



CITY OF KINGMAN

ENGINEERING DEPARTMENT

WATER MAIN, PLAN CHECKLIST

310 N. 4th Street Kingman, AZ 86401 Ph: (928) 753-8122 Fax: (928) 753-8118

Project Name: _____ Project Number(s): _____

Reviewed By: _____ Phone: _____ Date: _____

Engineer: _____ Phone: _____

The purpose of this checklist is to offer comments on plan design for construction of water main pipe, fittings, and fire hydrants and to set the minimum submittal requirements for water main plans. Source of water development code and design policy is the City of Kingman Utility Regulations, MAG Standard Specifications & Details, City of Kingman Addendums to MAG Standard Specifications & Details, Arizona Administrative Code and ADEQ Engineering Bulletins.

This checklist serves to minimize redline comments on the check prints and to maintain consistency among plan reviewers on plans for public water main construction in the public right-of-way or public water easements. Plan approval and issuing permits depends on compliance with the comments made on the check prints and this checklist. The engineer of record shall satisfy themselves of the completeness and accuracy of the design.

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

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.

Engineer's Name: _____

Engineer's Signature: _____ Date: _____

Discussion of redline comments on plans or this checklist should be directed to the plan reviewer listed above.

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 24" X 36"; submit five (5) sets of Water main plans, a signed Extension Agreement form, a sealed cost estimate, a signed and sealed Water Design Report by the engineer of record, and a completed and signed Water Main Checklist.

GENERAL REQUIREMENTS

Symbols shall be per City of Kingman Uniform Standard Details for Public Works Construction or MAG Standard Details for Public Works Construction as applicable.

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.)

A cover sheet is required on plans of two (2) sheets or more.

Each sheet shall be identified by sheet number, project name, and match lines.

All sheets shall have the Civil Engineer's Arizona registration seal with original signature and date prior to any plan submittal.

All plan sheets shall be sufficiently clear to allow legible prints to be reproduced from scanning. The size of lettering and symbols shall be 1/8 inch minimum. Shading or zip tape is not permitted. All proposed water mains, fittings, and services shall be shown with thick solid lines on the plans sheets.

Where applicable, all water lines shall be sized according to the City of Kingman Master Water Plan. In no case shall water lines be sized smaller than as required in Section 7.3 of the Utility Regulations.

When the proposed water main comes in conflict with another utility and a vertical re-alignment is necessary, details for the re-alignment must be shown on the proposed Water Main Plan.

COVER SHEET REQUIREMENTS

Engineering plan review project number (ENG#) in lower right corner.

Provide a project title block with name and address of project.

Provide the Owner/Developer's name, address, and telephone number.

Provide Engineer's name, address, and telephone number.

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.

Provide Signature Approval Block. (In lower right-hand corner)

**APPROVED FOR:
THE CITY OF KINGMAN**

CITY ENGINEER (OR DESIGINEE) 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 DATE
REGISTRATION NUMBER**

Key map is required on plans with more than two (2) sheets. A key map is a small-scale map of the project site that provides a system overview and is used to index the plan sheets. The key map shall clearly show the following:

- All streets with names, alleys, easements, tracts, and parcels shall be identified or shown "unsubdivided."
- Water mains with types and sizes, fire hydrants, valves and production facilities (tanks, boosters, etc.) proposed and existing.
- Index of plan sheets indicated by single line with arrows showing beginning and end of each sheet.
- Identify all pressure zone boundaries from the City's Water Master Plan.

Provide a Blue Stake notification decal.

Elevation datum and bench marks (City datum required). Please dial (928) 753-8139, to obtain city datum for the existing benchmark closest to the project site. Equations cannot be used.

Provide a material list for Right-Of-Way or easement work.

NOTES FOR WATER PLANS:
(**ALL** notes to appear on cover sheet)

Engineering Department's Civil/Site Inspection Staff shall be notified 48 hours before any construction begins telephone (928) 753-8195.

All water valve boxes shall be per City of Kingman Detail 391-1 & 391-2.

All construction to conform to M.A.G. Specifications and Details and City of Kingman Supplement to M.A.G. Specifications and Details, unless modified on the plans.

Compaction shall comply with M.A.G. Section 601 & City of Kingman Supplements.

New water lines are to be built in Standard Utility Locations per City of Kingman Detail 120.

This set of plans has been initially reviewed by the City of Kingman. Such review is part of the process that developer(s)/contractor(s) must go through in order to obtain a Construction Permit. The results of such initial review shall not dictate the City of Kingman's final determination as to the acceptability of the plans, nor shall it prevent the City of Kingman from requiring errors and omissions, as found on plans, be addressed by developer(s) /contractor(s), where such errors and omissions cause the plans to be in violation of or inadequate under applicable federal/state/county/local codes, ordinances, regulations, or other laws. This reviewed and stamped set of plans must be kept at the construction site at all times.

Pipe deflection shall not exceed one-half ($\frac{1}{2}$) the manufacturers' recommendations.

All work must comply with requirements of the Manual on Uniform Traffic Control Devices (MUTCD)

The contractor is to notify the public that will be affected by any shutdowns a minimum of 48 hours in advance.

A six (6) foot minimum horizontal separation from any underground utility shall be provided for sewer mains and water mains. The minimum horizontal separation is measured from outside of sewer main or water main to outside of underground utility.

A one (1) foot minimum vertical separation from any dry underground utility crossing shall be provided for sewer mains, sewer services, water mains, and water services. The minimum vertical separation is measured from outside of sewer main, sewer service, water main, or water service to outside of dry underground utility.

A two (2) foot minimum vertical separation shall be provided between any sewer main and storm drain crossing a water main. The minimum vertical separation is measured from outside of water main to outside of sewer main or storm drain main. See City of Kingman Standard Detail 404 for additional information and/or provisions for clearance.

Exceptions or deviations from the above minimum clearances must be approved and shown on the approved water and sewer plans. When utility conflicts are found during construction, all changes and revisions must be preceded by an approved plan revision.

Any and all more stringent requirements required by Federal, State, County, or Local codes or ordinances take precedence.

Water services shall be installed perpendicular to the water main. Water services at the end of cul-de sacs may vary as necessary, but will be approved on a case by case basis.

All services shall run in a straight line from the water main to the meter box.

Neither water service meter box nor any portion of a water service shall be installed under an existing or proposed driveway or sidewalk ramp.

Concrete or asphalt damaged during the course of construction shall be removed and replaced in kind prior to final inspection.

Plan approval is valid for one year.

**PLAN SHEETS REQUIREMENTS:
The plan sheets shall show the following to proper scale:**

Provide a title block on all sheets.

All sheets shall be numbered with match lines (if required) and street names.

Orientation of each water line shall be shown by a north arrow (up or to the right) and a scale of the drawing.

All existing and proposed utilities shall be shown with size, material, and location in right-of-way in plan and profile.

Proposed finished grades at centerline of water shall be shown in profile with a solid line. Existing grades of ground surface at centerline of water shall be shown with a dashed line.

Provide 1'-6" minimum horizontal clearance between water services.

Provide 6'-0" minimum horizontal clearance between water and sewer lines, outside of pipe to outside of pipe.

Use City of Kingman "Standard Utility Locations".

Show encasements of water and sewer lines per City of Kingman Std. Detail 404-1 in plan and profile. Double protection is required when sewer crosses over water. Encasement is only allowed when specifically approved by the City Engineer.

Show all utilities in plan and profile. Where city utilities cross other utilities, show complete dimensional data measured from street monument lines.

Show all streets, alleys and easements. 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. Show both sides of the streets.

Locate all existing and proposed utilities, structures, paving, and other topographic features affected by construction.

Existing and proposed sewer main size and location must be shown. Sewer main shall be shown in a "lighter weight" line to identify it as being information only and not part of this construction plan. Label as existing or proposed.

Indicate the locations of the beginning(s) and the end(s) of the construction, and all valves, fire hydrants, pipe fittings, and service connections. Their locations must be shown by stationing and dimensioning from appropriate monument lines, or in their absence, appropriate easement references. No dimensioning from points of curvature or tangency is acceptable. The drawings must clearly indicate the specific points of reference.

NOTE: In all cases where the pipe is constructed within or parallel, in close proximity, with the right-of-way, all stationing and dimensioning must be from the nearest appropriate monument line and monument line intersection.

The water services stationing shown must specify the location of the taps at the main and their intended use called out, i.e., domestic or irrigation. Their locations must be measured perpendicular or radial relative to the appropriate right-of-way monument line or easement centerline. All stationing rounded to nearest foot. No negative stationing allowed.

Water main taps are 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 City of Kingman Detail 340. 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).

Existing valves to be shut down during construction shall be shown on the plans.

A profile is required for all size of lines. In profile, vertical scale shall be 1" = 2' or 1" = 4'. Horizontal scale shall not be smaller than 1" = 40'. For major streets and cases of unusual topography or complex situations where more detail is necessary, then the scale shall be 1" = 20'.

All piping to end with (size of pipe)" x 2" tapped cap and 2" I.P. Corp per City of Kingman Detail 390.

Provide existing and proposed paving. Shading is not allowed. Cross-hatching is acceptable.

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 required.

Pavement replacement thickness and type are to be per City of Kingman Detail 200-1. 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 City of Kingman Detail 230. At the discretion of the City of Kingman Engineering Inspector, tunneling under existing curb and gutter, in City of Kingman R.O.W., will be allowed. Tunneling under existing sidewalk will not be allowed in the City of Kingman R.O.W.

Water mains shall be six feet (6') minimum from property line unless there is an adjacent P.U.E. on site.

Water lines shall contain adequate valves with at least two valves at every tee and three valves at every cross.

Location of fire hydrants and valves at intersections shall be referenced from the nearest monument line.

All fittings shall be identified and stationed.

Mid-block fire hydrants shall be located on the lot line between two lots and a minimum of four feet (4') away from driveway wings.

Fire hydrant spacing and placements to be per the City of Kingman Utility Regulations and authorized by the City of Kingman Fire Department.

Meter service connections shall be shown to each lot or parcel to be served. Services may be stationed from street intersection monuments, except on curved streets and in cul-de-sacs where the tap will be angled, therefore, the tap must be stationed on the main and dimensioned to the applicable property line. Intended use of the service shall be noted, i.e., domestic, irrigation, etc.

ENG RVW

Meter box locations must be out of traveled roadway/walk/driveway. They may be located in planter areas, parking lot islands, etc., and should be set sufficiently above finished grade to minimize flooding. Meter locations shall be easily accessible from a street or traveled way and must be located in right-of way or easements.

Discussion of redline comments on plans or in this checklist should be directed to the plan reviewer.

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.

**APPROVED FOR:
THE CITY OF KINGMAN**

CITY ENGINEER OR DESIGNEE

DATE