

**ACSA PLAN REVIEW CHECKLIST**  
**(Guideline Only)**

**General**

- (1) Proper Title
- (2) Vicinity map on first sheet.
- (3) Date and latest plan revision.
- (4) Standard water and sewer general plan notes (attached).
- (5) Appropriate scale on all plan and profile sheets.
- (6) North arrow on all plan sheets.
- (7) Place a P.E. or Land Surveyor's stamp on all sheets; original stamp and signature on the first sheet.
- (8) Designate fill areas on all profile views. Indicate required compaction.
- (9) Note on all profile sheets the three and a half (3.5) foot minimum cover requirement over centerline of pipe.
- (10) Note all known utility and storm drain crossings on both the plans and profiles, along with the minimum separation requirements.
- (11) Stream crossings:
  - (a) Under – use ductile iron pipe
  - (b) Over – use long-span ductile iron pipe or approved equal
- (12) Are public pumping stations proposed? (See pump station review checklist).
- (13) Review water and/or sewer data sheets.
- (14) Public or private roads?
- (15) Show all easements where lines are not in proposed or existing VDOT rights-of-way.

- (16) Check the landscaping plan to see if there are any conflicts with required easements and/or utility locations.
- (17) Check with the maintenance department to see if there are any known problems existing in connecting to receiving lines for water or sewer.
- (18) If this review is beyond the scope of local review program, then include in the approval letter-State Health Department or Department of Environmental Quality approval (whichever is applicable) is required.
- (19) Do off-site credits or over-sizing reimbursements apply? (See those respective checklists).

### **Water**

- (1) Acceptable location.
- (2) Are there allowances for possible future extensions?
- (3) Adequate line size when domestic and fire uses are combined:
  - (a) One (1) hydrant-6" line minimum
  - (b) Two (2) or more hydrants-8" line minimum or possibly a 6" loop or grid if hydraulic calculations demonstrate adequate flow.
  - (c) Are fire flow calculations necessary?
- (4) Check for high (greater than 80 psi) and low (less than 30 psi) pressures at meter locations. If greater than 80 psi, add a statement to the approval letter that some lots may experience pressures in excess of 80 psi. If less than 30 psi add a statement to the approval letter that some lots may experience pressures less than 30 psi. In no case shall pressure be less than 20 psi at meters at a flow rate of 3 gpm.
- (5) Water meter locations:
  - (a) Near the property line and within VDOT right-of-way or easement
  - (b) Out of the driveways and sidewalks, or other traffic areas
  - (c) On the roadside of all sidewalks, if possible.
  - (d) Out of drainage ditches.
  - (e) Are all lots served?
  - (f) Additional meter if irrigation desired.
- (6) Separate the water service lines from the sewer manholes by at least five (5) feet.

- (7) Fire hydrant locations:
- (a) 500 ft. separation along the centerline of the roadway
  - (b) within 250 ft. of all structures
  - (c) no closer than 40 ft. to any structure
  - (d) if possible, not located in fills (poor support)
- (8) Check the blow-off locations: Type A and Type B.
- (9) Adequate valving:
- (a) Minimum of 3 valves at a cross (additional valve required in looped systems)
  - (b) Minimum of 2 valves at a tee (additional valve required in looped systems)
  - (c) Minimum of 1 valve every 1,000 ft.
- (10) Note all bends, reducers, fittings, etc. on both the plan and profile views.
- (11) Check the connection to the existing system; will service be interrupted?
- (12) Is RWSA approval necessary?
- (13) Check for the 10' horizontal separation with sewer lines; check for the 18" vertical separation with sewer lines.
- (14) Check for the proper locations of automatic air release valves.
- (15) Check the proper separation with the storm sewers:
- (a) open-ended storm sewers:
    - 12" minimum separation with insulation
    - 3' minimum separation without insulation
  - (b) closed-ended storm sewers:
    - 12" minimum separation
- (16) Any existing problems or limitations with the present public system? (Schedule a flow test if necessary).
- (17) Has the connecting line been accepted into our system?

## Sewer

- (1) Check the location and size of the lines (minimum gravity sewer main diameter is 8-inches).
- (2) Are there allowances for possible future extensions?
- (3) 400' maximum separation between manholes.
- (4) Are the manhole connections acceptable?
  - (a) no more than 3 connections in one manhole entering within the lower 2'
  - (b) entering in the same direction as the flow.
- (5) Are all lots served? Indicate all lots to be served by private grinder pumps, if necessary.
- (6) Check the minimum slopes (0.5% for 8-inch).
- (7) Check the maximum slopes:
  - (a) Greater than or equal to 20% requires bracing.
  - (b) Velocities greater than 15 fps (greater than or equal to 18.77% for 8" mains) use ductile iron pipe.
- (8) Is RWSA approval necessary?
- (9) Based on projected flows, is a Flow Acceptance from the RWSA or the City of Charlottesville required?
- (10) Internal Drop manholes (greater than 2 ft. of drop).
  - a) Minimum MH Diameter of 60-inches for one internal drop (8-inch or 10-inch drop pipe)
  - b) Minimum MH Diameter of 72-inches for one 12-inch internal drop pipe or two internal drops (8-inch or 10-inch drop pipe)
- (11) Greater than or equal to 90° turns at the manholes.
- (12) Make a checklist of all of the slopes and elevations and check the flow if necessary.
- (13) Show the 100 year flood plain, if applicable (move if possible).
- (14) Show watertight covers in the flood plain.

- (15) Show vents from the manholes every 1,000 ft., if watertight covers are used.
- (16) Show a minimum drop through manholes of 0.2'.
- (17) Check for the proper separation of water and sewer lines as before.
- (18) Check for the proper separation of sanitary sewers and storm sewers (12-inch minimum vertical separation).
- (19) Any existing problems or limitations with the present public system?
- (20) Has the connecting line been accepted into our system?