



**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 engineered fills on private property. The engineered fill is intended to remain in place for a period of time before buildings or other facilities are constructed. The source of the Engineered Fill Plan design policy is City Code Chapter 32, 32A, and 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 fills on private property. Plan approval, issuing permits, and certain grading clearances depend on compliance with the comments made on the check prints and this checklist. Professional engineers of record shall satisfy themselves of the completeness and accuracy of the design.

A completed checklist must be attached to the Engineered Fill 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.

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**

**ENG RVW**

- Plan sheets shall be 24" X 36"; submit three (3) sets of Engineered Fill 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, a sealed drainage report (or drainage calculations shown on the cover sheet of plans), a sealed soils report, and a completed and signed Engineered Fill 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.
- 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 scanned images. The size of lettering and symbols shall be 1/8 inch minimum.
- When the entire parcel is not included in the project description then the limits of construction shall be delineated on the plan.
- Temporary retention basins or berms shall be constructed to contain potential runoff from a 100-year/2-hour storm event.
- A public Drainage Easement is required around the onsite retention area that is to retain the offsite flows when offsite flows are taken onto private property.
- A Drainage Report is required to be submitted for any projects that are impacted by offsite flows. If there are no offsite flows impacting the site a Drainage Statement will be adequate on the cover sheet of the plans. If a Drainage Report is required, please include the KIVA# and the CSPH# on the cover sheet of the report.
- Complex Drainage Reports (subdivisions, properties with washes, hillside properties, properties in floodplain, etc.) should include hydrology parameters and assumptions and include methodology for developing quantities. Also include computer runs from HEC-1 or other programs utilized to develop flows from contributing area. Storm water routing through channels should include HEC-RAS or other programs used to model the hydraulics including backwater computations. A CD with input data should be furnished with your plan review submittal when a computer program is utilized in the design.
- 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, and/or contractors are required to prepare all documents required by this regulation, including but not limited to: SWMP, NOI, NOT. Guidance is available online at <http://www.fcd.maricopa.gov/Pub/manuals/erosionControl.aspx> through Maricopa County Flood Control District.

**PLAN SHEET REQUIREMENTS**

- Provide a Blue Stake notification decal.
- Indicate plan types:
  - Engineered Fill Plan
- Provide a project title block with name and address of project.
- Provide a vicinity map with north arrow.

**ENG RVW**

- Provide an index of plan sheets if more than one plan sheet.
- Provide the Owner's and Developer's name, address, and telephone number.
- Provide the Professional engineer's name, address, and telephone number
- Provide the address and legal description of the project.
- Provide fill quantities.
- Provide the appropriate processing numbers including: KIVA#, CSPH, Abandonment, and city Quarter Section Number in lower right corner.
- Provide a legend identifying grades, symbols, lines, etc.
- Provide all retention calculations and storm event type.
- Provide a drainage statement that includes the following:
  - Site is in a Special Flood Hazard Area (Y) (N)
  - Offsite flows affect this site (Y) (N)
  - Retention provided is for the \_\_\_\_\_ storm event
  - Extreme storm outfalls the site at \_\_\_\_\_ at the elevation of \_\_\_\_\_
- Provide 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 NGVD29 (National Geodetic Vertical Datum 1929)

- Provide net acreage and total disturbed area of the site.
- Provide a retention basin table that includes a column for the volume provided, volume required, and "As-built" volume.
- 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

\_\_\_\_\_  
DATE

\_\_\_\_\_  
REGISTRATION NUMBER

**NOTES FOR GRADING AND DRAINAGE PLANS**  
**(to appear on cover sheet)**

**Grading and Drainage Notes (city of Phoenix)**

- An Engineered Fill permit is required under Chapter 32A of the Phoenix City Code.
- When Haul permits are required, they must be obtained prior to or concurrently with the Engineered Fill permit.
- Contractor shall obtain a letter of permission from adjacent property owners to perform grade to match if it would be necessary to enter the adjacent property owner's land to match the grade.

**ENG RVW**

- Planning & Development Department Field Inspection Group shall be notified 48 hours before any on-site and/or off-site construction begins, telephone (602) 262-7811.
- A separate permit is necessary for any offsite construction.
- An approved Engineered Fill Plan shall be on the job site at all times. Deviations from the plan must be preceded by an approved plan revision.
- The site of an Engineered Fill Plan shall be posted “NO DUMPING” per the applicable city ordinances. The site may be registered as a “NO DUMPING” site with the Phoenix Police Department upon application and payment of fees. The site may also be protected from dumping by constructing physical barriers such as berms and trenches, fences, or the like.
- Soils compaction test results must be submitted to the Planning & Development Department’s Civil /Site Inspector for fills where one foot or more of fill material is indicated. This information must be supplied prior to request for final inspection, pursuant to City Code Sec. 32A.
- Engineered fill materials shall consist of clean fill, free of construction debris, vegetation, and other deleterious material not suited for permanent fills.
- All drainage protective devices such as swales, interceptor ditches, pipes, protective berms, barrier walls, concrete channels, or other measures designed to protect adjacent buildings or property from storm runoff must be completed prior to request for final inspection.
- Retaining walls 3’4” or less measured from the top of the footing to the top of the retaining wall that support a surcharge are to be reviewed and permitted by the Civil Plan Review staff and inspected by the Civil Inspection Staff. Retaining wall over 3’4” on non-hillside residential zoning districts require a use permit. Walls over 3’4” will be reviewed, permitted, and inspected by the Building Safety Branch of the Planning & Development Department under separate submittal by the applicant.
- 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.
- 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.
- The city of Phoenix Police Department enforces laws regulating the operation of commercial vehicles. This includes enforcement of federal, state, county and local laws and ordinances. Questions regarding Commercial Vehicle Enforcement may be directed to the Commercial Vehicle Enforcement Supervisor at (602) 495-7813 (Traffic Bureau South) or (602) 495-6784 (Traffic Bureau North)
- 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.

**Optional Note, Channel Diversion:**

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

**The following notes are required on Engineered Fill plans  
when special preservation or hillside issues are involved:**

**ENG RVW**

- Before grading in areas containing native desert vegetation, the Contractor must obtain a permit from Arizona Department of Agriculture. For information, phone (602) 364-0935.
- If 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 temporary fence or other acceptable methods.
- If site has special preservation or hillside issues, the Engineered Fill 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 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'.
- Existing contours or spot elevations, drainage arrows and grade breaks to indicate drainage patterns. Also indicate all 100-year flows from contributing offsite drainage areas.
- Provide spot elevations every 100' on adjacent properties sufficient to depict existing conditions affecting drainage of property to be filled. Usually 50 feet beyond property line will be sufficient.
- Provide cross-sections along all property lines.
- Show details at property lines, fences, berms, etc. Also show improvements and finish floor elevations on adjacent property to the proposed development.
- All abutting lots shall be identified by lot #, tract, and subdivision or shown un-subdivided.
- Dimension all property boundaries, both perimeter and interior lines.
- All proposed and existing structures, paving and other topographic features affected by construction shall be shown.
- Indicate a mechanism for dust, weed, and debris control on undeveloped portions of the site and describe methods for continuing compliance.
- Fills should be designed to minimize erosion. Erosion protection is required where slopes are excessive and/or storm water velocities exceed 5 fps. Fills shall be constructed to minimize sediment transport on to city streets or neighboring properties.
- Engineered Fill Plans showing existing natural washes shall also show existing conditions including line and grade of the wash flow line at 50 ft. intervals. Show distances between banks and elevations at 50 ft. intervals.
- Show side slopes, bottom elevation, high water elevation, outfall elevation, location and direction, volume provided, and volume required for all retention/detention basins.

**ENG RVW**

- Show all proposed retaining walls. Include the length, height, top of retaining wall elevation, and top of footing elevation for each section of retaining wall. The design and structural calculations for all retaining walls equal to or less than 3'4" that support a surcharge shall be reviewed, approved, and permitted based on the Grading and Drainage plans; and inspected by the Civil Inspections Staff. The design and structural calculations for all retaining walls greater than 3'4" shall be reviewed, approved, permitted, and inspected by the Building Safety Branch of the Planning & Development Department. Refer to Section 703 of the Zoning Ordinance and Section 32-32 of the Subdivision Ordinance for specific wall height requirements. Use permit for over-height walls must be obtained prior to approval of the Engineered Fill Plan.
- Delineate the limits of any 100-year designated floodplain and include applicable 100-year water surface elevation lines which traverse the project site.
- Hauls greater than 10,000 cubic yards require a permit and approved haul route prior to issuance of the Engineered Fill permit. Haul route to be approved by Street Transportation Department. Permit to be created by Planning & Development Department Civil 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.  $\Delta$  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/pdd/development/sitecivil/civil>. Provide a copy of the approved application with the plan submittal.
- Plan approvals for extension are valid for a period of 12 months from the date of plan approval.