



**KIVA #:** \_\_\_\_\_ **Project Name:** \_\_\_\_\_

**Reviewed By:** \_\_\_\_\_ **Phone:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Professional Engineer:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

The purpose of this checklist is to offer comments on plan design and submittal requirements for Gravity Taps in Manhole (S-512) plans. The source of the Manhole – Gravity Tap (S-512) design is the city of Phoenix Designs Standards Manual for Water and Wastewater Systems.

This checklist serves to minimize redline comments on the check prints and to maintain consistency among plan reviewers on plans for connecting a private sewer to a manhole, by tap under gravity flow (located in the public Right-Of-Way). Plan approval, issuing permits, and certain grading clearances depend on compliance with the comments made on the check prints and this checklist. The professional engineer of record shall satisfy themselves of the completeness and accuracy of the design.

A completed checklist must be attached to the Manhole - Gravity Tap (S-512) plans when submitted for first review. The following Certification Statement must be signed by the Professional engineer of record certifying that all applicable requirements on this checklist have been met.

Plan review correction cycles and/or approvals are valid for 180 days. Additional review fees (see Fee Schedule – Phoenix City Code, Chapter 9, Appendix A.2) shall be charged for extensions/reinstatements to update expired plan reviews.

**CERTIFICATION**

**I CERTIFY THAT THE REFERENCED PLANS COMPLY WITH ALL APPLICABLE CITY ORDINANCES AND STANDARDS, INCLUDING FEDERAL, STATE AND COUNTY REQUIREMENTS AND REGULATIONS. IN ADDITION, I CERTIFY THAT THIS CHECKLIST HAS BEEN COMPLETED ENSURING ALL ITEMS LISTED ARE PROPERLY ADDRESSED. I UNDERSTAND THAT IF I FAIL TO ADDRESS ALL APPLICABLE ITEMS IN THIS CHECKLIST, THE PLANS MAY BE IMMEDIATELY RETURNED TO ME WITHOUT ANY FORMAL REVIEW BEING PERFORMED.**

**Professional Engineer's Name:** \_\_\_\_\_

**Professional Engineer's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Please complete and return this checklist and the check prints with each submittal. Discussion of redline comments on plans or this checklist should be directed to the plan reviewer listed above.

The professional engineer of record (**ENG**) must fill out all boxes in the first column as either  (Addressed) or  (Not Applicable).

Civil plan reviewer (**RVW**) shall check the second column as  (Required) when requirements have not been properly addressed.

**REQUIRED SUBMITTALS**

**ENG RVW**

- Plan sheets shall be 8 1/2" X 11"; submit four (4) sets of Manhole – Gravity Tap (S-512) plans, a sealed cost estimate, Utility Conflicts OR print the Utility Conflict Disclaimer on the cover sheet (if work is done on a local or residential street only), and a completed and signed Manhole – Gravity Tap (S-512) Checklist.

**Note:** If submitting through the Electronic Plan Review system, multiple copies of submittal documents are not required.

**GENERAL REQUIREMENTS ON PLAN:**

- Provide the information, as required, on city of Phoenix Standard Detail S-512. The S-512 Detail can be located at the following website: <http://phoenix.gov/WATER/s512wsd.pdf>.
- Symbols shall be per M.A.G. Specifications and Details supplemented by Water Services Department Details.
- Orientation of each plan sheet shall be shown by a north arrow and scale of drawing. (North arrow to be up or to the right)
- The plan shall have the Civil Professional engineer's Arizona registration seal with the original signature and date prior to any plan submittal.
- All plan sheets shall be sufficiently clear to allow legible prints to be reproduced from microfilm. The size of lettering and symbols shall be 1/8 inch minimum. Shading or zip tape is not permitted. Refer to Water Services Department Design Standards Manual (P-69) for information required on record drawings ("As-Builts").
- Provide utility conflicts from appropriate utility companies or print disclaimer (for local or residential streets only) on plan signed and sealed by professional engineer.
- The following disclaimer can only be used for local or residential streets. Do not use for major or collector streets:**  
I hereby certify that all utility companies with facilities in the area of this project have been contacted and the data provided is shown on this plan. I agree to indemnify, defend, save and hold harmless the city of Phoenix, its officers, officials, agents, employees and volunteers from any and all claims, demands, actions, liabilities, damages, losses, or expenses incurred for any utility conflicts that may arise.

\_\_\_\_\_  
Professional engineer's Signature and seal

\_\_\_\_\_  
Date

- Indicate whether the manhole is to be constructed or already exists.
- When building a new manhole, if the manhole lid is to be placed in a gutter line, please refer to M.A.G. Detail 421 for Offset Manholes.
- Ductile Iron Pipe with Protecto 401 ceramic epoxy lining and Vitrified Clay Pipe are the only two types of pipe that are approved for use as service connections in city of Phoenix right-of-way.
- A minimum six inch service connection is required for all commercial and multi-family establishments.
- The tap invert elevation shall be the same as the crown invert elevation of the existing main.
- If the difference between the crown of the existing sewer and the flow line of the proposed tap exceeds one foot, use Standard Detail S-12-D, Drop Manhole (request from Civil Permits/Water Services Counter 2<sup>nd</sup> Floor, City Hall or call 602-262-6551)

**ENG RVW**

- If the existing sewer main that is to be used as a point of outfall is 15" or larger, contact Water Services Departments at 602-534-2297 for further information prior to submitting to the city of Phoenix Planning & Development Department for plan review.
- This project may be subject to Sanitary Sewer repayment as redlined on the plans. For any questions, contact Civil Permits/Water Services at 602-262-6551.
- Contractor is to verify and show utility crossings on this plan.
- Discussion of redline comments on plans or this checklist, should be directed to the plan reviewer.
- Return four (4) bond copies for subsequent reviews with the redline check prints and this checklist to Payments and Submittals, 2<sup>nd</sup> Floor of City Hall.

**PLAN NOTES:**

**(ALL notes to be included on the plan sheet)**

- All construction shall be performed in compliance with all applicable uniform standard details and specifications for public works construction of Maricopa Association of Governments (M.A.G.) and the city of Phoenix Supplemental Standard Details and Specifications (newest edition and as modified hereon).
- Verify location of crossing utilities in the right of way (ROW)/easement in the location plan view.
- The new tap shall be V.C.P. or Ductile Iron Pipe with Protecto 401 ceramic epoxy lining with a minimum required slope of 1/8 inch per foot.
- All elevations shown here are relative to each other.
- Invert of the proposed wastewater tap shall be equal to or higher than the crown of the existing main. For existing manholes reconstruct the base to match the detail.
- The interior of all manholes newly constructed or existing shall be painted with insecticide paint per city of Phoenix Supplement to M.A.G. Section 627. Paint shall be applied after corrosion coating is applied, if required.
- All manholes on pipe 15 inches and larger or greater than 12 feet in depth shall be corrosion coated per city of Phoenix Supplement to M.A.G. Section 626. Any coating damage caused by tapping operations to existing manholes, the contractor shall repair the coating per the manufacturer's instructions as indicated in the city of Phoenix Supplement.
- Traffic regulations shall be per city of Phoenix "Traffic Barricade Policy".
- Compaction shall comply with M.A.G. Section 601, 95% minimum in a public street.
- A pavement cut surcharge will be assessed to this project for trenching in newly paved or newly overlaid pavement.
- Pavement replacement thickness and type are to be per M.A.G. Section 336 and C.O.P. Detail P1200 - Type B. Curb and gutter replacement shall be a minimum of one (1) full section, per M.A.G. Standard Detail 220. Sidewalk replacement shall be a minimum of one (1) full panel per C.O.P. Detail P1230. At the discretion of the city of Phoenix Planning & Development offsite inspector, tunneling under existing curb and gutter, in city of Phoenix R.O.W., will be allowed. Tunneling under existing sidewalk will not be allowed in the city of Phoenix R.O.W.

**ENG RVW**

- Plan approval is valid for 180 days. Prior to plan approval expiration, all associated permits shall be purchased, or the plans shall be resubmitted for extension of plan approval. The expiration, extension, and reinstatement of Civil Engineering plans and permits shall follow the same guidelines as those indicated in the Phoenix Building Construction Code Administrative Provisions Section 105.3 for Building permits.
  
- Per the city of Phoenix Ordinance G-4396, this plan is for official use only and may not be shared with others except as required to fulfill the obligations of your contract with the city of Phoenix.

**PLAN REQUIREMENTS:**

- Provide project information at the top of each sheet of the plan to include Project/KIVA #, Quarter Section #, Project Name, and location.
  
- All manholes newly constructed or existing that are worked in for connections shall be painted with insecticide paint per city of Phoenix Supplement to M.A.G. Section 627.
  
- All five foot (5') manholes shall be coated per city of Phoenix Supplement to M.A.G. Section 626. Any existing manholes with corrosion coating that are disturbed or adjusted to new finish grades shall have any damaged coating repaired, including all adjusting rings.
  
- Provide the Blue stake notification decal.
  
- Elevation datum and bench marks (city datum required). Please dial (602) 495-2050, ext. 265 Voice or (602) 534-5500 TTY, to obtain city datum for existing benchmark closest to the project site. Equations cannot be used.
  
- Include a material list on the S-512 Standard Detail.
  
- Draw a tap location sketch on back of Standard Detail S-512, or on separate 8 ½ x 11 sheet, to provide street names, right-of-way width, easement dimensions, existing utilities with dimensions from monument line, flow arrows, and location of manhole to be tapped (provide existing manhole number). If a new manhole is to be constructed, provide a dimension from the nearest downstream manhole.
  
- Arizona Registered Sanitary or Civil Professional engineer's seal, original signature, name, address and phone number shall be included on the plan.
  
- As-built Certification on the plans:

**AS-BUILT CERTIFICATION:**

I hereby certify that the "Record Drawing" measurements as shown hereon were made under my supervision or as noted and are correct to the best of my knowledge and belief.

\_\_\_\_\_  
Registered Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Registration Number

**ADVISORY:**

- A pavement cut surcharge may be assessed on this project for trenching in new asphalt pavement or overlay. This fee may be assessed in addition to the regular permit fees and is over and above any special backfill, compaction, and pavement replacement stipulations that may be imposed as a condition of permitting. Surcharge affects streets newly paved and newly overlaid.

**PLANS FOR REVISION**

**ENG RVW**

- All original plan approvals, signatures, and seals are to remain on the revised plans.
- All plans revised after the original approval shall be resubmitted for review and approval. The nature of the revisions must be called out on the cover sheet and on the sheet(s) which have been revised. The revision number itself shall consist of a numeral within a triangle next to each revision. Δ Changes on each plan sheet shall be highlighted with "clouding".
- All revised sheets, including the cover sheet are to be re-sealed, signed and dated.

**EXTENSIONS**

- All plans submitted for extension require a new signature block and are to be re-signed by the submitting designer. Plan extensions are to be highlighted with "clouding" as specified in the plan revision process above. The plan sealant shall note that this change is a plan extension. A new approval signature block is required to be added to the coversheet for approval of the extension. All plan extensions must have prior approval by completing the Plan Review Extension Application. The Plan Review Extension Application can be found at the following site:  
[https://www.phoenix.gov/content/dam/phoenix/pddsite/documents/trt/external/dsd\\_trt\\_pdf\\_00304.pdf](https://www.phoenix.gov/content/dam/phoenix/pddsite/documents/trt/external/dsd_trt_pdf_00304.pdf)

Provide a copy of the approved application with the plan submittal.

- Plan approvals for extension are valid for a period of 180 days from the date of plan approval.