

SECTION II. - ENGINEERING ROLES & SELECTION PROCESS

The following Section is intended to generally describe the duties and responsibilities of Northern's Project Engineers, Consulting Engineers and District Engineer during the development of the Plan of Improvement, Engineer's Report, design, bidding, award and construction. These duties and responsibilities will be further defined as scopes of work in each Project/Consulting Engineer's Contract and subsequent Purchase Orders. This section is further intended to explain the procedure for the selection & delegation of projects to consulting engineers

A. Water Management Plan/Plan of Improvements

1. District Engineer Responsibility

The District Engineer is responsible for the preparation of the Water Management Plan/Plan of Improvement. When complete, the District Engineer shall deliver and present the signed and sealed Water Management Plan/Plan of Improvement for review by Northern Staff and subsequently at Northern Board meetings, Public Hearings and Bond Validation Hearings. The District Engineer alone shall provide all interpretations of the Water Management Plan/Plan of Improvement and its contents.

Included in the Water Management Plan/Plan of Improvement there shall be a general description of:

- Improvements to be financed by Northern, and then transferred to other Governmental Entities.
- Improvements to be financed and maintained by Northern.
- Improvements to be financed by others and maintained by Northern.

The District Engineer shall:

- Prepare and circulate draft copies of the Plan to Northern Staff, its professional consultants and appropriate landowner(s).
- Compile the most recent information of Northern's policies, requirements and facilities.

For Improvements that are transferred to other government agencies the District Engineer shall:

- Obtain proof from the Project/Consulting Engineer of confirmation from the accepting Governmental Agencies.

Please note, the requirements for acceptance of the improvements should be provided in writing from the accepting Governmental Agencies (see Project/Consulting Engineer).

2. Project Engineer's Responsibility:

The Project Engineer is responsible for:

- Identifying those Improvements that are to be included in the Water Management Plan/Plan of Improvement,

- The conceptual design and certified estimate of the probable cost of construction for those Improvements.
- Providing the legal descriptions, sketches, diagrams and exhibits together with any other data or information necessary for the District Engineer to complete the Water Management Plan/Plan of Improvement.

The Project Engineer shall:

- Assist the District Engineer as necessary and coordinate with the Landowners to identify which Improvements shall be proposed for inclusion in the Water Management Plan/Plan of Improvements.
- Develop the drainage and design requirements/criteria for the project and their impact on existing facilities.
- Current information of Northern’s existing drainage facilities should be obtained from the District Engineer.
- Provide the requirements necessary for acceptance of the Improvements by other governmental agencies and provide a Letter of Intent of Acceptance from those agencies.
- Prepare the conceptual design and cost estimates for the Improvements.
- If requested, provide the District Engineer additional information as needed for completion of the Water Management Plan/Plan of Improvement.

B. Engineers Report

1. District Engineer’s Responsibility:

The District Engineer is responsible for the preparation of the Engineer’s Report. The Engineer’s Report identifies the extent to which the land within a specific Unit of Development benefits from or is damaged by the implementation of Northern’s Plan of Improvements (also known as the “determination of benefits”). When complete, the District Engineer must deliver and present the signed and sealed Engineer’s Report for review by Northern Staff and subsequently at Northern Board meetings, Public Hearings and Bond Validation Hearings. The District Engineer alone must provide all interpretations of the Engineer’s Report.

The District Engineer shall:

- Evaluate and quantify the unique impacts of each Improvement included within the Water Management Plan/Plan of Improvement.
- Establish the benefits to the lands due to the proposed Improvements and the proposed Assessment of Benefits methodology.
- Coordinate with Northern Staff, Landowner(s), Project Engineer and others as necessary to define the proposed Improvements and benefits.
- Review all preliminary and/or conceptual Agreements and Permits and advise Northern Staff as to impacts on the proposed Improvements.
- Review the proposed Improvement cost estimates that are signed and sealed and provided by the Project Engineer, and provide comments to Northern Staff.

2. Project Engineer's Responsibility:

The Project Engineer is responsible for the provision of the technical data necessary for the District Engineer to conclude the determination of benefits. This data will include, but is not limited to:

- calculations of pervious vs. non-pervious area
- reports quantifying projected traffic trips
- calculation of water and sewer "equivalent residential connections"
- Any other report quantifying the unique impacts of each Improvement included as a part of the Water Management Plan/Plan of Improvement.

The Project Engineer shall:

- Develop a construction-phasing schedule.
- Obtain from the Landowner(s) and provide all Preliminary Agreements and Permits required for or having impact on the Improvements.
- Provide an assessment of the impacts to Northern.
- If requested, provide the District Engineer additional information as needed for completion of the Engineer's Report.

C. Design and Bidding Phase Services:

1. District Engineer's Responsibility:

Review for constructability only, the Project Engineer's design for proposed Improvements which will be owned, operated and maintained by the District or by other governmental entities. This policy assumes competent internal review by those other governmental entities which will ultimately accept their Improvements. The "review for constructability" will be carried out to the extent necessary to enable the District Engineer to make recommendations to Northern's Staff and ultimately to Northern's Board of Supervisors.

The District Engineer's review of the Project Engineer's Bid Phase Service is limited to that deemed necessary to advise Northern's Staff regarding compliance with Northern policy.

The District Engineer shall:

- Provide Northern's criteria to the Project Engineer for Improvement design purposes.
- Provide general review of Improvement design concepts for conformance with the concepts of the Water Management Plan/Plan of Improvement.
- Review construction plans for general conformance with the concepts of the Water Management Plan/Plan of Improvement.
- Review the proposed utility corridors, alignments and types of property rights, as they relate to Northern facilities, which will be needed to construct the plan.

- Administer the distribution of Bid Documents, including plans, specifications & addenda.

2. The Project Engineer's Responsibility:

The Project Engineer is solely responsible for all work relating to the design and permitting of all Improvements contained within Northern's Water Management Plan/Plan of Improvement. This responsibility includes, but is not limited to, ensuring compliance with all applicable Northern, municipal and county design criteria, together with any and all regional, State and Federal criteria.

Northern's General Counsel shall coordinate with the successful bidder to obtain the necessary documentation, and complete the Contract documents.

The Project Engineer shall:

- Provide the District Engineer with all engineering assumptions, calculations, studies and reports necessary for the design of the Improvements.
- Prepare and submit plans, specifications and bid documents to the District Engineer.
- Apply for and, if not the obligation of the landowner(s), secure all required conceptual and construction permits, properties interests and licenses, plus approvals and provide copies to Northern.
- Engage appropriate sub-consultants (including Survey, Structural, Electrical, Architectural, Environmental, Geotechnical, Landscape and Irrigation services) which may be required to design and administer construction of the Improvements.
- Identify utility corridors, rights-of-way and easements which will be required for implementation of the Water Management Plan/Plan of Improvements and subsequent operation and maintenance of Northern owned Water Management Plan/Plan of Improvements. Obtain the necessary approvals and acceptance from Northern, the Landowner(s), District Engineer, Governmental Entities and Utility Companies as required.
- Prepare the construction plans and specifications, and provide the necessary project specific information, including contract duration and milestones, special conditions, Addenda, etc., to the District General Counsel. (See NPBCID Project Engineer Checklist in Section IV of this manual.)
- Prepare all technical documentation related to the project.
- Provide original sets of documents, including plans and specifications, to the District Engineer for distribution during the bid process.
- Be responsible for pre-bid conferences, bid opening meetings, bid tabulation and award recommendations
- Please note that any improvements not being bonded by Northern must be approved through the Northern permitting process. See Section VI.

D. Construction Phase Services:

1. District Engineer's Responsibility:

The District Engineer shall perform review and oversight tasks only if specifically requested by Northern Staff.

2. Project Engineer's Responsibility:

The Project Engineer will solely be responsible for providing Construction Phase Services and shall report directly to Northern's Construction Manager.

The Project Engineer shall:

- Determine the necessity of and conducting pre-construction conferences.
- Coordinate with all necessary governmental entities.
- Review, approval, clarification and interpretation of shop drawings and construction documentation.
- Procure and review testing reports.
- Document and resolve of all construction issues.
- Make recommendations regarding Change Orders and Payment Applications which are due on the Monday two weeks prior to the monthly Northern Board of Supervisors meeting..
- Obtain, review and approve record drawings for improvements.
- Obtain all releases and approvals for all improvements.
- Prepare documentation for conveyance of improvements to other governmental entities
- Prepare certifications of completion for improvements and warrantee inspections.
- Develop a construction administration program.
- Provide a Project Field Representative to monitor and inspect construction activities.
- Provide testing through sub consultants (geotechnical, surveyors, etc.).
- Copy Northern Staff on all written correspondence, reports, field observations, field orders, testing reports, change orders, etc., in a timely manner.
- Communicate with Northern Staff on a regular basis and as requested.
- Conduct construction coordination meetings and issue meeting notes.
- Coordinate document construction issues and resolve open items.
- Authorize minor changes for construction works not involving a change in time or money.
- Prepare and distribute to Northern Staff monthly project (Contract) status reports, which are due on the Monday, two weeks prior to the monthly Northern Board of Supervisors Meeting.
- Provide Engineer's Estimates, signed and sealed, Probable Construction Cost and any cost analysis as needed during construction administration.

- Schedule and conduct the Improvements one-year correction period walkthrough and follow-up in accordance with the Contract Documents.
- Provide all certifications, Record Drawings (electronic format) operational manuals and warranties to Northern.

E. Procedure for the Selection and Award of Projects to Consulting Engineers:

1. For each project that will require the services of a Consulting Engineer, a general scope of services shall be developed by Staff. In selecting the Consulting Engineer candidates which will be asked to provide proposals, a Staff group (the “Staff Group”) shall consider their past performance, expertise and the equitable distribution of engineering services during the current and prior five (5) fiscal years. The Staff Group will submit the scope of services to two or more Consulting Engineers, with a minimum of three candidates if the fee for services is estimated to exceed \$25,000 and/or the basic cost of construction is anticipated to exceed \$200,000. The candidates will be asked to provide an approach methodology and schedule for completion of the project.

2. A “Cone of Silence” restriction shall be applied in each instance where Consulting Engineers are requested to submit an approach methodology proposal. It shall prohibit any communication, except for electronic or written correspondence, regarding the request between any Consulting Engineer representative seeking the award and any Northern Board Member or Staff member authorized to rank the proposals or award the project. The Cone of Silence shall terminate at the time the project is awarded to a Consulting Engineer.

3. Depending on the nature of a project, Staff may also ask the District Engineer to provide a scope of services and fee proposal to perform review and oversight services for the project. A separate Purchase Order for such services shall be issued in accordance with Northern’s Purchase Order policy and run concurrently with the related but separate Consulting Engineer’s Purchase Order.

4. For projects where the Consulting Engineering fees are estimated to be \$25,000 or less and/or the estimated basic cost of construction is under \$200,000, the Staff Group shall review the submitted approach methodology proposals and rank the candidates based upon: (a) the approach methodology that provides the best desired result within the estimated time frame for the project, (b) a candidate’s expertise and past performance and (c) the equitable distribution of engineering fees in the Consulting Engineer selection process during the current and prior five (5) fiscal years. Staff shall then proceed to negotiate a Purchase Order that reflects the fees, terms and objectives of the project with the Consulting Engineer receiving the highest ranking. Upon successfully negotiating such a Purchase Order, Staff shall submit it to the Board of Supervisors for consideration. However, if Staff is not able to negotiate an acceptable Purchase Order with the first ranked Consulting Engineer, Staff shall attempt to negotiate an acceptable Purchase Order with the next highest ranked Consulting Engineer.

5. For projects where the Consulting Engineers’ fees are estimated to be greater than \$25,000 and/or the basic cost of construction anticipated to exceed \$200,000. Staff shall forward the

approach methodology proposals to the Engineering Review Committee. The members of the Engineering Review Committee shall rank the Consulting Engineers based upon: (a) the approach methodology that provides best desired result within the estimated time frame for the project, (b) a candidate's expertise and past performance and (c) the equitable distribution of engineering services during the current and prior five fiscal (5) years. Staff shall then proceed to negotiate a Purchase Order that reflects the fee, terms and obligations of the project with the Consulting Engineer receiving the highest ranking. The Purchase Order shall be submitted to Northern's Board of Supervisors for consideration. If Staff is not able to negotiate a Purchase Order with the highest ranked Consulting Engineer, Staff shall then proceed to negotiate the Purchase Order with the next highest ranked Consulting Engineer.

6. In those instances where there is a tie between the highest ranked Consulting Engineers, the Committee members shall discuss their selection considerations and thereafter do another ranking. If the new ranking results in another tie, the Consulting Engineers which are tied shall be invited to make a presentation to Northern's Board of Supervisors, following which the Board shall vote on the final selection.

7. In the event of an emergency requiring immediate action, the Executive Director may authorize a Purchase Order to a Consulting Engineer, Project Engineer or the District Engineer to address the emergency without following the aforementioned award procedures. The Executive Director shall promptly notify the Engineering Review Committee of this action, followed by notification to the Board of Supervisors at the next Board meeting.