



KIVA #: _____ **Project Name:** _____

Reviewed By: _____ **Phone:** _____ **Date:** _____

Professional Engineer: _____ **Phone:** _____

The purpose of this checklist is to offer comments on plan design for construction of Fire lines from the city of Phoenix water main to the end of the line onsite.

The sources for the Fire line design are current adoptions of the Water Services Department Design Standards Manual for Water and Wastewater Systems, city of Phoenix Supplement to M.A.G. Uniform Standard Details, Phoenix amendments to the Uniform Plumbing Codes 602 and 603, the 2018 Phoenix Fire Code and NFPA 24.

This checklist serves to minimize redline comments on the check prints and to maintain consistency among plan reviewers on plans for Fire line construction. Plan approval and issuing permits depend on compliance with the comments made on the check prints and this checklist. The designer of the plan shall satisfy him/herself of the completeness and accuracy of the design.

A completed checklist must be attached to the fire line plans when submitted for first review. The following Certification Statement must be signed by the designer certifying that all applicable requirements on this checklist have been met.

Plan review correction cycles and/or approvals are valid for 12 months. Additional review fees 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.

DESIGNER'S NAME: _____

DESIGNER'S SIGNATURE: _____ **DATE:** _____

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

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

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

For more information or for a copy of this publication in an alternate format, contact Planning & Development at 602-262-7811 voice or TTY use 7-1-1.

REQUIRED SUBMITTALS

DES RVW

- Plan sheets shall be 24" X 36"; submit four (4) sets of Fire Line plans, completed city of Phoenix water 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), a completed and signed Fire Line Plan Checklist, city of Phoenix water flow test performed within the last 180 days, Manufacturer cut sheets of listed backflow device(s), Fire Hydrant Calculations if hydrants are installed.

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

GENERAL REQUIREMENTS:

- Plat, lot combination, or code modifications required for property line issues approval is required prior to permit issuance.
- 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 is to be up or to the right.)
- Call out the standard M.A.G. and city supplemental specifications applicable to construction.
- Each sheet shall be identified by sheet number, project name, and match lines.
- Professional Engineer's signed registration seal is **not** required for Fire line plans except as noted in AZ State Board of Technical Registration R4-30-304.
- All plan sheets shall be sufficiently clear to allow legible prints to be printed from as-built microfilm. The size of lettering and symbols shall be 1/8-inch minimum. Shading or zip tape is not permitted. Cross-hatching is permitted.

The plans shall show the following information at the proper scale:

- Streets shall be identified by name. Streets, alleys, and easements shall be dimensioned at least once and at all breaks. Monument line of streets shall be shown, as well as any monuments found existing.
- All abutting lots shall be identified by lot number, tract, subdivision, or shown "un-subdivided."
- The location of all existing utilities, structures, paving, and other topographic features affected by construction are to be dimensioned from the monument line or easement line.
- Scale shall not be more than 1 inch = 40 feet. In major streets and cases of unusual topography or complex situations where more detail is necessary, then the scale shall be 1 inch = 20 feet.
- City Code and policy requires that all sites shall tie directly into city services without sharing common fire lines. Proposed onsite fire lines are not permitted to be served through adjacent properties or cross interior property lines to serve interior lots.
- This project may front a water main which has a repayment agreement. For questions, phone Project Engineering Permit Counter at (602) 262-6551.
- Asphalt restoration is required for any street cut. Refer to Street Pavement Cut Policy (TRT 00164 and Ordinance G-6308)..
- Return four (4) corrected sets of plans, with the redline check prints, with your next submittal.
- Discussion of redline comments on plans or in this checklist should be directed to the plan reviewer.

COVERSHEET REQUIREMENTS:

DES RVW

- Affix a project title block with name and address of project. If the fire line services two or more buildings with separate addresses, the fire line will be required to have its own address.
- Provide description of the entire scope of the fire line project.
- Show the owner's name, address, and telephone number. Show the contact person's name, address and telephone number if different than the owner.
- Show the designer's name, address, and telephone number.
- Show a complete and accurate legal description of the site. If an APN has been assigned to the parcel, include the APN on the plan.
- Provide a Blue Stake notification decal.
- Provide appropriate processing numbers including: KIVA#, CPFL#, and city Quarter Section Number.
- Provide a materials list of offsite and a list of onsite quantities.
- Provide a vicinity map with a north arrow oriented up or to the right.
- Provide an index of plan sheets if more than one plan sheet is included.
- A Key Map, properly oriented with north up or to the right, is required on plans with two (2) or more plan sheets.
- Provide a 5" X 5" clear space in the lower right hand corner of the cover sheet for plan approval stamp.
- Signature Block (lower right corner):

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THE CITY OF PHOENIX**

PLANNING & DEVELOPMENT DEPARTMENT

DATE

- Provide an As-Built Certification Statement as follows:

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/LAND SURVEYOR

DATE

REGISTRATION NUMBER

DES RVW

- 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

FIRE LINE NOTES (City of Phoenix):

(ALL the following notes to be provided on the plans.)

- All construction in city of Phoenix R.O.W. is to conform to M.A.G. Specifications and Details and city of Phoenix Supplement to M.A.G. Specifications and Details, unless modified on the plans.
- Planning & Development Department's Civil/Site Inspection Staff shall be notified 48 hours before any construction begins, telephone (602) 262-7811.
- It is required that a formal written request for a fire line turn-on be received by Civil Engineering of the Planning & Development Department from city of Phoenix Fire Prevention upon completion of the fire line work. This job is not complete until this has been done and the line turned on by the Water Services Department.
- The following M.A.G. details are specifically **not** approved:
390 Curb stop with flushing pipe
391-1 Valve box installation
346 Fire line detector check vault
- (Size of tap) X 2" tapped cap with ball valve rate 300psi or greater at the end of offsite work is required if onsite work is not concurrent with offsite construction. The tapped cap must be installed before the backflow prevention device.
- Fire line connection to city mains shall be used for fire protection system only. No metered services can be connected to a fire line.
- Backflow prevention devices are required on **all** Fire lines. Connections are to be in accordance with University of Southern California – Manual of Cross-Connection Control. See Building Safety for details. Backflow devices are to be shown on the offsite plan. Fire lines that are proposed with backflow prevention devices shall be required to provide a certificate of approval from the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC – FCCCHR), prior to fire line permit issuance, per Arizona Administrative Code R18-4-115D.
- Backflow prevention devices shall not be located in driveways, visibility triangles, or other locations where accidental damage or visibility obstruction would be a likely consequence.
- Backflow prevention devices shall be installed outside of right-of-way at (or near) the property line (point of service) and shall be fully accessible for the periodic testing, repairs, and replacement. There shall be an unobstructed radius of **no less** than three (3) feet from the outer perimeter of the backflow prevention device per the 2006 Phoenix Fire Code (International Fire Code) section 901.10.

- In the absence of specific pressure drop information, the diameter of the inlet or outlet of any backflow prevention device or its connecting piping shall not be less than the diameter of such water distribution piping to the fixtures served by the device, per UPC 610.2. If available, pressure drop information shall be provided with the submitted plans.

DES RVW

- Looped onsite fire line systems shall be provided a backflow preventer at each point of connection to the public water system, per UPC 603.3.11.
- All work must comply with requirements of the current city of Phoenix Traffic Barricade Manual.
- 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.
- Minimum coverage over the top of pipe shall be four (4) feet if the main is located in a major street or the main is 12" or larger. Otherwise, three (3) feet of cover over the top of the pipe is required.
- Compaction shall comply with M.A.G. Sec. 601, 95% minimum in a public street.
- Asphalt restoration is required for any street cut. Refer to Street Pavement Cut Policy (TRT 00164 and Ordinance G-6308).
- Approval of these plans shall not prevent the city from requiring correction of errors in the plans where such errors are subsequently found to be in violation of any law, ordinance or other health/safety issue.
- Plan approval is valid for 12 months. 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.

PLAN SHEET REQUIREMENTS:

- North arrow is to be shown up or to the right. Scale shall be called out.
- Identify size and type of all utilities in the area of construction.
- Show all valves, in the area of construction, and their assigned numbers as shown on the quarter section map. Include all water valves necessary to isolate the water main in the event of an emergency shut down.
- All public right-of-way and existing easements shall be shown and dimensioned.
- Provide the existing and proposed paving with dimensions.
- Station the fire line tap from nearest platted street monument (intersection) beginning with station 0+00 per Water Services Department Policy (P68).
- All fire line pipes must be minimum pressure class 350 DIP within public right-of-way or public easements and on-site to the customer's side of the backflow prevention devices.

- Pipe on customer side of backflow prevention devices shall conform to the Uniform Plumbing Code. Show the size and pipe material to be used onsite.
- Fire line tap is to be called out as follows:
Install a/an _____ " X _____ " tapping sleeve and valve, box and cover. Abbreviation is acceptable: TS & V, B & C. Specify type of valve box to be used. An example: 12" X 8" TS & V, B & C per M.A.G. Detail 340 and city of Phoenix Supplement Detail P1391. When the tap size is the same as the size of main to be tapped conform to MAG Specifications Subsection 630.4.2(A) (1).

DES RWW

- A valve is required at all fire line connections to public water main. The proposed valve shall not be located in a sidewalk, driveway, or curb and gutter.
- Thrust blocks will not be allowed in the city of Phoenix R.O.W. Joint restraint per M.A.G. Standard Details 302-1, 302-2, 303-1, and 303-2 shall be used when bends are allowed in city of Phoenix R.O.W.
- Pressure zone jumps on looped fire line systems are not allowed for any reason.
- Provide top and bottom elevations for any fire lines crossing all utilities (water, sewer, storm drain, irrigation, electric, gas, fiber optic, telephone etc.) in city of Phoenix R.O.W. Separation is to be maintained per M.A.G. Standard Detail 404. The fire line may have to be realigned per C.O.P. Detail P1370 to meet vertical separation requirements. The fire line must have 6' minimum horizontal clearance from all other utilities except water. Fire lines must have a minimum of three feet (3') separation from water services.
- Pavement replacement thickness, and type, shall be per M.A.G. Sec. 336, and C.O.P. Detail P1200, Type B, or replace in kind, whichever is greater. Type A is allowed with cuts parallel to traffic. "T" tops are only allowed in major/arterial streets within the city of Phoenix.
- When replacing curb, gutter, and sidewalk, show, and label, existing and proposed concrete. Construct sidewalk ramps to accommodate access per ADA requirements. One half (1/2) sack slurry backfill is highly recommended.

PLANS FOR REVISION:

- 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.
- New approval signature block is required to be added to the cover sheet for approval of the revisions.

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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/pddsite/Documents/TRT/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