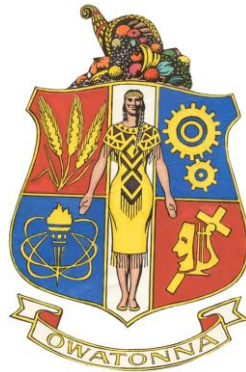


THE CITY OF

Office of Public Works Director
City Engineer



OWATONNA

540 West Hills Circle
Owatonna, MN 55060-4701
Ph. (507) 444-4350
FAX: (507) 444-4351

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: KYLE SKOV, PUBLIC WORKS DIRECTOR AND CITY ENGINEER
DATE: December 28, 2020
SUBJECT: WWTP Expansion Project, Preliminary Engineering

Purpose

Council Approval of Nero Engineering Proposal for WWTP Preliminary Engineering

Background:

The City of Owatonna has been working on approvals necessary for the expansion of the WWTP from 5.0 MGD to 9.1 MGD. With the permit almost complete, Staff is recommending starting on the preliminary engineering for the project.

Preliminary engineering will design the project to 30% plan completion. At the 30% stage, the design team will step back and complete Value engineering. Value engineering is a process for outside experts to evaluate the project for process feasibility, constructability and cost. Once the preliminary engineering is complete, the consultant will be in a better position to provide a cost for final design. The cost for preliminary engineering is not to exceed \$1,181,366.00. Preliminary opinion of cost for the final design phase is \$2.3 million.

Budget Impact:

Not to exceed cost is \$1,181,366.00.

Staff Recommendation:

Staff recommends approval of Resolution 10-21 approving the preliminary engineering contract with Nero Engineering.

RESOLUTION NO. 10-21

A RESOLUTION AUTHORIZING CONTRAT FOR PHASE 1 PLAN DEVELOPMENT FOR
THE WASTWATER TREATMENT PLANT PROJECT

WHEREAS, the City of Owatonna is proceeding with expansion of the wastewater treatment plant from 5.0 million gallons per day to 9.1 million gallons per day; and

WHEREAS, this project is ready to begin the preliminary engineering design phase:
and

WHEREAS, a proposal for preliminary engineering services has been received from Nero Engineering in the amount of \$1,181,366.00

BE IT RESOLVED by the City Council of the City of Owatonna, Minnesota, that the City agrees with the use of Nero Engineering to complete the preliminary engineering design of the wastewater treatment plant.

Passed and adopted this ____ day of _____, 2021, with the following vote:

Aye ____; No ____; Absent ____.

Approved and signed this ____ day of _____, 2021.

Thomas A. Kuntz, Mayor

ATTEST:

Kris M. Busse, City Administrator/City Clerk



&



ENGINEERING SERVICES AGREEMENT

Project: WWTF Expansion Design- Preliminary Design Phase (Project)

This Agreement is by and between:

City of Owatonna (Owner)
540 West Hills Circle
Owatonna, MN 55060

and

Nero Engineering, LLC (Nero)
7135 Madison Avenue W
Minneapolis, MN 55427

Who agree as follows:

Owner hereby engages Nero to perform the Services set forth in Part I for the compensation set forth in Part III. Nero will be authorized to commence the Services upon execution and receipt of this Agreement from Owner. Owner and Nero agree that this signature page, together with Parts I through IV attached, constitute the entire agreement for this Project.

APPROVED FOR OWNER

By: _____

Printed Name: _____

Title: _____

Date: _____

APPROVED FOR NERO

By: Eric Meester

Printed Name: Eric J Meester, PE

Title: President

Date: December 23, 2020

PART I
PROJECT DESCRIPTION/SCOPE OF SERVICES/TIMING

A. PROJECT DESCRIPTION

In 2017, the City retained Nero to conduct a Facility Plan (FP) to expand the wastewater treatment facility (WWTF). The Facility Plan effort not only included an existing facility assessment, flows and loadings determinations and expansion alternatives, but also an antidegradation analysis in lieu of accepting frozen mass limits as a result of the increased flows. The facility plan developed a 30-yr design to better address the long-term viability of the wastewater plant for the community and its ability to more easily meet current and future permit limits. The facility plan was submitted to the MPCA in October 2019 and the City is expecting a draft permit by the end of 2020.

The existing WWTF is designed to treat 5 million gallons per day (mgd) on an Average Wet Weather Daily Flow (AWW) basis and the FP identified a 30-yr AWW design flow of 9.1 mgd. This flow increase was based upon 30-yr population projections, commercial and industrial growth planning and anticipated inflow and infiltration. Because the WWTF already has pretty stringent limits (i.e., BOD 5 mg/L, phosphorus \approx 0.4 mg/L, ammonia 1.5-7 mg/L, etc.), feasible alternatives to expand the plant were limited. Essentially two base alternatives were evaluated, expanding the existing activated sludge process and converting the process to membrane bioreactors (MBR). Within these two base alternatives, both chemical and biological phosphorus (Bio-P) removal options were evaluated too. The following five alternatives were evaluated in detail, which included wastewater treatment modeling (with Biowin software) to incorporate into the Antidegradation Analysis.

1. Alternative 1A- Activated Sludge with chemical phosphorus removal
2. Alternative 1B- Activated Sludge with Biological Nutrient Removal (BNR)
3. Alternative 2A- MBR with chemical phosphorus removal
4. Alternative 2B- MBR with Biological Nutrient Removal
5. Alternative 2C- MBR with Modified BNR

Alternative 2C was ultimately chosen as the selected alternative as it first met the obligations of the Antidegradation Analysis (most feasible and least degrading alternative) and secondly, the MBR process best prepares the City for long-term growth and permit flexibility.

The specific processes of Alternative 2C include:

1. Course screening (existing)
2. Fine screening (proposed)
3. Coarse Grit Removal (existing)
4. Aeration Basins (existing with modifications)
5. MBR (proposed)
6. Disinfection (existing with modifications)
7. Ferric Chloride (phosphorus polishing, existing)

In addition to expanding the liquid train, the solids processing needs expansion and improvements. In the facility plan, all of the alternatives identified improvements to the existing digestion processes and expanding the capacity with acid phase anaerobic digestion (APAD). Some of the improvements and expanded processes identified with APAD the include:

1. Replace the covers on both existing anaerobic digesters
2. Replace anaerobic digester mixing

3. Replace digester pumping
4. Add an acid phase anaerobic digester
5. Add post aerobic digestion
6. Update waste activated sludge (WAS) thickening
7. Expand the WAS storage

Since the submission of the Facility Plan to the MPCA, Nero has conducted additional design efforts to best evaluate the best long-term biosolids process. An aspect of the process that wasn't completely vetted during the planning phase was the process connection between the biosolids recycle streams and their impact on Bio-P in the liquid train. Additionally, the selected digestion expansion needs to consider the cost/benefit of increasing or decreasing biogas production. Since there is a strong connection between the recycle streams from the digestion process and the success of Bio-P in the liquid train, the right process needs to be implemented to take advantage of Bio-P while also maintaining the digestion process to maximize biogas production. The design effort will explore this connection in more detail.

To date, the Facility Plan has been accepted and approved by the MPCA without significant comments. Additionally, the Antidegradation Analysis has been approved without comment. The draft permit the city will be receiving soon is based upon the processes laid out in the Facility Plan, however the preliminary design effort (outlined below) will identify the final design processes and ultimately what will end up in the final NPDES permit.

B. OUR TEAM

The City and Nero conducted a Request for Qualifications (RFQ) process to select a teaming partner to design the WWTF Expansion. The RFQ was issued to three regional consultants, AE2S, Donohue and SEH. In addition to receiving a Statement of Qualifications (SOQ), we also conducted 1.5-2 hr interviews with each consulting team. Some of the key evaluation criteria in the SOQ and interviews were experience, technical capabilities, operations collaboration tools and company/project cultures. All three consultants presented very well and the differences between them were small, but important. Ultimately, the City and Nero decided that AE2S would be the best teaming partner for this project because of their proven demonstrations of their communications and operations collaboration tools and project experience similar to the proposed improvements. An organizational chart is attached to the project, which shows the various people between AE2S and Nero that will be performing the design work. Some of the key personnel for this project are:

- Client/Project Manager- Eric Meester, Nero
- Lead Process Engineer- Jennifer Svennes, Nero
- Lead Liquid Train Process Engineer- Jennifer Svennes, Nero
- Lead Solids Train Process Engineer- Jason Benson, AE2S
- Lead Structural Engineer- Jordon Geiger, AE2S
- Lead Electrical Engineer- Mark Ruda, AE2S
- Lead Instrumentation & Controls Engineer- Anthony Pittman, AE2S
- Biosolids Technical Advisor- Patricia Scanlan, ESG
- Project Delivery (Revit/BIM360)- Steve Seibert (AE2S) and Dave Kruschke (Nero)

C. DESIGN APPROACH

As discussed in previous meetings with the City, the Nero/AE2S team will perform the WWTF expansion design in a phased approach. The two-phase design approach helps reduce overall design costs by detailing the final design scope after the first phase has been completed. For a project with this complexity and size, trying to establish the design fees for the entire project before all elements are established can lead to amendment delays and under or over scoped items. The final design effort will be based upon the actual design elements that are established during the first phase, Preliminary Design.

Nero/AE2S has included the scope and fee schedule for the entire design based upon elements outlined in the Facility Plan and also includes effort for bidding, membrane pre-selection and value engineering (associated with the Preliminary Design Phase). However, the Final Design Phase are only estimated at this point and will be detailed, finalized and authorized following the completion of the Preliminary Design. Only the Preliminary Design phase will be authorized initially, as identified in this agreement.

As identified during the consultant interview process, our team (along with plant staff) identified the benefit to develop the facility with a 3D drafting model, called Revit. This Revit model will not only help with the design and construction phases by providing a more accurate and real-time model, but also the development of SCADA controls, operations and maintenance. As we have discussed previously, because there is limited digital files with the WWTF, it is our intent to model the entire facility in Revit and make these Revit files available to the City for any future projects at the WWTF. This effort is typically identified in the Scope and Fee Schedule as "Model Development".

D. SCOPE OF SERVICES

Basic Services to be provided by the Nero/AE2S team for this Project under this Agreement are as follows and are also shown in the attached Scope and Fee Schedule:

Preliminary Design Phase

1. Task 1- General Preliminary Design

This task is primarily focused on front-end and back-end tasks related to the Preliminary Design, such as:

- Design workshops- we have identified four design workshops to help direct and define the process design elements moving forward. These design workshops are conducted with the collaboration of the plant staff so they are onboard and fully aware of the design path. The four design workshops we've identified are:
 - Biosolids Alternative Review- with the full process design team, identify biosolids options along with pros/cons of each to select the best overall biosolids process to develop
 - SCADA Assessment and I&C Approach- The plant SCADA was updated with the 2010 project, but the hardware is 10+ yrs old and a review of the existing overall control and SCADA needs will be reviewed to determine compatibility with the expansion and upgrade project. Additionally, the next generation SCADA platform, system architecture, and connection of the new processes to SCADA will need to be determined.

- MBR Design & Pre-selection Approach- as discussed during the facility planning, this workshop will determine the preferred MBR design approach. Considerations will include full implementation of the trains/modules to match the Main Lift Station and 30-year design capacity or phased implementation over the 30-year design life to better match the MBR capacity with the flows and loadings over time. Flow equalization strategies will be considered along with the MBR approach. The membrane selection and procurement approach will be determined.
- Fine screening- besides fine screening as required for the MBR process, other elements the City wants to incorporate with the fine screening building will be determined at this workshop. Process elements such as a more controlled septage receiving station as well as if and how high strength waste receiving/processing should be implemented will also be considered.
- B3 Benchmarking Requirements- B3 Benchmarking is an energy conservation program that to date, is required for any state funded projects (including WWTFs) that have more than 10,000 ft² of new occupied buildings. We will coordinate the application process with the state agencies to determine B3 Benchmarking design eligibility and requirements.
- High strength waste substrate screening
- Process Schematics and preliminary Process & Instrumentation Diagrams (P&IDs)
- Basis of Design Memo
- Plant Hydraulics
- Preliminary motor list
- Process configuration and phasing plans
- Design Coordination with outside groups, such as soil borings and site surveys

2. Task 2- NFPA Assessment

Because the original facility was constructed prior to the adoption of the National Fire Protection Agency's code that pertains to wastewater treatment facilities (NFPA 820), there are several components of the WWTF that do not meet the requirements of NFPA 820. Most of these issues are around the Digester Complex and potential hazard of having a sparking source (electrical) near facilities that either generate or store explosive gases (biogas). For the existing facility to fully comply with NFPA 820, it could add several millions of dollars to the project. Our scope and approach are to:

- Conduct an existing site assessment to address all of the NFPA 820 deficiencies and code review.
- Develop a remediation plan to address these deficiencies. Some of these remediations may be building isolations through fire rated walls, ventilation modifications to reduce the risk and some other combinations to either eliminate or reduce the risks.
- Develop a tech memo summarizing the assessment, code review and remediation efforts.
- Meet with the Authority Having Jurisdiction (AHJ) which is typically the local fire marshal, to review the issues and establish an agreement of the remediation requirements.

3. Task 3- Membrane Procurement

Because each membrane manufacturer utilizes a different design and membranes, it can be costly to develop a design that is suitable to several membrane manufacturers. Instead, what is typically done is a pre-selection process that selects a specific membrane either through direct procurement or a negotiated pre-selection process. The exactness of the path forward will be determined through Workshop 3- Membrane Design. This task will then develop the required documents to competitively procure the membranes or pre-select them. This task is intended to be completed by the end of April so the remaining preliminary design can be completed.

4. Task 4- Existing Facilities- Liquid Train

This task identifies the Revit model development for the following existing facilities:

- Main Lift Station
- Coarse Grit Removal
- Primary Clarifiers
- Aerations Basins
- Final Clarifiers
- Process Building
- Disinfection

Depending upon the membrane approach (flow equalization vs additional membranes), additional work may be needed within these existing facilities. Effort needed to implement the existing facilities into a revised liquid train process will mostly be developed as part of the final design. The one exclusion to this is the aeration basin since these will be modified with the MBR process.

5. Task 5- Fine Screening

Following the Fine Screening Workshop, the building layout will be developed to include the elements identified from the workshop. The Preliminary Design effort for the fine screen building will include screen layout, screenings handling, pumping, septage receiving, high strength waste processing, piping and channel layouts. HVAC, electrical and I&C effort will primarily be limited to cost estimating.

6. Task 6- Aeration Basins & Splitterbox

To implement as much biological nutrient removal as possible, aeration and tank modifications will be required. This is primarily associated with interior walls to isolate anoxic, anaerobic and aerobic zones within the aeration basins. The design will also determine the best way to incorporate recycles, chemical additions, mixing and scum removal. The aeration requirements will also change since the mixed liquor concentrations are higher with the MBR process. A blower evaluation will be done to determine the best size and quantity to deliver the air. As the high energy equipment at the WWTF, not only will efficiency be evaluated, but also how air will be needed and when. It may make sense to size the blowers with 10-15 year phased approach to not spend excess energy on a lower efficient, oversized blower configuration (30-yr vs 15-yr design).

7. Task 7- MBR Building

Following the MBR Workshop which will outline a design approach, the preliminary design and building layout for the membranes can begin. From the Facility Plan effort, a 2D preliminary layout was developed and it is anticipated the model will largely follow what was originally planned. For the membrane pre-selection effort, the building layout will need to show enough

detail for the membrane suppliers to develop their approach and costs. The elements that will need to be incorporated with the preliminary design are:

- General tank configuration
- Building highlights, such as membrane removal and staging
- Permeate pumping
- RAS and WAS pumping
- Scour blowers
- W3 Reuse System
- Clean-in-place (CIP) systems
- Ferric chloride polishing
- Redundant disinfection
- General piping, valves and gate arrangement

8. Task 8- Digester Complex

The existing anaerobic digestion system will be utilized as part of the new biosolids treatment process; however, the exact usage of the existing digesters and storage tanks will be reviewed as part of the biosolids alternative analysis. Elements of the existing system that will need consideration in preliminary design will be:

- WAS Storage
- Sludge Thickening
- Mesophilic Digestion Capacity and Configuration
- Digester Gas System and Combined Heat and Power
- Digested Sludge Storage

This task also identifies the Revit model development for the following existing facilities:

- Anaerobic digesters
- Digester complex building
- Sludge storage

9. Task 9- Advanced Digestion

Following the Biosolids Alternatives Workshop the solids alternatives selected by the project team will be analyzed and reviewed to determine the best solution for long term solids treatment. A technical memorandum will be prepared detailing the selected alternatives including capital and O&M costs. Upon review of the Biosolids Alternatives TM a recommendation will be made for moving forward with preliminary design activities of the selected solids treatment process. Preliminary building layouts and process and instrumentation diagrams will be prepared for the selected alternative.

10. Task 10- Site Development

The site survey information will be utilized to establish preliminary site layouts including:

- Overall site layout of new buildings and processes
- Traffic flow and parking
- Existing grading
- Roadways

11. Task 11- Preliminary Design Deliverables

The preliminary design deliverables will include the following:

- Basis of Design TM
- Plant Hydraulics
- Solids Alternatives TM
- SCADA Needs Assessment
- MBR Pre-Procurement Documents
- Preliminary drawing set (30%)
- List of project specifications
- Preliminary opinion of probable construction cost

12. Task 12- Value Engineering

At the conclusion of our design team's effort to develop the Preliminary Design Deliverables, these documents, which include the drawings, P&IDs, operational strategies, cost estimate, basis of design and plant hydraulics, will be distributed to the Value Engineering team. The intent of this task is to assemble a team of highly qualified people to conduct a peer review of the preliminary design. While we want the VE team to review the preliminary design in its entirety, Nero has identified the following roles (and some specific people) that we believe can provide a valuable design critique. The actual people involved may change as the preliminary design progresses.

- General Contractor (Magney Construction)- their primary role will be to evaluate the design for constructability and develop a 30% construction cost estimate.
- Biosolids operator (Al Parrella- WLSSD)- Al has 40+ years in facility operations at Western Lakes Sanitary Sewer District, particularly with anaerobic digestion. His review will focus on the overall design concept with an emphasis on the biosolids operations.
- MBR & BNR operator (to be determined)- since there aren't many MBR and BNR plants in MN, we may need to tap into surrounding states to find an operator that has extensive experience to emphasize the operational aspect of the MBR and BNR design.
- BNR & MBR Engineer (Susan Danzl- SEH)- experience and focus with MBR and BNR design.
- Biosolids Engineer (Applied Technologies)- experience and focus on anaerobic digestion and in particular acid phase anaerobic digestion and post aerobic digestion.

The Value Engineering effort will be delivered through Nero, with the exception of Magney Construction. To avoid any potential long-term conflicts with Magney Construction also wanting to bid the project, we believe their effort should be billed directly to the City. Based upon their effort identified above, they have estimated their effort to be about 140 hrs (16 hrs meetings, 20 hrs review and 100 hrs to develop a bid) or about \$18,000. We are expecting the other team members to have about 60 hours each in this effort. Magney's VE effort is not included in our Preliminary Design Proposal.

E. PROJECT TIMING

Our goal is to be prepared to bid this project in February 2022, which is doable but requires our team and City to move promptly through the design (next 13 months). We believe to maximize the ideal bidding market and minimize overall project costs, we need to bid the project prior to the 2022 construction season (spring 2022). The anticipated project design schedule is based upon council approval at the January 5, 2021 council meeting. A more detailed project schedule is also attached.

• Project Award	January 5, 2020
• Preliminary Design (30%)	May 15, 2020
• VE Review	June 15, 2020
• 60% Design	August 30, 2020
• 90% Design	November 30, 2020
• 100% Design	December 30, 2020
• Final Bid Documents	January 30, 2020

PART II OWNER RESPONSIBILITIES

- A. In addition to other responsibilities of Owner set forth in this Agreement, Owner shall:
1. Identify a person authorized to act as the Owner's representative to respond to questions and make decisions on behalf of Owner, accept completed documents, approve payments to Nero, and serve as liaison with Nero as necessary for Nero to complete its Services.
 2. Furnish to Nero copies of existing documents and data pertinent to Nero's Scope of Services, including but not limited to and where applicable: design and record drawings for existing facilities; property descriptions, land use restrictions, surveys, geotechnical and environmental studies, or assessments.
 3. Provide to Nero existing information regarding the existence and locations of utilities and other underground facilities.
 4. Provide Nero safe access to premises necessary for Nero to provide the Services.

PART III COMPENSATION, BILLING AND PAYMENT

- A. Compensation for the work as defined in the Scope of Services (Part I) of this Agreement shall be in accordance with Nero's standard chargeout rates in effect at the time the Services are performed (see the attached Fee Schedule). Routine expenses will be billed at cost and subconsultant costs will include no more than a 10% markup. The total cost for these basic Services will not exceed \$1,181,366 without prior written approval from Owner.
- B. Nero will bill Owner monthly, with net payment due in 30 days.
- C. Nero will notify Owner if Project scope changes require modifications to the above-stated contract value. Services relative to scope changes will not be initiated without authorization from Owner.

**NERO ENGINEERING, LLC
TERMS AND CONDITIONS**

ARTICLE 1 - PAYMENTS TO NERO ENGINEERING

1.01 Other Provisions Concerning Payment

A. *Preparation of Invoices.* Invoices will be prepared monthly in accordance with Nero Engineering's standard invoicing practices and will be submitted to Owner by Nero Engineering, unless otherwise agreed. The amount billed in each invoice will be calculated as set forth in Proposal or Task Order.

B. *Payment of Invoices.* Invoices are due and payable upon receipt. If Owner fails to make any payment due Nero Engineering for services and expenses within 30 days after receipt of their invoice therefore, the amounts due Nero Engineering will be increased at the rate of 1.5% per month (or the maximum rate of interest permitted by law, if less.) In addition, Nero Engineering may after giving seven days written notice to Owner, suspend services under this Agreement until Nero Engineering has been paid in full all amounts due for services, expenses, and other related charges. Design professionals shall not have any liability whatsoever to the Client for any costs or damages as a result of such suspension caused by any breach of this Agreement by the Client. Payments will be credited first to interest then to principal.

C. As required by the Construction Lien Law, Nero Engineering hereby notifies Owner that persons or companies furnishing labor or materials for the construction on Owner's land may have lien rights on Owner's land and buildings if not paid.

D. *Disputed Invoices.* If the Client objects to any portion of an invoice, the Client shall so notify the Design Professional in writing within 30 calendar days of receipt of the invoice. The Client shall identify the specific cause of the disagreement and shall pay when due that portion of the invoice not in dispute. Interest as stated shall be paid by the Client on all disputed invoiced amounts resolved in the Design Professional's favor and unpaid for more than 30 calendar days after date of submission.

E. *Payments Upon Termination.* In the event of any termination under Paragraph 2.04, Nero Engineering will be entitled to invoice Owner and will be paid in accordance with Proposal for all services performed or furnished and all Reimbursable Expenses incurred through the effective date of termination.

ARTICLE 2 - GENERAL CONSIDERATIONS

2.01 Standards of Performance

A. The standard of care for all professional services and related services performed or furnished by Nero Engineering under this Agreement will be the care and skill ordinarily used by members of their profession practicing under similar circumstances at the same time and in the same locality. Nero Engineering makes no warranties, expressed or implied, under this Agreement, in connection with their services.

B. Nero Engineering shall perform or furnish professional services and related services in phases of the Project to which this Agreement applies. Nero Engineering shall serve as Owner's prime professional for the Project. Nero Engineering may employ such Subconsultants as they deem necessary to assist in the performance or furnishing of the services. Nero Engineering shall not be required to employ any Subconsultant unacceptable to them.

C. Nero Engineering and Owner will endeavor to comply with applicable Laws or Regulations. This Agreement is based on these requirements as of its Effective Date. Changes to these requirements after Effective Date of this Agreement may be the basis or modifications to Owner's responsibilities or to Nero Engineering's scope of services, times of performance, or compensation.

D. Owner shall be responsible for, and Nero Engineering may rely upon, the accuracy and completeness of all requirements, programs, instructions, reports, data, and other information furnished by Owner to Nero Engineering pursuant to this Agreement. Nero Engineering may use such requirements, reports, data, and information in performing or furnishing services under this Agreement.

E. Owner shall make decisions and carry out its other responsibilities in a timely manner and shall bear all costs incident thereto so as not to delay the services of Nero Engineering.

2.02 Use of Documents

A. All Documents are instruments of service in respect to this Project, and Nero Engineering shall retain an ownership and property interest therein (including the right of reuse at the discretion of Nero Engineering) whether or not the project is completed.

B. Copies of Documents that may be relied upon by Owner are limited to the printed copies (also known as hard copies) that are signed or sealed by Nero Engineering. Files in electronic media format of text, data, graphics, or of other types that are furnished by Nero Engineering to Owner are only for convenience of Owner. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk.

C. Owner may make, and retain, and reuse copies of Documents for information and reference in connection with use on the Project by Owner with written permission from Nero Engineering. Such Documents are not intended or represented to be suitable for reuse by Owner or others on extensions of the Project or on any other project. Any such reuse or modification without written verification or adaptation by Nero Engineering, as appropriate for the specific purpose intended, will be at Owner's sole risk and without liability or legal exposure to Nero Engineering or its Subconsultants. Owner shall indemnify and hold harmless Nero Engineering and its Subconsultants from all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting therefrom.

D. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

2.03 Insurance

A. Nero Engineering shall procure and maintain Professional Liability, General Liability, Workers Compensation, and Automotive Liability which are applicable to the Project

B. Owner shall procure and maintain General Liability and Property Insurance policies which are applicable to the Project.

2.04 Termination

A. The obligation to provide further services under this Agreement may be terminated:

1. *For cause*, by either party upon 30 days written notice in the event of substantial failure upon the other party to perform in accordance with the terms hereof through no fault of the terminating party

2. *For Convenience*, by Owner effective upon the receipt of notice by Nero Engineering.

2.05 Dispute Resolution

A. Owner and Nero Engineering agree to negotiate all disputes between them in good faith for a period of 30 days from the date of notice, prior to exercising their rights under provisions of this Agreement, or under law.

B. Mediation - In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the Client and the Design Professional agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise. The Client and the Design Professional further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with subcontractors, subconsultants, suppliers, or fabricators so retained, thereby providing mediation as the primary method for dispute resolution between the parties to those agreements.

2.06 Hazardous Environmental Condition

A. Owner represents to Nero Engineering that to the best of its knowledge, a Hazardous Environmental Condition does not exist.

B. Owner has disclosed to the best of its knowledge to Nero Engineering the existence of Asbestos, PCB's, Petroleum, Hazardous Waste, or Radioactive Material located at or near the Project Site, including type, quantity, and location.

C. It is acknowledged by both parties that Nero Engineering scope of services does not include any services related to asbestos or hazardous or toxic materials. In the event the Design Professional or any other party encounters asbestos or hazardous or toxic materials at the jobsite, or should it become known in any way that such materials may be present at the jobsite or any adjacent areas that may affect the performance of the Design Professional's services,

the Design Professional may, at his or her option and without liability for consequential or any other damages, suspend performance of services on the project until the Client retains appropriate specialist consultants or contractors to identify, abate and/or remove the asbestos or hazardous toxic materials, and warrant that the jobsite is in full compliance with applicable laws and regulations.

D. The Client agrees, notwithstanding any other provision of this Agreement, to the fullest extent permitted by law, to defend, indemnify and hold harmless the Design Professional, his or her officers partners, employees, agents and consultants from and against any and all claims, suits, demands, liabilities, losses, or cost, including reasonable attorneys' fees and defense costs, resulting or accruing to any and all persons, firms and any other legal entity, caused by, arising out of or in any way connected with the detection, presence, handling, removal, abatement, or disposal of any asbestos or hazardous toxic substances, products or materials that exist on, about or adjacent to the jobsite, whether liability arises under breach of contract or warranty, tort, including negligence, strict liability or statutory liability or any other cause or action.

2.07 Allocation of Risks

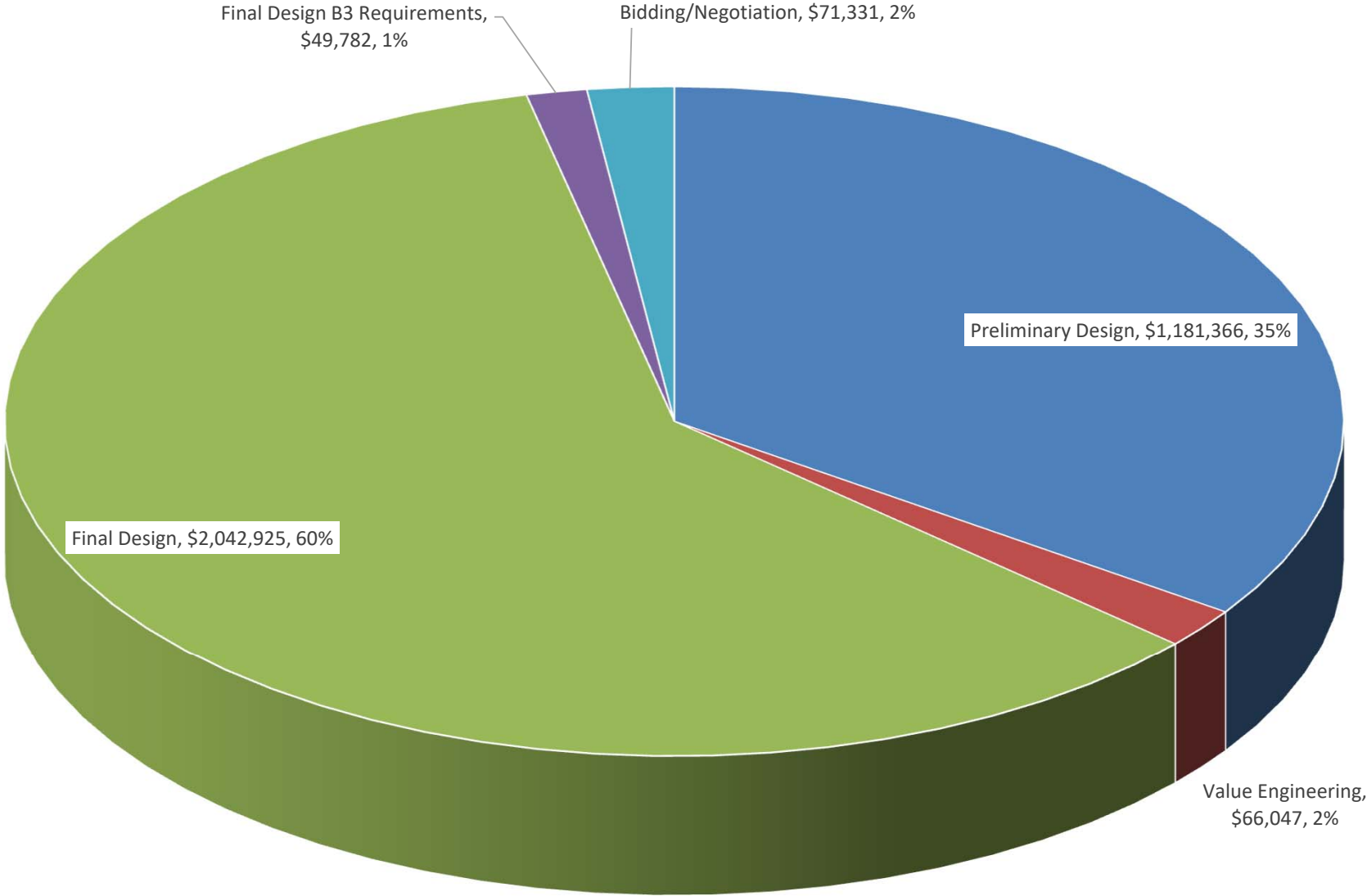
A. Indemnification

1. To the fullest extent permitted by law, Nero Engineering shall indemnify and hold harmless Owner, Owner's officers, directors, partners, and employees from and against any and all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professions, and all court or arbitration or other dispute resolutions costs) caused solely by the negligent acts or omissions of Nero Engineering or its officers, directors, partners, employees in the performance and furnishing of Nero Engineering's services under this Agreement.

2. To the fullest extent permitted by law, Owner shall indemnify and hold harmless Nero Engineering, its officers, directors partners, employees, and Subconsultants from and against any and all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused solely by the negligent acts or omissions of Owner or Owner's officers, directors, partners, employees, and Owner's Consultants with respect to this Agreement or the Project.

3. To the fullest extent permitted by law, Nero Engineering's total liability to Owner and anyone claiming by, through, or under Owner for any cost, loss or damages caused in part by the negligence of Nero Engineering and in part by the negligence of Owner or any other negligent entity or individual, shall not exceed the percentage share that Nero Engineering negligence bears to the total negligence of Owner. Nero Engineering, and all other negligent entities and individuals.

Design Through Bidding Breakdown



- Preliminary Design
- Value Engineering
- Final Design
- Final Design B3 Requirements
- Bidding/Negotiation

Preliminary Design Phase Breakdown

