County of Los Angeles - Department of Public Works
Building and Safety/Land Development Division

GRADING REVIEW SHEET
(2023 Los Angeles County Building Code, Residential Code, and Green Building Standards Code)

_____ _____ _____ _____
SITE ADDRESS | TRACT/PM NO. | DISTRICT NO. | GRADING PERMIT APPLICATION NO.

_____ (____)_____
DESIGN ENGINEER/APPLICANT | TELEPHONE NO.

_____ (____)_____
OWNER | TELEPHONE NO.

_____ _____ _____ _____
EARTHWORK VOLUME | DISTURBED AREA | CHECKER | PLAN CHECK EXPIRES

☐ ENGINEERED GRADING
☐ REGULAR GRADING

PROJECT DESCRIPTION _____

_____

INSTRUCTIONS TO BUILDING AND SAFETY DISTRICT OFFICE PRIOR TO ISSUANCE OF GRADING PERMIT

1. Post a Grading Permit Security of $_____. Based on _____C.Y. and drainage facilities at a cost estimate of $ _____. See enclosed "Fee and Bond Amount Worksheet". (Section J103.7.3 of the County of Los Angeles Building Code)
2. A supplemental plan check fee of _____ is required due to additional earthwork volumes of _____(cy) not included in original grading application and/or _____ (hrs) due to additional plan review beyond the initial and second plan check. (Section 107 of the County of Los Angeles Building Code)
3. A site inspection fee is required for this project. (Section 107 of the County of Los Angeles Building Code)
4. The grading permit shall be based on a volume of_____ cubic yards of earthwork. Total grading volume is based on the larger of the cut or fill plus any over excavation volumes and alluvial removals.
5. This Grading Permit requires a Licensed Contractor. (See AM 30.04)
6. Provide an approved copy of the Erosion and Sediment Control Plan for grading activities during rainy season (October 15 - April 15).
7. The site is located within the California Coastal Zone. The Coastal Development Permit issued for this project site is CDP _____.
8. Verify that the applicant has submitted the acknowledgment and acceptance forms concerning the employment of a Field Engineer and of Project Consultants with signatures of the owner and all consultants. See documents "A" & "B".
9. Place a "Notice of Uncertified Fill" in the project address file identifying on-site uncertified fills. Refer to the enclosed plot plan identifying limits and depth of uncertified fills on this site.
10. See Agency Referral Sheet for all required agencies.
11. For Grading Projects in Rolling Hills: Grading permits shall not be issued unless the building plans corresponding to the proposed grading have been submitted for plan check. (City Requirement)

ONCE YOUR GRADING PLAN HAS BEEN APPROVED, CONTACT THE LOCAL BUILDING AND SAFETY DISTRICT OFFICE FOR ISSUANCE OF A GRADING PERMIT. **NOTE:** PERMITTEE OR THEIR AGENT IS RESPONSIBLE FOR ARRANGING A PRE-GRADE MEETING AND MUST NOTIFY THE BUILDING OFFICIAL AT LEAST TWO BUSINESS DAYS PRIOR TO THE PROPOSED PRE-GRADE MEETING.	APPROVAL STAMP AREA (DO NOT WRITE IN THIS AREA)

Rev. 2/9/2023

INSTRUCTIONS

NOTE: **APPLICATIONS FOR GRADING PERMITS FOR WHICH NO PERMIT IS ISSUED WITHIN ONE YEAR FOLLOWING THE DATE OF APPLICATION SHALL EXPIRE BY LIMITATION.**
(Section 106.4.1.1 of the Los Angeles County Building Code)

1. Corrections are required for circled item numbers. All corrections and comments identified on the returned check print must be incorporated into the plans. Revised plans must be resubmitted for review.

2. Return this review sheet along with check print, revised plans, reports, and all requested supporting information.

3. When responding to corrections or comments, a separate sheet of detailed explanation of corrections is encouraged.

4. Numbers in parentheses refer to Sections of the latest edition of the County of Los Angeles Building Code or Residential Code, i.e. (J101.1).

5. For any required forms mentioned below please see http://dpw.lacounty.gov/bsd/publications/index.cfm

Note: After the second review, plans are checked on an hourly basis. Supplemental plan check fee will be collected prior to issuance of the grading permit. (107.6 & 107.9, Item 10).

ORIGINAL PLAN CHECK

SUBMITTAL DATE	REVIEW DATE	
1		
2		REVIEW HOURS
3		
4		
5		
	EXTENSION	
1		
2		
	TOTAL ADDITIONAL HOURS FOR REVIEW	

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

OUTSTANDING CORRECTIONS:

1		11	☐	21	☐	31	☐	41	☐	51	☐	61	☐	71	☐	81	☐	91	☐
2	☐	12	☐	22	☐	32	☐	42	☐	52	☐	62	☐	72	☐	82	☐	92	☐
3	☐	13	☐	23	☐	33	☐	43	☐	53	☐	63	☐	73	☐	83	☐	93	☐
4	☐	14	☐	24	☐	34	☐	44	☐	54	☐	64	☐	74	☐	84	☐	94	☐
5	☐	15	☐	25	☐	35	☐	45	☐	55	☐	65	☐	75	☐	85	☐	95	☐
6	☐	16	☐	26	☐	36	☐	46	☐	56	☐	66	☐	76	☐	86	☐	96	☐
7	☐	17	☐	27	☐	37	☐	47	☐	57	☐	67	☐	77	☐	87	☐	97	☐
8	☐	18	☐	28	☐	38	☐	48	☐	58	☐	68	☐	78	☐	88	☐		
9	☐	19	☐	29	☐	39	☐	49	☐	59	☐	69	☐	79	☐	89	☐		
10	☐	20	☐	30	☐	40	☐	50	☐	60	☐	70	☐	80	☐	90	☐		

Your plans have been reviewed by _____.

Plan checker email _____@pw.lacounty.gov, phone _____.

The plan checker is available for office hours and meetings. Please contact the plan checker via email or phone for questions and/or to schedule an appointment.

For all resubmittals through EPICLA, notify the Drainage and Grading Engineer via email.

FOR UP-TO-DATE *Drainage and Grading Plan Check* COUNTER HOURS, PLEASE VISIT http://dpw.lacounty.gov/bsd/offices/ AND SELECT THE APPROPRIATE OFFICE FROM THE INTERACTIVE MAP.

AGENCY APPROVALS – SEE SEPARATE AGENCY REFERRAL SHEET

THIS NOTICE IS TO INFORM YOU THAT APPROVAL FROM THE AGENCIES MARKED ON THE SEPARATE AGENCY REFERRAL SHEET, IN ADDITION TO GRADING PLAN CHECK APPROVAL, MUST BE OBTAINED PRIOR TO PERMIT ISSUANCE. **Pursuant to California Government Code Section 65913.3, if review of the permit application is required by a State Agency or Other Agency, as marked below, the applicable time limits for review of the application are tolled until the applicant provides Building and Safety with a copy of the Agency approval. Issuance of this agency referral sheet shall serve as formal notice of tolling.** You may need to submit the pertinent plans, plan check number, calculations, reports, etc., directly to these agencies. ***Follow-up is your responsibility***. Please be aware that some items resulting from these agency plan reviews may affect your grading plan check. These should be communicated to your Drainage & Grading Plan Check Engineer as soon as possible to prevent unnecessary delays. Submit all agency approvals 48 hours prior to permit issuance. Notify the Plan Check Engineer once all agency approvals have been submitted, request to verify approvals.

1. Add the following note to the plans:

ENGINEER'S/SURVEYOR'S STATEMENT REGARDING THE PRESENCE OF MONUMENTS WITHIN PROJECT LIMITS

I HEREBY ATTEST THAT I HAVE LOCATED AND REFERENCED ON THESE PLANS THE MONUMENTS EXISTING PRIOR TO CONSTRUCTION TO ENSURE PERPETUATION OF THEIR LOCATION IN ACCORDANCE WITH SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE. I FURTHER ATTEST THAT I HAVE PERFORMED A RECORD SEARCH AND FIELD INSPECTION TO IDENTIFY EXISTING MONUMENTS; SHALL SET SUFFICIENT CONTROLLING, WITNESS, AND PERMENANT MONUMENTS; AND SHALL FILE THE REQUISITE CORNER RECORD OR RECORD OF SURVEY OF THE REFERENCES WITH THE COUNTY SURVEYOR.

_____ _____
ENGINEER/SURVEYOR SEAL & SIGNATURE DATE

PRIVATE AND UTILITY EASEMENTS

2. Any proposed work within a Private Easement requires permission letters and/or covenants from easement holder. Permission from the easement holder may not be required if it can be shown the proposed construction work is consistent and in conformance with the intended easement use. Copies of recorded easements shall be submitted for review. Grading plans must show all bearings, distances, (linear and curve data) for the entire easement(s).
The following note shall be added to the grading plan:

"As Civil Engineer/Land Surveyor of this project, I have identified the location of all easements which are depicted on these plans. I have reviewed the easement documents and verified the proposed construction does not conflict or interfere with the intended easement use."

_____ _____
Civil Engineer/Land Surveyor (Stamp and Signature) Date

3. Any proposed work within a Utility Easement requires permission letters and/or covenants from easement holder.

UTILITIES

4. Utilities, such as water, electrical, plumbing, mechanical, and sewer shown on grading plans, may require a separate permit. Add note on grading plans/utility plans which labels the utilities are provided for reference only and separate permits may be required.

GRADING DOCUMENTATION

CONTRACT CITY REQUIREMENTS

5. Provide copy of City conditions/resolution, for proposed project. (Conditional Use Permit, Tentative Conditions, plot plan - "Exhibit A" or City Planning Approval) All applicable planning conditions, which affect or impact the proposed project grading or drainage must be incorporated into the project grading plans. Project grading plans can not be approved until it can be verified all City planning conditions (As applicable) are satisfied.

6. Obtain and provide planning approval from City of_____.

GRADING VOLUME, AND BOND DETERMINATION

7. Submit volume calculations (signed and stamped by a registered civil engineer). A supplemental plan check fee will be required for additional volumes not identified on the original grading application.

   Note: Grading permit application, permit fees, and grading securities (bonds) are based on the larger of the cut and fill volumes plus (+) the amount of over-excavation/alluvial removal and recompaction.

   For grading projects where the volume of earthwork handled exceeds 1000 cubic yards or as required by the Building Official, a grading permit security (bond) is required (J103.7). The amount of security required for a grading permit will be provided upon grading plan approval. Grading Bond must be submitted at the Local Building and Safety Office prior to issuance of grading permit. Standard Bond documents are available at http://www.dpw.lacounty.gov/bsd/publications/index.cfm. Search for Grading Permit Security document (GPS Security.pdf)

8. Submit a cost estimate of all drainage devices (such as catch basins, drain pipe(s), inlets and outlets, energy dissipators,constructed per the grading plans that are not to be maintained by the Los Angeles County Flood Control District. (J103.7.3)

OFFSITE WORK

9. Proposed project construction requires offsite work or grading outside the limits of the property line. A grading permit is required for each site. (J103.1) In lieu of separate grading permits for each property, notarized and recorded covenants from the owners of the properties involved may be provided for minor grading as determined by the Building Official.

   Any proposed construction that changes or alters the existing drainage pattern to adjacent (off-site) property requires a notarized and recorded offsite drainage release covenant or easement from the owner of adjacent property.

Covenant documents are available at http://www.dpw.lacounty.gov/bsd/publications/index.cfm. Search for Offsite Covenants (Offsite Covenants.pdf)

Note: Structures that extend offsite require separate permits and may not be allowed under offsite covenants.

TRACT OR PARCEL MAP GRADING PLANS

10. A copy of the following items must be provided for reference with your grading submittal: (Plans can not be approved until a copy of the conditions has been provided.)

    - ❑ Approved tentative map & conditions and/or conditional use permit (CUP)
    - ❑ A copy of the Final Tract or Parcel Map
    - ❑ Approved Hydrology, storm drain plans, street plans, (If submitting revised grading plans a copy of the approved grading plan should be provided).

11. The proposed graded pad elevations and contours do not substantially conform to the approved tentative map. Obtain and submit Regional Planning approval. Department of Regional Planning, 320 W. Temple, Hall of Records, Los Angeles (213) 974-6411

12. All conditions of tentative approval for the subject property must be incorporated on the plans. Plans do not conform due to the following:
    _____
    _____

13. Deed Restrictions for the private maintenance of drainage devices on lots will be required prior to Tract clearance by the Drainage and Grading Unit. Place the following note on the plans "Deed Restrictions are required for Lots _____ for private maintenance of drainage devices.

14. Screen walls specifically required by the conditions of approval for Tracts or Parcel Maps must be shown on, and bonded per grading plans.

15. Show and label on grading plans all dedicated “open space” lots.

16. For subdivision projects, all improvements within street right-of-way or storm drain easement must be labeled "Construct per The Approved Street Plans" or “Construct per the Approved PD No_____”

MISCELLANEOUS DOCUMENTATION

17. Prior to issuance of grading permit by the local Building and Safety District Office, obtain and provide the following:

    a. Submit, with signatures of the owner and all consultants, the acknowledgment forms concerning the employment of a Design/Field Engineers and Project Consultants. See attached copies of consultant forms (Documents “A” and “B”) to be submitted at the local Building and Safety Office prior to issuance of the grading permit.

    b. The grading application has expired. Plans will not be reviewed until an extension (if eligible) or new plan check fees are paid. (106.4.1)

    c. Uncertified fill is present on the site. A Restricted Use Area “RUA” Covenant is required. A draft copy of the covenant including all exhibits, which identify limits of depth of the uncertified fills, must be reviewed and approved prior to recordation.

    d. Obtain Sewer Demolition Permit from building and safety for the existing septic tank or seepage pit to be abandoned.

GENERAL REQUIREMENTS TO BE SHOWN ON THE PLANS

18. The following information is to be included on the Cover Sheet of the grading plans. (J104.2.3)

    a. Add all applicable grading notes and completed Grading Project Information to the cover sheet (first sheet) of grading plans, see enclosed grading notes and project information. Cover sheet should have a Title Block for Design Engineer which includes designers name, company, and phone number.

    b. Provide a vicinity sketch which clearly shows project site location.

    c. Provide benchmark information and reference all information utilized to determine survey elevations. If multiple benchmarks were utilized, benchmarks should be indicated on all pages as applicable.

    d. A legend must be provided that identifies existing and proposed contours, cut/fill daylight lines, over-excavation limits, wall location, property lines, right-of-ways, easements, County/City boundaries, utilities, storm drains, etc.

    e. Provide an index map that clearly identifies project boundaries and page locations of proposed grading.

19. The following general information or details must be included on the grading plans. (J104.2.3)

    a. Prior to grading plan approval, all sheets of grading plans and calculations must be stamped and signed by a California Registered Civil Engineer, Soils Engineer, and Geologist.

    b. Boundary lines, tract boundaries, lot lines, county/city boundaries, road right-of-way lines, and easements must be identified and labeled on plans.

    c. Show existing contours of entire site. Clarify between original (natural) and proposed contours. All existing grading must be permitted and meet current Code requirements.

    d. North arrow and scale of plans. Plan scale shall be 1"≤40'.

    e. Clearly indicate location of any existing or proposed structures on the site and any structures on adjacent land within 15 feet of the property line.

    f. Show location of existing and/or proposed septic tanks, pits, and leach fields.

g. Show location, specify trunk diameter and tree number, show and label canopy (dripline) and protected zone of all protected trees on grading plans. All work which impacts these protected tree specicies must be per an approved Planning Approval.

h. Show legal and physical access from subject lot(s) to a publicly maintained street. (Note: Details of access are not required on the grading plans, if separate street plans are being processed through Land Development Division)If access to subject lot extends through adjacent lot(s), provide the following information:

- Show all access easements information on plans including easement bearings, distances, curve data and easement description.
- Provide a list of all existing onsite easements document numbers and recording dates.

i. Show location, width, slope of access road, and Fire Department turn-around. In areas where access is difficult due to the topography, Fire Department approval is required prior to grading approval and will be indicated below.

20. The following Geotechnical/Geological information or details must be included on grading plans. (J104.3)

a. Show subdrains under all fills to be placed in natural drainage courses unless the soils engineer specifically recommends the omission of such drains. (J107.2) Provide a detail of subdrain construction and materials as recommended by the soils engineer. The outlet should be embedded in concrete for its protection. Details and location of the outlet must be shown on plans.

b. Fill placed over existing terrain steeper than 5:1 gradient and fill exceeding 5 feet in depth must be properly keyed and benched into bedrock or other competent material. Provide a keying and benching detail with all dimensions as determined by a Soils Engineer. (J107.3)

c. Combination fill-over-cut slopes cannot be approved unless specifically recommended by the soils engineer and geologist. Provide a cross-sectional detail of each slope as shown on the plan.

d. Show location and cross-sectional detail of all buttress fills, stabilization fills, blanket fills (seals), shear keys, and/or other similar protective measures recommended by the project geologist or soils engineer. Plan view should clearly identify limits and location of all keyways and other protective measures.

e. No oversized material is to be placed into proposed fills unless specifically recommended and inspected by a Soils Engineer and approved by the Building Official. If recommended by the Soils Engineer, indicate the location of rock disposal area(s). Include the elevations, extent, compaction methods, and cross-sections. As-graded plans must show the exact location and elevation of rock disposal area(s).

f. Outline the proposed area to be over-excavated and recompacted in the plan view and show the depths clearly in either plan or a profile view as recommended by the soils engineering and/or geological report. This includes alluvium and colluvium removals.

g. Show location of cut-fill contact (daylight line) using special lines and indicate cut and fill side of line.

21. All graded slopes shall be shown on the plans as follows:

a. Define slopes by finished/proposed contour lines.

b. Specify proposed slope angle ratio of all cut and fill slopes (use ratio of horizontal to vertical distance).

c. Label proposed slopes as "cut" or "fill."

d. Indicate proposed cut and/or fill slope areas on plan by shading.

e. Show and label slope setbacks from top and/or toe of both existing and proposed slopes to property lines or building locations. Setbacks must conform to minimum requirements of LACBC Sections J108 and 1808.7, and LACRC Section R403.1.7. Encroaching into the setback from a property line will require a notarized and recorded offsite covenant from adjacent property owner accepting the encroachment.

f. For slopes with a surface gradient steeper than 2:1, the Geotechnical Engineer shall submit satisfactory soil test data and engineering calculations to substantiate the stability of all such slopes and slope surfaces under saturated conditions. (J106.1)

g. No fill may toe out on existing terrain that has a slope steeper than 2:1, unless substantiated by a Registered Soils Engineer and approved by the Building Official. (J107.2)

22. Site Development and Grading shall be designed to provide access to all entrances and exterior ground floor exits for structures, and access to normal paths of travel (11B-206). The following Accessibility details must be included on the grading plans.

a. Surface slopes of accessible parking spaces shall be the minimum possible and shall not exceed one unit vertical to 50-units horizontal (2-percent slope) in any direction. (11B-502.4)

b. Ramp shall not encroach into any accessible parking space or the adjacent access aisle. The maximum cross slope in any direction of an accessible parking space and adjacent access aisle shall not exceed 2 percent. (1109A.8.2)

c. Provide a bumper or curb in each parking area to prevent encroachment of cars over the required width of walkways. (11B-502.7.2)

d. Provide a continuous common surface for walks and sidewalks, not interrupted by steps or by abrupt changes in level exceeding ½". (11B-403) Should change not exceeding ½" occur, they shall be beveled with a slope no greater than one unit vertical to 2 units horizontal (50 percent), except that level changes not exceeding ¼" may be vertical. (11B-403.4, Fig 11B-303.2 & 11B-303.3)

e. Provide a curb ramp for abrupt changes in level greater than ½". (11B-303.4)

f. Walk and sidewalk surface cross slopes shall not exceed ¼" per foot. (11B-403.3)

g. Walks, sidewalks, and pedestrian ways shall be free of gratings whenever possible. For gratings located in the surface of any of these areas, grid openings in gratings shall be limited to ½" in the direction of traffic flow. If

gratings have elongated openings, they shall be placed so that the long dimension is perpendicular to the dominant direction of travel. (11B-302.3, Fig 11B-302.3)

h. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp or accessible route, shall not exceed one unit vertical to 20 units horizontal (5 percent slope) with 4 feet of the top and bottom of the curb ramp. (11B-406.2.1) The slope of the fanned or parallel curb ramps shall not exceed one unit vertical to 12 horizontal (8.3 percent slope). (11B-406.3.1 & 11B-406.4.1)

i. The maximum slope of a ramp that serves any exit way, provides access for persons with physical disabilities, or is in the accessible route of travel shall be 1 foot rise in 12 feet of horizontal run (8.3 percent gradient). The least possible slope shall be used for any ramp. (11B-405.2)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

STORM WATER POLLUTION PREVENTION REQUIREMENTS

23. All active grading projects with grading proposed within the rainy season, October 15 to April 15, require an Erosion and Sediment Control Plan (ESCP). Grading permits will not be issued until ESCPs are approved or details for erosion control are included with the grading plan. (J110)

    Grading projects with a disturbed (graded) area 1 acre or greater may use a State SWPPP to meet ESCP requirements.

24. The following requirements to control and protect pollutants generated from grading construction activities are based on the project size:

    a. For small residential construction sites with a disturbed (graded) area less than one acre, stormwater pollution control measures (BMPs) must be incorporated on the site during construction. Attached Best Management Practice (BMP) notes must be placed on plans. (see attached BMP notes)

    b. For all new Non-residential projects with an area less than one acre, an ESCP must be reviewed and approved prior to approval of the grading plans. Please see enclosed ESCP review sheet. (LACGBC 5.106.2)

    c. For all construction sites with a disturbed (graded) area of one acre or greater or as determined by the building official, an ESCP must be reviewed and approved prior to approval of the grading plans. Please see enclosed ESCP review sheet.

    d. For projects with one acre or greater of disturbed area, a State Storm Water Pollution Prevention Plan (STATE SWPPP) must be prepared and a “Notice of Intent” (NOI) filed with the State Water Resources Control Board. Prior to grading approval applicant must file a NOI and obtain a Waste Discharger identification number (WDID) from the State Water Resources Control Board.

DRAINAGE REQUIREMENTS

GENERAL

25. The following drainage information or details must be included on grading plans. (J104.2.3)

    a. Show contours, topography, elevations, flow lines, & flow arrows as necessary to define site drainage.

    b. Provide complete construction details of all drainage devices proposed on project grading plans. Plan must show materials, dimension, location, construction notes, cross sections, and elevations needed to construct proposed devices. All drainage devices must be defined by showing finished flow line elevations and slopes. Plans must reference LACDPW or Standard Plans for Public Works Construction (APWA standards) as applicable. Complete details for all other proposed devices must be shown on plans. Plans must include all applicable notes and specifications.

    c. Show the location of any existing or proposed storm drains and associated easement and reference them on the plans. Show all details including pipe sizes, invert elevations, type of construction material, inlet and outlet structures, energy dissipater, profiles, etc.

    d. Provide a cross-section of access road to define drainage.

    e. Clean outs are required at all points of closed drains where the grade changes from a steep to a relatively flat slope. The manhole(s) or cleanout(s) must be detailed on the plans and easily accessible. Clean outs must be provided every 50 feet for residential projects.

    f. Provide concrete interceptor swales, to handle tributary flow and debris at locations shown on the plans. Concrete swales are required to be paved with three (3) inches minimum thickness of concrete or gunite with minimum reinforcement of 6 x 6 - 10/10 welded wire fabric (WWF). Details of concrete swale(s) must be shown on the grading plan.

    g. Show flow elevation of all drainage devices at inlets, outlets, grade breaks and at 100' intervals where applicable.

    h. Define roof drainage. Show down spout and location of discharge to ground surface which shall be at least 5 feet from foundations walls or to an approved drainage system. Unless otherwise recommended by a Geotechnical Engineer (LACRC R801.3).

26. Drainage is not permitted to sheet over any manufactured slope except in approved devices. Concentrated drainage is not permitted to discharge onto any graded slope. Berms, interceptor drains, swales or other devices shall be provided at the top of cut or fill slopes to prevent surface waters from overflowing onto and damaging the face of a slope.

    a. A paved interceptor drain is required at the top of graded slope(s). Interceptor drains shall be installed along the top of graded slopes greater than 5 feet in height receiving drainage from a slope with a tributary width greater than 30 feet measured horizontally. Interceptor drains shall be a minimum depth of 1 foot and a minimum width of 3 feet. The interceptor drain slope shall not be less than 50 units horizontal to 1 unit vertical (2 percent) and must be paved with three (3) inches minimum thickness of concrete or gunite with minimum reinforcement of 6x6 - 10/10 welded wire fabric (WWF). Details of interceptor drain(s) must be shown on the grading plan (J109.3)

    b. An earthen berm at the top of fill slope for slope protection. Earthen berms shall not be less than 12 inches above the level of the pad and shall slope back at least 4 feet from the top of the slope. (J109.3)

27. Clearly define drainage pattern at the property line(s). Define offsite drainage pattern tributary to subject site. Plans should clearly define off site areas that contribute to the site by showing, contours, elevations, or flow lines & arrows as applicable. Plans must demonstrate how tributary drainage will be conveyed through and around the proposed site. If applicable, an offsite map at a scale of no less than 1"=1000' may be used to define the offsite tributary areas. A scale greater than 1"=1000' will be required if contours or elevations are insufficient to establish flow conditions.

28. Cut-off walls are required on all inlet and outlet structures. Details must be shown on plans.

29. Velocity reducers (i.e. energy dissipaters) are required where drains discharge onto natural ground. If riprap is to be used specify class and size. Outlet velocities from proposed drainage devices must be designed to minimize erosion. Show on plan and provide cross section detail which shows thickness, length, and embedment depth of rocks.

30. Provide parkway drain per county/city standards (If located in Road Right of Way a separate permit for work will be required, see Agency Referral Sheet).

DRAINAGE ANALYSIS

31. Any alteration of the natural drainage pattern, as a result of the proposed grading and construction requires a drainage release covenant (See item # 9). Hydrology/hydraulic analysis are required to determine if changes in Pre-development and Post-development conditions have occurred. (J109.4)

32. Submit hydrology and hydraulic calculations for sizing of drainage devices proposed on the grading plans. Hydraulic Analysis should be provided for sizing of all pipes, inlets, swales, energy dissipaters, parkway drains, cutoff walls, levee linings, or other proposed drainage devices. (Calculations should be signed and stamped by a Civil Engineer registered in California.)

33. Proposed project has grading or structure located near or within in a flood hazard. Provide hydrology/hydraulic analysis for determining flood hazard limits and impacts due to the proposed project. Grading or structures inside a flood hazard area must be protected. Plans showing for protecting or removing the Flood Hazard must be prepared by a California Registered Civil Engineer and demonstrate structures are adequately protected. Details of all protective measures must be shown on the grading plans.

34. This property is in a Federally Designated Special Flood Hazard Area. Buildings and structures constructed in whole or in part in flood hazard areas must comply with LACBC Sections 1612 and LACRC Section R322.1.9. All work within Zone A must meet requirements of the National Flood Insurance Program (NFIP), Chapter 44, Section 60.3. The minimum floor elevation for proposed structures shall be_____ per Bench Mark reference no. _____, FIRM panel No. _____, Flood Zone_____, Floodway name_____ or as determined in accordance with Sections 1612.3.1 and R322.1.4.1. An elevation certificate will be required to be filed at the local office of Building and Safety Once the finished floor elevation has been established. The certificate must be completed by a California Registered Civil Engineer or a Land Surveyor as per Sections 1612.5 and R322.1.9. Provide hydrology/hydraulic analysis to determine the water surface elevation.

    ❑ Place the following note on the cover sheet:

    This site is in a Federally Designated Special Flood Hazard Area. All future buildings, and other structures (including walls and fences) proposed within Zone A must meet requirements of the National Flood Insurance Program (NFIP), Title 44, Section 60.3 and Title 26, Sections 110.1 and 110.2 of the Los Angeles Building Code.

35. The proposed Tract or Parcel Map grading work impacts or encroaches into the Federal Designated Flood Zone "A." It will be necessary to process a Conditional Letter of Map Revision (CLOMR) before this grading plan can be approved. Please see attached information for processing CLOMRs (may be required for large single lot developments as determined by the Building Official).

36. For items #31 through 35 above the following analysis is required:

    a. A hydrology study per LACDPW Rational or Modified method is required. See LADPW Hydrology Manual for requirements. The Rational Method may be used for sub areas less than 40 acres and when storage routing is not necessary. Time of Concentrations may be determined using the “Hydrocalc Program” which is available at: http://www.dpw.lacounty.gov/wrd/publication/

    b. A gradual varied flow analysis is required (WSPG, HEC-II & HEC-RAS or an approved program) The analysis shall address adverse effects on the grading and adjacent properties. Proposed structures shall be designed with considerations of flood forces i.e.: impact, scour, and buoyancy.

LOT DRAINAGE

ROUGH GRADED PADS

37. Label sufficient pad finish spot elevations to verify pad area will have a minimum slope of 2% toward the intended drainage outlet. Label rough graded pad slope, 2% minimum. (J109.5)

FINE (PRECISE) GRADED PAD

38. Show location of proposed structure(s) on building pad(s). Buildings, foundations, pools and building footings must comply with slope setback requirements (1808A.7 and R403.1.7) and building setback requirements per (Title 22, Zoning Code). Define fine drainage around structure by providing flow directional arrows and appropriate flow line elevations of graded swale to verify slope from the high point to the point of outlet. All graded swales must have a minimum slope of 1% towards street or acceptable outlet and side slopes of 2% minimum and 21% maximum. Paved (concrete) surfaces may drain away from structures at a minimum slope of ½%. Specify graded swales high point elevations and graded swale elevations at building corners. Alternate setbacks shall be approved by GMED in accordance with 1808A.7.5.

39. Provide a detail of typical side swale between adjacent lots.

40. Label the finish floor (FF), finish pad (FP) elevations and adjacent grades to proposed buildings.

41. Provide a minimum grade fall of 6 inches within the first 10 feet from foundation wall. Show flow arrows to define drainage pattern around proposed structures. (LACRC R401.3 – See allowable exceptions)

42. Show a detail on the plan of paved side swales when a stoop, fireplace, A/C unit, or other obstruction is within five feet of the property line and/or top or toe of slope.

SUMP CONDITIONS & PUMPS

43. The project requires a sump pump to outlet drainage from the site. Submit sump pump sizing calculations along with pump manufacturers design information and rating curves. Plans must show complete details for sump pumps on the plans including, pipes, valves, dimensions, material type and size, elevations, cross sections, and construction notes. A separate electrical permit from Building and Safety is required. Calculations must be prepared, signed, and stamped by a California Registered Civil Engineer. A recorded covenant is also required for maintenance of the Sump Pump. A draft copy of the covenant including all exhibits must be reviewed and approved prior to recordation.Sump Pump Manual (6-15-2016).pdf (lacounty.gov)

TERRACE DRAINAGE REQUIREMENTS TO BE SHOWN ON PLANS

44. Drainage terraces at least 8 feet in width shall be established on all cut or fill slopes steeper than 3:1 at not more than 30-foot vertical intervals to control surface drainage and debris. When only one terrace is required it shall be at mid-height. Drainage terraces are required to be paved with three (3) inches minimum thickness of concrete or gunite with minimum reinforcement of 6 x 6 - 10/10 welded wire fabric (WWF). Show a detail of terrace on the grading plan. (J109.2)

45. For slopes steeper than 3:1 gradient and between 100 feet and 120 feet in height, one drainage terrace near mid-height shall be provided and not be less than 20 feet in width, a minimum of 8 feet of which must be paved. (J109.2)

46. Erosion is a problem for all graded slopes higher than 30 feet. For slopes flatter than 3 units horizontal to 1 unit vertical and steeper than 5 units horizontal to 1 unit vertical, a paved swale or ditch shall be installed at 30 foot vertical intervals to control surface drainage and debris. Swales shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in Section J109.5. Swales must be paved with reinforced concrete not less than 3 inches in thickness, reinforced with 6-inch by 6-inch No.10 by No.10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an equivalent approved by the Building Official. Swales must have a minimum flow line depth of 1 foot and a minimum paved width of 18 inches. Swales shall have a minimum gradient of not less than 5 percent. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade.

47. Demonstrate that the maximum length of terrace or swale that may contribute to any down drain is 300 feet in any direction as required. (J109.2)

48. Provide open down drains unless specifically approved by the Building Official.

49. Provide a detail on the plans of transition structures for open drains where the grade changes from a steep to a relatively flat slope.

50. Show flow line elevations of all drainage terraces at each change in grade and at approximate 100 feet intervals. The flow line gradient can be no less than 5% and no greater than 12%. There shall be no reduction in grade along the direction of flow unless it can be shown that the velocity of flow will be such that the debris will remain in suspension on the reduced grade to prevent silt deposition. (J109.2)

51. Terrace drains are to be used for drainage generated from manufactured slopes. Provide separate drainage system for natural areas. The draining of natural slope runoff to terrace drain system is not permitted. The terrace drain system is only designed and intended to drain flows generated from the slope itself.

52. Sufficient access for the maintenance of slope and terrace drains must be provided and shown on plans.

RETAINING WALL AND FREE STANDING WALLS

53. STANDARD RETAINING AND SCREEN WALLS -- These walls are not plan checked, constructed, inspected, or permitted per the grading permit. Separate plan checking and permitting is required. Label all standard retaining walls “To be constructed per separate permit”. Retaining wall permit(s) and grading permit must be issued concurrently.

54. GENERAL WALL COMMENTS

    a. Define proposed drainage scheme around walls. Flows tributary to top of proposed retaining wall(s) must be conveyed around the wall(s) by a concrete swale or an approved drainage system (i.e. inlet and pipe). Provide details of drainage system or swale. Show flow line elevations, swale, inlet, and outlet details.

    b. Show and label applicable setbacks from walls to structures and top and/or toe of both existing and proposed slopes and property lines.

55. SEGMENTAL EARTH (GEOGRID) RETAINING WALLS: These walls are plan checked, constructed, bonded, and inspected per the grading plans and permit. The following is required for the proposed geogrid wall:

    a. Details and stability analysis for geogrid walls must be approved by the Soils and Geology Section of the Department’s Geotechnical and Materials Engineering Division. Please see attached GMED Plan Check Referral Form for instructions.

    b. Provide on plans all manufacturers construction instructions and installation procedures for the construction of the segmental earth retaining walls. Proposed wall systems must have an approved ICBO Evaluation Report/ICC-ES Legacy Report, which must be labeled on the plan. Walls not approved through a report will require additional review by Research Section.

    c. The geogrid fabric must be mechanically anchored to the facing units. Provide details of the facing unit and the mechanical connection.

    d. Provide adequate wall sections (wall face, endpoints, curves/corners, areas adjacent to drainage courses) and label the geogrid type, location, spacing and embedment length behind the interior face of the block unit.

e. Label all pertinent geotechnical recommendations, such as maximum allowable rock size, placement/compaction specifications for the backfill, overexcavation, and minimum distance from compaction equipment to wall face.

f. In order to prevent future damage to the geogrid wall, a Restricted Use Area (RUA) for the embedment area of reinforcing geogrid must be recorded. This area shall extend 10' horizontally beyond the limits of the embedment area. Show and label the RUA on the grading plans including bearings and distances of boundary.

- ❑ For Subdivisions, the RUA must be established and recorded on the Final Tract or Parcel Map.
- ❑ For Non – Subdivisions, a sketch and restricted use covenant must be recorded on the property.

SLOPE PLANTING, IRRIGATION AND EROSION CONTROL

56. The surface of all cut slopes more than 5 feet in height and fill slopes more than 3 feet in height shall be protected against damage from erosion by planting with grass or ground cover plants. (J110.1) Slopes exceeding 15 feet in vertical height shall also be planted with shrubs, spaced at not to exceed 10 feet on centers; or trees, spaced at not to exceed 20 feet on center; or a combination of shrubs and trees at equivalent spacing, in addition to the grass or ground cover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site.

Note: Planting may be modified for the site if specific recommendations are provided by both the Soils Engineer and a Landscape Architect. Specific recommendations must consider soils and climatic conditions, irrigation requirements, planting methods, fire retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that the alternative planting will provide a permanent and effective method of erosion control. Modifications to planting must be approved by the Building Official prior to installation.

57. Slopes required to be planted by Subsection J110.3 of the Building Code and as indicated in item no. 79 above shall be provided with an approved system of irrigation that is designed to cover all portions of the slope. For slopes less than 20 feet in vertical height, hose bibs to permit hand watering will be acceptable if such hose bibs are installed at conveniently accessible locations where a hose no longer than 50 feet is necessary for irrigation.

Note: The requirements for permanent irrigation systems may be modified upon specific recommendation of a landscape architect or equivalent authority that, because of the type of plants selected, the planting methods used and the soil and climatic conditions at the site and irrigation will not be necessary for the maintenance of the slope planting.

58. For items no. 56 and 57 above, the following is required:
   a. For slopes less than 20' in vertical height, notes no. 48 and 49 of the attached general notes must be added to the grading plans.

   b. For slopes 20' or more in vertical height, provide a landscape and irrigation plan specifying the selected planting and irrigation for all graded slopes. Include the selection and spacing of all ground cover, shrubs, and trees, in addition to location and details for the selected irrigation system. The plan should address all manufactured slopes that are proposed on the grading plans. A separate plumbing permit may be required for the proposed irrigation system. The landscape plan must be stamped by a licensed civil engineer or landscape architect.

59. All developments that fall into one of the following categories must obtain a Landscape Permit (Title 23 of California Code of Regulations, Chapter 2.7, Division 2 of "Model Water Efficient Landscape Ordinance (MWELO)". See exemptions in in same section for historic sites, ecological, cemetereies, or mine reclamation projects:

   ☐ New Proposed Irrigated Landscape 500 square feet or greater

   ☐ Rehabilitated Irrigated Landscape 2500 square feet or greater

   a. Specify both here and on the plans: The total proposed landscape area is _____ square feet.

   a. Submit Landscape Plans to Land Development Division for review and approval. Landscape Plans must be approved, and a Landscape Permit issued prior to Rough Grade approval. Land Development Division is located at 900 S. Fremont Ave 3rd Floor, Alhambra, CA 91803. Apply for a Landscape Efficiency Plan at https://epicla.lacounty.gov/energov_prod/SelfService/#/home/

   b. Note no. 50 of the attached general notes must be added to the grading plans.

   c. Projects having landscaping equal to or less than 2500 square feet and are proposing rainwater storage or graywater use for irrigation is subject only to Appendix D Section (5) of MWELO. Submit landscape plans to Land Development Division as directed in 83 b. Consult LA County Public Health for additional requirements https://dpw.lacounty.gov/wwd/web/Documents/Graywater%20System.pdf. Approval from Regional Water Quality Control Board and LA County Building and Safety Plumbing Section may also be required.

60. All Landscaping requires a Smart Irrigation Controller. Automatic irrigation system controllers for landscaping shall be installed at the time of final inspection and shall comply with the following:
   i. Controllers shall be weather or soil moisture based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
   ii. Weather based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture based controllers are not required to have rain sensor input.

   ☐ Show location where Smart Irrigation Controller is to be installed and label manufacture name and model number.

LOW IMPACT DEVELOPMENT (LID) Requirements

All development must comply with the County of Los Angeles' Title 12, Chapter 12.84 (LID).
LID standards are intended to distribute stormwater and urban runoff across developed sites to help reduce adverse water quality impacts and replenish groundwater supplies. The LID Manual is available at the following link: http://dpw.lacounty.gov/ldd/web/

Under the NPDES permit (LACBC Section 106.4.3) and the County of Los Angeles LID ordinance, priority projects are required to prohibit the discharge of pollutants from property developments. Preventing these pollutants from entering stormwater discharge system will be accomplished by requiring the installation and maintenance of post-construction treatment controls. (Best Management Practices (BMPs)

Residential development of 4 units or less:

☐ New development, hillside development, redevelopment, alterations, or additions which alter 50% or more of impervious surfaces, entire site shall meet LID requirements.

61. **Residential development of 4 units or** less must implement a minimum of two LID Best Management Practice (BMP) alternatives as indicated in Section 3.2 and Appendix E – Stormwater Quality Control Measure Fact Sheets of the LID Manual. Plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, and setbacks from property lines needed to construct proposed LID BMPs. BMPs should be designed so as not to adversely impact building foundations, pavement, slope stability, or an adjacent property. For hillside properties all catch basins and inlets that discharge into an existing or proposed storm drains must be labeled to discourage illegal dumping of pollutants. Stencils are available at your local Building and Safety office.

a. Permeable Porous Pavement or other impervious surfaces (at least 50% of pavement on lot shall be porous)
- Show detail of placement, base, geotextile, subgrade, and soil preparation per manufacturer's specifications.
- The required soils report must address percolation and manufacturer's recommendations and guidelines.
- H-20 loading is required for Fire Department access.
- A minimum of 30" deep impervious liner or edge restraint is required within 5' of public right of way, property lines, and structures unless otherwise recommended by a soils engineer.

b. Downspout routing (choosing one of the options below satisfies 1 of 2 required BMPs)

☐ Cistern/rain barrel (Option 1)
- Show location of cistern/rain barrels. Rain barrels should be designed to store 200 gallons and be located such that roof run-off is equally distributed. Rain gutters & downspouts shall be shown on plans.
- Plans shall show hose bibs or pump systems for discharge and watering of landscaping. (Note: A separate electrical permit is required for pump systems).
- A plumbing permit is required for backflow prevention devices when the discharge system is tied into a landscaping irrigation system served by a potable water source.
- H-20 loading is required for underground cisterns located in an area subject to traffic conditions.
- Plans should include manufacturer specifications and notes for rain barrels. See provided guidelines.

☐ Rain garden/Stormwater Planter (Option 2)
- Surface area of flow through type planter box shall be designed and sized to treat 200 gallons. Planter must have a 18" minimum top soil layer and 12" minimum gravel layer. The infiltration type planter box shall be designed to infiltrate 200 gallons over a 48 hour period.

c. Divert Runoff/Disconnect Impervious Surfaces (Hillsides ≥ 25% slope must comply with this requirement)
- Show driveway, roof, and other impervious surfaces to drain toward pervious landscaped areas. The ratio of impervious to pervious area shall be no less than 2:1. This ratio must be identified on plans for each affected area. A minimum of 90% of the untreated impervious area shall be routed toward vegetated areas or water quality BMPs.

d. Dry well
- Show details including the following: location, cross section details, liner materials, subbase, and all manufacturer's specifications and/or recommendations from soils engineer. The required soils report shall address dry well and manufacturer's specification and requirements.
- The system should be designed to store and infiltrate a minimum of 200 gallons of stormwater within a 48 hour period.
- Provide calculations to determine the infiltration volume for sizing of well and determine time of infiltration to percolate 200 gallons.
- A filter or sediment control is required to filter water entering the dry well.
- Drywells that are deeper than their widest dimension are defined by the EPA as Class V injection wells, and are subject to inventory requirements under the Safe Drinking Water Act and must be registered at the following link with the EPA as injection wells. http://www.epa.gov/region09/water/groundwater/injection-wells-register.html. If this type of dry well is proposed, provide copy of registration.

e. Landscaping and landscape irrigation
- Show a minimum of two 15-gallon trees to be planted and maintained. Trees shall be located near impervious surfaces (10 foot maximum distance). One of the trees may be on the drought-tolerant plant list as required under the County's Green Building Ordinance (http://planning.lacounty.gov/assets/upl/project/green_drought-tolerant-garden.pdf). In Very High Fire Hazard Severity Zones, applicant should verify compliance with Fire Department's requirements https://www.fire.lacounty.gov/forestry-division/forestry-fuel-modification/.
    - Install Smart Irrigation Controllers. (see Comment 86 for requirements)

f. Green Roof
- Show area of green roof on site plan.
- Structural calculations for design of green roof will be required at time of building plan submittal.
- Fire Department approval will be required as part of building plan check.

62. **The following is a list of Designated Projects for new development and redevelopment activities that require compliance with LA County's LID ordinance. (See LID manual for additional information)**

- ❑ All development projects equal to 1 acre or greater of disturbed area and adding more than 10,000 square feet of impervious surface area
- ❑ Residential new or redeveloped projects that creates, adds, or replaces ≥10,000 square feet of impervious surface area.
- ❑ Industrial parks 10,000 square feet or more of surface area
- ❑ Commercial malls 10,000 square feet or more surface area
- ❑ Retail gasoline outlets 5,000 square feet or more of surface area
- ❑ Restaurants (SIC 5812) 5,000 square feet or more of surface area
- ❑ Parking lots 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces
- ❑ Street and road construction of 10,000 square feet or more of impervious surface area
- ❑ Automotive service facilities with 5,000 square feet or more of surface area
- ❑ Projects located in or directly adjacent to, or discharging directly to a Significant Ecological Area (SEA),where the development will discharge storm water runoff that is likely to impact a sensitive biological species or habitat; and Create 2,500 square feet or more of impervious surface area
- ❑ Redevelopment projects identified below*:
    - Land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area
    - Development which alters less than 50% of impervious surfaces. Only proposed re-development needs to meet NPDES requirements.
    - Development which alters 50% or more of impervious surfaces. Entire site shall meet NPDES requirements.

*Impervious surface replacement, such as the reconstruction of parking lots and roadways which does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Redevelopment does not include the repaving of existing roads to maintain original line and grade.

REQUIREMENTS:

A. New Development and Re-Development Projects must control runoff through infiltration, bioretention, and/or rainfall harvest and use. Project must retain onsite the Stormwater Quality Design Volume (SWQDv) as defined by the *greater of the following:*

- The 0.75-inch, 24 hour rain event or
- The 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map (www.dpw.lacounty.gov/wrd/hydrologygis) ,.

B. Bioretention and biofiltration systems shall meet the design specifications provided in Appendix E of LA County's LID manual. (available at http://dpw.lacounty.gov/ldd/web/). Biofiltration systems shall be entirely open-bottom.

C. When evaluating the potential for onsite retention, each projects must consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and reuse for both indoor and outdoor use.

D. To demonstrate technical infeasibility, it must be shown that a project site cannot reliably retain 100 percent of the SWQDv onsite. Technical infeasibility may result from the following:
    i. The infiltration rate of saturated in-situ soils less than 0.3 inch per hour.
    ii. Seasonal high ground water is within 5 to 10 feet of the surface.
    iii. Locations within 100 feet of a ground water well used for drinking water.
    iv. Brownfield development sites where infiltration poses a risk of pollutant mobilization.
    v. Locations with potential geotechnical hazards.

E. When technical infeasibility has been demonstrated the site must biofiltrate using the following equation for volume required:

Bv = 1.5 * [SWQDv – Rv]

Where: Bv = Biofiltration volume
SWQDv = Stormwater runoff as defined in 88 A
Rv = Volume reliably retained onsite (amount infiltrated)

Show volumes and flow rates on plans as applicable.

Note: For additional alternative compliance measures see Regional Water Quality Control Board Order No. R4-2012-0175 section VI.D.7.c.iii (http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/index.shtml)

F. Project sites that outlet to natural drainage systems that are subject to hydromodification shall be in compliance with LA County's LID manual, Section 8 (available at http://dpw.lacounty.gov/ldd/web/).

G. The plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, GPS x-y coordinates for each BMP, and setbacks from property lines needed to construct proposed LID BMPs. BMPs should be designed as not to adversely impact building foundations, pavement, slope stability, or an adjacent property.

H. Clearly show driveway/access road drainage and provide BMPs for treatment of driveway flows. Provide elevations, cross sections, or slopes as applicable.

I. Submit and obtain approval from Environmental Programs Division, Industrial Waste Unit at 900 S. Fremont, Alhambra, Annex Building, 3rd floor, Alhambra, CA 91803. Please contact EPD by email at IW@pw.lacounty.gov or call (626) 458-3517 for required fees and submittal requirements. An annual operating permit may be required. , . Please note: prior to obtaining approval from EPD the location and the design flows for all BMPs must be shown on plans and approved by Building and Safety (This applies to all non-residential projects).

J. Pre-treatment BMPs are required.

63. **Non-Designated Projects.**

Non-residential development (Commercial, Industrial) or a residential development consisting of 5 or more residential units:

☐ Development which alters less than 50% of impervious surfaces. Only proposed new impervious areas needs to meet LID requirements.

☐ Development which alters 50% or more of impervious surfaces. Entire site shall meet LID requirements.

A. This project is required to retain the Delta Storm Water Quality Design Volume (ΔSWQDv), the difference between the stormwater runoff volume pre- and post-condition. The SWQDv, from which the ΔSWQDv is calculated, is defined in item 85A of this grading review sheet. ΔSWQDv is defined as the difference in the runoff volume between undeveloped (1% impervious surface) and post-developed condition. The ΔSWQDv is calculated according to the following equation:

$$\Delta SWQDv = V_d - V_u$$

Where: ΔSWQDv = Increase in stormwater runoff volume from the project [ft3];
V_d = Stormwater runoff volume post-development [ft3]; and
V_u = Undeveloped stormwater runoff volume [ft3] (1% impervious).

If ΔSWQDv cannot be infiltrated due to geotechnical or technical feasibility as indicated in Section 7 of the County's LID Manual; onsite storage or other water conservation requirements must be implemented.

B. Provide calculations for sizing of the proposed BMP's. Calculations must consider ΔSWQDv, percolation rate, and geotechnical considerations.

C. Plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, GPS x and y coordinates for each BMP, and setbacks from property lines needed to construct proposed LID BMPs. BMPs should be designed as not to adversely impact building foundations, pavement, slope stability, or an adjacent property.

D. Hydrology Calculations to determine the increase in volume due to development is required. For smaller sites, the County's Hydrocalc Program may be used for determining Pre- and Post-construction volumes. See Section 6 of County's LID Manual.

- A drain system is required for all infiltration basins. Drain systems shall discharge to an approved location and must be shown on site drainage or grading plans. Calculations for sizing of the infiltration basins are required.

64. For LID compliance, all catch basins and inlets that discharge into an existing or proposed storm drain must be labeled to discourage illegal dumping of pollutants. Stencils are available at your local Building and Safety office.

65. All infiltration basins, dry wells, or planters must comply with the following setbacks

Infiltration Facility Setbacks*	
Setback from	Distance in feet
Property lines & Public Right of Way	5' minimum
Any Foundation	15' or within a 1:1 plane drawn up from the bottom of foundation
Face of any slope	H/2, 5' minimum (H is height of slope)*
Seasonal high ground water	10' minimum depth to invert
Water wells	100' minimum

Required Infiltration Time (*due to vector control*)	
BMP Type	Duration
Open above ground (includes planting soil or open gravel pit)	48 hours to drain completely
Underground retention	96 hours to drain completely

*unless otherwise recommended by a Soils Engineer and approved by Geotechnical and Materials Engineering Division.
Note: Infiltration is not allowed in areas where pollutant mobilization is a documented concern, or where undisturbed soil infiltration rates are less than 0.3 inches per hour, or where infiltration could cause adverse impacts to biological resources.

66. An Infiltration Report by a Soils Engineer and the grading plans must be reviewed and recommended for approval by the Geology and Soils Section prior to approval of an Infiltration/Retention - Low Impact Development (LID) BMP. Please see attached GMED Plan Check Referral Form for instructions. The Infiltration Report must comply with GMED Geotechnical Memo GS 200.1 and should be presented as its own report. All recommendations and notes as indicated in the soils engineering report and/or GMED review sheets must be incorporated into the grading plans. The GS 200.1 memo can be found at: http://dpw.lacounty.gov/gmed/permits/docs/policies/GS200.1.pdf

Gravel Specification for Non-proprietary gravel storage layers must indicate 1.5" to 3" diameter, angular, clean rock compacted to 90% relative compaction or equivalent determined and field verified by a Soils Engineer.

67. Rainwater harvest and reuse systems that are NOT gravity fed require approval from LA County Public Health, Cross Connection & Water Pollution Control Program. The application and further information is found at http://publichealth.lacounty.gov/eh/EP/cross_con/cross_con_main.htm. In addition, approval from LA County, Building and Safety Plumbing Section is required. Rainwater harvest design and plans must comply with County of Los Angeles, Plumbing Code, Chapter 16 – Non-Potable Rainwater Catchment Systems.

68. Different types of infiltration facilities such as dry wells, unlined sumps, seepage pits, and infiltration galleries are some of the terms used to describe Class V injection wells as defined by the EPA. Register the proposed infiltration facility at the following online registration form: http://www.epa.gov/uic/forms/underground-injection-wells-registration.

69. A recorded covenant indicating that the owner of the subject development is aware and agrees to maintain all stormwater BMP features for this project is required. The covenant shall include operation and maintenance guidelines prepared by the project civil engineer/architect. See attached LID Covenant Preparation and Recordation instructions. A draft copy of the covenant including all exhibits must be reviewed prior to recordation.

70. A Statement of Understanding and/or O&M Guidelines must be provided for Capital Projects.

71. Provide Attached LID table on LID Plan or in LID Report.

ADDITIONAL CORRECTIONS: _____

_____

_____

_____

_____

_____

Reviewed By: _____

_____

_____

_____

The following project information and grading notes as applicable must be shown on all grading plans.
PROJECT INFORMATION: (Required on Title Sheet of all Grading Plans)

(General Information)

- Grading Permit Application No. GRAD_____ *
- Earthwork Volumes Cut_____(cy), Fill_____ (cy) *
  Over Excavation/ Alluvial Removal & Compaction _____ (cy) *
  Export _____(cy), Export Location: _____ *
- Total Disturbed Area _____ (Acres) *
- Total Proposed Irrigated Landscape Area _____ Square Feet *
- • Pre-Development (Existing) Impervious area _____ (SF) *
- Post-Development (Proposed) Impervious area _____ (SF) *
- Waste Discharge Identification Number (WDID #) _____
- Construction & Demolition Debris Recycling and Reuse Plan (RPP ID) _____ *

(Property Information)

- Property Address _____ (If exist *)
- Tract / Parcel Map No. _____ Lot/Parcel No. _____
- Property Owner _____ *
- Assessors ID Number(s) _____ *

(Zoning, Regional Planning, and other Agency Information)

- Property Zoning: _____ *
- Intended Land Use: _____ *
  (For proposed graded areas - i.e. ... Single Family Residence)
- Certificate of Compliance: CC NO._____
- Plot Plan Number: PP NO._____
- Conditional Use Permit: CUP NO._____ Expiration Date: _____
- Oak Tree Permit Number: OTP NO._____ Expiration Date: _____
- Community Standards District:_____
- California Coastal Commission Area: _____Yes, _____No Approved volume: _____(cy)
- Coastal Development Permit CDP_____ Expiration Date: _____
- Fish & Wildlife, Army Corp of Engineers, Regional Water Control Board, AQMD & Other Agency Permits should be added as applicable. (Permit Number_____, Expiration Date_____)

Note: Items marked * are required on all grading plan.

GENERAL NOTES:

1. All grading and construction shall conform to the 2023 County of Los Angeles Building Codes and the State Model Water Efficiency Landscape Ordinance unless specifically noted on these plans.
2. Any modifications of or changes to approved grading plans must be approved by the Building Official.
3. No grading shall be started without first notifying the Building Official. A Pre-gradie meeting at the site is required before the start of the grading with the following people present: Owner, grading contractor, field engineer, soils engineer, geologist, County grading inspector(s) or their representatives, and when required the archeologist or other jurisdictional agencies. Permittee or their agent is responsible for arranging the Pre-grade meeting and must notify the Building Official at least two business days prior to the proposed pre-grade meeting.
4. Approval of these plans reflect solely the review of plans in accordance with the County of Los Angeles Building Codes and does not reflect any position by the County of Los Angeles or the Department of Public Works regarding the status of any title issues relating to the land on which the improvements may be constructed. Any disputes relating to title are solely a private matter not involving the County of Los Angeles or the Department of Public Works.
5. All grading and construction activities shall comply with County of Los Angeles Code, Title 12, Section 12.12.030 that controls and restricts noise from the use of construction and grading equipment from the hours of 8:00 PM to 6:30 AM, and on Sundays and Holidays. *(More restrictive construction activity times may govern, as required by the Department of Regional Planning and should be shown on the grading plans when applicable.)*
6. California Public Resources Code (Section 5097.98) and Health and Safety Code (Section 7050.5) address the discovery and disposition of human remains. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, the law requires that grading immediately stops and no further excavation or disturbance of the site, or any nearby area where human remains may be located, occur until the following has been measures have been taken:
   a. The County Coroner has been informed and has determined that no investigation of the cause of death is required, and
   b. If the remains are of Native American origin, the descendants from the deceased Native Americans have made a recommendation for the means of treating or disposing, with appropriate dignity, of the human remains and any associated grave goods.
7. The location and protection of all utilities is the responsibility of the Permittee.

8. All export of material from the site must go to a permitted site approved by the Building Official or a legal dumpsite. Receipts for acceptance of excess material by a dumpsite are required and must be provided to the Building Official upon request.

9. If contaminated soils are encountered at any time during grading activities, permittee shall stop work until an oversight agency approval is received. Contact LA County Fire Site Mitigation Unit at (323) 890-4045 immediately.

10. A copy of the grading permit and approved grading plans must be in the possession of a responsible person and available at the site at all times.

10. Site boundaries, easements, drainage devices, restricted use areas shall be located per construction staking by Field Engineer or licensed surveyor. Prior to grading, as requested by the Building Official, all property lines, easements, and restricted use areas shall be staked.

11. No grading or construction shall occur within the protected zone of any protected tree species as required per Planning Approval.

12. The standard retaining wall details shown on the grading plans are for reference only. Standard retaining walls are not checked, permitted, or inspected per the Grading Permit. A separate retaining wall permit is required for all standard retaining walls.

Note: This note only applies to standard retaining walls. Geogrid fabric and segmental retaining walls do not require a separate retaining wall permit. Details and construction notes for all Geogrid walls must be on the grading plan.

13. A preventive program to protect the slopes from potential damage from burrowing rodents is required per Section J101.8 of the County of Los Angeles Building Code. Owner is to inspect slopes periodically for evidence of burrowing rodents and a first evidence of their existence shall employ an exterminator for their removal.

14. Where a grading permit is issued and the Building Official determines that the grading will not be completed prior to November 1, the owner of the site on which the grading is being performed shall, on or before October 1, file or cause to be filed with the Building Official an ESCP per Section J110.8.3 of the County of Los Angeles Building Code.

15. Transfer of Responsibility: If the Field Engineer, the Soils Engineer, or the Engineering Geologist of record is changed during grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the Building Official in writing of such change prior to the recommencement of such grading.

INSPECTION NOTES

16. The permittee or his agent shall notify the Building Official at least one working day in advance of required inspections at following stages of the work. (Section J105.7 of the Building Code.)

(a) Pre-grade – Before the start of any earth disturbing activity or construction.

(b) Initial - When the site has been cleared of vegetation and unapproved fill has been scarified, benched or otherwise prepared for fill. Fill shall not be placed prior to this inspection. Note: Prior to any construction activities, including grading, all storm water pollution prevention measures including erosion control devices which contain sediments must be installed.

(c) Rough - When approximate final elevations have been established; drainage terraces, swales and berms installed at the top of the slope; and the statements required in this Section have been received.

(d) Final - When grading has been completed; all drainage devices installed; slope planting established, irrigation systems installed and the As-Built plans, required statements, and reports have been submitted and approved.

17. In addition to the inspection required by the Building Official for grading, reports and statements shall be submitted to the Building Official in accordance with Section J105 of the County of Los Angeles Building Code.

18. Unless otherwise directed by the Building Official, the Field Engineer for all engineered grading projects shall prepare routine inspection reports as required under Section J105.11 of the County of Los Angeles Building Code. These reports, known as "Report of Grading Activities", shall be submitted to 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.

Such "Report of Grading Activities" shall 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. This form is available at the following website https://dpw.lacounty.gov/bsd/content/publications.aspx . "Report of Grading Activities" may be scanned and uploaded in the Attachments tab as a "RGA (Reporting of Grading Activity)" document type for permits in EpicLA or on the website https://dpw.lacounty.gov/bsd/dg/default.aspx for all other grading projects.. Failure to provide required inspection reports will result in a "Stop Work Order."

19. All graded sites must have drainage swales, berms, and other drainage devices installed prior to rough grading approval per Section J105.7 of the County of Los Angeles Building Code.

20. The grading contractor shall submit the statement to the grading inspector as required by Section J105.12 of the County of Los Angeles Building Code at the completion of rough grading.

21. Final grading must be approved before occupancy of buildings will be allowed per Section J105 of the County of Los Angeles Building Code.

22. A property line survey, prepared by a CA licensed land surveyor or a civil engineer with a license number below C33966, may be required by the Building Official based upon site conditions in accordance with LACBC Section 108.1.

DRAINAGE NOTES

23. Roof drainage must be diverted from graded slopes.

24. Provisions shall be made for contributory drainage at all times.

25. All construction and grading within a storm drain easement are to be done per Private Drain PD No._____ or miscellaneous Transfer Drain MTD No. _____.

26. All storm drain work is to be done under continuous inspection by the Field Engineer. Status reports required under note 18 and Section J105.11 of the County of Los Angeles Building Code shall include inspection information and reports on the storm drain installation.

AGENCY NOTES (Add - Applicable Notes)

27. An encroachment permit from (County of Los Angeles Department of Public Works) (CALTRANS) (City of _____) is required for all work within or affecting road right of way. All work within Road right of way shall conform to (County of Los Angeles Department of Public Works)(CALTRANS) (City of _____) encroachment permit.

28. An Flood Construction Permit is required from the County of Los Angeles Flood Control District for all work within the County of Los Angeles Flood Control District Right of Way. All work shall conform to conditions set by the Permit.

29. Permission to operate in Very High Fire Hazard Severity Zone must be obtained from the Fire Prevention Bureau or the local Fire Station prior to commencing work.

30. All work within the streambed and areas outlined on grading plans shall conform to:

    - Army Corp 404 Permit Number: _____.
    - California Fish & Wildlife Permit No.: _____.

31. All construction/demolition, grading, and storage of bulk materials must comply with the local AQMD rule 403 for Fugitive Dust. Information on rule 403 is available at AQMD's website http://www.avaqmd.com.

GENERAL GEOTECHNICAL NOTES

32. All work must be in compliance with the recommendations included in the geotechnical consultant's report(s) and the approved grading plans and specifications.

33. Grading operations must be conducted under periodic inspections by the geotechnical consultants with monthly inspection reports to be submitted to the Geology and Soils Section. (900 S. Fremont, Alhambra CA 91803 – 3rd Floor)

34. The Soil Engineer shall provide sufficient inspections during the preparation of the natural ground and the placement and compaction of the fill to be satisfied that the work is being performed in accordance with the plan and applicable Code requirements.

35. Rough grading must be approved by a final engineering geology and soils engineering report. An As-Built Geologic Map must be included in the final geology report. Provide a final report statement that verifies work was done in accordance with report recommendations and code provisions (Section J105.12 of the County of Los Angeles Building Code). The final report(s) must be submitted to the Geotechnical and Materials Engineering Division for review and approval.

36. Foundation, wall and pool excavations must be inspected and approved by the consulting geologist and soil engineer, prior to the placing of steel or concrete.

37. Building pads located in cut/fill transition areas shall be over-excavated a minimum of three (3) feet below the proposed bottom of footing.

FILL NOTES

38. All fill shall be compacted to the following minimum relative compaction criteria:

    a. 90 percent of maximum dry density within 40 feet below finish grade.

    b. 93 percent of maximum dry density deeper than 40 feet below finish grade, unless a lower relative compaction (not less than 90 percent of maximum dry density) is justified by the geotechnical engineer.

       The relative compaction shall be determined by A.S.T.M. soil compaction test D1557-91 where applicable: Where not applicable, a test acceptable to the Building Official shall be used. (Section J107.5 of the County of Los Angeles Building Code.)

    c. 95 percent of maximum dry density is required for all Fire lanes unless otherwise approved by the Fire Department.

39. Field density shall be determined by a method acceptable to the Building Official. (Section J107.5 of the County of Los Angeles Building Code.) However, not less than 10% of the required density test, uniformly distributed, and shall be obtained by the Sand Cone Method.

40. Sufficient tests of the fill soils shall be made to determine the relative compaction of the fill in accordance with the following minimum guidelines:

    a. One test for each two-foot vertical lift.

    b. One test for each 1,000 cubic yards of material placed.

    c. One test at the location of the final fill slope for each building site (lot) in each four-foot vertical lift or portion thereof.

    d. One test in the vicinity of each building pad for each four-foot vertical lift or portion thereof.

41. Sufficient tests of fill soils shall be made to verify that the soil properties comply with the design requirements, as determined by the Soil Engineer including soil types, shear strengths parameters and corresponding unit weights in accordance with the following guidelines:

    a. Prior and subsequent to placement of the fill, shear tests shall be taken on each type of soil or soil mixture to be used for all fill slopes steeper than three (3) horizontal to one vertical.

    b. Shear test results for the proposed fill material must meet or exceed the design values used in the geotechnical report to determine slope stability requirements. Otherwise, the slope must be reevaluated using the actual shear test value of the fill material that is in place.

    c. Fill soils shall be free of deleterious materials.

42. Fill shall not be placed until stripping of vegetation, removal of unsuitable soils, and installation of subdrain (if any) have been inspected and approved by the Soil Engineer. The Building Official may require a "Standard Test Method for moisture, ash, organic matter, peat or other organic soils" ASTM D-2974-87 on any suspect material. Detrimental amounts of organic material shall not be permitted in fills. Soil containing small amounts of roots may be allowed provided that the roots are in a quantity and distributed in a manner that will not be detrimental to the future use of the site and the soils engineer approves the use of such material.

43. Rock or similar material greater than 12 inches in diameter shall not be placed in the fill unless recommendations for such placement have been submitted by the Soil Engineer and approved in advance by the Building Official. Location, extent, and elevation of rock disposal areas must be shown on an “As Built” grading plan.

44. Continuous inspection by the Soil Engineer, or a responsible representative, shall be provided during all fill placement and compaction operations where fills have a depth greater than 30 feet or slope surface steeper than 2:1. (Section J107.8 of the County of Los Angeles Building Code)

45. Continuous inspection by the Soil Engineer, or a responsible representative, shall be provided during all subdrain installation. (Section J107.2 of the County of Los Angeles Building Code)

46. All subdrain outlets are to be surveyed for line and elevation. Subdrain information must be shown on an “As Built” grading plan.

47. Fill slopes in excess of 2:1 steepness ratio are to be constructed by the placement of soil at sufficient distance beyond the proposed finish slope to allow compaction equipment to be operated at the outer limits of the final slope surface. The excess fill is to be removed prior to completion of rough grading. Other construction procedures may be used when it is demonstrated to the satisfaction of the Building Official that the angle of slope, construction method and other factors will have equivalent effect. (Section J107.5 of the County of Los Angeles Building Code.)

PLANTING AND IRRIGATION NOTES:

48. Planting and irrigation on graded slopes must comply with the following minimum guidelines:

    a. The surface of all cut slopes more than 5 feet in height and fill slopes more than 3 feet in height shall be protected against damage by erosion by planting with grass or groundcover plants. Slopes exceeding 15 feet in vertical height shall also be planted with shrubs, spaced at not to exceed 10 feet on centers; or trees, spaced at not to exceed 20 feet on centers, or a combination of shrubs and trees at equivalent spacing, in addition to the grass or groundcover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site. Plant material shall be selected which will produce a coverage of permanent planting effectively controlling erosion. Consideration shall be given to deep-rooted planting material needing limited watering, maintenance, high root to shoot ratio, wind susceptibility and fire-retardant characteristics. All plant materials must be approved by the building official. (Section J110.3 of the County of Los Angeles Building Code)

    Note: Planting may be modified for the site if specific recommendations are provided by both the Soils Engineer and a Landscape Architect. Specific recommendations must consider soils and climatic conditions, irrigation requirements, planting methods, fire retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that the alternative planting will provide a permanent and effective method of erosion control. Modifications to planting must be approved by the Building Official prior to installation.

    b. Slopes required to be planted by Section J110.3 shall be provided with an approved system of irrigation that is designed to cover all portions of the slope. Irrigation system plans shall be submitted and approved prior to installation. A functional test of the system may be required. For slopes less than 20 feet in vertical height, hose bibs to permit hand watering will be acceptable if such hose bibs are installed at conveniently accessible locations where a hose no longer than 50 feet is necessary for irrigation. The requirements for permanent irrigation systems may be modified upon specific recommendation of a landscape architect or equivalent authority that, because of the type of plants selected, the planting methods used and the soil and climatic conditions at the site, irrigation will not be necessary for the maintenance of the slope planting. (Section J110.4 of the County of Los Angeles Building Code)

    c. Other governmental agencies may have additional requirements for landscaping and irrigation. It is the responsibility of the applicant to coordinate with other agencies to meet their requirements while maintaining compliance with the County of Los Angeles Building Code.

49. The planting and irrigation systems shall be installed as soon as practical after rough grading. Prior to final grading approval all required slope planting must be well established. (Section J110.7 of the County of Los Angeles Building Code)

50. Landscape irrigation system shall be designed and maintained to prevent spray on structures. (Title 31, Section 5.407.2.1)

51. Prior to rough grade approval this project requires a landscape permit. Landscape plans in compliance with the “Model Water Efficient Landscape Ordinance” Title 23, Chapter 2.7 of California Code of Regulations (AB 1881) must be submitted to the Department of Public Works, Land Development Division. (900 S. Fremont Ave, Alhambra - 3RD Floor, CA 91803 (626) 458-4921). To obtain Landscape permit approved plans and Water Purveyor acknowledgment form must be submitted to the local Building and Safety office.

Best Management Practice Notes (BMP Notes) to be added to all Grading Plans

BEST MANAGEMENT PRACTICE NOTES:

1. Every effort should be made to eliminate the discharge of non-stormwater from the project site at all times.

2. Eroded sediments and other pollutants must be retained on-site and may not be transported from the site via sheet flow, swales, area drains, natural drainage courses or wind.

3. Stockpiles of earth and other construction related materials must be protected from being transported from the site by the forces of wind or water.

4. Fuels, oils, solvents, and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.

5. Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on-site until they can be disposed of as solid waste.

6. Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.

7. Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other means.

8. Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.

9. "I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/ or inaccurate information, failing to update the ESCP to reflect current conditions, or failing to properly and/ or adequately implement the ESCP may result in revocation of grading and/ or other permits or other sanctions provided by law."

   Print Name _____
   (Owner or authorized agent of the owner)

   Signature _____ Date _____
   (Owner or authorized agent of the owner)

The following BMPs as outlined in, but not limited to, the latest edition of the CASQA Construction BMP Online Handbook or Caltrans Stormwater Quality Handbooks (Construction Site BMP Manual), may apply during the construction of this project (additional measures may be required if deemed appropriate by the Project Engineer or the Building Official)

EROSION CONTROL

EC1 – SCHEDULING
EC2 – PRESERVATION OF EXISTING VEGETATION
EC3 – HYDRAULIC MULCH
EC4 – HYDROSEEDING
EC5 – SOIL BINDERS
EC6 – STRAW MULCH
EC7 – GEOTEXTILES & MATS
EC8 – WOOD MULCHING
EC9 – EARTH DIKES AND DRAINAGE SWALES
EC10 – VELOCITY DISSIPATION DEVICES
EC11 – SLOPE DRAINS
EC12 – STREAMBANK STABILIZATION
EC13 – RESERVED
EC14 – COMPOST BLANKETS
EC15 – SOIL PREPARATION\ROUGHENING
EC16 – NON-VEGETATED STABILIZATION

TEMPORARY SEDIMENT CONTROL

SE1 – SILT FENCE
SE2 – SEDIMENT BASIN
SE3 – SEDIMENT TRAP
SE4 – CHECK DAM
SE5 – FIBER ROLLS
SE6 – GRAVEL BAG BERM
SE7 – STREET SWEEPING AND VACUUMING
SE8 – SANDBAG BARRIER
SE9 – STRAW BALE BARRIER
SE10 – STORM DRAIN INLET PROTECTION
SE11 – ACTIVE TREATMENT SYSTEMS
SE12 – TEMPORARY SILT DIKE
SE13 – COMPOST SOCKS & BERMS
SE14 – BIOFILTER BAGS

WIND EROSION CONTROL

WE1 – WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL

TC1 – STABILIZED CONSTRUCTION ENTRANCE EXIT
TC2 – STABILIZED CONSTRUCTION ROADWAY
TC3 – ENTRANCE/OUTLET TIRE WASH

NON-STORMWATER MANAGEMENT

NS1 – WATER CONSERVATION PRACTICES
NS2 – DEWATERING OPERATIONS
NS3 – PAVING AND GRINDING OPERATIONS
NS4 – TEMPORARY STREAM CROSSING
NS5 – CLEAR WATER DIVERSION
NS6 – ILLICIT CONNECTION/DISCHARGE
NS7 – POTABLE WATER/IRRIGATION
NS8 – VEHICLE AND EQUIPMENT CLEANING
NS9 – VEHICLE AND EQUIPMENT FUELING
NS10 – VEHICLE AND EQUIPMENT MAINTENANCE
NS11 – PILE DRIVING OPERATIONS
NS12 – CONCRETE CURING
NS13 – CONCRETE FINISHING
NS14 – MATERIAL AND EQUIPMENT USE
NS15 – DEMOLITION ADJACENT TO WATER
NS16 – TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIAL POLLUTION CONTROL

WM1 – MATERIAL DELIVERY AND STORAGE
WM2 – MATERIAL USE
WM3 – STOCKPILE MANAGEMENT
WM4 – SPILL PREVENTION AND CONTROL
WM5 – SOLID WASTE MANAGEMENT
WM6 – HAZARDOUS WASTE MANAGEMENT
WM7 – CONTAMINATION SOIL MANAGEMENT
WM8 – CONCRETE WASTE MANAGEMENT
WM9 – SANITARY/SEPTIC WASTE MANAGEMENT
WM10 – LIQUID WASTE MANAGEMENT

Date of Maintenance Agreement ----------	Type of LID Project					GPS Coordinates		Design Storm Greater of (circle one) 0.75-inch 85th Percentile
	Designated		Non- Designated - Small Scale	Non- Designated - Large Scale				Rainfall Depth =
	*Commercial	*Residential	Residential and Redevelopemnt four units or less	*Residential and redevelopemnt four units or more	*Non-Residential	Latitude	Longitude	Stomwater quality control Measures(RET, BIO, VEG, T)
Total Project Area (SF)								
% Impervious Area								
Tributary Area to Site (Ac)								
% Imperviousness of Tributary Area								
*Redevelopement-≤ 50% (check)								
*Redevelopement-≥ 50% (check)								
Site Specific Source Control LID Table 5-1								
Infiltrate/Harvest (Y or N)								
SWQDv 100% retained on-site (Y or N)								
Delta SWQDv (cf)								
*Discharge to Natural Drainage System (Y or N)[1]								
Hydromodification Required (Y[1]) LID Sect 8.2 Exemption crieteria								
Peakflow rate (cfs)								
Required SWQDv (cf):								
BMP Total Capacity (cf, cfs)								

LID COVENANT
PREPARATION AND RECORDATION

1. SUBMIT the following draft documents to your plan check engineer:

   a. LID/NPDES Covenant
   b. LID/NPDES Site Diagram (8 ½" X 11") identifying the location, including GPS x and y coordinates and type, of each post construction BMP feature (Exhibit 1)
   c. LID/NPDES Maintenance Guidelines (8 ½" X 11") as provided by the manufacturer for each post construction BMP feature (Exhibit 2)

   Submit draft covenant WITH exhibits to your plan checker for approval prior to signing and notarizing. Plan checker will notify applicant if documents are ready for recordation or if corrections are needed.

2. COVENANTS MUST BE SIGNED, NOTARIZED, AND RECORDED. Sign, notarize and record documents after notification that the documents are ready to record.

   Note: RECORDATION is the responsibility of the applicant. Addresses for Recorder's Offices can be found at:
https://www.lavote.gov/contact-us/branch-office-locations
   Information for the County's Recorder's office can be obtained on the internet at http://www.lavote.net or by calling *1-800-201-8999, press 3 for real estate filing;* for more information.

   Applicant must provide copy of the recorded LID Covenant and Exhibits stamped by the recorder's office prior to plan approval. It is recommended applicants obtain a copy of the recorded document for their records.

3. For any required forms mentioned below please see:
   http://dpw.lacounty.gov/bsd/publications/index.cfm

RECORDING REQUESTED BY
AND MAIL TO:

Space above this line is for Recorder's use

COVENANT AND AGREEMENT
REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMENT (LID) & NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) BMPs

The undersigned, _____ ("Owner"), hereby certifies that it owns the real property described as follows ("Subject Property"), located in the County of Los Angeles, State of California:

LEGAL DESCRIPTION

ASSESSOR'S ID #_____TRACT NO._____LOT NO._____

ADDRESS: _____

Owner is aware of the requirements of County of Los Angeles' Green Building Standards Code, Title 31 Section 4.106.5 (LID) or 5.160.3 (LID), and the National Pollutant Discharge Elimination System (NPDES) Permit. The following post-construction BMP features have been installed on the Subject Property:

- □ Porous pavement
- □ Cistern/rain barrel
- □ Infiltration trench/pit
- □ Bioretention or biofiltration
- □ Rain garden/planter box
- □ Disconnect impervious surfaces
- □ Dry Well
- □ Storage containers
- □ Landscape and landscape irrigation
- □ Green roof
- □ Other _____
  _____

The location, including GPS x-y coordinates, and type of each post-construction BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1.

Owner hereby covenants and agrees to maintain the above-described post-construction BMP features in a good and operable condition at all times, and in accordance with the LID/NPDES Maintenance Guidelines, attached hereto as Exhibit 2.

Owner further covenants and agrees that the above-described post-construction BMP features shall not be removed from the Subject Property unless and until they have been replaced with other post-construction BMP features in accordance with County of Los Angeles' Title 12, Chapter 12.84 – Low Impact Development Standards.

Owner further covenants and agrees to maintain all drainage devices located within his/her property in good condition and operable condition at all times.

Owner further covenants and agrees that if Owner hereafter sells the Subject Property, Owner shall provide printed educational materials to the buyer regarding the post-construction BMP features that are located on the Subject Property, including the type(s) and location(s) of all such features, and instructions for properly maintaining all such features.

Owner makes this Covenant and Agreement on behalf of itself and its successors and assigns. This Covenant and Agreement shall run with the Subject Property and shall inure to the benefit of the County of Los Angeles and be binding upon Owner, future owners, and their heirs, successors and assignees, and shall continue in effect until the release of this Covenant and Agreement by the County of Los Angeles, in its sole discretion.

Owner(s):

By:_____ Date:_____

By:_____ Date:_____

A notary public or other officer completing the attached certificate verifies only the identity of the individual who signed the document to which the certificate is attached, and not the truthfulness, accuracy, or validity of that document.

(PLEASE ATTACH NOTARY)

FOR DEPARTMENT USE ONLY:

MUST BE APPROVED BY COUNTY OF LOS ANGELES BUILDING AND SAFETY DIVISION PRIOR TO RECORDING.

APPROVED BY:_____ _____ Date _____ Permit No._____
(Print Name) (Signature)

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

ACKNOWLEDGMENT TO EMPLOY CONSULTANTS

(To be completed by the legal owner)

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 owner of the above described property hereby acknowledges by signature that, as a condition of the grading permit and during all work authorized by said permit, registered civil engineer(s) will be retained to perform the duties of the Design Engineer and Field Engineer in accordance with requirements of Appendix J, County of Los Angeles Building Code, and further, that a soil engineer and/or engineering geologist (when required) will be employed to make tests, investigations and file the reports that may be required for compliance with said Code.

Owner(s)_____ Date: _____Telephone:_____
(Signature)
Mailing Address: _____
City:_____ State: _____Zip: _____

Design Engineer _____Reg. No. _____
Firm: _____Telephone: _____
Address: _____City: _____ State: _____Zip: _____

Field Engineer _____Reg. No. _____
Firm: _____Telephone: _____
Address: _____City: _____ State: _____Zip: _____

Soils Engineer _____Reg. No. _____
Firm: _____Telephone: _____
Address: _____City: _____ State: _____Zip: _____

Engineering Geologist _____Reg. No. _____
Firm: _____Telephone: _____
Address: _____City: _____ State: _____Zip: _____

Contractor of Record _____ License No. _____
Firm: _____Telephone: _____
Address: _____City: _____ State: _____Zip: _____

INSTRUCTIONS: THIS DOCUMENT MUST BE COMPLETED AND FILED, TOGETHER WITH DOCUMENT "B", AT THE LOCAL OFFICE OF BUILDING AND SAFETY PRIOR TO ISSUANCE OF THE GRADING PERMIT.

Document "B"

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

ACCEPTANCE OF EMPLOYMENT BY CONSULTANTS

(To be completed by the consultants)

Grading Permit No. _____Date Issued _____Dist. No._____

Address or Location of Property _____

Tract No. or Parcel Map No._____ Lot No(s). _____

Owner(s)_____Telephone_____

Mailing Address_____City_____State_____

The undersigned verify by signature(s) that they have been retained as consultant(s) and agree to notify the Building Official, within 48 hours if such employment is terminated. It is further understood that all required reports are to be submitted to the Building and Safety/Land Development Division by each consultant.

Design Engineer _____Reg. No._____
(Signature)
Firm_____ Telephone_____
Address_____City_____State____Zip_____

Field Engineer _____Reg. No._____
(Signature)
Firm_____ Telephone_____
Address_____City_____State____Zip_____

Soils Engineer _____Reg. No._____
(Signature)
Firm_____ Telephone_____
Address_____City_____State____Zip_____

Engineering Geologist _____Reg. No._____
(Signature)
Firm_____ Telephone_____
Address_____City_____State____Zip_____

Contractor of Record _____License No._____

Firm_____ Telephone_____
Address_____City_____State____Zip_____

INSTRUCTIONS: THIS DOCUMENT MUST BE COMPLETED AND FILED, TOGETHER WITH DOCUMENT "A", AT THE LOCAL OFFICE OF BUILDING AND SAFETY PRIOR TO ISSUANCE OF THE GRADING PERMIT.

Date _____

FIRE DEPARTMENT ACCESS DRIVEWAY REQUIREMENTS FOR GRADING PROJECTS

SITE LOCATION : _____

GRADING PLAN CHECK NO. _____

THIS FORM MUST BE SIGNED AND RETURNED TO THE DRAINAGE AND GRADING UNIT PRIOR TO APPROVAL OF THE GRADING PLAN.

This is to certify that the owner of the subject property is aware of the Fire Department access requirements which are defined in Section 503 of Title 24 of the California Fire Code and the following standards issued by the Forester and Fire Warden:

1. Standard for Private Access Roads and Driveways for Single-Family Dwellings (No Public Right of Way).

2. Standards for Access to All Buildings Other Than Single-Family Dwellings.

Additional grading or construction may be required and approved by the Forester and Fire Warden to meet these requirements prior to issuance of a building permit.

OWNER:	or	ENGINEER:
SIGNATURE_____		SIGNATURE_____
ADDRESS _____		ADDRESS _____

AGREEMENT
REGARDING THE MAINTENANCE OF LOW IMPACT DEVELOPMENT (LID) &
NATIONAL POLLUTANTS DISCHARGE ELIMINATION SYSTEM (NPDES) BMPs

The undersigned, _____ ("developer"), hereby accepts responsibility for maintenance until the
(Name, department and division)

responsibility is legally transferred to _____(public entity maintaining the BMPs)
(Name, department and division, or company)

LEGAL DESCRIPTION

ASSESSOR'S ID #_____TRACT NO._____LOT NO._____

ADDRESS: _____

Developer and Maintaining Entity is aware of the requirements of County of Los Angeles' Green Building Standards Code, Title 31 Section 4.106.5 (LID) or 5.160.3 (LID), and the National Pollutant Discharge Elimination System (NPDES) Permit. The following post-construction BMP features have been installed on the Subject Property:

- □ Porous pavement
- □ Cistern/rain barrel
- □ Infiltration trench/pit
- □ Bioretention or biofiltration
- □ Rain garden/planter box
- □ Disconnect impervious surfaces
- □ Dry Well
- □ Storage containers
- □ Landscape and landscape irrigation
- □ Green roof
- □ Other _____
  _____

The location, including GPS x-y coordinates, and type of each post-construction BMP feature installed on the Subject Property is identified on the site diagram attached hereto as Exhibit 1.

Developer and Maintaining Entity hereby covenants and agrees to maintain the above-described post-construction BMP features in a good and operable condition at all times, and in accordance with the LID/NPDES Maintenance Guidelines, attached hereto as Exhibit 2.

Developer and Maintaining Entity further covenants and agrees that the above-described post-construction BMP features shall not be removed from the Subject Property unless and until they have been replaced with other post-construction BMP features in accordance with Title 12, Chapter 12.84 – Low Impact Development Standards.

Developer and Maintaining Entity further covenants and agrees to maintain all drainage devices located within its property in good condition and operable condition at all times.

Developer and Maintaining Entity further covenants and agrees that if Developer and Maintaining Entity hereafter sells the Subject Property, Developer and Maintaining Entity shall provide printed educational materials to the buyer regarding the post-construction BMP features that are located on the Subject Property, including the type(s) and location(s) of all such features, and instructions for properly maintaining all such features.

Developer and Maintaining Entity makes this Covenant and Agreement on behalf of itself and its successors and assigns. This Covenant and Agreement shall run with the Subject Property and shall inure to the benefit of the County of Los Angeles and be binding upon Developer and Maintaining Entity, future Developers and Maintaining Entities, and their heirs, successors and assignees, and shall continue in effect until the release of this Covenant and Agreement by the County of Los Angeles, in its sole discretion.

Developer(s):

By:_____ Date:_____Division & Department:_____

Maintaining Entity:

By:_____ Date:_____ Division & Department, or Company:_____

Permit No._____