Council Meeting Date: May 11, 2015 **Agenda Item:** 7(d)

CITY COUNCIL AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Authorize the City Manager to Execute a Contract with Herrera Environmental Consultants for Phase 1 of the Hidden Lake Dam Removal
DEPARTMENT:	Public Works
PRESENTED BY:	Dan Repp, Public Works Operations Manager
ACTION:	____ Ordinance ____ Resolution __X__ Motion ____ Discussion ____ Public Hearing

PROBLEM/ISSUE STATEMENT:

Hidden Lake is a man-made lake located at the intersection of Innis Arden Way and 10th Avenue NW in the Boeing Creek Basin of Shoreline, adjacent to Shoreview Park. In September 2014, the City Council directed staff to cease dredging Hidden Lake, as had been past practice, and begin working to remove the dam creating Hidden Lake and restore the stream channel.

Staff is requesting that Council authorize the City Manager to execute a contract with Herrera Environmental Consultants for Phase 1 of Hidden Lake Dam Removal in the amount of $150,722.

RESOURCE/FINANCIAL IMPACT:

Phase 1 of the Hidden Lake Dam Removal is funded through the Surface Water Utility. The cost of the contract is $150,722.

RECOMMENDATION

Staff recommends that Council move to authorize the City Manager to execute a construction contract with Herrera Environmental Consultants in the amount of $150,722 to begin Phase 1 of the Hidden Lake Dam Removal Project.

Approved By: City Manager ***DT*** City Attorney ***MK***

BACKGROUND

Hidden Lake is a man-made lake located at the intersection of Innis Arden Way and 10th Avenue NW in the Boeing Creek Basin of Shoreline, adjacent to Shoreview Park. The lake originated when Boeing Creek was first dammed in the 1920's. The current dam and lake was constructed in 1995 by King County. The City of Shoreline Surface Water Utility (Utility) has maintained, through dredging, Hidden Lake as an open water feature since the City's incorporation.

In 2013, the City of Shoreline City Council directed the Utility to conduct a management feasibility study to reduce maintenance costs of Hidden Lake. The Utility conducted the feasibility study in 2014, which may be found on the City of Shoreline's website: http://www.shorelinewa.gov/hiddenlakestudy.

Based on the results of the study, in September 2014, Council directed staff to cease dredging of Hidden Lake and begin working to remove the dam creating the lake and restore the stream channel. This first phase of Hidden Lake dam removal will include evaluating alternatives for the dam removal, stakeholder outreach, grant funding assessment and application support, and preliminary design for the preferred alternative.

DISCUSSION

In February, the City solicited consultants to provide their qualifications for this first phase of the Hidden Lake Dam Removal Project. Three submittals were received:

- Anchor QEA
- Cardno/AltaTerra
- Herrera Environmental Consultants

City staff reviewed the consultants' submittals and conducted interviews of all three consultant teams. Herrera Environmental Consultants was selected as the most qualified for this project.

There are two primary alternatives regarding the award of this contract:

1. Award Contract to the selected consultant (recommended).
2. Do not award the contract.

Not awarding the contract will stop the project. Council has directed the Utility to cease dredging and begin working to remove the dam creating Hidden Lake and restore the stream channel. Awarding the contract will allow the project to proceed as Council has directed.

COUNCIL GOAL ADDRESSED

This project addresses Council Goal #2, Improve Shoreline's utility, transportation, and environmental infrastructure.

RESOURCE/FINANCIAL IMPACT

Phase 1 of the Hidden Lake Dam Removal is funded through the Surface Water Utility.

Staff reviewed the scope of work and cost estimate and finds them appropriate to meet project goals. A summary of project costs and budget is as follows:

EXPENDITURES

Phase 1 Hidden Lake Dam Removal (Hererra)	$150,722
Phase 2 Hidden Lake Dame Removal (TBD)	(TBD)
Phase 1 Total Project Cost	$150,722

REVENUE

Surface Water Utility Capital Fund	$150,722
Total Revenue	$150,722
Program Balance (Revenue - Expenditures)	$0

RECOMMENDATION

Staff recommends that Council move to authorize the City Manager to execute a construction contract with Herrera Environmental Consultants in the amount of $150,722 to begin Phase 1 of the Hidden Lake Dam Removal Project.

ATTACHMENTS

Attachment A - Herrera Environmental Consultants - Hidden Lake Dam Removal Project Scope of Work

EXHIBIT A

SCOPE OF WORK

HIDDEN LAKE DAM REMOVAL ALTERNATIVES ANALYSIS AND PRELIMINARY DESIGN DEVELOPMENT

The City of Shoreline (City) plans to remove an existing dam impounding Boeing Creek at Hidden Lake on the western edge of Shoreview Park. The City is contracting with a consultant team led by Herrera Environmental Consultants (Herrera) to conduct an alternatives analysis, to assist in outreach to affected property owners, park users, and the general public, to evaluate grant funding opportunities, assist in coordination of permitting activities, and to develop preliminary design plans for a preferred alternative. This work is collectively considered to be Phase 1 of the project. Phase 2 will involve design completion and permitting for the preferred alternative. This scope of work describes the activities, assumptions, and deliverables associated with the following tasks that the Herrera team will perform in Phase 1:

- Task 1 - Develop Project Concepts
- Task 2 - Stakeholder Outreach and Coordination
- Task 3 - Geotechnical Analysis
- Task 4 - Critical Areas Report
- Task 5 - Cultural Resources Assessment
- Task 6 - Survey and Base Mapping
- Task 7 - Hydraulic and Geomorphic Assessment of Alternatives
- Task 8 - Grant Funding Assessment and Application Support
- Task 9 - Permitting Assessment
- Task 10 - Technical Memorandum on Alternatives Evaluation and Recommendation for Design
- Task 11 - Preliminary Design of Preferred Alternative
- Task 12 - Phase 1 Project Management

The figure at the end of this scope of work shows the approximate outline of the geographic area that Phase 1 will focus within.

Herrera will lead and coordinate the work of all tasks, with subconsultants serving in the following roles: Carlstad Consulting – public and stakeholder outreach and grant sources evaluation; Perrone Consulting – geotechnical analysis; Pacific Geomatic Services – survey and base mapping; and Cultural Resource Consultants – archaeological and cultural resources assessment.

Task 1 – Develop Project Concepts

A project kickoff meeting will be convened with City staff to refine project objectives and constraints, identify opportunities to maximize project benefits (and attractiveness for funding) while minimizing costs, discuss data gaps that are important to fill in developing and comparing conceptual alternatives, and schedule for completing the work of Phase 1. Based on input provided by City staff and key site features identified in subsequent tasks, Herrera will develop up to three project alternatives for further discussion (all of which involve dam removal), also

capturing issues raised in stakeholder coordination in the feasibility analysis phase of the work previously done.

Herrera will prepare concept sketches and a brief list of attributes and considerations for each of three conceptual alternatives following the kickoff meeting, and submit them for City review and comment.

Assumptions:

- Three Herrera team members will attend the kickoff meeting, which is assumed to occur at City offices and to be 2 hours in duration
- City comments on the concept sketches and narrative descriptions prepared in this task will be addressed in preparing final concept sketches and narrative descriptions that subsequent tasks will rely upon.

Deliverables:

- Notes from kickoff meeting – electronic file in Microsoft Word format
- Concept sketches for three alternatives – electronic files in Adobe PDF format, draft and final
- Detailed notes for survey data collection

Task 2 - Stakeholder Outreach and Coordination

Carlstad Consulting (Carlstad) will work with Herrera and the City to develop a plan for how best to engage with stakeholders – primarily focused on private landowners - going forward. The plan may entail one-on-one communications with individual landowners and group meetings with the general public and park users. Some of the landowner outreach to be performed in this task will need to occur at the outset of the project to enable landowner approval for field work activities to be conducted on their property in subsequent tasks.

<u>Communications with Adjacent Properties</u>
Productive communications with property owners adjacent to Hidden Lake is critical to this project. This task includes individual interviews followed by quarterly small group meetings as Phase 1 progresses. Carlstad will plan and conduct up to five scripted interviews with property owners adjacent to Hidden Lake to hear and help the City better understand the perspectives, interests, and concerns of the most affected City residents. The input received during these interviews will inform both the approach to engaging these residents during alternatives development and analysis, and potentially the range and features of alternative configurations. Carlstad will prepare a brief summary of information obtained from the interviews, noting that specific input will not be attributed to individuals, and also brief the project team on relevant points from the interviews. Following the interviews, Carlstad will support Herrera and the City with ongoing communications, assumed to be quarterly onsite meetings with the adjacent property owners to discuss findings, alternatives being considered, answer questions, hear any concerns, and to gather information and observations that may be useful in alternatives development and analysis. Carlstad will provide concise meeting summaries from each of these meetings.

Public Meetings

Up to two public meetings will be conducted during Phase 1. Later in Phase 1, when the alternatives analysis is complete but before a preferred alternative is formally selected, Herrera and Carlstad will assist the City in conducting a second public meeting to present the Phase 1 findings and the project team's recommendation for the preferred alternative. For each public meeting Carlstad will guide the City in determining the best meeting format, desired outcomes and appropriate meeting materials. At each meeting, Carlstad will facilitate the presentation and dialogue amongst attendees and prepare a meeting summary in collaboration with the Herrera team project manager.

Parks Board Briefings

This task also includes assisting City staff in presenting project progress to the Parks Board, which we expect to be straightforward based on productive meetings with the Board to date on this project, and inclusion of project elements that are of interest to park stakeholders.

Assumptions:

- The City will provide contact information and make initial contacts with adjacent property owners for individual interviews.
- The City will arrange and lead quarterly onsite meetings with Hidden Lake neighbors.
- The City will make logistical arrangements, publish announcements, and host the public meetings.

Deliverables:

- Concise (1-2 page) stakeholder outreach and coordination plan
- Interview script for adjacent properties interviews
- Interview summary for adjacent properties interviews
- Meeting summaries for Hidden Lake property owners onsite meetings
- Facilitation services for two public meetings – agendas, meeting plan, and meeting summaries
- Parks Board meeting planning communications, and meeting notes

Task 3 - Geotechnical Analysis

Perrone Consulting will conduct a limited geotechnical analysis to inform construction cost estimating for earthwork, to determine if soil in the dam can be reused elsewhere on site in the design to reduce project costs, and to determine if there could be potential difficulties in grading a new stream channel through the existing dam area. This task will commence immediately following the project kickoff.

Perrone Consulting will oversee completion of two soil borings through the dam and into the underlying native soils. Soil samples will be obtained using standard penetration testing methods to provide information on soil texture and consistency, depth to groundwater, and depth to the native soils underlying the dam. Perrone Consulting will use the findings of these soil samples

coupled with the City's records of material dredged from the lake in the past to evaluate excavated soil suitability for reuse as topsoil, stream substrate, and/or structural fill in floodplain berms (if included in any of the design concepts) and for designing stable stream bank slopes.

In support of critical areas assessment in Task 4, Perrone Consulting will classify and confirm the extents of geologic hazard areas on and directly adjacent to the project area under consideration for project alternatives. Geologic hazard areas will be classified according to Shoreline Municipal Code 20.80.220.

Perrone Consulting will document the methods and results of this analysis in a brief report suitable for informing alternatives analysis and preliminary design development. The report will be expanded and finalized in Phase 2 during the course of detailed design work by the team.

Assumptions:

- Total drilled footage will not exceed 50 feet.
- The City will provide site access for drilling equipment.
- The City will locate any existing underground utilities prior to drilling.
- Drill cuttings will be left on site.
- There are no contaminated soils on the site.

Deliverables:

- Preliminary Geotechnical Analysis Technical Memorandum – electronic file in Adobe PDF format

Task 4 – Critical Areas Report

Regulated environmentally critical areas on and near the project site are important features that will drive design development and project permitting. These areas will need to be delineated on the project base map for project design and permitting that will be done during Phase 2. Herrera biologists will conduct necessary field surveys and prepare a Critical Area Report in accordance with Chapter 20.80 of the Shoreline Municipal Code (SMC). Based on a preliminary site visit, critical areas on or adjacent to the site include geologic hazard areas (steep slopes), wetlands, flood hazard areas (floodplain), stream areas (Boeing Creek), and potential fish and wildlife habitat conservation areas.

Herrera will review critical areas characterization information presented in the Boeing Creek Basin Plan and in the Hidden Lake Management Plan Feasibility Study in advance of completing any additional delineation work for the project. Herrera will then perform field work to delineate regulated wetlands, flag ordinary high water marks (OHWM) for the lake and creek throughout the site, document existing vegetation surrounding the lake, and observe habitat characteristics for fish and wildlife to supplement available information. Mapping of these features will be completed in Task 6.

The wetland determination and delineation will be conducted using the routine determination method outlined in the U.S. Army Corps of Engineers Wetland Delineation Manual, and the

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region. Delineated wetlands will be classified according to U.S. Fish and Wildlife Service (USFWS) and hydrogeomorphic classification systems, and typed in accordance with the SMC and Washington State Department of Ecology (Ecology) Washington State Wetland Rating System for Western Washington. The functions of wetlands will be assessed using the Ecology rating system. The SMC will be used to identify the regulated buffer widths of the wetlands. Herrera will flag the boundaries of the wetlands and all test plots.

Biologists will delineate the OHWM of Hidden Lake and Boeing Creek. The OHWM will be determined using the definition set forth in WAC 173-22- 030(11). This involves using sequentially numbered flags to identify the OHWM as evidenced by abrupt changes in topography, dominance of perennial vegetation, sediment deposits, drift lines, and signs of scouring. Herrera will flag the boundaries of the OHWM. The SMC will be used to type Boeing Creek and determine the regulated buffer width.

Herrera will prepare a critical areas report that summarizes the methods and results of the critical areas delineations and assessment. In accordance with SMC Chapter 20.80, the critical areas report will present the classification of delineated critical areas and regulated buffer widths. The technical memorandum will also present federal, state, and local regulatory implications that pertain to the preferred project alternative. Herrera will characterize and quantify temporary impacts on critical areas based on the preferred alternative and present proposed mitigation (avoidance, minimization, and restoration measures).

Assumptions:

- City will attempt to obtain rights of entry
- Critical areas assessed as part of this task will include wetlands, streams, fish and wildlife habitat conservation areas, flood hazard areas, geologic hazard areas, and associated buffers
- Flood hazard areas will be identified based on existing FEMA flood insurance rate maps
- Geologic hazard areas will be assessed as part of Task 3 work
- Wetland boundary, test plot, and OHWM flags will be surveyed as part of Task 6 work
- Wetland and OHWM delineations will be limited to properties with approved access obtained by the City
- Herrera will delineate the OHWM of Hidden Lake and Boeing Creek extending 100 feet upstream of the lake and 200 feet downstream of the Innis Arden Way culvert outlets
- Herrera will delineate wetlands within 150 feet of the water edge of Hidden Lake and Boeing Creek extending 100 feet upstream of the lake and 200 feet downstream of Innis Arden Way culvert outlets
- The preferred alternative will not have permanent impacts on critical areas requiring compensatory mitigation.

Deliverable:

- Draft Critical Areas Report – electronic file in Word and Adobe PDF format
- Final Critical Areas Report – electronic file in Word and Adobe PDF format

Task 5 – Cultural Resources Assessment

Cultural Resource Consultants (CRC) will prepare a Historic and Cultural Resources Assessment report to facilitate eventual consultation with the State Historic Preservation Office and tribes. By conducting this task early in Phase 1 the project team will get an initial read regarding potential influence that cultural resources, if present, could have on the project and thus on comparison of conceptual alternatives.

In compliance with Section 106 of the National Historic Preservation Act and Washington state regulations, CRC will perform a "desktop" analysis to identify potentially historically significant cultural resources within the project site encompassing the three conceptual alternatives developed under Task 1, and assess the potential effects of the project on those resources during and after construction, and considering cumulative impacts. CRC will conduct a literature and archival records search culminating in a technical memorandum describing research methods and recommendations.

If the need for further investigation is warranted based on this initial study, a subsequent task in Phase 2 of the project will consist of fieldwork including a visual survey and shovel probes of the proposed Area of Potential Effects (APE), as well as inventory and evaluation of historic structures within it.

Assumptions:

- CRC will do no fieldwork for Phase 1
- CRC will contact area tribes for information relevant for the project area

Deliverable:

- Cultural Resources Assessment Memorandum – electronic file in Adobe PDF format

Task 6 - Survey and Base Mapping

Following the completion of geotechnical investigations and critical areas delineation field work, Pacific Geomatic Services (PGS) will commence field survey data acquisition to support preparation of a complete project site base map. PGS will establish a primary control network utilizing the Washington State Reference Network and tied into a local public horizontal and vertical control network. From this network they will establish a localized project control network on the datum as specified by the City. Utilizing this control network PGS will then locate and survey the following features:

- the geotechnical borings completed in Task 3
- critical area flagging placed in Task 4
- significant trees identified by Herrera

- the topography of the entire dam area and the outlet between the dam and the culverts beneath Innis Arden Way
- the concrete apron at the upstream entrance to the culverts beneath Innis Arden Way
- the invert elevations and diameters of the culverts beneath Innis Arden Way
- the outlet piping from the lake through the dam (invert elevation and pipe size and material)
- the creek channel bed and banks extending for a distance of approximately 200 feet downstream of the Innis Arden Way culvert outlets
- the creek channel bed and banks extending for a distance of approximately 100 feet upstream of the lake shore
- topography of land surrounding the lake extending for a distance of approximately 50 feet from the existing lake water surface including the toe of adjacent slopes that exceed 15 percent
- establish the boundaries of 9 individual parcels surrounding the lake and the adjoining creek, including 2 parcels south of Innis Arden Way.
- basic cross-section style hydrographic survey of the lake bed utilizing a single-beam echo sounder. Sections will be run at approximate 50 foot intervals for the length of the lake.
- embankment, edge of asphalt, and travel lanes for Innis Arden Way.

PGS will process the collected data into a CAD drawing. The resultant topographic base map will be used for the hydraulic modeling work described in Task 7, to help to guide refinements to the three conceptual alternatives, and to support the permitting assessment in Task 9.

Assumptions:

- PGS will have reasonable access to all areas requiring mapping.
- The City will acquire right of entry onto private properties requiring any mapping.
- PGS will meet with Herrera personnel on site to determine specific project mapping limits and discuss critical project feature details.
- All survey and mapping work will be performed in a single, coordinated field effort.
- PGS field crews may need to perform minor brushing with machetes to conduct this survey, outside of landscaped areas, and has the City's permission to do so.
- For safety reasons PGS personnel are not permitted to enter enclosed utility structures. These structures will be detailed and inventoried only to the extent feasible from the surface.
- All electronic mapping standards will be based on APWA drafting standards unless specified otherwise and provided to PGS prior to commencement of work.
- Herrera will prepare a list of survey data to be collected for brief review and comment by the City in advance of the field survey effort commencing in this task.

- The reestablishment of property boundaries will include primary boundary control and evidence including a search for the rear property corners only and does not include the setting of corners not found.
- A Record of Survey will not be created for this phase of the project.
- The City will provide PGS a title report for all parcels requiring surveys.
- For Boeing Creek above and below the lake, topographic survey points will be collected for a distance not more than 25 to each side of the creek centerline, to include the creek bank and a minimum of 1 measurement beyond to show general contours beyond the creek.
- AutoCAD base map file will be in AutoCAD 14 Civil 3D format. Base map drawing objects shall include an existing ground surface and stream centerline alignment. Objects (such as trees) denoted by symbols within the survey shall be AutoCAD blocks and not only COGO points.

Deliverables:

- List of survey data to be collected
- AutoCAD base map file

Task 7 - Hydraulic and Geomorphic Assessment

Understanding the effects of each alternative on water surface elevations, flow velocities, and bank shear stresses are important to alternative development and preliminary design, to prevent downstream hydraulic impacts and adequately stabilize the new stream channel bed and banks. Herrera will develop a hydraulic model with input detail on the lake, the dam, the existing lake outlet piping, the culverts under Innis Arden Way, and the creek channel and banks upstream of the lake and downstream of Innis Arden Way to simulate existing conditions, and then revise that model to evaluate the hydraulic characteristics of each conceptual alternative, using flow data presented in the Boeing Creek Basin Plan. The modeling software to be used for this analysis will be RiverFlow-2D, which is a two-dimensional model capable of accurately simulating open channel and pipe flow hydraulic phenomena using the extents of survey data that will be collected in Task 3. RiverFlow-2D is a robust and highly efficient modeling tool that allows for full model development and execution in a matter of days compared to weeks or months with older models.

The 100-year flood will serve as a design event to test downstream effects of dam removal and variations in the onsite channel configuration under each alternative. Herrera will also model up to two lesser flows in the model.

Another important consideration in comparing the alternatives and designing a preferred alternative is the effects the project may have on sediment transport downstream, including beneficial outcomes and potentially undesirable outcomes. The geomorphic conditions in the project area are characterized well in the Hidden Lake Management Plan Feasibility Study. Differences in the hydraulic performance of each alternative based on modeling done in this task will inform differences in sediment transport that could occur through and downstream of the site. This will be a brief task, focused on defining how each alternative could increase sediment

transport downstream, and the potential for each alternative to trap sediment onsite. The potential effects of changing sediment transport to the estuary at the mouth of Boeing Creek and at downstream infrastructure will also be evaluated over short (less than 1 year), medium (less than 10 years, and long (greater than 10 years) time frames. This assessment will include any related ecological impacts. Sediment transport will be evaluated by estimating the volume of stored sediment in the lake, the percentage of this sediment that is mobile, and interpreting, based upon the hydraulic model results, how far that sediment will be transported downstream. This analysis will provide an estimate for sediment volumes expected in depositional areas further downstream given each alternative geometry.

Assumptions:

- A Herrera geomorphologist and hydraulic engineer will visit the site and walk the length of the creek downstream of Innis Arden Way. The City will provide access for the private properties along the stream in this reach.
- The hydraulic model will be developed to include the entire Boeing Creek floodplain starting 500 feet upstream of Hidden Lake to approximately 300 feet downstream of the Innis Arden Way culverts.
- The 100-year flow will be run assuming both steady state (constant peak discharge) and unsteady state (full hydrograph) conditions to provide a robust, conservative, and defensible assessment of hydraulic conditions. The City will provide this flow data from modeling done for the Boeing Creek Basin Plan.
- Up to three alternatives will be modeled assuming the 100-year flow conditions to assess risk.
- Two flows smaller than the 100-year (to be determined as part of geomorphic analysis) will be run for up to three alternatives assuming unsteady state conditions to assess potential changes to the timing of the flood hydrograph downstream of Hidden Lake.
- This task will include attendance of Herrera's project geomorphologist and hydraulic engineer at one meeting with the City to discuss findings before they are written up in the Task 10 memorandum.
- No sediment transport modeling will be performed.
- A refined sediment production estimate will be made to supplement existing sediment production estimates made during the feasibility study.

Deliverables:

- A summary of modeling work done in Phase 1 will be included in the technical memorandum produced in Task 10.
- A description of the geomorphic assessment methods and findings will be included in the technical memorandum produced in Task 10.

Task 8 - Grant Funding Assessment and Application Support

Identifying and beginning acquisition of grant funding for implementation of the preferred alternative is a primary objective of Phase 1. This project could potentially be a good fit for several different grant programs targeted to fish passage improvement, stormwater management,

water quality improvement, wetland enhancements, ecological restoration, flood reduction, park improvements, recreational facilities and environmental education. Herrera and Carlstad will assist the City in discussing the project with funding agencies early in Phase 1 to determine whether potential project alternatives are likely to attract grant funding. Information gathered in this early grant funding agency coordination effort will be factored into alternatives development and analysis work in other tasks. Similarly, alternatives developed for detailed evaluation will be adapted if/as information becomes available from grant funding sources that indicates certain changes in the project configuration could enhance the chances of being awarded grant funds.

This task will iteratively progress during the course of the Phase 1 work as the alternatives are better understood, project outcomes are better defined, and the anticipated project cost is refined. Herrera will provide the City with a list of potential grant sources and information on the application processes and timelines following initial conversations and research with various grant program representatives. This list will begin with a broad range of potential grant sources, then it will be refined as project design development advances, enabling a decision on the most promising grant program(s) to pursue in earnest as Phase 1 work is nearing completion. Herrera will assist the City in drafting up to two grant applications for City review and embellishment, and in responding to any questions that may be posed in the application review process before Phase 1 is complete.

Assumptions:

- Two Herrera team members will meet with City staff once during the course of work on this task, at City offices.
- The City will have primary responsibility for drafting the grant application(s) paperwork, with Herrera providing technical support in the form of design descriptions, expected project outcomes, and potential project impacts and related mitigation measures.
- The City will provide information on grant programs it has had success with, or otherwise been involved with pursuing, in the past.
- The City will provide information needed for grant applications not readily accessible to the Herrera team, such as organizational data, performance on previous grants, and match and partnership arrangements.
- The City will be involved in any in-person meetings with grant funding organizations.

Deliverables:

- Initial list of potential grant sources
- Notes from communications with grant funding organizations
- Content input for draft application(s) for up to two grant programs

Task 9 - Permitting Assessment

Potential differences in permitting complexity and mitigation requirements will be important distinctions to make in comparing the conceptual alternatives. This task will entail preparing a permitting plan matrix that identifies all potential federal, state, and City permits for each project

alternative. For each potential permit identified, the plan will identify the permitting agency and contact information, associated environmental approvals, environmental documentation requirements, permit review timelines, key stakeholders, risks, and constraints. In addition, this task will entail assessing applicability of streamlined permitting mechanisms, potential mitigation requirements, and related support for the different concept alternatives under consideration. Herrera will expand on the permitting assessment presented in the Hidden Lake Management Plan Feasibility Study report for each of the alternatives to inform the project team and stakeholders about specific permitting considerations that may affect selection of the preferred alternative, and to inform scoping of the work that will need to be done in Phase 2.

Assumptions:

- Herrera will prepare a technical memorandum summarizing the findings of this task for review and comment by the City. Herrera will finalize the memorandum following one round of review by the City.

Deliverable:

- A brief memorandum outlining applicable permits and corresponding regulatory agencies, with specific information on each permit presented in tabular form – electronic file in Microsoft Word format, draft and final.

Task 10 – Technical Memorandum on Alternatives Evaluation and Recommendation for Design

Herrera will prepare a technical memorandum that documents all of the analytical work performed in Tasks 1-9 that is part of alternatives development and analysis, culminating in a recommendation for a preferred alternative. The results of preceding tasks will be synthesized to inform a ranking process for selection of the preferred alternative, capturing permitting complexity, expected project outcomes, attractiveness for grant funding, feasibility, construction cost, long term maintenance needs, and stakeholder input. This memorandum will fold in documentation produced in preceding tasks, including the geotechnical assessment, cultural resources assessment, hydraulic modeling results, geomorphic assessment, permitting assessment, potential grant opportunities, and stakeholder input. This memorandum will also serve to support City approval to move into Phase 2 of the project, and for input to grant application(s).

Prior to completing a draft of this memorandum, Herrera will present findings of the alternatives analysis and comparison to City staff in a meeting, at which the ranking process will be discussed and potentially refined. Feedback from City staff provided in this meeting will be factored into the draft memorandum, which should help to minimize City comments on the draft document.

Assumptions:

- Two Herrera team members will attend a 2-hour meeting to present alternatives comparison findings to City staff and obtain feedback on the comparison process to incorporate in the draft memorandum.
- Herrera will prepare a draft of alternatives analysis and comparison memorandum for review and comment by the City. Herrera will finalize the memorandum following one round of review by the City.
- Up to three Herrera team members will attend a meeting with City staff at the City's offices to discuss comments on the draft memorandum and selection of a preferred alternative.

Deliverables:

- Presentation content for first meeting with City staff convened in this task.
- Draft and final technical memorandum - electronic files in Microsoft Word and Adobe PDF formats.

Task 11 - Preliminary Design of Preferred Alternative

Following selection of a preferred alternative by the City, Herrera will prepare preliminary design drawings to approximately a 20% level of completion to conclude Phase 1. The focus of this effort will be on defining project features that drive construction cost and permitting requirements. This level of design completion will also support grant application(s), based on a more definitive understanding of the project. Herrera will prepare a construction cost estimate to accompany the preliminary design submittal for City review.

Assumptions:

- Herrera will produce the project design drawings using AutoCAD 2014 Civil 3D format.
- The City will review and comment on a draft set of preliminary design drawings and a preliminary itemized construction cost estimate, and provide consolidated comments to Herrera.
- No meetings will be necessary in this task.
- Herrera will prepare a final set of preliminary design drawings addressing City comments, and refine the construction cost estimate as needed accordingly.
- If the preferred alternative involves replacing the culverts beneath Innis Arden Way, the preliminary design drawings will not include details of roadway improvements or other utility modifications in the road right-of-way that may eventually be included in the project, but the cost estimate developed in coordination with the preliminary design will capture those project elements.
- The preliminary design plans will not include traffic control or temporary erosion and sediment control information, but the cost estimate developed in coordination with the preliminary design will capture those project elements.

Deliverables:

- Preliminary design drawings in Adobe PDF and CAD electronic file format – draft and final.
- Preliminary construction cost estimate in Microsoft Excel electronic file format – draft and final.

Task 12 – Phase 1 Project Management

Herrera will manage and coordinate the team effort required to accomplish all of the tasks described in this scope of work. This task includes scheduling, coordination, communications, and quality control services for this work. Herrera's project manager will coordinate consultant team work with project work performed by the City. Herrera will provide the following management measures, with support from subconsultant partners as applicable to their involvement in the project:

- Biweekly telephone conversations with the City's Project Manager regarding task progress, upcoming project activities, and budget usage.
- Monthly progress reports, including a brief description of the work completed by task, and schedule updates.
- Maintenance of project files.

Assumptions

- While routine project progress communications will occur with the City's project manager, they will be accomplished via telephone calls and email so that no in-person meetings will be necessary in this task. Biweekly project management check-in calls will require approximately 30 minutes per meeting/call.

Deliverables

- Monthly invoices and progress reports.
- Communication via telephone and email with the City's project manager regarding project progress and issues potentially affecting scope, schedule and/or budget.


Approximate project site area for survey, critical areas delineation, and cultural resources assessment
10th Ave NW
NW Innis Arden Way
Hidden Lake
Hidden Lake Loop Trail
NW 166th St
Imagery Date: 5/14/2010 47°45'05.12" N