Rotunde Grading Plan. Ya

PROJECT INFROMATION: (Required on Title Sheet of all Grading plans)

(GENERAL INFORMATION)

GRADING PERMIT APPLICATION No. GR ______________________ *
EARTHWORK VOLUMES: CUT **750** (CY), FILL **2,150** (CY)
REMOVAL & COMPACTION **285** (CY)
IMPORT **1400** (CY)

TOTAL DISTURBED AREA ____0.64____ (ACRES)*
TOTAL PROPOSED LANDSCAPE AREA ____19,065____ SQUARE FEET
PRE-DEVELOPMENT IMPERVIOUS AREA ____0____ (ACRES)
POST-DEVELOPMENT IMPERVIOUS AREA ____0.21____ (ACRES)
WATER DISCHARGE IDENTIFICATION NUMBER (WDID#) ______________________
CONSTRUCTION & DEMOLITION DEBRIS RECYCLE AND REUSE PLAN (RRP ID) ______________________

(PROPERTY INFORMATION)

PROPORTY ADDRESS: **ROTUNDE MESA RD.,**
~~TRACT / PARCEL MAP No.~~ ______________________ ~~LOT / PARCEL No.~~ ______________________

PROPERTY OWNER ______________________ *
ASSESSORS ID NUMBER **4453-025-025** *

(ZONING AND REGIONAL PLANNING INFORMATION)

PROPORTY ZONING: ______________________ *
INTEND LAND USE: **SINGLE FAMILY RESIDENCE** *
CERTIFICATE OF COMPLIANCE: CC NO. ______________________
PLOT PLAN NUMBER : PP NO. ______________ EXPIRATION DATE: ______________
CONDITIONAL US PERMIT: CUP NO. ______________ EXPIRATION DATE: ______________
OAK TREE PERMIT NUMBER: OTP NO. ______________ EXPIRATION DATE: ______________
COMMUNITY STANDARDS DISTRICT: ______________________
CALIFORNIA COASTAL COMMISSION AREA: ____YES, ____NO APPROVED VOLUME: ______________
COASTAL DEVELOPMENT PERMIT CDP ______________ EXPIRATION DATE: ______________
NOTE: ITEMS MARKED * ARE REQUIRED ON ALL GRADING PLANS.

GENERAL NOTES

1. All grading and construction shall conform to Appendix Chapter J and Chapter 71 (Latest Edition) of the County of Los Angeles Building Code 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-grading meeting at the site is required before the start of the grading with the following people present: Owner, grading contractor, design civil engineer, soils engineer, geologist, County grading inspector(s) or their representatives, and when required the archeologist or other jurisdictional agencies. Permittee or his agent are responsible for arranging Pre-grade meeting and must notify the Building Official at least two business days prior to proposed pre-grade meeting.
4. Approval of these plans reflect solely the review of plans in accordance with the County of Los Angeles Building Code 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. 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 oak tree as required per Title Chapter 22.56 of the County of Los Angeles Zoning Code. The protected zone shall mean that area within the drip line of an oak tree extending there from a point at least five feet outside the drip line, or 15 feet from the trunk(s) of a tree, whichever is greater.

    If an oak tree permit is obtained: (Add the following Note:)

    All grading and construction within the protected zone of all oak trees shall be per oak tree permit no.____________. All recommendations in the permit and associated oak tree report must be complied with and are a part of the grading plan. A copy of the oak tree permit and associated reports shall be maintained in the possession of a responsible person and available at the site at all times.
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. If grading authorized by this plan is to extend through the rainy season, November 1 Through April 15 of the following year, separate updated plans for erosion control must be submitted prior to October per Section J111.3 of the County of Los Angeles Building Code.
15. Transfer of Responsibility: If the civil 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 distrubing 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 of the Building Official for regular grading, reports and statements shall be submitted to the Building Official in accordance with Sections J105 of the County of Los Angeles Building Code.
18. Unless other wise 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, know 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. Nomthly, at all other times; and

    3. at any time when requestd in writing by the Building Official.

    Such "Report of Grading Activities" shall certify to the Building Offcial that he Field Engineer has inspected the grading site and related activites 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 for is available at the following website http:dpw.lacounty.gov/bsd/dg/default.aspx. "Report of Grading Activities" may be scanned and uploaded at the website or faxed to (310) 530-5482. 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 J105.12 of the County of Los Angeles Building Code.
20. The grading contractor shall submit the statement to the grading inspector as required by SectionJ105.12 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.

DRAINAGE NOTES

21. Roof drainage must be diverted from graded slopes.
22. Provisions shall be made for contributory drainage at all times.
23. All construction and grading within a storm drain easement are to be done per Private Drain PD No.___________ or miscellaneous Transfer Drain MTD No. ___________.
24. 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 Angelees Building Code shall include inspection infromation and reports on the storm drain installation.

AGENCY NOTES (Add - Applicable Notes)

25. 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.
26. An encroachment permit/connection 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 with conditions set by the Permit.
27. 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.
28. All work within the streambed and areas outlined on grading plans shall conform to:

    Army Corp 404 Permit Number: ______________.

    California Fish & Game Permit No.: ______________.

GENERAL GEOTECHNICAL NOTES

29. All work must be in compliance with the recommendations included in the geotechnical consultant's report(s) and the approved grading plans and specifications.
30. 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)
31. 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.
32. 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.
33. 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.
34. 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

35. 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.)
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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 3313.7 of the County of Los Angeles Building Code)
42. Continuous inspection by the Soil Engineer, or a responsible representative, shall be provided during all subdrain installation. (Section J107.8 of the County of Los Angeles Building Code)
43. All subdrain outlets are to be surveyed for line and elevation. Subdrain information must be shown on an "As Built" grading plan.
44. 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

45. 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 charcteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that alternative planting will provide a permanent and effective method of erosion control. Modifictions 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.
46. 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)
47. This project requires a landscape plan per Chapter 71 of the County of Los Angeles Building Code. Prior to rough grade approval Landscape Plans must be submitted and approved by the Department of Public Works, Land Development Division. (900 S. Fremont Ave, Alhambra - 3RD Floor, CA 91803 (626) 458-4921)

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. As the project owner or authorized agent of the owner, I have read and understand the requirements listed above, necessary to control storm water pollution from sediments, erosion, and construction materials, and I certify that I will comply with these requirements.

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 California Stormwater Best Management Practices Handbook, January 2003, or the latest revised edition, 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 - POLYACRYLAMIDE

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

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

UNAUTHORIZED CHANGES & USES

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

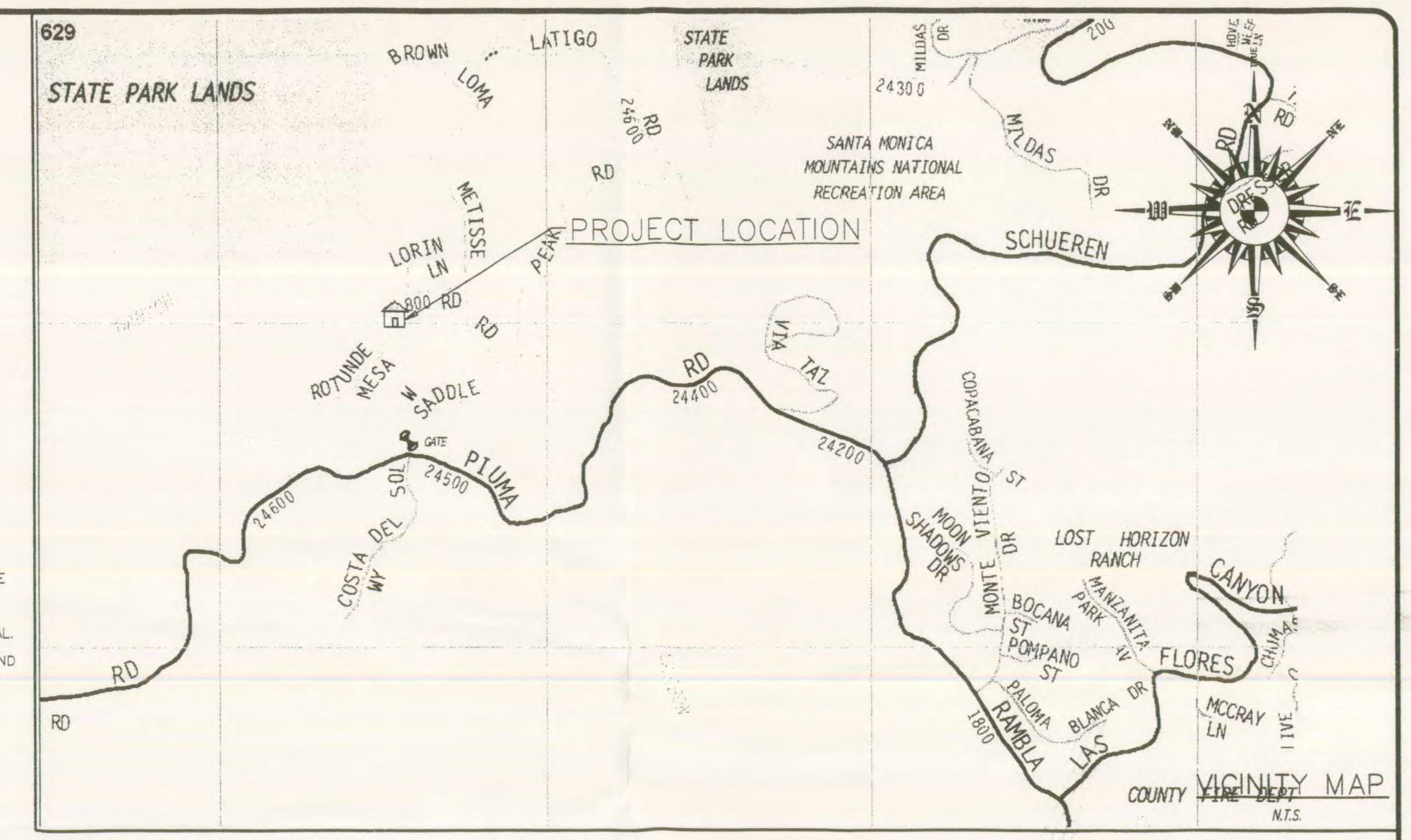
CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRARICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

NOTES:

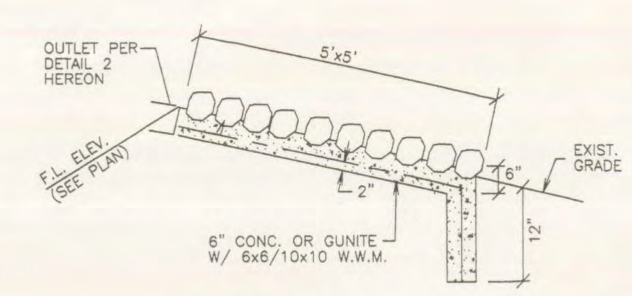
IN-GRADING INSPECTIONS MUST BE MADE BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER. MONTHLY IN-GRADING INSPECTION REPORTS MUST BE SUBMITTED DIRECTLY TO THE GEOLOGY AND SOIL SECTION BY THE CONSULTANTS.

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 3318.1). THE FINAL REPORT(S) MUST BE SUBMITTED TO THE GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION FOR REVIEW AND APPROVAL.

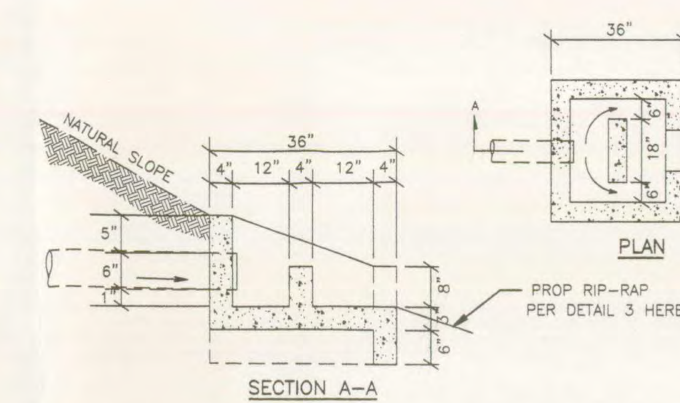
FOUNDATION, WALL AND POOL EXCAVATIONS MUST BE APPROVED BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER PRIOR TO THE PLACING OF STEEL OR CONCRETE.



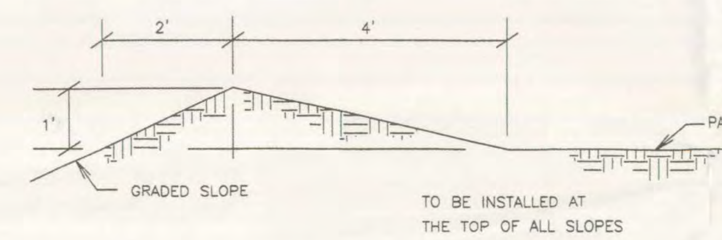
VICINITY MAP
N.T.S.



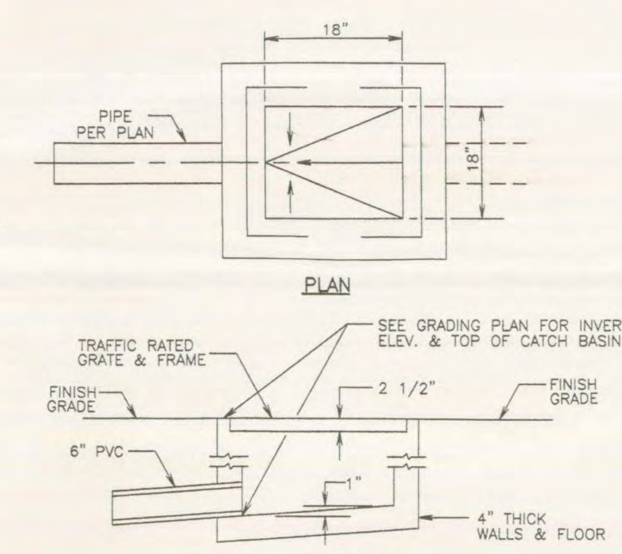
GROUTED RIP-RAP AT OUTLET DETAIL (1)
N.T.S.



OUTLET DETAIL "ENERGY DISSIPATOR" (2)
N.T.S.



BERM DETAIL (3)
N.T.S.



PVC CATCH BASIN DETAIL (4)
N.T.S.

BENCH MARK

COUNTY OF LOS ANGELES BENCH MARK NO. Y-11335

ELEV: 1816.21
DATUM: NAVD 88
YEAR OF ADJUSTMENT: 2003

DESCRIPTION:
L&BN IN CONC DRAIN NR S END GUARD RAIL 15M S & 6M W/O C/L INT SCHUEREN RD & RAMBLA PACIFICO.

REVISIONS	BY

GRADING & DRAINAGE NOTES

ADDRESS: ROTUNDE MESA RD., MALIBU, CA 90265

OWNER:

15335 MORRISON ST.
SUITE 305
SHERMAN OAKS, CA 91403
(818) 784-8110
(818) 784-8116 FAX

PEG
PROJECT ENGINEERING GROUP
Civil and Structural Engineering

REGISTERED PROFESSIONAL ENGINEER · DIRDIROS MAR... · C 53434 · CIVIL · STATE OF CALIFORNIA

DRAWN	E.K.
CHECKED	V.G.
DATE	09/01/09
SCALE	N.T.S.
JOB NO.	09-08-854
SHEET	C1
OF 2 SHEETS	

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1. All grading and construction shall conform to Appendix Chapter J and Chapter 71 (Latest Edition) of the County of Los Angeles Building Code 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-grading meeting at the site is required before the start of the grading with the following people present: Owner, grading contractor, design civil engineer, soils engineer, geologist, County grading inspector(s) or their representatives, and when required the archeologist or other jurisdictional agencies. Permittee or his agent are responsible for arranging Pre-grade meeting and must notify the Building Official at least two business days prior to proposed pre-grade meeting.

4. Approval of these plans reflect solely the review of plans in accordance with the County of Los Angeles Building Code 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. 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 oak tree as required per Title Chapter 22.56 of the County of Los Angeles Zoning Code. The protected zone shall mean that area within the drip line of an oak tree extending there from a point at least five feet outside the drip line, or 15 feet from the trunk(s) of a tree, whichever is greater.

    If an oak tree permit is obtained: (Add the following Note:)

    All grading and construction within the protected zone of all oak trees shall be per oak tree permit no.____________. All recommendations in the permit and associated oak tree report must be complied with and are a part of the grading plan. A copy of the oak tree permit and associated reports shall be maintained in the possession of a responsible person and available at the site at all times.

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. If grading authorized by this plan is to extend through the rainy season, November 1 Through April 15 of the following year, separate updated plans for erosion control must be submitted prior to October per Section J111.3 of the County of Los Angeles Building Code.

15. Transfer of Responsibility: If the civil 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 distrubing 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 of the Building Official for regular grading, reports and statements shall be submitted to the Building Official in accordance with Sections J105 of the County of Los Angeles Building Code.

18. Unless other wise 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, know 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. Nomthly, at all other times; and

    3. at any time when requestd in writing by the Building Official.

    Such "Report of Grading Activities" shall certify to the Building Offcial that he Field Engineer has inspected the grading site and related activites 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 for is available at the following website http:dpw.lacounty.gov/bsd/dg/default.aspx. "Report of Grading Activities" may be scanned and uploaded at the website or faxed to (310) 530-5482. 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 J105.12 of the County of Los Angeles Building Code.

20. The grading contractor shall submit the statement to the grading inspector as required by SectionJ105.12 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.

DRAINAGE NOTES

21. Roof drainage must be diverted from graded slopes.

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

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

24. 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 Angelees Building Code shall include inspection infromation and reports on the storm drain installation.

AGENCY NOTES (Add - Applicable Notes)

25. 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.

26. An encroachment permit/connection 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 with conditions set by the Permit.

27. 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.

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

    Army Corp 404 Permit Number: __________________.

    California Fish & Game Permit No.: ________________.

GENERAL GEOTECHNICAL NOTES

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

30. 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)

31. 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.

32. 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.

33. 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.

34. 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

35. 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.)

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

41. 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 3313.7 of the County of Los Angeles Building Code)

42. Continuous inspection by the Soil Engineer, or a responsible representative, shall be provided during all subdrain installation. (Section J107.8 of the County of Los Angeles Building Code)

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

44. 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

45. 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 charcteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that alternative planting will provide a permanent and effective method of erosion control. Modifictions 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.

46. 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)

47. This project requires a landscape plan per Chapter 71 of the County of Los Angeles Building Code. Prior to rough grade approval Landscape Plans must be submitted and approved by the Department of Public Works, Land Development Division. (900 S. Fremont Ave, Alhambra - 3RD Floor, CA 91803 (626) 458-4921)

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. As the project owner or authorized agent of the owner, I have read and understand the requirements listed above, necessary to control storm water pollution from sediments, erosion, and construction materials, and I certify that I will comply with these requirements.

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 California Stormwater Best Management Practices Handbook, January 2003, or the latest revised edition, 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 - POLYACRYLAMIDE

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

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

UNAUTHORIZED CHANGES & USES

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

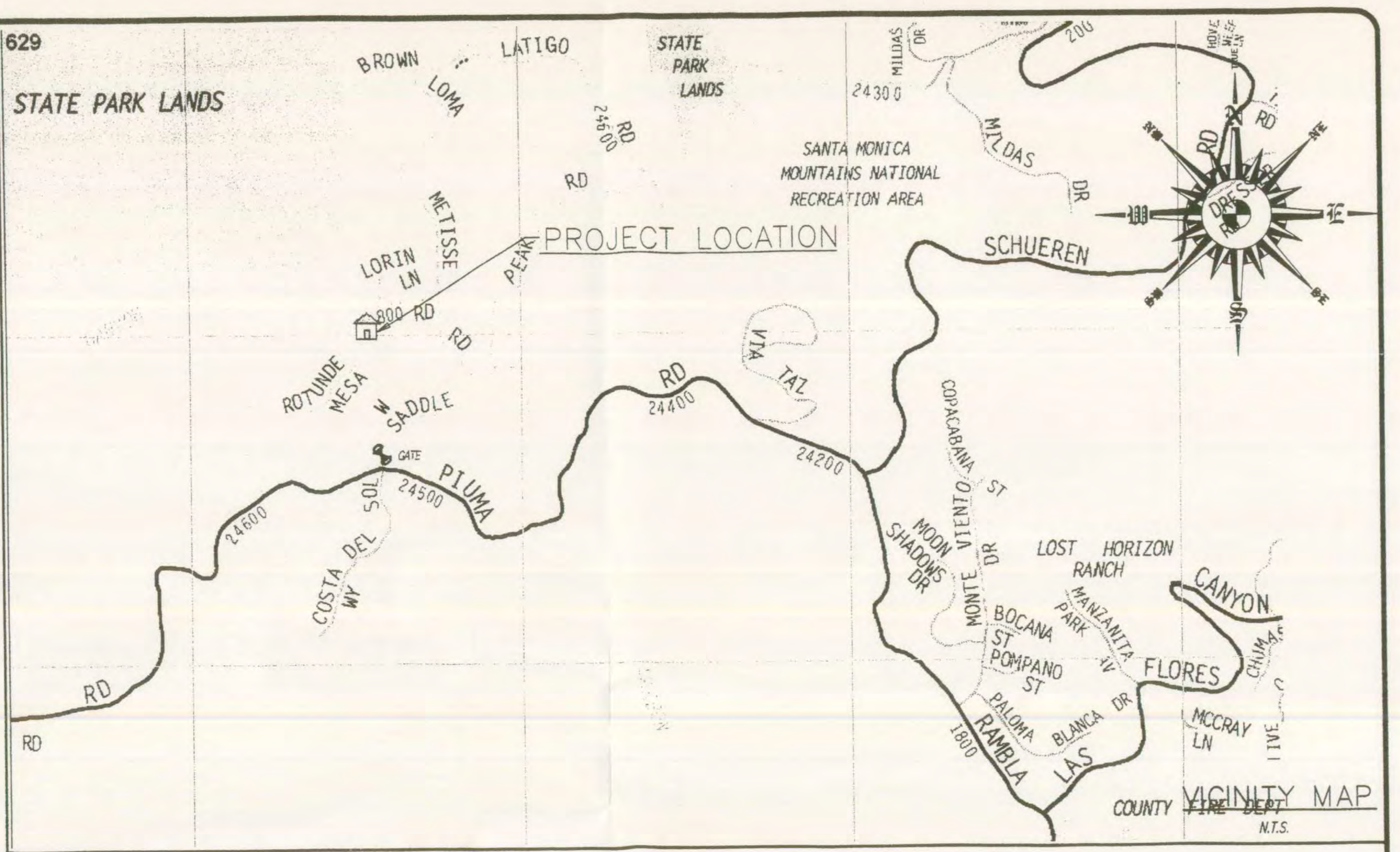
CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRARICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

NOTES:

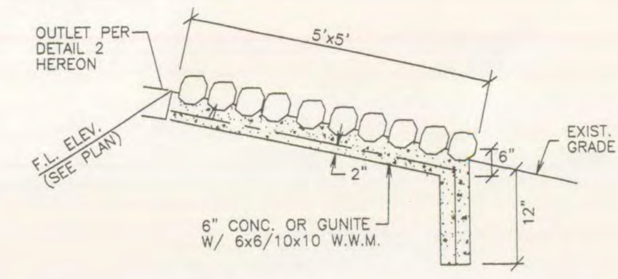
IN-GRADING INSPECTIONS MUST BE MADE BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER. MONTHLY IN-GRADING INSPECTION REPORTS MUST BE SUBMITTED DIRECTLY TO THE GEOLOGY AND SOIL SECTION BY THE CONSULTANTS.

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 3318.1). THE FINAL REPORT(S) MUST BE SUBMITTED TO THE GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION FOR REVIEW AND APPROVAL.

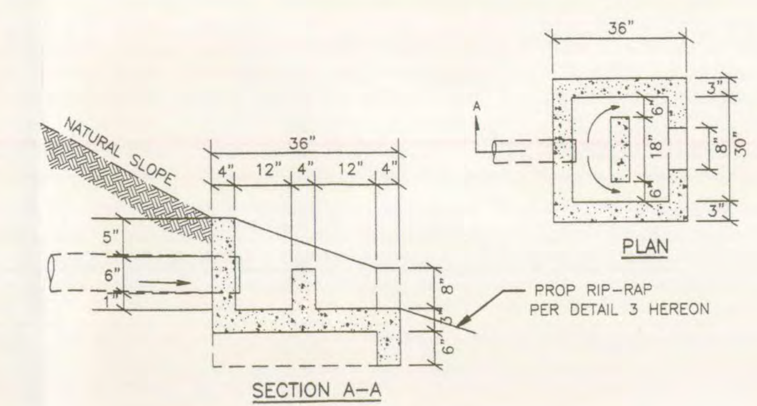
FOUNDATION, WALL AND POOL EXCAVATIONS MUST BE APPROVED BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER PRIOR TO THE PLACING OF STEEL OR CONCRETE.



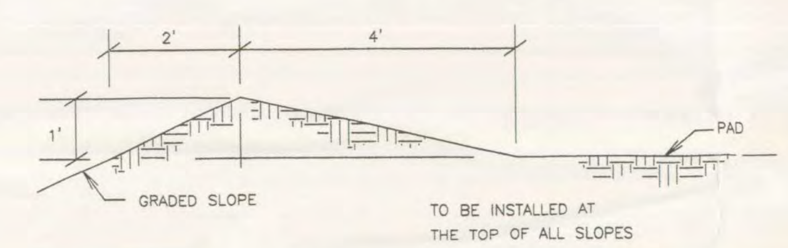
VICINITY MAP
N.T.S.



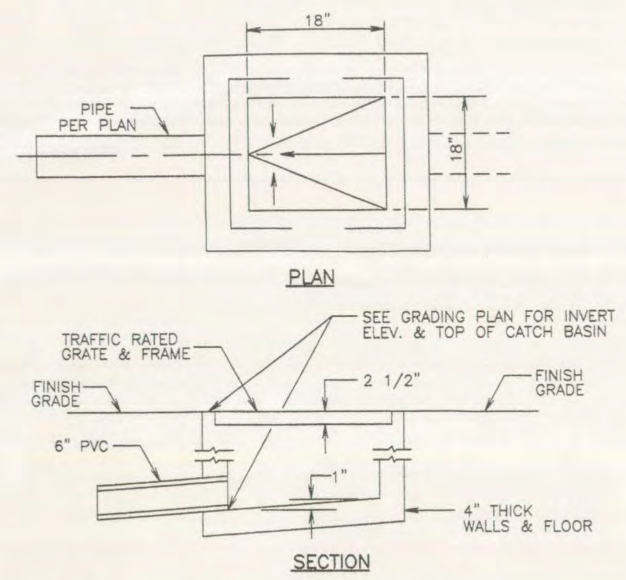
GROUTED RIP-RAP AT OUTLET DETAIL (1)
N.T.S.



OUTLET DETAIL "ENERGY DISSIPATOR" (2)
N.T.S.



BERM DETAIL (3)
N.T.S.



PVC CATCH BASIN DETAIL (4)
N.T.S.

BENCH MARK

COUNTY OF LOS ANGELES BENCH MARK NO. Y-11335

ELEV: 1816.21
DATUM: NAVD 88
YEAR OF ADJUSTMENT: 2003

DESCRIPTION:
L&BN IN CONC DRAIN NR S END GUARD RAIL 15M S & 6M W/O C/L INT SCHUEREN RD & RAMBLA PACIFICO.

REVISIONS	BY

GRADING & DRAINAGE NOTES

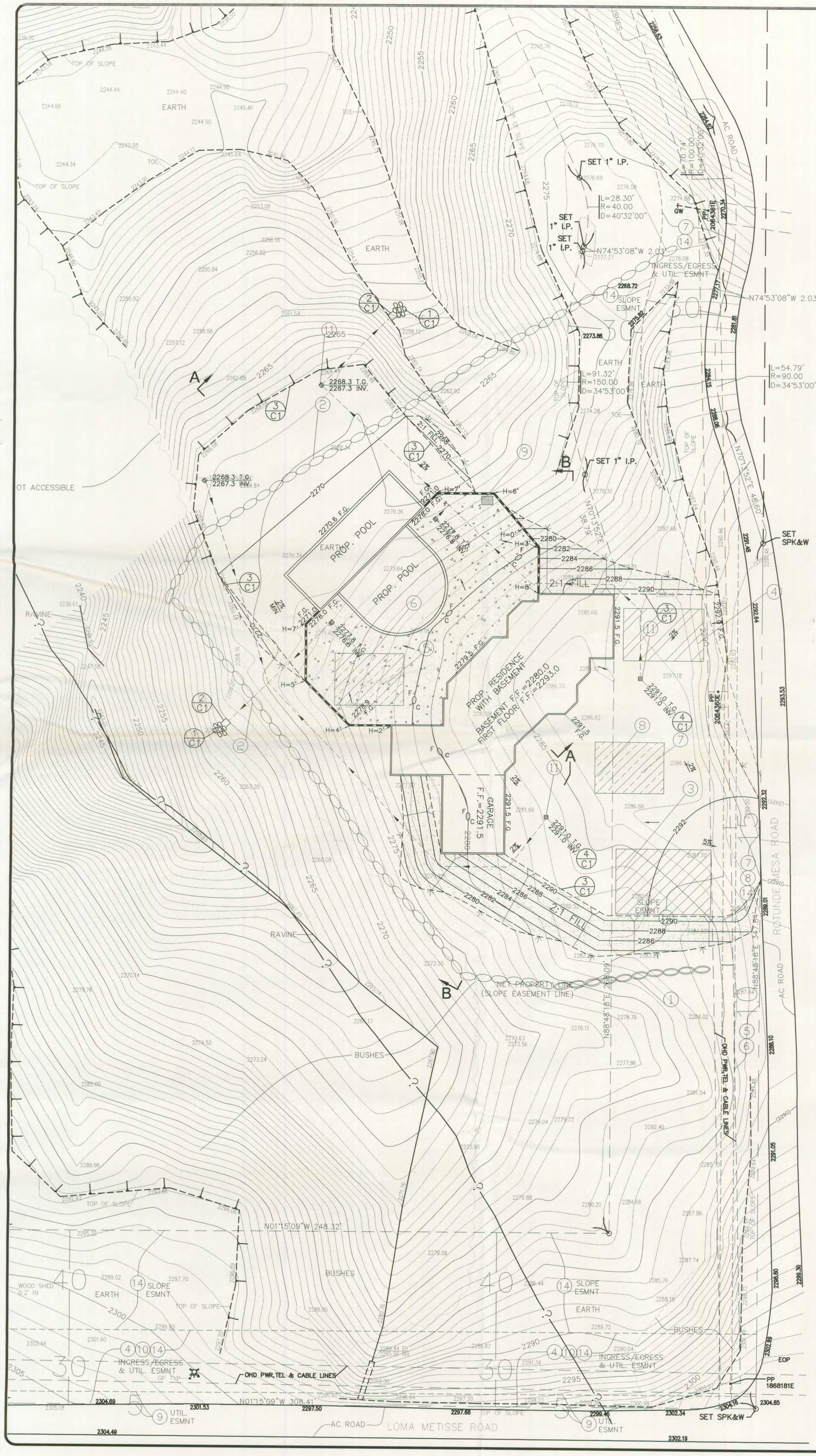
ADDRESS: ROTUNDE MESA RD., MALIBU, CA 90265

OWNER:

15335 MORRISON ST.
SUITE 305
SHERMAN OAKS, CA 91403
(818) 784-8110
(818) 784-8116 FAX

PROJECT ENGINEERING GROUP
Civil and Structural Engineering

DRAWN E.K.
CHECKED V.G.
DATE 09/01/09
SCALE N.T.S.
JOB NO. 09-08-854
SHEET C1
OF 2 SHEETS



STORMWATER POLLUTION PREVENTION PLAN (SWPPP)\WET WEATHER EROSION CONTROL (WWECP) GENERAL NOTES:

1. In case of emergency, call ______________________ at ______________.
2. A stand-by crew for emergency work shall be available at all times during the rainy season (November 1 to April 15). Necessary materials shall be available on-site and stockpiled at convenient locations to facilitate rapid construction of emergency devices when rain is imminent.
3. Erosion control devices shown on this plan may be removed when approved by the Building Official if the grading operation has progressed to the point where they are no longer required.
4. Graded areas adjacent to fill slopes located at the site perimeter must drain away from the top of slope at the conclusion of each working day. All loose soils and debris that may create a potential hazard to off-site property shall be stabilized or removed from the site on a daily basis.
5. All silt and debris shall be removed from all devices within 24 hours after each rainstorm and be disposed of properly.
6. A guard shall be posted on the site whenever the depth of water in any device exceeds two feet. The device shall be drained or pumped dry within 24 hours after each rainstorm. Pumping and draining of all basins and drainage devices must comply must comply with the appropriate BMP for dewatering operations.
7. The placement of additional devices to reduce erosion damage and contain pollutants within the site is left to the discretion of the Field Engineer. Additional devices as needed shall be installed to retain sediments and other pollutants on site.
8. Desilting basins may not be removed or made inoperable between November 1 and April 15 of the following year without the approval of the Building Official.
9. Storm Water Pollution and Erosion Control devices are to be modified, as needed, as the project progresses, the design and placement of these devices is the responsibility of the field engineer. Plans representing changes must be submitted for approval if requested by the Building Official.
10. Every effort should be made to eliminate the discharge of nonstorm water from the project sites at all times.
11. 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.
12. Stockpiles of earth and other construction-related materials must be protected from being transported from the site by the forces of wind or water.
13. Fuels, oils, solvents, and other toxic materials must be stored in accordance with their listing and are not to contaminate the soils 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.
14. 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.
15. Developers/contractors are responsible to inspect all Erosion Control Devices and BMP's are installed and functioning properly if there is a 40% chance of 0.25 inches or greater of predicted precipitation, and after actual precipitation. A construction site inspection checklist and inspection log shall be maintained at the project site at all times and available for review by the Building Official (copies of the self-inspection check list and inspection logs are available upon request).
16. Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
17. 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.
18. Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.
19. As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

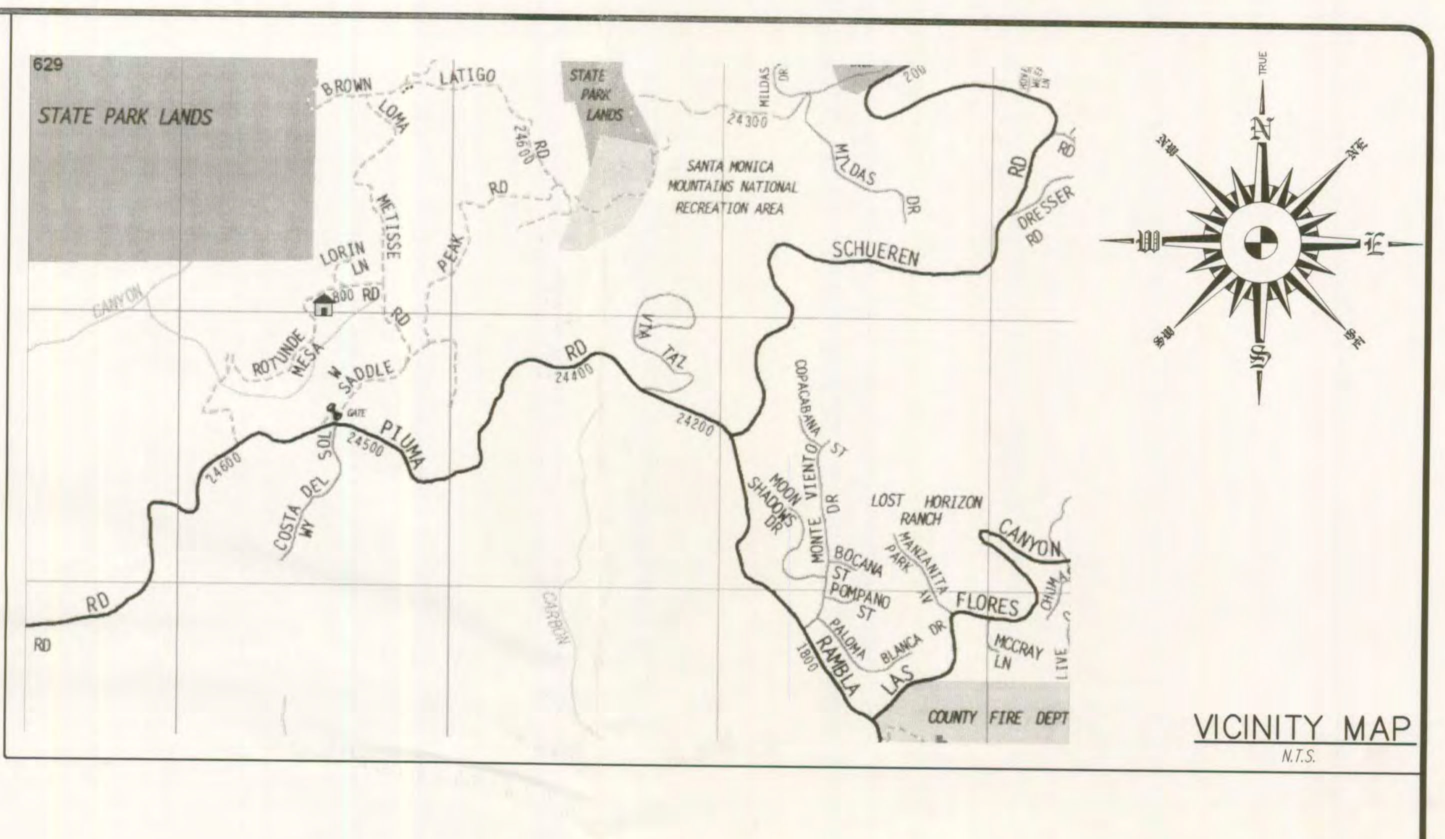
______________________ ______________
Civil Engineers/Architects Signature Date

20. The following notes must be on the plan (or submitted as a separate document - prior to plan approval).

As the project owner or authorized agent of the owner, I have read and understand the requirements to control storm water pollution from sediments, erosion, and construction materials, and I certify that I will comply with these requirements. I, or my representative, contractor, developer, or Engineer will make certain that all BMP shown on this plan will be fully implemented, and all erosion control devices will be kept clean and functioning. Periodic inspections of the BMPs will be conducted and a current log, specifying the exact nature of the inspection and any remedial measures, will be kept at the construction site at all times and will be available for the review by the Building Official.

As the project owner or authorized agent of the owner, "I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure 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 Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

______________________ ______________
Owner or Authorized Representative (Permitee) Date



EROSION CONTROL

- EC1 - SCHEDULING
- EC2 - PRESERVATION OF EXISTING VEGETATION
- EC3 - HYDRAULIC MULCH
- EC4 - HYDROSEEDING
- EC5 - SOIL BINDERS
- EC6 - STRAW MULCH
- (10) EC7 - GEOTEXTILES & MATS
- EC8 - WOOD MULCHING
- EC9 - EARTH DIKES AND DRAINAGE SWALES
- EC10 - VELOCITY DISSIPATION DEVICES
- EC11 - SLOPE DRAINS
- EC12 - STREAMBANK STABILIZATION
- EC13 - POLYACRYLAMIDE

TEMPORARY SEDIMENT CONTROL

- SE1 - SILT FENCE
- (1) SE2 - SEDIMENT BASIN
- SE3 - SEDIMENT TRAP
- SE4 - CHECK DAM
- SE5 - FIBER ROLLS
- SE6 - GRAVEL BAG BERM
- SE7 - STREET SWEEPING AND VACUUMING
- (2) SE8 - SANDBAG BARRIER
- SE9 - STRAW BALE BARRIER
- SE10 - STORM DRAIN INLET PROTECTION

WIND EROSION CONTROL

- WE1 - WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL

- (3) 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
- (4) NS8 - VEHICLE AND EQUIPMENT CLEANING
- (4) NS9 - VEHICLE AND EQUIPMENT FUELING
- (4) NS10 - VEHICLE AND EQUIPMENT MAINTENANCE
- (4) 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

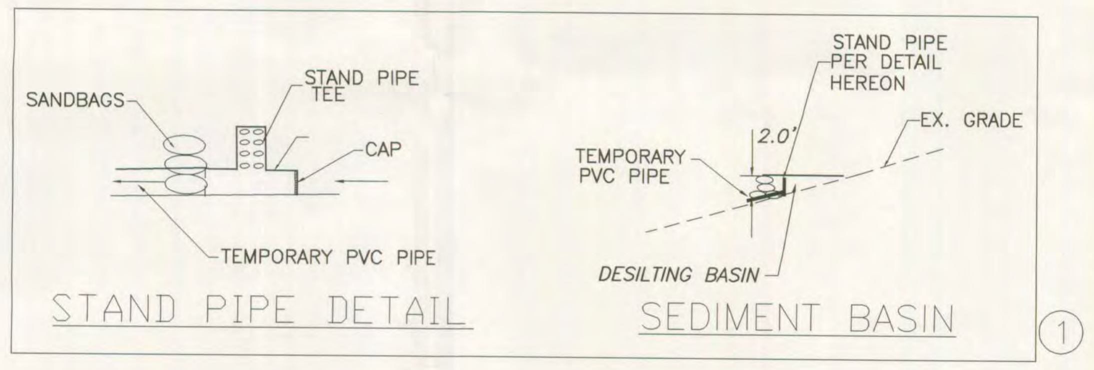
- (5) WM1 - MATERIAL DELIVERY AND STORAGE
- WM2 - MATERIAL USE
- (6) WM3 - STOCKPILE MANAGEMENT
- WM4 - SPILL PREVENTION AND CONTROL
- (7) WM5 - SOLID WASTE MANAGEMENT
- WM6 - HAZARDOUS WASTE MANAGEMENT
- WM7 - CONTAMINATION SOIL MANAGEMENT
- (8) WM8 - CONCRETE WASTE MANAGEMENT
- WM9 - SANITARY/SEPTIC WASTE MANAGEMENT
- WM10 - LIQUID WASTE MANAGEMENT

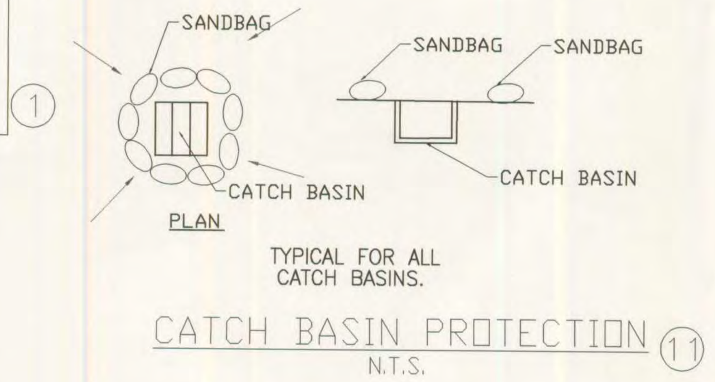
EROSION CONTROL MEASURES:

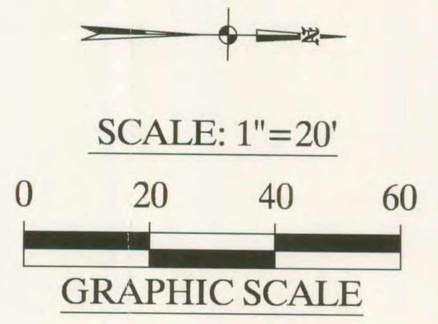
ALL GRADED SLOPE SHALL BE COVERD WITH JUTE OR GLASS FIBER MATTING UPON COMPLETION OF ROUGH GRADING AND PER APPROVED LANDSCAPING PLAN SLOPE PLANTING AND IRRIGATION SYSTEM INSTALLED BEFORE OCCUPANCY OF BUILDING.

PROPOSED DRIVEWAY SHALL BE COVERED WITH GRAVEL MATERIAL PER FIRE DEPARTMENT REQUIREMENT UPON COMPLETION OF GRADING . FINAL CONCRETE OR ASPHALT PAVEMENT WILL BE INSTALLED BEFORE OCCUPANCY OF BUILDING .

(9) *SANITARY FACILITIES FOR CONSTRUCTION WORKERS*







LEGEND:

F.S.	FINISHED SURFACE ELEVATION
F.G.	FINISHED GROUND
F.L.	FLOW LINE ELEVATION
T.D.	TOP OF DITCH
C.F.	CURB FACE
F.F.	FINISH FLOOR
T.C.	TOP OF CURB
H.P.	HIGH POINT
L.P.	LOW POINT
G.B.	GRADE BREAK
T.G.	TOP OF GRATE ELEVATION
INV.	INVERT ELEVATION
1000.0	PROPOSED ELEVATION
1000.0	EXISTING ELEVATION
C.F.	CURB FACE
T.W.	TOP OF WALL
C/F	CUT & FILL TRANSITION
	DAYLIGHT LINE
1000	PROPOSED CONTOUR LINE
(1000)	EXISTING CONTOUR LINE
	PROPOSED BUILDING
	DIRECTION OF FLOW
	4" PVC DRAIN PIPE @1% MIN.
	12"x12" PVC CATCH BASIN
	PROPOSED RETAINING WALL
	PROPOSED WALL

NOTE:

- *DIRECT ALL DRAINAGE TOWARDS SEDIMENT BASIN DURING CONSTRUCTION PERIOD.*
- *ALL SLOPES TO BE COVERED PER (10)*

REVISIONS	BY

WET WEATHER EROSION CONTROL PLAN/ STORMWATER POLLUTION PREVENTION PLAN

ADDRESS: ROTUNDE MESA MALIBU, CA, 90265

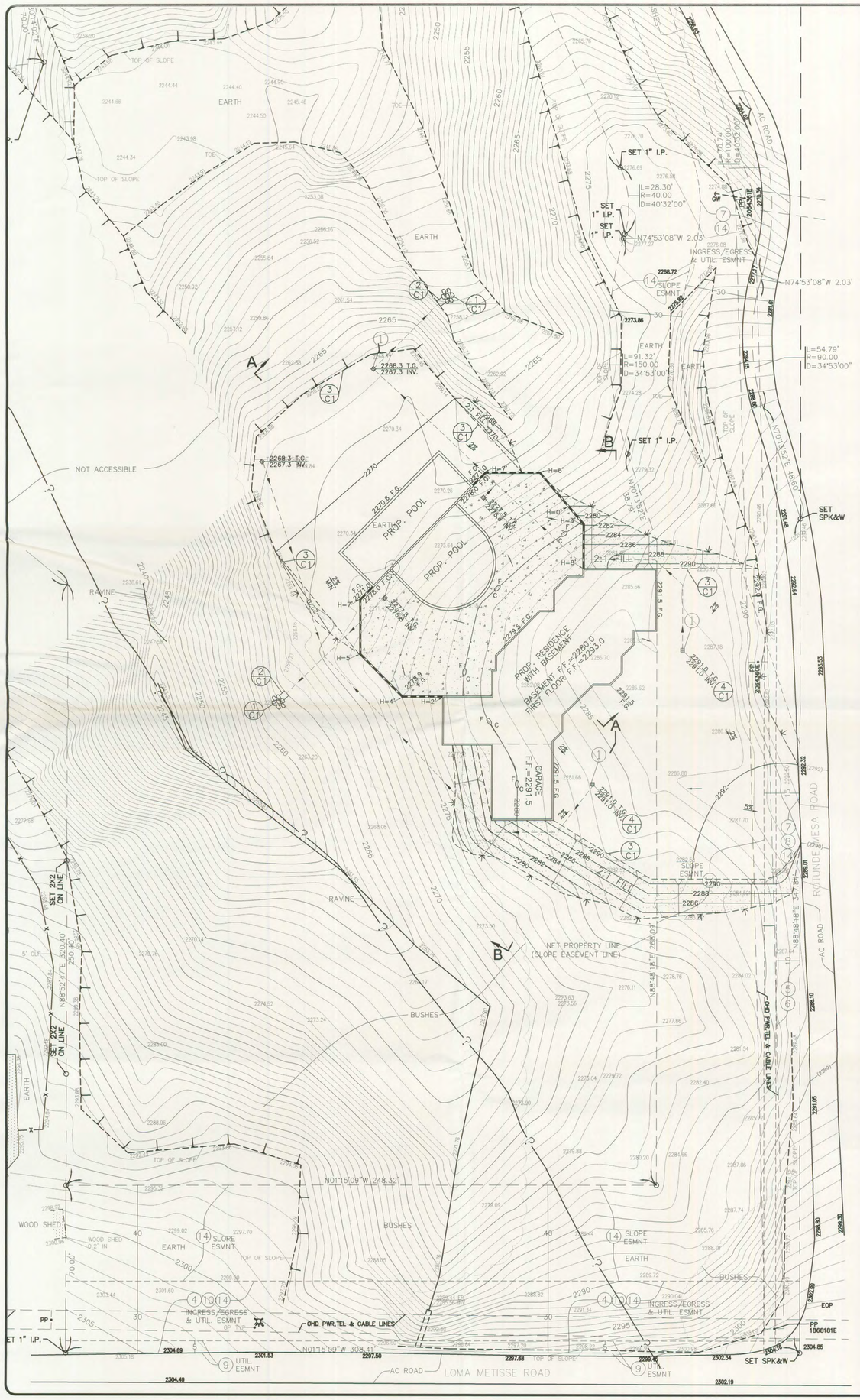
OWNER:

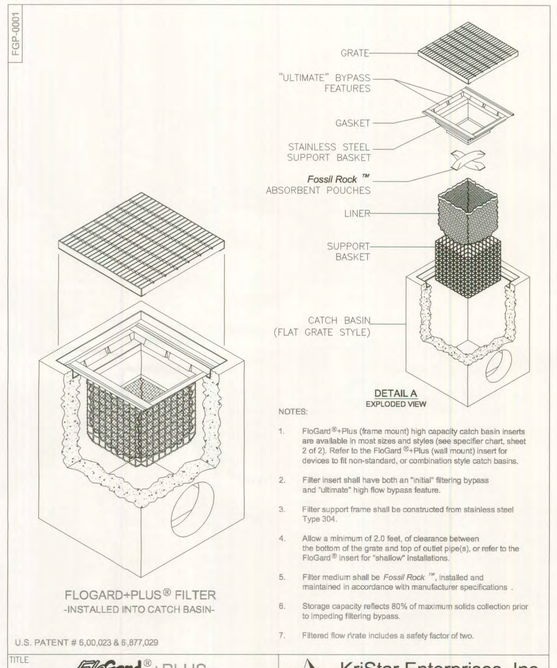
Hadad Home
R2010-01574/RPP2010-01176
Rotunde Mesa Rd.
ERB: January 24, 2011

15335 MORRISON ST.
SUITE 305
SHERMAN OAKS, CA 91403
(818) 784-8110
(818) 784-8116 FAX

PROJECT ENGINEERING GROUP
Civil and Structural Engineering

DRAWN	A.Z.
CHECKED	V.G.
DATE	09/22/10
SCALE	1"=20'
JOB NO.	09-08-854
SHEET	E1
OF	2 SHEETS





* MANY OTHER STANDARD & CUSTOM SIZES & DEPTHS AVAILABLE UPON REQUEST.

SPECIFIER CHART

MODEL NO. STANDARD DEPTH	STANDARD & SHALLOW DEPTH (Data in these columns is the same for both STANDARD & SHALLOW versions)			STANDARD DEPTH -20 inches-		MODEL NO. SHALLOW DEPTH	SHALLOW DEPTH -12 inches-	
	INLET ID Inside Dimension (inch x inch)	GRATE OD Outside Dimension (inch x inch)	TOTAL BYPASS CAPACITY (cu. ft.)	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)		SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)
FGP-12F	12 X 12	12 X 14	2.8	0.3	0.4	FGP-12F8	.15	.25
FGP-18F	18 X 18	18 X 20	4.7	0.8	0.7	FGP-18F8	.45	.4
FGP-24F	24 X 24	24 X 27	6.1	2.2	1.5	FGP-24F8	1.25	.85

TITLE
FloGard®+PLUS
CATCH BASIN FILTER INSERT
(Frame Mount)
FLAT GRATED INLET
KRISTAR
KriStar Enterprises, Inc.
P.O. Box 6419, Santa Rosa, CA 95406
Ph: 800.579.8819, Fax: 707.524.8186, www.kristar.com
DRAWING NO. FGP-0001
REV. A
ECO
DATE
FGP-0001

HYDROLOGY CALCULATIONS FOR 85TH PERCENTILE 24HR RUNOFF TREATMENT

HYDROLOGY CALCULATIONS AS PER LOS ANGELES DEPARTMENT OF PUBLIC WORKS
BASED OFF CALCULATIONS FROM THE Tc CALCULATOR PROVIDED FROM THE
HYDROLOGY MANUAL

TOTAL PERVIOUS AREA = 0.22 ACRES
TOTAL IMPERVIOUS AREA = 0.21 ACRES

USING A 0.75" RAIN ISOHYET , THE FOLLOWING VALUES WERE OBTAINED:
Cu = 0.24 Ca = 0.56
WITH AN OVERALL PEAK FLOW RATE = 0.11 CFS

FROM THE DATA ABOVE, IN ORDER TO CONTROL THE PARTICULAR FLOW RATE,
MODEL NO. FGP-12F IS RECOMMENDED DUE TO IT BEING TO WITHSTAND
UP TO A PEAK FLOW RATE OF 0.4 CFS

DISTURBED IMPERVIOUS AREA:

HOUSE:	9,150 S.F.
TOTAL:	9,150 S.F.

DISTURBED PERVIOUS AREA:

GRADED AREA:	19,065 S.F.
TOTAL:	19,065 S.F

MITIGATION NOTES:

1. NON-STORM RUNOFF, SEDIMENT AND CONSTRUCTION WASTE FROM THE CONSTRUCTION SITE AND PARKING AREAS IS PROHIBITED FROM LEAVING SITE.
2. ANY SEDIMENTS OR MATERIALS, WHICH ARE TRACKED OFF SITE, MUST BE REMOVED THE SAME DAY AS THEY ARE TRACKED OFF SITE
3. EXCAVATED SOIL MUST BE LOCATED ON THE SITE AND SOIL PILES SHOULD BE COVERED AND OTHERWISE PROTECTED SO THAT SEDIMENTS DO NOT GO INTO THE STREET OR ADJOINING PROPERTIES.
4. WASHING OF CONSTRUCTION OR OTHER INDUSTRIAL EQUIPMENT ADJACENT TO THE CONSTRUCTION SITE IS PROHIBITED. WASH WATER IS NOT ALLOWED TO LEAVE THE CONSTRUCTION SITE.
5. DRAINAGE CONTROLS MAY BE REQUIRED DEPENDING ON THE EXTENT OF GRADING AND TOPOGRAPHY OF THE SITE.
6. BMP'S SHALL BE INSPECTED, CLEANED AND REPAIRED WHEN NECESSARY PRIOR TO THE ONSET OF STORM SEASON , NO LATER THAN SEPTEMBER 30 th EACH YEAR.
7. SHOULD ANY OF THE PROJECT'S SURFACE OR SUBSURFACE DRAINAGE/FILTRATION STRUCTURES OR OTHER BMP'S FAIL OR RESULT IN INCREASED EROSION, THE APPLICANT/LANDOWNER OR SUCCESSOR-IN-INTEREST SHALL BE RESPONSIBLE FOR ANY NECESSARY REPAIRS TO THE DRAINAGE /FILTRATION SYSTEM OR BMP'S AND RESTORATION OF THE ERODED AREA. SHOULD REPAIRS OR RESTORATION BECAME NECESSARY, PRIOR TO THE COMMENCEMENT OF SUCH REPAIR OR RESTORATION WORK, THE APPLICANT SHALL SUBMIT A REPAIR AND RESTORATION PLAN TO THE EXECUTIVE DIRECTOR TO DETERMINE IF AN AMENDMENT OR NEW COASTAL DEVELOPMENT PERMIT IS REQUIRED TO AUTHORIZE SUCH WORK.

DRAINAGE SYSTEM MAINTENANCE PROVISIONS:

1. BMP'S SHALL BE INSPECTED, CLEANED AND REPAIRED WHEN NECESSARY PRIOR TO THE ONSET OF STORM SEASON , NO LATER THAN SEPTEMBER 30 th EACH YEAR.
2. SHOULD ANY OF THE PROJECT'S SURFACE OR SUBSURFACE DRAINAGE/FILTRATION STRUCTURES OR OTHER BMP'S FAIL OR RESULT IN INCREASED EROSION, THE APPLICANT/LANDOWNER OR SUCCESSOR-IN-INTEREST SHALL BE RESPONSIBLE FOR ANY NECESSARY REPAIRS TO THE DRAINAGE /FILTRATION SYSTEM OR BMP'S AND RESTORATION OF THE ERODED AREA. SHOULD REPAIRS OR RESTORATION BECAME NECESSARY, PRIOR TO THE COMMENCEMENT OF SUCH REPAIR OR RESTORATION WORK, THE APPLICANT SHALL SUBMIT A REPAIR AND RESTORATION PLAN TO THE EXECUTIVE DIRECTOR TO DETERMINE IF AN AMENDMENT OR NEW COASTAL DEVELOPMENT PERMIT IS REQUIRED TO AUTHORIZE SUCH WORK.

GENERAL SPECIFICATIONS FOR MAINTENANCE OF FLO-GARDTM+ PLUS CATCH BASIN INSERT FILTERS

SCOPE:

Federal, State and Local Clean Water Act regulations and those of insurance carriers require that stormwater filtration systems be maintained and serviced on a recurring basis. The intent of the regulations is to ensure that the systems, on a continuing basis, efficiently remove pollutants from stormwaret runoff thereby preventing pollution of the nation's water resources. These Specifications apply to the Flo-GardTM +Plus Catch Basin Insert Filter.

RECOMMENDED FREQUENCY OF SERVICE:

Drainage Protection Systems (DPS) recommends that installed Flo-GardTM +Plus Catch Basin Insert Filters be serviced on a recurring basis. Ultimately, the frequency depends on the amount of runoff, pollutant loading and interference from debris (leaves, vegetation, cans, paper, etc.); however, it is recommended that each installation be serviced a minimum of three times per year, with a change of filter medium once per year. DPS technicians are available to do an on-site evaluation, upon request.

RECOMMENDED TIMING OF SERVICE:

DPS guidelines for the timing of service are as follow:

1. *For areas with a definitive rainy season: Prior to, during and following the rainy season.*
2. *For areas subject to year-round rainfall: On a recurring basis (at least three times per year).*
3. *For areas with winter snow and summer rain: Prior to and just after the snow season and during the summer rain season.*
4. *For installed devices not subject to the elements (washracks, parking garages, etc.): On a recurring basis (no less than three times per year).*

SERVICE PROCEDURES:

1. *The service shall commence with collection and removal of sediment and debris (litter, leaves, papers, cans, etc.) and broom sweeping around the drainage inlet. Accumulated materials shall be placed in a DOT approved container for latter disposal.*
2. *The catch basin shall be visually inspected for defects and possible illegal dumping. If illegal dumping has occurred, the proper authorities and property owner representative shall be notified as soon as possible.*
3. *The catch basin grate shall be removed and set to one side. Using an industrial vacuum, the collected materials shall be removed from the liner. (Note: DPS uses a truck-mounted vacuum for servicing Flo-GardTM +Plus catch basin inserts.)*
4. *When all of the collected materials have been removed, the filter medium pouches shall be removed by unsnapping the tether from the D-ring and set to one side. The filter liner, gaskets, stainless steel frame and mounting brackets, etc. shall be inspected for continued serviceability. Minor damage of defects found shall be corrected on-the-spot and a notation made on the Maintenance Record. More extensive deficiencies that affect the efficiency of the filter (torn liner, etc.), if approved by the representative along with the Maintenance Record.*
5. *The filter medium pouches shall be inspected for defects and continued serviceability and replaced as necessary and the pouch tethers re-attached to the liner's d-ring. Dee below.*
6. *The grate shall be replaced.*

EXCHANGE AND DISPOSAL OF EXPOSED FILTER MEDIUM AND COLLECTED DEBRIS

The frequency of filter medium pouch exchange will be in accordance with existing DPS-Customer Maintenance Contract. DPS recommends that the medium be changed at least once per year. During the appropriate service, or if so determined be the service technician during a non-scheduled service, the filter medium pouches will be replaced with new pouches and the exposed pouches placed in the DOT approved container, along with the exposed debris. Once the exposed pouches and debris have been placed in the container, DPS has possession and must dispose of it in accordance with local, state and general agency requirements.

Note: As the generator, the landowner is ultimately responsible for the proper disposal of the exposed filter medium and debris. Because the materials likely contain petroleum hydrocarbons, heavy metals and other harmful pollutant, the materials must be treated as an EPA Class 2 Hazardous Waste and properly disposed of. DPS relieves the landowner of the actual disposal task, and provides certification of its completion in accordance with appropriate regulations.

DPS also has the capability of servicing all manner of catch basin inserts and catch basins without inserts, underground oil/water separators, stormwater interceptors and other such devices. All DPS personnel are highly qualified technicians and are confined space trained. Call us at (888) 950-8826 for further information and assistance.

SCALE: 1"=20'

0 20 40 60

GRAPHIC SCALE

NOTE:
PROVIDE ALL CATCH BASINS & DRAINS WITH STENCILING PER DETAIL HEREON

LEGEND:

F.S.	FINISHED SURFACE ELEVATION
F.G.	FINISHED GROUND
F.L.	FLOW LINE ELEVATION
T.D.	TOP OF DITCH
C.F.	CURB FACE
F.F.	FINISH FLOOR
T.C.	TOP OF CURB
H.P.	HIGH POINT
L.P.	LOW POINT
G.B.	GRADE BREAK
T.G.	TOP OF GRATE ELEVATION
INV.	INVERT ELEVATION
1000.0	PROPOSED ELEVATION
1000.0	EXISTING ELEVATION
C.F.	CURB FACE
T.W.	TOP OF WALL
	CUT & FILL TRANSITION
	DAYLIGHT LINE
1000	PROPOSED CONTOUR LINE
(1000)	EXISTING CONTOUR LINE
	PROPOSED BUILDING
	DIRECTION OF FLOW
	4" PVC DRAIN PIPE @1% MIN.
	12"x12" PVC CATCH BASIN
	PROPOSED RETAINING WALL
	PROPOSED WALL

REVISIONS	BY

STANDARD URBAN STORMWATER MITIGATION PLAN

ADDRESS: ROTUNDE MESA RD.
MALIBU, CA, 90265

OWNER:

15335 MORRISON ST.
SUITE 305
SHERMAN OAKS, CA 91403
(818) 784-8110
(818) 784-8116 FAX

PEG
PROJECT ENGINEERING GROUP
Civil and Structural Engineering

DRAWN	A.Z.
CHECKED	V.G.
DATE	09/22/10
SCALE	1"=20'
JOB NO.	09-08-854
SHEET	E2
OF	2 SHEETS

FUEL MODIFICATION ZONE AND PLANTING LEGEND

Symbol Zone

Zone A (20' From Structure)

Agave attenuata
Dudleya pulverulenta
Echium factuosum
Festuca glauca "Golden Toupee"
Juncus patens
Mahonia repens
Myrbus communis "Compacta"
Origanum variegata
Phormium cookianum
Pittosporum crassifolium "Compactum"
Rosmarinus officinalis "Prostratus"
Scirpus cernutus
Woodwardia fimbriata
Zoysia tenuifolia

Zone B (80' from Zone A)

Aesculus californica
Agave Americana
Arctostaphylos densiflora "Howard McMinn"
Baccharis pilularis "Pigeon Point"
Fiscus repens
Ceanothus "Concha"
Ceanothus griseus horizontalis "Yankee Point"
Cercis occidentalis
Cistus x hybridus
Galvezia speciosa "Firecracker"
Heteromeles arbutifolia
Heuchera maxima
Iris douglasianaRomneya coulteri
Metrosideres excelsus
Olea europana
Quercus agrifolia
Ribes viburnifolium
Rosmarinus officinalis "Miss Jessup's Upright"
Rosa californica
Sisyrinchium bellum
Vitis californica "Roger's Red"
Yucca whipplei

Plant spacing in Zone B –
Trees – 30' minimum
Shrubs – 15' or 3x diameter minimum
All groundcover to be kept under
19" tall

Zone C (100' from Zone B)

FIRE AND LIFE SAFETY GENERAL BUILDING REQUIREMENTS

1. Provide a 1 hour fire resistive area/occupancy separation between the R-3 and the U-1 Building Code Table 3-B or Title 24 Table 3-B.
2. Exit doors shall be openable from the inside without use of a key or any special knowledge or effort. Title 24, 1003.3.8.
3. Width and height of required exit doorways to comply with Title 24, 1003.3.1.3.
4. Comply with Title 24, 1210-a regarding fire warning systems. Smoke detectors shall be hardwired with battery backup, and interconnected.
5. Comply with Title 24, 1204 regarding access.

FIRE AND LIFE SAFETY GENERAL BUILDING REQUIREMENTS

1. Building address numbers to be provided on the front of all buildings and shall be visible and legible from the street fronting the property. Said number shall contrast with their background. Fire Code 901.4.4
2. Provide key box as required by fire Code 902.4 located at the entry gate. Key box to be designed per L.A. County Fire Department Regulation #5

Building requirements for Fire Zone IV

1. All roof coverings shall be Class "A" as specified in Title 24 1504.1.
2. Tile roofs shall be fire-stopped at eave ends to preclude entry of flames or embers under tile. Building Code 6403.2
3. Walls forming the enclosure of a building shall be one-hour fire resistive construction on the exterior side as approved by the Building official. Building Code 6403.3
4. Exterior windows, curtain and window walls, skylights, and exterior doors shall utilize multi-glaze panels. Building Code 6403.4
5. Openings in attics, floors and other enclosed areas shall not exceed 144 square inches each. Such openings shall be covered with a corrosion-resistant wire mesh with mesh openings of 1/4". Building Code 6403.5
6. Provide spark arrestors used with chimneys or heating appliances in which solid or liquid fuel is used. Openings shall not exceed 1/2". Building Code 1118.12. Building Code 3102.3.8
7. Under-floor areas shall be enclosed to the ground with construction as required for exterior walls. Building Code 6403.6
8. Accessory structures, such as carports, decks, or patio covers, which are attached to or within 20' of a residential building must be one-hour fire resistive, heavy timber, or noncombustible construction. Building Code 6403.7 & 6403.9
9. Detached patio covers, decks, carports, trellises and other similar accessory structures located 20' or more from a habitable structure, and of wood construction shall utilize lumber not less than 2" nominal in width and depth. Building Code 6403.9
10. A final Fuel modification Plan shall be submitted Fire Code 1117.2.1
11. Clearance of brush and vegetative growth shall be maintained per Fire Code 1117.2.2

FUEL MODIFICATION NOTES

Zone A – Setback Zone (First 20' from Structure*)

Requirements

- Minimum of 20 feet beyond the edge of combustible structures, attached accessory structures or appendages and projections
- Most vegetation in this zone is limited to ground covers, green lawns, and a limited number of selected ornamental species.
- No vines or climbing plants on combustible structures.
- Irrigation by automatic system to maintain healthy vegetation with high moisture content.
- Plants in this zone shall be highly fire resistant and selected from the approved list for the setback zone and given geographical area, unless otherwise approved.
- Target trees, including Eucalyptus, Juniper, Cypress and Pine are not allowed within ten feet of combustible structure. Other tree species may be allowed pursuant to the Fire Code, regarding clearance of brush and vegetative growth, but are not recommended.
- Except for dwarf varieties or mature trees small in stature, trees are not generally recommended within Zone A for reasons which go beyond fire issues and are therefore not included in the planting guide.

Zone B – Irrigated Zone (80' Beyond Zone A*)

Requirements

- Extends from outermost edge of Zone A as drawn.
- Irrigation by automatic system to maintain healthy vegetation with high moisture content.
- Any plants selected for planting in this zone will be chosen from the approved plant list for the setback or irrigated zone and given geographical area, unless otherwise approved.
- Ground cover at 18"maximum height.

Zone C – Thinning zone (100' Beyond Zone B and Along Road*)

Requirements

- Extends from outermost edge of Zone B as drawn.
- Predominantly existing vegetation with removal of the majority of undesirable plant species including chamise, red shank, California Sagebrush, common buckwheat and Sage.
- Reduce fuel loading by reducing the fuel in each remaining tree or shrub without substantial decrease in the canopy cover or removal of soil holding root systems.
- Some replacement planting with ornamental or less flammable native species to meet minimum slope coverage requirements of city or county public works, landscape or hillside ordinances.
- Natural vegetation is thinned by reduced amounts as the zone moves away from the development.
- Removal of all dead and dying vegetation, all fine fuels reduced to 3 inches in height.
- Any plants selected for planting in this zone will be chosen from the approved plant list for the setback, irrigated, or thinning zone and given geographical area.

*Actual size/distance of zones to be determined by Fire Department.

Maintenance

- Requires annual removal and/or thinning of undesirable combustible vegetation, replacement of dead/dying fire resistant plantings, maintenance of the operational integrity and programming of the irrigation system.
- Pruning of foliage to reduce fuel load, vertical continuity, removal of plant litter and dead wood.
- Regular trimming to prevent ladder fuels. Prune lower branches of trees and tree-form shrubs up to 1/3 of their height (up to a maximum of 6' above the ground).
- Debris and trimmings produced by thinning and pruning shall be removed from the site or chipped and evenly dispersed in the same area to a maximum depth of 5 inches.
- Recommended minimum spacing is 30 feet between canopies for trees and 15 feet or three times the diameter of the individual crowns for large shrubs.
- Ground cover shall be maintained at a height not to exceed 18 inches.
- All grasses shall be maintained at a height not to exceed 3 inches.
- Compliance with the Fire Code is a year round responsibility. Enforcement will occur following inspection by the Fire Department annually or as needed. Annual inspections are generally conducted following natural drying of fine fuels. This occurs between the months of April and June.
- All future plantings shall be in accordance with the County of Los Angeles Fire Department Fuel Modification Guidelines.

Fire Access Road

Fire Access Road

- Clear and remove flammable growth for a minimum of ten feet on each side of access road. (F.C.1117.10)
- Fire access roads, driveways and turnarounds shall be maintained in accordance with the Fire Code. Fire access road shall have unobstructed vertical clearance to the sky. (F.C. 902.2.2.1)
- Within the 10 foot clearance zone it is recommended that proposed surface fuels be appropriately spaced and maintained at a height not to exceed 18 inches.
- Proposed trees should be planted outside the 10 foot clearance zone.

Long Term Maintenance Agreement

The property owner(s) agree to be responsible for the long term maintenance of this Fuel Modification Plan, as described herein.

Property Owner(s) ______________________ Date ____________

______________________ ____________

LEGEND:

F.S.	FINISHED SURFACE ELEVATION
F.G.	FINISHED GROUND
F.L.	FLOW LINE ELEVATION
F.F.	FINISH FLOOR
T.C.	TOP OF CURB
H.P.	HIGH POINT
L.P.	LOW POINT
G.B.	GRADE BREAK
T.G.	TOP OF GRATE ELEVATION
INV.	INVERT ELEVATION
H	HEIGHT OF RETAINING WALL (FREEBORD NOT INCLUDED)
1000.0	PROPOSED ELEVATION
(1000)	EXISTING ELEVATION
	PROPERTY LINE
T.W.	TOP OF WALL
	CUT & FILL TRANSITION
	DAYLIGHT LINE
1000	PROPOSED CONTOUR LINE
1000	EXISTING CONTOUR LINE
	PROPOSED BUILDING
	DIRECTION OF FLOW
	PVC DRAIN PIPE @1% MIN.
	12"x12" PVC CATCH BASIN
	PROPOSED RETAINING WALL BY OTHERS
	PROPOSED CONCRETE PAVEMENT
DS o	DOWN SPOUT

SCALE: 1/32" = 1' - 0"

REVISIONS	BY

FUEL MODIFICATION PLAN

ADDRESS: ROTUNDE MESA RD., MALIBU, CA 90265

OWNER:

Hadad Home
R2010-01574/RPP2010-01176
Rotunde Mesa Rd.
ERB: January 24, 2011

PROJECT ENGINEERING GROUP
Civil and Structural Engineering
15335 MORRISON ST.
SUITE 305
SHERMAN OAKS, CA 91403
(818) 784-8110
(818) 784-8116 FAX

REGISTERED PROFESSIONAL ENGINEER · C 53434 · CIVIL · STATE OF CALIFORNIA

DRAWN	E.K.
CHECKED	V.G.
DATE	09/01/09
SCALE	1"=32'
JOB NO.	09-08-854
SHEET	FUEL MOD.