



# GRADING/RETAINING WALL/SHORING PLAN CHECK Correction Sheets (2017 LABC)

Plan Check Date: \_\_\_\_\_ Plan Check / PCIS application number: \_\_\_\_\_

Job Address: \_\_\_\_\_

Reviewed by (print first / last name): \_\_\_\_\_ Phone: \_\_\_\_\_

## INSTRUCTIONS FOR PROCEEDING WITH THE PLAN CHECK (PC) PROCESS:

1. Review corrections circled on this Plan Check Correction Sheet and on the plans and calculation sheets.
2. Provide a written response or reference to details pursuant to the corrections. Location of any revisions on the plans shall be identified as part of your responses. For any questions related to the PC corrections, email or call the Plan Check Engineer.
3. Call the Plan Check Engineer for a verification appointment after you have addressed the corrections. Verification of corrections is only done by appointment.
4. Bring the originally checked set of plans and calculations along with this Grading Plan Check Correction Sheets and the newly revised plans and calculations to the meeting so that your plan check engineer may review the corrections and comments. After all of the items have been corrected to comply with code requirements and clearances have been obtained, the permit will be ready to be issue.

## IMPORTANT ITEMS TO READ:

1. Your early attention to the Clearance Summary Worksheet is suggested
2. The plan check will expire 18 months from the plan submittal date.
3. The approval of plans does not permit the violation of any section of the Building Code, Zoning Code, other ordinance, or state law.
4. Numbers in parenthesis refer to Code sections of the 2017 edition of the Los Angeles Building or the current Zoning Code.

## REVIEW THE FOLLOWING CHECKED INFORMATION BULLETINS AND FORMS. REVISE PLANS TO SHOW COMPLIANCE (Copies can be obtained at [www.ladbs.org](http://www.ladbs.org)).

- |  |   |
|--|---|
| <input type="checkbox"/> P/BC 2017-001 Footing/Building Setbacks from Slopes   | <input type="checkbox"/> P/BC 2017-027 Onsite Wastewater Treatment Sys          |
| <input type="checkbox"/> P/BC 2017-083 Retaining Wall Design   | <input type="checkbox"/> P/BC 2017-002 Retaining or Slough wall (4'-0" or less) |
| <input type="checkbox"/> P/BC 2017-044 Exemptions from Liquefaction, Earthquake Induced Landslide, and Fault-rupture Hazard Zone Investigation | <input type="checkbox"/> P/ZC 2002-015 Prevailing Setback Regulation            |
| <input type="checkbox"/> P/BC 2017-057 Drainage Across Lot Property Line   | <input type="checkbox"/> P/BC 2017-113 Reports for submittal to Grading Div.    |
| <input type="checkbox"/> P/BC 2017-060 30-Day Notification of Intent to Excavate   | <input type="checkbox"/> P/BC 2017-103 Sump Pumps for surface drainage          |
| <input type="checkbox"/> P/BC 2017-064 Flood Hazard Management Spec. Plan  | <input type="checkbox"/> P/BC 2017-065 Coastal Development Permit               |
| <input type="checkbox"/> P/BC 2017-096 6" Concrete Block Masonry Wall Detail   | <input type="checkbox"/> P/BC 2017-051 Wet Mix Shotcrete                        |
| <input type="checkbox"/> P/BC 2017-141 Guideline for Determining Live Loads Surcharge from Sidewalk Pedestrian Traffic and Street Traffic      | <input type="checkbox"/> P/BC 2017-073 Policy for Stamped Plans                 |

## Forms and Affidavits:

- Protection of adjoining property: PC/GRAD/App.13
- Grading Bond: PC/GRAD/Bond 03 and 04
- Haul Route Questionnaire Package: PC/GRAD/App.22
- Maintenance of Drainage Devices/Structures: PC/GRAD/Aff.03
- Maintenance of Uncertified Fill/Underground Structures: PC/GRAD/Aff.04
- Covenant and Agreement Regarding Drainage Easement: PC/GRAD/Aff.06
- Building Maintenance: PC/STR/Aff.25

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# GRADING/RETAINING WALL/SHORING PLAN CHECK

## Correction Sheets (2017 LABC)

### GENERAL REQUIREMENTS

#### A. APPLICATION

1. Provide a fully dimensioned plot plan to scale, in ink on the PCIS application's plot plan sheet.
2. Provide complete and correct legal description (Tract, Lot, Block, and Grant Deed).
3. A grading bond calculated per (7006.5.7) is required for projects with over 250 cubic yards of cut or fill in "Hillside Grading Area". Bond Forms once completed will be approved by the plan checker prior to submitting to City Attorney's Office. See the attached Bond Instructions and Bond Forms for additional information.
4. The permit application must be signed by the property owner or licensed contractor or authorized agent at the time the permit is to be issued:
  - a. **For owner-builder permits:** Owner's signature can be verified with owner's driver license. Owner's representatives must present owner's approval with a notarized letter from the owner.
  - b. **For contractor building permits:** Prior to the issuance of a building permit, the contractor shall have the following:
    - i) Certificate of workers Compensation Insurance made out to the Contractors State License Board.
    - ii) Notarized letter of authorization for agents.
    - iii) Copy of Contractor's State License or pocket ID
    - iv) Copy of City of Los Angeles business tax registration certificate or a newly paid receipt for one.
5. Obtain separate application for the following items:
  - a. Retaining walls
  - b. Grading work
  - c. Block walls
  - d. Swimming pools
  - e. Shoring
4. Provide copies of the following recorded documents for the parcel: \_\_\_\_\_.
5. A recorded affidavit is required for [lot-tie] [Maintenance of building] [\_\_\_\_\_]. Obtain a copy of Ainstruction to process affidavits@ from LADBS's web site and follow the instructions.
6. File 2 copies of (soils) and/or (geology) reports + CD (electronic file) with the Grading Division for review and approval. Min. one copy of the report shall be unbound, wet-signed original (7006.2).
7. Comply with the recommendation in the approved soils/geology report and the conditions of approval as stipulated in the Grading Division letter. A copy of the letter shall be incorporated onto the plan.
8. Show compliance with the conditions noted on the Grading Pre-Inspection report (107.3.2).
9. Comply with notification of adjoining property by giving a 30-day written notice (by certified mail and return receipt) of the attached letter to adjacent property owners, of intent to excavate where excavation is deeper than the foundation of adjoining building or located closer to property line than the depth of excavation. (3307.1) (P/BC 2014-060).
10. A Public hearing is required for on-site import or export of earth material in excess of 1,000 cubic yards in a "Hillside Grading Area" (7006.7). Submit a Haul Route application to the Building and Safety Commissioners Office. Processing time is a minimum of eight weeks. Call (213) 482-0466 for more information.
  - a. As per LAMC Section 91.7003, the definition of "Site" is as follows: Any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted, constitutes one "site".

#### B. CLEARANCES

1. Obtain all clearances as noted on the attached Clearance Summary Worksheet. Prompt attention is suggested as there can be delays for other departments to review the project.
2. Comply with Notification requirements for over 1000 CY of earthwork in the "Hillside Grading Area". Notices must be mailed 10 days prior to permit issuance. (106.4.6).
3. Provide tabulated earthwork, including import/export quantities in cubic yards to verify compliance with the Baseline Hillside Ordinance.
11. For existing Haul Routes, the associated grading permit must be secured within 12 months from the date of Board approval and hauling must commence within 18 months from the date of Board approval. Otherwise, a new Haul Route application and hearing will be required.
12. Comply with the following Stormwater Development Construction/Planning Program requirements:
  - a. For all projects involving either new development or redevelopment which result in the addition, creation, or replacement of 500 square feet or more of impervious surface area, prepare Low Impact Development (LID) Plans and submit it to the Watershed Protection Division, Bureau of Sanitation. See attached Clearance Summary Worksheet for location and phone number.

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13. Site is located within a "Fault-Rupture Hazard Zone" designated by the State which requires a geological-seismic report to address potential surface fault rupture. (P/BC 2017-044).
  14. Provide a copy of permit from California Division of Industrial Safety for excavations or trenches over five vertical feet.
  15. Property is located within a "Flood Hazard Zone". Grading for project must comply with Flood Hazard Management Specific Plan Guidelines, (P/BC 2017-064).
  16. Note on plan: "Registered Deputy Grading Inspector is required on grading and foundation earthwork where (site exceeds 60,000 sf.) ( cut or fill slopes exceed 2:1) ( cuts exceed 40 ft. in height and within 20 ft. of a property line) (foundation excavation below a 1:1 plane from property line)(projects involve unusual hazards) (shoring work including slot-cuts)". (1704).
  17. Continuous inspection by the soils engineer/geologist is required for \_\_\_\_\_.
5. Add the following general Grading notes to the final plans.
    - a. All grading slopes shall be planted and sprinklered. (7012.1).
    - b. Standard 12 inch high berm is required at top of all graded slopes. (7013.3).
    - c. No fill to be placed, until the city grading inspector has inspected and approved the bottom excavation.
    - d. Man-made fill shall be compacted to a minimum relative compaction of 90% max. dry density within 40 feet below finish grade and 93% of max. dry density deeper than 40 feet below finish grade, unless a lower relative compaction (not less than 90% of max. dry density) is justified by the soils engineer.
    - e. Temporary erosion control to be installed between October 1 and April 15. Obtain Grading Inspector's and Department of Public Works approval of proposed procedures. [ $>200$  CY] (7007.1).
  6. Final plans and calculations must be signed by a registered Civil Engineer. (7006.1).
  7. The following statement signed by both the soils engineer and geologist, shall be on the final plans:  
*"This plan has been reviewed and conforms to recommendations of soils engineering/geologic reports dated \_\_\_\_\_." Signature and date \_\_\_\_\_.*

### C. PLANS

1. Provide 2 complete final sets of plans.
  2. Provide vicinity map of scale 1" equals to 400' and grading plan 1" equals to 40'. For tentative tracts and parcel maps show all proposed lots and future property lines.
  3. Provide a complete plot plan. Show: tract and lot numbers, lot dimensions, street names, north arrow, scale of plans and tract/property boundaries, daylight lines, slope angles and designation, dimensions of drainage terraces and location of retaining walls. (7006.1).
  4. The following information must be provided on final plans:
    - a. Name and address of property owner.
    - b. Name and phone number of responsible owner's agent.
    - c. Civil engineer responsible for grading plan.
    - d. Soils engineer and/or Geologist responsible for approved reports.
    - e. Earthwork quantities in cubic yards for cut, fill, import/export, and removal/recompaction.
    - f. Job address for each site including off-site areas.
    - g. Complete legal description for all lots involved.
    - h. Top of wall elevations
    - i. Existing and proposed grading contours and finish grade elevations.
8. Provide cross-sections at slopes showing existing grades, proposed slopes, areas of cut or fill, retaining walls, structures and property boundaries.
  9. Detail on plans the method of temporary excavations. Dimension max vertical cuts and show trim slopes.
  10. Provide benching details for fill placed on slopes steeper than 5(h):1(v) as per approved soils report. (7011.8).
  11. Graded slopes are limited to a maximum slope of 2:1 [horizontal: vertical], unless it is specifically allowed by the Grading Division's approval letter of the Soil/Geo report. (7010.2/7011.2).
  12. Toe of fill slopes not to be nearer to other private properties than one-half the height of the fill, with a minimum of 2 feet and a maximum of 20 feet. (7011.5).
  13. Top of cut slopes not to be made nearer to project boundary than one-fifth the height of the slope, with a minimum of 2 feet and a maximum of 10 feet. (7010.3).
  14. Buildings to have a level setback from ascending slopes exceeding 3:1 [H:V] a minimum of H/2 but need not exceed 15 ft. (1808.7.1)
  15. Footings to be setback from descending slopes exceeding 3:1 [H:V] a minimum of H/3 but need not exceed 40 ft. (1808.7.2).

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16. Detail on plans driveway center line profile. Maximum grade is 20% for center line and 10% for cross fall. Transition zones required. (10% for the first & last 8').  
  
Show sections of fill with details of bottom keys and subdrain. Compacted fill to be placed on top of competent bearing material. (7011).
17. No grading permit can be issued prior to the issuance of any building permits when site is located within area designated as Grading Ordinance Hillside. (7005.1).
18. Note on plans: Retaining walls located closer to the property line than the height of the wall shall be backfilled not later than 10 days after construction of the wall and necessary structural supporting members unless recommended otherwise by responsible engineer.
19. Locate the basement walls/retaining walls a minimum 12" away from the property line to accommodate the placement of the subdrain device.
11. Concentrated drainage to be discharged into an approved location. (Drainage required into street, natural watercourse, drainage easement or other approved location.) (7013.9/.10/.11).
12. The use of dispersal wall to discharge water to areas other than street or natural watercourse is not allowed.
13. Drainage across interior lot lines creating cross-lot drainage is not permitted nor are changes in the drainage pattern which alter or increase quantity of water discharging to adjoining properties. (P/BC 2002-57).
14. Obtain modification approval from the Grading Division for the following:
  - a. Use of sump pump for diverting site drainage.
  - b. Use of dispersal wall to convert site drainage to sheet flow per P/BC 2017-57.
15. For sites located in the Upper Los Angeles River Area (ULARA) Basins (San Fernando, Sylmar and Eagle Rock Basins) obtain approval from Department of Water and Power (DWP) and Upper Los Angeles River Area (ULARA) Watermaster for use of sump pump for permanent de-watering of the site. Refer to Information Bulletin P/BC 2017-103 for additional information.

### **D. DRAINAGE**

1. Provide hydrology calculations to justify drainage design. Calculations shall be based on the proper 50-year isohyetal and the latest method adopted by the L.A. City Bureau of Engineering. (7013.6).
2. Detail pad elevations to provide minimum of 2% drainage to street. Sec. 91.7013.10. (7013.10).
3. Detail on plan methods proposed to intercept and carry off subsurface water.
4. Show on plans: subdrains required for fill placed in natural water courses. (7013.8).
5. Provide 8' paved interceptor terrace drains at 25' vertical intervals. Drain gradients may vary from 5 to 12 percent, but changes in gradient must increase in the direction of flow. (7013.1).
6. Provide a 20' wide bench every 100' of slope height (cut or fill). Retaining walls are not allowed to reduce this height. (7010.1 / 7011.1).
7. Provide 6' paved diverter terraces along top of graded slopes. (7013.2, Figure B).
8. Single run of slope interceptor terraces are not to exceed 150' to a down drain. (7013.1).
9. Show existing drainage devices on adjacent tracts.
10. Provide an approved outlet structure for all down drains, to consist of velocity reducers, diversion walls, rip-rap, concrete aprons or similar energy dissipater. (7013.5.3).
16. File 2 copies of (soils) and/or (geology) reports + CD (electronic file) with the Grading Division for review and approval for proposed infiltration of storm water. A copy of the department approval letter shall be attached to the plan.

### **E. BUTTRESS FILL**

1. Outline and distinguish all areas of buttress or stabilization fills on the plans.
2. Provide cross-section and detail buttress fills on plans that conform to with the approved recommendations of the Soils Engineer and Geologist, and Code Section 7015.
3. Detail on plans: the subdrains required to prevent hydrostatic pressure, as per an approved soils report.
4. Provide blanket seals of relatively impervious material on cut pads above buttress fills where grading exposes the strata to infiltration of water. The blanket thickness shall be as specified by the soil engineer, 2 feet min. (7015.6).

### **F. OFF-SITE GRADING**

1. If off-site grading is under separate ownership, provide two copies of a notarized letter of permission from the adjacent owner. Letter shall include:
  - a. Legal description of parcel involved.

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b. A statement that owner has reviewed the grading plan prepared by \_\_\_\_\_ and dated \_\_\_\_\_.

c. Permission for the contractor and his successor to have access to the premises and permission to do the work as shown on plans.

2. If off-site area is under same ownership, indicate on plans same ownership. Include on grading application legal description of off-site area.
3. Show off-site areas on application plot plan.
4. Separate grading permits are required for each lot under separate ownership within the limits of grading. (7006.6).

### **G. RETAINING WALLS**

1. A separate plan check and/or permit is required for retaining walls. Submit structural details and design calculations.
2. Provide retaining wall details on plans, show: surface drains, subsurface drains, slope of backfill, ties at change in wall thickness and reinforcement.
3. Provide a minimum Safety Factor of 1.5 against sliding and overturning. (1807.2.3)
4. A minimum of \_\_\_\_ ft. of freeboard is required.
5. Basement walls and slab shall be waterproofed with an L.A. City approved waterproofing material.
6. Provide material specifications for masonry, reinforcing steel, grout, mortar and concrete. Also specify any required continuous inspections per Code Section 1704.
7. Retaining walls located within (front) (side) (rear) yards shall not exceed \_\_\_\_ ft. per the Zoning code.
8. The number of retaining walls and their height is limited to one 12' high wall or two 10' high walls at minimum 3' apart.
9. Provide a 42" guardrail on top of walls for yard areas which drop more than 30 inches. (1013.2)
10. Basement and retaining walls over 6 feet high are to be designed for additional lateral loads due to earthquake motions as required by Section 91.1803.5.12 for Seismic Design Category D, E or F.

### **H. SHORING**

1. Calculate the deflection of soldier piles and compare with the maximum allowable as specified in the approved soil or foundation report.
2. Comply with requirements for shotcrete per Code Section 1913 and IB P/BC 2017-051.
3. Comply with the approved soil report recommendations for permanent and temporary dewatering procedures.
4. Design and detail required lagging.
5. If tie-back anchors extend across the property line, a notarized letter is required from the adjacent property owner allowing the anchors to extend into their property. A separate permit is required for such offsite work. Approval from Public Works is required for encroachment of anchors into the public way.
6. Obtain a separate permit for underpinning of adjacent structures where the lateral support is being removed.
7. Shoring system is not allowed to support surcharge from adjacent structures without the recommendations of an approved soil report and evidence that the adjoining property owner has been notified 30 days in advance.
8. Record a "Maintenance of Building Support" affidavit by the owner of the subject property which will inform future owners of the subject site that the lateral support of a portion of the building foundation on the adjoining property is provided by the subterranean walls of the building on the subject site. Affidavit must be approved prior to recording. (3307.3.2)
9. Specify the Research Report number for tie-back system. Comply with approval conditions and attach a copy to the field set of plans.
10. Provide material specifications for:
  - Concrete/ gunite: strength and type
  - Steel: structural, reinforcing, prestress rods or strands.
  - Wood: species, grade and decay resistance
  - Welding Rods
11. Specify on plans continuous inspections for:
  - Concrete over 2500 psi
  - Installation of Tie-back anchors
  - Field welding
  - Excavation [by Soils Engineer]
12. Specify & detail on plans excavation, shoring installation



