

## STP SPEC/PLAN REVIEW

### TITLE SHEET:

- Project Name
- Owner Name & Address
- Key Map
- Sheet Index
- TM# (SCDHS Ref # if known)
- DPW Job #
- DPW General Notes (Total of 18) (Separate Sheet)
- DPW Marking Tape Notes (Separate Sheet)
- Symbol Page

### SITE PLAN

- 200' Radius from STP Building (proposed and future expansion) to all other buildings (on and off site). (SCDHS required).
- 150' Radius from STP Building (proposed and future expansion) to property line (SCDHS required).
- 25' Buffer between Leaching Pools and property line and building (SCDHS required).
- Show Leaching Pool layout (valved in 25% sections). (See DPW Leaching Pool design options).
- Show all utilities to STP building (water, gas, electric, telephone).
- Show Generator and Transformer locations (if not in building).
- Show locations of Influent Pump Station Wet Well, Valve Chamber and Flow Meter Vault.
- Show Property Line (fenced) for entire STP site.
- Show Sewer Line (gravity) to Pump Station (size, scope, type).
- Show Force Main from Pump Station to STP building (size, type).
- Show all crossing info (sewer/water) on STP site.
- Show access road to STP site and paved areas on STP site. Must be able to provide adequate access for tractor- trailer sludge tanker.
- Show drainage.
- Provide curbs and sidewalk.
- Fence with gate: 8' high, PVC coated galvanized mesh, #6 gauge.
- Show landscaping: 8' Evergreen or Douglas Fir around perimeter. Grass in pool areas.
- Show grading contour lines (existing and proposed) in 5' increments.
- Leaching field must not be in a swale.
- Show all Leaching Pipe (size, type, pitch, valve locations).
- Show all Pipe inverts thru all structures (**dist** MH, **dist** pools, leaching pools).
- Show Leaching Pool detail (see DPW standards).
- Show location of RPZ Vault (if not in building) or Hot Box.

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- Show location of any above or underground chemical storage tanks. Design as per SCDHS & NYSDEC Chemical Bulk Storage Regulations (CBS). Need containment pad for deliveries).
- North Arrow.

### FLOW DIAGRAM:

- Show flow diagram from Influent Pump Station thru to Leaching Field.
- Order of Flow:  
Pump Station→Valve Chamber→Flow Meter→Static Screen→ (or equal)→Influent EQ Tank→Splitter Box→Process Tanks→Intermediate EQ Tank (if any)→Final Filters (if any)→Effluent EQ Tank (if any)→Leaching Field.  
Show Sludge Tank and Flow Lines to and from.
- Show all connecting piping, return lines, waste lines, etc.
- Show all air piping to all tanks (EQ, SBR, Sludge, Filters).
- Show all valve locations and type (gate, plug, check, etc.).

### HYDRAULIC PROFILE:

- Show Hydraulic profile from Influent Pump Station thru to Leaching Fields.
- Show all pipe invert elevations, in and out of all tanks, splitter boxes and filters.
- Show HWL & LWL in Process Tanks (check Engineering Reports for  $\Delta$ ).
- Show all elevations for all tanks & equipment. (Bottom slab top of wall, pipes in and out, water levels, etc.).
- Show float levels in Pump Station and EQ Tanks. (Check Engineering Report)
- Min 18" Freeboard (Top of water to top of tank), 2' preferred.
- Check Engineering Report for approved tank depths.
- Make sure Influent sewer line to Pump Station elevation matches Collection System Plans.

### STRUCTURAL

- All poured concrete walls: 14" min.
- All poured slabs: 15" min.
- Concrete block walls: split face (superstructure only)
- Rebar design for all walls and slabs must be included.
- Must show all lap splice lengths and development lengths for all areas.
- Must show corner details, "T" wall details, wall to slab detail and corner wall/slab detail.
- Concrete cover for rebar:
  - Bottom of slab: 3" min.
  - Top of slab: 2" min (3" preferred)
  - Wall against earth: 2" min (3" preferred)
  - Wall against sewage: 2" min (3" preferred)

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- Rebar should be epoxy coated (not required). Plain steel allowed. Must be 60,000 psi grade. Must be American made.
- Area of rebar/sf as per ACI.
- All concrete: 4,000 psi min.

### ROOF

- A-frame or concrete planks preferred.
- Flat roof: use EPDM, single ply, reinforced, 60 mil.
- Corrugated metal deck and joists must be epoxy coated. 22 GA galvanized allowed.

### MECHANICAL

- All sewer pipe: D.I. or S.S.: 4" Ø or greater. Schedule 80 allowed indoors.
- Fittings must be same material as pipe – NO cross matching.
- All air piping: S.S. – D.I. allowed above top of tanks. All submerged piping must be S.S.
- All hardware below top of tank must be S.S. for everything.
- Check piping layout for correct routing.
- All sewer pipe valves must be plug type – NO gate.
- Piping from splitter box to SBR must have automatic valves (manual only not allowed).
- Pumps must have guide rails (S.S.) and hoist (S.S.).
- Splitter box, static screen and final filters must be S.S.

### GRATING

- A "P.E." stamped grating plan must be included.
- Design for 200-psf live load and 50-psf dead load.
- Aluminum or FRP.
- All grating in contact with concrete must have protective coating.
- Check layout to see that all pumps, valves and equipment is accessible.
- Check for conflicts between grating supports (beams) and piping.

### CONTROL ROOM/BUILDING

- Must have toilet and shower (drain back to Influent Pump Station).
- Emergency shower and eyewash station.
- Lab sink, counter, cabinets and desk.
- Control panels must be clear of all water sources (i.e. piping, sinks).
- Min. size: 200 sf floor area.
- Separate Blower Room w/sound protection.
- Blowers must be on housekeeping pad.
- Blowers must be valved and piped for duality.

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- Generator may be inside or out. Must have sound protection. Must be on slab (outside min. 6") (inside min. 4").
- All floor drains piped back to Influent Pump Station.
- Check access in and out of building. Need bay doors for equipment.

### INFLUENT PUMP STATION

- See Pump Station Standards.
- Control building not required if located within 200' of STP building.
- Control Panels may be mounted inside STP or on outside of STP building. If outside, weather protection required for operator.

### VENTILATION

- Fans wall or roof mounted. (Check Ten State for ACH)
- Louvers must be wall mounted.
- Airflow should be from dirty (sludge) to clean (effluent).
- If wall mounted - make sure vents are not facing homes.

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