BCWS GUIDELINES FOR REQUIRED SUBMITTALS

Proposed Construction Plans

General:

- A cover sheet shall be provided and include the project title, a site map, and a revision block.
  - The project title will be referenced in all correspondence and contracts.
  - The revision block shall list each date any sheet within the set was amended or list a single date being the latest revision of any sheet within the set.
- Each sheet shall be sealed by a professional engineer licensed in this state. The seal shall be signed and dated.
- Each sheet shall include a corporate seal.
- All water, sewer and pump station details that are relevant to the project shall be included.
  - Water and Sewer details should be used exactly as they appear in our reference package.
  - The Pump Station details included in our reference package should be used as a prototypical design. The details must be altered or recreated to account for the changes in the pump station size and depth. The electrical drawings are also provided as a reference only. The drawings will have to be modified by an engineer, who is competent in electrical design, to size the wires and components as well as insure that the design meets all local, state and federal codes.
- All road names shall be labeled.
  - If the governing body (county or municipality) has not approved the road names at the time of submittal, generic road names are acceptable.
  - The width and center line of each right-of-way shall be indicated.
- All lots and buildings (i.e. townhomes, apartments, developments where property is not being subdivided for sale) shall be labeled.
- Engineering scales and north arrow shall be shown on the plan and profile views.
- All easements dedicated to the Authority shall be labeled as general utility easements (G.U.E).
- Two copies of the plan set shall be submitted and are to be plotted on D size (24” x 36”) paper.
- For a project that is a phase of a large development, provide a plan sheet showing the entire development plotted such that the current phase is accentuated.

- Water and sewer plan views shall not exceed a scale of 1"=50'. If the development being submitted is too large to be shown on a single sheet at this scale, it shall be shown on multiple sheets using match lines where necessary.
- The method of pipe crossing existing pavement shall be specified, i.e., jack and bore or open-cut. For jack and bore, show the casing pipe on both the plan and profile view.

Sewer Plan Set:

- Profile views of the sewer main shall show all appurtenances, pipe material, slope of the lines, pipe length, finish and existing grade lines, invert elevations, stationing, rim elevation, and crossings of drainage, water, and any possible construction conflicts.
- The sewer main shall be plotted based on stationing from center of manhole to center of manhole. (100' of sewer main shall scale as 100'.)
- The elevation of the storm drainage and water main crossing as well as other conflicts shown on the profile shall be taken from the centerline of the sewer main being profiled.
- Plan views of the sewer extensions shall show all manholes, manhole numbers, storm sewer mains, water mains, other buried pipelines, and any other conflicts.
- All drop manholes and dog-house type manholes shall be labeled on both the plan and profile views.
- Each lot created by the project shall be served with a gravity sewer service of adequate depth. Tapping of manholes for sewer services is unacceptable unless it is a dead-end manhole, or there is no other reasonable way to make a service connection for a lot.

Water Plan Set:

- Plan view of the water extension shall show all appurtenances, pipe material, conflicts with drainage and sewer structures, out fall ditches, and other pipelines.
- Stationing shall be labeled on the plan view.
- All bends, tees, crosses, reducers, plugs, valves, hydrants, blow-offs, and other appurtenances proposed on the water main shall be labeled.
- If tying into an existing line, the method of connection shall be indicated (i.e. remove temporary hydrant, remove plug, cut-in sleeve, etc.).
- The terminations of the line shall be labeled (i.e. hydrant, blow-off, plug, etc.).
- Each lot created by the project shall be served with a potable water service.
- For commercial projects, show and label the size of the services lines, meters and backflow preventor.

Pump Station Plan Set:

- Provide a site plan of the station with maximum scale of 1” = 20’ showing (Review Sewer Panel 3E as a reference):
  - Site drainage
  - Property lines and dimensions
  - Location and dimensions of major components
    - Power Transformer
    - Receiving Manhole
    - Wet Well
    - Control Panel
    - Generator
    - Telemetry Pole
    - Fence
    - Water Meter
    - Water Backflow Prevention Device
    - Freeze Proof Hydrant
    - Driveway
    - Gate
    - Hatch
    - Piping

- Provide a plan view of the station showing (Review Sewer Panel 3A as a reference):
  - Wet well diameter
  - Minimum allowable hatch dimensions
  - Discharge main components and size
    - Valves
    - Tees
    - Bends
    - Reducer
    - Air Release Valve
    - Air Release Discharge Line
  - Control Panel Location
  - Generator Location
  - Slab Dimensions

- Provide a profile view of the station showing (Review Sewer Panel 3B as a reference):
  - Wet well diameter
  - Base slab dimensions
  - All required thrust restraints
  - Discharge main components and size
    - Valves
    - Tees

    - Bends
    - Air Release Valve
    - Air Release Discharge Line
  - Pipe Supports
  - Pump size, voltage, total dynamic head, flow rate, model and impeller number
  - Redundant high level float (with elevation)
  - MultiTrode Probe (with control elevations)
  - Influent line (with elevation)
  - Minimum water level (from pump manufacturer)
  - Slab top and corner elevations

- Provide a power riser diagram of the station showing (Review Sewer Panel 3C as a reference).
  - Entrance power sizing
  - Entrance power disconnect sizing
  - Generator sizing
  - All conduits listed on the Panel 3C
  - Grounding design

- Provide a list of pump station notes (Review Sewer Panel 3F as a reference).
- Provide force main profile views.

Water System Design Calculation Booklet

- Provide all of the design calculations and notes performed to size the water mains within the project. These calculations shall be performed in accordance with SCDHEC R61.58 and BCWSA Specification 02664.

Sewer System Design Calculation Booklet

- Provide all of the design calculations and notes performed to size the sewer mains and/or pump station within the project. These calculations shall be performed in accordance with SCDHEC R61.67.
- BCW&SA has performed a unit contributory loading study and has been approved by SCDHEC to use 225 gpd/residential unit and ¾ of SCDHEC's unit contributory loading numbers for the design of commercial projects within the Lower and Central Berkeley WWTP service areas.

Pump Station Specification Booklet

- Berkeley County Water & Sanitation Authority does not have specification for pump stations on record with SCDHEC. Submit a complete set of

specifications of all equipment to be installed related to the pump station. Use the specifications incorporated with this document as a minimum.
- Any deviation of the specifications (other than the completion of equipment sizing) shall be noted in writing with the project submittal.

Record Drawings

- All items that are listed above under Construction Plans shall be included with the Record Drawings.
- "Record Drawings" or "As-Built Drawings" shall appear on the cover sheet.
- The revision date shown on the cover sheet shall be updated to reflect the date the record drawings were created.
- The lot number, street address number and actual street names shall be shown on the plan view.
- The datum system used must be referenced on the record drawings.
- For direction drills, a profile view or a table showing the depths at different stations shall be provided.

Legal Descriptions

- A metes and bonds legal description must be submitted for every general utility easement dedicated to BCWS.
- The TMS number of the property that the easement is on and the property owner (the grantor) that is granting the easement to BCWS must be included in the legal description.