North Slough Bridge Feasibility Study at Smith and Bybee Wetlands Natural Area

Metro Regional Parks and Greenspaces
Metro Solid Waste and Recycling Department
Portland, Oregon
2006/2007

METRO
PEOPLE PLACES • OPEN SPACES

Evaluation Criteria and Measurements for North Slough Bridge Alternatives (including trail approaches)			
Criteria	**Fail**	**Pass w / Modification**	**Pass**
Regulatory Compliance Feasibility for Bridge and Trail Approaches			
1. Natural Resources Management Plan (NRMP) for Smith and Bybee Lakes (City of Portland) Bridge Alternative must satisfy applicable policies, goals, objectives and approval criteria of NRMP (pages 9, 50-55, and 61-69) and comply with applicable regulations identified in NMRP, including: ORS 541.622 – Special wetland fill rules for Smith-Bybee Lakes DSL Removal- Fill Law – regulates removal and fill from wetlands and waters of the State. Portland City Code Chapter 33 – Environmental Zoning Clean Water Act Sections 401/404 – Federal regulations of wetlands and water quality Portland Comprehensive Plan – Regulates development in and around Smith-Bybee Lakes area.	Bridge alternative is not likely to meet approval criteria for City of Portland Type II or Type III Review.	May require major exceptions to NRMP (Type III Review) Bridge alternative requires minor exception to NRMP (Type II Review) May require Legislative Review procedure.	Bridge alternative is consistent with applicable policies, goals, objectives and approval criteria of NRMP (Development in Conformance; Type II Review)
2. City of Portland Code Title 33: Planning and Zoning/Environmental Zones Compliance with Title 33 E-Zones is determined based on standards regulations & approval criteria identified in the NRMP (Pages 61-69)	Bridge alternative does not satisfy standards, regulations & approval criteria specific to the NRMP.	Bridge alternative requires minor exception to NRMP (Type II Review)	Bridge alternative satisfies standards, regulations & approval criteria specific to the NRMP.

Evaluation Criteria and Measurements for North Slough Bridge Alternatives (including trail approaches)

Criteria	Fail	Pass w / Modification	Pass
3. City of Portland Code Title 24: Building Regulations/Flood Hazard Areas	Lowest part of structure is not at least 1 foot above base flood elevation for Flood Insurance Rate Map Columbia River Flood "Zone AE"		Lowest part of structure is 1-foot above (freeboard) of base flood (100-year) elevation for Columbia River Flood "Zone AE" Demonstrated no increase in base flood elevation Balanced cut and fill, at a minimum
4. U.S. Coast Guard Boating/Navigable Waters Regulations (CFR Title 33 Part 115.70) U.S. Coast Guard Regulations for clearance of typical vessel traffic. Typical traffic in the North Slough consists primarily of small craft.	Bridge Clearance is not above "high water stages" (100 yr flood) as is "considered adequate to meet the reasonable needs of navigation" on "waterways navigable in law, but not actually navigated other than by logs, log rafts, rowboats, canoes and small motorboats"		Bridge clearance is at or above "high water stages" (100 yr flood) as is "considered adequate to meet the reasonable needs of navigation" on "waterways navigable in law, but not actually navigated other than by logs, log rafts, rowboats, canoes and small motorboats"
5. Oregon State Marine Board (OSMB) guidelines.[(b)] Oregon State Marine Board Draft Waterway Clearance Policy for Recreational Channels: Requires "adequate vertical, horizontal and bottom clearance to allow safe passage of all forms of boats that can be reasonably expected to be used in ordinary water conditions, including motorized boats and non-motorized boats."	OMB guidelines for "absolute minimum clearance" not met Draft waterway clearance policy recommends an absolute minimum vertical clearance of 10 feet above Ordinary High Water (OHW) and 16 feet horizontally	OMB guidelines for "absolute minimum clearance" are met Draft waterway clearance policy recommends an absolute minimum vertical clearance of 10 feet above Ordinary High Water (OHW) and 16 feet horizontally	OMB guidelines for "preferred minimum clearance" are met Draft waterway clearance policy recommends an "absolute minimum" vertical clearance of 12 feet above OHW and 24 feet horizontally
6. Americans with Disabilities Act (ADA) Standards for Accessible Design (US Dept. of Justice)	Does not meet Americans with Disabilities Act (ADA) standards	With modifications will meet ADA standards	Meets ADA standards

which? for rustic or urban?

Evaluation Criteria and Measurements for North Slough Bridge Alternatives (including trail approaches)

Criteria	Fail	Pass w / Modification	Pass
7. Clean Water Act (CWA) Section 404 Permit (US Army Corps of Engineers (USACE)) Permit for Discharge of Dredged or Fill Material into Waters of the U.S.	Extensive fill in wetlands and/or Waters of the U.S. likely does not satisfy conditions for a wetland fill permit [Individual or Nationwide Permit (NWP)]	Project likely qualifies for Individual Permit and requires formal mitigation plan OR Mitigation may be required but bridge alternative likely meets conditions for NWP.	Alternative likely meets conditions of NWP permit. Required mitigation (if any) would likely consist of simple restoration following temporary construction impacts.
8. Section 10 of the Rivers and Harbors Act (USACE) Regulates structures in Navigable Waters. Permitted simultaneously with CWA Section 404	Significant modification of channel cross-section. Alternative likely does not meet requirements of Section 10.	Individual Section 10 Permit would be required if project is not permittable under NWP Program (See Criteria 7: CWA Section 404)	Section 10 Permit not required if bridge alternative is permittable under CWA Section 404 NWP program. AND Only "moderate obstruction of channel cross-section"
9. State of Oregon Removal-Fill Permit (Department of State Lands) ORS 196.820 –Prohibits fill permits for areas below 11' mean sea level (MSL) in Smith – Bybee wetlands.	If removal-fill on north slough bank is below 11' mean sea level (MSL) and greater than 50 cubic yards, permit cannot be issued, and project cannot proceed. Remember "sky high"	Removal-fill on north slough bank is below 11' MSL and within 50 cy volume; permittable under Oregon Removal-fill law. Wetland removal-fill impacts are likely to require mitigation on-site or through off-site formal mitigation plan. Subject to negotiation, wetland impacts may be mitigated with simple restoration, through "payment-to-provide" in lieu of formal mitigation, or through purchase of credits from a qualifying mitigation bank.	No removal-fill below 11' MSL elevation, therefore no impact to Smith-Bybee wetlands if <50cy, no permit needed and no mitigation.
10. Endangered Species Act (ESA) [National Marine Fisheries Service/US Fish and Wildlife Service (Services)] Project would undergo Consultation under Section 7 of the Federal ESA provided a federal nexus is achieved via funding or permitting through a Federal Agency (e.g., CWA Section 404 Permit)	Bridge alternative is likely to result in extensive "take" of ESA listed species. Services may conclude the project would jeopardize the continued existence of species listed as threatened or endangered	Bridge alternative would be "Likely to Adversely Affect" and would not likely qualify for coverage under existing programmatic Biological Opinion (e.g., SLOPES). Formal consultation with Services would result in specific "Terms and Conditions" on project design and construction.	Bridge alternative would be "Likely to Adversely Affect", but "take" would be incidental only (during construction) Project likely meets conditions of existing programmatic Biological Opinion or not likely to Adversely Affect

9a

9b

Evaluation Criteria and Measurements for North Slough Bridge Alternatives (including trail approaches)			
Criteria	**Fail**	**Pass w / Modification**	**Pass**
11. Solid Waste Disposal Site Closure Permit (Oregon Department of Environmental Quality (DEQ)) Metro's ability to maintain compliance with any permits relevant to landfill closure operations	Piles or shafts to be installed on south bank—(i.e., moderate to high potential to release leachate or landfill gas into the environment) Bridge and trail connection considered a significant change in facility operations		Bridge construction (e.g., foundations) have little or no potential to release leachate into the environment Bridge and trail connection not considered a significant change in facility operations
12. Order on Consent No. LQSW-NWR-02-14 (DEQ) Metro's ability to maintain compliance with consent order relevant to preventing or responding to and mitigating "releases" of hazardous substances	Extensive excavation or deep penetration of soil on landfill is likely to result in a "release" of hazardous substances and require extensive remedial action	Excavation of soil on landfill may result in a "release" of hazardous substances and require some remedial action	Project would not require extensive excavation or penetration of soils on landfill and therefore would not likely require remedial action Avoids impacts to water quality from leachate
13. Stormwater Management Guidelines (DEQ) Applicable authority: OAR 340-041-0004, Antidegradation policy for surface water Stormwater Management Plan following DEQ Guidelines submitted with Removal-Fill Permit		Significant new impervious surface; water quality treatment and/or detention facilities required	Limited or no new impervious surface; infiltration negates hydrologic and water quality impact Project stabilizes erodible soils and improves water quality of runoff
14. National Environmental Policy Act (NEPA)		Bridge alternative likely satisfies NEPA Class II (No Significant Impact) with appropriate documentation (documented Categorical Exclusion; No EA or EIS required)	Bridge alternative likely satisfies NEPA Class II without additional documentation (Categorical Exclusion)

Evaluation Criteria and Measurements for North Slough Bridge Alternatives (including trail approaches)

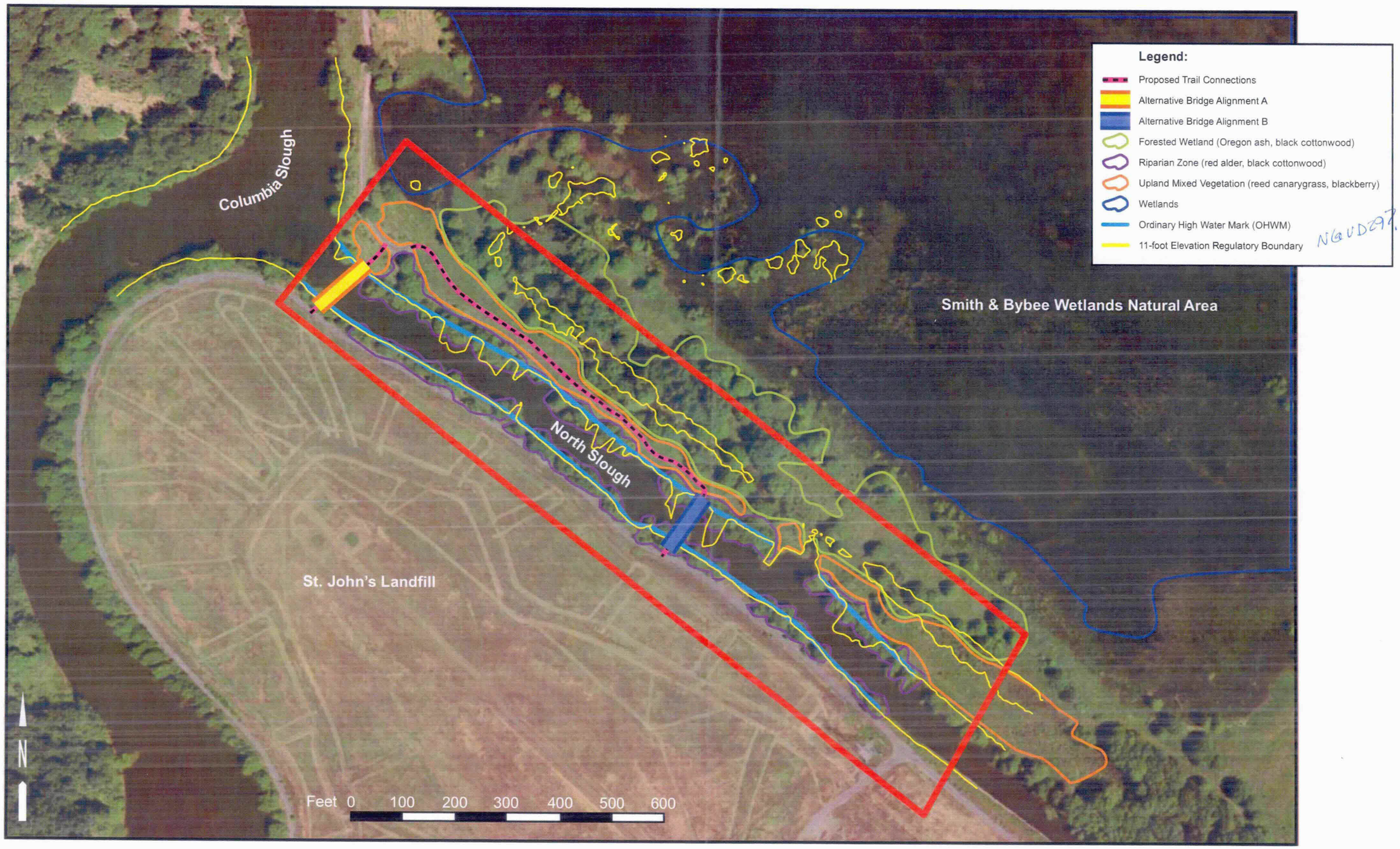
Criteria	Fail	Pass w/ modifications	Pass
Technical Feasibility for Bridge and Trail Approaches			
1. Bridge foundations, structures, trail approaches and related construction methods have no significant impact on:			
Structural integrity of the south bank (landfill side) of North Slough.	Foundation may degrade bank integrity		Foundation will not degrade bank integrity Bank integrity would be improved
Existing landfill infrastructure (e.g., monitoring wells, culverts, transmission towers, roads).	Infrastructure would be negatively impacted		Infrastructure would not be impacted
2. Foundations and structures can withstand forces of a 100-year flood.	Foundations do not meet criteria		Foundations meet criteria
3. Bridge and trails are accessible (trail not flooded with greater frequency than the existing Port of Portland (POP) trail at the site.	Criteria not met		Criteria met
4. Bridge designed in accordance with AASHTO LRFD Bridge Design Specifications, U.S. Units, currently 3rd Edition 2005 and 2006 Interims.	Criteria not met		Criteria met
5. Bridge designed in accordance with Final Geotechnical Report for this study.	Criteria not met		Criteria met

Evaluation Criteria and Measurements for North Slough Bridge Alternatives (including trail approaches)

Criteria	Fail	Pass w/ modifications	Pass
Design Guidelines for Bridge and Trail Approaches			
1. Design will be in accordance with the Trail Design Guidelines for South Slough Trail Alignment (rev. 7/07) including:	Guidelines not met		Guidelines met
Multi-use, hard surface trail; 10-12 feet wide, 1-4 feet wide soft shoulders	Guidelines not met		Guidelines met
Bridge and trail slope is 2-3%, 5% maximum.	Guidelines not met		Guidelines met
Use by emergency vehicles not required.	Guidelines not met		Guidelines met
2. Bridge alternatives:			
Are constructible.	Guidelines not met or met at high cost		Guidelines met and construction cost is within normal expectation for similar structures
Require little or no maintenance.	Guidelines not met. Maintenance costs are expected to be higher than normal		Guidelines met. Maintenance costs are reasonable and within normal expectations
Minimize bridge and trail costs.	Guidelines not met. Trail and bridge costs are excessive		Guidelines met. Bridge and trail costs are minimized Bridge and trail costs are lower than expected
Design and scale is in balance (not dominant) with the landscape	Guidelines not met		Guidelines met

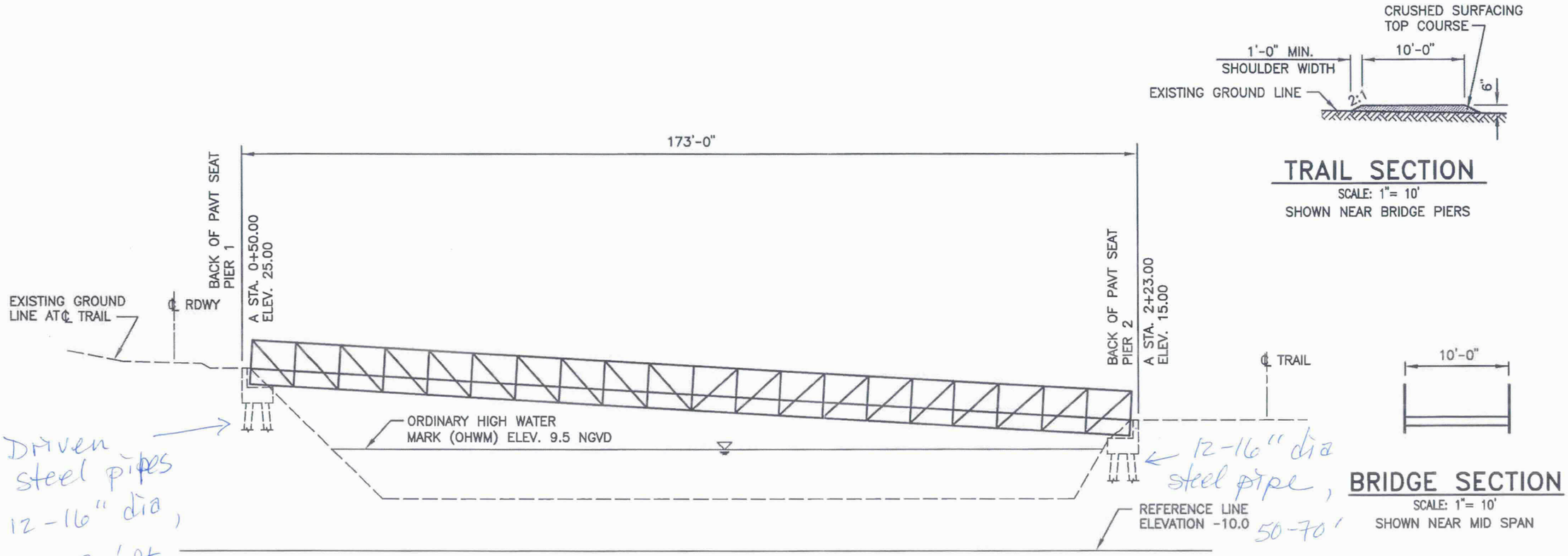
John Adkins
Exceltech

Existing Environmental Constraints with Alternative Alignments, North Slough Bridge Feasibility Study



SITE B

SITE A



ELEVATION

SCALE: 1"=20'

TRAIL SECTION

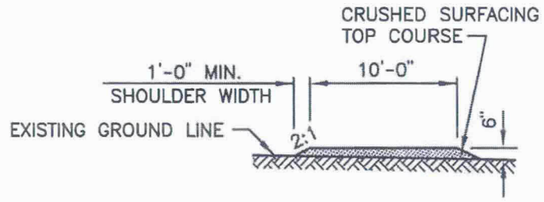
SCALE: 1"= 10'
SHOWN NEAR BRIDGE PIERS

BRIDGE SECTION

SCALE: 1"= 10'
SHOWN NEAR MID SPAN

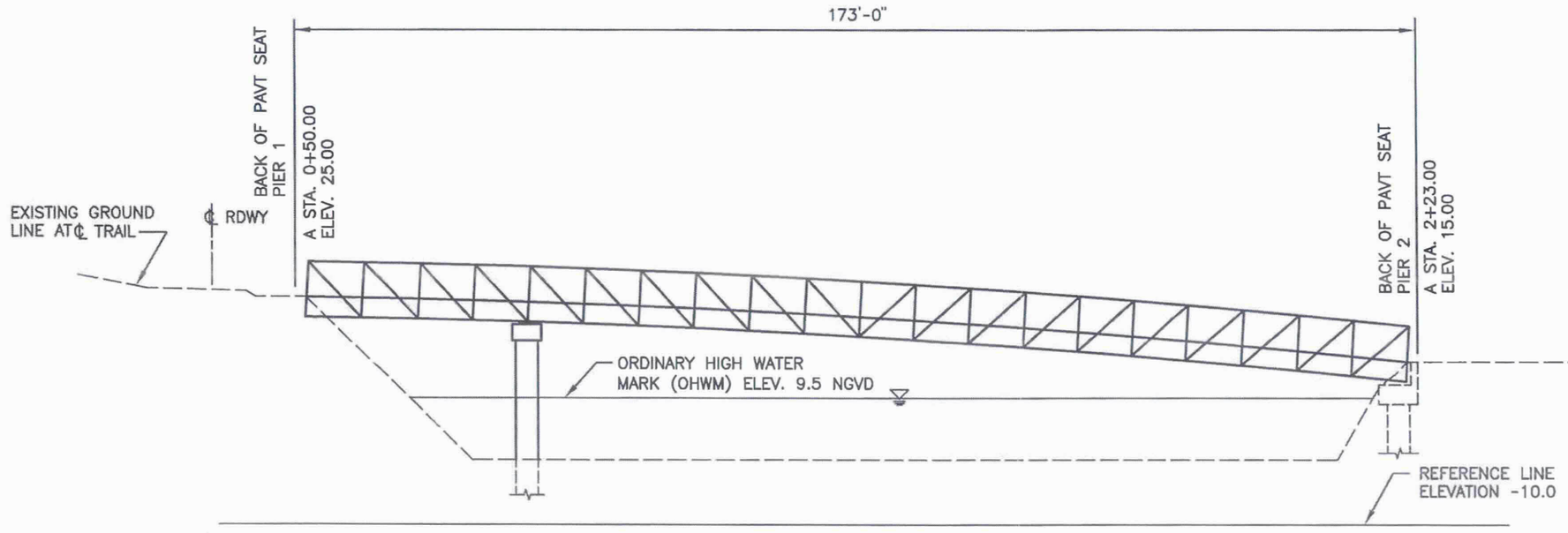
UNIFORM STEEL TRUSS W/ PILING

FIG. 1



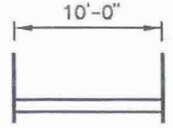
TRAIL SECTION

SCALE: 1"= 10'
SHOWN NEAR BRIDGE PIERS



ELEVATION

SCALE: 1"=20'



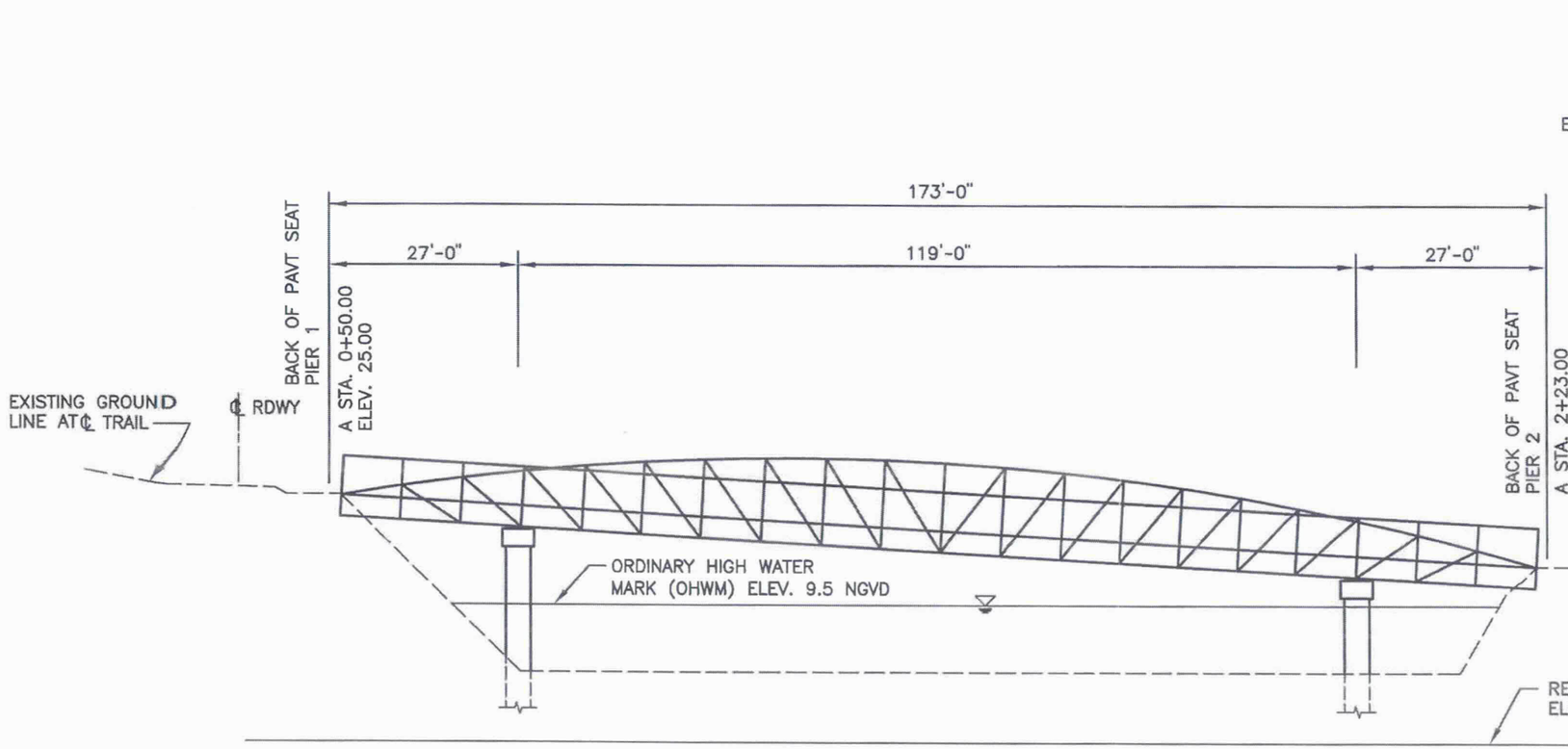
BRIDGE SECTION

SCALE: 1"= 10'
SHOWN NEAR MID SPAN

Drilled shafts,
reinforced concrete,
3-6 ft. dia.,
50-70'

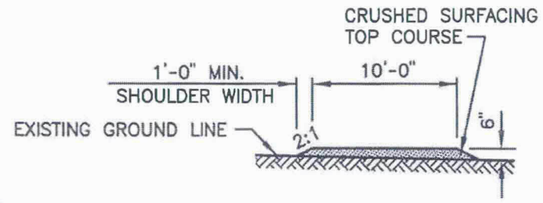
CURVED STEEL TRUSS W/ SHAFTS

FIG. 2

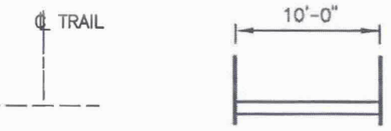


ELEVATION
SCALE: 1"=20'

Drilled shafts, concrete, 3-6' dia (reinforced), 50-70'



TRAIL SECTION
SCALE: 1"= 10'
SHOWN NEAR BRIDGE PIERS



BRIDGE SECTION
SCALE: 1"= 10'
SHOWN NEAR MID SPAN

ARCH STEEL TRUSS W/ SHAFTS

FIG. 3

Agenda

Kick-Off Meeting
North Slough Bridge Feasibility Study
Smith and Bybee Natural Area

Tuesday, November 28, 2006

Metro
600 NE Grand Ave.
Portland, OR 97232

Room 274
2:30-3:30pm

Introductions	5 min.
Project Goals / Desired Outcomes	5 min.
Review Project Scope / Schedule • Confirm project study boundary • Confirm survey baseline datum • Protocol/format for deliverables	30 min.
Review Project Team Roles • Lines of communication • Metro Review Process	10 min.
Background Studies	5 min.
Next Steps	5 min.

Note: Validated parking is available in attached structure (enter from NE Irving). Please park in spaces marked *Metro* or *Visitor*; do not park in *Land Rover* spaces. You can validate your parking ticket at front desk as you leave the building. If no parking attendant is on duty, then parking is free.

Fishes - ChS, StS, CoS
Birds - BAEA, WBNU, WIFL
Amph. - ∅
Rept. - [redacted] WPTU
Plants - CAAP, FRLA
Mamm. - bats?, otters, beavers
trails

In study area - Salmon, BAEA, turtles

Scope of Work

North Slough Bridge Feasibility Study

Smith & Bybee Wetlands Natural Area

November 7, 2006

(Note: Assumptions are in parentheses and italics)

Task 1: Project Management

Primary responsibility: Exeltech

Exeltech Consulting, Inc. (Exeltech) will provide clear and concise documentation of work progress, including coordinating work products by the team that is critical to the overall effort in development of the feasibility report. Exeltech will be the Prime consultant and coordinator with Metro Regional Parks and Greenspaces (Metro). This task shall include the preparation of monthly project status reports, monthly invoices and progress reports, meeting minutes and summaries, project updates, and coordination and meetings between Metro and the Exeltech Team.

(Assume 5 month project schedule).

Task 1.1 Project Coordination

(Assume up to 1 hour per week between Metro and Exeltech PM; and Assume Metro will perform any public involvement and Metro Council coordination).

Task 1.2 Coordination Meetings with Metro

(Assume up to 4 meetings between Metro and Exeltech team members, as needed).

Task 1 Deliverables:

1. Project Guide/Notebook, to be delivered to Metro 2 weeks after notice to proceed (NTP). Project Guide will contain: Final SOW/Contract, team directory, project schedule, fee schedule, and a quality control plan. Project notebook will be a 3-ring binder containing tabs for Project Guide and other project-related materials.
2. Project Status Reports (assume 5 monthly which will include Updates, Background Info, Critical Issues to Resolve, Action Items, Scheduling Updates).
3. Meeting Minutes/Summaries (up to 4 Minutes for in-person meetings, and up to 1 e-mail Summary per week for coordination between Metro and Exeltech PM).
4. Invoices and Progress Reports (assume 5 monthly which will include progress and percent completeness review of Exeltech staff and all subs for each task/deliverable, complete invoice, and appropriate billable attachments). Monthly progress reports shall be prepared by Exeltech to

document work implemented by each member of the Exeltech team. Monthly reports shall be forwarded to Metro's PM for review along with the monthly invoice and shall form the basis for tracking the progress of work throughout the project life.

Task 2: Project Orientation / Information Review

Primary responsibility: Exeltech

Secondary responsibility: MB&G, Thurston & Assoc.s, Shannon & Wilson

Task 2.1 Project Kickoff Meeting

(Assume Exeltech PM, Design Lead, MB&G Lead, S&W Lead, Thurston Lead, and Metro Staff).

Appropriate members of the Exeltech team will meet with Metro (at Metro's offices in Portland) to discuss the following: project goals and desired project outcomes; review project milestones and timelines; role of project team members (Metro staff and Exeltech team members); lines of communication; decision making and internal Metro review process; meetings and presentations; project guide components; determine study area boundaries; discuss previous studies, reports, plans; and agree on protocol for electronic and other formats of deliverables. Metro will prepare an agenda for the meeting.

Task 2.2 Gather Existing Information

(Task 2.2 Assumptions)

Metro will provide: Background documents and mapping information identified in Attachment A of the RFP, as well as other known or existing information or documentation if Exeltech or Metro deem the information helpful.

- Relevant natural resource studies / monitoring data prepared by Metro
- Historical floodplain data for the project area.
- Determine and convey to Exeltech the acceptable duration of annual flooding for trails connecting to a proposed bridge.
- Trail design parameters

  (Assume all items from Attachment A list in RFP, page 17, which includes Photos, Graphics, and Written Documents)

Exeltech consultant team will collect and review (in addition to information provided by Metro, listed above):

- Available information regarding natural resources and sensitive and federally listed threatened and endangered species and their habitats within and adjacent to the project study area including:
  - Oregon Natural Resource Heritage Information Center database search
  - U.S. Fish and Wildlife Service (USFWS) database search

- Besides database searches, all relevant available information from regulatory and resource agencies for permitting concerns and feasibility criteria.
- Database search of Oregon State Historical Preservation Office for presence of cultural and archeological resources.

Task 2.3 Review Regulatory Compliance & Agency Coordination Site Visit

Review all existing criteria, relevant laws and policies, and all relevant permitting compliance guidance and coordinate with the regulating agencies to refine (add or delete or modify) the lists of technical and regulatory feasibility criteria from the RFP.

- As needed, contact and/or meet with representatives of Metro, City of Portland, National Marine Fisheries Service (NMFS), Oregon Dept. of Fish and Wildlife (ODFW), Oregon State Marine Board, Dept. of State Lands (DSL), US Army Corps of Engineers (ACOE), and natural resource, watershed council, or conservancy groups as needed.

Task 2 Deliverables

1. Meeting Minutes summarizing Kickoff meeting by Exeltech PM to Metro PM for review, within 3 days after meeting. Final meeting minutes will be distributed by Exeltech PM.
2. Regulatory agency site visit, with Exeltech team members and/or Metro staff as appropriate.
    2.a. Written summary of regulatory agency concerns and guidance discussed during the site visit and/or agency coordination.
3. Draft list of technical and regulatory feasibility criteria.

(Assume Metro review for all technical memos and mapping, 1 week)

Task 3: Field Reconnaissance

A reconnaissance level site investigation will be conducted by the Exeltech team to provide an adequate level of information on which to base the bridge feasibility study with up to three alternative bridge alignments. The field reconnaissance will focus on documentation of existing conditions, opportunities and constraints to consider when determining bridge locations, design, and trail connections, including existing natural resource and geotechnical constraints. Coordination of this task will be primarily by Exeltech PM, with field reconnaissance responsibilities assigned as below.

Task 3.1 Environmental Baseline Conditions & Natural Resource Assessment

Primary responsibility: MB&G, except as noted below

(Assume no detailed field wetland delineation will be conducted; Assume floodplain analysis will be based on historical data; Assume no permits will be obtained for this project).

The following work will be conducted for the natural resource assessment:

- Identify existing sensitive and federally listed species and the condition of their habitat within and adjacent to the study area.

- Identify clumps or stands of trees 6" DBH and greater, provide a range of diameters for the trees in each clump or stand, identify species and condition (live or snags) in each clump or stand. Map these resources on an aerial photograph. Identify (on the map) ash forests, riparian corridors and forests, and any other habitats found within the study boundaries.
- Conduct a comprehensive reconnaissance of the project study area to assess general fish habitat conditions along the North Slough and to assess the potential for project to impact listed species and their habitat.
- Assess and approximate location of wetland and water resources within and immediately adjacent to the project study area (+/- 20 feet). Map these resources on an aerial photograph.
- To determine potential impacts from alternative bridge footings or fill placement, the regulatory boundary along North Slough will be determined from the Highest Measured Tide or Mean Higher High Water (MHHW) in coordination with DSL, USFWS, ACOE, ODFW, Oregon State Marine Board, and other agencies as necessary. Map this elevation or delineation/boundary on an aerial photograph.
- Map the location of known sensitive and federally listed species and habitat within the study area and provide buffers to meet regulatory requirements in the study area.
- Review existing information on ground water hydrology, ground water quality, and soils and evaluate the frequency and duration of flooding within the study area **(Exeltech to assist MB&G).**

Task 3.2 Topographic Survey & Mapping

Primary responsibility: Thurston and Associates

Control will be established in the project area. Levels will be brought into the project site from the nearest COP vertical benchmark.

(Assumptions: CAD Mapping: Obtain CAD standards from Metro (Symbols, linotypes, and layer conventions, etc.).

The following topographic survey work will be conducted:

- Conduct a topographic survey of natural and manmade features showing 1 foot contour intervals including elevation points on the existing trails and roads centerline within the study area.
- Research the surveys of record and land deeds for the project area and immediate vicinity, and note any issues. Review existing mapping and information available from Metro per the RFP.
- Include all mapped resources from Task 3.1 and map all regulatory elevations. Identify the vegetation line at water boundaries. Also, note edge of water and day and time of determination to identify the tidal influences on water levels.
- Identify and map landfill infrastructure within the study area (e.g., monitoring wells, culverts, transmission towers, existing roads).

- If necessary, call for utility locates. Contact possible owners/governing agencies to obtain information of utilities or other infrastructures (monitor wells, etc).
- If there are different land ownerships, pick up boundary corners.

Task 3.3 Geotechnical Assessment

Primary responsibility: Shannon & Wilson, except as noted below

(Assume no detailed field soil borings will be required; Assume Geotechnical analysis will be based on existing available data; Assume study is at reconnaissance level of detail; Assume geotechnical analysis will be performed in accordance with current ODOT, FHWA, and AASHTO guidelines).

Prior to the analysis of alternative bridge alignments, the geologic conditions in the study area will be documented and related geotechnical issues will be identified. The geotechnical assessment will consider the types of activities related to construction to determine if there may be potential for negative impacts to bank stability or the movement of contaminant-bearing groundwater beneath the landfill.

Based on existing information and surface reconnaissance, the following factors will be considered and evaluated for this task:

- Existing geologic and geotechnical subsurface conditions and possible site-specific geologic hazards.
- Stability of existing banks, and potential impacts from bridge construction.
- Bridge design requirements (i.e., structural, aesthetic, and environmental).
- Performance criteria under static and seismic conditions.
- Scour depths and hydraulic considerations, including flooding episodes and potential **(Exeltech to assist Shannon & Wilson).**
- Bridge placement in relation to wetlands in the study area **(MB&G to assist Shannon & Wilson).**
- Consequences, if any, of bridge construction on the local movement of contaminant-bearing groundwater within the study area.

The following geotechnical assessment work will be conducted:

- Assess how existing geotechnical conditions will affect selection of bridge foundations.
- Assess the types of bridge foundations that could be used to meet the technical feasibility criteria and stay within the regulatory constraints.
- Assess the stability of the *north bank* (Bybee wetlands side) of the slough, including the potential effects of the planned reinforcement of the landfill levee on the opposing *south bank*, which will likely increase flow/pressure along the north bank.

- Review existing information on contaminants detected in groundwater sampled from wells on the landfill perimeter within the study area and evaluate potential implications that the presence of contaminated ground water and soils may have on any potential bridge design and construction **(Exeltech and MB&G to assist Shannon & Wilson).**
- Cost effectiveness of foundation alternatives.

Task 3 Deliverables

(Assume all draft deliverables due at the same time, with one consecutive Metro review)

1. Natural resources technical memo, which will include a map of existing conditions, showing and discussing regulatory and technical constraints and other relevant environmental issues.
    - Describe and show in photos and aerial photo maps existing natural resources within and adjacent to the study area including: sensitive and federally listed species and their habitat, wetlands and water resources, trees greater than 6 inches (dbh), highest measured tide elevation, and other map-able natural resources.
    - Identify regulatory and technical issues needing consideration when developing alternative bridge alignments.
    - List potential local, state and federal permits and land use approvals needed for bridge and trail construction.
    - Recommend probability of flooding frequency and duration based on historical data.
2. Topographic survey and mapping (mapping will be in either CAD or Microstation, per Metro's request) including aerial photograph(s) depicting all map-able resources including existing environmental, geological, and hydraulic baseline conditions along with man-made features.
    - Topographical Survey.
    - Mapping will be provided in Microstation or AutoCAD (Metro to provide CAD standards).
    - Project survey will use City of Portland (COP) vertical datum and assumed horizontal coordinates (i.e. State Plane Coordinates not required). ?
3. Geotechnical assessment technical memo.
    - Describe /map existing geological and hydraulic conditions in the study area and identify locations that may be suitable for placement of a bridge alignment (bridge, foundation, approaches, trail connections).
    - Identify regulatory and geotechnical issues needing consideration.
    - Evaluate feasible types of foundations.

    (Assume Metro review for all technical memos and mapping, 2 weeks)

Task 4: Finalize Feasibility Criteria

Primary responsibility: Exeltech

Task 4.1 Review and finalize Draft Technical & Regulatory Feasibility Criteria

Using the draft list of feasibility criteria developed in Task 2.3, incorporating coordination efforts and guidance from the regulatory agencies, and based on the results of the data review and field reconnaissance, the Exeltech team will finalize the feasibility criteria and assign thresholds if applicable.

(Assume up to 5 regulatory and 5 technical feasibility criteria will be developed in addition to, or in replacement of, existing criteria listed in the RFP).

Task 4 Deliverables

1. Complete final list of Regulatory and Technical Feasibility Criteria

   (Assume Metro review, 2 weeks)

Task 5: Bridge Alignment Alternatives Analysis & Feasibility Report

Primary responsibility: Exeltech

Task 5.1 Develop Design Guidelines

Based on opportunities and constraints identified in previous task work and final feasibility criteria, develop design guidelines for alternative bridge alignments analysis.

Task 5.2 Identify up to three (3) Feasible Bridge Alignment Alternatives

Each alternative bridge alignment shall include location, bridge type, and connections to existing and future trails within the study area. Each alignment will consider a different bridge type. Recommend mitigation as necessary. Using a decision matrix format, incorporate feasibility criteria and design guidelines for screening the alternatives. The matrix will evaluate the alternatives on how each one best meets the criteria individually as well as in comparison to the other alternatives.

(It is assumed that this task will only include schematic drawings, up to 2 per alternative, depicting each alternative and will not include any stamped engineering plans.)

Task 5.3 Develop Preliminary Opinion of Probable Cost

Costs will be estimated for each alternative and will consider potential design, permitting and environmental compliance, land use actions, mitigation, structure, construction, and trail connection construction.

Task 5.4 Estimate Construction Schedule

An estimated construction schedule will be included for each alternative alignment.

Task 5.5 Recommend Preferred Alternative

The preferred alternative will be recommended and rationale for selection will be provided. If no feasible alternative is determined, rationale and analysis will be provided that support that finding.

Task 5.6 Summarize Next Steps

To facilitate a seamless transition in project phases, a summary will be provided that outlines and recommends the next steps needed for the design and construction of the preferred alternative. The summary will include permitting issues and probable permits needed, the NEPA classification of the project, further analysis needed prior to preliminary and final design, preliminary opinion of probable costs, level of public involvement needed, and determine short- and/or long-term monitoring requirements for ensuring successful mitigation should any be needed.

Task 5.7 Analysis Review

Consultant team (up to 4 members) to meet with Metro staff to review the analysis conducted on each alternative alignment, cost estimates, construction schedule, preferred alternative, future project phases/actions. The analysis will be finalized following this meeting based on any comments from Metro. Once finalized, each alignment will be illustrated using artist renditions and photographs.

(Assumptions are that this meeting/review will be one of the 'up to 4 meetings' identified in Task 1.2; Assume structures will be designed in accordance with applicable AASHTO Specifications: AASHTO LRFD Bridge Design Specs, US Units, Currently 3rd Edition 2005 and 2006 interims).

Task 5 Deliverables

1. Design Guidelines

   (Assume Metro review, 2 weeks)

2. Up to 3 Feasible Alternatives (including bridge location, design type, and trail connections), including a Preferred Alternative if one exists

   (Assume Metro review, 2 weeks)

3. Draft Bridge Feasibility Study Report. For the draft report, provide four hard copies, one unbound original, and one CD containing the entire report. Report format to be determined by Metro and Exeltech project managers. The report shall include the following elements:
   - Baseline environmental information (included in appendix);
   - An identification, review, and assessment of regulatory and technical issues that need to be considered during the design and construction phases;
   - Criteria used in selecting alternatives;
   - An analysis that demonstrates how the preferred alternative meets technical and regulatory criteria;
   - Anticipated local, state, and federal permits associated with each alternative;
   - The probable NEPA classification of the project;

- Evaluation of feasible types of bridges and foundations;
- Pictorial (photographs, drawings, cross-sections, and/or artistic renditions) illustrations of the feasible bridge types, bridge approaches, and trails connecting to bridge;
- Proposed bridge clearance and implications for recreational boating;
- An analysis of the probability of the frequency and duration of flooding in the study area;
- Digital photographs on a CD-ROM of the proposed alignments;
- Preliminary opinion of probable costs for design and construction for each alternative that is determined to be feasible (up to three);
- Map(s) and/or aerial photo(s) showing each alternative, topographic survey, sensitive areas, and wetland and regulatory area boundaries.

  (Assume Metro review, 2 weeks)

4. Final Bridge Feasibility Study Report. For the final report, provide two color copies, one unbound color original, and one CD containing the entire final report.

   (Assume Metro review, 2 weeks)

Task 6: Project Closeout and File Transfer

Primary responsibility: Exeltech

Task 6.1 Transfer all Project Files to Metro

All hard copy and electronic files for the project, including emails, will be delivered to Metro by Exeltech (and will include all hard copy and electronic files for the project for each of the subconsultants used by Exeltech).

SECTION I - GENERAL INFORMATION

Request For Proposals

Metro's Regional Parks and Greenspaces Department is requesting proposals to evaluate the feasibility of alternatives for bridge location, design, and trail connections on either side of the North Slough (arm of Columbia Slough). The bridge will provide a key link in the trails network connecting the Smith and Bybee Wetlands Natural Area with nearby existing trails, parks and neighborhoods. The bridge feasibility study area is shown in Figure 1. Alternative trail alignments were evaluated in a past study and the preferred alternative, South Slough Alignment, requires a new trail bridge over the North Slough in the area of the northwest portion of the St. Johns Landfill. The bridge will connect the existing "Port of Portland Trail" on the north side of the Slough with the perimeter road (future trail) of the St. Johns Landfill on the south side. The precise location, bridge type, and alignment have not been determined. This study will build upon previous planning efforts and existing information, augmenting existing studies with some additional field work. The study has the following objectives:

- Evaluate alternatives (bridge location, design, trail connections) within the identified study area
- Provide graphics depicting feasible alternatives
- Provide cost estimates for design, engineering and construction of feasible alternatives
- If two or more alternatives are determined to be feasible, identify and provide rationale for a preferred alternative
- Estimate the length of time the bridge is likely to be closed annually due to flooding on connecting trails

Metro has budgeted between $40,000 - $45,000 for this bridge feasibility study.

Qualifications

Metro is seeking a multi-disciplinary consulting team that possesses a combination of creative and technical expertise with professional experience on projects of a similar nature and references from previous projects. Professional expertise anticipated for this project includes, but is not limited to: architectural (for bridge design alternatives), landscape architectural (with particular experience in bridge/trail design in natural settings and environmental assessments), civil engineering (for bridge footings, geotechnical analysis), hydrogeological (for assessment of potential effects on local movement of groundwater), surveying, biological/environmental sciences (for habitat considerations), and experience in regulatory matters and permitting in the City of Portland.

Whom to Contact

For questions pertaining to the contents of this RFP or for directions to the site, please contact:

Dan Kromer, Project Manager
Metro Regional Parks and Greenspaces Department
600 NE Grand Avenue
Portland, OR 97232
Phone (503) 797-1844, Fax (503) 797-1849

A non-mandatory pre-proposal conference will be held on July 25, 2006 to provide proposers with an understanding of the RFP. It is requested that proposers submit their RFP questions in writing to Dan Kromer at kromerd@metro.dst.or.us prior to the pre-proposal conference or call as soon as possible.

Existing documentation relevant to this project is listed in Attachment A. These documents are available for viewing at Metro's offices, by appointment. To schedule an appointment, please contact Sandra Jamison at 503-797-1834.

Proposal Submittal
Proposals must be received within a sealed envelope at the reception desk of the Regional Parks and Greenspaces office, attention Dan Kromer, 600 NE Grand Avenue, Portland, Oregon 97232, by 4:00 p.m., on or before August 17, 2006. Please submit 7 copies of the RFP. No faxed materials will be accepted. Postmarks are not considered proof of delivery. If proposal is hand-delivered, it must be delivered to and date stamped by personnel at Metro's Regional Parks and Greenspaces Department on the first floor of the Metro building. Delivery persons should inquire with the front reception desk personnel for directions to the Park Department office.

All proposals must be clearly marked "**Proposal #07-1199-PKS North Slough Bridge Feasibility Study at Smith & Bybee Wetlands Natural Area** and contain all information outlined herein.

Schedule Of Request For Proposal Process

Advertise RFP	**July 17, 2006**
Pre-Proposal Conference	**July 25, 2006**
Proposals due	**August 17, 2006**
* Oral Interviews	**September 6, 2006**
* Final Selection	**September 7, 2006**
* Project Commences	**September 28, 2006**
* Project Completed	**February 16, 2007**

* These dates are approximate and subject to change.

Pre-Proposal Conference
A voluntary pre-proposal conference will be held in the meeting room at the St Johns Landfill Office located at 9387 N. Columbia Boulevard, Portland, OR, on **July 25, 2006** from 1:00 - 2:00 PM followed by a 30 minute on-site tour of the study area. The objective of the pre-proposal conference is to summarize the project and RFP contents, provide viewing of the study area and address questions proposers may have. In addition, this meeting will give proposers an opportunity to meet Metro staff working on the project.

Oral Interview
Consulting teams selected for final evaluation may be asked to participate in an oral interview, including a summary presentation of their proposal to Metro's Selection Committee. The purpose of an interview is to provide opportunity for the team to clarify their proposal to assure mutual understanding with Metro. If conducted, interviews would be held at the Metro Regional Center, 600 NE Grand Avenue, Portland and are tentatively scheduled for **September 6, 2006.** Interviews will be limited to 40 minutes (15 minute presentation followed by 25 minutes Q&A) in duration. The interview team should include members of the consulting team representing disciplines that the prime firm believes are key for the project. Metro will confirm the time and location for these interviews.

SECTION II - PROJECT BACKGROUND AND CONTEXT

Site Location and Description

Smith and Bybee Wetlands are remnants of formerly extensive river bottomlands located near the confluence of the Willamette and Columbia rivers. Part of the Columbia Slough watershed, these wetlands are part of the 1,928-acre Smith and Bybee Wetlands Natural Area. The natural area also includes the St. Johns Landfill, a 238-acre closed landfill. The natural area is managed primarily for wildlife habitat protection and enhancement while providing passive recreational opportunities for the Portland metropolitan area. Nearby neighborhoods include St. Johns, Kenton and Portsmouth.

The study area (see Figure 1) is defined by Bybee wetlands (north), St Johns Landfill (south), terminus of the Port of Portland trail (west), and edge of the ash forest (east).

Project Background and Objectives

The purpose of this work is to evaluate the feasibility of alternatives for bridge location, design, and trail connections on either side of the North Slough (arm of Columbia Slough). The bridge will provide a key link in the trails network connecting the Smith and Bybee Wetlands Natural Area with nearby existing trails, parks and neighborhoods. Alternative trail alignments were evaluated in *Smith and Bybee Wetlands Natural Area Trail Feasibility Study* (Feasibility Study) (Metro 2005). The preferred alternative, South Slough Alignment, requires a new trail bridge over the North Slough in the area of the northwest portion of the St. John's Landfill. The bridge will connect the existing "Port of Portland Trail" on the north side of the Slough with the perimeter road (future trail) of the St. John's Landfill on the south side. The precise location, bridge type, and alignment have not been determined.

This study will build upon previous planning efforts and existing information, augmenting existing studies with some additional field work. The study has the following objectives:

- Evaluate alternatives (bridge location, design, trail connections) within the identified study area
- Provide graphics depicting feasible alternatives
- Provide cost estimates for design, engineering and construction of feasible alternatives
- If two or more alternatives are determined to be feasible, identify and provide rationale for a preferred alternative
- Estimate the length of time the bridge is likely to be closed annually due to flooding on connecting trails

Regulatory Feasibility

To be feasible, an alternative (bridge location, design, trail connections) must be one that can be permitted by local, state, and federal agencies. Federal money will likely be a source of funding the design and construction of the project. Regulatory feasibility also includes endangered, threatened and sensitive fish and wildlife species; rare plant communities and other sensitive habitats. Metro needs to know whether any alternative for a specific location can be permitted and satisfy natural resource concerns outlined in the *Smith and Bybee Wetlands Trail Feasibility Study*. Regulatory feasibility will also require the ability to provide mitigation for impacts to regulated or sensitive resources.

A feasible alternative must be able to comply with the following rules, regulations, and guidelines:

- Natural Resources Management Plan for Smith and Bybee Lakes (City of Portland)
- City Code Title 33: Planning and Zoning / Environmental Zones (City of Portland)
- City Code Title 24: Building Regulations / Flood Hazard Areas (City of Portland)
- ADA Standards for Accessible Design (US Department of Justice)
- Clean Water Act (US Army Corps of Engineers)
- Rivers and Harbors Act (US Army Corps of Engineers)
- Oregon Removal-Fill Law (Oregon Division of State Lands)
- Endangered Species Act (USFWS and NOAA Fisheries)
- Solid Waste Disposal Site Closure Permit (DEQ)
- Order on Consent No. LQSW-NWR-02-14 (DEQ)
- Stormwater Management Guidelines (DEQ)
- Coast guard boating/navigable waters regulations
- National Environmental Policy Act (NEPA)

Technical Feasibility

To be feasible, an alternative (bridge location, design, trail connections) must meet the following technical criteria:

- Bridge foundations and structures and construction methods must have no significant adverse impacts on the following:
  - Ground water hydrology and quality
  - Structural integrity of the south bank (landfill side) of North Slough
  - Existing landfill infrastructure (e.g., monitoring wells, culverts, transmission towers, roads)
  - Permits and conditions under which landfill closure operations are implemented
- Bridge foundations must be stable and safe within the given substrate
- Bridge foundations and structures must withstand the forces of a 100-year flood
- Trails connecting to the bridge must be accessible (not flooded) most of the year (acceptable duration to be determined by Metro).
- Construction of bridge and trail connections must not violate state removal-fill law limiting fill in Smith and Bybee Wetlands to less than 50 cu yd below 11 feet MSL
- Bridge clearance must accommodate recreational boating, particularly paddle boats (canoes and kayaks)
- Bridge and connection trails must be ADA accessible
- Bridge and connecting trails must meet trail design criteria provided by Metro

SECTION III - SCOPE OF SERVICES

PROJECT TASKS AND PRODUCTS TO BE DELIVERED BY CONSULTANT

The proposer selected to prepare and complete the bridge feasibility study at Smith & Bybee Wetlands Natural Area will be required to perform the specific tasks and deliver the products described in this section:

SCOPE OF WORK

I. **Environmental Baseline Information**
   a. Conduct a field reconnaissance and provide inventory level (± 20 feet) mapping of wetlands within the study area
   b. Map the location of known sensitive species and habitat within the study area and provide distances between sensitive areas and the proposed bridge locations and connecting trails
   c. Review available literature concerning the presence of cultural and archaeological resources, or available review information from the State Historical Preservation Office
   d. Review existing information (Metro, Oregon Natural Heritage Information Center, USFWS) for threatened and endangered species found in the study area and permitting considerations associated with them
   e. Evaluate the frequency and duration of flooding within the study area
   f. Review existing information on ground water hydrology, ground water quality, and soils
   g. Review existing information on contaminants detected in groundwater sampled from wells on the landfill perimeter within the study area
   h. Evaluate potential implications that the presence of contaminated ground water and soils may have on bridge design and construction

II. **Survey**
   a. Conduct a topographic survey showing 1 foot contour intervals and the elevation of ordinary high water and including elevation points on the existing trail centerline within the study area
   b. Map the location of trees and snags, by species, 6 inches d.b.h. or greater within the study area
   c. Identify landfill infrastructure within the study area (e.g., monitoring wells, culverts, transmission towers, existing roads)
   d. If there are different land ownerships, pick up boundary corners
   e. Locate centerline of existing roads and trails in the study area

III. **Geotechnical**

   Based on existing information and/or surface reconnaissance:
   a. Assess how existing geotechnical conditions will affect selection of bridge foundations
   b. Assess the types of bridge foundations that could be used to meet the technical feasibility criteria
   c. Assess the stability of the north bank (Bybee side) of North Slough, including the potential effects of the prospective reinforcement of the landfill levee on the opposing south bank, which will likely increase flow/pressure along the north bank.

IV. Analysis and Recommendation of Alternatives

a. Identify any additional feasibility criteria not defined in this RFP, and provide rationale for including these in the study
b. Identify and evaluate technical and regulatory constraints to construct and maintain each alternative bridge design and its trail connections
c. Identify up to three alternatives (bridge location, design, trail connections) within the study area
d. Provide examples of the bridge design type(s) that could be constructed
e. Provide a preliminary cost estimate for each feasible alternative
f. Provide anticipated construction phasing for each feasible alternative
g. Identify a preferred alternative, if any
h. If any or all alternatives are infeasible, provide rationale and related analysis

V. Deliverable Products

a. Provide one draft and one final written report evaluating up to three alternatives (bridge location, design, trail connections). For the draft report, provide four hard copies, one unbound original, and one CD containing the entire report. For the final report, provide two color copies, one unbound color original, and one CD containing the entire final report.
b. The report shall include the following elements:
    i. Baseline environmental information (included in appendix)
    ii. An identification, review and assessment of regulatory and technical issues that need to be considered during the design and construction phases
    iii. Criteria used in selecting alternatives
    iv. An analysis that demonstrates how the preferred alternative meets technical and regulatory criteria
    v. Anticipated local, state, and federal permits associated with each alternative
    vi. The probable NEPA classification of the project
    vii. Evaluation of feasible types of bridges and foundations
    viii. Pictorial (photographs, drawings, cross-sections, or artistic renditions) illustrations of the feasible bridge types, bridge approaches, and trails connecting to bridge
    ix. Proposed bridge clearance and implications for recreational boating
    x. An analysis of the probability of the frequency and duration of flooding in the study area
    xi. Digital photographs on a CD-ROM of the proposed alignments
    xii. Preliminary estimate of design and construction costs for each alternative that is determined to be feasible
    xiii. Map(s) showing each alternative, topographic survey, and wetland determination
    xiv. Map or aerial photograph(s) showing proximity of alternatives to sensitive wildlife and habitats

PROJECT TASKS TO BE PERFORMED BY METRO

1. Provide access to or copies of the background documents and mapping materials identified in Attachment A.

2. Present project updates to Metro Council.

From: Jane Hart
To: Dan Kromer; dlev@ci.portland.or.us; Elaine Stewart; Mary Anne Cassin; Paul Vandenberg
Date: 11/21/2006 5:15:06 PM
Subject: Fwd: N. Slough Kickoff, preparation prior to meeting

Hi everyone,
I am forwarding an e-mail that Susan Vickers (consultant project lead) sent to members of the consultant team with requests to review attached materials and provide feedback to her by end of day Monday, Nov. 27 in preparation for the Nov. 28 kick-off meeting. I would appreciate if you would please review the attached materials and provide any questions you may have to me by end of day Nov. 27 so that we can be prepared to address them on Nov. 28. I appreciate the time you all took to review the scope of work and I believe the final scope addresses the comments I received by the comment due date.

I look forward to hearing any questions/issues you would like to discuss on Nov. 28.

Thank you,

Jane

>>> "Susan Vickers" <svickers@xltech.com> 11/21/06 4:37 PM >>>
Hi all,

Because we are keeping a tight schedule for meetings, I'm asking you all to do a bit of preparation before next Tuesday's kickoff at Metro's offices in Portland. Attached are the following:

1. RFP
2. Final Statement of Work (project scope/tasks)
3. Aerial photo with the proposed project boundary (as found in the RFP)
4. Project Timeline (the schedule)
5. Meeting agenda

Please do the following before the meeting:

1. Review your tasks and come prepared to discuss what you believe your level of effort will be for this study (so we can gain consensus at the meeting),
2. Review the project boundary and consider if your particular tasks/field work will need to be inside or outside the current boudaries, so we can refine the boundaries at the meeting (use the RFP and SOW as reference if needed),
3. Review and make notes/adjustments to the Project Timeline/Schedule and return to me by COB on Monday, Nov. 27 so I can incorporate the revisions into the project schedule we will use throughout the study.

Also, you will each be getting a CD with all the existing info on it from the RFP (attachment A) at the meeting. There will be hard copies available at the meeting as well to review if you'd like to at that time.

If you have any questions, please get with me Monday Nov. 27th (I will be out of the office from 11/22 until 11/27).

Have a Great Thanksgiving, and see you all next week!

Susan

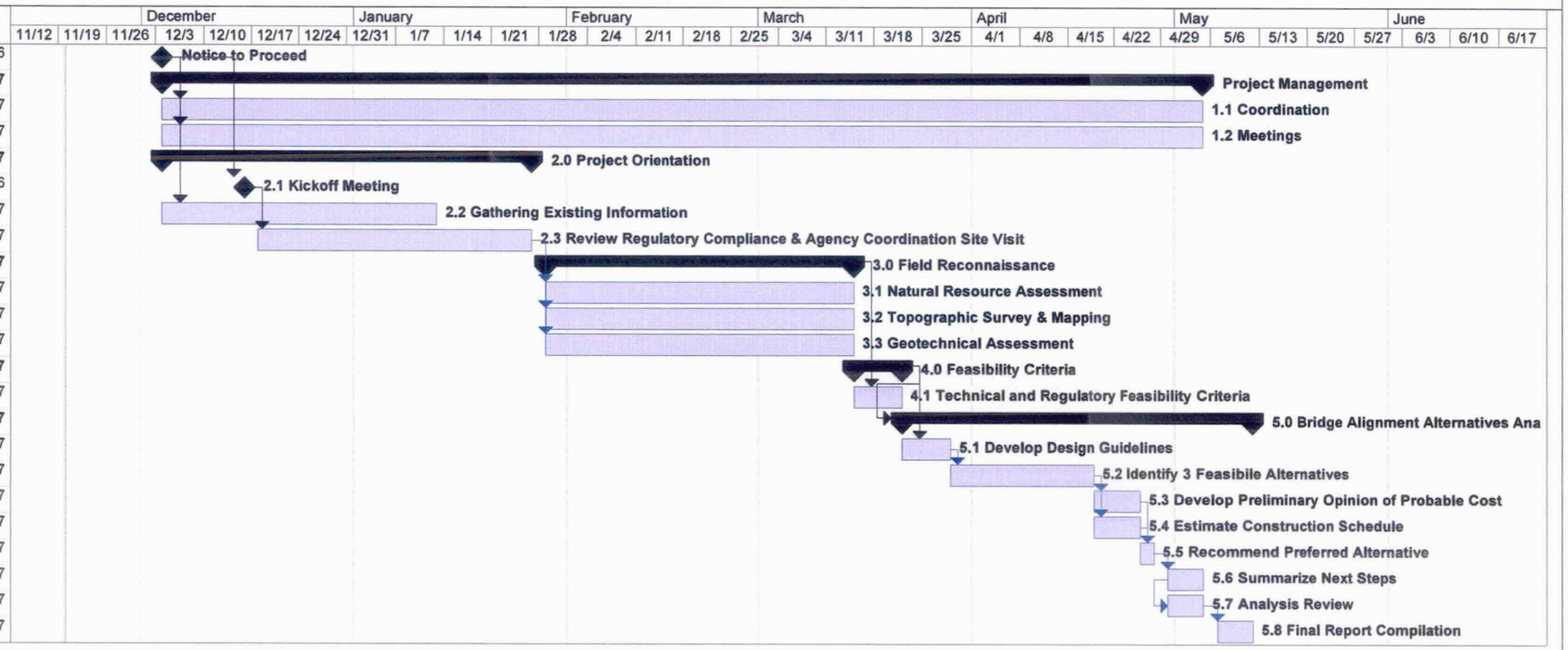
Susan Vickers, Project Manager
Exeltech Consulting, Inc.
2264 McGilchrist Street, Suite 100
Salem, OR 97302
svickers@xltech.com
503-588-7109, ext. 3108 (O)
503-949-3418 (M)
503-581-6798 (fax)

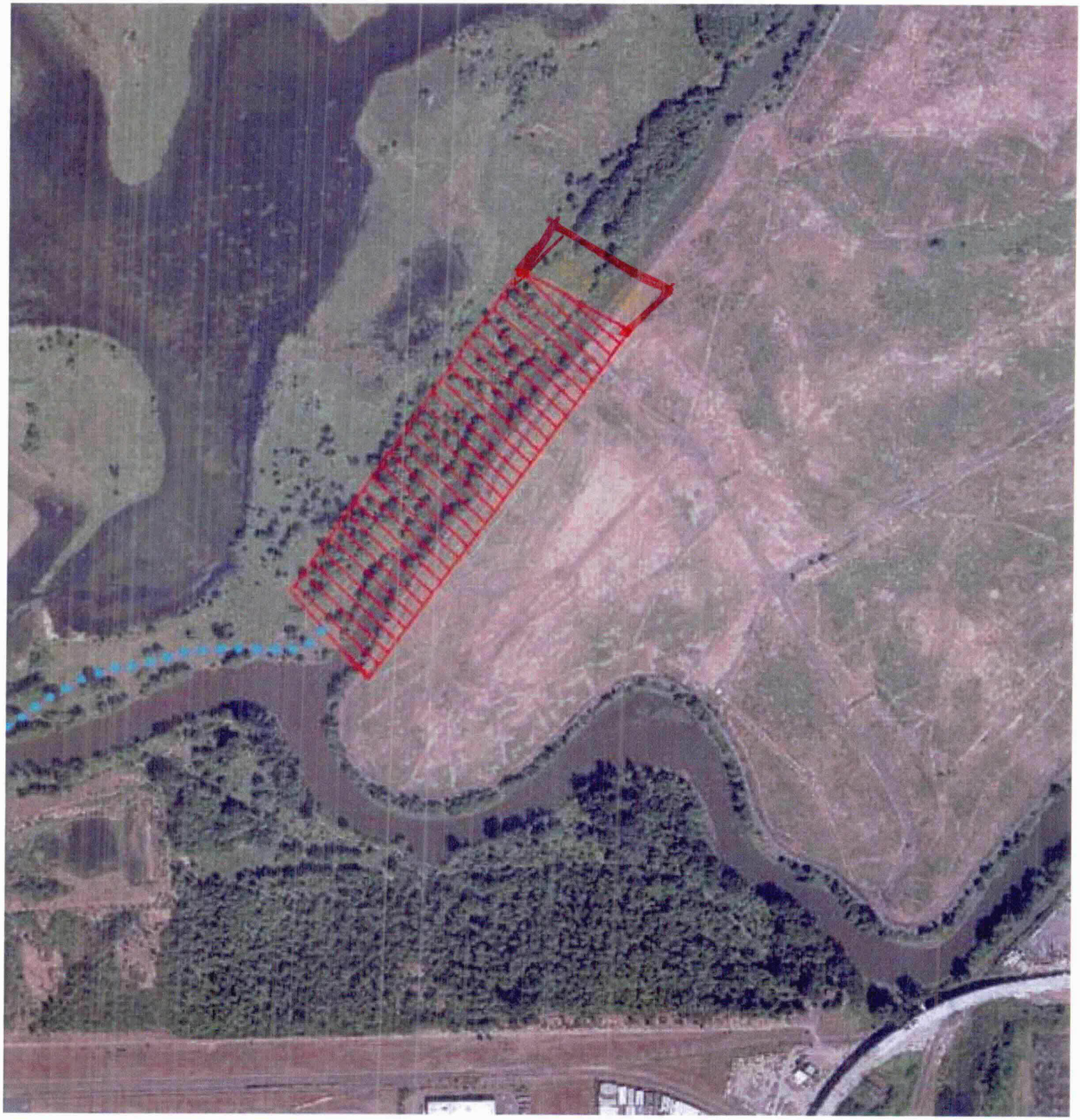
website: www.xltech.com <http://www.xltech.com/>

CC: svickers@xltech.com

N. Slough Feasibility Study
Project Schedule
November, 2006

ID	Task Name	Duration	Start	Finish
1	Notice to Proceed	0 days	Mon 12/4/06	Mon 12/4/06
2	**Project Management**	**110 days**	**Mon 12/4/06**	**Fri 5/4/07**
3	1.1 Coordination	110 days	Mon 12/4/06	Fri 5/4/07
4	1.2 Meetings	110 days	Mon 12/4/06	Fri 5/4/07
5	**2.0 Project Orientation**	**40 days**	**Mon 12/4/06**	**Fri 1/26/07**
6	2.1 Kickoff Meeting	0 days	Fri 12/15/06	Fri 12/15/06
7	2.2 Gathering Existing Info	30 days	Mon 12/4/06	Fri 1/12/07
8	2.3 Review Regulatory Coı	30 days	Mon 12/18/06	Fri 1/26/07
9	**3.0 Field Reconnaissance**	**33 days**	**Mon 1/29/07**	**Wed 3/14/07**
10	3.1 Natural Resource Asse	33 days	Mon 1/29/07	Wed 3/14/07
11	3.2 Topographic Survey &	33 days	Mon 1/29/07	Wed 3/14/07
12	3.3 Geotechnical Assessm	33 days	Mon 1/29/07	Wed 3/14/07
13	**4.0 Feasibility Criteria**	**5 days**	**Thu 3/15/07**	**Wed 3/21/07**
14	4.1 Technical and Regulat	5 days	Thu 3/15/07	Wed 3/21/07
15	**5.0 Bridge Alignment Alternat**	**37 days**	**Thu 3/22/07**	**Fri 5/11/07**
16	5.1 Develop Design Guidel	5 days	Thu 3/22/07	Wed 3/28/07
17	5.2 Identify 3 Feasibile Alte	15 days	Thu 3/29/07	Wed 4/18/07
18	5.3 Develop Preliminary O	5 days	Thu 4/19/07	Wed 4/25/07
19	5.4 Estimate Construction	5 days	Thu 4/19/07	Wed 4/25/07
20	5.5 Recommend Preferred	2 days	Thu 4/26/07	Fri 4/27/07
21	5.6 Summarize Next Steps	5 days	Mon 4/30/07	Fri 5/4/07
22	5.7 Analysis Review	5 days	Mon 4/30/07	Fri 5/4/07
23	5.8 Final Report Compilatic	5 days	Mon 5/7/07	Fri 5/11/07





Attachment __

References
North Slough Bridge Feasibility Study

Photos		
	Project Area, St. Johns Landfill, Smith-Bybee Wetlands, Vicinity	
	Project Area and Vicinity - High Water (2006) and Flood Conditions (1996)	
	St. Johns Landfill - Restoration of North Levee Section (2000)	
Graphics		
	Surface Contours - St. Johns Landfill	
	Profile of Restored North Levee - St. Johns Landfill	
	Stratigraphy Cross-Sections - St. Johns Landfill Vicinity	
	Flood Insurance Rate Map - St. Johns Landfill Vicinity	
	Profile of Landfill Cover System - St. Johns Landfill	
	Methane Gas Flow - St. Johns Landfill	
Written Documents		
2006	Fish Monitoring of Floodplain Wetland Restoration Sites in the Pacific Northwest	Ducks Unlimited
2006	Annual Environmental Monitoring Report 2005: St. Johns Landfill	CH2M Hill
2005	Remedial Investigation Work Plan	Hart Crowser
2005	St. Johns Landfill Dike: Phase 2 Stabilization Planning and Design Analysis	Cornforth Consultants
2003	Solid Waste Disposal Site Closure Permit No. 116 (St. Johns Landfill)	DEQ
2003	Order on Consent LQSW-NWR-02-14	DEQ
	(St. Johns Landfill Remedial Investigation-Feasibility Study)	
2003	Cost Estimates for fencing 40-mile Loop Across St. Johns Landfill	Metro (Technical Memo)
2002	40-mile Loop Trail Bridge at St. Johns Landfill:	Metro (Technical Memo)
	Preliminary Cost and Feasibility Review	
1999	Preliminary Dike Stabilization Study: St. Johns Landfill	Cornforth Consultants
1999	Waste Cutoff Study - St. Johns Landfill	Cornforth Consultants
1998	Phase II Investigation of North Levee - St. Johns Landfill	Cornforth Consultants
1997	St. Johns Landfill Modeling System:	Shu-Guang Li, et.al (PSU)
	Sensitivity Simulations & Response to Emcon Review Comments	
1996	St. Johns Landfill Seep Survey	Parametrix, Inc.
1995	St. Johns Landfill Groundwater Modeling System:	Li, Lowry, & Chen (PSU)
	Predicting Leachate Mounding, Fluxes & Offsite Migration	
1995	Controlling Seepage from St.Johns Landfill to Surrounding Surface Water.	Metro
1994	Chemical Characteristics of a Seep at the St. Johns Landfill in Portland, OR.	Fish, Romanelli & Martin
1990	St.Johns Landfill Closure: Leachate Migration - Perimeter Dike	Cornforth Consultants
1990	Natural Resources Management Plan for Smith and Bybee Lakes	City of Portland

Agenda

Kick-Off Meeting
North Slough Bridge Feasibility Study
Smith and Bybee Natural Area

Tuesday, November 28, 2006

Metro
600 NE Grand Ave.
Portland, OR 97232

Room 274
2:30-3:30pm

Introductions	5 min.
Project Goals / Desired Outcomes	5 min.
Review Project Scope / Schedule • Confirm project study boundary • Confirm survey baseline datum • Protocol/format for deliverables	30 min.
Review Project Team Roles • Lines of communication • Metro Review Process	10 min.
Background Studies	5 min.
Next Steps	5 min.

Note: Validated parking is available in attached structure (enter from NE Irving). Please park in spaces marked *Metro* or *Visitor*; do not park in *Land Rover* spaces. You can validate your parking ticket at front desk as you leave the building. If no parking attendant is on duty, then parking is free.

North Slough Bridge Feasibility Study for Smith and Bybee Natural Area

Metro Contact
Jane Hart – Project Manager
Metro Regional Parks and Greenspaces Dept.
600 NE Grand Ave.
Portland, OR 97232

Phone: (503) 797-1585
Fax: (503) 797-1849
E-mail: hartj@metro.dst.or.us

Consultant Team Contact
Susan Vickers – Lead Consultant
Exeltech
2264 McGilchrist St. SE
Suite 100
Salem, OR 97302

Phone: (503) 588-7109
Fax: (503) 581-6798
E-mail: svickers@xltech.com

Project Schedule

N. Slough Feasibility Study
Project Schedule
November, 2006

ID	Task Name	Duration	Start	Finish
1	Notice to Proceed	0 days	Mon 11/27/06	Mon 11/27/06
2	**Project Management**	**125 days**	**Mon 11/20/06**	**Fri 5/11/07**
3	1.1 Coordination	120 days	Mon 11/20/06	Fri 5/4/07
4	1.2 Meetings	120 days	Mon 11/27/06	Fri 5/11/07
5	**2.0 Project Orientation**	**45 days**	**Mon 11/27/06**	**Fri 1/26/07**
6	2.1 Kickoff Meeting	0 days	Tue 11/28/06	Tue 11/28/06
7	2.2 Gathering Existing Info	35 days	Mon 11/27/06	Fri 1/12/07
8	2.3 Review Regulatory Cor	44 days	Tue 11/28/06	Fri 1/26/07
9	**3.0 Field Reconnaissance**	**33 days**	**Mon 1/29/07**	**Wed 3/14/07**
10	3.1 Natural Resource Asse	33 days	Mon 1/29/07	Wed 3/14/07
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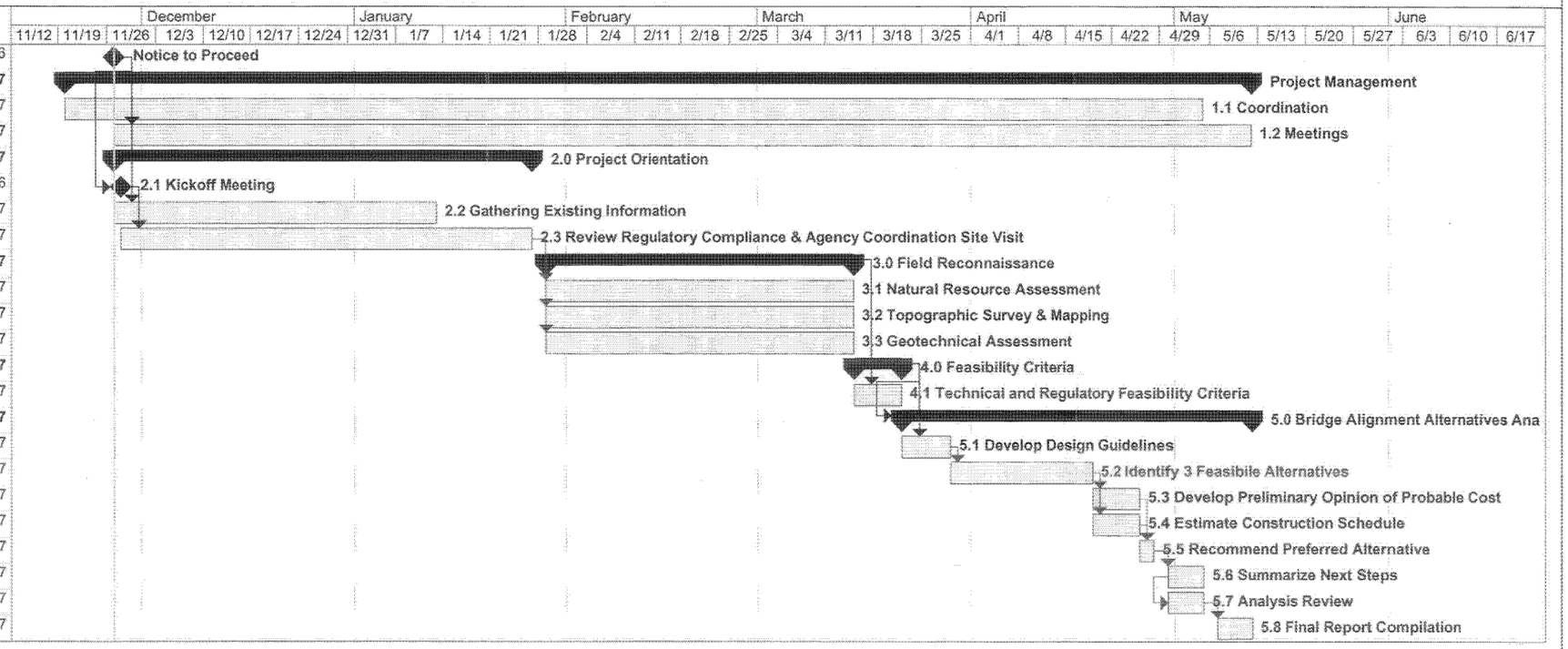
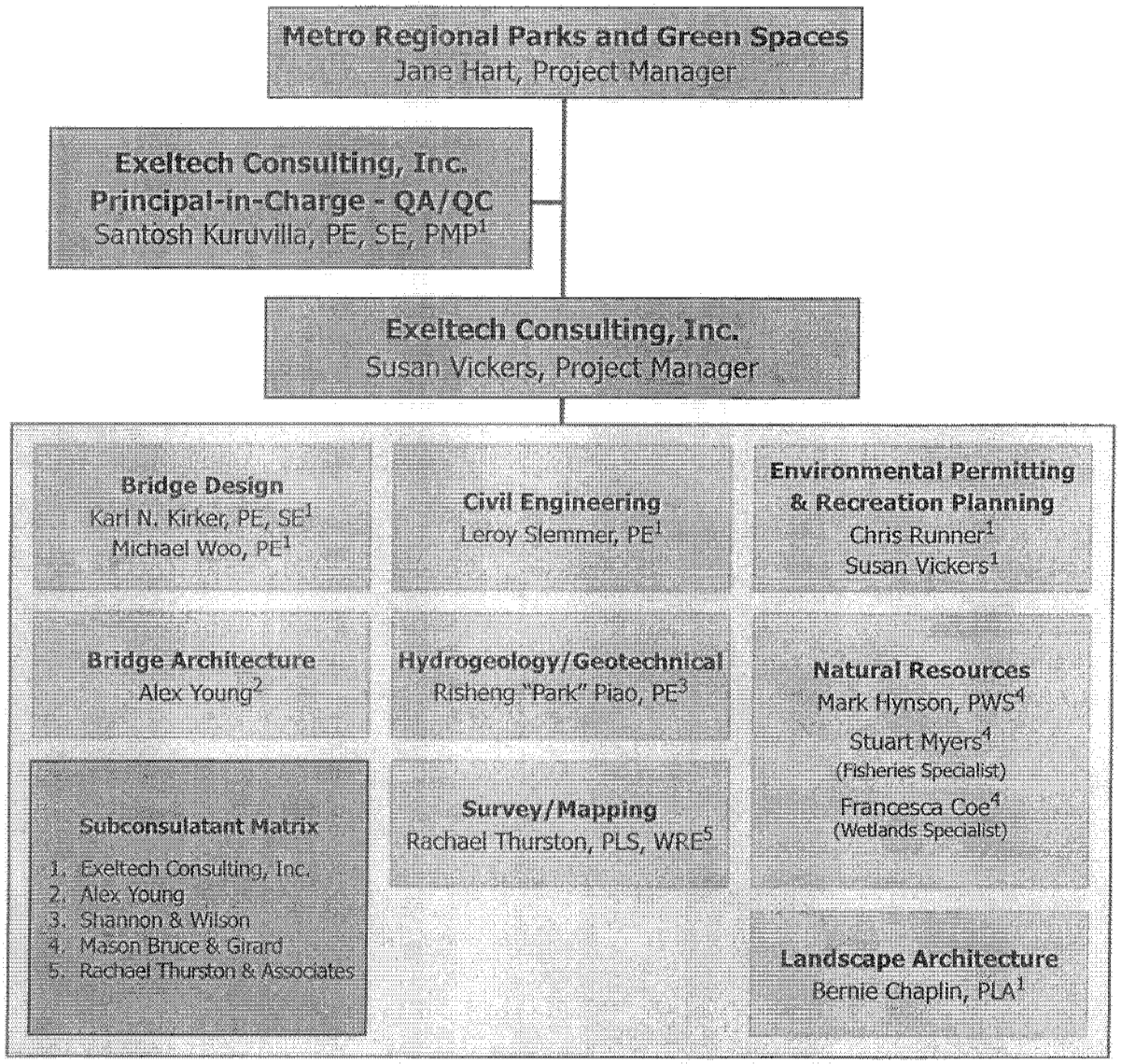
23	5.8 Final Report Compilatic	5 days	Mon 5/7/07	Fri 5/11/07




Metro Regional Parks and Green Spaces
Jane Hart, Project Manager
Exeltech Consulting, Inc.
Principal-in-Charge - QA/QC
Santosh Kuruvilla, PE, SE, PMP[1]
Exeltech Consulting, Inc.
Susan Vickers, Project Manager
Bridge Design
Karl N. Kirker, PE, SE[1]
Michael Woo, PE[1]
Civil Engineering
Leroy Slemmer, PE[1]
Environmental Permitting & Recreation Planning
Chris Runner[1]
Susan Vickers[1]
Bridge Architecture
Alex Young[2]
Hydrogeology/Geotechnical
Risheng "Park" Piao, PE[3]
Natural Resources
Mark Hynson, PWS[4]
Stuart Myers[4]
(Fisheries Specialist)
Francesca Coe[4]
(Wetlands Specialist)
Subconsulatant Matrix
1. Exeltech Consulting, Inc.
2. Alex Young
3. Shannon & Wilson
4. Mason Bruce & Girard
5. Rachael Thurston & Associates
Survey/Mapping
Rachael Thurston, PLS, WRE[5]
Landscape Architecture
Bernie Chaplin, PLA[1]

North Slough Bridge Feasibility Study
Smith & Bybee Wetlands Natural Area

PROJECT DIRECTORY (Metro & Portland Parks)				
Name/Affiliation	**Project Role**	**Phone/Fax**	**Address**	**E-mail**
Jim Desmond Director Metro Regional Parks & Greenspaces	Senior Review	503-797-1914 ph 503-797-1849 fx	Metro Regional Parks & Greenspaces 600 NE Grand Ave. Portland, OR 97232	desmondj@metro.dst.or.us
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Jane Hart Environmental Planner Metro Regional Parks & Greenspaces	Project Manager	503-797-1585 ph 503-797-1849 fx	" "	hartj@metro.dst.or.us
Elaine Stewart Environmental Scientist Metro Regional Parks & Greenspaces	Natural Resource Specialist	503-797-1515 ph 503-797-1849 fx	" "	stewarte@metro.dst.or.us
Paul Vandenberg Solid Waste Planner Metro Solid Waste & Recycling	St. Johns Landfill Specialist	503-797-1695 ph 503-797-1795 fx	" "	vandenbergp@metro.dst.or.us
Deborah Lev Environmental Planner Portland Parks and Recreation	Partner Agency Liaison	503-823-6183 ph 503-823-5570 fx	Portland Parks &Recreation 1120 SW 5th Ave., Rm. 1302 Portland, OR 97204	dlev@ci.portland.or.us

NORTH SLOUGH BRIDGE FEASIBILITY STUDY

Smith and Bybee Wetlands Natural Area

Consultant Contact List

Exeltech Consulting, Inc. (Salem Office)
Susan Vickers, Sr. Environmental Project Manager

2264 McGilchrist St. SE, Ste. 100 — 503-588-7109, ext. 3108
Salem, OR 97302 — 503-581-6798 fax
Susan Vickers — *Project Manager* — svickers@xltech.com

Exeltech Consulting, Inc. (Corporate Office)
Karl Kirker, P.E., S.E.

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Lacey, WA 98516 — 360-357 8225 fax
Karl Kirker, PE, SE — *Bridge Design Manager* — kkirker@xltech.com

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Mason Bruce & Girard

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Rachel Thurston & Associates

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Lake Oswego, OR 97034 — 503-699-5556 fax
Rachel Thurston, PLS, WRE — *Survey / Mapping* — ThursAssoc@comcast.net

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Shannon & Wilson, Inc.

3990 SW Collins Way, Ste. 203 — 503-479-6257
Lake Oswego, OR 97035
Risheng "Park" Piao, PE — *Hydrogeology/Geotechnical* — rpp@shanwil.com

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Alex Young Northwest LLC

6471 Heather Lane SW, — 360-789-4838
Tumwater, WA 98501
Alex Young, Architect — *Bridge Architect* — alexyoungw@comast.net

Scope of Work

Scope of Work

North Slough Bridge Feasibility Study

Smith & Bybee Wetlands Natural Area

November 16, 2006

(Note: Assumptions are in parentheses and italics)

Task 1: Project Management

Primary responsibility: Exeltech

Exeltech Consulting, Inc. (Exeltech) will provide clear and concise documentation of work progress, including coordinating work products by the team that is critical to the overall effort in development of the feasibility report. Exeltech will be the Prime consultant and coordinator with Metro Regional Parks and Greenspaces (Metro). This task shall include the preparation of monthly project status reports, monthly invoices and progress reports, meeting minutes and summaries, project updates, and coordination and meetings between Metro and the Exeltech Team.

(Assume 5 month project schedule).

Task 1.1 Project Coordination

(Assume up to 1 hour per week between Metro and Exeltech PM; and Assume Metro will perform any public involvement and Metro Council coordination).

Task 1.2 Coordination Meetings with Metro

(Assume up to 3 meetings between Metro and Exeltech team members, as needed).

Task 1 Deliverables:

1. Project Guide/Notebook, to be delivered to Metro 2 weeks after notice to proceed (NTP). Project Guide will contain: Final SOW/Contract, team directory, project schedule, fee schedule, and a quality control plan. Project notebook will be a 3-ring binder containing tabs for Project Guide and other project-related materials.
2. Project Status Reports (assume total of 5 each provided monthly which will include Updates, Background Info, Critical Issues to Resolve, Action Items, Scheduling Updates).
3. Meeting Minutes/Summaries (up to 3 minutes for in-person meetings, and up to 1 e-mail Summary per week for coordination between Metro and Exeltech PM).
4. Invoices and Progress Reports (assume 5 monthly which will include progress and percent completeness review of Exeltech staff and all subs for each task/deliverable, complete invoice, and appropriate billable attachments). Monthly progress reports shall be prepared by Exeltech to

document work implemented by each member of the Exeltech team. Monthly reports shall be forwarded to Metro's PM for review along with the monthly invoice and shall form the basis for tracking the progress of work throughout the project life.

Task 2: Project Orientation / Information Review

Primary responsibility: Exeltech

Secondary responsibility: MB&G, Thurston & Assoc.s, Shannon & Wilson

Task 2.1 Project Kickoff Meeting

(Assume Exeltech PM, Design Lead, MB&G Lead, S&W Lead, Thurston Lead, and Metro Staff).

Appropriate members of the Exeltech team will meet with Metro (at Metro's offices in Portland) to discuss the following: project goals and desired project outcomes; review project milestones and timelines; role of project team members (Metro staff and Exeltech team members); lines of communication; decision making and internal Metro review process; meetings and presentations; project guide components; confirm study area boundaries; discuss previous studies, reports, plans; and agree on protocol for electronic and other formats of deliverables. Metro will prepare an agenda for the meeting.

Task 2.2 Gather Existing Information

(Task 2.2 Assumptions)

Metro will provide: Background documents and mapping information identified in Attachment A of the RFP, as well as other known or existing information or documentation if Exeltech or Metro deem the information helpful.

- Relevant natural resource studies / monitoring data prepared by Metro
- Historical floodplain data for the project area.
- Determine and convey to Exeltech the acceptable duration of annual flooding for trails connecting to a proposed bridge.
- Trail design parameters

  (Assume all items from Attachment A list in RFP, page 17, which includes Photos, Graphics, and Written Documents)

Exeltech consultant team will collect and review (in addition to information provided by Metro, listed above):

- Available information regarding natural resources and sensitive and federally listed threatened and endangered species and their habitats within and adjacent to the project study area including:
  - Oregon Natural Resource Heritage Information Center database search
  - U.S. Fish and Wildlife Service (USFWS) database search

- Besides database searches, all relevant available information from regulatory and resource agencies for permitting concerns and feasibility criteria.
- Database search of Oregon State Historical Preservation Office for presence of cultural and archeological resources.

Task 2.3 Review Regulatory Compliance & Agency Coordination Site Visit

Review all existing criteria, relevant laws and policies, and all relevant permitting compliance guidance and coordinate with the regulating agencies to refine (add or delete or modify) the lists of technical and regulatory feasibility criteria from the RFP.

- As needed, contact and/or meet with representatives of Metro, City of Portland, National Marine Fisheries Service (NMFS), Oregon Dept. of Fish and Wildlife (ODFW), Oregon State Marine Board, Dept. of State Lands (DSL), US Army Corps of Engineers (ACOE), and natural resource, watershed council, or conservancy groups as needed.

Task 2 Deliverables

1. Meeting Minutes summarizing Kickoff meeting by Exeltech PM to Metro PM for review, within 3 days after meeting. Final meeting minutes will be distributed by Exeltech PM.
2. Regulatory agency site visit, with Exeltech team members and/or Metro staff as appropriate.
    2.a. Written summary of regulatory agency concerns and guidance discussed during the site visit and/or agency coordination.
3. Draft list of technical and regulatory feasibility criteria.

(Assume 2-week Metro review period for all technical memos and mapping)

Task 3: Field Reconnaissance

A reconnaissance level site investigation will be conducted by the Exeltech team to provide an adequate level of information on which to base the bridge feasibility study with up to three alternative bridge alignments. The field reconnaissance will focus on documentation of existing conditions, opportunities and constraints to consider when determining bridge locations, design, and trail connections, including existing natural resource and geotechnical constraints. Coordination of this task will be primarily by Exeltech PM, with field reconnaissance responsibilities assigned as below.

Task 3.1 Environmental Baseline Conditions & Natural Resource Assessment

Primary responsibility: MB&G, except as noted below

(Assume no detailed field wetland delineation will be conducted; Assume floodplain analysis will be based on historical data; Assume no permits will be obtained for this project).

The following work will be conducted for the natural resource assessment:

- Identify sensitive, threatened and endangered species inhabiting the area and the condition of their habitats within and adjacent to the study area.

- Identify clumps or stands of trees 6" DBH and greater, provide a range of diameters for the trees in each clump or stand, identify species and condition (live or snags) in each clump or stand. Map these resources on an aerial photograph. Identify (on the map) ash forests, riparian corridors and forests, and any other habitats found within the study boundaries.
- Conduct a comprehensive reconnaissance of the project study area to assess general fish habitat conditions along the North Slough and to assess the potential for project to impact listed fish species and their habitat.
- Assess and approximate location of wetland and water resources within and immediately adjacent to the project study area (+/- 20 feet),. Map these resources on an aerial photograph.
- To determine potential impacts from alternative bridge footings or fill placement, the regulatory boundary along the north bank of the North Slough (11-foot [NGVD 29] contour) will be determined from the Highest Measured Tide or Mean Higher High Water (MHHW) in coordination with DSL, USFWS, ACOE, ODFW, Oregon State Marine Board, and other agencies as necessary. Map this elevation or delineation/boundary on an aerial photograph.
- Map the location of known sensitive, threatened and endangered species and habitat within the study area and show buffers needed to meet regulatory requirements in the study area.
- Review existing information on ground water hydrology, ground water quality, and soils and evaluate the frequency and duration of flooding within the study area **(Exeltech to assist MB&G).**

Task 3.2 Topographic Survey & Mapping

Primary responsibility: Thurston and Associates

Control will be established in the project area.

(Assumptions: Establish datum to use for survey work and mapping protocol with Metro prior to or at kick-off meeting.)

The following topographic survey work will be conducted:

- Conduct a topographic survey of natural and manmade features showing 1 foot contour intervals including elevation points on the existing trails and roads centerline within the study area.
- Research the surveys of record and land deeds for the project area and immediate vicinity, and note any issues. Review existing mapping and information available from Metro per the RFP.
- Include all mapped resources from Task 3.1 and map all regulatory elevations. Identify the vegetation line at water boundaries. Also, note edge of water and day and time of determination to identify the tidal influences on water levels.
- Identify and map infrastructure within the study area (e.g., monitoring wells, culverts, transmission towers, existing roads).

- If necessary, call for utility locates. Contact possible owners/governing agencies to obtain information of utilities or other infrastructures (monitor wells, etc).
- If there are different land ownerships, pick up boundary corners.

Task 3.3 Geotechnical Assessment

Primary responsibility: Shannon & Wilson, except as noted below

(Assume no detailed field soil borings will be required; Assume Geotechnical analysis will be based on existing available data; Assume study is at reconnaissance level of detail; Assume geotechnical analysis will be performed in accordance with current ODOT, FHWA, and AASHTO guidelines).

Prior to the analysis of alternative bridge alignments, the geologic conditions in the study area will be documented and related geotechnical issues will be identified. The geotechnical assessment will consider likely construction-related activities to determine the likelihood they would compromise bank stability on either side of the slough or facilitate movement of contaminant-bearing groundwater from the landfill to surrounding areas.

Based on existing information and surface reconnaissance, the following factors will be considered and evaluated for this task:

- Existing geologic and geotechnical subsurface conditions and possible site-specific geologic hazards.
- Stability of existing banks, and potential impacts from bridge construction.
- Bridge design requirements (i.e., structural, aesthetic, and environmental).
- Performance criteria under static and seismic conditions.
- Scour depths and hydraulic considerations, including flooding episodes and potential **(Exeltech to assist Shannon & Wilson).**
- Bridge placement in relation to wetlands in the study area **(MB&G to assist Shannon & Wilson).**
- Consequences, if any, of bridge construction on the local movement of contaminant-bearing groundwater within the study area.

The following geotechnical assessment work will be conducted:

- Assess how existing geotechnical conditions will affect selection of bridge foundations.
- Assess the types of bridge foundations that could be used to meet the technical feasibility criteria and stay within the regulatory constraints.
- Assess the stability of the *north bank* (Bybee wetlands side) of the slough, including the potential effects of the planned reinforcement of the landfill

levee on the opposing *south bank*, which will likely increase flow/pressure along the north bank.

- Review existing information on contaminants detected in groundwater sampled from wells on the landfill perimeter within the study area and evaluate potential implications that the presence of contaminated ground water and soils may have on any potential bridge design and construction **(Exeltech and MB&G to assist Shannon & Wilson).**
- Cost effectiveness of foundation alternatives.

Task 3 Deliverables

(Assume all draft deliverables due at the same time, with one consecutive Metro review)

1. Natural resources technical memo, which will include a map of existing conditions, showing and discussing regulatory and technical constraints and other relevant environmental issues.
    - Describe and show in photos and aerial photo maps existing natural resources within and adjacent to the study area including: sensitive and federally listed species and their habitat, wetlands and water resources, trees greater than 6 inches (dbh), highest measured tide elevation, and other map-able natural resources.
    - Identify regulatory and technical issues needing consideration when developing alternative bridge alignments.
    - List potential local, state and federal permits and land use approvals needed for bridge and trail construction.
    - Recommend probability of flooding frequency and duration based on historical data.
2. Topographic survey and mapping (mapping protocol will be established with Metro prior to or at kick-off meeting) including aerial photograph(s) depicting all map-able resources including existing environmental, geological, and hydraulic baseline conditions along with man-made features.
    - Topographical Survey.
    - Project survey will use datum identified in project kick-off meeting and assumed horizontal coordinates (i.e. State Plane Coordinates not required).
3. Geotechnical assessment technical memo.
    - Describe /map existing geological and hydraulic conditions in the study area and identify locations that may be suitable for placement of a bridge alignment (bridge, foundation, approaches, trail connections).
    - Identify regulatory and geotechnical issues needing consideration.
    - Evaluate feasible types of foundations.

    (Assume Metro review for all technical memos and mapping, 2 weeks)

Task 4: Finalize Feasibility Criteria

Primary responsibility: Exeltech

Task 4.1 Review and finalize Draft Technical & Regulatory Feasibility Criteria

Using the draft list of feasibility criteria developed in Task 2.3, incorporating coordination efforts and guidance from the regulatory agencies, and based on the results of the data review and field reconnaissance, the Exeltech team will prepare a final draft list of the feasibility criteria and assign thresholds if applicable. Following Metro review of the final draft list of feasibility criteria, Metro and up to 3 members of the consultant team will meet via conference call to discuss and finalize the feasibility criteria.

(Assume up to 5 regulatory and 5 technical feasibility criteria will be developed in addition to, or in replacement of, existing criteria listed in the RFP).

Task 4 Deliverables

1. Complete final list of Regulatory and Technical Feasibility Criteria

   (Assume 2-week Metro review period)

Task 5: Bridge Alignment Alternatives Analysis & Feasibility Report

Primary responsibility: Exeltech

Task 5.1 Develop Design Guidelines

Based on opportunities and constraints identified in previous task work and final feasibility criteria, develop design guidelines for alternative bridge alignments analysis.

Task 5.2 Identify up to three (3) Feasible Bridge Alignment Alternatives

Each alternative bridge alignment shall include location, bridge type, and connections to existing and future trails within the study area. Each alignment will consider a different bridge type and will indicate whether that bridge type is appropriate for other alignments as well. Recommend mitigation as necessary. Using a decision matrix format, incorporate feasibility criteria and design guidelines for screening the alternatives. The matrix will evaluate the alternatives on how each one best meets the criteria individually as well as in comparison to the other alternatives. Following Metro review of the recommended bridge alignments, Metro and up to 4 members of the consultant team will meet to finalize the alternative bridge alignments.

(Assume 2-week Metro review period. It is assumed that this task will only include schematic drawings, up to 2 per alternative, depicting each alternative and will not include any stamped engineering plans.)

Task 5.3 Develop Preliminary Opinion of Probable Cost

Costs will be estimated for each alternative and will consider design, permitting and environmental compliance, land use review, mitigation, structure, construction, and trail connection construction.

Task 5.4 Estimate Construction Schedule

An estimated construction schedule will be included for each alternative alignment.

Task 5.5 Recommend Preferred Alternative

The preferred alternative will be recommended and rationale for selection will be provided. If no feasible alternative is determined, rationale and analysis will be provided that support that finding.

Task 5.6 Summarize Next Steps

To facilitate a seamless transition in project phases, a summary will be provided that outlines and recommends the next steps needed for the design and construction of the preferred alternative. The summary will include permitting issues and probable permits needed, the probable NEPA classification of the project, further analysis needed prior to preliminary and final design, preliminary opinion of probable costs, level of public involvement needed, and determine short- and/or long-term maintenance and monitoring requirements for ensuring successful mitigation should any be needed.

Task 5.7 Analysis Review

Consultant team (up to 4 members) to meet with Metro staff to review the analysis conducted on each alternative alignment, cost estimates, construction schedule, preferred alternative, future project phases/actions. The analysis will be finalized following this meeting based on any comments from Metro. Once finalized, each alignment will be illustrated using artist renditions and photographs.

(Assumptions are that this meeting/review will be one of the 'up to 3 meetings' identified in Task 1.2; Assume structures will be designed in accordance with applicable AASHTO Specifications: AASHTO LRFD Bridge Design Specs, US Units, Currently 3rd Edition 2005 and 2006 interims).

Task 5.8 Final Report Compilation

Primary responsibility: Exeltech

(Assume Metro and Exeltech PM will determine report format)

Draft Bridge Feasibility Study Report

The draft report will include the following elements:

- Baseline environmental information (included in appendix);
- An identification, review, and assessment of regulatory and technical issues that need to be considered during the design and construction phases;
- Criteria used in selecting alternatives;
- An analysis that demonstrates how the preferred alternative meets technical and regulatory criteria;

- Anticipated local, state, and federal permits associated with each alternative;
- The probable NEPA classification of the project;
- Evaluation of feasible types of bridges and foundations;
- Pictorial (photographs, drawings, cross-sections, and/or artistic renditions) illustrations of the feasible bridge types, bridge approaches, and trails connecting to bridge in hard copy and pdf format;
- Proposed bridge clearance and implications for recreational boating;
- An analysis of the probability of the frequency and duration of flooding in the study area;
- Digital photographs on a CD-ROM of the proposed alignments;
- Preliminary opinion of probable costs for design and construction for each alternative that is determined to be feasible (up to three);
- Map(s) and/or aerial photo(s) showing each alternative, topographic survey, sensitive areas, and wetland and regulatory area boundaries in ArcGIS (preferred) or PDF format as well as hard copies.

(Assume 2-week Metro review period)

Metro will submit written comments to Exeltech PM for revisions to incorporate into the Final Study Report.

Final Bridge Feasibility Study Report

Lead consultant will incorporate Metro comments from draft report and prepare the final bridge feasibility study report. Metro will review the final bridge feasibility study and provide written comments (assumed to be minor) to the consultant for incorporation and final printing.

Task 5 Deliverables

1. Design Guidelines

   (Assume 2-week Metro review period)

2. Up to 3 Feasible Alternatives (including bridge location, design type, and trail connections), including a Preferred Alternative if one exists

   (Assume 2-week Metro review period)

3. Draft Bridge Feasibility Study Report. For the draft report, provide four hard copies, one unbound original, and one CD containing the entire report. Report format to be determined by Metro and Exeltech project managers.

   (Assume 2-week Metro review period)

4. Final Bridge Feasibility Study Report. For the final report, provide two color copies, one unbound color original, and one CD containing the entire final report.

   (Assume 2-week Metro review period)

Draft

Trail Design Guidelines for South Slough Trail Alignment

Revised 6/08/06

Trial Design Characteristic	Trail Segment			
	Landfill Roads	South Slough	Landfill Connector	Pier Park
Trail Width	12' (optimum), 10' minimum	12' (optimum), 10' minimum	To be determined	To be determined
Trail Surface	asphalt	asphalt	" "	" "
Shoulder Width	1' - 4'	2'	" "	" "
Shoulder Surface	Crusher fines or gravel	Crusher fines or gravel	" "	" "
Vertical Clearance	8'	8'	" "	" "
Horizontal Clearance	2' shoulders provide adequate clearance	2' shoulders provide adequate clearance	" "	" "
Slope	2-3% (optimum), 5% maximum	2-3% (optimum), 5% maximum	" "	" "
Cross Slope	2%	2%	" "	" "

Trail Design Assumptions:

Multi-Use - Pedestrian, bicycles (recreational and commuters), in-line skates, wheelchair, other non-motorized uses.

Fencing - Along landfill side of trail on landfill perimeter roads. Between industrial properties and trail corridor. Design will address adjacent landowner security and public safety standards.

ADA - Trail will be ADA accessible.

Minimum MTIP funding requirements for trail design include the following:

Trail purpose: Trail must service transportation (commuter) uses.

Trail Surface/Width: At least 10' wide hard surface. Asphalt, concrete and chip seal are all acceptable surfaces for trail. Trail must be ADA.

Shoulder Surface/Width: - Must be at least 2' wide, if wider need to justify it is needed for transportation uses. Gravel is typical shoulder material. Does not necessarily need to be ADA.

Regional Significance Criteria (Level 1 and 2):

Level 1: 75% of trail length must be separated from roads and streets. If trail is on street or sidewalk, must be shown on Metro's Regional Transportation Plan (RTP) bike and pedestrian map.

Level 2: (Must meet at least 4 of the following) Connects regionally significant parks and greenspaces, connects to other regionally significant trails, connects regional town centers, industrial areas, connects to or through significant habitat areas, wildlife corridors, likely that the trail will receive use by citizens from various areas of the region.

Trailheads

Existing trail heads and public parking is provided in the vicinity of the Smith and Bybee Wetlands Natural Area at the following locations:

- Kelley Point Park
- Smith and Bybee Wetlands (North side of Smith Lake off Marine Dr)
- Chimney Park
- Pier Park
- Columbia Slough Waste Water Treatment Plant
- Potential for developing a small trailhead at existing informal canoe launch on the south side of the Columbia Slough near the landfill offices.

Metro Regional Parks And Greenspaces

METRO

Request for Proposals

(RFP #07-1199-PKS)

North Slough Bridge Feasibility Study

At

Smith & Bybee Wetlands Natural Area

Proposals Due:	August 17, 2006 by 4:00 PM
Submit Proposals To:	Metro Parks and Greenspaces 600 NE Grand Avenue Portland, OR 97232-2736
Project Manager:	Dan Kromer (503) 797-1844

TABLE OF CONTENTS

SECTION I - GENERAL INFORMATION

Request For Proposals

Metro's Regional Parks and Greenspaces Department is requesting proposals to evaluate the feasibility of alternatives for bridge location, design, and trail connections on either side of the North Slough (arm of Columbia Slough). The bridge will provide a key link in the trails network connecting the Smith and Bybee Wetlands Natural Area with nearby existing trails, parks and neighborhoods. The bridge feasibility study area is shown in Figure 1. Alternative trail alignments were evaluated in a past study and the preferred alternative, South Slough Alignment, requires a new trail bridge over the North Slough in the area of the northwest portion of the St. Johns Landfill. The bridge will connect the existing "Port of Portland Trail" on the north side of the Slough with the perimeter road (future trail) of the St. Johns Landfill on the south side. The precise location, bridge type, and alignment have not been determined. This study will build upon previous planning efforts and existing information, augmenting existing studies with some additional field work. The study has the following objectives:

- Evaluate alternatives (bridge location, design, trail connections) within the identified study area
- Provide graphics depicting feasible alternatives
- Provide cost estimates for design, engineering and construction of feasible alternatives
- If two or more alternatives are determined to be feasible, identify and provide rationale for a preferred alternative
- Estimate the length of time the bridge is likely to be closed annually due to flooding on connecting trails

Metro has budgeted between $40,000 - $45,000 for this bridge feasibility study.

Qualifications

Metro is seeking a multi-disciplinary consulting team that possesses a combination of creative and technical expertise with professional experience on projects of a similar nature and references from previous projects. Professional expertise anticipated for this project includes, but is not limited to: architectural (for bridge design alternatives), landscape architectural (with particular experience in bridge/trail design in natural settings and environmental assessments), civil engineering (for bridge footings, geotechnical analysis), hydrogeological (for assessment of potential effects on local movement of groundwater), surveying, biological/environmental sciences (for habitat considerations), and experience in regulatory matters and permitting in the City of Portland.

Whom to Contact

For questions pertaining to the contents of this RFP or for directions to the site, please contact:

Dan Kromer, Project Manager
Metro Regional Parks and Greenspaces Department
600 NE Grand Avenue
Portland, OR 97232
Phone (503) 797-1844, Fax (503) 797-1849

A non-mandatory pre-proposal conference will be held on July 25, 2006 to provide proposers with an understanding of the RFP. It is requested that proposers submit their RFP questions in writing to Dan Kromer at kromerd@metro.dst.or.us prior to the pre-proposal conference or call as soon as possible.

Existing documentation relevant to this project is listed in Attachment A. These documents are available for viewing at Metro's offices, by appointment. To schedule an appointment, please contact Sandra Jamison at 503-797-1834.

Proposal Submittal

Proposals must be received within a sealed envelope at the reception desk of the Regional Parks and Greenspaces office, attention Dan Kromer, 600 NE Grand Avenue, Portland, Oregon 97232, by 4:00 p.m., on or before August 17, 2006. Please submit 7 copies of the RFP. No faxed materials will be accepted. Postmarks are not considered proof of delivery. If proposal is hand-delivered, it must be delivered to and date stamped by personnel at Metro's Regional Parks and Greenspaces Department on the first floor of the Metro building. Delivery persons should inquire with the front reception desk personnel for directions to the Park Department office.

All proposals must be clearly marked "**Proposal #07-1199-PKS North Slough Bridge Feasibility Study at Smith & Bybee Wetlands Natural Area** and contain all information outlined herein.

Schedule Of Request For Proposal Process

Advertise RFP	**July 17, 2006**
Pre-Proposal Conference	**July 25, 2006**
Proposals due	**August 17, 2006**
* Oral Interviews	**September 6, 2006**
* Final Selection	**September 7, 2006**
* Project Commences	**September 28, 2006**
* Project Completed	**February 16, 2007**

* These dates are approximate and subject to change.

Pre-Proposal Conference

A voluntary pre-proposal conference will be held in the meeting room at the St Johns Landfill Office located at 9387 N. Columbia Boulevard, Portland, OR, on **July 25, 2006** from 1:00 - 2:00 PM followed by a 30 minute on-site tour of the study area. The objective of the pre-proposal conference is to summarize the project and RFP contents, provide viewing of the study area and address questions proposers may have. In addition, this meeting will give proposers an opportunity to meet Metro staff working on the project.

Oral Interview

Consulting teams selected for final evaluation may be asked to participate in an oral interview, including a summary presentation of their proposal to Metro's Selection Committee. The purpose of an interview is to provide opportunity for the team to clarify their proposal to assure mutual understanding with Metro. If conducted, interviews would be held at the Metro Regional Center, 600 NE Grand Avenue, Portland and are tentatively scheduled for **September 6, 2006.** Interviews will be limited to 40 minutes (15 minute presentation followed by 25 minutes Q&A) in duration. The interview team should include members of the consulting team representing disciplines that the prime firm believes are key for the project. Metro will confirm the time and location for these interviews.

SECTION II - PROJECT BACKGROUND AND CONTEXT

Site Location and Description

Smith and Bybee Wetlands are remnants of formerly extensive river bottomlands located near the confluence of the Willamette and Columbia rivers. Part of the Columbia Slough watershed, these wetlands are part of the 1,928-acre Smith and Bybee Wetlands Natural Area. The natural area also includes the St. Johns Landfill, a 238-acre closed landfill. The natural area is managed primarily for wildlife habitat protection and enhancement while providing passive recreational opportunities for the Portland metropolitan area. Nearby neighborhoods include St. Johns, Kenton and Portsmouth.

The study area (see Figure 1) is defined by Bybee wetlands (north), St Johns Landfill (south), terminus of the Port of Portland trail (west), and edge of the ash forest (east).

Project Background and Objectives

The purpose of this work is to evaluate the feasibility of alternatives for bridge location, design, and trail connections on either side of the North Slough (arm of Columbia Slough). The bridge will provide a key link in the trails network connecting the Smith and Bybee Wetlands Natural Area with nearby existing trails, parks and neighborhoods. Alternative trail alignments were evaluated in *Smith and Bybee Wetlands Natural Area Trail Feasibility Study* (Feasibility Study) (Metro 2005). The preferred alternative, South Slough Alignment, requires a new trail bridge over the North Slough in the area of the northwest portion of the St. John's Landfill. The bridge will connect the existing "Port of Portland Trail" on the north side of the Slough with the perimeter road (future trail) of the St. John's Landfill on the south side. The precise location, bridge type, and alignment have not been determined.

This study will build upon previous planning efforts and existing information, augmenting existing studies with some additional field work. The study has the following objectives:

- Evaluate alternatives (bridge location, design, trail connections) within the identified study area
- Provide graphics depicting feasible alternatives
- Provide cost estimates for design, engineering and construction of feasible alternatives
- If two or more alternatives are determined to be feasible, identify and provide rationale for a preferred alternative
- Estimate the length of time the bridge is likely to be closed annually due to flooding on connecting trails

Regulatory Feasibility

To be feasible, an alternative (bridge location, design, trail connections) must be one that can be permitted by local, state, and federal agencies. Federal money will likely be a source of funding the design and construction of the project. Regulatory feasibility also includes endangered, threatened and sensitive fish and wildlife species; rare plant communities and other sensitive habitats. Metro needs to know whether any alternative for a specific location can be permitted and satisfy natural resource concerns outlined in the *Smith and Bybee Wetlands Trail Feasibility Study.* Regulatory feasibility will also require the ability to provide mitigation for impacts to regulated or sensitive resources.

A feasible alternative must be able to comply with the following rules, regulations, and guidelines:

- Natural Resources Management Plan for Smith and Bybee Lakes (City of Portland)
- City Code Title 33: Planning and Zoning / Environmental Zones (City of Portland)
- City Code Title 24: Building Regulations / Flood Hazard Areas (City of Portland)
- ADA Standards for Accessible Design (US Department of Justice)
- Clean Water Act (US Army Corps of Engineers)
- Rivers and Harbors Act (US Army Corps of Engineers)
- Oregon Removal-Fill Law (Oregon Division of State Lands)
- Endangered Species Act (USFWS and NOAA Fisheries)
- Solid Waste Disposal Site Closure Permit (DEQ)
- Order on Consent No. LQSW-NWR-02-14 (DEQ)
- Stormwater Management Guidelines (DEQ)
- Coast guard boating/navigable waters regulations
- National Environmental Policy Act (NEPA)

Technical Feasibility

To be feasible, an alternative (bridge location, design, trail connections) must meet the following technical criteria:

- Bridge foundations and structures and construction methods must have no significant adverse impacts on the following:
  - Ground water hydrology and quality
  - Structural integrity of the south bank (landfill side) of North Slough
  - Existing landfill infrastructure (e.g., monitoring wells, culverts, transmission towers, roads)
  - Permits and conditions under which landfill closure operations are implemented
- Bridge foundations must be stable and safe within the given substrate
- Bridge foundations and structures must withstand the forces of a 100-year flood
- Trails connecting to the bridge must be accessible (not flooded) most of the year (acceptable duration to be determined by Metro).
- Construction of bridge and trail connections must not violate state removal-fill law limiting fill in Smith and Bybee Wetlands to less than 50 cu yd below 11 feet MSL
- Bridge clearance must accommodate recreational boating, particularly paddle boats (canoes and kayaks)
- Bridge and connection trails must be ADA accessible
- Bridge and connecting trails must meet trail design criteria provided by Metro

SECTION III - SCOPE OF SERVICES

PROJECT TASKS AND PRODUCTS TO BE DELIVERED BY CONSULTANT

The proposer selected to prepare and complete the bridge feasibility study at Smith & Bybee Wetlands Natural Area will be required to perform the specific tasks and deliver the products described in this section:

SCOPE OF WORK

I. **Environmental Baseline Information**

a. Conduct a field reconnaissance and provide inventory level (± 20 feet) mapping of wetlands within the study area
b. Map the location of known sensitive species and habitat within the study area and provide distances between sensitive areas and the proposed bridge locations and connecting trails
c. Review available literature concerning the presence of cultural and archaeological resources, or available review information from the State Historical Preservation Office
d. Review existing information (Metro, Oregon Natural Heritage Information Center, USFWS) for threatened and endangered species found in the study area and permitting considerations associated with them
e. Evaluate the frequency and duration of flooding within the study area
f. Review existing information on ground water hydrology, ground water quality, and soils
g. Review existing information on contaminants detected in groundwater sampled from wells on the landfill perimeter within the study area
h. Evaluate potential implications that the presence of contaminated ground water and soils may have on bridge design and construction

II. **Survey**

a. Conduct a topographic survey showing 1 foot contour intervals and the elevation of ordinary high water and including elevation points on the existing trail centerline within the study area
b. Map the location of trees and snags, by species, 6 inches d.b.h. or greater within the study area
c. Identify landfill infrastructure within the study area (e.g., monitoring wells, culverts, transmission towers, existing roads)
d. If there are different land ownerships, pick up boundary corners
e. Locate centerline of existing roads and trails in the study area

III. **Geotechnical**

Based on existing information and/or surface reconnaissance:

a. Assess how existing geotechnical conditions will affect selection of bridge foundations
b. Assess the types of bridge foundations that could be used to meet the technical feasibility criteria
c. Assess the stability of the north bank (Bybee side) of North Slough, including the potential effects of the prospective reinforcement of the landfill levee on the opposing south bank, which will likely increase flow/pressure along the north bank.

IV. Analysis and Recommendation of Alternatives

a. Identify any additional feasibility criteria not defined in this RFP, and provide rationale for including these in the study
b. Identify and evaluate technical and regulatory constraints to construct and maintain each alternative bridge design and its trail connections
c. Identify up to three alternatives (bridge location, design, trail connections) within the study area
d. Provide examples of the bridge design type(s) that could be constructed
e. Provide a preliminary cost estimate for each feasible alternative
f. Provide anticipated construction phasing for each feasible alternative
g. Identify a preferred alternative, if any
h. If any or all alternatives are infeasible, provide rationale and related analysis

V. Deliverable Products

a. Provide one draft and one final written report evaluating up to three alternatives (bridge location, design, trail connections). For the draft report, provide four hard copies, one unbound original, and one CD containing the entire report. For the final report, provide two color copies, one unbound color original, and one CD containing the entire final report.
b. The report shall include the following elements:
    i. Baseline environmental information (included in appendix)
    ii. An identification, review and assessment of regulatory and technical issues that need to be considered during the design and construction phases
    iii. Criteria used in selecting alternatives
    iv. An analysis that demonstrates how the preferred alternative meets technical and regulatory criteria
    v. Anticipated local, state, and federal permits associated with each alternative
    vi. The probable NEPA classification of the project
    vii. Evaluation of feasible types of bridges and foundations
    viii. Pictorial (photographs, drawings, cross-sections, or artistic renditions) illustrations of the feasible bridge types, bridge approaches, and trails connecting to bridge
    ix. Proposed bridge clearance and implications for recreational boating
    x. An analysis of the probability of the frequency and duration of flooding in the study area
    xi. Digital photographs on a CD-ROM of the proposed alignments
    xii. Preliminary estimate of design and construction costs for each alternative that is determined to be feasible
    xiii. Map(s) showing each alternative, topographic survey, and wetland determination
    xiv. Map or aerial photograph(s) showing proximity of alternatives to sensitive wildlife and habitats

PROJECT TASKS TO BE PERFORMED BY METRO

1. Provide access to or copies of the background documents and mapping materials identified in Attachment A.

2. Present project updates to Metro Council.
3. Perform public outreach to stakeholders or working groups as necessary.
4. Provide timely feedback on review material.
5. Present final bridge feasibility study to Metro Council.
6. Perform other tasks as negotiated with consultant.

TENTATIVE PROJECT TIMELINE

1. Initial project meeting	Early October 2006
2. Complete surveying, site analysis and bridge feasibility assessment	Early February 2007
3. Review project deliverables	February 2007
4. Project completed	Late February 2007

SECTION IV - PROPOSAL FORMAT AND CONTENT

The format required for the proposal is as follows:

The proposal should be submitted on double-sided, recyclable paper (post-consumer content). No waxed page dividers or non-recyclable materials should be included in the proposal. Submit 7 proposals.

1. Transmittal Letter: A letter that indicates the name, title, address, telephone number, FAX number and e-mail address of the lead contact person(s) authorized to sign any contract which may result. State the firm's interest in the project. A statement must be provided establishing that the proposal will be valid for sixty (60) days after receipt by Metro.

2. Background and Qualifications: Provide the name of firm, year established, type of service, and size of staff for both the prime and any sub consultant(s). Indicate if the firm and any sub consultant(s) is/are a State of Oregon certified Emerging Small Business (ESB), Minority Business Enterprise (MBE) or Women-Owned Business (WBE).

   Provide information about the experience of the firm and any subconsultant(s), particularly experience of individual team members that qualifies the firm and individuals to successfully carry out the work identified in the Scope of Work. Identify the project manager and describe the personal background that qualifies this individual to manage the project. Include resumes and three references for each team member included in this RFP.

   Please include detailed information about three recent projects (involving services similar to the services required in this RFP) the firm and team members have been involved in. For each of these projects Include client contact person, his/her title, role on the project, and telephone number. Identify persons on the proposed team for this RFP who worked on each of the projects listed, and their respective roles. Please submit 3 bridge or similar feasibility studies conducted by your firm. Metro will return work samples if requested.

3. Approach / Work Plan / Schedule: Describe how the work will be done within the given timeframe and budget. Include a proposed work plan and schedule. Provide a spreadsheet showing the number of hours to be worked by each team member, by task, their hourly rates, the total labor cost for each task, and project total cost. Metro will not reimburse for out of pocket expenses or overhead expenses. Work hours shall not include travel time.

   Proposers may include suggested revisions to the scope of work, associated impact on the project budget and completion time frames and rationale for suggestions.

4. Project Deliverables: Describe project deliverables Metro would receive.

SECTION V - EVALUATION OF PROPOSALS

Evaluation Process and Criteria
An evaluation team consisting of representatives from Metro staff and outside stakeholders will conduct the evaluation process. Metro will only evaluate proposals that, in the evaluation team's sole opinion, conform to the proposal instructions. The team will rank proposals based on the following criteria and points:

	Points
1. Firm's and team's experience with feasibility studies of similar work in similar applications. Comprehensive skills and expertise of the proposed team. Qualifications of the proposed project manager.	35
2. Project approach, schedule and product deliverables demonstrates a realistic understanding of issues and tasks to be performed.	40
3. Cost proposal conveys a thorough understanding of the scope of work required to complete the project.	15
4. Overall quality, completeness and presentation of proposal.	10
TOTAL	100

Consultant selection will be based upon the proposal submitted and oral interviews, if conducted. Upon completion of the evaluations and the oral interviews, the Committee will notify all proposers of its selection. Metro reserves the right to request and require submission of technical, managerial, financial, or other evidence of abilities prior to selection.

Metro will enter into negotiations with the highest ranked firm to finalize a contract. If Metro is unsuccessful in negotiating a contract with the highest ranking firm, Metro will select the second ranked firm and this process will continue. If a contract can not be reached with the second ranked firm, Metro will decide at that time whether to enter into contract negotiation with the next ranked firm or start the Request For Proposals process over. The scoring of the evaluation team, and the consequent ranking of firms, will not be permitted as grounds for an appeal of the award of a contract, per the Metro Code.

Information & Questions
This Request For Proposals represents the most definitive statement Metro will make concerning this project. Any verbal information that is not specifically contained herein shall not be considered in evaluating the proposals received. Therefore, all questions relating to this RFP should be addressed in writing to Dan Kromer at Metro at kromerd@metro.dst.or.us or may be faxed to (503) 797-1849. Any questions, which in the opinion of Metro, warrant a written reply or RFP amendment will be furnished to all parties receiving this.

References
Through submission of a proposal, respondents agree to and release Metro to solicit and confirm all background information provided. Fully descriptive and complete information should therefore be provided to assist in this process.

VI. GENERAL PROPOSAL/CONTRACT CONDITIONS

Rejection Or Acceptance Of Proposals
Metro reserves the right to accept or reject any or all proposals received as well as negotiate with any or all respondents. Metro intends to award a contract to the respondent it deems most qualified and capable of performing the requested design services.

Non Collusion
All proposals must certify that: 1) no officer, agent, or employee of Metro has a pecuniary interest in this project or has participated in contract negotiations on behalf of Metro; 2) that the proposal is made in good faith, without fraud, collusion, or connection of any kind with any other proposer for the same solicitation of proposals; and 3) the proposer is competing solely in its own behalf without connection with, or obligation to, any undisclosed person(s) or firm(s).

Minority And Women Owned Business Program
Metro and its contractors will not discriminate against any person based on race, color, and national origin, sex, sexual orientation, age, religion, physical disability, political affiliation or marital status. Metro extends equal opportunity to all persons and specifically encourages disadvantaged, minority and women-owned businesses to access and participate in this and all Metro projects, programs and services.

If any subcontracting is intended, Proposers are directed to Metro Code 2.04.100 governing utilization of minority and women-owned businesses. Please contact the Contract Services Division at (503) 797-1816 with any detailed questions.

Limitation and Award
This RFP does not commit Metro to the award of a contract, nor to pay any costs incurred in the preparation and submission of proposals in anticipation of a contract. Metro reserves the right to waive minor irregularities, accept or reject any or all proposals received as the result of this request, negotiate with all qualified sources, or to cancel all or part of this RFP.

Validity Period and Authority
The proposal shall be considered valid for a period of Sixty (60) days and shall contain a statement to that effect. The proposal shall contain the name, title, address, and telephone number of an individual or individuals with authority to bind any company contacted during the period in which Metro is evaluating the proposal.

Billing Procedures

Proposers are informed that the billing procedures of the selected firm are subject to the review and prior approval of Metro before reimbursement of services can occur. Contractor's invoices shall include an itemized statement of the work done during the billing period, and will not be submitted more frequently than once a month. Metro shall pay Contractor within 30 days of receipt of an approved invoice.

SECTION VII - PERSONAL SERVICES AGREEMENT

Notice To All Proposers

The Personal Services Agreement included herein is a standard agreement approved for use by Metro's General Counsel. As such, it is included for your specific consideration and review during the course of this competitive process. All participants are therefore required to cite and define any/all proposed changes, additions, deletions or modifications as a condition to acceptance of their RFP. No response will be interpreted as acceptance of the standard terms and conditions of the contract and subsequent changes will not be considered.

Consider the language carefully. Metro reserves the right to:

- Selectively declare any conditioned proposal non-responsive and reject it without further consideration;
- Reject any or all subsequent requests for modification;
- Interpret insistence upon a contract modification as a refusal to honor the original proposal and reinstitute the evaluation process.

Contract No._____

PERSONAL SERVICES AGREEMENT

Contract # _____

THIS AGREEMENT is between Metro, a metropolitan service district organized under the laws of the State of Oregon and the Metro Charter, located at 600 N.E. Grand Avenue, Portland, OR 97232-2736, and _____, referred to herein as "Contractor," located at _____ _____.

In exchange for the promises and other consideration set forth below, the parties agree as follows:

1. Duration. This personal services agreement shall be effective_____and shall remain in effect until and including_____, unless terminated or extended as provided in this Agreement.

2. Scope of Work. Contractor shall provide all services and materials specified in the attached "Exhibit A -- Scope of Work," which is incorporated into this Agreement by reference. All services and materials shall be provided by Contractor in accordance with the Scope of Work, in a competent and professional manner. To the extent that the Scope of Work contains additional contract provisions or waives any provision in the body of this Agreement, the Scope of Work shall control.

3. Payment. Metro shall pay Contractor for services performed and materials delivered in the amount(s), manner and at the time(s) specified in the Scope of Work for a maximum sum not to exceed _____AND _____/100THS DOLLARS ($_____).

4. Insurance.

a. Contractor shall purchase and maintain at the Contractor's expense, the following types of insurance, covering the Contractor, its employees, and agents:

(1) Broad form comprehensive general liability insurance covering bodily injury and property damage, with automatic coverage for premises, operations, and product liability, shall be a minimum of $1,000,000 per occurrence. The policy must be endorsed with contractual liability coverage; and

(2) automobile bodily injury and property damage liability insurance coverage shall be a minimum of 1,000,000 per occurrence.

b Metro, its elected officials, departments, employees, and agents shall be named as ADDITIONAL INSUREDS. Notice of any material change or policy cancellation shall be provided to Metro 30 days prior to the change or cancellation.

c Contractor, its subcontractors, if any, and all employers working under this Agreement that are subject employers under the Oregon Workers' Compensation Law shall comply with ORS 656.017, which requires them to provide Workers' Compensation coverage for all their subject workers. Contractor shall provide Metro with certification of Workers' Compensation insurance including employer's liability. If Contractor has no employees and will perform the work without the assistance of others, a certificate to that effect may be attached, as Exhibit B, in lieu of the certificate showing current Workers' Compensation.

d If required by the Scope of Work, Contractor shall maintain for the duration of this Agreement professional liability insurance covering personal injury and property damage arising

from errors, omissions, or malpractice. Coverage shall be in the minimum amount of $500,000. Contractor shall provide to Metro a certificate of this insurance, and 30 days' advance notice of material change or cancellation.

e. Contractor shall provide Metro with a Certificate of Insurance complying with this article, and naming Metro as an additional insured within fifteen (15) days of execution of this contract, or twenty-four (24) hours before services under this contract commence, whichever date is earlier.

5. Indemnification. Contractor shall indemnify and hold Metro, its agents, employees and elected officials harmless from any and all claims, demands, damages, actions, losses and expenses, including attorney's fees, arising out of or in any way connected with its performance of this Agreement, or with any patent infringement or copyright claims arising out of the use of Contractor's designs or other materials by Metro and for any claims or disputes involving subcontractors.

6. Maintenance of Records. Contractor shall maintain all of its records relating to the Scope of Work on a generally recognized accounting basis and allow Metro the opportunity to inspect and/or copy such records at a convenient place during normal business hours. All required records shall be maintained by Contractor for six years after Metro makes final payment and all other pending matters are closed.

7. Ownership of Documents. All documents of any nature including, but not limited to, reports, drawings, works of art and photographs, produced by Contractor pursuant to this Agreement are the property of Metro, and it is agreed by the parties that such documents are works made for hire. Contractor hereby conveys, transfers, and grants to Metro all rights of reproduction and the copyright to all such documents.

8. Project Information. Contractor shall share all project information and fully cooperate with Metro, informing Metro of all aspects of the project including actual or potential problems or defects. Contractor shall abstain from releasing any information or project news without the prior and specific written approval of Metro.

9. Independent Contractor Status. Contractor shall be an independent contractor for all purposes and shall be entitled only to the compensation provided for in this Agreement. Under no circumstances shall Contractor be considered an employee of Metro. Contractor shall provide all tools or equipment necessary to carry out this Agreement, and shall exercise complete control in achieving the results specified in the Scope of Work. Contractor is solely responsible for its performance under this Agreement and the quality of its work; for obtaining and maintaining all licenses and certifications necessary to carry out this Agreement; for payment of any fees, taxes, royalties, or other expenses necessary to complete the work except as otherwise specified in the Scope of Work; and for meeting all other requirements of law in carrying out this Agreement. Contractor shall identify and certify tax status and identification number through execution of IRS form W-9 prior to submitting any request for payment to Metro.

10. Right to Withhold Payments. Metro shall have the right to withhold from payments due to Contractor such sums as necessary, in Metro's sole opinion, to protect Metro against any loss, damage, or claim which may result from Contractor's performance or failure to perform under this Agreement or the failure of Contractor to make proper payment to any suppliers or subcontractors.

11. State and Federal Law Constraints. Both parties shall comply with the public contracting provisions of ORS chapters 279A, 279B and 279C and the recycling provisions of ORS 279B.025 to the extent those provisions apply to this Agreement. All such provisions required to be included in this Agreement are incorporated herein by reference. Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations including those of the Americans with Disabilities Act.

12. Situs. The situs of this Agreement is Portland, Oregon. Any litigation over this agreement shall be governed by the laws of the State of Oregon and shall be conducted in the Circuit Court of the state of

Oregon for Multnomah County, or, if jurisdiction is proper, in the U.S. District Court for the District of Oregon.

13. Assignment. This Agreement is binding on each party, its successors, assigns, and legal representatives and may not, under any circumstance, be assigned or transferred by either party.

14. Termination. This Agreement may be terminated by mutual consent of the parties. In addition, Metro may terminate this Agreement by giving Contractor seven days prior written notice of intent to terminate, without waiving any claims or remedies it may have against Contractor. Termination shall not excuse payment for expenses properly incurred prior to notice of termination, but neither party shall be liable for indirect or consequential damages arising from termination under this section.

15. No Waiver of Claims. The failure to enforce any provision of this Agreement shall not constitute a waiver by Metro of that or any other provision.

16. Modification. Notwithstanding and succeeding any and all prior agreement(s) or practice(s), this Agreement constitutes the entire Agreement between the parties, and may only be expressly modified in writing(s), signed by both parties.

_____	METRO
By_____	By_____
Title_____	Title_____
Date_____	Date_____

Contract No:

Exhibit A

Scope of Work

1. **Statement of Work.**

   PER REQUEST FOR PROPOSAL (RFP #07-1199-PKS) for North Slough Bridge Feasibility Study At Smith & Bybee Wetlands Natural Area. (Attached)

2. **Payment, Billing and Term.**

   Contractor shall provide engineering services for a maximum price not to exceed _____ DOLLARS ($_____). Progress payments shall be made following receipt of invoice from Contractor that identifies the cost of services. These costs shall be based upon the rates as outlined in the Hours and Fee Schedule (enclosed) as provided in Contractors proposal. In addition, reasonable miscellaneous costs not addressed in the Hours and Fee Schedule will be considered if accompanied by sufficient back-up information. An expense summary sheet will accompany each invoice.

   In the event Metro wishes for Contractor to provide services or materials after the maximum contract price has been reached, Contractor shall provide such services or materials pursuant to amendment at the same unit prices that Contractor utilized as of the date of this Agreement, and which Contractor utilizes to submit requests for payment pursuant to this Scope of Work. Metro may, in its sole discretion and upon written notice to Contractor, extend the term of this contract for a period not to exceed 12 months. During such extended term all terms and conditions of this contract shall continue in full force and effect.

   The maximum price includes all fees, costs and expenses of whatever nature. Each of Metro's payments to Contractor shall equal the percentage of the work Contractor accomplished during the billing period. Contractor's billing statements will include an itemized statement of unit prices for labor, materials, and equipment, will include an itemized statement of work done and expenses incurred during the billing period, will not be submitted more frequently than once a month, and will be sent to Metro, Attention Regional Parks and Greenspaces Department. Metro will pay Contractor within 30 days of receipt of an approved billing statement.

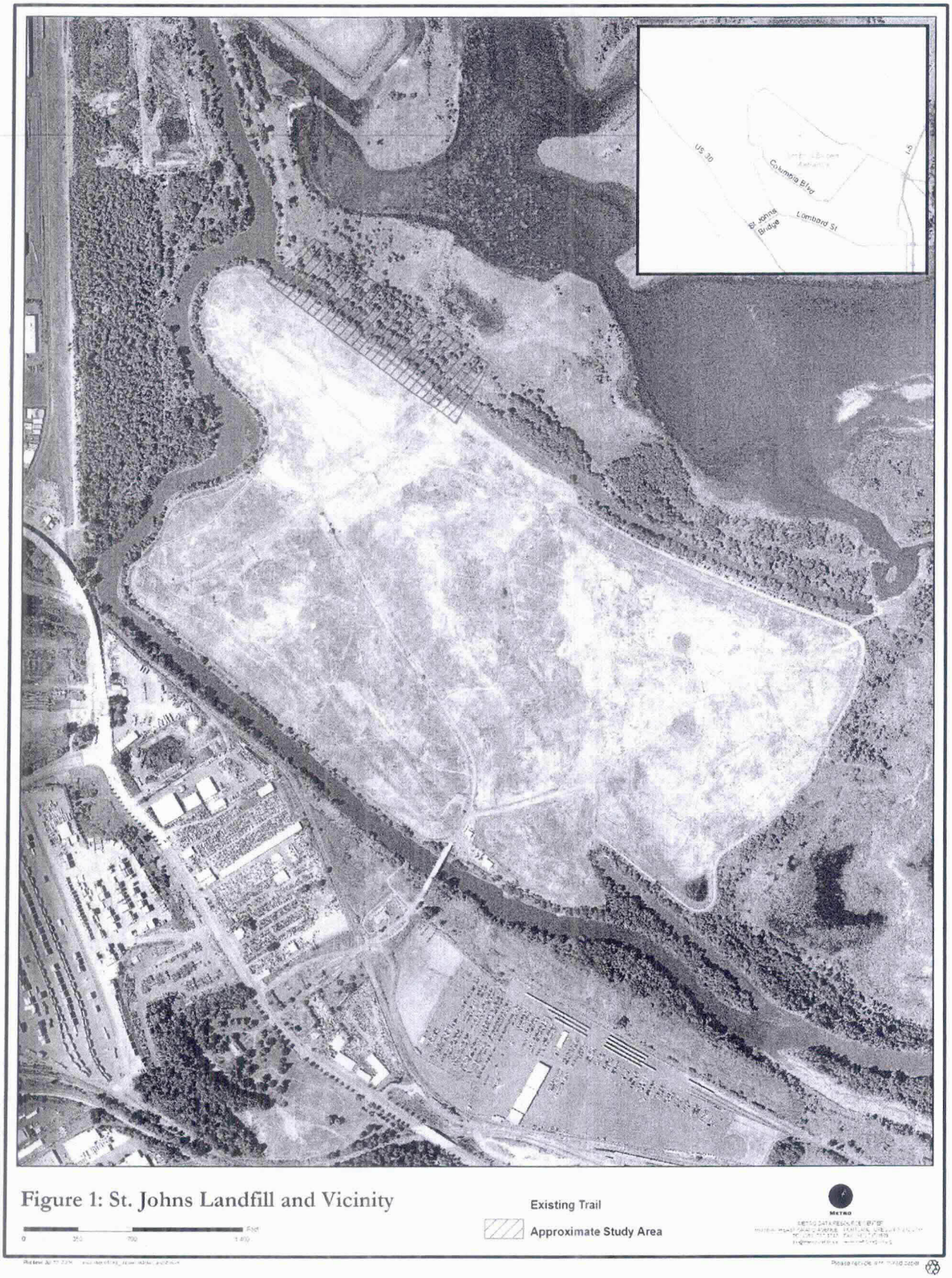

Figure 1: St. Johns Landfill and Vicinity

Attachment A

References
North Slough Bridge Feasibility Study

Photos

Project Area, St. Johns Landfill, Smith-Bybee Wetlands, Vicinity
Project Area and Vicinity - High Water (2006) and Flood Conditions (1996)
St. Johns Landfill - Restoration of North Levee Section (2000)

Graphics

Surface Contours - St. Johns Landfill
Profile of Restored North Levee - St. Johns Landfill
Stratigraphy Cross-Sections - St. Johns Landfill Vicinity
Monitoring Well Boring Logs
Flood Insurance Rate Map - St. Johns Landfill Vicinity
Profile of Landfill Cover System - St. Johns Landfill
Methane Gas Flow - St. Johns Landfill

Written Documents

2006	Fish Monitoring of Floodplain Wetland Restoration Sites in the Pacific Northwest	Ducks Unlimited
2006	Level 1 Ecological Risk Assessment - St. Johns Landfill (Habitat Survey and Characterization - Landfill and Vicinity)	CH2M HILL
2006	Annual Environmental Monitoring Report 2005: St. Johns Landfill	CH2M HILL
2005	Smith and Bybee Wetlands Trail Feasibility Study	MacLeod Reckord
2005	Remedial Investigation Work Plan	Hart Crowser
2005	St. Johns Landfill Dike: Phase 2 Stabilization Planning and Design Analysis	Cornforth Consultants
2003	Solid Waste Disposal Site Closure Permit No. 116 (St. Johns Landfill)	DEQ
2003	Order on Consent LQSW-NWR-02-14 (St. Johns Landfill Remedial Investigation-Feasibility Study)	DEQ
2003	Cost Estimates for fencing 40-mile Loop Across St. Johns Landfill	Metro (Technical Memo)
2002	40-mile Loop Trail Bridge at St. Johns Landfill: Preliminary Cost and Feasibility Review	Metro (Technical Memo)
1999	Preliminary Dike Stabilization Study: St. Johns Landfill	Cornforth Consultants
1999	Waste Cutoff Study - St. Johns Landfill	Cornforth Consultants
1998	Phase II Investigation of North Levee - St. Johns Landfill	Cornforth Consultants
1997	St. Johns Landfill Modeling System: Sensitivity Simulations & Response to Emcon Review Comments	Shu-Guang Li, et.al (PSU)
1996	St. Johns Landfill Seep Survey	Parametrix, Inc.
1995	St. Johns Landfill Groundwater Modeling System: Predicting Leachate Mounding, Fluxes & Offsite Migration	Li, Lowry, & Chen (PSU)
1995	Controlling Seepage from St.Johns Landfill to Surrounding Surface Water.	Metro
1994	Chemical Characteristics of a Seep at the St. Johns Landfill in Portland, OR.	Fish, Romanelli & Martin
1990	St.Johns Landfill Closure: Leachate Migration - Perimeter Dike	Cornforth Consultants
1990	Natural Resources Management Plan for Smith and Bybee Lakes	City of Portland