



COP Project No. _____ Project Name: _____

Reviewed By: _____ Phone: _____ Date: _____

Professional Engineer: _____ Phone: _____

The purpose of this checklist is to offer comments on plan design for construction of paving projects within public right-of-way. Source of paving and related construction in the public right-of-way design policy are the latest version of City of Phoenix Specifications and Details, MAG, ASHTO, MUTCD, City of Phoenix Street Classification System General Policy, and the City of Phoenix Storm Water Policies and Standards.

This checklist serves to minimize redline comments on the check prints and to maintain consistency among plan reviewers on plans for paving and related construction in the public right-of-way. Plan approval, issuing permits, and certain grading/right-of-way 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 paving 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 12 months. 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.

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 24" X 36"; submit three (3) sets of Paving plans, one (1) copy of the approved preliminary Site plan for major projects **OR** one (1) copy of the first review Site plan mark-up for minor projects, one set of Grading and Drainage Plans, one (1) copy of the sealed drainage report, one (1) copy the soils report, one copy of the sealed cost estimate, and a completed and signed Paving Plan Checklist.

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

GENERAL REQUIREMENTS

- Symbols shall be per M.A.G. Specifications and Details.
- Provide a plan view and a profile on each plan sheet.
- Cover sheet is required on plans of more than two sheets.
- All sheets shall have the Civil Engineer's Arizona registration seal and original signature prior to plan submittal.
- Original 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.
- Street and right-of-way quantities should be placed on the plan cover sheet and submitted on the approved city form, signed and sealed by an Arizona Registered Professional Civil Engineer.
- Refer to the city of Phoenix Storm Water Policies and Standards for drainage design policy, details, and calculations showing 100-year, 10-year, and 2-year flows. See appropriate manual for required guidelines and submittals unless otherwise modified herewith.
- If off-site infrastructure streets are being proposed without on-site construction, temporary retention basins will be required to be dedicated to accept the storm water run-off from the off-site streets until the on-site development takes place. The Paving Plans will be reviewed and approved for a Grading and Drainage permit. Retention calculations will be required to be shown on the cover sheet for the street retention. Grading and Drainage notes from the "Grading and Drainage Subdivision and Commercial Checklist" shall be added to the cover sheet of the Paving plan.
- A soils report must be submitted to the Planning and Development Department. The Plasticity Index and the percentage passing 200 sieve must be submitted **OR** provide a Private Laboratory investigation for R values of pavement section recommendation for Major and Collector Streets. At least one test for every 2500 square yards of new pavement is required. This information must be supplied prior to plan approval/signature. Compaction test results must be furnished to the city prior to request for final inspection and permit final.
- 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. Note on plans NGVD 29 (National Geodetic Vertical Datum 1929).
- A drainage study of the site and contributing areas shall be submitted unless included as part of the Grading and Drainage Plan submittal. The study should include hydrology parameters and assumptions and include methodology for developing quantities. Also include computer runs from HEC-1, TR-20, or other programs utilized to develop flows from contributing area. Storm water routing through channels should include HEC-RAS analysis, including backwater computations. If a computer program is utilized in the design, a CD or thumb drive with input data should be furnished with your plan review submittal.

ENG RVW

- Should city require right-of-way for tapers, temporary turn-around, and/or _____, Right-of-way documents are required. If this right-of-way is not included on plat or map of dedication, it will need to be dedicated by a separate instrument. Call (602) 262-7811 Voice (602) 534-5500 TTY for information on separate dedications. These items should be submitted as soon as possible. A minimum of six to eight weeks is required for processing and no right-of-way permits will be issued until dedication is complete.
- Show all existing and proposed concrete work for accommodation of disabled persons. On-site and offsite access/sidewalk ramps shall match, and align, to provide easiest practical access. Form inspections are required, prior to pouring concrete, for alignment and grade inspection.
- Cover for underground utilities shall meet current city of Phoenix minimums. For utility relocations, show the specific utility affected and the utility owner responsible. Example: Manhole rim to be adjusted by U.S. West.
- All Major and Collector public streets will need to be reviewed by the Street Transportation Department Design, Planning and Programming Division for Signing and Striping where the improvements are longer than 100 lf. Please dial (602) 256-3409 Voice or (602) 534-5500 TTY for more information.
- Show the location of proposed street light poles and trenches as approved by the Street Transportation Department; phone (602) 256-4168 Voice or for SRP service areas and as approved by APS, (602) 371-6959 or 371-6767 Voice for their service areas. Requirements differ in various geographic areas. Street light plans and details may be submitted on separate sheets.
- Show the location of proposed traffic signal conduit and junction boxes. Traffic signal improvements will be reviewed and approved by the Street Transportation Department/ Planning, Design, & Programming Division. Please dial (602) 256-3409 Voice or (602) 534-5500 TTY.
- This project is subject to the National Pollution Discharge Elimination System (NPDES) requirements for construction sites under the Environmental Protection Agency (EPA) General Permit for Arizona. Owners, developers, professional engineers, architects, and/or contractors are required to prepare all documents required by this regulation, including but not limited to: SWPPP/SWMP, NOI, NOT. Copies of all requirements, forms, and guidance are available in the Drainage Design Manual for Maricopa County Volume III Erosion Control, available at the Flood Control District, 2801 West Durango, Phoenix, AZ 85009, (602) 506-1501 Voice or (602) 534-5500 TTY.
- Existing irrigation supply ditches and/or irrigation tail water ditches on this site, or in the right-of-way adjacent to this site, must be replaced with an underground pipeline, or abandoned subject to the approval of the irrigation company and/or downstream users. Limits of construction and scope of work shall be shown on the plan.

COVER SHEET REQUIREMENTS
(Paving Plans and Improvements in city Right-of-Way)

- Provide a Blue Stake notification decal.
- Indicate plan types:
 - Paving Plan
 - Paving Plan with Drainage Facilities (in Right-of-Way or Easement)
- Provide a project title block with name and address of project.
- Provide a project description.
- Provide a vicinity map with a north arrow.

ENG RVW

- Provide an index of plan sheets if there is more than one plan sheet.
- Provide the Owner/Developer's name, address, and telephone number.
- Provide the Professional Engineer's name, address, and telephone number
- Provide the appropriate processing numbers including: KIVA#, CCPR# or CSPR#, SDEV#, Building log, Abandonment, and city Quarter Section Number in lower right corner.
- Provide an As-Built Certification Statement as follows (include 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/Land Surveyor	Registration Number	Date
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NOTES FOR PAVING PLANS
(All notes to appear on cover sheet)

- Compaction shall comply with M.A.G. Section 601.
- Construction within the right-of-way shall conform to the latest applicable Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details and the latest city of Phoenix Supplement to the MAG Uniform Standard Specifications and Details.
- The engineering design on these plans is only approved by the city in scope and not in detail. Construction quantities on these plans are not verified by the city. Approval of these plans are for permit purposes only and 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, health, safety, or other design issues. In addition, the property owner must dedicate streets in accordance with minimum right-of-way standards map (Ordinance No. 437, latest amendment).
- 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.
- The city of Phoenix Planning and Development Civil/Site Inspection Group, 602-262-7811 Voice or 602-534-5500 TTY, shall be notified 48 hours prior to any construction work within the public right-of-way.

ENG RVW

- Existing or newly damaged and/or displaced concrete curb, gutter, sidewalk, or driveway slab that is within the right-of-way shall be repaired or replaced, as noted by city inspectors, before final acceptance of the work.
- All new or relocated utilities shall be placed underground.
- The actual point of pavement matching, and/or termination, shall be determined in the field by the Planning and Development Department Civil/Site Inspector.

- An approved Paving Plan shall be on the job site at all times. Deviations from the plan must be preceded by an approved plan revision.
- Obstructions to proposed improvements in the right-of-way shall be removed or relocated before beginning construction of the proposed improvements.
- All existing catch basins must be re-located when they are shown in a newly proposed driveway.
- Construction of surface improvements shall not begin until conflicting underground utility construction is completed and service connections to all platted lots have been adequately extended past the right-of-way.
- The permit holder shall arrange for the relocation and relocation costs of all utilities, including any street lights, and submit a utility relocation schedule prior to the issuance of a construction permit. Relocation of water meters shall be done by the Water Services Department after payment of prevailing fees. Relocation of city fire hydrants require a separate plan review and permit at the developer's expense.
- All frames, covers, valve boxes, and manhole covers shall be adjusted to finish grade prior to completion of paving or related construction. Adjustment of existing "Type A" or "Type B" waterline valve boxes in the parkway shall be considered incidental to parkway grading. Existing "Type B" waterline valve boxes shall be replaced with "Type A" boxes per COP Standard Detail P1391.
- Grading between back of curb and property line shall be limited to 4:1 slope.
- Certificate of Occupancy (C of O) and/or final electrical clearance for any building is denied until all offsite improvements are completed.
- Trees and shrubbery in the right-of-way that conflict with proposed improvements shall not be removed without approval of the city Landscape Architect. The permit holder shall be responsible for obtaining authorization to remove and/or relocate said trees or shrubbery by calling the Parks & Recreation Department prior to any right-of-way plant relocations at 602-262-6862.
- The Planning and Development Civil/Site Inspector must contact Street Transportation Department, Traffic Services Division at 602-495-0205 Voice or 602-534-5500 TTY two (2) weeks prior to completion of paving work for Signing & Striping.
- Authorization to restrict or close the Right-of-way can only be obtained through the Traffic Services Division, Right- of- Way Management Section. TRACS Permits must be obtained for each individual project through ROWM. TRACS Permits are approved based on the phasing of the project and the scope of work. Permission to restrict City streets, sidewalks and alleys (street closure permits) shall be requested as specified in Chapter 2 of the Traffic Barricade Manual, 9TH Edition and addendums thereof.
- Asphalt restoration is required for any street cut. Refer to Street Pavement Cut Policy (TRT 00164 and Ordinance G-6308).

Optional Note, Channel Diversion:

Construction must be phased so the newly aligned channel is fully operational before the existing drainage channel is filled. Floodwater conveyance must be maintained at all times during construction.

Additional Notes (required when using HDPE Pipe in right-of-way):

ENG RVW

- All HDPE storm drain pipe shall be manufactured, designed and installed in accordance with AASHTO M252, AASHTO M294, MAG and city of Phoenix Supplements to MAG and these special provisions.

- All HDPE storm drain pipe shall be Type `S' corrugated, with watertight joints. HDPE pipe shall not be allowed within a minimum of twenty-four (24) linear feet of an open outfall. The outfall section of storm drain pipe shall be concrete or concrete-lined as shown on the plans.
- At a minimum, all HDPE storm drain pipe joints shall meet the ASTM D-3212 watertight requirement of 10.8 psi (25 column feet of water head).
- The contractor shall provide a copy of an accepted independent 3rd party lab certification that all the pipe and joints to be used on the project meet the ASTM D-3212 watertight standard.
- All HDPE pipe connections to manholes shall meet ASTM C-923 requirements.

The following notes are required on Paving Plans when special preservation or hillside issues are involved:

- Before grading in areas containing native desert vegetation, the Contractor must obtain a permit from Arizona Department of Agriculture. For information, please dial 602-255-4933/542-0994 Voice or 602-534-5500 TTY.
- This property is adjacent to the Phoenix Mountain Preserve, no disturbance of preserve property for access, grading, or other construction purposes will be allowed. The contractor is required to delineate the Mountain Preserve boundary with a fence or other acceptable methods.
- This site has special preservation or hillside issues. The paving plan must show all landscape preservation easements, construction fencing locations, and appropriate areas labeled. Prior to any clearing, grubbing, or grading operations construction fencing shall be shown on approved plans, permitted and inspected and salvage operations permitted, inspected, and completed.

PLAN AND PROFILE PAVING SHEET REQUIREMENTS

- Provide the Civil Engineer's Arizona seal and original signature on each sheet.
- The vertical scale shall be 1" = 2' or 1" = 4'. The horizontal scale shall not be smaller than 1" = 40'. For major and collector streets, cases of unusual topography, or complex situations where more detail is necessary, the scale shall be 1" = 20'.
- Call out and show in plan view, and profile, the difference and to what elevation the contractor must grade to drain (and pick up drainage) at the pavement terminations of this project.
- Paving Plans showing existing natural washes shall also show existing conditions including line and grade of the wash flow line at the right-of-way line and at 50 ft. intervals. Show distances between banks and elevations at 50 ft. intervals on the banks of the wash.
- Paving Plans must include plan and profile for proposed private and/or S.R.V.W.U.A. irrigation lines. An approved set of S.R.V.W.U.A. plans must be submitted for our files.
- Submit a letter from adjacent property owners upon whose property the contractor will have to enter in order to grade to match existing ground (i.e. along _____ and at the end of _____). The letter must give the contractor permission to grade on his property and hold the city harmless.

ENG RVW

- If streets are designed to drain onto private property under separate ownership, special considerations must be made to insure drainage and maintenance access.

- Show the location, by station, dimension, and offset, of all proposed and existing utilities, structures, concrete, paving, drainage facilities, and other topographic features affected by construction, to include traffic signals and street lights. All utilities shall be dimensioned from street monument lines. Stationing must begin at a platted intersection. Include private S.R.V.W.U.A. irrigation within and adjacent to the property boundary. Any work on Salt River Project irrigation systems requires SRP permit and approved plans.
- Show street sign bases in the plan view. Include street sign bases in the quantities table and the Professional Engineer's Cost Estimate.
- Show and label all existing and proposed easements, dedications, right-of-way, streets, and alleys with stationing, dimensions, and offsets. 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. Stationing must begin at a platted intersection.
- All abutting lots shall be identified by lot#, tract, and subdivision or shown un-subdivided.
- The proposed paving plan should be designed with slopes and topographic features which match the natural grade and boundary area to minimize erosion and sediment transport on to city streets or neighboring properties.
- Specify full structural pavement section on tapers so that they will not have to be removed with future construction. For phased developments, show tapers and removals needed for each phase.
- Phased developments shall indicate interim slopes and grades to match proposed work to existing conditions.
- For private access ways (private streets), all new curb along private access ways shall be imprinted with the words "Private Street – No City Maintenance" in 2" high letters at every entrance into a new subdivision.
- Show top of curb and gutter elevations (both sides), existing and proposed crown elevations, cross slopes, and longitudinal slopes every 100 feet plus all grade breaks and angle points.
- Provide spot elevations sufficient to depict existing conditions at right-of-way lines and 50 feet beyond property line at 100' intervals. Show cross-section if necessary.
- Show flow arrows and grade breaks on pavements and shoulders to indicate drainage patterns.

OTHER REQUIREMENTS WHEN APPLICABLE

- A portion of the street improvements for this development is within State, County, or other city jurisdiction and subject to review and approval by that public agency. These improvements consist of _____. A performance agreement for these improvements must be posted. If the agreement is posted with _____, we need a written verification from that agency clearly stating which improvements are covered. Any improvement not covered in the agreement posted with _____ must be covered in the agreement with the city of Phoenix.
- A portion of the street improvements for this development falls within the limits of Major Street Project P-_____. These improvements consist of _____. Rather than install these improvements with this development, your client will be required to place funds in escrow to guarantee his participation in the Major Street Project. Please submit a separate cost estimate for this work. Your client will still be responsible for installation of required landscaping along _____ and a standard Performance Agreement will need to be posted for this work. This landscaping should be included in the landscaping plans that you submit to the landscape architect.

ENG RVW

- A Pavement Cut Surcharge may be assessed on this project for trenching in new asphalt pavement. If fees are assessed, they are in addition to the regular permit fees and are 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 within the past 30 months.

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.

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: <http://phoenix.gov/pdd/development/sitecivil/civil/index.html>. 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.