**EXHIBIT “1”**

**PROJECT AGREEMENT**

**PROJECT DESCRIPTION**

**EXHIBIT "2"**

**TO**

**PROJECT AGREEMENT**

**S C O P E O F S E R V I C E S**

[Delete Section description if not applicable]

1. **DESIGN SERVICES**

Unless otherwise agreed in writing, the CONSULTANT shall perform the following design services in connection with the Project. CONSULTANT shall provide sound and cost effective engineering design that shall be in full compliance with the Service Authority’s Utility Standards Manual (USM) and all applicable local, state and federal: codes, ordinances, regulations, and requirements in effect at the time of design, taking into consideration guidance provided by technical water and waste water industry organizations. CONSULTANT shall identify and explore with the Service Authority for approval, the need to secure regulatory variances or exceptions and provide the necessary written justification, prior to seeking such variances/exceptions.

1. **Preliminary Engineering Report:** The CONSULTANT shall prepare a Preliminary Engineering Report (PER), to define and assess the adequacy and condition of existing facilities and evaluate and recommend options for altering or adding new facilities to meet all current and future needs using the most cost effective and safe design. The CONSULTANT shall analyze any information furnished by the SERVICE AUTHORITY to understand the requirements of the Project, including but not limited to, any design, construction, and scheduling, budgetary or operational requirements.
	1. The CONSULTANT shall perform and furnish a written economic and technical evaluation of feasible alternatives to the Project and shall review same with the SERVICE AUTHORITY.
	2. The PER furnished by the CONSULTANT shall also include the following:
		1. An analysis of all additional data and services required for design or construction of the Project and assistance in the procurement of such data or services. This data and these services include, but are not limited to, photogrammetry, reconnaissance surveys, property surveys, topographic surveys, geotechnical investigations and consultations, compilation of hydrological data, traffic studies, materials engineering, vested property rights, restrictions and constraints, assembly of zoning, deed and other restrictive land use information, and environmental assessments and impact statements;
		2. An analysis of all laws, regulations, ordinances, permits, and other requirements of any governmental entity having jurisdiction over the design or construction of the Project. The CONSULTANT shall also consult with any such entities as may be required to assure compliance with any such laws, regulations, ordinances, or other requirements;
		3. The CONSULTANT shall include in the PER any necessary hydrologic, hydraulic, mechanical, electrical, structural and architectural analysis to provide recommended design alternatives for consideration by the Service Authority;
			* 1. The CONSULTANT will review flow projections for the project service area and verify necessary current and future capacity. The CONSTULTANT will utilize available data provide by SERVICE AUTHORITY to include; basis of design report (if available), GIS information, and any other relevant planning studies. In addition, the CONSULTANT will review the PW County comprehensive plan and the Washington Metropolitan Council of Government (COG) projections to develop the flow projections for the project. The CONSULTANT will verify the existing capacity and assess if an increase in capacity of the SPS is warranted. The CONSULTANT will review the findings with the SERVICE AUTHORITY.
		4. An analysis of comparative sites for the Project. Site considerations shall include access, operation, maintenance and technical feasibility of design. The CONSULTANT shall provide layouts, typical details, cross-section and a summary of special considerations applicable to the design activity, where necessary;
		5. A written report detailing the CONSULTANT’S understanding of the Project requirements and identifying any design, construction, scheduling, budgetary, operational, or other problems which may result from said requirements. The report shall contain schematic design documents consisting of drawings and other documents illustrating the scale and relationship of proposed Project components, layouts, sketches and conceptual design criteria. The CONSULTANT shall furnish a legal description and any necessary survey(s) of the site, including, as may be reasonably required, grades and lines of streets, alleys, pavements and adjoining structures, rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data pertaining to existing buildings and other improvements; and information concerning available service and utility lines above and below grade, including inverts and depths. The written report of the CONSULTANT shall also include proposed solutions, including design alternatives if appropriate, addressing each of the identified problems. The CONSULTANT shall submit to the SERVICE AUTHORITY an estimate of probable construction costs for the Project;
	3. The CONSULTANT will attend meetings with the SERVICE AUTHORITY at a minimum, at the following stages: kick-off meeting, draft PER review and a Final PER presentation.
	4. CONSULTANT shall prepare an estimate of the Total Construction Budget including contingencies that will be defined as the Preliminary Design Budget. The Preliminary Design Budget will then be transferred to the detailed design/bid task order.
	5. Deliverables: The CONSULTANT shall prepare a Draft PER that defines the Consultant’s evaluation and recommendations and communicates the PER’s design and cost recommendation to the SERVICE AUTHORITY and outside agencies. The CONSULTANT shall submit 5 copies of the Draft PER for the SERVICE AUTHORITY’S review and comment. The CONSULTANT will address the SERVICE AUTHORITY’S review comments and submit a Final PER along with a letter explaining how each comment on the Draft PER was addressed. The CONSULTANT will submit 5 copies of the Final PER and 2 CDs containing a digital PDF version of the Final PER along with any supporting files (CAD, Hydraulic modeling, etc.).
2. **Basis of Design:** Preparation of Basis of Design Memorandums. The Basis of Design Memorandum will define the nature of the facility operating criteria and establish the basic data and design criteria that will govern the final design.
	1. The Basis of Design Memorandum will, at a minimum, include:
		1. Operation and design criteria and material requirements and/or properties;
		2. The SERVICE AUTHORITY Operational requirements;
		3. A brief summary of feasibility, interim design layout, methodology, plans, other design considerations and operational considerations;
		4. A summary of alternatives, screening and optimization studies with economic valuation and basis of design selection;
		5. Layouts, typical details and connections, equipment arrangements, single line diagrams and a summary of special considerations applicable to the design activity;
		6. Coordination with and integration of operational preference consideration; other project elements; SERVICE AUTHORITY planning and zoning requirements;
		7. A review of permit and regulatory requirements, and a summary of design considerations specific to regulatory and permitting requirements.
3. **Preliminary Design (Also referred to as 30% Design):** The CONSULTANT shall initiate the Preliminary Design phase based on the Preliminary Design Budget that was developed in the Study/PER phase and the project program elements that define the project performance requirements. After reviewing with the SERVICE AUTHORITY the written report required hereinabove and any adjustments to the design, project budget or schedule authorized by the SERVICE AUTHORITY, the CONSULTANT shall prepare and submit to the SERVICE AUTHORITY a Preliminary Design for the Project.
	1. The Preliminary Design shall address all of the requirements of the Project, shall include drawings and other documents to fix and describe the size and character of the Project as to civil, architectural, structural, mechanical and electrical systems, landscape architecture and irrigation design, materials and such other elements as may be appropriate. The Preliminary Design shall include, but not be limited to, the following:
		1. Preliminary Design shall consist of drawings which illustrate each of the basic components of the Project including the size, scale, location, dimensions, layout, and character of each structure and/or facility;
		2. For potable water related projects, the CONSULTANT shall review and identify water quality, flow and pressure, fire flow performance and how to mitigate regulatory and SERVICE AUTHORITY requirements for these constraints;
		3. A site survey accurately depicting all relevant topography features, existing structures, and utilities, both horizontally and vertically. Said survey shall confirm benchmarks and spot elevations on selected structures;
		4. A written description of all permitting and code requirements for the Project;
		5. Preliminary drawings which illustrate all site development requirements including paving, grading, drainage, and utilities.
		6. A written description, including preliminary drawings where appropriate, of any and all architectural, electrical, mechanical, piping and structural systems of the Project. This description and these drawings shall illustrate all proposed concepts and layouts for buildings, structures, tanks, supports, and foundations;
		7. Detailed design calculations for all chemical and process systems including an identification of all mechanical and electrical components relating to same;
		8. If applicable, hydraulic calculations for all pumping systems and schematic piping diagrams for all hydraulic systems;
		9. Preliminary process and instrumentation diagrams illustrating all process locations as well as the functions of all mechanical and electrical components of the Project;
		10. A written description of the materials and equipment to be incorporated into the Project and the location of same. The CONSULTANT shall first consult with the Authority’s Utility Standards Manual (USM) and the SERVICE AUTHORITY concerning equipment and material components and shall give preference to materials and equipment recommended by the SERVICE AUTHORITY. The CONSULTANT shall submit to the SERVICE AUTHORITY a list of any and all proposed sole source or SERVICE AUTHORITY furnished equipment. The CONSULTANT shall not use or designate sole source or SERVICE AUTHORITY furnished equipment and/or materials in the project without the expressed written permission of the SERVICE AUTHORITY for each item, material or piece of equipment;
		11. A preliminary construction schedule identifying critical lead times and construction constraints, including sequencing of construction activities to meet Authority operational requirements;
		12. An estimate of the cost of constructing the Project in accordance with the Preliminary Design (said estimate shall be subdivided into separate estimates for the major process divisions if appropriate), in the format provided by the Authority;
		13. Any other documents or things required to illustrate, describe or depict the Preliminary Design and the conformity of same with the requirements of the Project;
		14. The CONSULTANT shall identify easement and property rights requirements from private property owners based on the recommended routes and alignments. The CONSULTANT shall develop draft easement plats based on the selected Preliminary Design. The CONSULTANT shall utilize the plats to contact private property owners to determine willingness to grant required easements and property rights and advise the SERVICE AUTHORITY so that changes to the alignment and route are made during the Preliminary Design. Once the Preliminary Design plans are reviewed and approved by the SERVICE AUTHORITY, the CONSULTANT shall continue negotiations for the SERVICE AUTHORITY to purchase the required easements prior to initiation of 60% design plans.
		15. As the Preliminary Design is finalized the CONSULTANT shall initiate the preparation of a comprehensive and accurate geotechnical report by a qualified geotechnical sub-consultant which shall include test borings, analysis, and studies depicting all geotechnical data and recommendations necessary for the design and construction of the Project;
	2. The CONSULTANT will submit a cost estimate at the conclusion of the 30% design phase as required by the task order.

Or – If a site plan or facility plan use the following:

The CONSULTANT will submit a cost estimate at the conclusion of the 30% design phase as required by the task order. The Total Construction Budget excluding contingencies for this project will be set by the Service Authority, as the Design Budget, at the conclusion of the 30% design and submission of the corresponding consultant’s cost estimate. Once the Design Budget is set in writing by the Service Authority, the consultant shall complete the detailed design as further outlined in accordance with the Design Budget based on the approved design program that established project performance requirements. CONSULTANT shall design the project to meet the Design Budget based on the approved design program that established project performance requirements. CONSULTANT agrees that if the lowest bona fide responsive and responsible bid that is received for this project following a competitive procurement process is in excess of 15% of the Design Budget, then the Service Authority may require the CONSULTANT to redesign the project to meet the set Design Budget as well as the project performance requirements at CONSULTANT’S expense. The redesign shall be based on recommendations by the CONSULTANT for PWCSA approval at its sole discretion, to deliver a design that meets the performance and design requirements of the project within the established Design Budget. The redesign will be accomplished within 30 days from approval of PWCSA of redesign recommendations.

After presentation of the Preliminary Design to the SERVICE AUTHORITY, the CONSULTANT shall meet with representatives of the SERVICE AUTHORITY and shall receive any comments, suggestions, questions, or other communications from the SERVICE AUTHORITY concerning the Preliminary Design.

1. **Design for Bidding as a Publicly Procured Project:**  Upon authorization by the SERVICE AUTHORITY, and after reviewing with the SERVICE AUTHORITY the Preliminary Design required hereinabove, and after incorporating any changes or alterations authorized or directed by the SERVICE AUTHORITY with respect to said Preliminary Design or with respect to the requirements of the Project, and in no event later than 3 days after written authorization, the CONSULTANT shall prepare and submit to the SERVICE AUTHORITY 60%, 90%, 100% and “BID ISSUE DOCUMENTS” for Construction in accordance with the project schedule and deliverables. The Design for Construction shall include drawings, plans and specifications (the "Construction Documents") which describe with specificity all elements, details, components, materials, and other information necessary for construction of a complete and usable Project. The Construction Documents shall be accurate, coordinated and adequate for construction and shall be in conformity and comply with all applicable law, codes and regulations. Products, equipment and material specified for use shall be readily available unless written authorization to the contrary is given by the SERVICE AUTHORITY.

The CONSULTANT shall meet with representatives of the SERVICE AUTHORITY and shall receive any comments, suggestions, questions, or other communications from the SERVICE AUTHORITY concerning the 60%, 90% and 100% Design. The CONSULTANT shall address and resolve all comments provided by the SERVICE AUTHORITY until approved by the SERVICE AUTHORITY and the next design phase is authorized to proceed.

* 1. The Design for Construction shall specifically include, but shall not be limited to, the following:
		1. 60% Design Phase:
			1. Design Development: This phase is initiated after approval of the preliminary design indicating that the following elements are the basis of design and no design concept changes are to occur. The design advances to provide sufficient design detail to convey design intent to the Authority:
				1. Site Plan
				2. Process Flow Diagrams/ P&ID
				3. Building Footprint and locations
				4. Ancillary Equipment Selection
				5. Major Pipe Sizing and Routing
				6. Electrical One-line Diagrams
			2. Goals: The design development plans are advanced to cover:
				1. PI&Ds and process piping 90% complete
				2. Finalize mass and energy balances and hydraulics
				3. Finalize major equipment/building layouts and elevations
				4. Identify routing of ductwork
				5. Finalize site and utility sizing and layouts.
				6. Finalize Equipment Data Sheets
				7. Develop electrical one-lines and size equipment
				8. Prepare first draft of specifications; process specifications are completed based on Authority format
				9. Conduct operability and construction reviews
				10. Initiate coordination with key vendors
				11. Update cost estimate
				12. Develop 3-D models if included in scope of services
			3. Deliverables: The CONSULTANT shall prepare the design development package such that it completely defines the design and communicates the design intent to the Authority and outside agencies. The package shall include a complete drawing list and specification index, major technical specifications index, major technical specification sections, progress drawings other than details.
			4. The CONSULTANT will submit a cost estimate at the conclusion of the 60% design phase as required by the task order.

Or if a linear project, use the following

The CONSULTANT will submit a cost estimate at the conclusion of the 60% design phase as required by the task order. The Total Construction Budget excluding contingencies for this project will be set by the Service Authority, as the Design Budget, at the conclusion of the 60% design and submission of the corresponding consultant’s cost estimate. Once the Design Budget is set in writing by the Service Authority, the consultant shall complete the detailed design as further outlined in accordance with the Design Budget based on the approved design program that established project performance requirements. CONSULTANT agrees that if the lowest bona fide responsive and responsible bid that is received for this project following a competitive procurement process is in excess of 15 % of the Design Budget, then the Service Authority may require the CONSULTANT to redesign the project to meet the set Design Budget as well as the project performance requirements at CONSULTANT’S expense. The redesign shall be based on recommendations by the CONSULTANT for PWCSA approval at its sole discretion, to deliver a design that meets the performance and design requirements of the project within the established Design Budget. The redesign will be accomplished within 30 days from approval of PWCSA of redesign recommendations

* + 1. 90% Design Phase
			1. Construction Documents: This phase is initiated after approval of the 60% plans. This design produces advanced construction documents suitable to solicit bids as a publicly procured project. The CONSTULTANT shall address and resolve all comments provided by the SERVICE AUTHORITY on the 60% design documents.
			2. Goals: The construction documents are advanced to cover:
				1. Documentation of design decisions made in design development
				2. Prepare 90% construction drawings
				3. Prepare 90% technical specifications
				4. Update cost estimate
			3. Deliverables: The CONSULTANT shall prepare and submit 90% design details and technical specifications. The CONSULTANT shall confirm that the design meets the requirements with key vendors. The design team conducts a formal design-wide coordination review and check. The CONSULTANT shall conduct a final operability and constructability review. THE CONSULTANT shall update the construction cost estimate and provides final documentation for review by the SERVICE AUTHORITY.
		2. 100% Design Phase
			1. Construction Documents: This phase is initiated after approval of the 90% plans. The design advances to produce construction documents suitable for bidding as a publicly procured project. The CONSTULTANT shall address and resolve all comments provided by the SERVICE AUTHORITY on the 90% design documents.
			2. Goals: Documentation of design changes made in design development
				1. Submit 100% Construction Plans
				2. Submit 100% Project Manual
				3. Submit Bid Issue Construction Documents
			3. Deliverables: The CONSULTANT shall prepare and submit 100% design construction documents package such that it completes final design details and finalizes technical specifications. The CONSULTANT shall confirm that the design meets the requirements with key vendors. The design team conducts a formal design-wide coordination review and check. The CONSULTANT shall conduct a final operability and constructability review. CONSULTANT shall also prepare and submit Bid Issue Construction Documents: the Project Manual and Plans Cover Sheet shall be labeled “BID ISSUE DOCUMENTS” and any minor changes (if any) incorporated to the plans/specifications, at the request of the SERVICE AUTHORITY after review of the 100% plans.
			4. Deliverables: The CONSULTANT shall submit 100 % design documents to the appropriate regulatory and government agencies for review and approval prior to bid for permits and/or approvals to proceed with construction. This effort is in conjunction with Paragraph 1.6 Permit Documents of this exhibit.
	1. General Design. General design covers index of drawings, location and vicinity maps, design data, flow diagrams, hydraulic profile, and general conditions. General drawings and specifications shall be prepared by the CONSULTANT;
	2. Civil Design. Civil Design covers, but is not limited to, the layout of the proposed facilities and associated outside piping, paving, grading and drainage, and other elements to meet Prince William County site plan submission and approval requirements. Contract drawings and specifications for the civil work shall be prepared by the CONSULTANT;
	3. Architectural Design. The design of the architectural features of the proposed building shall be accomplished. Contract drawings and specifications shall be prepared by the CONSULTANT;
	4. Structural Design. Structural design of the building foundation, building supports, and handrail structures is covered by this task. Contract drawings and specifications for the structural work shall be prepared by the CONSULTANT;
	5. Mechanical Design. Mechanical design consists of the selection, design, and layout of new pumping equipment and piping. Mechanical design also covers cathodic protection systems and external protective coatings for buried and submerged metallic pipelines. Contract drawings and specifications for the mechanical work shall be prepared by the CONSULTANT;
	6. Electrical Design. Electrical design consists of the analysis of power utility service, variable speed drive analysis, determination of power requirements, preparation of lightning and circuit diagrams, and design of electric motors and switchgear. Contract drawings and specifications for the electrical work shall be prepared by the CONSULTANT;
	7. Instrumentation and Control Design. Instrumentation and control design consists of development of specific control systems for the systems specified for the project and development of final process and instrumentation diagrams (P&ID's shall show layouts of all project systems and the relationships of systems and subsystems to one another.) The diagrams serve as process summaries, design control, construction and operation aids. Control panels are designed for the instrument and display components selected and existing components modified or replaced. Contract drawings and specifications for the instrumentation work shall be prepared by the CONSULTANT.
1. **Estimate of the Total Cost of Construction:** Contemporaneously with the submission of the 90% and 100% Design for Construction documents, the CONSULTANT shall submit to the SERVICE AUTHORITY in writing its updated Estimate of the Cost of Construction, in the format provided by the Authority. OWNER initiated or New Regulatory program changes (changes in scope, material selection, project timing, or construction process) after the Design Budget has been set, can result in a written amendment to the set Design Budget.
2. **Permit Documents:** The CONSULTANT shall prepare and submit all necessary permit documents required for the approval of authorities having jurisdiction over the Project, and the CONSULTANT shall coordinate the issuance of all required permits with any authorities having jurisdiction of same. The SERVICE AUTHORITY shall pay all permitting, application and processing fees.
3. **Easement Confirmation:** The CONSULTANT shall review all easements during the design process. With the 100% submission the CONSULTANT shall provide:
	1. Certification that the requisite Quality Control review has been conducted by CONSULTANT to meet SERVICE AUTHORITY standards and expectations, and that all the project easement / access requirements have been secured.
	2. Exhibit depicting all required easements and property rights vis-à-vis the work elements, including Right of Entry Agreements.
	3. List of required temporary and permanent easements and status. Detail to include: Property, GPIN, Deed Book / Page, Grantor, Grantee, Purpose, Status, Date of Recordation.
	4. List of secured Right of Entry Agreements. Details to include: Property, GPIN, Grantor, Grantee, Purpose, status.
	5. List of required permits and waivers along with the status of each.

**SECTION 2. BIDDING SERVICES**

Unless otherwise agreed in writing, the CONSULTANT shall perform the following bidding services in connection with the Project:

1. **Solicitation of Bids:** The CONSULTANT shall prepare bid packages using the Authority’s standard Invitation for Bids (IFB) document, and make them available for distribution or review by all prospective bidders, by the SERVICE AUTHORITY in paper and CD format. CONSULTANT shall coordinate with the SERVICE AUTHORITY Procurement Department in the preparation, processing and performing the necessary revisions, as directed by the Procurement Department, to have the Bid Package ready for issuance. The CONSULTANT shall make 20 copies of complete bid package, in pdf format on CDs with approved disc labels, and one (1) full sized paper copy of the plans and bound project manual and provide them to the SERVICE AUTHORITY for prospective bidders. The CONSULTANT shall be reimbursed by the SERVICE AUTHORITY for the actual cost of reproduction of the documents contained within the bid package as a reimbursable item pursuant to the terms of this agreement. The CONSULTANT shall attend the pre-bid conference and provide the SERVICE AUTHORITY with meeting minutes. The CONSULTANT shall also undertake pre-advertisement contractor solicitations.
2. **Addenda:** The CONSULTANT shall prepare for SERVICE AUTHORITY approval written addenda as appropriate to interpret clarify or expand the Bidding Documents. There shall be no additional charges for amendments or clarifications. The CONSULTANT shall coordinate with the SERVICE AUTHORITY during the bidding process and be available to provide written responses to address bidders’ questions and comments at any time during the bidding process.
3. **Substitution of Materials and Equipment:** The CONSULTANT will investigate, study and analyze any proposed substitutions of materials or equipment and shall advise the SERVICE AUTHORITY in writing with respect to same.
4. **Evaluation of Contractors and Suppliers:** The CONSULTANT shall investigate, analyze, and advise the SERVICE AUTHORITY in writing as to the acceptability and qualifications of prospective contractors and prospective subcontractors, suppliers, and others proposed by the bidder and shall assist in the evaluation of all bids received for determination of compliance with the bidding requirements and determination of the lowest responsive and responsible bidder by conducting reference checks and evaluation of the bid.
5. **Conformed Construction Documents:** The CONSULTANT shall incorporate any changes to the IFB package as a result of any addenda issued during the bidding process, as directed by the SERVICE AUTHORITY, to create a conformed set of documents as defined herein. Any document that is modified will receive the term “CONFORMED PLANS” or “CONFORMED PROJECT MANUAL” on the cover and a revised date on each modified page. Once the project is awarded for construction, the CONSULTANT will deliver to the SERVICE AUTHORITY at a minimum, the following items (conformed, if applicable): one (1) CD with the design files in AutoCAD format (version 2010, or later), one (1) CD with the plans and specs as PDFs, three (3) hard copies of the plans and specs (full sized plans and 3-ring bound project manuals). Additional copies of the plans and specs may be requested by the SERVICE AUTHORITY. The CONSULTANT shall be reimbursed by the SERVICE AUTHORITY for the actual cost of reproduction of the documents as a reimbursable item pursuant to the terms of this agreement.

**SECTION 3. CONSTRUCTION CONTRACT ADMINISTRATION SERVICES**

Unless otherwise agreed in writing, the CONSULTANT shall perform the following Contract Administration Services in connection with the Project. The authority for the CONSULTANT in the review and approval of submittals is limited meeting the contractual requirements and that any exception and deviation/substitution must be approved by the Authority as it would require a written modification to the construction contract.

1. **Representation of the SERVICE AUTHORITY:** The CONSULTANT shall represent the SERVICE AUTHORITY during the construction phase which shall commence with the award of the Contract for Construction. Instructions and other appropriate communications from the SERVICE AUTHORITY to the Contractor shall be communicated through the CONSULTANT unless the SERVICE AUTHORITY directs otherwise. The CONSULTANT shall act on behalf of the SERVICE AUTHORITY only to the extent provided in the Project Agreement and in the Contract for Construction. The CONSULTANT shall have and perform all of the duties, obligations and responsibilities of the CONSULTANT as set forth in the Contract for Construction to be executed by and between the SERVICE AUTHORITY and a General Contractor. The CONSULTANT herein acknowledges that it has received, reviewed and studied a true and correct copy of said Contract for Construction (prior to its execution) and same is herein incorporated by reference;
2. **Construction Meetings:** The CONSULTANT shall schedule and attend a pre-construction meeting which shall include, but shall not be limited to, the CONSULTANT, the SERVICE AUTHORITY, the Contractor, and the major Subcontractors. The pre-construction meeting shall review and discuss any applicable procedures for contract administration as well as any other items deemed appropriate by the CONSULTANT or the SERVICE AUTHORITY. During construction, the CONSULTANT shall schedule additional meetings with the SERVICE AUTHORITY, the Contractor, and others, when appropriate, to review the progress of the Project or as otherwise necessary to protect the interest of the SERVICE AUTHORITY. The CONSULTANT shall prepare, distribute and maintain detailed minutes of the pre-construction meeting and all other meetings relating to the construction of the Project;
3. **Interpretations and Clarifications:** At any time during the Construction phase, the CONSULTANT shall notify the SERVICE AUTHORITY in writing within five (5) working days of any necessary interpretations and clarifications of the Contract Documents. The written notification shall include any impacts to quality, operations, schedule or cost. The CONSULTANT shall prepare and issue any necessary interpretations and clarifications of the Contract Documents. The CONSULTANT must obtain written approval from the SERVICE AUTHORITY if the interpretation or clarification of the Contract Documents will impact quality, operations, schedule or cost. If appropriate, the CONSULTANT shall prepare work directives and proposed Change Orders. The CONSULTANT shall issue no work directives or change orders that impact contract price, schedule, utility operations or quality without prior written approval of the SERVICE AUTHORITY. The CONSULTANT may issue field orders that do not affect cost, schedule, quality or utility operations;
4. **Examination of the Schedule of Values:** Upon receipt, the CONSULTANT shall carefully review and examine the Contractor's Schedule of Values, together with any supporting documentation or data which the SERVICE AUTHORITY or the CONSULTANT may require from the Contractor. The purpose of such review and examination will be to protect the SERVICE AUTHORITY from an unbalanced Schedule of Values which allocates greater value to certain elements of the Work than is indicated by such supporting documentation or data, or than is reasonable under the circumstances. If the Schedule of Values is not found to be appropriate, or if the supporting documentation or data is deemed to be inadequate, and unless the SERVICE AUTHORITY directs the CONSULTANT to the contrary in writing, the Schedule of Values shall be returned to the Contractor for revision or supporting documentation or data. After making such examination, if the Schedule of Values is found to be appropriate as submitted, or if necessary, as revised, the CONSULTANT shall sign the Schedule of Values thereby indicating its informed belief that the Schedule of Values constitutes a reasonable, balanced basis for payment of the Contract price to the Contractor. The CONSULTANT shall not sign such Schedule of Values in the absence of such belief unless directed to do so, in writing, by the SERVICE AUTHORITY;
5. **Examination of Construction Schedules:** The CONSULTANT shall examine and review all construction schedules, and updates thereof, submitted by any Contractor or supplier in connection with the construction of the Project. The CONSULTANT shall advise the SERVICE AUTHORITY in writing with respect to the adequacy and accuracy of any such schedules or updates;
6. **Inspection of the Work and Testing:** The CONSULTANT shall carefully inspect the Work of the Contractor whenever or wherever appropriate including any final inspection or testing required by the Contract Documents. The purpose of such inspections shall be to determine the quality, quantity and progress of the Work in comparison with the requirements of the Contract for Construction. In making such inspections, the CONSULTANT shall exercise care to protect the SERVICE AUTHORITY from defects or deficiencies in the Work, from unexcused delays in the Schedule and from overpayment to the Contractor. Following each such inspection the CONSULTANT shall submit a written report of such inspection, together with any appropriate comments or recommendations, to the SERVICE AUTHORITY. Furthermore, the CONSULTANT shall require and review any and all tests required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents and shall report in writing to the SERVICE AUTHORITY the results thereof;
7. **Approval of Request for Payment:** The CONSULTANT shall review each Contractor pay requests and shall, with each pay request, recommend amounts due to the Contractor under the Contract for Construction predicated upon: receipt of inspection reports or other documentation from the AUTHORITY’s Inspector to confirm quantities installed and/or stored, evaluation of the Contractor's rate of progress in light of the remaining Contract time and upon evaluation of the Contractor's Request for Payment, and shall issue recommended approvals for Payment to the SERVICE AUTHORITY in such amounts. The issuance of a recommended Approval for Payment shall constitute a representation by the CONSULTANT to the SERVICE AUTHORITY that the CONSULTANT has made an inspection of the Work, and that the Work has progressed to the level indicated by the AUTHORITY’s Inspector reports or other documentation, that the quality of the Work meets or exceeds the requirements of the Contract for Construction, and that, to the best of the knowledge, information and informed belief of the CONSULTANT, the Contractor is entitled to payment of the amount recommended for approval. The SERVICE AUTHORITY shall be the final interpreter of the amount of payment;
8. **Contract Interpretation:** The CONSULTANT shall be the initial interpreter of the requirements of the drawings and specifications and the initial interpreter of the performance thereunder by the Contractor. The CONSULTANT shall render written or graphic interpretations necessary for the proper execution or progress of the Work with reasonable promptness on the request of the Contractor or the SERVICE AUTHORITY. Unless otherwise directed by the SERVICE AUTHORITY, the CONSULTANT shall determine all matters relating to the aesthetic effect, and such determination shall conform to the intent of the Contract for Construction;
9. **Rejection of Work:** The CONSULTANT shall reject any Work which does not conform to the Contract Documents unless directed by the SERVICE AUTHORITY, in writing, not to do so. Whenever it is necessary in order to protect the interest of the SERVICE AUTHORITY, the CONSULTANT shall require special inspection or testing of the Work in accordance with the provisions of the Contract for Construction whether or not such Work is fabricated, installed or completed;
10. **Shop Drawings and Submittals:** The CONSULTANT shall review, study, and approve, or take other necessary action upon, the Contractor's Shop Drawings, product data, samples, and other submittals. The CONSULTANT shall review and respond to Requests for Information (RFI) submitted by the construction contractor. Approval by the CONSULTANT of the Contractor's submittal shall constitute the CONSULTANT's representation to the SERVICE AUTHORITY that such submittal is in conformance with the Contract for Construction. Such action shall be taken with reasonable promptness so as to cause no delay to the Contractor or the Project;
11. **Change Orders:** The CONSULTANT shall review, and advise the SERVICE AUTHORITY concerning, proposals and requests for Change Orders from the Contractor. The CONSULTANT shall prepare Change Orders for the SERVICE AUTHORITY's approval and execution in accordance with the Contract for Construction and shall have authority to order, by Field Order, minor changes in the Work not involving an adjustment in the Contract Price or quality or an extension of the Contract Time;
12. **Start-Up: The CONSULTANT shall provide the following start-up services:**
	1. Assistance in closing any financial or related transaction for the Project;
	2. Assistance in connection with refining or adjusting any equipment or system for the Project;
	3. Assistance in training SERVICE AUTHORITY personnel to operate and maintain the Project;
	4. Assistance in developing systems and procedures for operational control and maintenance for the Project;
	5. Assistance in establishing appropriate systems for the generation and maintenance of Project records;
13. **Substantial Completion and Final Completion:** The CONSULTANT, based upon one or more inspections of the Project, shall determine and recommend in writing to the SERVICE AUTHORITY the date of Substantial Completion of the Project and the date of Final Completion of the Project. The CONSULTANT shall provide walk-throughs to determine both substantial and final completion and provide punch lists to the SERVICE AUTHORITY and CONTRACTOR as necessary. The CONSULTANT shall prepare the appropriate certificates for execution reflecting the completion status of the project. The CONSULTANT shall insure all contractual requirements for substantial completion are met prior to issuing the recommendation to the SERVICE AUTHORITY. When appropriate, the CONSULTANT shall issue a recommendation for Approval for final Payment. The CONSULTANT shall also receive, review for adequacy, compile in an organized, bound, and neat format, and forward to the SERVICE AUTHORITY any and all written warranties, guarantees, bonds, certificates of inspection, tests, required approvals, operation manuals, maintenance manuals, and any other related documents required by the Contract for Construction prior to issuing a recommendation for substantial completion;
14. **Legal Assistance:** In the event that the SERVICE AUTHORITY is required to defend the Work of the CONSULTANT, upon written request by the SERVICE AUTHORITY, the CONSULTANT shall testify in any judicial proceeding concerning the design and construction of the Project, and the CONSULTANT shall make available to the SERVICE AUTHORITY the personnel employed by the CONSULTANT for the purpose of reviewing, studying, analyzing or investigating any claims, contentions, allegations, or legal actions relating to, or arising out of, the design or construction of the Project.
15. **Operation and Maintenance Manuals:** The CONSULTANT shall review, approve or take other necessary action upon the Contractor's submittal of Operation and Maintenance Manuals. Approved Operation and Maintenance Manuals shall be compiled in a notebook, acceptable electronic format as required by the construction contract. When requested by the SERVICE AUTHORITY, the CONSULTANT shall prepare a detailed Operation and Maintenance Manual for the entire Project.
16. **Record Drawings:** The CONSULTANT shall review any Record Drawings furnished by the Contractor and shall incorporate as-built information on reproducible drawings and certify and submit to the SERVICE AUTHORITY that said drawings are adequate, accurate and complete as provided by the Contractor.
17. **Deficient Work Product:** The CONSULTANT shall, without additional compensation, promptly correct any errors, omissions, deficiencies or conflicts in its work product.

**SECTION 4. THE RESIDENT PROJECT REPRESENTATIVE**

1. The CONSULTANT shall provide the services of a resident project representative ("the RPR"). The RPR shall be the CONSULTANT's agent at the Project site. The RPR shall inspect the work and shall keep the SERVICE AUTHORITY fully informed of the progress and quality of the work. The RPR shall review the Contractor's schedule for performance of the work (and any updates thereof), the schedule of shop drawings and submittals (and any updates thereof), and the schedule of values prepared by the Contractor. The RPR shall attend all pre-bid, preconstruction, and other meetings pertaining to construction of the Project and shall prepare, circulate, and maintain detailed minutes of same. The RPR shall serve as the CONSULTANT's liaison with the Contractor but shall not, absent written approval from the Contractor, communicate with the Contractor's subcontractors. The RPR shall record the receipt of all shop drawings, submittals, and samples as well as any action taken in connection with same by the CONSULTANT or the Contractor. The RPR shall provide immediate written notification to the CONSULTANT and the Contractor in the event the Contractor commences any work without necessary shop drawings, submittals or samples having first been submitted to the CONSULTANT. The RPR shall record in writing, and immediately report to the CONSULTANT and the SERVICE AUTHORITY), any defective, deficient, faulty or unsatisfactory work performed by the Contractor. The RPR shall witness and verify all tests required by the Contract Documents as well as the operation of any and all equipment and systems installed by the Contractor. The RPR shall maintain detailed records relating to any such tests. The RPR shall accompany any visiting inspectors or representatives of the SERVICE AUTHORITY when requested by the CONSULTANT or the SERVICE AUTHORITY. The RPR shall immediately notify the CONSULTANT in writing in the event any clarifications or interpretations of the Contract Documents are required or requested by the Contractor. The RPR shall maintain at the Project site a complete set of Contract Documents including all addenda, change orders, modifications, supplemental drawings, field orders, and directives. The RPR shall maintain detailed records of the progress of the work, any problems encountered by the Contractor or subcontractors, weather conditions, daily activities, site visitors, decisions, observations in general, specific observations, manpower on the Project, and such other items as may be relevant to the progress and quality of the construction. The RPR shall also maintain names, addresses and telephone numbers of all contractors, subcontractors, and major suppliers of material and equipment for the Project. The RPR shall periodically (and no less frequently than monthly) prepare reports of the progress of the work and the Contractor's compliance with the Contract Documents including, but not limited to, the progress schedule and the schedule of shop drawings and sample submittals. The RPR shall advise the CONSULTANT in advance of any scheduled test, inspection or start-up of equipment as well as commencement of any significant phase of the Work. The RPR shall report immediately in writing to CONSULTANT and the SERVICE AUTHORITY upon the occurrence of any accident. In accordance with the requirements of the contract between the SERVICE AUTHORITY and the CONSULTANT, the RPR shall review the Contractor's applications for payment. The RPR shall verify the submission of all certificates, maintenance manuals, operation manuals, and other documents required by the Contract Documents and shall deliver copies of same to the CONSULTANT and the SERVICE AUTHORITY prior to final payment to the Contractor. The RPR shall assist with any final inspection of the Work and shall inspect the Work to determine that all requirements for final inspection have been completed. Any exceptions noted shall be submitted to the CONSULTANT and the SERVICE AUTHORITY in writing prior to final payment to the Contractor.
2. The RPR SHALL NOT AUTHORIZE ANY DEVIATION FROM THE CONTRACT DOCUMENTS OR ANY SUBSTITUTION OF MATERIALS OR EQUIPMENT UNLESS FIRST AUTHORIZED IN WRITING BY BOTH THE CONSULTANT AND THE SERVICE AUTHORITY. The RPR shall not exceed the limitations of the CONSULTANT's authority as set forth in the agreement by and between the CONSULTANT and the SERVICE AUTHORITY or as set forth in the Contract Documents. The RPR shall not undertake any of the responsibilities or duties of the Contractor, subcontractors, equipment suppliers, or others charged with construction of the Project. The RPR shall not advise with respect to, or assume control over, any of the means, methods, techniques, sequences or procedures of construction unless such advice or control is specifically required by the Contract Documents. IT IS EXPRESSLY AGREED AND UNDERSTOOD THAT THE DUTIES AND RESPONSIBILITIES OF THE CONSULTANT SHALL IN NO MANNER WHATSOEVER BE DIMINISHED, RELEASED, DISCHARGED, OR WAIVED AS A RESULT OF ANY PERFORMANCE (OR LACK THEREOF) BY THE RPR.
3. The services of the RPR shall include:

[Define any other duties of the RPR]

**SECTION 5. SPECIAL SERVICES OF THE CONSULTANT**

If authorized in an approved change order by the SERVICE AUTHORITY, the CONSULTANT shall perform the following special services:

1. Preparation of applications and supporting documents (in addition to those required hereinabove) for private or governmental grants, loans or advances in connection with the Project. Preparation or review of environmental assessments and impact statements and the effect of same on the design requirements of the Project. Assistance in obtaining approvals from authorities having jurisdiction over any anticipated environmental impact to the Project;
2. Services to make measured drawings of or to investigate existing conditions or facilities, or to verify the accuracy of drawings or other information furnished by the SERVICE AUTHORITY;
3. Services resulting from significant changes in the general scope, extent or character of the Project or its design, including but not limited to, major changes in the size, complexity, financing, or schedule of the Project. Such services include the revision of any previously prepared studies, reports, design documents or Contract Documents when revisions are required as a result of changes in laws, rules, regulations, ordinances, codes or orders enacted subsequent to the preparation of such studies, reports or documents, or are due to any other causes beyond CONSULTANT's reasonable control;
4. Preparation of the staffing plan for operation of the Project;
5. Preparation of renderings or models;
6. Assistance in connection with bid protests, rebidding or renegotiating contracts for construction, materials, equipment or services, so long as same are not the fault or responsibility of the CONSULTANT.
7. Investigation and studies involving, but not limited to, detailed consideration of operations, maintenance and overhead expenses; value engineering during the course of design; preparation of feasibility studies, cash flow and economic evaluations, rate schedules and appraisals; assistance in obtaining financing for the project; evaluating processes available for licensing and assisting the SERVICE AUTHORITY in obtaining process licenses; detailed quantity surveys of material, equipment and labor and audits or inventories required in connection with construction performed by the SERVICE AUTHORITY;
8. Providing any type of property surveys or related engineering services needed for the transfer of any interest in real property and field surveys for design purposes and engineering surveys and staking to enable the Contractor to proceed with the Work;
9. Providing any special field surveys as may be required by the SERVICE AUTHORITY
10. Providing services to perform an extraordinary examination or investigation of existing conditions or to make measured drawings, or to verify the accuracy or other information provided by the SERVICE AUTHORITY.
11. Making revisions in drawings, specifications or other documents when such revisions are inconsistent with written direction by the SERVICE AUTHORITY previously given, are required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents and not reasonably anticipated, or are due to other causes not within the control or responsibility of the CONSULTANT, either in whole or in part.
12. Preparing drawings, specifications and supporting data in connection with Change Orders, provided that such Change Orders are issued by the SERVICE AUTHORITY due to causes not within the control or responsibility of the CONSULTANT, either in whole or in part.
13. Providing services concerning repair or replacement of Work damaged by fire or other cause during construction provided that such services are required by causes not the responsibility of the CONSULTANT, either in whole or in part.
14. Providing services made necessary solely by the default of the Contractor or defects or deficiencies in the Work of the Contractor.
15. If any of the services identified in this paragraph are caused by, or result from, any errors or omissions of the CONSULTANT, same shall be performed without cost to the SERVICE AUTHORITY.

**SECTION 6. SERVICE SCHEDULE**

The CONSULTANT shall perform its services expeditiously. The CONSULTANT shall submit to the SERVICE AUTHORITY for approval a schedule for the performance for the CONSULTANT’s services which shall include allowance for time required for the SERVICE AUTHORITY’s review of submissions and for approvals of authorities have jurisdiction over the Project. The SERVICE AUTHORITY shall review and approve or reject any schedules submitted by the CONSULTANT within 10 working days of said submittal. If, in the event that construction of the Project is suspended for more than thirty days, the CONSULTANT shall also suspend Construction Administration Services upon request of SERVICE AUTHORITY. Any time spent on the Project at the request of the SERVICE AUTHORITY or on the SERVICE AUTHORITY’s behalf during this suspension shall be additional services and shall be paid based on the Standard Hourly Rates attached to this contract. The reasonable term of construction upon which the fees for Construction Administration in this contract are based, shall be extended to include the period of construction suspension. This schedule, when approved by the SERVICE AUTHORITY, shall not, except for cause, be exceeded by the CONSULTANT. In the event the SERVICE AUTHORITY rejects any schedules submitted by the CONSULTANT, the CONSULTANT shall submit a revised schedule within two (2) business days of said rejection. Submission of a schedule acceptable to the SERVICE AUTHORITY and to which the SERVICE AUTHORITY makes no objection shall be a condition precedent for any payment to the CONSULTANT.

**SECTION 7. MISCELLANEOUS SERVICES**

[DEFINE MISCELLENOUS SERVICES IF ANY]

**EXHIBIT “3”**

**PROJECT AGREEMENT**

**PROJECT SCHEDULE**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task****Number****\*** | **Task Description** | **Task Duration (Weeks)** | **Task Completion****In Weeks Following Notice to Proceed** |
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\*Task Number should correspond to Exhibit 2 Scope of Service numbers.

 **EXHIBIT “4”**

**PROJECT AGREEMENT**

**PAYMENT SCHEDULE**

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| --- | --- | --- | --- |
| **Task Number****\*** | **Task Description** | **Percent of****Total Fee** | **Fee** |
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| **Total** |  |  |  |

\*Task Number should correspond to Exhibit 2 Scope of Service numbers and Exhibit 3 Project Schedule

CONSULTANT will invoice PWCSA monthly on an hourly rate basis with a not to exceed total in accordance with Section 5.2 of the Project Agreement

**EXHIBIT “5”**

**PROJECT AGREEMENT**

**DELIVERABLES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Deliverable Number****\*** | **Deliverable** | **Format** | **Deliverable****In Weeks Following Notice to Proceed** | **Deliverable Distribution** |
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| **Total** |  |  |  |  |

\*Deliverable Number should correspond to Exhibits 2 thru 4.