

Quality Management Plan

Shamrock Township can trust that all deliverables for the Long Point Place (Bridge Road) Project (the Project) will receive the highest attention from our independent team of peer reviewers and quality management experts.

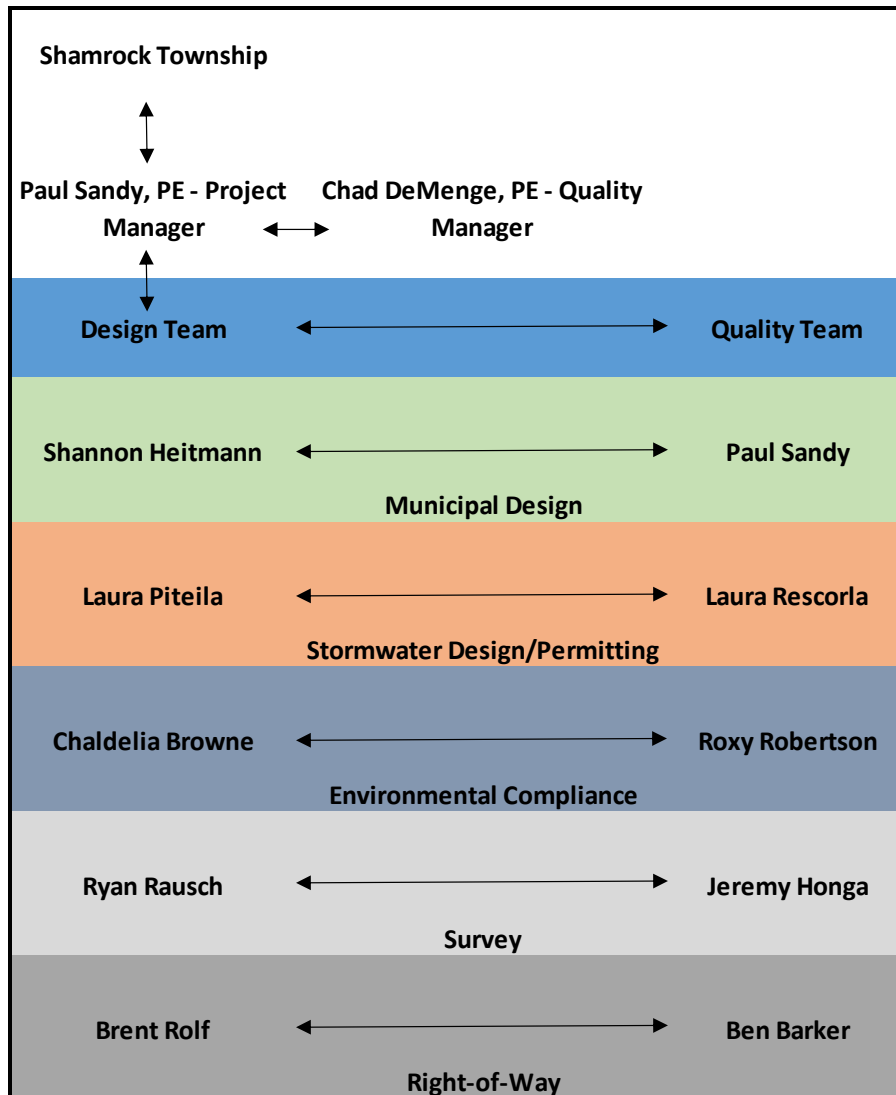
INTENT AND PHILOSOPHY OF THE QUALITY MANAGEMENT PLAN (QMP)

Quality management is a key attribute of providing exceptional service to all our clients and is essential to our continuing success as an organization. This QMP aligns project production activities, quality management functions, and Shamrock Township's expectations.

WSB QUALITY TEAM

Paul Sandy, PE, will serve as the project manager for the Project and will be responsible for initiating and coordinating the quality control and quality assurance process. Chad DeMenge, PE, will serve as the quality manager and will be responsible for overseeing the quality assurance for the project.

WSB will monitor checking procedures and ultimately ensure that true quality culture within an organization and project are maintained and followed. For this project we will use technologies such as 3D modeling tools and BlueBeam Studio to increase quality and efficiency for all stages of the project.



DEFINITIONS

Originator (Designer)- The person who creates the items that are to be checked and reviewed.

Checker - The person assigned to check documents developed by the Originator or Designer.

Quality Assurance (QA) - Verification that the QMP process is being followed. This process is performed by highly qualified staff and includes a focus on a big picture review of the deliverables.

Quality Control (QC) - Reviewing, checking, and inspecting calculations, reports, or other deliverables to verify that work is in conformance with the applicable technical requirements. The review will be completed by the QC Manager/task lead identified.

Quality Audit - A random review performed by the Quality Manager with the project manager, during the design work to ensure that all requirements of the QMP are being adhered to.

INTRADISCIPLINE CHECKING – GEOMETRIC LAYOUTS AND FINAL DESIGN PLAN SET

Checking occurs prior to submittal to Shamrock Township per the schedule shown in the work plan. Checking is performed and Checker “markups” are resolved prior to the QA process and deliverable milestones.

The Checker performs a detailed technical review and checks the deliverables for appropriate technical requirements. Typical items checked will include, but are not limited to:

The deliverables are complete, accurate, and suitable for the intended use.

The deliverables conform to project scope and the applicable codes and standards.

Clarity and content of notes are acceptable including reference to notes, tables, etc.

A Quality Review Stamp will be used to aid in the formal document checking process of a layout. This identifies the individual performing each specific task and when the task was performed.

QUALITY CONTROL PROCEDURES - ALL OTHER DISCIPLINES

Discipline Coordination Review (DCR) - The WSB team will perform DCR prior to all preliminary, layout and final design (30/60/90/100%) submittals. WSB will also perform DCRs for the prepared proposed utility plans at each final design milestone. These DCRs involve each discipline performing reviews of the design completed by other groups to validate that there are no conflicts.

QMP PROCESS

The following procedure will be performed by the Checker: a complete copy of the document originals will be made by the Originator. The Originator will affix the Quality Review Stamp to each sheet. The Checker will initial and date the “Checker” block on the stamp affixed to each sheet. All information that the Checker agrees with will be highlighted in YELLOW. All suggested changes will be marked in RED.

The following procedure will be performed by the Originator to ensure that suggested changes are discussed or implemented in the documents: the Originator will initial and date the “concurrence” block on the stamp affixed to each sheet. Suggested changes or comments that are agreed to and accepted will be highlighted in GREEN. Suggested changes or comments that need further discussion will be identified and will be discussed with the Checker. If the discussed change is accepted, it will be highlighted in GREEN. If the suggested change or comment is to remain unchanged, the Checker will initial and date the comment made in RED. If after discussion there is no resolution to the suggested change or comment, the Task Leader or QC Manager will mediate a resolution. The Originator or Checker will then make the appropriate GREEN or RED markings to these suggested changes as necessary.

The following procedure will be performed by the Originator to ensure changes to the documents are completed in the original documents: the Technician will incorporate the changes into the original document as shown on the review sheet. Once all items are reconciled, the Technician will revise the plan accordingly, highlighting in BLUE each correction made and sign the “Revised” block.

The following procedure will be performed by the Checker to ensure changes to the documents are completed accurately: the revised originals will be compared against the reviewed documents. The Checker then places a GREEN mark on the comments that have been

properly corrected. Any additional corrections are again marked in RED and returned to the Originator, repeating the process. The Checker will then initial and date the "Verified" block on each sheet. The final set of completed checked drawings for each submittal will be made a permanent part of the project records and the QMP.

SHAMROCK TOWNSHIP AND OTHER AGENCY REVIEWS/COMMENT RESOLUTION

Comments received from the City and other agencies on the 30/60/90/100% plans will be collected by the Project Manager. Task Leaders shall review the comments, ensure that appropriate changes are made, and sign the review form. For review comments not incorporated, the Task Manager shall register a response on the review form addressing each comment and provide it to the City for review. Following a resolution meeting, the remaining comments shall be addressed and incorporated.

QUALITY ASSURANCE REVIEW AND AUDITS

The QA Manager will be responsible for conducting a quality assurance review and audit after completion of the quality review process and prior to the submittal of any document or deliverable including but not limited to the geometric layout submittal, 30%, 60%, 90% and 100% submittals. The QA reviews will verify that applicable elements of the QMP are acceptable and effectively implemented based on the QMP.

QMP APPROVAL/REVISIONS TO QMP

The WSB team will submit the final QMP to Shamrock Township. After the Township approves the QMP, no edits will be made without approval.