Staff Report

TO: Board of Directors

FROM: Doug Roderick, P.E. Director of Engineering

DATE: January 25, 2023

SUBJECT: **Scotts Flat Spillway Design (Project #2094)**

ENGINEERING

RECOMMENDATION:

Approve Task Order #5 with HDR in the amount of $1,470,000 and a contingency of $150,000 to perform the Scotts Flat Spillway Replacement Design, and authorize the General Manager to execute the necessary documents.

BACKGROUND:

Since its construction in the 1940s, the Scotts Flat Spillway has experienced repetitive spalling damage on the chute slabs. In early 2017 severe concrete spalling damage, including ripping of some of the steel rebar mats, was found during spilling caused by winter storms. The District quickly repaired the damage. In March 2019, California Division of Safety of Dams (DSOD) downgraded their condition assessment of Scotts Flat Dam and Reservoir from “satisfactory” to “fair” because of the major deficiencies associated with the spillway. As a result, the District moved forward with the process of upgrading the spillway.

On August 14, 2019, the Board of Directors (Board) approved a contract in the amount of $790,883 with HDR to perform the Scotts Flat Spillway Upgrade Alternatives Development and Design. The contract covered professional services for the following:

Project Management: $52,134
Phase 1 – Alternative and Conceptual Design Development: $151,322
Phase 2 – Design and Documents for Construction: $550,967
Phase 3 – Engineering Support during Construction: $88,594

During Phase 1, it was found that the existing spillway chute and the energy dissipation structure downstream (low plunge pool) are deficient to handle the flow of the probable maximum flood (PMF). There were major unknowns regarding the

flow patterns and behaviors under the PMF. This information is critical to the development of conceptual design and alternatives for the spillway upgrades. Both the Federal Energy Regulatory Commission (FERC) and DSOD required a physical model to be built in order to change the geometry of the spillway.

On November 18, 2020, the Board approved Task Order 3 in the amount of $375,540 with HDR to perform physical hydraulic modeling for Scotts Flat Spillway.

As the analysis continued in Phase 1, including input from DSOD, it was determined that the original scope of performing repairs to the existing underdrain system along with concrete repairs to the chute and stilling basin would not be feasible and that the spillway would need to be replaced.

The replacement of the spillway resulted in a dramatic change in the scope of the design services to what was originally proposed and approved by the Board. Some of the new scope of work includes design of the complete spillway replacement; analysis to support design including geotechnical analysis, structural and stability analyses, hydraulic analyses; Basis of Design Report; development of 30%, 60%, 90%, and 100% construction drawings and specifications; quantities and estimates at multiple stages; supplemental survey.

Based on the change of scope, staff requested that HDR submit a revised scope of work for design documents for construction (Phase 2). Staff received a revised scope on October 10, 2022. After review by staff, a meeting with HDR was held on December 9, 2022, to get clarification and provide input on the proposed scope. Based on that meeting, HDR sent a 2nd revised scope on January 11, 2023. Staff is recommending that the Board approve Task Order #5 which reflects the costs associated with the 2nd revised proposal.

The substantial increase in costs for Phase 2 is driven by the wholesale changes in scope from the original design related to repairs of the spillway to the design of the spillway related to replacement. As part of the original scope that was approved by the Board on August 14, 2019, staff sent out a request for proposal (RFP) that was sent to eleven consulting firms specialized in dam and spillway design in the United States. Six proposals were received from six separate teams formed by 8 of the 11 consulting firms. Staff went through a rigorous review process and unanimously selected HDR. Staff is confident in HDR's ability to provide an efficient and professional design for the replacement of the Scotts Flat Spillway. Since HDR has been part of the project from the beginning, is up to speed, and is intimately familiar with the project, how it has changed over time and what is required by the regulatory agencies, staff is confident that the costs reflected in the proposal are competitive and fair and as such is recommending that the District continue to use HDR to develop the design of this important infrastructure.

Due to proposed upcoming changes to the procurement policy, staff is recommending that the Board approve a contract contingency amount at the same

time as the award of Task Order #5. This contingency is for possible changes in design due to currently unknown conditions or agency requirements. As a matter of practice moving forward, when new contracts/task orders come before the Board, staff will be requesting a contract contingency to be approved along with the contract/task order.

Staff is recommending that the Board approve Task Order #5 in the amount of $1,470,000 and a contingency of $150,000.

BUDGETARY IMPACT:
There is $1,500,000 for this project in the 2023 approved budget. It is anticipated, based on the current schedule, that approximately $950,000 to $1,000,000 will be spent this year and the remainder spent in 2024. The task order amount to be used in 2023, along with the contingency, is within the 2023 budgeted amount.

To date, there have been four (4) task orders issued to HDR totaling $678,713. Of that, $596,108 has been paid with a remaining balance of $82,605.

APPROVED TASK ORDERS – Amounts and Remaining Balances

Task Order	Amount	Remaining	Reason
TO#1	$193,481	$18,608	Project Management and Phase 1 of the original proposal – alternative analysis and conceptual design
TO#1/CO#1	$18,925	$0	Downstream tailwater analysis and DSOD stability analysis
TO#2	$26,484	$26,484	Development of Hydraulic Physical Modeling Plan and addressing regulatory comments
TO#3	$374,540	$0	Physical Hydraulic Modeling
TO#4	$65,283	$37,513	Additional Physical Modeling – Evaluation of revised spillway chute and construction cost estimate
Total	$678,713	$82,605	

Attachments: (2)

- HDR Design Proposal
- Cost Estimate

January 11, 2023

Doug Roderick, PE
Director of Engineering
Nevada Irrigation District
1036 W. Main Street
Grass Valley, CA 95945

Submitted via email: roderick@nidwater.com

Subject: Scotts Flat Spillway Upgrade Design Scope

Dear Mr. Roderick,

HDR present this proposal for the development of the analysis and construction documents of the Scotts Flat Dam spillway upgrades. We have formed an experienced team to perform the final design for the spillway upgrades consisting of Schnabel Engineering, Blackburn Consulting, SR Diversified, and MHM, Inc. This proposal is based on the selected alternative summarized in the draft Scotts Flat Spillway Upgrade Alternatives Evaluation Report which is expected to be reviewed and approved by both the California Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC). HDR submitted a design scope and fee on October 10, 2022, to perform the work which was reviewed by the Nevada Irrigation District (NID). Following the review, a meeting was held on December 9, 2022, between NID and the design team to discuss questions and comments on the submitted scope of work. As a result of this meeting, the team has revised our scope and fee to elaborate on the proposed design approach as well as to address additional comments received.

Scope

The work outlined in this scope has been divided into tasks in accordance with the following work breakdown structure (WBS):

- Project Management and Meetings
- Additional Analysis
- Construction Documents

Details for each are provided below.

Task 1. Project Management and Meetings

Project management activities include preparation of work plan and schedule, coordination with the HDR Team and NID, monitoring project performance, preparation of status reports, and invoicing. The task is continuous throughout the duration of the project.

The team has assumed that a kick-off site visit is included with this task, which will consist of design leads traveling to the site at the start of the project. A monthly 2-hour meeting has been assumed with NID throughout the duration of the project to discuss the progression of the project. One hour bi-weekly internal meetings have been assumed for the duration of the project. A four-hour meeting has been assumed with each agency (DSOD and FERC) following each deliverable.

DELIVERABLE:
Meeting agendas and minutes, status reports

Task 2. Analysis to Support Design

Geotechnical Analysis

Geotechnical conditions at the project site have been investigated by Blackburn Consulting Inc. (BCI), the results of which are presented in their "Draft Geotechnical Basis of Design Report" dated July 2022. HDR judges the data presented in that report to be sufficient for geotechnical analysis and design of the project. No additional subsurface exploration is currently anticipated to be required. The BCI report will be finalized as part of this scope of work.

The site is underlain by volcanics ranging from rhyolite and andesite at the top of the chute to pyroclastic flows at the downstream end of the chute. The planned flip bucket and cut off wall, as well as the downstream portion of the new chute, will be founded on the pyroclastic flows, a generally weak material that presents significant, but not insurmountable, challenges for foundation analysis and design. For support of the flip bucket, a deep foundation consisting of large diameter drilled piers will be considered. However, given construction considerations associated with this foundation type such as excavation of a pad for the drilling equipment and control of groundwater encountered above the final pier depths, a deep spread footing foundation will also be considered. Foundation type selection will be based on construction considerations, costs, anticipated performance under design loads, and Owner's preference if any. A deep spread footing foundation could require anchors to resist lateral loads but may still be an economical solution since a cut-off wall planned for just downstream of the flip bucket may be incorporated into the flip bucket foundation.

Analysis and design of the spillway chute walls will consider stability of the slope above the right chute wall. Increasing the spillway capacity by going from a trapezoidal section to a rectangular cross section and vertical chute walls will result in a slight reduction in the forces presently resisting slope movement. Analysis and design of the chute wall will include stability analyses of the slope above using the GeoStudio developed computer software program SLOPE/W to determine the additional lateral resistance required to maintain satisfactory slope stability with the new wall/chute configuration. Slope stability analysis will be performed in accordance with USACE EM-1110-2-1902, Slope Stability.

The volcanic materials underlying the upper portion of the planned chute reconstruction are stronger than the materials beneath the lower portion. It is anticipated satisfactory support for the flow dividers, as well as the chute walls, can be provided by spread footing foundations, most likely structurally tied into the chute floor.

Foundations will be designed considering static and dynamic loads (hydraulic and seismic) and will be designed to resist uplift as well as settlement. Recommendations for surface and subsurface drainage and engineered fill parameters will also be provided for the project.

The results of HDRs efforts will be summarized in a Geotechnical Design Report (GDR) for use by NID and the appropriate review agencies.

In further support of the development of the GDR and the overall project, HDRs lead geotechnical engineer will attend NID team meetings both in-person and remotely via teleconference.

DELIVERABLE:

- Final Geotechnical Basis of Design Report, by BCI.
- Draft and Final Geotechnical Design Report, by HDR.

ASSUMPTIONS:

- Draft GDR will be reviewed by NID and DSOD over a 3-week consecutive period.
- Upon receipt of review comments, HDR will finalize the GDR within 3 weeks.

Structural Analyses

The design of structural components of the spillway will refence design criteria and guidelines from the governing agencies (FERC, USACE, USBR, and DSOD) and publications from professional associations such as (ACI and ASCE), as well as lessons learned from spillway performance and failures such as the spillway failure at Oroville Dam. The key references include:

- FERC Engineering Guidelines
- USACE EM 1110-2-2502, Retaining Walls and Flood Walls
- USACE EM 1110-2-1603, Hydraulic Design of Spillway
- USACE EM 1110-2-2014, Strength Design for Reinforced Concrete Hydraulic Structures
- USBR Design Standards No. 14, Appurtenant Structures for Dams (Spillway and Outlet Works)
- USBR Best Practices, Chapter F-1, Hydraulic Failure of Spillway Chutes
- Scotts Flat Dam Spillway Upgrade Design Physical Hydraulic Modeling Study, 2022.

The engineers working on the design of the spillway chute, walls, and vanes will work interactively with the geotechnical engineers and hydraulic engineers to integrate the respective concepts, concerns, and design approaches from different engineering disciplines. General road map for the spillway design is as follows:

1. Structural design and stability of the spillway chute, walls, and vanes will use the loads and load combinations and meet the strength and stability requirements of the FERC Engineering Guidelines and the USACE Engineering Manuals referenced. Hydraulic loading will be developed utilizing the physical hydraulic model study report as well as empirical formulas derived from the refenced guidelines. The overall geometry of the spillway will be based on the physical hydraulic model study for the selected alternative. At the 30% level, a stability analysis of the spillway chute walls, slabs, and flow vanes will be performed. The stability analysis will be used to size the structural members. To support the 60% and 90% design levels, a strength analysis will be performed to size and detail the reinforcement within the structural sections.
2. The construction of the spillway is planned to be completed in two seasons. Construction will start from the upper portion of the spillway. A special temporary connection between the new upper rectangular spillway and the existing lower trapezoidal spillway will be designed and incorporate details to minimize the impact on the hydraulic performance of the spillway and develop structural continuity to handle the loads from high flow conditions. Geometry at the joint will be detailed to minimize cavitation potential and flow turbulences.
3. Structural details of the spillway will meet the requirements of USACE engineering manuals (EM 1110-2-2014) and ACI (ACI 350) and the design recommendations of the USBR publications.
4. Design of walls will include considerations of the mechanism selected for the slope stability requirements by the geotechnical engineers. Design of spillway chute and vanes will

include hydraulic performance considerations from the physical hydraulic modeling study as well recommendations from the hydraulic engineers.
5. Construction and expansion joints will be provided to control spillway cracks and movements. An expansion join will be implemented between the rectangular chute and the flip bucket to allow the two structures to behave independently yet maintaining a watertight joint.

The construction of the flip bucket and flip bucket foundation are assumed to occur during season two of the construction window. Once again, the engineers working on the design of the flip bucket and foundation will work interactively with the geotechnical engineers and hydraulic engineers to integrate the respective concepts, concerns, and design approaches from the different engineering disciplines. General road map for the spillway flip bucket design is as follows:

1. Structural design and stability of the flip bucket will use the loads and load combinations recommended and will meet the strength and stability requirements of FERC Engineering Guidelines and the USACE Engineering Manuals referenced. Hydraulic loading will be developed utilizing the physical hydraulic model study report as well as the loads developed utilizing empirical formulas derived from the refenced guidelines. The overall geometry of the flip bucket will be based on the physical hydraulic model. At the 30% level, a stability analysis of the flip bucket, and flip bucket foundation will be performed. The stability analysis will be used to size the structural members. To support the 60% and 90% design levels, a strength analysis will be performed to help size and detail the reinforcement within the structural sections.
2. For support of the flip bucket, a deep foundation consisting of large diameter drilled piers will be considered. However, given construction considerations associated with this foundation type such as excavation of a pad for the drilling equipment and control of groundwater encountered above the final pier depths, a deep spread footing foundation will also be considered. A deep spread footing foundation could require anchors to resist lateral loads but may still be an economical solution since a cut-off wall planned for just downstream of the flip bucket may be incorporated into the flip bucket foundation.
3. If a drilled pier foundation is selected, the piers will be designed utilizing either the software GROUP or LPILE. Models will be created by the geotechnical engineers defining the soil properties directly below the flip bucket location. P-Y curves and representative soil parameters developed during the analysis stage, along with flexure and shear demands will be utilized by the structural team to design the pile reinforcement.
4. As appropriate, the team will evaluate seismic loading on the foundation and provide mitigation for seismic induced. Impacts including total and differential seismically induced settlement, and strength loss will be determined.
5. Structural details of the flip bucket and foundation will meet the requirements of USACE engineering manuals (EM 1110-2-2014) and ACI (ACI 350) and the design recommendations of the USBR publications.

Hydraulic Analyses

Hydraulic loads will be based on the 2022 physical model study documented in the Scotts Flat Dam Spillway Upgrade Design Physical Hydraulic Modeling Study, dated May 27, 2022, prepared by Northwest Hydraulic Consultants. Hydraulic calculations will be prepared to develop hydrodynamic loads on the flip bucket and flow vanes, along with a check of the cavitation potential for the proposed spillway. This will also include summarizing the data obtained from the physical modeling used to inform the hydraulic design of the chute. The physical modeling will also include the design/sizing of the rip rap protection to be placed within the existing plunge pool. The hydraulic analysis will be documented within the Design Documentation Report (DDR).

Other key references include:

- USACE EM 1110-2-1603: Hydraulic Design of Spillways
- US Bureau of Reclamation EM 42; Cavitation in Chutes and Spillways
- US Bureau of Reclamation Design Standards No 14. Appurtenant Structures for Dams (Spillways and Outlet Works) Design Standard, Chapter 3: General Spillway Design Considerations

Supplemental Survey

HDR and MHM will review the draft survey data provided by NID. MHM will perform supplementary and confirmatory topographic survey mapping as needed. Gaps in the current survey data include the proposed secondary staging area identified as part of the Alternatives Analysis Report and the area downstream of the existing plunge pool where construction access to the plunge pool area is anticipated to be provided. A digital terrain model (DTM) and base map will be prepared and signed/stamped by a licensed surveyor in the State of California for use in final design.

The survey control, horizontal datum and vertical datum will be consistent with the draft survey data provided by NID. A site visit will be performed to evaluate site access and conditions, as well as an aerial drove survey of select areas. Additional topographic survey will be performed over two days to evaluate the existing survey data and provide additional data for gaps as described above. The data will be processed and combined into a single DTM.

DELIVERABLE:

- DTM in electronic format or use in Final Design.

ASSUMPTIONS:

- NID will provide access to the site for field surveying staff.
- It is assumed that the draft survey data will be adequate for use in developing the base map after quality control and field confirmation. If the data does not meet the appropriate requirements, additional field survey will need to be performed under a contract amendment.

Task 3. Construction Documents

Access and Staging Improvements Construction Package

HDR will prepare a separate construction package to include improvements to the proposed staging area and to provide construction access along both sides of the existing spillway chute. The package will be bid separately from the main spillway improvements to provide NID the opportunity to utilize local construction firms and expedite the access/staging improvements in preparation for the spillway improvement project.

The 60% construction package will provide grading plans, access road plan and profile, and typical sections and details. The 90% construction package will address comments on the 60% deliverable and incorporate additional details commensurate with the 90% design level, with the assumption that the 90% will essentially ready-to-advertise and will be utilized to closeout any additional NID comments. The Final construction package will incorporate all revisions and will be provided to NID for advertisement and bid.

DELIVERABLES:

Deliverables will include the following:

- 60% Construction Plans, Specifications, and Class 3 OPCC
- 90% Construction Plans, Specifications and Class 2 OPCC
- Final Construction Plans and Specifications

ASSUMPTIONS:

- No review by FERC or DSOD is assumed for this construction package as the work will occur outside the spillway structure.
- No TCEAP or QCIP will be required for the access and staging improvements.
- Final construction documents will be stamped and sealed and utilized by NID for bidding.
- NID will provide drawing templates and standards in AutoCAD format.
- NID will provide all upfront specifications (Division 00 and Division 01) for HDR input and review. HDR will follow current Construction Specifications Institute requirements for technical specifications.

Basis of Design Report

A Basis of Design Report (BODR) will be prepared and include a detailed description of the criteria, analyses, and approach to be incorporated into the design documents. The BODR will include, at a minimum, the following:

- Project background, purpose, and rationale.
- Detailed definition of the facility, identifying major elements to be constructed.
- Summary of design criteria, engineering standards, and guides used for development of designs.
- Preliminary list of permits that will be required to perform the work.
- An overall project schedule that details the major milestones and deliverables of the design, bid and award, and construction phases.

The BODR will be submitted for review prior to detailed design for concurrence by NID on the design methodology to be utilized.

DELIVERABLE:

- Draft and Final BODR.

ASSUMPTIONS:

- For preparation of this proposal, only one iteration of comments/responses has been assumed for the BODR. No third-party reviews are assumed.

30% Design

30% design documents will include construction drawings, a specification outline, a 30% DDR, and a Class 4 Opinion of Probable Construction Costs (OPCC). Quantities will be developed utilizing AutoCAD and spreadsheet calculations to support the OPCC and environmental documentation performed as part of a separate task.

It is anticipated that the geometry of the structural components will be sized at the 30% design level. Drawings will consist of general chute and flip bucket layouts which will be carried forward in the design. Reinforcement detailing will not be included at the 30% level. It is also anticipated that the 30% design documents will show the general site plan for the project, laydown areas and access routes. Preliminary demolition drawings for the existing chute will be provided along with excavation details for the new chute geometry.

DELIVERABLE:

- 30% Construction Drawings, Specification Table of Contents (TOC), DDR, and OPCC in electronic (PDF) format.

ASSUMPTIONS:

- All assumptions outlined above for the separate Access and Staging Improvements Construction Package will apply to the spillway design deliverables.
- HDR will address NID comments on the 30% prior to submitting for DSOD and FERC (Agency) review.
- Comment responses will be developed for Agency review as part of the 30% design. Revisions will be made to design deliverables as part of the subsequent design package.

60% Design

60% construction documents will be developed considering comments received on the 30% deliverable and reflecting more detailed design calculations and analyses. The 60% deliverable will include construction drawings, specifications, 60% DDR, Temporary Construction Emergency Action Plan (TCEAP), Construction Quality Control and Inspection Plan (QCIP), a Class 3 OPCC utilizing updated quantities based on the more detailed design, and a construction schedule. The TCEAP and QCIP will be prepared in accordance with FERC requirements.

It is anticipated that the reinforcement for the structural components will be sized and shown in the 60% design drawings. Specific reinforcement details will not be included in the 60% design, however major longitudinal and transverse reinforcement will be shown. Joint configurations and underdrain configurations will be established in the 60% design and further detailed at the 90% level. It is also anticipated that the 60% design documents will show the access road grading plan along with a site plan for the project, laydown areas and access routes. Additional excavation details will also be provided at the 60% design level.

General plunge pool geometry will be shown in the 60% design drawings along with the general layout of the cutoff wall.

DELIVERABLE:

- 60% Construction Drawings, Specifications, DDR, TCEAP, QCIP, OPCC in electronic (PDF) format, and a construction schedule in MS Project format.

ASSUMPTIONS:

- HDR will address NID comments on the 60% prior to submitting for Agency review.
- Comment responses will be developed for Agency Review comments. Edits will be made to design deliverables as part of the subsequent design package.

90% Design

90% construction documents will be developed considering comments received on the 60% deliverable and reflecting more detailed design calculations and analyses. The 90% deliverable will include Construction Drawings, Specifications, DDR, TCEAP, QCIP, a Class 2 OPCC and a construction schedule.

The 90% design package will be largely complete and utilized for final review and back check of remaining comments. Additional reinforcement and connection details are anticipated to be performed as part of the 90% design package. Rip rap sizing will be provided in the design drawings along with details of the cutoff wall.

DELIVERABLE:

- 90% Construction Drawings, Specifications, DDR, TCEAP, QCIP, and OPCC in electronic (PDF) format.

ASSUMPTIONS:

- HDR will address NID comments on the 90% prior to submitting for Agency review.
- Comment responses will be developed for Agency Review comments. Edits will be made to design deliverables as part of the subsequent design package.

100% Design

100% design deliverables will incorporate remaining changes based on review of the 90% deliverable. Final quality control certification documents will be provided with the 100% Design deliverable.

DELIVERABLE:

- 100% Construction Drawings, Specifications, DDR, TCEAP, QCIP, OPCC in electronic (PDF) format and a construction schedule in MS Project Format.

ASSUMPTIONS:

- 100% Design will include minor updates to the 90% to address remaining comments at the 90% level.
- The team will only provide technical specifications, all up front specifications will be provided by NID.

Bid Documents

Bid documents will include signed and stamped construction drawings and technical specifications ready for advertisement and bid.

Bid Support

The Consultant will provide Engineering Support during the Bid and Award Phase, as follows:

1. Response to Bidder Questions.
2. Preparation of Addenda as required.

ASSUMPTIONS:

1. Consultant will assume 80 hours of labor, divided between senior and staff level staff for each item listed above (160 hours total). A Task Order modification will be required for additional effort beyond this assumption.

2. Engineering Support During Construction is not included in this Scope of Work / Task Order. These services, and associated Consultant fee, may be added with a Modification to this Task Order at a future date.

Subject Matter Expert Review

Independent HDR Subject Matter Experts (SMEs) will review each deliverable prior to NID submittal. The SMEs will perform an independent review of each deliverable followed by a meeting with the design team to discuss specific findings and comments developed.

Secure Document File Transfer

Secure file transfer will be accomplished by one of two ways, utilizing a sharepoint site such as the One-Drive to transfer files to/from NID, or two by allowing Projectwise server access to the NID team in order review design documents directly on the HDR server.

Schedule

The HDR team proposes the following schedule for final design. The proposed schedule assumes a Notice-to-Proceed (NTP) date of March 1st, 2023. It should be noted that the assumed NTP date is flexible and can be adjusted as required. The HDR team anticipates that a shift in NTP date will result in a corresponding shift in the schedule but should not impact the budget or overall duration. The proposed overall schedule has been provided in MS Project format.

Fee Estimate

HDR proposes to perform the scope of work, outlined herein, on a time and materials basis, for an estimated fee of $1,470,000. A table summarizing the estimated level of effort follows.

Table 1: Proposed Cost

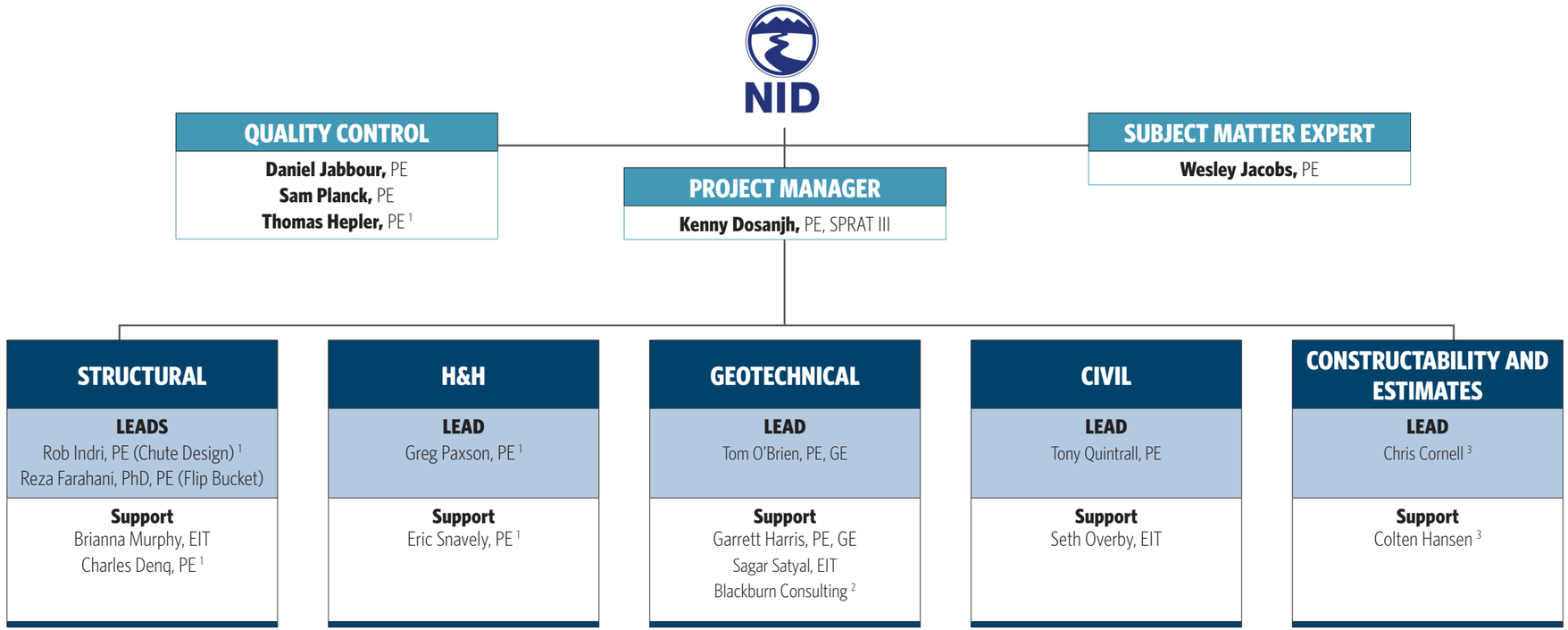
Task Name	Estimated Level of Effort
Project Management and Meetings	$297,000
Task 1: Basis of Design Report and Survey	$48,000
Task 2: 30% Design	$401,000
Task 3: 60% Design	$351,000
Task 4: 90% Design	$181,000
Task 5: 100% Design	$99,000
Task 6: Bid Documents and Support	$93,000
Total:	**$1,470,000**

Please feel free to reach out to Kenny Dosanjh by email at Kenwarjit.Dosanjh@hdrinc.com or phone 916.679.8727 with any questions or comments.

Attachment 1 – Org Chart

hdrinc.com

2379 Gateway Oaks Drive, #200, Sacramento, CA 95833
T: 916.679.8700 **F:** 916.679.8701

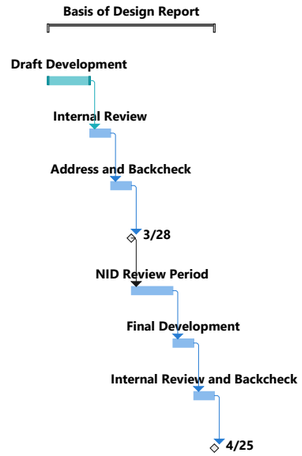


SUBCONTRACTORS		
Schnabel [1]	Blackburn Consulting [2]	Syblon Reid Diversified [3]

Attachment 2 – Schedule

Scotts Flat Spillway Rehabilitation Phase 2 Schedule

ID	Task Mode	Task Name	Duration	Start	Finish
1					
2		**Basis of Design Report**	**40 days**	**Wed 3/1/23**	**Tue 4/25/23**
3		Draft Development	10 days	Wed 3/1/23	Tue 3/14/23
4		Internal Review	5 days	Wed 3/15/23	Tue 3/21/23
5		Address and Backcheck	5 days	Wed 3/22/23	Tue 3/28/23
6		Submit Draft to NID	0 days	Tue 3/28/23	Tue 3/28/23
7		NID Review Period	10 days	Wed 3/29/23	Tue 4/11/23
8		Final Development	5 days	Wed 4/12/23	Tue 4/18/23
9		Internal Review and Backcheck	5 days	Wed 4/19/23	Tue 4/25/23
10		Submit Final to NID	0 days	Tue 4/25/23	Tue 4/25/23
11					

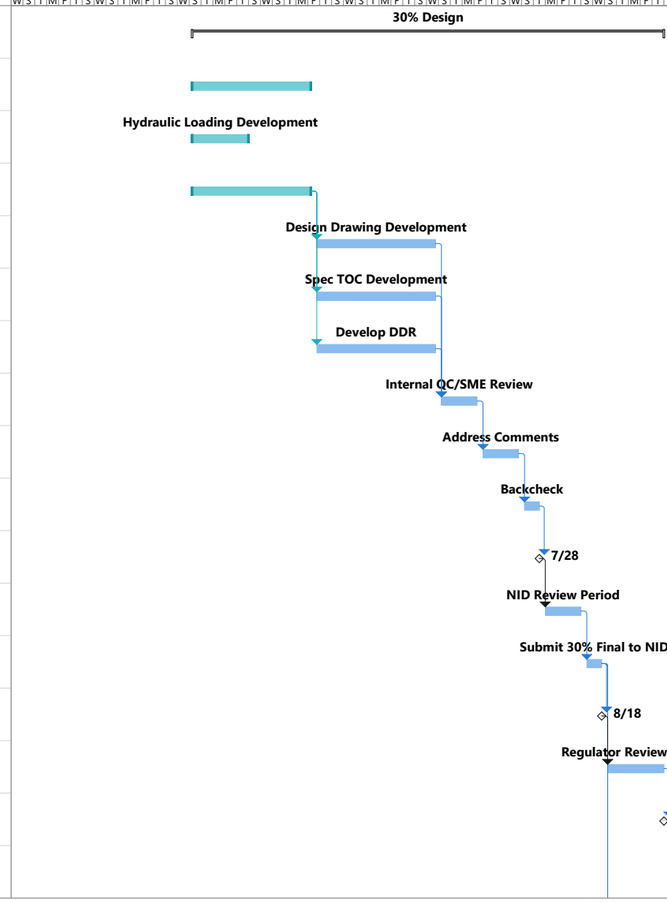


Project: Phase 2 Schedule
Date: Wed 1/11/23

Task, Split, Milestone, Summary, Project Summary, Inactive Task, Inactive Milestone, Inactive Summary, Manual Task, Duration-only, Manual Summary Rollup, Manual Summary, Start-only, Finish-only, External Tasks, External Milestone, Deadline, Progress, Manual Progress

Scotts Flat Spillway Rehabilitation Phase 2 Schedule

ID	Task Mode	Task Name	Duration	Start	Finish
12		**30% Design**	**115 days?**	**Mon 4/3/23**	**Fri 9/8/23**
13		Geotechnical Analysis	30 days	Mon 4/3/23	Fri 5/12/23
14		Hydraulic Loading Development	15 days	Mon 4/3/23	Fri 4/21/23
15		Structural Analysis	30 days	Mon 4/3/23	Fri 5/12/23
16		Design Drawing Development	30 days	Mon 5/15/23	Fri 6/23/23
17		Spec TOC Development	30 days	Mon 5/15/23	Fri 6/23/23
18		Develop DDR	30 days	Mon 5/15/23	Fri 6/23/23
19		Internal QC/SME Review	10 days	Mon 6/26/23	Fri 7/7/23
20		Address Comments	10 days	Mon 7/10/23	Fri 7/21/23
21		Backcheck	5 days	Mon 7/24/23	Fri 7/28/23
22		Submit 30% Draft to NID	0 days	Fri 7/28/23	Fri 7/28/23
23		NID Review Period	10 days	Mon 7/31/23	Fri 8/11/23
24		Submit 30% Final to NID	5 days	Mon 8/14/23	Fri 8/18/23
25		Submit to Regulators	0 days	Fri 8/18/23	Fri 8/18/23
26		Regulator Review Period	15 days	Mon 8/21/23	Fri 9/8/23
27		Meeting with Regulators	0 days	Fri 9/8/23	Fri 9/8/23
28					

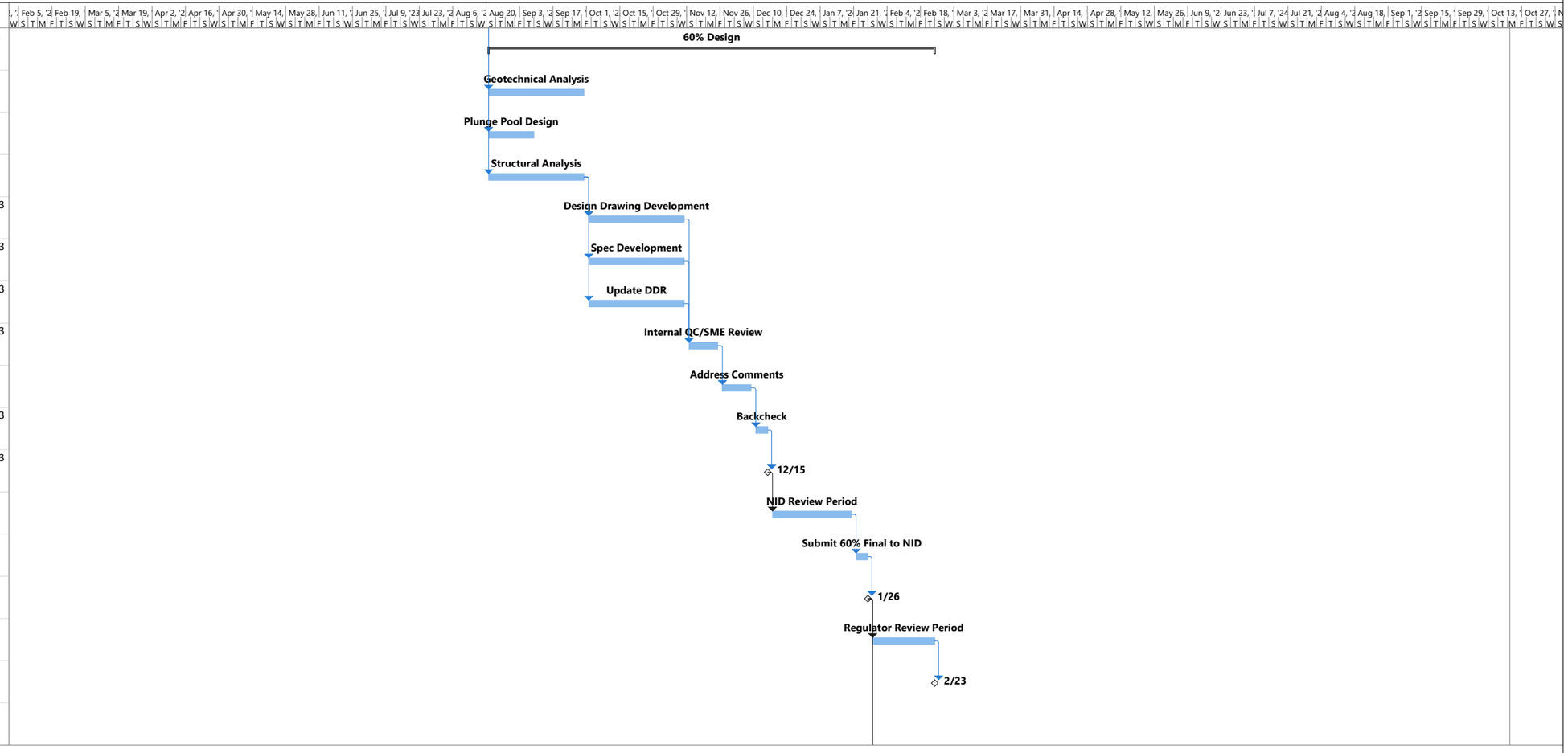


Project: Phase 2 Schedule
Date: Wed 1/11/23

Task | Milestone | Project Summary | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks | Deadline | Manual Progress
Split | Summary | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone | Progress

Scotts Flat Spillway Rehabilitation Phase 2 Schedule

ID	Task Mode	Task Name	Duration	Start	Finish
29		**60% Design**	**135 days?**	**Mon 8/21/23**	**Fri 2/23/24**
30		Geotechnical Analysis	30 days	Mon 8/21/23	Fri 9/29/23
31		Plunge Pool Design	15 days	Mon 8/21/23	Fri 9/8/23
32		Structural Analysis	30 days	Mon 8/21/23	Fri 9/29/23
33		Design Drawing Development	30 days	Mon 10/2/23	Fri 11/10/23
34		Spec Development	30 days	Mon 10/2/23	Fri 11/10/23
35		Update DDR	30 days	Mon 10/2/23	Fri 11/10/23
36		Internal QC/SME Review	10 days	Mon 11/13/23	Fri 11/24/23
37		Address Comments	10 days	Mon 11/27/23	Fri 12/8/23
38		Backcheck	5 days	Mon 12/11/23	Fri 12/15/23
39		Submit 60% Draft to NID	0 days	Fri 12/15/23	Fri 12/15/23
40		NID Review Period	25 days	Mon 12/18/23	Fri 1/19/24
41		Submit 60% Final to NID	5 days	Mon 1/22/24	Fri 1/26/24
42		Submit to Regulators	0 days	Fri 1/26/24	Fri 1/26/24
43		Regulator Review Period	20 days	Mon 1/29/24	Fri 2/23/24
44		Meeting with Regulators	0 days	Fri 2/23/24	Fri 2/23/24
45					

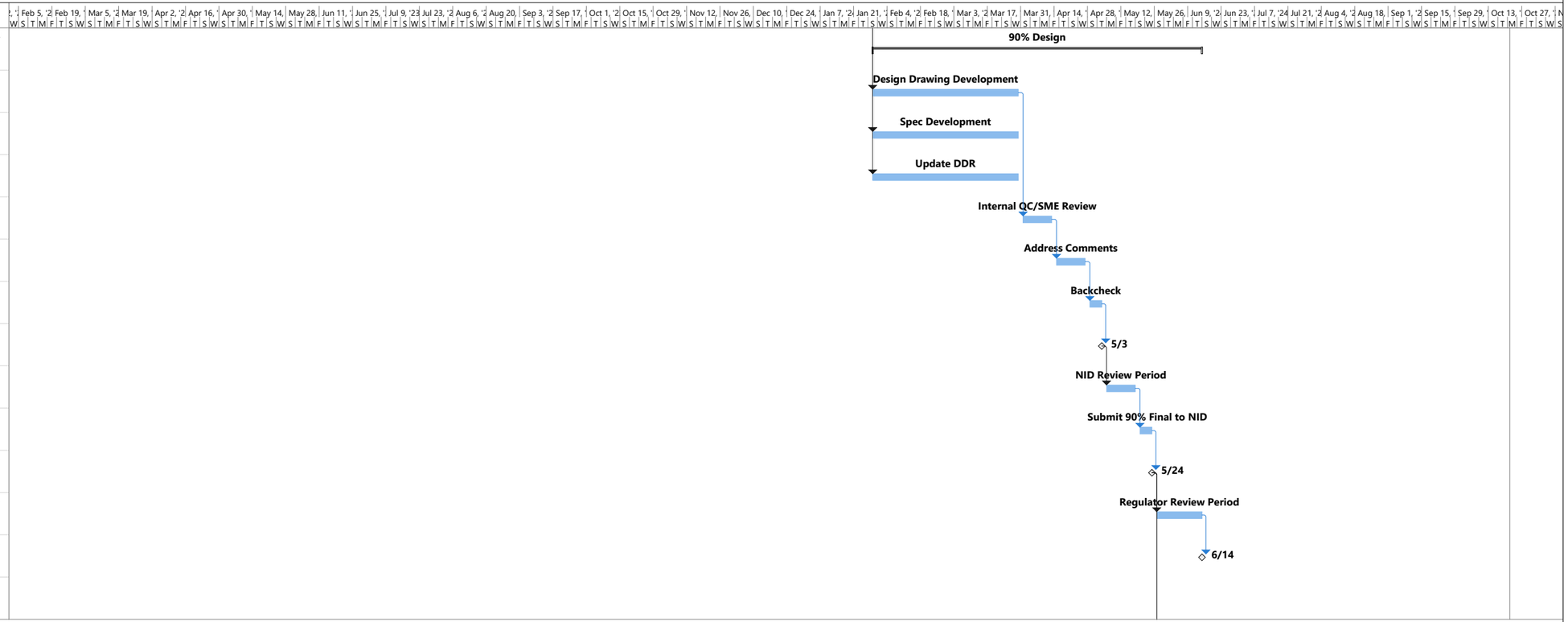


Project: Phase 2 Schedule
Date: Wed 1/11/23

Task | Milestone | Project Summary | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks | Deadline | Manual Progress
Split | Summary | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone | Progress

Scotts Flat Spillway Rehabilitation Phase 2 Schedule

ID	Task Mode	Task Name	Duration	Start	Finish
46		**90% Design**	**100 days?**	**Mon 1/29/24**	**Fri 6/14/24**
47		Design Drawing Development	45 days	Mon 1/29/24	Fri 3/29/24
48		Spec Development	45 days	Mon 1/29/24	Fri 3/29/24
49		Update DDR	45 days	Mon 1/29/24	Fri 3/29/24
50		Internal QC/SME Review	10 days	Mon 4/1/24	Fri 4/12/24
51		Address Comments	10 days	Mon 4/15/24	Fri 4/26/24
52		Backcheck	5 days	Mon 4/29/24	Fri 5/3/24
53		Submit 90% Draft to NID	0 days	Fri 5/3/24	Fri 5/3/24
54		NID Review Period	10 days	Mon 5/6/24	Fri 5/17/24
55		Submit 90% Final to NID	5 days	Mon 5/20/24	Fri 5/24/24
56		Submit to Regulators	0 days	Fri 5/24/24	Fri 5/24/24
57		Regulator Review Period	15 days	Mon 5/27/24	Fri 6/14/24
58		Meeting with Regulators	0 days	Fri 6/14/24	Fri 6/14/24
59					

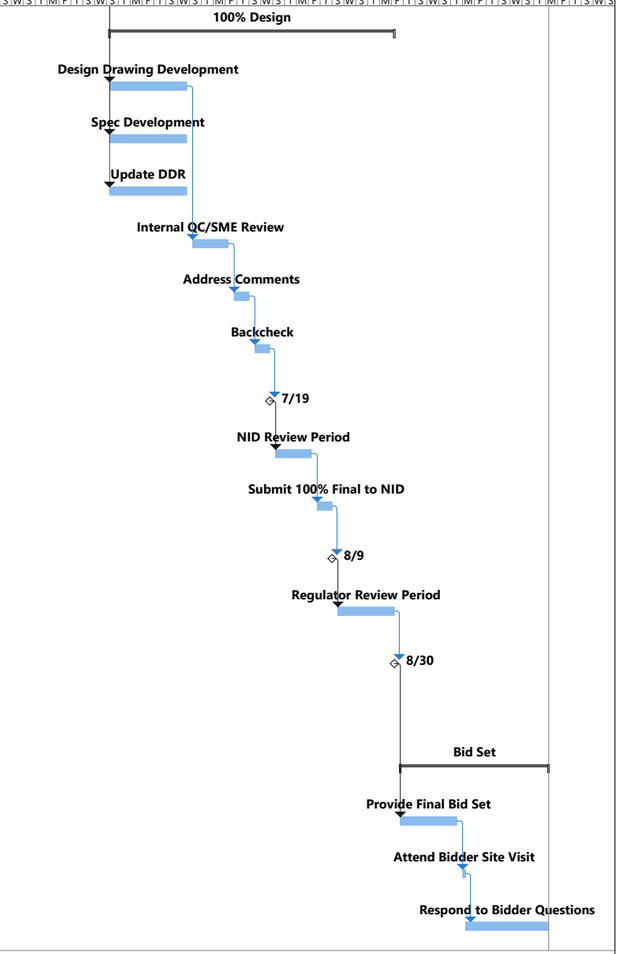


Project: Phase 2 Schedule
Date: Wed 1/11/23

Task | Milestone | Project Summary | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks | Deadline | Manual Progress
Split | Summary | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone | Progress

Scotts Flat Spillway Rehabilitation Phase 2 Schedule

ID	Task Mode	Task Name	Duration	Start	Finish
60		**100% Design**	**70 days?**	**Mon 5/27/24**	**Fri 8/30/24**
61		Design Drawing Development	20 days	Mon 5/27/24	Fri 6/21/24
62		Spec Development	20 days	Mon 5/27/24	Fri 6/21/24
63		Update DDR	20 days	Mon 5/27/24	Fri 6/21/24
64		Internal QC/SME Review	10 days	Mon 6/24/24	Fri 7/5/24
65		Address Comments	5 days	Mon 7/8/24	Fri 7/12/24
66		Backcheck	5 days	Mon 7/15/24	Fri 7/19/24
67		Submit 100% Draft to NID	0 days	Fri 7/19/24	Fri 7/19/24
68		NID Review Period	10 days	Mon 7/22/24	Fri 8/2/24
69		Submit 100% Final to NID	5 days	Mon 8/5/24	Fri 8/9/24
70		Submit to Regulators	0 days	Fri 8/9/24	Fri 8/9/24
71		Regulator Review Period	15 days	Mon 8/12/24	Fri 8/30/24
72		Meeting with Regulators	0 days	Fri 8/30/24	Fri 8/30/24
73					
74		**Bid Set**	**36 days**	**Mon 9/2/24**	**Mon 10/21/24**
75		Provide Final Bid Set	15 days	Mon 9/2/24	Fri 9/20/24
76		Attend Bidder Site Visit	1 day	Mon 9/23/24	Mon 9/23/24
77		Respond to Bidder Questions	20 days	Tue 9/24/24	Mon 10/21/24



Project: Phase 2 Schedule
Date: Wed 1/11/23

Task | Milestone | Project Summary | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks | Deadline | Manual Progress
Split | Summary | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone | Progress

$1,469,784													CAD/Accounting/Clerical					
HDR		PIC	PM	Sr. Structural	Structural EIT	Geotech Lead	Sr. Geotech	Geotech EIT	Civil Lead	Civil EIT	Structural QC	Civil QC	Tech Advisor	Sr CAD	CAD	Account	Cleric	LABOR Task Totals Hrs	LABOR Task Totals $
		Lynch	Dosanjh	Farahani	Brianna Murphy	Tom O'brien	Harris	Satyal	Quintrall	Overby	Planck	Jabbour	Jacobs	Jackson	Eric Snyder	Keough	Gardenour		
NID - Scott's Flat Rehab		$433.07	$320.72	$243.90	$137.39	$303.98	$307.32	$151.72	$246.46	$131.97	$386.67	$345.12	$376.57	$225.94	$162.08	$125.46	$117.12		
	Project Management																	-	$0
	Project Management		60.00 hrs						60.0 hrs							72.0 hrs	72.00 hrs	264.0 hrs	$55,068
	NID Meetings bi-weekly meeting		36.00 hrs						36.0 hrs									72.0 hrs	$21,835
	PARR	8.00 hrs	4.00 hrs						4.0 hrs				8.0 hrs					24.0 hrs	$9,352
	Meetings																	-	$0
	Kick-off Meeting		2.00 hrs	2.0 hrs	2.0 hrs	2.0 hrs	2.0 hrs	2.0 hrs	2.0 hrs									14.0 hrs	$3,660
	Site Meeting		6.00 hrs	6.0 hrs	6.0 hrs	6.0 hrs	6.0 hrs	6.0 hrs	6.0 hrs	6.0 hrs								48.0 hrs	$11,828
	In-person/Virtual Progress Meetings		6.00 hrs			6.0 hrs			6.0 hrs									18.0 hrs	$5,589
																		-	$0
	Meeting with DSOD and FERC (telecon, 2hr each submittal)		8.00 hrs			8.0 hrs			8.0 hrs									24.0 hrs	$7,453
	Internal Meetings		36.00 hrs	36.0 hrs		36.0 hrs			36.0 hrs									144.0 hrs	$42,926
																		-	$0
																		-	$0
Phase 2	**Design and Construction Documents**																	-	$0
Basis of Design Report																		-	$0
	Draft BDR		2.0 hrs	4.0 hrs	16.0 hrs	8.0 hrs		8.0 hrs	8.0 hrs	8.0 hrs	6.0 hrs	6.0 hrs		1.0 hrs	4.0 hrs		2.0 hrs	73.0 hrs	$17,096
	Review BDR with District		2.0 hrs			2.0 hrs			2.0 hrs									6.0 hrs	$1,863
	Final BODR			4.0 hrs		4.0 hrs		4.0 hrs	4.0 hrs	4.0 hrs	2.0 hrs	2.0 hrs		1.0 hrs	2.0 hrs		1.0 hrs	28.0 hrs	$6,890
																		-	$0
Survey	Survey																	-	$0
																		-	$0
30% Design																		-	$0
																		-	$0
	Flip Bucket Analysis			24.0 hrs	64.0 hrs	60.0 hrs	50.0 hrs	100.0 hrs					12.0 hrs					310.0 hrs	$72,654
	Foundation Analysis (assume Piers)			20.0 hrs	48.0 hrs	60.0 hrs	50.0 hrs	100.0 hrs					12.0 hrs					290.0 hrs	$69,260
	Design Documentation Report			4.0 hrs	8.0 hrs				4.0 hrs	8.0 hrs							4.0 hrs	28.0 hrs	$4,903
	Construction Drawings			24.00 hrs	48.0 hrs				8.0 hrs	24.0 hrs			8.00 hrs	24.0 hrs	64.0 hrs			200.0 hrs	$38,919
	Specification TOC			2.00 hrs					2.0 hrs									4.0 hrs	$1,049
	Quantities & Estimate			4.00 hrs	8.0 hrs				4.0 hrs	16.0 hrs				8.0 hrs				40.0 hrs	$7,464
	TCEAP								4.0 hrs								2.0 hrs	6.0 hrs	$1,305
	Internal Review/Revisions/Back Check		8.0 hrs	8.0 hrs	12.0 hrs				4.0 hrs	8.0 hrs	12.0 hrs	16.0 hrs	8.0 hrs	4.0 hrs	8.0 hrs		2.0 hrs	90.0 hrs	$25,468
	NID Review/Revisions/Back Check		4.0 hrs		8.0 hrs				4.0 hrs	8.0 hrs	2.0 hrs	2.0 hrs	4.0 hrs	4.0 hrs	8.0 hrs		8.0 hrs	52.0 hrs	$11,261
	FERC/DSOD Review/Comment Response		4.0 hrs						4.0 hrs		2.0 hrs	2.0 hrs	4.0 hrs				2.0 hrs	18.0 hrs	$5,852
																		-	$0
																		-	$0
60% Design																		-	$0
																		-	$0
	Geotechnical Analysis					125.00 hrs	100.0 hrs	188.0 hrs										413.0 hrs	$103,997
	Design Documentation Report			4.0 hrs	8.0 hrs				4.0 hrs	8.0 hrs							2.0 hrs	26.0 hrs	$4,652
	Construction Drawings			36.00 hrs	80.0 hrs				4.0 hrs	16.0 hrs			12.0 hrs	24.0 hrs	112.0 hrs			284.0 hrs	$54,497
	Specification			8.0 hrs	16.0 hrs				4.0 hrs	8.0 hrs							4.0 hrs	40.0 hrs	$7,121
	Quantities & Estimate			6.0 hrs	12.0 hrs				4.0 hrs	8.0 hrs				4.0 hrs				34.0 hrs	$6,477
	TCEAP		4.0 hrs						4.0 hrs				4.0 hrs				2.0 hrs	14.0 hrs	$4,287
	QCIP		4.0 hrs						4.0 hrs	8.0 hrs			4.0 hrs				2.0 hrs	22.0 hrs	$5,416
	Internal Review/Revisions/Back Check		4.0 hrs	8.0 hrs	16.0 hrs				8.0 hrs	8.0 hrs	16.0 hrs	16.0 hrs	4.0 hrs	4.0 hrs	8.0 hrs		4.0 hrs	96.0 hrs	$26,032
	NID Review/Revisions/Back Check		4.0 hrs		8.0 hrs				4.0 hrs	8.0 hrs	2.0 hrs	2.0 hrs	4.0 hrs	4.0 hrs	8.0 hrs		4.0 hrs	48.0 hrs	$10,760
	FERC/DSOD Review/Comment Response		8.0 hrs						8.0 hrs		2.0 hrs	2.0 hrs	8.0 hrs				2.0 hrs	30.0 hrs	$9,889
																		-	$0
																		-	$0
																		-	$0
90% Design																		-	$0
																		-	$0
																		-	$0
	Design Documentation Report			2.00 hrs	6.0 hrs				1.0 hrs	4.0 hrs							1.0 hrs	14.0 hrs	$2,356
	Construction Drawings			48.0 hrs	112.0 hrs				4.0 hrs	8.0 hrs			16.0 hrs	8.0 hrs	116.0 hrs			312.0 hrs	$59,637
	Specification			6.0 hrs	12.0 hrs				4.0 hrs	8.0 hrs							2.0 hrs	32.0 hrs	$5,762
	Quantities & Estimate			2.00 hrs	6.0 hrs				4.0 hrs	8.0 hrs				2.0 hrs				22.0 hrs	$4,070
	TCEAP		4.00 hrs						4.0 hrs				4.00 hrs				2.0 hrs	14.0 hrs	$4,287
	QCIP		4.0 hrs						4.0 hrs	4.0 hrs			4.0 hrs				2.0 hrs	18.0 hrs	$4,852
	Internal Review/Revisions/Back Check		4.0 hrs	4.00 hrs	12.0 hrs				4.0 hrs	8.0 hrs	12.0 hrs	8.0 hrs	4.0 hrs	4.0 hrs	8.0 hrs		2.0 hrs	70.0 hrs	$18,490
	NID Review/Revisions/Back Check		4.0 hrs		8.0 hrs				4.0 hrs	8.0 hrs	2.0 hrs	2.0 hrs	4.0 hrs	4.0 hrs	8.0 hrs		2.0 hrs	46.0 hrs	$10,510
	FERC/DSOD Review/Comment Response		4.0 hrs						4.0 hrs		2.0 hrs	2.0 hrs	4.0 hrs				2.0 hrs	18.0 hrs	$5,852
																		-	$0
																		-	$0

$1,469,784		Travel																					
HDR		Mileage			Rental Car		Air Travel		Hotel		Meals		ODC Climbing	ODC Other	ODC Subtotal	ODC Mark-up	ODC TOTAL	Labor	Contig.	TOTAL	Subs	HDR	PROJECT TOTAL
		Number	Miles	Cost $0.58	Days	Cost $125	Flights	Cost $800	Nights	Cost $170	Number	Cost $75.00	Field Gear	0%		0%		+ ODC	0%	HDR w/o sub mark-up	Total	Sub up	
NID - Scott's Flat Rehab																							
	Project Management			$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$120,622	$6,031	$126,653
	Project Management			$0		$0		$0		$0		$0		$0	$0	$0	$0	$55,068	$0	$55,068	$2,930	$146	$58,144
	NID Meetings bi-weekly meeting			$0		$0		$0		$0		$0		$0	$0	$0	$0	$21,835	$0	$21,835	$0	$0	$21,835
	PARR			$0		$0		$0		$0		$0		$0	$0	$0	$0	$9,352	$0	$9,352	$0	$0	$9,352
	Meetings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Kick-off Meeting			$0		$0		$0		$0		$0		$0	$0	$0	$0	$3,660	$0	$3,660	$0	$0	$3,660
	Site Meeting	5	250	$725	8	$1,000	2	$1,600	4	$680	4	$300	$500	$0	$4,805	$0	$4,805	$16,633	$0	$16,633	$1,280	$64	$17,977
	In-person/Virtual Progress Meetings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$5,589	$0	$5,589	$0	$0	$5,589
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Meeting with DSOD and FERC (telecon, 2hr each submittal)			$0		$0		$0		$0		$0		$0	$0	$0	$0	$7,453	$0	$7,453	$3,120	$156	$10,729
	Internal Meetings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$42,926	$0	$42,926	$0	$0	$42,926
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Phase 2	**Design and Construction Documents**			$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Basis of Design Report				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Draft BDR			$0		$0		$0		$0		$0		$0	$0	$0	$0	$17,096	$0	$17,096	$0	$0	$17,096
	Review BDR with District			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,863	$0	$1,863	$0	$0	$1,863
	Final BODR			$0		$0		$0		$0		$0		$0	$0	$0	$0	$6,890	$0	$6,890	$0	$0	$6,890
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Survey	Survey			$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$20,974	$1,049	$22,022
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
30% Design				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$141,320	$7,066	$148,386
	Flip Bucket Analysis			$0		$0		$0		$0		$0		$0	$0	$0	$0	$72,654	$0	$72,654	$0	$0	$72,654
	Foundation Analysis (assume Piers)			$0		$0		$0		$0		$0		$0	$0	$0	$0	$69,260	$0	$69,260	$0	$0	$69,260
	Design Documentation Report			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,903	$0	$4,903	$0	$0	$4,903
	Construction Drawings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$38,919	$0	$38,919	$0	$0	$38,919
	Specification TOC			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,049	$0	$1,049	$0	$0	$1,049
	Quantities & Estimate			$0		$0		$0		$0		$0		$0	$0	$0	$0	$7,464	$0	$7,464	$11,760	$588	$19,812
	TCEAP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,305	$0	$1,305	$2,040	$102	$3,447
	Internal Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$25,468	$0	$25,468	$0	$0	$25,468
	NID Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$11,261	$0	$11,261	$0	$0	$11,261
	FERC/DSOD Review/Comment Response			$0		$0		$0		$0		$0		$0	$0	$0	$0	$5,852	$0	$5,852	$0	$0	$5,852
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
60% Design				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$57,395	$2,870	$60,265
	Geotechnical Analysis			$0		$0		$0		$0		$0		$0	$0	$0	$0	$103,997	$0	$103,997	$33,552	$1,678	$139,227
	Design Documentation Report			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,652	$0	$4,652	$0	$0	$4,652
	Construction Drawings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$54,497	$0	$54,497	$0	$0	$54,497
	Specification			$0		$0		$0		$0		$0		$0	$0	$0	$0	$7,121	$0	$7,121	$0	$0	$7,121
	Quantities & Estimate			$0		$0		$0		$0		$0		$0	$0	$0	$0	$6,477	$0	$6,477	$15,840	$792	$23,109
	TCEAP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,287	$0	$4,287	$2,040	$102	$6,429
	QCIP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$5,416	$0	$5,416	$3,320	$166	$8,902
	Internal Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$26,032	$0	$26,032	$0	$0	$26,032
	NID Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$10,760	$0	$10,760	$0	$0	$10,760
	FERC/DSOD Review/Comment Response			$0		$0		$0		$0		$0		$0	$0	$0	$0	$9,889	$0	$9,889	$0	$0	$9,889
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
90% Design				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$55,775	$2,789	$58,564
	Design Documentation Report			$0		$0		$0		$0		$0		$0	$0	$0	$0	$2,356	$0	$2,356	$0	$0	$2,356
	Construction Drawings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$59,637	$0	$59,637	$0	$0	$59,637
	Specification			$0		$0		$0		$0		$0		$0	$0	$0	$0	$5,762	$0	$5,762	$0	$0	$5,762
	Quantities & Estimate			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,070	$0	$4,070	$3,320	$166	$7,556
	TCEAP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,287	$0	$4,287	$1,400	$70	$5,757
	QCIP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,852	$0	$4,852	$2,040	$102	$6,994
	Internal Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$18,490	$0	$18,490	$0	$0	$18,490
	NID Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$10,510	$0	$10,510	$0	$0	$10,510
	FERC/DSOD Review/Comment Response			$0		$0		$0		$0		$0		$0	$0	$0	$0	$5,852	$0	$5,852	$0	$0	$5,852
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

$1,469,784														CAD/Accounting/Clerical					
HDR		PIC	PM	Sr. Structural	Structural EIT	Geotech Lead	Sr. Geotech	Geotech EIT	Civil Lead	Civil EIT	Structural QC	Civil QC	Tech Advisor	Sr CAD	CAD	Account	Cleric	LABOR Task Totals Hrs	LABOR Task Totals $
NID - Scott's Flat Rehab		Lynch	Dosanjh	Farahani	Brianna Murphy	Tom O'brien	Harris	Satyal	Quintrall	Overby	Planck	Jabbour	Jacobs	Jackson	Eric Snyder	Keough	Gardenour		
		$433.07	$320.72	$243.90	$137.39	$303.98	$307.32	$151.72	$246.46	$131.97	$386.67	$345.12	$376.57	$225.94	$162.08	$125.46	$117.12		
																		-	$0
100% Design																		-	$0
	Design Documentation Report			2.0 hrs	2.0 hrs				1.0 hrs	2.0 hrs							1.0 hrs	8.0 hrs	$1,486
	Construction Drawings		4.0 hrs	12.00 hrs	32.0 hrs				4.0 hrs	8.0 hrs			4.0 hrs	8.0 hrs	48.0 hrs			120.0 hrs	$23,249
	Specification			4.0 hrs	4.0 hrs				2.0 hrs	4.0 hrs							1.0 hrs	15.0 hrs	$2,848
	Quantities & Estimate			1.0 hrs	2.0 hrs				1.0 hrs	2.0 hrs				4.0 hrs				10.0 hrs	$2,067
	TCEAP		2.0 hrs						4.0 hrs				2.0 hrs				1.0 hrs	9.0 hrs	$2,671
	QCIP		2.0 hrs						4.0 hrs				2.0 hrs				1.0 hrs	9.0 hrs	$2,671
	Internal Review/Revisions/Back Check		4.0 hrs	2.0 hrs	6.0 hrs				2.0 hrs	2.0 hrs	6.0 hrs	4.0 hrs	4.0 hrs	2.0 hrs	4.0 hrs		1.0 hrs	37.0 hrs	$10,454
	NID Review/Revisions/Back Check		2.0 hrs		2.0 hrs				2.0 hrs	4.0 hrs	1.0 hrs	1.0 hrs	2.0 hrs	2.0 hrs	4.0 hrs		1.0 hrs	21.0 hrs	$4,961
	FERC/DSOD Review/Comment Response		2.0 hrs						2.0 hrs		1.0 hrs	1.0 hrs	2.0 hrs				1.0 hrs	9.0 hrs	$2,926
																		-	$0
																		-	$0
Bid Documents																		-	$0
	Construction Drawings			2.0 hrs	2.0 hrs				1.0 hrs	2.0 hrs				4.0 hrs	8.0 hrs		1.0 hrs	20.0 hrs	$3,839
	Specifications			2.0 hrs	2.0 hrs				1.0 hrs	2.0 hrs							1.0 hrs	8.0 hrs	$1,486
	TCEAP		1.0 hrs						1.0 hrs	2.0 hrs							1.0 hrs	5.0 hrs	$1,014
	QCIP		1.0 hrs						1.0 hrs	2.0 hrs							1.0 hrs	5.0 hrs	$1,014
	Bid Support								40.0 hrs	40.0 hrs				40.0 hrs	40.0 hrs			160.0 hrs	$32,784
																		-	$0
		8 hrs	**240 hrs**	**287 hrs**	**568 hrs**	**317 hrs**	**208 hrs**	**408 hrs**	**349 hrs**	**264 hrs**	**68 hrs**	**66 hrs**	**144 hrs**	**156 hrs**	**450 hrs**	**72 hrs**	**137 hrs**	**3742 hrs**	
	Fully Burdened Labor	**$3,705**	**$82,311**	**$74,853**	**$83,447**	**$103,045**	**$68,355**	**$66,194**	**$91,981**	**$37,256**	**$28,117**	**$24,357**	**$57,987**	**$37,691**	**$77,992**	**$9,660**	**$17,159**	**$ 864,109**	**$864,109**

$1,469,784		Travel																				
HDR		Mileage			Rental Car		Air Travel		Hotel		Meals		ODC Climbing	ODC Other	ODC Subtotal	ODC Mark-up	ODC TOTAL	Labor	Contig.	TOTAL	Subs	HDR	PROJECT TOTAL
		Number	Miles	Cost	Days	Cost	Flights	Cost	Nights	Cost	Number	Cost	Field	0%		0%		+	0%	HDR	Total	Sub	
NID - Scott's Flat Rehab				$0.58		$125		$800		$170		$75.00	Gear					ODC		w/o sub mark-up		up	
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
100% Design				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$36,600	$1,830	$38,430
	Design Documentation Report			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,486	$0	$1,486	$0	$0	$1,486
	Construction Drawings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$23,249	$0	$23,249	$0	$0	$23,249
	Specification			$0		$0		$0		$0		$0		$0	$0	$0	$0	$2,848	$0	$2,848	$0	$0	$2,848
	Quantities & Estimate			$0		$0		$0		$0		$0		$0	$0	$0	$0	$2,067	$0	$2,067	$6,640	$332	$9,039
	TCEAP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$2,671	$0	$2,671	$0	$0	$2,671
	QCIP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$2,671	$0	$2,671	$0	$0	$2,671
	Internal Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$10,454	$0	$10,454	$0	$0	$10,454
	NID Review/Revisions/Back Check			$0		$0		$0		$0		$0		$0	$0	$0	$0	$4,961	$0	$4,961	$0	$0	$4,961
	FERC/DSOD Review/Comment Response			$0		$0		$0		$0		$0		$0	$0	$0	$0	$2,926	$0	$2,926	$0	$0	$2,926
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Bid Documents				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Construction Drawings			$0		$0		$0		$0		$0		$0	$0	$0	$0	$3,839	$0	$3,839	$33,450	$1,673	$38,962
	Specifications			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,486	$0	$1,486	$0	$0	$1,486
	TCEAP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,014	$0	$1,014	$16,840	$842	$18,696
	QCIP			$0		$0		$0		$0		$0		$0	$0	$0	$0	$1,014	$0	$1,014	$0	$0	$1,014
	Bid Support			$0		$0		$0		$0		$0		$0	$0	$0	$0	$32,784	$0	$32,784	$0	$0	$32,784
				$0		$0		$0		$0		$0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Fully Burdened Labor	5	250	$725	8	$1,000	2	$1,600	4	$680	4	$300	$500	$0	$4,805	$0	$4,805	$868,914	$0	$868,914	$572,257	$28,613	$1,469,784
																					38.9%		