SCOPE OF WORK
PHASE II – OPEN RESERVOIR PROJECT

INTERIM ACTION PLAN, DESIGN OF WASHINGTON PARK IMPROVEMENTS AND LONG TERM STORAGE PLAN

The primary goal of Phase I of the Open Reservoir Project was to decide what to do about the five open reservoirs in Washington Park and Mount Tabor. The fundamental conclusion of Phase I, expressed in the Phase I Summary Report dated March 2001, was that a long-term program was required for removing the Open Reservoirs from service. Along with that goal, the Phase I Report recommended developing a Storage Plan that would identify specifically how the Bureau intends to cover, abandon or replace the open reservoirs. The purpose of Phase II of the Open Reservoir Project is to begin implementation of the recommendations of the Phase I Study.

The events of September 11th have focussed national attention on safeguarding public facilities, and drinking water supplies in particular. Therefore, while the overall recommendations of the Phase I Report are still appropriate, implementation of the recommendations may now need to be expedited and modified in response to the changed circumstances.

The Open Reservoir Project - Phase II Scope of Work - is broken down into three major elements: 1) "Interim Action Plan"; 2) Washington Park Improvements; and 3) Long-Term Storage Plan. The Interim Action Plan (IAP) will address the immediate security risk of Open Reservoir storage and focus primarily on Mt. Tabor Park improvements. The IAP includes all of the planning, public involvement, and preliminary design necessary to provide secure perimeters and setbacks to both Reservoir complexes, and to install either floating covers or replacement concrete tank(s) at each of the sites of the three existing Mt. Tabor Reservoirs as needed. Element II - Washington Park Improvements, represents a conventional preliminary and final design process for improvements recommended at Washington Park including covers, liners, setbacks, and security equipment at Reservoirs 3 and 4. The Long-Term Storage Plan includes development of a long-term strategy to eliminate and replace all open storage in the system. This task will involve a significant Public Involvement component in the decision-making structure.

ELEMENT I – DEVELOP INTERIM ACTION PLAN

The objective of Element 1 is to develop all of the technical information and conduct the necessary public involvement to allow the City to fully define the Interim Action Plan. Key tasks of this element of the project include the following:

- Review and finalize overall storage requirements and minimum requirements at Mt. Tabor and Washington Park.
- Conduct site visits of mechanically tensioned floating covers
- Consult with security experts and identify minimum security requirements
- Establish and Conduct Public Involvement Program
- Decide which reservoirs will be covered, abandoned or replaced with permanent storage (on same site).
- Prepare preliminary designs of Reservoir barriers, floating covers, and concrete storage tank(s) as required under the IAP.
- Identify and initiate permitting process

TASK I.1 PROJECT INITIATION AND LOCAL STORAGE VOLUMES

Finalize an overall approach for completing the Phase II work, including identifying required public involvement plans and determining project delivery mechanisms to meet desired schedules. Print copies of Phase I reports to meet needs of the project.

Discussions will be held with key Parks and Planning Bureau staff, including the on-site park superintendents.

Using the results of the storage volume analysis in Phase I, the results of the River Crossing Reliability Study, and updated information about emergency sources and emergency interties with other water suppliers, identify the minimum amount of storage that must be specifically located at the Mt. Tabor and Washington Park sites, along with the required elevation. It is assumed that if additional analyses of storage volume requirements for the system beyond what was conducted in Phase I are desired, the analyses will be conducted by the Bureau. Prepare a technical memorandum and meet with the Bureau to review results of the analysis.

Deliverables:

- Final Scope of Work for Phase II.
- Copies of Phase I reports.
- Draft and Final technical memorandum summarizing the minimum amount of storage that must be specifically located at the Mt. Tabor and Washington Park sites, along with the required elevation.

TASK I.2: SITE SECURITY

A nationally recognized infrastructure security and risk specialist will conduct a site visit to each of the Open Reservoirs, review current security measures and make recommendations to enhance security and manage risks at each of the open reservoirs. A meeting will be held with City staff to define the potential threats that require safeguarding and will serve as the criteria for recommendations. Recommendations on the following issues will be provided:

1. What Vulnerabilities and security risks are the Open Reservoirs most susceptible to (i.e. what vulnerabilities should we be protecting the facilities against)? The Bureau's primary concern has been someone putting a contaminants into the reservoirs.

- How vulnerable are the Open Reservoirs to intentional and purposeful contamination?
- Are there substances that are available in sufficient quantity that could be added to the Open Reservoirs to cause a public health threat?
- Do the Open Reservoirs fit the "profile" of a terrorist target? (local, regional, national, international)

2. What is the general approach to securing facilities like the Open Reservoirs?

- What is the most desirable level of security recommended for safeguarding the Open Reservoirs, which should consider but not be limited to consideration of taking the Open Reservoirs out of service and replacing with permanently buried concrete structures.
- What is the minimum amount of security recommended for reducing the risk of contamination of the Open Reservoirs and how much risk will be reduced?
- The Bureau has considered setting back public access and hypalon floating covers, as they can be instituted quickly to reduce risks of intentional contamination for an interim period of time until they could be replace with buried concrete tanks. How effective would these measures be? Are there other measures the would be better or additional measure needed?

3. What are interim and long-term the site-specific procedural and facility recommendations for the Open Reservoirs.

- If a setback is recommended, what design features of the setback barrier wall are required to restrict human access?
- Is continuous camera (or other equipment) surveillance of the sites recommended and if so, what security equipment is recommended to achieve this goal?
- Is continuous human surveillance recommended at the sites and if so, what are the manpower requirements?
- Would floating covers reduce the public setbacks and access restrictions?
- What procedural measures would be most effective?

Deliverables:

- Draft and Final technical memorandum summarizing the site security and risk reduction recommendations.

TASK I.3: PRELIMINARY EVALUATION & RECOMMENDATIONS

The objective of this task is to gather the technical information needed to determine what options are available at each open reservoir and then to develop the recommended Interim Action Plan based on the findings. The preliminary evaluation involves the following tasks:

- Site visits to other reservoirs with mechanically-tensioned floating covers. One site in Seattle and potentially other sites in Southern California will be visited. The California visit, if determined to be necessary, will be attended by a small group of BWW personnel.
- Site visits to Mt. Tabor Park and Washington Park with Floating Cover Installation Contractor to review site-specific feasibility of mechanically tensioned covers at each open reservoir.
- Meeting with Reservoir Cover experts to review construction and installation options for tensioned cover design.
- Geotechnical analysis of each of the reservoir sites for feasibility to construct covers or tanks within existing reservoirs.
- Mapping of crack locations and evaluation of impacts of cracks on dam stability at Reservoir 3. Identification of method to measure amount of leakage through cracks at Reservoir 3.
- It is assumed for scoping purposes that new buried, covered tanks of 10 – 15 MG size will be constructed in the location of Reservoir 6 and Reservoir 1. This assumption will be validated and modified as necessary based on the findings of the Storage Analysis (Task I.1). It is assumed access to the boring sites is available with standard methods. Six borings will be drilled in the floor of both Reservoir 6 and Reservoir 1 at an estimated depth of 30 feet for each boring. Drilling will be conducted with mud-rotary tricone or core techniques. Standard penetration tests will be conducted at 5-foot intervals. The existing liner would be patched at each drill site following the boring. A geotechnical report will be prepared summarizing the boring logs and sample moisture contents.

Based on the site visits, the review of technical information, and the recommendations from Task I.1 and I.2, a recommended Interim Action Plan (IAP) will be developed to provide secure storage at Mt. Tabor Park. It is assumed that the IAP will include temporary barrier walls, security improvements, and either floating covers or permanent buried storage at Reservoirs 1, 5, and 6. At Washington Park, it is assumed that that the IAP will include security improvements and floating covers at Reservoirs 3 and 4. It is also assumed that liners will be installed at Reservoir 3 per the Phase I Study recommendations.

Deliverables:

- Draft and Final technical memorandum summarizing the technical findings and the recommended Interim Action Plan

TASK I.4: RESERVOIR BARRIER AND PARK AMENITIES

Under this task, the landscape architect will use the recommendations made by the Security Expert and work with the Public Involvement staff to develop preliminary and final design concepts for any reservoir barrier modifications that are necessary at each reservoir. Any park amenity modifications, such as trails, roads, overlooks, or other features that are needed as a consequence of barriers will be developed. It is assumed that Park amenity modifications will be required at Mt. Tabor, but will not be required at Washington Park. Any amenities required at Washington Park will be developed as part of the design process for Reservoir 3 and 4 included in Element II of this scope of work. The following tasks will be performed.

- Develop conceptual design of a barrier at Mt. Tabor reservoirs if required, based on Site Security Expert recommendations and the initial issues and concerns identified by the Public Advisory Committees.
- Refine designs as required by the public involvement process (See Task I.5, below)
- Develop final design concepts for barrier walls and other Park amenity modifications for Mt. Tabor.

Deliverables:

- Draft and Final technical memorandum summarizing the desired barrier and Park amenities concepts.

TASK I.5: PUBLIC INVOLVEMENT

The purpose of this task is to develop one Citizen Stakeholder Panel each for Mt. Tabor and Washington Park (two total) to provide public input on the conceptual design and layout of any Barrier Walls and other park amenity modifications necessary to institute the Interim Action Plan. The amount of storage volume and security requirements (setbacks, covers, access control, etc.) will be presented to the Panels as minimum requirements. The Panels will be asked for input on how to make these requirements fit within the character and nature of the Parks and neighborhoods. It is assumed that the public involvement process of Element I will also serve as the input and feedback process for design of the Washington Park Improvements identified in Element II.

Citizen Panel meetings will be held as open public meetings, and advertised using news releases, Neighborhood Association newsletters, the community calendar section of the Oregonian, the Bureau's web site, and signs near the reservoirs.

The following tasks will be conducted

Prior to Public Outreach and Involvement

1. **Project Team Meeting #1** – Solidify public involvement strategy for interim action plan.

2. **Project Team Workshop #2** -- Identify how decisions will be made, who makes the final decision, project parameters (regulations, constraints, etc.), what is open to public input, appropriate tools (committees, etc.), potential stakeholders, potential issues, and who will contact each stakeholder.

3. **Initial Information Sheet** – This summarizes what comes out of the team workshop and will help ensure consistent communication about the project (part of rumor control/communication management). Intended use is for project team, other staff, Commissioner Sten, and for informal stakeholder interviews.

Public Outreach and Involvement

4. **Initial Stakeholder Contacts/Interviews** (up to 20) – These conversations will be informal, but generally follow a standard list of questions. The interviews will inform stakeholders of the project, begin to develop relationships with them (dialogue), and will get their input early so that we can include it in what we bring to stakeholder group meetings. Interviews will include neighborhood association representatives, special interests and appropriate City staff (ie: Parks and Planning staff who managed the Mt. Tabor and Washington Park master planning public involvement).

5. **Project Team Meeting #3 –** Review stakeholder interview results and identify alternative design concepts and costs to address key issues/concerns/suggestions.

6. **Stakeholder Group (SG) Meeting #1** – Meet with representatives of each concerned neighborhood association, applicable agencies and other interest groups to review stakeholder interview issues/suggestions and alternative design concepts. This will be an informal "sounding board" type of group that will review and give individual comments on what is presented.

7. **Project Team Meeting #4** – Review SG Mtg. #1 results and identify what needs to be done for SG Meeting #2.

8. **Stakeholder Group Meeting (SG) #2** – Review revised design concepts and identified each individual" preferred design.

9. **Project Team Meeting #5** – Review SG #2 results, the Bureau's preferred designs and agree on plan for the Open houses.

10. **Open Houses (2) –** Hold a community open house near each park to present alternatives considered and the preferred design concepts. Ask for citizen comment. Summarize comments from feedback forms.

11. **Project Team Meeting #6** – Review Open House results, develop final recommended preferred designs, and discuss newsletter and next steps.

12. **Newsletter (1)** – Give overview of project and process. Discuss alternative designs, how they compared, stakeholder and open house input, and the Bureau's preferred designs. Identify construction schedule. Introduce long term planning and purpose.

Coordination with Public Information Staff – The scope assumes that news releases, letters and meeting announcements will written, produced and distributed through Bureau public information staff. The consultant will prepare a draft of the information sheet and newsletter.

TASK I.6: MT. TABOR PARK IMPROVEMENTS PRELIMINARY DESIGN

In this task, a preliminary design submittal will be prepared based on the results of Tasks I.1 through I.5. The task will include preliminary design of the following Park Security enhancements. The scope below assumes that temporary measures and conceptual design will be undertaken at Reservoir 5, and preliminary design to allow a design/build proposal for buried tanks will be undertaken at Reservoirs 1 and 6.

Task I.6a. Temporary Measures and Conceptual Design at Reservoir 5. Provide preliminary design Technical Memorandum outlining recommended temporary security improvements at Reservoir 5 while construction of buried tanks at Reservoir 1 and 6 locations occurs. Recommendations will be based on feedback from the Public Involvement process and the Site Security Review recommendation. Identify design concepts and costs for modifying existing reservoir inlet/outlet pipe. Provide conceptual design for a buried reservoir that would be constructed once tanks are completed at Reservoir 1 and 6. Develop a proposed construction schedule, construction sequencing, operational constraints, and permit acquisition requirements. Develop a preliminary cost estimate for the temporary security improvements and for ultimate buried reservoir.

Task 1.6b. Enhanced Site Security Surveillance and Barrier Wall. Provide preliminary design Technical Memorandum outlining recommended "secured perimeter" boundaries, security surveillance and alarm equipment, and barrier wall design for Reservoirs 3, and 4. Recommendations will be based on feedback from the Public Involvement process and the Site Security Review recommendations.

Task 1.6c. Pre-Stressed Concrete Tank at Reservoir 6 and Reservoir 1. Under this task, preliminary design material will be prepared for a pre-stressed concrete tank up to 15 MG in size at the site of Reservoir 6 and at Reservoir 1.

- Prepare Design Criteria including reservoir dimensions, storage volume, and structural design criteria including Zone 3 Seismic requirements.
- Identify demolition requirements for Reservoir 6 and Reservoir 1 based on requirements for construction, coordination with City Historical Preservation staff, and feedback from the public involvement process.

- Identify design and construction issues relative to hydraulic connectivity to the existing system and determine any needed system piping improvements including inlet, outlet, drainage and overflow piping.
- Determine operational issues related to existing facilities during construction, startup and testing of the new reservoir and piping.
- Prepare preliminary landscape plan that incorporates feedback from the Public Involvement process including all park amenities, landscape planting, path and road realignments, etc.
- Prepare approximately 30% design documents consisting of general, civil, mechanical, structural, and landscape drawings and outline technical specifications, for construction of the work. Construction Specifications Institute (CSI) format will be utilized for special specifications.
- Prepare a detailed draft project schedule from design through construction, indicating critical paths and milestones for each phase of work by major task, including all planning review and permitting timelines and their relationship to the engineering design.
- Develop a preliminary construction cost estimate for the planned reservoir and related facilities.

Task 1.6d. Site Yard Piping and Valve Modifications at Mt. Tabor. Conduct a review of yard piping and valving modifications required at Mt Tabor Park to allow remote isolation of each individual reservoir as well as isolation of the entire Mt. Tabor complex. The review will also evaluate modifications necessary to improve operational flexibility in the event of a Reservoir shutdown (maintenance or emergency).

Deliverables:

- Preliminary Design Memo, Drawings and Specification Documents for Liner and Covers at Reservoirs 1 and 5
- Preliminary Design Memo, Drawings and Specification Documents for Pre-stressed Concrete Tank at Reservoir 6.
- Preliminary Design Memo, Design Drawings and Specification Documents for Barrier Wall and security equipment at Reservoirs 1 and 5.
- Preliminary Design Memo and Drawings for Site Yard Piping and Valve Modifications.

TASK I.7: PERMITTING

The existing open reservoirs on Mt. Tabor and in Washington Park are zoned Open Space and are classified as "basic utilities". They currently have "approved conditional use status" (City Code 33.815.030) because of their historical use. This status provides for alterations such as an enhanced maintenance program or minor facility upgrades to be allowed through a Type II land use review procedure. Type II land use decisions can be made by Planning Bureau staff and are usually acted upon within 14 days after a completed application is submitted. It is assumed that floating covers and barrier walls

would be considered minor facility upgrades. As a result, it is expected that the following tasks would be required to address land use issues for those elements of the IAP:

1. Summarize land use, zoning, environmental overlay and scenic overlay zone regulations. Meet with OPDR staff to determine permit process for proposed alterations.
2. Document permitting strategy, process and application requirements for PWB. Using this information, meet with PWB staff to determine desired land use permitting actions based on design alteration options.
3. Complete a pre-application submittal for OPDR review and comment.
4. Attend pre-application conference to discuss project issues affecting land use.
5. Prepare and submit Type II land use application.
6. Coordinate and meet with OPDR and PWB staffs through the Type II land use review process to address questions and issues that arise.
7. Meet with Parks Bureau to discuss alterations to the existing reservoirs.
8. At this time, it is assumed that the Water Bureau has the ability to modify or replace the open reservoirs without triggering City or State historical landmark review. However, a meeting with City historical preservation staff members will be held to discuss modifications of the reservoir structures. If it is determined necessary, the required permit application process and public notification requirements will be initiated.

All construction activity-related permits required for construction of the buried tank at the site of Reservoir 6 would be conducted under the construction contract and is not a part of this scope of work.

Deliverables:

- Draft and final land use application strategy technical memorandum.
- Land use application for IAP improvements

ELEMENT II – WASHINGTON PARK IMPROVEMENTS

Element II of the Scope of Work consists of preparation of design drawings and specifications for improvements at Washington Park which were identified in Element I of the Scope of Work. These improvements consist of design of a cover and liner at Reservoir 3, a cover at Reservoir 4 and additional security measures (Setbacks, security equipment, etc.). It is assumed that the landscape and public involvement tasks completed in Element I will be encompass construction activities proposed at both Mt. Tabor and Washington Parks and therefore is not repeated in this Element of the Scope of Work.

TASK I.1. PRELIMINARY DESIGN

Identify and evaluate cover material alternatives, including NSF-approved materials, such as polypropylene and Hypalon. Identify and evaluate reservoir appurtenances that enhance operations and maintenance activities, such as access hatches, floating walkways, one-way air vents for trapped air release from under the cover and liner, rain water removal system, interior cleaning and exterior debris removal systems. Identify design concepts and costs for modifying existing reservoir inlet/outlet pipe. Provide preliminary drawings showing plans and sections of the recommended alternatives and layouts. Prepare preliminary layout of setback fencing location and location of surveillance and security equipment. Develop a proposed construction schedule, including design, bidding, construction and permit acquisition requirements. Develop a preliminary cost estimate for the modifications to the reservoir, as recommended in the preliminary design.

Deliverables:

- Prepare Draft and Final Preliminary Design Memorandum.

TASK II.3 DETAILED DESIGN

Task II.3a. Progress Meetings. Meet with PWB staff for periodic update and design review meetings, including design review workshops after the 60% and 90% submittals at a minimum.

Task II.3b. Field Surveying. Prepare for and perform surveying at the reservoir site to confirm features, elevations and dimensions compared to the as-built construction drawings in PWB's files. Establish elevations per PWB's datum. Submit electronic file of survey to PWB upon completion of design. Prior to initiating any field surveying, a meeting with the PWB Chief Surveyor will be held.

Task II.3c. Final Design – 50% Submittal. Prepare preliminary plans and technical

specifications for the cover replacement project for review by PWB.

Task II.3d. Final Design – 90% Submittal. After receipt of the 60% comments from PWB, and possibly other agencies, revisions will be made to the 60% drawings and specifications to produce the 90% submittal.

Task II.3e. Final Design – 100% Submittal. After receipt of the 90% comments from PWB, and possibly other agencies, final revisions will be made to the 90% drawings and specifications to be included in final PWB bid documents. Provide one original copy of drawings and specifications to PWB for reproduction. Electronic copies of drawings and specifications will also be provided.

Task II.3f. Engineer's Estimate. A final Engineer's construction cost estimate will be prepared at the 90% design completion level. It is recognized that the lowest responsible bidder's price will vary from the Engineer's cost estimate, so the Engineer's estimate figure will be representative of a range of possible bid prices.

Task II.3g. Construction Sequencing and Scheduling. A summary of the critical construction elements and suggested scheduling approach for construction will be prepared and submitted to PWB for review and comment at the same time as the 90% design submittal.

Task II.3h. Assistance in Preparation of Permit Drawings/Sketches for Agency Submittal. Assist in preparation of 90% level drawings/sketches, 90% contract documents or earlier preliminary design documents, where applicable, to PWB for submittal to permitting agencies, including possible Oregon Division of Dam Safety, Oregon DEQ and Oregon Health Division. It is understood that the Engineer has no control over the duration of time necessary for Agency reviews to acquire the necessary permits and does not warrant the time in which permits can be obtained.

Deliverables:

- 50% Design and Specification Submittal
- 90% Design and Specification Submittal
- 100% Design Submittal including Engineer's estimate and Construction Schedule

TASK II.4 – BID PHASE SERVICES

PWB will be responsible for the entire bid/solicitation process and MWH will provide technical assistance as requested.

Task II.4a. Attend Pre-Bid Conference with Prospective Bidders. Attend and prepare a summary of the questions asked at the pre-bid conference.

Task II.4b. Respond to Bidder's Questions and Inquiries. Receive inquiries from PWB when assistance is needed to respond to bidders' technical questions.

Task II.4c. Prepare Addenda. Prepare responses to bidders' questions, including any required sketches or updated drawings, to address questions and inquiries received during Task 3.B and submit to PWB for PWB's inclusion in Addenda issuances.

Task II.4d. Review of Bids. Prepare tabulation of bids as received from PWB. Provide PWB with a summary of bidders' irregularities (if any). Review Contractor references and experiences, and discuss with PWB. Recommend award of construction contract to the lowest responsive, responsible bidder. Assist PWB with review of selected Contractor's required submittals prior to award of the construction contract , if requested.

TASK II.5 SERVICES DURING CONSTRUCTION

It is assumed that PWB will administer the construction contract and that MWH will provide construction management and inspection services as outlined herein.

Task II.5a. Conduct Pre-Construction Conference. Coordinate and conduct pre-construction conference with the selected contractor, designated subcontractor(s), PWB and MWH staff. Prepare a summary of the pre-construction conference.

Task II.5b. Field Inspection and Observation. The majority of on-site inspection during construction will be provided by PWB staff. MWH will provide on-site field inspection and monitoring to observe the quality and progress of the construction and to help determine if the provisions of the construction contract documents are being fulfilled. Site visits by MWH personnel will be made weekly (approximately 2 to 4 hours per visit) or more frequently if requested by the PWB for observation of specific specialty construction items.

Task II.5c. Submittal Review. Receive from PWB, check for completeness, and log all shop drawings and other submittals and maintain a computer-based submittals tracking system. Review shop drawings of fabricated and manufactured equipment, and equipment technical manuals submitted by the contractor for substantial conformity with the intent of the contract drawings and specifications. Maintain a shop drawing submittal file and submit a complete set of all reviewed shop drawings and equipment submittals to the PWB at the completion of the project. Evaluate substitution(s) and "or equal(s)" proposed by the Contractor during construction and provide recommendations to PWB for final approval/disapproval decisions.

Task II.5d. Respond to Requests for Clarifications (RFC's). Respond to contractor's Requests for Clarification (RFC's), and as applicable, without waiting for contractor's RFC's, interpret the drawings and specifications, including the preparation of elementary sketches, if required, to clarify the design details or to make minor revisions. Issue Advisory Notices for PWB distribution to the Contractor as applicable. Provide PWB with copies of all written interpretations and sketches.

Task II.5e. Prepare Change Orders. Make design modifications required by field

conditions or changes discovered during construction. Prepare change order justification documents, evaluate schedule impacts, and assist PWB in negotiating change orders with the contractor. Make recommendations to PWB concerning change orders. Maintain a change order documentation system. PWB will create and execute all Change Orders with Contractor.

Task II.5f. Attend Construction Progress Meetings. Attend regularly scheduled jobsite meetings with the contractor to review the progress of the work, identify and address field problems as they occur, and anticipate and prevent future problems. At a minimum, the inspector will attend each scheduled jobsite meeting and the office engineer/staff will attend every other jobsite meeting. Prepare, maintain and distribute notes of the meetings.

Task II.5g. Testing and Startup Services. Prepare a facility testing and proof of performance plan. Assist PWB in reviewing the facility testing and proof of performance and provide a formal letter of acceptance/certification that the facilities meet the performance requirements. Assist PWB as necessary and work with the Contractor in performing startup and witness tests of all new equipment, process and control systems. Make recommendations to PWB concerning operational acceptance, substantial completion and final acceptance of the work. Establish the beginning of the warranty period for partial or full project utilization and issue a written notification to the Contractor, bonding company and PWB advising all parties of the beginning and ending dates of warranties.

Task II.5h. Final Inspection and Punch List. Conduct final walk-through inspection in company with PWB staff and Contractor to ascertain compliance by the Contractor with requirements of the drawings and specifications. Provide punch-lists for construction completion. Provide written acceptance of the work to PWB after Contractor completion of punch-list items. Review of Contractor-Prepared O&M/Equipment Manuals.

TASK II.6 POST-CONSTRUCTION SERVICES

Task II.6a. Preparation of Project-Specific O&M Manuals. Incorporate contractor-provided information and pertinent design information into a specific O&M/procedures manual for use by PWB staff.

Task II.6a. Record Drawings. Upon completion of the project, incorporate the Contractor's record information into the design drawings to provide a set of Record Drawings on 22" x 34" sheets showing changes during construction such as changed materials and locations of facilities as constructed.

Task II.6a. Warranty Inspection. Prepare for and attend a warranty inspection approximately 11 months after completion in the presence of the Contractor and PWB staff.

Deliverables:

- Submit a draft O&M manual for review by PWB and for use by staff during training. Submit 5 copies of final manual after receipt of comments from PWB.
- Submit electronic copy of record drawings.

II.7 LAND USE PERMIT APPLICATION

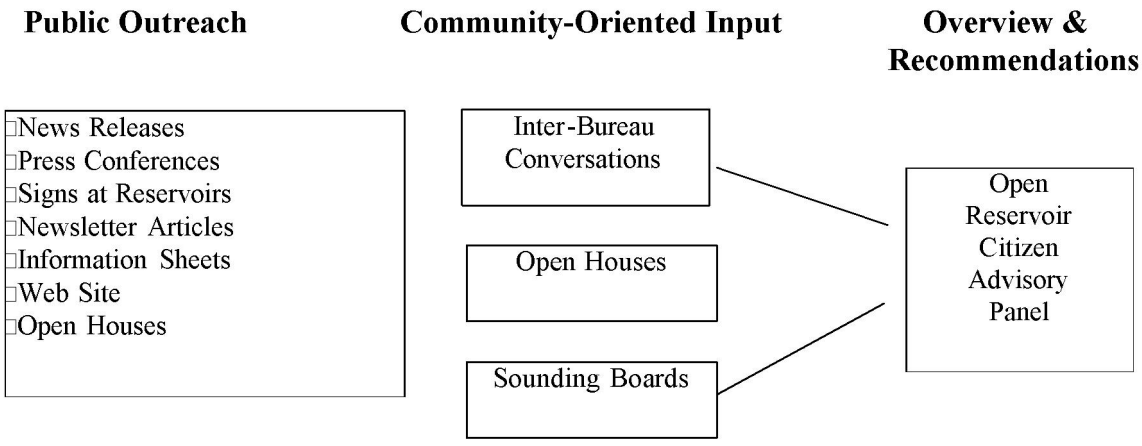
Modifications to the Open Reservoirs and surrounding perimeter area at Washington Park will require submittal of a land use permit. The following tasks will be conducted to acquire the permit:

- Complete a pre-application submittal for OPDR review and comment.
- Attend pre-application conference to discuss project issues affecting land use.
- Prepare and submit Type II land use application.
- Coordinate and meet with OPDR and PWB staffs through the Type II land use review process to address questions and issues that arise.
- Meet with Parks Bureau to discuss alterations to the existing reservoirs.
- At this time, it is assumed that the Water Bureau has the ability to modify or replace the open reservoirs without triggering City or State historical landmark review. However, a meeting with City historical preservation staff members will be held to discuss modifications of the reservoir structures.

ELEMENT III LONG TERM STORAGE PLAN

The objective of Element III of the Open Reservoir Project is to develop a long-term plan for either covering, abandoning, or relocating the storage volume currently contained in the Open Reservoirs. The process will build upon the public information gathered in Element I – Interim Action Plan.

The following schematic provides a general overview of the public outreach and involvement process for decision making in Element III:



TASK III.1 DECISION PROCESS

Task III.1.1 Finalize Public Involvement Scope

The public involvement process for developing the Long Term Storage Plan will in part, build upon the public involvement information developed during the Interim Action Plan. Therefore, the first task will be to finalize the scope including determining the role of ONI in the Public Involvement Task. In order to finalize the scope, the following tasks are anticipated:

- Meet with the Bureau's internal stakeholders group to review the public involvement scope and key messages, discuss stakeholder interviews, and identify new information on stakeholders and issues.
- Contact a range of stakeholders to describe the project, identify issues and identify likely candidates for a Sounding Board.
- Meet with Bureau internal stakeholders group to finalize public involvement program and present list of recommended Sounding Board members.

Task III.1.2 Recruit Citizen Panel

A Citizen Panel will be recruited. Panel will consist of randomly selected people living

in the City of Portland. Proportion of representation between local area and city-wide will be identified with the Bureau. An alternative to this process is to continue to use the same panel members identified in Element I. The project team will decide the direction based on the success/results of the Element I Public Involvement process.

Task III.1.3 Hold Citizen Panel Workshop

A workshop with the Citizen Panel will be held. The purpose of the workshop will be to review options and alternatives for the reservoirs. These options will include the timing for taking actions and the extent of actions to be taken. Information on the threats to water quality, costs, and site historic and recreational amenities will be provided to the Panel. Both interim and long-term options will be considered. Values and criteria for decision making will also be explored. Results of the Citizen Panel will be summarized in a Decision Recommendations Report.

TASK III.2 OBTAIN COMMUNITY INPUT

Task III.2.1 Inter-Bureau/Agency Conversations

Because the reservoirs are considered an integral part of the parks and have historic significance, the Bureau must work closely with the Parks and Planning Bureaus. Discussions will be held with key Parks and Planning Bureau staff, including the on-site park superintendents, prior to holding open houses or other major meetings. The goal is to ensure that Parks and Planning staff are fully on board and move forward as partners with the PWB. Discussions will also be held with the Police Bureau to identify issues they have with the parks and reservoirs.

Task III.2.2 Open Reservoir Project Stakeholder Sounding Board

A "Sounding Board" will be established to obtain a wide range of neighborhood and community input about ***how*** proposed changes to the Reservoirs will be implemented. Anticipated membership on the Sounding Board includes representatives of the surrounding neighborhoods, and interest groups focused on park use and historic preservation. The Sounding Board will not be a "recommending" body. It ensures that the Bureau and Citizen Panel hear neighborhood and interest group concerns, and that these interests hear each other. Members are charged with giving individual input, not necessarily coming to a group recommendation. The Sounding Board is a forum for informing representatives of community and interest groups, and an organized way of gathering their input.

Task III.2.3 Open Houses

Two rounds of Open Houses are proposed, with each round including two open houses – one near Mt. Tabor Park and one near Washington Park. The open houses will be advertised using news releases, the community calendar section of the Oregonian, Neighborhood Association newsletters, the Bureau's web site and signs near the

reservoirs. One round of Open Houses will be conducted early to identify issues and concerns. The second round will be held to review draft recommendations.

TASK III.3 PREPARE PUBLIC OUTREACH MATERIALS

Materials that will be used in the public outreach program will be prepared. Anticipated materials are:

Signs. Signs will be prepared for the Bureau to print and install at the reservoirs that will notify park users of the project, upcoming open houses and how to get on mailing or contact lists.

Information Sheets. A series of information sheets will be developed on key topics. The information sheets can be used to respond to requests for information, at neighborhood meetings, for the Sounding Board or Citizen Panel, for media briefings and for possible inclusion in Neighborhood Association newsletters. They are not intended as a broad mailout. Proposed topics include:

- Study Overview (goals, stages of study, schedule, how to stay informed and involved, who to contact)
- Options for Interim Improvements
- Interim and Long Term Plans

Web Site Materials. Information sheets, meeting announcements, meeting summaries and contact information will be provided to the Bureau for posting on its web site.

News Releases/Press Conferences. Draft news releases will be developed to increase public awareness, present key themes and advertise open houses. All news releases should publicize the Bureau's web site and who to contact for more information. The Bureau will finalize any news releases and handle any communication with the media.

Letter Offering Speakers. Near the beginning of the project, a letter will be prepared and sent to offer presentations by Bureau staff to Neighborhood Associations.

TASK III.4 PUBLIC OUTREACH AND INVOLVEMENT SUMMARY

A draft Public Outreach and Involvement Summary will be prepared summarizing the results of Element I. The draft will include any recommendations for ongoing or future public involvement and outreach activities. After review of the Summary by the Bureau, a Final Summary will be prepared.

ELEMENT III.1 THROUGH III.4 DELIVERABLES

Work Products:

- One (1) Draft and one (1) Final Public Outreach and Involvement Plan
- One(1) Citizen Input Panel Summary Report

- One (1) Summary of Key External Stakeholder Contacts
- One (1) Draft List of Recommended Members for Sounding Board
- Three (3) Summaries of Sounding Board Meetings (simple transcriptions of meeting flip charts)
- Two (2) Summaries of Open Houses (summaries of comment forms)
- Up to 25 Displays and Handouts for Open Houses and Meetings
- Up to three (3) Draft News Releases/Open House Notices
- Three (3) Draft Information Sheets

Meetings:

- Four (4) Open Houses
  - Two (2) – one near each park -- to present sounding board issues and identify community issues
  - Two (2) – one near each park – to present the Citizen Panel's recommendations, thank sounding board
- Three (3) Sounding Board Meetings
- One(1) two-day Citizen Input Panel Meeting
- Up to seven (7) Inter-Bureau/Agency Conversations/Meetings
- Up to four (4) Internal Stakeholder Meetings
  - Present PI Plan and seek feedback on issues, key messages
  - Present recommendation for Sounding Board membership
  - Present community issues summary and draft study criteria (including community-related)
  - Present evaluation of interim options
- Up to ten (10) Project Team meetings to plan Sounding Board, Citizen Panel and Inter-Bureau/Agency meetings, as well as Open Houses

TASK III.5: RESERVOIR MANAGEMENT PLAN

Draft Rules for the regulation of Open Reservoir storage are anticipated for release in 2003. These regulations call for the elimination of open storage unless they are operated under a State-approved Risk Management Plan. Although the Reservoirs will be covered or replaced and thus do not fall under the requirements of the future regulations, a scaled-back Reservoir Management Plan (RMP) will be prepared which focuses on the operations and maintenance requirements unique to the reservoirs with floating covers and less on Risk Managment. Activities in this subtask include the following:

1. Gather Existing Information. All readily available information would be gathered for review. Detailed interviews with key Bureau staff or groups of staff will be conducted to make sure that all relevant information is considered. Based on this meeting, a preliminary outline for the RMP would be developed.

2. Security Breach Response. This task will focus on the response that the Bureau will take when the security of the facilities or the water quality in the reservoirs is in question by a real or perceived threat. Responses will need to be driven by the type and magnitude of the problem at hand. The types of threats would include

but not be limited to vandalism, terrorism, and other potential treatment interruptions. The approach to this task would be to identify a possible list of threats, and develop appropriate response scenarios. Workshops specifically dedicated to emergency response would be held between the Bureau and the consultant.

3. Reservoir Water Quality Monitoring Plan Update. The existing water quality monitoring program for the reservoirs will be reviewed, and recommendations for modifications to that program will be prepared.

4. Water Quality Issues Review. The potential impacts of the reservoir covers on chlorine residuals and rechlorination needs, on increased nitrification, and on temperature will be assessed based on existing literature and the Bureau's monitoring data.

5. Prepare Draft and Final RMP. Based on the results of the previous Tasks, a Preliminary Draft Plan will be prepared for review and comment by the Bureau and OHD. This will include the purpose and background information such as system descriptions, historic water quality, major concerns, record keeping, overall reservoir security, and emergency response planning. It will also describe policies, roles and responsibilities of staff, and any other information of general interest.

Deliverables:

- Two workshops will be held with the Water Bureau staff to develop the Risk Management Plan.
- Prepare draft and final RMP for Bureau review.

TASK III.6 STORAGE VOLUMES AND EVALUATION CRITERIA

Review the results of the storage volume analysis in Phase I and Element I of Phase II, the results of the River Crossing Reliability Study, and update information about emergency sources, river crossing reliability, Bureau operating philosophies and emergency interties with other water suppliers:

- Identify the amount of storage that is required on both the east and west sides of the City.
- Identify the amount of storage for the Westside that can be located on the Eastside at Powell Butte.

It is assumed that if additional analysis of storage volume requirements for the system beyond what was conducted in Phase I are desired, the analyses will be conducted by the Bureau.

Based on the information collected in Phase I and additional public involvement information developed, the project team will identify the criteria by which conceptual alternatives for the long term plan will be evaluated. Anticipated evaluation criteria include water quality, aesthetics, impacts on park surroundings, environmental impacts, historical significance, cultural significance, safety, security, public acceptance, permitting, integration with the existing water system, and cost.

Deliverables:

- Draft and Final technical memorandum summarizing the recommended long term storage volume needs and broad options for locating storage volume.
- One workshop will be held with Bureau staff to brainstorm evaluation criteria
- Prepare draft and final technical memorandum on selected evaluation criteria.

TASK III.7 IDENTIFY POTENTIAL RESERVOIR SITES

Identify sites that may be considered for replacement of the open reservoirs. Sites must be compatible with the hydraulics of the water system, be located within an agreed upon distance from major transmission, and sufficient in size to store a minimum of 5 MG. As a minimum, sites will include Washington Park, Mt. Tabor Park, Sam Jackson tank site, and Powell Butte.

Deliverables:

- Draft and final technical memorandum summarizing siting criteria, identifying all potentially feasible sites and recommended sites for future storage. As a minimum, four sites will be selected for further analysis.

TASK III.8 DEVELOP CONCEPTUAL ALTERNATIVES

Using the required storage volumes, potential reservoir sites, and the constraints up to three conceptual alternatives for covering and replacing open reservoir storage will be developed. The conceptual alternatives will identify the amount of storage at each site, the type of reservoir (whether exposed fixed covers, buried fixed covers, buried new reservoir), and how the reservoir would integrate with the site. It is anticipated that one alternative would be heavily reliant on storage at Powell Butte and one alternative would maintain as much storage on the west side of the City as possible.

Deliverables:

- Hold workshop with Bureau to develop potential conceptual alternatives for system storage.
- Prepare conceptual level architectural renderings of each of the three storage alternatives.
- Prepare draft and final technical memorandum identifying three alternatives for further analysis including general design criteria, site plans, and cost estimates.

TASK III.9 PERMITTING

The Washington and Mt. Tabor Park Reservoir areas are zoned Open Space and contain environmental conservation and scenic overlay designations. Major modifications to the reservoirs such as replacement or other substantial alterations will require a Conditional Use permit through a Type III land use procedure including environmental and scenic overlay evaluations. The Type III review process includes a public hearing and is conducted before a Hearings Officer. It is expected that the following tasks would be required to address land use and Park Bureau issues for significant alterations and/or replacement of the reservoirs:

1. Summarize land use, zoning, environmental overlay and scenic overlay zone regulations. Meet with OPDR staff to determine permit process for proposed alterations.
2. Document permitting strategy, process and application requirements for PWB. Using this information, meet with PWB staff to determine desired land use permitting actions based on design alteration options.
3. Complete an environmental assessment of the environmental overlay issues surrounding the impact area associated with the alteration.
4. Complete a scenic assessment of the impact area of project alterations for those reservoirs that contain this overlay designation.
5. Meet with Parks Bureau to discuss major modifications to the reservoirs and the potential for "adjustments" to Park amenities.
6. Meet with City historical preservation staff members to discuss modifications of the reservoir structures.

TASK III.10 DEVELOP DESIGN CONCEPTS FOR SELECTED PLAN

Based on the results of the engineering and public involvement efforts, select the preferred conceptual plan for more detailed engineering and public involvement analysis. For the selected conceptual plan, develop design concepts for each reservoir at each site. These concepts would include site plans (including piping and other appurtenances), key aesthetic treatments (landscape and architectural), how the reservoir integrates with the site (renderings), and cost estimates. Design workshops will be held with the community surrounding each site. It is assumed that workshops will occur at three sites.

Deliverables:

- Preparation of material for public involvement activities
- Technical memorandum summarizing the selected storage plan including layouts, renderings and cost estimates.

TASK III.11 PREPARE STORAGE AND IMPLEMENTATION PLAN

Prepare a Long Term Storage Plan that takes the design concepts for the selected plan, and details the timing, phasing, and relationships between elements of the plan. The

Storage Plan would be a mini-Capital Improvement Plan for the Open Reservoirs. Draft and Final versions of the Storage Plan would be prepared based on Bureau comments.

Deliverables:

- Prepare draft and final Long Term Storage Plan

TASK III.12: PROJECT MANAGEMENT

Project management will consist of the following activities:

- Monthly reporting, invoicing, meetings.
- Budget, schedule and subconsultant work monitoring.
- Printing and distribution of reports.

MWH PORTLAND OFFICE
2002 OPEN RESERVOIR PHASE II HOURLY RATES

Administrative	$ 50
Professional/Technical	$ 80
Senior Professional/Resident	$ 95
Supervising Professional	$125
Principal Professional	$140
Project Manager	$150

These hourly rates include overhead, benefits and profit. Non-salary expenses directly attributable to the project such as (1) living and traveling expenses of employees when away from the home office on business connected with the project; (2) printing costs of major reports; and (3) outside services including subconsultants, are charged at actual costs plus 12% service charge to cover overhead and administration. Associated project costs (APC) for the use of personal computers, word processors, networks, telephones, telecommunications, postage, miscellaneous reproduction charges, and other services are charged at the rate of $8.15 per direct labor hour. The use of computer-aided design/drafting computers (CADD) are charged at the rate of $28 per usage hour. Mileage will be charged at the rate of $0.34/mile or the federally approved rate in effect at the time of work. Rates for calendar year 2003 and subsequent years are subject to increase by the average of MWH's yearly salary increases, or 5%, whichever is smaller.