EXHIBIT 2-B

SECTION 6 – TECHNICAL ASPECTS

In accordance with the RFP instruction, this section will present MWH's technical project approach to the work. We have broken this section into the following areas to define our approach to completing this contract:

- Project Understanding and Approach. This is a high level description of MWH's understanding and general approach to successfully completing this project.
- Scope of Work. This section presents the detailed scope of work to be provided.
- Optional Tasks. Additional services that might be conserved by MPMWD to be added to the project at a later time.
- Confirmation Statement.

MWH APPROACH TO DELIVER THIS PROJECT

One of the reasons that we feel that our previous passage projects (and really all MWH projects) have been successful is that we maintain the focus of our team on the primary objective of the project. For this study, that will be to find if there exists a feasible method to provide 'unimpeded, safe and effective," upstream fish passage over Los Padres Dam for S-CCC steelhead, or not. We understand that MPWMD and Cal-Am have several choices to make regarding the future of LPD and the investments associated with continued ownership and operation of the dam. It will be our job to work with MPWMD, Cal-Am, the TRC and other stakeholders to provide a realistic assessment of passage over Los Padres dam.

MWH has assembled an outstanding team of experts with the specific skills and expertise required to work directly with MPWMD on this Study. The key professionals have extensive experience in all aspects of intake structure planning, design, and construction, and have worked together on other similar projects. Over the past 25 years, the MWH project team members alone have studied, designed, and constructed more than 50 fish passage projects. Including our partners Tetra Tech, Cramer Fish Sciences and BioAnalysts this number could easily be doubled. Adding fish passage to Los Padres is complicated. However, the number of viable concepts available is discrete and familiar to our team. We have reviewed these at many other similar sites. Our approach to MPWMD's project has been used many times and can be summarized as follow:

- Use industry experts to build and evaluating fish passage concepts.
- Establish clear and reasonable criteria with all parties at the onset of the project
- Quickly process and document the full list of possible passage concepts. Then, as quickly, utilize the collective expertise to eliminate the wild and unrealistic concepts and focus on real options.
- Look hard at the shortlist options and understand the real cost and benefits are for each concept
- Make a clear and concise conclusion that will stand up over time.

In the sections below we provide a narrative approach and thoughts behind how we will execute each of the six technical tasks.

TASK 1: FEASIBILITY STUDY PREPARATION

Detailed and accurate information is the cornerstone of the subsequent tasks. MWH, Cramer Fish Sciences, Tetra Tech and Whitson Engineering have all worked on the Carmel River or at Los Padres dam.

This knowledge gives us an advantage in understanding this history and knowing what information is available and relevant.

Hydrologic Evaluation

As part of this task, a review of the available hydrology and reservoir operations data will be carried out. This work will generally consist of a review and update, using more recent data, of the information contained in the 2009 Administrative Draft Los Padres Dam Fish Passage study. Data from the below Los Padres Reservoir gage provides the best data set to assess seasonal variability in outlet flows under existing (with-dam) conditions. Online mean-daily flow data are available for this gage from the MPWMD website from Water Year 2005 (WY2005) to the present, but records appear to be available back to WY2000. Although probably not necessary for this level of analysis, we assume the detailed 15-minute data from the stage recorder could be obtained from MPWMD if issues associated with intra-daily variability arise. Output from the Carmel Valley Simulation Model (CVSIM), which is used by MPWMD as a management tool to evaluate various water-supply alternatives for the Monterey Peninsula Water Supply Project EIR/EIS (MPWMD, 1994), will also be considered in the hydrologic assessment, as appropriate, particularly for evaluating any alternatives that involve operational changes.

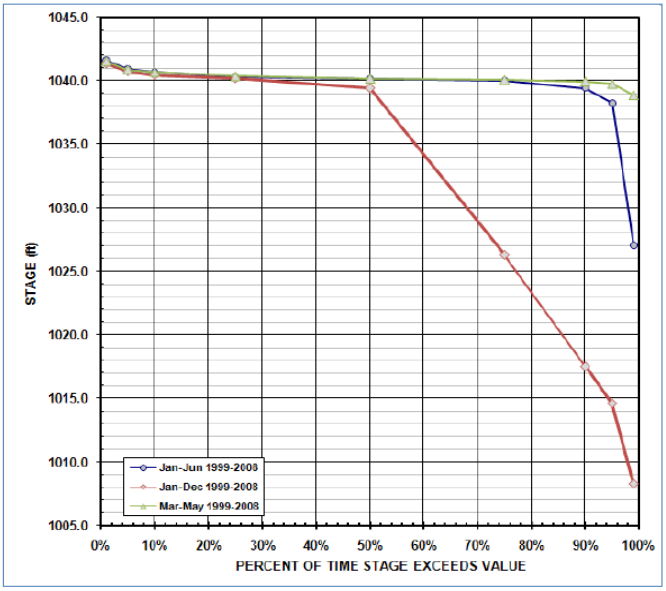

Figure 6-1. Los Padres Dam Stage Duration Curves for mean daily forebay elevations calculated over three specific time intervals for the period of record 1999 to 2008 (Figure 3 from 2009 Fish Passage Study)

We assume reservoir stage records are available from MPWMD for use in this assessment. Under current conditions, the reservoir normally fills in fall and winter, and releases from storage are made once the level drops below the spillway as outlined under a water budget process defined by a Memorandum of Agreement between CDFG, Cal-Am and MPWMD (CRAC, 2012). Using data from 1999 through 2008, the 2009 Fish Passage study concluded that the reservoir is essentially full (water-level about Elevation 1039 feet) more than half the year, but is above that level more than 90% of the time during the downstream fish passage period that extends from March through May (Figure 6-1). Results from the hydrologic and reservoir operations assessments will be used to quantify reservoir water levels and downstream flow rates over a range of water year scenarios, including an average water year, a wet water year, a single dry water year, and a multiple dry water year scenario.

Multibeam Bathymetry and Vessel-Mounted LiDAR Topography Surve

We propose to conduct a multibeam echosounder survey (MBES) of the Los Padres reservoir in support of the Los Padres Dam Fish Passage Feasibility Study. The survey will provide full (90+%) coverage surface data for use in characterizing the reservoir bottom and sides from full depth up to approximately elevation 1050-1060 feet (NGVD 1929)The survey will encompass the full storage capacity of the reservoir utilizing a combination of MBES and Vessel-Mounted LiDAR (VML) collected from our shallow draft hydrographic survey vessel. A California-based multibeam survey vessel (See Appendix) will be mobilized to the

reservoir and will outfit/calibrate the MBES/VML systems onsite. With suitable boat launch, high water levels, and absence of shallow water obstructions, the on-water portion of multibeam survey effort in the reservoir is expected to take one survey day.

Tetra Tech will utilize a single-head multibeam sonar, R2Sonic 2020 or Reson 7125 or equivalent, integrated with a high-accuracy POS MV/320 GNSS inertial navigation system (INS). An on-site Real-time kinematic GPS base station will be set up on survey control monuments provided by the local Whitson Engineering survey team. Daily quality control checks of the RTK system accuracies will be performed in accordance with Tetra Tech quality control procedures. The RTK GPS corrections, combined with the INS provide bathymetric survey sounding accuracies which meet or exceed Army Corps of Engineers and IHO Special Order survey requirements.

MBE Bathymetric and VML Topographic data will be processed using CARIS HIPS/SIPS 9.1 software. Data will be imported to Fledermaus and ESRI ArcGIS, bathymetric surfaces, contours and chart layouts will be created and electronic products delivered in PDF, SHP, and ASCII XYZ format files as required.

Reservoir Sedimentation Evaluation

Sedimentation has significantly affected reservoir storage capacity since construction of the dam in 1949. The initial storage capacity at the time of construction was about 3,130 ac-ft. Between that time and 1980, over 1,130 ac-ft of sediment had deposited in the reservoir, a significant portion of which occurred following the 1977 Marble-Cone fire that burned nearly all of the upstream watershed (Hecht, 1981). Sediment dredging in 1984 removed more than 180 ac-ft of material, increasing the reservoir capacity to about 2,179 ac-ft (Smith et al, 2009). Bathymetric data collected in 2008 indicates that sedimentation had resulted in nearly a 50 percent reduction in storage capacity, with about 1,350 ac-ft of sediment accumulation at that time (Smith et al, 2009). These data suggest an average annual sediment inflow of about 20 ac-ft/year. Sediment management is a primary concern for MPWMD, both in terms of reservoir storage capacity and the effects of sedimentation on the downstream river (MPWMD, 2014). Sedimentation at the head of the reservoir may also create fish passage issues during portions of the fish passage period when the reservoir is not full and the delta at the head of the reservoir is exposed (Figure 6-2). At the time of the 2008 bathymetry, the topset elevation of the main part of the sediment delta is at about between 1039 feet and 1040 feet (Figure 6-3). The extent to which this elevation has changed since 2008 is not known, but considering the typical full-pool elevation of 1,040 feet, it is probably very similar, although the distal end may have moved downstream farther into the reservoir. As a result, we tentatively assume that fish passage issues would begin to occur when the reservoir level drops below about 1,040 feet.

Figure 6-2. Headcutting into the silt and organic deposits in the delta at the head of Los Padres Reservoir.

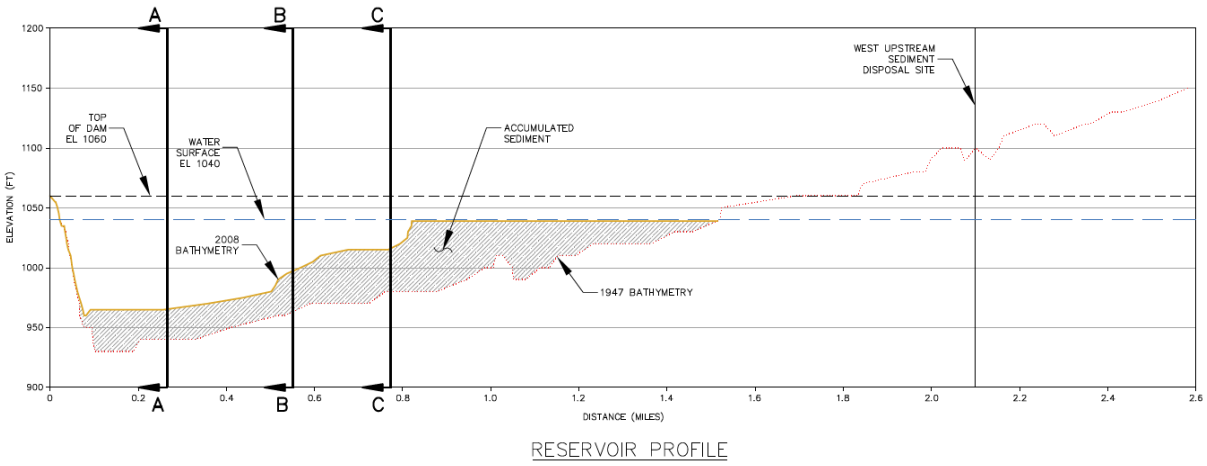

Figure 6-3. Reservoir profile based on 2008 survey.

The survey data collected for this study will be used to characterize the existing configuration of the reservoir sediment deposits, assess issues related to fish passage, and refine and update estimates of reservoir sedimentation volumes, based on a comparison with the pre-dam and 2008 bathymetry with the new bathymetry to be collected as part of this study. Photographic documentation and characterizations by field personnel will be used to qualitatively define the size range of surface materials in the reservoir deposits. All of this information will be used along with the results from the reservoir level assessment to identify periods when reservoir sedimentation becomes a barrier to fish passage, and to determine which locations are the most significant barriers, and to provide a framework for planning purposes. This information will allow an assessment of the potential impact the upper reservoir deposits may have on the success of fish passage, and, if there is any differentiation between alternatives.

This task also includes the initial development of the criteria to be used for the development and evaluation of fish passage. As mentioned earlier, we have found this to be a critical tool toward managing the subsequent stakeholder meetings with TRC and Advisory groups and keeping the project on track to a conclusion. It is important to be inclusive of stakeholders and experts but gaining agreement on basic criteria and constraints is crucial to keeping the process moving forward.

TASK 2: PREPARE BIOLOGICAL PERFORMANCE TOOL (CONSULTANT)

We have approached the selection and development of the biological model by teaming up with Cramer Fish Scientists and supporting them with Stephanie Theis a MWH fish biologist with Dr. Al Giorgi. Cramer Fish Scientists have applied similar tools on several projects and will be the lead to manage and demonstrate the model for Los Padres. Dr. Giorgi has been working in fish passage for many years and has a wealth of knowledge about past studies and data available for use in these models. More specifically he will help to ensure available data is applied to the model correctly. He recently was requested to provide input variable and resolve data conflicts in a biological passage model for the Susitna-Watana project.

Our approach to development of the Biological Performance Tool (BPT) will begin with review of comparable tools developed in other systems, review of Carmel River steelhead migration data, review of steelhead migration data from other comparable coastal California rivers, and consultation with the TRC. These activities will be completed as part of Task 2-1 and will provide the foundation and data inputs for

development of the BPT in Task 2-3.

Task 2-2 calls for review of information developed in Task 2-1 in order to make improvements and to identify "gaps" where further study will be required. We will facilitate this discussion with TRC and make appropriate revisions based upon comments received. We anticipate development of the BPT will lead to a better understanding of which factors contribute most to uncertainty in passage evaluation. As such, we would recommend that the final deliverable for Task 2-2, and recommendations for additional studies (if necessary) be finalized only after BPT sensitivity analysis is complete.

The primary activity of Task 2 will be the review and development of a Biological Performance Tool (BPT). We will begin the process by reviewing tools developed previously that could be modified or built-upon for application to the Project. In order to contribute to the objectives of the Los Padres Dam Fish Passage Feasibility Study, we anticipate the BPT will need to account for and integrate a variety of physical and biological factors which influence two interrelated processes. First, is the relative probability that migrating steelhead will arrive needing passage at Los Padres Dam. Second, is the conditional probability that migrating steelhead arriving at Los Padres Dam will successfully pass upstream or downstream. The following is a partial list of factors which will influence one or both of these processes and which may need to be incorporated in the BPT in order to a properly evaluate passage alternatives at Los Padres Dam.

1. Viable steelhead populations are characterized by a variety of life history types and migration strategies. As such, it will be critical for the BPT to represent key life-stages and migratory behaviors which may cause fish to encounter Los Padres Dam passage facilities.
2. The probability of steelhead (of each life-stage) encountering Los Padres Dam will vary by month, river flow and water year type. In some months and water year types, adult steelhead will not be entering the Carmel River or migrating to Los Padres Dam. In other months, and at certain flow conditions, the probability of steelhead reaching Los Padres Dam could be relatively high.
3. The probability of migrating steelhead (of each life-stage) arriving at and successfully passing Los Padres Dam will depend on:
    a. passage facility type and expected attraction effectiveness;
    b. whether the fish is moving upstream or downstream;
    c. flows upstream and downstream of Los Padres Dam;
    d. water temperatures upstream and downstream of Los Padres Dam;
    e. Los Padres Reservoir surface water elevation;
    f. Los Padres Reservoir water temperature profile, and;
    g. sediment deposits at head of Los Padres Reservoir.

We will utilize the information collected in Task 2-1 (and consultation with the TRC) to develop simple mathematical functions to describe how key factors will influence the probability of migrating steelhead reaching Los Padres dam and the probability of those fish successfully passing given alternative passage facilities. Figure 1 depicts a hypothetical example of adult steelhead migration probability (as a function of water year type), and adult passage probability for three passage alternatives.

EXHIBIT 2-B

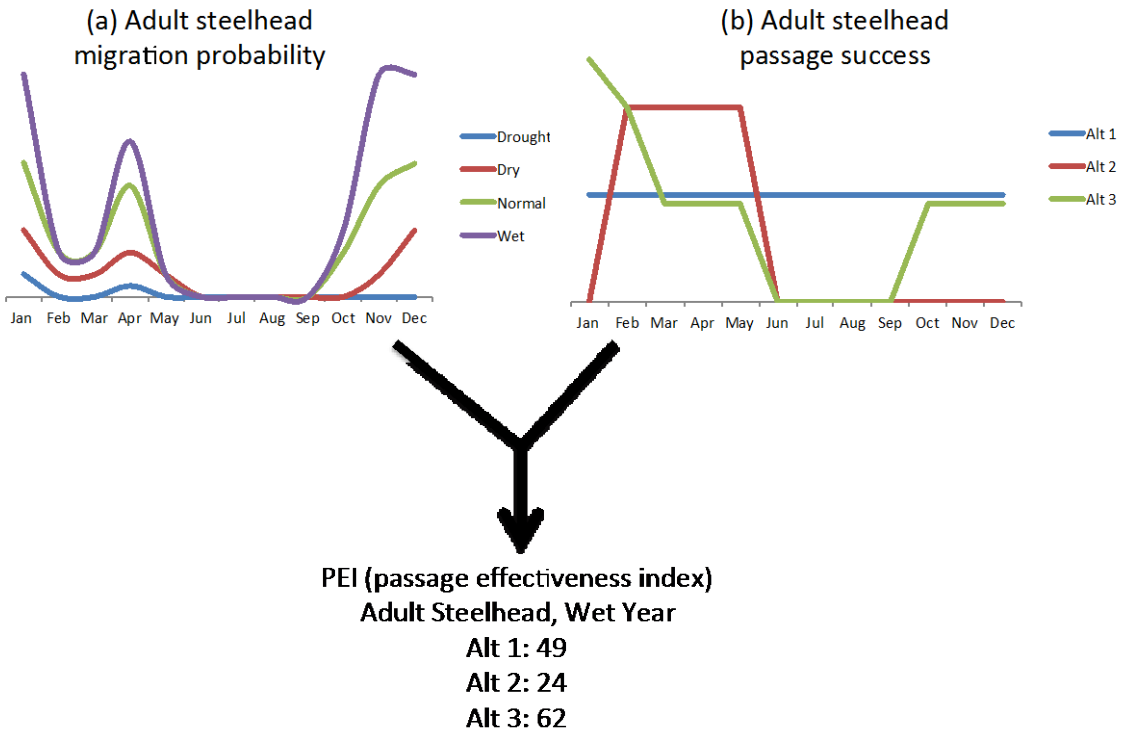

Figure 1. Example illustrating how hypothetical migration probability and passage success functions can be integrated into an index of passage effectiveness. Indices could be further integrated across water year types or steelhead life stages; potentially including weighting factors for water year types or life stages of particular importance

We will develop a model utilizing the information and functional relationships identified in Task 2-1 and 2-2. The model will be spreadsheet-based unless a similarly transparent but better performing alternative is available and approved by the client. We will fully document the model, describing and justifying all required assumptions. Where appropriate, model parameters and functions will include uncertainty and incorporate effects of uncertainty into estimates of overall passage effectiveness. We will run the model to evaluate three passage alternatives and also to assess the sensitivity of model outcomes to parameter uncertainty. Lastly, we will prepare a Technical Memorandum providing model documentation, describing data inputs, assumptions, results from sensitivity analysis, and results from evaluation of passage alternatives. The Technical Memorandum will include as appendices final deliverables from Task 2-1 and 2-2.

Assumptions:

- As stated in the RFP, the focus of this Project is not whether passage facilities would result in an increase in anadromous steelhead in the upper watershed. The model will be used to provide a relative comparison of likely steelhead passage effectiveness for the developed alternatives. The number of steelhead produced, captured or passed will not be estimated by the BPT. Such a model could be developed, but would require a separate scope of work.
- Downstream passage programs are already underway at LPD. Downstream passage alternatives are not being developed or analyzed under this Study. The potential effect of the upstream

passage alternatives on existing downstream passage routes (BGS, outlet, Spillway) will be evaluated and represented in the model where appropriate.

- The primary input of the TRC into the model will be during Task 2-1 and Task 2-2. Allowing for the TRC to review and request revisions to the BPT based on deliverables provided in Task 2-3, or any of the subsequent tasks is beyond the scope of work. We will provide updates on the BPT at all meetings as described in the scope of work and report BPT results as required for Tasks 3, 4, 5, and 6, but this work does not include revisions to the BPT itself.

TASK 3: IDENTIFY FISH PASSAGE CONCEPTS (CONSULTANT, TRC)

In Task 3 the concepts are fish developed. Our scope includes a significant amount of preparation for TRC Meeting #3. We will develop a preliminary list of concepts that will be presented along with the other brainstorming concepts. What this preparation does is it ensures a comprehensive list of concepts is considered by the group. It also allows the team to prepare for the initial screening of the concepts at the conclusion of the brainstorming and will expedite the 'fatal flaw' discussions with the group.

In our proposal we have included our fish passage engineers, biologists, and Dennis Dorratcague and Tom Bumstead. Dennis and Tom have worked with many of the expected TRC members on other steelhead projects and their presence allows the TRC, MPWMD and Cal-Am access to all of the experts to ask questions or otherwise gain the benefit of their experiences. Conversely it helps the team manage any technical discord that may arise in the meeting and reduce the chances of the meeting getting derailed.

At the conclusion of the meeting, the goal will be to have passage components assimilated into alternatives and the shortlist of alternatives narrowed down to no more than the 3 or 4 most likely projects. In a room full of engineers and scientists it is often difficult to keep the group from getting into the fine details. An important message that we will repeat is that for a feasibility assessment we need to focus on general design aspects and how they can be implemented (cost/risk) and how they can be compared (biological effectiveness). We found this was necessary in our work on the Yuba Salmon Forum considering passage and restoration on the Yuba River. In that project it was necessary to develop and screen seven different programs each with different combination of upstream and downstream passage at 5 – 10 dams or other channel features. This message was a standing reminder stated in each workshop so that the group could get through the information without taking offense if details were deferred and documented.

Information will be recorded during the meeting and summarized for the group. These notes will be circulated and tracked for documentation of both the process and decisions.

TASK 4: ALTERNATIVE DEVELOPMENT (CONSULTANT, TRC WITH ADVISORY GROUP INPUT)

The shortlist of alternatives will be developed further with the physical and hydraulic designs developed to understand the performance and limitations. Concept drawings will be developed and relative costing assessments completed. Updated information will be distributed with sufficient time to allow meeting attendees to review.

The evaluation matrix will be developed and presented at the Meeting #2 with preloaded criteria and information. This will be an introduction to the final selection process and the group will actively participate in updating the information and defining any sensitivity analyses that would be helpful at the following meeting with the final alternatives.

Summary notes will be reviewed with MPWMD and presentation materials will be prepared for the Advisory Group presentation. We would expect to provide a high level summary of the status of the work, tools that are being employed and interim results.

TASK 5: FISH PASSAGE ALTERNATIVES REFINEMENT (CONSULTANT, TRC WITH ADVISORY GROUP INPUT)

The final alternatives will be developed and concept cost estimates prepared. We have assumed based on our experience with these processes that we will carry two alternatives to this final assessment and presentation. One will be a volitional concept that meets an agreed upon definition of volitional and the other will be a hybrid. The process of developing cost estimates normally provides additional input to the project descriptions and pros and cons for the alternatives. This input will be documented as the drawings and meeting information are prepared and evaluation matrix updated. The final biological model results will be tabulated and presented.

Meeting #3 will be conducted similar to the previous two but the focus will be more on the comparison and perceived confidence of the biological effectiveness. The team and MPWMD will have reviewed the information prior to the meeting and will come prepared to present the teams conclusions as to feasibility. The input from the TRC will be and the conclusion either accepted or modified. Prior to dispersal of the TRC group we like to poll each member to offer a final opportunity to comment. We have found this effective in reducing the magnitude of major comments that must be resolved prior to the Advisory Group presentation.

TASK 6: REPORTING AND FISH PASSAGE RECOMMENDATIONS (CONSULTANT AND TRC)

The Feasibility Report will be prepared based on the information already developed and presented. The report will be organized as noted in the RFP unless otherwise changed in the TRC meetings. Although most of the information in the Draft report will have already been seen and discussed in the TRC meetings, questions or input is expected and we will maintain open communications with MPWMD and all the stakeholders. Once comments have been received and addressed the final documents will be submitted to MPWMD.

SCOPE OF WORK

MPWMD has developed a detailed scope of work for this project. MWH and our team have executed similar scopes of work at other locations many times. As requested the full detailed scope of work suitable for inclusion into the MPWMD Agreement is presented herein. As requested in the RFP we have included all of the RFP Scope. We have followed the task sequence and headings that were presented in the RFP except that we have subdivided Task 3 to better fit and define the work.

TASK 1 – Feasibility Study Preparation

The Consultant will compile and review relevant background information needed to prepare for a concept development of passage concepts, evaluation criteria and an evaluation process. The information will allow TRC members to become familiar with the operational, physical, hydrologic, and biological setting of the LPD, the range of alternatives that could be considered, and draft criteria to evaluate concepts. This information will be important for identifying concepts and alternatives that can reasonably and realistically fit within the construct of existing operations (including downstream passage), and that meet the stated objective of improving upstream passage for Carmel River steelhead. This background information will be utilized and updated throughout the Study, and will be documented in the Final Report.

Task 1.1 Compile Background Information

The Consultant will compile available information relevant to fish passage from MPWMD, Cal-Am and resource agencies. Data requests and interviews will be conducted to collect available information that will include:

- Project and related operations summary, including operation of existing trap and truck and downstream fish passage facilities, with a brief narrative on operations under different climatic conditions. These would include average water years, wet water years, a single-dry water year, and multiple or extended-dry water year scenarios.
- Biological design criteria and data summary that includes migration timing and appropriate calendar margins for exception years and antecedent conditions that may be documented in the literature.
- Key fish passage design flows
- Reservoir elevations during migration seasons
- Stage-discharge curves at existing entrance to ladder for trap and haul operation
- Project working drawings of the dam, reservoir and related properties suitable for initial analysis including:
    - a site plan with topography/channel bathymetry, and features in the vicinity of the ladder, plunge pool, dam, and spillway
    - sections through the dam at the west end of the dam, middle of the dam, spillway, and east of the spillway, with design water surface elevations
    - section of western slope immediately downstream of the dam from elevation 1060 to the plunge pool
    - enlarged plan at the plunge pool and existing ladder
    - Cal-Am to define protocol for sensitive information

Deliverables:

- TM 1.1 - Background Information

Task 1.2 Obtain Bathymetric and Topographic Data for Los Padres Reservoir

Using a combination of multi-bean sonar soundings, laser scanning or similar devices, the Consultant will obtain data to characterize the reservoir bottom and sides from the lowest reservoir elevation (the bottom) to approximately elevation 1050 (NGVD 1929) or 1053 (NAVD 1988).

- Obtain topographic/bathymetric data and provide cross-sections at 100-foot intervals from the dam spillway to the extent of backwater at the highest elevation (top of dam).
- Field verify reservoir inundation area for passage constraints at varying levels of the reservoir stage (minimum 5-foot stage intervals) from spillway elevation to elevation 1000 (NGVD 1929)
- Prepare a base map of the project area survey report
- Conduct an assessment of passage conditions through the reservoir based on current conditions.
- Prepare a technical memorandum summarizing existing conditions, survey, inspection reports including photos of reservoir conditions.

Deliverables:

- TM 1.2 – Existing Conditions

1.3 Prepare Evaluation Criteria

Following the compilation, preparation, and review of background information, the Consultant will prepare the draft evaluation criteria using technical, biological and economic feasibility criteria.

The deliverables for this task include:

- TM 1.3 - Draft Feasibility Criteria

Task 1-4 Identify Critical Data Gaps

The Consultant will identify missing or additional desired information and appropriate steps to acquire the necessary material. This process to address any information gaps will be identified based on the specifics of the necessary information, and a plan to address this information need will be formulated for TRC and Advisory Group review. Prepare a Technical Memorandum that outlines the data needed and its value to the Feasibility Study. The TM will also include estimates of cost and schedule to obtain and incorporate the data into the project schedule and potential ramifications to the Study conclusions, if any, if the data are not collected.

Deliverables:

- TM 1.4 – Data Gap Assessment

Task 1 Assumptions:

- MPMWD will provide all available as-built or construction records of the facility including drawings, surveys, construction photos, etc., 2 weeks prior to the field survey.
- Available cad files or pdf files of existing facilities will be made available prior to initiating field work.
- Survey
    - No new contour survey will be surveyed or mapped only validation as-built survey of critical facilities. Limited topographic mapping along the proposed fish structure alignment, topography will be obtained at the dam and abutments from the extents of the bathymetric mapping to the high water level. Whitson Engineers will provide limited mapping of the

dam including location of structures, abutments the spillway, existing fish trap and critical elevations of structures identified before the survey.

- Provide control in state plane, NAD83, and NGVD 1929

- Bathymetry and Shoreline Topography
  - No severe weather (e.g. electrical storms, high winds, rain) which could compromise equipment and personnel safety will occur during the survey period or vessel launch and retrieval.
  - The onsite boat launch is maintained, available and suitable for unaided trailer launch and recovery of a 24-foot shallow draft jet boat at the pool level on the planned survey day.
  - Cal-Am/MPWMD will provide an on-site representative with authority to make decisions at the work site and communicate with dam operations regarding access and any related operational issues. The representative will be available to communicate with TT personnel and work up to 12 hours on the day of the survey.
  - It is assumed that GPS coverage augmented with inertial data will be sufficient for continuous data collection. It is possible data gaps will exist where GPS technology is incapable of positioning the vessel leading to gaps in the data coverage.
  - Sufficient water depth (>5 feet) will exist in all survey areas for collection of bathymetric data and for safe operation of the Tetra Tech survey vessel. In areas of extreme shallow-water tree debris/ deadheads on shore, 100% bathymetric coverage may not be possible.
  - MBE and Vessel mounted LiDAR are "line-of-sound" technology, as such physical obstructions such as vegetation, debris, structures, water turbulence, rain, and range can obscure the desired target. Efforts will be made to maximize coverage for the desired survey areas but no guarantee can be given for complete coverage.
  - Vessel mounted LiDAR data delivery does not include removal of all vegetation to create a "bare earth" surface. VLM data will be clipped at the top of shoreline slope, bulkhead and/or top of pier.
  - MBE data can generally be collected to approximately 1' below the waterline. VML data can be generally collected down to the waterline. If reservoir elevations can be adjusted, collection will be timed to make use of higher and lower water levels to maximize overlap, but full coverage cannot be guaranteed due to geometry constraints induced by access restrictions, structures and other possible factors in the survey area.
- Data or information collected after submittal of the TM's in this Task will be incorporated during the preparation of the Final Report (Task 6)

Task 2 Prepare Biological Performance Tool (Consultant and TRC)

This task involves the selection and development of a biological performance tool that will be used to estimate and compare potential steelhead passage survival using fish passage concepts to be identified and refined in the feasibility study. In addition, compiling information on upstream steelhead migratory behavior based on LPD counts, San Clemente Dam counts (through 2015), and DIDSON data near the mouth of the river, will help identify the type, location, size, and timing of potential upstream fish passage facility components and the necessary coordination with existing downstream passage facilities. Additional information needs may be defined during the compilation and studies could be designed and implemented

to provide such information. The proportion of the migrant population using each alternative and the estimated survival associated with new upstream pathways will determine the biological performance and contribute to the feasibility evaluation of fish passage concepts identified and developed in the study.

Successful steelhead passage at the Project must consider both upstream and downstream migratory pathways and the potential for both upstream and downstream movement to occur at the same time. Upstream fish passage systems are typically designed around considerations of upstream collection and upstream passage. Upstream collection defines the ability to attract and collect fish from downstream of a barrier. This characteristic includes the ability to behaviorally or hydraulically attract or guide the fish from the river into a fish collection chamber. Typical features of an upstream collection feature include a collection facility entrance (weir, orifice, slot, etc.), attraction flow to draw fish into the entrance, and a collection pool that encourages fish to stay, or traps fish in the facility to prepare for transport past the dam. The existing ladder and trap may be sufficient to meet these requirements for adults, but do not meet these requirements for juveniles.

Upstream passage defines the means to move fish from the collection pool to a release site upstream of the dam. Typical features of an upstream passage component include various styles of fish ladders, fish lifts, and fish locks. The existing ladder, trap and transport program is to be evaluated for improvements separately from this study. Its relation to this study may be as an alternative to be considered as an Optional Task if volitional passage cannot be achieved. The study will consider volitional passage both in the ideal application where fish can enter and transit without outside assistance and in the managed form where fish that enter the ladder are transported to the reservoir with automated systems.

Upstream Collection and Passage –This component must accommodate the behavior of the target life stages and consider flow control operations, river hydrology, site hydraulics, and water quality. Attraction to the ladder requires sufficient flows to attract upstream migrants away from other competing flows from spill or other releases. Upstream passage must effectively collected in such a way that minimizes migratory delay and injury. Water temperatures may affect attraction, oxygen saturation in the ladder and exit conditions and should also be evaluated for upstream passage facility alternatives.

Downstream Passage – The existing downstream passage facility was intended to serve as an interim measure to improve passage until a permanent facility could be built. This may compete with the upstream passage facility for flow releases from the reservoir and there is a potential for exit flow from the upstream passage facility to attract downstream migrants. Depending on size of migrant, time of year, flow condition, and steelhead behavior, the proportion of the out-migrant population using the downstream passage facilities may change in response to project operations, flow conditions and seasonal timing. Once outmigrants successfully approach the dam spillway, they must successfully find and enter the floating collector Behavioral Guidance System installed to pass the dam. Fish that do not pass downstream through fish passage facilities may seek other pathways, including being attracted to the upstream passage facilities. Consideration should be given to the potential for downstream migrants to attempt to enter the upstream facilities at the point of exit to the reservoir. Understanding the migratory patterns of each life stage will be key to determining the operational protocols for both upstream and downstream migration facilities.

Biological Performance Tool – A biological performance tool will consist of a spreadsheet based fish passage model that tracks steelhead survival, or passage efficiency, through the various alternatives available. The values developed from the fish passage model will be used to compare and evaluate and

compare potential fish passage concepts. The model will not be used to represent estimates of the size of the steelhead population or impacts on steelhead populations within the watershed. Estimates of the proportion of the potential migrant population using each alternative will be integrated with estimates of survival associated with each alternative under representative average, wet and dry hydrologic conditions. An evaluation of the uncertainty associated with each assumption will provide an indication of the robustness of modeling results and the potential influence on recommendations of fish passage feasibility.

Task 2-1 Compile Background Information on Migratory Pathways (Consultant)

The Consultant will collect information needed to develop and populate the fish passage model including the existing system information collected in Task 1.1.

A literature review will be conducted to consider relevant studies conducted at other water control projects with the results and conceptual-level drawings of similar fish passage facilities documented for use. Where appropriate the professional opinions of the TRC may also be solicited and compiled.

Recent data on releases from storage and reservoir pool levels will be reviewed. This is presumed to be representative of current and proposed future conditions for this Study. Representative years will be selected in coordination with members of the TRC to evaluate fish passage facilities.

Information compiled as part of Task 2-1 will be used to populate the fish passage model and will be presented with a progress report at the end of this task.

Information collected in Task 1.1 relative to passage considerations within Los Padres Reservoir will be reviewed specially for applicability to the biological model. This will include water flows, migration timing, temperatures and predation data.

Biological data and information will be collected from the operations of the existing adult trap and newly construction downstream passage facility as they are available. This will be summarized for application to the new biological model.

The Consultant will prepare a technical memo characterizing available Los Padres Reservoir biological data and provide a summary of available input biological data that can be applied to the model. The TM will be submitted for review and comment to the TRC.

Deliverables:

- TM 2.1 - Biological Data Summary

Task 2-2 Review and Identify Critical Biological Data Gaps (Consultant and TRC)

The TRC will review and discuss the information developed in Task 2.1. The Consultant will facilitate a planned web call to review and discuss TRC comments on the biological data and completeness for the fish passage biological evaluation needs. The results of this conference will be summarized in a Technical Memorandum with a draft returned to the TRC for review and acceptance. Upon receipt of comments the Memorandum will be finalized and included in the Feasibility report under Task 6.

If additional information is needed, the TRC will work with Consultant to identify appropriate steps to acquire the necessary material or develop reasonable assumptions. The process to address information

gaps will be identified based on the specifics of the information. If data gaps are identified that prove critical to the feasibility evaluations and TRC recommendations, the TRC will identify the most appropriate means to fill those gaps, including influence on ability to complete an meaningful analysis, timing to acquire and evaluate the information and potential outcomes as they could affect the recommendations by the TRC.

Deliverables:

- TM 2.2 – Biological Data Gap Assessment

Task 2-3 Develop and Populate Fish Passage Model with Available Information

The Consultant will evaluate potential fish passage facilities at the Project using a biological performance tool that estimates passage efficiency and survival at LPD and reservoir. The biological performance tool will be used to conduct a relative comparison of the biological performance of fish passage alternatives. An evaluation of the uncertainty and sensitivity of the assumptions used to develop the mathematical functions will provide an indication of the robustness of modeling results.

Evaluation of critical parameters, and background information available to define them, will be evaluated to determine the influence of the values in evaluating the potential feasibility of fish passage facilities.

One goal of the fish passage model is to incorporate a mechanism to easily alter the percentage of fish that move through each potential alternative as a function of river flow and reservoir water surface elevation. A flow response factor will be developed for upstream steelhead migrants to identify how migrants respond to flow. An initial response factor may assume that the number of fish entering the project on a given day in the migration period is approximately proportional to the volume of the daily reservoir inflow in relation to the total inflow during the migration period. Using separate calculations for peak and off-peak migration periods, the total volume of inflow will be calculated and the proportion of fish migrating per day will be based on the percent of total flow for each day under average, wet and dry representative water years. An alternate response factor could assume that an equal number of fish passes each day in the migration period, or migration rates are correlated to water temperature. By incorporating an adjustable value, the sensitivity of the response factor to changing conditions will provide an indication of the influence of the response factor in evaluating total Project survival.

The mathematical functions used to calculate survival between alternatives will be developed in an Excel or other spreadsheet format to ensure transparency and ease of stakeholder review. The results of the biological performance tool will be an estimate of system survival or passage efficiency for each passage alternative. In addition, similar flow response functions and pathway apportionment will be used to estimate fish passage survival under existing conditions without volitional upstream fish passage facilities.

Attraction and ladder flow is an important design feature of facility components. Attraction flow volumes for both upstream and downstream are a balance between site conditions and competing flow releases. Alternate attraction flow volumes will be examined in terms of fish attraction to assess facility sizing options. The feedback mechanism provided by fish passage model results will assist engineering decisions and allow each concept to be refined so that the optimum design of each fish passage alternative can be used in the feasibility evaluation.

EXHIBIT 2-B

Parameter values will be estimated from site specific data, borrowed from other populations, or professional opinion based on steelhead passage behavior. Each assumption will be identified and documented and major parameters will be accompanied by an evaluation of uncertainty.

The Consultant will complete the following activates under this Task 2-3:

- Review available spreadsheet-based passage evaluation model (biological model) and select the best model that best fits the scope of this study.
- Customize the biological performance tool to include the biological data and factors developed in and approved by the TRC in Tasks 2.1 and 2.2.
- Populate the model with data and perform sensitivity runs to assess the model's output prior to use on the fish passage concepts and alternatives.
- Evaluate existing conditions to estimate fish passage survival under existing conditions
- Prepare a Technical Memorandum that documents the model, results of existing conditions, inputs, sensitivity results. The TM will include the final deliverables from Tasks 2.1 and 2.1 as appendices with a compilation of background information related to the project biology.

Deliverables:

- TM 2.3 – Biological Model. Draft and final with model

Assumptions:

- As stated in the RFP, the focus of this Project is not whether a volitional passage facility would result in an increase in anadromous steelhead in the upper watershed. The focus of this Project is on the engineering constraints, biological needs of steelhead (i.e., ability of different life stages to use a particular alternative), and the economic costs of volitional passage. The model will be used to provide a relative comparison of effectiveness of the developed alternatives.
- Downstream passage programs are underway at LPD. Downstream passage alternatives are not being developed or analyzed under this Study. Only the potential effect of the upstream passage alternatives on the existing downstream passage routes (BGS, outlet, Spillway) are included in the model.
- As stated in the RFP, the focus of this Project is not whether passage facilities would result in an increase in anadromous steelhead in the upper watershed. The model will be used to provide a relative comparison of likely steelhead passage effectiveness for the developed alternatives. The number of steelhead produced, captured or passed will not be estimated by the BPT. Such a model could be developed, but would require a separate scope of work.
- Downstream passage programs are already underway at LPD. Downstream passage alternatives are not being developed or analyzed under this Study. The potential effect of the upstream passage alternatives on existing downstream passage routes (BGS, outlet, Spillway) will be evaluated and represented in the model where appropriate.
- The primary input of the TRC into the model will be during Task 2-1 and Task 2-2. Allowing for the TRC to review and request revisions to the BPT based on deliverables provided in Task 2-3, or any of the subsequent tasks is beyond the scope of work. We will provide updates on the BPT at all meetings as described in the scope of work and report BPT results as required for Tasks 3, 4, 5, and 6, but this work does not include revisions to the BPT itself.

EXHIBIT 2-B

Task 3 Identify Fish Passage Concepts (Consultant, TRC)

This task will identify possible passage concepts and conduct the initial screening and then presentation of the concepts to the TRC. Task numbers have been changed from the RFP to include Task 3.1 that incorporates the development of the concepts.

Task 3-1 Workshop Preparation

The Consultant will develop upstream passage concepts based on studies, experience, and history of other fish passage facilities and specific criteria and guidelines published by NMFS and CDFW. Concepts might be based on components of fish passage facilities, operational procedures, locations of facilities at the LPD site, or may replicate an entire facility.

The concepts will be organized for an initial evaluation and a "fatal flaw analysis" will be performed to eliminate any concept that cannot meet the basic criteria. Fatal flaws might include dam or personnel safety issues, constructability concerns, or poor chance of satisfying fish passage or other objectives. For concepts that have fatal flaws, the Consultant will document contacts with appropriate review experts and agencies including, but not limited to DSOD, CDFW, and NMFS. Concepts at this early phase of development that are fatally flawed will be documented and presented to the TRC, but will not be further developed unless there is direction from the TRC to do so. Concepts without fatal flaws will be considered technically feasible for further analysis and development.

Using the information developed in Tasks 1, 2 and 4, the Consultant will identify design flow ranges, select hydrologic design years, and develop preliminary working base drawings. The Consultant will prepare a draft spreadsheet evaluation matrix (Pugh Matrix, or similar) and evaluation criteria descriptions for use at with the TRC.

Prepare a presenting and organizing initial passage concepts. The package should describe design parameters, concepts, evaluation criteria, and initial evaluation matrix, fatal flaw screening and include schematic diagrams to communicate the concepts presented.

Deliverables:

- TRC Meeting #1 - Informational Package and workshop agenda

Task 3-2 TRC Meeting #1 – Concept Workshop

The TRC and Consultant will meet to discuss passage concepts and criteria for evaluation. The Consultant will work with MPWMD to organize and conduct the Meeting in general accordance with the protocols below. The Consultant will provide staff to record and distribute meeting notes.

The information package containing a summary suitable for use at a workshop will be distributed to the TRC three weeks in advance of the meeting for attendees to review and discuss prior to the workshop.

Deliverables:

- Meeting presentation.

Assumptions:

- Meeting Protocols and Preparation and Agenda. The RFP included an example of meeting protocols for this type of project. We assume Meeting # 1 will follow these as appropriate for the

specifics of the Los Padres site. The concepts developed in Task 3.1 will be presented during brainstorming to facilitate ideas and discussions.

Task 3-3 Meeting #1 Summary

The Consultant will prepare draft meeting notes for review by MPWMD. Upon acceptance by MPWMD the draft notes will be distributed to the TRC for review and acceptance. The notes for Task 3-2 will include the following:

- Updated criteria document and a draft evaluation spreadsheet. List of fish passage concepts identified in the session.
- List of additional information necessary to reduce uncertainty or risks associated with each concept.
- A discussion of the fatal flaw analysis and documentation of concepts eliminated from further consideration at this time.
- Status update on the biological performance tool and any further development recommended by the Panel.
- A short list of fish passage concepts for further development.

It is intended that this summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. Acknowledgement or acceptance of the notes will be requested for two weeks following submittal and final notes will be distributed one week following receipt of comments.

Deliverables:

- Meeting Summary Notes, Draft and Final.

Task 4 Alternative Development (Consultant, TRC, Advisory Group)

Task 4 is to review the list of concepts and develop the fish passage concepts identified in Task 3. The fish passage alternatives will address site-specific constraints, describe the full hydraulic functional design and general layout of each alternative, and will identify any uncertainties associated with each alternative prior to the evaluation process. With this task, the Advisory Group would be asked for feedback on the initial set of alternatives to be studied.

Potential volitional fish passage alternatives will be identified and evaluated concurrently with the existing trap and transport program. Volitional passage is the concept of giving fish the choice of moving upstream or downstream based on their own motivation. The following is the definition of volitional passage:

> *"Volitional fish passage is a means of fish passage with appropriate hydraulic conditions such that all individual migrating adult and juvenile fish of the species of interest have the opportunity to move freely and safely upstream and/or downstream past the Project according to their own motivation."*

Under volitional passage, a barrier is modified such that fish arrive at the site under their own power, swimming through or around and past the former blockage. A concrete fish ladder is an example of a volitional facility for adult steelhead. Volitional fish passage facilities are generally preferred because they operate constantly, require little human interference, and may be mechanically less likely to break. They may be less costly to maintain and operate but may represent a larger capital expenditure. However,

volitional facilities often provide little flexibility to accommodate uncertainties, or to adjust to changes in fish behavior, environmental or operating conditions. It should be noted that the dam owner will be responsible for ongoing maintenance and operation of passage facilities.

Space or engineering constraints may prevent the design of safe and effective, volitional fish passage facilities. Particularly for juveniles, impoundments may present challenges that cannot be overcome with volitional passage if currents confuse fish navigation or if physical constraints preclude construction of upstream passage facilities that can accommodate juvenile migration. In some situations, non-volitional facilities can be a preferred method of providing fish passage.

At least one pure volitional passage alternative for upstream passage will be included in the final set of alternatives throughout the study, regardless of its feasibility. There may also be alternatives that have volitional passage characteristics though are not entirely volitional throughout the hydrologic and reservoir storage and release cycle.

Once alternatives are defined, an initial opinion of probable construction and operating cost (OPCC) will be provided in this task for each alternative. Estimates may be based on comparative analysis to other systems or may be composed of unit estimates for items in an alternative. The level of accuracy of the estimate should be commensurate with a concept-level screening process and – depending on the complexity of an alternative – may have a large expected accuracy range. The estimated performance of the alternatives will be compared using the biological performance tool developed and updated in Tasks 2 and 3. The technical feasibility of constructing facilities will include site-specific constraints including geology and dam safety.

Alternatives that are not feasible will be dropped from consideration and reasons for them being dropped, will be described. It may be the case that an alternative scores low due to a specific uncertainty; in this case, the alternative will be retained and a plan to address this uncertainty developed. Based on the evaluation scores, the Consultant will update the remaining alternatives for additional evaluation by the TRC.

A meeting will be held with the Consultant, TRC, and Advisory Group to present the process alternatives and their relative scores after which the TRC will propose a final list of feasible alternatives for additional development.

Task 4-1 Develop Initial Concepts into Alternatives (Consultant)

Based on the concepts selected in Task 3, the Consultant will further develop alternatives. The primary goals of this task are:

- Define each concept with respect to its hydraulic and operational characteristics.
- Draw and define the concepts so that the design intent is clearly communicated. A common format for drawings will be developed by the Consultant in this task.

For each alternative, the Consultant will provide:

- Plan and sectional drawings to scale, to fully define the concept.
- Hydraulic characteristics and function design features, shown on the sketches, or on separate sheets.

- Brief write-up suitable for review to describe the concept's key characteristics and how the alternative operates.
- List of pros and cons for each alternative relative to operations, biological performance goals, reliability, etc. (Note: it is intended that the biological performance tool be applied to each alternative.)
- Probable opinion of construction and operating cost and complexity (high, medium, or low).
- An updated evaluation matrix containing selected alternatives and the evaluation criteria agree upon at TRC Meeting #1. The evaluation matrix should build on the criteria developed in Meeting #1 and should be presented in a grid form or Pugh Matrix, which breaks the alternatives down into discrete elements for comparison, evaluation, and optimization.

With the additional investigation, some concepts or alternatives may prove to be infeasible or may be modified. As noted above, at least one upstream volitional alternative will be retained for the duration of the study.

Deliverables for Task 4-1 include:

- compilation of alternatives
- an evaluation matrix
- supporting documentation

Assumptions:

- For budgeting purposes it is assume that up to 3 alternatives will be developed and modeled.

Task 4-2 Meeting #2 – Review and Refine Alternatives (Consultant, TRC)

The TRC and Consultant will meet to discuss and refine passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1.

The evaluation matrix will be utilized during a meeting to prepare the first evaluation of the alternatives that will challenge the existing state of each alternatives conceptual design for better performance, and will allow a relative comparison of the alternatives. The matrix will result in consolidated scores, which reflect the relative success of achieving criteria, and will thus help rank or prioritize alternatives.

The results of the grid analysis can be used to further refine facility components, identify data gaps, and assess the potential influence of uncertainties. However, the grid analysis is only a decision tool; the results are used to influence but not dictate decisions. The characteristics and effectiveness of upstream fish passage facilities will be evaluated, and the results used to refine and optimize the location, size and timing of each type of passage facility.

Based on the results of this initial evaluation, the Consultant will work to update descriptions and drawings for the fish passage alternatives. The results will be presented to the TRC at Meeting #3, with the goals of receiving input and the TRC reaching consensus on a list of alternatives for final refinement in Task 5.

Deliverables for Task 4-2 include:

- workshop agenda

Assumptions:

- The meeting Agenda will be organized as follows:
    - The Consultant will present an overview of the work completed to date, and will address any questions from the previously distributed meeting notes.
    - Discuss and refine evaluation criteria based on the current state of the alternatives.
    - Identify any criteria that, if not satisfied to some degree, would constitute a fatal flaw.
    - Identify any uncertainties and/or risks associated with each alternative, and a means to address these issues.
    - Review results of the application of the biological performance tool to gain an understanding of the fish passage performance for each alternative.
    - Review the alternative evaluation matrix and update the matrix based on input at the meeting.
    - Perform a fatal flaw analysis on each alternative; eliminate alternatives with fatal flaws; and record eliminated alternatives for reporting in the meeting notes.
    - Combine and consolidate alternatives into distinct, stand-alone fish passage alternatives appropriate for the LPD site. This exercise will be the first iteration of defining passage alternatives for further development and additional review (if necessary).
- The meeting is assumed to be one full day.

Task 4-3 Meeting #2 Summary

The Consultant will prepare draft meeting notes for review by MPWMD. Upon acceptance by MPWMD the draft notes will be distributed to the TRC for review and acceptance. The notes for Task 4-3 will include the following:

- Status update on the biological performance tool and any further development recommended by the TRC and/or Group.
- Final evaluation spreadsheet.
- List of fish passage alternatives identified in the session.
- List of additional information necessary to reduce uncertainty or risks associated with each alternative.
- A discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time.
- A recommendation of alternatives for further development.

It is intended that this summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. Acknowledgement or acceptance of the notes will be requested for two weeks following submittal and final notes will be distributed one week following receipt of comments.

Deliverables:

- Meeting Summary Notes, Draft and Final.

Task 4-4 Present Initial Set of Passage Alternatives (Consultant, TRC, Advisory Group)

The Consultant, TRC, and Advisory Group will meet (Advisory Group Meeting #1) to discuss the initial set of passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1.

Deliverables:

- Meeting summary that includes comments from the Advisory Group, a copy of any written materials submitted by the Advisory Group, and any follow-up response from the Consultant or TRC.

Task 5 Fish Passage Alternatives Refinement and Determination of Feasibility

Task 5 will focus on the refinement of the remaining fish passage alternatives and a determination of whether upstream volitional passage is feasible at LPD. In addition to further development of the alternative design drawings, the Consultant will prepare an opinion of probable construction and operating cost for each alternative, describe operational protocols and issues, address comments and/or issues brought up at previous meetings, perform final runs of the biological performance tool, prepare a final quantitative evaluation of the alternatives using the final Pugh matrix and evaluation criteria, and address constructability issues and any remaining data needs or significant risks. At least one volitional fish passage alternative will be included in the final list of alternatives. A draft outline for the final report will be developed by the Consultant for review by the TRC.

The TRC will review the technical feasibility of the alternative(s), the expected biological performance, and the cost to construct and operate each alternative. Evaluation of alternatives will include strong consideration of the risk and uncertainties associated with the implementation and performance of the alternatives and whether alternatives would include continuation of the existing trap and transport facilities. The Consultant, TRC, and Advisory Group will meet to review the final set of alternatives before the TRC makes a final recommendation.

If there is a consensus on evaluation of alternatives by the TRC, the Study terminates, and Cal- Am and others may formulate an implementation plan to carry the recommendations forward. If there is no consensus, it is presumed that the status quo would not change (i.e., the trap and transport facilities and program would continue); however, if there is no consensus, Cal-Am, MPWMD and the TRC should consider what, if any, steps should be taken to address upstream passage. This is not included as a Task in this Project.

Task 5-1 Fish Passage Alternatives Refinement (Consultant)

The Consultant will prepare Engineer's Opinions of Probable Construction Costs (OPCC) for the remaining alternatives to a Class 5 level as defined by the American Association of Cost Engineers International (AACE). The cost estimates will be suitable for comparison of the alternatives, but may not reflect an accurate number for capital budgeting as they will be developed based on very limited information.

According to the AACE International Recommended Practices and Standards:

"AACE International Class 5 estimates are generally prepared based on very limited information, and subsequently have wide accuracy ranges. Typically, engineering is 0% to 10% complete. They are typically used for any number of business planning purposes, such as but not limited to market studies, assessment of initial viability, evaluation of alternate schemes, project screening, project location studies, evaluation of

resource needs and budgeting, or long-range capital planning. Virtually all Class 5 estimates use stochastic estimating methods such as cost curves, capacity factors, and other parametric and modeling techniques. Expected accuracy ranges are from -20% to -50% on the low side and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances. As little as 1 hour or less to perhaps more than 200 hours may have been spent preparing the estimate depending on the project and estimating methodology."

Any data gaps or significant risks will be identified for discussion prior to the final Meeting.

Deliverables for Task 5-1 include:

- draft final evaluation matrix, including OPCC
- draft final report outline

Assumptions:

- For budgeting purposes it is assume that up to 2 alternatives will be refined and modeled.

Task 5-2 Meeting #3 – Determination of Feasibility and Selection of Alternative(s) (Consultant and TRC)

A meeting of the TRC and Consultant will be conducted to review and critique the alternatives, re-run the biological performance tool based on updated information (if necessary), do a final scoring of alternatives and determine: 1) if upstream volitional passage is feasible; 2) which alternative(s) should be pursued further; and 3) prioritize alternatives (if possible).

Up to this point, at least one upstream fish passage alternative should have been carried forward for inclusion in the final report. If, at the conclusion of the Final Meeting #3, the consensus is that upstream volitional passage is not feasible, document the reasoning for coming to this conclusion.

Deliverables for Task 5-2 include:

- workshop agenda

Assumptions:

- The meeting Agenda will be organized as follows:
    - Review and discuss the updated alternatives. Note any remaining information needs or significant risks associated with the alternative conceptual designs or recommended operation.
    - If necessary, re-run the biological performance tool based on the updated designs.
    - Review the OPCC, constructability issues, and the technical feasibility of each alternative.
    - Finalize the criteria, and perform a final evaluation of the alternatives relative to evaluation criteria, using the Pugh evaluation matrix.
    - Eliminate any alternatives that have fatal flaws based on their latest design, or that score low relative to others, and record eliminated concepts for reporting in the meeting notes.
    - Develop recommendations for future actions regarding each remaining alternative, including opportunities to improve performance or optimize alternatives based on the comparisons in the evaluation matrix.

  - List of final pros and cons for each alternative. If possible, prioritize alternatives.
  - Finalize the Fish Passage Feasibility Study report outline.
- The meeting is assumed to be one full day.

Task 5-3 Meeting Summary

The Consultant will prepare draft meeting notes for review by MPWMD. Upon acceptance by MPWMD the draft notes will be distributed to the TRC for review and acceptance. The notes for Task 5-3 will include the following:

- Final status of the biological performance tool and any further development recommended by the TRC.
- Final evaluation spreadsheet.
- List of fish passage alternatives evaluated at the session.
- List of additional information necessary to reduce uncertainty or risks associated with each alternative.
- A discussion of the fatal flaw analysis and documentation of alternatives eliminated from further consideration at this time.
- A recommendation of alternatives for further development.

It is intended that this summary document will be distributed within two weeks of the meeting date to the TRC and to the Advisory Group. Acknowledgement or acceptance of the notes will be requested for two weeks following submittal and final notes will be distributed one week following receipt of comments.

Deliverables:

- Meeting Summary Notes, Draft and Final.

Task 5-4 Present Final Set of Passage Alternatives (Consultant, TRC, Advisory Group)

The Consultant, TRC, and Advisory Group will meet (Advisory Group Meeting #2) to discuss the final set of passage alternatives to fit LPD requirements. Protocols are to be similar to Meeting #1.

Deliverables:

- Meeting summary that includes comments from the Advisory Group, a copy of any written materials submitted by the Advisory Group, and any follow-up response from the Consultant or TRC.

Task 6 Reporting and Fish Passage Recommendation

Task 6 is structured to organize and report on the full development of the final fish passage alternatives. A draft and final feasibility report will be developed that will document the process followed, development of fish passage alternatives, evaluation criteria, summary of alternatives eliminated with justification for the eliminations, a final evaluation and the final recommended alternative(s). Each alternative selected will be described with text and conceptual level design drawings, an OPCC, estimate of operating costs, an implementation schedule and description of construction issues, listing of pros and cons, and a summary and details of the final evaluation. At least one volitional alternative for upstream passage will be

described, regardless of its feasibility; however, if all volitional alternatives are determined to have one or more fatal flaws, the additional work described in this task may not be carried out.

The final feasibility report will include the TRC recommendation regarding the technical and biological feasibility of providing volitional steelhead passage at LPD. If a volitional passage facility cannot be recommended due to site constraints, uncertainties, or other factors the final report will document the rationale. Recommendations for next steps will be developed, which might include: fish passage alternatives to be pursued; further studies, if needed to address uncertainties or risk; or additional analysis to determine economic feasibility. The draft report will be presented to the TRC and Advisory Group for input. Depending on the nature of comments, the draft report may be finalized or, if additional issues are raised, the report may be amended and recirculated for final review.

Task 6-1 Prepare Draft Fish Passage Feasibility Report (Consultant, TRC)

The Consultant and TRC will review the final set of alternatives and recommendations made by the Advisory Group and the TRC will make a final recommendation. A Draft Fish Passage Feasibility Report will be developed in this task to document the scope of the study, background information used, design criteria, the process utilized to conduct the feasibility analyses, the results of the analyses and the TRC recommendation. A draft table of contents for the report is listed below as a guide.

The draft (and final) report will contain at least the following:

1 Introduction
- 1.1 Problem statement
- 1.2 Purpose, objective
  - 1.2.1 Fish passage goal statement
  - 1.2.2 Relevance to Steelhead Recovery Plan
- 1.3 Overview of Fish Passage Panel Process
  - 1.3.1 Summary of meetings, coordination, and progress reports
- 1.4 Overview of the biological performance tool
  - 1.4.1 Overview fish passage model

2 Descriptions of alternatives
- 2.1 Initial Brainstorm Concepts
  - 2.1.1 Brainstorming Workshop Summary
  - 2.1.2 Concept Analysis and Selection
- 2.2 Preferred Concepts
  - 2.2.1 Concept Descriptions
  - 2.2.2 Pros and cons
  - 2.2.3 Biological Performance for Upstream and Downstream Passage
  - 2.2.4 Implementation challenges and uncertainties
  - 2.2.5 Constructability considerations
  - 2.2.6 Opinions of probable construction and operating costs
  - 2.2.7 Concept Drawings

3 Evaluation of Alternatives
- 3.1 Description of evaluation process
  - 3.1.1 Description of evaluation matrix and criteria
  - 3.1.2 Weighting and scoring
  - 3.1.3 Criteria that could lead to fatal flaws
- 3.2 Evaluation Results

3.2.1 Ranking of alternatives based on evaluation matrix
3.2.2 Ranking of alternatives based just on fish passage criteria
3.2.3 Relative fish passage ranking compared to cost and operations criteria
4 Conclusions and Recommendations
5 References cited

The Consultant will provide a draft report to the TRC for review. At least thirty (30) calendar days should be provided to prepare written comments. If no substantive issues are raised during the review, the Consultant will move on to production of the Final Report; however, if substantive issues are raised, the Consultant, Cal-Am, and MPWMD may elect to work directly with the commenter(s) to address any issues, or hold a meeting to address issues.

Deliverables:

- Draft Feasibility Report, electronic copy pdf and/or MS Word
- Written documentation of final TRC comments
- Final Report, 5 printed and bound copies, one electronic copy in pdf format

Assumptions:

- The meeting Agenda will be organized as follows:

TASK 7 – Project Management

7.1 Project Management

Project management, general communications and associated quality management will be provided throughout the duration of the project. This task consists of standard project management tasks, including scheduling, budget tracking, invoicing, and general project communications. Monthly progress summary reports will include at a minimum: description of tasks performed and accomplishments; a comparison of budgeted vs. actual expenses; and a discussion of the progress of the schedule.

7.2 Meetings

The Consultant shall facilitate meetings with MPWMD, Cal-Am, and other interested parties including, but not limited to:

- Kick-off meeting with MPWMD and Cal-Am;
- Review of existing and proposed operations in the field w/MPWMD and Cal-Am;
- Review of preliminary and final alternatives with TRC and Advisory Group (under Tasks 3, 4 and 5)
- Miscellaneous meetings with regulatory agencies as required to determine constraints.

Meetings will generally be held at the MPWMD Ryan Ranch office or at the Cal-Am Pacific Grove office, unless other arrangements are made.

Assumptions:

- Invoices will be prepared and submitted to MPMWD monthly with the Progress reports.
- Cal-Am quarterly reports are assumed to be satisfied by the monthly invoicing and reports.

Task 7 Deliverables:

- Monthly Invoices and Progress reports;
- Copies of communications among agencies and consultants (if appropriate);
- Meeting minutes.

OPTIONAL TASKS

Optional Task 1-1a: Hydraulic Modeling to Determine Stage-discharge Curve at Existing Ladder Entrance If additional refinement of the stage-discharge rating curves in the vicinity of the fish ladder outlet are needed to support the analysis, cross-sectional survey data can be collected along the downstream river over an appropriate reach of the channel, and the data used to prepare a one dimensional (1-D) hydraulic model the surveyed reach. The model would be developed using the U.S. Army Corps of Engineers HEC-RAS software (Version 5.0; USACE 2016). Considering the relatively steep slope of the river below the dam, a relatively short (~ 0.5-mile long) model should be sufficient to ensure accurate estimates of the hydraulic characteristics in the vicinity of the spillway and existing fish ladder. Appropriate hydraulic roughness and boundary conditions will be incorporated into the model, and the model will be executed over a range of flows up to the maximum recorded mean daily flow measured at the below Los Padres Reservoir gage. Results from this model will be used to develop a stage-discharge rating curve at the existing fish ladder entrance. The approximate cost for this additional work would be $7,000.

Optional Task 1-2a: Aerial survey of the dam, abutment and spillway area may be advantageous to the development of more accurate cost estimates for the study and aid in the understanding of alternatives by stakeholders. Generation of 3D figures would be possible if current topography and contour information were developed. The approximate cost for this additional work would be $10,000 for the ground control and aerial photogrammetric Services.

Optional Task 1-2b: If the water levels are too low to adequately survey the sediment delta surface in the upper reservoir during the bathymetric and vessel-mounted LiDAR survey alternative methods are available to collect these data. Tetra Tech has experience with terrestrial, mobile-land, mobile-water and aerial-based LiDAR scanning and own specialized equipment for each of these applications. Additional topography for Los Padres upper reservoir would best be addressed with additional ground-based Terrestrial Laser Scanner (TLS) scanning or possibly airborne laser scanning (ALS). ALS can be used to extensively map riverine topography and when employing airborne blue/green LiDAR shallow-water bathymetry can also be mapped. The ground-based TLS provides a more detailed and accurate topographic surface than ALS and is less expensive for small areas, such as LPD. The bathymetric survey crew could deploy a TLS from the LPD reservoir shoreline to map upper-reservoir floodplain. Conducting several geo-referenced overlapping scans with the FARO Focus3D X330 scanner as part of the bathymetry survey effort would provide detailed topography of the upper reservoir floodplain with only 1-2 days additional effort. Tetra Tech have used TLS on several hydroelectric dam projects (See the additional examples provided in Section 9 - Appendix). No pricing is available at this time until the scope is defined.

EXHIBIT 2-B

SECTION 7 -- PRICING

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SECTION 7 – PRICING AND SCHEDULE

PROJECT BUDGET

The basis for the fee estimate is defined in the Scope of Work for the design consulting services described in Section 6. The Scope of Work is taken from MPWMD's RFP amended as of March 15, 2016 with modifications and/or additional definition consistent with our approach as presented in our Proposal. Only tasks defined in Section 6 have been included on the fee estimate. MWH's suggestions for Optional Tasks presented in Section 6 have not been in our pricing but can be added pending a review of goals and scope by MPWMD.

Task	Budget ($US)
Task 1 - Feasibility Study Preparation	$77,770
Task 2 - Prepare Biological Performance Tool	$71,560
Task 3 - Identify Fish Passage Concepts	$36,500
Task 4 - Alternatives Development	$45,400
Task 5 - Fish Passage Alternatives Refinement and Determination of Feasibility	$30,890
Task 6 - Reporting and Fish Passage Recommendation	$52,700
Task 7 - Project Management and Meetings	$31,680
Total Not to Exceed Budget Estimate	$346,500

The above budget represents an estimate for an efficient execution of the scope requested in the RFP. We appreciate that MPWMD and its funding partners have constraints on budget amounts. We would be happy to discuss the scope and level of effort for the work to bring the budget into alignment if needed with available funds. A couple items that we noticed that stand out as costs that we would not normally see in our past passage studies. These could be modified at MPWMD's discretion if the end product still meets the requirements of the project:

- Bathymetry. The budget pricing for the resurvey of the entire reservoir is about $35,500. We believe the fish passage feasibility can be completed without this information. We do understand that this data may be valuable for other analyses being conducted by MPWMD but wanted to discuss the contribution to the Feasibility Study for Fish Passage.
- Biological Modeling. While input from biologists is critical to the siting and design of fish passage features the total biology budget primarily for modeling and presentation of the model at meeting is slightly over 28% of the budget. The value of this level of effort toward determining cost and feasibility might be worth further discussion.

MWH proposes to complete the work for the amount shown on the table above to be billed monthly based on progress at hourly rates that will remain fixed for the 18-month duration of the contract.

SCHEDULE

MWH design team have reviewed the work required to Los Padres Fish Passage Feasibility Study and have developed a preliminary schedule for the project that demonstrates sufficient time for efficient execution of the work within the 18-month period stated in the RFP. A copy of the schedule is included in Section 9 – Appendix but a few of the critical early milestones are as follows:

- Notice to Proceed 6/1/2016
- Kickoff Meeting 6/14/2016
- TRC Meeting #1 ..... 11/17/2016
- Final Submittal..... October 2017

The preliminary schedule is based on the defined scope and sequence presented in the RFP with further definition of work activities and deliverables described in the detailed Scope of Services presented in Section 6. A few important items to be considered when reviewing the Preliminary Schedule:

- The schedule will need to be revised and validated prior to the execution of the Agreement to incorporate MPWMD input and changes to the scope of work.
- Based on the Calendar of Events presented in the RFP we would anticipate receiving Notice of Selection at or before the May Board meeting.
- The schedule is preliminary and subject to review and agreement by MPMWD. Several sequences require input from MPMWD, TRC or others that may affect the final completion. MWH will work with MPMWD to finalize a baseline schedule for the Agreement.
- Our opinion on the overall schedule and the level of effort required there are several areas where the schedule can be optimized to deliver the final Feasibility Report before the indicated date. These changes would best be reviewed and discussed with MPWMD in conjunction with the final scoping for the agreement.

SCHEDULE CONFIRMATION STATEMENT

MWH confirms that the scope of work defined in this section is inclusive of all elements necessary to complete the work within the 18 month schedule as defined in Section 7. MWH cannot be held responsible for schedule impacts caused by the actions of others outside of our control.

Based on our experience working in similar arrangements with collaborative TRC and other stakeholder involvement we have found that one of the biggest risks to the schedule is difficulty in gathering the outside stakeholders for the TRC and Advisory Group. Key to meeting and maintaining schedule is to fix the dates of all group meetings as early in the project as possible. For Los Padres we will establish the full meeting schedule internally with MPWMD at the inception of the project at the kickoff meeting. These dates will be presented as an agenda item in TRC Meeting #1 for concurrence. We have found this to be appreciated by the outside stakeholders that must plan their travel budgets well in advance with their respective agencies.