

**BOISE CITY PUBLIC WORKS
SEWER DESIGN & CONSTRUCTION CHECKLIST
July 2022**

PREFACE: The purpose of this document is to outline the requirements of Developers, Consulting Engineers and Contractors for the design and construction of Boise City sanitary sewers. It is suggested that this checklist be utilized to streamline the sewer design and construction process for all parties involved.

I. PRELIMINARY DESIGN

A. Predesign Meeting with Public Works Design Staff (optional).

- | Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Reviewed sewer master plan. |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Reviewed existing sewer locations & elevations. |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Discussed sewer extension policy. |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Discussed sewer development review and inspection fees. |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Obtained City benchmark data (NAVD 1988 DATUM). |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Discussed Easement Requirements. |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Received current copy of City Standard Notes. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Obtain manhole numbers by email from April Wing (awing@cityofboise.org) with the Subject line as: Sewer Manhole Request for (name of subdivision). Request coordinates for the section corners of the Township, Range and Section of the project location. Coordinates as requested will be returned by email. Orient your drawing to fit the supplied coordinates so they can be brought into Boise City's GIS system. Return as an email attachment, a .dxf file of the subdivision boundary, lot lines, right-of-way layout, sewer lines and manholes with adjusted coordinates. (no polylineZ (elevations), zip files, legend graphics or text) A .pdf view of the sewer layout with the new manhole numbers will be emailed back to you. |

II. DESIGN

A. General

- | Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Submit 1 full size set of sewer plans and 1 full size copy of subdivision plat (if applicable) to public works department for initial review. Plans may be submitted by hard copy or pdf to Abass Razaee (arazaee@cityofboise.org). |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Comply with DEQ minimum requirements for Wastewater Collection Systems.
http://www.deq.state.id.us/water/assist_business/engineers/checklists/ww_collection_systems.doc |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Plans stamped by licensed Idaho Professional Engineer. |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Plans are scaleable and readable when reduced to 11"x17". |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. City Standard Notes included on plans. Note 7 filled out with applicable project manhole numbers. |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Legend delineated. |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Elevations tied to NAVD 1988 Datum - clearly show this on the cover sheet. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Right of Way delineated & has been obtained. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Vicinity map delineated on plans (show major streets). |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Each sheet has North Arrow, Graphic Scale, Date, Title Block & Sheet Numbers. |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. An overall map of the project delineating sewer lines, sewer manholes (with numbers), streets, lots lines and sheet index (for plans in excess of one sheet). |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Stationing shown along centerline of sewer. |
| <input type="checkbox"/> | <input type="checkbox"/> | 13. Easements shown on sewer plans. |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. For construction in ground water, provide buoyancy calculations. |
| <input type="checkbox"/> | <input type="checkbox"/> | 15. Drawing at appropriate scale of 1" = 10', 20', 40' or 50' Horizontal; 1" = 2' or 5' Vertical. |

B. Manholes

- | Yes | No | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Manholes have City of Boise Numbers shown clearly in Plan & Profile. |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Existing upstream and downstream manholes at proposed connection shown and labeled in Plan. |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Truck access provided for each manhole. |

- ☐ ☐ 4. Where shared/common driveways are utilized, lots shall be served by long service lines unless the driveway is longer than 150 feet in length. If driveway is longer than 150 feet in length, a drive-through or turn-around access for manholes and sewer main shall be provided.
- ☐ ☐ 5. Manhole angles shown.
- ☐ ☐ 6. Cleanouts required on ALL stubbed line segments that will be extended in the future.
- ☐ ☐ 7. No cast-in-place manholes allowed without approval from public works department.
- ☐ ☐ 8. Drop manholes are not allowed without approval from public works department.
- ☐ ☐ 9. Invert elevations shown at all Manholes (in & out).
- ☐ ☐ 10. For construction in ground water, Coal tar epoxy (two coats), or equivalent, required on manholes.

C. Sewer Mainline(s)

Yes No

- ☐ ☐ 1. Match crowns of pipes with different diameter.
- ☐ ☐ 2. Pipe length shown (calculated from edge of Manhole to edge of Manhole).
- ☐ ☐ 3. Pipe grade shown in % (calculated from inside face of Manhole).
- ☐ ☐ 4. Pipe slope in excess of 10 states standard minimum slope unless otherwise approved.
- ☐ ☐ 5. Manhole drops match pipe slope, rounded to nearest tenth.
- ☐ ☐ 6. Where feasible, straight grade mainline.
- ☐ ☐ 7. Pipeline located in sewer Right of Way corridor, (5' N & E, 10' S & W) with dimension from center line of Right of Way delineated.
- ☐ ☐ 8. Where possible 8" pipe designed with slopes to provide for 2 feet per second peak hour design flow velocities or a minimum of 0.6%. Where 0.6% slopes cannot be achieved, the last upstream segment between manholes of sewer lines shall be constructed at 0.6%.
- ☐ ☐ 9. Pipeline extended to serve adjacent properties.
- ☐ ☐ 10. Water line quality pipe when wells or water line separation cannot meet state drinking water requirements.

D. Sewer Service Lines

Yes No

- ☐ ☐ 1. Each buildable lot has a service line. Shared/common driveways 150 feet in length or less shall provide a separate and individual sewer service to each parcel/lot from outside the driveway.
- ☐ ☐ 2. Service line horizontal location, length, size & invert elevation shown on plans.
- ☐ ☐ 3. Service lines shown at the center of each lot.
- ☐ ☐ 4. Service lines at 2% minimum slope.
- ☐ ☐ 5. Service lines at minimum depth of 6½' deep at property line. With prior approval from Boise City, service line depths can be reduced to 5½' where bedrock or groundwater is encountered.
- ☐ ☐ 6. Service lines at a 90° to mainline or connected to manholes where possible at ends of cul-de-sacs.
- ☐ ☐ 7. Service connections shall not be closer than 6' apart.
- ☐ ☐ 8. Where existing sewer depths, grade, and topographical features will not allow 6.5' of depth at the property line on proposed service lines, the water main shall be shown in the sewer profile with sewer service line crossings of the water main also shown in the profile.
- ☐ ☐ 9. If the designer chooses to use water class quality pipe where the vertical separation between a sewer service and water main is less than 18-inches, the entire service from the main to the end of the service shall be water quality pipe.

E. Plan & Profile

- ☐ ☐ 1. Existing utilities (water, sewer, power, irrigation, ect.) shown on plan & profile.
- ☐ ☐ 2. Proposed utilities (storm drains, water lines, pressure irrigation, ect.) shown on plan & profile.
- ☐ ☐ 3. Pipe sizes shown on plan and profile (sizes in accordance with master plan).
- ☐ ☐ 4. Surface repair delineated (area & type).
- ☐ ☐ 5. Property corner survey monuments shown on Plans.
- ☐ ☐ 6. Existing wells shown on sewer plans.

C. If Applicable

Yes No N/A

- ☐ ☐ ☐ 1. Preliminary Plat approved or recommendation to County for approval (all Plats).

- | | | | | |
|--------------------------|--------------------------|--------------------------|----|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | For hillside projects and private roads on flat land projects, grading plan approved. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | Executed offsite/oversizing reimbursement agreement. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | County Plats only – P.D.S. confirmation of County adoption of Boise City’s recommended conditions of approval. |

III. EASEMENT ACQUISITION

Yes No N/A

- | | | | | |
|--------------------------|--------------------------|--------------------------|----|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | Where public sewer main is in private roads, dedicate a blanket easement for “Boise City Sanitary Sewer” on the plat for the applicable roadway lot. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | For all other easements submit a legal description and drawing of the easement for review by Boise City prior to execution. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | The easement description shall be tied to a Public Land Survey monument or a monument recognized as a controlling corner such as a street intersection, subdivision corner or other reproducible corner. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | Use 8½” x 11” drawing with name of project/subdivision and “City of Boise Sanitary Sewer Easement” in the title block. Drawing of easement shall include name and address of Grantor, north arrow, scale, legend, date, PLS stamp, a basic legal description, and applicable labeling of adjacent parcel numbers and roads. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. | After Boise City review and approval, submit a fully executed original document for City Council approval and subsequent recording by the City of Boise. |

IV. CONSTRUCTION

A. Prior to Construction

Yes No N/A

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|--------------------------|--------------------------|--------------------------|-----|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | Plans approved by Public Works Department. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | Notice to Proceed letter sent to contractor, and returned with signature. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | Contract, Bonds, Insurance and all related documents signed. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | Public Works inspector notified. Contact 208-608-7549 at least 48 hours prior to construction. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. | Preconstruction meeting held with all utilities. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. | TBM's set in field and clearly flagged and visible from any direction. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. | Construction staking complete, City inspector provided with field notes, cut sheets, and Bench Mark data. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. | Property corner survey monuments which may be affected by construction are referenced (tied down) by a licensed surveyor to allow for replacement after construction. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. | Install a plug or plugs at the downstream end(s) of project until after final acceptance. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. | Dig-line notified 48 hours in advance of construction (Phone No. 811). |

B. If Applicable Prior to Construction

Yes No N/A

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|--------------------------|--------------------------|--------------------------|----|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | Contact Boise Public Works Inspection section for copies of the approved set of plans. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | ACHD permit acquired if necessary. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | Signing and detour plan approved by ACHD. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | Informational signs posted in accordance with ACHD permit requirements. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. | SWPPP is approved. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. | NOI filed. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. | Erosion control, Dewatering plan approved. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. | Traffic plan. |

C. Prior to Paving

Yes No N/A

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|--------------------------|--------------------------|--------------------------|----|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | Lines have passed a mandrel test and are accepted by the City of Boise. (30 days after backfilling is completed unless otherwise approved). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | Sewer manhole grade ring adjustments shall be such that the finish grade elevation of the ring and cover does not exceed 21" inches above the top of the manhole cone. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | Acceptable compaction results are verified/received from private firm (whichever is acceptable). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | Lines have passed a final Air Test after all utilities are in. |

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|--------------------------|--------------------------|--------------------------|----|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. | 100% of manholes have passed a Vacuum or Hydrostatic test. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. | Lines have been CCTV'd and are accepted by City of Boise. |

D. Final Completion

Yes No N/A

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|--------------------------|--------------------------|--------------------------|----|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | Received a punch list letter by City of Boise Inspector. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | Remove downstream plug or plugs. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | Final Punchlist items complete. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | Final line cleaning. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. | Surface repair completed and accepted by appropriate authority. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. | Easements monumented. If applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. | NOT filed. If applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. | Final pay estimate and adjustment of quantities completed. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. | Release Letters obtained. |

E. Warranty

Yes No N/A

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|--------------------------|--------------------------|--------------------------|----|--------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. | One year warranty inspection. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. | Warranty repairs required. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. | Warranty repairs complete. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. | Warranty letter signed and sent out. |