PWSA Development Services Lessons Learned: A Development Case Study

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Phases of a Successful Project
Pre-Submission
Outreach
Developer's Agreement
Construction Drawings/Execution
Pre-Construction Submittals
Construction Coordination
Close-Out

Pre-Submission

- THE MOST IMPORTANT THING A DEVELOPER CAN DO IS UNDERSTAND THE PROJECT AND ITS IMPACT ON PWSA INFRASTRUCTURE
- UNDERSTANDING YOUR PROJECT ALLOWS YOU TO PLAN ACCORDINGLY
- FAILING TO PLAN IS PLANNING TO FAIL

Pre-Submission (Cont.)

- The Developer must determine what is the ENTIRE SCOPE OF THE PROJECT
  - Water? Sewer? Green Infrastructure?
  - Will PWSA take over all facilities or will some remain private? Are the streets public/private?
- Where does the Developer want to go with the Project?
  - What is the end result of the Development?
  - Are there multiple phases?
- Is there adequate funding and resources committed to the Project?
  - Is this feasible?

Pre-Submission (Cont.)

- Is the scope of the Project REALISTIC?
  - Are other City agencies on board with the Project?
  - Are outside stakeholders (those making a financial contribution) satisfied?
  - Are the existing site conditions adequate?

- PWSA frequently encounters developers attempting to hit a moving after the process has begun. This results in additional reviews, missed deadlines, and increased costs

Outreach

- Do your homework
  - Feel free to contact PWSA Staff to request record information
  - Perform a detailed survey prior to developing 30% design drawings
  - If the Project impact Authority sewers, allow budget to conduct your own CCTV inspection (pre and post construction inspection needs to be done anyway)

- Schedule a coordination meeting
  - This allows the Developer to discuss any concerns they may have while also determining expectations and/or knowledge of the site that PWSA may have
  - For more complex or multi-phased Projects, a site walk-through may be more appropriate/useful

Outreach (Cont.)

- Maintain a level of understanding
  - PWSA owns and operates facilities (both water and sewer) that date back to the late 1800's
  - Most of these facilities were inherited through a mixture of private development, City entities (some now defunct), and annexation of surrounding Boroughs, which typically did not maintain detailed record information
  - Many more Authority facilities were buried under slag and fill, as planners and developers attempted to level out some of the City's hilly terrain

- If these facilities are still functioning normally, there may have never been a reason for PWSA to locate these facilities

Development Agreement

- A DEVELOPMENT AGREEMENT ALLOWS THE DEVELOPER TO IMPROVE, RELOCATE, OR EXTEND AUTHORITY FACILITIES TO BETTER MEET THE NEEDS OF THE DEVELOPER AND THE AUTHORITY

- The Development Agreement can potentially be the most time consuming step in the Development process.
  - Plan accordingly, allowing for adequate TIME and EXPENSE

- Engage legal counsel early
  - In order to make sure the Agreement completely covers the scope of the project, the Developer and Engineer should look at the Agreement before the lawyers do
  - Developers with the shortest turn around time on their Agreements have their counsel deal directly with Authority counsel

Development Agreement (Cont.)

- Remember that multiple revisions may be needed
  - Particularly with regard to Green Infrastructure or miscellaneous Maintenance Agreements
- Provide Agreement Appendices early
  - Have all Lot Consolidation/Subdivision Plans been filed with the City and/or County?
  - Have all Street Vacations/Dedications been approved by City Council?

Construction Drawings

- Typical design reviews are: 30%, 60%, 90% and Final
  - PWSA is not opposed to completing the review process in a shorter timeframe
  - PWSA encourages Developers to get it right the first (or second) time
  - Remember to conduct a QA/QC of drawings before they are submitted

- 30% and 60% Design Reviews:
  - Typically focused on the design of the Public Infrastructure
  - Are the facilities sized appropriately?
  - Are the facilities located at the appropriate depths
  - Can all facilities (including sewers) be advanced at a later date

Construction Drawings (Cont.)

- 30% and 60% Design Reviews (continued):
  - Has proper storm water drainage been maintained?
  - Are the facilities located within an existing right-of-way or easement?
  - Do the facilities allow for easy maintenance?
  - Do the designed facilities satisfy all local, state, and federal requirements?

- 90% and Final Design Reviews:
  - Typically formatting related
  - Are all labels legible? Are there over writes?
  - Have all applicable Standard Details been provided?

Construction Drawings (Cont.)

- 90% and Final Design Reviews (continued):
  - Is everything labeled correctly?
  - Are leaders drawn accordingly?
  - Have appropriate line types been used?
  - Has all necessary information been provided for the benefit of the contractor?
  - Are the drawings signed and sealed by a P.E.?

- Remember that PWSA Engineering CANNOT sign Construction Drawings prior to the Development Agreement being fully executed

Pre-Construction Submittals

- Cost Estimate or Awarded Contract Total for the public infrastructure THAT IS TO BE ACCEPTED.
  - BE REALISTIC!
  - Cost should include:
    - Excavation & backfill
    - Installation
    - Materials
- Check covering Engineering & Inspection Fees
  - 10% of Cost Estimate or Awarded Contract Total

Pre-Construction Submittals (Cont.)

- Approved Tap-In Plans
  - Water & Sewer Use Application
  - Planning Module Approval
- Construction Schedule
  - Start Dates, Finish Dates, Key Milestones
- Performance Bond
  - 100% of Construction Cost Estimate or Awarded Contract Total

Pre-Construction Submittals (Cont.)

- Warranty/Maintenance Bond
  - 15% of Construction Cost Estimate or Awarded Contract Total for a period of 18 months
  - Bond should be undated (to be dated upon final acceptance by the Authority)

- Approved Pre-Construction Submittals
  - Provide information for all construction materials (sewer pipe, ductile iron waterline, manhole and catch basins, castings, fittings, backfill materials, etc.) to substantiate compliance with PWSA specifications
  - Include source of supply
  - Clearly specify proposed use of material
  - Submittals should be individually numbered
  - Provide a Submittal Log

Construction Coordination

- Pre-Construction (Kick-Off) Meeting.
  - For the most successful projects, Pre-Construction meetings are brief. All submittals have been submitted and possibly approved.
  - Key personnel (PWSA PM, PWSA Inspector, Developer Point of Contact, Contractor Point of Contact, Site Foreman) will be introduced.
  - Notice to Proceed will be given.

- On-site Pre-Construction Meeting.
  - Can be valuable to determine possible RFI’s or potential changes to the design.
  - Useful to get Contractor & Inspector on the same page.

Construction Coordination (Cont.)

- Provide space for our inspector to work as needed
  - Job Trailer
- Construction Meeting
  - Typically held bi-weekly
  - Best if held on-site (in job trailer if available)
- Meet with PWSA Staff on-site as necessary

Construction Coordination (Cont.)

- Actively coordinate w/ PWSA inspector to be on-site when needed
- Allow our inspector to be the primary Point of Contact for:
  - RFI’s
  - Potential changes to design
  - Service Requests (sewer cleaning and/or valve shuts)

Close-out

- All sewers must be inspected Pre and Post Construction
  - Submit Inspections to PWSA Project Manager
  - Inspections must be NASSCO Compliant
- Provide all Bacteria & Pressure Test results to PWSA PM as they are conducted
- Submit red-lined As-Builts to PWSA PM
  - Draft As-Builts due within 15 days of completion
  - Final As-Builts due within 30 days of completion
  - Final As-Builts must be red-lined on 4-mil thick mylar

Close-out (Cont.)

- Upon Final Acceptance:
  - Performance Bond will be Released
  - Warranty/Maintenance Bond will be dated and a copy will be provided to the Bonded party

Additional Advice

- Provide all submittals (drawing revisions, pre-construction submittals, RFI's, etc.) in both hard copy and digital formats
  - PWSA is transitioning to e-Builder to manage all projects, including private developments
- Do not skip steps
  - DO NOT order materials prior to PWSA approval
  - DO NOT begin construction activities prior to PWSA approval
  - How are you bidding work that has not yet been approved?
- Don't forget the Tap-in Fees

Discussion: Q&A

THANK YOU!

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