



## Item No. 10 Town of Atherton

### **CITY COUNCIL STAFF REPORT – REGULAR AGENDA**

**TO:** HONORABLE MAYOR AND CITY COUNCIL  
GEORGE RODERICKS, CITY MANAGER

**THROUGH:** ROBERT OVADIA, PUBLIC WORKS DIRECTOR

**FROM:** MARTY HANNEMAN, INTERWEST CONSULTING GROUP  
PROJECT MANAGER

**DATE:** OCTOBER 17, 2018

**SUBJECT:** AUTHORIZE THE CITY ATTORNEY TO PREPARE AND THE CITY MANAGER TO EXECUTE AN AGREEMENT AMENDMENT WITH TETRA TECH INC. TO PREPARE A PRELIMINARY ENGINEERING CONCEPT DESIGN REPORT FOR A PROPOSED STORMWATER CAPTURE FACILITY PROJECT AT CARTAN FIELD MENLO COLLEGE

#### **RECOMMENDATION**

Authorize the City Attorney to prepare and the City Manager to execute an agreement amendment with Tetra Tech Inc. to prepare a Preliminary Engineering Concept Design report (20% design) for a proposed stormwater capture facility project at Cartan Field Menlo College.

#### **BACKGROUND**

The need for a stormwater detention facility was identified in the Town-wide Drainage Study Update prepared in 2015 to reduce flooding associated with the Atherton Channel. The update identified three possible sites for the detention facility including Las Lomas Elementary School, Holbrook-Palmer Park, and the Menlo Park Circus Club (JL Dixon Stables). Due to the complexity of working with a privately-owned site at some distance from the Channel, the Town chose not to locate the project at the JL Dixon Stables. The Town next attempted to work with the Las Lomas Elementary School District on a water capture project at the school. While working with the school, the Town learned of a collaborative funding opportunity with Caltrans to not only provide the Town with the needed flood control project; but also, an opportunity to address the Town's requirements under the Regional Water Quality Control Permit.

Ultimately, the Town and District were unable to come to an agreement on funding and approval of a proposed traffic signal at Walsh Road, continued maintenance, and the Town's ability to terminate the project prior to construction, if desired. The remaining alternative for the water

## **Atherton Water Capture Project**

**October 17, 2018**

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capture facility was at Holbrook-Palmer Park. The Town hired TetraTech Inc. to investigate the feasibility of installing a water capture facility in Holbrook-Palmer Park and to prepare preliminary concept designs. The potential water capture project has been before the City Council numerous times since May 2017, most recently at the Council meeting on July 18, 2018.

At the May 16, 2018 Council meeting staff requested direction on next steps for the water capture facility project. After discussion, the City Council directed staff to move forward with Option 2, to stop work on the water capture project in Holbrook-Palmer Park and continue the search for an alternative location.

At the July 18, 2018 Council meeting, Council authorized the City Attorney to prepare and the City Manager to execute an agreement amendment with Tetra Tech, Inc. to provide an alternative stormwater capture facility sites assessment.

### **DISCUSSION**

Upon review by Tetra Tech and staff of other potential sites for a water capture facility in Atherton, it was determined the location with most potential for its size in area, location to the Atherton Channel and being adjacent to El Camino Real, was Cartan Field at Menlo College and School. Since then, the City team (staff and Tetra Tech) has held numerous meetings with the Presidents and staff of both Menlo College and Menlo School to explore potential alternatives for a water capture facility at Cartan Field. All parties agree that there are at least one or two alternatives for the site that should be further studied. To conduct that further analysis and flesh out a 20% Design Concept, a Scope of Work for Tetra Tech must be approved.

Tetra Tech has provided the attached Scope of Work for a Not to Exceed Fee of \$385,577 to develop a 20% Concept Design. This 20% Design work will be done in coordination with any Environmental Work and the associated public outreach components therein.

### **POLICY FOCUS**

The need for a stormwater detention facility was identified in the 2015 Town-wide Drainage Study Update as a Tier 1 project. The Town is also required to improve the quality of stormwater discharges from its municipal stormwater drainage system.

As was mentioned at the various Council meetings, flood control is the Town's primary objective with this proposed facility. Water quality, while still a State-mandate, may be achieved regionally. The Town may be requested and/or required to contribute to regional project in order to achieve the water quality objective if a facility is not located within its jurisdiction.

### **FISCAL IMPACT**

The Town has entered into a Cooperative Implementation Agreement with Caltrans which reimburses the Town for the cost of the development of conceptual design plans for a stormwater

## Atherton Water Capture Project

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capture and treatment project in the Town, as well as the costs of final design and construction if authorized by the Council.

### **PUBLIC NOTICE**

Public notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting in print and electronically. Information about the project is also disseminated via the Town's electronic News Flash and Atherton Online. There are approximately 1,200 subscribers to the Town's electronic News Flash publications. Subscribers include residents as well as stakeholders – to include, but be not limited to, media outlets, school districts, Menlo Park Fire District, service providers (water, power, and sewer), and regional elected officials.

### **COMMISSION/COMMITTEE FEEDBACK/REFERRAL**

This item   X   has or        has not been before a Town Committee or Commission.

       Audit/Finance Committee (meets every other month)

       Bicycle/Pedestrian Committee (meets as needed)

       Civic Center Advisory Committee (meets as needed)

       Environmental Programs Committee (meets every other month)

  X   Park and Recreation Committee (meets each month) – *On January 10, 2018, March 7, 2018, and May 2, 2018*

       Planning Commission (meets each month)

       Rail Committee (meets every other month)

       Transportation Committee (meets every other month)

       Tree Committee (meets each month)

### **ATTACHMENTS**

Attachment: Tetra Tech, Inc., Preliminary Engineering Concept Design Report Proposal October 11, 2018



October 11, 2018

Robert Ovadia, P.E.  
Town of Atherton  
91 Ashfield Road  
Atherton, CA 94027

**Reference: Proposal for Stormwater Capture Feasibility Assessment at Cartan Field**

Dear Mr. Ovadia,

Tetra Tech appreciates the opportunity to submit our proposal to prepare an engineering feasibility assessment to capture stormwater at Cartan Field. This work will build upon stormwater capture work previously accomplished for the Town of Atherton. I have attached a scope of work and fee estimate for your consideration.

Thank you for the opportunity to provide the Town of Atherton with professional engineering design services for this unique and exciting project. Please contact our deputy project manager, Ms. Raina Dwivedi if you have further questions or requests for additional information at (858) 609-1620, or at [raina.dwivedi@tetrattech.com](mailto:raina.dwivedi@tetrattech.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad S. Helmle'.

Chad S. Helmle, PE  
Vice President

## SCOPE OF WORK

Per this agreement, Consultant will provide the following scope of services.

### **PHASE 1. PRELIMINARY ENGINEERING CONCEPT DESIGN REPORT (20% DESIGN)**

#### **Task 101. Project Management, Coordination, and Meetings**

Tetra Tech is committed to ensuring that the Town is fully informed of all day-to-day design activities and progress. Project Management will consist of coordination with the Town Project Manager, scheduling, budgeting, progress reporting, and invoicing. The Tetra Tech Project Team will work closely with the Town and ensure that project milestones are met and information is readily available.

- *101.1 Project Schedule*

Tetra Tech will develop a Critical Path Method (CPM) schedule that is consistent with the tasks in the scope of work, as well as key Council and outreach meetings indicated by the Town. The schedule will be developed in Microsoft Project, and the degree of activity detail will cover the major tasks of the project. Task predecessors, float time, and task dependency will be indicated, as well as a highlighted critical path for the project. The schedule will serve as a planning tool and will be updated monthly to measure actual progress.

- *101.2 Project Coordination*

The Tetra Tech Project Manager will be the primary point of contact for the Town Project Manager, and will be responsible for the overall conduct, coordination, and completion of services. Tetra Tech is committed to ensuring that the City Project Manager is fully informed of all day-to-day design activities and progress. This will be achieved through project coordination efforts, correspondence, and monthly progress meetings.

- *101.3 Coordination Meetings*

Coordination meetings between Tetra Tech, Menlo School and Menlo College, and the Town will be necessary throughout the development of the Preliminary Engineering Design Report to ensure consistency and progress according to schedule. It is assumed that biweekly meetings will be held for the duration of this project. Tetra Tech will prepare agendas and meeting materials for each of the meetings. Meeting summary notes will be prepared and provided by Tetra Tech.

#### **Task 101 Deliverables**

- *Project schedule, updated monthly*
- *Meeting agendas, meeting handouts/materials and meeting summary notes.*

## **Task 102. Site Investigation**

This task involves continuation of site investigation tasks beyond those completed as part of the feasibility assessment for Cartan Field, including researching and evaluating the available project site information, proposed Field planning documents and review of as-builts for the flood control drainage infrastructure, existing water mains, existing sanitary sewer mains, existing irrigation lines and other utilities. In addition, field investigations will be conducted to establish the site maps.

- *102.1 Follow-up Site Investigation*

Tetra Tech will conduct a follow-up field reconnaissance of the project site with the City Project Manager and representatives from Menlo School and Menlo College, as needed. The objective of this task is to verify field conditions for the preferred site layout (Option #3). This site walk will evaluate recommended locations for the diversion structures, pretreatment units, storage facilities, and possible location of water quality treatment system in the event a deferred use option is necessary. In addition, the site investigation will include assessment of opportunities to minimize disturbance to School/College activities during construction and post-construction.

- *102.2 Topographic Aerial Survey*

Tetra Tech will conduct a topographic survey and perform detailed investigations of the site in order to allow the design team to understand above ground and potentially subsurface constraints that may limit the project foot print. These items may include, but are not limited to, tree canopies, above ground infrastructure, street centerlines, sidewalks, playing fields, bleachers, site amenities, existing utilities, etc.

The topographic survey will be comprised of two major portions; ground survey and aerial photogrammetry. Two days of survey have been assumed to obtain supplemental survey data that is obscured, as well as collect field invert data available. Tetra Tech will coordinate with the Town of Atherton for access within the channel to collect the channel inverts. Our team will require five (5) aerial targets. The establishment, targeting, and survey of these points are assumed to be the responsibility of the Town.

Tetra Tech will provide the following products and services:

- Research existing record data consisting of record of surveys, parcel maps, tract maps and other recorded documents made available to the design team.
- Request and review existing Geographic Information System (GIS), ground survey, aerial photogrammetry, and other electronic information available from the County.
- Establish horizontal project control for the project moving forward based on the California State Plane Coordinate System, Zone 3 (NAD 83), and vertical control based on the San Mateo County benchmark system. Additionally, a basis of bearing and local site control will be established for future use.

Field survey of the site will include invert elevation, pipe diameter and direction of flow for underground utilities, and tree trunk location and size (diameter). Tetra Tech will coordinate

with the Town on the designation of “Heritage Trees” and will develop an associated tree removal plan.

#### Task 102 Deliverables

- *Field Notes and Site Photos.*
- *A topographic map will be provided based on the aerial and ground survey for the project site location. The map will be developed in AutoCAD. The survey will be used as a base map for the development of the 20% Design Documents and the future detailed design phase.*

#### **Task 103. Utility Research**

Utilizing USA North 811’s website, a comprehensive utility matrix will be developed, which Tetra Tech will use to request utility atlas information. The atlas information will be used to prepare an existing utility index map for the project area.

Once the site investigations and project information review component are complete, Tetra Tech will perform a site visit to verify the accuracy of data obtained and the locations of the utilities based on the utility atlases received. Tetra Tech will also verify the appropriate right-of-way, and incorporate the utility investigation into the topographic base maps. This information will be used in verifying the preliminary design layouts and minimizes utility conflicts.

#### Task 103 Deliverables

- *Utility search incorporated into the topographic base map*

#### **Task 104. Geotechnical Investigation**

The Geotechnical Investigation consists of design-level geotechnical exploration, design consultation and plan reviews, and testing and observation services during construction.

Based on preliminary review, the site is characterized as being underlain by Holocene-aged alluvial fan and fluvial deposits with an artificial stream channel running along the northwestern boundary of the site. Per previous exploration locations within one mile of the site, it is anticipated that the site is underlain by native soil deposits comprised of stiff to hard lean clay with varying amounts of fine-grain sand; these deposits were encountered to depths of approximately 5 to 35 feet below existing grade. Beneath the upper clay deposits, exploration locations in the general site vicinity encountered medium dense to very dense sand to silty sand deposits with varying amounts of gravel. Actual subsurface soil conditions at the site will be confirmed with site-specific field exploration.

The Seismic Hazard Zone Report for the Palo Alto Quadrangle (2006) maps the highest historical groundwater across the site at depths of approximately 30 to 35 feet below existing grade.

##### • *104.1 Geotechnical Exploration*

The primary goals of the geotechnical exploration are:

- To evaluate the feasibility of stormwater infiltration into subsurface soils and
- To provide geotechnical design and construction recommendations for the project improvements.

All aspects of field exploration will be coordinated with the Town staff. USA North 811 will also be contacted to locate existing utilities at the site. A licensed Certified Engineering Geologist or Geotechnical Engineer will log all soil borings. The geotechnical investigation will consist of 3 to 4 cone penetration test (CPT) probes to a depth of 50 feet. The CPT provides a continuous empirical profile of subsurface soil conditions and empirical measurements of groundwater depth. The geotechnical investigation will also include 3 to 4 geotechnical borings to depths of 10 to 30 feet, adjacent to the above CPT locations. The borings will be used to define stratigraphy at the site to verify the feasibility of infiltration at the site and to obtain soil parameters for the design of the storage/infiltration underground BMP facilities at the site, the diversion structure, the pretreatment facilities, and to provide soil parameters for the design of the shoring system, if required. During the field exploration, the groundwater depth will be measured. This work will be performed during one mobilization.

All exploration locations will be backfilled per San Mateo County recommendations. Soil cuttings from the borings will be drummed in 55-gallon steel drums and hauled away from the site.

If favorable infiltration conditions are expected, borehole infiltration testing is proposed at each of the shallow geotechnical borings at anticipated depths of 10 to 20 feet. A 2-inch to 4-inch diameter PVC pipe will be inserted into each borehole. The lowermost 5 feet of the pipe will consist of a bottom cap and slotted screen, and blank pipe will be added until just above the ground surface. The annulus along the screen interval will be filled with gravel; the rest of the annulus will be left open to permit removal of pipe upon completion of testing. The holes will be presoaked with water up to the top of the boreholes on the day of drilling, and percolation testing will be subsequently performed later in the day. A vibrating wire piezometer will be lowered to within 6 inches of the bottom of the pipe, and an automated datalogger will be used to collect piezometric measurements at regular intervals.

Laboratory testing will be performed on the collected soil samples to better characterize the subsurface soil conditions. Testing will include strength testing, Atterberg limits, sieve analysis, moisture/density, sulfate testing, and other testing determined based on the collected soil samples.

- *104.2 Geotechnical Exploratory Report*

The geotechnical exploratory borings and infiltration testing results will be compiled into a Draft Geotechnical Exploration Report. Following receipt of comments on the report, a Final Geotechnical Exploration Report will be prepared and submitted.

Task 104 Deliverables

- *Draft and Final Geotechnical Exploration Report*

## **Task 105. Stormwater Capture Strategy**

- *105.1 Preliminary Site Layout(s)*

Preliminary site layouts have been discussed with the Town and Menlo School/Menlo College. Site Alternative #3 has been identified as the layout that is most amenable to the School/College and will provide minimum disturbances to the ongoing activities at or adjacent to the track. Tetra Tech will develop this 20% design based on Site Alternative #3, with some modifications on specific design components to be coordinated with the Town, School and College. The alternative assessment will include a narrative to account for potential impacts to size due to funding limitations related to the Caltrans spending milestones. The preliminary elevations will be included as a basis for determining pumping and earthwork requirements. The site layouts will be submitted to the City Project Manager and the Menlo College/School representatives for review and comments.

The site layout will be used as the basis for conducting the BMP optimization, diversion recommendations, and water quality pollutant load reduction.

- *105.2 Water Quality and Flood Control Analysis*

This task will leverage the data collected as part of the preliminary feasibility analyses for a water capture facility at Cartan Field with respect to water quality and flood control benefits at both the local and regional scale. Tetra Tech will incorporate key site alternative characteristics (geotechnical information, design volume, diversion rate, etc.) to evaluate the water quality and flood control benefits associated with the project.

The hydraulic analysis will primarily focus on the physics of designing a resilient, cost-effective, and minimally disruptive diversion structure for the project site. Tetra Tech is proposing to continue our innovative approach for regional BMP design by again linking the water quality analysis with the hydraulic analysis.

For this effort, we will calculate the diversion point hydraulics along the storm drain using the EPA Storm Water Management Model (SWMM) to determine the water surface elevation and System for Urban Stormwater Treatment and Analysis Integration (SUSTAIN) to determine the water surface elevation and sizing requirements for several configurations of the inlet system. The water quality samples collected as part of the Holbrook-Palmer Park project will serve as a proxy for water quality benefits of the project.

Assessment of the flood control and water quality benefits will include a discussion of active controls to quantify the potential increase in capacity that “smart controls” may have on managing peak flows and localized flooding.

- *105.3 Treatment and Use Alternatives*

Tetra Tech will evaluate the potential for post treatment and use opportunities for the Cartan Field project in the future. Current needs at the field do not necessitate post treatment and use; however, the School and College would like to identify potential to have the system designed to be compatible with future needs. Identification of design

components and tie-in locations will be included in the recommendations and layout options.

#### Task 105 Deliverables

- *Preliminary Site Layout Plans*
- *Draft and Final Water Quality Pollutant Load Reduction Estimates; Flood Control Evaluation; and Treatment and Use Alternatives Technical Memorandum*

#### **Task 106. Landscaping and Field Improvements**

Tetra Tech will work with the Town to develop landscape concept plans to restore vegetation and Field features impacted by the proposed water quality improvement projects. The concept will incorporate improvements identified in the Field Plans provided by the School and College that are within the project limits. Tetra Tech will coordinate with the Town, School and College to discuss the existing site conditions and potential surface restoration alternatives. Low Impact Development (LID) features may be incorporated into the site design efforts. Interpretive signage and other field enhancements will also be discussed. Tetra Tech will develop the one (1) plan, one (1) perspective, and up to two (2) section views and identify the plant species proposed.

#### Task 106 Deliverables

- *Landscape Design Teleconference Workshop*
- *Landscape renderings in Photoshop format*
- *Landscape and Park Improvements Concept in AutoCAD format*

#### **Task 107. Preliminary Engineering Design Report**

Tetra Tech will prepare a Preliminary Engineering Concept Design Report (PECDR) that clearly outlines the future implementation measures, as well as setting the guidelines for Phase 2 - Detailed Design Phase. The PECDR will clearly detail the concept of the project site and represent a 20% level of design completion.

The final deliverable will provide the opportunity for Tetra Tech to synthesize the relevant issues such as scientific findings, physical opportunities and constraints, Town objectives, School and College priorities, and project issues obtained during the development of the conceptual design. Tetra Tech will prepare draft PECDR for review by the Town.

The draft deliverable will contain the following items:

- Executive Summary
  - Geotechnical Findings
  - Environmental Findings
  - Electrical Availability
  - Water Quality Benefits
  - Summary of Estimated Costs
  - Schedule
- Existing Conditions
  - Field Work

- Topographic Survey
- Utilities
- Storm Drains and Channels, including existing flood capacity and conveyance restrictions
- Hydrology, Hydraulics, and Water Quality Analysis
  - Watershed Hydrology
  - Hydrology including the 85th percentile 24-hour storm event
  - Evaluation of water quality characteristics, TMDLs and compliance with the MS4 permit
  - Water diversion from the adjacent flood control storm drains
  - Pre-treatment of the runoff and stormwater for storage and/or infiltration
  - Post-treatment alternatives of the runoff and stormwater for beneficial reuse or irrigation (if applicable)
  - Underground storage structure and other civil infrastructure
  - Quantification of benefits towards flood risk management (design storms)
- Treatment and Use Alternatives
  - Potential irrigation uses in the future
  - Landscape and irrigation systems related to beneficial reuse of the water in the future
- Preliminary Design Documents
  - The 20% design documents will be developed for the site
  - Landscape Renderings
- Operations and Maintenance
  - Startup operations
  - Maintenance requirements
  - Analysis of operations and maintenance including long-term costs
- Environmental Documents and Permits
  - Environmental documentation under CEQA
  - Listing of all needed permits
  - Coordination with outside regulatory agencies
  - Any other regulatory requirements anticipated
- Preliminary Cost Estimate
  - Construction costs
  - Operations and maintenance costs, including long-term costs
  - Monitoring costs
  - Water Quality and Flow Monitoring
- Implementation Schedule
  - Project implementation schedule through completion and startup

Task 107 Deliverables

- *Electronic copies of the Draft and Final Preliminary Engineering Concept Design Report*
- *The preliminary cost estimate will be provided for the purpose of establishing a budgetary estimate.*

**Task 108. Public Outreach**

Tetra Tech will assist the Town with community outreach related to the stormwater capture facility at Cartan Field. Outreach efforts may involve assistance at community meetings, Council meetings, and development of materials for inclusion on the Town's website. Clear communication of the project impacts and benefits, including access, potential activity disruptions, timeline, and Caltrans funding impacts are critical for acceptance of the project.

Task 108 Deliverables

- *Outreach Materials Support (up to 3 exhibits or memorandums)*
- *Meeting Agendas and Minutes (up to 6 total meetings)*

**Price Proposal**

Revision Date:  
Oct 05, 2018

**Atherton Water Capture Project**

20% Design at Carton Field  
Submitted to: Town of Atherton (Attn: Marty Hanneman)

**Labor Plan**

22 Resource

**Price Summary / Totals**

Task Pricing Totals 385,577

Specify Add'l Fees on Setup 0

Technology Use Fee

**Total Price 385,577**

Contract Type: Fixed Price

**Unit Rate Qty's**

Items > Fleet Vehicles

Unit Rate > \$0.00

Unit Rate > mls

Charged to > M&E

Quantities >

**Pricing by Resource**

Labor Rate Est. Labor Subo Travel Mat's & Equip ODCs

320 0.00%

327,205 47,180 11,000 192

385,577

Project Phases / Tasks	Schedule			Total Labor Hrs	Resource																						Unit Rate Qty's					Pricing by Resource					Task Pricing Totals
	From	To	Months		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Quantities >	Rate Est.	Labor	Subo	Travel	Mat's & Equip	ODCs		
<b>PHASE 1. PRELIMINARY ENGINEERING DESIGN</b>				<b>1,900</b>	<b>160</b>	<b>46</b>	<b>256</b>	<b>60</b>	<b>16</b>	<b>388</b>	<b>174</b>	<b>16</b>	<b>116</b>	<b>154</b>	<b>22</b>	<b>82</b>	<b>8</b>	<b>12</b>	<b>12</b>	<b>36</b>	<b>8</b>	<b>34</b>	<b>30</b>	<b>228</b>	<b>18</b>	<b>24</b>	Quantities >	<b>320</b>	<b>0.00%</b>	<b>327,205</b>	<b>47,180</b>	<b>11,000</b>	<b>192</b>	<b>385,577</b>			
<b>Task 101 - Project Management</b>				<b>176</b>	<b>52</b>	<b>56</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>16</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>											
101.1 - Develop Project Schedule				4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
101.2 - Project Coordination				120	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40										
101.3 - Coordination Meetings				48	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12										
<b>Task 102 - Site Investigation</b>				<b>192</b>	<b>4</b>	<b>16</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>20</b>	<b>4</b>	<b>16</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>										
102.0 - Document Review and Research				16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
102.1 - Site Investigation				34	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
<b>Task 103 - Topographic Survey and Mapping</b>				<b>142</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>										
103.0 - Topographic Survey				72	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
103.1 - Topographic Survey				46	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
<b>Task 103 - Utility Research</b>				<b>70</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>										
103.0 - Conduct Utility Search				22	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
103.1 - Conduct Utility Search				48	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
103.2 - Incorporate Utility Data into CAD				4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
<b>Task 104 - Geotechnical Investigation</b>				<b>38</b>	<b>2</b>	<b>16</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>16</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>										
104.0 - Geotechnical Investigation				38	2	16	4	4	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
<b>Task 105 - Stormwater Management Strategy</b>				<b>278</b>	<b>24</b>	<b>12</b>	<b>40</b>	<b>32</b>	<b>4</b>	<b>112</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>14</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>																			
105.0 - Prepare Preliminary Site Layout				66	2	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8										
105.1 - Prepare Preliminary Site Layout				15	2	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8										
105.2 - Water Quality and Hydraulic Analysis				55	4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24										
105.3 - Active Controls Analysis				23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
105.4 - Treatment and Use Alternatives				48	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8										
<b>Task 106 - Landscaping and Park Improvements</b>				<b>114</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>										
106.0 - Landscaping Design Workshop				10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
106.1 - Landscaping Design Workshop				4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
106.2 - Landscape Improvements Concepts				44	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
106.3 - Landscape and Improvement Renderings				60	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
<b>Task 107 - Preliminary Engineering Design Report</b>				<b>812</b>	<b>40</b>	<b>26</b>	<b>84</b>	<b>20</b>	<b>12</b>	<b>232</b>	<b>28</b>	<b>72</b>	<b>78</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>										
107.0 - Draft PEDR				188	12	42	8	4	120	8	24	28	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
107.1 - Draft 20% Design Plans				214	8	16	2	2	2	40	8	24	40	2	4	4	4	4	4	4	4	4	4	4	4	4	4										
107.2 - Draft 20% Design Plans				174	8	16	2	2	2	40	8	24	40	2	4	4	4	4	4	4	4	4	4	4	4	4	4										
107.3 - Final PEDR				108	8	16	2	2	2	40	8	24	40	2	4	4	4	4	4	4	4	4	4	4	4	4	4										
107.4 - Final 20% Design Plans				108	8	16	2	2	2	40	8	24	40	2	4	4	4	4	4	4	4	4	4	4	4	4	4										
<b>Task 108 - Public Outreach</b>				<b>220</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>										
108.0 - Public Outreach				220	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40									
<b>Totals</b>				<b>1,900</b>	<b>160</b>	<b>46</b>	<b>256</b>	<b>60</b>	<b>16</b>	<b>388</b>	<b>174</b>	<b>16</b>	<b>116</b>	<b>154</b>	<b>22</b>	<b>82</b>	<b>8</b>	<b>12</b>	<b>12</b>	<b>36</b>	<b>8</b>	<b>34</b>	<b>30</b>	<b>228</b>	<b>18</b>	<b>24</b>	Quantities >	<b>320</b>	<b>0.00%</b>	<b>327,205</b>	<b>47,180</b>	<b>11,000</b>	<b>192</b>	<b>385,577</b>			