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POSEIDON CARLSBAD DESALINATION MITIGATION MONITORING WORKPLAN AND BUDGET

9-14-0731 (POSEIDON WATER)

EXHIBITS

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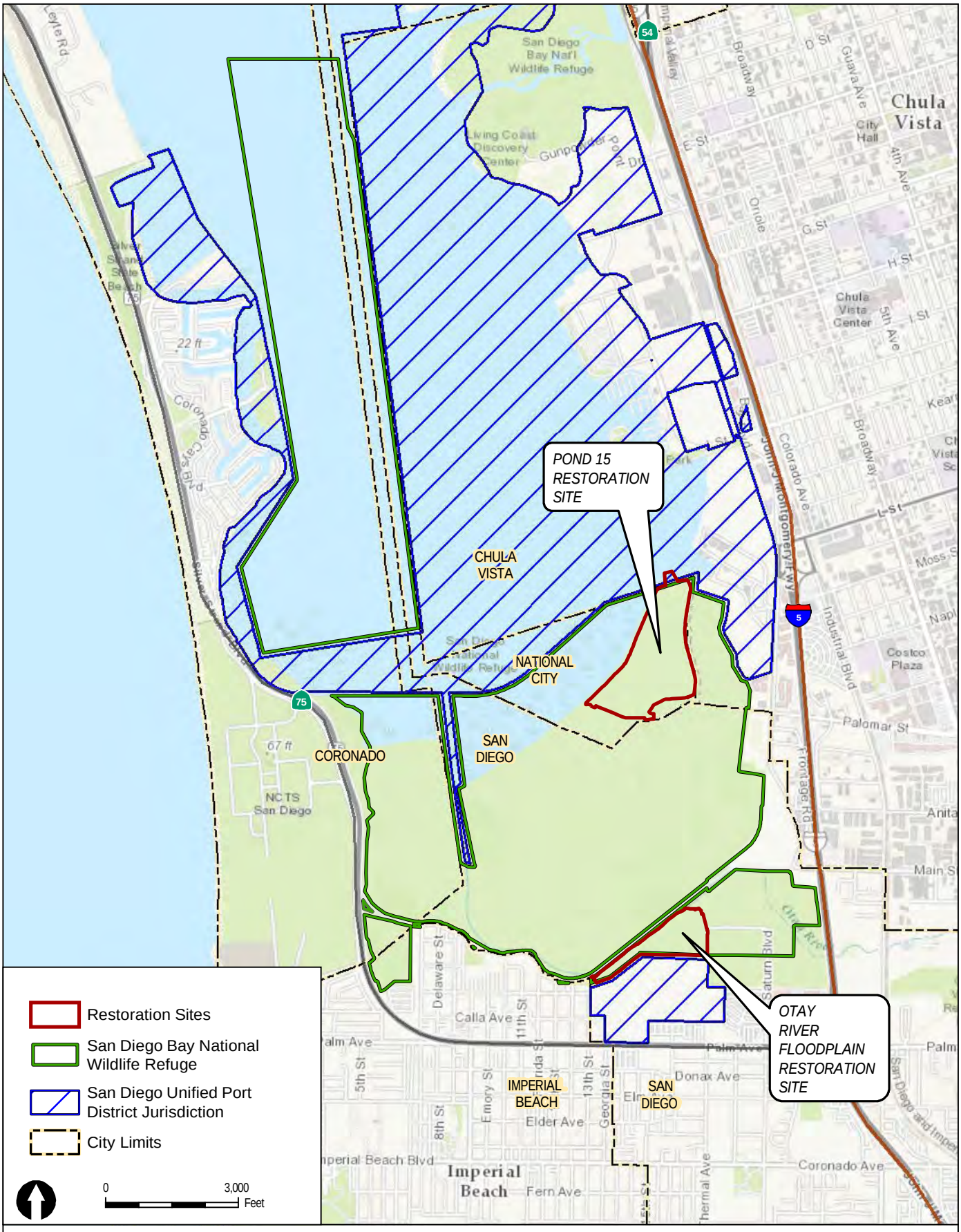
EXHIBIT 1



BASE SOURCE: ESRI

FIGURE 1-1

Regional Map

Otay River Estuary Restoration Project EIS

Poseidon Carlsbad Desalination Independent Mitigation Monitoring Program

2022 Workplan and Budget

Background and Mitigation Requirements

On November 15, 2007, the California Coastal Commission (CCC) approved CDP No. E-06-013 for Poseidon Resources (Channelside) LP's (hereafter "Poseidon") proposal to construct and operate a desalination facility in Carlsbad, San Diego County. As part of this approval, the Commission required Poseidon, through Special Condition 8, to submit for additional Commission review and approval a Marine Life Mitigation Plan (MLMP) addressing the impacts caused by the facility's use of estuarine water and entrainment of marine organisms. The MLMP, developed jointly by CCC staff and Poseidon, was approved by the Commission on August 8, 2008.

The approved MLMP establishes minimum standards and objectives needed to ensure adequate mitigation for marine life impacts caused by the Carlsbad desalination facility. Specifically, it requires restoration of 66.4 acres of estuarine wetland habitat within the Southern California Bight. The MLMP also includes performance standards, timing restrictions, monitoring requirements, and other elements needed to ensure successful and adequate mitigation.

Independent Monitoring Program

In addition to minimum standards and objectives required to achieve adequate mitigation of impacts to marine resources, the MLMP also establishes an administrative structure for operation and funding of independent monitoring and technical oversight of the mitigation project. The MLMP specifically: (1) enables the Commission to retain contract scientists and technical staff to assist the Commission in carrying out its oversight and monitoring functions, (2) provides for a scientific advisory panel to advise the Commission on the design, implementation, monitoring, and remediation of the mitigation projects, (3) assigns financial responsibility for the Commission's oversight and monitoring functions to the Permittee (Poseidon) and sets forth associated administrative guidelines, (4) provides for periodic public review of the performance of the mitigation projects, and (5) requires that all scientific data collected as part of the project be available to the public through a publicly-accessible database. The Commission will determine the amount of funding necessary to carry out the independent mitigation monitoring program on a biennial basis. Funding is based on a proposed workplan and budget prepared by the Executive Director in consultation with Poseidon and reviewed and approved by the Commission. If Poseidon and the Executive Director cannot agree on the workplan or budget, the disagreement will be submitted to the Commission for resolution.

To assist in the review of the more technical aspects of this project, CCC staff formed a Scientific Advisory Panel (SAP) made up of three independent scientists with expertise in coastal biology, ecology and hydrodynamics, two of whom have previously provided scientific guidance to the Commission on the San Dieguito Restoration Project implemented by Southern California Edison as mitigation for the San Onofre Nuclear Generating Station (SONGS). The SAP has provided valuable insight and guidance to staff during the review and development of Poseidon's proposed mitigation project and will continue this role during the post-project monitoring and compliance phase. The SAP includes Dr. Richard Ambrose, Research Professor in the Department of Environmental Health Sciences, University of California Los Angeles; Dr. Peter Raimondi, Professor in the Department of Ecology and Evolutionary Biology, University of California, Santa Cruz; and Dr. Brett Sanders, Professor of Civil and Environmental Engineering, Urban Planning and Public Policy, University of California, Irvine.

Poseidon provided funding to implement the Scopes of Work consisting of $140,120 in 2012 and $244,542 in 2018. This funding was for the SAP's work as well as travel costs. One of the tasks in the Scopes of Work was to assist in the development of a comprehensive monitoring plan, including development of interim and final performance criteria, sampling design and methods, monitoring timelines, adaptive management procedures and other appropriate plan components.

On May 9, 2019, the CCC approved Poseidon's Coastal Development Permit #9-14-0731 subject to Standard and Special conditions for development consisting of creation and restoration of coastal wetlands on two noncontiguous sites (Otay River floodplain and Pond 15) within the San Diego National Wildlife Refuge in South San Diego Bay. The CCC's approval of this coastal development permit was subject to all applicable conditions of Coastal Development Permit No. E-06-013, and especially Special Condition 8 and the Commission-approved Marine Life Mitigation Plan that was required, developed, and approved by the Commission pursuant to that Special Condition.

Prior to issuance of the coastal development permit, Poseidon submitted, for review and written approval of the Executive Director, a draft Final Wetland Restoration Plan (FRP) for the Otay and Pond 15 sites, including mitigation for all wetland impacts associated with the proposed project. CCC staff provided comments and once Poseidon addressed the comments, gave provisional approval of the FRP on April 30, 2021. The final version would need to be submitted again for final review and approval prior to construction. The draft FRP included a copy of the draft Monitoring Plan (draft Monitoring Plan), prepared by the SAP, which is subject to review and potential revisions.

The focus of this draft Monitoring Plan is on Post-Restoration Monitoring to assess project compliance using the performance standards stated in the MLMP. The draft Monitoring Plan notes that the MLMP requires pre-restoration site monitoring be conducted to collect baseline data on the wetland attributes to be monitored. This information will be incorporated into and may result in modification to the overall monitoring plan. Construction monitoring will be

conducted during and immediately after each stage of construction of the wetland restoration project to ensure that the work is conducted according to plans.

On April 30, 2021, the CCC issued Coastal Development Permit 9-14-0731. The CDP includes Special Condition 7 which requires independent monitoring be performed during and immediately after each stage of construction and independent monitoring of the post-restoration wetland shall be implemented in accordance with a monitoring plan that will be prepared by Commission and the SAP in consultation with Poseidon.

Independent monitoring of the Poseidon Mitigation Project will be a long-term project. Condition A 5.0 (Wetland Monitoring, Management and Remediation) of the Poseidon MLMP requires: "Monitoring, management (including maintenance), and remediation shall be conducted over the "full operating life" of Poseidon's desalination facility, which shall be 30 years from the date "as-built" plans are submitted pursuant to subsection 4.1(l)." To ensure full compensation for the loss of coastal resources, monitoring, management (including maintenance) and remediation of the wetland restoration will be conducted for 30 years after construction. This could result in a monitoring period longer than 30 years if the restoration does not meet the performance standards in some years.

In accordance with Condition B (Administrative Structure) of the Poseidon MLMP, the post-construction monitoring of the wetland restoration will be done independently of Poseidon by scientists retained by the CCC. This will be done in consultation with Poseidon and appropriate wildlife agencies. The details of the monitoring effort will be set forth in biennial work plans. The sections below represent the first of such workplans. Table 1 shows the timeline for events required by the MLMP.

Table 1. MLMP Timeline of Events

Event	Date	Frequency
Biennial Workplan	Spring 2022	Every two years (First plan (2022) will only be for one year)
Wetland construction and independent construction monitoring starts	Fall 2022	N/A
Wetland construction and independent construction monitoring concludes	Spring 2025	N/A
Wetland performance monitoring starts	Summer 2025	Every year until compliance is achieved
Annual workshop	Spring 2026	Every year until compliance is achieved

Mitigation Project Description

To mitigate for impacts from the Carlsbad Desalination Plant, Poseidon will restore the 34.6-acre Otay River Floodplain Site and the 90.9-acre Pond 15 Site, located within the South San Diego Bay Unit of the San Diego National Wildlife Refuge, to coastal salt marsh habitat. The proposed project, formally called the Otay River Estuary Restoration Project (ORERP), will achieve restoration though excavation of material from the upland Otay site to lower the elevation and create contours necessary to support coastal salt marsh habitat followed by the introduction of tidal flows to the site from the adjacent Otay River. Material excavated from

the Otay site would be transported to the Pond 15 site and used as fill to raise the elevation of the existing subtidal salt pond to levels suitable to support coastal salt marsh habitat, followed by introduction of tidal flows into the site through breaching of the northern berm that separates Pond 15 from San Diego Bay. Construction of the project is expected to begin in 2022 and will continue through spring of 2025.

2022 Workplan

The 2022 workplan and budget presented here cover the first year of work to be conducted under the independent mitigation monitoring program as required by the MLMP and by CDP 9-14-0731. Although the monitoring work is tied to Poseidon's work on the approved mitigation project (i.e., ORERP), the workplan and budget contain only the work and budget amounts necessary for the independent mitigation monitoring program.

The staff assigned to work on this program will consist of new non-civil service contract staff, hired specifically for this program and funded by Poseidon, administrative staff at the California Marine Sanctuary Foundation (CMSF), the SAP and existing Coastal Commission permanent staff. Estimates of time commitment for the contract staff ecologists are based on one full time position starting in June (i.e., 6 person months for 2022). If needed, Commission staff may award contracts or hire temporary help to ensure completion of the work proposed for 2022. Cost Estimates for administrative staff at the CMSF are determined based on a fixed overhead cost calculated as 18% of the total budget. A portion of the work described in the 2022 workplan will be conducted by the Commission's permanent staff. Costs associated with travel as well as funds to cover the Commission's permanent staff's time administering the workplan are included.

The MLMP states that the work program and budget are to be prepared for a two-year period. However, at this pre-construction and construction stage of Poseidon's projects, there are many uncertainties regarding the planning process and construction schedule for the wetland projects. It is difficult to provide realistic cost projections or anticipate the studies and tasks that may be required in 2022 for independent mitigation monitoring program. Therefore, the work program and budget presented in this report provide detailed tasks and cost estimates for August 2022 – July 2023. If additional staff or funds are necessary to carry out the identified tasks, Commission staff will work with Poseidon on an addendum to this Workplan and budget. Commission staff intends to develop a detailed Workplan and budget for August 2023 – July 2025, pending the outcome of the monitoring program during this Work Program, and return to the Commission with the proposed 2023-2025 work program and budget before the end of the current Workplan.

Tasks covered by this Workplan include: (1) Hire an independent scientist, who will lead the implementation of the Mitigation Monitoring Program, (2) Construction Monitoring, (3) Select reference sites, (4) Determine approach for assessing similarity for evaluating relative performance standards, (5) Develop a sampling design for post-construction monitoring, (6) Develop a data management system, and (7) Manage consultants and contracts, if any.

Task 1 will be carried out by CCC staff and the SAP. All other tasks will be carried out by the independent scientist hired under Task 1 under the direction of CCC staff and the SAP. CCC staff will consult with Poseidon on the elements of the Workplan and will keep it informed of progress.

2022-2023 Workplan Tasks:

1. Hire an independent scientist who will lead the implementation of the Mitigation Monitoring Program.

    a. Determine required level of staffing, potential collaborative efforts (especially with respect to database support), and timing of staff hires.

    b. Determine hiring entity (e.g., CMSF, University, NGO).

    c. Develop and distribute job descriptions/ads.

    d. Review applications, interview candidates, and hire scientist.

2. Construction Monitoring.

    a. Develop a construction monitoring plan and sampling design to evaluate whether restoration work is conducted according to approved restoration plans. This plan should account for (and coordinate with) construction monitoring conducted by Poseidon as required under CDP 9-14-0731. Coordinate independent construction monitoring with other monitoring occurring on-site --and with Poseidon's construction manager

    b. Implement construction monitoring plan.

    c. Enter, organize, manage and analyze data collected during the monitoring and consulting with database consultants as needed; and

    d. Produce regular status reports on construction progress and a final report that evaluates any deviations of the wetland construction from the approved plans.

    e. Review monitoring reports associated with the restoration produced by other agencies or Poseidon;

3. Select reference sites.

a. In consultation with CCC staff, SAP, and Poseidon, the scientist will use the following four-step process to identify and evaluate potential reference site(s) for the mitigation wetlands:

   i. Review the draft Monitoring Plan and the three proposed reference sites.

   ii. Collect and organize existing information on potential reference wetlands.

   iii. Conduct field surveys and analyze all available data for each potential reference wetland.

   iv. Develop, in consultation with Poseidon, and submit a memo outlining and supporting a recommendation for final selection of reference site(s).

b. Develop a final recommendation to the CCC Executive Director on a reference site or sites for the mitigation wetlands.

4. <u>Determine approach for assessing similarity for evaluating relative performance standards.</u>

   a. Review the draft Monitoring Plan, section 2.1 Determination of similarity.

   b. Produce a final white paper describing the approach for assessing similarity of the restored wetlands to the selected reference wetlands.

5. <u>Develop a sampling design for post-construction monitoring</u>.

   a. Review the draft Monitoring Plan

   b. Become familiar with permit requirements, existing data and modeling, and other relevant information.

   c. Select sampling sites within ORERP and reference wetlands for post-construction monitoring.

   d. If necessary, carry out field surveys with SAP to measure performance parameters listed in the permit to facilitate development of the monitoring plan.

   e. Analyze existing databases, including any supplemental data collected, to develop a sampling design for post-construction monitoring. Ensure that the sampling design (including sample size and sampling locations) is aligned with the desired performance assessment.

f. Update monitoring plan with the details of the sampling design, including details for the mitigation wetlands and each reference wetland.

6. Develop a data management system.

   a. Review the draft Monitoring Plan

   b. Determine the database management approach to be used for the project. The approach selected will ensure accessibility (including to public), quality control, and security.

      i. The management approaches to be considered will include at least the following: (1) development of a database by the independent scientist, (2) development of a database by a separate independent contractor, (3) contractual partnership with SONGS project database.

   c. Develop protocols for interfacing with UCSB SONGS mitigation program database.

   d. Coordinate with Poseidon for transfer of pre-construction monitoring data (including existing physical, biological and other relevant data sets and modeling results) to CCC staff and the independent scientist for use in the design of the post-construction monitoring program.

7. Manage consultants and contracts, if any.

   a. Several of the wetland monitoring tasks may require work done by contractors (I.e., seasonal workers to assist with wetland monitoring and a contractor to assist with database development). The independent scientist will manage the work of these contractors and will assist with management of the necessary contracts and consultancy agreements.

   b. CCC staff will also work with CMSF to track the Workplan budget, ensure contracts are in place, and deal with other administrative needs.

Proposed Workplan Budget:

The proposed budget for August 2022 through July 2023 covers costs for the first year of the Poseidon independent mitigation monitoring and oversight program, including costs for an independent contract scientist, seasonal monitoring staff, science advisory panel, consultants, contract administrative support, and operating expense during the one-year budget period.

The funding proposed to cover the monitoring and oversight program costs during the one-year budget period is $625,978 as shown below. This budget is based on the minimum scientific staff required to accomplish the goals of the Poseidon MLMP and permit and carry out the proposed tasks described above. Narrative budget notes explaining each budget category are included below in Table 2. See also Attachment 1 for additional detail on costs estimates by Task.

Table 2: Proposed Workplan Budget

Budget Element	Hours	Cost
Independent Scientist	2080	$203,385
Seasonal Staff	1080	$37,452
Consultants/Contractors	560	$55,125
Commission Staff	211	$16,863
SAP	735	$137,220
Travel	N/A	$22,385
Operational Expenses	N/A	$39,000
Direct Costs		$489,045
Overhead & Contingency		$136,932
TOTAL COST		$625,978

Notes:

1. Costs associated with the independent scientist based on a full year of salary, estimated to be approximately $195,000 ($150,000/yr salary + 25% benefits), corresponding to an hourly rate of $94.
2. Costs associated with seasonal staff based on 2 people working for 3 full months at $30/hour (calculated based on an annual salary+ benefits = $62,500).

3. Costs associated with consultants/contractors include a consultant to assist with construction monitoring (estimated as 20 hours at $200/hour) and a consultant to assist with database development (estimated as 540 hours at $94/hour).
4. Costs associated with the SAP based on an hourly rate of $216 (current SONGS SAP rate).
5. Operational expenses include office/lab space, equipment, supplies and expenses and administrative costs.
6. Overhead calculated at 18% of the total direct cost based on prior contracts with the California Marine Sanctuary Foundation. If contracting and administration is awarded to another entity, the overhead cost is likely to increase.
7. The contingency costs are calculated as 10% of the total direct cost. Given the uncertainty associated with tasks and costs in the first year, including a contingency amount in the total budget will ensure adequate funding in the event that unexpected costs arise.

All parties have agreed that Poseidon will pay for this Workplan in two increments over a three-month period. To activate this Workplan agreement, Poseidon will issue a check for $312,989 to the California Marine Sanctuary Foundation by August 15th, 2022. A second check for $312,989 will be issued by November 31st, 2022. The Foundation and the Commission will have sole control over the use of the funds as described in this Scope of Work. Any funds not spent on the Workplan will be returned to Poseidon or rolled over into the next Workplan.

EXHIBIT 4

	Task 1: Hire independent scientist & administrative staff				Task 2: Construction Monitoring				Task 3: Selection of Reference Sites				Task 4: White Paper			
	Hours	Budget for hours	Budget for Travel	Task 1 TOTAL	Hours	Budget for hours	Budget for Travel	Task 2 TOTAL	Hours	Budget for hours	Budget for Travel	Task 3 TOTAL	Hours	Budget for hours	Budget for Travel	Task 4 TOTAL
Independent Scientist	0	0	$0	$0	416	$39,000	$2,185	$41,185	520	$48,750	$3,100	$51,850	208	$19,500	$0	$19,500
Seasonal Staff	0	0	$0	$0	0	$0	$0	$0	540	$16,226	$2,500	$18,726	0	$0	$0	$0
Consultants/Contractors	0	0	$0	$0	20	$4,000	$500	$4,500	0	$0	$0	$0	0	$0	$0	$0
Commission Staff	211	$14,363	$0	$14,363	50	$0	$0	$0	80	$0	$1,000	$1,000	20	$0	$0	$0
Staff Total	**211**	**$14,363**	**$0**	**$14,363**	**486**	**$43,000**	**$2,685**	**$45,685**	**1140**	**$64,976**	**$6,600**	**$71,576**	**228**	**$19,500**	**$0**	**$19,500**
Dr. Raimondi	20	$4,320	$0	$4,320	10	$2,160	$0	$2,160	65	$14,040	$1,000	$15,040	37.5	$8,100	$0	$8,100
Dr. Ambrose	20	$4,320	$0	$4,320	10	$2,160	$0	$2,160	65	$14,040	$1,000	$15,040	37.5	$8,100	$0	$8,100
Dr. Sanders	20	$4,320	$0	$4,320	10	$2,160	$0	$2,160	65	$14,040	$1,000	$15,040	37.5	$8,100	$0	$8,100
SAP Total	**60**	**$12,960**	**$0**	**$12,960**	**30**	**$6,480**	**$0**	**$6,480**	**195**	**$42,120**	**$3,000**	**$45,120**	**112.5**	**$24,300**	**$0**	**$24,300**
Staff and SAP Total	**271**	**$27,323**	**$0**	**$27,323**	**516**	**$49,480**	**$2,685**	**$52,165**	**1335**	**$107,096**	**$9,600**	**$116,696**	**340.5**	**$43,800**	**$0**	**$43,800**
Office/Lab Space		$24,000		$24,000												
Equipment				$0												
Supplies & Expenses		$3,000		$3,000												
Administrative Costs		$200		$200		$300		$300		$300		$300		$300		$300
Operational Expenses Total		**$27,200**		**$27,200**		**$300**		**$300**		**$300**		**$300**		**$300**		**$300**
DIRECT COST TOTAL	**271**	**$54,523**	**$0**	**$54,523**	**516**	**$49,780**	**$2,685**	**$52,465**	**1335**	**$107,396**	**$9,600**	**$116,996**	**340.5**	**$44,100**	**$0**	**$44,100**

Direct Cost Total	**$489,045**
Contingency	$48,904
Overhead	$88,028
GRAND TOTAL	**$625,978**

Task 5: Develop Post-Construction Monitoring				Task 6: Develop Database				Task 7: Manage Contracts						
Hours	Budget for hours	Budget for Travel	Task 5 TOTAL	Hours	Budget for hours	Budget for Travel	Task 6 TOTAL	Hours	Budget for hours	Budget for Travel	Task 7 TOTAL	Total Hours	Total Travel Costs	**Total Cost**
520	$48,750	$3,100	$51,850	208	$19,500	$0	$19,500	208	$19,500	$0	$19,500	2080	$8,385	$203,385
540	$16,226	$2,500	$18,726	0	$0	$0	$0	0	$0	$0	$0	1080	$5,000	$37,452
0	$0	$0	$0	540	$50,625	$0	$50,625	0	$0	$0	$0	560	$500	$55,125
100	$0	$1,500	$1,500	10	$0	$0	$0	10	$0	$0	$0	481	$2,500	$16,863
1160	**$64,976**	**$7,100**	**$72,076**	**758**	**$70,125**	**$0**	**$70,125**	**218**	**$19,500**	**$0**	**$19,500**		**$16,385**	**$312,825**
65	$14,040	$1,500	$15,540	5	$1,080	$0	$1,080	0	$0	$0	$0	202.5	$2,500	$46,240
65	$14,040	$900	$14,940	5	$1,080	$0	$1,080	0	$0	$0	$0	202.5	$1,900	$45,640
65	$14,040	$600	$14,640	5	$1,080	$0	$1,080	0	$0	$0	$0	202.5	$1,600	$45,340
195	**$42,120**	**$3,000**	**$45,120**	**15**	**$3,240**	**$0**	**$3,240**	**0**	**$0**	**$0**	**$0**	**607.5**	**$6,000**	**$137,220**
1355	**$107,096**	**$10,100**	**$117,196**	**773**	**$73,365**	**$0**	**$73,365**	**218**	**$19,500**	**$0**	**$19,500**		**$22,385**	**$450,045**
														$24,000
	$5,000		$5,000											**$5,000**
	$5,000		$5,000											**$8,000**
	$300		$300		$300		$300		$300		$300			**$2,000**
	$10,300		**$10,300**		**$300**		**$300**	**#REF!**	**$300**		**$300**			**$39,000**
1355	**$117,396**	**$10,100**	**$127,496**	**773**	**$73,665**	**$0**	**$73,665**	**#REF!**	**$19,800**	**$0**	**$19,800**			**$489,045**

N/A

SAP hourly rate:	$216			
Contingency	10%			
CMSF overhead:	18%			
Independent scientist salary	$195,000	12 months	hourly rate:	$94
Seasonal worker salary	$62,500	12 months	hourly rate:	$30
Database contractor salary	$195,000	12 months	hourly rate:	$94
Consultants (i.e., PWA)		20 hours	hourly rate:	$200
CCC admin costs calculated	$62,618	6 months	hourly rate:	$60

Notes:

1. Costs associated with the independent scientist based on a full year of salary, estimated to be approximately $195,000. Hours are calculated as a percentage of a full-time position (40 hours x 52 weeks = 2080 hours)
2. Costs associated with consultants/contractors based on estimates of time for different tasks at the rates included above.
3. Travel costs for independent scientists and seasonal staff based on car travel (reimbursed at $0.575/mile and estimating 50 miles per trip)
4. Construction work period assumed to last 19 weeks (October 1, 2021 - February 15, 2022)

5. Independent contractors for wetland monitoring tasks based on 2 seasonal workers for 3 months total = 40*13.5 = 540*2 workers = 1080 hours
6. Independent contractors for database tasks based on 1 contractor for 3 months total = 40*13.5 = 540 hours
7. Office/lab space estimated at $2000/month