and summarized or recombined as needed.

4.2.2.13 Monitoring and Reporting

The Project Controls Lead for the Pontoon Construction Project has developed standard cost reports as required by the various funding agencies and by the Project Manager. The cost reports may include detailed line item reports as well as various levels of summary reports. The Project Controls Lead also provides special analysis and oversight, and monthly reports as required. The monthly progress report provides monthly financial tracking for the project.

4.2.2.14 Financial Closeout Plan

As contracts are closed, budget amounts and actual incurred will be reconciled. When there is more budget than incurred, the cost avoided will be reallocated to other contracts in the section subject to Legislative and WSDOT executive approval.

4.3 Audit Services

The SR 520 Program uses a hierarchical audit process as one of the ways it maintains accountability. The table below depicts the audit function for various program roles:

| Role | Audit Function |
|----------------------|--|
| WSDOT Audit Office | WSDOT Audit Office performs audits to ensure that the program has adequate procedures and processes in place, that they are being used as planned, and that standard auditing guidelines are followed. |
| Executive Leadership | WSDOT uses regular reporting to ensure that sound project decisions are made that align with the expectations of the region, the state, and the public. |

| Role | Audit Function |
|-------------------------------------|--|
| WSDOT Construction Audits | WSDOT HQ Construction Office provides construction audits for items such as materials testing records to ensure that state standards are followed. |
| HQ Peer Review | HQ provides an independent review of work products and management systems to ensure that state and Toll Division standards are followed. |
| SR 520 Business Audit | SR 520 Business Group is responsible for ensuring that adequate accountability procedures, tools, and mechanisms are in place for work to be conducted in accordance with federal, state, and Toll Division regulations. |
| SR 520 Quality Assurance | SR 520 QA manager is responsible for ensuring that project quality control procedures are being followed. |
| SR 520 Work Product Quality Control | Task leads are responsible for ensuring that a standard process is used to review and verify work products before they are finalized. |

The SR 520 Program will follow all standard auditing guidelines. Program management has access to the resources of the Washington State Auditor's Office, the State Attorney General's Office and WSDOT Internal Audits.

4.4 SR 520 Business Manual

The SR 520 Program maintains a Business Procedures Manual that establishes policies and procedures for business processes including:

- Project Controls
- Finance Controls
- Document Controls
- Consultant and Intra-WSDOT Task Agreements
- Local Agreements
- Utility Agreements
- Invoices

- Purchasing and Inventory

The Pontoon Construction Project Team will adhere to the policies and procedures within this program manual.

4.5 SR 520 Office Operation and Procedures Manual

The SR 520 Program maintains an Office Operations and Procedures Manual that establishes policies and procedures for communications and office operations. The Pontoon Construction Project Team will adhere to the policies and procedures within this program manual.

4.5.1 Project Metrics

Monthly and quarterly progress reports are prepared and reviewed by the project team and WSDOT management. The progress reports include information on the project's status and performance metrics, including:

- Accomplishments for current month and next month.
- Work activities for the month.
- Project milestones.
- Schedule performance.
- Cost performance.
- Foreseen project challenges and risks.

Analyses of the data generated by the tools described above help identify trends and forecast project performance. The metrics are used to identify and proactively address challenges to eliminate surprises.

4.5.2 Earned Value Reporting

Earned Value Management System (EVMS) will be used to monitor and control the project budget and schedule. EVMS is one of the most effective ways to manage all costs on the project, providing management with cost expenditure trends and forecasts several months before costs are actually incurred. EVMS gives management the lead-time needed to make the most informed decisions possible, including mitigation strategies, should negative final costs be forecasted.

4.5.3 Staffing Plans and Forecasts

The SR 520 Program has committed to maintaining a steady staffing level that can meet the ups and downs of the project. An integrated project team of WSDOT staff and consultants will allow WSDOT to maintain a "base" level of core project staff while consultants manage the peaks, valleys and specialty demands of the project.

The project budget (labor hours) and schedule are the basis for projecting the staffing needs of the project. The Project Management Team is responsible for defining the resources required in the project, by position title. The Pontoon Construction Project Team has adopted the resource titles used throughout the SR 520 Program. This consistency allows resources to be leveled between projects if necessary. Once resources are defined they will resource-load the schedule. This allows all resources to roll up under the project identifying the number of FTEs required, when needed, and what positions are needed.

A resource-loaded schedule allows the Project Management Team to monitor and forecast staffing levels. This is important when planning for staff level increases and decreases where long lead times for acquisition or placement are required.

5. RISK MANAGEMENT PLAN

The Pontoon Construction Project Team has implemented a systematic process to identify, analyze and respond to project risk in all phases of the project. This process is described in the WSDOT Policy on Project Cost Risk Assessment, which is maintained on the following Web site:

<http://www.wsdot.wa.gov/Projects/ProjectMgmt/RiskAssessment/>

The output from the risk management process used on the Pontoon Construction Project is a risk register that identifies and describes the project risks to be monitored and controlled; prioritizes the risks by analyzing their probability of occurrence and their impacts; provides a response strategy and actions to be taken; and assigns responsibility for monitoring the risk and taking the appropriate actions to a Pontoon Construction Project Team member.

The risk management process used by the Pontoon Construction Project Team includes completion of an annual CEVP workshop. The results of these workshops, as well as the current risk register, are documented in the SR 520 Program's ProjectWise file.

5.1 Risk Management Approach

Risk management is a vital part of the WSDOT Project Management Process. The Pontoon Construction Project Team will implement and continuously upgrade the risk management approach throughout the life of the project.

Primary risk management functions include:

- Monitoring risk and opportunity elements.
- Identifying new risk and opportunity elements.
- Evaluating/upgrading probability of occurrence and potential impacts.
- Devising and implementing response strategies.
- Evaluating and documenting the effectiveness of response actions.
- Reporting to region/organization management and stakeholders.

5.2 Risk-Based Cost Estimating

Estimating the cost, risk and uncertainty of transportation projects is a fundamental WSDOT responsibility. Efforts are underway nationwide to identify tools and techniques to produce more accurate and complete estimates. Traditional estimating practices tend to produce “the number” – the bottom line – for a project. But the single number often masks the critical risk and variation assumptions made implicitly or explicitly for a particular project.

A single number estimate implies a precision beyond what actually can be achieved during planning, scoping or early design phases. Project engineers, project managers, business managers and executives must be prepared to answer three questions often raised by the public and others about our projects. These questions are:

- How much will this project cost?
- How long will this project take?
- Why?

WSDOT has found that the answer to these fundamental questions rests in the fact that an estimate is more accurately expressed, not as a single number, but as a range. WSDOT has developed a process for bringing experts together in workshops to determine this range: the Cost Estimate Validation Process, CEVP, for projects over \$100 million. WSDOT uses the less-intense Cost Risk Assessment, CRA, for projects valued between \$25 million and \$100 million.

A key difference between conventional estimating and CEVP/CRA is the expression of project cost and schedule as a distribution (range) rather than as a single number. To develop this outcome, some of the components of an estimate are described as variables with significant uncertainty or risks. A major part of the CEVP/CRA is to take a conventional project estimate and to separate out the parts of the estimate that represent costs, representing the costs that would result if all goes according to plan, from those costs that would result from risk events, if they should occur. The risk elements are then described in terms of their possible consequences and likelihood of occurrence.

5.3 Risk Management Matrix and Risk Response

Each project within the SR 520 Program will develop and maintain a Risk Management Matrix. The basis for the matrix will be a set of selected, usually high-ranking, risks identified in the Risk-Based Cost Estimation. Additional risk may be identified throughout the year between estimates. *Appendix D* provides the most recent risk management matrix completed for the Pontoon Construction Project.

The following table describes the risk management and response approach that will be used throughout the life of the Pontoon Construction Project.

| Implement and Manage the Risk Management Plan |
|--|
| <ul style="list-style-type: none">▪ Brief team members on the Risk Management Matrix.▪ Risk reviews should be a standing agenda item at team meetings.▪ Maintain the Risk Management Matrix. |

| |
|---|
| <ul style="list-style-type: none"> ▪ Report the status of the Risk Management Plan. |
| Monitor and Control Potential Risk Events |
| <ul style="list-style-type: none"> ▪ Assign a team member to monitor and track risk events. ▪ Risk ratings and prioritization may change over the life of the project. ▪ Identify and report changes in probability of occurrence and potential impact. |
| Identify and Evaluate New Risk Elements |
| <ul style="list-style-type: none"> ▪ Charge team members with responsibility to continuously review project work and conditions and to identify new risk events. ▪ Add new risk events to the Project Management Matrix. ▪ Identify appropriate triggers. ▪ Establish preliminary response strategies. |
| Implement the Risk Management Plan when Risk Events Occur |
| <ul style="list-style-type: none"> ▪ As risk events reach the “imminent” stage: ▪ Review the planned response actions. ▪ Use the Change Management process to enact and implement response actions. ▪ Monitor the effectiveness of each response action. ▪ Document each risk event and response action implemented as a basis for future actions. |
| Manage Risk Response Resources |
| <ul style="list-style-type: none"> ▪ Contingency and Risk Reserve funds are the “last resort” and are used only after all other means for <i>Abatement</i>, <i>Avoidance</i> or <i>Mitigation</i> of risks have been exhausted. ▪ Use of Contingency funds are “in general” used for typical construction changes that are within the contingency budget and authority of the construction manager ▪ Use of the Risk Reserve is managed by the Program Director and is reserved for the unforeseen changes that are outside the scope and authority of the construction manager. |

5.4 Scheduled Risk Assessment

The Pontoon Construction Project will be subject to regular risk assessment throughout the life of the project. As part of good Risk Management, project risk assessment will include risk assessment for schedule impacts. Impacts to the project schedule should be assessed for not only direct project delays but impacts to others SR520 Program projects that may be effected.

6. COMMUNICATIONS PLAN

6.1 Communications Program Overview

WSDOT strives to build and maintain the trust, support and confidence of the public and the media throughout the life of the Pontoon Construction Project. To do this, the project will support WSDOT's "no surprises" policy, which identifies WSDOT as the first and best source of information, whether the news is good or bad. This approach ensures the dissemination of accurate, timely, complete and open communication on project issues, which will be critical given the many different moving elements of the project and the SR 520 Program.

6.2 Communications Plan

Each year the project team will develop a communications and public involvement plan for the Pontoon Construction Project. This plan will align with the SR 520 Program Communications Plan. Some key elements of the plans include:

- Overview of the communications goals, objectives, risks and opportunities.
- Approach for proactively conveying the purpose, benefits, schedule, contracting opportunities and budget for the program to the public, key stakeholders and the media.
- Plan for soliciting comments from the public to help WSDOT understand the concerns of residents, businesses, commuters and community groups.
- Strategy for sharing information about commuter and traffic information, including the identification of communications techniques that best convey local traffic impacts and any work zone accidents.
- Strategy for communicating how construction impacts to local residents and businesses will be mitigated to the greatest extent possible.
- List of the public involvement and media relations specialists responsible for all external program communications, ensuring consistent, accurate and clear messaging resulting in "one voice" for the program.

6.3 External Communications

6.3.1 Key Audiences

The project team will engage the audiences listed below through multiple channels identified in the communication and public involvement plan.

State Government

- Governor Christine Gregoire
- House and Senate Transportation Committee members
- Washington State Transportation Commission
- State legislators from SR 520 corridor
- State legislators from Grays Harbor (Coastal Caucus):
 - Senator James Hargrove, 24th District
 - Representative Lynn Kessler, 24th District
 - Representative Kevin Van de Wege, 24th District
 - Senator Brian Hatfield, 19th District
 - Representative Brian Blake, 19th District
 - Representative Dean Takko, 19th District
 - Senator Tim Sheldon, 35th District
 - Representative Kathy Haigh, 35th District
 - Representative Fred Finn, 35th District

Local Government

- City of Aberdeen
- City of Cosmopolis
- City of Cosmopolis Beach
- City of Elma
- City of Hoquiam
- City of McCleary
- City of Montesano
- City of Oakville
- City of Ocean Shores
- City of Taholah
- City of Westport
- Grays Harbor County
- Port of Grays Harbor

| |
|---|
| Tribal Authorities |
| <ul style="list-style-type: none"> ▪ Quinault Indian Nation ▪ Shoalwater Bay Tribe ▪ The Confederated Tribes of the Chehalis Reservation ▪ Skokomish Tribal Nation ▪ Hoh Tribe ▪ Squaxin Island Tribe ▪ Other tribes as appropriate |
| Co-lead Agencies |
| <ul style="list-style-type: none"> ▪ Federal Highway Administration |
| Pontoon Construction Project Agency Coordination Team |
| <ul style="list-style-type: none"> ▪ See Section 3.1.2.1 of this PMP |
| Media |
| <ul style="list-style-type: none"> ▪ Online resources (Web site) ▪ Print (The Daily World, The Vidette) ▪ Radio (Jodesha Broadcasting – KBKW AM 1450, KXRO AM 1320) ▪ Television |
| Community Groups |
| <ul style="list-style-type: none"> ▪ Chambers of commerce and business associations (Grays Harbor Chamber of Commerce, Grays Harbor Economic Development Council, Hoquiam Business Association) ▪ Contracting, union and labor groups (WorkSource Grays Harbor, Olympic Master Builder’s Association – Twin Harbors Chapter, Northwest Laborers Union, Union Carpenter Local 131) ▪ Environmental interest groups (Grays Harbor Audubon Society, Friends of Grays Harbor, Surfrider Foundation, Grays Harbor Alliance, Chehalis Basin River Land Trust) ▪ Fishing and shellfish harvesting groups (WSU extension office – marine resources, Washington Crab Fishermen’s Association, oyster growers, whale watch operators) |

| |
|--|
| <ul style="list-style-type: none"> ▪ Freight interest groups ▪ Local utilities (Grays Harbor PUD) ▪ Property owners |
| General Public |
| <ul style="list-style-type: none"> ▪ Residents of Hoquiam and Aberdeen and neighboring Grays Harbor communities ▪ Traditionally underrepresented populations included Limited English Proficient populations |

6.3.2 Tools and Techniques

A variety of communications and outreach tools and techniques will be used to deliver, gather and distribute program information, including:

6.3.2.1 Targeted individual/group briefings

The Pontoon Construction Project Team will work to provide the latest information to targeted audiences, including local jurisdictions, Grays Harbor County residents, businesses, community organizations and other key interest groups. Various speaking opportunities will arise during the course of design and construction. The SR 520 Program team will develop a PowerPoint template that can be tailored for specific audience interests and topics.

6.3.2.2 Public hearings/meetings

The SR 520 Program team will conduct hearings and/or meetings with key stakeholders at the appropriate environmental and design milestones. The level of notification and public involvement will depend on the specific milestone and its anticipated effect on stakeholders. Public hearings driven by federal and state regulations will meet all notification/publication requirements.

6.3.2.3 Fair and festival outreach

WSDOT will participate in local community fairs and festivals, including local business/contractor fairs and annual summer community events, to distribute project information and gather public input on project designs, timelines, environmental considerations, etc. In compliance with the principles of environmental justice, the program will continue to conduct outreach and provide translated materials to underrepresented, low-income, and/or minority communities. Some Pontoon Construction Project materials will also be available in Spanish.

6.3.2.4 Elected official outreach

WSDOT will update elected or appointed local officials on a regular basis. The Program Director and Project managers will work with the SR 520 Program communications manager to identify key milestones for engaging elected officials. WSDOT will notify key elected officials prior to releasing information that may generate media and other public interest. The program communications team will maintain a contact list of corridor officials.

6.3.2.5 Tribal authority outreach

WSDOT strives to build and maintain honest, open relationships with tribal authorities through multiple levels of engagement. Throughout the life of the Pontoon Construction Project, WSDOT will work directly with tribal staff and inform appropriate tribal authorities on a regular basis. WSDOT will work to resolve any issues or concerns that arise during the project, recognizing the rights of the tribal governments. All correspondence between WSDOT and tribal authorities will be recorded in the agency's communication database for future reference, and to ensure timely response.

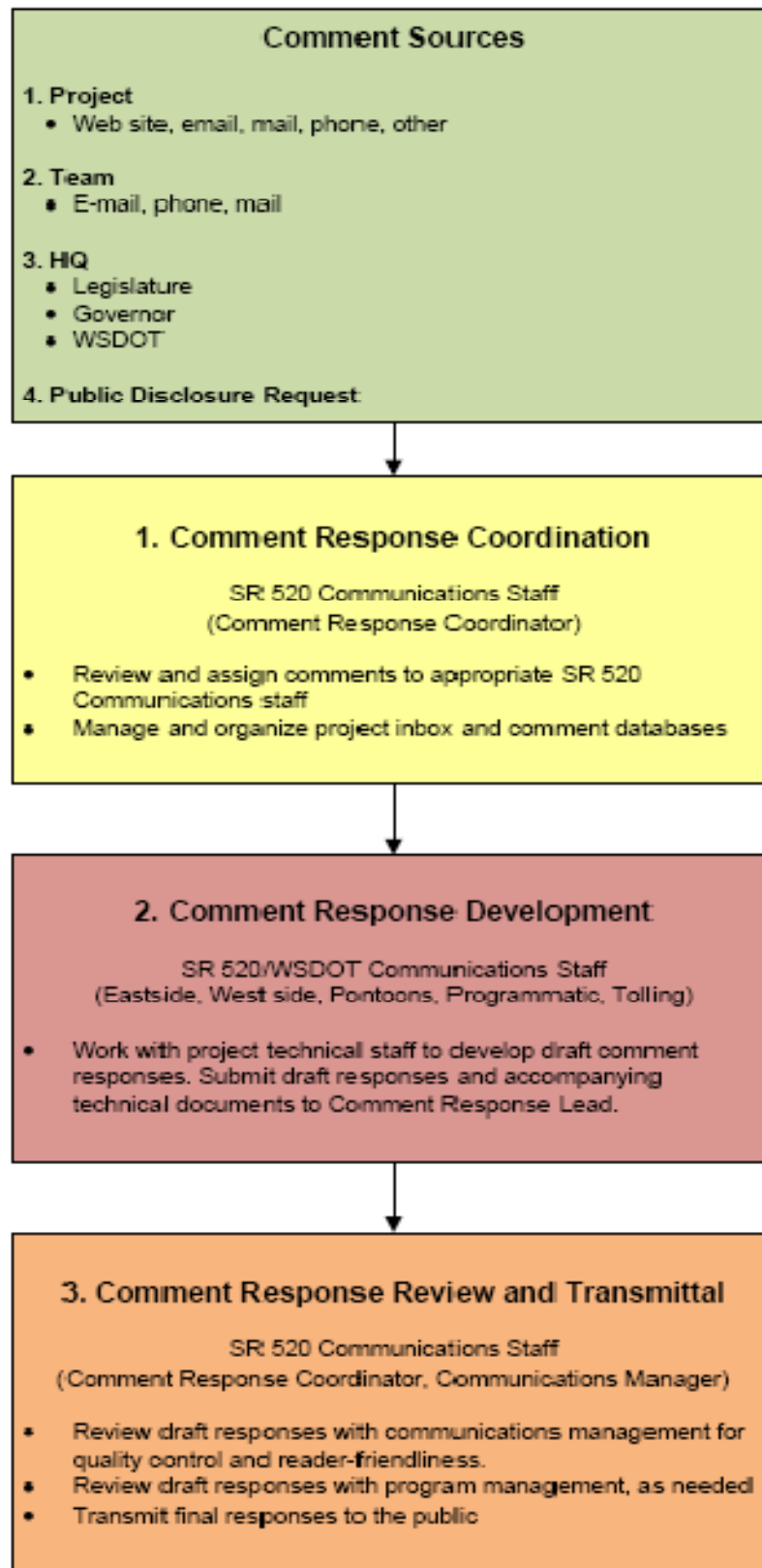
6.3.2.6 Program information line

The program team will maintain the program information line: 1-888-520-NEWS (6397). The information line will provide information about work that directly affects the public, such as fieldwork or lane closures, as well as a status update for each project included in the SR 520 Program. The hotline will be updated monthly to include announcements for major community events and briefings.

6.3.2.7 Project dialogue center

WSDOT receives comments and inquiries from the public throughout the course of the project. As an agency, WSDOT strives to provide accurate responses to inquiries in a timely fashion. All responses will be addressed using the following protocol:

Figure 5: Public Input Protocol



6.3.2.8 Informational communications and materials

The SR 520 Program team will generate and maintain the latest information in a variety of online and traditional hard-copy formats.

Examples of online communications will include:

- Project Web site: <http://www.wsdot.wa.gov/projects/sr520/pontoons>
- E-mail newsletters
- Narrated PowerPoint presentations
- Web-based survey tools

Examples of traditional, hardcopy materials will include:

- Fact sheets and folios
- Informational displays
- Direct mailings

6.3.2.9 Media tracking and support

Developing and maintaining good relationships with local media is key for mega-projects. As the traditional journalism industry declines, WSDOT has been able to successfully “be the media”, by telling the story in a way that engages readers and provides the necessary information to the public and drivers in the region.

Tools that will help the program stay in the know about related stories, proactively tell our story, and provide factual data about the program include:

- Press releases
- Reporter briefings
- Media events
- Daily tracking of related media stories (maintaining logs)

6.3.2.10 Special events

The SR 520 Program team will seek out and be prepared to host or participate in special events to promote the project.

6.4 Internal Communications

6.4.1 Overview

The SR 520 Program Leadership and Senior Management teams will develop an internal communications strategy to better define the communications processes between the project delivery team members. They will establish an internal communications network to create open lines of communication and support

between all project and functional teams, channeling all external communications through the program communications team.

Major interfaces will be identified between the Pontoon Construction Project and functional teams. Responsibilities, authorities and communications procedures (meetings, memorandums, authorizations, reviews, etc.) will be established and documented at each identified interface.

6.4.2 Audience

To deliver a program the size of SR 520, WSDOT relies on resources from different agency region offices and groups (HQ, Olympic Region, Northwest Region), as well as private contractors organized into both functional and project teams. Because the Pontoon Construction Project will take place in Grays Harbor County, staff from WSDOT's Olympic Region will be involved.

6.4.3 Tools and techniques

A variety of tools and techniques will be required to ensure efficient coordination and keep all team members up-to-date on the latest program information, including:

6.4.3.1 Monthly all-program team meetings

All SR 520 Program staff, both WSDOT and consultant, will participate in monthly meetings with program management. The meetings will be used to update the team about key accomplishments, decisions and issues affecting the program.

6.4.3.2 Pontoon project all-staff meetings

The project will host Pontoon Construction Project all-staff meetings around key project milestones to ensure consistent messaging and provide an opportunity for all disciplines to ask questions and confirm coordination.

6.4.3.3 Program and project update e-mails

The SR 520 Program director will send an e-mail message to all program staff summarizing key "no surprises" items for the program. This includes a listing of key briefings and meetings, decisions and issues. In addition, the Pontoon Construction Project Manager will send e-mail updates to all project staff announcing any important new information.

6.4.3.4 Communications protocol document

A protocol document will be developed and distributed to all SR 520 Program staff summarizing the approved protocols for coordination and communication with all external parties. This document will help program staff follow the appropriate internal procedures and processes before communicating externally. Coordinated communication with external parties helps keep the SR 520 Program on schedule by streamlining communications and reducing inconsistent messaging and information.

Update, December 2010: The Construction Communications/Public Involvement Plan was initially prepared in November 2009. The plan is updated on an on-going basis as needed.

6.4.3.5 External communications tracking systems

Members of the Pontoon Construction Project Team will incorporate all external coordination and contacts, key questions/comments and schedule updates into one centralized spreadsheet known as the “information vault.” The project will maintain a calendar of all external events to help provide strategic coordination among disciplines.

7. QUALITY PLAN

Quality Control is the evaluation of the individual components of a project to monitor the accuracy and completeness of the work, specifically the performance of document and design reviews, and the planning and execution of project file and performance audits. Quality Assurance is the process of ensuring that work is performed in a professional and accurate manner, meets WSDOT expectations, limits risk, complies with laws and regulations, and meets accepted industry practices.

The goal of the quality plan is to establish, maintain and continually improve the efficiency of quality procedures that are consistent with project-specific requirements. The quality plan is designed to ensure that technical tasks: (1) result in improved work products and services, (2) are performed according to accepted industry practice, (3) are consistent with emerging technologies, (4) comply with laws and regulations, and (5) conform to WSDOT Quality Assurance policy.

The Pontoon Construction Project will follow the Quality Control and Assurance Plan that has been developed for the SR 520 Bridge Replacement and HOV Program, which is incorporated by reference into this document.

7.1 Design QC/QA Planning

The SR 520 Program Quality Control and Assurance Plan is a detailed document that specifies design procedures, documentation and forms. Among other things, it addresses:

- Control of data collection and field investigations.
- Procedures for preparing and checking individual plans, specifications, estimates, calculations and other submittal items.
- Procedures for preparing and checking any unique or highly specialized designs.
- Procedures for coordinating work performed by different people for related tasks, to ensure that conflicts, omissions or errors do not occur between drawings or between drawings and other design documents.
- Level, frequency and methods of review of the adequacy of the total project design. Methods by which all final design documents will be independently reviewed; verified by constructability, completeness, clarity and accuracy; and back-checked.
- Level and frequency of audit and oversight design reviews to be performed by the WSDOT, FHWA, independent consultants, and/or other agencies.

- Procedures for reviewing and checking design drawings and documents required during construction.
- Documentation and submission procedures to ensure that the established design QC/QA procedures have been followed.

Other design QC/QA requirements, including design standards to be adhered to, design criteria specific to the project, and qualifications for key personnel are addressed in the SR 520 Office Operations and Procedures Manual and the SR 520 Computer Aided Design and Drafting (CADD) Manual.

8. TRANSITION PLAN AND PROJECT CLOSEOUT

Effective project management includes planning and managing the transition of project staff from one major phase of the project to the next, and ultimately, to other projects. Some project staff may stay with the project from start of planning to finish of construction. Other staff may be part of the project team for specific phases only. Project schedule and budget can be affected if too few or too many staff work on the project at any given time, or if the right skill sets are not available at the right time. Additionally, project team members need reasonable advance notice of changes and transitions that affect them as individuals.

For these reasons, the Pontoon Construction Project Management Team is in the process of developing a “Transition Plan” that will include the following elements:

Phasing Out of Consultant Resources. Planning is currently underway to efficiently phase out consultant resources as work force needs diminish. This will be a gradual process that will occur between now and some point (to be determined) before the end of the project. The objective is to phase out our consultant staff in a manner that enables the project to meet committed ad dates, and provides co-located consultant employees with sufficient opportunities for obtaining employment elsewhere to the extent possible.

Project Office. The direction of the Pontoon Construction Project Office, after completion of the Preliminary Engineering (PE) is to transition project staff to 1) support pontoon project construction activities, or 2) support other SR 520 Program projects, or 3) non-SR 520 Program assignments.

8.1 Project Phases

8.1.1 Environmental and Preliminary Design

8.1.1.1 NEPA/SEPA Process

A joint National Environmental Policy Act (NEPA)/State Environmental Policy Act (SEPA) Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) will be completed for the Pontoon Construction Project in the first quarter of 2011. The Notice of Intent to prepare the EIS was issued in December 2007. The objective of the EIS is to document the environmental analysis, proposed mitigation measures, and the public, interagency, and tribal coordination as required by NEPA and SEPA. The EIS documents potential environmental impacts for two alternative project sites. The alternative sites were identified through a regional site identification and screening process that included input from regulatory agencies and interested tribal nations.

In order to advance Endangered Species Act (ESA) Consultation and early permit coordination, an agency preferred alternative was identified prior to the public release of the Draft Environmental Impact Statement (DEIS), and rationale

for this preference was described in the DEIS. WSDOT has fully considered all comments submitted during the 45-day public comment period - that immediately followed the issuance of the DEIS. The FEIS includes responses to all substantive comments.

Early agency and tribal coordination was initiated prior to beginning the NEPA/SEPA process in order to ensure that milestone NEPA/SEPA decisions - such as purpose and need, alternative screening criteria, range of alternatives, and preferred alternative - are aligned with applicable plans, laws and regulations, tribal treaty rights, and tribal interests. Preliminary design, and environmental reconnaissance and analysis work will continue to be advanced to the level necessary to respond to issues of regulatory concern and support environmentally-informed and compliant decisions throughout the NEPA/SEPA process.

An agreement to advance the environmental analysis and preparation of the NEPA/SEPA documentation to complete DEIS was issued in early 2008, and an amendment for the preparation of the Final EIS and ROD followed in May 2010. The final EIS is expected to be completed by the end of 2010.

Update, December 2010: The final EIS was published in December 2010 and ROD will be signed in January 2011.

8.1.1.2 Endangered Species Act (ESA) Consultation

Section 7 of the ESA requires that projects with federal funding or other federal nexus consult with the appropriate federal agencies to determine if the project could jeopardize the continued existence of an ESA-listed species or adversely modify any designated critical habitat. ESA requires that potential effects to listed species are evaluated in a Biological Assessment, which documents the potential effects of the preferred alternative on listed species and habitat. After review of the Biological Assessment, the US Fish and Wildlife Service and NOAA fisheries each issue a Biological Opinion that includes terms and conditions to avoid and minimize adverse effects on listed species and habitat. These terms and conditions are included in the Final EIS and ROD.

WSDOT has been working in cooperation with the federal services that oversee ESA since 2007 to analyze and determine potential effects of the project on ESA-listed species. The Biological Assessment is expected to be complete in the spring of 2010, and the Biological Opinion from the services is expected in the fall of 2010 before the FEIS is issued.

Update, December 2010: The Biological Opinion was signed by NMFS in October 2010.

8.1.1.3 Section 106 of the National Historic Preservation Act (NHPA) Consultation

Section 106 of the National Historic Preservation Act (NHPA) requires agencies to consider a project's effects on historic districts, sites, structures, and objects that are listed in or eligible for inclusion in the National Register of Historic Places (NRHP). In order to evaluate the project's potential effects on cultural resources

at the two alternative sites, WSDOT, in partnership with the Washington Department of Archaeology and Historic Preservation (DAHP), established the Area of Potential Effect (APE) for the project. WSDOT has completed research and field work to identify potential Section 106 resources within the APE of both alternatives under evaluation in the EIS. WSDOT consulted with Native American tribal nations with possible historical ties to the alternative sites on potential resources within the APE that could be adversely impacted by the project.

Close coordination with both the Washington DAHP and interested tribes was initiated before the NEPA/SEPA process began in order to identify issues early and ensure decisions that were in alignment with the NHPA and tribal interests.

8.1.1.4 Early Permit Coordination

Federal, State, and local permits will be required to implement the Pontoon Construction Project. In order to streamline the permitting process in Washington State, regulatory agencies collaborated to develop a single application form, called the Joint Aquatic Resources Permit Application (JARPA) that can be used to apply for multiple permits. WSDOT will use the JARPA application and process to apply for several permits including but not limited to:

- US Army Corps of Engineers Rivers and Harbors Act Section 10 and Clean Water Act Section 404 permits
- The Washington Department of Ecology Clean Water Act Section 401 Water Quality Certification
- Washington Department of Fish and Wildlife Hydraulic Project Approval
- Washington Department of Natural Resources Aquatic Land Use Authorization
- Local Shoreline Permits

Coordination with federal, state, and local permitting agencies began at the onset of the NEPA/SEPA process to ensure decisions that were not in conflict with permit regulations and to facilitate expedited permit application processes. WSDOT is pursuing issuance of environmental permits before or shortly after the ROD in order to begin construction as soon as possible.

8.1.2 Construction

The WSDOT Olympic Region will provide most, if not all, staff for day-to-day management of construction activities during the construction phase. Because the Pontoon Construction Project will be a design-build project, the design-build contractor will complete final design during the construction phase. The SR 520 Program office will retain ultimate regional authority and responsibility for project direction and decisions.

Part 2 of this Project Management Plan describes the project management approach after execution of the design-build contract when the design-build contractor has been added to the project team. The design-build phase includes both final design and construction of the project.

The design-build contract will be awarded prior to completion of the environmental documentation. The design-build contractor will perform design activities until the ROD has been issued and all needed permits have been acquired. Actual construction will not begin until ROD and permits have been received.

Update, December 2010: The design-build contract was executed in February 2010. The FEIS was published in December 2010 and ROD to be signed in January 2011. All permits are anticipated to be received by March 2011.

8.1.3 Transition Between Phases

Olympic Region Management and SR 520 Program Senior Management are currently planning details for hand-off from design management to construction management. The transition will be somewhat lengthy, as the design-build contractor will be on board and assisting with preliminary design for nearly a year before final design and actual construction activities begin.

This PMP will be updated to further address the project's transition phase once transition plans are complete.

8.2 Project Closeout

The Pontoon Construction Project Office will conduct project closeout activities following pre-construction and construction project phases. Detailed plans for pre-construction closeout activities are included in Part 2 of this PMP.

Documentation and closeout will be performed in accordance with WSDOT procedures as described in the WSDOT Design Manual M 22-01, Construction Manual M 41-01, and Chapter 1 of the Request for Proposals (RFP). These Closeout activities will address the following elements:

- Acceptance of work – Plan for and implement specific procedures for the acceptance of the work involved in the transition or closure, including formal acknowledgement of the transfer of responsibility.
- Agreements and Commitments – Develop and implement a plan to close all governmental, local and utility agreements and to close any environmental commitments.
- Demobilization of staff and resources – Plan for and implement specific procedures for staff reassignment; the return of facilities and equipment; and the termination of services no longer needed for the project.
- Financial closure activities – Review, identify and implement region/organization and program management requirements, and

implement specific procedures for closing the financial and accounting activities of the project.

- Archiving – Develop and implement specific procedures for collecting, organizing and storing the final project records.
- Lessons Learned – Develop and implement specific procedures and assignments for a formal Lessons Learned collection and documentation process that complies with the requirements on the WSDOT Lessons Learned system.
- Recognition of success – Develop a plan for recognizing and rewarding excellence in both team and individual performance throughout the project and for recognition activities at the completion of project work.

9. PROJECT DOCUMENTATION MANAGEMENT

The SR 520 Bridge Replacement and HOV Program have developed document management procedures that apply to all projects within the program. The Pontoon Construction Project will follow these document management procedures and the SR 520 Business Procedures Manual, which are incorporated here by this reference.

9.1 Project File

The project file takes two forms: 1) electronic files on the WSDOT server or on ProjectWise, and 2) hard copies of documents filed in flat files, bookcases or shelves designated throughout the Project Office. Typically, the project file structure is reflective of the contract or Scope of Work.

Additional information on the project file structure for the SR 520 Program can be found in the SR 520 Program Quality Control and Assurance Plan. Following the Quality Audit of a quality control review package, hard copies of the items below will be filed in the project file:

- Quality Control Documentation Form
- Quality Control Check Print Set
- Quality Control Clean Print Set
- Quality Audit Documentation Form
- Original Comment Resolution Form (with initial status code complete and signed by author and reviewer)
- Original Review Package Mark-ups (if provided by any reviewer)
- Copy of completed Comment Resolution Form (remarks complete by author)
- Any Quality Control Check Print Set (If changes were necessary following revisions from external-internal/external review)

These documents will be retained for seven years after the project's completion.

9.1.1 Document Control

Once a deliverable, as defined in the scope of work related to various task orders, is submitted and necessary reviews deem it technically complete, free of error and in alignment with the original intent, it will be transferred to WSDOT Document Control for filing within the state's system. Hard copies of each submitted document are available in the Document Control Library located in the SR 520 Project Office. Each submitted document is also provided electronically and is electronically filed using Expedition.

The original deliverable document must be submitted to the Project Engineer with a transmittal letter listing the original to be submitted to Document Control. The Transmittal Letter will include the Contract Agreement Number, the Task Order Number and the Deliverable Document Number.

Additional information on document control for the SR 520 Program can be found in the referenced SR 520 Business Procedures Manual.

9.1.2 Design Documentation Package

The purpose of a design documentation package (DDP) is to document both the design criteria and decisions made during project development. These include, but are not limited to, project scope, applied design standards, design deviations, and engineering reports.

Within the current design-build context, the project team produces a Design Approval Package (DAP) and initiates the DDP, while the responsibility for completing the balance of the DDP rests with the design-builder. Allocation of responsibility for completing the DDP is called out within the DDP Checklist, as provided within the DAP.

The approved DDP and DAP provide the basis by which WSDOT can defend itself against litigation concerning project design.

9.1.3 Administrative Record

An administrative record is intended to document decisions made as part of the NEPA process. These include, but are not limited to, decisions on the scope of the environmental analysis, the alternatives evaluated, and selection of a Preferred Alternative. Any document available to the decision-making agency for use in reaching any decisions regarding the Pontoon Construction Project will be included in the record. These documents could include, but are not limited to, e-mails, technical reports, meeting minutes, and letters.

The Pontoon Construction Project's Administrative Record will be compiled and maintained as part of the larger SR 520 Program's administrative record effort. The Pontoon Construction Project's administrative record will be electronic. Designated SR 520 Program staff will compile the each project's administrative record in compliance with WSDOT's 2009 Environmental Project Electronic Content (ECM) Guidelines. Project files that should be included in the administrative record will be copied to Livelink, an electronic file management system.

The administrative record will be considered complete at the project's Record of Decision. The record will serve as a foundation for defense against any litigation.

10. OTHER REQUIREMENTS

10.1 Value Engineering, Value Analyses, and Constructability Risk Management Plan

Value Engineering is a systematic, multi-discipline approach designed to optimize the value of each dollar spent. The Pontoon Construction Project Team will use Value Engineering during the design phase in order to identify and develop possibilities for adding value to the project and/or reducing the construction cost or schedule.

The Pontoon Construction Project completed one VE study prior to selection of a preferred alternative. The site was dropped for environmental reasons. A second VE study was completed in the summer of 2009, following selection of a preferred alternative. The study examined the structural design of the basin itself, including the slab, piles, walls and gate.

10.2 Right of Way

Real Property requirements will be determined in the course of project final design, although some critical parcels maybe acquired through the Early Right of Way Acquisition process near the end of the FEIS phase. At that time, this section of the PMP will be developed in further detail.

WSDOT may use consultants and contractors for the management and execution of acquisition, relocation and property management related services. Consultants will maintain acquisition files in accordance with project control procedures, and original documents will be delivered to WSDOT headquarters for recording and storage.

ROW acquisition is governed by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (URA); USC Title 23; USC Title 49; Chapter 8.26 RCW; and Chapter 468-100 WAC. The acquisition process is highly proscriptive to equitably balance the obligations and rights of the public with those of affected property owners and tenants. WSDOT maintains a ROW manual that specifies the manner in which the state will apply the ROW related requirements of Title 23 and Title 49 in accordance with state law.

When necessary and appropriate, interests in real property, e.g. fee, easements, or temporary construction easements, to be acquired as part of the project will be tracked in a ROW database for efficient management of the acquisition process. The ROW database will track the status of acquisition related activities and, through reporting, facilitate the sharing of essential information between Management and supporting organizations. This database will also support tracking and managing ROW acquisition costs.

The project team will monitor the ROW acquisition process for schedule and cost impacts. Schedule requirements for acquisitions will be coordinated with construction requirements and incorporated into the project schedule.

10.3 Procurement and Contract Management

Design

Projects within the SR 520 Program rely on a variety of consultants to accomplish specialized tasks, such as design, construction management and environmental services. The Agreements Manager, with the technical cooperation of the Project Management Team and Business Unit, administers these contracts. Agreements Management is responsible for ensuring compliance with the contract terms and conditions and legal aspects of the contract, while the project managers are responsible for ensuring compliance with the contractual scope of work.

Selection of consultants for the project will comply with WSDOT “Consultant Services Procedures Manual” M 27-50. Consultant Master Agreement contracts and Task Orders will be prepared and administered in accordance with WSDOT Manual M 27-50 and SR 520 Business Management Procedures.

WSDOT contracts with consultants to assist with preliminary engineering activities leading up to completion of the environmental documentation and design-build request for proposals. Consultants are selected in accordance with the WSDOT procedures referenced above. The majority of the consultant assistance for preliminary engineering for the SR 520 Program is provided by the SR 520 Bridge Replacement and HOV Project General Engineering Consultant (GEC). This consultant contract was procured through a competitive selection process and executed in February 2006. Pursuant to state and federal regulations, a qualifications-based selection process was used to evaluate and select the GEC. Request for Qualifications (RFQs) was advertised in pertinent major publications, and consultants submitted written packages describing their qualification and experience. A submittal review team reviewed and scored the submittals to establish a ranked list of qualified consultants and select the GEC.

In addition to the GEC, preliminary engineering assistance may be provided by consultants who are contracted with WSDOT on an on-call basis to provide services in specific engineering disciplines. The WSDOT on-call contracts are procured in accordance with the WSDOT procedures referenced above.

Construction

The project’s contracting strategy must accommodate the project schedule and budget, and satisfy federal, state and local requirements concerning such issues as Disadvantaged Business Enterprise (DBE) participation. The selection of contractors will conform to WSDOT’s contracting procedures, and a competitive process will be used.

The WSDOT standard contracting procedures outlined in the documents listed below will be used in the bidding and contract award process.

- Advertisement and Award Manual
- Construction Manual
- Standard Specifications

10.3.1 Innovative Procurement Strategies

The 520 Project Director, Headquarters Construction Staff, and WSDOT executives will evaluate non-traditional contract formats and contracting techniques for the SR 520 project sections. FHWA Headquarters approval under Special Experimental Projects (SEP-14) will be sought for any non-traditional construction contracting techniques that deviate from the competitive bidding provisions in 23 USC 112 or use a method of award other than lowest responsive bidder (or force account as described in 23 CFR 635B).

Non-traditional contracting techniques may include design-build, best value, life cycle cost bidding, qualifications-based bidding and other methods where cost and other factors are considered in the award process. The Design-build contracting method will be used for final design and construction of the Pontoon Construction Project.

10.3.2 Contract Management

The SR 520 Business Unit and Contracts groups are preparing a Contract Management Plan for the SR 520 Program. The Contract Management Plan will formalize how procurement decisions are made and the types of contracts to be utilized. Consideration will be given to the size and length of contracts as they relate to bonding capacity, the number of likely bids and other market conditions. The plan will also address contract administration, performance reporting, claims administration, and records management, as well as the development, management and closeout of task orders for consultant services.

10.3.3 Authority Delegations

Signing authority and delegations for the project are contained in the WSDOT Signature Authority Matrix.

10.3.4 Disadvantaged Business Enterprises (DBES), Minority and Women-Owned Businesses, and Small Business Procurements

The Office of Equal Opportunity (OEO) manages and monitors WSDOT's Equal Opportunity, Affirmative Action, and Contract Compliance projects. OEO has two basic units: The External Civil Rights Branch (ECRB) and the Internal Civil Rights Branch (ICRB). The goal of OEO's projects and services is to support and enhance WSDOT's commitment to a diverse workforce.

WSDOT submitted an interim DBE goal methodology to the FHWA for review and approval pursuant to 49 CFR 26.45 to establish the overall DBE goal for federally assisted highway contracts.

For federal fiscal year (FFY) 2006, WSDOT established a proposed interim goal of 12.70 percent.

WSDOT encourages the voluntary use of DBE firms in the design and construction of its projects, as these will be counted toward WSDOT's overall race-neutral goals. The Office of Equal Opportunity (OEO) is closely monitoring these race-neutral activities and their results.

The Washington State Office of Minority and Women's Business Enterprises (OMWBE) will continue to certify DBE firms and maintain the directory of MBE, WBE and DBE firms. In addition, under contract with WSDOT, OMWBE will continue to provide support services for DBEs performing highway related work.

10.3.5 Protest Procedures

Protest procedures will follow state procurement regulations.

Pontoon Construction Project Project Management Plan

Part 1: Preconstruction

Appendices

APPENDIX A: SR 520 PROGRAM CHARTER

**APPENDIX B: PONTOON CONSTRUCTION PROJECT INTEGRATED SCHEDULE
SUMMARY**

**APPENDIX C: PONTOON CONSTRUCTION PROJECT WORK BREAKDOWN
STRUCTURE**

**APPENDIX D: CURRENT PONTOON CONSTRUCTION PROJECT RISK
ASSESSMENT MATRIX**

APPENDIX A: SR 520 PROGRAM CHARTER



PROJECT CHARTER

MISSION STATEMENT

“To deliver the SR-520 Bridge Replacement and HOV Program, to improve corridor safety and regional mobility, while incorporating community values and enhancing the environment
- all within adopted schedule and budget.”

VISION STATEMENT

“To be recognized by the public for delivering an innovative and environmentally sensitive transportation corridor, considering the needs and desires of the communities and the region which it serves.”

KEY GOALS

- ~ Improve Safety and Reliability ~
- ~ Increase Mobility for People and Goods ~
- ~ Avoid, Minimize, and/or Mitigate the Project Effects on Neighborhoods and the Environment ~
- ~ Employ Efficient and Cost Effective Delivery Practices ~
- ~ Capitalize on Funding Opportunities ~
- ~ Deliver a Quality Program within the Agreed Schedule and Budget ~
- ~ Be Ready to Implement Actions Necessary Following a Catastrophic Seismic or Weather-Related Failure ~



PROJECT CHARTER

OPERATING PRINCIPLES

We understand and respect the trust given to us to always act in the public's best interest

We take strategic risks to add value and achieve our goals and objectives

We inform leadership sufficiently regarding the risks we take

We strive to meet or exceed our client's expectations

We make, and keep, commitments to the public and our team

We demonstrate leadership at all levels

We are accountable, take ownership, communicate and deliver

We succeed by working with a common vision and understanding of roles & responsibilities

We consider mistakes as lessons-learned on the path to improvement

We proactively consider creative options and identify solutions

We resolve issues at the lowest appropriate levels

We communicate in a fair, open, professional and honest manner to build trust

We promote positive public relations, external & internal communications

We create opportunities for mutual benefit and team development

We take pride in the program's accomplishments and the team's successes

We seize opportunities to develop individuals

We strive to create a positive and enjoyable work environment - have fun!

APPENDIX B: PONTOON CONSTRUCTION PROJECT INTEGRATED SCHEDULE SUMMARY

| Activity ID | SR520 Program Plan (Global) | Actual Total Cost | EAC | CPI | SPI | Start | Finish | 07 | 2008 | | | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | | 2018 | |
|--|-----------------------------|-------------------|--------------|------|------|------------|----------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|--|------|--|
| | | | | | | | | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | 03 | 04 | 01 | 02 | | | |
| 1.04.3.1.06 CTC Pontoon Component Construction | \$22,014,816 | \$0 | \$22,014,816 | 0.00 | 0.00 | 06-08-10 | 06-05-12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.04.3.1.10 Project Closeout | \$0 | \$0 | \$0 | 0.00 | 0.00 | 03-26-14 | 05-19-14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.04.3.9 Pontoon Contingency | \$0 | \$0 | \$0 | 0.00 | 0.00 | 01-04-10 | 06-11-14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.11 SR520 Pontoon Mitigation Project | \$14,306,932 | \$127,776 | \$14,696,699 | 0.95 | 0.90 | 01-02-08 A | 06-02-23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.14 SR520 Pontoon Moorage | \$0 | \$0 | \$18,700,000 | 0.00 | 0.00 | 10-01-09 A | 08-25-15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.15 SR520 Pontoon Site Restoration Project | \$0 | \$32,369 | \$478,369 | 0.77 | 1.06 | 08-12-09 A | 02-08-10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--|--------------------------------|---|
| Start Date: 01-01-05 Finish Date: 06-02-23 Data Date: 12-01-09 Run Date: 12-16-09 | SR 520 Pontoon Project Summary | <div>◆ Current Finish</div> <div>◆ Baseline Finish</div> <div>Summary</div> |
|--|--------------------------------|---|

**APPENDIX C: PONTOON CONSTRUCTION PROJECT WORK
BREAKDOWN STRUCTURE**

| Project ID | Activity ID | WBS | Activity Name | |
|--|-------------|------------------------------------|--|--|
| 1 SR 520 Bridge Replacement & HOV Program | | | | |
| 1.04 SR520 Pontoon Construction Project | | | | |
| 1.04.0 High Level Milestones from Public Visio Picture | | | | |
| 1.04.0.90 Site Construction | | | | |
| 1.04.0.91 Pontoon Construction (Non-CTC) | | | | |
| 1.04.1 Preliminary Engineering Pontoon Project Design U52003A XL-2672 | | | | |
| 1.04.1.1 Pontoon Project Site Design | | | | |
| 1.04.1.1.01 Project Management / Strategic | | | | |
| 1.04.1.1.99 HQ Redistribution / SPMG | | | | |
| 1.04.1.1.02 Engineering | | | | |
| 1.04.1.1.10 Design / Build | | | | |
| 1.04.1.1.63 Stipends for unsuccessful bidders | | | | |
| 1.04.1.1.XX Deobligation | | | | |
| 1.04.1.2 SR 520 Pontoon - Environmental | | | | |
| 1.04.1.2.00 Milestones | | | | |
| 1.04.1.2.01 Project Management | | | | |
| 1.04.1.2.02 Technical Studies | | | | |
| 1.04.1.2.04 Section 106 Consultation | | | | |
| 1.04.1.2.05 Endangered Species Act Consultation for Pontoon Constr. | | | | |
| 1.04.1.2.03 NEPA/SEPA Compliance | | | | |
| 1.04.1.2.07 Permitting Activities | | | | |
| 1.04.1.2.XX Deobligation Account | | | | |
| 1.04.2 Right of Way Pontoon Project R/W Acquisition U52003A / RW-5045 | | | | |
| 1.04.2.1 Pontoon Project Right of Way | | | | |
| 1.04.2.1.01 IDD ROE | | | | |
| 1.04.2.1.02 Real Estate / RW Services | | | | |
| 1.04.2.1.03 Leases - Tacoma | | | | |
| 1.04.2.1.04 Grays Harbor | | | | |
| 1.04.2.1.06 Lease/Permit - Moorage Site | | | | |
| 1.04.2.1.07 Disposal, Access | | | | |
| 1.04.3 Construction Pontoon Project Construction U52003A / 00-7826 | | | | |
| 1.04.3.1 Pontoon Construction | | | | |
| 1.04.3.1.00 Contract Dates | | | | |
| 1.04.3.1.01 Grays Harbor Construction | | | | |
| 1.04.3.1.01.01 Contractor Design | | | | |
| 1.04.3.1.01.02 Site Construction | | | | |
| 1.04.3.1.01.15 Pontoon Construction | | | | |
| 1.04.3.1.01.08 Pontoon Moorage | | | | |
| 1.04.3.1.06 CTC Pontoon Component Construction | | | | |
| 1.04.3.1.10 Project Closeout | | | | |
| 1.04.3.9 Pontoon Contingency | | | | |
| 1.11 SR520 Pontoon Mitigation Project | | | | |
| 1.11.1 Mitigation PE | | | | |
| 1.11.1.3 Pontoon Mitigation | | | | |
| 1.11.1.3.06 Mitigation | | | | |
| 1.11.1.3.67 Design / Bid / Build - Mitigation | | | | |
| 1.11.2 Mitigation ROW | | | | |
| 1.11.2.2 Mitigation ROW | | | | |
| 1.11.2.2.05 Aquisition - Mitigation Site | | | | |
| 1.11.3 Mitigation Construction | | | | |
| 1.11.3.2 Pontoon Mitigation | | | | |
| 1.11.3.2.09 Mitigation Site (Development/Construction) | | | | |
| 1.14 SR520 Pontoon Moorage | | | | |
| 1.14.01 Moorage Preliminary Engineering | | | | |
| 1.14.01.01 Moorage Engineering | | | | |
| 1.14.01.01.01 Moorage Engineering | | | | |
| Start Date: 01-01-05 Finish Date: 10-06-23 Data Date: 12-04-09 Run Date: 05-25-10 | | Pontoon Construction Program... | File: XL2672_STATE... Layout: ZZ_EPC_WSDOT_WBS Summary Layout TASK filter: wbs 2 is not equal to blank. Page 1 of 2 | |

| Project ID | | Activity ID | WBS | Activity Name |
|--|--|------------------------------------|-----|--|
| <div></div> | | | | 1.14.02 Moorage Right of Way |
| | | | | 1.14.02.01 Moorage ROW |
| | | | | 1.14.02.01.01 Moorage ROW |
| | | | | 1.14.03 Moorage Construction |
| | | | | 1.14.03.01 Moorage Construction |
| | | | | 1.14.03.01.01 Moorage Construction |
| | | | | 1.15 SR520 Pontoon Site Restoration Project |
| | | | | 1.15.01 Site Restoration Preliminary Engineering |
| | | | | 1.15.01.01 Site Restoration Engineering |
| | | | | 1.15.01.01.01 Site Restoration Engineering |
| | | | | 1.15.03 Site Restoration Construction |
| | | | | 1.15.03.01 Site Restoration Construction |
| | | | | 1.15.03.01.01 Site Restoration Construction |
| | | | | 1.16 SR520 Pontoon Program Contingency |
| | | | | 1.16.01 SR520 Pontoon Program Contingency |
| | | | | 1.16.01.01 SR520 Pontoon Program Contingency |
| Start Date: 01-01-05 Finish Date: 10-06-23 Data Date: 12-04-09 Run Date: 05-25-10 | | Pontoon Construction Program... | | File: XL2672_STATE... Layout: ZZ_EPC_WSDOT_WBS Summary Layout TASK filter: wbs 2 is not equal to blank. Page 2 of 2 |

APPENDIX D: CURRENT PONTOON CONSTRUCTION PROJECT RISK ASSESSMENT MATRIX

| Project Title | WSDOT SR-520 Pontoon Construction | | | RISK MANAGEMENT SUMMARY RESULTS | |
|---|-----------------------------------|-----------------------|-----------|---|-----------|
| Estimate Date | | Target AD date | 07/17/09 | Planned and Actual | (\$ M) |
| Project PIN # | | Estimated CN Duration | 57.9Mo | Expected Value Total Risk Before Response | -17.1 \$M |
| Last Review Date | | Estimated PE Cost | 37.0 \$M | Expected Value Total Risk After Response | -19.7 \$M |
| Project Manager | | Estimated ROW Cost | 16.9 \$M | Estimated Cost to Respond | 0.0 \$M |
| Est \$ Impact of Significant Project Risks (cost & schedule) | | Estimated CN Cost | 693.4 \$M | Potential Cost Savings | 2.5 \$M |

| Functional Area | Post-Response | Pre-Response | Functional Area | Post-Response | Pre-Response |
|-------------------------------|---------------|--------------|-----------------------------|---------------|--------------|
| Construction | 4.7 \$M | 5.7 \$M | Management / Funding | 0.0 \$M | 0.0 \$M |
| Right-of-Way | 0.0 \$M | 0.0 \$M | Structures & Geo-tech | 1.6 \$M | 1.6 \$M |
| Design/PS&E | 1.8 \$M | 2.1 \$M | Utilities | 0.0 \$M | 0.0 \$M |
| Railroad | 0.0 \$M | 0.0 \$M | Environmental & Hydraulics | 0.4 \$M | 5.6 \$M |
| Partnerships and Stakeholders | 0.4 \$M | 0.4 \$M | Contracting and Procurement | 2.1 \$M | 2.2 \$M |

| Pre-Response | | | | | | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|------------|--------|-----------|--------------------------------|-------------------------------|--|--|--|---|--|----------------------------|-------------------------------|--|-------------|---------------|-------------|-------------------------|--|-------------------|---|---|--|--|--|------------|-------------------|----------------------------------|----------------------------|---------------------------|-----------------------|--------------------------------------|----------------------------|---------------------------------|-----------------------|--------------------------------|-------------------------|-------------------------|-------------|-------------|--|---------------------------------------|----|-------|------------|
| Update History | Risk # | Status | RBS Group | Project Phase--Date Identified | Phase (grs CH, CN, or ROW) | Summary Description Threat and/or Opportunity | Detailed Description of Risk Event (Specific, Measurable, Attributable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/ Cost of Schedule Delay | Risk Impact (\$M or Mo) | | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | | | | | Risk Owner | Risk Review Dates | Date, Status and Review Comments | | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | | Expected Impact (Post-Response) | Cost to Respond [\$M] | Est. Risk Avoided [\$M/Months] | Probability | Impact | Risk Matrix | | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | |
| (10) | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (10a) | (11) | (12) | (13) | (14) | (15) | | (15a) | (16) | (17) | | | | | (18) | (19) | (20) | | (21) | (22) | (22a) | | (23) | (24) | (25) | (26) | (27) | (28) | | (28a) | | | | |
| Current | VE1 | Active | | Design/PS&E | May-09 | Gate | Value engineering recommendation #1, modifications to the gate. | | Cost | 50% | MIN MAX Most Likely | 0.05M -2.05M -0.55M | -0.35M | Moderate | Very Low | Probability | VH H M L VL | 0.25M | | | | | | | | | 50% | MIN MAX Most Likely | 0.05M -2.05M -0.55M | -0.35M | | | \$0.1 | Moderate | Very Low | Probability | VH H M L VL | \$Mo | 0.35M | Contractor | | | | |
| | | | | | | Threat | | | Schedule | 0.4 \$M | MIN MAX Most Likely | 0.0Mo 3.0Mo 1.5Mo | 0.8Mo | Very Low | | | Impact | | | | | | | | | 0.5 \$M | MIN MAX Most Likely | 0.0Mo 3.0Mo 1.5Mo | 0.8Mo | | | 0.0Mo 0.0Mo 0.0Mo | Very Low | | | Impact | | | | | | | | |
| Current | VE2 | Active | | Design/PS&E | May-09 | Basin Floor | VE recommendation #2, modifications for the basin floor. VE decision report revises VE design to use lesser different type of piles than included in the base. (A refinement of the foundation analysis that minimizes piles and slab thickness.) | | Cost | 75% | MIN MAX Most Likely | -10.05M -15.05M -12.55M | -9.45M | High | Low | Probability | VH H M L VL | -9.75M | | | | | | | | 75% | MIN MAX Most Likely | ##### ##### ##### | -9.45M | | | \$0.1 | High | Very Low | Probability | VH H M L VL | Mo \$ | -9.65M | Contractor | | | | | |
| | | | | | | Opportunity | | | Schedule | -0.4 \$M | MIN MAX Most Likely | 0.0Mo -2.0Mo -1.0Mo | -0.8Mo | Very Low | | | Impact | | | | | | | | | -0.5 \$M | MIN MAX Most Likely | 0.0Mo -2.0Mo -1.0Mo | -0.8Mo | | | 0.0Mo 0.0Mo 0.0Mo | Very Low | | | Impact | | | | | | | | |
| Current | VE3 | Active | | Design/PS&E | May-09 | Wall-Center | VE recommendation #3, modifications to the center wall. Implementation of a fully movable wall. | | Cost | 33% | MIN MAX Most Likely | -10.05M -15.05M -12.05M | -4.05M | Low | Low | Probability | VH H M L VL | -4.15M | | | | | | | | 33% | MIN MAX Most Likely | ##### ##### ##### | -4.05M | | | \$0.1 | Low | Very Low | Probability | VH H M L VL | Mo \$ | -4.25M | Contractor | | | | | |
| | | | | | | Opportunity | | | Schedule | -0.2 \$M | MIN MAX Most Likely | -1.0Mo -2.0Mo -1.5Mo | -0.5Mo | Very Low | | | Impact | | | | | | | | | -0.2 \$M | MIN MAX Most Likely | -1.0Mo -2.0Mo -1.5Mo | -0.5Mo | | | 0.0Mo 0.0Mo 0.0Mo | Very Low | | | Impact | | | | | | | | |
| Current | VE5 | Active | | Design/PS&E | May-09 | At Grade Casting Yard | VE recommendation #5, revised basin concept (at grade casting yard). This recommendation is mutually exclusive from VE recommendations 1 through 4. Add a risk for schedule delay due to this VE recommendation (correlated with this opportunity), delay of 0 to 9 months for NEPA/permitting, 25% probability. | | Cost | 75% | MIN MAX Most Likely | -20.05M -60.05M -30.05M | -22.55M | High | Moderate | Probability | VH H M L VL | -23.95M | | | | | | | | 75% | MIN MAX Most Likely | ##### ##### ##### | -22.55M | | | \$0.7 | High | Very Low | Probability | VH H M L VL | Mo \$ | -24.65M | Contractor | | | | | |
| | | | | | | Opportunity | | | Schedule | -1.4 \$M | MIN MAX Most Likely | -3.0Mo -6.0Mo -4.5Mo | -3.4Mo | Very Low | | | Impact | | | | | | | | | -2.1 \$M | MIN MAX Most Likely | -3.0Mo -6.0Mo -4.5Mo | -3.4Mo | | | 0.0Mo 0.0Mo 0.0Mo | Very Low | | | Impact | | | | | | | | |
| Current | CNS 900.07 | Active | | Construction | May-09 | Construction | Change Order is required to create permanent Pontoon Moorage due to effect on the next project | There is a chance that a delay to this project causes permanent pontoon moorage to be necessary while only temporary is coded in the base costs. | Corridor ROD is not obtained as scheduled | Cost | 25% | MIN MAX Most Likely | 15.25M 24.95M 18.75M | 4.75M | Low | Moderate | Probability | VH H M L VL | 4.75M | Acceptance | Update this risk as more information becomes available. | | | | | | | | | 25% | MIN MAX Most Likely | \$15.2 \$24.9 \$18.7 | 4.75M | | | \$0.0 | Low | NO RISK | Probability | VH H M L VL | | \$ | 4.75M | WSDOT |
| | | | | | | Threat | | | Schedule | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | NO RISK | | | Impact | | | | | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | | | 0.0Mo 0.0Mo 0.0Mo | NO RISK | | | Impact | | | | | | | | |
| Current | CTR 40.02 | Active | | Design/PS&E | May-12-2008 | Construction | Additional project costs incurred due to current accelerated base schedule | Issues with contract documents due to short time line; change permit conditions from assumptions; alternative technical concepts; RFP document will be issued on partial pontoon design could lead to more or less costs when final design is completed; With only 3 months for the RFP response, the contractor may be less comfortable with their design and bid up price to cover the uncertainty; premium may apply to the casting basin costs 2.5% to 5% of the casting basin costs | | Cost | 15% | MIN MAX Most Likely | 5.05M 10.05M 7.55M | 1.15M | Very Low | Low | Probability | VH H M L VL | 1.15M | Mitigation | Increase the amount of the stipend; Limit the amount and changes that are in the addendums that would require any type of redesign; | | | | | | | | | 15% | MIN MAX Most Likely | \$5.0 \$10.0 \$7.5 | 1.15M | | | \$0.0 | Very Low | NO RISK | Probability | VH H M L VL | | \$ | 1.15M | Contractor |
| | | | | | | Threat | | | Schedule | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | NO RISK | | | Impact | | | | | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | | | 0.0Mo 0.0Mo 0.0Mo | NO RISK | | | Impact | | | | | | | | |
| Current | DES 10.01 | Active | | Design/PS&E | May-09 | Construction | Local road maintenance that the city may require lead to a cost impact | Haul route improvement costs don't seem to be in the base; discussions with the cities and the Port have occurred and may need to do some paving overlay costs; basin excavation schedule is tight but maintenance won't affect schedule | | Cost | 100% | MIN MAX Most Likely | 1.05M 3.05M 2.05M | 2.05M | Very High | Very Low | Probability | VH H M L VL | 2.05M | Acceptance | Continued communication with cities and the Port. | | | | | | | | | 100% | MIN MAX Most Likely | 1.05M 3.05M 2.05M | 2.05M | | | \$0.0 | Very High | NO RISK | Probability | VH H M L VL | | \$ | 2.05M | Contractor |
| | | | | | | Threat | | | Schedule | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | NO RISK | | | Impact | | | | | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | | | 0.0Mo 0.0Mo 0.0Mo | NO RISK | | | Impact | | | | | | | | |

| Project Title | WSDOT SR-520 Pontoon Construction | | | RISK MANAGEMENT SUMMARY RESULTS | |
|---|-----------------------------------|-----------------------|-----------|---|-----------|
| Estimate Date | | Target AD date | 07/17/09 | Planned and Actual | (\$ M) |
| Project PIN # | | Estimated CN Duration | 57.9Mo | Expected Value Total Risk Before Response | -17.1 \$M |
| Last Review Date | | Estimated PE Cost | 37.0 \$M | Expected Value Total Risk After Response | -19.7 \$M |
| Project Manager | | Estimated ROW Cost | 16.9 \$M | Estimated Cost to Respond | 0.0 \$M |
| Est \$ Impact of Significant Project Risks (cost & schedule) | | Estimated CN Cost | 693.4 \$M | Potential Cost Savings | 2.5 \$M |

| Functional Area | Post-Response | Pre-Response | Functional Area | Post-Response | Pre-Response |
|-------------------------------|---------------|--------------|-----------------------------|---------------|--------------|
| Construction | 4.7 \$M | 5.7 \$M | Management / Funding | 0.0 \$M | 0.0 \$M |
| Right-of-Way | 0.0 \$M | 0.0 \$M | Structures & Geo-tech | 1.6 \$M | 1.6 \$M |
| Design/PS&E | 1.8 \$M | 2.1 \$M | Utilities | 0.0 \$M | 0.0 \$M |
| Railroad | 0.0 \$M | 0.0 \$M | Environmental & Hydraulics | 0.4 \$M | 5.6 \$M |
| Partnerships and Stakeholders | 0.4 \$M | 0.4 \$M | Contracting and Procurement | 2.1 \$M | 2.2 \$M |

| Pre-Response | | | | | | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | |
|----------------|-----------|--------|-----------------------------|--------------------------------|-------------------------------|--|--|-------------------|----------|--|----------------------------|--|-------------|----------|---------------|--|-------------------------|---|------------|-------------------|----------------------------------|---------------------------|-----------------------|--------------------------------------|---------------------------------|-----------------------|--------------------------------|-------------|----------|-------------|--|---------------------------------------|-------------------------|------------|--|
| Update History | Risk # | Status | RBS Group | Project Phase--Date Identified | Phase (pre CN, CN, or ROW) | Summary Description Threat and/or Opportunity | Detailed Description of Risk Event (Specific, Measurable, Attributable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/ Cost of Schedule Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) | Cost to Respond (\$M) | Est. Risk Avoided (\$M)/Months | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | |
| (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20a) | (21) | (22) | (23) | (24) | (25) | (26) | (27) | (17) | (18) | (19) | (20) | (21) | (22) | (22a) | (23) | (24) | (25) | (26) | (27) | (28) | (28a) | | | | |
| | | | | | | | | | S | | Most Likely | | | N | Impact | | | | | | | | | Most Likely | | | 0.0Mo | | N | Impact | | | | | |
| 6-Aug-09 | ROW 50.03 | Active | Right Of Way | Design/PS&E | Construction | Threat | Concrete Tech agrees to work on site but Requires Improvements | CTC Modifications | Cost | 50% | MIN MAX Most Likely | 1.0\$M 3.0\$M 2.0\$M | 1.0\$M | Moderate | Very Low | Probability | VH H M L VL | \$ | | | | | 50% | MIN MAX Most Likely | 1.0\$M 3.0\$M 2.0\$M | 1.0\$M | | Moderate | Very Low | Probability | VH H M L VL | \$ | Contractor | | |
| | | | | | | | Updated: CTC has not been saying that they will require any improvements, could be fish handling improvements. | | Schedule | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | NO RISK | NO RISK | 1.0\$M | Acceptance | Pursue no effect letter from FHWA; | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | 0.0Mo | 0.0Mo | NO RISK | NO RISK | 1.0\$M | | | | |
| 6-Aug-09 | ENV 40.01 | Active | Environmental & Hydraulics | Design/PS&E | Construction | Threat | Potential issues with Section 106 during construction | | Cost | 15% | MIN MAX Most Likely | 0.2\$M 2.5\$M 1.0\$M | 0.2\$M | Very Low | Very Low | Probability | VH H M L VL | \$,Mo | | | | | 15% | MIN MAX Most Likely | 0.2\$M 2.5\$M 1.0\$M | 0.2\$M | -\$0.3 | Very Low | Very Low | Probability | VH H M L VL | \$,Mo | WSDOT | | |
| | | | | | | | Archaeological resources may be discovered during construction. Artifacts discovered during construction, historical burial discovery during construction; Update Two, currently the site is undergoing a cultural resources review so expect less chance of an issue during construction. | | Schedule | 0.9 \$M | MIN MAX Most Likely | 6.0Mo 12.0Mo 9.0Mo | 1.4Mo | Very Low | Very Low | 1.1\$M | Acceptance | Write the MOA to assume they may find some cultural resources; Complete extensive cultural resource investigations; | | | | | 1.2 \$M | MIN MAX Most Likely | 6.0Mo 12.0Mo 9.0Mo | 1.4Mo | 0.0Mo 0.0Mo 0.0Mo | Very Low | Very Low | Probability | VH H M L VL | Impact | | | |
| 23-Jun-09 | ROW 50.04 | Active | Right Of Way | Design/PS&E | Construction | Threat | CTC refuses to allow on site, have to build all pontoons at Gray's Harbor | | Cost | 40% | MIN MAX Most Likely | | 0.0\$M | Moderate | NO RISK | 1.2\$M | Mitigation | Met with CTC and will meet every other Thursday with the services to make a case that consultation is not necessary, failing that the team will negotiate terms that are acceptable to CTC. | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.0\$M | \$1.2 | Low | NO RISK | NO RISK | Probability | VH H M L VL | Mo | WSDOT | |
| | | | | | | | If CTC refused because of environmental regulations and had to move to build all pontoons at Gray's Harbor; Risk 50.04 and Risk 50.03 are mutually exclusive | | Schedule | 1.2 \$M | MIN MAX Most Likely | 6.0Mo 6.0Mo 6.0Mo | 2.4Mo | Very Low | Very Low | 1.2\$M | Mitigation | Met with CTC and will meet every other Thursday with the services to make a case that consultation is not necessary, failing that the team will negotiate terms that are acceptable to CTC. | | | | | 0.0 \$M | MIN MAX Most Likely | 6.0Mo 6.0Mo 6.0Mo | 1.2Mo | 1.2Mo 1.2Mo 1.2Mo | Very Low | Very Low | Probability | VH H M L VL | Impact | | | |
| 6-Aug-09 | ENV 80.02 | Active | Environmental & Hydraulics | Design/PS&E | Construction | Threat | Noise issues during construction lead to alteration of construction plan | | Cost | 10% | MIN MAX Most Likely | | 0.0\$M | Very Low | NO RISK | 0.0\$M | Acceptance | Currently planning work hours of 7am to 9pm and keep the City of Aberdeen informed. | | | | | 10% | MIN MAX Most Likely | | 0.0\$M | -\$0.3 | Very Low | NO RISK | NO RISK | Probability | VH H M L VL | Mo | Contractor | |
| | | | | | | | 14 hour work days are planned, could include extensive pile driving this could lead to community opposition to noise and vibration leading to change in construction schedule. Noise will be significant, over time there could be opposition due to long work days and day after day of noise. Reduction in the work hours would be the impact if community opposition occurs. Already employing 3 sets of crews which is the maximum possible. Update Two: The cities seem supportive of this so the likelihood should be lower...lowered to 10% chance. | | Schedule | 0.9 \$M | MIN MAX Most Likely | 1.0Mo 2.0Mo 1.5Mo | 0.2Mo | Very Low | Very Low | 0.0\$M | Acceptance | Currently planning work hours of 7am to 9pm and keep the City of Aberdeen informed. | | | | | 1.1 \$M | MIN MAX Most Likely | 1.0Mo 2.0Mo 1.5Mo | 0.2Mo | 0.0Mo 0.0Mo 0.0Mo | Very Low | Very Low | Probability | VH H M L VL | Impact | | | |
| 23-Jun-09 | ENV 10.03 | Active | Environmental & Hydraulics | Design/PS&E | Pre-construction | Threat | Legal Challenge to NEPA Documentation | | Cost | 7% | MIN MAX Most Likely | | 0.0\$M | Very Low | NO RISK | 1.0\$M | Acceptance | We follow our proven process for environmental documentation. | | | | | 7% | MIN MAX Most Likely | | 0.0\$M | \$0.5 | Very Low | NO RISK | NO RISK | Probability | VH H M L VL | Mo | WSDOT | |
| | | | | | | | Risk of legal challenge from regional marine industry, conservation groups, NGOs, etc. (will team up) as a result of construction site. Impact occurs when a challenge with injunction happens. 33% chance of no challenge; 60% chance of challenge with/noeffect. | | Schedule | 1.8 \$M | MIN MAX Most Likely | 3.0Mo 24.0Mo 13.5Mo | 0.9Mo | Very Low | Very Low | 1.0\$M | Acceptance | We follow our proven process for environmental documentation. | | | | | 1.3 \$M | MIN MAX Most Likely | 3.0Mo 24.0Mo 13.5Mo | 0.9Mo | 0.0Mo 0.0Mo 0.0Mo | Very Low | Very Low | Probability | VH H M L VL | Impact | | | |
| 15-May-09 | CTR 50.03 | Active | Contracting and Procurement | Design/PS&E | Construction | Threat | Buy America Clause | | Cost | 50% | MIN MAX Most Likely | 2.0\$M 2.0\$M 2.0\$M | 1.0\$M | Moderate | Very Low | 1.0\$M | | | | | | | 50% | MIN MAX Most Likely | 2.0\$M 2.0\$M 2.0\$M | 1.0\$M | \$0.0 | Moderate | Very Low | Probability | VH H M L VL | \$ | | | |
| | | | | | | | Base assumes domestic steel. Minimal chance for waiver; pontoons use some stainless steel and this can be difficult to get domestic; design builder may add to his bid to prepare to cover any penalty if he is forced to get too much foreign material. | | Schedule | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | NO RISK | NO RISK | 1.0\$M | | | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.0Mo | 0.0Mo 0.0Mo 0.0Mo | NO RISK | NO RISK | Probability | VH H M L VL | Impact | | | |
| 15-May-09 | CNS 40.08 | Active | Construction | Design/PS&E | Construction | Threat | Risk of delay to pontoon construction due to unacceptable mock up | | Cost | 30% | MIN MAX Most Likely | | 0.0\$M | Low | NO RISK | 0.0\$M | | | | | | | | 30% | MIN MAX Most Likely | | 0.0\$M | \$0.0 | Low | NO RISK | NO RISK | Probability | VH H M L VL | Mo | |
| | | | | | | | Contractor may need to do the mock up more than once until accepted; have seen this issue in past projects; minor changes won't trigger a new mockup; Base assumes 4 months after ROD to allow for a mockup; | | Schedule | 0.0 \$M | MIN MAX Most Likely | 3.0Mo | 0 | NO RISK | NO RISK | 0.0\$M | | | | | | | M | MIN MAX Most Likely | 3.0Mo | 0.0Mo | 0.0Mo | Low | NO RISK | NO RISK | Probability | VH H M L VL | Impact | | |

| WSDOT SR-520 Pontoon Construction | | | | | RISK MANAGEMENT SUMMARY RESULTS | | | |
|--|----------------|--|--|---|---------------------------------|--------------|---------------|--|
| Project Title | Target AD date | | | Planned and Actual | (\$ M) | Pre-Response | Post-Response | |
| Estimate Date | 07/17/09 | | | Expected Value Total Risk Before Response | -17.1 \$M | 4.7 \$M | 0.0 \$M | |
| Project PN # | 57.2Mo | | | Expected Value Total Risk After Response | -18.7 \$M | 0.0 \$M | 0.0 \$M | |
| Last Review Date | 37.0 \$M | | | Estimated Value Total Risk After Response | -18.7 \$M | 0.0 \$M | 0.0 \$M | |
| Project Manager | 16.0 \$M | | | Estimated Cost to Respond | 0.0 \$M | 0.0 \$M | 0.0 \$M | |
| Est \$ Impact of Significant Project Risks (cost & schedule) | 693.4 \$M | | | Potential Cost Savings | 2.5 \$M | | | |

| Functional Area | Post-Response | Pre-Response | Functional Area | Post-Response | Pre-Response |
|-----------------------------|---------------|--------------|-----------------------------|---------------|--------------|
| Construction | 4.7 \$M | 5.7 \$M | Management/Procurement | 0.0 \$M | 0.0 \$M |
| Right-of-Way | 0.0 \$M | 0.0 \$M | Structures & Caissons | 1.8 \$M | 1.8 \$M |
| Design/PS&E | 1.8 \$M | 2.1 \$M | Utilities | 0.0 \$M | 0.0 \$M |
| Railroad | 0.0 \$M | 0.0 \$M | Environmental & Hydraulics | 0.4 \$M | 5.6 \$M |
| Permitting and Stakeholders | 0.4 \$M | 0.4 \$M | Contracting and Procurement | 2.1 \$M | 2.2 \$M |

| Pre-Response | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Update History | Risk # | Status | RBS Group | Phase (pre CN, CN, or ROW) | Summary Description Green: Low Yellow: Minor Red: Major | Detailed Description of Risk Event (Specific, Measurable, Actionable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/ Cost or Schedule Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) | Cost to Respond (\$M) | Est. Risk Avoided (\$M)/Months | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cur | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | (34) | (35) | (36) | (37) | (38) | (39) | (40) | (41) | (42) | (43) | (44) | (45) | (46) | (47) | (48) | (49) | (50) | (51) | (52) | (53) | (54) | (55) | (56) | (57) | (58) | (59) | (60) | (61) | (62) | (63) | (64) | (65) | (66) | (67) | (68) | (69) | (70) | (71) | (72) | (73) | (74) | (75) | (76) | (77) | (78) | (79) | (80) | (81) | (82) | (83) | (84) | (85) | (86) | (87) | (88) | (89) | (90) | (91) | (92) | (93) | (94) | (95) | (96) | (97) | (98) | (99) | (100) | (101) | (102) | (103) | (104) | (105) | (106) | (107) | (108) | (109) | (110) | (111) | (112) | (113) | (114) | (115) | (116) | (117) | (118) | (119) | (120) | (121) | (122) | (123) | (124) | (125) | (126) | (127) | (128) | (129) | (130) | (131) | (132) | (133) | (134) | (135) | (136) | (137) | (138) | (139) | (140) | (141) | (142) | (143) | (144) | (145) | (146) | (147) | (148) | (149) | (150) | (151) | (152) | (153) | (154) | (155) | (156) | (157) | (158) | (159) | (160) | (161) | (162) | (163) | (164) | (165) | (166) | (167) | (168) | (169) | (170) | (171) | (172) | (173) | (174) | (175) | (176) | (177) | (178) | (179) | (180) | (181) | (182) | (183) | (184) | (185) | (186) | (187) | (188) | (189) | (190) | (191) | (192) | (193) | (194) | (195) | (196) | (197) | (198) | (199) | (200) | (201) | (202) | (203) | (204) | (205) | (206) | (207) | (208) | (209) | (210) | (211) | (212) | (213) | (214) | (215) | (216) | (217) | (218) | (219) | (220) | (221) | (222) | (223) | (224) | (225) | (226) | (227) | (228) | (229) | (230) | (231) | (232) | (233) | (234) | (235) | (236) | (237) | (238) | (239) | (240) | (241) | (242) | (243) | (244) | (245) | (246) | (247) | (248) | (249) | (250) | (251) | (252) | (253) | (254) | (255) | (256) | (257) | (258) | (259) | (260) | (261) | (262) | (263) | (264) | (265) | (266) | (267) | (268) | (269) | (270) | (271) | (272) | (273) | (274) | (275) | (276) | (277) | (278) | (279) | (280) | (281) | (282) | (283) | (284) | (285) | (286) | (287) | (288) | (289) | (290) | (291) | (292) | (293) | (294) | (295) | (296) | (297) | (298) | (299) | (300) | (301) | (302) | (303) | (304) | (305) | (306) | (307) | (308) | (309) | (310) | (311) | (312) | (313) | (314) | (315) | (316) | (317) | (318) | (319) | (320) | (321) | (322) | (323) | (324) | (325) | (326) | (327) | (328) | (329) | (330) | (331) | (332) | (333) | (334) | (335) | (336) | (337) | (338) | (339) | (340) | (341) | (342) | (343) | (344) | (345) | (346) | (347) | (348) | (349) | (350) | (351) | (352) | (353) | (354) | (355) | (356) | (357) | (358) | (359) | (360) | (361) | (362) | (363) | (364) | (365) | (366) | (367) | (368) | (369) | (370) | (371) | (372) | (373) | (374) | (375) | (376) | (377) | (378) | (379) | (380) | (381) | (382) | (383) | (384) | (385) | (386) | (387) | (388) | (389) | (390) | (391) | (392) | (393) | (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) | (435) | (436) | (437) | (438) | (439) | (440) | (441) | (442) | (443) | (444) | (445) | (446) | (447) | (448) | (449) | (450) | (451) | (452) | (453) | (454) | (455) | (456) | (457) | (458) | (459) | (460) | (461) | (462) | (463) | (464) | (465) | (466) | (467) | (468) | (469) | (470) | (471) | (472) | (473) | (474) | (475) | (476) | (477) | (478) | (479) | (480) | (481) | (482) | (483) | (484) | (485) | (486) | (487) | (488) | (489) | (490) | (491) | (492) | (493) | (494) | (495) | (496) | (497) | (498) | (499) | (500) | (501) | (502) | (503) | (504) | (505) | (506) | (507) | (508) | (509) | (510) | (511) | (512) | (513) | (514) | (515) | (516) | (517) | (518) | (519) | (520) | (521) | (522) | (523) | (524) | (525) | (526) | (527) | (528) | (529) | (530) | (531) | (532) | (533) | (534) | (535) | (536) | (537) | (538) | (539) | (540) | (541) | (542) | (543) | (544) | (545) | (546) | (547) | (548) | (549) | (550) | (551) | (552) | (553) | (554) | (555) | (556) | (557) | (558) | (559) | (560) | (561) | (562) | (563) | (564) | (565) | (566) | (567) | (568) | (569) | (570) | (571) | (572) | (573) | (574) | (575) | (576) | (577) | (578) | (579) | (580) | (581) | (582) | (583) | (584) | (585) | (586) | (587) | (588) | (589) | (590) | (591) | (592) | (593) | (594) | (595) | (596) | (597) | (598) | (599) | (600) | (601) | (602) | (603) | (604) | (605) | (606) | (607) | (608) | (609) | (610) | (611) | (612) | (613) | (614) | (615) | (616) | (617) | (618) | (619) | (620) | (621) | (622) | (623) | (624) | (625) | (626) | (627) | (628) | (629) | (630) | (631) | (632) | (633) | (634) | (635) | (636) | (637) | (638) | (639) | (640) | (641) | (642) | (643) | (644) | (645) | (646) | (647) | (648) | (649) | (650) | (651) | (652) | (653) | (654) | (655) | (656) | (657) | (658) | (659) | (660) | (661) | (662) | (663) | (664) | (665) | (666) | (667) | (668) | (669) | (670) | (671) | (672) | (673) | (674) | (675) | (676) | (677) | (678) | (679) | (680) | (681) | (682) | (683) | (684) | (685) | (686) | (687) | (688) | (689) | (690) | (691) | (692) | (693) | (694) | (695) | (696) | (697) | (698) | (699) | (700) | (701) | (702) | (703) | (704) | (705) | (706) | (707) | (708) | (709) | (710) | (711) | (712) | (713) | (714) | (715) | (716) | (717) | (718) | (719) | (720) | (721) | (722) | (723) | (724) | (725) | (726) | (727) | (728) | (729) | (730) | (731) | (732) | (733) | (734) | (735) | (736) | (737) | (738) | (739) | (740) | (741) | (742) | (743) | (744) | (745) | (746) | (747) | (748) | (749) | (750) | (751) | (752) | (753) | (754) | (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) | (804) | (805) | (806) | (807) | (808) | (809) | (810) | (811) | (812) | (813) | (814) | (815) | (816) | (817) | (818) | (819) | (820) | (821) | (822) | (823) | (824) | (825) | (826) | (827) | (828) | (829) | (830) | (831) | (832) | (833) | (834) | (835) | (836) | (837) | (838) | (839) | (840) | (841) | (842) | (843) | (844) | (845) | (846) | (847) | (848) | (849) | (850) | (851) | (852) | (853) | (854) | (855) | (856) | (857) | (858) | (859) | (860) | (861) | (862) | (863) | (864) | (865) | (866) | (867) | (868) | (869) | (870) | (871) | (872) | (873) | (874) | (875) | (876) | (877) | (878) | (879) | (880) | (881) | (882) | (883) | (884) | (885) | (886) | (887) | (888) | (889) | (890) | (891) | (892) | (893) | (894) | (895) | (896) | (897) | (898) | (899) | (900) | (901) | (902) | (903) | (904) | (905) | (906) | (907) | (908) | (909) | (910) | (911) | (912) | (913) | (914) | (915) | (916) | (917) | (918) | (919) | (920) | (921) | (922) | (923) | (924) | (925) | (926) | (927) | (928) | (929) | (930) | (931) | (932) | (933) | (934) | (935) | (936) | (937) | (938) | (939) | (940) | (941) | (942) | (943) | (944) | (945) | (946) | (947) | (948) | (949) | (950) | (951) | (952) | (953) | (954) | (955) | (956) | (957) | (958) | (959) | (960) | (961) | (962) | (963) | (964) | (965) | (966) | (967) | (968) | (969) | (970) | (971) | (972) | (973) | (974) | (975) | (976) | (977) | (978) | (979) | (980) | (981) | (982) | (983) | (984) | (985) | (986) | (987) | (988) | (989) | (990) | (991) | (992) | (993) | (994) | (995) | (996) | (997) | (998) | (999) | (1000) | (1001) | (1002) | (1003) | (1004) | (1005) | (1006) | (1007) | (1008) | (1009) | (1010) | (1011) | (1012) | (1013) | (1014) | (1015) | (1016) | (1017) | (1018) | (1019) | (1020) | (1021) | (1022) | (1023) | (1024) | (1025) | (1026) | (1027) | (1028) | (1029) | (1030) | (1031) | (1032) | (1033) | (1034) | (1035) | (1036) | (1037) | (1038) | (1039) | (1040) | (1041) | (1042) | (1043) | (1044) | (1045) | (1046) | (1047) | (1048) | (1049) | (1050) | (1051) | (1052) | (1053) | (1054) | (1055) | (1056) | (1057) | (1058) | (1059) | (1060) | (1061) | (1062) | (1063) | (1064) | (1065) | (1066) | (1067) | (1068) | (1069) | (1070) | (1071) | (1072) | (1073) | (1074) | (1075) | (1076) | (1077) | (1078) | (1079) | (1080) | (1081) | (1082) | (1083) | (1084) | (1085) | (1086) | (1087) | (1088) | (1089) | (1090) | (1091) | (1092) | (1093) | (1094) | (1095) | (1096) | (1097) | (1098) | (1099) | (1100) | (1101) | (1102) | (1103) | (1104) | (1105) | (1106) | (1107) | (1108) | (1109) | (1110) | (1111) | (1112) | (1113) | (1114) | (1115) | (1116) | (1117) | (1118) | (1119) | (1120) | (1121) | (1122) | (1123) | (1124) | (1125) | (1126) |

| Project Title | WSDOT SR-520 Pontoon Construction | | | | RISK MANAGEMENT SUMMARY RESULTS | | | |
|--|-----------------------------------|-----------------------|-----------|---|---------------------------------|--------|--|--|
| | Estimate Date | Target AD date | 07/17/09 | (\$ M) | Planned and Actual | (\$ M) | | |
| Project PN # | | Estimated CN Duration | 57.2Mo | Expected Value Total Risk Before Response | -17.1 \$M | | | |
| Last Review Date | | Estimated PE Cost | 37.5 \$M | Expected Value Total Risk After Response | -18.7 \$M | | | |
| Project Manager | | Estimated ROW Cost | 16.5 \$M | Estimated Cost to Respond | 0.0 \$M | | | |
| Est \$ Impact of Significant Project Risks (cost & schedule) | | Estimated CN Cost | 693.4 \$M | Potential Cost Savings | 2.5 \$M | | | |

| Functional Area | Post-Response | Pre-Response | Functional Area | Post-Response | Pre-Response |
|-----------------------------|---------------|--------------|-----------------------------|---------------|--------------|
| Construction | 4.7 \$M | 5.7 \$M | Management/Procure | 0.0 \$M | 0.0 \$M |
| Right-of-Way | 0.0 \$M | 0.0 \$M | Structures & Cowlch | 1.8 \$M | 1.8 \$M |
| Design/PS&E | 1.8 \$M | 2.1 \$M | Utilities | 0.0 \$M | 0.0 \$M |
| Railroad | 0.0 \$M | 0.0 \$M | Environmental & Hydraulics | 0.4 \$M | 5.6 \$M |
| Permitting and Stakeholders | 0.4 \$M | 0.4 \$M | Contracting and Procurement | 2.1 \$M | 2.2 \$M |

| Pre-Response | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---------|-----------|-------------|----------------------------|--|--|---|----------|----------------------------|---|---|-------------|---------|-------------|-------------|----|---|-------------------|---|----|---------|------------|-------------------|----------------------------------|---------------------------|-----------------------|-----------------------------------|---------------------------------|---|---|-------------|----------|-------------|----|----|---|---------------------------------------|---|----|---------|------------|------------|
| Risk # | Status | RBS Group | Design/PS&E | Phase (pre CN, CN, or ROW) | Summary Description (Threat and Opportunity) | Detailed Description of Risk Event (Specific, Measurable, Attributable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/Schedule/Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | | | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | | | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) | Cost to Respond (\$M) | Est. Risk Avoided (\$M)/Months | Probability | Impact | Risk Matrix | | | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | | | |
| CN 01 | Current | | Design/PS&E | Pre-construction | Minor schedule slip | | | Schedule | 0.1 \$M | MIN 1.0Mo MAX 3.0Mo Most Likely 2.0Mo | 0.2Mo | Very Low | P | Mo | VL | L | M | H | VH | | | | | | | | | 0.0 \$M | MIN 1.0Mo MAX 3.0Mo Most Likely 2.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.2 \$M | WSDOT | |
| ENV 30.02 | Current | 15-May-09 | Design/PS&E | Pre-construction | Threat | Corps has to deal with extensive comments on their permit or the department of ecology, water quality, 401 approval is delayed. Minor risk (See also 100 risk ENV 40.01) | | Cost | 5% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.1 \$M | | | | | | | 5% | 0.2 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.2 \$M | WSDOT |
| | | | Design/PS&E | Pre-construction | | | | Schedule | 0.1 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.1 \$M | | | | | | | 5% | 0.2 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.2 \$M | WSDOT |
| CNS 40.03 | Current | 15-May-09 | Design/PS&E | Construction | Threat | Uncertain production rates for basin excavation | 20 hrs per day excavation assumed equates to a truck every 30 seconds; 12,000 cubic yard/day is assumed as the rate. | | Cost | 20% | MIN MAX Most Likely | 0.05M | Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.15M | | | | | | 20% | 0.2 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.05M | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.25M | Contractor |
| | | | Design/PS&E | Construction | | | | Schedule | 0.1 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.2Mo | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.15M | | | | | | 20% | 0.2 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.05M | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.25M | Contractor | |
| ENV 20.02 | Current | 15-May-09 | Design/PS&E | Pre-construction | Threat | Minor issue of a delay, but this risk is already minimized due to incremental consultation process; minor issues may occur with portion storage (assumption is the storage is within Gray's Harbor) invasive species, negligible risk. | | Cost | 5% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.05M | | | | | | 5% | 0.0 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.05M | WSDOT | |
| | | | Design/PS&E | Pre-construction | | | | Schedule | 0.0 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.05M | | | | | | 5% | 0.0 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.05M | WSDOT | |
| ENV 30.03 | Current | 6-Aug-09 | Design/PS&E | Construction | Threat | DNR aquatic land use lease, HPA, Shoreline, Section 10. Risk is that DNR requests information late before willing to issue the aquatic permit storage (assumption is the storage is within Gray's Harbor) invasive species, negligible risk. | | Cost | 15% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.45M | Acceptance | | | | | 15% | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.5Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.45M | WSDOT | |
| | | | Design/PS&E | Construction | | | | Schedule | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.5Mo | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.45M | Acceptance | | | | | 15% | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.5Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.45M | WSDOT | |
| ENV 30.05 | Current | 15-May-09 | Design/PS&E | Construction | Threat | DNR aquatic land use lease, HPA, Shoreline, Section 10, DMCO (Design Material Management Office). Risk is that DNR requests information late before willing to issue the aquatic permit storage (assumption is the storage is within Gray's Harbor) invasive species, negligible risk. | | Cost | 5% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.35M | | | | | | 5% | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.45M | WSDOT | |
| | | | Design/PS&E | Construction | | | | Schedule | 0.3 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.35M | | | | | | 5% | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.45M | WSDOT | |
| ENV 40.04 | Current | 23-Jun-09 | Design/PS&E | Construction | Threat | Cultural Resources. Delay in dredge channel construction during construction. | Identify the site and do the cultural survey. This mitigation will not impact the project schedule. Mitigation is to be completed at some point in time. Some excavation is required. | | Cost | 20% | MIN MAX Most Likely | 0.05M | Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.05M | Mitigation | | | | 20% | 0.0 \$M | MIN 3.0Mo MAX 6.0Mo Most Likely 4.5Mo | 0.9Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.05M | WSDOT | |
| | | | Design/PS&E | Construction | | | | Schedule | 0.0 \$M | MIN 3.0Mo MAX 6.0Mo Most Likely 4.5Mo | 0.9Mo | Very Low | NO RISK | Probability | Mo | VL | L | M | H | VH | 0.05M | Mitigation | | | | | 20% | 0.0 \$M | MIN 3.0Mo MAX 6.0Mo Most Likely 4.5Mo | 0.9Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.05M | WSDOT | |
| ENV 30.09 | Current | 15-May-09 | Design/PS&E | Construction | Threat | Dredge material is not | | Cost | 30% | MIN 0.5 \$M MAX 1.0 \$M Most Likely 0.8 \$M | 0.2 \$M | Very Low | | Probability | Mo | VL | L | M | H | VH | 0.25M | | | | | | 30% | 0.0 \$M | MIN 0.5 \$M MAX 1.0 \$M Most Likely 0.8 \$M | 0.2 \$M | 0.0 \$M | Very Low | VL | Mo | VL | L | M | H | VH | | | |
| | | | Design/PS&E | Construction | | | | Schedule | 0.0 \$M | MIN 0.5 \$M MAX 1.0 \$M Most Likely 0.8 \$M | 0.2 \$M | Very Low | | Probability | Mo | VL | L | M | H | VH | 0.25M | | | | | | 30% | 0.0 \$M | MIN 0.5 \$M MAX 1.0 \$M Most Likely 0.8 \$M | 0.2 \$M | 0.0 \$M | Very Low | VL | Mo | VL | L | M | H | VH | | | |

| Pre-Response | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|-----------|----------------------------|-------------|----------------------------|--|--|--|----------|----------------------------|---|---|-------------|----------|-------------|-------------|----|---|-------------------|---|----|----|------------|-------------------|---|---------------------------|-----------------------|---|---------------------------------|---|---|-------------|--------|-------------|----------|----|---|---------------------------------------|---|---|----|---------|-------|------------|
| Risk # | Status | RBS Group | Design/PS&E | Phase (pre CN, CN, or ROW) | Summary Description (Threat and Opportunity) | Detailed Description of Risk Event (Specific, Measurable, Attributable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/Schedule/Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | | | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | | | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) | Cost to Respond (\$M) | Est. Risk Avoided (\$M)/Months | Probability | Impact | Risk Matrix | | | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | | | | |
| CN 01 | Current | Design/PS&E | Design/PS&E | Pre-construction | Real-time data missed | | | Schedule | 0.1 \$M | MIN 1.0Mo MAX 3.0Mo Most Likely 2.0Mo | 0.2Mo | Very Low | P | VL | Mo | VL | L | M | H | VH | | | (17) | (13) | (10) | (20) | (21) | 0.0 \$M | MIN 1.0Mo MAX 3.0Mo Most Likely 2.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.2 \$M | WSDOT | |
| ENV 30.02 | Current | Design/PS&E | Design/PS&E | Pre-construction | Threat | Corps has to deal with extensive comments on their permit or the department of ecology, water quality, 401 approval is delayed. Minor risk (See also 100 risk ENV 40.01) | | Cost | 5% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | TL | Mo | VL | L | M | H | VH | | | | | | 5% | 0.2 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.2 \$M | WSDOT | |
| | 15-May-09 | Environmental & Hydraulics | Active | | | | | Schedule | 0.1 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | Very Low | | | | VL | L | M | H | VH | | | | | | 0.2 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | | | |
| CNS 40.03 | Current | Design/PS&E | Design/PS&E | Construction | Threat | Uncertain production rates for basin excavation | 20 hrs per day excavation assumed equates to a truck every 30 seconds; 12,000 cubic yard/day is assumed as the rate. | | Cost | 20% | MIN MAX Most Likely | 0.05M | Low | NO RISK | Probability | TL | Mo | VL | L | M | H | VH | | | | | | 20% | 0.2 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.0Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.25M | Contractor |
| | 15-May-09 | Environmental & Hydraulics | Active | | | | | Schedule | 0.1 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.2Mo | Very Low | | | | VL | L | M | H | VH | | | | | | 0.2 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.0Mo | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | | | |
| ENV 20.02 | Current | Design/PS&E | Design/PS&E | Pre-construction | Threat | Other Endangered Species Act (ESA) Consultation Issues | Minor issue of a delay, but this risk is already minimized due to incremental consultation process; minor issues may occur with portion storage (assumption is the storage is within Gray's Harbor) invasive species, negligible risk. | | Cost | 5% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | TL | Mo | VL | L | M | H | VH | | | | | | 5% | 0.0 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.05M | WSDOT |
| | 15-May-09 | Environmental & Hydraulics | Active | | | | | Schedule | 0.0 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | Very Low | | | | VL | L | M | H | VH | | | | | | 0.0 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | | | |
| ENV 30.03 | Current | Design/PS&E | Design/PS&E | Construction | Threat | Delay in Gray's Harbor Portion Storage Permits | DNR aquatic land use lease, HPA, Shoreline Section 10. Risk is land DNR requires information late before willing to issue the aquatic permit storage (assumption is the storage is within Gray's Harbor) invasive species, negligible risk. | | Cost | 15% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | TL | Mo | VL | L | M | H | VH | | Acceptance | | | | 15% | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.5Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.45M | WSDOT |
| | 6-Aug-09 | Environmental & Hydraulics | Active | | | | | Schedule | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.5Mo | Very Low | | | | VL | L | M | H | VH | | | | | | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.5Mo | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | | | |
| ENV 30.05 | Current | Design/PS&E | Design/PS&E | Construction | Threat | Delay in dredge channel construction | DNR aquatic land use lease, HPA, Shoreline Section 10. DNR requires information late before willing to issue the aquatic permit storage (assumption is the storage is within Gray's Harbor) invasive species, negligible risk. Believes there is enough time to address issues with DNR. | | Cost | 5% | MIN MAX Most Likely | 0.05M | Very Low | NO RISK | Probability | TL | Mo | VL | L | M | H | VH | | | | | | 5% | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.45M | WSDOT |
| | 15-May-09 | Environmental & Hydraulics | Active | | | | | Schedule | 0.3 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | Very Low | | | | VL | L | M | H | VH | | | | | | 0.4 \$M | MIN 2.0Mo MAX 4.0Mo Most Likely 3.0Mo | 0.2Mo | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | | | |
| ENV 40.04 | Current | Design/PS&E | Design/PS&E | Construction | Threat | Cultural Resources | Corps has to deal with extensive comments on their permit or the department of ecology, water quality, 401 approval is delayed. Minor risk (See also 100 risk ENV 40.01) | | Cost | 20% | MIN MAX Most Likely | 0.05M | Low | NO RISK | Probability | TL | Mo | VL | L | M | H | VH | Mitigation | Identify the site and do the cultural survey. This mitigation will not impact the project but could delay the completion of the mitigation project to the preconstruction project but could delay the completion of the mitigation project. | | | | 20% | 0.0 \$M | MIN 3.0Mo MAX 6.0Mo Most Likely 4.5Mo | 0.9Mo | 0.0Mo | 0.0Mo | Very Low | VL | Mo | VL | L | M | H | VH | 0.05M | WSDOT |
| | 23-Jun-09 | Environmental & Hydraulics | Active | | | | | Schedule | 0.0 \$M | MIN 3.0Mo MAX 6.0Mo Most Likely 4.5Mo | 0.9Mo | Very Low | | | | VL | L | M | H | VH | | | | | | 0.0 \$M | MIN 3.0Mo MAX 6.0Mo Most Likely 4.5Mo | 0.9Mo | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | | | |
| 02 | Current | Design/PS&E | Design/PS&E | Construction | Threat | Delay in dredge channel construction | Cultural Resources | | Cost | 30% | MIN MAX Most Likely | 0.25M | Very Low | | | | | | | | | | | | | | 30% | 0.0 \$M | MIN 0.5Mo MAX 1.0Mo Most Likely 0.8Mo | 0.25M | 0.0Mo | 0.0Mo | Very Low | | | | | | | | | | |

| Project Title | | WSDOT SR-520 Pontoon Construction | | | | | RISK MANAGEMENT SUMMARY RESULTS | | | | |
|--|-----------|-----------------------------------|--|---|--|--|---------------------------------|--|-----------------------------|--|--------------|
| Estimate Date | 07/17/09 | Target AD date | | Planned and Actual | | | Post-Response | | Pre-Response | | Pre-Response |
| Project PN # | 57.2M | Estimated CN Duration | | Expected Value Total Risk Before Response -17.1 \$M | | | Construction | | Management/Pre-Response | | 0.0 \$M |
| Last Review Date | 37.0 \$M | Estimated PE Cost | | Expected Value Total Risk After Response -18.7 \$M | | | Right-of-Way | | Structures & Geotech | | 1.8 \$M |
| Project Manager | 16.3 \$M | Estimated ROW Cost | | Estimated Cost to Respond 0.0 \$M | | | Design/PS&E | | Utilities | | 0.0 \$M |
| Est \$ Impact of Significant Project Risks (cost & schedule) | 693.4 \$M | Estimated CN Cost | | Estimated Cost to Respond 0.0 \$M | | | Railroad | | Excavation & Hydraulics | | 0.4 \$M |
| | | | | Potential Cost Savings 2.5 \$M | | | Prerequisites and Stakeholders | | Contracting and Procurement | | 2.1 \$M |
| | | | | | | | | | | | 2.2 \$M |

| Pre-Response | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | | |
|--------------|-----------|--------------------------------|-------------------------|--|---|--|----------|--|---------------------------|--|-------------|---------|---|---|-------------------|---|------------|-------------------|----------------------------------|---------------------------|-----------------------|-----------------------------------|---------------------------------|-----------------------|--------------------------------|-------------|-----------|-------------|---|---------------------------------------|------------|
| Risk # | RBS Group | Project Phase--Date Identified | Phase (pre, CN, or ROW) | Summary Description (Threat and Opportunity) | Detailed Description of Risk Event (Specific, Measurable, Actionable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/ Cost of Schedule Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [Most Likely X Probability] | Probability | Impact | Risk Matrix | Total Cost Impact (Cost of delay + Cost of event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) | Cost to Respond (\$M) | Est. Risk Avoided (\$M)/Months | Probability | Impact | Risk Matrix | Total Cost Impact (Cost of delay + Cost of event risk) | Risk Assignment (Contractor or WSDOT) | |
| ENW 900 | Active | Design/PS&E | Construction | Design materials not clear leads to disposal costs | Base assumes the material is clean. | | Schedule | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | Low | NO RISK | VL L \$ VL L M H H VH | 0.25M | | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | 0.0Mo | 0.0Mo | Low | NO RISK | VL L \$ VL L M H H VH | 0.25M | Contractor |
| ROW 50.07 | | Design/PS&E | Pre-construction | Threat | Maximum necessary may require 2 commercial properties relocation, wider some roads may require some more row. Volume of truck traffic may lead to more row necessary to align the traffic with the ROW. If the ROW is not sufficient, the contractor, believe they will plan in a higher probability than in past updates. Referred as of Update Two. | | Schedule | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | NO RISK | NO RISK | VL L M H H VH | 0.05M | | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | 0.0Mo | 0.0Mo | NO RISK | Very Low | VL L M H H VH | 0.05M | Contractor |
| CNS 40.01 | | Design/PS&E | Construction | Opportunity | Have defined a wet weather season from oct 15th to april 15th, lower production rates for weather affected activities; base excavation work not planned for wet weather and may be necessary to use less costly method. -1.0, 0.0, 1.0 Impact | | Schedule | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | Low | NO RISK | VL L M H H VH | -0.55M | | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | 0.0Mo | 0.0Mo | Low | NO RISK | VL L M H H VH | -0.55M | |
| CNS 900.05 | | Design/PS&E | Construction | Threat | Applies to site grading, utilities, stormwater, conduit; estimates 4 to 6 inches but could be worse, up to 4 to 6 feet of fill in places; low costs. | | Schedule | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | Very High | NO RISK | VL L M H H VH | 0.55M | | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | 0.0Mo | 0.0Mo | Very High | NO RISK | VL L M H H VH | 0.55M | |
| STG 20.02 | | Design/PS&E | Construction | Threat | Productivity of site driving is uncertain leading to change in schedule | | Schedule | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | Very Low | NO RISK | VL L M H H VH | 0.05M | | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0Mo | 0.0Mo | 0.0Mo | Very Low | NO RISK | VL L M H H VH | 0.05M | |
| STG 30.01 | | Design/PS&E | Construction | Threat | Geotechnical baseline report will not contain hazard analysis and information is a higher risk of a higher bid due to learn that the foundation is settling | Could be a liquidable site. WSDOT cannot get the analysis finished before the RFP so the information will not be available. Impact is due to negative issues that can arise due to no hazard analysis due to negative issues that can arise due to no hazard analysis due to negative issues that can arise due to no hazard analysis. assumption is design criteria for 1,000 year event life safety only; ground improvements may be necessary to solve the issue leading to high bid. Not a risk as it is a design criteria. If there is no design criteria, the contractor could design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; upper cost is design to make the structural serviceable after an earthquake; have the contractor design to survive lesser earthquakes; 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| Project Title | WSDOT SR-520 Pontoon Construction | | | RISK MANAGEMENT SUMMARY RESULTS | |
|--|-----------------------------------|-----------------------|-----------|---|-----------|
| Estimate Date | | Target AD date | 07/17/09 | Planned and Actual | (\$ M) |
| Project PIN # | | Estimated CN Duration | 57.9Mo | Expected Value Total Risk Before Response | -17.1 \$M |
| Last Review Date | | Estimated PE Cost | 37.0 \$M | Expected Value Total Risk After Response | -19.7 \$M |
| Project Manager | | Estimated ROW Cost | 16.9 \$M | Estimated Cost to Respond | 0.0 \$M |
| Est \$ Impact of Significant Project Risks (cost & schedule) | | Estimated CN Cost | 693.4 \$M | Potential Cost Savings | 2.5 \$M |

| Functional Area | Post-Response | Pre-Response | Functional Area | Post-Response | Pre-Response |
|-------------------------------|---------------|--------------|-----------------------------|---------------|--------------|
| Construction | 4.7 \$M | 5.7 \$M | Management / Funding | 0.0 \$M | 0.0 \$M |
| Right-of-Way | 0.0 \$M | 0.0 \$M | Structures & Geo-tech | 1.6 \$M | 1.6 \$M |
| Design/PS&E | 1.8 \$M | 2.1 \$M | Utilities | 0.0 \$M | 0.0 \$M |
| Railroad | 0.0 \$M | 0.0 \$M | Environmental & Hydraulics | 0.4 \$M | 5.6 \$M |
| Partnerships and Stakeholders | 0.4 \$M | 0.4 \$M | Contracting and Procurement | 2.1 \$M | 2.2 \$M |

| Pre-Response | | | | | | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | |
|----------------|------------|---------|-------------------------------|--------------------------------|-------------------------------|--|--|--------------|----------|--|----------------------------|--|-------------|----------|---------------|--|-------------------|---|---|-------------------|----------------------------------|---------------------------|-----------------------|-----------------------------------|--|---------------------------|--------------------------------|-------------|--------|-------------|--|--|--|-------|--|
| Update History | Risk # | Status | RBS Group | Project Phase--Date Identified | Phase (Igs CH, CN, or ROW) | Summary Description Threat and/or Opportunity | Detailed Description of Risk Event (Specific, Measurable, Attributable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/ Cost of Schedule Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) Cost to Respond (\$M) | Cost to Respond (\$M) | Est. Risk Avoided (\$M)/Months | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | |
| (10) | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (10a) | (11) | (12) | (13) | (14) | (15a) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (22a) | (23) | (24) | (25) | (26) | (27) | (28) | (28a) | | | | |
| Current | DES 60.01 | Active | Design/PS&E | Design/PS&E | Pre-construction | Design Delays Resulting from New Permit Criteria | If significant changes are made at the last minute, then delays may result. Risk is better held by WSDOT; construction related permits; changes to the inwater work (channel, moorage) the terms and conditions aren't solidified until later generally; possibly some term or condition that is unanticipated comes up. Risk is when permits are acquired need to make a change that wasn't accounted for prior. | | Schedule | 0.1 \$M | MIN MAX Most Likely | 0.5Mo 1.0Mo 0.8Mo | 0.1Mo | Very Low | Very Low | Probability M L VL | 0.1 \$M | | | | | | | | 0.0 \$M | Most Likely | 0.5Mo | 0.1Mo | 0.0Mo | Very Low | Very Low | Probability M L VL | 0.05M | | |
| 15-May-09 | DES 60.08 | Active | Design/PS&E | Design/PS&E | Construction | Threat | Risk that additional pontoon is required for 4 lane bridge May require 2 more flanker pontoons for the 4 lane; change in alignment for the 4 lane bridge happened, so more pontoons may be needed. | | Cost | 10% | MIN MAX Most Likely | 3.05M 5.05M 4.05M | 0.45M | Very Low | Very Low | Probability VH H M L VL | 0.45M | | | | | | | | 10% | MIN MAX Most Likely | 3.05M 5.05M 4.05M | 0.45M | | 0.0Mo | Very Low | Very Low | Probability VH H M L VL | 0.45M | |
| 15-May-09 | DES 900.02 | Active | Design/PS&E | Design/PS&E | Pre-construction | Threat | RFP ready pontoon design is delayed for reasons other than those explicitly listed Manpower issue to draft the design could be an issue; issue if wind and wave analysis comes back with unanticipated results may delay a final addendum. | | Cost | 5% | MIN MAX Most Likely | | 0.05M | Very Low | NO RISK | Probability VH H M L VL | 0.05M | | | | | | | | 5% | MIN MAX Most Likely | | 0.05M | | 0.0Mo | Very Low | NO RISK | Probability VH H M L VL | 0.05M | |
| 6-Aug-09 | PSP 10.01 | Retired | Partnerships and Stakeholders | Design/PS&E | Pre-construction | Agreements with Tribes | Duration for reaching satisfactory conclusions / agreements. Issues such as eelgrass, crabbing, treaty rights, cultural resources, PA, being discussed. Agreement issues can lead to a delay the RFP. Update: Did not receive the PA, have increased the probability from 25% to 50%. Retired as of Update Two. | | Schedule | 0.8 \$M | MIN MAX Most Likely | 1.0Mo 2.0Mo 1.5Mo | 0.8Mo | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | Acceptance | Meeting with the tribes to resolve the issue with PA; | | | | | | 0.4 \$M | MIN MAX Most Likely | 1.0Mo 2.0Mo 1.5Mo | 0.0Mo | 0.0Mo | Very Low | NO RISK | Probability VH H M L VL | 0.45M | | |
| 23-Jun-09 | VE4 | Retired | Design/PS&E | Design/PS&E | | Opportunity | VE recommendation #4, modification to exterior wall. The value engineering recommendation is not accepted. See VE decision document for details. | | Cost | 0% | MIN MAX Most Likely | 0.05M 0.05M 0.05M | 0.05M | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.05M 0.05M 0.05M | 0.05M | | 0.0Mo | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | | |
| 23-Jun-09 | DES 60.04 | Retired | Design/PS&E | Design/PS&E | Construction | Opportunity | The single contract approach was selected to provide the contractor with an opportunity to develop a more innovative or cost effective design. RFP will have some restrictions because there is another project coming after this that would also need to use the same criteria; slide launch; elevator launch barges, dual stage pontoons; removal of one of the gates; changing of the wall type; savings (low end) could be single gate \$8M to \$12M savings, different pile types (pre-cast concrete pile is the base) possibly \$10M savings on foundation driving from a floating crane inside the hole could save 1 to 2 months schedule; wall changes (base is cast in place wall) could move to sheetpile or MSE wall, \$4M to \$5M savings; Possibly no need for the wall; | | Cost | 75% | MIN MAX Most Likely | -5.05M -10.05M -7.55M | 0.05M | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | | VE recommendation #2 and/or #5 retire this opportunity. | | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.05M | | \$0.0 | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | |
| 23-Jun-09 | DES 60.03 | Retired | Design/PS&E | Design/PS&E | Construction | Opportunity | The single contract approach was selected to provide the contractor with an opportunity to develop a more innovative or cost effective design. RFP will have some restrictions because there is another project coming after this that would also need to use the same criteria; Slide launch; elevator launch barges, dual stage pontoons; remove one of the gates; change the wall type; savings (low end) could be single gate \$8M to \$12M savings, different pile types (pre-cast concrete pile is the base) possibly \$10M savings on foundation driving from a floating crane inside the hole could save 1 to 2 months schedule; wall changes (base is cast in place wall) could move to sheetpile or MSE wall, \$4M to \$5M savings; Possibly no need for the wall. This is a cost opportunity but this opportunity also creates a schedule risk which is captured in DES 60.10. Both DES 60.03 and DES 60.10 impacts occur simultaneously. | | Cost | 50% | MIN MAX Most Likely | -8.05M -12.05M -10.05M | 0.05M | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | | Covered with VE Recommendations #3 and #5 | | | | | | 0.0 \$M | MIN MAX Most Likely | | 0.05M | | \$0.0 | NO RISK | NO RISK | Probability VH H M L VL | 0.05M | |
| 09 | | | | | | Threat | | | | | MIN 60.05M | M | | K | VH | | | | | | | | | | MIN | | M | | K | VH | | | | | |

| Project Title | WSDOT SR-520 Pontoon Construction | | | RISK MANAGEMENT SUMMARY RESULTS | |
|--|-----------------------------------|-----------------------|-----------|---|-----------|
| Estimate Date | | Target AD date | 07/17/09 | Planned and Actual | (\$ M) |
| Project PIN # | | Estimated CN Duration | 57.9Mo | Expected Value Total Risk Before Response | -17.1 \$M |
| Last Review Date | | Estimated PE Cost | 37.0 \$M | Expected Value Total Risk After Response | -19.7 \$M |
| Project Manager | | Estimated ROW Cost | 16.9 \$M | Estimated Cost to Respond | 0.0 \$M |
| Est \$ Impact of Significant Project Risks (cost & schedule) | | Estimated CN Cost | 693.4 \$M | Potential Cost Savings | 2.5 \$M |

| Functional Area | Post-Response | Pre-Response | Functional Area | Post-Response | Pre-Response |
|-------------------------------|---------------|--------------|-----------------------------|---------------|--------------|
| Construction | 4.7 \$M | 5.7 \$M | Management / Funding | 0.0 \$M | 0.0 \$M |
| Right-of-Way | 0.0 \$M | 0.0 \$M | Structures & Geo-tech | 1.6 \$M | 1.6 \$M |
| Design/PS&E | 1.8 \$M | 2.1 \$M | Utilities | 0.0 \$M | 0.0 \$M |
| Railroad | 0.0 \$M | 0.0 \$M | Environmental & Hydraulics | 0.4 \$M | 5.6 \$M |
| Partnerships and Stakeholders | 0.4 \$M | 0.4 \$M | Contracting and Procurement | 2.1 \$M | 2.2 \$M |

| Pre-Response | | | | | | | | | | | | | | | Post-Response | | | | | | | | | | | | | | | | | | | | |
|----------------|------------|---------|-----------------------|--------------------------------|-------------------------------|--|--|--------------|------|--|----------------------------|--|-------------|---------|---------------|--|-------------------|---|---|-------------------|----------------------------------|---------------------------|-----------------------|--------------------------------------|---------------------------------|---------------------------|--------------------------------|-------------|-------------------------|-------------------------|--|--|--|--------|--|
| Update History | Risk # | Status | RBS Group | Project Phase--Date Identified | Phase (pre CN, CN, or ROW) | Summary Description Threat and/or Opportunity | Detailed Description of Risk Event (Specific, Measurable, Attributable, Relevant, Timebound) [SMART] | Risk Trigger | Type | Probability/ Cost of Schedule Delay | Risk Impact (\$M or Mo) | Expected Impact (\$M) [most likely X probability] | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Response Strategy | ACTION TO BE TAKEN Response Actions including advantages and disadvantages (include dates) | Risk Owner | Risk Review Dates | Date, Status and Review Comments | Is Risk on Critical Path? | Responded Probability | Responded Risk Impact (\$M or Mo) | Expected Impact (Post-Response) | Cost to Respond (\$M) | Est. Risk Avoided (\$M/Months) | Probability | Impact | Risk Matrix | Total Cost Impact (cost of delay + cost event risk) | Risk Assignment (Contractor or WSDOT) | | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (10a) | (11) | (12) | (13) | (14) | (15) | (15a) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (22a) | (23) | (24) | (25) | (26) | (27) | (28) | (28a) | (29) | | | |
| Current | STG 10.02 | Retired | Structures & Geo-tech | May-09 | Construction | Threat | Possibly seismic design level and differential settlement level; possible reasons are more information from geotech, or permit from the city to go to a different criteria; performance criteria is currently tied to a mechanism; Possibly the performance criteria could change dictated by the City of Aberdeen to survive lesser earthquakes; worst case is needed to design to survive a 2500 yr quake; \$120 million extra cost minus \$25m for piles and floor and \$25m for the wall net \$70M is the median cost | | Cost | 5% | MAX Most Likely | 80.0\$M 70.0\$M | 0.0\$M | NO RISK | NO RISK | Probability H M L VL | 0.0\$M | Avoidance | Received a written response from the City of Aberdeen that accepted the seismic criteria. | | | | | 0.0 \$M | MAX Most Likely | 0.0\$M | | \$0.0 | 0.2Mo 0.6Mo 0.3Mo | NO RISK | NO RISK | Probability H M L VL | 0.0\$M | | |
| Current | DES 60.10 | Retired | Design/PS&E | May-09 | Construction | Threat | The single contract approach was selected to provide the contractor with an opportunity to develop a more innovative or cost effective design. RFP will have some restrictions because there is another project coming after this that would also need to use the same criteria; Slide launch; elevator launch barges, dual stage pontoons; remove one of the gates; change the wall type; savings (low end) could be single gate \$8M to \$12M savings, different pile types (pre-cast concrete pile is the base) possibly \$10M savings on foundation driving from a floating crane inside the hole could save 1 to 2 months schedule; wall changes (base is cast in place wall) could move to sheetpile or MSE wall, \$4M to \$5M savings; Possibly no need for the wall; This risk is a schedule impact due to the cost opportunity of DES 60.03, both DES 60.03 and DES 60.10 impacts occur simultaneously. | | Cost | 50% | MIN MAX Most Likely | | 0.0\$M | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | Due to VE Rec #3 and #5 retired. | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0\$M | | \$0.0 | 0.5Mo 1.5Mo 1.0Mo | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | |
| Current | DES 60.09 | Retired | Design/PS&E | May-09 | Construction | Threat | The pontoons are designed for freshwater but will be moored in saltwater until needed; if the project was delayed many years, this could lead to corrosion that damages the pontoons significantly. The design change may happen to save this potential issue. The risk of the pontoons sitting in salt water for a long time is very low. | | Cost | 25% | MIN MAX Most Likely | 5.0\$M 7.0\$M 6.0\$M | 0.0\$M | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0\$M | | \$0.0 | 0.0Mo 0.0Mo 0.0Mo | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | |
| Current | CNS 900.06 | Retired | Construction | May-09 | Construction | Opportunity | Performing a test pile program on the preferred alternative site could possibly lead to savings due to more information. In DB usually the contractor would do a pile load test during design; and could gain some useful information still from doing the test pile program. For the RFP will have some borings, and lab test raw data; information may lead to fewer piles being necessary leading to a cost savings in bid (problem is the information isn't known by the bidders prior to bid, savings is due to lower premium in bid due to lack of information); with the information can find the ultimate capacity and can design closer to that limit which can lead to savings, test costs about \$300k saves around \$4.2 million so a net savings of about \$4m at the largest. This program needs to be done by the State before bids to get the information out to save on bids. Update: A decision has been made that this cannot be performed before the RFP goes out. | | Cost | 50% | MIN MAX Most Likely | -1.0\$M -4.0\$M -2.5\$M | 0.0\$M | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0\$M | | \$0.0 | 0.0Mo 0.0Mo 0.0Mo | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | |
| Current | DES 60.05 | Retired | Design/PS&E | May-09 | Construction | Opportunity | The single contract approach was selected to provide the contractor with an opportunity to develop a more innovative or cost effective design. RFP will have some restrictions because there is another project coming after this that would also need to use the same criteria; foundation driving from a floating crane inside the hole could save 1 to 2 months schedule; wall changes (base is cast in place wall) could move to sheetpile or MSE wall, \$4M to \$5M savings; possibly no need for the wall. Retired because VE recommendations replaces this opportunity. | | Cost | 10% | MIN MAX Most Likely | -4.0\$M -5.0\$M -4.5\$M | 0.0\$M | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | | | | | | 0.0 \$M | MIN MAX Most Likely | 0.0\$M | | \$0.0 | 0.0Mo 0.0Mo 0.0Mo | NO RISK | NO RISK | Probability VH H M L VL | 0.0\$M | | |