

**COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION**



**GRADING INSPECTION  
PROCEDURES**

**March 20, 2008**

# GRADING INSPECTION PROCEDURES

## TABLE OF CONTENTS

<b>A. <u>Grading Inspection Procedures</u></b>	<b><u>PAGE</u></b>
1. In-Office Plan Review	3
2. Inspection Recordkeeping	3
3. Pre-Grading Meeting	3
4. Initial Inspection	4
5. Supplemental In-Progress Grading Inspections	4
6. Plan Revisions	5
7. Rough Grading Inspection	5
8. Final Grading Inspection	6
9. Special Considerations	7
Fill Slope Compaction Requirements	9
Fill Key Inspection	10
Buttress and Stabilization Fill Inspection	10
Canyon Cleanout and Subdrain Inspection	11
Slope Drain Inspection	11
<b>B. <u>Erosion Control Inspection Procedures</u></b>	<b>13</b>
<b>C. <u>Grading Handouts</u></b>	
1. Pre-Grading Meeting Checklist	18
2. Pre-Grading Meeting Attendance Log	23
3. Contractor's Guide to Grading in Los Angeles County	24
4. Report of Grading Activities	27
<b>D. Benching and Subdrain Details</b>	
<i>Fig 1</i> Typical Drainage Device Details	28
<i>Fig 2</i> Buttress Fill Detail	29
<i>Fig 3</i> Keying and Benching of Fill on Natural Slopes	30
<i>Fig 4</i> Buttress and Stabilization Fills	31
<i>Fig 5</i> Fill over Cut Slopes	32
<i>Fig 6</i> Typical Subdrain Details	33
<b>E. <u>Appendix</u></b>	
1. Engineered Rough Grading Consultant Certification	34
2. Engineered Fine Grade Consultant Certification	35
3. Engineered / Regular Grading Contractor Certification	36
4. Grading Permit Status Report	37
5. Grading Inspection Card	38
6. Sample Grading Permit	39

# GRADING INSPECTION PROCEDURES

The grading inspector shall coordinate work among the contractor, field engineer, soils engineer, geologist, and permittee or his agent whenever possible to assure that each stage of grading construction is properly inspected, tested and approved. The following outlines the proper procedure to ensure each grading project runs as smoothly as possible.

## 1. **IN-OFFICE PLAN REVIEW (Required)**

Once a grading permit is issued and assigned to a grading inspector, the inspector must review the approved plans and become familiar with the proposed project. This opportunity should be used by the inspector for the following:

- (a) Review the "Pre-Grading Meeting Checklist".
- (b) Ask questions of the grading or building plan checker for items he/she is not aware of or does not fully understand.
- (c) Identify construction phasing issues or problems that should be discussed with the Contractor or Field Engineer.
- (d) Identify key elements that will require future interim grading inspections.
- (e) Review other agency approvals for grading-related restrictions and invite agencies critical to the project (CALTRANS, Dept. of Fish and Game, Army Corps of Engineers, Department of Regional Planning, DPW Construction Division, etc. as applicable) to the pre-grading meeting.

## 2. **INSPECTION RECORDKEEPING**

Proper recordkeeping is essential during grading inspection. The brown "Grading Inspection Card" shall be onsite at all times, and copies of the white Grading Permit shall be onsite and at the District Office. Sample forms are included in the Appendix. For each called inspection, the inspector shall bring the Grading Permit to the field along with the grading file. Once an inspection is completed, the grading inspector shall sign off (in ink) on both the Grading Inspection Card and the Grading Permit. The inspector shall not sign off "Rough Grading Approval" on the Grading Inspection Card nor the Grading Permit if only a portion of the site is being approved for rough grading (see 7g. below for more information on partial rough grade approvals).

The "Grading Permit Status Report" is a form intended to aid the inspector in maintaining records on tract and single lot grading projects. The form shall be used to track the status of rough and final grading approvals and shall serve as a checklist for critical items such as GMED approval, as-built plans, and consultants statements. Rough and final grading inspections shall not be performed until the checklist is complete and all needed forms and approvals have been received. Partial rough grading approvals (approval of individual lots and graded areas outside of building pads) shall be noted on this form. Proper recordkeeping will assist the counter staff when issuing building permits. A sample form is provided in the Appendix.

## 3. **PRE-GRADING MEETING (Required)**

This meeting, usually held on the site prior to any brushing and preparatory to actual grading construction, is generally referred to as the pre-grading meeting. The purpose of the pre-grading meeting is to provide an opportunity to have all the parties involved in the successful completion of the proposed grading project. Prior to this meeting the grading inspector should walk the site with a copy of the approved plans. The inspector should verify that the approved plans represent the existing site conditions, including existing drainage patterns. The inspector should check the plans

for any work in close proximity to property lines, easements, or flood hazards and require these areas to be staked prior to the start of construction. If oak trees are involved, this is the time to verify the number and location of the trees. Discrepancies that affect the design of the grading or drainage devices should be referred to the project civil engineer for a plan revision, and the grading inspector should notify the Regional Drainage and Grading Engineer (RDGE).

At the pre-grading meeting, the grading inspector shall outline responsibilities of the consultants, review the required grading inspections and explain procedures for grading revisions and submittals of geotechnical reports and final consultant certifications. The Field Engineer is required to perform routine grading inspections and submit monthly or bi-weekly progress reports called "Report of Grading Activities" (see Grading Handouts). If the Field Engineer observes grading activity in excess of 400 cubic yards per week, the Report must be submitted bi-weekly. Otherwise, the Report may be submitted on a monthly basis. The Reports are to be uploaded online or faxed to a central location where they will be reviewed to determine if any grading deficiencies have been reported. If so, the district office will be contacted for the grading inspector to investigate the deficiencies and determine if the issuance of a stop-work-notice is needed.

The "Pre-Grading Meeting Checklist" and the "Contractor's Guide to Grading in Los Angeles County" are designed as guides for conducting the meeting (see Grading Handouts for samples). Business cards are often distributed at pre-grading meetings, and all present shall sign in on the "Pre-grading Meeting Attendance" form (see Grading Handouts) provided by the grading inspector. In addition, the Permittee must sign the waiver on the last sheet of the checklist.

By having the participants communicate and develop an understanding of the conditions, requirements, and specifications of the approved plans and permit during the meeting, anticipated problems are resolved through careful planning prior to the actual commencement of grading work. Pre-grading meetings are usually beneficial in resolving potential on-site problems and in developing awareness and open communication among all involved.

#### **4. INITIAL INSPECTION (Required)**

This is the required inspection per Title 26, 2008 County of Los Angeles Building Code, Appendix Chapter J, Section J105.7 (future code references in this manual to sections within Appendix Chapter J will list the section only). Inspect the preparation of the ground before any fill is placed. The grading contractor shall not be allowed to brush areas other than what is designated on the approved grading plans. All surface soils and vegetation must be removed down to firm competent material suitable for support of the fill. All soils with oversized materials or in excess of 7% of organic materials must be removed from the site or placed in a disposal area in accordance with the plans. All materials to be placed in the fill must be approved by the inspector before placement as meeting or exceeding the design requirements established by the soils engineer. The inspector may require verification through tests from the soils engineer.

In cases where the slope of the natural grade is steeper than 1 vertical unit in 5 horizontal units (referred to as 5:1 gradient), these portions shall be keyed and benched prior to placement of fill. Bottom of key inspections are required prior to fill placement. See "Fill Key Inspection" and "Buttress and Stabilization Fill Inspection" sections for specific requirements.

On larger projects, it may not be possible to prepare the entire site at one time. Therefore, the grading inspector is required to make periodic inspections of the construction progress. The soils engineer must provide his approval for ground preparation in writing. The soils engineer or his representative shall be present during the entire fill operation when fills are 30' or more in depth or slope height, and when the proposed slope is steeper than 2:1 gradient per Section J107.8.

## **5. SUPPLEMENTAL IN-PROGRESS GRADING INSPECTIONS (Required)**

These periodic inspections include toe of fill key inspections, excavation inspections, compacted fill inspections, and drainage device inspections. More information on the specific requirements can be found in the "Fill Slope Compaction Requirements", "Fill Key Inspection", "Buttress and Stabilization Fill Inspection", "Canyon Clean Out and Subdrain Inspection", and "Slope Drain Inspection" sections. The in-progress grading inspections are critical to ensure that the soils engineer's representative is on the site observing the ground preparation and fill placement and that the grading contractor is complying with the specifications, approved plans, and Code provisions. These inspections also help the operation maintain steady progress and minimize holdups or stop orders. Large grading projects should be inspected at least once every two weeks to verify site grading is in compliance with the site grading plans and specifications.

## **6. PLAN REVISIONS**

Whenever the grading inspector observes a substantial difference between the site and the approved grading plans, the inspector shall write a correction notice requiring the changes to be approved by the RDGE. When revised plans are approved, it is the responsibility of the inspector to attach the revised plan sheets to the original approval and void out-of-date plan sheets. Old plans should be discarded as necessary to eliminate conflicting sets of plans in the file. Minor field changes can be notated and initialed by the inspector on the grading plan provided to him/her at the job site. At the completion of the grading, an "As-Built" plan shall be submitted directly to the inspector. This plan shall reflect all changes previously approved the inspector in the field and by the RDGE in the office. The inspector shall review this plan for conformance with the site and with the previous approvals, and shall stamp this plan "As-Built Grading Plan".

When adverse engineering, geotechnical or geologic conditions are uncovered during grading construction which were not indicated or evaluated in the preliminary reports and plans, additional analysis and evaluations shall be required at the time that such conditions are found. To assure safe construction under such conditions, the geologist may be required to analyze additional cross-sections and the geotechnical engineer may be required to re-test and re-analyze soil samples as well as coordinate with the civil engineer to re-design that portion of the site.

## **7. ROUGH GRADING INSPECTION (Required)**

This is the required inspection per Section J105.7. Rough grade approval requires the lot to be free of flood hazard. Drainage devices shall be paved and functional. This includes debris basins, inlets, outlets, swales, terrace drains, and curb and gutter. When the on-going grading construction is nearing this inspection phase, the grading inspector shall notify the permittee, his agent, or job superintendent regarding submission of planting and irrigation plans (if necessary).

The following must be completed by the inspector prior to approving rough grade:

- (a) The inspector shall review the site for compliance with the approved plans. If a substantial amount of additional changes have been made in the field, the inspector shall write a correction notice requiring revised plans. Prior to rough grade approval, the inspector shall request a revised set of As-Built grading plans which must incorporate *all* the proposed plan changes as required by Section J105.12. Plans shall be submitted by the permittee to the RDGE for review and approval, and a copy of the approved As-Built plan shall be filed in the grading folder.
- (b) Spot check the following:
  - Field engineer's stakes are in place at essential locations.
  - Berms are installed at the top of fill slopes (12" high minimum or as noted on approved plans).

- Drainage devices are paved and functional, including curb and gutter.
  - Pad drains properly, minimum grade is 2%.
- (c) Obtain approval from GMED-Soils and Geology Section of the final engineering geology and soils engineering reports if grading plans or Soils and Geology review sheets indicate such approval is required.
- (d) If the grading plans do not indicate that the final engineering geology and soils engineering reports need to be submitted to GMED-Soils and Geology Section for approval, the inspector shall review the reports for overall completeness:
- i. Verify any specific recommendations in the reports have been incorporated in the field.
  - ii. Verify the compaction levels are a minimum of 90% or as indicated on the approved grading plans.
  - iii. Verify the reports include a certification that the work is in accordance with the approved reports.
  - iv. Verify the reports include a Section 111 finding regarding the safety of the completed grading and any proposed structures against hazard from landslide, settlement, or slippage.
- (e) Obtain original signed and stamped “Engineered Grading Consultant Statement” as required per Section J105.12. Copies and faxes shall not be accepted. The Field Engineer and Soils Engineer must complete the form in its entirety for the rough grade portions only. Also obtain original “Engineered Grading Contractor Statement”. The inspector must review the forms for completeness. Any unusual comments shall be referred to the RDGE or District Office Manager. See appendix for sample forms.
- (f) Obtain clearances from Construction Division and/or Flood Control District for street and storm drain improvements. For tracts and parcel maps in which a storm drain is being constructed and inspected by Construction Div., a “90% Completion Notice” must be obtained from Construction Div. Approvals for street curb and gutter must also be obtained.
- (g) For partial rough grade approvals in tract and parcel maps in which lots are individually approved for rough grade, the inspector must “bubble” and date the approved portion of the site on the plans. In addition, an As-Built grading plan must be received for each phase of construction.
- (h) Update grading permit status report as necessary and retain in the grading folder.

***Building permits shall not be issued for lots that have not been approved for rough grading. The building plan checker shall check DAPTS and/or the tract grading folder to see that the lot has been approved for rough grade prior to issuance of the building permit.***

## **8. FINAL GRADING INSPECTION (Required)**

This is the required inspection per Section J105.7. Before performing the field inspection, the inspector shall review the approved plans and check the file for any special requirements, such as flood hazard delineations on the tract map, masonry block walls, area drains, etc. The inspector must receive an “Engineered/Regular Grading Contractor’s Statement”, completed by the contractor. In addition, for engineered grading the inspector must receive original signed and stamped “Engineered Grading Consultant’s Statements” completed by the field engineer and soils consultant. The “Fine Grading” and “Planting and Irrigation” statements shall be completed by the field engineer, soils engineer and landscape architect (as applicable).

The inspector shall bring the approved as-built grading plans to the site for the final inspection. At the site, the inspector shall:

- (a) Visually inspect the site for conformance to the approved plans.
- (b) If a structure has been constructed, check fine drainage around the building footprint(s). A minimum of 1 percent is required. If the pad does not appear to have the required slope, perform a flow test (also called hose test) to verify proper flow. Another way to check the slope is to compare with the weep screed line.
- (c) Check earth swales and berms on pad. Earth berms shall be relatively compact. Check depth and height of earth swales and berms and check slopes for drainage. If the earth swales and berms are closer than 3 feet to the foundation, stoops, fireplace, etc., a permanent device is desired.
- (d) Check slopes for looseness and/or slough-offs. Require slopes be recompact if necessary.
- (e) Check toe of slope for any undercutting. A retaining wall may be necessary.
- (f) Check location of property lines and/or easements in relation to top and toe of slopes to ensure slope setbacks are met.
- (g) Check slope planting and irrigation for general conformance with the approved plans. Planting must be established before issuing a Certificate of Occupancy or releasing the grading permit security (bond). Check that sprinkler risers and pipes are tied firmly to stakes. Check that slopes have adequate coverage by turning on several sprinkler heads. Adequate coverage is especially important on higher slopes.
- (h) Check paved swales, terrace drains, inlet and outlet devices, catch basins, rip-rap pads, and all other drainage devices. Check for compliance with the approved plans. Paved swales must be clean and free from debris. If plans show rip-rap, check to see that it has been installed per plan, including cut-off wall depth, pad size, rock size and grout. If underground drainage devices are installed, clean outs must be provided every 50 feet or as noted on the approved plans.
- (i) Where applicable, clearances from Construction Division (encroachment permit approval) and Los Angeles County Flood Control District (connection permit approval) must be obtained.
- (j) Verify catch basins and inlets are stenciled "No Dumping Drains to Ocean" where required. All treatment BMPs required for SUSMP compliance must be installed. This may include catch basin inserts and filters, which must be installed according to the manufacturer's recommendations. This may also include non-proprietary BMPs such as vegetated swales, in which case all planting and irrigation must be installed as specified on the approved plans.
- (k) A copy of the signed permit shall be forwarded to the office manager for releasing the grading permit security (bond). Refer to the BCM on Grading Permit Security for detailed instructions and procedures.

## **9. SPECIAL CONSIDERATIONS**

*Buttress Fills, Stabilization Fills, Shear Keys, Shear Pins and Soil Nails:* It is essential that a complete record be kept of the location of all buttress fills, stabilization fills shear keys, shear pins and soil nails. The location of the above shall be indicated in the grading file and on the House Numbering Map and a scaled-down plan showing the location of the above shall be kept in the job

jacket. It is critical that the building plan checker be aware of all geotechnical stabilizers in order to verify that the proposed construction will not adversely affect lot stability. Geology and Soils Section must approve any modification of a special fill, shear pin or soil nail.

*Segmental Earth Retaining Walls:* These systems are plan checked and permitted along with the grading permit. See BCM A3313 Article 1 for inspection procedures.

*Dust Complaints:* All complaints on dust arising from grading operations should be referred to the South Coast Air Quality Management District at 1-800-572-6306.

*Utility Trenches:* The materials from trench excavations may not be dumped over slopes or otherwise indiscriminately placed. Furthermore, care must be taken to ensure compaction of the backfill of trenches on slopes or adjacent to buildings where the trench could affect foundation stability. If violations of this policy are discovered, they shall be reported at once to the field engineer of the project and to the District Office Manager so that appropriate controls may be taken. A written approval of all utility trench backfilling is required for all graded building pads. If trenches are cut through slopes or within 1:1 of a footing, compaction tests must be included.

*Hazardous Materials:* Grading plans may specify the removal of hazardous material, including contaminated soils. For these projects, it is imperative that a Health and Safety plan is onsite at all times. This plan describes special precautions needed to ensure workers' protection during construction. In addition, the export location of this material must match the grading plans and the Recycle and Reuse plan. The grading inspector must obtain dump tickets/receipts for these materials.

*Capping of Oil Wells:* Capping of oil wells is performed under the inspection and approval of the State Division of Oil and Gas. Upon completion of capping of the wells, the State Division of Oil and Gas issues a letter of approval to the oil company abandoning the wells, with copies available to any interested party or governmental agency. Where these wells are shown on the grading plans, it is necessary for the permittee or field engineer to submit a copy of this approval from the state with the rough grading certification and prior to issuance of any building permits. See AM 50.26 for details.

*Abandoned Jobsites:* An inspection is to be made on incomplete, abandoned grading jobs to determine if a hazard exists.

- (a) The bond is to be held, but the permit may be expired on abandoned jobs where no hazard exists
- (b) The permit is to be expired and bond default procedures started on abandoned jobs where a hazard exists.

*Very High Fire Hazard Severity Zone – Grading:* The following approvals shall be available at the job site at all times.

1. Per Section 317.2.1 of the County of Los Angeles Fire Code, Fire Department / Forestry Division approval of a fuel modification, landscape, and irrigation plan is required for projects which propose a new structure or an addition/modification to an existing structure which exceeds 50% or more square footage of the existing structure.
2. Per Section 318.12 of the County of Los Angeles Fire Code, a permit is required to comply with spark arrester requirements for construction equipment.



## **FILL SLOPE COMPACTION REQUIREMENTS**

The primary purposes of compacting fill soils are to improve the soil shear strength and minimize the amount of settlement. Compaction improves site conditions by minimizing the soil's expansive potential, reducing permeability or infiltration potential, and increasing allowable soil pressure or bearing capacity for foundations. Factors that influence soil compaction include:

1. Type of material to be compacted
2. Type of equipment used to achieve compaction
3. Amount of moisture present during compaction
4. Depth of earth lift being compacted

The minimum fill slope compaction requirements are governed by Title 26, the 2008 County of Los Angeles Building Code, Appendix Chapter J. Stricter requirements may be established by the soils engineer during his preliminary investigation and would be labeled on the approved grading plans. The primary criteria for proper fill-slope compaction include the gross stability, the surficial stability, and the long-term performance of the slope.

All fill within 40' below finish grade shall be compacted to at least 90 percent of the maximum dry density obtained by the American Society for Testing and Materials (ASTM) Designation D1557 (5 layers) method of soil compaction, as specified in Section J107.5. Fill deeper than 40' shall be compacted to at least 93 percent of the maximum dry density.

The maximum gradient of the finished fill slopes is generally 2:1, unless steeper gradients can be justified by considering the shear strength and erosion properties of the fill soil. Steeper slopes require specific approval from Soils and Geology section (GMED) and must be shown on the approved grading plans.

Some of the more successful methods of fill slope construction include:

1. Over-filling and trimming back to the hard compacted core.
2. Riding the outer edge of the slope in a horizontal manner with heavy equipment that exerts more vertical compactive effort in the outer 10'-12'.
3. Tractor-walking the dozer on the slope face and blading off the loose material.
4. Using a grid-roller or a combination of sheepsfoot and grid-roller to finish the upper 2"-4" of slope face after removal of the loose slough materials.

The most effective method of fill slope compaction appears to be over-filling and trimming back to the hard compacted core. Some of the large developers in Southern California who have been forced to pay high costs for repairs of surficial fill slope failures have exclusively used the over-filling and trimming back method, which provides for a longer-term performance. Some developers argue that they want the upper 12" of soil loose for landscape purposes, however this practice encourages surficial slope failures.

Surficial failures are the most common type of slope failure, particularly for those slopes that have been subjected to extensive landscape watering prior to the rainy season. The soil engineer and the grading inspector cannot control slope maintenance or assure long-term performance due to improper maintenance. Most volume changes and changes in density with time will normally occur within the outer 4'-10'. Therefore, it is important that the highest degree of compactive effort and grading skill be exerted in the construction of the outer 10' of the fill slope or embankment.

The hydromulch method of application of seeds has given good results for sustained growth within a tightly compacted fill slope. The seeds utilize the compaction moisture as well as the applied water for growth. Thus, it is beneficial to seed as soon as possible after completion of the slope, before the near surface moisture evaporates out of the slope face. The slope planting must also comply with the requirements of Section J110.3 (planting of trees and shrubs may also be necessary, depending on slope heights) and the approved landscape and irrigations plans, if applicable. In addition, this method does not preclude landscape planting required by other agencies, including planning commissions and the fire department.

## FILL KEY INSPECTION

A key is a slot cut at the base of a stabilization or buttress fill. It is excavated into bedrock or competent material and provides a more stable fill slope than benching alone. Per Section J107.3, a key is required for all fill slopes steeper than 5:1 gradient. The minimum key width is 10', but the soils engineer or geologist may recommend a larger key based on the soil conditions. The key shall be sloped based on the recommendations of the soils engineer and geologist, as shown on the approved grading plans. See Figure 3 (attached) for an example of a typical keyed and benched slope.

To safely establish a key into bedrock or competent material in steep terrain where natural slopes vary from 1½ :1 gradient to 3:1 gradient, the key may be required to be 5'-10' deep on the downhill side. In more level areas the key may only be 2'-4' deep.

Fill-over-cut slopes also require a key per Section J107.3. See Figure 5 (attached) for an example of a fill-over-cut slope. This key shall be a minimum of 10' wide and 5' deep or 2' into bedrock or competent material, whichever is greater, to assure that future erosion of the cut slope or future surface creep will not remove lateral support of the overlying fill mass. The cut shall be made prior to placing the fill material in accordance with Section J107.3.

The keys for small buttress/stabilization fills are generally excavated for the full length of the fill, whereas the keys for large buttress/stabilization fills are slot-cut in sections. The soil engineer and geologist typically design keys as a part of their recommendations made during their preliminary geotechnical investigation. The soils engineer and geologist must approve the key and verify that the geologic conditions match the conditions described in the preliminary geotechnical investigation. The grading inspector shall periodically verify the prescribed key width and depth have been obtained as needed during construction. If the inspector finds the work is not being done accordingly, he/she can request an inspection from Geotechnical and Materials Engineering Division.

The soils engineer shall determine the stability of the key during grading. On large fill operations, the backslopes are prone to failure due to the steepness of the backslope, the strength of the soils and bedrock material being excavated, and the surcharge loading and vibration of construction equipment. The soils engineer (or field technician) shall monitor the slope gradient of the backslope and strength of the soils and bedrock being excavated to prevent slope failure.

## BUTTRESS AND STABILIZATION FILL INSPECTION

A buttress fill is a fill slope whose design is based upon a slope stability analysis. A stabilization fill is an equipment width compacted fill slope placed against a natural slope that is subject to excessive erosion. Examples of both types of slopes are shown in Figure 4 (attached). Buttress fills contain subdrains, which vary in size depending upon the height of the slope requiring support and the anticipated amount of subsurface water.

The effective bearing point is located where a 45 degree angle is projected downward from the toe of fill (shown on the grading plan) to a point where it intercepts the bottom of the key. The locations of the effective bearing points shall be surveyed and staked in the field for accurate excavation of the key. Once excavated, the key shall be surveyed again for the as-graded plan record. Because the toe must bear on competent material, these toe-of-fill bearing points have the potential to shift further outward than the 45-degree angle projection. Poor quality compressible materials must be removed from the toe key area. Improper location of the excavated toe-of-fill bearing point can result in costly removal and recompaction of toe keys.

Construction techniques and the grading inspection of buttress fills and stabilization fills are very similar to inspection of fill keys. ***These inspections shall be based upon the design parameters established within the geotechnical report and as shown on the approved grading plan.*** The key width and depth and subdrain locations and elevations shall be accurately measured and surveyed and the results

shall be shown on the as-built plans. The fill material shall be benched into bedrock or competent material per the soils engineer's recommendations on the approved plans, or as field conditions require. The benches and backslopes shall be inspected by both the soils engineer and engineering geologist, and shall be geologically mapped in the final geotechnical report to confirm that the geologic conditions match the conditions predicted in the preliminary geotechnical investigation.

### **CANYON CLEAN OUT AND SUBDRAIN INSPECTION**

Canyon clean out involves the removal of compressible soils such as topsoil, slope wash, colluvium, and alluvium in order to establish proper bedding of canyon fills. As this material is removed, the soils engineer observes and verifies that the bedrock or competent soil left in place is suitable for the placement of the compacted fill. See Figure 6 (attached) for an example of a canyon clean out.

Subdrains reduce or minimize the potential for hydrostatic build-up behind or beneath compacted fills. Canyons often contain seepage or subsurface water that must be intercepted and drained by a subdrain connected to a proper outlet. It is essential that subdrains carry anticipated waters. The project soils engineer and geologist shall determine the need for subdrains in the preliminary geotechnical investigation, and adjust those recommendations based on field conditions. Some fills may be constructed safely without subdrains, however most deep canyon fills should have subdrains even if they are dry at the time of inspection, as future irrigation build-up or heavy rain seasons may increase the subsurface infiltration of water.

The canyon clean out and subdrain area are inspected by both the soils engineer and the geologist in order to determine the best locations for subdrains and the best subdrain designs for adequately draining seepage water. Normally the subdrains are placed in a trench located along the lowest part of the excavation where they most readily intercept water percolating down bedding planes or through joints, shears, fractures, faults, or other avenues for subsurface water. These subdrains must be designed to carry anticipated water and to withstand pressures from heavy compaction equipment compacting fill directly above the subdrain. Typically, an 18"-24" layer of well-draining material (gravel) is placed around the subdrain on all sides, followed by fill, in order to prevent damage to the subdrain during compaction and prevent finer material from clogging the perforated subdrain pipe.

It is often very difficult to locate subdrains when covered by backfill, and efforts to relocate subdrains often involve removal of lower portions of fill slopes, which can endanger or reduce the stability or future performance of the slope. Therefore, subdrain outlets must be constructed prior to placement of fills in such a manner that they can be found easily upon completion of fill slopes or canyon fills. The grading inspector shall ensure that the subdrain outlets are properly completed and surveyed for line and grade prior to backfilling.

Future projects may propose constructing additional subdrains and connecting to the originals. Or, it may be necessary at a later date to determine whether the subdrains are still functioning properly and the subdrain must easily locatable. Therefore the location of the subdrain and outlet as constructed in the field shall be shown on the as-built grading plans.

### **SLOPE DRAIN INSPECTION**

All drainage devices must be constructed/installed in accordance with the approved grading plans. The drainage devices must be designed to protect any future structures, as well as protect adjacent properties, roadways, and existing natural drainage courses. Therefore design changes to any device must be reviewed and approved by the RDGE to ensure adequate capacity and functionality. Drainage devices in general are governed by Sections 110.1 and J109.5. In addition, there are more specific code requirements for particular devices. For example, an 8' wide terrace drain, 5' of which must be paved, is required at 30' vertical intervals for all cut and fill slopes per Section J109.2. Where only one terrace is required, it shall be placed at midheight. Slopes with a vertical height of more than 100' and up to 120'

also require a 20' wide bench at the midheight of the slope. In addition, swales are required at the top of all cut slopes with a vertical height of 5' or greater per Section J109.3. The swales must be a minimum of 30" wide and 12" deep. Also, for slopes flatter than 3:1 and steeper than 5:1, a paved swale must be installed at 30' vertical intervals. These swales must be a minimum of 18" wide and 12" deep.

The grading inspector must require the site civil engineer to certify that the line and grade of the slope drain(s) meet the design requirements prior to the actual construction of the slope drain(s). The grading inspector must ensure that the slope drain(s) have proper keys and anchors excavated for reinforcement and paving, and that the reinforcement wire mesh or rebar are properly chaired (lifted off the ground) prior to the placement of concrete, shotcrete, gunite, or other approved paving material. Normally, guide wires are placed in the flow line to provide guidance for the thickness of paving as it is being placed. The grading inspector must require that during the placement of paving the slopes are properly kept clean of rebound (excess) material that frequently spills over the slope. The pavement must be properly treated with a Hunt's Process or equivalent to prevent cracking due to moisture loss. Light watering of the graded terrace or bench prior to paving assists in the retention of moisture during the curing of the pavement. Inspection shall be made during paving to assure that the reinforcement mesh is raised into the paving and not pushed down into the dirt.

# EROSION CONTROL INSPECTION PROCEDURES

## WET WEATHER EROSION CONTROL PLANS

Maintaining a clean job site is a crucial component of all construction projects. It is especially critical during the rainy season, from October 15 to April 15, when storm water can cause sediment-laden flows to spill onto adjacent properties, adjacent roadways, and storm drain systems, and also cause erosion on disturbed slopes. In addition, these debris flows can cause erosion and deposit sediment in natural streambeds and other drainage courses.

Therefore an approved Wet Weather Erosion Control Plans (WWECP) is required *each year* for all active grading permits to prevent erosion and sediment transport. It is the responsibility of the grading inspector to inspect each site to ensure that the approved erosion control devices have been installed properly and will be adequate to prevent erosion and sediment transport. In addition, the inspector may require a WWECP for building permits in which he/she determines that it is needed in order to prevent erosion and sediment transport.

Beginning October 15th of each year, inspectors should be constantly aware of erosion and sediment control during all inspections. Although not all job sites require an approved WWECP, all sites must have measures in place to prevent erosion and sediment transport. While in the office each morning, each inspector shall review his/her inspection schedule and bring the approved WWECP for each applicable job to the field.

The approved WWECP is required to be at the job site at all times, in addition to the "Developer/Contractor Self-Inspection Form", which should be filled out before storm events with a 40% chance of 0.25" or greater of predicted rain and after actual precipitation.

## LOCAL STORM WATER POLLUTION PREVENTION PLANS

In addition to erosion control plans, projects in which the total disturbed area is one acre or greater (for grading and building permits) require an approved Local Storm Water Pollution Prevention Plan (LSWPPP).

The LSWPPP provides Best Management Practices (BMPs) for waste management, materials pollution control, and non-storm water management in addition to erosion and sediment control measures. The LSWPPP must be updated each year to reflect current site conditions, similar to updating a WWECP. Job sites with an LSWPPP are required to have annual NPDES (National Pollutant Discharge Elimination System) inspections in addition to the erosion control inspections after rainstorms. Refer to BCM 106.4.3 Article 3: "NPDES Permit – Plan Check and Inspection Policy" for NPDES inspection requirements.

## INSPECTION PROCEDURES

While at the site, the inspector shall:

### 1. Survey the Area

- a. Identify general topography and site drainage patterns. Sites with large upland areas sloped towards the site may contribute significant amounts of drainage to the site, even without well-established drainage courses. Also identify natural streambeds and check the plans to ensure that measures are proposed to protect these areas.
- b. Check for any low spots which have the potential for ponding and/or damming. Do plans call for any vector control (mosquitoes) or pumping of these areas?
- c. Check for all loose fills, debris, and soil stockpiles that could erode away and become sediment-

laden flows. Where will this water flow? Could it become a potential hazard to off-site properties or roadways? Could it erode downstream drainage courses? All stockpiles must be covered with plastic sheeting and be located outside of flood hazard areas.

- d. How is the water leaving the site? Does it pose a potential hazard based on site conditions or proposed measures?

## **2. Review the Approved WWECP**

- a. Does the plan match the condition of the site?
- b. If the plan does not match, what additional measures will be needed to prevent erosion and sediment transport based on the current conditions in the field? What measures will be needed to protect off-site properties, roadways, and natural drainage courses? Write a Correction Notice requiring revised plans be submitted for plan check. Coordinate with the grading plan checker to ensure that the current site conditions are accurately represented on the WWECP.

*Note: plans are updated each year, but the condition of the site may change drastically from October to April. For example, the plans may show sandbag protection around storm drain inlets which have not yet been constructed, but plan to be constructed at some point during the rainy season. No correction notice would be required in this situation as long as the flows will be temporary conveyed in an approved alternative manner until the storm drain is installed. Conversely, plans may show a paved driveway or road with no check dams, but in the field the road has not yet been paved. In this situation, check dams are needed to prevent erosion and a Correction notice must be written.*

- c. If the plan does match, inspect the site per plan. Does it appear that any measures are not working? Are there any “problem areas” in which additional measures may be needed? Any changes and/or modifications must be submitted for approval as required during construction.
- d. Check the plans for any non-standard notes that may affect the construction progress. For example, if the plans call for street sweeping “when necessary”, check the streets for dirt/mud that may be tracked from the construction site.
- e. Do the plans account for non-storm water related measures? Although sites less than one acre do not require an LSWPPP, measures may still be needed on the site based on current construction activities, such as concrete installation and stockpiling.

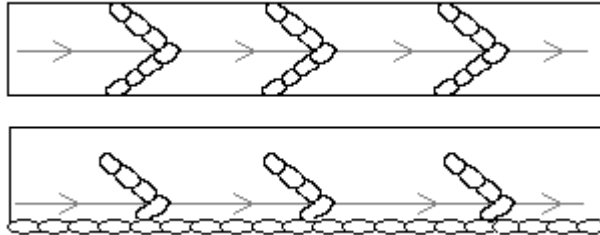
## **3. Inspection of Devices:**

Ceek the following individual erosion and sediment control measures. Measures should meet the standard minimum requirements outlined in the “2003 California Storm Water BMP Handbook – Construction”, or as shown on details on the WWECP.

- a. Stabilized Construction Entrance
  - ✓ Check length, width and depth of gravel/aggregate base and/or corrugated steel panels.
  - ✓ Check that no dirt/mud is being tracked onto roadways; write correction notice requiring street sweeping if necessary.
  - ✓ Check that the stabilized entrance is the actual construction entrance used (vehicles and equipment are not entering and leaving site through a different entrance).
- b. Sandbag Check Dams
  - ✓ Spacing is based on the slope of the unpaved road. Check dams shall have the following spacing:

Slope	Check Dam Interval
Less than 5%	100' on center
5% to 10%	50' on center
Greater than 10%	25' on center

- Height and width (typically specified in number of bags).
- Typical orientation: should be configured to allow water to pond and desilt before flowing over check dams.



- Overflow areas (will not negatively impact adjacent properties, roadways, drainage courses).
- Low flow outlets (generally 4" PVC pipes placed between bags).
- Placement on firm soils with no gaps. Check for erosion underneath check dams.
- Check dams must be provided around all installed storm drain inlets and on all graded unpaved roads.

#### c. Silt Fencing

- Must be trenched and keyed in a minimum of 12" in order to be effective.
- Posts shall be spaced a maximum of 6' apart.
- Fencing shall be set back a minimum of 3' from the toe of the slope whenever feasible.
- Must be installed per manufactures recommendations.
- Must be installed at locations shown on plans.
- Sediment built-up behind fence must be cleanout out periodically.

#### d. Slope Stabilization (must be an approved method specified on plans)

- All slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind or water.
- Most blankets are designed to last one year before biodegradation. Check blankets for deterioration and require new blankets as necessary.
- Hydraulic Mulch*: must be applied 24 hours before a forecasted rain event (to dry), check for adequate slope coverage.
- Hydroseeding*: should be used in conjunction with straw mulch until vegetation is established; check for adequate slope coverage; check for areas that need re-seeding.
- Soil Binders*: must be applied 24 hours before a forecasted rain event (to cure), check for adequate slope coverage; spot failures are common, so check for localized erosion.
- Straw Mulch*: check for adequate slope coverage; check for straw blown off slopes (adjacent roads or drainage courses).
- Plastic Sheetting*: minimum thickness of 6 mil; must be keyed into top of slope; must be securely held in place (sandbags or other weights no more than 10' apart); minimum 12"-24" overlap of all seams; edges embedded minimum 6" into soil; check for gulleying erosion, which will occur if water gets underneath plastic.
- Geotextiles*: must be secured in place with wire staples or sandbags; must be keyed into tops of slopes.

- ‘ *Erosion Control Blankets/Mats*: made of natural materials such as jute, straw, wood fibers, and coconut fibers; must be secured in place with staples or stakes; layers shall be placed vertically downslope; minimum 6” overlap of all seams; must be keyed into top of slope.

e. Desilting Basin

- ‘ Standpipe installed properly.
- ‘ Required fencing (if shown on WVECP) installed properly.
- ‘ Sediment must be cleanout regularly, after each major storm event.
- ‘ The basin must drain within 72 hours of a storm event. Check for ponding and mosquitoes. If the basin does not drain after 72 hours, it must be pumped.
- ‘ Embankment compacted to 95 percent (if applicable).

**4. NPDES Inspection of Non-Storm Water Measures:** listed below is a selection of the critical requirements of the most commonly needed waste management, materials pollution control, and non-stormwater management BMPs. Additional BMPs may be shown on the plans or needed in the field, based on site conditions. For a complete listing of all BMP requirements, refer to the “2003 California Storm Water BMP Handbook – Construction”.

- a. In general, all storage, washout, waste collection, cleaning, fueling and maintenance areas shall be located a minimum of 50’ from storm drain inlets, open drainage facilities, watercourses, and areas prone to flooding or ponding. These areas should also be located away from construction traffic.

b. Concrete Washout

- ‘ Must be sized sufficiently to contain all liquid and concrete waste materials created by washout.
- ‘ Must have “Concrete Washout” sign installed within 30’ of washout.
- ‘ *Above ground washouts*: must be lined with min 10 mil plastic sheeting; must be bermed with straw bales, sandbags or equivalent that are staked into ground; suggested minimum size of 10’x10’.
- ‘ *Below ground washouts*: must be lined with min 10 mil plastic sheeting; must be lathed and flagged on all sides; suggested minimum size of 10’x10’.

c. Stockpiles

- ‘ Must be covered with plastic sheeting or otherwise protected from wind erosion.
- ‘ Perimeter must be lined with sandbags, gravel bags or equivalent to keep plastic in place and prevent storm water runoff.

d. Vehicle and Equipment Cleaning, Fueling and Maintenance (*only for onsite cleaning, fueling and maintenance*)

- ‘ Onsite cleaning, fueling and maintenance should be minimized as much as possible. Vehicles/equipment that regularly enter and exit the site cannot be cleaned/fueled/maintained onsite.
- ‘ Cleaning shall only occur if the resulting waters are fully contained and disposed of. Waters may not be discharged or buried onsite.
- ‘ Cleaning areas must be paved and bermed, and configured with a sump to collect wash water.
- ‘ Drip pans or absorbent pads shall be used during vehicle/equipment fueling.
- ‘ Absorbent spill cleanup materials and spill kits must be readily available onsite and used in all fuel spills. Absorbent materials must be disposed of properly; spill may not be washed into the drainage system.



e. Waste Management

- ‘ All waste shall be collected regularly and disposed of at authorized disposal sites.
- ‘ Solid waste shall be collected and placed in covered, watertight receptacles, which should be covered from wind and rain during the rainy season.
- ‘ Hazardous waste shall not be collected with construction debris; it shall be stored in covered containers. It shall not be allowed to contaminate soil and surface water.
- ‘ Hazardous liquid waste shall be kept in appropriate storage containers in accordance with their listing (closed drums, for example) and protected from the weather.
- ‘ Paint brushes, paint containers, etc. shall not be rinsed into the dirt, street, gutter, storm drain or stream.
- ‘ Liquid waste shall not be discharged into storm drains or drainage courses; they shall be contained in a controlled area (holding pit, sediment basin, portable tanks, etc.) and properly disposed of (typically dewatering and disposal of resulting solids).

**5. All Removable Protective Devices Shall Be in Place at the End of Each Working Day or on Weekends When the Five-Day Rain Probability Forecast Exceeds 40%.**

If it is unreasonable to have sandbags in place during construction work (typically along unpaved roads), sandbags can be stockpiled onsite during fair weather.

**6. Inspect the Site During and After a Rainstorm Event**

- a. This is the time to make sure that the erosion control plan is working. Check for blow-outs on sandbag check dams and silt fencing; check that no dirt is tracked onto adjacent roads; check slope stabilization has worked to prevent gulley erosion along slope faces; and check that all BMPs onsite are fully functional and not destroyed or damaged.
- b. All silt and debris shall be removed and be disposed of properly from all devices within 24 hours after each rainstorm.
- c. If erosion control devices fail:
  - ‘ Call 24-hour emergency phone number shown on the WVECP.
  - ‘ Immediately issue a Stop Work or Correction Notice, depending on the severity of the failure.
  - ‘ Send a copy of the notice to Engineer.
  - ‘ Coordinate with the RDGE or District Office Manager as needed for major failures.
  - ‘ Hold all further inspections until the problem is resolved.



LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION

## PRE-GRADING MEETING CHECKLIST

*This checklist is to be completed by the plan checker upon grading plan approval to identify all special and unusual conditions associated with the project, including flood hazards, geotechnical concerns, and agency approvals and conditions. Review this checklist along with the grading plans and grading folder prior to the pre-grading meeting.*

*Bring the approved grading plans to the pre-grading meeting and review this document and the plans during the meeting. Provide a copy of the "Contractor's Guide to Grading in Los Angeles County", along with copies of the "Engineered Grading Consultant Statement" and "Engineered Grading Contractor Statement" forms to the Permittee. All present shall sign in on the Attendance form. The Permittee shall sign the statement at the end of this form. Collect business cards if necessary.*

SITE ADDRESS: \_\_\_\_\_

GR: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTOR: \_\_\_\_\_

### Grading Permit - Policy and Procedures

- 9 Approved grading plans must be onsite at all times.
- 9 Refer to *Contractor's Guide to Grading* and discuss the following:
  - 9 Working Hours
  - 9 Right of Entry
  - 9 Expiration of grading permit
  - 9 Inspection Request Policy
  - 9 Responsibilities of consultants, including: Field Engineer, Soils Engineer, and Geologist (if applicable)
- 9 Start Date: \_\_\_\_\_
- 9 Milestone grading dates: \_\_\_\_\_
- 9 Estimated Rough Grade date: \_\_\_\_\_
- 9 Estimated Final Grading date: \_\_\_\_\_
- 9 Discuss anticipated staging/phasing of grading operations
- 9 *Abandoned jobsites:*
  - 9 Where the inspector determines a hazard exists, the permit will be expired and the bond may be used by the County to remedy the site.
  - 9 Where the inspector determines no hazard exists, the bond will be held (but not used) and the permit may be expired.
- 9 *Change/termination of consultants* requires updated Documents A & B, as well as a letter from the new consultant indicating that he/she accepts all responsibility for the project as the engineer of record.

### **Called/Required Grading Inspections:**

- 9 Refer to *Contractor's Guide for Grading* for descriptions of each inspection:
  - 9 Initial (brushing, bottom of excavations/keys)
  - 9 Subdrains
  - 9 Drainage Devices
  - 9 In-grading inspections by Field Engineer (Report of Grading Activities)
  - 9 In-grading inspections by soils engineer
  - 9 Revisions for changes from approved grading plans
  - 9 Rough grade

- 9 Final grade

### **Drainage devices, storm drains and lot drainage**

- 9 Privately maintained drainage devices are inspected by the Grading Inspector or the Field Engineer, either as a separate inspection, during rough grade inspection, or during final grade inspection (dependant upon the device).
- 9 Publicly maintained storm drains, connections to a Los Angeles County Flood Control District (LACFCD) drain, and work within LACFCD easements are inspected by a Construction Division Inspector.
- 9 Building pads shall have a minimum slope of 2% for rough grade approval. For final grade, 2% slope away from the structure and 1% slope around the structure are required.
- 9 All drainage devices and graded swales will be flow tested prior to approval.

### **Geology and Soils**

- 9 Copies of the approved soils and geology reports must be onsite at all times.
- 9 Submit in-grading reports to:
  - 9 Geotechnical and Materials Engineering Division and District Office
  - 9 Directly to Grading inspector
- 9 Review the plans to discuss scheduling and construction of the following, as applicable:
  - 9 Landslide removal/remediation
  - 9 Alluvial/over excavation removals
  - 9 Benching
- 9 Specialized fills and retaining structures, including buttress fills, stabilization fills, shear keys, and geogrid walls require continuous inspection by the soils engineer.
- 9 Locations of all oversized material in fill or stockpiled on site must match the location shown on the plans.
- 9 Utility trenches: *Materials from trench excavations may not be dumped over slopes.* Utility trenches must be properly compacted; compaction reports must be available upon request.

### **Import/Export, Brush/Tree, and Rock Removal**

- 9 Demolition permits must be obtained prior to start of construction.
- 9 The borrow/receiving site of all exported fill must have an appropriate grading permit to receive such fill.
  - 9 The export site must match the location shown on the plans and the Recycling and Reuse Plan from Environmental Programs Division.
  - 9 Dump tickets must be made available upon request.
  - 9 If the Recycling and Reuse plan calls for a balanced site and export is needed based on field conditions, a revised Recycling and Reuse plan will be required.
- 9 Brush removal: material must be disposed of properly and *may not be mixed in with proposed fill material.* Onsite disposal areas must be clearly shown on the plan and approved by the inspector. If the material will be disposed of offsite, dump tickets must be made available upon request.

### **NPDES Compliance**

- 9 The *EROSION CONTROL SEASON* (rainy season) is October 15-April 15 of each year.
  - 9 During this time, the approved Erosion Control Plans must be onsite at all times.
  - 9 Measures must be in place by October 15.
    - 9 A "Stop Work Notice" will be issued if measures are not in place.
    - 9 BMPs must be designed to protect adjacent property, road rights-of-way, storm drains, and drainage courses from sediment transport.
    - 9 For unpaved roads, sandbags for check dams may be stockpiled onsite, but must be in place within 48 hours of storm events with a 40% chance of 0.25" or greater of predicted precipitation.
  - 9 *Developer/Contractor Self-Inspection Form* must be onsite at all times. BMPs must be inspected routinely and before and after major storm events, and repaired as needed.
  - 9 The plans must reflect the *actual site conditions* as of October 1 of each year, and be updated as site conditions change.
  - 9 Significant changes on site condition warrant revised Erosion Control plan submittal.
- 9 If the site is over 1 acre, the Local SWPPP must be onsite at all times, and measures must be in place year-round, including:

- 9 Proper waste management (liquid, solid, hazardous, septic waste and contaminated soil)
  - 9 Stabilized construction entrance.
  - 9 Vehicle/Equipment cleaning, fueling, and maintenance.
  - 9 Temporary clear water diversion for natural streams (may require Fish & Game approval).
  - 9 Dewatering of non-stormwater flows.
- 9 A Standard Urban Stormwater Mitigation Plan (SUSMP) is required. All treatment devices must be installed and “No Dumping – Drains to Ocean” stencil must be on all drain inlets prior to final grading inspection.

### **Request Survey Stakes for the following:**

- 9 Property lines:
  - 9 Temporary staking at ROUGH
  - 9 Permanent marking at FINAL
- 9 Restricted Use Areas and Building Restriction Areas
- 9 Road Right-of-Way
- 9 Easements
- 9 Pad elevations:
  - 9 ROUGH Bblue top located at center of pad
  - 9 FINAL
- 9 Drainage: slopes, high points, flow lines, top of grates

### **Planting and Irrigation**

- 9 If Planting and Irrigation plans (Section J110 – Slope Planting) are required:
  - 9 Review approved plans.
  - 9 Planting and irrigation systems must be installed as soon as practical after rough grading.
  - 9 Sprinkler heads will be tested to ensure adequate slope coverage.
  - 9 *Final grading will not be approved and the grading bond will not be released until the slope planting is well established.*
- 9 If Landscape Plans (Chapter 71 – Water Efficient Landscaping) are required:
  - 9 The plans must be submitted to Land Development Division and approved prior to Rough grade approval.
  - 9 *Final grading will not be approved and the grading bond will not be released until the planting is well established.*

### **Special Conditions**

- 9 Retaining walls are required for this project. Building permit(s) must be obtained prior to construction of any retaining wall. Temporary excavations must comply with soils engineer’s recommendations and Cal/OSHA requirements.
- 9 An Elevation Certificate is required:
  - 9 All construction at or below elevation \_\_\_\_\_ is subject to flooding and must be flood-proofed. This includes all structures and mechanical equipment.
  - 9 The Elevation Certificate must be approved by the plan checker prior to framing.
- 9 *Offsite work:* Offsite covenants exist for this site. All work shown on adjacent offsite property must match the approved plans and recorded offsite covenants in the grading file. Revisions to work offsite must be reviewed by the grading plan checker.
- 9 *Private/utility easements:* This project has work proposed within private/utility/access easements. All work shown within easements must match the approved plans. Changes in these areas may not comply with the intended use of the easement and must be reviewed by the grading plan checker.
- 9 This project includes removal of hazardous material and/or contaminated soil.
  - 9 Review the *Health and Safety Plan* for this project. All construction work must conform to the included Health and Safety Plan. The requirements of the plan are intended to protect the health and safety of construction workers and the general public.
  - 9 Hazardous material must be exported to a proper waste disposal site. Dump tickets must be provided

upon request to verify quantity and location of exported material.

- 9 **Capping of oil wells:** Inspections are performed by the State Division of Oil and Gas. Upon completion, the State will issue a letter of approval to the oil company and permittee. This approval must be submitted to the inspector prior to rough grade approval.

- 9 CUP/Plot Plan/Tract Map/Parcel Map:

- 9 **Invite Regional Planning representative to pre-grading meeting.**

- 9 Review Exhibit "A" and CUP conditions, Tract/Parcel Map and conditions, or Plot Plan.

- 9 Grading-related conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 Oak Tree Permit:

- 9 **Invite LA Co. Fire Dept. Forestry Div. representative to pre-grading meeting.**

- 9 Review plans and discuss proposed encroachments and removals.

- 9 Protected trees must be identified and fenced around the protected zone (5' outside canopy)

- 9 Encroachments/removals not covered under the Oak Tree Permit will require revised approval from Regional Planning.

- 9 Special conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 This project is located in a contract city:

- 9 Conditions of city approval: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 This project is located in the Coastal Zone:

- 9 **Invite Coastal Commission representative to pre-grading meeting.**

- 9 Conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 Fish and Game approval:

- 9 **Invite Fish and Game representative to pre-grading meeting.**

- 9 Time Restrictions: \_\_\_\_\_

- 9 Special conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 Army Corps of Engineers approval:

- 9 **Invite Army Corps of Engineers representative to pre-grading meeting.**

- 9 Time Restrictions \_\_\_\_\_

- 9 Special Conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 Los Angeles County Fire Department:

- 9 **Invite Fire Department representative to pre-grading meeting.**

- 9 The access driveway/road must comply with the Fire Dept approved access plan. Changes in slope, width, turning radius, or turnaround will require a revised approval from the Fire Dept.

- 9 This site is located in a Very High Fire Hazard Severity Zone (VHFHSZ). A permit from the Fire Department is required for grading work in a VHFHSZ. The permit outlines the required precautions

necessary during construction (such as spark arresters on grading equipment).

9 Construction Division approval:

9 ***Invite Construction Div. representative to pre-grading meeting.***

9 Allows for: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9 CALTRANS approval:

9 ***Invite CALTRANS representative to pre-grading meeting.***

9 Special Conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9 Other special conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Special Construction Problems/Considerations

9 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
9 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
9 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## "QUESTIONS AND ANSWERS"

As the Contractor/Permittee of record, I have attended the Pre-Grading Meeting and I have received a copy of the "Contractor's Guide to Grading in Los Angeles County". I understand the approved plans must be kept on the job site at all times and all work performed shall at the site shall comply with all County codes, ordinances, and the procedures provided in the "Contractor's Guide".

\_\_\_\_\_  
Permittee signature

\_\_\_\_\_  
Date



LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION

## PRE-GRADING MEETING ATTENDANCE LOG

NAME

PHONE NUMBER

Grading Inspector  
Grading Plan Checker  
Drainage Plan Checker

Owner/Developer  
Grading Superintendent  
Grading Contractor  
Field Engineer  
24-Hour Contact

Soils Engineer  
Engineering Geologist  
Field Technician

Construction Inspector  
City Representative

Utility Representative  
Adjacent Property Owner  
Easement Representative

Forestry  
Fish & Game  
Other



LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION

## CONTRACTOR'S GUIDE TO GRADING IN LOS ANGELES COUNTY

***The approved grading plans must be onsite at all times.***

**Inspection Request Policy:** Call the local Building and Safety District Office at least 24 hours in advance to request an inspection. See "REQUIRED GRADING INSPECTIONS" on the following page. Include job address, type of inspection, requested date of inspection, contact name and telephone number.

Inspectors are available for phone calls and counter appointments between 8 and 9 am each day. You may call or come into the office at that time with general questions or to determine an approximate inspection time.

**Expiration of Permit:** Grading permits shall expire if work is not started within 180 days of permit issuance. Additionally, permits shall expire if the work is suspended or abandoned for a period of 180 days. *In order to prevent expiration of the grading permit, an inspection must take place at a minimum of once every 180 days (6 months).*

**Working Hours:** 6:30 am to 8 pm Monday through Saturday. Primary enforcement will be by the Sheriff. Please note that other agencies may require more restrictive working hours.

**Right of Entry:** The inspector shall have access to the site for the purpose of inspecting the work (J103.7.7). Anyone who interferes with the right of entry may be considered guilty of a misdemeanor.

### RESPONSIBILITIES OF CONSULTANTS

**Permittee:** The permittee must supervise the construction to ensure the work is being performed according to the approved plans. He/she must notify the consultants when a professional inspection is required. See "REQUIRED GRADING INSPECTIONS" on the following page. The permittee also acts as the coordinator between the consultants, the contractor and the local Building and Safety office (including the inspector and the plan checker). He/she must notify the inspector of any changes to the plan and coordinate the approval of those changes with the consultants. **In the event there is a change of Contractor of Record, Field Engineer, Design Engineer, Soils Engineer, Engineering Geologist, or Bonding Agency, the permittee shall notify the Building and Safety District Office and submit updated and completed Employment of Consultant forms.**

Each consulting engineer shall provide professional inspection within such engineer's area of technical specialty. The specific inspections required are outlined below.

**Field Engineer:** Routine field inspections and reports certifying the grading work is in compliance with the approved grading plans and all applicable ordinances and requirements. See *In-Grading Inspections* on the following page for specific instructions. If revised plans are required during the course of the work, they must be prepared by the design engineer.

**Soils Engineer:** Observation during grading and testing for required compaction. Specifically, the soils engineer must be present during preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the approved plans. Revised recommendations during construction must be submitted to the permittee, the civil engineer, and the inspector or plan checker as needed.

**Engineering Geologist:** Inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations during construction must be submitted to the soils engineer.



## REQUIRED GRADING INSPECTIONS

**Initial:** When the site has been cleared of vegetation and unapproved fill and it has been scarified, benched or otherwise prepared for fill. *No fill shall have been placed prior to this inspection.* Measures (sandbags, slope protection, etc.) must be in place during the rainy season to prevent erosion on brushed areas.

**Subdrains:** Where required for fill slopes, subdrain inspection is required when the subdrain and outlet have been constructed and surveyed for line and grade, *prior to placement of backfill.*

**Drainage Devices:** For devices with reinforced concrete (swales, terrace drains, etc.), a rebar inspection is required prior to placement of concrete. Other drainage devices will be inspected for installation and function at Rough Grade inspection.

### ***In-Grading Inspections:***

- **Field Engineer:** Per LACBC Section J105, unless otherwise directed by the Building Official, the Field Engineer must prepare and submit routine inspection reports with the Building Official as follows:
  1. Bi-weekly during all times when grading of 400 cubic yards or more per week is occurring on the site;
  2. Monthly, at all other times; and
  3. At any time when requested in writing by the Building Official.

These reports will certify to the Building Official that the Field Engineer has inspected the grading site and related activities and has found them in compliance with the approved grading plans and specifications, the building code, all grading permit conditions, and all other applicable ordinances and requirements. The reports must conform to the standard "Report of Grading Activities" form, which is included in this package or may be obtained by visiting <http://dpw.lacounty.gov/bsd/dg/default.aspx>. Failure to submit the required reports may result in a Stop-Work Notice to be issued by the Building Official.

- **Soils Engineer:** Per LACBC Section J105, the soils engineer or field technician shall provide professional inspection including observation during grading and testing for required compaction. The technician must provide inspections during the preparation of the natural ground and the placement and compaction of the fill and verify the work is being done in accordance with the approved plans. In addition, a representative shall be onsite for the *entire* fill placement and compaction for all fill slopes 30' high/deep and over, or for slopes with grades steeper than 2:1. The soil must be tested to determine the density and verify compliance of the soil properties with the design requirements, including soil type and shear strength. In-progress reports (typically monthly reports) must be submitted for review. Failure to submit the required reports may result in a Stop-Work Notice to be issued by the Building Official.

Submit in-progress reports:

- ☐ Directly to your inspector for review.
- ☐ To Geotechnical & Materials Engineering Division and the District Office for review.

**Revisions:** The inspector must be notified of all plan revisions. Contact the inspector through his/her voicemail or the Inspection Request Line to inform him/her of the proposed revision. When a substantial design change is proposed, the inspector may request the grading plan checker to review and approve the revision. It is the responsibility of the Permittee to process the revision with the plan checker. Additional plan check fees may be incurred for this review time.

Two weeks prior to the final grading inspection, and "As-Built" plan must be submitted to the inspector. The As-Built must incorporate all minor field changes (approved by the inspector in the field) and major plan revisions (approved by the plan checker). Failure to obtain approvals for plan revisions and failure to submit As-Built plan may result in delays in obtaining grading approval, Certificate of Occupancy, and release of grading bond.

**Rough:** When approximate final elevations have been established. All drainage devices necessary for the protection of the building site from flooding must be installed and functional. The building pad must drain properly, and berms must be installed at the top of all fill slopes. In addition, the Engineered Grading Consultant Statement and Contractor Statement for rough grading must be submitted. *Original documents are required. Copies and*

*faxes will not be accepted.* Several other agency approvals may be required prior to rough grade approval, including: Geotechnical & Materials Engineering Division approval, Construction Division approval of street and storm drain improvements, and Land Development Division approval of Landscape & Irrigation plans.

**Final:** When grading has been completed, all drainage devices necessary to drain the building pad are installed, slope planting is established and irrigation systems are installed. If applicable, all treatment devices must be installed and stenciled with “No Dumping – Drains to Ocean” stencil” for SUSMP compliance. The Engineered Grading Consultant Statement and Contractor Statement for final grading must be submitted. *Original documents are required. Copies and faxes will not be accepted.* If required, all encroachment and connection permits must have final sign off from Construction Division. The Certificate of Occupancy for the structure will not be issued and the grading bond (if required) will not be released until Final Grading is approved.

## OTHER CONSIDERATIONS DURING GRADING

**Erosion Control:** During the rainy season of October 15 to April 15, measures must be taken to ensure a clean construction site. Best Management Practices (BMPs) must be in place in accordance with the approved Erosion Control plan. Failure to comply will result in a “Stop Work Notice”. The *Developer/Contractor Self-Inspection Form* must be onsite at all times. BMPs must be inspected routinely and before and after major storms events, and repaired as needed. BMPs must be installed to protect adjacent property, road right-of-ways, storm drains, and water courses from sediment transport. The Erosion Control Plan must be updated as needed during construction to reflect current site conditions.

In addition, if the site is over 1 acre, a Local Storm Water Pollution Prevention Plan is required. Year-round measures for waste management must be in place at all times at the site. This includes proper waste management, stabilized construction entrance, materials pollution control, and other non-stormwater measures such as dewatering.

**Elevation Certificates:** If required, the elevation certificate must be completed by a Licensed Land Surveyor, Civil Engineer, or Architect authorized by law to certify elevation information.

In general, for slab-on-grade construction in which the top of slab elevation must be above the base flood elevation, the elevation certificate must be submitted and approved by the plan checker prior to framing. This may vary depending on the building diagram. Contact the surveyor of record or the plan checker for more site-specific instructions.

**Hazards:** The inspector may issue a written “Stop Work Order” at any stage of construction if he/she determines that the approved grading is likely to endanger any public or private property. The inspector will allow the work to continue once he/she feels adequate safety precautions or corrective measures have been taken.



COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS - BUILDING & SAFETY DIVISION

**REPORT OF GRADING ACTIVITIES**

Period Covered by this report: From: \_\_\_\_\_ To: \_\_\_\_\_

Date: \_\_\_\_\_ Grading Permit Number: GR

Project Name: \_\_\_\_\_

Project Address/Location: \_\_\_\_\_

Field Engineer: \_\_\_\_\_ Phone Number: \_\_\_\_\_

1. Is the work in compliance with the approved grading plans and County permit requirements? ☐ Yes ☐ No  
If no, please explain all nonconformities and proposals for corrective measures. Attach separate sheet if necessary: \_\_\_\_\_

2. Are appropriate BMPs in place? (Including any slope not worked on within the last 15 days) ☐ Yes ☐ No  
If no, please describe all deficiencies and mitigation measures. Attach separate sheet if necessary: \_\_\_\_\_

3. Did you observe any discharge of silt/sediment in storm water leaving the site or entering a water body? ☐ Yes ☐ No  
If yes, please explain circumstances and corrective measures. Attach separate sheet if necessary: \_\_\_\_\_

4. Is the site's Local Storm Water Pollution Prevention Plan current? ☐ Yes ☐ No  
If no, please explain deficiencies. Attach separate sheet if necessary: \_\_\_\_\_

5. Did you observe any problems or have knowledge of any complaints about the site? ☐ Yes ☐ No  
If yes, please explain. Attach separate sheet if necessary: \_\_\_\_\_

6. Describe the quantity of earthwork that has occurred and is remaining:

This Reporting Period: Cut \_\_\_\_\_ C.Y. Fill \_\_\_\_\_ C.Y.

Earthwork Remaining: Cut \_\_\_\_\_ C.Y. Fill \_\_\_\_\_ C.Y.

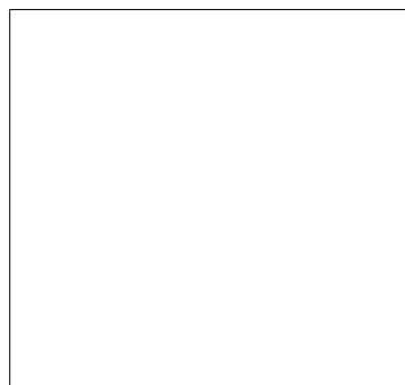
☐ "I certify the information indicated above is accurate and the work is in conformance with the approved grading plans."

☐ "The work is not in conformance with the approved grading plans as indicated above. The permittee has been notified and given a copy of this report."

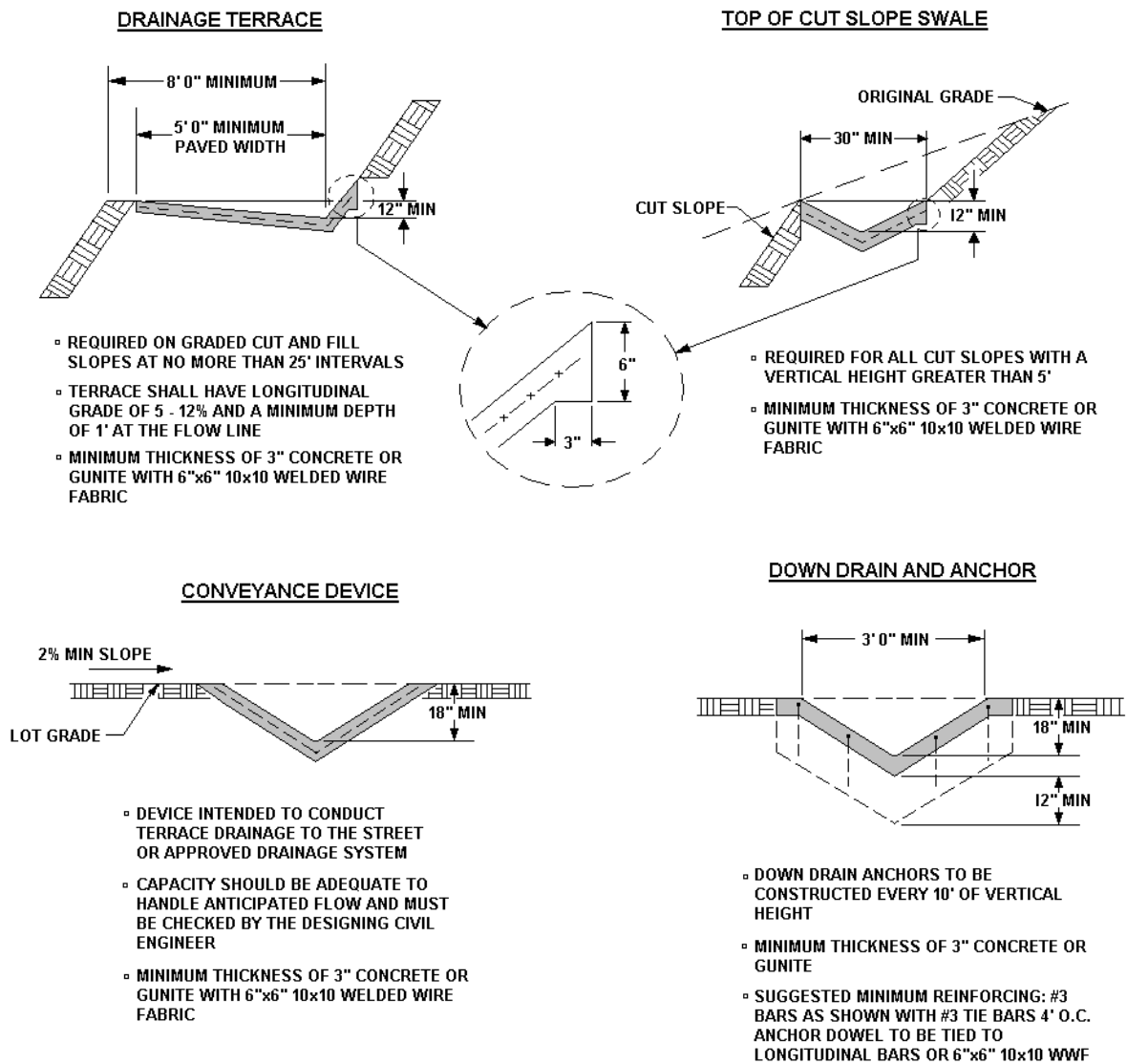
Print Name: \_\_\_\_\_  
Field Engineer

Sign Name: \_\_\_\_\_

Please upload this completed form, stamped and signed, at the following website:  
<http://dpw.lacounty.gov/bsd/dg/default.aspx> or fax to (310) 530-5482. Also, provide a copy to the contractor and permittee for their records.



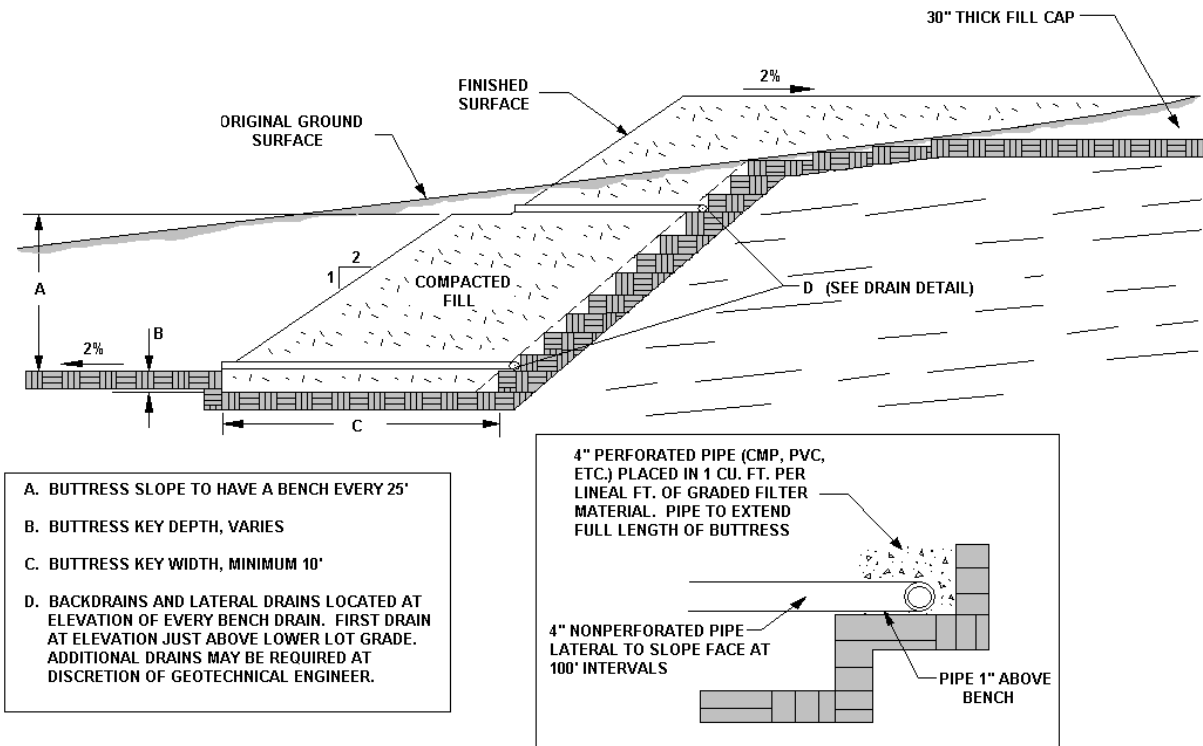
Stamp of Field Engineer



**NOTE:** Grading inspection during installation is required for all devices. Must pre-wet graded swale prior to paving. Paved drains must be cured with a moisture loss retarder.

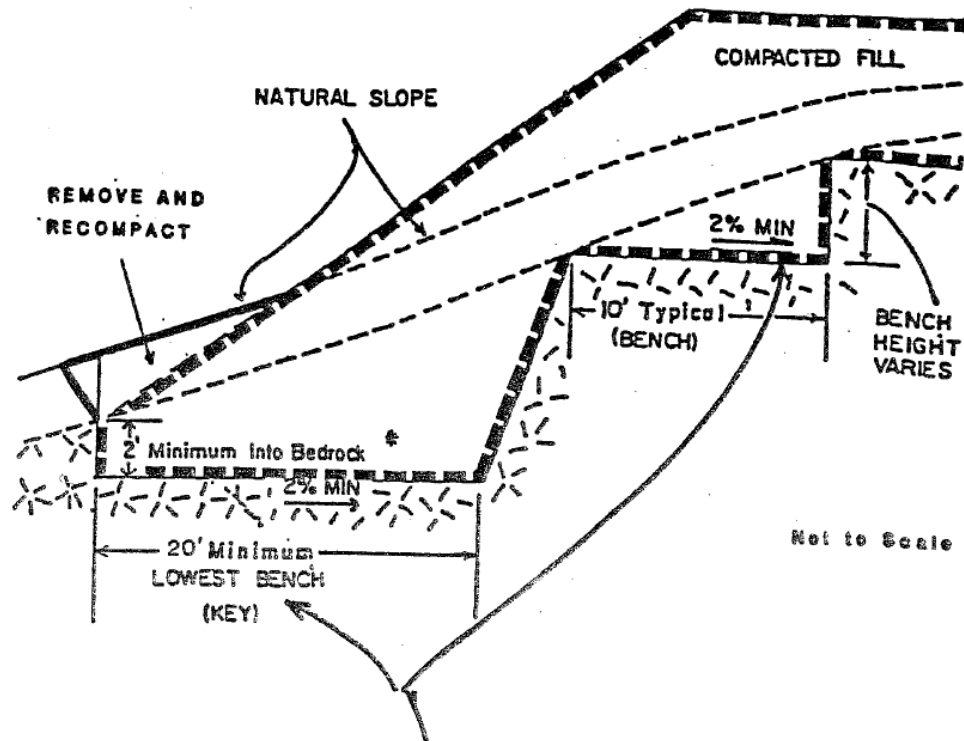
**Figure 1**

## Typical Drainage Device Details



**Figure 2**  
**Buttress Fill Detail**

# KEYING AND BENCHING OF FILL ON NATURAL SLOPE



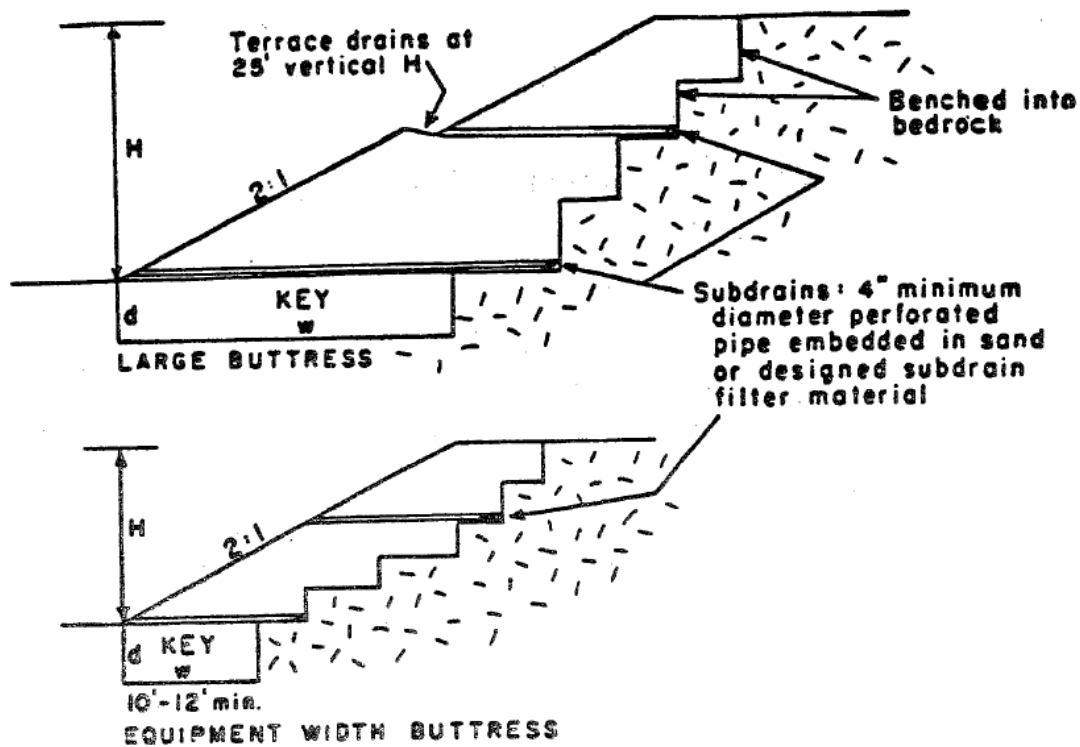
\* KEY OR BENCH INTO BEDROCK AS DETERMINED BY ENGINEERING GEOLOGIST OR INTO FIRM SURFICIAL MATERIAL, ALLUVIUM, OR SLIDE DEBRIS AS DETERMINED BY THE SOILS ENGINEER.

Note: Where natural slope gradient is 6:1 or less, benching is not necessary unless stripping did not remove all compressible material.

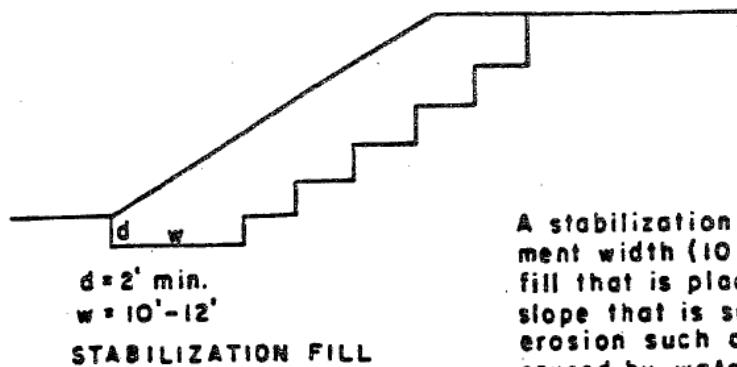
LOS ANGELES COUNTY		
DEPARTMENT OF PUBLIC WORKS		
Materials Engineering Division		
GEOLOGY & SOILS INVESTIGATIONS SECTION		
Date:	Scale:	Prepared by:

Figure 3

## Keying and Benching of Fill on Natural Slopes



A buttress fill is an engineered support structure design with parameters based upon a slope stability analysis. The key width (w) and depth (d), the buttress height (H) and mass are designed by the soil engineer to support a slope that has a potential for failure. Subdrains are necessary and the filter material should be designed by the soil engineer.



A stabilization fill is an equipment width (10 to 12 feet) compacted fill that is placed against a natural slope that is subject to excessive erosion such as gullying or rilling caused by water or wind.

Figure 4

### Buttress and Stabilization Fills

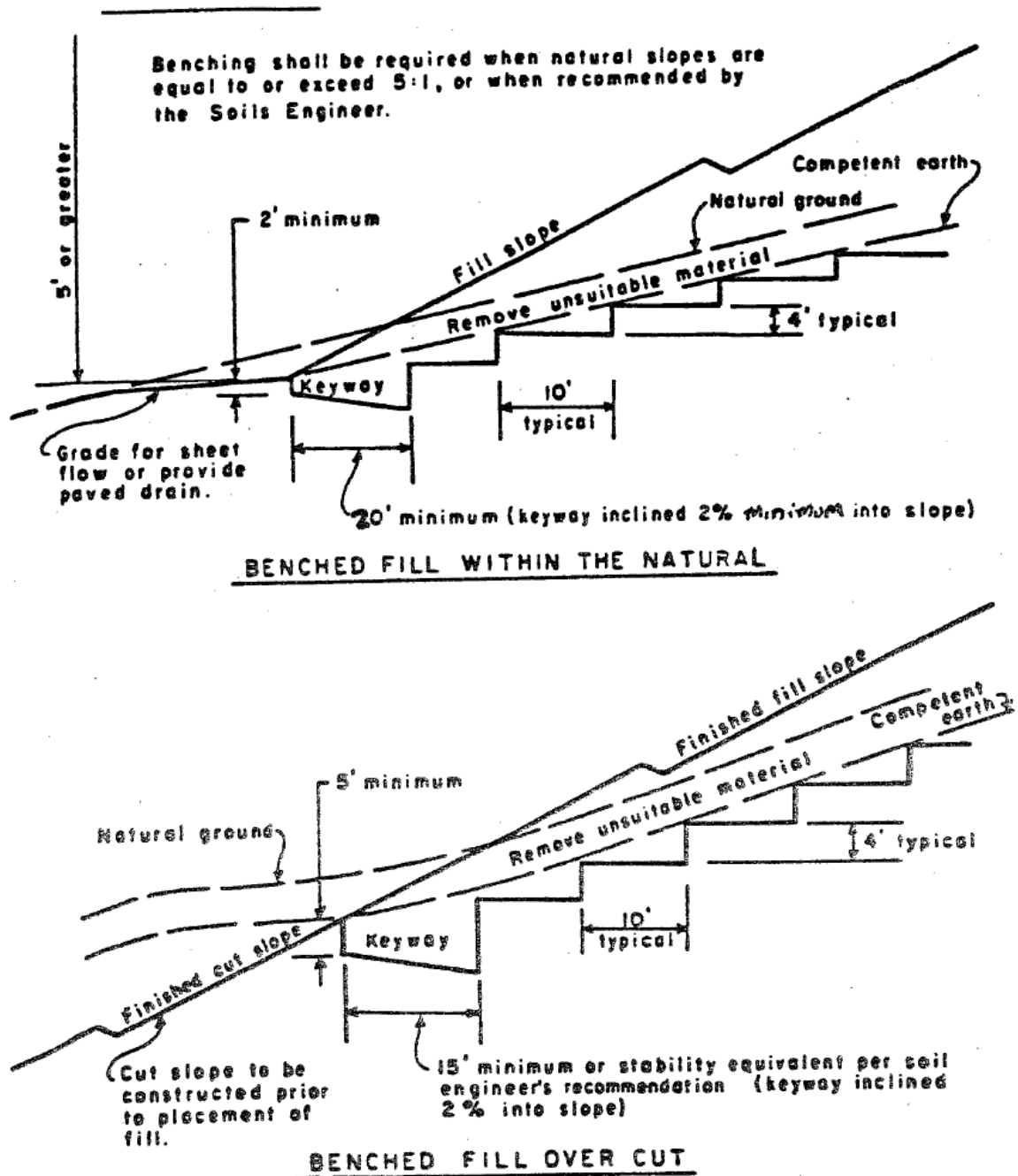
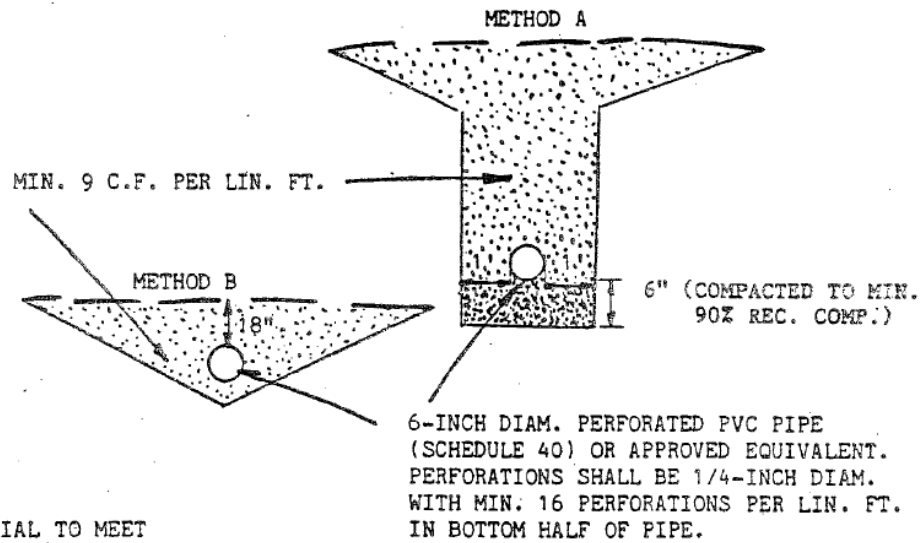
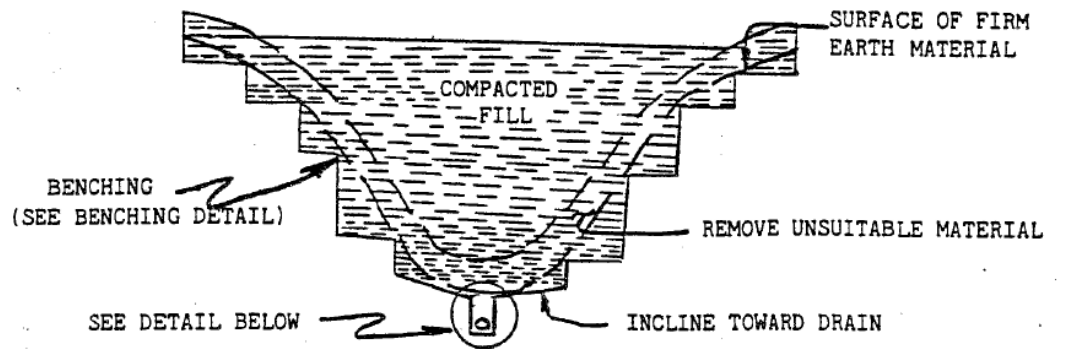


Figure 5

### Fill over Cut Slopes





FILTER MATERIAL TO MEET  
FOLLOWING SPECIFICATIONS OR  
APPROVED EQUAL

SIEVE SIZE	% PASSING
3/4"	100
3/8"	80-100
No. 4	60- 85
No. 8	45- 70
No. 16	30- 55
No. 30	15- 40
No. 50	5- 20
No. 100	0- 10
No. 200	0- 5

NOTE: FOR CONTINUOUS RUN IN EXCESS  
OF 500 FT., USE 8-INCH  
DIAM. PIPE

<b>LOS ANGELES COUNTY</b> <b>DEPARTMENT OF PUBLIC WORKS</b> <b>Materials Engineering Division</b> <b>GEOLOGY &amp; SOILS INVESTIGATIONS SECTION</b>		
Date:	Scale:	Prepared by:

Figure 6

### Typical Subdrain Details



COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY / LAND DEVELOPMENT DIVISION

**ENGINEERED GRADING CONSULTANT CERTIFICATION**  
(Submit to the local office of Building and Safety prior to Rough and Final Inspection)

Job Address / Tract: \_\_\_\_\_ City: \_\_\_\_\_ Permit No.: \_\_\_\_\_  
Owner: \_\_\_\_\_ Contractor: \_\_\_\_\_

**ROUGH GRADING - COMPLETION OF WORK**

☐ **BY FIELD ENGINEER**

Based upon field observations, rough grading of the lot(s) listed below has been completed in conformance with Section J105 of the Los Angeles County Building Code. The work includes, but is not limited to, the following: grading to approximate final elevations; staking of property lines; location and gradient of cut and fill slopes; construction of required drainage devices. Building pads are free from flood hazard in conformance with Section 110 of the Los Angeles County Building Code.

Latest approved plan revision dated: \_\_\_\_\_

Lot No.(s): \_\_\_\_\_

Other Areas: \_\_\_\_\_

Remarks: \_\_\_\_\_

\_\_\_\_\_

Engineer: \_\_\_\_\_ Reg. No.: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

☐ **BY SOILS ENGINEER**

Based upon tests and observations, the earth fills placed on the following lots were installed upon properly prepared base material and compacted in compliance with requirements of Section J105 of the Los Angeles County Building Code. Fill slope surfaces have been compacted and buttress fills or similar stabilization measures have been installed in accordance with my recommendations as approved by the Building Official. Sub-drains have been provided where required, and locations of said sub-drains are shown on as-built plans and/or rough grade reports dated \_\_\_\_\_.

See report dated \_\_\_\_\_ for compaction test data and procedure, recommended allowable soil bearing values, and other special recommendations.

Lot No.(s): \_\_\_\_\_

EXPANSIVE SOILS (YES) (NO) LOT No.(s): \_\_\_\_\_

BUTTRESS FILLS (YES) (NO) LOT No.(s): \_\_\_\_\_

REINFORCED EARTH WALLS (YES) (NO) LOT No.(s): \_\_\_\_\_

RESTRICTED USE AREAS (YES) (NO) LOT No.(s): \_\_\_\_\_

Remarks: \_\_\_\_\_

\_\_\_\_\_

Engineer: \_\_\_\_\_ Reg. No.: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)



COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY / LAND DEVELOPMENT DIVISION

**ENGINEERED GRADING CONSULTANT CERTIFICATION**  
(Submit to the local office of Building and Safety prior to Rough and Final Inspection)

Job Address / Tract: \_\_\_\_\_ City: \_\_\_\_\_ Permit No.: \_\_\_\_\_  
Owner: \_\_\_\_\_ Contractor: \_\_\_\_\_

**FINAL GRADING - COMPLETION OF WORK**

☐ **BY FIELD ENGINEER**

Based upon field observation, earthwork subsequent to Rough Grade inspection has been completed within the area of my responsibility as defined in Section J105 of the Los Angeles County Building Code in conformance with the final approved grading plan. This includes, but is not limited to, the establishment of line, grade, surface drainage, and all drainage devices necessary to drain the building pad.

Latest approved plan revision dated: \_\_\_\_\_

Lot No.(s): \_\_\_\_\_

Other Areas: \_\_\_\_\_

Remarks: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Engineer: \_\_\_\_\_ Reg. No.: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

☐ **BY SOILS ENGINEER**

Based upon field observations and testing, the earthwork performed subsequent to Rough Grade inspection has been completed in accordance with Section J105 of the Los Angeles County Building Code and the recommendations of the approved soils reports on file with the Building Official.

See final compaction reports dated \_\_\_\_\_ for areas requiring specific compaction and completed after Rough Grade approval.

Lot No.(s): \_\_\_\_\_

Remarks: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Engineer: \_\_\_\_\_ Reg. No.: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

**PLANTING AND IRRIGATION STATEMENT**

☐ **BY LANDSCAPE ARCHITECT OR FIELD ENGINEER**

The slope planting has been established to prevent erosion and the irrigation system(s) has been installed in conformance with the approved plans and applicable provisions and meets the requirements of section J110 of the Los Angeles County Building Code.

Lot No.(s): \_\_\_\_\_

Remarks: \_\_\_\_\_

Landscape Architect  
or Field Engineer: \_\_\_\_\_ Reg. No.: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

Inspectors Comments/Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY / LAND DEVELOPMENT DIVISION

**ENGINEERED / REGULAR GRADING  
CONTRACTOR CERTIFICATION**

(Submit to the local office of Building and Safety prior to Rough and Final Inspection)

Grading Permit No.: \_\_\_\_\_ Date Issued: \_\_\_\_\_ Dist. No.: \_\_\_\_\_

Address or Location of Property: \_\_\_\_\_

Tract No. or Parcel Map No. \_\_\_\_\_ Lot No(s). \_\_\_\_\_

Owner's Name: \_\_\_\_\_  
(Print)

The grading of the site listed above, or work as set forth below, was performed in accordance with the approved plans and the requirements of all applicable codes, unless otherwise noted.

List all work performed by the undersigned contractor.

---

---

---

---

If the above-cited work does not comply with the approved plans and code, list below wherein the work does not comply.

---

---

---

---

---

Grading Contractor: \_\_\_\_\_ License No.: \_\_\_\_\_  
(Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

02/21/2008 - Grading Certification - Contractor.doc



LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION

# GRADING PERMIT STATUS REPORT

Address: \_\_\_\_\_ Tract No. \_\_\_\_\_ No. of Lots \_\_\_\_\_

Inspector: \_\_\_\_\_ District No: \_\_\_\_\_ GR: \_\_\_\_\_

[illegible]

**KEEP THIS CARD AT JOB SITE**

--

**GRADING INSPECTION CARD**

PERMIT NO. \_\_\_\_\_ DATE \_\_\_\_\_

LOCATION \_\_\_\_\_

OWNER \_\_\_\_\_

	DATE	INSPECTOR'S SIGNATURE
PRE-GRADE MEETING		

	DATE	INSPECTOR'S SIGNATURE
INITIAL INSPECTION		
Brushing		
Brush Removed From Site		

**PRE-GRADE AND INITIAL INSPECTION REQUIRED PRIOR TO COMMENCING EARTHWORK**

	DATE	INSPECTOR'S SIGNATURE
ROUGH GRADING		
Slopes		
Drains		
Elevations		
Revised Plans		
Reports/Certifications		
Landscape Plans Submitted		

**ROUGH GRADE APPROVAL REQUIRED PRIOR TO BUILDING PERMIT ISSUANCE**

	DATE	INSPECTOR'S SIGNATURE
FINAL GRADING		
Drainage Devices Paved		
Pad Drainage		
Planting		
Landscape/Irrigation		
Revised/As-Built Plans		
Reports/Certifications		

**ALL INTERIM INSPECTIONS ARE ONGOING TO ASSURE SITE COMPLIANCE**

20-0091 DPW 2/98

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (N.P.D.E.S.)**

- See notes on title sheet of approved plans and the "California Storm Water Best Management Practices Handbook".

--

**EROSION CONTROL - RAINY SEASON - OCTOBER 1 THROUGH APRIL 15 (Section 7010, Title 26)**

- Erosion control plans shall be submitted and approved prior to October 1.
- Plans shall reflect site conditions as of October 1.
- All protective measures shall be installed prior to November 1.

--

**ADDITIONAL COMMENTS:**

--

COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY / LAND DEVELOPMENT

[illegible]