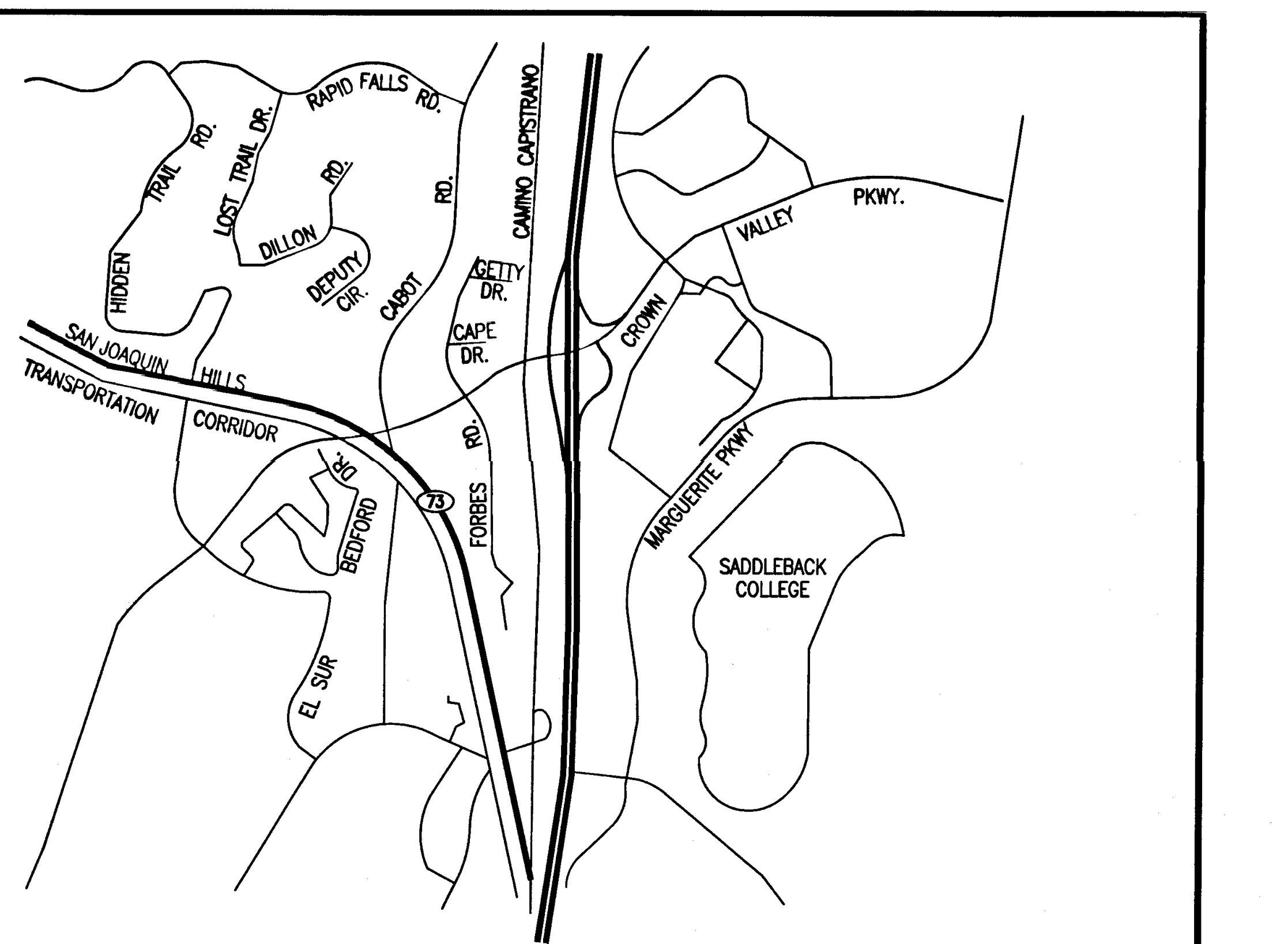
MILL CREEK RESIDENTIAL TRUST
CROWN VALLEY/CABOT APARTMENTS
PRECISE GRADING & DRAINAGE PLANS
LAGUNA NIGUEL, CALIFORNIA



VICINITY MAP

N.T.S.
T.G. 922-A7

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE GRADING CODE OF THE CITY OF LAGUNA NIGUEL AND ANY SPECIAL REQUIREMENTS OF THE PERMIT. A COPY OF THE GRADING CODE AND MANUAL SHALL BE RETAINED ON THE JOB SITE WHILE WORK IS IN PROGRESS. WHEN REFERENCED ON THE PLANS, A COPY OF OC PUBLIC WORKS STANDARD PLANS SHALL ALSO BE RETAINED ON THE SITE.
2. GRADING SHALL NOT BE STARTED WITHOUT FIRST NOTIFYING THE CITY GRADING INSPECTOR, A PRE GRADING MEETING ON THE SITE IS REQUIRED BEFORE START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOIL ENGINEER, GEOLOGIST, CITY GRADING INSPECTOR AND WHEN REQUIRED THE ARCHAEOLOGIST AND PALEONTOLOGIST. THE REQUIRED INSPECTIONS FOR GRADING WILL BE EXPLAINED AT THIS MEETING.
3. AN APPROVED COPY OF THE GRADING PLAN SHALL BE ON THE PERMITTED SITE WHILE WORK IS IN PROGRESS.
4. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 2 FOOT HORIZONTAL TO 1 FOOT VERTICAL (2:1).
5. FILLS SHALL BE COMPACTED THROUGHOUT TO A MINIMUM OF 90% RELATIVE DENSITY. AGGREGATE BASE FOR ASPHALTIC AREAS SHALL BE COMPACTED TO MINIMUM OF 95% RELATIVE DENSITY. MAXIMUM DENSITY SHALL BE DETERMINED BY CALIFORNIA BUILDING CODE STANDARD NO. 70-1 OR APPROVED EQUIVALENT, AND FIELD DENSITY BY CALIFORNIA BUILDING CODE STANDARD NO. 70-2 OR APPROVED EQUIVALENT.
6. AREAS TO RECEIVE FILL SHALL BE PROPERLY PREPARED AND APPROVED IN WRITING BY *THE SOIL ENGINEER AND THE BUILDING OFFICIAL PRIOR TO PLACING FILL.*
7. FILLS SHALL BE BENCHED INTO COMPETENT MATERIAL PER OC PUBLIC WORKS STANDARD PLAN NO. 1322.
8. ALL EXISTING FILLS SHALL BE APPROVED BY THE BUILDING OFFICIAL OR REMOVED PRIOR TO PLACING ADDITIONAL FILLS.
9. ANY EXISTING IRRIGATION LINES AND CISTERNS SHALL BE REMOVED, OR CRUSHED IN PLACE, AND APPROVED BY THE BUILDING OFFICIAL AND SOIL ENGINEER.
10. STOCKPILING OF EXCESS MATERIAL SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO EXCAVATION.
11. THE DESIGN ENGINEER, AS A CONDITION OF ROUGH GRADE APPROVAL, SHALL PROVIDE BLUE TOP WITH ACCOMPANYING WITNESS STAKE, SET AT THE CENTER OF EACH PAD REFLECTING THE PAD ELEVATION FOR PRECISE PERMITS AND A BLUE TOP WITH WITNESS STAKE SET AT THE DRAINAGE SWALE HIGH POINT REFLECTING THE HIGH POINT ELEVATION FOR PRELIMINARY PERMITS.
12. ALL TRENCH BACKFILLS SHALL BE TESTED AND APPROVED BY THE SOIL ENGINEER PER THE GRADING CODE.
13. THE ENGINEERING GEOLOGIST AND SOIL ENGINEER SHALL AFTER CLEARING AND PRIOR TO THE PLACEMENT OF FILL IN CANYONS, INSPECT EACH CANYON FOR AREAS OF ADVERSE STABILITY AND TO DETERMINE THE PRESENCE OR ABSENCE OF SUBSURFACE WATER OR SPRING FLOW. IF NEEDED, SUBDRAINS WILL BE DESIGNED AND CONSTRUCTED PRIOR TO THE PLACEMENT OF FILL IN EACH RESPECTIVE CANYON.
14. SUBDRAIN OUTLETS SHALL BE COMPLETED AT THE BEGINNING OF THE SUBDRAIN CONSTRUCTION.
15. THE EXACT LOCATION OF THE SUBDRAINS SHALL BE SURVEYED IN THE FIELD FOR LINE/GRADE AND REFLECTED ON AS-GRADED PLANS.
16. ALL CUT SLOPES SHALL BE INVESTIGATED BOTH DURING AND AFTER GRADING BY THE ENGINEERING GEOLOGIST TO DETERMINE IF ANY SLOPE STABILITY PROBLEMS EXIST. SHOULD EXCAVATION DISCLOSE ANY GEOLOGICAL HAZARDS OR POTENTIAL GEOLOGICAL HAZARDS, THE ENGINEERING GEOLOGIST SHALL SUBMIT RECOMMENDED TREATMENT TO THE BUILDING OFFICIAL FOR APPROVAL.
17. WHERE SUPPORT OR BUTTRESSING OF CUT AND NATURAL SLOPES IS DETERMINED TO BE NECESSARY BY THE ENGINEERING GEOLOGIST AND SOIL ENGINEER, THE SOIL ENGINEER SHALL SUBMIT DESIGN, LOCATIONS AND CALCULATIONS TO THE BUILDING OFFICIAL PRIOR TO CONSTRUCTION. THE ENGINEERING GEOLOGIST AND SOIL ENGINEER SHALL INSPECT AND CONTROL THE CONSTRUCTION OF THE BUTTRESSING AND CERTIFY TO THE STABILITY OF THE SLOPE AND ADJACENT STRUCTURES UPON COMPLETION.
18. WHEN CUT PADS ARE BROUGHT TO NEAR GRADE, THE ENGINEERING GEOLOGIST SHALL DETERMINE IF THE BEDROCK IS EXTENSIVELY FRACTURED OR FAULTED AND WILL READILY TRANSMIT WATER. IF CONSIDERED NECESSARY BY THE ENGINEERING GEOLOGIST AND SOIL ENGINEER, A COMPACTED FILL BLANKET WILL BE PLACED.
19. THE ENGINEERING GEOLOGIST SHALL PERFORM PERIODIC INSPECTIONS AND SUBMIT A COMPLETE REPORT AND MAP UPON COMPLETION OF THE ROUGH GRADING.
20. THE COMPACTION REPORT AND APPROVAL FOR THE SOIL ENGINEER SHALL INDICATE THE TYPE OF FIELD-TESTING PERFORMED. EACH TEST SHALL BE IDENTIFIED WITH A METHOD OF OBTAINING THE IN-PLACE DENSITY, WHETHER SAND CONE OR DRIVE RING AND SHALL BE SO NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY DETERMINATIONS SHALL BE PERFORMED TO VERIFY THE ACCURACY OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.
21. THE SOIL ENGINEER AND ENGINEERING GEOLOGIST SHALL PERFORM SUFFICIENT INSPECTIONS AND BE AVAILABLE DURING GRADING AND CONSTRUCTION TO VERIFY COMPLIANCE WITH THE PLANS, SPECIFICATIONS AND THE CODE WITHIN THEIR PURVIEW.
22. THE CIVIL ENGINEER SHALL BE AVAILABLE DURING GRADING TO VERIFY COMPLIANCE WITH THE PLANS, SPECIFICATIONS, CODE AND ANY SPECIAL CONDITIONS OF THE PERMIT WITHIN THE PURVIEW.
23. THE PERMITTEE IS RESPONSIBLE FOR DUST CONTROL MEASURES.
24. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE.
25. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITTEE.
26. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES DURING GRADING.
27. ANY EXISTING WATER WELLS SHALL BE ABANDONED IN COMPLIANCE WITH THE SPECIFICATIONS APPROVED BY COUNTY OF ORANGE, HUMAN SERVICES AGENCY, DIVISION OF ENVIRONMENTAL HEALTH.
28. *ANY EXISTING OIL WELLS SHALL BE ABANDONED IN COMPLIANCE WITH THE ORANGE* COUNTY OIL CODE TO THE APPROVAL OF OC PUBLIC WORKS/REGULATIONS SPECIAL SERVICE SECTION.
29. ANY EXISTING CESSPOOLS AND SEPTIC TANKS SHALL BE ABANDONED IN COMPLIANCE WITH THE CALIFORNIA PLUMBING CODE TO THE APPROVAL OF CITY PLANNING/BUILDING DIVISIONS, SPECIAL SERVICE SECTION.
30. PRIOR TO FINAL APPROVAL, THE CIVIL ENGINEER SHALL CERTIFY TO THE BUILDING OFFICIAL THE AMOUNT OF EARTH MOVED DURING THE GRADING OPERATION.

GENERAL NOTES CONT.

31. THE PERMITTEE SHALL COMPLY WITH THE GRADING CODE REQUIREMENTS WHEN AN EXCESS OF 5,000 CUBIC YARDS OF EACH IS TRANSPORTED TO OR FROM A PERMITTED SITE ON PUBLIC ROADWAYS.
32. ASPHALT CONCRETE SHALL BE CONSTRUCTED PER THE REQUIREMENTS OF OC PUBLIC WORKS STANDARD PLAN NO. 1805.
33. AGGREGATE BASE SECTION SHALL BE CONSTRUCTED PER OC PUBLIC WORKS STANDARD NO.1804.
34. ALL CONCRETE STRUCTURES THAT COME IN CONTACT WITH THE ON-SITE SOILS SHALL BE CONSTRUCTED WITH TYPE V CEMENT, UNLESS DEEMED UNNECESSARY BY SOLUBLE SULPHATE-CONTENT TESTS CONDUCTED BY THE SOIL ENGINEER.
35. EXPORT SOIL MUST BE TRANSPORTED TO A LEGAL DUMP OR TO A PERMITTED SITE APPROVED BY THE DISTRICT GRADING INSPECTOR.
36. SLOPES EXCEEDING 5 FEET IN HEIGHT SHALL BE PLANTED WITH APPROVED PLANT MATERIAL. IN ADDITION, EXCEEDING 15 FEET IN HEIGHT SHALL BE PROVIDED WITH AN APPROVED IRRIGATION SYSTEM, UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL.
37. THE GRADING CONTRACTOR SHALL SUBMIT A STATEMENT OF COMPLIANCE TO THE APPROVED GRADING PLAN PRIOR TO FINAL APPROVAL.
38. ASPHALT SECTIONS MUST BE PER CODE: PARKING STALLS = 3" A/C OVER 6" A/C, DRIVES 3" A/C OVER 10" (COMM.) 12" (INDUSTRIAL). OR: PRIOR TO ROUGH GRADE *RELEASE FOR BUILDING PERMITS BY THE DISTRICT GRADING INSPECTOR, THE SOIL* ENGINEER SHALL SUBMIT FOR APPROVAL, PAVEMENT SECTION RECOMMENDATIONS BASED ON 'R' VALUE ANALYSIS OF THE SUB-GRADE SOILS, AND EXPECTED TRAFFIC INDICES.
39. PRELIMINARY SOIL AND GEOLOGY REPORTS AND ALL SUBSEQUENT REPORTS AS APPROVED BY THE CITY GRADING SECTION ARE CONSIDERED A PART OF THE APPROVED GRADING PLAN.
40. ALL EXISTING DRAINAGE COURSES THROUGH THIS SITE SHALL REMAIN OPEN UNTIL FACILITIES TO HANDLE STORM WATER ARE APPROVED AND FUNCTIONAL; HOWEVER, IN ANY CASE, THE PERMITTEE SHALL BE HELD LIABLE FOR ANY DAMAGE DUE TO OBSTRUCTING NATURAL DRAINAGE PATTERNS.
41. GRADING OPERATIONS, INCLUDING MAINTENANCE OF EQUIPMENT WITHIN ONE-HALF MILE OF A HUMAN OCCUPANCY, SHALL NOT BE CONDUCTED BETWEEN THE HOURS OF 8 P.M. AND 7 A.M. DAILY, ON SUNDAY OR ON A FEDERAL HOLIDAY.
42. ROOF GUTTERS SHALL BE INSTALLED TO PREVENT ROOF DRAINAGE FROM FALLING ON MANUFACTURED SLOPES.
43. THE PERMITTEE SHALL BE GIVEN REASONABLE NOTICE TO THE OWNER OF ADJOINING LANDS AND BUILDINGS PRIOR TO BEGINNING EXCAVATIONS WHICH MAY AFFECT THE LATERAL AND SUBJACENT SUPPORT OF THE ADJOINING PROPERTY. THE NOTICE SHALL STATE THE INTENDED DEPTH OF EXCAVATION AND WHEN THE EXCAVATION WILL COMMENCE. THE ADJOINING OWNER SHALL BE ALLOWED AT LEAST 30 DAYS AND REASONABLE ACCESS OF THE PERMITTED PROPERTY TO PROTECT HIS STRUCTURE, IF HE SO DESIRES, UNLESS OTHERWISE PROTECTED BY LAW.

EROSION CONTROL NOTES

44. IN CASE OF EMERGENCY, CALL: GREG LUCAS WORK PHONE: 714-645-4048
45. SEDIMENTS FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON-SITE USING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE, AND STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, SIDEWALKS, GUTTERS, DRAIN INLETS OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING OR WIND.
46. ALL SEDIMENT AND CONSTRUCTION DEBRIS WHICH IS TRACKED OR DEPOSITED ONTO PUBLIC OR PRIVATE SIDEWALKS, GUTTERS OR PAVED ROADS SHALL BE REMOVED ON A DAILY BASIS BY SWEEPING OR VACUUMING AND DISPOSED OF PROPERLY. SEDIMENT AND CONSTRUCTION DEBRIS SHALL NOT BE WASHED INTO THE STORM DRAIN SYSTEM, INCLUDING THE GUTTER AND STORM DRAIN INLETS.
47. SANDBAGS, GRAVEL BAGS OR OTHER EFFECTIVE FILTER OR TRAP-TYPE BARRIERS SHALL BE USED WHERE APPROPRIATE TO INTERCEPT AND SLOW THE FLOW OF RUNOFF FROM THE CONSTRUCTION SITE AND TO TRAP SEDIMENT BEFORE IT ENTERS THE STORM DRAIN SYSTEM, INCLUDING GUTTERS AND INLETS. ALL ON-SITE STORM DRAIN INLETS SHALL BE PROTECTED AND OFF-SITE INLETS SHALL BE PROTECTED IN AREAS WHERE CONSTRUCTION ACTIVITY TRACKS SEDIMENT ON PAVED AREAS OR WHERE INLETS RECEIVE RUNOFF FROM DISTURBED AREAS.
48. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE, AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
49. EROSION CONTROL DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.
50. DURING THE WET SEASON, BETWEEN OCTOBER 1ST AND APRIL 30TH, EROSION CONTROL PROTECTIVE DEVICES AND MEASURES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY PROBABILITY-OF-RAIN EXCEEDS 40%. DURING THE REMAINDER OF THE YEAR, THE EROSION CONTROL PROTECTIVE DEVICES AND MEASURES SHALL BE ONSITE AND READY FOR INSTALLATION WHEN THE 5-DAY PROBABILITY-OF-RAIN EXCEED 50% AND IN PLACE AT THE END OF EACH DAY WHEN THE 48 HOUR PROBABILITY-OF-RAIN EXCEEDS 50%.
51. AFTER A RAINSTORM ALL SILT AND DEBRIS SHALL BE REMOVED FROM STREETS, CHECK BERMS AND BASINS.
52. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE TO BE DIRECTED TOWARD DE-SILTING FACILITIES.
53. ALL BARE SLOPES, INCLUDING MANUFACTURED SLOPES, SHALL BE PROVIDED WITH PROTECTIVE EROSION CONTROL MEASURES.
54. EROSION CONTROL SYSTEMS ARE DYNAMIC AND WILL CHANGE BASED ON CHANGES IN SITE DEVELOPMENT AND WEATHER CONDITIONS. THEREFORE, UPON INSPECTION, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE CITY INSPECTOR TO MINIMIZE EROSION AND SEDIMENT TRANSPORT FROM AREAS OF THE SITE *TO STREETS, SIDEWALKS, GUTTERS, DRAIN INLETS OR ADJACENT PROPERTIES.*
55. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
56. THE PERMITTEE AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND ENSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.

UNDERGROUND STORAGE TANK REMOVAL NOTES

57. IN THE EVENT THAT SOIL CONTAMINATION IS DISCOVERED DURING EXCAVATION AND REMOVAL OF AN EXISTING TANK, WORK SHALL BE STOPPED UNTIL A SITE ASSESSMENT AND MITIGATION PLAN HAS BEEN PREPARED, SUBMITTED AND APPROVED BY HCA/ENVIRONMENTAL HEALTH AND THE GRADING SECTION.
58. ISSUANCE OF A GRADING PERMIT DOES NOT ELIMINATE THE NEED FOR PERMITS FROM OTHER AGENCIES WITH REGULATORY RESPONSIBILITIES FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE WORK AUTHORIZED ON THIS PLAN.

SPECIAL NOTES

59. SURVEY MONUMENTS SHALL BE PRESERVED AND REFERENCED BEFORE CONSTRUCTION AND REPLACED AFTER CONSTRUCTION PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONAL CODE.

WATER QUALITY NOTES

60. SEDIMENTS FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON-SITE USING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE; AND STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, SIDEWALKS, GUTTERS, DRAIN INLETS OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING OR WIND.
61. ALL SEDIMENT AND CONSTRUCTION DEBRIS WHICH IS TRACKED OR DEPOSITED ONTO PUBLIC OR PRIVATE SIDEWALKS, GUTTERS OR PAVED ROADS SHALL BE REMOVED ON A DAILY BASIS BY SWEEPING OR VACUUMING AND DISPOSED OF PROPERLY. SEDIMENT AND CONSTRUCTION DEBRIS SHALL NOT BE WASHED INTO THE STORM DRAIN SYSTEM, INCLUDING THE GUTTER AND STORM DRAIN INLETS.
62. SANDBAGS, GRAVEL-BAGS OR OTHER EFFECTIVE FILTER OR TRAP-TYPE BARRIERS SHALL BE USED WHERE APPROPRIATE TO INTERCEPT AND SLOW THE FLOW OF RUNOFF FROM THE CONSTRUCTION SITE AND TO TRAP SEDIMENT BEFORE IT ENTERS THE STORM DRAIN SYSTEM, INCLUDING GUTTERS AND INLETS. ALL ON-SITE STORM DRAIN INLETS SHALL BE PROTECTED AND OFF-SITE INLETS SHALL BE PROTECTED IN AREAS WHERE CONSTRUCTION ACTIVITY TRACKS SEDIMENT ON PAVED AREAS OR WHERE INLETS RECEIVE RUNOFF FROM DISTURBED AREAS.
63. WATER AND/OR OTHER DUST PALLIATIVE AND STABILIZATION METHODS SHOULD BE USED TO PREVENT OR ALLEVIATE DUST NUISANCES (DUST CONTROL) GENERATED BY CONSTRUCTION ACTIVITIES. COVERING SMALL STOCKPILES OF SOIL AND DEBRIS OR AREAS WITH UN-STABILIZED SOIL IS AN ALTERNATIVE TO APPLYING WATER OR OTHER DUST PALLIATIVES.
64. CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE RETAINED ON-SITE TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, SIDEWALKS, GUTTERS, DRAIN INLETS OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
65. TO PREVENT THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY AND STORAGE TO THE STORM WATER SYSTEM OR WATERCOURSES, ALL MATERIALS SHALL BE PROPERLY STORED TO PREVENT SOIL CONTAMINATION AND CONTACT WITH STORM WATER RUNOFF, WHICH MAY INCLUDE APPROPRIATE COVERS, CONTAINMENT AREAS OR SURFACES AND INDOOR STORAGE.
66. STOCKPILES OF SOIL, PAVING MATERIALS, AND PRESSURE-TREATED WOOD SHALL BE MANAGED TO PREVENT AIR AND WATER POLLUTION. STOCKPILES SHOULD BE LOCATED 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORM WATER, WATERCOURSES AND DRAIN INLETS. PRIOR TO THE ONSET OF PRECIPITATION, STOCKPILES SHALL BE COVERED AND PROTECTED BY A TEMPORARY PERIMETER SEDIMENT BARRIER AT ALL TIMES.
67. HAZARDOUS-MATERIAL WASTE, INCLUDING BUT NOT LIMITED TO PETROLEUM PRODUCTS, ROOFING TAR, PAINTS, SOLVENTS, STAINS, ACIDS, WOOD PRESERVATIVES, SEPTIC WASTES AND ASPHALT PRODUCTS, SHALL NOT BE ALLOWED TO ENTER THE STORM DRAIN SYSTEM OR WATERCOURSES AND SHALL BE PROPERLY TRANSPORTED, USED, STORED AND DISPOSED AS REQUIRED BY FEDERAL AND STATE LAW. PAINT BRUSHES AND EQUIPMENT FOR WATER- AND OIL-BASED PAINTS SHALL BE CLEANED WITHIN A CONTAINED AREA AND SHALL NOT BE ALLOWED TO CONTAMINATE SITE SOIL, WATERCOURSES OR STORM DRAIN SYSTEMS. WATER-BASED PAINTS SHALL BE RINSED INTO THE SANITARY SEWER SYSTEM; AND THINNERS, SOLVENTS, EXCESS OIL-BASED PAINTS AND SLUDGE SHALL BE DISPOSED AS HAZARDOUS WASTE.
68. CEMENTACEOUS PRODUCTS SUCH AS CONCRETE, MORTAR OR STUCCO FROM CONCRETE TRUCKS, POTABLE MIXERS AND MISCELLANEOUS CONTAINERS SHALL NOT BE WASHED-OUT INTO THE STORM DRAIN SYSTEM OR WATERCOURSES. DESIGNATED WASHOUT AREAS SHALL BE LOCATED AT LEAST 50 FEET FROM CONCENTRATED FLOWS OF STORM WATER, WATERCOURSES AND STORM DRAIN INLETS, AND RUNOFF FROM WASHOUT-AREAS SHALL BE CONTAINED BY CONSTRUCTING A TEMPORARY PIT OR BERM AREA LARGE ENOUGH TO CAPTURE THE LIQUID AND SOLID WASTE MATERIALS.
69. SAW-CUT CEMENT-CONCRETE AND ASPHALT-CONCRETE SLURRY SHALL NOT BE ALLOWED TO ENTER THE STORM DRAIN SYSTEM OR WATERCOURSES. RESIDUE FROM GRINDING OPERATIONS SHALL BE PICKED UP BY MEANS OF A VACUUM ATTACHMENT TO THE GRINDING MACHINE AND NOT ALLOWED TO FLOW ACROSS THE PAVEMENT OR BE LEFT ON THE SURFACE OF THE PAVEMENT.
70. PRIOR TO DISCHARGE OF GROUNDWATER AND ASSOCIATED WASTE, THE DISCHARGER SHALL SUBMIT AN APPLICATION TO THE SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD AND OBTAIN COVERAGE UNDER ORDER NO. R9-2008-0002, DISCHARGES FROM GROUNDWATER EXTRACTION TO SURFACE WATERS IN THE SAN DIEGO REGION EXCEPT SAN DIEGO BAY.

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF LAGUNA NIGUEL, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THAT PORTION OF SECTION 14, TOWNSHIP 7 SOUTH, RANGE 8 WEST OF THE SAN BERNARDINO MERIDIAN, IN THE CITY OF LAGUNA NIGUEL, COUNTY OF ORANGE, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND IN THE DISTRICT LAND OFFICE MAY 19, 1873, DESCRIBED AS FOLLOW:

COMMENCING AT THE MOST NORTHERLY CORNER OF THE LAND DESCRIBED IN THE DEED TO LAGUNA DEVELOPMENT COMPANY, RECORDED MARCH 22, 1963, IN BOOK 6476, PAGES 877 TO 881 INCLUSIVE OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, SAID CORNER BEING A POINT ON A 1500.00 FOOT RADIUS CURVE, CONCAVE SOUTHEASTERLY A RADIAL TO SAID POINT BEARS NORTH 50°00'00" WEST; THENCE NORTHEASTERLY 505.86 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 19°19'22"; THENCE NORTH 59°19'22" EAST, 70.50 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1500.00 FEET; THENCE NORTHEASTERLY 538.54 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 20°34'14"; THENCE NORTH 38°45'08" EAST, 540.85 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 1500.00 FEET; THENCE NORTHEASTERLY 1028.08 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 39°16'11"; THENCE NORTH 78°01'19" EAST, 767.43 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1500.00 FEET; THENCE NORTHEASTERLY 305.59 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 11°40'22"; THENCE NORTH 23°39'03" WEST, 52.00 FEET RADIAL TO LAST MENTIONED CURVE TO THE TRUE POINT OF BEGINNING, BEING A POINT ON A CURVE CONCAVE NORTHWESTERLY CONCENTRIC WITH LAST MENTIONED CURVE; THENCE SOUTHWESTERLY 295.00 FEET ALONG SAID CONCENTRIC CURVE THROUGH A CENTRAL ANGLE OF 11°40'22"; THENCE SOUTH 78°01'19" WEST, 78.00 FEET; THENCE NORTH 52°08'03" WEST, 41.87 FEET; THENCE NORTH 11°58'41" WEST, 178.00 FEET TO THE BEGINNING OF A CURVE CONCAVE EASTERLY HAVING A RADIUS OF 945.00 FEET; THENCE NORTHERLY 72.00 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 4°21'56"; THENCE NORTH 77°48'01" EAST, 359.07 FEET TO A POINT WHICH BEARS NORTH 20°05'55" WEST, 255.94 FEET FROM THE TRUE POINT OF BEGINNING; THENCE SOUTH 20°05'55" EAST, 255.94 FEET TO THE TRUE POINT OF BEGINNING.

APN: 636-043-03

THAT PORTION OF SECTION 14, TOWNSHIP 7 SOUTH, RANGE 8 WEST, OF THE SAN BERNARDINO MERIDIAN, IN THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER THE OFFICIAL PLAT OF SAID LAND FILED IN THE DISTRICT LAND OFFICE, IN THE CITY OF LAGUNA NIGUEL, COUNTY OF ORANGE, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHERLY CORNER OF THE LAND DESCRIBED IN THE DEED TO LAGUNA DEVELOPMENT COMPANY, RECORDED MARCH 22, 1963 IN BOOK 6476, PAGES 877 TO 881 INCLUSIVE OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, SAID CORNER BEING A POINT ON A 1500.00 FOOT RADIUS CURVE CONCAVE SOUTHEASTERLY A RADIAL TO SAID POINT BEARS NORTH 50°00'00" WEST, THENCE NORTHEASTERLY 505.86 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 19°19'22"; THENCE NORTH 59°19'22" EAST 70.50 FEET TO THE BEGINNING OF A CURVE, CONCAVE NORTHWESTERLY HAVING A RADIUS OF 1,500.00 FEET; THENCE NORTHEASTERLY 538.54 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 20°34'14"; THENCE NORTH 38°45'08" EAST 540.85 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 1500.00 FEET; THENCE NORTHEASTERLY 1028.08 FEET ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 39°16'11"; THENCE NORTH 78°01'19" EAST 767.43 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1500.00 FEET THENCE NORTHEASTERLY 305.59 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 11°40'22"; THENCE NORTH 23°39'03" WEST, RADIAL TO SAID LAST MENTIONED CURVE 52.00 FEET; THENCE NORTH 20°05'55" WEST 255.94 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 20°05'55" WEST 175.00 FEET; THENCE SOUTH 77°34'38" WEST 305.00 FEET TO A POINT ON A CURVE CONCAVE EASTERLY HAVING A RADIUS OF 945.00 FEET A RADIAL TO SAID POINT BEARS NORTH 87°00'08" WEST; THENCE SOUTHERLY 175.00 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 10°36'37" TO A POINT WHICH BEARS SOUTH 77°48'01" WEST 359.07 FEET FROM THE TRUE POINT OF BEGINNING; THENCE NORTH 77°48'01" EAST 359.07 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPT THEREFROM AN UNDIVIDED TWO-THIRDS INTEREST AND TO ALL OIL, GAS AND OTHER HYDROCARBON SUBSTANCES UNDERLYING SAID LAND FOR A PERIOD OF 20 YEARS AS CONVEYED TO FIRST NATIONAL BANK IN SANTA ANA BY DEED DATED AUGUST 30, 1950 RECORDED NOVEMBER 2, 1951 IN BOOK 2249, PAGE 286, OFFICIAL RECORDS SUBJECT HOWEVER, TO THE CONDITIONS RELATING THERETO AS CONTAINED IN SAID DEED.

APN: 636-043-02

GRADING QUANTITY ESTIMATE

CUT = 1,500 C.Y.
FILL = 15,000 C.Y.
NET = 13,500 C.Y. (IMPORT)

OVER-EXVACATION = 0 C.Y.
EXPORT = 0 C.Y.

NOTE:

QUANTITIES SHOWN ARE ESTIMATES FOR BONDING PURPOSES ONLY. ACTUAL PAY QUANTITY CALCULATIONS ARE THE RESPONSIBILITY OF THE GRADING CONTRACTOR.

SOILS ENGINEER STATEMENT

THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO RECOMMENDATIONS OF SOILS ENGINEERING/GEOLOGIC

REPORTS DATED ____________. SIGNATURE AND DATE: ______________________.

DECLARATION OF RESPONSIBLE CHARGE

THIS GRADING PERMIT IS ISSUED SUBJECT TO THE CONDITION THAT THIS GRADING WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A CIVIL ENGINEER, REGISTERED IN THE STATE OF CALIFORNIA, AND IN COMPLIANCE WITH THE PROVISIONS OF APPENDIX CHAPTER "J" OF THE CALIFORNIA BUILDING CODE, 2010 EDITION, AS AMENDED BY THE CITY OF LAGUNA NIGUEL. UPON COMPLETION OF GRADING, PRIOR TO THE ISSUANCE OF THE BUILDING PERMITS, THE CIVIL ENGINEER SHALL SUBMIT A SIGNED CERTIFICATION TO THE DIRECTOR OF COMMUNITY DEVELOPMENT SERVICES THAT THE GRADING WORK WAS PERFORMED SUBSTANTIALLY IN ACCORDANCE WITH THESE PLANS AND, IN HIS CONSIDERED OPINION, NO CONDITION EXISTS WHICH WOULD LEAD TO INSTABILITY OF SLOPES OR TO EXCESSIVE EROSION. THE NAME OF THE CIVIL ENGINEER RESPONSIBLE FOR THE CONDITIONS UPON THE GRADING WORK PROPOSED IN THIS IS JAMES H. KAWAMURA R.C.E. NO. 30560.

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY SUPERVISION AND BASED UPON GEOLOGIC AND/OR SOILS INVESTIGATION.

James H Kawamura 09/23/13
JAMES H. KAWAMURA DATE

OWNER

MCRT INVESTMENTS LLC
949 S. COAST DRIVE
SUITE 400
COSTA MESA, CALIFORNIA 92626
ATTN.: MICHAEL GENTHE
PHONE NO.: (714) 800-1382

CIVIL ENGINEER

KHR ASSOCIATES
4100 NEWPORT PLACE DRIVE
SUITE 200
NEWPORT BEACH, CALIFORNIA 92660
ATTN.: JAMES KAWAMURA/MIKE THOMAS
PHONE NO.: (949) 756-6440

SOIL ENGINEER

GEOCON WEST, INC.
3303 N. SAN FERNANDO BLVD.
SUITE 100
BURBANK, CALIFORNIA 91504
ATTN.: GERALD KASMAN
PHONE NO.: (818) 841-1704

WDID

9 30C365973

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF CABOT ROAD SHOWN AS "N11°58'02"W" ON RECORD OF SURVEY 94-1072, FILED IN RECORD OF SURVEY BOOK 154 PAGE 33, IN THE OFFICE OF THE COUNTY RECORDER OF ORANGE COUNTY.

BENCHMARK

ORANGE COUNTY SURVEY BENCHMARK NO. 3U-41-70

DESCRIBED BY OCS 2003 – FOUND 3 3\4" OCS ALUMINUM BENCHMARK DISK STAMPED "3U-41-70", SET IN THE NORTHWESTERLY CORNER OF A CONCRETE BRIDGE ABUTMENT. MONUMENT IS LOCATED IN THE NORTHWESTERLY CORNER OF THE INTERSECTION OF FORBES
ROAD AND CROWN VALLEY PARKWAY, 150 FT. WESTERLY OF THE CENTERLINE OF FORBES,
22.6 FT. NORTHERLY OF THE CENTERLINE OF CROWN VALLEY PARKWAY AND IN THE NORTHERLY END OF THE WESTERLY ABUTMENT. MONUMENT IS SET LEVEL WITH THE BRIDGE DECK.

ELEVATION = 264.878, DATUM NAVD 88

NOTICE TO CONTRACTORS

1. THE EXISTENCE AND LOCATIONS OF ALL UNDERGROUND (UTILITY PIPES, STRUCTURES, ETC). SHOWN ON THESE PLANS (MAIN LINES ONLY – NO SERVICE LATERALS) WERE ASCERTAINED BY A REVIEW OF RECORDS PROVIDED BY MEMBER AGENCIES AND ARE APPROXIMATE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR THE UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN.
2. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITIES SHOWN ON THESE PLANS AND/OR ANY OTHER UNDERGROUND UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

WORK TO BE DONE:

THE GRADING PLANS CONSISTS OF THE FOLLOWING WORK TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING DOCUMENTS:

1. CITY OF LAGUNA NIGUEL STANDARD PLANS,
2. STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (SPPWC),
3. COUNTY OF ORANGE (DPW) STANDARD PLANS,
4. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"),
5. STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS,
6. STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS,
7. STATE OF CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE (BMP) HANDBOOKS

SHEET INDEX

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PRECISE GRADING PLAN	C-8
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PRECISE GRADING PLAN	C-12
PRECISE GRADING PLAN	C-13
PRECISE GRADING DETAILS	C-14
PRECISE GRADING DETAILS	C-15
STORM DRAIN PLAN	C-16
STORM DRAIN PLAN	C-17
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STORM DRAIN PLAN	C-19
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STORM DRAIN PLAN	C-21
STORM DRAIN DETAILS	C-22
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FLOW THROUGH PLANTER DETAILS	C-24
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FLOW THROUGH PLANTER DETAILS	C-26
HORIZONTAL CONTROL PLAN	C-27
SIGNING & STRIPING PLAN	C-28
EROSION CONTROL	C-29
EROSION CONTROL	C-30

UTILITY	NAME	TELEPHONE NO.
POWER	SDG&E	(800) 336-7343
WATER	MOULTON NIGUEL WATER	(949) 831-2500
SEWER	MOULTON NIGUEL WATER	(949) 831-2500
GAS	SOUTHERN CALIFORNIA GAS COMPANY	(800) 427-2200
PHONE/CABLE TV	COX	(949) 546-2600
PHONE/CABLE TV	AT&T	(800) 310-2355

811 Know what's **below.** **Call** before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS. 2 PRECISE GRADING & 2 STORM DRAIN	
		SHEETS WERE ADDED.	
2	1/16/15	REVISED SHEETS 6, 7, 8, 9, 14, 16, 17, & 29	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA No. 30560 Expiration: 03/31/16

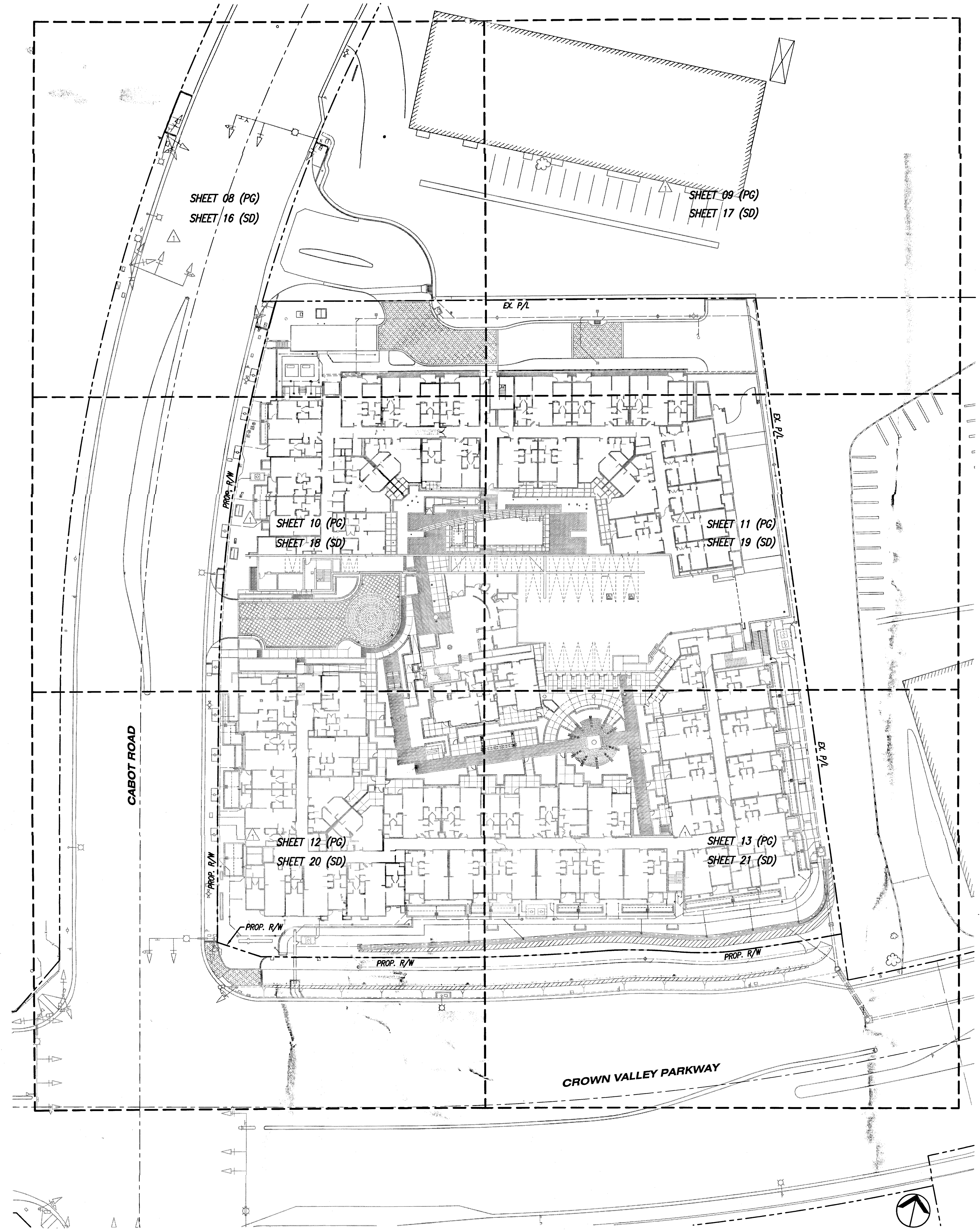
SHEET DESCRIPTION: **TITLE SHEET**

CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-1



INDEX MAP

SCALE 1"=30'

CONSTRUCTION NOTES

	CONSTRUCTION NOTES	QUANTITY	
①	CONSTRUCT 6-INCH HIGH PCC CURB, SEE SHEET C-4, DETAIL 1.	563 LF.	
②	CONSTRUCT VARIABLE HEIGHT PCC CURB FACE, SEE SHEET C-4, DETAIL 1.	30 LF.	
③	CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.	3,162 SF.	
④	CONSTRUCT 6-INCH THICK PCC SLAB OVER 4-INCH THICK CRUSHED MISCELLANEOUS BASE (CMB), SEE SHEET C-4, DETAILS 4 & 5.	484 SF.	
⑤	PROVIDE & INSTALL 80mm IMPERVIOUS CONCRETE VEHICULAR PAVERS OVER 1-INCH MIN. SAND LEVELING COARSE OVER 14-INCH CRUSH AGGREGATE BASE (CAB), SEE LANDSCAPE ARCHITECT'S PLANS FOR DETAILS, COLORS AND FINISHES.	2,855 SF.	
⑥	CONSTRUCT 4-INCH THICK ASPHALT CONCRETE PAVEMENT OVER OVER 12-INCHES CRUSHED AGGREGATE BASE (TI=7.0) PER SOILS REPORT BY GEOCON WEST, INC. DATED 12/31/12.	7,444 SF.	△1
⑦	CONSTRUCT 12-INCH WIDE PCC PAVER BAND. SEE SHEET C-4, DETAIL 3.	203 LF.	
⑧	CONSTRUCT 6-INCH PCC CURB AND 24-INCH GUTTER (TYPE A2-6) PER OCPW STANDARD PLAN 120-2-OC.	24 LF.	
⑨	CONSTRUCT 8-INCH CMU BLOCK FLOW THROUGH PLANTER SYSTEM, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, SEE SHEETS C-20, C-21 & C-22. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.	1,157 LF.	
⑩	CONSTRUCT 8-INCH CMU RAISED PLANTER WALL, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, PER SEPARATE PERMIT. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.	40 LF.	
⑪	CONSTRUCT 8-INCH CMU RETAINING WALL, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, PER SEPARATE PERMIT. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.	210 LF.	
⑫	CONSTRUCT PCC STAIRS AND HANDRAILS. SEE SHEET C-4, DETAIL 11.	63 LF.	
⑬	CONSTRUCT 4-INCH THICK PCC STEP, SEE SHEET C-4, DETAIL 8.	3 EA.	
⑭	CONSTRUCT 8-INCH WIDE PCC DEEPENED CURB (LEVEL BACKFILL COND), SEE SHEET C-4, DETAIL 6.	39 LF.	
⑮	CONSTRUCT 8-INCH WIDE VARIABLE HEIGHT PCC GRAVITY RETAINING CURB SEE SHEET C-4, DETAIL 7.	136 LF.	
⑯	CONSTRUCT 18-INCH WIDE PCC GUTTER AND STEEL BARRIER RAIL SEE SHEET C-4, DETAIL 9 & SHEET C-5 DETAIL 8.	434 SF.	
⑰	CONSTRUCT 4-INCH THICK GRAVEL BED WITH 3/4" CLEAN GRAVEL SEE SHEET C-4, DETAIL 10.	595 SF.	
⑱	CONSTRUCT 0-INCH TO 6-INCH PCC CURB FACE OVER 1-0'.	45 LF.	
⑲	ADJUST EXISTING STORM DRAIN MANHOLE OR CLEANOUT FRAME AND COVER TO FINAL FINISH GRADE.	5 EA.	
⑳	CONSTRUCT 4-FOOT WIDE PCC LONGITUDINAL GUTTER PER OCPW *STANDARD PLAN 122-2-OC.*	21 LF.	△1
㉑	CONSTRUCT 2.5-FOOT WIDE STABILIZED EARTHEN SWALE. SEE SHEET C-4, DETAIL 13.	543 LF.	
㉒	CONSTRUCT 3-INCH THICK STABILIZED DECOMPOSED GRANITE SURFACE, COMPACT PER MANUFACTURERS SPECIFICATIONS. SUBGRADE PREPARATION PER SOILS REPORT. SEE LANDSCAPE ARCHITECT'S PLANS FOR ADDITIONAL INFORMATION.	64 LF.	
㉓	CONSTRUCT 6-INCH PCC CURB AND 18-INCH GUTTER, SEE SHEET C-4, DETAIL 2.	175 LF.	
㉔	CONSTRUCT TEMPORARY 24-INCH WIDE PCC GUTTER. SEE SHEET C-5, DETAIL 1.	59 LF.	
㉕	CONSTRUCT TEMPORARY 6-INCH HIGH AC CURB PER SPPWC STANDARD PLAN 120-2, D1-8(200).	79 LF.	
㉖	CONSTRUCT 4-INCH HIGH PCC CURB PER CALTRANS STANDARD PLAN A87A, TYPE D-4.	96 LF.	△1
㉗	INSTALL 4" PVC (SCH. 40) IRRIGATION SLEEVE AT MIN. 18" BELOW GRADE.	50 LF.	
㉘	INSTALL 2" PVC (SCH. 40) IRRIGATION SLEEVE AT MIN. 24" BELOW GRADE.	58 LF.	
㉙	CONSTRUCT 4-INCH THICK ACCESSIBLE PCC RAMP. WITH #4 REBAR AT 18-INCHES O.C., SEE SHEET C-5, DETAIL 4. SEE LANDSCAPE PLANS FOR PCC COLORS AND FINISHES.	123 SF.	
㉚	CONSTRUCT 10-INCH WIDE DEEPENED PCC SIDEWALK FOOTING SEE SHEET C-5, DETAIL 2.	25 L.F.	△2

STORM DRAIN NOTES

	STORM DRAIN NOTES	QUANTITY	
㉚	PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.	800 LF.	
㉛	PROVIDE AND INSTALL 6-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.	55 LF.	△1
㉜	PROVIDE AND INSTALL 8-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.	188 LF.	
㉝	PROVIDE AND INSTALL 10-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.	268 LF.	
㉞	PROVIDE AND INSTALL 12-INCH HDPE DRAINAGE PIPE. SEE SHEET C-22, DETAIL 2 FOR PIPE BEDDING.	126 LF.	
㉟	PROVIDE AND INSTALL 18-INCH HDPE DRAINAGE PIPE. SEE SHEET C-22, DETAIL 2 FOR PIPE BEDDING.	16 LF.	
㊱	PROVIDE AND INSTALL PVC STORM DRAIN CLEANOUT. SEE SHEET C-22, DETAILS 4 OR 8.	6 EA.	
㊲	PROVIDE AND INSTALL 9-INCH x 9-INCH LOW PROFILE ADAPTER (NDS #930) USE 9-INCH SQUARE GRATE IN GRASS AREA (NDS #990 "GREEN"). USE 9-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #981 "BLACK"). SEE SHEET C-22, DETAIL 10.	9 EA.	
㊳	PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.	26 EA.	
㊴	PROVIDE AND INSTALL 6-INCH ROUND ATRIUM GRATE (NDS #90) IN SOIL AREAS AND 6-INCH ROUND GRATE (NDS #50) IN GRASS AREAS. SEE SHEET C-22, DETAIL 10.	2 EA.	
㊵	CONSTRUCT 12-INCH WIDE ACO TRENCH DRAIN MODEL SK3-01 WITH DUCTILE IRON GRATE (H-20 LOADING). SEE SHEET C-22, DETAIL 11.	20 LF.	
㊶	PROVIDE AND INSTALL ECCENTRIC REDUCER, SIZE PER PLAN.	8 EA.	
㊷	PROVIDE AND INSTALL HDPE WYE WITH NYLOPLAST DISSIMILAR PIPE MATERIAL ADAPTER ON LATERAL, SEE SHEET C-23, DETAIL 4.	29 EA.	
㊸	PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.	7 EA.	
㊹	PROVIDE AND INSTALL 30° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.	11 EA.	
㊺	PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).	6 EA.	
㊻	REMOVE CONFLICTING PORTION OF THE EXISTING 10-INCH STORM DRAIN LINE, CONNECT PROPOSED STORM DRAIN LINE AS REQUIRED.	2 EA.	
㊼	PROVIDE AND INSTALL 4'x8' FILTERRA BIORETENTION ROOF DRAIN SYSTEM BY KRISTAR. SEE SHEET C-23, DETAIL 7 AND MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.	2 EA.	
㊽	PROVIDE AND INSTALL 8'x12' FILTERRA BIORETENTION ROOF DRAIN SYSTEM BY KRISTAR. SEE SHEET C-23, DETAIL 7 AND MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.	2 EA.	
㊾	*PROVIDE AND INSTALL 24-INCH x 24-INCH CAST-IN-PLACE CONCRETE* DROP INLET WITH GALVANIZED STEEL GRATE AND FRAME. SEE SHEET C-23, DETAIL 1.	3 EA.	
㊿	PROVIDE STENCILING AT CATCH BASIN AND INLETS TO DISCOURAGE ILLEGAL DUMPING OF POLLUTANTS, SEE SHEET 22, DETAIL 7.	4 EA.	
(51)	PROVIDE AND INSTALL 4-INCH ROUND ADA COMPLIANT CHROME GRATE WITH PVC COLLAR (NDS #917SC).	2 EA.	
(52)	CONNECT TO EXIST STORM DRAIN PIPE. CUT-IN A WYE WITH NYLOPLAST DISSIMILAR PIPE MATERIAL ADAPTER ON LATERAL, SEE SHEET C-23 DETAIL 4.	18 EA.	
(53)	REMOVE ROUGH GRADING DRAINAGE BASIN, REPLACE WITH NEW 10-INCH PVC (SDR-35) DRAINAGE PIPE, WYE & BEDDING. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.	1 EA.	
(54)	CONSTRUCT 6-INCH WIDE ACO TRENCH DRAIN MODEL KS100S (K010 NEUTRAL CHANNEL DEPTH=6.96") ADA COMPLIENT GRATE AND H-20 LOADING, SEE SHEET C-22, DETAIL 12.	43 LF.	
(55)	PROVIDE AND INSTALL 6-INCH PERFORATED PVC (SCH 40) DRAINAGE PIPE SEE SHEET C-5, DETAIL 6.	20 LF.	
(56)	REMOVE EXISTING 8-INCH STORM DRAIN LINE AND RISER AT PIPE FITTING.	25 LF.	
(57)	PROVIDE AND INSTALL 18-INCH x 18-INCH LOW PROFILE ADAPTER (NDS #1830) USE 18-INCH SQUARE GRATE IN GRASS AREA (NDS #1812 "GREEN"). USE 18-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1881 "BLACK"). SEE SHEET C-22, DETAIL 10.	3 EA.	
(58)	CONSTRUCT 4-INCH WIDE PRE-SLOPED ACO (KS100S) TRENCH DRAIN W/ ADA "HEEL RESISTANT" STAINLESS STEEL GRATE AND FRAME. SEE SHEET C-22, DETAIL 15.	1 EA.	
(59)	CONSTRUCT 4-INCH WIDE PRE-SLOPED ACO (KS100S) TRENCH DRAIN, ADJACENT TO STAIRS, W/ ADA "HEEL RESISTANT" STAINLESS STEEL GRATE AND FRAME. SEE SHEET C-4, DETAIL 11.	3 EA.	
(60)	CONSTRUCT CURBSIDE GRATING CATCH BASIN PER S.P.P.W.C. STANDARD PLAN NO. 303-3. CONSTRUCT 8-INCH THICK PCC LOCAL DEPRESSION, SEE SHEET C-23, DETAIL 8 OR 10.	1 EA.	
(61)	CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STANDARD PLAN NO. 300-3. CONSTRUCT 8-INCH THICK PCC LOCAL DEPRESSION, SEE SHEET C-23, DETAIL 9 OR 10.	2 EA.	
(62)	INSTALL 8-INCH DIAMETER NYLOPLAST DRAINAGE BASIN WITH ATRIUM GRATE. SEE SHEET C-5, DETAIL 1.	1 EA.	

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AR	AIR RELEASE VALVE ASSEMBLY
B	BOLLARD
BFD	BACKFLOW DEVICE
BO	WATER LINE BLOW-OFF
BW	BACK OF WALK
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STAIRS
BOT	BOTTOM
CATV	CABLE TELEVISION
CB	CATCH BASIN
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
COMM	UNDERGROUND COMMUNICATION LINES
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DI	DRAINAGE INLET
DIP	DUCTILE IRON PIPE
DS	DOWN SPOUT
DWY	DRIVEWAY
EG	EDGE OF GUTTER
ELEC	UNDERGROUND ELECTRICAL LINES
ELEC-OH	OVERHEAD ELECTRICAL LINES
EMH	ELECTRICAL MANHOLE
EP	EDGE OF PAVEMENT
EG	EDGE OF GUTTER
EX.	EXISTING
FG	FINISHED GRADE
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISHED SURFACE
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GAS VALVE
HP	HIGH POINT
INV	INVERT
IRR	IRRIGATION
LG	LIP OF GUTTER
LP	LOW POINT
LS	LIGHT STANDARD
NG	NATURAL GRADE
PA	PLANTER AREA
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PED	ABOVE GROUND UTILITY PEDESTAL
PIV	POST INDICATOR VALVE
PL	PROPERTY LINE
PVC	POLYVINYL CHLORIDE PIPE
RD	ROOF DRAIN
RW	RIGHT OF WAY
S	SEWER LINES
SCO	SEWER CLEANOUT
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SMH	SEWER MANHOLE
SW	SIDEWALK
TELE	UNDERGROUND TELEPHONE LINES
TMH	TELEPHONE MANHOLE
TC	TOP OF CURB
TF	TOP OF FOOTING
TG	TOP OF GRATE
TP	TOP OF PIPE
TS	TRAFFIC SIGNAL EQUIPMENT
TW	TOP OF WALL
WM	WATER METER
WV	WATER VALVE

811 Know what's below. Call before you dig.

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; ADDED CONSTRUCTION NOTES & REVISED	
		QUANTITIES; REVISED INDEX MAP TO SHOW NEW SHEETS.	
2	1/16/15	CHANGED CONST. NOTE 30	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:

INDEX MAP, CONST. NOTES & QUANTITIES

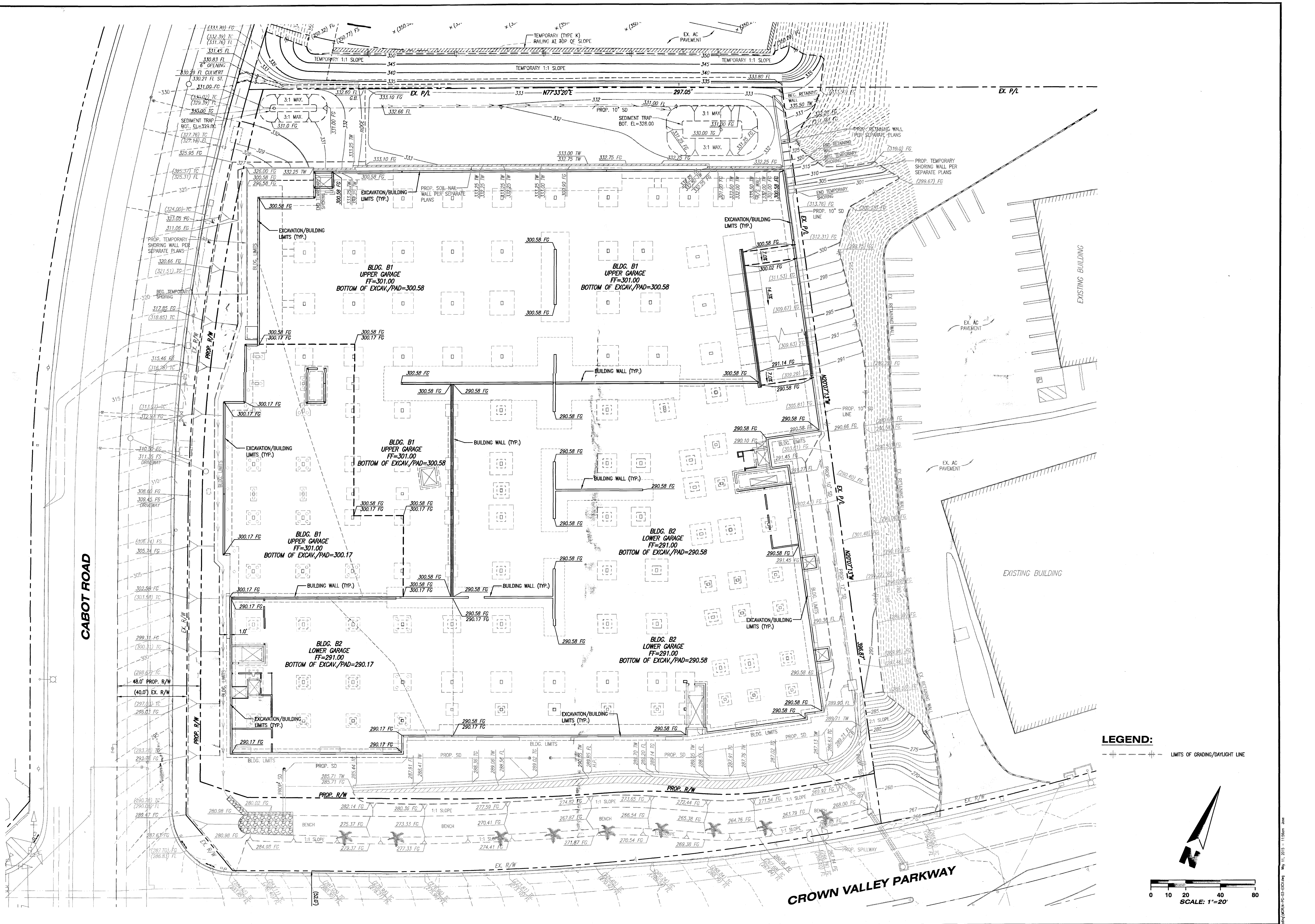
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-2

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-02-INDEX.dwg May 11, 2015 - 11:54am Jose


CABOT ROAD
CROWN VALLEY PARKWAY
EX. P/L
N77°33'20"E 297.05'
N20°07'13"W
396.87'
TEMPORARY 1:1 SLOPE
TEMPORARY (TYPE K) RAILING AT TOP OF SLOPE
EX. AC PAVEMENT
SEDIMENT TRAP BOT. EL=329.00
SEDIMENT TRAP BOT. EL=328.00
3:1 MAX.
PROP. 10" SD
PROP. SOIL NAIL WALL PER SEPARATE PLANS
PROP. TEMPORARY SHORING WALL PER SEPARATE PLANS
BEG. TEMPORARY SHORING
END TEMPORARY SHORING
EXCAVATION/BUILDING LIMITS (TYP.)
BLDG. LIMITS
BUILDING WALL (TYP.)
BLDG. B1 UPPER GARAGE FF=301.00 BOTTOM OF EXCAV./PAD=300.58
BLDG. B1 UPPER GARAGE FF=301.00 BOTTOM OF EXCAV./PAD=300.58
BLDG. B1 UPPER GARAGE FF=301.00 BOTTOM OF EXCAV./PAD=300.58
BLDG. B1 UPPER GARAGE FF=301.00 BOTTOM OF EXCAV./PAD=300.17
BLDG. B2 LOWER GARAGE FF=291.00 BOTTOM OF EXCAV./PAD=290.17
BLDG. B2 LOWER GARAGE FF=291.00 BOTTOM OF EXCAV./PAD=290.58
BLDG. B2 LOWER GARAGE FF=291.00 BOTTOM OF EXCAV./PAD=290.58
EX. RETAINING WALL
EXISTING BUILDING
EXISTING BUILDING
EX. AC PAVEMENT
PROP. R/W
EX. R/W
48.0' PROP. R/W
(40.0') EX. R/W
(52.0')
BENCH
1:1 SLOPE
2:1 SLOPE
PROP. SPILLWAY
DRIVEWAY
LEGEND:
LIMITS OF GRADING/DAYLIGHT LINE
N
0 10 20 40 80
SCALE: 1"=20'

Know what's **below.**
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
CIVIL

James H. Kawamura

SHEET DESCRIPTION:

EXCAVATION PLAN

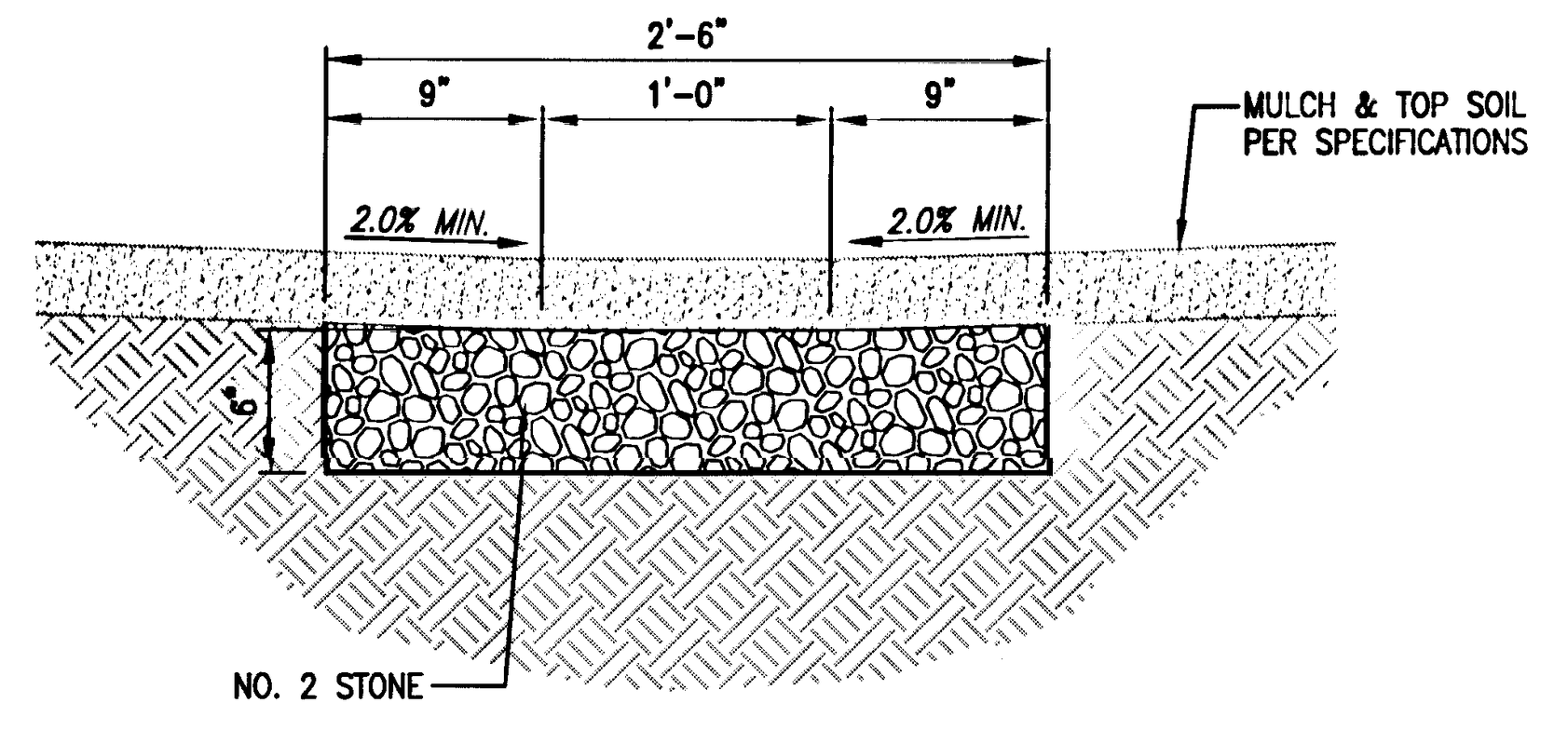
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-3

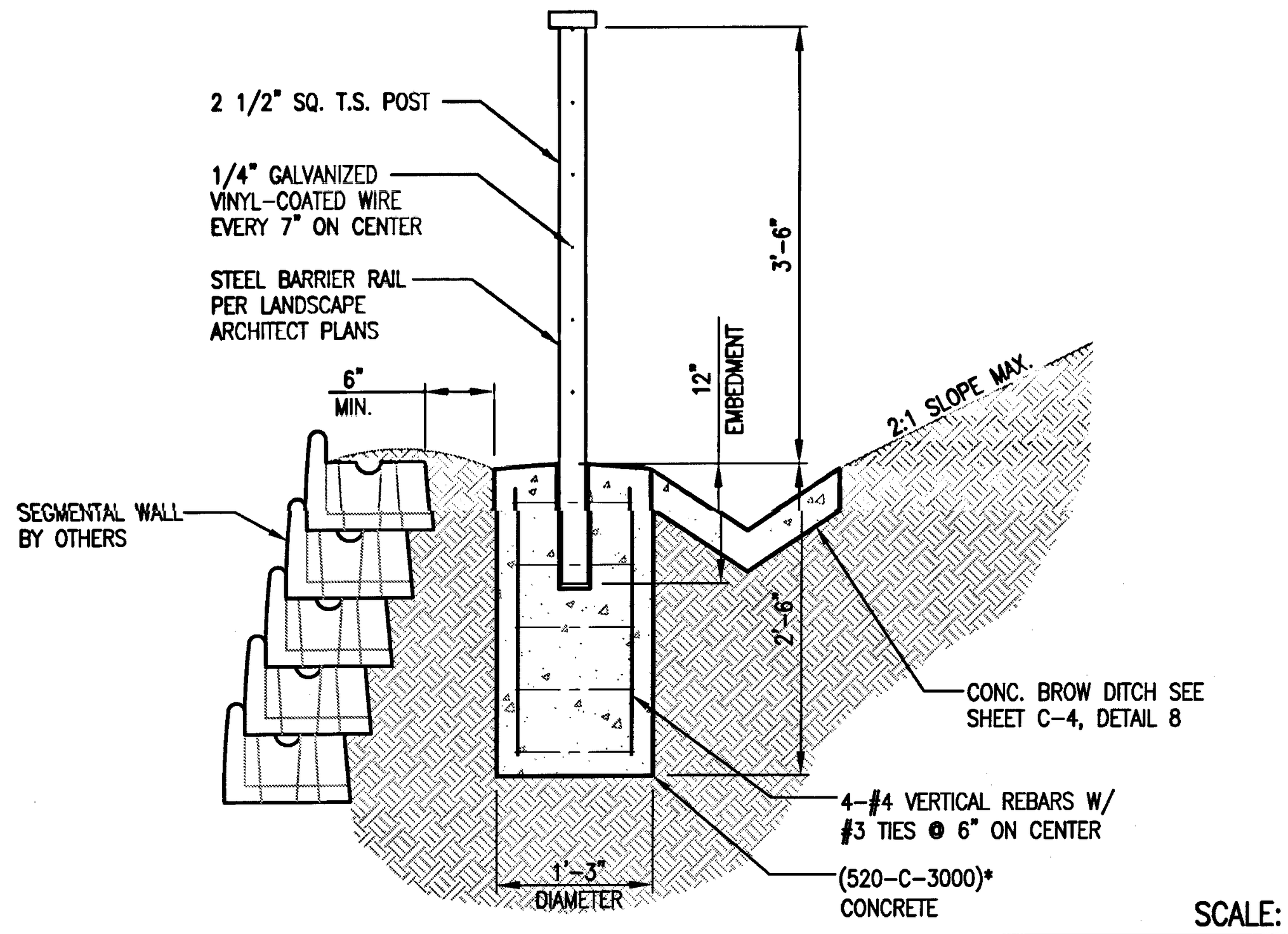
R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-03-EXCV.dwg May 11, 2015 - 11:56am Jose


2'-6"
9"
1'-0"
9"
2.0% MIN.
2.0% MIN.
MULCH & TOP SOIL PER SPECIFICATIONS
6"
NO. 2 STONE

SCALE: NONE

STABILIZED EARTHEN SWALE

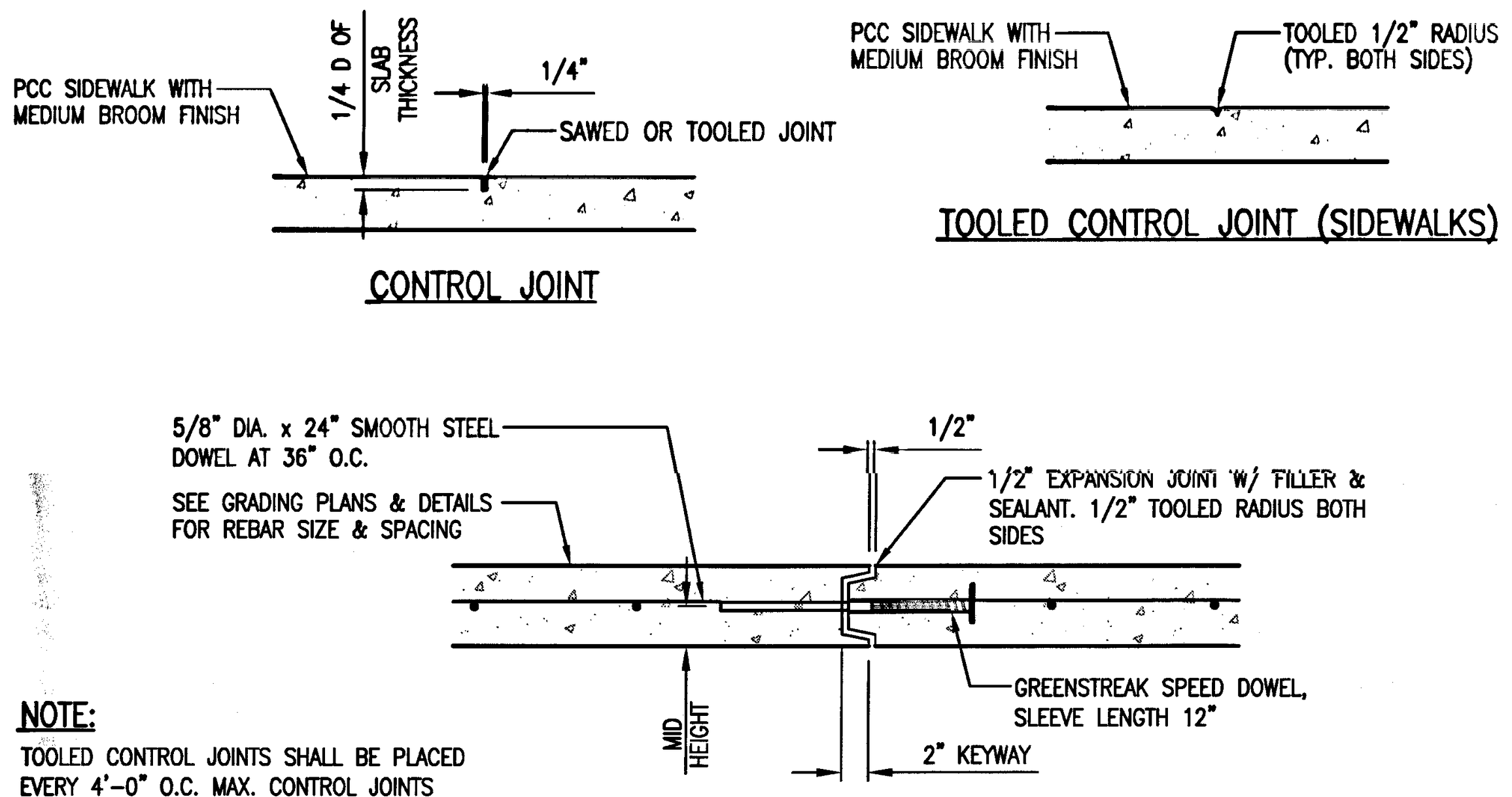
13


2 1/2" SQ. T.S. POST
1/4" GALVANIZED VINYL-COATED WIRE EVERY 7" ON CENTER
STEEL BARRIER RAIL PER LANDSCAPE ARCHITECT PLANS
6" MIN.
SEGMENTAL WALL BY OTHERS
12" EMBEDMENT
3'-6"
2:1 SLOPE MAX.
2'-6"
CONC. BROW DITCH SEE SHEET C-4, DETAIL 8
4-#4 VERTICAL REBARS W/ #3 TIES @ 6" ON CENTER
1'-3" DIAMETER
(520-C-3000)* CONCRETE

SCALE: NONE

PCC RETAINING WALL GUTTER AND BARRIER RAIL

9


PCC SIDEWALK WITH MEDIUM BROOM FINISH
1/4 D OF SLAB THICKNESS
1/4"
SAWED OR TOOLED JOINT
PCC SIDEWALK WITH MEDIUM BROOM FINISH
TOOLED 1/2" RADIUS (TYP. BOTH SIDES)
5/8" DIA. x 24" SMOOTH STEEL DOWEL AT 36" O.C.
SEE GRADING PLANS & DETAILS FOR REBAR SIZE & SPACING
1/2"
1/2" EXPANSION JOINT W/ FILLER & SEALANT. 1/2" TOOLED RADIUS BOTH SIDES
GREENSTREAK SPEED DOWEL, SLEEVE LENGTH 12"
MID HEIGHT
2" KEYWAY

CONTROL JOINT

TOOLED CONTROL JOINT (SIDEWALKS)

EXPANSION JOINT

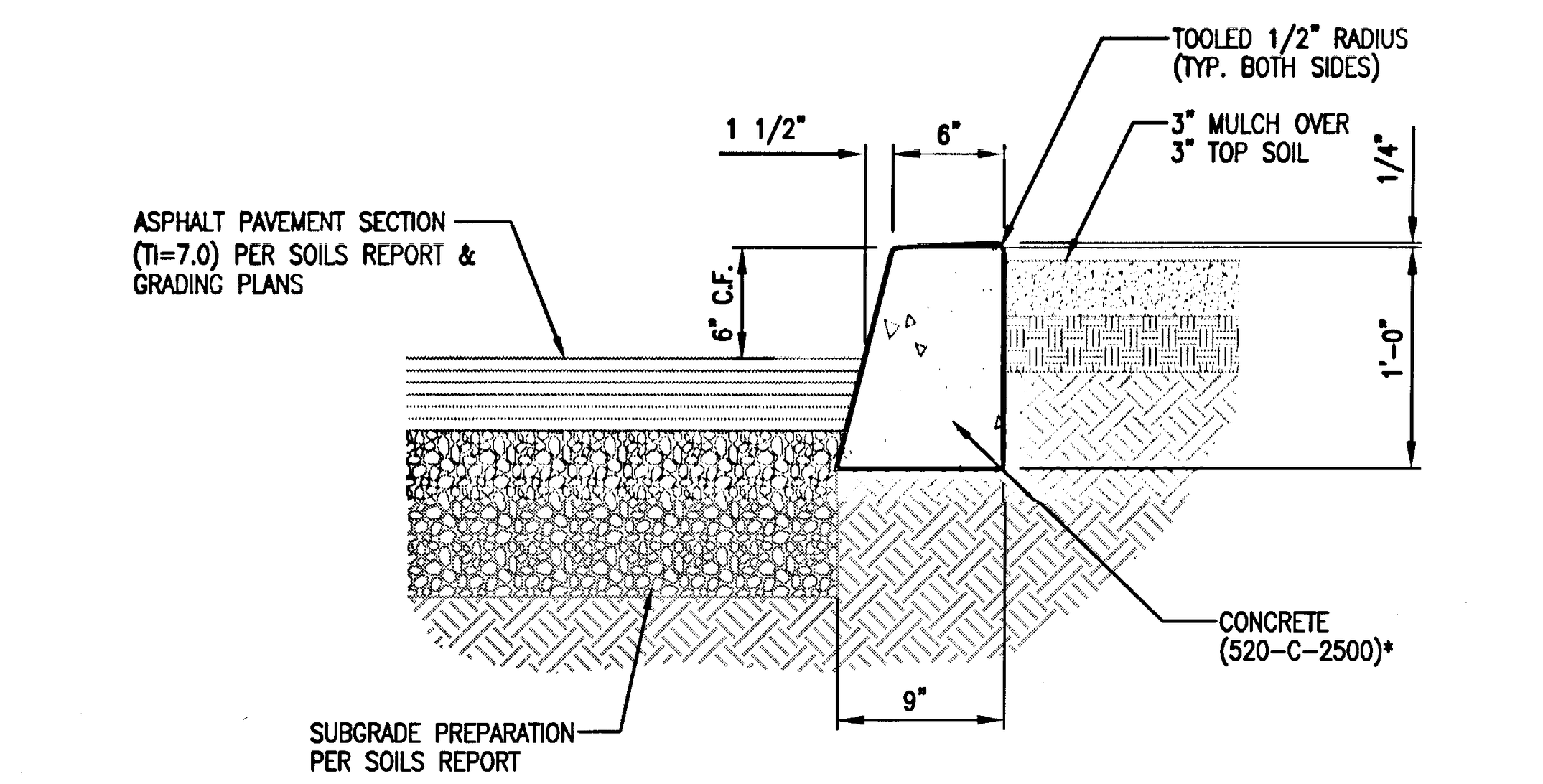
NOTE:

TOOLED CONTROL JOINTS SHALL BE PLACED EVERY 4'-0" O.C. MAX. CONTROL JOINTS SHALL BE PLACED EVERY 8'-0" O.C. MAX. EXPANSION JOINTS SHALL BE PLACED AT 24'-0" O.C. MAX.

SCALE: NONE

CONCRETE JOINT DETAILS

5


TOOLED 1/2" RADIUS (TYP. BOTH SIDES)
1 1/2"
6"
3" MULCH OVER 3" TOP SOIL
1/4"
ASPHALT PAVEMENT SECTION (TI=7.0) PER SOILS REPORT & GRADING PLANS
6" C.F.
1'-0"
CONCRETE (520-C-2500)*
9"
SUBGRADE PREPARATION PER SOILS REPORT

NOTE:

CONTROL JOINTS SHALL BE PLACED EVERY 8'-0" O.C. MAX. & AT EVERY B.C. & E.C.

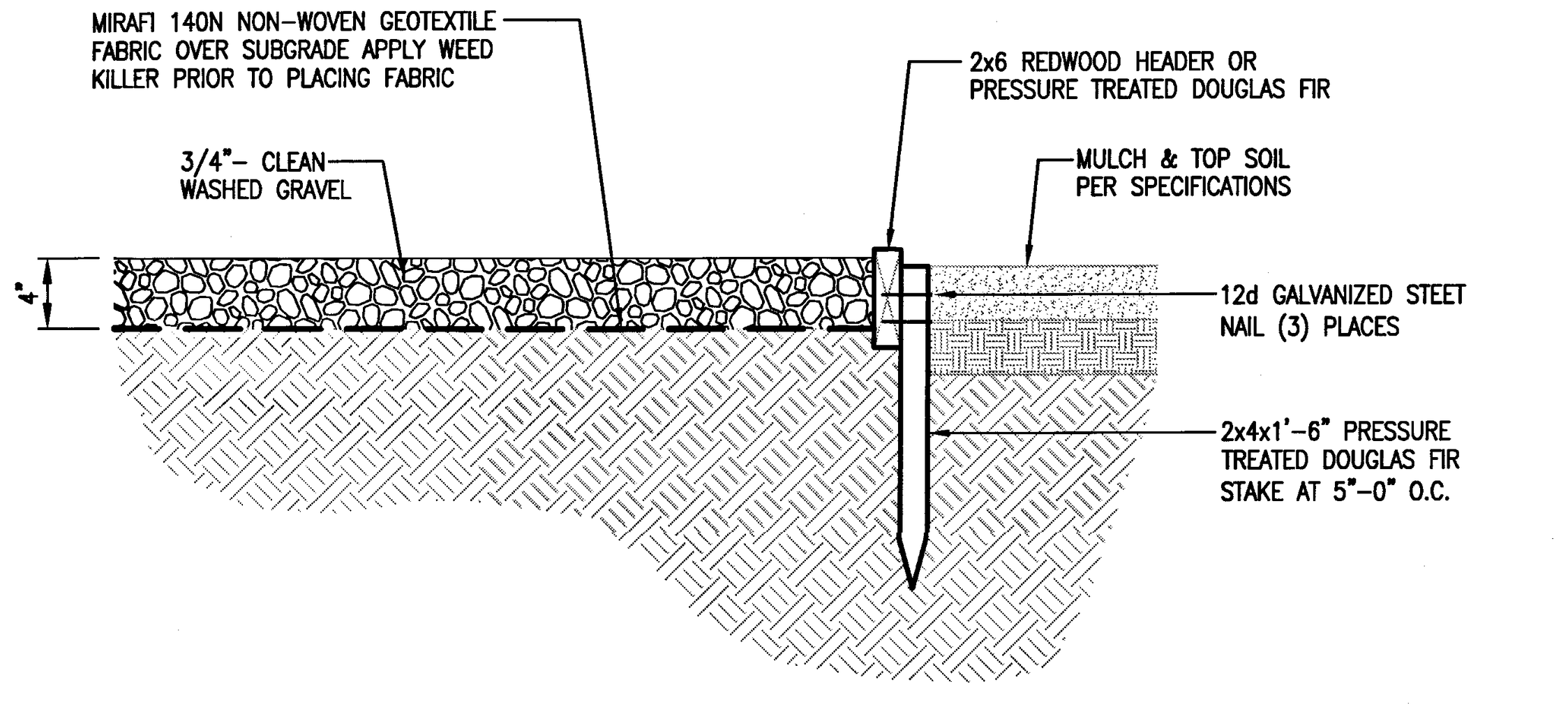
SCALE: NONE

6" PCC CURB AT AC PAVEMENT

1

GENERAL NOTES:

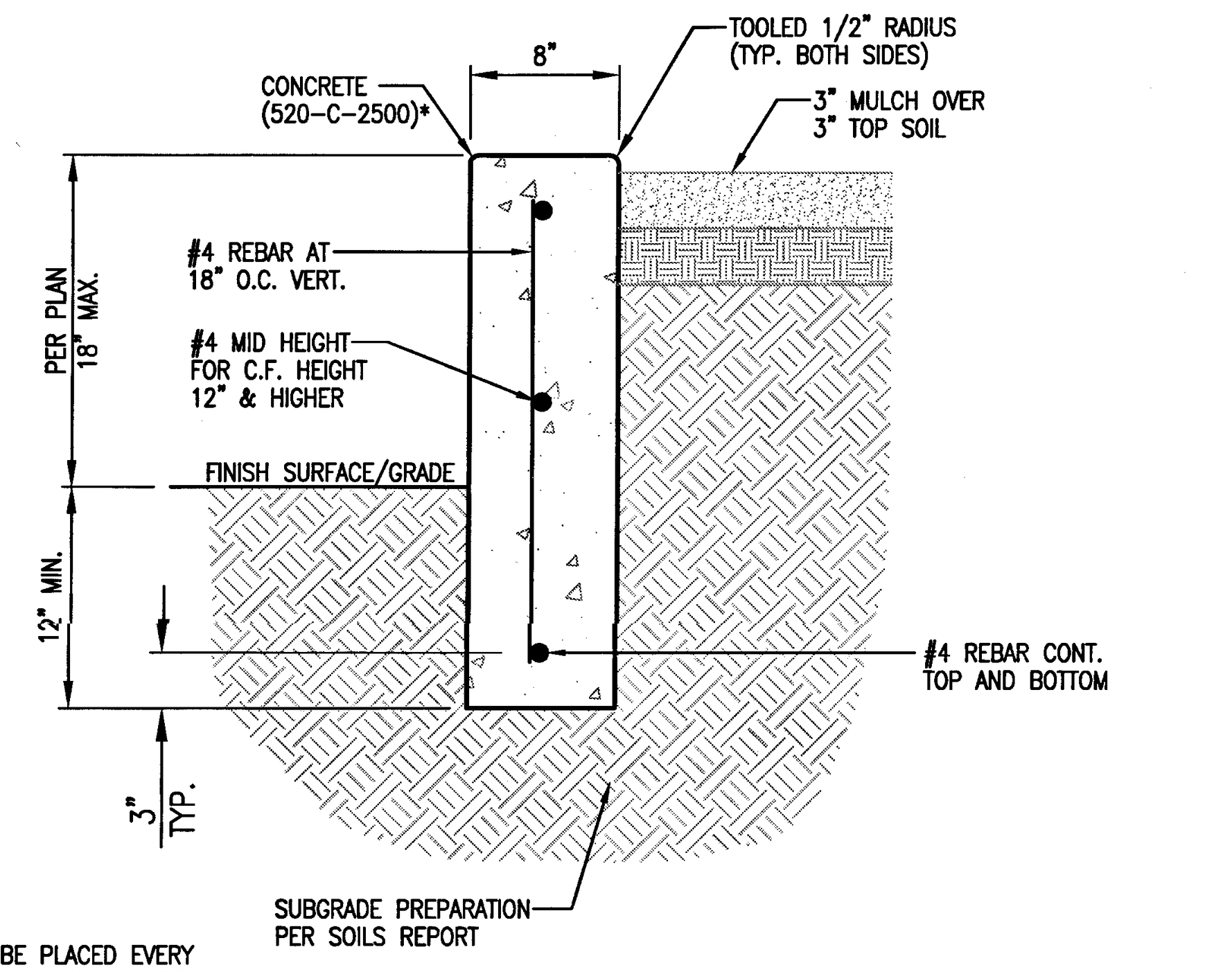
* STRENGTH OF CONCRETE AND CEMENT TYPE FROM ALL CONCRETE IN CONTACT WITH SOIL TO BE DETERMINED BY THE PROJECT SOIL ENGINEER IN THE FIELD BASED ON SULFATE CONTENT OF THE SOIL.


MIRAFI 140N NON-WOVEN GEOTEXTILE FABRIC OVER SUBGRADE APPLY WEED KILLER PRIOR TO PLACING FABRIC
2x6 REDWOOD HEADER OR PRESSURE TREATED DOUGLAS FIR
3/4"- CLEAN WASHED GRAVEL
MULCH & TOP SOIL PER SPECIFICATIONS
4"
12d GALVANIZED STEET NAIL (3) PLACES
2x4x1'-6" PRESSURE TREATED DOUGLAS FIR STAKE AT 5"-0" O.C.

SCALE: NONE

GRAVEL BED DETAIL

10


TOOLED 1/2" RADIUS (TYP. BOTH SIDES)
CONCRETE (520-C-2500)*
8"
3" MULCH OVER 3" TOP SOIL
PER PLAN 18" MAX.
#4 REBAR AT 18" O.C. VERT.
#4 MID HEIGHT FOR C.F. HEIGHT 12" & HIGHER
FINISH SURFACE/GRADE
12" MIN.
#4 REBAR CONT. TOP AND BOTTOM
3" TYP.
SUBGRADE PREPARATION PER SOILS REPORT

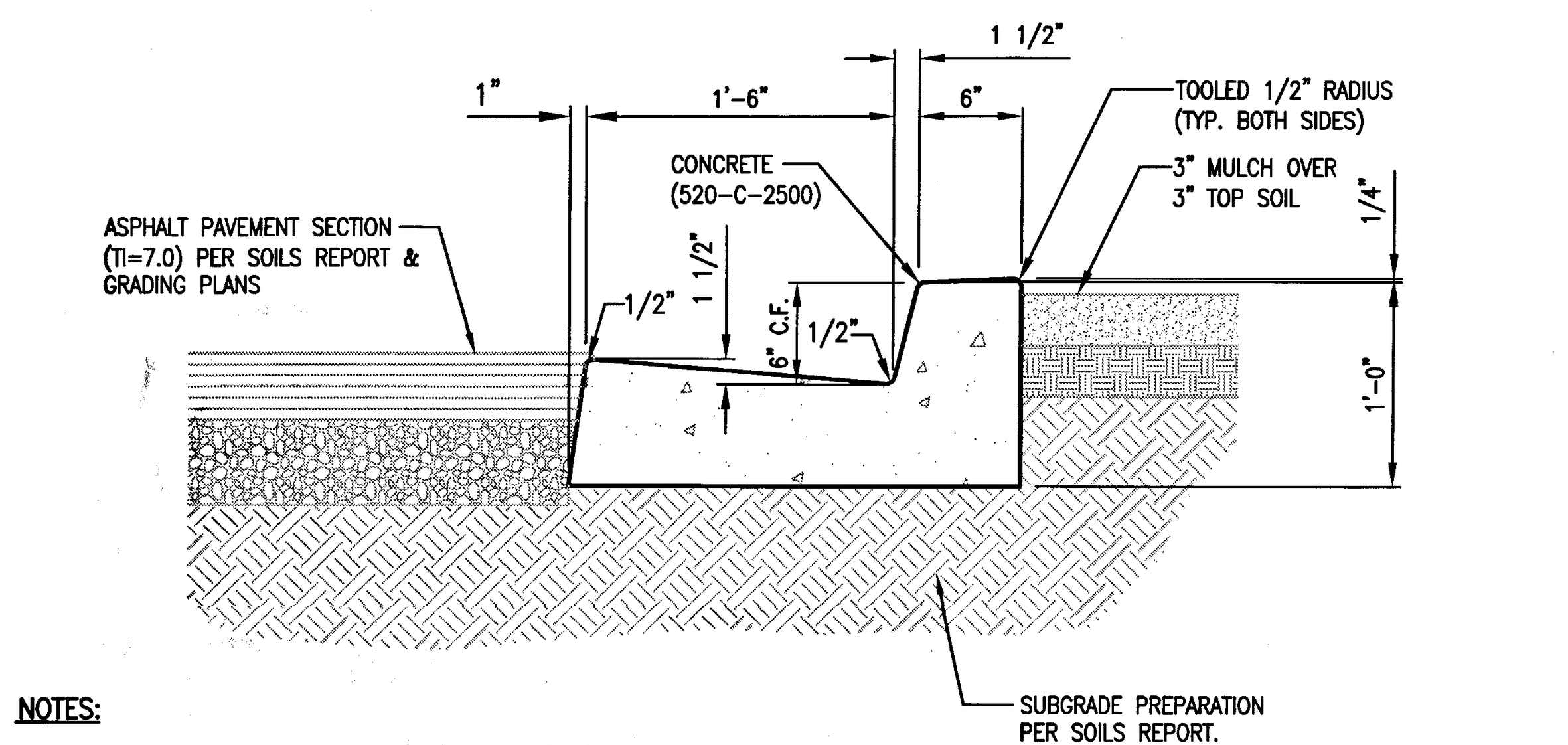
NOTE:

CONTROL JOINTS SHALL BE PLACED EVERY 8'-0" O.C. MAX. & AT EVERY B.C. & E.C.

SCALE: NONE

8" WIDE DEEPENED PCC CURB

6


1 1/2"
1"
1'-6"
6"
TOOLED 1/2" RADIUS (TYP. BOTH SIDES)
CONCRETE (520-C-2500)
3" MULCH OVER 3" TOP SOIL
1/4"
ASPHALT PAVEMENT SECTION (TI=7.0) PER SOILS REPORT & GRADING PLANS
1/2"
1 1/2"
6" C.F.
1/2"
1'-0"
SUBGRADE PREPARATION PER SOILS REPORT.

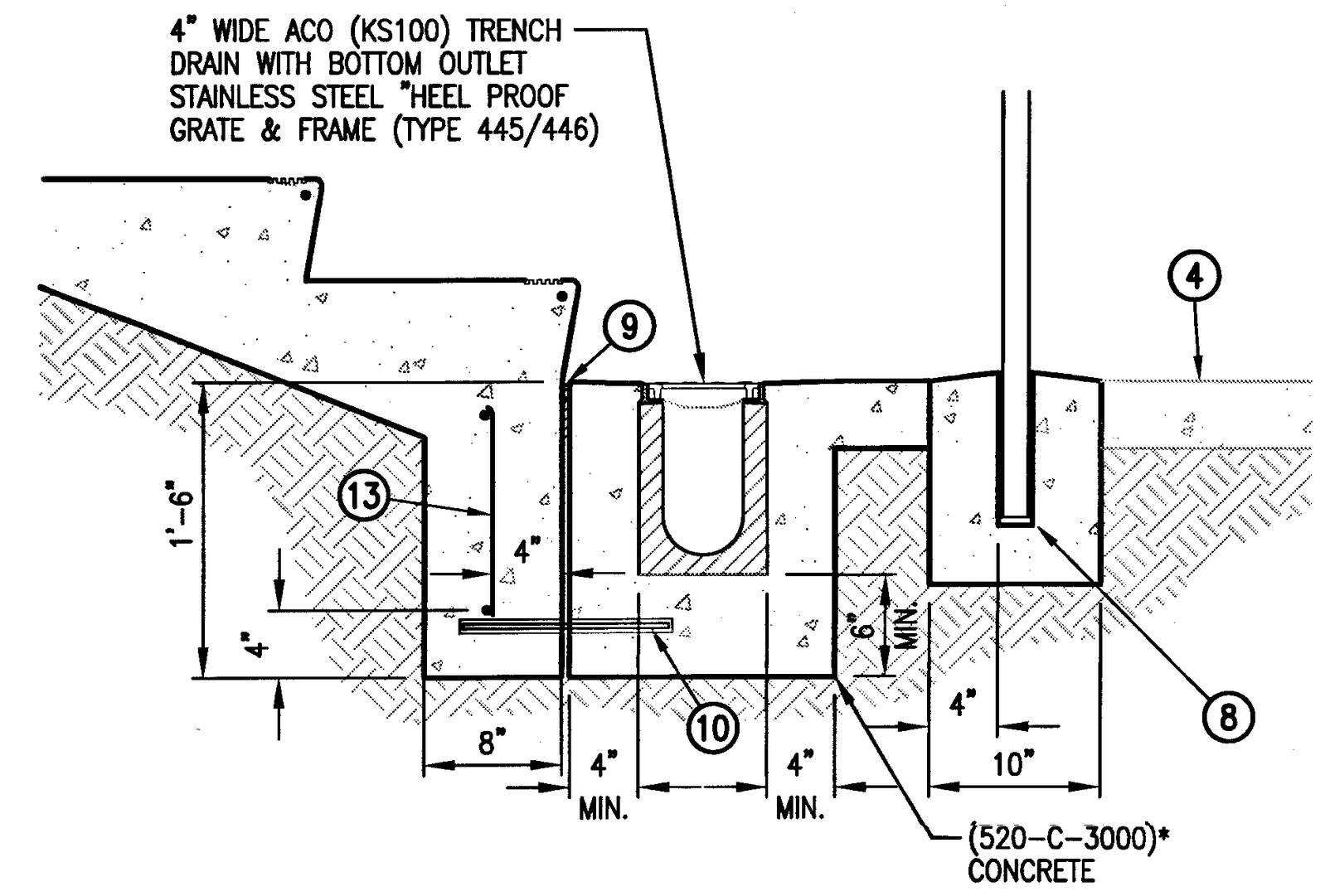
NOTES:

1. PROVIDE CONTROL JOINTS AT 10'-0" O.C. (15'-0" MAX.) AND AT EVERY BC AND EC; EXPANSION JOINTS AT 30'-0" O.C.
2. MAX. 5.0% CROSS SLOPE WITHIN GUTTER WHEN AN ACCESSIBLE PATH OF TRAVEL INTERSECTS THE CURB & GUTTER OR RIBBON GUTTER, EXTEND THE WARPED GUTTER 1.0' BEYOND EITHER SIDE OF THE ACCESSIBLE PATH OF TRAVEL AND TRANSITION BACK TO STANDARD GUTTER.

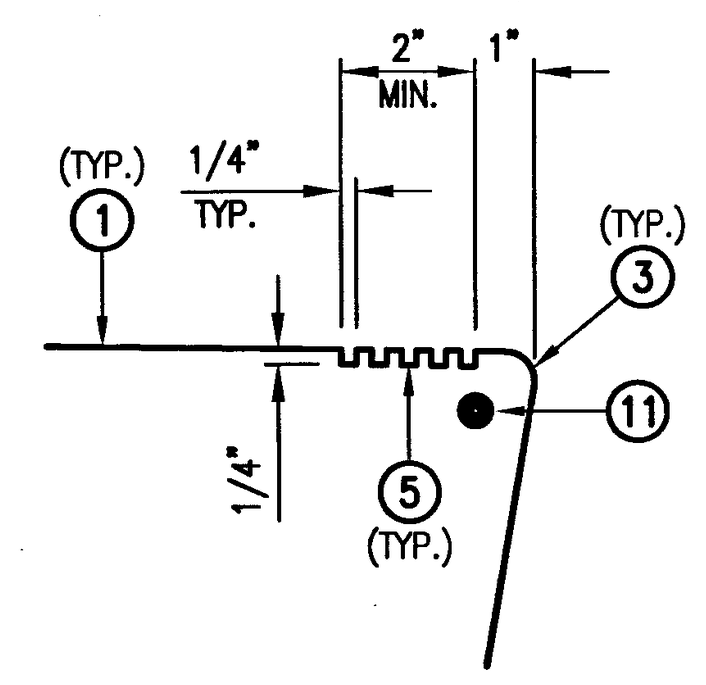
SCALE: NONE

6" PCC CURB WITH 18" WIDE GUTTER

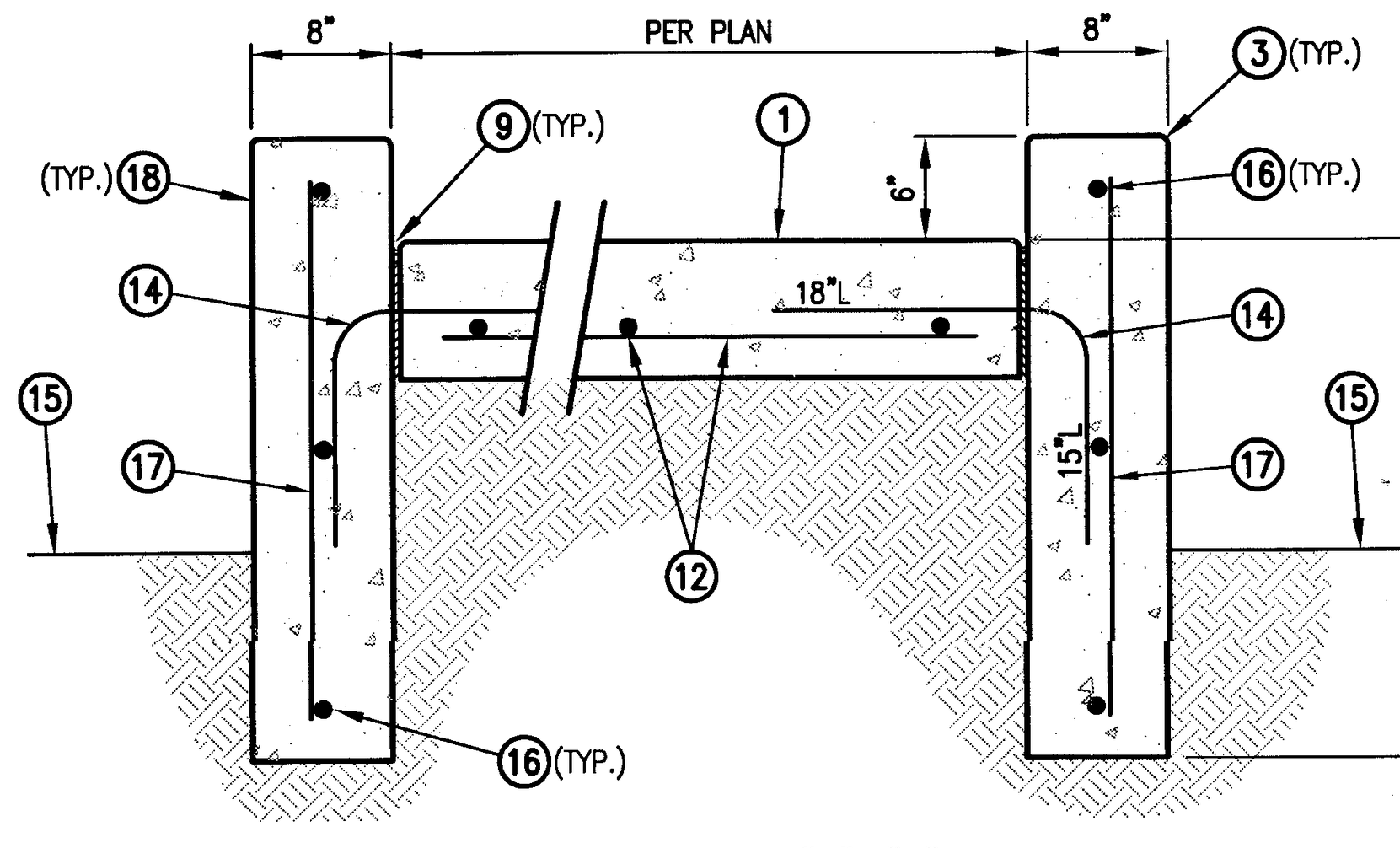
2


4" WIDE ACO (KS100) TRENCH DRAIN WITH BOTTOM OUTLET STAINLESS STEEL "HEEL PROOF GRATE & FRAME (TYPE 445/446)
9
4
1'-6"
13
4"
4"
6" MIN.
10
8
8"
4" MIN.
4" MIN.
4"
10"
(520-C-3000)* CONCRETE

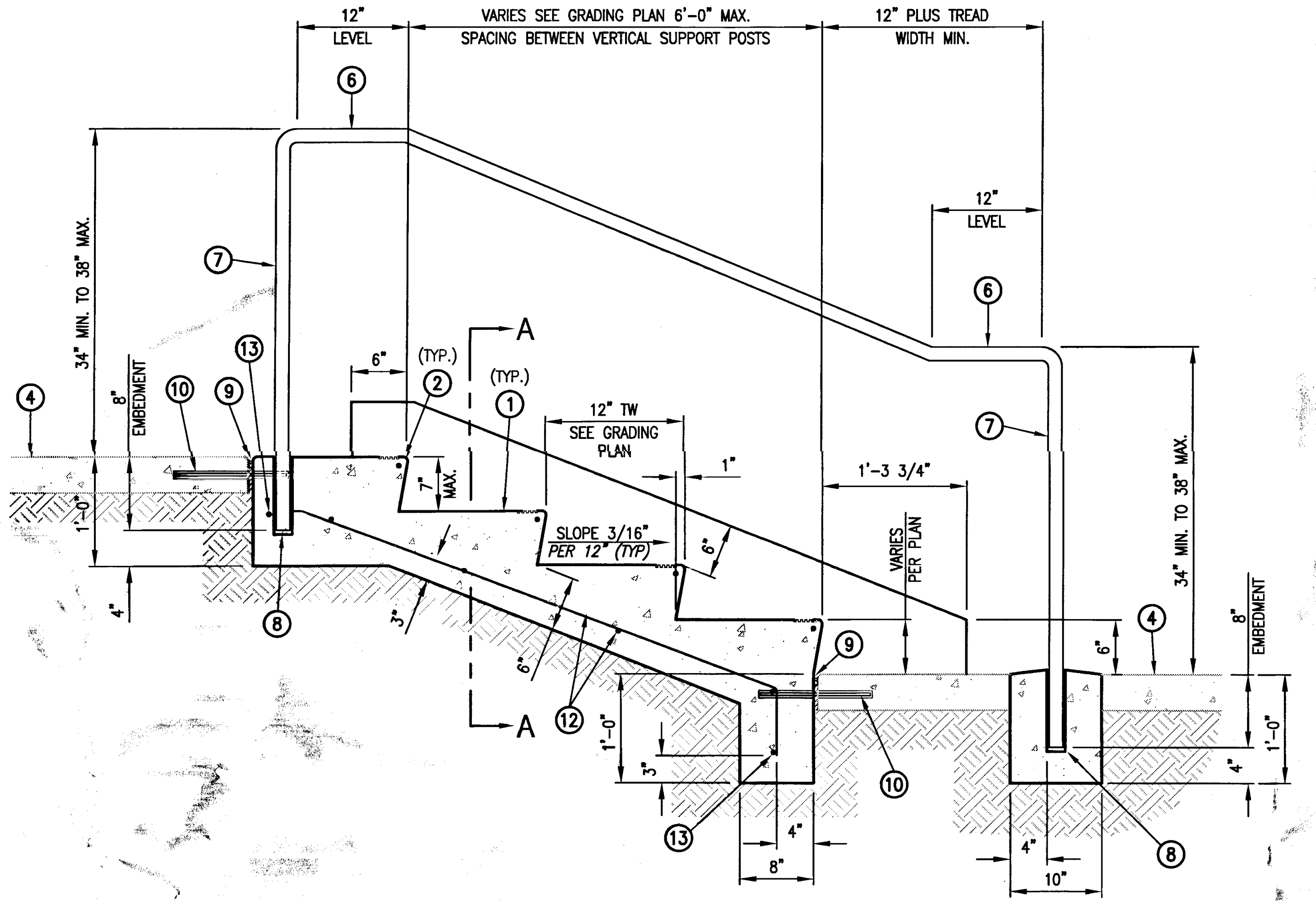
CONC. STAIR WITH TRENCH DRAIN OPTION


2" MIN.
1"
(TYP.) 1
1/4" TYP.
(TYP.) 3
11
1/4"
5 (TYP.)

NOSING ENLARGEMENT


8"
PER PLAN
8"
3 (TYP.)
9 (TYP.)
1
(TYP.) 18
16 (TYP.)
6"
14
18"L
14
15
17
15"L
17
15
12
2'-0" MAX. (VARIES)
1'-0" MIN.
16 (TYP.)

SECTION "A"-"A"


12" LEVEL
VARIES SEE GRADING PLAN 6'-0" MAX. SPACING BETWEEN VERTICAL SUPPORT POSTS
12" PLUS TREAD WIDTH MIN.
6
7
34" MIN. TO 38" MAX.
12" LEVEL
6
A
6" (TYP.) 2
(TYP.) 1
13
10
9
4
8" EMBEDMENT
1'-0"
12" TW SEE GRADING PLAN
7" MAX.
1"
1'-3 3/4"
7
SLOPE 3/16" PER 12" (TYP)
6"
VARIES PER PLAN
34" MIN. TO 38" MAX.
4
8
4"
3"
6"
12
A
9
6"
8" EMBEDMENT
1'-0"
3"
10
4"
13
4"
8"
4"
10"
8

CONC. STAIR/RAIL SUPPORT SECTION

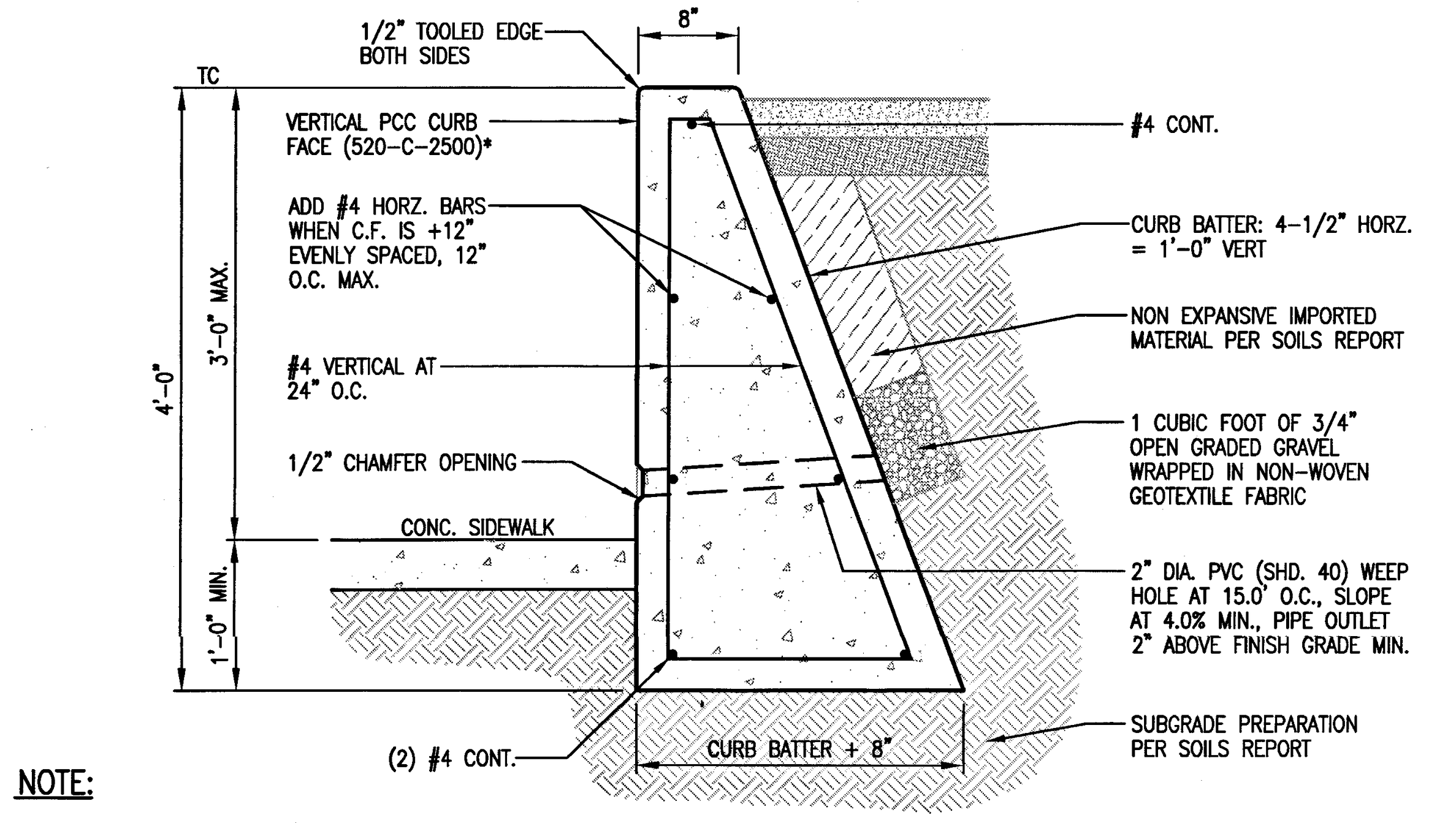
LEGEND:

1. CONCRETE STEPS (520-C-2500)*
2. SEE NOSING ENLARGEMENT DETAIL
3. 1/2" RADIUS CONTINUOUS
4. FINISH SURFACE
5. 1/4" X 1/4" GROOVING PER CBC CODE (SLIP RESISTANT WITH CONTRASTING COLOR, TYPICAL AT ALL NOSING)
6. 1-1/2" DIA. ROUND PAINTED STEEL HANDRAIL, COORDINATE STYLE AND COLOR WITH THE ARCHITECT & LANDSCAPE ARCHITECT.
7. 1-1/2" DIA. ROUND PAINTED STEEL POST, COORDINATE WITH LANDSCAPE ARCHITECT, BLOCK OUT 2" DIA. x 8-1/2" DEEP SQUARE
8. BLOCK OUT 2" DIA. x 8-1/2" DEEP POST OPENING, PRIOR TO POURING CONCRETE, FILL W/ NON-SHRINK GROUT AFTER POST IS PLACED, ALIGNED AND LEVELED.
9. 1/2" EXPANSION JOINT W/ BACKER ROD, FILLER & SEALANT PROVIDE 1/2" TOOLED RADIUS.
10. 1/2" DIA. x 12" LONG. SMOOTH STEEL ROD 24" O.C. GREASE ONE END AND PROVIDE EXPANSION CAP ON OTHER END. 11. #4 REBAR AT 18" O.C. BOTH WAYS
11. #4 REBAR CONTINUOUS NOSING BAR
12. #4 REBAR AT 18" O.C. BOTH WAYS
13. #4 REBAR CONTINUOUS
14. #4 TIE BAR AT 18" O.C.
15. FINISH GRADE WHERE OCCURS
16. #4 REBAR TOP AND BOTTOM, #4 MID BAR AT WALL OVER 12" TOTAL HEIGHT.
17. #4 VERTICAL AT 18" O.C.
18. CONCRETE CHEEK WALL AS REQUIRED (520-C-2500)*

SCALE: NONE

TYPICAL CONCRETE STAIRS DETAIL (PER SEPARATE BUILDING PERMIT, SHOWN FOR REFERENCE ONLY)

11


1/2" TOOLED EDGE BOTH SIDES
8"
TC
VERTICAL PCC CURB FACE (520-C-2500)*
#4 CONT.
ADD #4 HORZ. BARS WHEN C.F. IS +12" EVENLY SPACED, 12" O.C. MAX.
CURB BATTER: 4-1/2" HORZ. = 1'-0" VERT
NON EXPANSIVE IMPORTED MATERIAL PER SOILS REPORT
3'-0" MAX.
4'-0"
#4 VERTICAL AT 24" O.C.
1 CUBIC FOOT OF 3/4" OPEN GRADED GRAVEL WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC
1/2" CHAMFER OPENING
CONC. SIDEWALK
2" DIA. PVC (SHD. 40) WEEP HOLE AT 15.0' O.C., SLOPE AT 4.0% MIN., PIPE OUTLET 2" ABOVE FINISH GRADE MIN.
1'-0" MIN.
SUBGRADE PREPARATION PER SOILS REPORT
(2) #4 CONT.
CURB BATTER + 8"

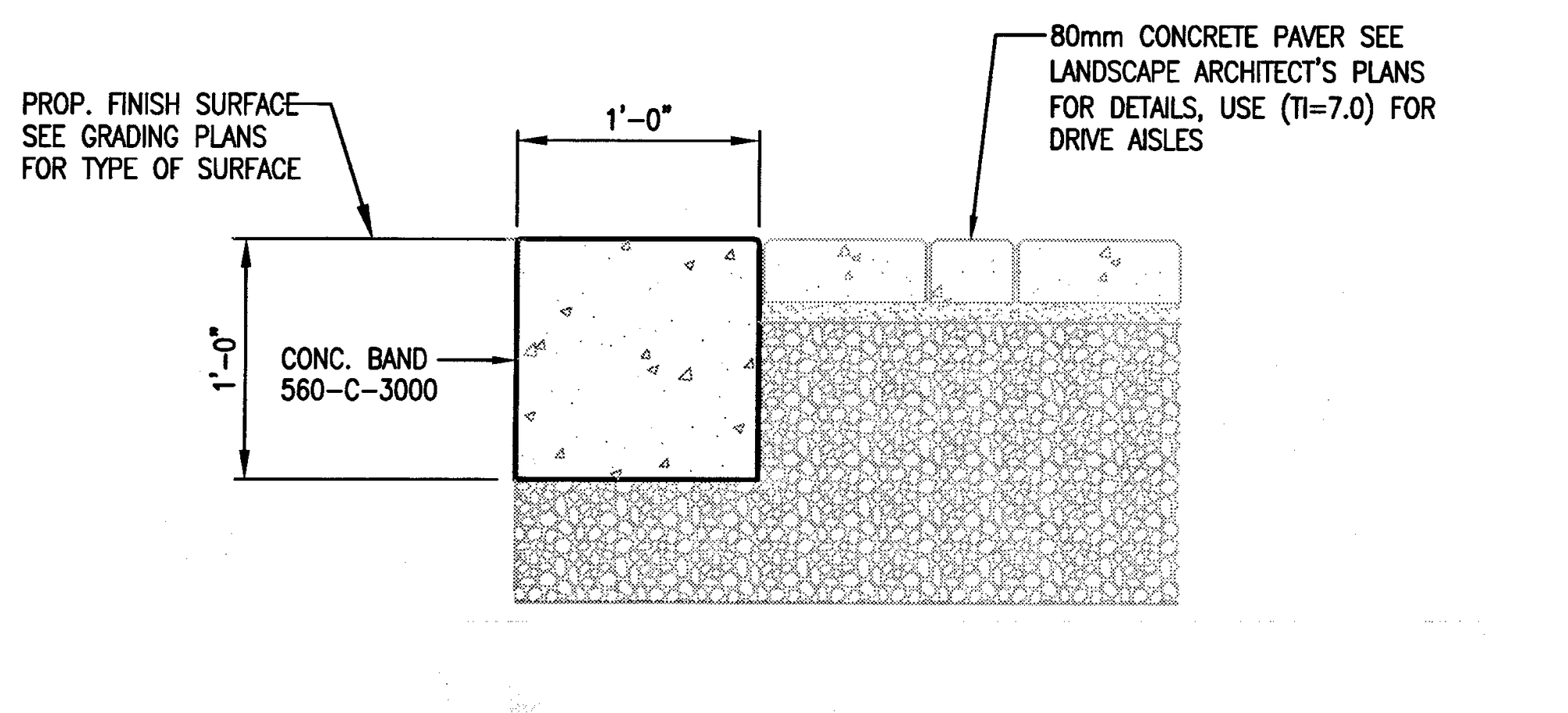
NOTE:

1. EXPANSION JOINTS SHALL EXTEND THROUGH THE ENTIRE CURB AND BE SPACED AT A MAXIMUM DISTANCE OF 40.0'. EXPANSION JOINT TO BE PRE-MOLDED FILLER WITH CAULKING SEALANT ON EARTHEN SIDE.

SCALE: NONE

PCC GRAVITY RETAINING CURB

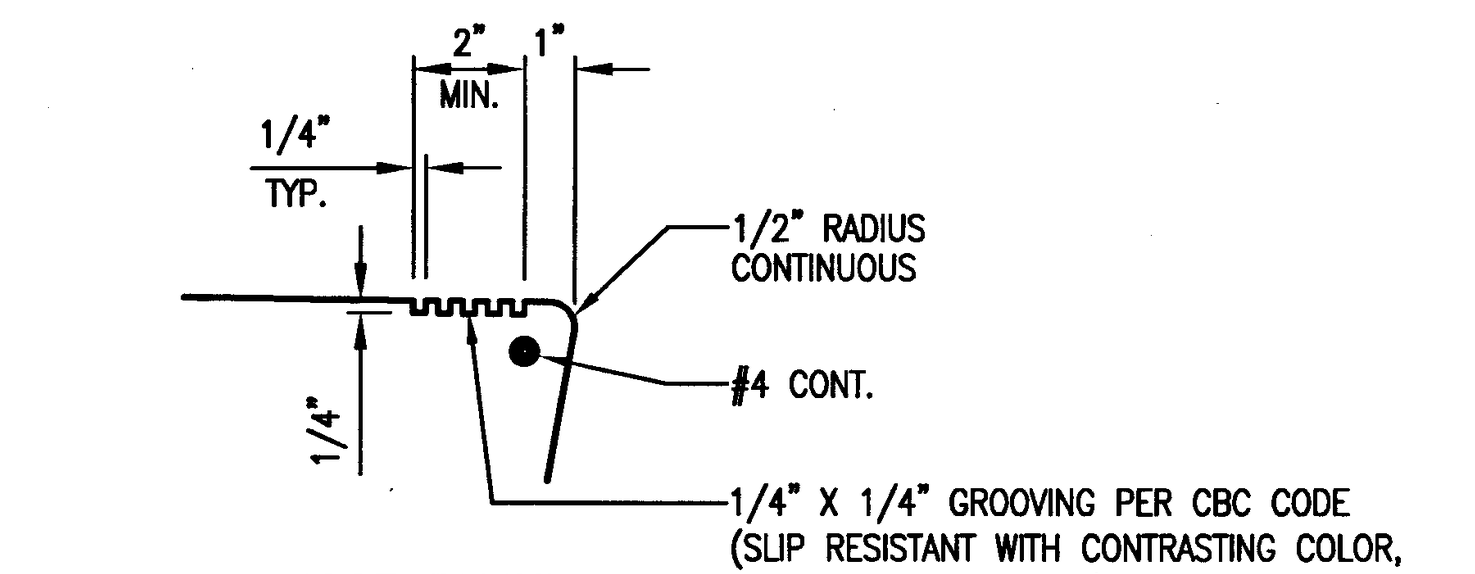
7


80mm CONCRETE PAVER SEE LANDSCAPE ARCHITECT'S PLANS FOR DETAILS, USE (TI=7.0) FOR DRIVE AISLES
PROP. FINISH SURFACE SEE GRADING PLANS FOR TYPE OF SURFACE
1'-0"
1'-0"
CONC. BAND 560-C-3000

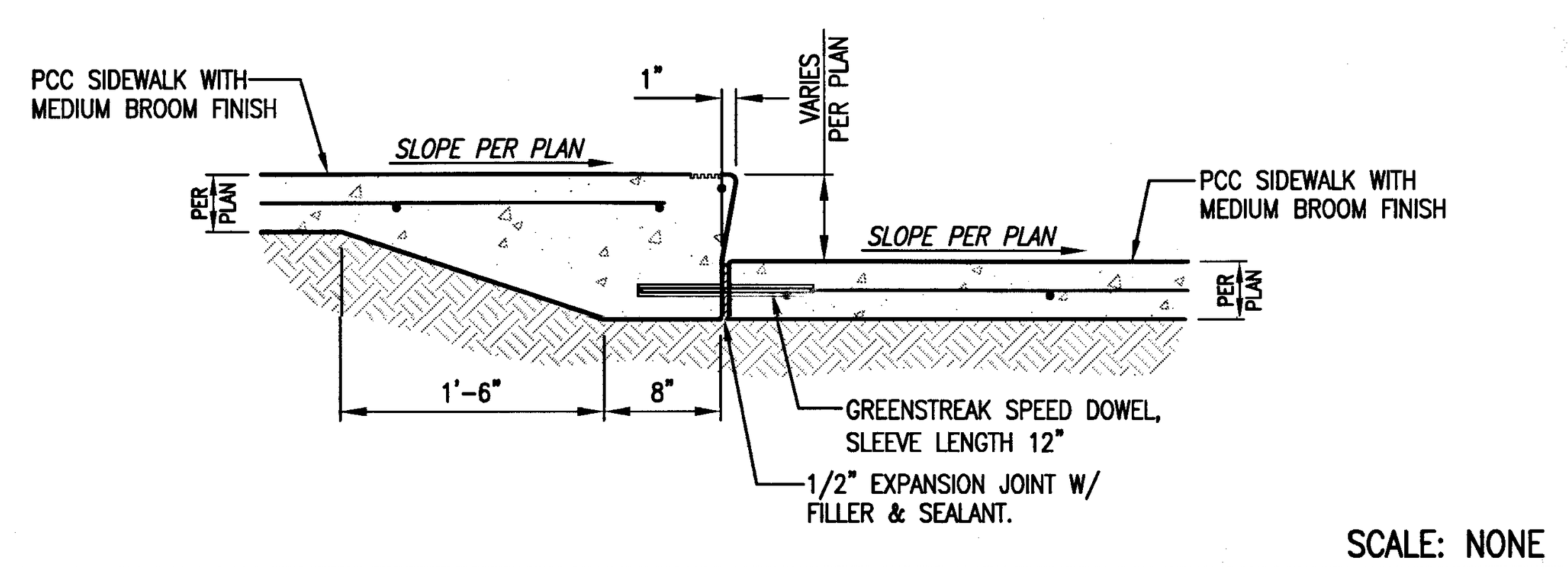
SCALE: NONE

PCC PAVER BAND DETAIL

3


2" MIN.
1"
1/4" TYP.
1/2" RADIUS CONTINUOUS
#4 CONT.
1/4"
1/4" X 1/4" GROOVING PER CBC CODE (SLIP RESISTANT WITH CONTRASTING COLOR, TYPICAL AT ALL NOSING)

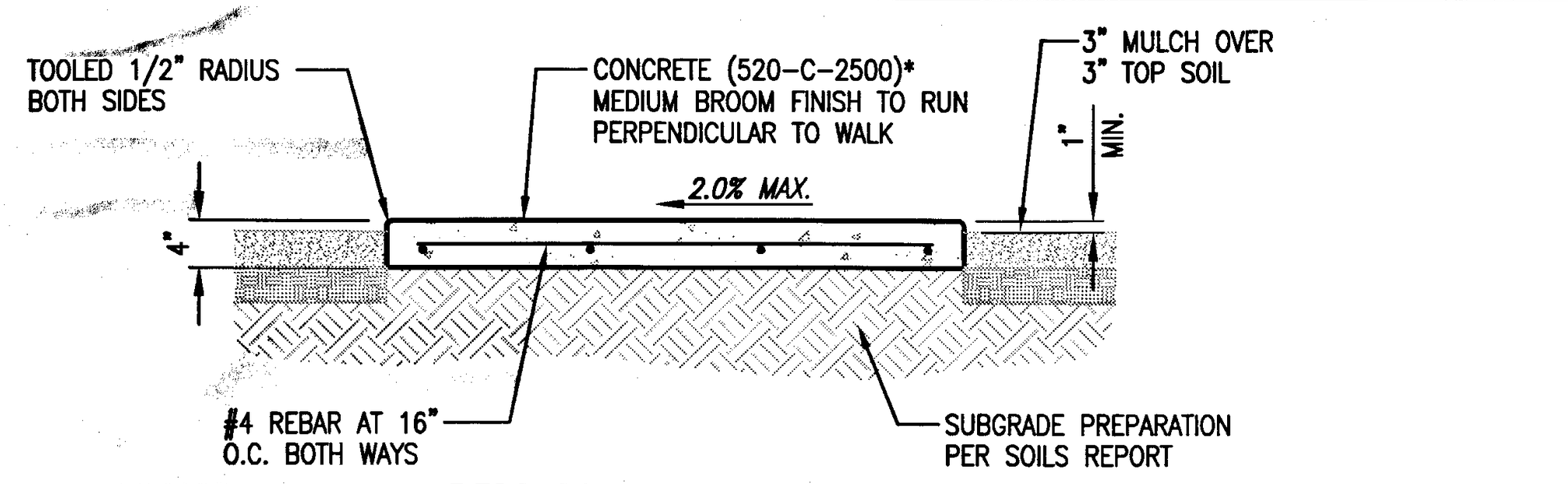
NOSE DETAIL


PCC SIDEWALK WITH MEDIUM BROOM FINISH
1"
VARIES PER PLAN
SLOPE PER PLAN
PER PLAN
PCC SIDEWALK WITH MEDIUM BROOM FINISH
SLOPE PER PLAN
PER PLAN
1'-6"
8"
GREENSTREAK SPEED DOWEL, SLEEVE LENGTH 12"
1/2" EXPANSION JOINT W/ FILLER & SEALANT.

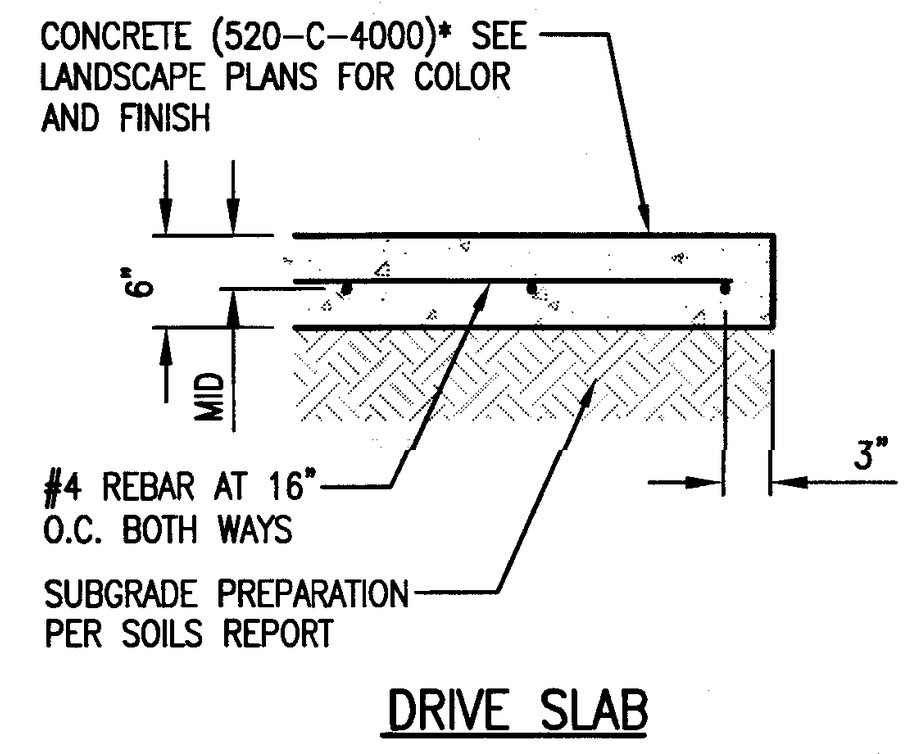
SCALE: NONE

CONCRETE STEP DETAIL

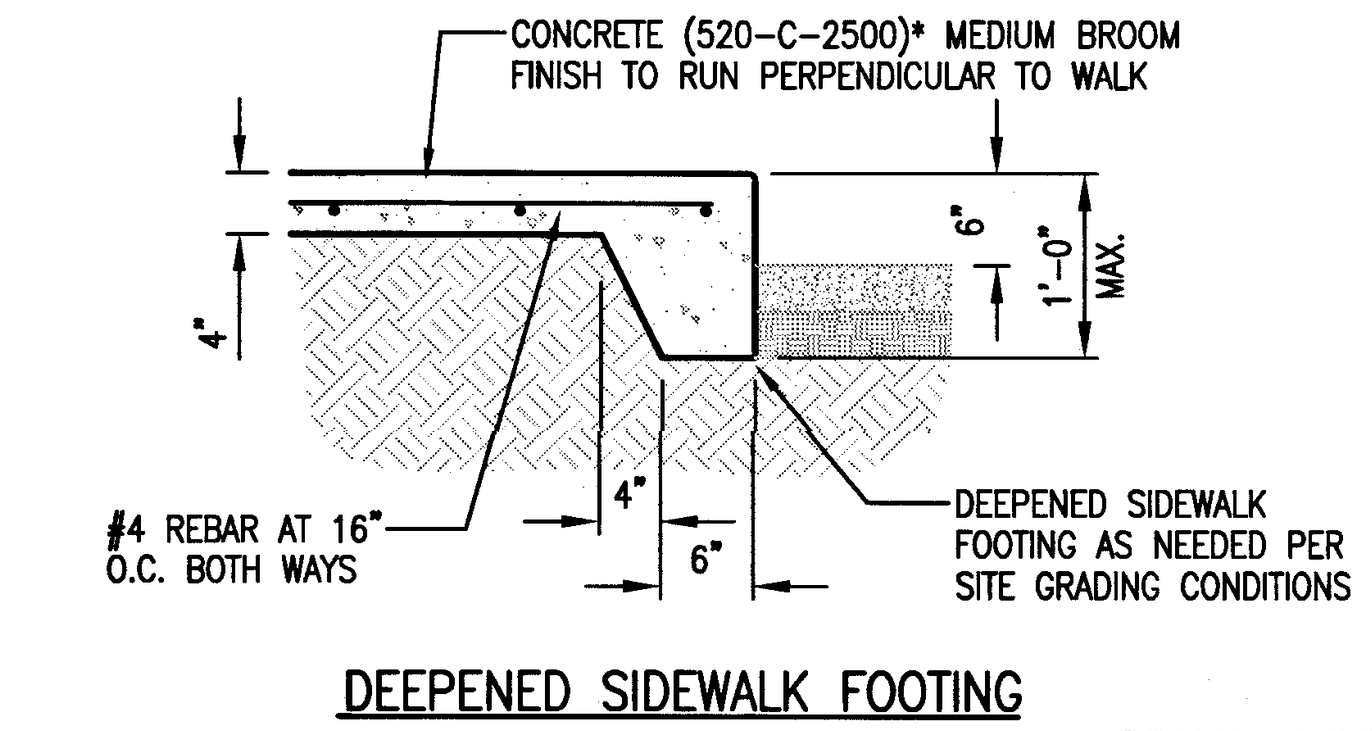
8


TOOLED 1/2" RADIUS BOTH SIDES
CONCRETE (520-C-2500)* MEDIUM BROOM FINISH TO RUN PERPENDICULAR TO WALK
3" MULCH OVER 3" TOP SOIL
2.0% MAX.
1" MIN.
4"
#4 REBAR AT 16" O.C. BOTH WAYS
SUBGRADE PREPARATION PER SOILS REPORT

PEDESTRIAN SIDEWALK


CONCRETE (520-C-4000)* SEE LANDSCAPE PLANS FOR COLOR AND FINISH
6"
MID
3"
#4 REBAR AT 16" O.C. BOTH WAYS
SUBGRADE PREPARATION PER SOILS REPORT

DRIVE SLAB


CONCRETE (520-C-2500)* MEDIUM BROOM FINISH TO RUN PERPENDICULAR TO WALK
6"
1'-0" MAX.
4"
4"
6"
#4 REBAR AT 16" O.C. BOTH WAYS
DEEPENED SIDEWALK FOOTING AS NEEDED PER SITE GRADING CONDITIONS

DEEPENED SIDEWALK FOOTING

SCALE: NONE

CONCRETE SECTIONS

4

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:

SITE DETAILS

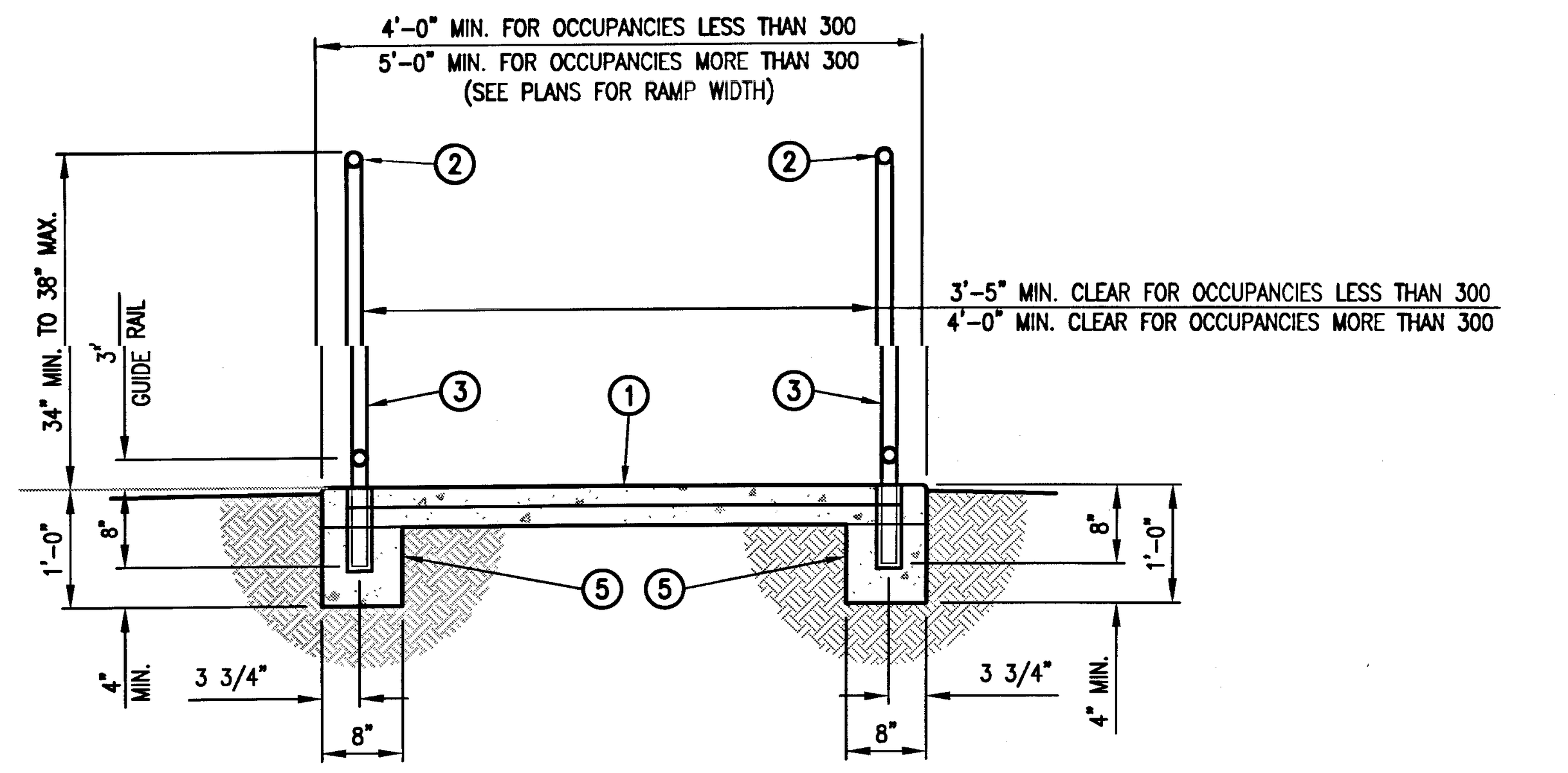
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD ⚠1
LAGUNA NIGUEL, CALIFORNIA

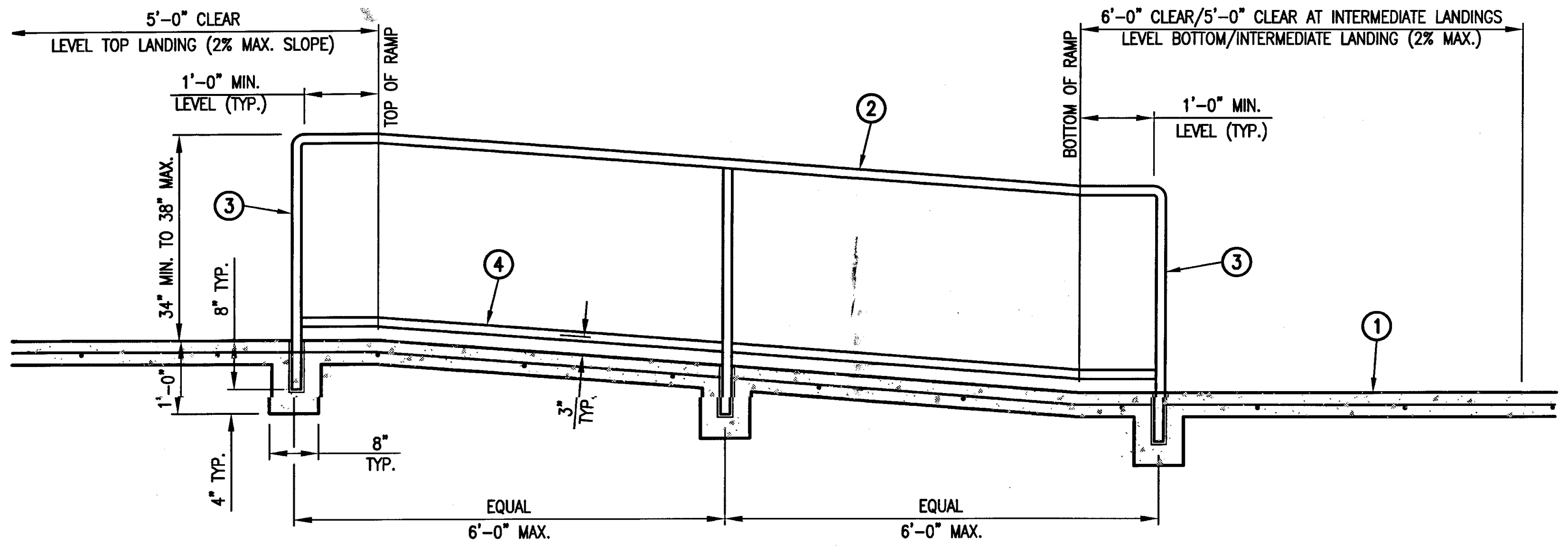
PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-4

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-04-D.dwg May 11, 2015 - 11:58am Jose


4'-0" MIN. FOR OCCUPANCIES LESS THAN 300
5'-0" MIN. FOR OCCUPANCIES MORE THAN 300
(SEE PLANS FOR RAMP WIDTH)
3'-5" MIN. CLEAR FOR OCCUPANCIES LESS THAN 300
4'-0" MIN. CLEAR FOR OCCUPANCIES MORE THAN 300
34" MIN. TO 38" MAX.
3" GUIDE RAIL
①
②
③
⑤
1'-0"
8"
4" MIN.
3 3/4"
8"


5'-0" CLEAR
LEVEL TOP LANDING (2% MAX. SLOPE)
1'-0" MIN.
LEVEL (TYP.)
TOP OF RAMP
BOTTOM OF RAMP
6'-0" CLEAR/5'-0" CLEAR AT INTERMEDIATE LANDINGS
LEVEL BOTTOM/INTERMEDIATE LANDING (2% MAX.)
34" MIN. TO 38" MAX.
8" TYP.
1'-0"
4" TYP.
8" TYP.
3" TYP.
EQUAL
6'-0" MAX.
①
②
③
④

LEGEND:

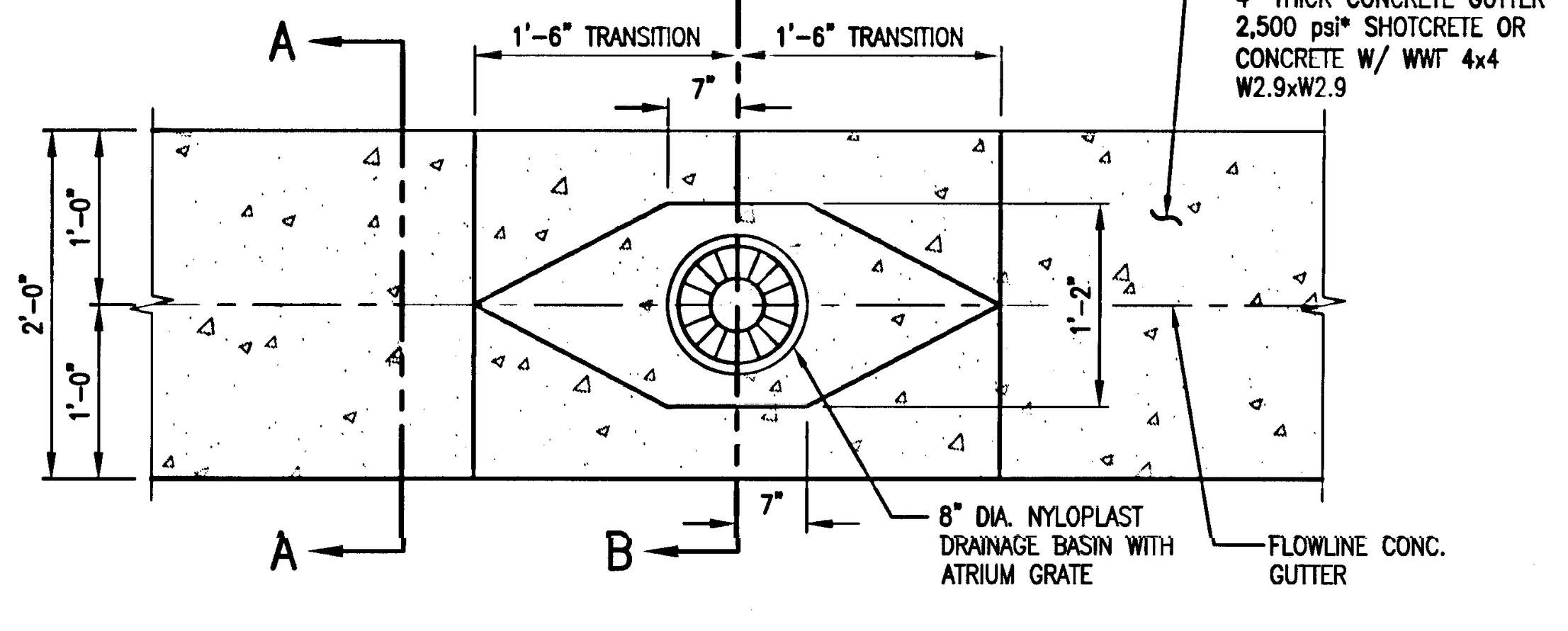
1. CONCRETE (569-C-2500) ACCESSIBLE RAMP #4 REBAR AT 18" O.C. W/MEDIUM BROOM FINISH TO RUN PERPENDICULAR TO SIDEWALK.
2. 1 1/2" O.D. PAINTED STEEL HANDRAIL PER MINIMUM CBC REQUIREMENTS. FOR PROJECT SPECIFIC DECORATIVE RAILING, SEE LANDSCAPING PLANS.
3. 1 1/2" O.D. PAINTED STEEL POST PER MINIMUM CBC REQUIREMENTS. FOR PROJECT SPECIFIC DECORATIVE POST, SEE LANDSCAPING PLANS.
4. 1 1/2" O.D. PAINTED STEEL GUIDE RAIL PER MINIMUM CBC REQUIREMENTS. FOR PROJECT SPECIFIC DECORATIVE RAIL, SEE LANDSCAPING PLANS. SEE LANDSCAPING PLANS FOR RAIL COLOR.
5. BLOCK OUT 2 1/2" x 2 1/2" x 8 1/2" DEEP SQ. POST OPENING PRIOR TO POURING CONCRETE, FILL W/ NON-SHRINK GROUT AFTER POST IS PLACED, ALIGNED AND LEVELED, OR CORE DRILL 2 1/2" DIA. x 8 1/2" DEEP HOLE AND FILL WITH NON-SHRINK GROUT AFTER POST IS PLACED, ALIGNED AND LEVELED.

△1

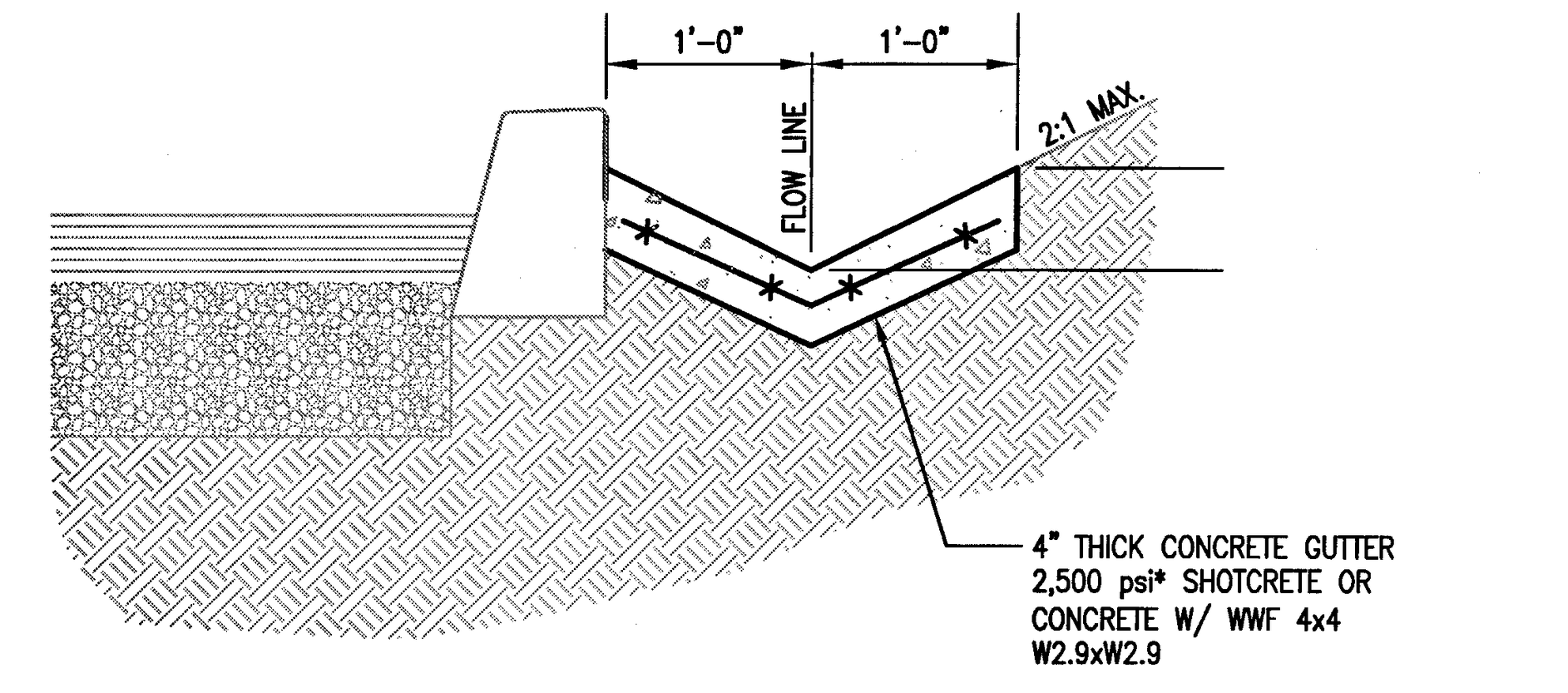
SCALE: NONE

TYPICAL CONCRETE ACCESSIBLE RAMP DETAIL

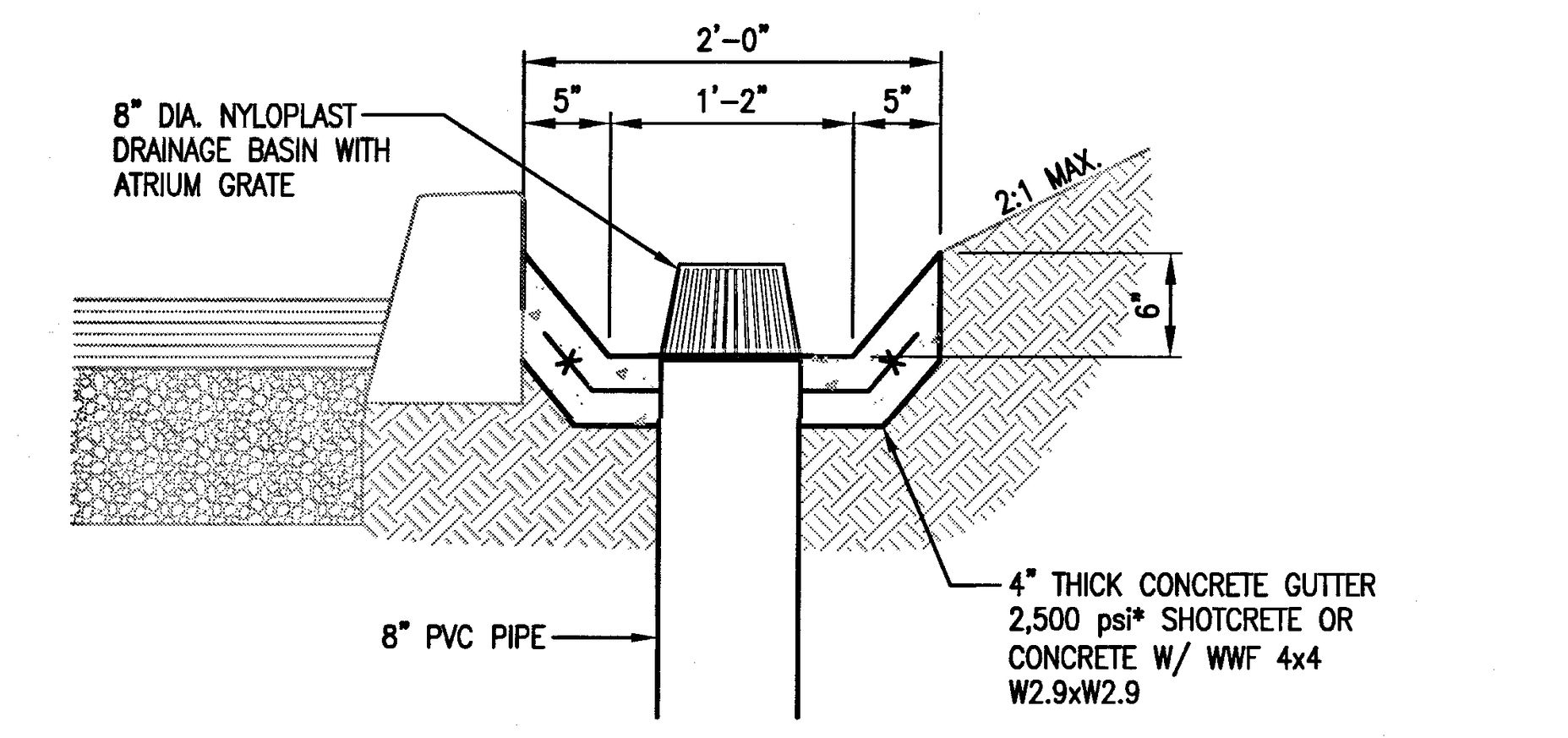
4


A
B
1'-6" TRANSITION
1'-6" TRANSITION
7"
2'-0"
1'-0"
1'-0"
1'-2"
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9
8" DIA. NYLOPLAST DRAINAGE BASIN WITH ATRIUM GRATE
FLOWLINE CONC. GUTTER

INTERMEDIATE GUTTER INLET


1'-0"
1'-0"
FLOW LINE
2:1 MAX.
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9

SECTION "A"-"A"


2'-0"
5"
1'-2"
5"
8" DIA. NYLOPLAST DRAINAGE BASIN WITH ATRIUM GRATE
2:1 MAX.
6"
8" PVC PIPE
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9

SECTION "B"-"B" AT INLET

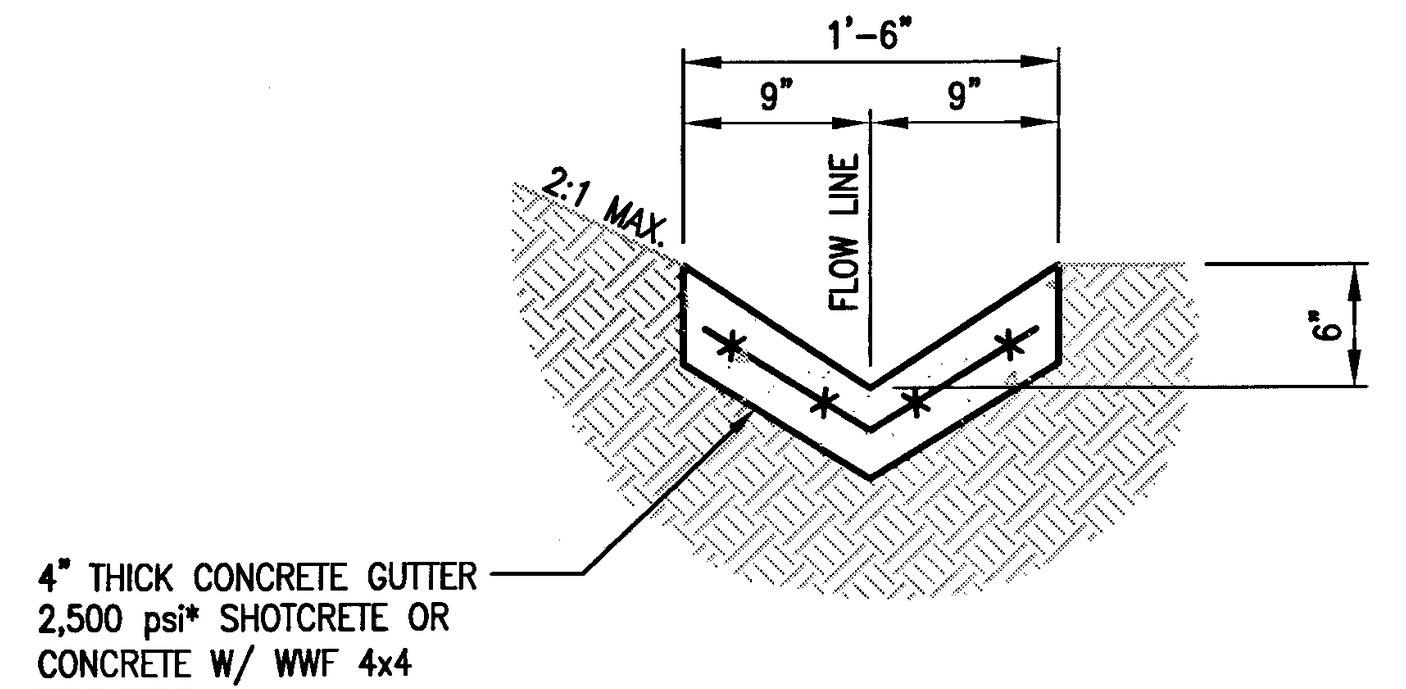
SCALE: NONE

2-FOOT WIDE CONCRETE BROW DITCH & FLOWLINE TRANSITION DETAILS AT INLET LOCATION △1

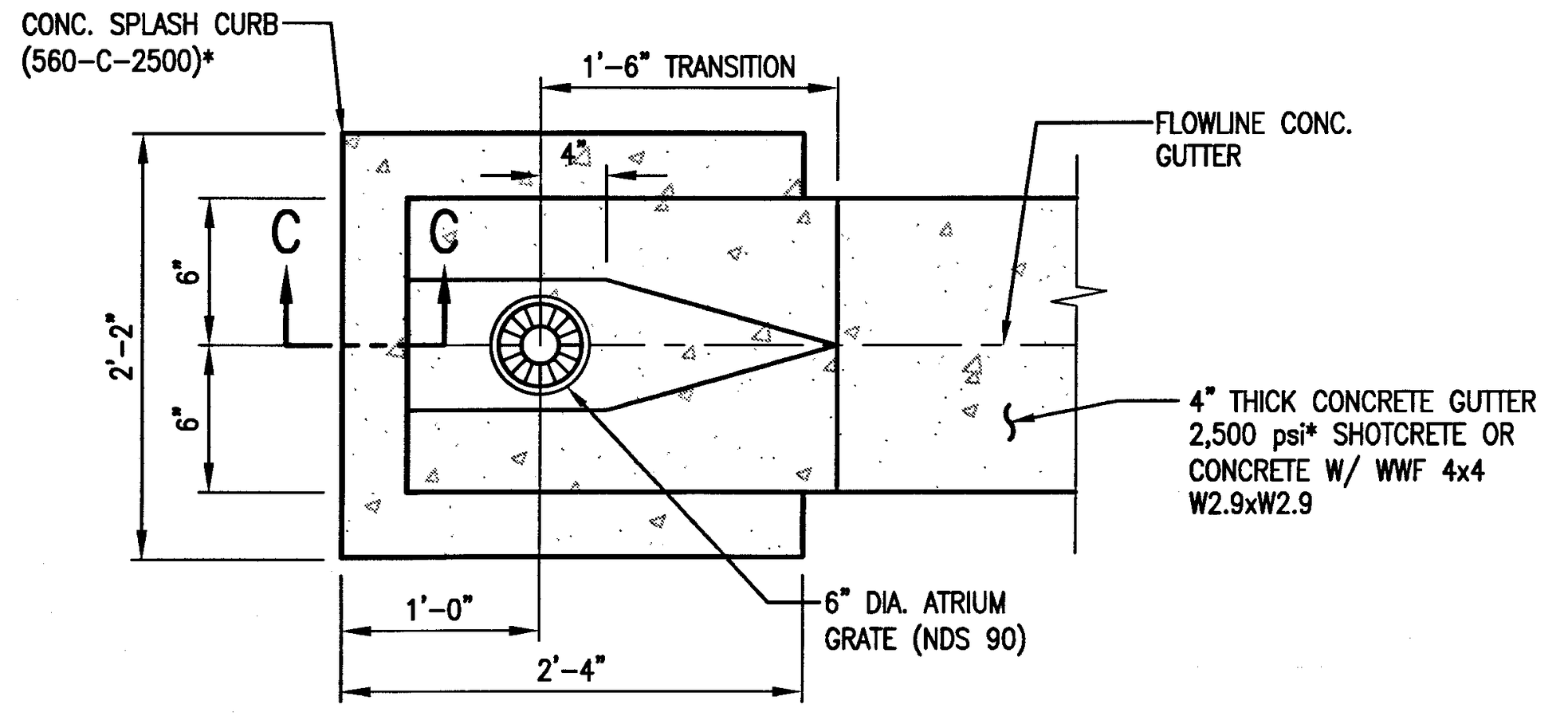
1

GENERAL NOTES:

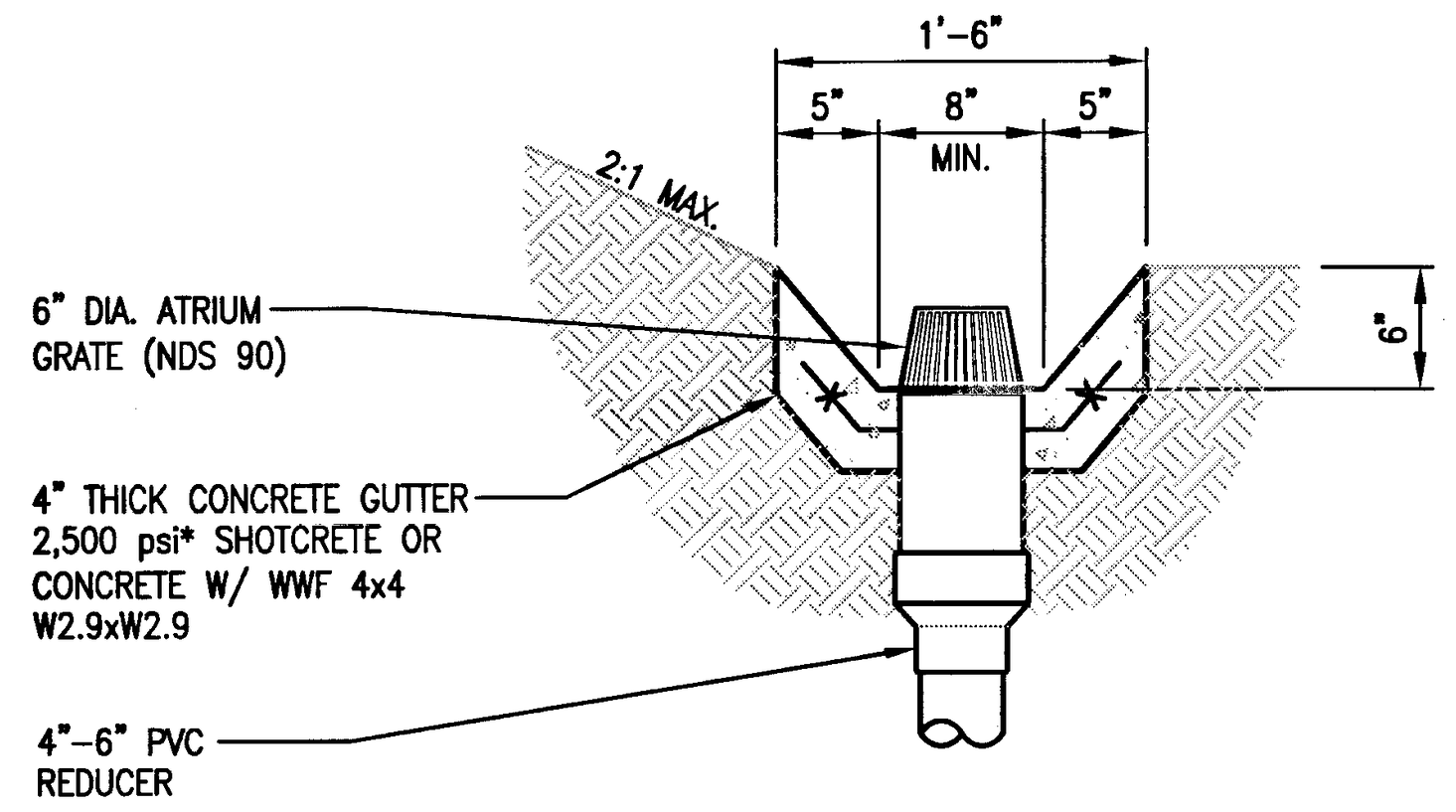
* STRENGTH OF CONCRETE AND CEMENT TYPE FROM ALL CONCRETE IN CONTACT WITH SOIL TO BE DETERMINED BY THE PROJECT SOIL ENGINEER IN THE FIELD BASED ON SULFATE CONTENT OF THE SOIL.


1'-6"
9"
9"
2:1 MAX.
FLOW LINE
6"
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9

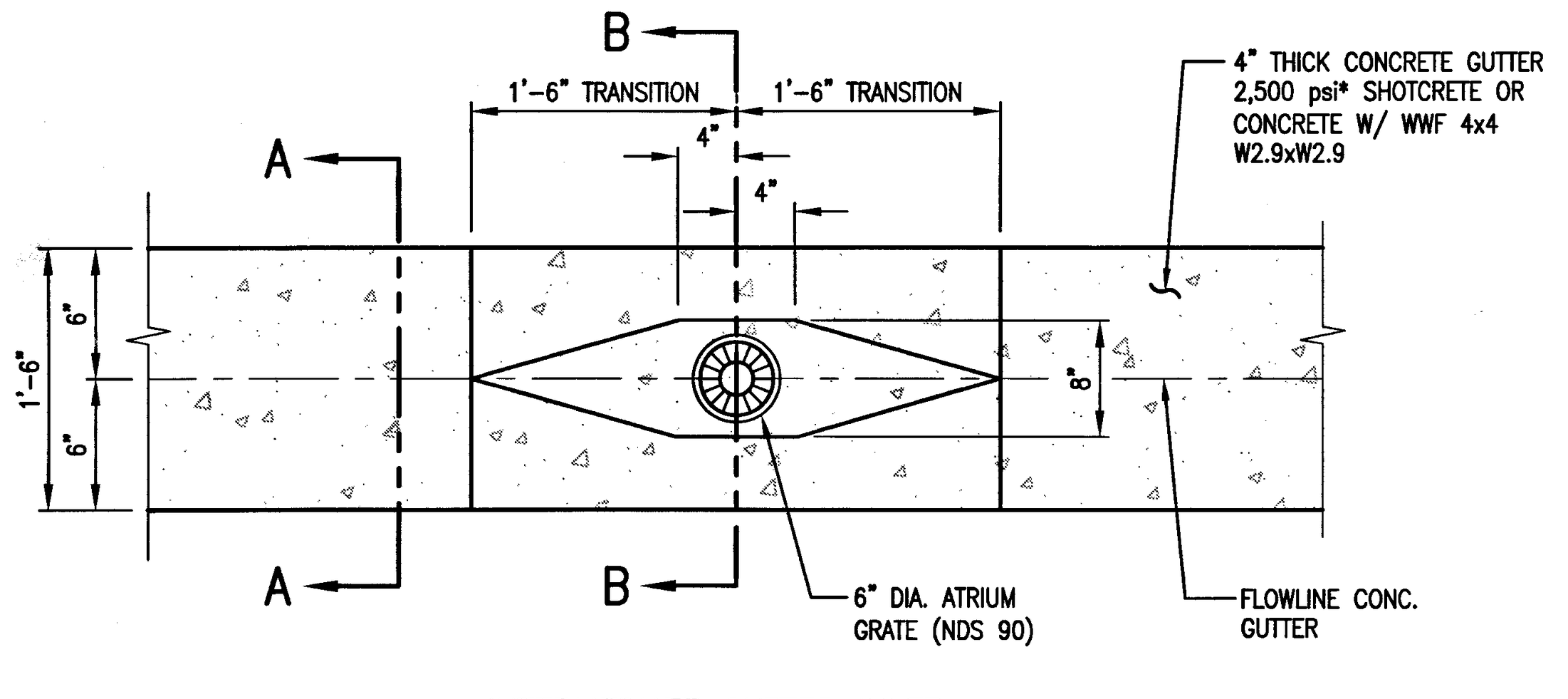
SECTION "A"-"A"


CONC. SPLASH CURB (560-C-2500)*
1'-6" TRANSITION
4"
C
2'-2"
6"
6"
1'-0"
2'-4"
FLOWLINE CONC. GUTTER
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9
6" DIA. ATRIUM GRATE (NDS 90)

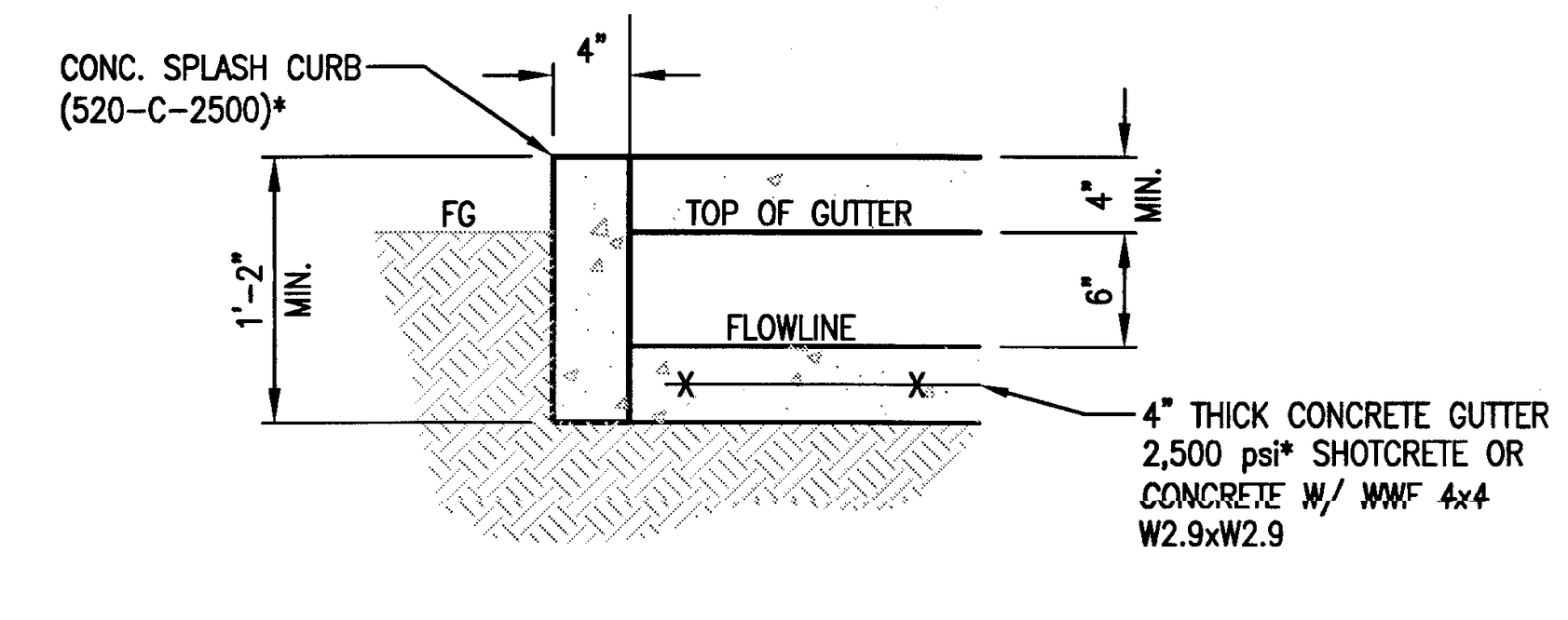
END CONDITION GUTTER INLET


1'-6"
5"
8" MIN.
5"
2:1 MAX.
6"
6" DIA. ATRIUM GRATE (NDS 90)
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9
4"-6" PVC REDUCER

SECTION "B"-"B" AT INLET


A
B
1'-6" TRANSITION
1'-6" TRANSITION
4"
4"
1'-6"
6"
6"
8"
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9
6" DIA. ATRIUM GRATE (NDS 90)
FLOWLINE CONC. GUTTER

INTERMEDIATE GUTTER INLET


CONC. SPLASH CURB (520-C-2500)*
4"
FG
TOP OF GUTTER
FLOWLINE
1'-2" MIN.
4" MIN.
6"
4" THICK CONCRETE GUTTER 2,500 psi* SHOTCRETE OR CONCRETE W/ WWF 4x4 W2.9xW2.9

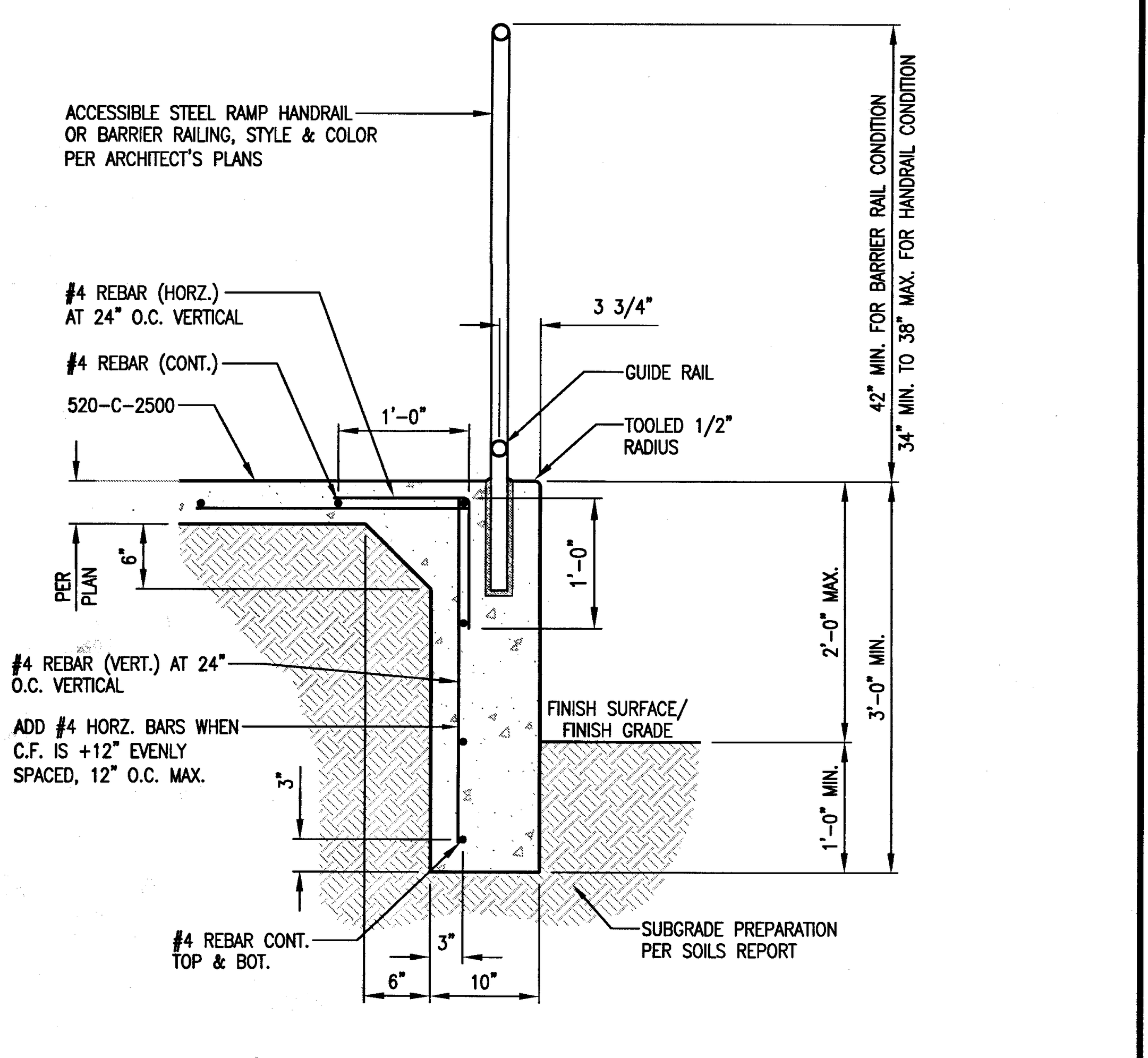
SECTION "C"-"C"

△1

SCALE: NONE

18-INCH WIDE CONCRETE BROW DITCH & FLOWLINE TRANSITION DETAILS AT INLET LOCATIONS

8


ACCESSIBLE STEEL RAMP HANDRAIL OR BARRIER RAILING, STYLE & COLOR PER ARCHITECT'S PLANS
#4 REBAR (HORZ.) AT 24" O.C. VERTICAL
#4 REBAR (CONT.)
520-C-2500
1'-0"
3 3/4"
GUIDE RAIL
TOOLED 1/2" RADIUS
42" MIN. FOR BARRIER RAIL CONDITION
34" MIN. TO 38" MAX. FOR HANDRAIL CONDITION
PER PLAN
6"
1'-0"
#4 REBAR (VERT.) AT 24" O.C. VERTICAL
ADD #4 HORZ. BARS WHEN C.F. IS +12" EVENLY SPACED, 12" O.C. MAX.
FINISH SURFACE/ FINISH GRADE
2'-0" MAX.
3'-0" MIN.
1'-0" MIN.
3"
3"
#4 REBAR CONT. TOP & BOT.
6"
10"
SUBGRADE PREPARATION PER SOILS REPORT

SCALE: NONE

△2 10" WIDE DEEPENED PCC SIDEWALK FOOTING △1

2

Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REMOVED ORIGINAL DETAILS 1, 2, 3, 4 & 6; ADDED NEW DETAIL 1 & 4;	
		CHANGED PROJECT ADDRESS.	
2	1/16/15	ADDED DETAIL 2	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
CIVIL

James H. Kawamura

SHEET DESCRIPTION:
SITE DETAILS

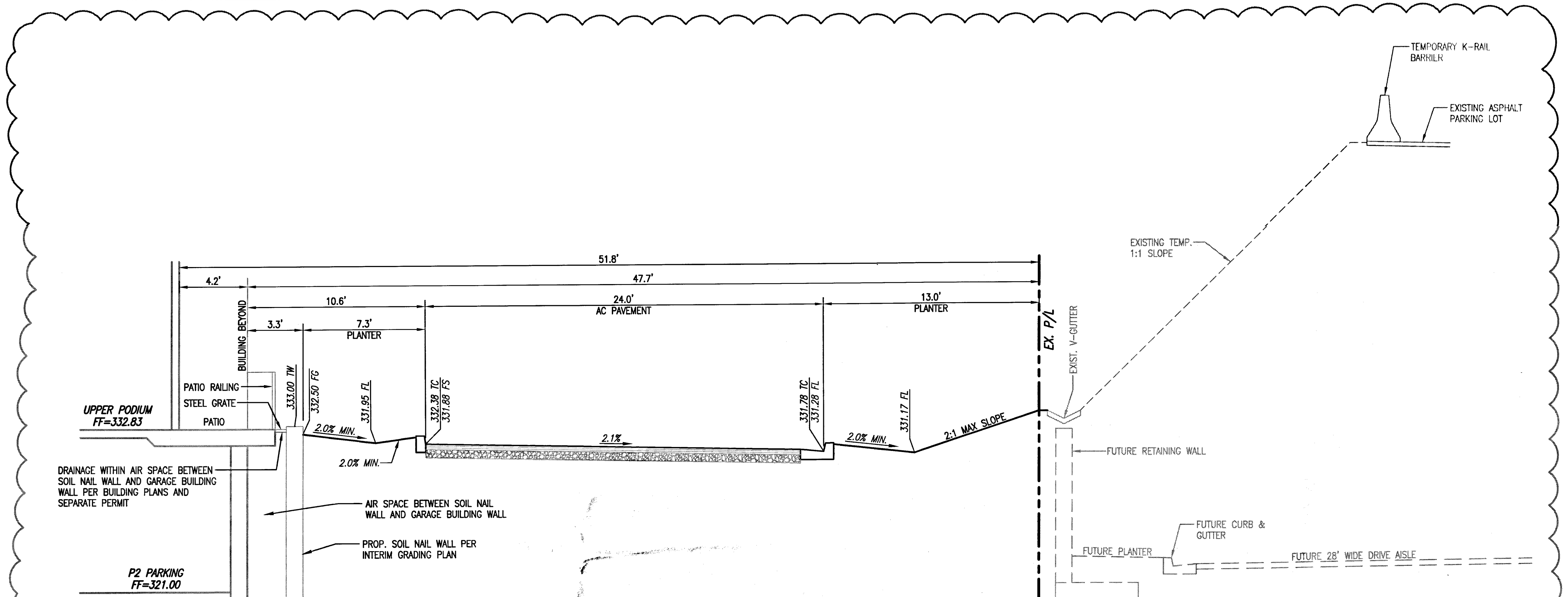
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

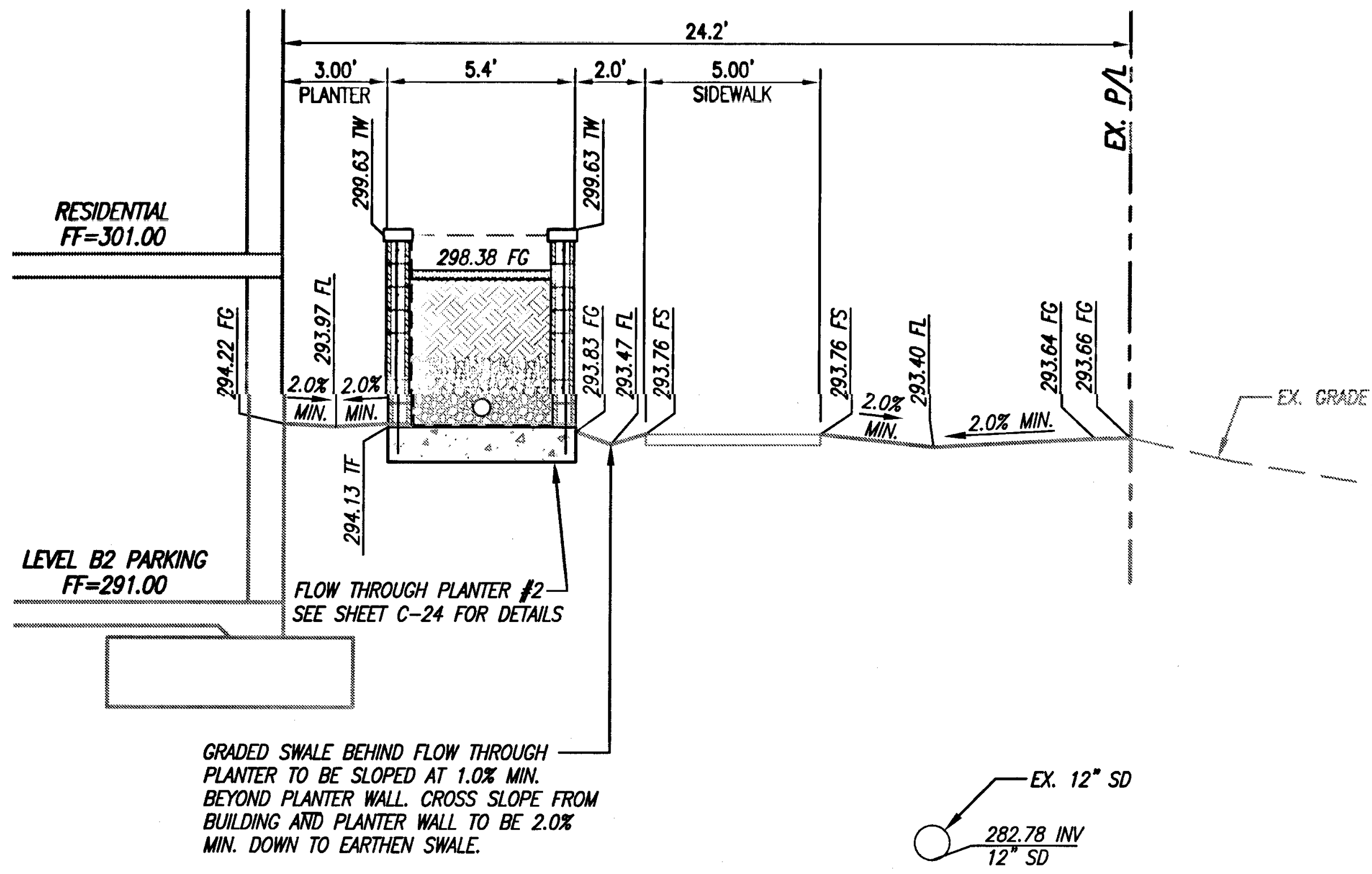
SHEET NO.
C-5

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PC-05-D.dwg May 11, 2015 - 11:59am Jose


TEMPORARY K-RAIL BARRIER
EXISTING ASPHALT PARKING LOT
EXISTING TEMP. 1:1 SLOPE
51.8'
47.7'
4.2'
10.6'
24.0'
AC PAVEMENT
13.0'
PLANTER
3.3'
7.3'
PLANTER
BUILDING BEYOND
EX. P/L
EXIST. V-GUTTER
PATIO RAILING
STEEL GRATE
PATIO
UPPER PODIUM
FF=332.83
333.00 TW
332.50 FG
331.95 FL
332.38 TC
331.88 FS
331.78 TC
331.28 FL
331.17 FL
2.0% MIN.
2.0% MIN.
2.1%
2.0% MIN.
2:1 MAX SLOPE
DRAINAGE WITHIN AIR SPACE BETWEEN SOIL NAIL WALL AND GARAGE BUILDING WALL PER BUILDING PLANS AND SEPARATE PERMIT
AIR SPACE BETWEEN SOIL NAIL WALL AND GARAGE BUILDING WALL
PROP. SOIL NAIL WALL PER INTERIM GRADING PLAN
P2 PARKING
FF=321.00
FUTURE RETAINING WALL
FUTURE CURB & GUTTER
FUTURE PLANTER
FUTURE 28' WIDE DRIVE AISLE

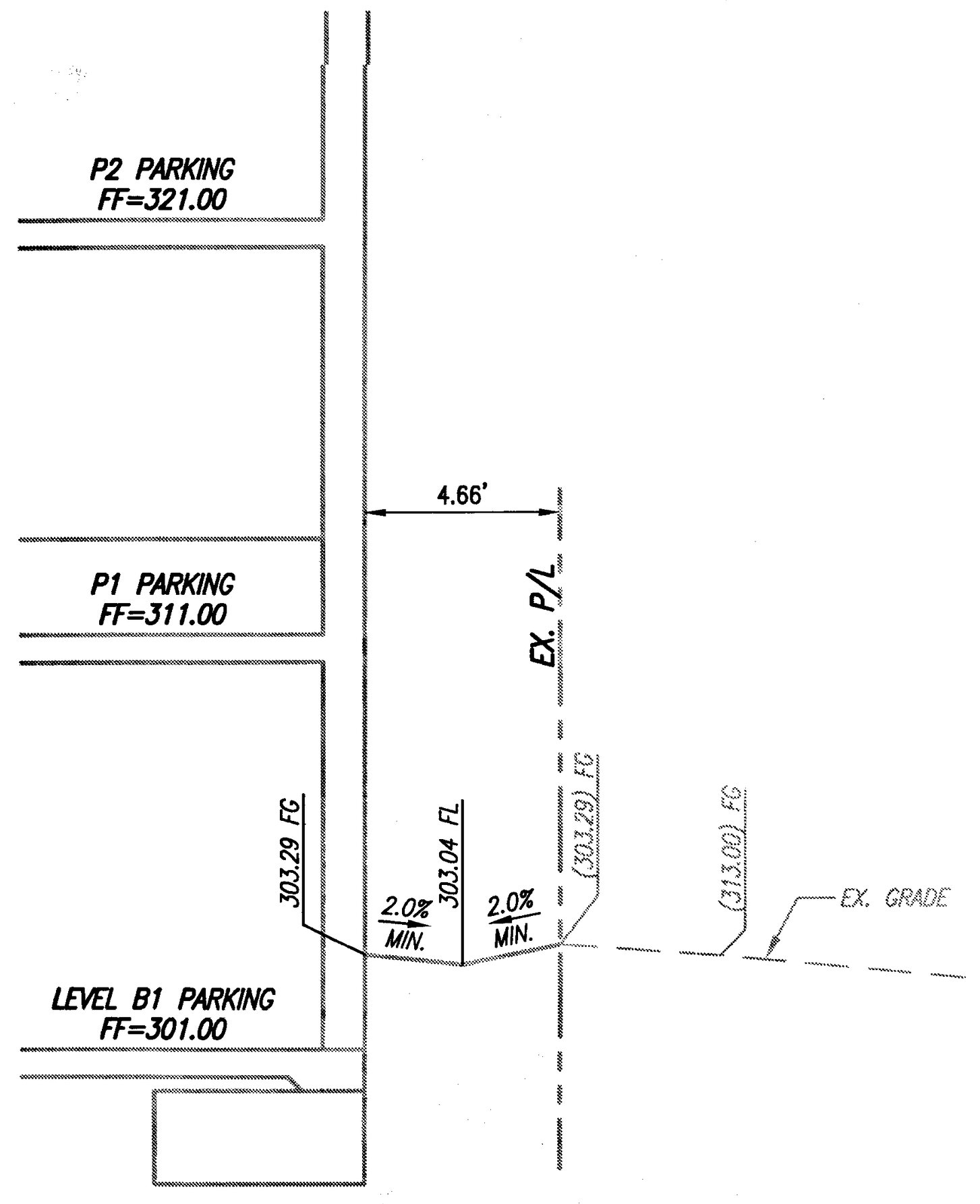
SECTION "A"-"A"

SCALE: 1"=4'


24.2'
3.00'
PLANTER
5.4'
2.0'
5.00'
SIDEWALK
EX. P/L
RESIDENTIAL
FF=301.00
299.63 TW
299.63 TW
298.38 FG
294.22 FG
293.97 FL
2.0% MIN.
2.0% MIN.
293.83 FG
293.47 FL
293.76 FS
293.76 FS
2.0% MIN.
293.40 FL
2.0% MIN.
293.64 FG
293.66 FG
EX. GRADE
294.13 TF
LEVEL B2 PARKING
FF=291.00
FLOW THROUGH PLANTER #2
SEE SHEET C-24 FOR DETAILS
GRADED SWALE BEHIND FLOW THROUGH PLANTER TO BE SLOPED AT 1.0% MIN. BEYOND PLANTER WALL. CROSS SLOPE FROM BUILDING AND PLANTER WALL TO BE 2.0% MIN. DOWN TO EARTHEN SWALE.
EX. 12" SD
282.78 INV
12" SD

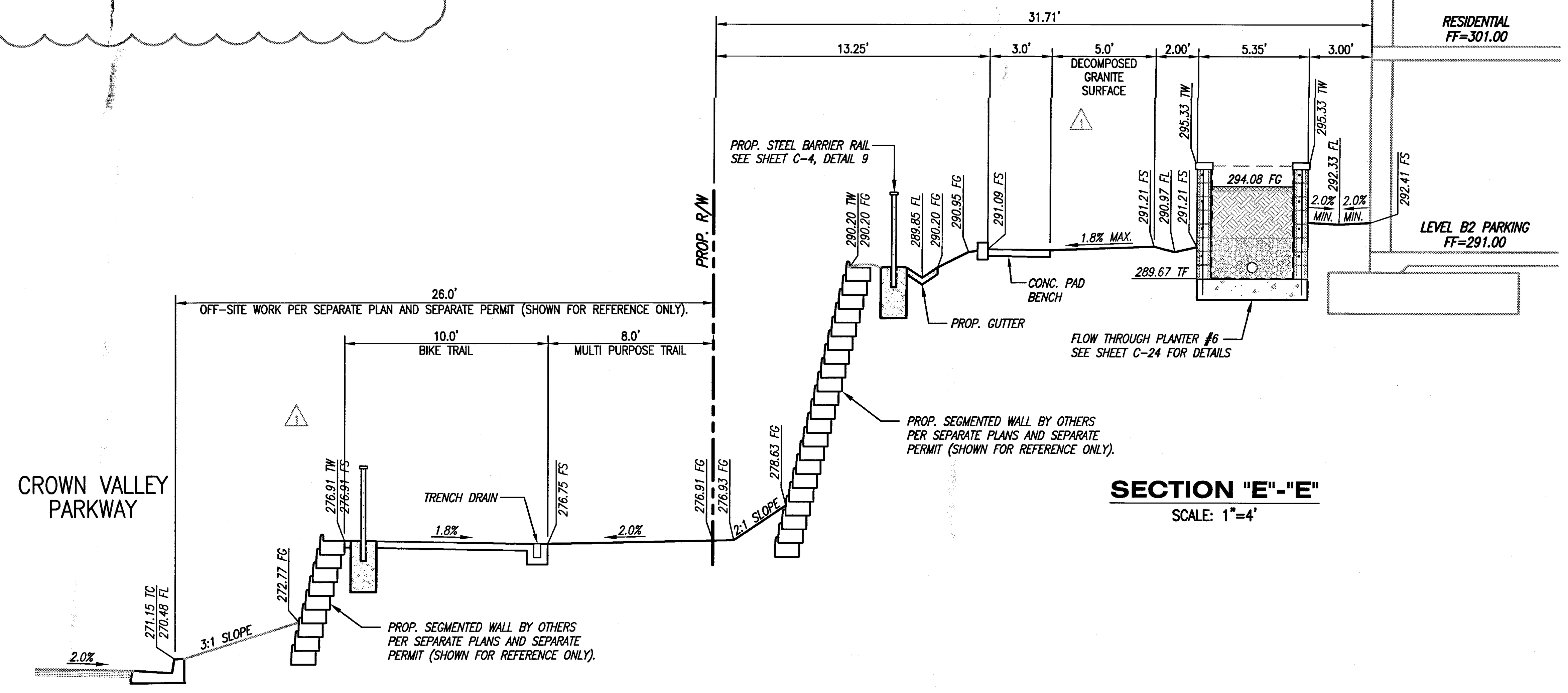
SECTION "D"-"D"

SCALE: 1"=4'


P2 PARKING
FF=321.00
P1 PARKING
FF=311.00
4.66'
EX. P/L
303.29 FG
2.0% MIN.
303.04 FL
2.0% MIN.
(303.29) FG
(313.00) FG
EX. GRADE
LEVEL B1 PARKING
FF=301.00

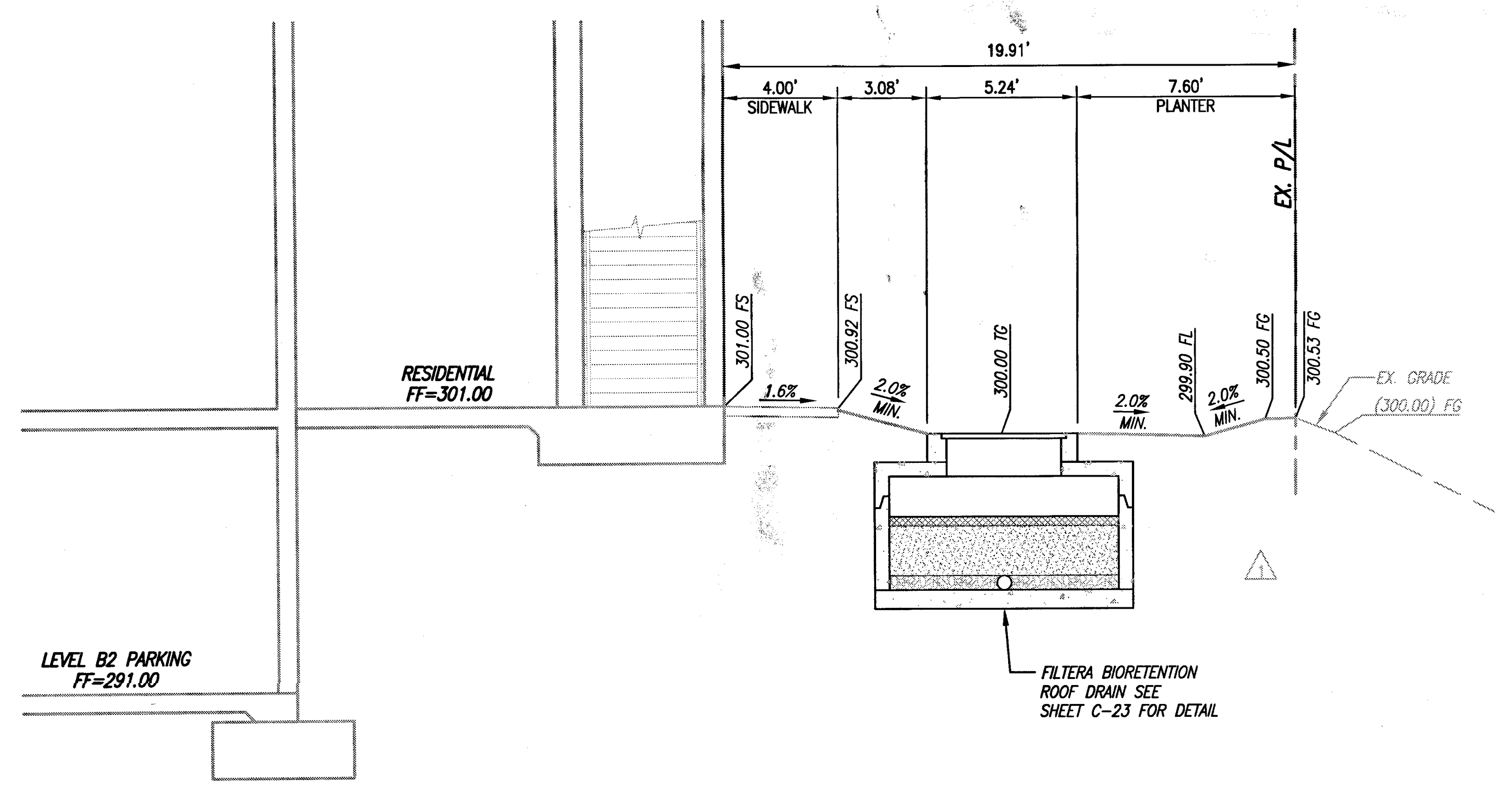
SECTION "B"-"B"

SCALE: 1"=4'


31.71'
13.25'
3.0'
5.0'
DECOMPOSED GRANITE SURFACE
2.00'
5.35'
3.00'
RESIDENTIAL
FF=301.00
PROP. STEEL BARRIER RAIL
SEE SHEET C-4, DETAIL 9
290.20 TW
290.20 FG
289.85 FL
290.20 FG
290.95 FG
291.09 FS
1.8% MAX.
291.21 FS
290.97 FL
291.21 FS
295.33 TW
294.08 FG
295.33 TW
292.33 FL
2.0% MIN.
2.0% MIN.
292.41 FS
LEVEL B2 PARKING
FF=291.00
289.67 TF
CONC. PAD BENCH
PROP. GUTTER
FLOW THROUGH PLANTER #6
SEE SHEET C-24 FOR DETAILS
PROP. R/W
26.0'
OFF-SITE WORK PER SEPARATE PLAN AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
10.0'
BIKE TRAIL
8.0'
MULTI PURPOSE TRAIL
PROP. SEGMENTED WALL BY OTHERS PER SEPARATE PLANS AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
CROWN VALLEY PARKWAY
276.91 TW
276.91 FS
TRENCH DRAIN
1.8%
276.75 FS
2.0%
276.91 FG
276.93 FG
2:1 SLOPE
278.63 FG
271.15 TC
270.48 FL
272.77 FG
3:1 SLOPE
2.0%
PROP. SEGMENTED WALL BY OTHERS PER SEPARATE PLANS AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).

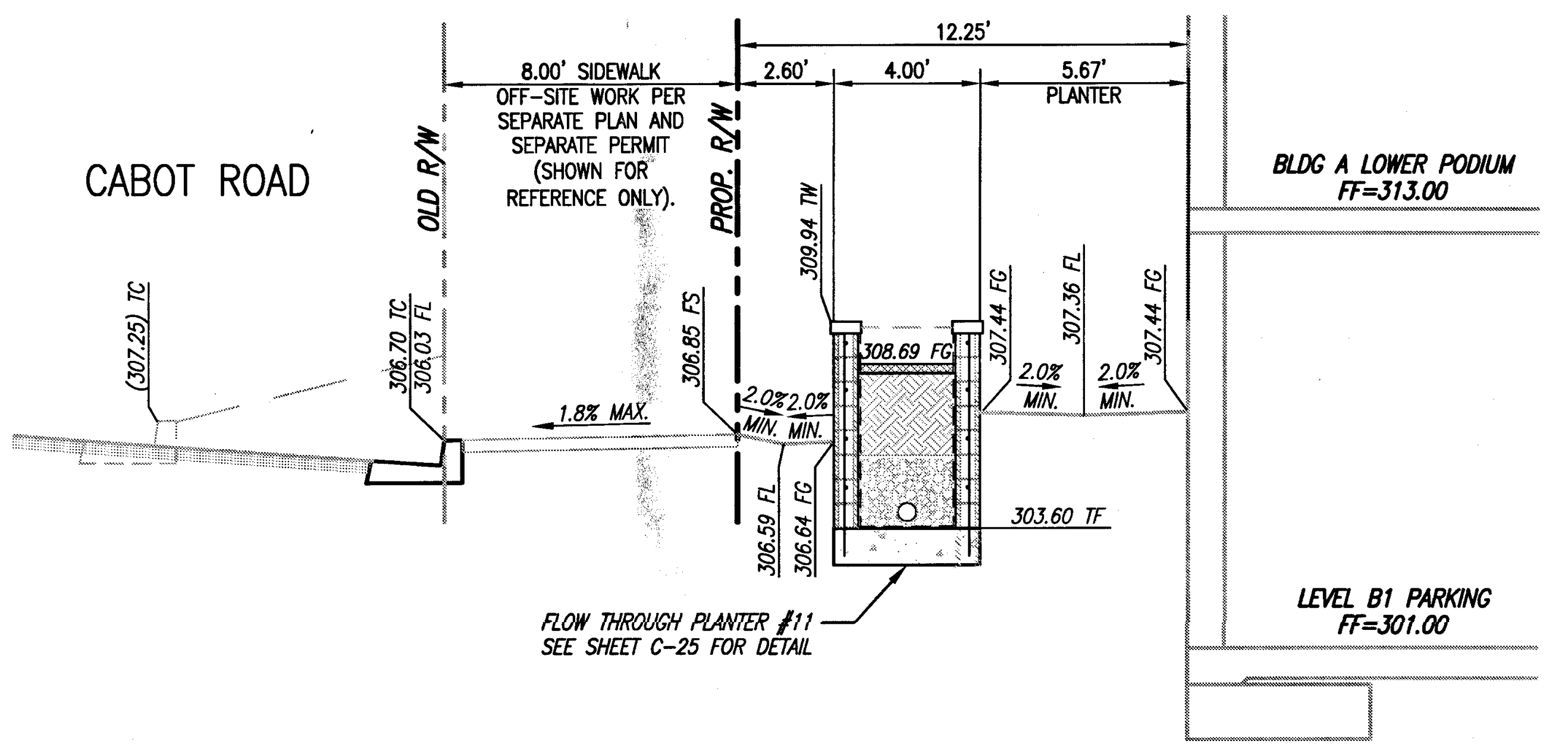
SECTION "E"-"E"

SCALE: 1"=4'


19.91'
4.00'
SIDEWALK
3.08'
5.24'
7.60'
PLANTER
EX. P/L
RESIDENTIAL
FF=301.00
301.00 FS
1.6%
300.92 FS
2.0% MIN.
300.00 TG
2.0% MIN.
299.90 FL
2.0% MIN.
300.50 FG
300.53 FG
EX. GRADE
(300.00) FG
FILTERA BIORETENTION ROOF DRAIN SEE SHEET C-23 FOR DETAIL
LEVEL B2 PARKING
FF=291.00

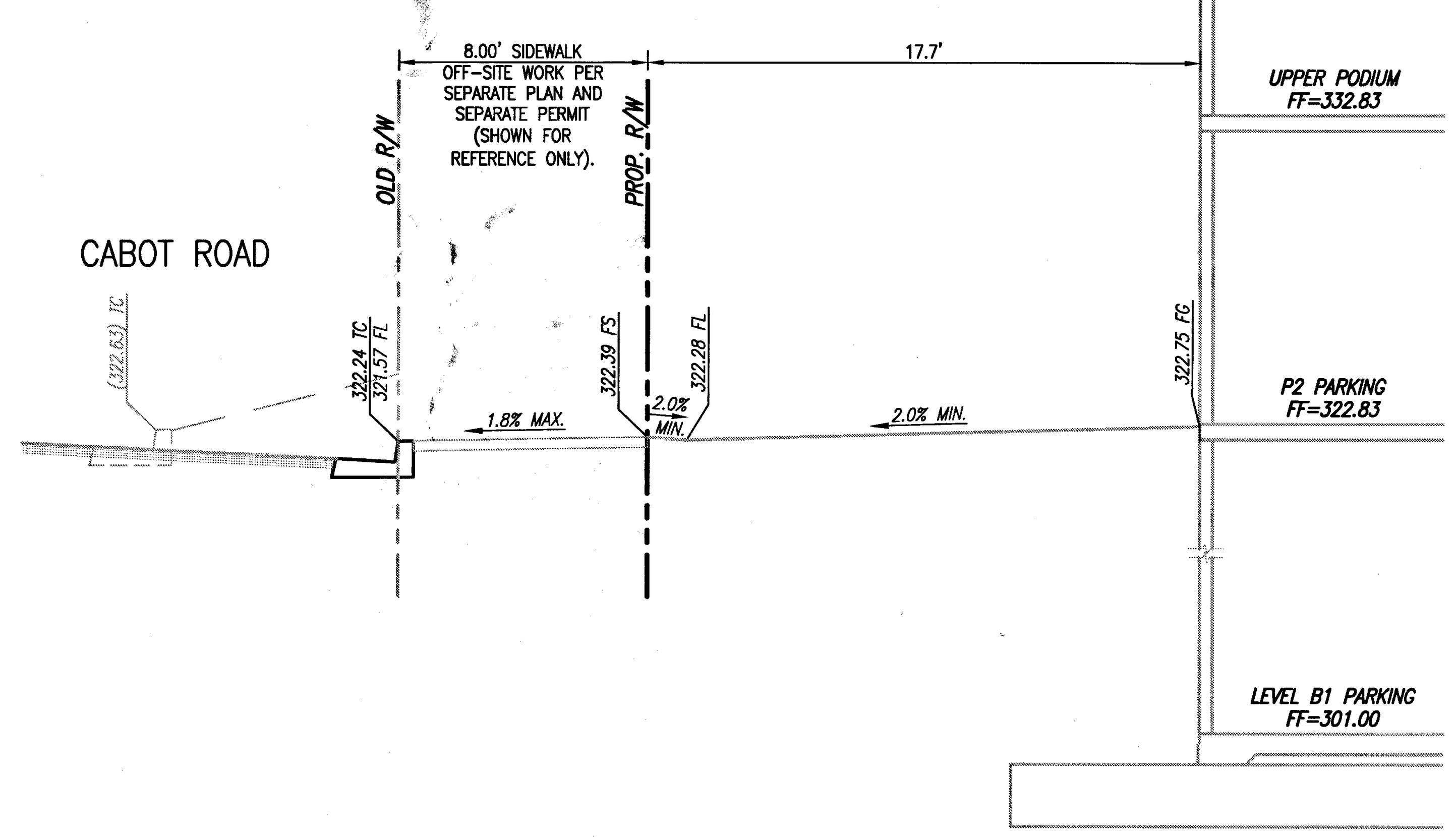
SECTION "C"-"C"

SCALE: 1"=4'


CABOT ROAD
OLD R/W
8.00' SIDEWALK
OFF-SITE WORK PER SEPARATE PLAN AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
PROP. R/W
12.25'
2.60'
4.00'
5.67'
PLANTER
BLDG A LOWER PODIUM
FF=313.00
(307.25) TC
306.70 TC
306.03 FL
1.8% MAX.
306.85 FS
2.0% MIN.
2.0% MIN.
309.94 TW
308.69 FG
307.44 FG
2.0% MIN.
307.36 FL
2.0% MIN.
307.44 FG
306.59 FL
306.64 FG
303.60 TF
FLOW THROUGH PLANTER #11
SEE SHEET C-25 FOR DETAIL
LEVEL B1 PARKING
FF=301.00

SECTION "F"-"F"

SCALE: 1"=4'


8.00' SIDEWALK
OFF-SITE WORK PER SEPARATE PLAN AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
17.7'
OLD R/W
PROP. R/W
UPPER PODIUM
FF=332.83
CABOT ROAD
(322.63) TC
322.24 TC
321.57 FL
1.8% MAX.
322.39 FS
2.0% MIN.
322.28 FL
2.0% MIN.
322.75 FG
P2 PARKING
FF=322.83
LEVEL B1 PARKING
FF=301.00

SECTION "G"-"G"

SCALE: 1"=4'

Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED DECOMPOSED GRANITE SURFACE ALONG SOUTHERLY PATH; REVISED PROJECT ADDRESS; REVISED SECTION "A"-"A"; UPDATED OFF-SITE PORTION OF SECTION "E-E"; LOWERED FTP BOX AND SD INVERTS.	
2	1/16/15	REVISED SECTION "A"-"A"	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:
SITE SECTIONS

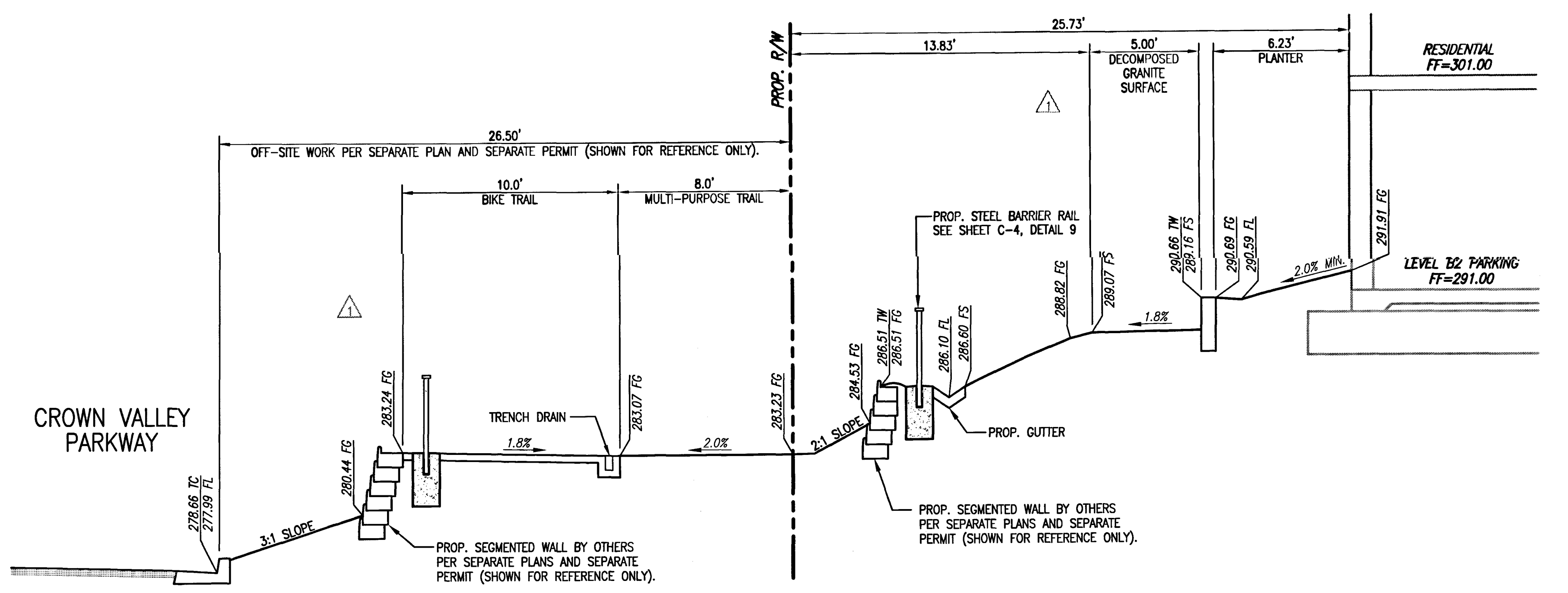
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

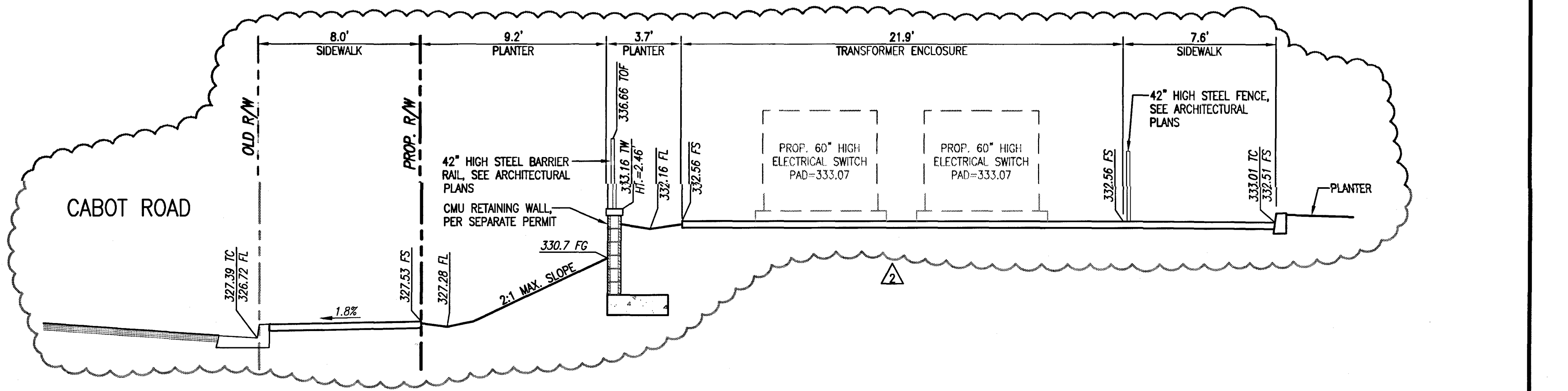
SHEET NO.
C-6

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-06-SEC.dwg


25.73'
13.83'
5.00'
DECOMPOSED GRANITE SURFACE
6.23'
PLANTER
PROP. R/W
RESIDENTIAL FF=301.00
26.50'
OFF-SITE WORK PER SEPARATE PLAN AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
10.0'
BIKE TRAIL
8.0'
MULTI-PURPOSE TRAIL
PROP. STEEL BARRIER RAIL SEE SHEET C-4, DETAIL 9
290.66 TW
289.16 FS
290.69 FG
290.59 FL
291.91 FG
LEVEL B2 PARKING FF=291.00
2.0% MIN.
288.82 FG
289.07 FS
1.8%
284.53 FG
286.51 TW
286.51 FG
286.10 FL
286.60 FS
PROP. GUTTER
283.24 FG
TRENCH DRAIN
283.07 FG
283.23 FG
CROWN VALLEY PARKWAY
1.8%
2.0%
2:1 SLOPE
280.44 FG
278.66 TC
277.99 FL
3:1 SLOPE
PROP. SEGMENTED WALL BY OTHERS PER SEPARATE PLANS AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
PROP. SEGMENTED WALL BY OTHERS PER SEPARATE PLANS AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
1
1

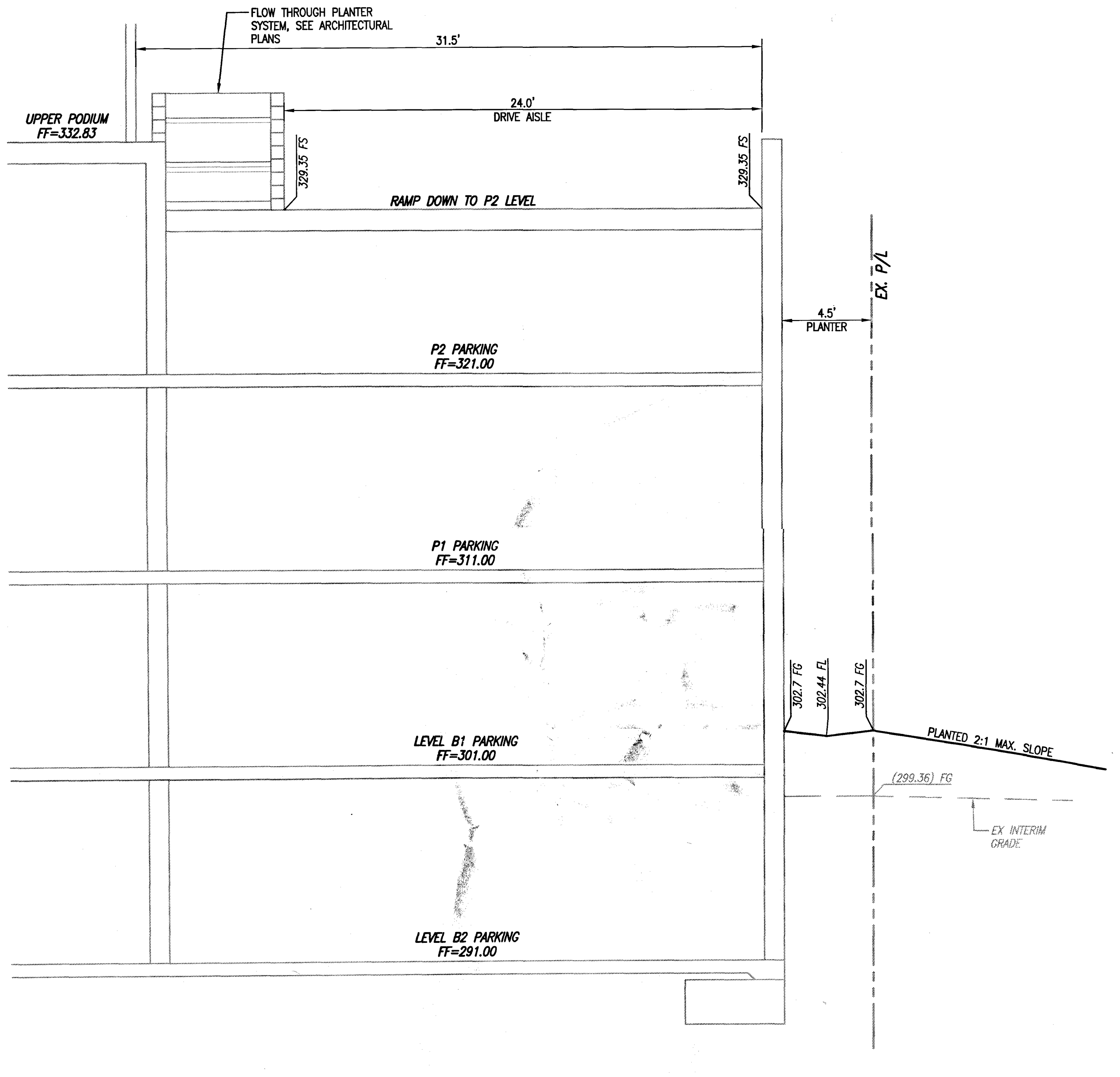
SECTION "L"-"L"

SCALE: 1"=4'


8.0'
SIDEWALK
9.2'
PLANTER
3.7'
PLANTER
21.9'
TRANSFORMER ENCLOSURE
7.6'
SIDEWALK
OLD R/W
PROP. R/W
CABOT ROAD
336.66 TOF
42" HIGH STEEL BARRIER RAIL, SEE ARCHITECTURAL PLANS
333.16 TW
HT.=2.46'
332.16 FL
332.56 FS
CMU RETAINING WALL, PER SEPARATE PERMIT
PROP. 60" HIGH ELECTRICAL SWITCH PAD=333.07
PROP. 60" HIGH ELECTRICAL SWITCH PAD=333.07
42" HIGH STEEL FENCE, SEE ARCHITECTURAL PLANS
332.56 FS
333.01 TC
332.51 FS
PLANTER
330.7 FG
327.39 TC
326.72 FL
327.53 FS
327.28 FL
1.8%
2:1 MAX. SLOPE
2

SECTION "H"-"H" 1

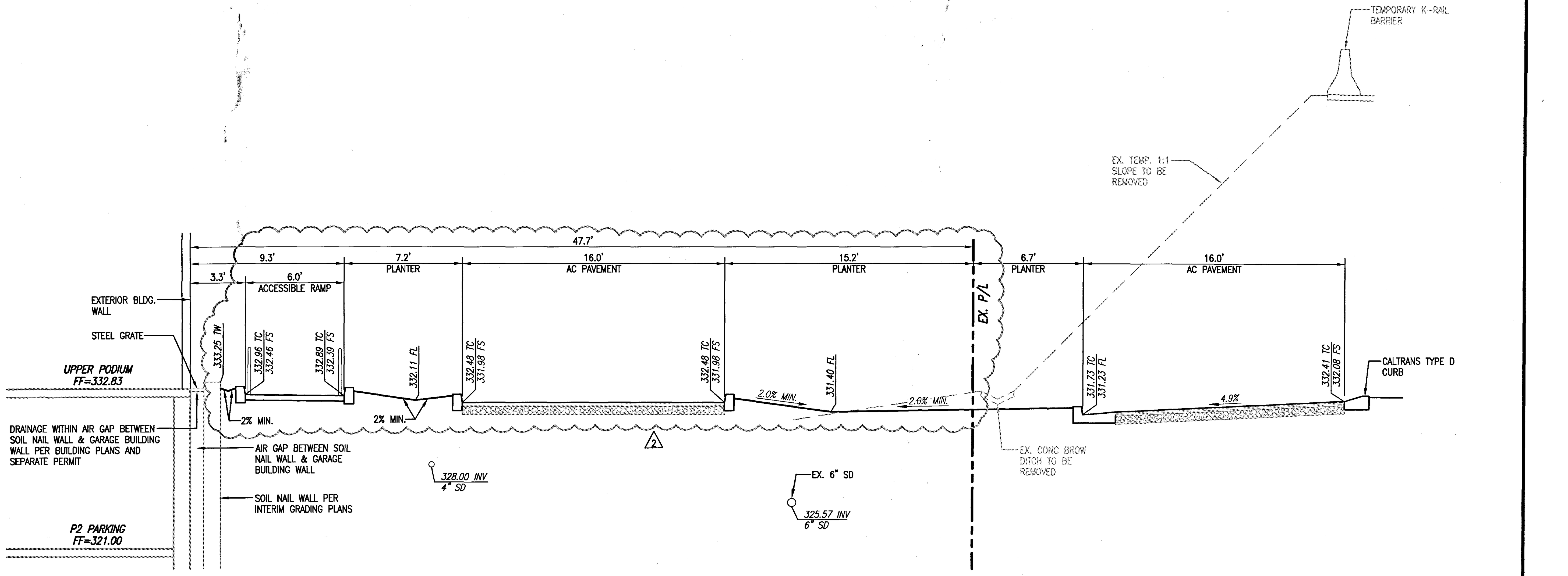
SCALE: 1"=4'


FLOW THROUGH PLANTER SYSTEM, SEE ARCHITECTURAL PLANS
31.5'
24.0'
DRIVE AISLE
UPPER PODIUM FF=332.83
329.35 FS
329.35 FS
RAMP DOWN TO P2 LEVEL
EX. P/L
4.5'
PLANTER
P2 PARKING FF=321.00
P1 PARKING FF=311.00
302.7 FG
302.44 FL
302.7 FG
PLANTED 2:1 MAX. SLOPE
LEVEL B1 PARKING FF=301.00
(299.36) FG
EX INTERIM GRADE
LEVEL B2 PARKING FF=291.00

SECTION "M"-"M"

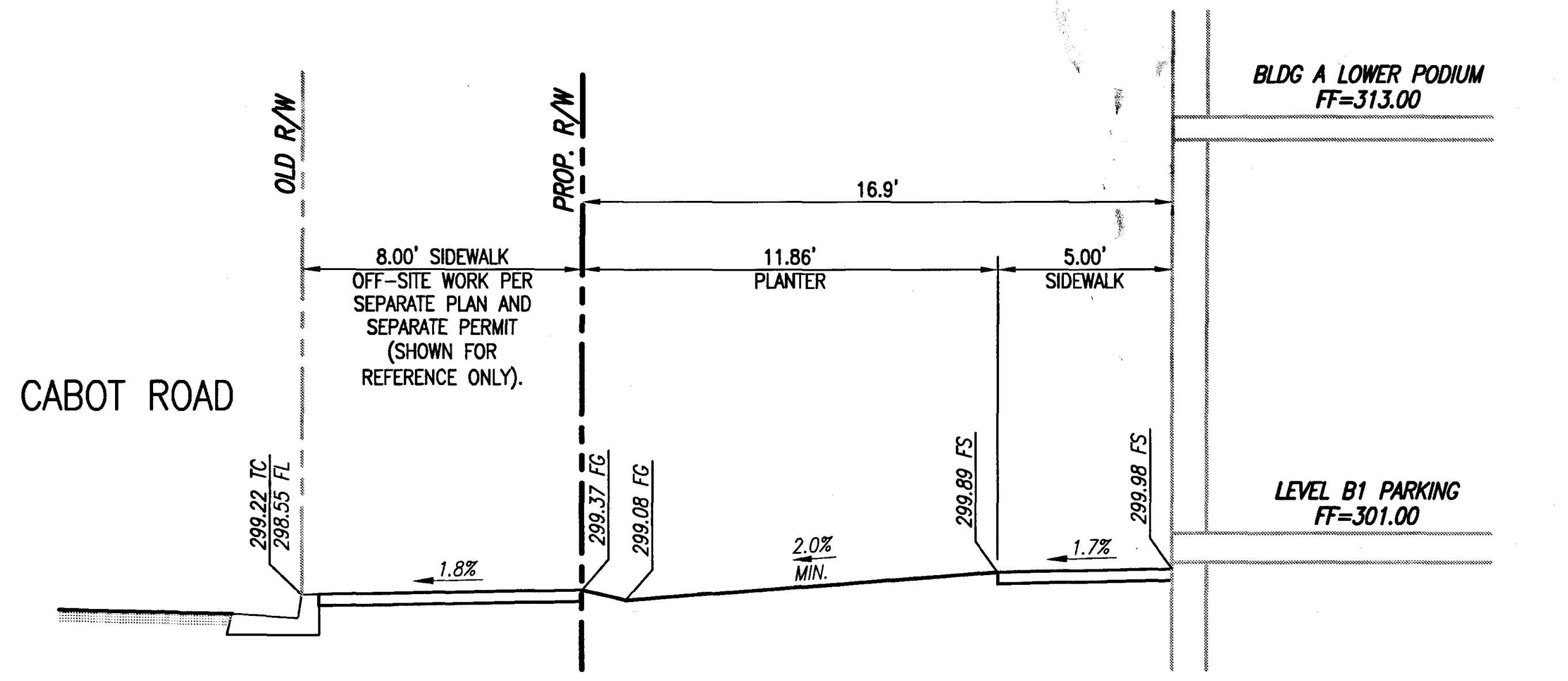
SCALE: 1"=4'

1


TEMPORARY K-RAIL BARRIER
EX. TEMP. 1:1 SLOPE TO BE REMOVED
47.7'
9.3'
3.3'
6.0'
ACCESSIBLE RAMP
7.2'
PLANTER
16.0'
AC PAVEMENT
15.2'
PLANTER
6.7'
PLANTER
16.0'
AC PAVEMENT
EX. P/L
EXTERIOR BLDG. WALL
STEEL GRATE
UPPER PODIUM FF=332.83
333.25 TW
332.96 TC
332.46 FS
332.89 TC
332.39 FS
332.11 FL
332.48 TC
331.98 FS
332.48 TC
331.98 FS
331.40 FL
2.0% MIN.
2.0% MIN.
331.73 TC
331.23 FL
4.9%
332.41 TC
332.08 FS
CALTRANS TYPE D CURB
2% MIN.
2% MIN.
DRAINAGE WITHIN AIR GAP BETWEEN SOIL NAIL WALL & GARAGE BUILDING WALL PER BUILDING PLANS AND SEPARATE PERMIT
AIR GAP BETWEEN SOIL NAIL WALL & GARAGE BUILDING WALL
SOIL NAIL WALL PER INTERIM GRADING PLANS
328.00 INV
4" SD
EX. 6" SD
325.57 INV
6" SD
EX. CONC BROW DITCH TO BE REMOVED
P2 PARKING FF=321.00
2

SECTION "J"-"J" 1

SCALE: 1"=4'


OLD R/W
PROP. R/W
16.9'
BLDG A LOWER PODIUM FF=313.00
8.00' SIDEWALK OFF-SITE WORK PER SEPARATE PLAN AND SEPARATE PERMIT (SHOWN FOR REFERENCE ONLY).
11.86'
PLANTER
5.00'
SIDEWALK
CABOT ROAD
299.22 TC
298.55 FL
299.37 FG
299.08 FG
299.89 FS
299.98 FS
LEVEL B1 PARKING FF=301.00
1.8%
2.0% MIN.
1.7%

SECTION "K"-"K"

SCALE: 1"=4'

811
Know what's **below.**
Call before you dig.

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED DECOMPOSED GRANITE SURFACE ALONG SOUTHERLY PATH, REVISED SECTION "H-H", "J-J" & "L-L"; REVISED PROJECT ADDRESS; ADDED SECT. "M-M"	
2	1/16/15	REVISED SECTION "H"-"H" & "J"-"J"	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION: **SITE SECTIONS**

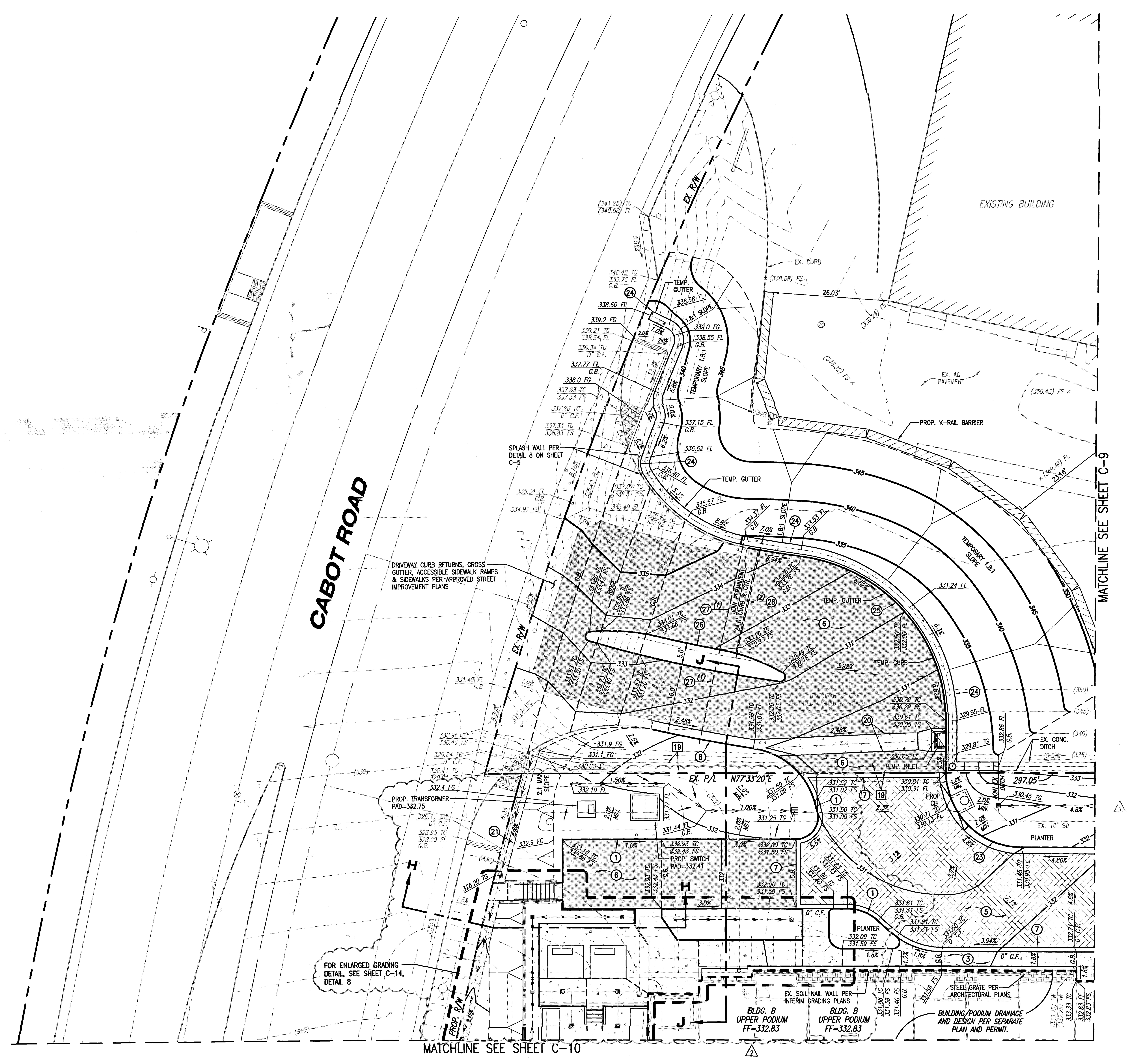
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD 1
LAGUNA NIGUEL, CALIFORNIA

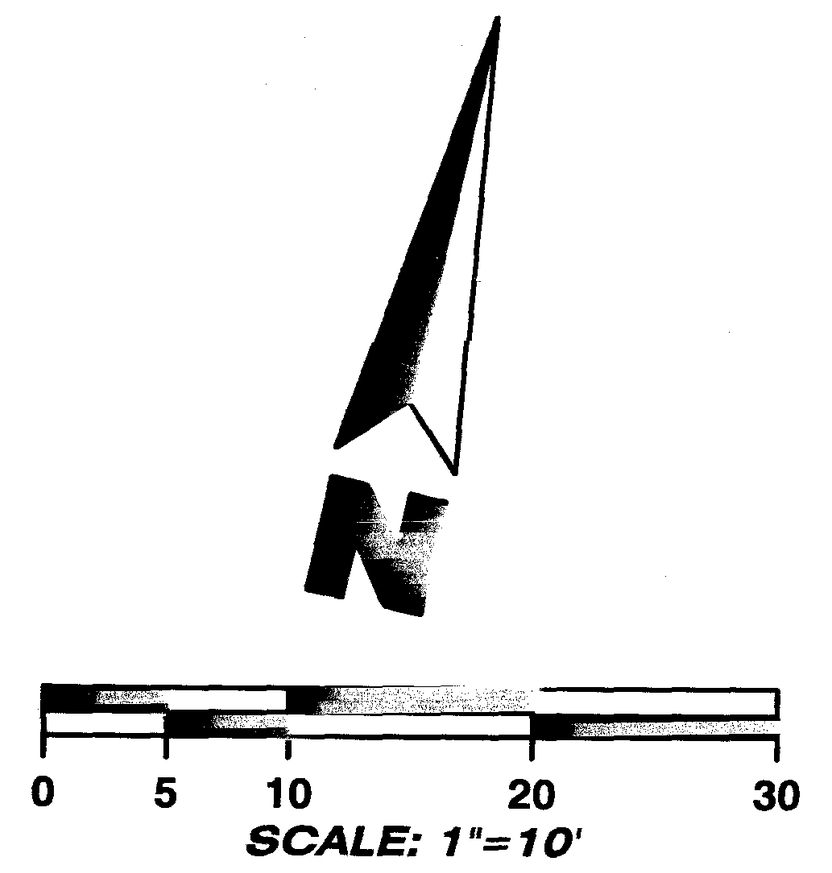
PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-7

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-07-SEC.dwg


CABOT ROAD
EXISTING BUILDING
EX. R/W
EX. CURB
EX. AC PAVEMENT
PROP. K-RAIL BARRIER
TEMP. GUTTER
TEMPORARY 1.8:1 SLOPE
TEMP. CURB
TEMP. INLET
EX. 1:1 TEMPORARY SLOPE PER INTERIM GRADING PHASE
SPLASH WALL PER DETAIL 8 ON SHEET C-5
DRIVEWAY CURB RETURNS, CROSS GUTTER, ACCESSIBLE SIDEWALK RAMPS & SIDEWALKS PER APPROVED STREET IMPROVEMENT PLANS
PROP. TRANSFORMER PAD=332.75
PROP. SWITCH PAD=332.41
EX. P/L N77°33'20"E
297.05'
26.03'
EX. CONC. DITCH
EX. 10" SD
PLANTER
PROP. CB
2:1 MAX SLOPE
FOR ENLARGED GRADING DETAIL, SEE SHEET C-14, DETAIL 8
EX. SOIL NAIL WALL PER INTERIM GRADING PLANS
STEEL GRATE PER ARCHITECTURAL PLANS
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
BLDG. B UPPER PODIUM FF=332.83
BLDG. B UPPER PODIUM FF=332.83
PROP. R/W
MATCHLINE SEE SHEET C-9
MATCHLINE SEE SHEET C-10
H
J



SCALE: 1"=10'

CONSTRUCTION NOTES

① CONSTRUCT 6-INCH HIGH PCC CURB, SEE SHEET C-4, DETAIL 1.

③ CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.

⑤ PROVIDE & INSTALL 80mm IMPERVIOUS CONCRETE VEHICULAR PAVERS OVER 1-INCH MIN. SAND LEVELING COARSE OVER 14-INCH CRUSH AGGREGATE BASE (CAB), SEE LANDSCAPE ARCHITECT'S PLANS FOR DETAILS, COLORS AND FINISHES.

⑥ CONSTRUCT 4-INCH THICK ASPHALT CONCRETE PAVEMENT OVER OVER 12-INCHES CRUSHED AGGREGATE BASE (TI=7.0) PER SOILS REPORT BY GEOCON WEST, INC. DATED 12/31/12.

△1 ⑦ CONSTRUCT 12-INCH WIDE PCC PAVER BAND. SEE SHEET C-4, DETAIL 3.

⑧ CONSTRUCT 6-INCH PCC CURB AND 24-INCH GUTTER (TYPE A2-6) PER OCPW STANDARD PLAN 120-2-OC.

⑳ CONSTRUCT 4-FOOT WIDE PCC LONGITUDINAL GUTTER PER OCPW STANDARD PLAN 122-2-OC.

㉑ CONSTRUCT 2.5-FOOT WIDE STABILIZED EARTHEN SWALE. SEE SHEET C-4, DETAIL 13.

△1 ㉓ CONSTRUCT 6-INCH PCC CURB AND 18-INCH GUTTER, SEE SHEET C-4, DETAIL 2.

㉔ CONSTRUCT TEMPORARY 24-INCH WIDE PCC GUTTER. SEE SHEET C-5, DETAIL 1.

㉕ CONSTRUCT TEMPORARY 6-INCH HIGH AC CURB PER SPPWC STANDARD PLAN 120-2, D1-8(200).

㉖ CONSTRUCT 4-INCH HIGH PCC CURB PER CALTRANS STANDARD PLAN A87A, TYPE D-4.

㉗ INSTALL 4" PVC (SCH. 40) IRRIGATION SLEEVE AT MIN. 18" BELOW GRADE.

㉘ INSTALL 2" PVC (SCH. 40) IRRIGATION SLEEVE AT MIN. 24" BELOW GRADE.

DEMOLITION NOTES △1

19 REMOVE AND DISPOSE OF EXISTING CONCRETE GUTTER.

LEGEND

→- -→- -→ (HIDDEN)	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
☐	NEW CONCRETE PAVEMENT
▨	NEW ASPHALT PAVEMENT
▦	NEW 80mm PERVIOUS CONCRETE PAVERS, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR & FINISH
→ → →	DIRECTION OF SURFACE FLOW. SURFACE SHALL SLOPE AWAY FROM BUILDING AND SITE WALLS AT 2.0% MINIMUM.
▬ ▬ ▬ ▬	LIMITS OF PRECISE GRADING PERMIT
── - - ──	RIGHT-OF-WAY/PROPERTY LINE

GENERAL NOTES

1. ALL RETAINING WALLS TO BE CONSTRUCTED PER SEPARATE PLAN AND SEPARATE PERMIT.
2. ALL OFF-SITE IMPROVEMENTS TO BE CONSTRUCTED PER SEPARATE PLANS AND SEPARATE PERMITS (SHOWN FOR REFERENCE ONLY).
3. PROPOSED IMPROVEMENT ON ADJACENT PROPERTY TO THE NORTH (PICERNE SITE) IS AN INTERIM CONDITION ONLY.

811
Know what's **below.**
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED SHEET TO SHOW THE NEW DWY. & TEMP. 1.8:1 CUT SLOPE;	
		CHANGED SITE ADDRESS; ADDED SITE SECTION "H-H"	
2	1/16/15	REVISED TRANSFORMER ENCLOSURE, RETAINING WALL ALIGNMENT AND LOAD	
		ZONE AREA	

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James H. Kawamura
JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

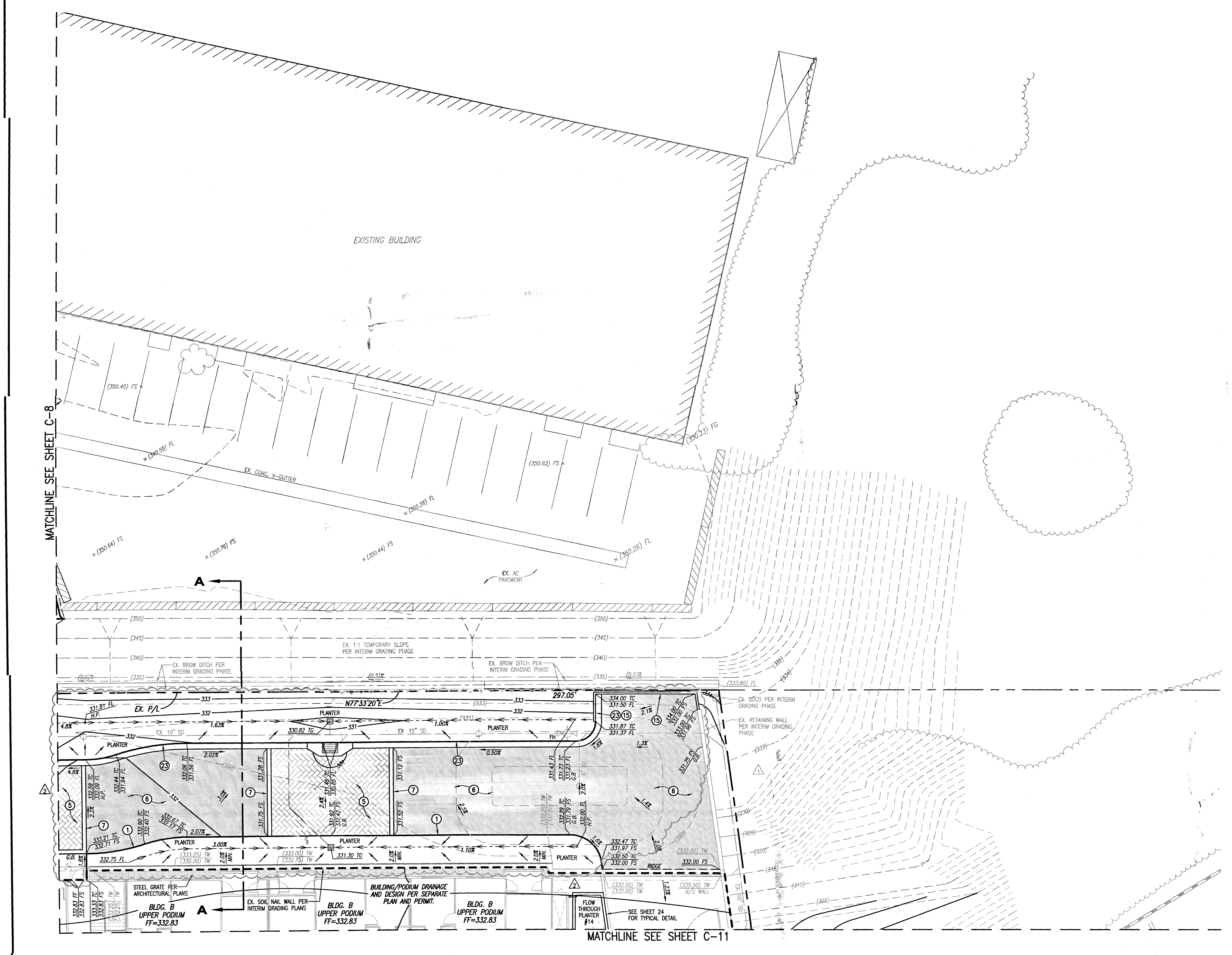
SHEET DESCRIPTION:
PRECISE GRADING PLAN

CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA
PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-8 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-08.dwg May 11, 2015 - 12:05pm Jose


MATCHLINE SEE SHEET C-8
EXISTING BUILDING
(350.40) FS
(350.59) FL
EX. CONC. V-GUTTER
(350.62) FS
(350.26) FL
(350.23) FG
(350.64) FS
(350.76) FS
(350.44) FS
(350.26) FL
EX. AC PAVEMENT
A
(350)
(345)
(340)
(335)
EX. 1:1 TEMPORARY SLOPE PER INTERIM GRADING PHASE
EX. BROW DITCH PER INTERIM GRADING PHASE
(0.6)%
(0.5)%
(333.80) FL
297.05'
N77°33'20"E
EX. P/L
333
332
331
331.81 FL H.P.
4.8%
1.63%
1.00%
EX. 10" SD
PLANTER
330.82 TG
2.02%
332.59 TC 332.09 FL H.P.
332.44 TC 331.94 FL
332.06 TC 331.56 FL
331.28 FS
331.75 FS
331.45 TC 330.85 FL
331.92 TC 331.42 FS G.B.
331.12 FS
331.52 FS
331.43 FL
331.73 TC 331.23 FL G.B
332.29 TC 331.79 FS G.B.
332.00 FL H.P.
334.00 TC 331.50 FL
331.87 TC 331.37 FL
334.00 TC 332.00 FS
333.00 TC 331.96 FS
331.75 FS G.B.
332.47 TC 331.97 FS
332.50 TC 332.00 FS
332.00 FS
RIDGE
(332.00) TW
333.21 TC 332.71 FS
332.90 TC 332.40 FS
332.67 TC 332.17 FS
332.75 FL
331.30 TG
2.2%
2.07%
3.00%
3.0%
2.4%
2.5%
0.50%
1.10%
1.8%
1.3%
2.1%
1.4%
1.6%
2.0%
2.0% MIN.
1.8%
1.23%
G.B.
FH
(333.25) TW (330.00) TW
(333.00) TW (332.75) TW
(332.50) TW (332.00) TW
(335.50) TW N/S WALL
332.83 FF 332.83 FS
333.33 TC 332.83 FS
STEEL GRATE PER ARCHITECTURAL PLANS
EX. SOIL NAIL WALL PER INTERIM GRADING PLANS
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
BLDG. B UPPER PODIUM FF=332.83
FLOW THROUGH PLANTER #14
SEE SHEET 24 FOR TYPICAL DETAIL
EX. SDCO PER INTERIM GRADING PHASE
EX. RETAINING WALL PER INTERIM GRADING PHASE
EX. 10" SD
(334)
(335)
(333)
(330)
(325)
(320)
(315)
(310)
(305)
① ⑤ ⑥ ⑦ ⑮ ㉓
MATCHLINE SEE SHEET C-11

CONSTRUCTION NOTES

① CONSTRUCT 6-INCH HIGH PCC CURB, SEE SHEET C-4, DETAIL 1.

③ CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.

△1 ④ CONSTRUCT 6-INCH THICK PCC SLAB OVER 4-INCH THICK CRUSHED MISCELLANEOUS BASE (CMB), SEE SHEET C-4, DETAILS 4 & 5.

⑤ PROVIDE & INSTALL 80mm IMPERVIOUS CONCRETE VEHICULAR PAVERS OVER 1-INCH MIN. SAND LEVELING COARSE OVER 14-INCH CRUSH AGGREGATE BASE (CAB), SEE LANDSCAPE ARCHITECT'S PLANS FOR DETAILS, COLORS AND FINISHES.

⑥ CONSTRUCT 4-INCH THICK ASPHALT CONCRETE PAVEMENT OVER OVER 12-INCHES CRUSHED AGGREGATE BASE (TI=7.0) PER SOILS REPORT BY GEOCON WEST, INC. DATED 12/31/12.

△1 ⑦ CONSTRUCT 12-INCH WIDE PCC PAVER BAND. SEE SHEET C-4, DETAIL 3.

△2 ⑮ CONSTRUCT 8-INCH WIDE VARIABLE HEIGHT PCC GRAVITY RETAINING CURB SEE SHEET C-4, DETAIL 7.

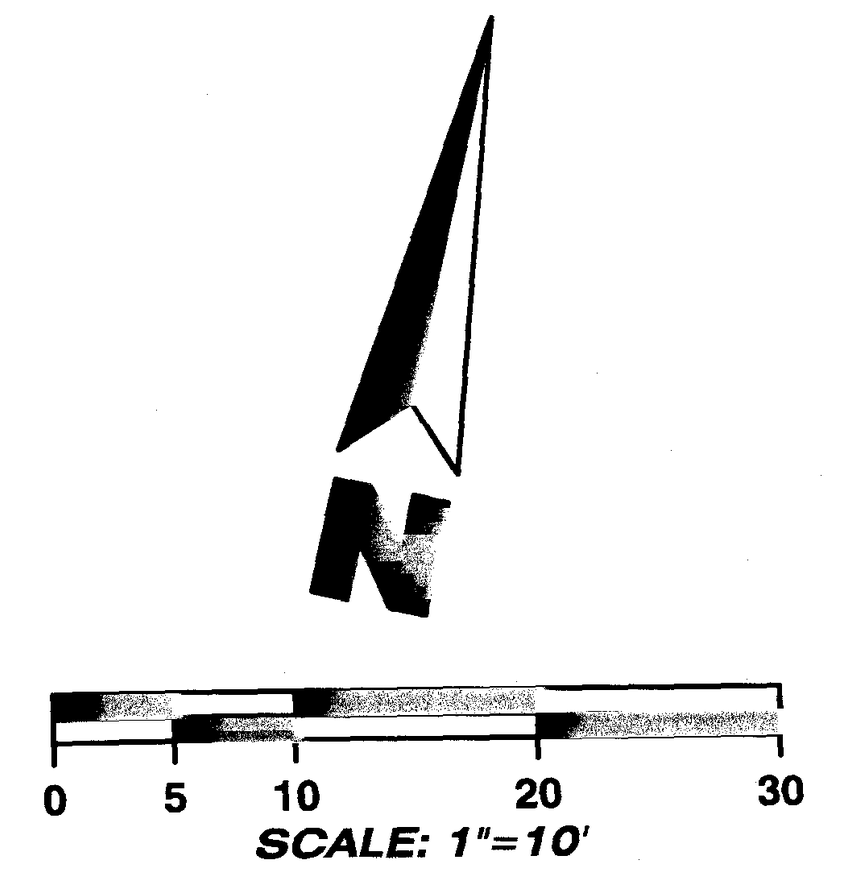
㉓ CONSTRUCT 6-INCH PCC CURB AND 18-INCH GUTTER, SEE SHEET C-4, DETAIL 2.

LEGEND:

→- - →- - → (HIDDEN)	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
⬚	NEW CONCRETE PAVEMENT
▨	NEW ASPHALT PAVEMENT
→ → →	DIRECTION OF SURFACE FLOW. SURFACE SHALL SLOPE AWAY FROM BUILDING AND SITE WALLS AT 2.0% MINIMUM.
▬ ▬ ▬ ▬	LIMITS OF PRECISE GRADING PERMIT

GENERAL NOTES

1. ALL RETAINING WALLS TO BE CONSTRUCTED PER SEPARATE PLAN AND SEPARATE PERMIT.
2. ALL OFF-SITE IMPROVEMENTS TO BE CONSTRUCTED PER SEPARATE PLANS AND SEPARATE PERMITS (SHOWN FOR REFERENCE ONLY).


N
0
5
10
20
30
SCALE: 1"=10'

811 Know what's below. Call before you dig.

NOTICE TO CONTRACTOR

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED SHEET TO SHOW THE NEW DWY.; REVISED DRIVE AISLE DRAINAGE	
2	1/16/15	REVISED ROADWAY ALIGNMENT; DELETED DOG PARK; REMOVED NOTE 14	
		ADDED NOTE 15	

PREPARED BY:
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UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:

PRECISE GRADING PLAN

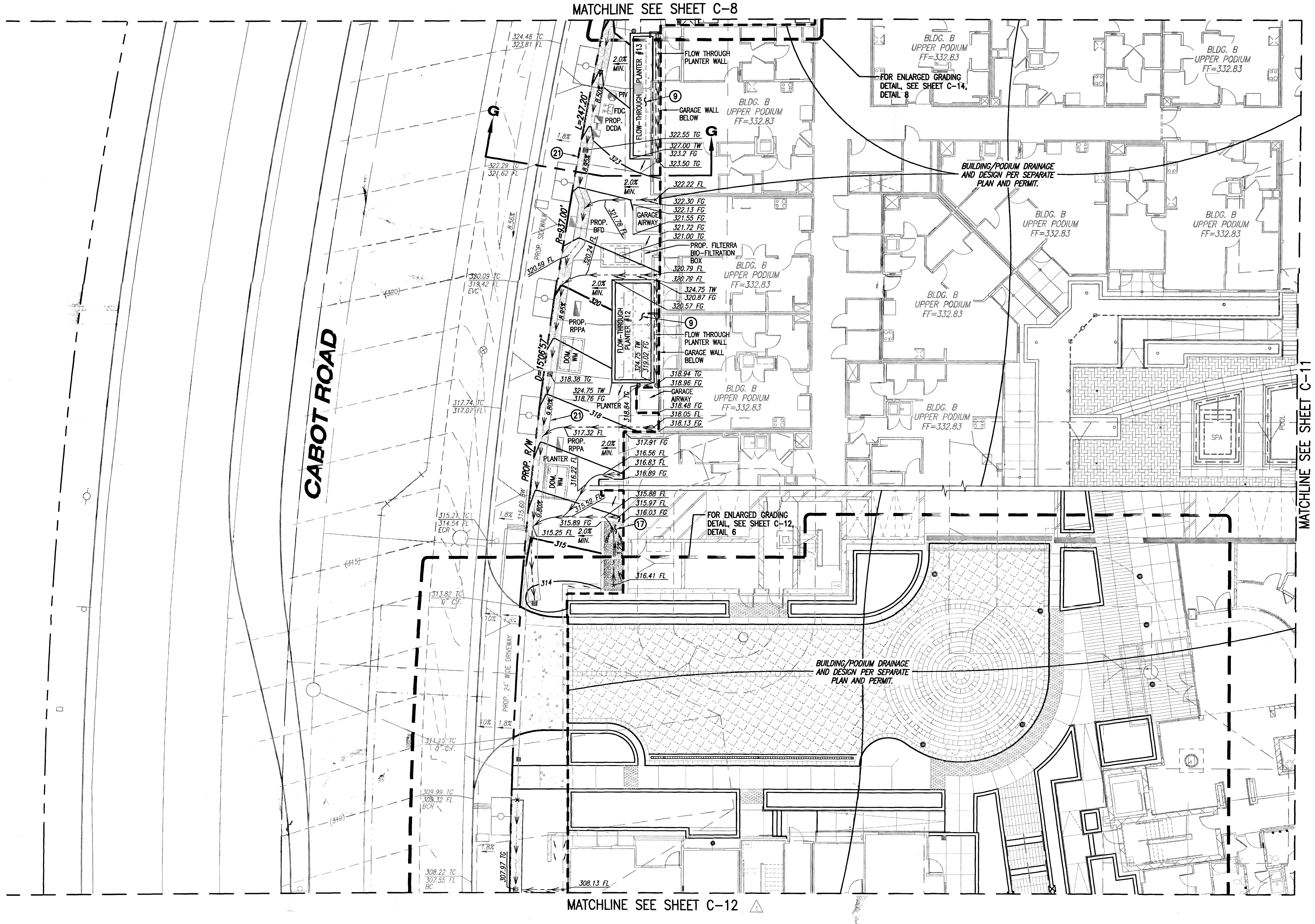
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-9 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-09.dwg May 11, 2015 - 12:07pm Jose


MATCHLINE SEE SHEET C-8
MATCHLINE SEE SHEET C-11
MATCHLINE SEE SHEET C-12 △
CABOT ROAD
BLDG. B UPPER PODIUM FF=332.83
FOR ENLARGED GRADING DETAIL, SEE SHEET C-14, DETAIL 8
FOR ENLARGED GRADING DETAIL, SEE SHEET C-12, DETAIL 6
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
FLOW-THROUGH PLANTER #13
FLOW-THROUGH PLANTER #12
FLOW THROUGH PLANTER WALL
GARAGE WALL BELOW
GARAGE AIRWAY
PROP. FILTERRA BIO-FILTRATION BOX
PROP. BFD
PROP. DCDA
PROP. RPPA
FDC
PIV
DOM. WM
PLANTER
PROP. R/W
PROP. SIDEWALK
PROP. 24' WIDE DRIVEWAY
L=247.20'
R=937.00'
D=15°06'57"
2.0% MIN.
SPA
POOL
G
9
17
21

CONSTRUCTION NOTES

⑨ CONSTRUCT 8-INCH CMU BLOCK FLOW THROUGH PLANTER SYSTEM, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, SEE SHEETS C-20, C-21 & C-22. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑰ CONSTRUCT 4-INCH THICK GRAVEL BED WITH 3/4" CLEAN GRAVEL SEE SHEET C-4, DETAIL 10.

㉑ CONSTRUCT 2.5-FOOT WIDE STABILIZED EARTHEN SWALE. SEE SHEET C-4, DETAIL 13.

LEGEND

→- -→- -→ (HIDDEN)	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
☐	NEW CONCRETE PAVEMENT
▨	NEW ASPHALT PAVEMENT
▦	NEW 80mm PERVIOUS CONCRETE PAVERS, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR & FINISH
→ → →	DIRECTION OF SURFACE FLOW. SURFACE SHALL SLOPE AWAY FROM BUILDING AND SITE WALLS AT 2.0% MINIMUM.
— — — —	LIMITS OF PRECISE GRADING PERMIT

GENERAL NOTES

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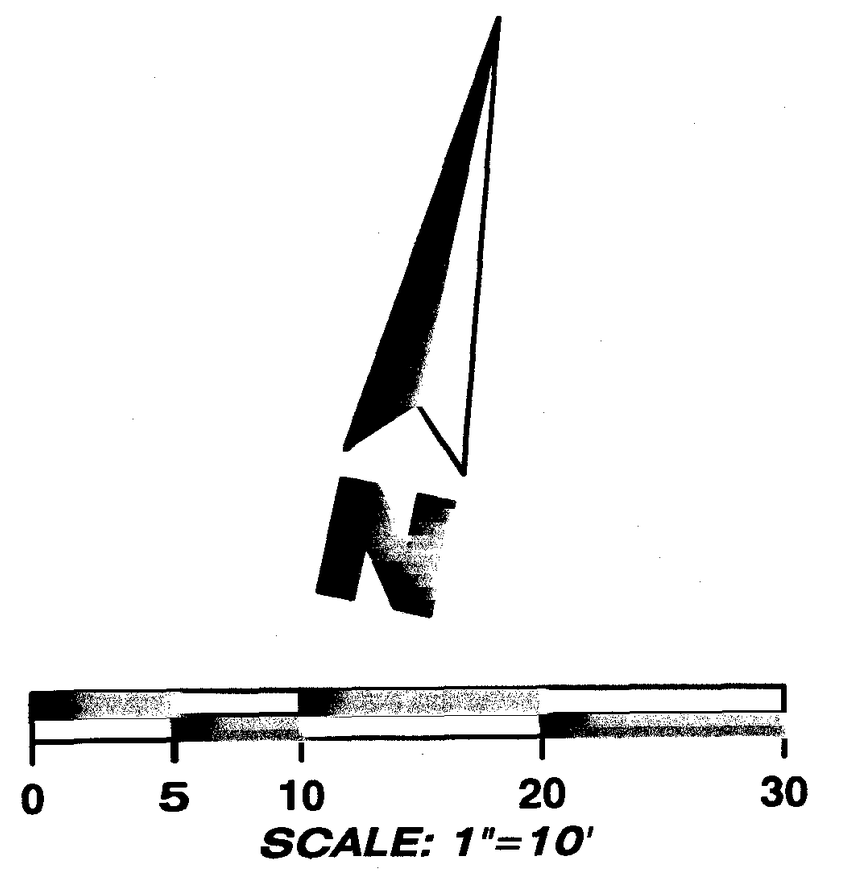

SCALE: 1"=10'

Know what's below.
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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
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UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:
PRECISE GRADING PLAN

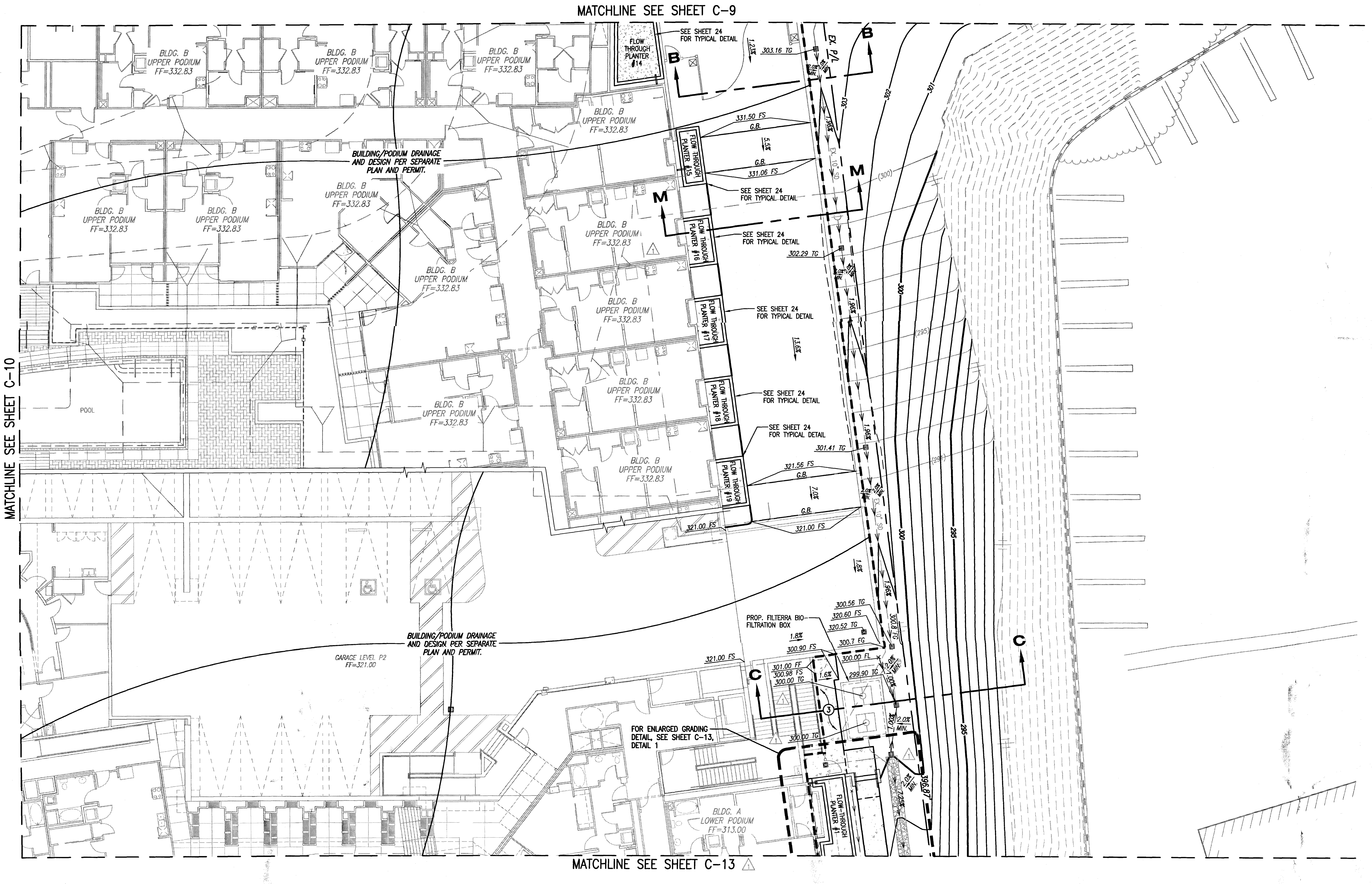
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-10 △

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-10.dwg May 11, 2015 - 12:09pm Jose


MATCHLINE SEE SHEET C-9
MATCHLINE SEE SHEET C-10
MATCHLINE SEE SHEET C-13 △
BLDG. B UPPER PODIUM FF=332.83
FLOW THROUGH PLANTER #14
FLOW THROUGH PLANTER #15
FLOW THROUGH PLANTER #16
FLOW THROUGH PLANTER #17
FLOW THROUGH PLANTER #18
FLOW THROUGH PLANTER #19
FLOW-THROUGH PLANTER #1
SEE SHEET 24 FOR TYPICAL DETAIL
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
POOL
GARAGE LEVEL P2 FF=321.00
BLDG. A LOWER PODIUM FF=313.00
EX. P/L
EX. 10" SD
B
M
C
303.16 TG
331.50 FS
331.06 FS
G.B.
5.5%
1.23%
302.29 TG
13.6%
301.41 TG
321.56 FS
7.0%
321.00 FS
1.8%
1.96%
2.0% MIN.
300.56 TG
320.60 FS
320.52 TG
300.7 FG
300.8 FG
300.90 FS
300.00 FL
301.00 FF
300.98 FS
300.00 TG
299.90 TG
1.6%
1.00%
7.25%
396.87'
PROP. FILTERRA BIO-FILTRATION BOX
FOR ENLARGED GRADING DETAIL, SEE SHEET C-13, DETAIL 1
③
303
302
301
300
(300)
(295)
295

CONSTRUCTION NOTES

③ CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.

LEGEND:

→- - →- - → (HIDDEN)	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
☐	NEW CONCRETE PAVEMENT
▨	NEW ASPHALT PAVEMENT
→ → →	DIRECTION OF SURFACE FLOW. SURFACE SHALL SLOPE AWAY FROM BUILDING AND SITE WALLS AT 2.0% MINIMUM.
— — — —	LIMITS OF PRECISE GRADING PERMIT

GENERAL NOTES

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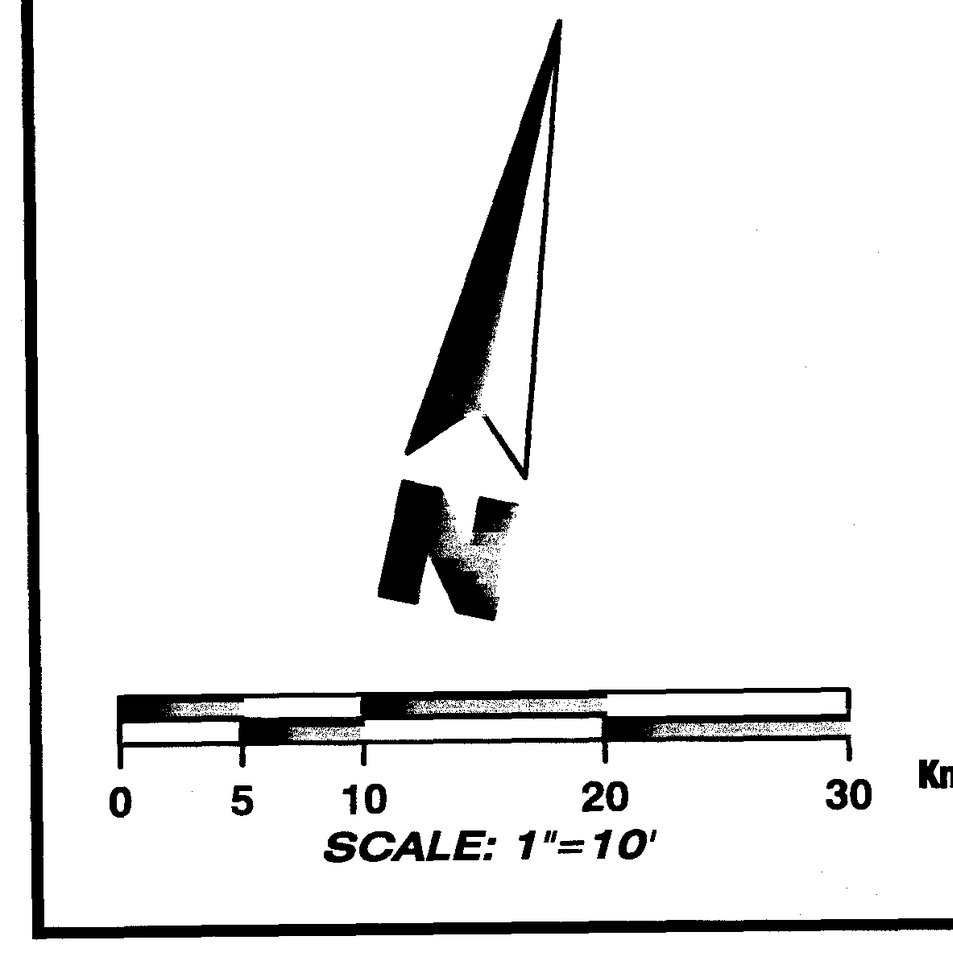
N
0
5
10
20
30
SCALE: 1"=10'

811
Know what's below.
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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	LOWERED TOP OF GRATE ELEVATION ON FTP, ADDED INLET AND ADJUSTED SWALE LINES; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY; ADD SITE SECTION "M-M"	

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Expiration: 03/31/16

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PRECISE GRADING PLAN

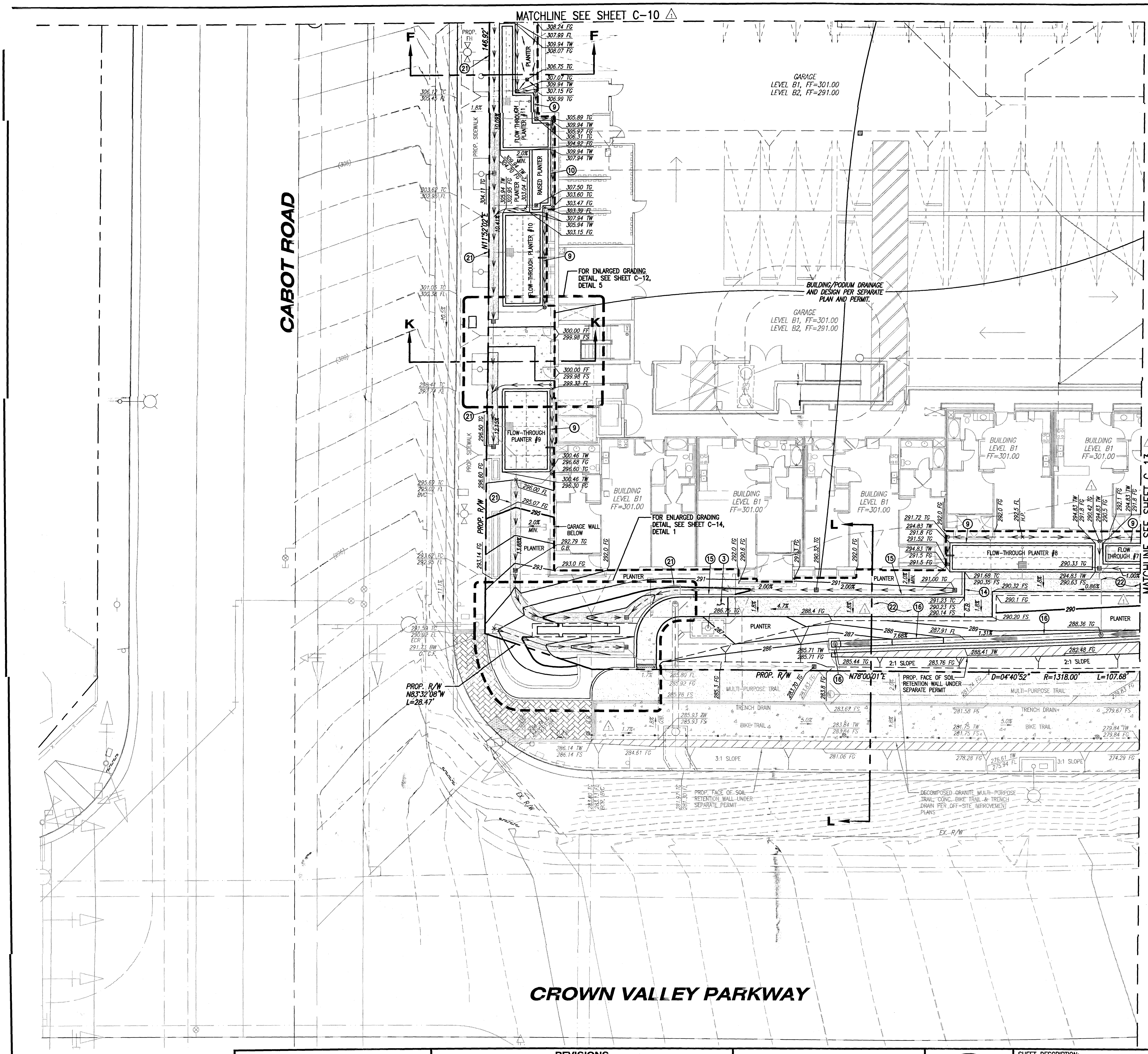
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-11 △

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-11.dwg May 11, 2015 - 12:10pm Jose


MATCHLINE SEE SHEET C-10 △1
MATCHLINE SEE SHEET C-13 △1
CABOT ROAD
CROWN VALLEY PARKWAY
GARAGE
LEVEL B1, FF=301.00
LEVEL B2, FF=291.00
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
BUILDING LEVEL B1 FF=301.00
FLOW THROUGH PLANTER #11
RAISED PLANTER
FLOW-THROUGH PLANTER #10
FLOW-THROUGH PLANTER #9
FLOW-THROUGH PLANTER #8
FLOW THROUGH #7
FOR ENLARGED GRADING DETAIL, SEE SHEET C-12, DETAIL 5
FOR ENLARGED GRADING DETAIL, SEE SHEET C-14, DETAIL 1
GARAGE WALL BELOW
PLANTER
PROP. SIDEWALK
PROP. R/W
N11°52'02"E
PROP. R/W N83°32'08"W L=28.47'
N78°00'01"E
D=04°40'52" R=1318.00' L=107.68'
PROP. FACE OF SOIL RETENTION WALL UNDER SEPARATE PERMIT
MULTI-PURPOSE TRAIL
TRENCH DRAIN
BIKE TRAIL
2:1 SLOPE
3:1 SLOPE
DECOMPOSED GRANITE MULTI-PURPOSE TRAIL, CONC. BIKE TRAIL & TRENCH DRAIN PER OFF-SITE IMPROVEMENT PLANS
EX. R/W
F
K
L

N

0 5 10 20 30
SCALE: 1"=10'

CONSTRUCTION NOTES

③ CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.

⑨ CONSTRUCT 8-INCH CMU BLOCK FLOW THROUGH PLANTER SYSTEM, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, SEE SHEETS C-20, C-21 & C-22. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑩ CONSTRUCT 8-INCH CMU RAISED PLANTER WALL, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, PER SEPARATE PERMIT. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑭ CONSTRUCT 8-INCH WIDE PCC DEEPENED CURB (LEVEL BACKFILL COND), SEE SHEET C-4, DETAIL 6.

⑮ CONSTRUCT 8-INCH WIDE VARIABLE HEIGHT PCC GRAVITY RETAINING CURB SEE SHEET C-4, DETAIL 7.

⑯ CONSTRUCT 18-INCH WIDE PCC GUTTER AND STEEL BARRIER RAIL SEE SHEET C-4, DETAIL 9 & SHEET C-5 DETAIL 8.

㉑ CONSTRUCT 2.5-FOOT WIDE STABILIZED EARTHEN SWALE. SEE SHEET C-4, DETAIL 13.

△1 ㉒ CONSTRUCT 3-INCH THICK STABILIZED DECOMPOSED GRANITE SURFACE, COMPACT PER MANUFACTURERS SPECIFICATIONS. SUBGRADE PREPARATION PER SOILS REPORT. SEE LANDSCAPE ARCHITECT'S PLANS FOR ADDITIONAL INFORMATION.

LEGEND:

→- -→- -→	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
▭	NEW CONCRETE PAVEMENT
△1 ▨	NEW DECOMPOSE GRANITE
→ → →	DIRECTION OF SURFACE FLOW. SURFACE SHALL SLOPE AWAY FROM BUILDING AND SITE WALLS AT 2.0% MINIMUM.
— — — —	LIMITS OF PRECISE GRADING PERMIT
➡ ➡	PROPOSED CONCRETE DRAINAGE DITCH

GENERAL NOTES

1. ALL RETAINING WALLS TO BE CONSTRUCTED PER SEPARATE PLAN AND SEPARATE PERMIT.
2. ALL OFF-SITE IMPROVEMENTS TO BE CONSTRUCTED PER SEPARATE PLANS AND SEPARATE PERMITS (SHOWN FOR REFERENCE ONLY).

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADD RETAINING CURB & WALL, REVISED GRADES & INLET LOC. PER FINAL ST. IMPRV. PLANS; ADDED DECOMPOSED GRANITE SURFACE ALONG SOUTHERLY PATH, MOVED INLET AWAY FROM BLDG. TO AVOID FOOTING CONFLIT; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

James H. Kawamura

SHEET DESCRIPTION:
PRECISE GRADING PLAN

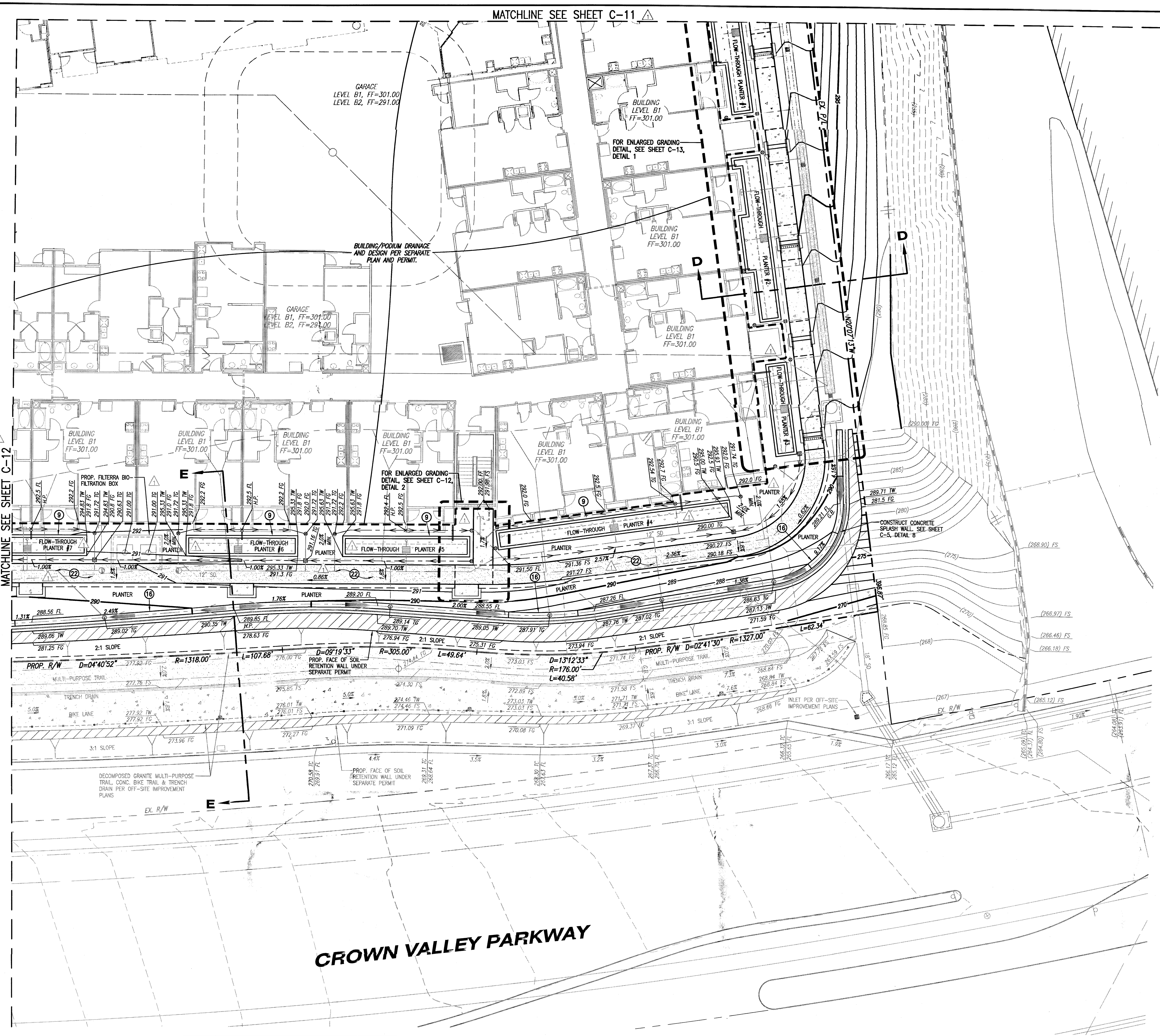
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-12 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-12.dwg May 11, 2015 12:11pm Jose


MATCHLINE SEE SHEET C-11 ⚠1
MATCHLINE SEE SHEET C-12 ⚠1
GARAGE
LEVEL B1, FF=301.00
LEVEL B2, FF=291.00
BUILDING
LEVEL B1
FF=301.00
FOR ENLARGED GRADING DETAIL, SEE SHEET C-13, DETAIL 1
FOR ENLARGED GRADING DETAIL, SEE SHEET C-12, DETAIL 2
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
FLOW-THROUGH PLANTER #1
FLOW-THROUGH PLANTER #2
FLOW-THROUGH PLANTER #3
FLOW-THROUGH PLANTER #4
FLOW-THROUGH PLANTER #5
FLOW-THROUGH PLANTER #6
FLOW-THROUGH PLANTER #7
PROP. FILTERRA BIO-FILTRATION BOX
CONSTRUCT CONCRETE SPLASH WALL. SEE SHEET C-5, DETAIL 8
PROP. R/W
EX. R/W
EX. P/L
N20°07'13"W
396.87'
MULTI-PURPOSE TRAIL
TRENCH DRAIN
BIKE LANE
2:1 SLOPE
3:1 SLOPE
PROP. FACE OF SOIL RETENTION WALL UNDER SEPARATE PERMIT
D=09°19'33"
R=305.00'
L=49.64'
L=107.68'
D=04°40'52"
R=1318.00'
D=13°12'33"
R=176.00'
L=40.58'
D=02°41'30"
R=1327.00'
L=62.34'
INLET PER OFF-SITE IMPROVEMENT PLANS
DECOMPOSED GRANITE MULTI-PURPOSE TRAIL, CONC. BIKE TRAIL & TRENCH DRAIN PER OFF-SITE IMPROVEMENT PLANS
CROWN VALLEY PARKWAY
D
D
E
E
N

0 5 10 20 30

SCALE: 1"=10'

CONSTRUCTION NOTES

⑨ CONSTRUCT 8-INCH CMU BLOCK FLOW THROUGH PLANTER SYSTEM, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, SEE SHEETS C-20, C-21 & C-22. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑯ CONSTRUCT 18-INCH WIDE PCC GUTTER AND STEEL BARRIER RAIL SEE SHEET C-4, DETAIL 9 & SHEET C-5 DETAIL 8.

⚠1 ㉒ CONSTRUCT 3-INCH THICK STABILIZED DECOMPOSED GRANITE SURFACE, COMPACT PER MANUFACTURERS SPECIFICATIONS. SUBGRADE PREPARATION PER SOILS REPORT. SEE LANDSCAPE ARCHITECT'S PLANS FOR ADDITIONAL INFORMATION.

LEGEND:

→- -→- -→ →- -→- -→ (HIDDEN)	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
▭	NEW CONCRETE PAVEMENT
⚠1 ▨	NEW DECOMPOSE GRANITE
→ → →	DIRECTION OF SURFACE FLOW. SURFACE SHALL SLOPE AWAY FROM BUILDING AND SITE WALLS AT 2.0% MINIMUM.
— — — —	LIMITS OF PRECISE GRADING PERMIT
➡ ➡	PROPOSED CONCRETE DRAINAGE DITCH

GENERAL NOTES

1. ALL RETAINING WALLS TO BE CONSTRUCTED PER SEPARATE PLAN AND SEPARATE PERMIT.
2. ALL OFF-SITE IMPROVEMENTS TO BE CONSTRUCTED PER SEPARATE PLANS AND SEPARATE PERMITS (SHOWN FOR REFERENCE ONLY).

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADJUSTED FTP WALL LOCATION & SIZE, ADJUSTED FILTERRA LOCATION & TOP OF GRATE, ADJUSTED INLET LOCATION TO AVOID BLDG. FOOTING CONFLICTS; ADDED DECOMPOSED GRANITE SURFACE ALONG SOUTHERLY PATH; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
CIVIL

SHEET DESCRIPTION:
PRECISE GRADING PLAN

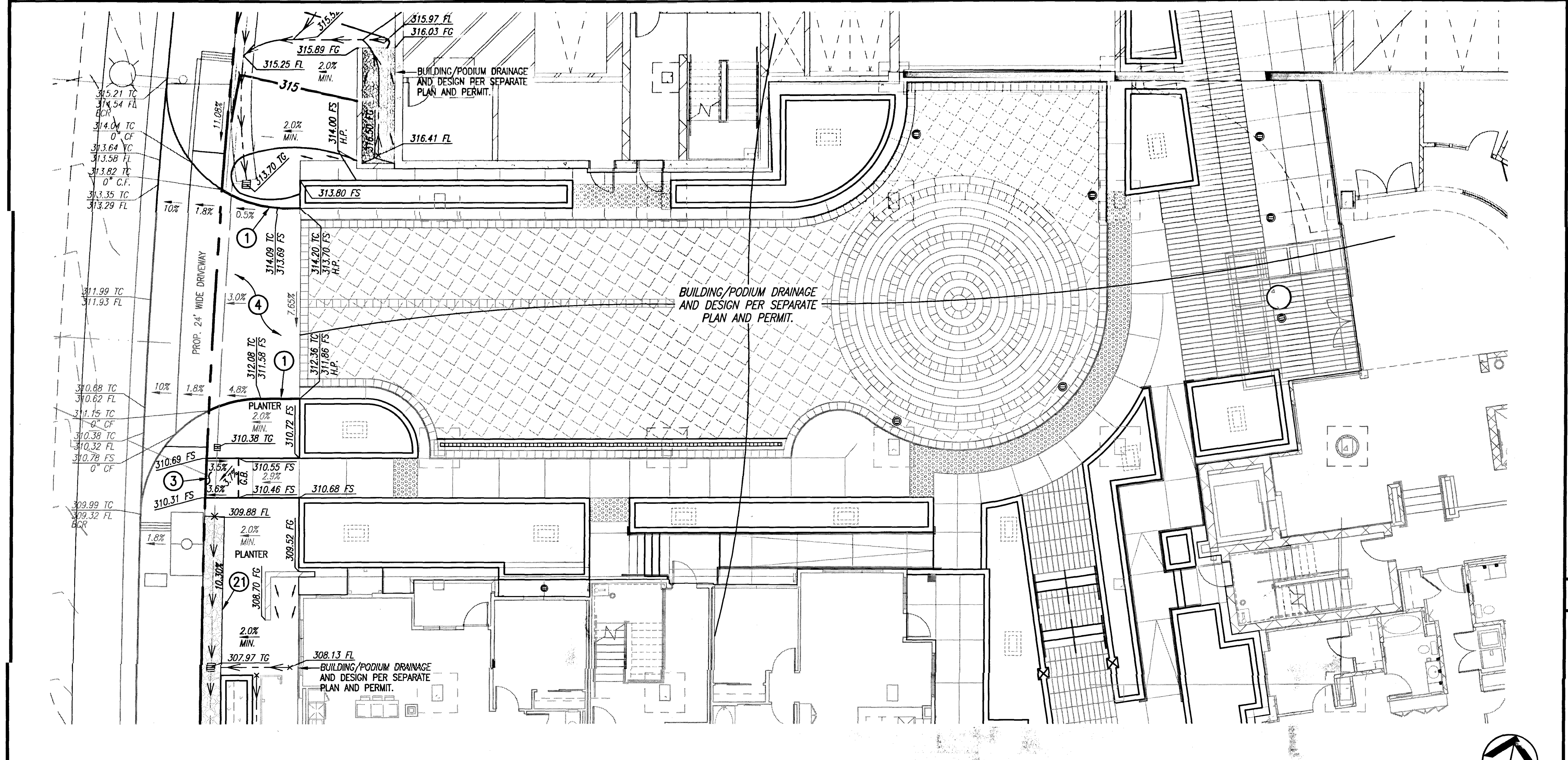
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD ⚠1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

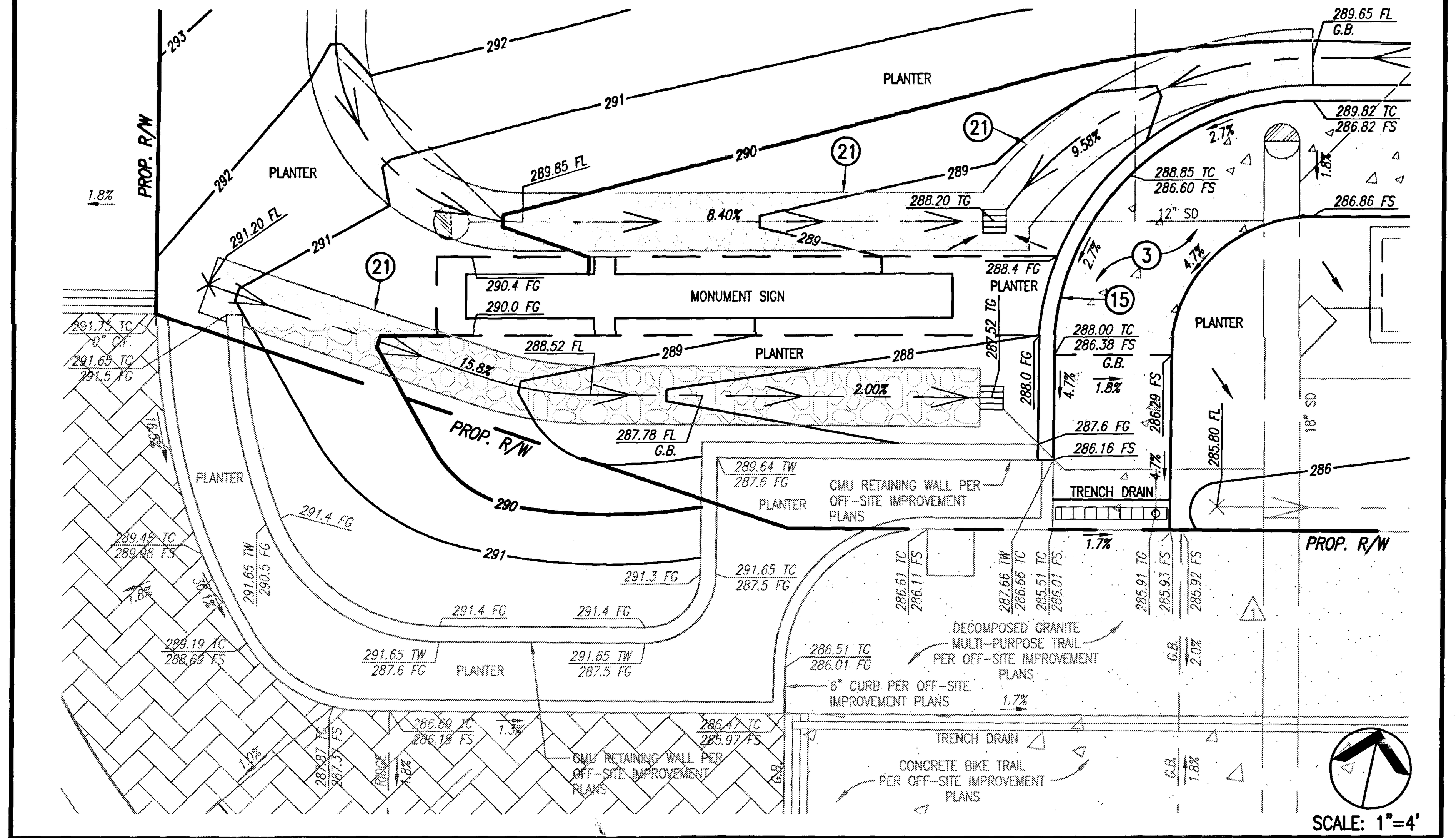
SHEET NO.
C-13 ⚠1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-13.dwg May 11, 2015 - 12:13pm Jose

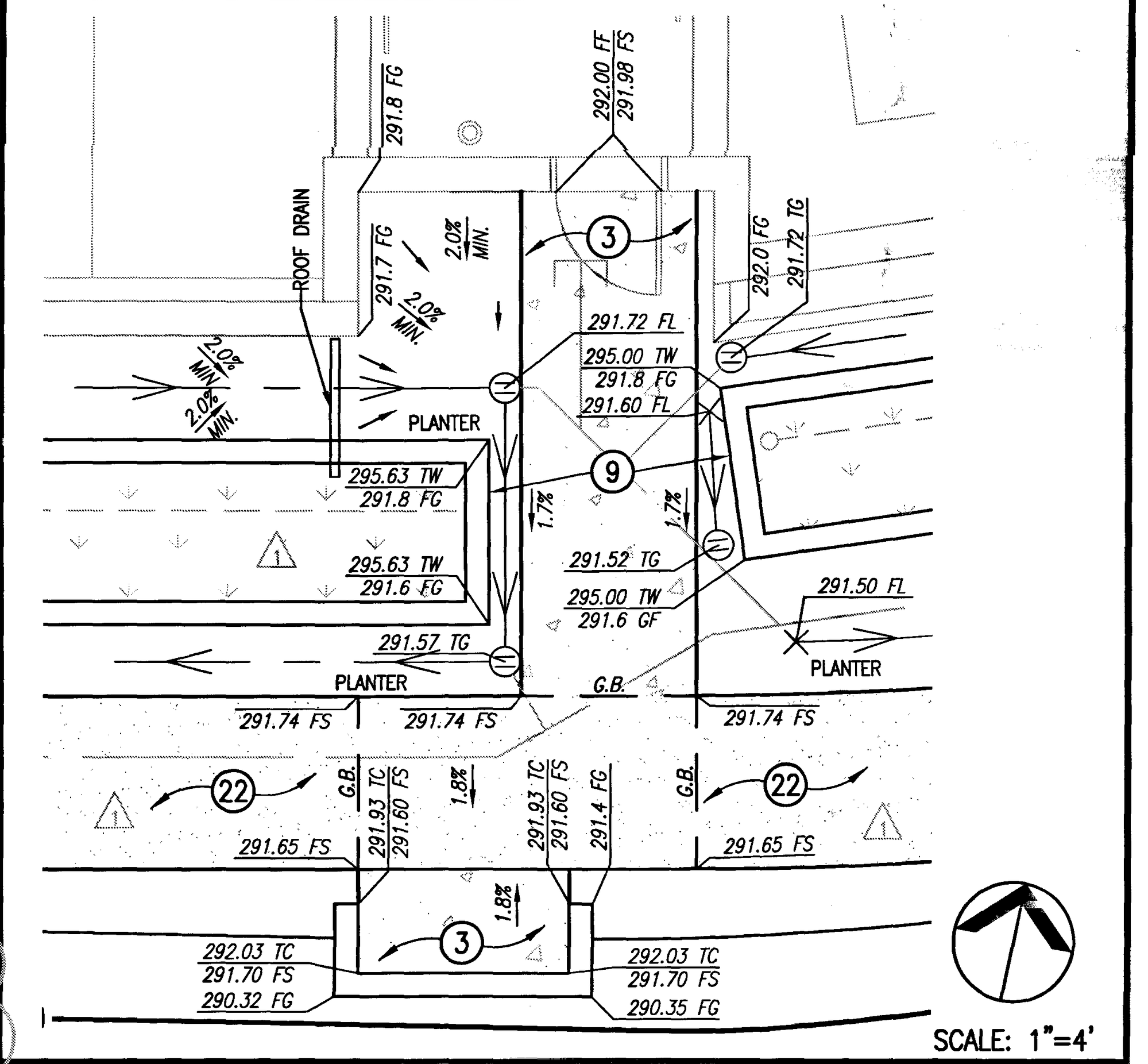

BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
PROP. 24' WIDE DRIVEWAY
PLANTER
315.97 FL
316.03 FG
315.89 FG
315.25 FL
316.41 FL
313.80 FS
310.68 FS
309.88 FL
308.13 FL
307.97 TC
SCALE: 1"=8'

GENERAL NOTE:
1. BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.

GRADING DETAIL - CABOT ROAD MAIN ENTRANCE
6


PROP. R/W
PLANTER
MONUMENT SIGN
CMU RETAINING WALL PER OFF-SITE IMPROVEMENT PLANS
TRENCH DRAIN
DECOMPOSED GRANITE MULTI-PURPOSE TRAIL PER OFF-SITE IMPROVEMENT PLANS
6" CURB PER OFF-SITE IMPROVEMENT PLANS
CONCRETE BIKE TRAIL PER OFF-SITE IMPROVEMENT PLANS
8.40%
2.00%
15.8%
9.56%
12" SD
18" SD
289.65 FL
289.87 TC
286.82 FS
SCALE: 1"=4'

GRADING DETAIL - AT MONUMENT SIGN
1


ROOF DRAIN
PLANTER
291.8 FG
292.00 FF
291.98 FS
291.72 FL
295.00 TW
291.8 FG
291.60 FL
295.63 TW
291.6 FG
291.50 FL
291.74 FS
291.65 FS
292.03 TC
291.70 FS
290.32 FG
290.35 FG
SCALE: 1"=4'

GRADING DETAIL - LEVEL B2 STAIR EXIT
2

CONSTRUCTION NOTES

① CONSTRUCT 6-INCH HIGH PCC CURB, SEE SHEET C-4, DETAIL 1.

△1 ② CONSTRUCT VARIABLE HEIGHT PCC CURB FACE, SEE SHEET C-4, DETAIL 1.

③ CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.

④ CONSTRUCT 6-INCH THICK PCC SLAB OVER 4-INCH THICK CRUSHED MISCELLANEOUS BASE (CMB), SEE SHEET C-4, DETAILS 4 & 5.

△1 ⑤ PROVIDE & INSTALL 80mm IMPERVIOUS CONCRETE VEHICULAR PAVERS OVER 1-INCH MIN. SAND LEVELING COARSE OVER 14-INCH CRUSH AGGREGATE BASE (CAB), SEE LANDSCAPE ARCHITECT'S PLANS FOR DETAILS, COLORS AND FINISHES.

⑥ CONSTRUCT 4-INCH THICK ASPHALT CONCRETE PAVEMENT OVER OVER 12-INCHES CRUSHED AGGREGATE BASE (TI=7.0) PER SOILS REPORT BY GEOCON WEST, INC. DATED 12/31/12.

⑨ CONSTRUCT 8-INCH CMU BLOCK FLOW THROUGH PLANTER SYSTEM, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, SEE SHEETS C-20, C-21 & C-22. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑪ CONSTRUCT 8-INCH CMU RETAINING WALL, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, PER SEPARATE PERMIT. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑫ CONSTRUCT PCC STAIRS AND HANDRAILS. SEE SHEET C-4, DETAIL 11.

⑭ CONSTRUCT 8-INCH WIDE PCC DEEPENED CURB (LEVEL BACKFILL COND), SEE SHEET C-4, DETAIL 6.

⑮ CONSTRUCT 8-INCH WIDE VARIABLE HEIGHT PCC GRAVITY RETAINING CURB SEE SHEET C-4, DETAIL 7.

△1 ⑱ CONSTRUCT 0-INCH TO 6-INCH PCC CURB FACE OVER 1-0'.

㉑ CONSTRUCT 2.5-FOOT WIDE STABILIZED EARTHEN SWALE. SEE SHEET C-4, DETAIL 13.

㉒ CONSTRUCT 3-INCH THICK STABILIZED DECOMPOSED GRANITE SURFACE, COMPACT PER MANUFACTURERS SPECIFICATIONS. SUBGRADE PREPARATION PER SOILS REPORT. SEE LANDSCAPE ARCHITECT'S PLANS FOR ADDITIONAL INFORMATION.

△1 ㉙ CONSTRUCT 4-INCH THICK ACCESSIBLE PCC RAMP. WITH #4 REBAR AT 18-INCHES O.C., SEE SHEET C-5, DETAIL 4. SEE LANDSCAPE PLANS FOR PCC COLORS AND FINISHES.

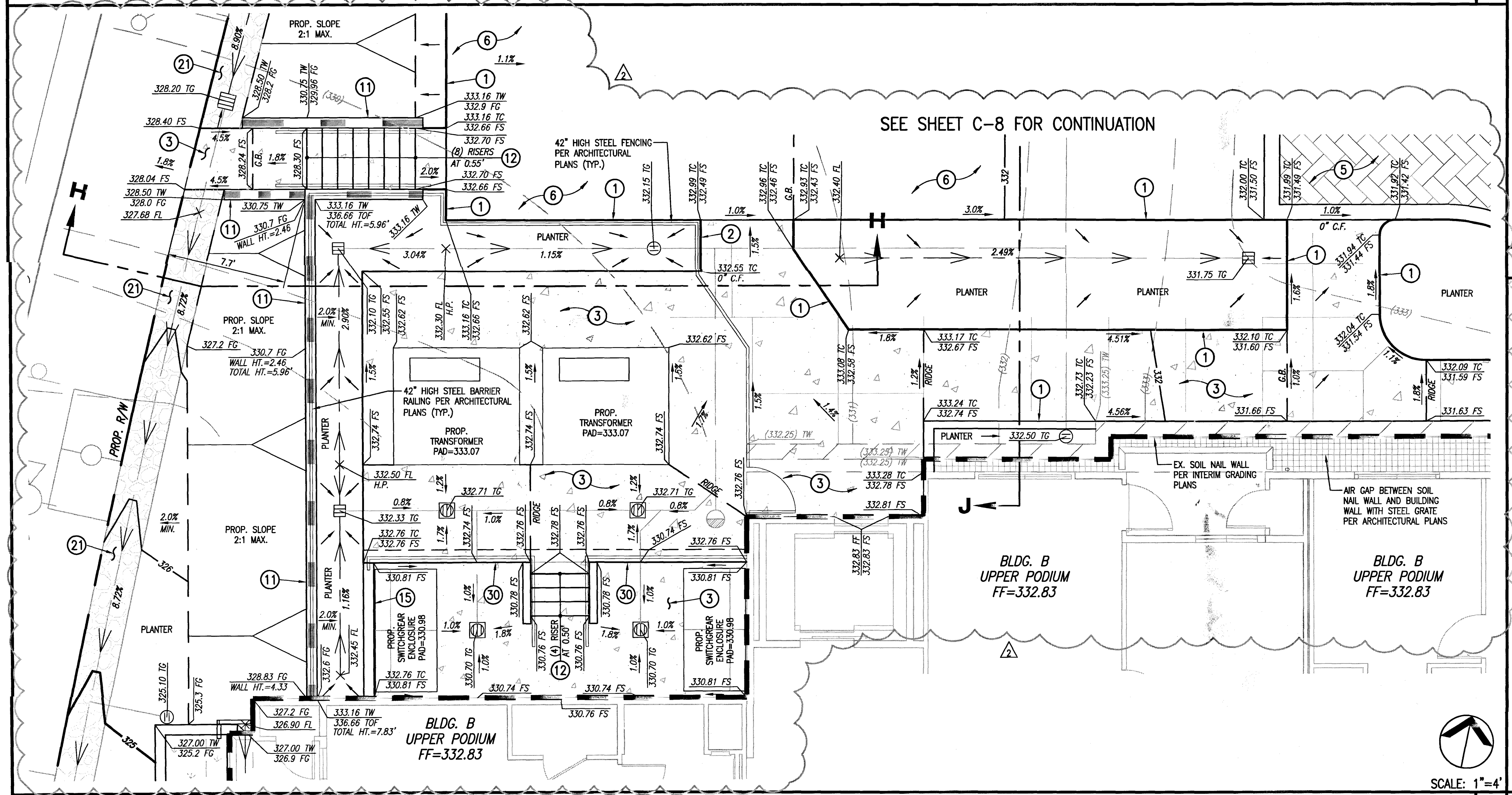
△2 ㉚ CONSTRUCT 10-INCH WIDE DEEPENED PCC SIDEWALK FOOTING SEE SHEET C-5, DETAIL 2.

LEGEND

→- -→- -→ (HIDDEN)	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
▨	NEW CONCRETE PAVEMENT
△1 ▨	NEW DECOMPOSE GRANITE
▨	NEW ASPHALT PAVEMENT
▦	NEW 80mm IMPERVIOUS CONCRETE PAVERS, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR & FINISH
→ → →	DIRECTION OF SURFACE FLOW. SURFACE FLOW SHALL SLOPE WAY FROM BUILDING AND SITE WALLS.
— — — —	LIMITS OF PRECISE GRADING PERMIT

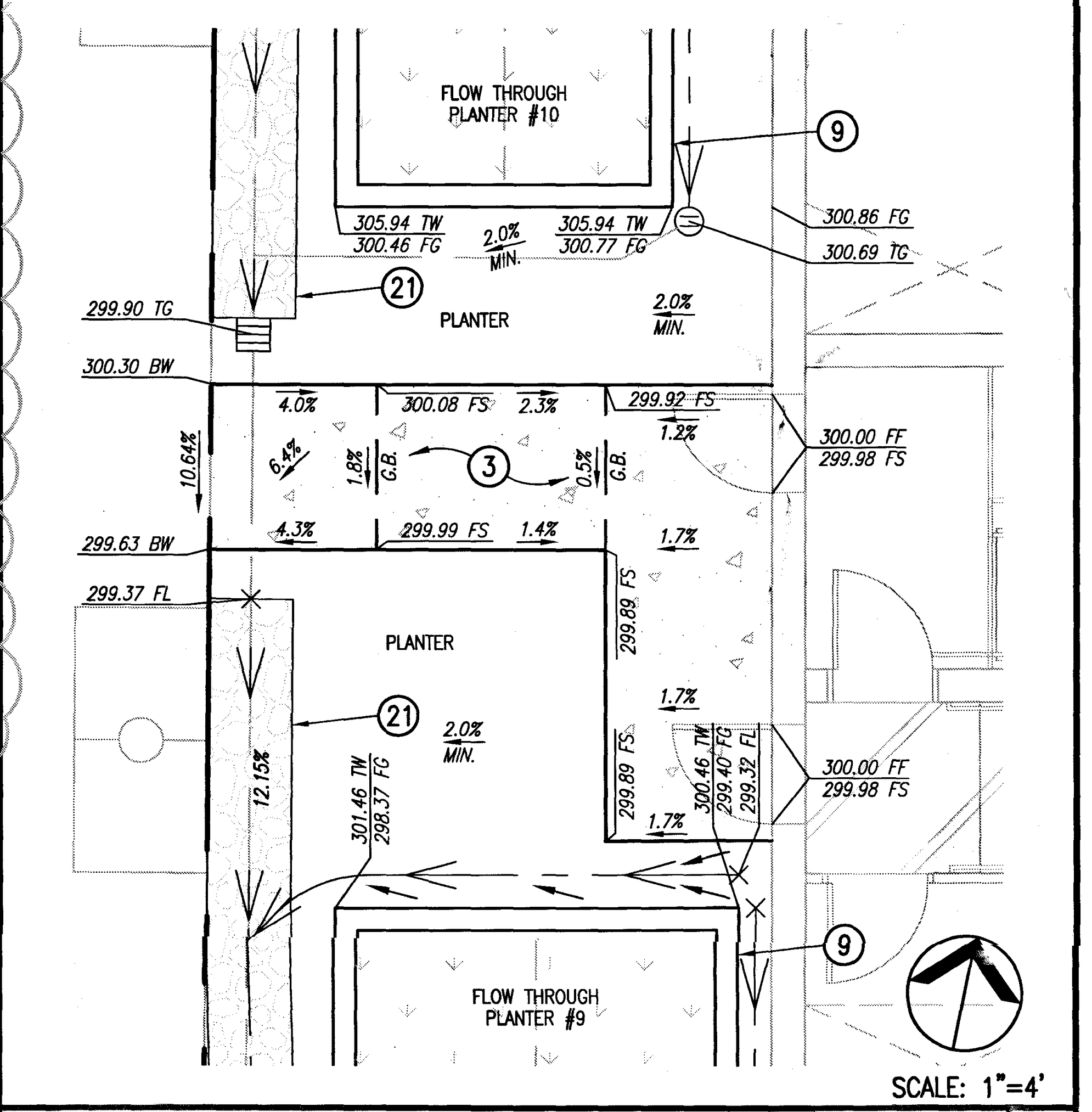
GENERAL NOTES

1. ALL RETAINING WALLS TO BE CONSTRUCTED PER SEPARATE PLAN AND SEPARATE PERMIT.
2. ALL OFF-SITE IMPROVEMENTS TO BE CONSTRUCTED PER SEPARATE PLANS AND SEPARATE PERMITS (SHOWN FOR REFERENCE ONLY).


SEE SHEET C-8 FOR CONTINUATION
PROP. SLOPE 2:1 MAX.
PROP. SLOPE 2:1 MAX.
PROP. SLOPE 2:1 MAX.
PROP. R/W
PLANTER
42" HIGH STEEL FENCING PER ARCHITECTURAL PLANS (TYP.)
42" HIGH STEEL BARRIER RAILING PER ARCHITECTURAL PLANS (TYP.)
PROP. TRANSFORMER PAD=333.07
PROP. TRANSFORMER PAD=333.07
PROP. SWITCHGEAR ENCLOSURE PAD=330.98
PROP. SWITCHGEAR ENCLOSURE PAD=330.98
(8) RISERS AT 0.55'
(4) RISER AT 0.50'
EX. SOIL NAIL WALL PER INTERIM GRADING PLANS
AIR GAP BETWEEN SOIL NAIL WALL AND BUILDING WALL WITH STEEL GRATE PER ARCHITECTURAL PLANS
BLDG. B UPPER PODIUM FF=332.83
BLDG. B UPPER PODIUM FF=332.83
BLDG. B UPPER PODIUM FF=332.83
333.16 TW
336.66 TOF
TOTAL HT.=5.96'
333.16 TW
336.66 TOF
TOTAL HT.=7.83'
331.75 TG
332.50 TG
H
H
J
SCALE: 1"=4'

8

GRADING DETAIL - TRANSFORMER ENCLOSURE/STAIRS AT LOAD ZONE


FLOW THROUGH PLANTER #10
FLOW THROUGH PLANTER #9
PLANTER
PLANTER
305.94 TW
300.46 FG
305.94 TW
300.77 FG
300.86 FG
300.69 TC
299.90 TG
300.30 BW
300.00 FF
299.98 FS
299.63 BW
299.37 FL
300.00 FF
299.98 FS
SCALE: 1"=4'

GRADING DETAIL - CABOT ROAD BLDG. EXIT
5

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Know what's below.
Call before you dig.

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED ON-SITE SIDEWALK GRADES, INLETS & SWALES TO MATCH ST. IMPRV.	
		PLANS; ADDED DECOMPOSED GRANITE SURFACE ALONG SOUTHERLY PATH; ADJ.	
		FTP WALLS AND INLET LOCATIONS AS RESULT OF BLDG. FOOTING CHANGES;	
		REVISED PROJECT ADDRESS; ADDED CONSTRUCTION NOTES; ADJ. SHEET #	
		DUE TO ADDITION OF NEW DRIVEWAY	
2	1/16/15	REVISED TRANSFORMER AREA LAYOUT, ELEVATIONS & DRAINAGE	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:
PRECISE GRADING DETAILS

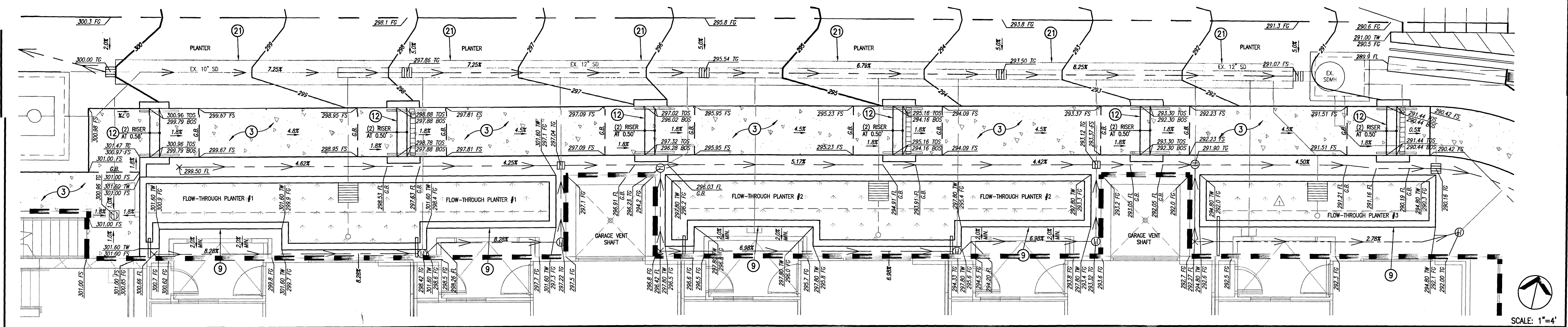
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-14 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-14-PGD.dwg May 11, 2015 - 12:15pm Jose



GRADING DETAIL - SOUTH EAST SIDE OF BUILDING

1

CONSTRUCTION NOTES

③ CONSTRUCT 4-INCH THICK PCC SIDEWALK WITH #4 REBAR AT 18-INCH O.C. SEE SHEET C-4, DETAILS 4 & 5. SEE LANDSCAPE ARCHITECT'S PLANS FOR COLOR AND FINISH.

⑨ CONSTRUCT 8-INCH CMU BLOCK FLOW THROUGH PLANTER SYSTEM, SEE LANDSCAPE ARCHITECT'S PLANS FOR COLORS AND FINISHES, SEE SHEETS C-20, C-21 & C-22. SLOPE EXTERIOR SURFACE AWAY FROM WALLS.

⑫ CONSTRUCT PCC STAIRS AND HANDRAILS. SEE SHEET C-4, DETAIL 11.

㉑ CONSTRUCT 2.5-FOOT WIDE STABILIZED EARTHEN SWALE. SEE SHEET C-4, DETAIL 13.

LEGEND:

→- - →- - →	GRADED SWALE TO BE SLOPED AT 1.0% MIN. TO DRAINAGE INLET. CROSS SLOPE FROM BUILDING TO BE 2.0% MIN. DOWN TO EARTHEN SWALE
▨	NEW CONCRETE PAVEMENT
▬ ▬ ▬ ▬	LIMITS OF PRECISE GRADING PERMIT

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED FTP WALL AND AREA DRAIN LOCATION TO AVOID CONFLICT WITH BLDG. FOOTING; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:
PRECISE GRADING DETAILS

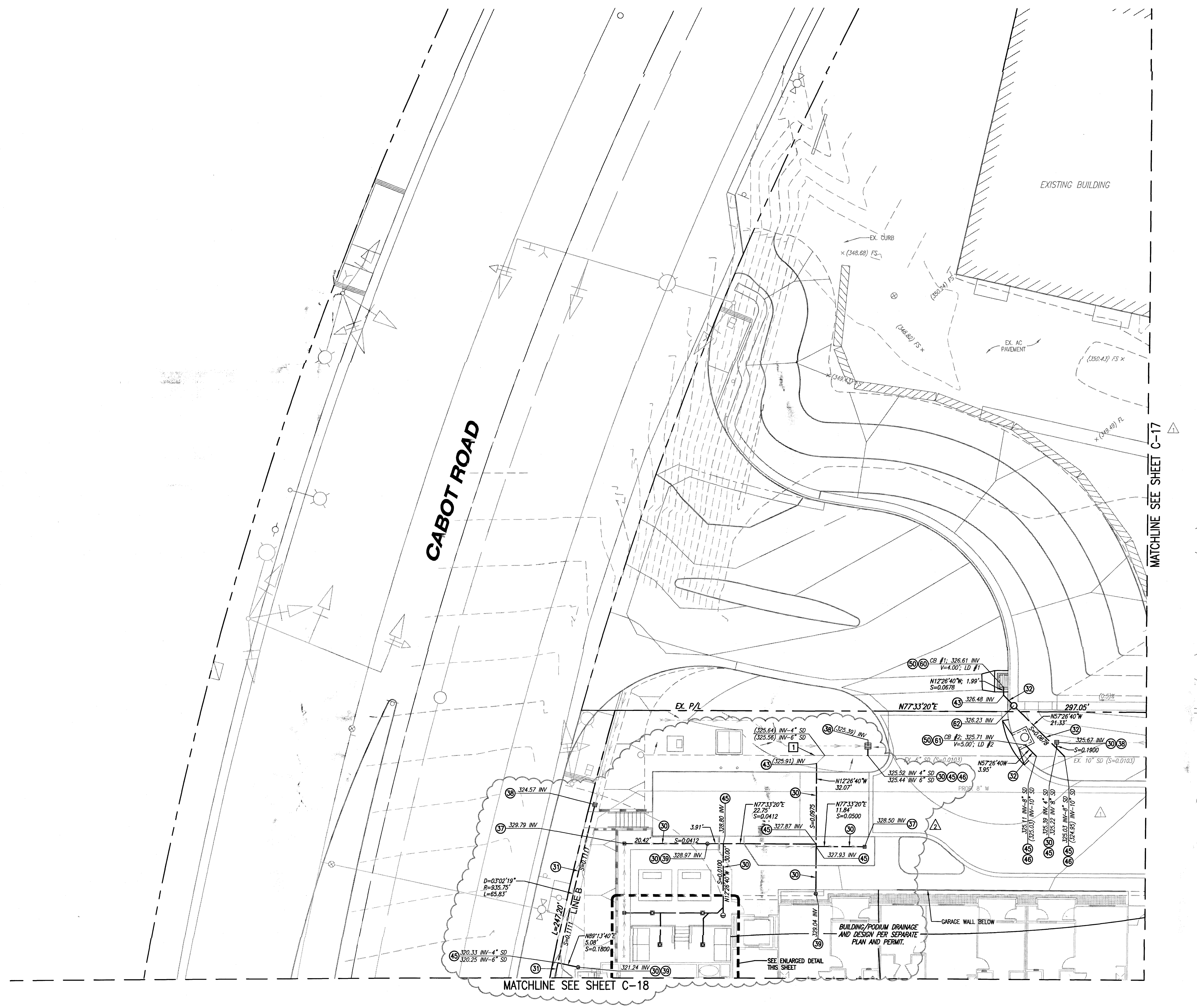
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-15 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-15-PGD.dwg May 11, 2015 - 12:18pm Jose


CABOT ROAD
EXISTING BUILDING
EX. CURB
EX. AC PAVEMENT
(348.68) FS
(350.24) FS
(348.80) FS
(350.43) FS
(349.49) FL
MATCHLINE SEE SHEET C-17
MATCHLINE SEE SHEET C-18
EX. P/L
N77°33'20"E
297.05'
CB #1; 326.61 INV
V=4.00'; LD #1
N12°26'40"W; 1.99'
S=0.0678
326.48 INV
326.23 INV
CB #2; 325.71 INV
V=5.00'; LD #2
N57°26'40"W
21.33'
N57°26'40W
3.95'
325.67 INV
S=0.1900
EX. 6" SD (S=0.0103)
EX. 10" SD (S=0.0103)
PROP. 8" W
(325.64) INV-4" SD
(325.56) INV-6" SD
(325.39) INV
(325.91) INV
325.52 INV 4" SD
325.44 INV 6" SD
N12°26'40"W
32.07'
N77°33'20"E
22.75'
S=0.0412
N77°33'20"E
11.84'
S=0.0500
S=0.0975
324.57 INV
329.79 INV
20.42'
S=0.0412
3.91'
328.80 INV
328.97 INV
327.87 INV
327.93 INV
328.50 INV
S=0.0100
30.00'
N12°26'40"W
D=03°02'19"
R=935.75'
L=65.83'
L=247.20'
LINE B
S=0.1111
N89°13'40"E
5.08'
S=0.1800
320.33 INV-4" SD
320.25 INV-6" SD
321.24 INV
329.04 INV
325.11 INV-8" SD
(325.03) INV-10" SD
325.39 INV 4" SD
325.22 INV 8" SD
325.03 INV-8" SD
(324.95) INV-10" SD
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
GARAGE WALL BELOW
SEE ENLARGED DETAIL THIS SHEET

STORM DRAIN NOTES

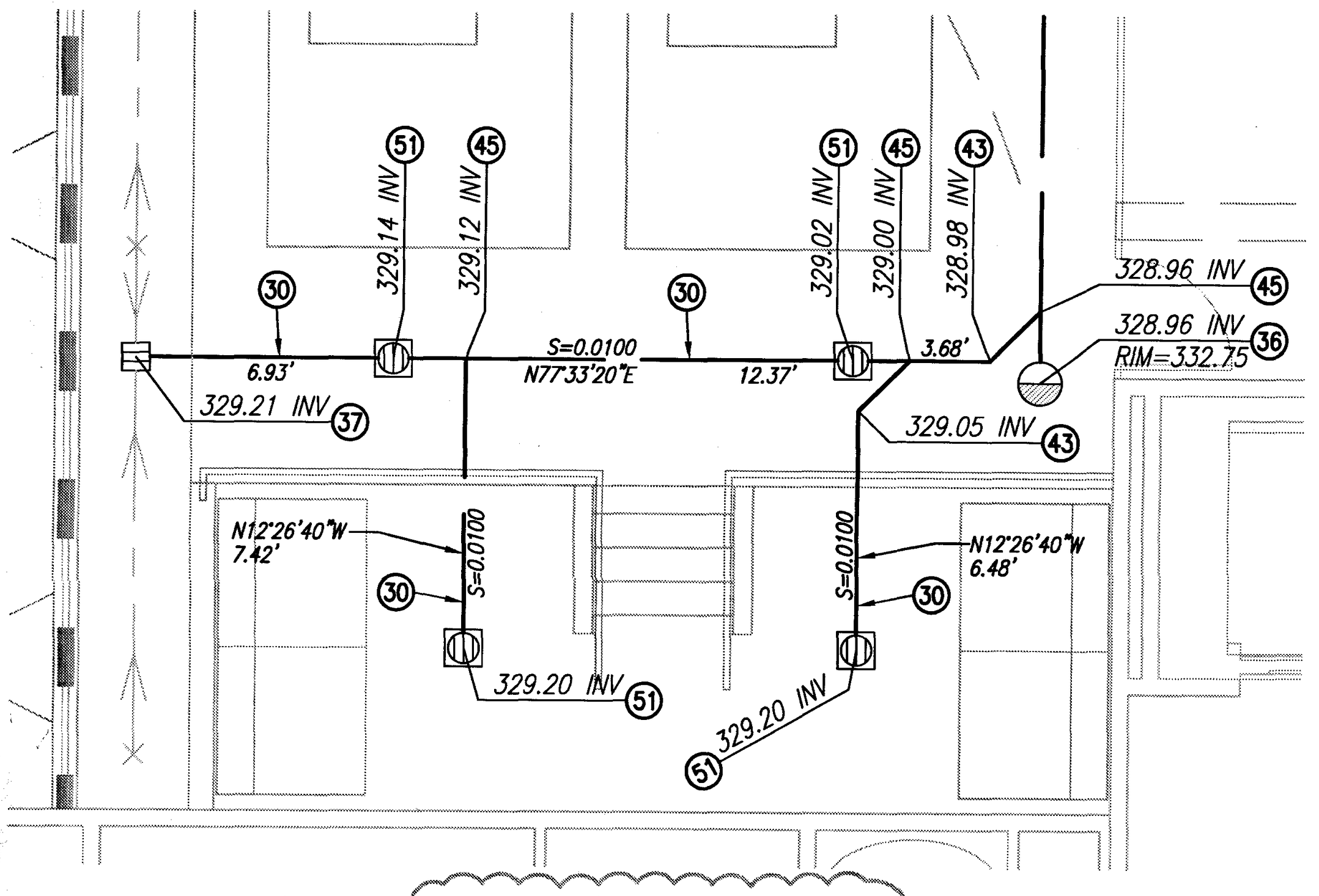
- (30) PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- (31) PROVIDE AND INSTALL 6-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- (32) PROVIDE AND INSTALL 8-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- (36) PROVIDE AND INSTALL PVC STORM DRAIN CLEANOUT. SEE SHEET C-22, DETAILS 4 OR 8.
- (37) PROVIDE AND INSTALL 9-INCH x 9-INCH LOW PROFILE ADAPTER (NDS #930) USE 9-INCH SQUARE GRATE IN GRASS AREA (NDS #990 "GREEN"). USE 9-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #981 "BLACK"). SEE SHEET C-22, DETAIL 10.
- (38) PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.
- (39) PROVIDE AND INSTALL 6-INCH ROUND ATRIUM GRATE (NDS #90) IN SOIL AREAS AND 6-INCH ROUND GRATE (NDS #50) IN GRASS AREAS. SEE SHEET C-22, DETAIL 10.
- (43) PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.
- (45) PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).
- (46) REMOVE CONFLICTING PORTION OF THE EXISTING 10-INCH STORM DRAIN LINE, CONNECT PROPOSED STORM DRAIN LINE AS REQUIRED.
- (50) PROVIDE STENCILING AT CATCH BASIN AND INLETS TO DISCOURAGE ILLEGAL DUMPING OF POLLUTANTS, SEE SHEET 22, DETAIL 7.
- (51) PROVIDE AND INSTALL 4-INCH ROUND ADA COMPLIANT CHROME GRATE WITH PVC COLLAR (NDS #917SC).
- (57) PROVIDE AND INSTALL 18-INCH x 18-INCH LOW PROFILE ADAPTER (NDS #1830) USE 18-INCH SQUARE GRATE IN GRASS AREA (NDS #1812 "GREEN"). USE 18-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1881 "BLACK"). SEE SHEET C-22, DETAIL 10.
- △1 (60) CONSTRUCT CURBSIDE GRATING CATCH BASIN PER S.P.P.W.C. STANDARD PLAN NO. 303-3. CONSTRUCT 8-INCH THICK PCC LOCAL DEPRESSION, SEE SHEET C-23, DETAIL 8 OR 10.
- (61) CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STANDARD PLAN NO. 300-3. CONSTRUCT 8-INCH THICK PCC LOCAL DEPRESSION, SEE SHEET C-23, DETAIL 9 OR 10.
- (62) INSTALL 8-INCH DIAMETER NYLOPLAST DRAINAGE BASIN WITH ATRIUM GRATE. SEE SHEET C-5, DETAIL 1.

STORM DRAIN DEMO NOTES

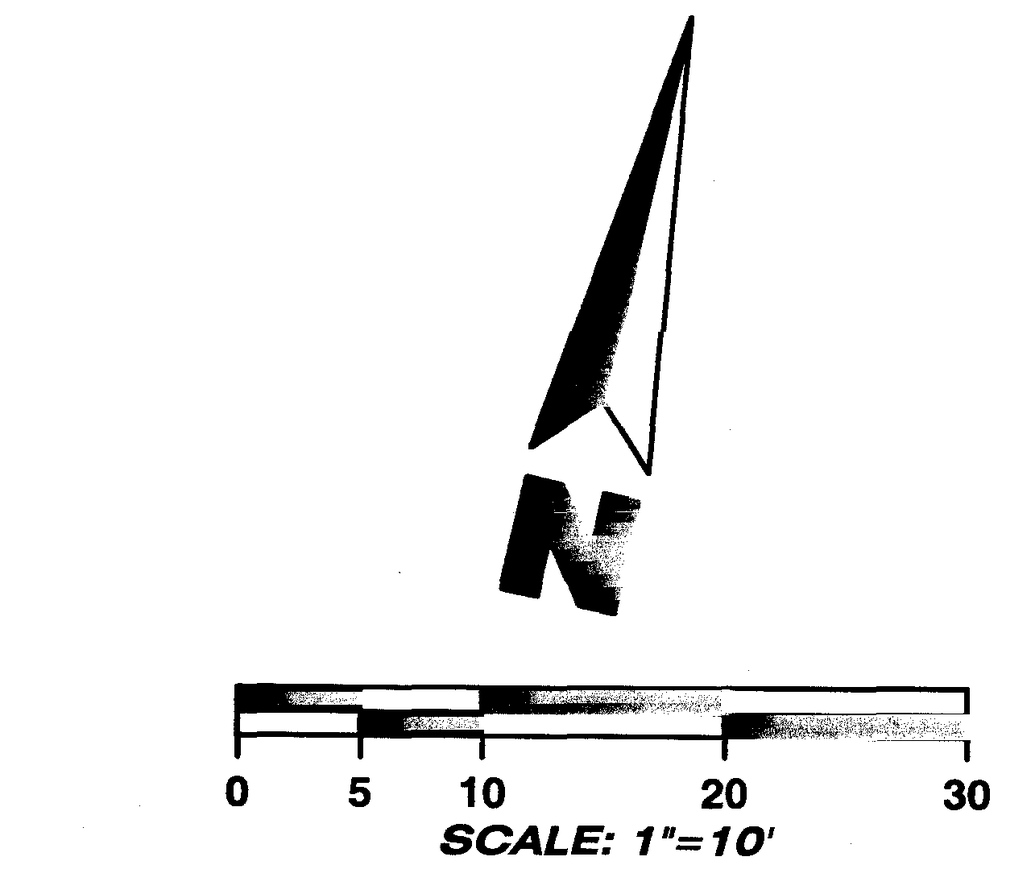
- [1] CUT & CAP EXISTING PVC STORM DRAIN LINE.

GENERAL NOTES

1. ALL PIPE FITTINGS MUST BE SMOOTH SWEEP RADIUS FITTINGS.


329.14 INV
329.12 INV
329.02 INV
329.00 INV
328.98 INV
328.96 INV
328.96 INV
RIM=332.75
6.93'
S=0.0100
N77°33'20"E
12.37'
3.68'
329.21 INV
329.05 INV
N12°26'40"W
7.42'
N12°26'40"W
6.48'
S=0.0100
329.20 INV
329.20 INV

△2 **ENLARGED DETAIL**
SCALE: 1=4'



SCALE: 1"=10'

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

811 Know what's below. Call before you dig.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED LOCATIONS OR ADDED STORM DRAIN LINES & INLETS; SHEET WAS ADDED TO SHOW NEW DRIVEWAY.	
2	1/16/15	REVISED LOCATIONS OR ADDED STORM DRAIN LINES & INLETS AROUND TRANSFORMER ENCLOSURE	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
REGISTERED PROFESSIONAL ENGINEER
JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
CIVIL
STATE OF CALIFORNIA

SHEET DESCRIPTION: **STORM DRAIN PLAN**

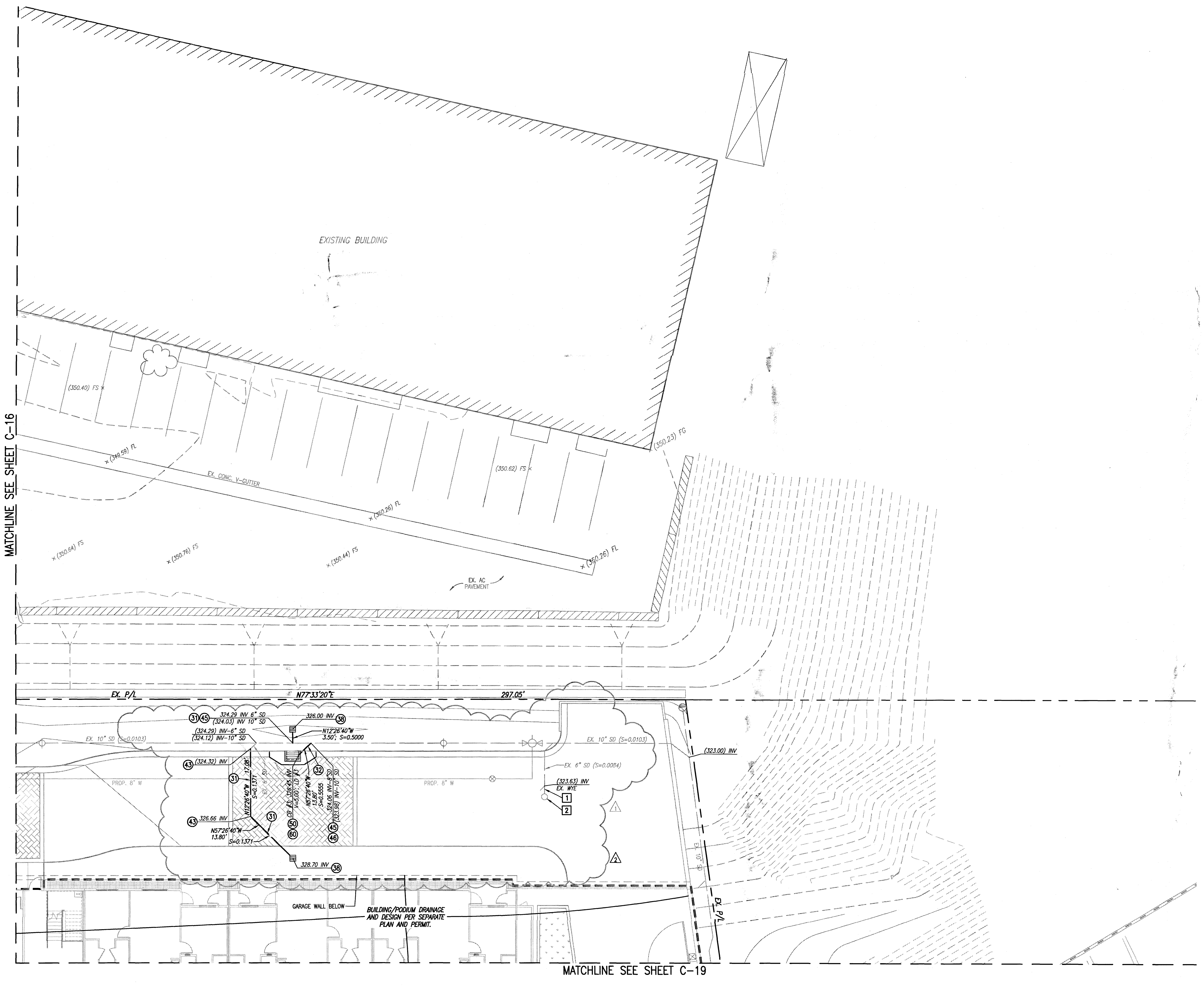
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-16 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-16-SD.dwg May 11, 2015 - 12:20pm


MATCHLINE SEE SHEET C-16
EXISTING BUILDING
(350.40) FS
(349.59) FL
EX. CONC. V-GUTTER
(350.62) FS
(350.23) FG
(350.26) FL
(350.64) FS
(350.76) FS
(350.44) FS
(350.26) FL
EX. AC PAVEMENT
EX. P/L
N77°33'20"E
297.05'
(31) (45) 324.29 INV 6" SD
(324.03) INV 10" SD
326.00 INV (38)
(324.29) INV-6" SD
(324.12) INV-10" SD
N12°26'40"W
3.50'; S=0.5000
EX. 10" SD (S=0.0103)
EX. 10" SD (S=0.0103)
(323.00) INV
(43) (324.32) INV
17.08'
S=0.1371
EX. 6" SD
EX. 6" SD (S=0.0084)
(31)
(32)
CB #3; 326.45 INV
V=5.00'; LD #3
N57°26'40"W
13.80'
S=0.5555
324.06 INV-8"SD
(323.98) INV-10" SD
PROP. 8" W
PROP. 8" W
(323.63) INV
EX. WYE
1
2
(43) 326.66 INV
N12°26'40"W
N57°26'40"W
13.80'
S=0.1371
(31)
(50)
(60)
(45)
(46)
328.70 INV (38)
EX. 10" SD
GARAGE WALL BELOW
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
EX. P/L
MATCHLINE SEE SHEET C-19

0 5 10 20 30

SCALE: 1"=10'

STORM DRAIN NOTES

㉚ PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉛ PROVIDE AND INSTALL 6-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉜ PROVIDE AND INSTALL 8-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㊲ PROVIDE AND INSTALL 9-INCH x 9-INCH LOW PROFILE ADAPTER (NDS #930) USE 9-INCH SQUARE GRATE IN GRASS AREA (NDS #990 "GREEN"). USE 9-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #981 "BLACK"). SEE SHEET C-22, DETAIL 10.

㊳ PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.

㊶ PROVIDE AND INSTALL ECCENTRIC REDUCER, SIZE PER PLAN.

㊸ PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.

㊺ PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).

㊻ REMOVE CONFLICTING PORTION OF THE EXISTING 10-INCH STORM DRAIN LINE, CONNECT PROPOSED STORM DRAIN LINE AS REQUIRED.

㊿ PROVIDE STENCILING AT CATCH BASIN AND INLETS TO DISCOURAGE ILLEGAL DUMPING OF POLLUTANTS, SEE SHEET 22, DETAIL 7.

(57) PROVIDE AND INSTALL 18-INCH x 18-INCH LOW PROFILE ADAPTER (NDS #1830) USE 18-INCH SQUARE GRATE IN GRASS AREA (NDS #1812 "GREEN"). USE 18-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1881 "BLACK"). SEE SHEET C-22, DETAIL 10.

△1 (60) CONSTRUCT CURBSIDE GRATING CATCH BASIN PER S.P.P.W.C. STANDARD PLAN NO. 303-3. CONSTRUCT 8-INCH THICK PCC LOCAL DEPRESSION, SEE SHEET C-23, DETAIL 8 OR 10. △2

STORM DRAIN DEMO NOTES

1 CUT & CAP EXISTING PVC STORM DRAIN LINE.

2 REMOVE EXISTING STORM DRAIN RISER.

GENERAL NOTES

1. ALL PIPE FITTINGS MUST BE SMOOTH SWEEP RADIUS FITTINGS.

811 Know what's below. Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED LOCATIONS OR ADDED STORM DRAIN LINES & INLETS; SHEET WAS	
		ADDED TO SHOW NEW DRIVEWAY.	
2	1/16/15	REVISED CATCH BASING TYPE, ADDED CNST. NOTE 60; STORM DRAIN LINES	
		& INLETS	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:
STORM DRAIN PLAN

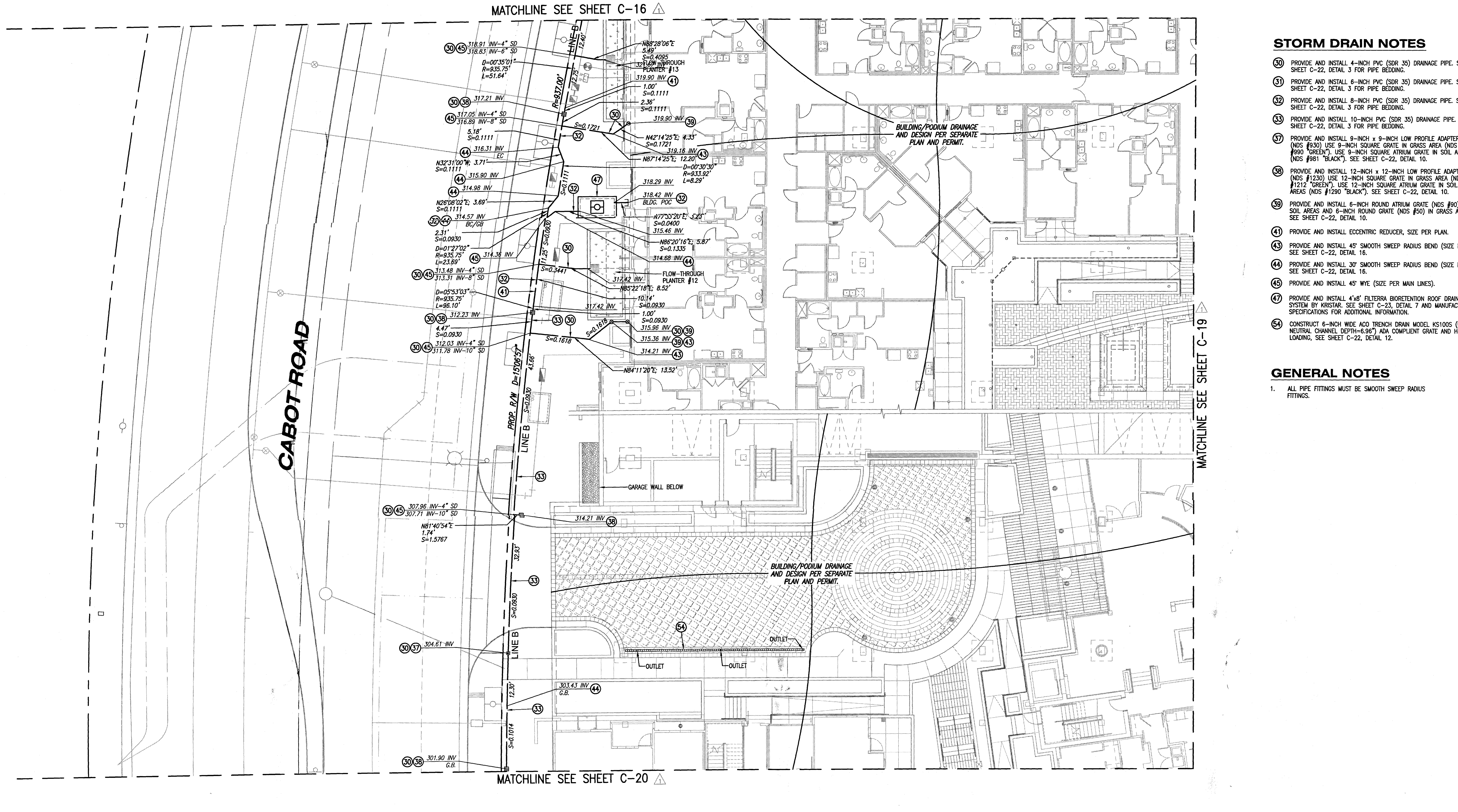
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-17 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-17-SD.dwg May 11, 2015 - 12:22pm Jose

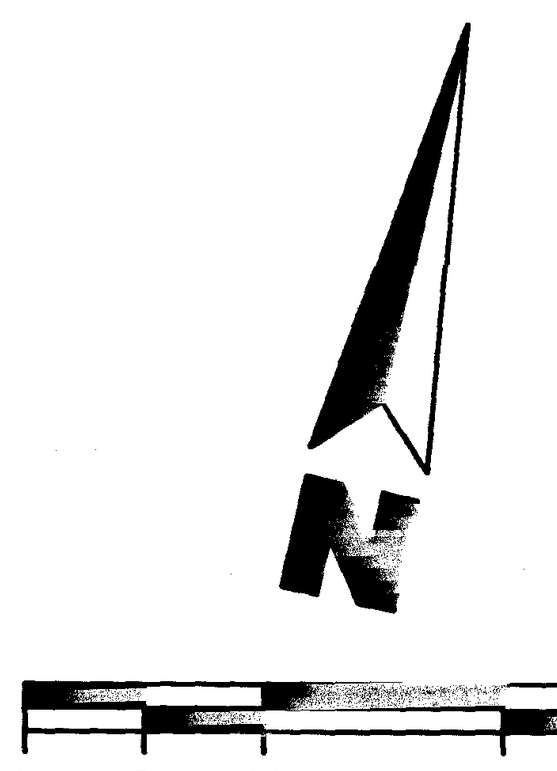

MATCHLINE SEE SHEET C-16 ⚠1
30 45 318.91 INV-4" SD
318.83 INV-6" SD
D=00°35'01"
R=935.75'
L=51.64'
LINE B
12.40'
12.75'
R=937.00'
N88°28'06"E
5.49'
S=0.4095
321.67 INV
FLOW-THROUGH
PLANTER #13
319.90 INV 41
1.00'
S=0.1111
2.36'
S=0.1111
30 38 317.21 INV
45 317.05 INV-4" SD
316.89 INV-8" SD
S=0.1721
30
319.90 INV 39
5.18'
S=0.1111
32
N42°14'25"E; 4.33'
S=0.1721
319.16 INV 43
N87°14'25"E; 12.20'
44 316.31 INV
EC
N32°31'00"W; 3.71'
S=0.1111
D=00°30'30"
R=933.92'
L=8.29'
44 315.90 INV
S=0.1111
47
32
318.29 INV
318.42 INV 32
BLDG. POC
44 314.98 INV
N26°08'02"E; 3.69'
S=0.1111
32 44 314.57 INV
BC/GB
N77°33'20"E; 5.25'
S=0.0400
315.46 INV
2.31'
S=0.0930
N86°20'16"E; 5.87'
S=0.1335
D=01°27'02"
R=935.75'
L=23.69'
45 314.36 INV
11.25' S=0.0930
30
314.68 INV 44
30 45 313.48 INV-4" SD
313.31 INV-8" SD
S=0.3441
FLOW-THROUGH
PLANTER #12
317.42 INV
N85°22'18"E; 8.52'
32
41
D=05°53'03"
R=935.75'
L=96.10'
10.14'
S=0.0930
317.42 INV
1.00'
S=0.0930
30 38 312.23 INV
33 30
4.47'
S=0.0930
S=0.1618
315.96 INV 30 39
315.36 INV 39 43
30 45 312.03 INV-4" SD
311.78 INV-10" SD
S=0.1618
314.21 INV 43
N84°11'20"E; 13.52'
PROP. R/W D=15°06'57"
43.66'
S=0.0930
BUILDING/PODIUM DRAINAGE
AND DESIGN PER SEPARATE
PLAN AND PERMIT.
CABOT ROAD
MATCHLINE SEE SHEET C-19 ⚠1
33
GARAGE WALL BELOW
30 45 307.96 INV-4" SD
307.71 INV-10" SD
N81°40'54"E
1.74'
S=1.5767
314.21 INV 38
32.93'
33
S=0.0930
BUILDING/PODIUM DRAINAGE
AND DESIGN PER SEPARATE
PLAN AND PERMIT.
54
OUTLET
OUTLET
OUTLET
30 37 304.61 INV
LINE B
303.43 INV 44
G.B.
12.30'
33
S=0.1014
30 38 301.90 INV
G.B.
MATCHLINE SEE SHEET C-20 ⚠1

STORM DRAIN NOTES

- ㉚ PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- ㉛ PROVIDE AND INSTALL 6-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- ㉜ PROVIDE AND INSTALL 8-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- ㉝ PROVIDE AND INSTALL 10-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.
- ㊲ PROVIDE AND INSTALL 9-INCH x 9-INCH LOW PROFILE ADAPTER (NDS #930) USE 9-INCH SQUARE GRATE IN GRASS AREA (NDS #990 "GREEN"). USE 9-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #981 "BLACK"). SEE SHEET C-22, DETAIL 10.
- ㊳ PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.
- ㊴ PROVIDE AND INSTALL 6-INCH ROUND ATRIUM GRATE (NDS #90) IN SOIL AREAS AND 6-INCH ROUND GRATE (NDS #50) IN GRASS AREAS. SEE SHEET C-22, DETAIL 10.
- ㊶ PROVIDE AND INSTALL ECCENTRIC REDUCER, SIZE PER PLAN.
- ㊸ PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.
- ㊹ PROVIDE AND INSTALL 30° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.
- ㊺ PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).
- ㊼ PROVIDE AND INSTALL 4'x8' FILTERRA BIORETENTION ROOF DRAIN SYSTEM BY KRISTAR. SEE SHEET C-23, DETAIL 7 AND MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- (54) CONSTRUCT 6-INCH WIDE ACO TRENCH DRAIN MODEL KS100S (K010 NEUTRAL CHANNEL DEPTH=6.96") ADA COMPLIENT GRATE AND H-20 LOADING, SEE SHEET C-22, DETAIL 12.

GENERAL NOTES

1. ALL PIPE FITTINGS MUST BE SMOOTH SWEEP RADIUS FITTINGS.



0 5 10 20 30
SCALE: 1"=10'

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS: SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura

No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:
STORM DRAIN PLAN

CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD ⚠1
LAGUNA NIGUEL, CALIFORNIA

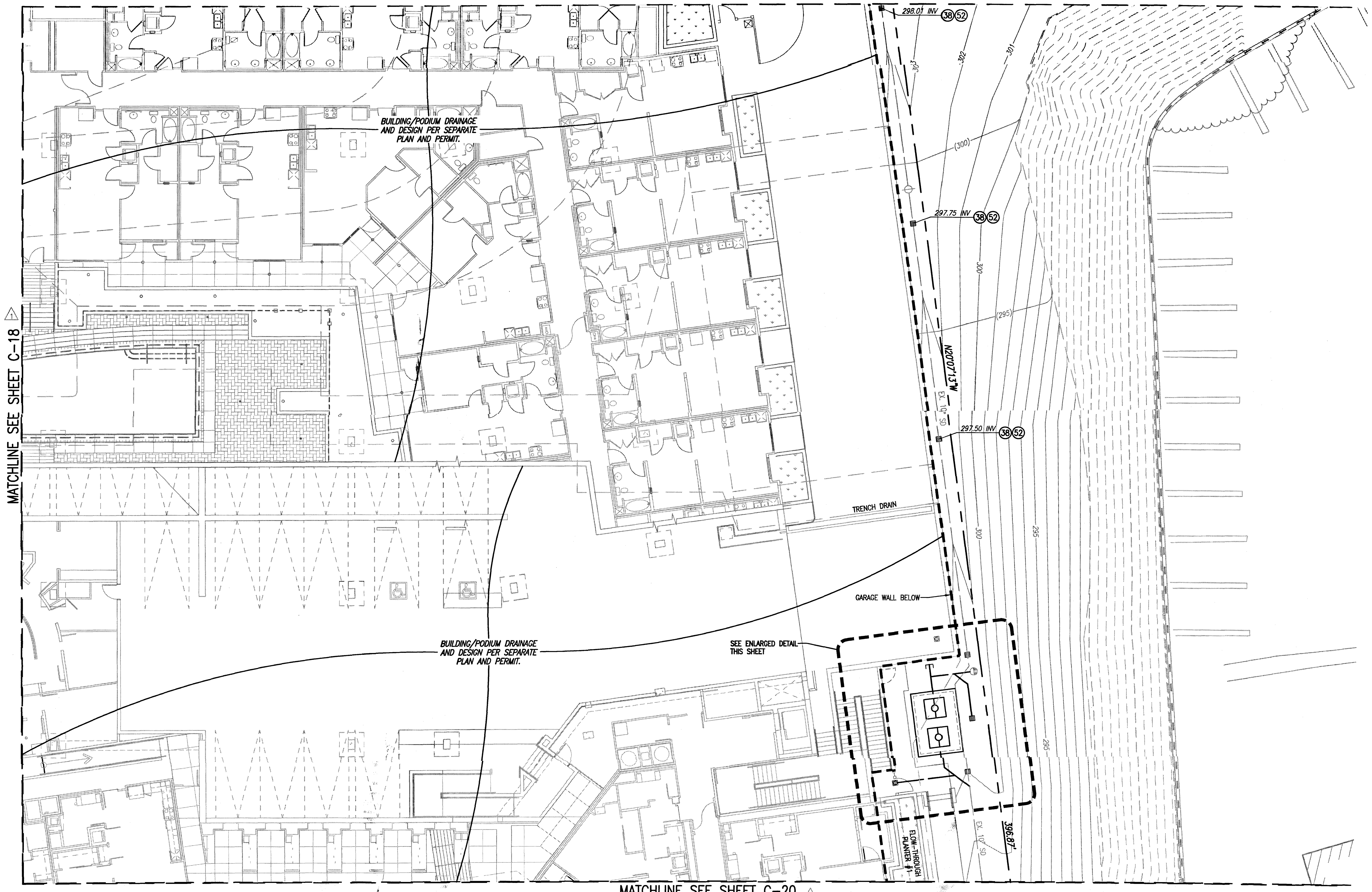
PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-18 ⚠1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-18-SD.dwg May 11, 2015 - 12:24pm Jose

MATCHLINE SEE SHEET C-17 △



MATCHLINE SEE SHEET C-18 △
298.01 INV ㊳ (52)
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
297.75 INV ㊳ (52)
N20°07'13"W
EX. 10" SD
297.50 INV ㊳ (52)
TRENCH DRAIN
GARAGE WALL BELOW
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
SEE ENLARGED DETAIL THIS SHEET
FLOW-THROUGH PLANTER #1
306.87'
302
301
300
(300)
(295)
295

MATCHLINE SEE SHEET C-20 △

STORM DRAIN NOTES

㉚ PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉝ PROVIDE AND INSTALL 10-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㊱ PROVIDE AND INSTALL PVC STORM DRAIN CLEANOUT. SEE SHEET C-22, DETAILS 4 OR 8.

㊳ PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.

㊸ PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.

㊺ PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).

㊻ REMOVE CONFLICTING PORTION OF THE EXISTING 10-INCH STORM DRAIN LINE, CONNECT PROPOSED STORM DRAIN LINE AS REQUIRED.

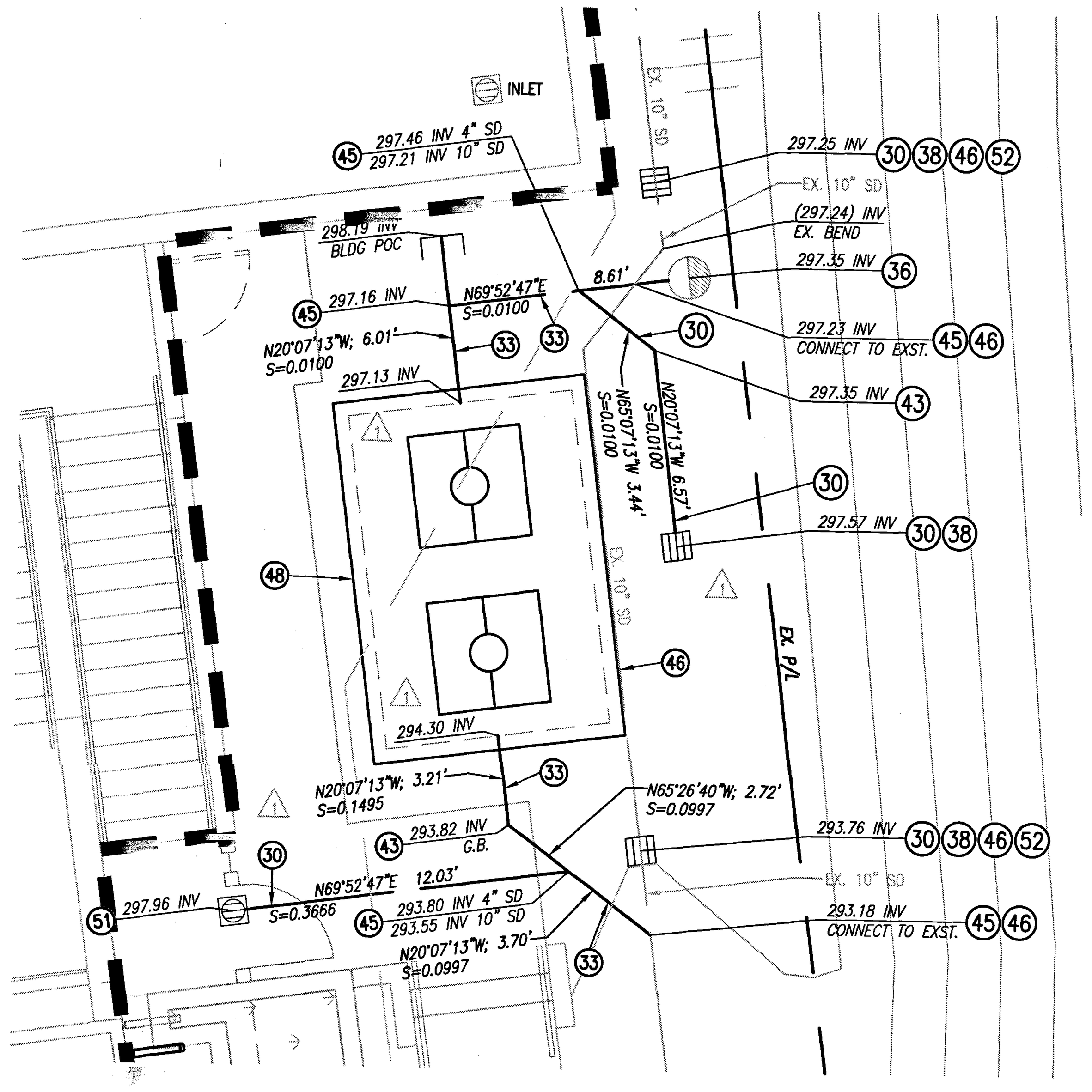
㊽ PROVIDE AND INSTALL 8'x12' FILTERRA BIORETENTION ROOF DRAIN SYSTEM BY KRISTAR. SEE SHEET C-23, DETAIL 7 AND MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.

(51) PROVIDE AND INSTALL 4-INCH ROUND ADA COMPLIANT CHROME GRATE WITH PVC COLLAR (NDS #917SC).

(52) CONNECT TO EXIST STORM DRAIN PIPE. CUT-IN A WYE WITH NYLOPLAST DISSIMILAR PIPE MATERIAL ADAPTER ON LATERAL, SEE SHEET C-23 DETAIL 4.

GENERAL NOTES

1. ALL PIPE FITTINGS MUST BE SMOOTH SWEEP RADIUS FITTINGS.



INLET
EX. 10" SD
㊺ 297.46 INV 4" SD
297.21 INV 10" SD
297.25 INV ㉚㊳㊻(52)
EX. 10" SD
(297.24) INV
EX. BEND
298.19 INV
BLDG POC
8.61'
297.35 INV ㊱
㊺ 297.16 INV
N69°52'47"E
S=0.0100
㉝
N20°07'13"W; 6.01'
S=0.0100
㉝
㉚
297.23 INV
CONNECT TO EXST. ㊺㊻
297.13 INV
N65°07'13"W 3.44'
S=0.0100
N20°07'13"W 6.57'
S=0.0100
297.35 INV ㊸
㉚
297.57 INV ㉚㊳
EX. 10" SD
㊽
EX. P/L
㊻
294.30 INV
N20°07'13"W; 3.21'
S=0.1495
㉝
N65°26'40"W; 2.72'
S=0.0997
㊸ 293.82 INV
G.B.
293.76 INV ㉚㊳㊻(52)
㉚
EX. 10" SD
N69°52'47"E
12.03'
(51) 297.96 INV
S=0.3666
㊺ 293.80 INV 4" SD
293.55 INV 10" SD
N20°07'13"W; 3.70'
S=0.0997
293.18 INV
CONNECT TO EXST. ㊺㊻
㉝

STORM DRAIN DETAIL

SCALE: 1"=4'

0 5 10 20 30
SCALE: 1"=10'

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	RAISED INLET AND OUTLET ELEVATION OF FTP, ADDED INLETS & STORM PIPING; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:
STORM DRAIN PLAN

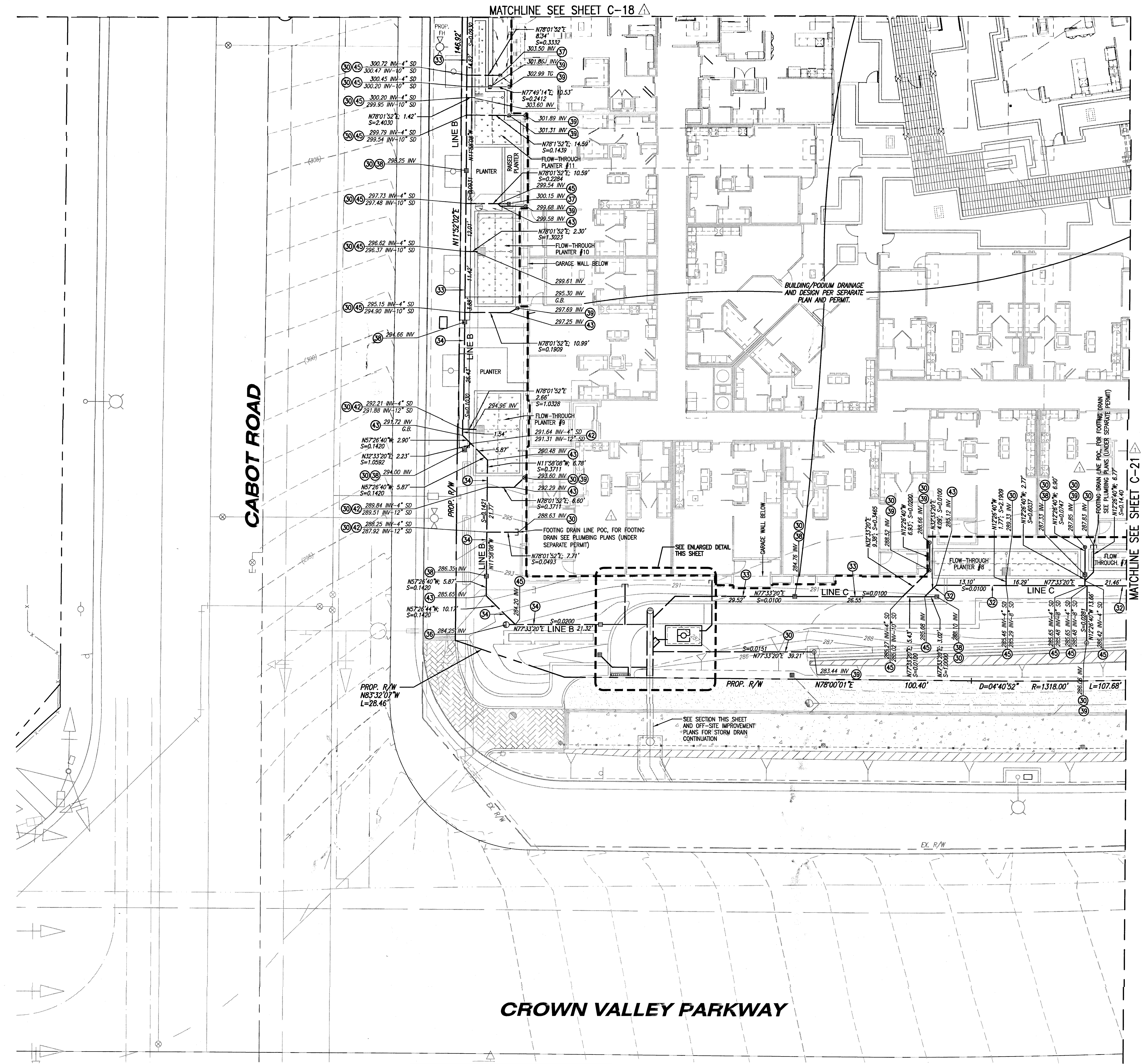
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-19 △

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-19-SD.dwg May 11, 2015 - 12:26pm Jose


MATCHLINE SEE SHEET C-18
CABOT ROAD
CROWN VALLEY PARKWAY
LINE B
LINE C
MATCHLINE SEE SHEET C-21
PLANTER
RAISED PLANTER
FLOW-THROUGH PLANTER #11
FLOW-THROUGH PLANTER #10
FLOW-THROUGH PLANTER #9
FLOW-THROUGH PLANTER #8
GARAGE WALL BELOW
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
FOOTING DRAIN LINE POC, FOR FOOTING DRAIN SEE PLUMBING PLANS (UNDER SEPARATE PERMIT)
SEE ENLARGED DETAIL THIS SHEET
SEE SECTION THIS SHEET AND OFF-SITE IMPROVEMENT PLANS FOR STORM DRAIN CONTINUATION
PROP. R/W
PROP. R/W N83°32'07"W L=28.46'
N78°00'01"E 100.40'
D=04°40'52" R=1318.00' L=107.68'
EX. R/W

STORM DRAIN NOTES

㉚ PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉜ PROVIDE AND INSTALL 8-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉝ PROVIDE AND INSTALL 10-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉞ PROVIDE AND INSTALL 12-INCH HDPE DRAINAGE PIPE. SEE SHEET C-22, DETAIL 2 FOR PIPE BEDDING.

㉟ PROVIDE AND INSTALL 18-INCH HDPE DRAINAGE PIPE. SEE SHEET C-22, DETAIL 2 FOR PIPE BEDDING.

㊱ PROVIDE AND INSTALL PVC STORM DRAIN CLEANOUT. SEE SHEET C-22, DETAILS 4 OR 8.

㊲ PROVIDE AND INSTALL 9-INCH x 9-INCH LOW PROFILE ADAPTER (NDS #930) USE 9-INCH SQUARE GRATE IN GRASS AREA (NDS #990 "GREEN"). USE 9-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #981 "BLACK"). SEE SHEET C-22, DETAIL 10.

㊳ PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.

㊴ PROVIDE AND INSTALL 6-INCH ROUND ATRIUM GRATE (NDS #90) IN SOIL AREAS AND 6-INCH ROUND GRATE (NDS #50) IN GRASS AREAS. SEE SHEET C-22, DETAIL 10.

㊶ PROVIDE AND INSTALL ECCENTRIC REDUCER, SIZE PER PLAN.

㊷ PROVIDE AND INSTALL HDPE WYE WITH NYLOPLAST DISSIMILAR PIPE MATERIAL ADAPTER ON LATERAL, SEE SHEET C-23, DETAIL 4.

㊸ PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.

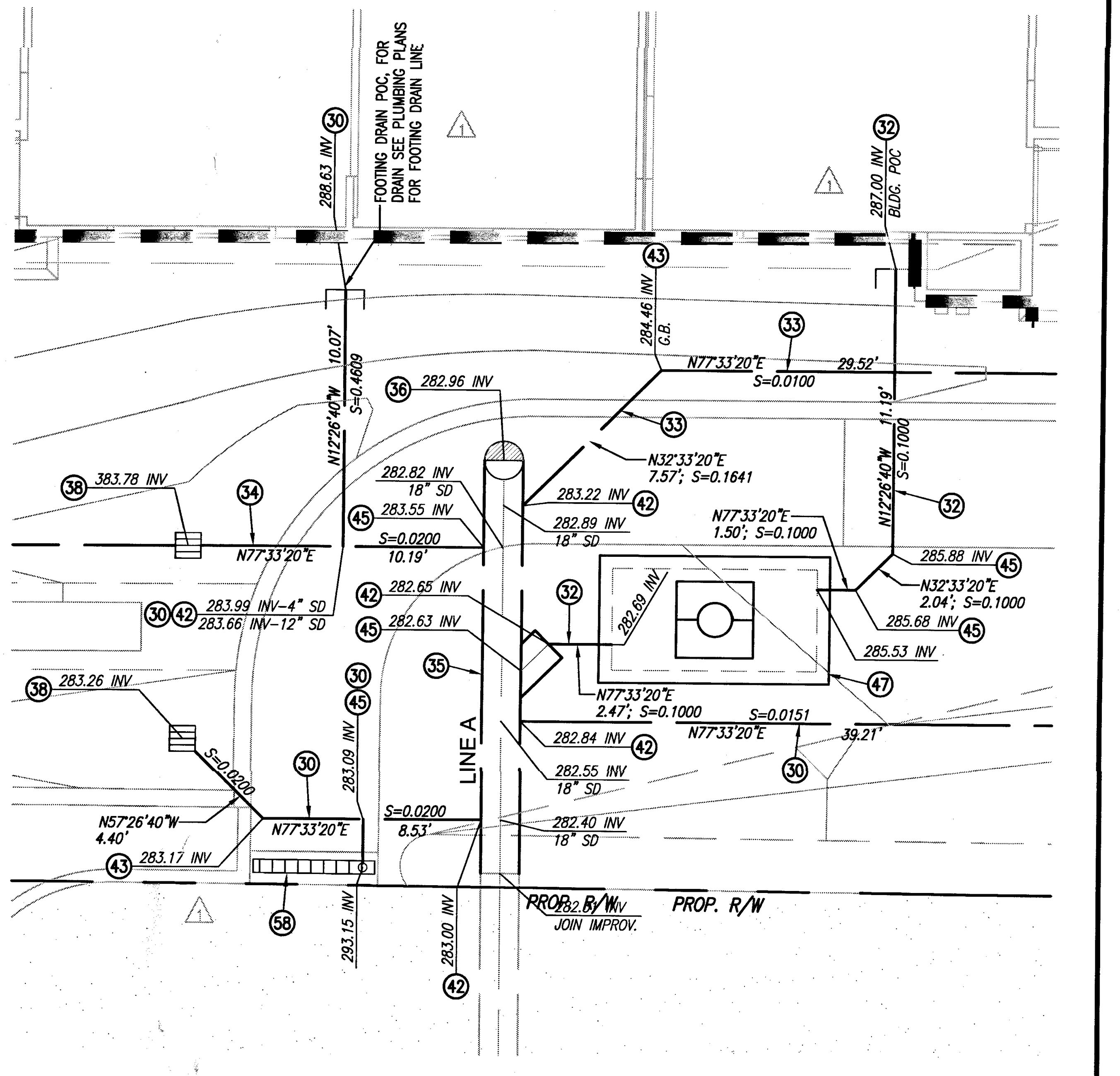
㊺ PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).

㊼ PROVIDE AND INSTALL 4'x8' FILTERRA BIORETENTION ROOF DRAIN SYSTEM BY KRISTAR. SEE SHEET C-23, DETAIL 7 AND MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.

(58) CONSTRUCT 4-INCH WIDE PRE-SLOPED ACO (KS100S) TRENCH DRAIN W/ ADA "HEEL RESISTANT" STAINLESS STEEL GRATE AND FRAME. SEE SHEET C-22, DETAIL 15.

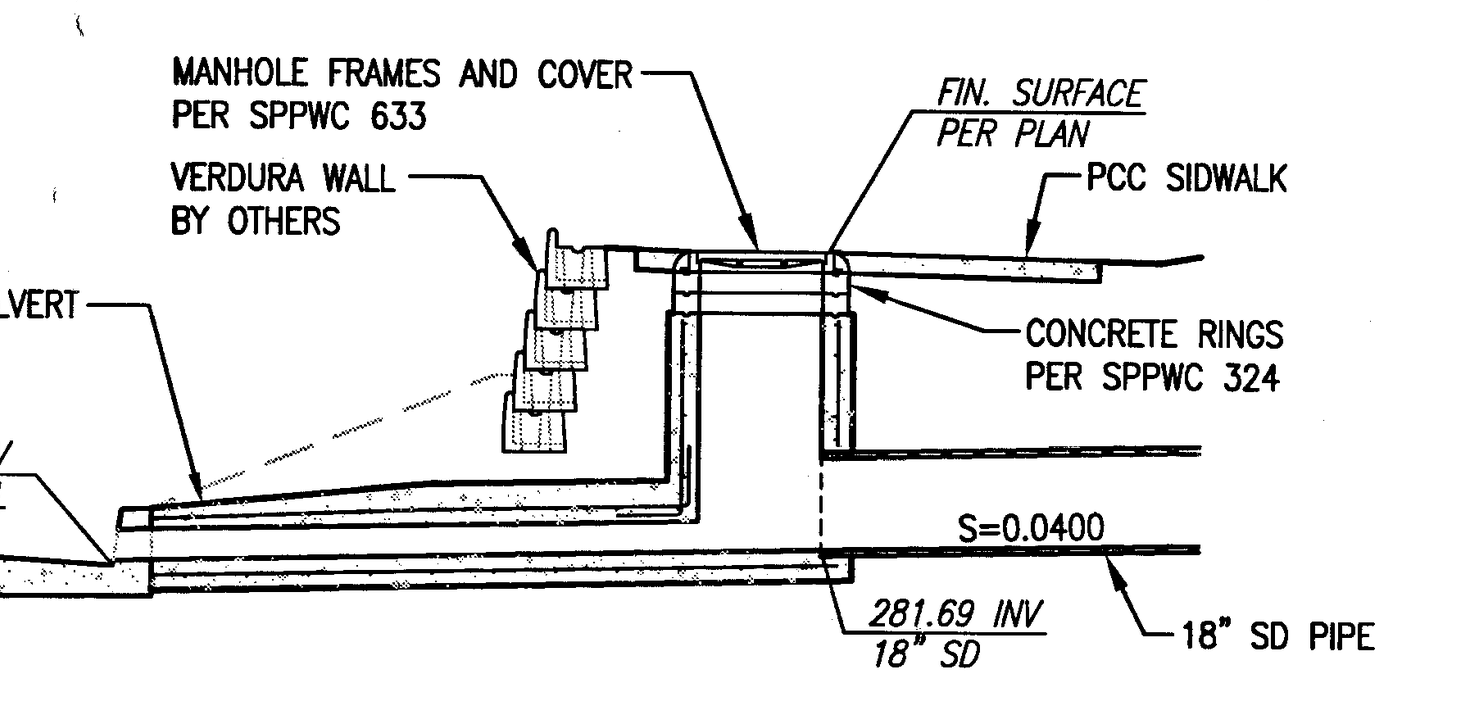
GENERAL NOTES

1. ALL PIPE FITTINGS MUST BE SMOOTH SWEEP RADIUS FITTINGS.


FOOTING DRAIN POC, FOR DRAIN SEE PLUMBING PLANS FOR FOOTING DRAIN LINE
BLDG. POC
LINE A
PROP. R/W
JOIN IMPROV.
N77°33'20"E
S=0.0100
S=0.0200
S=0.0151
283.26 INV
283.17 INV
282.96 INV
282.84 INV
282.55 INV
282.40 INV

ENLARGED DETAIL

SCALE: 1"=4'


MANHOLE FRAMES AND COVER PER SPPWC 633
VERDURA WALL BY OTHERS
FIN. SURFACE PER PLAN
PCC SIDWALK
5.0' WIDE PARKWAY CULVERT 2.0% MIN. SLOPE
CONCRETE RINGS PER SPPWC 324
281.45 INV
281.37 FL
S=0.0400
281.69 INV
18" SD
18" SD PIPE

CULVERT SECTION (TYPE B)-MODIFIED (FOR REFERENCE ONLY - SEE OFF-SITE IMPROVEMENT PLANS)

SCALE: 1"=4'

0 5 10 20 30
SCALE: 1"=10'

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED BUILDING FOOTING DRAIN POCs; RELOCATED FILTERRA BOX AND	
		LOWERED INLET & OUTLET INVERTS; REDESIGNED SD INLETS AND PIPING PER	
		CHANGES TO OFF-SITE STREET IMPROVEMENT PLANS; REVISED PROJECT	
		ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:
STORM DRAIN PLAN

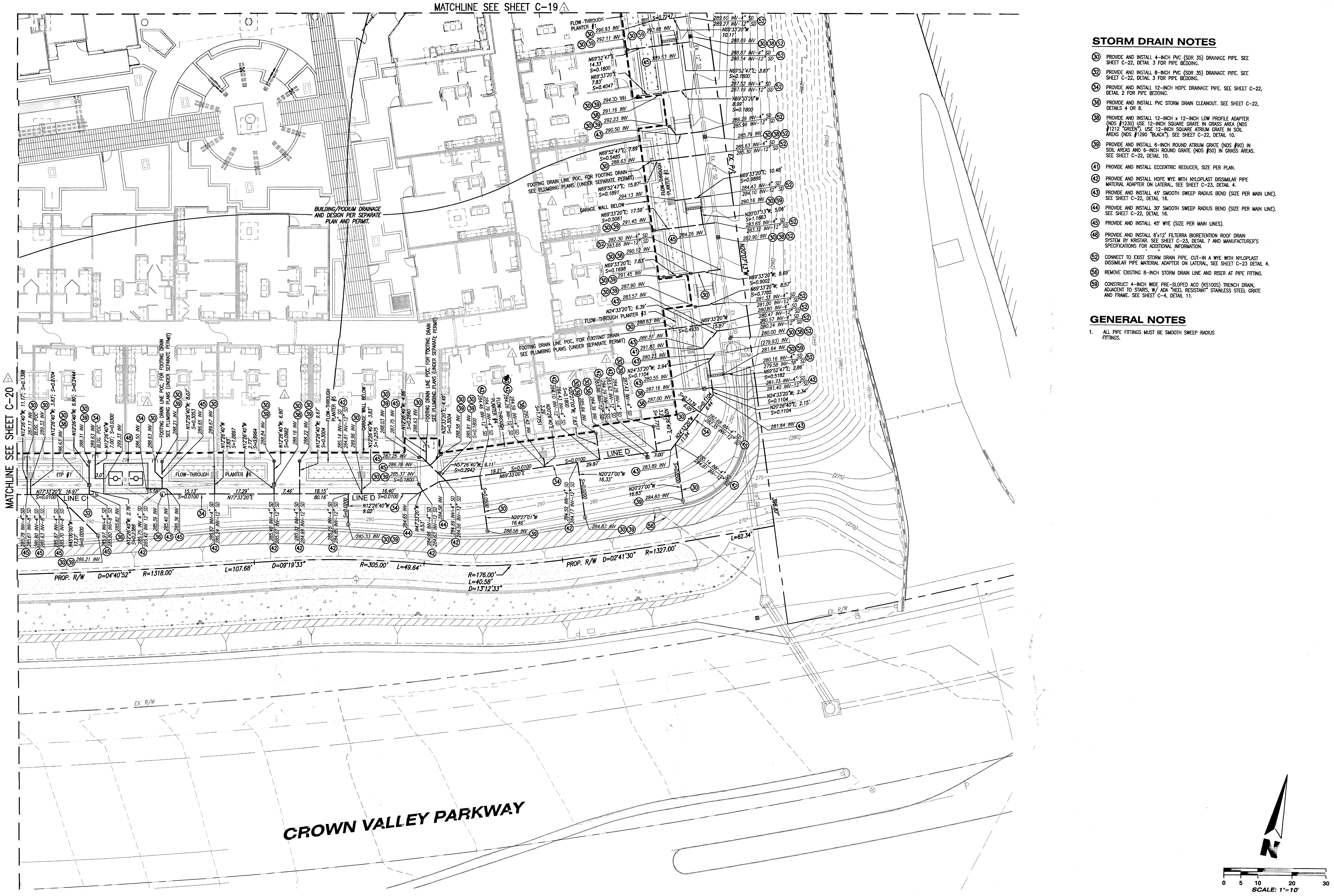
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-20

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-20-SD.dwg May 11, 2015 - 12:28pm Jose


MATCHLINE SEE SHEET C-19
MATCHLINE SEE SHEET C-20
BUILDING/PODIUM DRAINAGE AND DESIGN PER SEPARATE PLAN AND PERMIT.
FOOTING DRAIN LINE POC, FOR FOOTING DRAIN SEE PLUMBING PLANS (UNDER SEPARATE PERMIT)
GARAGE WALL BELOW
FLOW-THROUGH PLANTER #1
FLOW-THROUGH PLANTER #2
FLOW-THROUGH PLANTER #3
FLOW-THROUGH PLANTER #4
FLOW-THROUGH PLANTER #5
FLOW-THROUGH PLANTER #6
ETP #7
LINE C
LINE D
EX. P/L
PROP. R/W D=04°40'52" R=1318.00'
L=107.68' D=09°19'33"
R=305.00' L=49.64'
R=176.00' L=40.58' D=13°12'33"
PROP. R/W D=02°41'30" R=1327.00'
L=62.34'
EX. R/W
CROWN VALLEY PARKWAY
N
0 5 10 20 30
SCALE: 1"=10'

STORM DRAIN NOTES

㉚ PROVIDE AND INSTALL 4-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉜ PROVIDE AND INSTALL 8-INCH PVC (SDR 35) DRAINAGE PIPE. SEE SHEET C-22, DETAIL 3 FOR PIPE BEDDING.

㉞ PROVIDE AND INSTALL 12-INCH HDPE DRAINAGE PIPE. SEE SHEET C-22, DETAIL 2 FOR PIPE BEDDING.

㊱ PROVIDE AND INSTALL PVC STORM DRAIN CLEANOUT. SEE SHEET C-22, DETAILS 4 OR 8.

㊳ PROVIDE AND INSTALL 12-INCH x 12-INCH LOW PROFILE ADAPTER (NDS #1230) USE 12-INCH SQUARE GRATE IN GRASS AREA (NDS #1212 "GREEN"). USE 12-INCH SQUARE ATRIUM GRATE IN SOIL AREAS (NDS #1290 "BLACK"). SEE SHEET C-22, DETAIL 10.

㊴ PROVIDE AND INSTALL 6-INCH ROUND ATRIUM GRATE (NDS #90) IN SOIL AREAS AND 6-INCH ROUND GRATE (NDS #50) IN GRASS AREAS. SEE SHEET C-22, DETAIL 10.

㊶ PROVIDE AND INSTALL ECCENTRIC REDUCER, SIZE PER PLAN.

㊷ PROVIDE AND INSTALL HDPE WYE WITH NYLOPLAST DISSIMILAR PIPE MATERIAL ADAPTER ON LATERAL, SEE SHEET C-23, DETAIL 4.

㊸ PROVIDE AND INSTALL 45° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.

㊹ PROVIDE AND INSTALL 30° SMOOTH SWEEP RADIUS BEND (SIZE PER MAIN LINE). SEE SHEET C-22, DETAIL 16.

㊺ PROVIDE AND INSTALL 45° WYE (SIZE PER MAIN LINES).

㊽ PROVIDE AND INSTALL 8'x12' FILTERRA BIORETENTION ROOF DRAIN SYSTEM BY KRISTAR. SEE SHEET C-23, DETAIL 7 AND MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.

(52) CONNECT TO EXIST STORM DRAIN PIPE. CUT-IN A WYE WITH NYLOPLAST DISSIMILAR PIPE MATERIAL ADAPTER ON LATERAL, SEE SHEET C-23 DETAIL 4.

(56) REMOVE EXISTING 8-INCH STORM DRAIN LINE AND RISER AT PIPE FITTING.

(59) CONSTRUCT 4-INCH WIDE PRE-SLOPED ACO (KS100S) TRENCH DRAIN, ADJACENT TO STAIRS, W/ ADA "HEEL RESISTANT" STAINLESS STEEL GRATE AND FRAME. SEE SHEET C-4, DETAIL 11.

GENERAL NOTES

1. ALL PIPE FITTINGS MUST BE SMOOTH SWEEP RADIUS FITTINGS.

Know what's **below.**
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED BUILDING FOOTING DRAIN POCs; RELOCATED FILTERRA BOX AND LOWERED INLET & OUTLET INVERTS; RELOCATED SD INLETS AND PIPING TO AVOID CONFLICTS WITH BLDG FOOTING; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:
STORM DRAIN PLAN

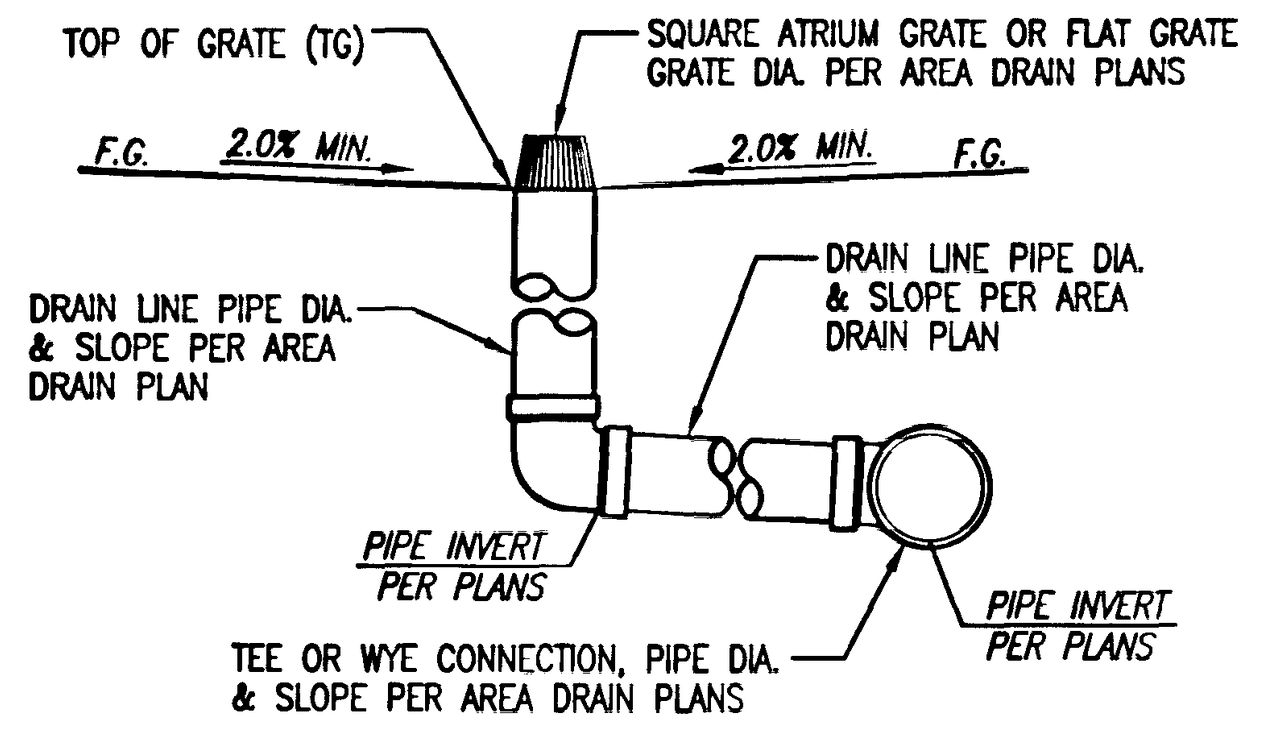
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD ⚠1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

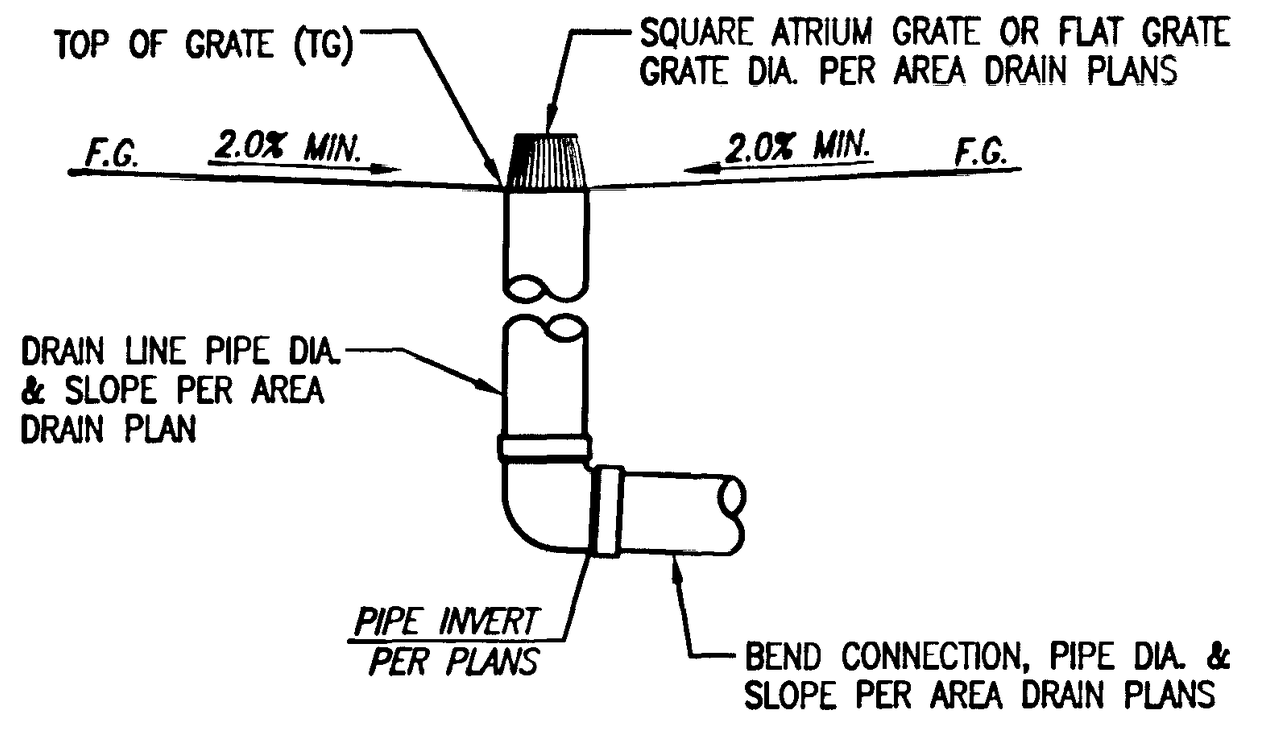
PROJECT NUMBER
5376001

SHEET NO.
C-21 ⚠1

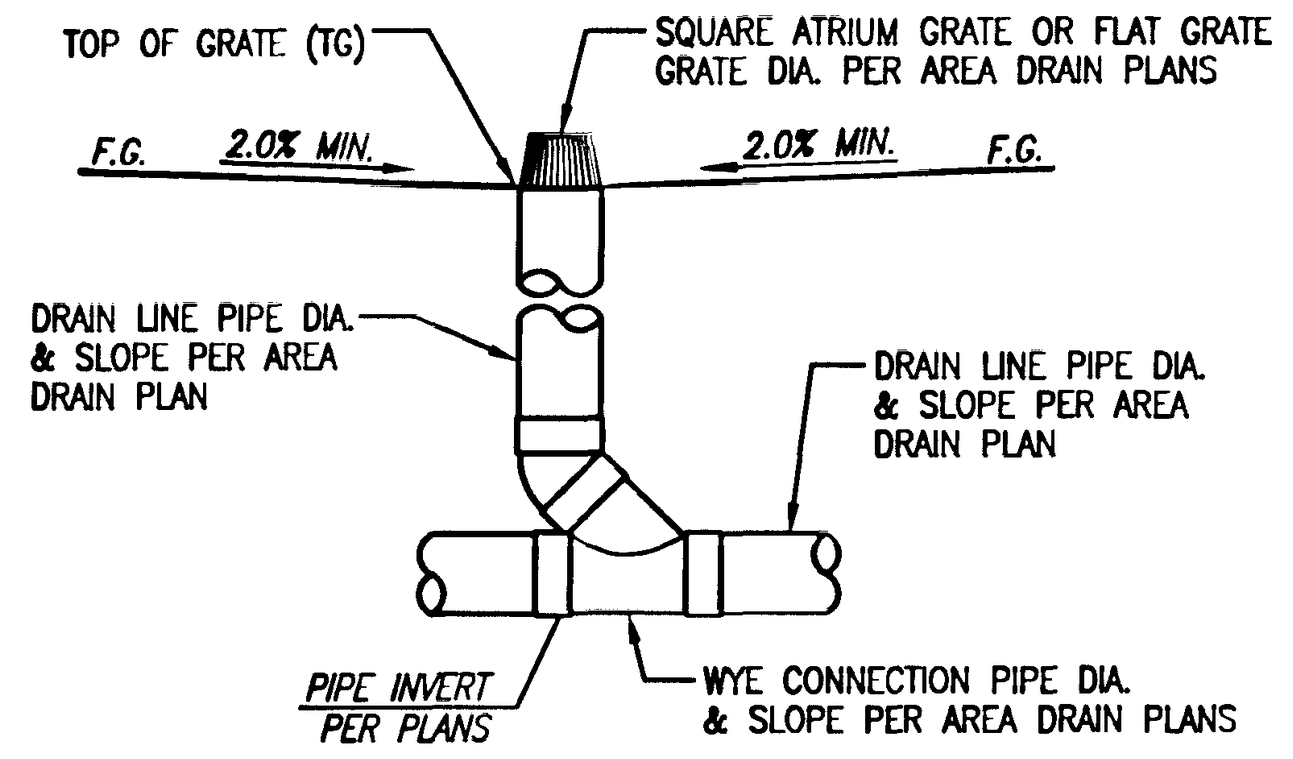
R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-21-SD.dwg May


TOP OF GRATE (TG)
SQUARE ATRIUM GRATE OR FLAT GRATE GRATE DIA. PER AREA DRAIN PLANS
F.G.
2.0% MIN.
2.0% MIN.
F.G.
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
PIPE INVERT PER PLANS
TEE OR WYE CONNECTION, PIPE DIA. & SLOPE PER AREA DRAIN PLANS
PIPE INVERT PER PLANS

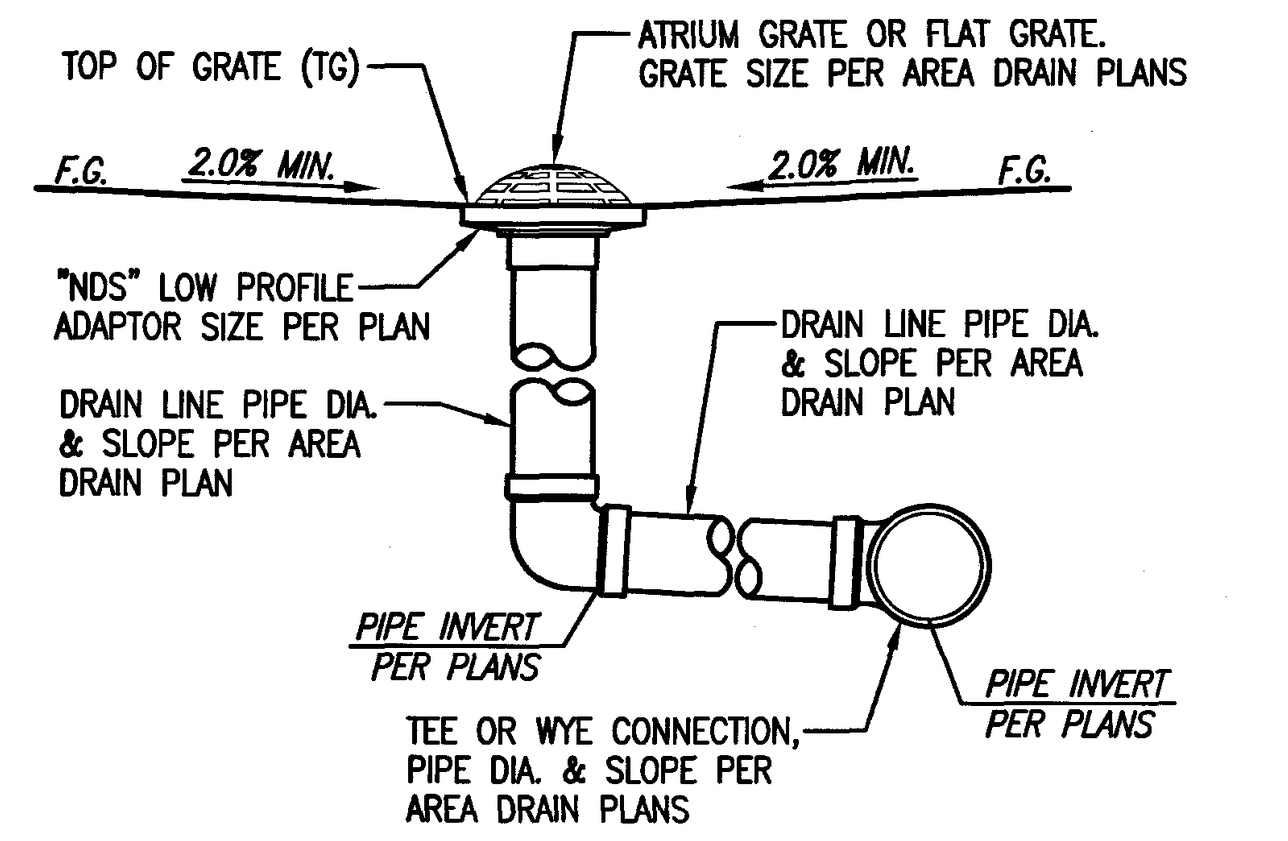
ROUND LANDSCAPE AREA DRAIN (OFF-LINE)


TOP OF GRATE (TG)
SQUARE ATRIUM GRATE OR FLAT GRATE GRATE DIA. PER AREA DRAIN PLANS
F.G.
2.0% MIN.
2.0% MIN.
F.G.
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
PIPE INVERT PER PLANS
BEND CONNECTION, PIPE DIA. & SLOPE PER AREA DRAIN PLANS

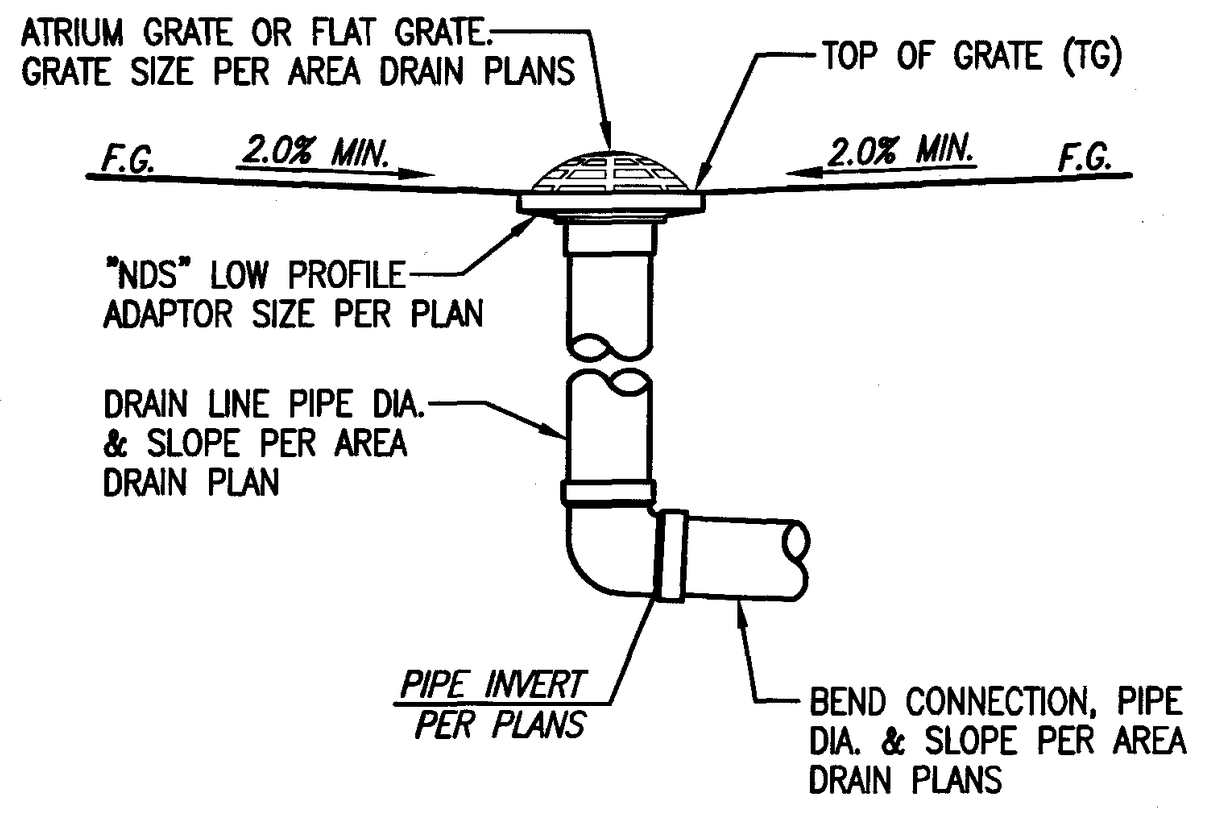
ROUND LANDSCAPE AREA DRAIN (TERMINAL)


TOP OF GRATE (TG)
SQUARE ATRIUM GRATE OR FLAT GRATE GRATE DIA. PER AREA DRAIN PLANS
F.G.
2.0% MIN.
2.0% MIN.
F.G.
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
PIPE INVERT PER PLANS
WYE CONNECTION PIPE DIA. & SLOPE PER AREA DRAIN PLANS

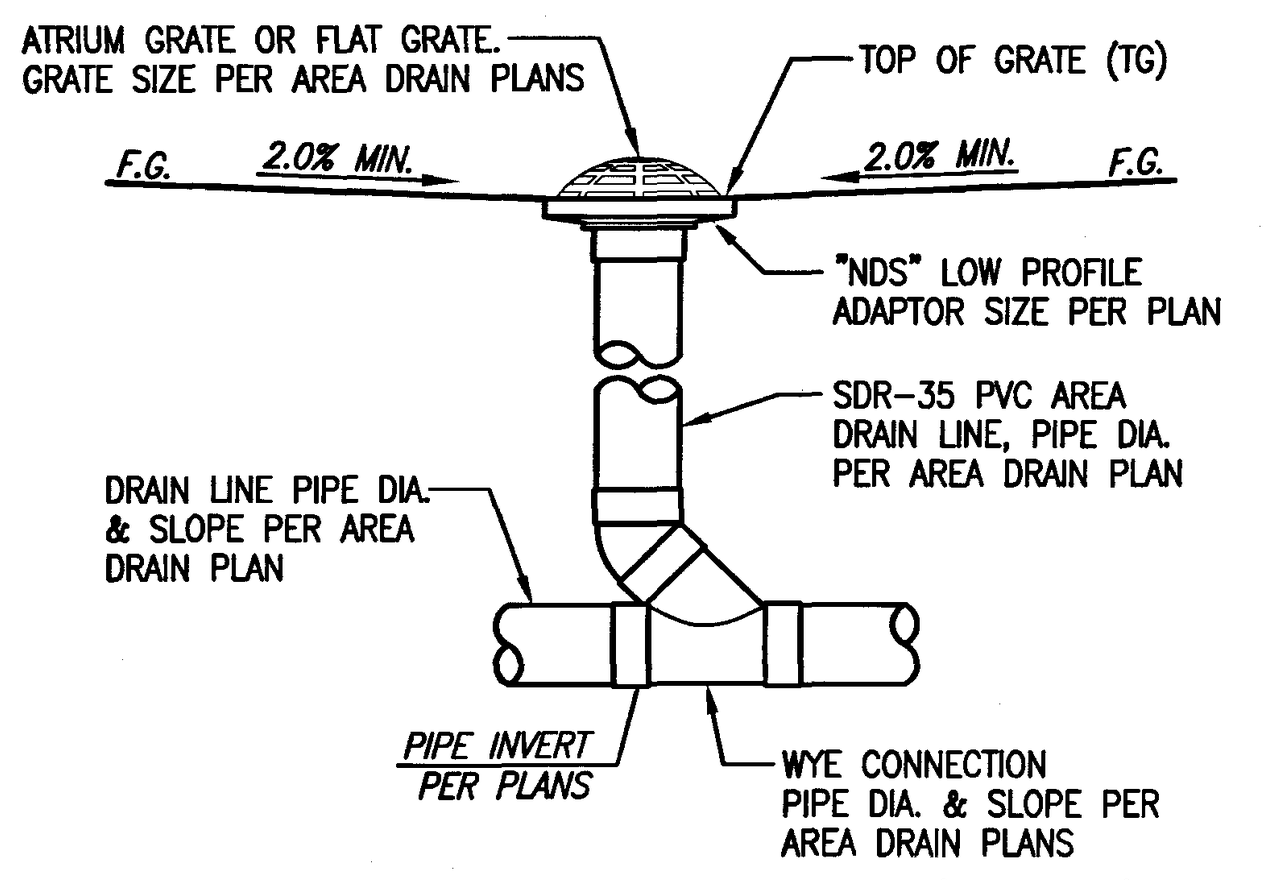
ROUND LANDSCAPE AREA DRAIN (IN-LINE)


TOP OF GRATE (TG)
ATRIUM GRATE OR FLAT GRATE. GRATE SIZE PER AREA DRAIN PLANS
F.G.
2.0% MIN.
2.0% MIN.
F.G.
"NDS" LOW PROFILE ADAPTOR SIZE PER PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
PIPE INVERT PER PLANS
TEE OR WYE CONNECTION, PIPE DIA. & SLOPE PER AREA DRAIN PLANS
PIPE INVERT PER PLANS

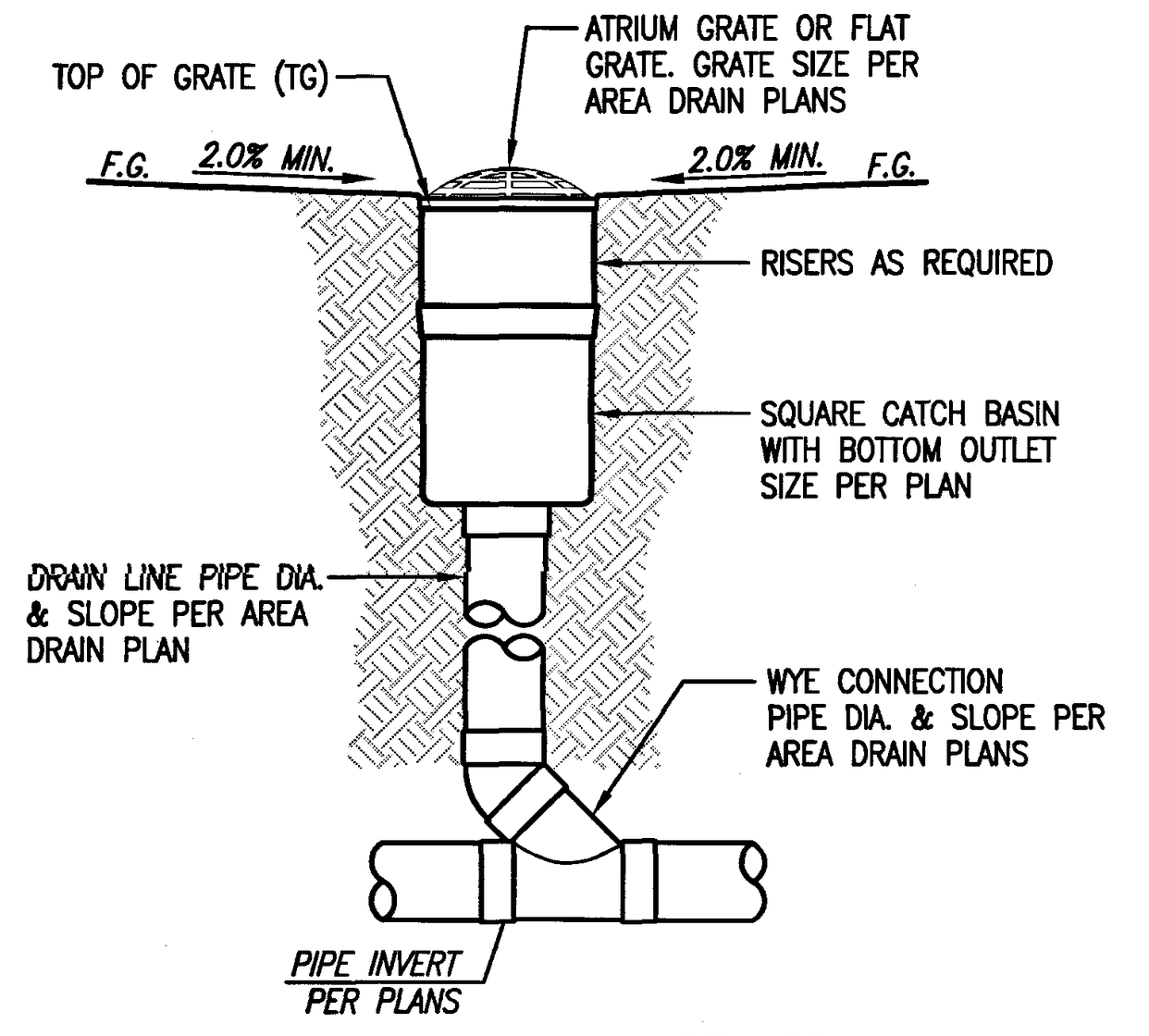
SQUARE LANDSCAPE AREA DRAIN (OFF-LINE)


ATRIUM GRATE OR FLAT GRATE. GRATE SIZE PER AREA DRAIN PLANS
TOP OF GRATE (TG)
F.G.
2.0% MIN.
2.0% MIN.
F.G.
"NDS" LOW PROFILE ADAPTOR SIZE PER PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
PIPE INVERT PER PLANS
BEND CONNECTION, PIPE DIA. & SLOPE PER AREA DRAIN PLANS

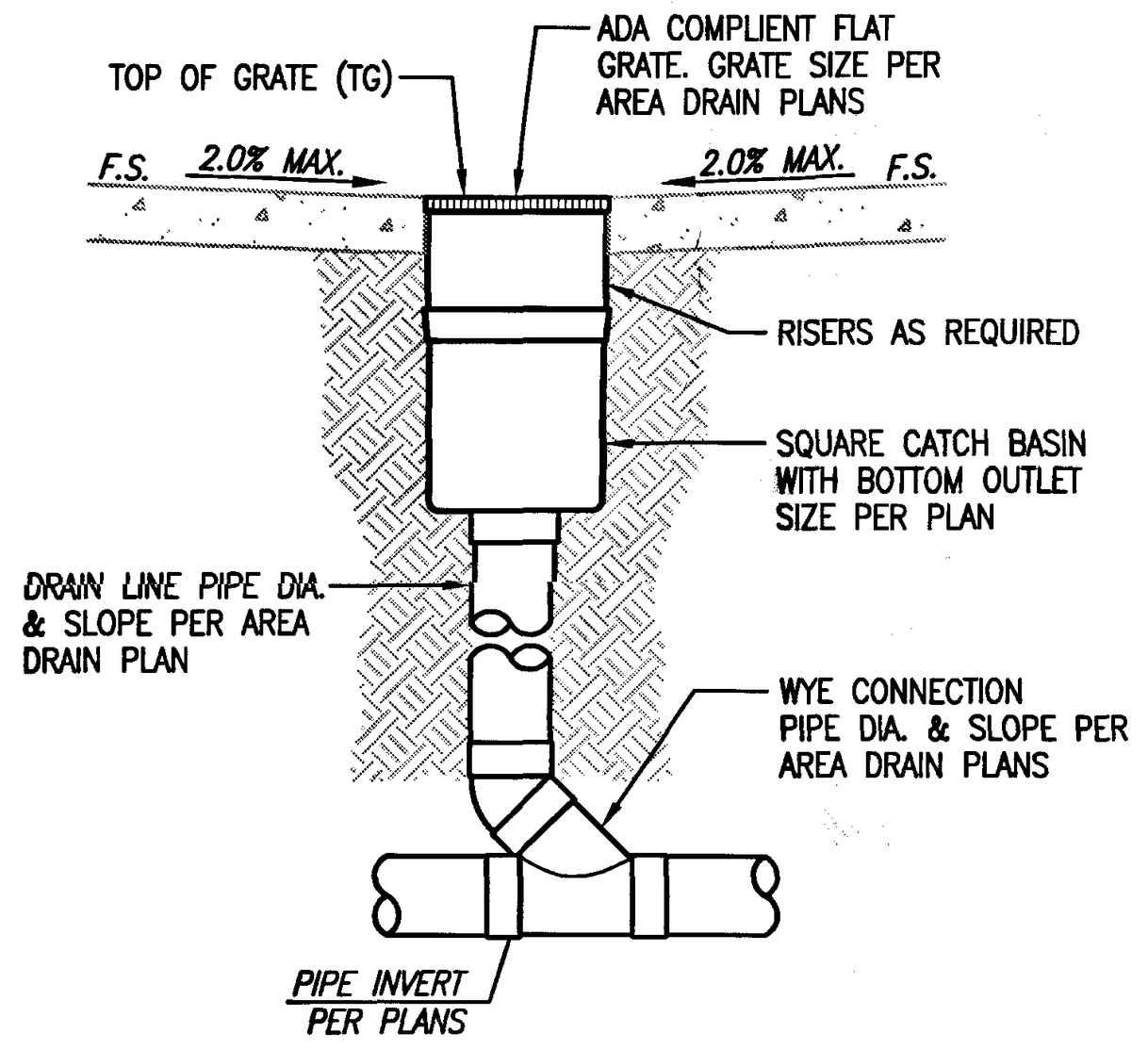
SQUARE LANDSCAPE AREA DRAIN (TERMINAL)


ATRIUM GRATE OR FLAT GRATE. GRATE SIZE PER AREA DRAIN PLANS
TOP OF GRATE (TG)
F.G.
2.0% MIN.
2.0% MIN.
F.G.
"NDS" LOW PROFILE ADAPTOR SIZE PER PLAN
SDR-35 PVC AREA DRAIN LINE, PIPE DIA. PER AREA DRAIN PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
PIPE INVERT PER PLANS
WYE CONNECTION PIPE DIA. & SLOPE PER AREA DRAIN PLANS

SQUARE LANDSCAPE AREA DRAIN (IN-LINE)


TOP OF GRATE (TG)
ATRIUM GRATE OR FLAT GRATE. GRATE SIZE PER AREA DRAIN PLANS
F.G.
2.0% MIN.
2.0% MIN.
F.G.
RISERS AS REQUIRED
SQUARE CATCH BASIN WITH BOTTOM OUTLET SIZE PER PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
WYE CONNECTION PIPE DIA. & SLOPE PER AREA DRAIN PLANS
PIPE INVERT PER PLANS

SUMP BOX LANDSCAPE AREA DRAIN


TOP OF GRATE (TG)
ADA COMPLIENT FLAT GRATE. GRATE SIZE PER AREA DRAIN PLANS
F.S.
2.0% MAX.
2.0% MAX.
F.S.
RISERS AS REQUIRED
SQUARE CATCH BASIN WITH BOTTOM OUTLET SIZE PER PLAN
DRAIN LINE PIPE DIA. & SLOPE PER AREA DRAIN PLAN
WYE CONNECTION PIPE DIA. & SLOPE PER AREA DRAIN PLANS
PIPE INVERT PER PLANS

SUMP BOX PEDESTRIAN AREA DRAIN

SCALE: NONE

AREA DRAIN DETAILS

10

HDPE STORM DRAIN PIPE - GENERIC SPECIFICATIONS

GENERAL NOTES:

CORRUGATED H.D.P.E. PIPE AND FITTINGS SHALL HAVE BELL AND SPIGOT JOINTS, SMOOTH INTERIOR COMPLYING WITH AASHTO DESIGNATION M-252(4"-10"), M-294(12"-36") TYPE S OR MP6-95 (42"&48") TYPE S OR D. THE PIPE AND FITTINGS SHALL BE MADE OF VIRGIN H.D.P.E. COMPOUNDS CONFORMING TO THE REQUIREMENTS OF CELL CLASSIFICATION 32440C. PIPE AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321 AND THE PROJECT SPECIFICATIONS. ALL PIPE SHALL BE JOINED WITH A BELL AND SPIGOT TYPE OR RUBBER GASKETED JOINT. ALL FITTINGS SHALL UTILIZE RUBBER GASKETED JOINTS. ALL RUBBER GASKET SHALL MEET THE REQUIREMENTS OF ASTM F-477.

WHERE H.D.P.E. STORM DRAIN LINES ARE SHOWN ON A RADIUS, THE CONTRACTOR SHALL FURNISH ELBOWS OR SHORT LENGTHS, OR A COMBINATION OF BOTH. THE MAXIMUM ALLOWABLE ANGLE IS 45 DEGREES. THE MAXIMUM ALLOWABLE HORIZONTAL DEFLECTION AT A JOINT WITHOUT AN ELBOW IS 3 DEGREES.

SMOOTH INTERIOR TYPE S AND TYPE D HIGH DENSITY POLYETHYLENE PIPE SHALL BE ADS N-12 STORM DRAIN PIPE OR APPROVED EQUAL.

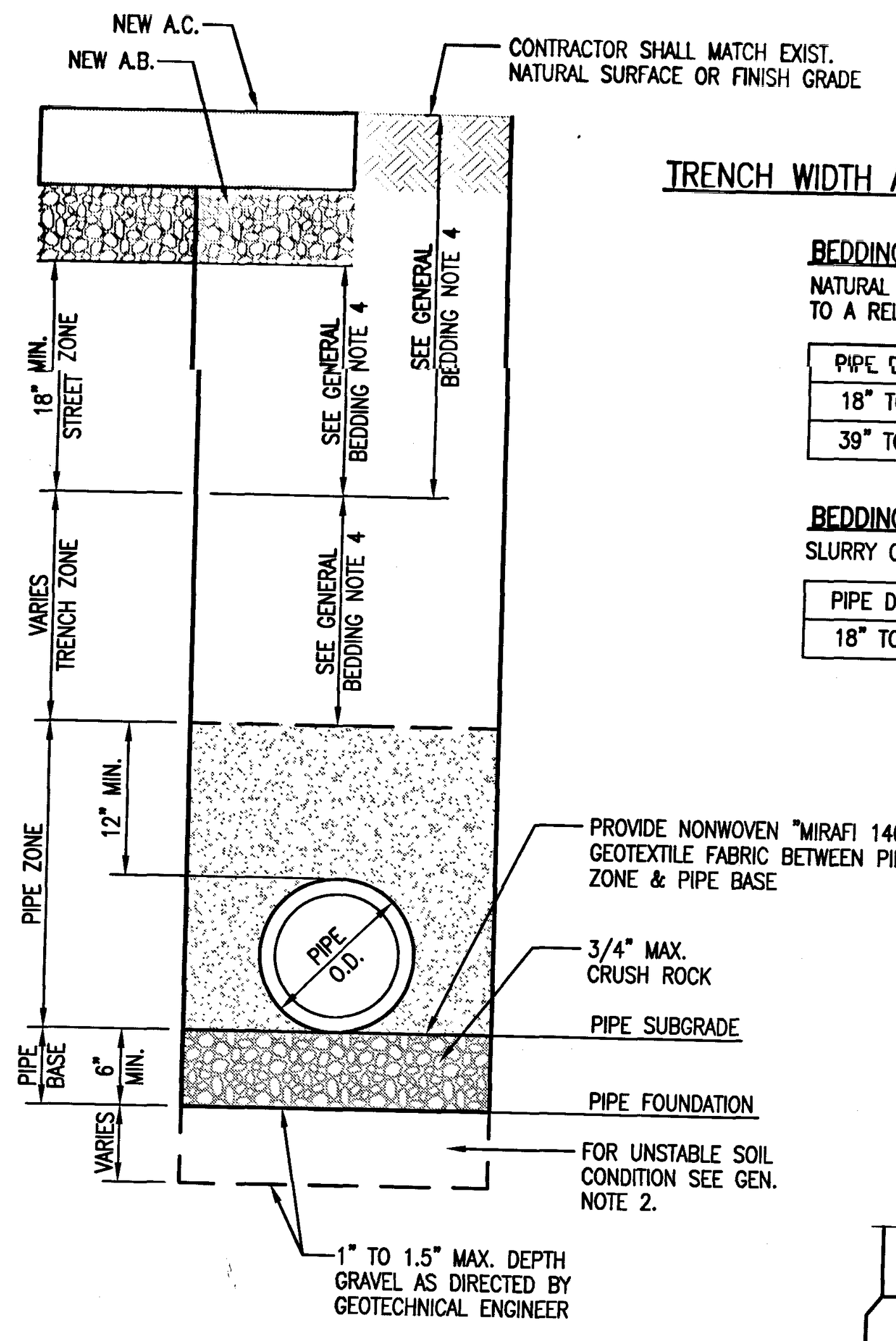
GENERAL NOTES:

NATIVE MATERIAL TO BE USED FOR BACKFILL IN THE PIPE TRENCH SHALL BE EXAMINED FOR SUITABILITY OF INTENDED USE BY THE GEOTECHNICAL CONSULTANT PRIOR TO ANY TRENCH BACKFILL. COMPACTION TEST FOR EACH LIFT SHALL BE OBTAINED AT THE DISCRETION OF THE ENGINEER. THE ENGINEER OR GEOTECHNICAL CONSULTANT SHALL DECIDE THE EXACT LOCATION AT WHICH THE COMPACTION TESTS ARE OBTAINED.

AT ALL TIMES PIPE MATERIALS SHALL BE HANDLED WITH CARE TO AVOID DAMAGE. WHETHER MOVED BY HAND, FORKLIFT, OR HOISTS, MATERIAL SHALL NOT BE DROPPED, BUMPED, OR ALLOWED TO IMPACT ON ITSELF. DOUBLE STRAPPING SHOULD BE USED WITH ALL LIFTS. WHENEVER POSSIBLE, IN DISTRIBUTING THE PIPE AT THE JOB SITE, IT SHALL BE UNLOADED ADJACENT TO OR NEAR THE LOCATION WHERE IT IS TO BE INSTALLED.

GENERAL BEDDING NOTES:

1. TRENCH WIDTH DETAIL AND BACKFILL REQUIREMENTS SHALL BE EXECUTED AT CONTRACTOR'S DISCRETION. BEDDINGS 'A' AND 'B' SHALL BE FROM PIPE SUBRGRADE.
2. IF UNSTABLE SOIL IS ENCOUNTERED, GEOTECHNICAL ENGINEER WILL DETERMINE CONTRACTOR'S OPTIONS. BEDDINGS 'A', 'B' AND 'C' SHALL BE FROM PIPE SUBGRADE.
3. 2 SACK SLURRY CEMENT BACKFILL SHALL BE USED WHERE COVER IS 2-FEET AND UNDER.
4. NATIVE OR IMPORTED BACKFILL AT THE CONTRACTORS DISCRETION TO BE BROUGHT UP IN LIFTS AND COMPACTED TO 90%.


NEW A.C.
NEW A.B.
CONTRACTOR SHALL MATCH EXIST. NATURAL SURFACE OR FINISH GRADE
18" MIN.
STREET ZONE
SEE GENERAL BEDDING NOTE 4
SEE GENERAL BEDDING NOTE 4
VARIES
TRENCH ZONE
SEE GENERAL BEDDING NOTE 4
12" MIN.
PIPE ZONE
PIPE O.D.
PROVIDE NONWOVEN "MIRAFI 140N" GEOTEXTILE FABRIC BETWEEN PIPE ZONE & PIPE BASE
3/4" MAX. CRUSH ROCK
PIPE SUBGRADE
PIPE BASE
6" MIN.
PIPE FOUNDATION
VARIES
FOR UNSTABLE SOIL CONDITION SEE GEN. NOTE 2.
1" TO 1.5" MAX. DEPTH GRAVEL AS DIRECTED BY GEOTECHNICAL ENGINEER

TRENCH WIDTH AND BACKFILL REQUIREMENTS:

BEDDING 'A'

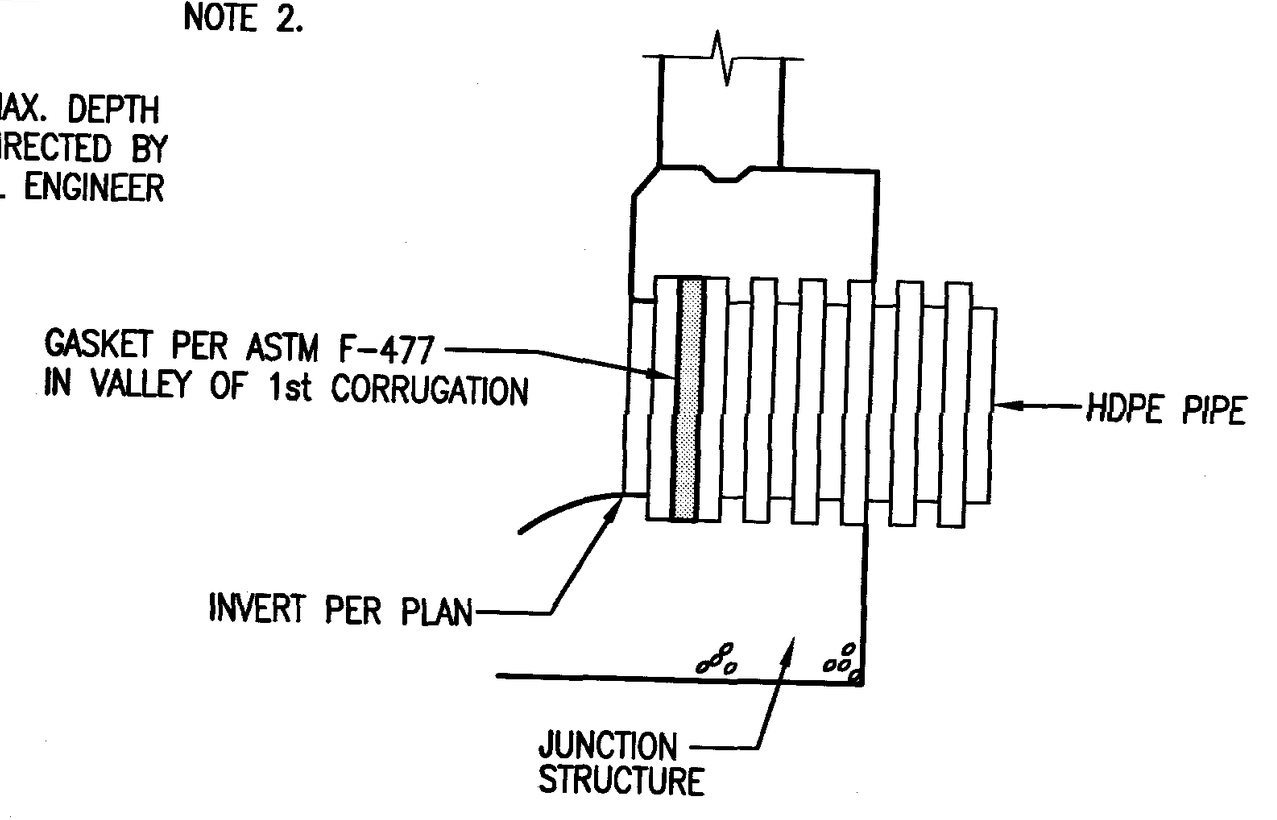
NATURAL CLEAN SAND PER SSPWC 306-1.3 COMPACTED TO A RELATIVE COMPACTION OF NOT LESS THAN 90%.

PIPE DIAMETER	TRENCH WIDTH
18" TO 36"	O.D. + 36"
39" TO 48"	O.D. + 48"

BEDDING 'B'

SLURRY OR CLSM, 2 SACK CEMENT

PIPE DIAMETER	TRENCH WIDTH
18" TO 48"	O.D. + 10"

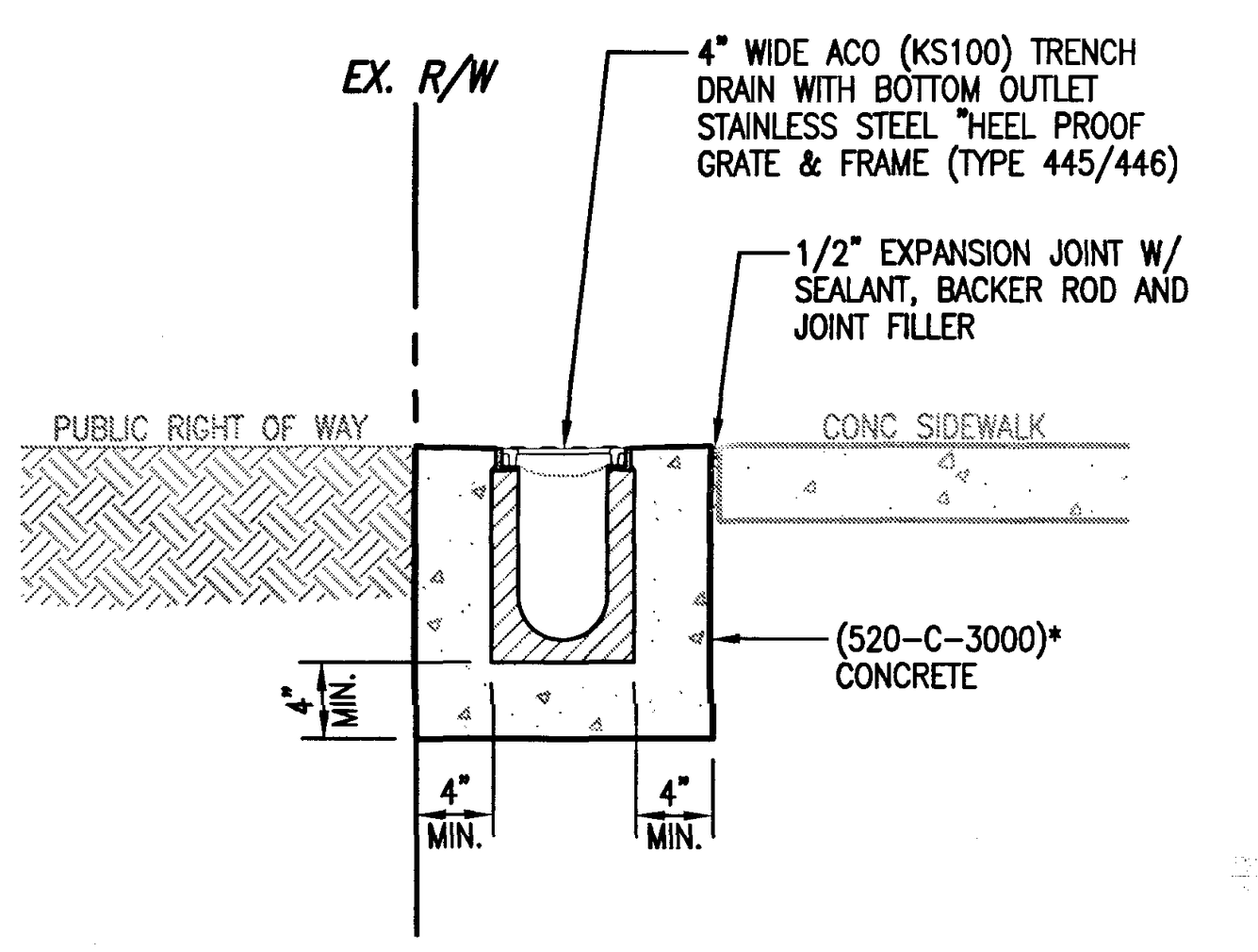

GASKET PER ASTM F-477 IN VALLEY OF 1st CORRUGATION
HDPE PIPE
INVERT PER PLAN
JUNCTION STRUCTURE

MANHOLE CONNECTION DETAILS

SCALE: NONE

HDPE TRENCHING AND BEDDING

2


EX. R/W
4" WIDE ACO (KS100) TRENCH DRAIN WITH BOTTOM OUTLET STAINLESS STEEL "HEEL PROOF GRATE & FRAME (TYPE 445/446)
1/2" EXPANSION JOINT W/ SEALANT, BACKER ROD AND JOINT FILLER
PUBLIC RIGHT OF WAY
CONC SIDEWALK
(520-C-3000)* CONCRETE
4" MIN.
4" MIN.
4" MIN.

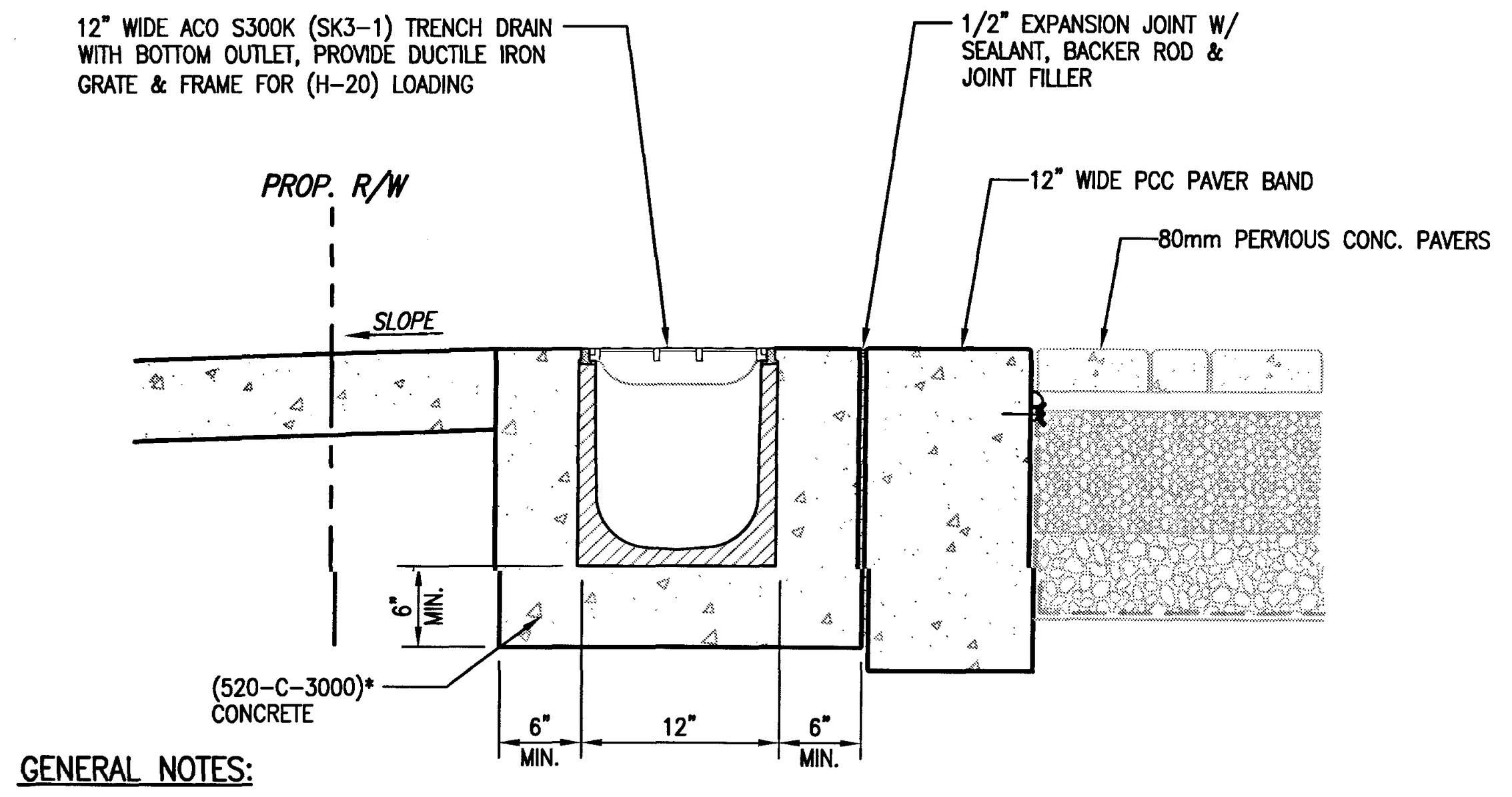
GENERAL NOTES:

- STRENGTH OF CONCRETE AND CEMENT TYPE FRO ALL CONCRETE IN CONTACT WITH SOIL TO BE DETERMINED BY THE PROJECT SOIL ENGINEER IN THE FIELD BASED ON SULFATE CONTENT OF THE SOIL.

SCALE: NONE

4" WIDE TRENCH DRAIN

15


12" WIDE ACO S300K (SK3-1) TRENCH DRAIN WITH BOTTOM OUTLET, PROVIDE DUCTILE IRON GRATE & FRAME FOR (H-20) LOADING
1/2" EXPANSION JOINT W/ SEALANT, BACKER ROD & JOINT FILLER
12" WIDE PCC PAVER BAND
80mm PERVIOUS CONC. PAVERS
PROP. R/W
SLOPE
6" MIN.
(520-C-3000)* CONCRETE
6" MIN.
12"
6" MIN.

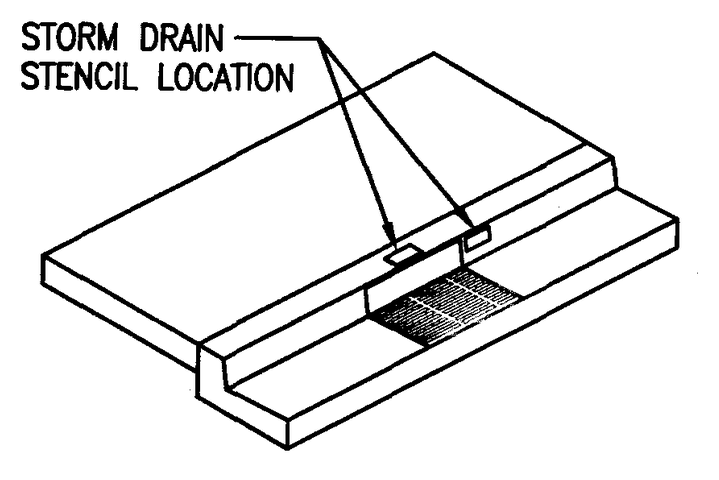
GENERAL NOTES:

- STRENGTH OF CONCRETE AND CEMENT TYPE FRO ALL CONCRETE IN CONTACT WITH SOIL TO BE DETERMINED BY THE PROJECT SOIL ENGINEER IN THE FIELD BASED ON SULFATE CONTENT OF THE SOIL.

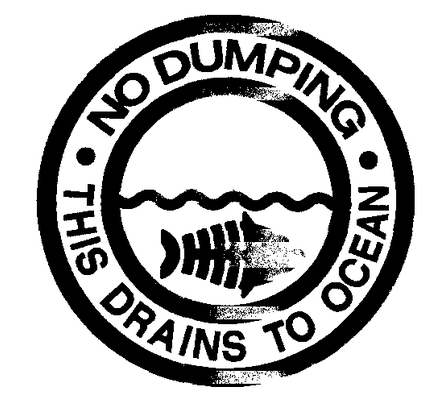
SCALE: NONE

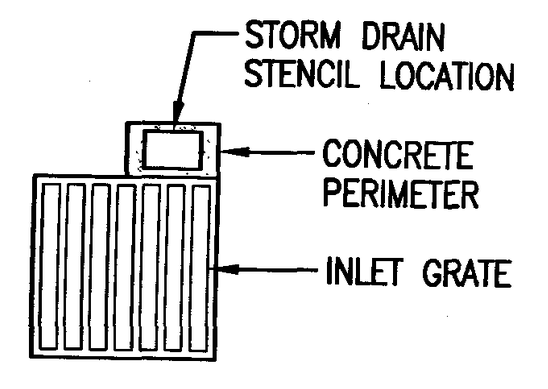
12" WIDE TRENCH DRAIN

11

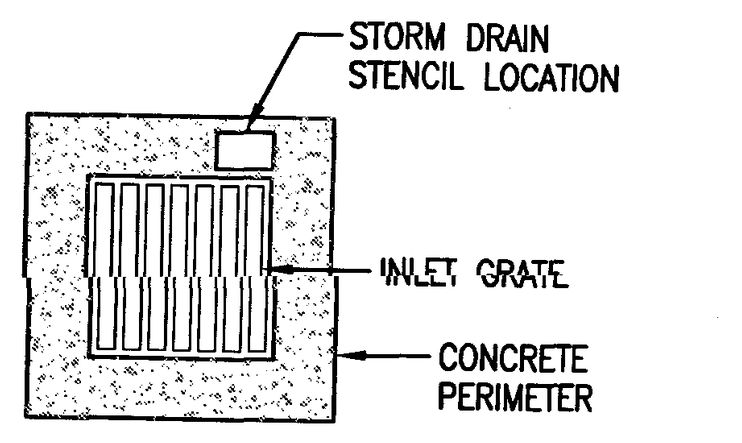

STORM DRAIN STENCIL LOCATION

CURB TYPE INLET


NO DUMPING
THIS DRAINS TO OCEAN


STORM DRAIN STENCIL LOCATION
CONCRETE PERIMETER
INLET GRATE

AREA DRAIN TYPE INLET


STORM DRAIN STENCIL LOCATION
INLET GRATE
CONCRETE PERIMETER

PCC DROP INLET GRATING TYPE INLET

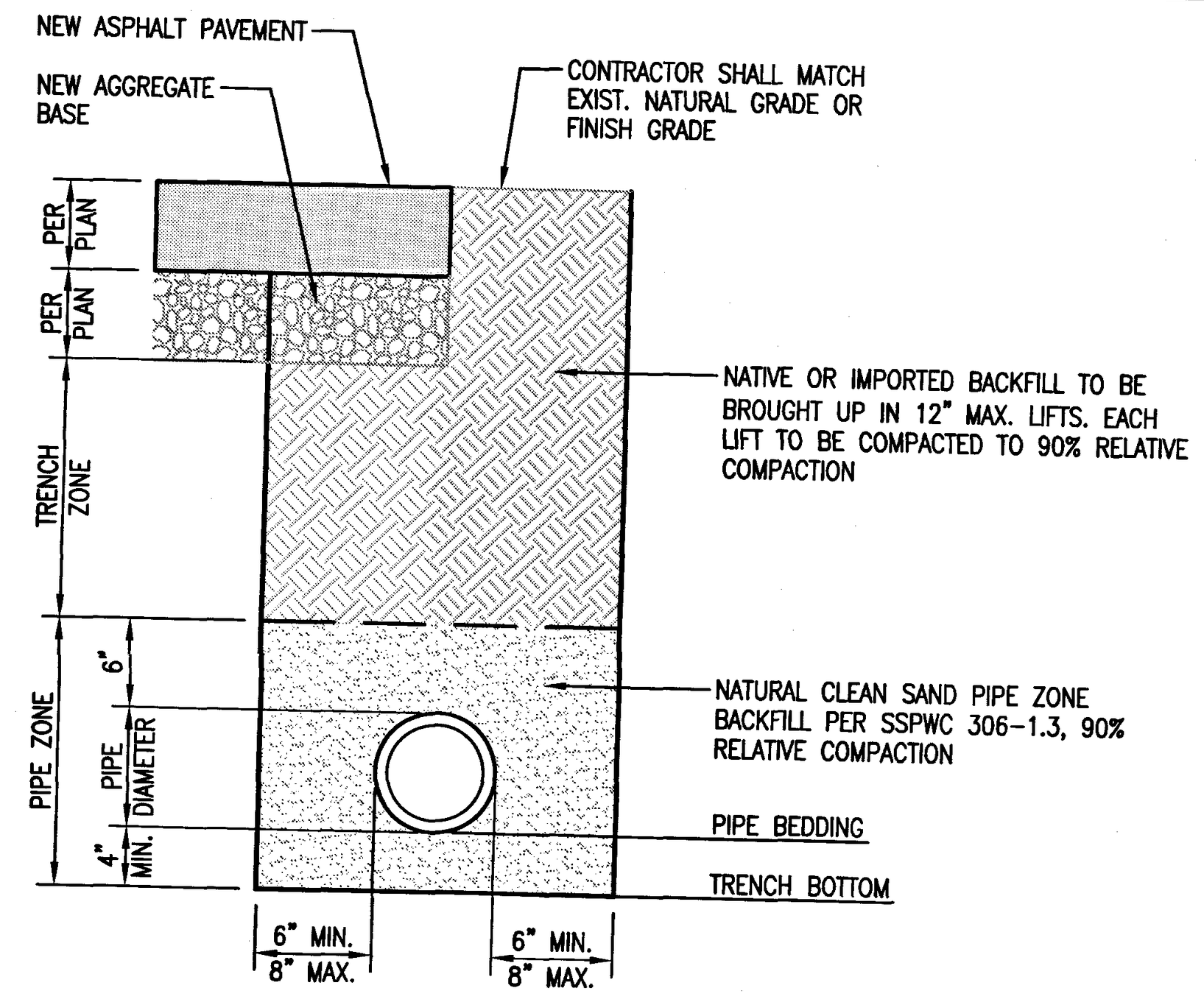
NOTES:

1. STENCIL OR SIGNAGE IS REQUIRED AT ALL DRAINAGE INLETS.
2. STORM DRAIN MESSAGE WILL BE APPLIED IN SUCH A WAY AS TO PROVIDE A CLEAR LEGIBLE IMAGE.
3. STORM DRAIN MESSAGE WILL BE PERMANENTLY APPLIED DURING THE CONSTRUCTION OF THE CURB AND GUTTER USING A METHOD APPROVED BY THE COUNTY.

SCALE: NONE

STORM DRAIN STENCILING

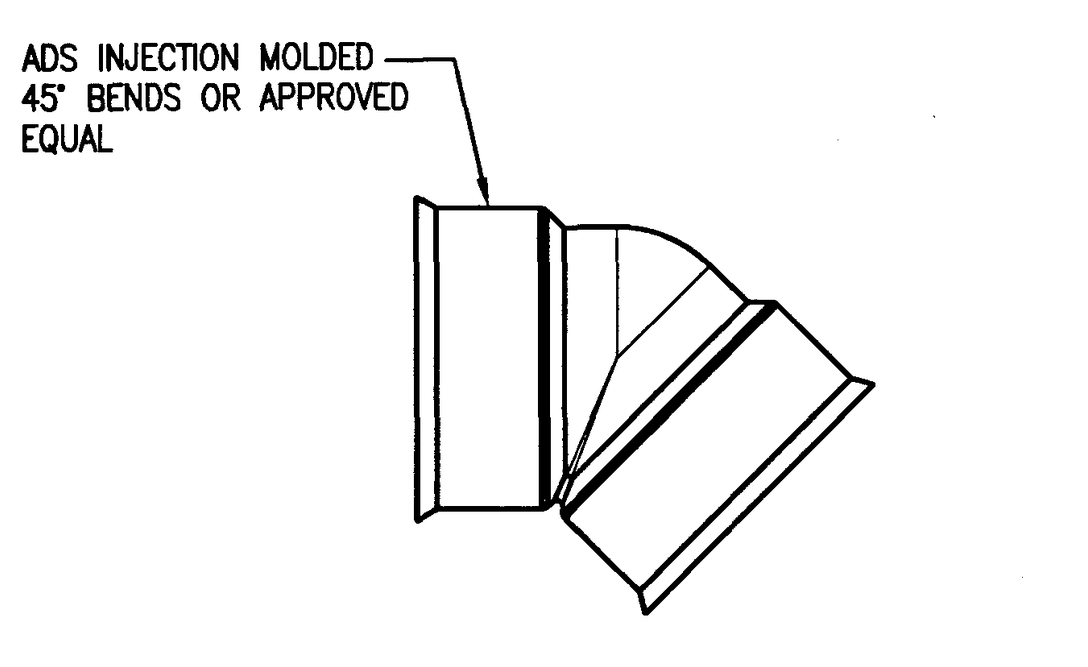
7


NEW ASPHALT PAVEMENT
NEW AGGREGATE BASE
CONTRACTOR SHALL MATCH EXIST. NATURAL GRADE OR FINISH GRADE
PER PLAN
PER PLAN
TRENCH ZONE
NATIVE OR IMPORTED BACKFILL TO BE BROUGHT UP IN 12" MAX. LIFTS. EACH LIFT TO BE COMPACTED TO 90% RELATIVE COMPACTION
PIPE ZONE
6"
PIPE DIAMETER
4" MIN.
NATURAL CLEAN SAND PIPE ZONE BACKFILL PER SSPWC 306-1.3, 90% RELATIVE COMPACTION
PIPE BEDDING
TRENCH BOTTOM
6" MIN. 8" MAX.
6" MIN. 8" MAX.

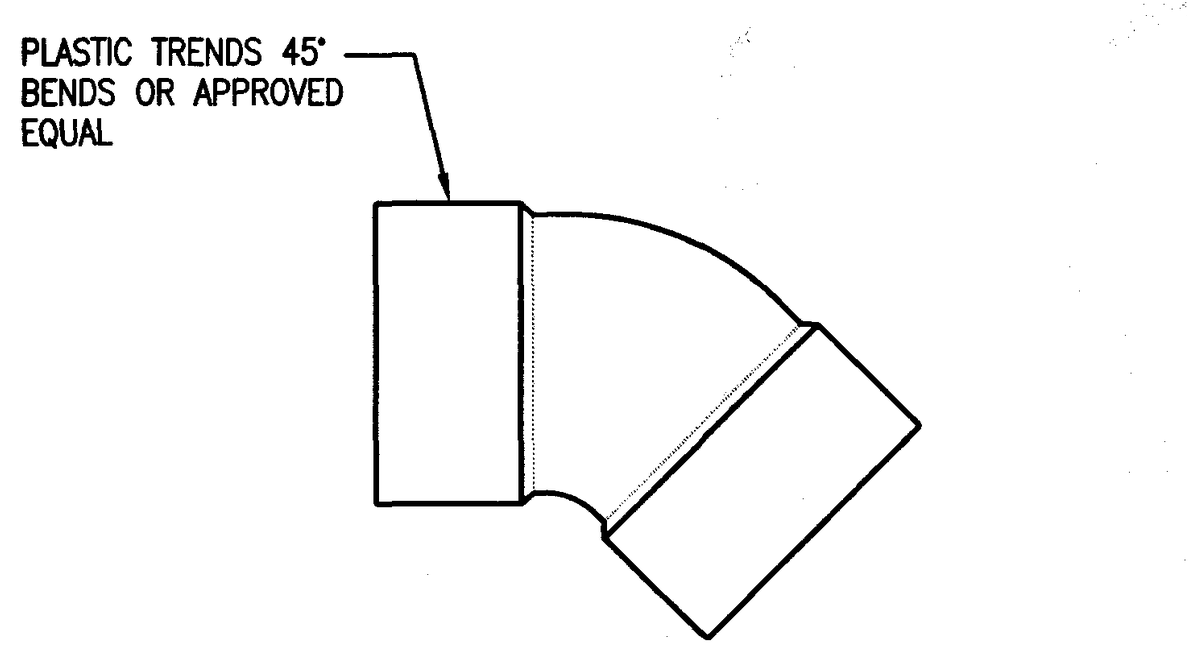
SCALE: NONE

PVC TRENCHING AND BEDDING

3


ADS INJECTION MOLDED 45° BENDS OR APPROVED EQUAL

HDPE SMOOTH SWEEP RADIUS PIPE FITTINGS

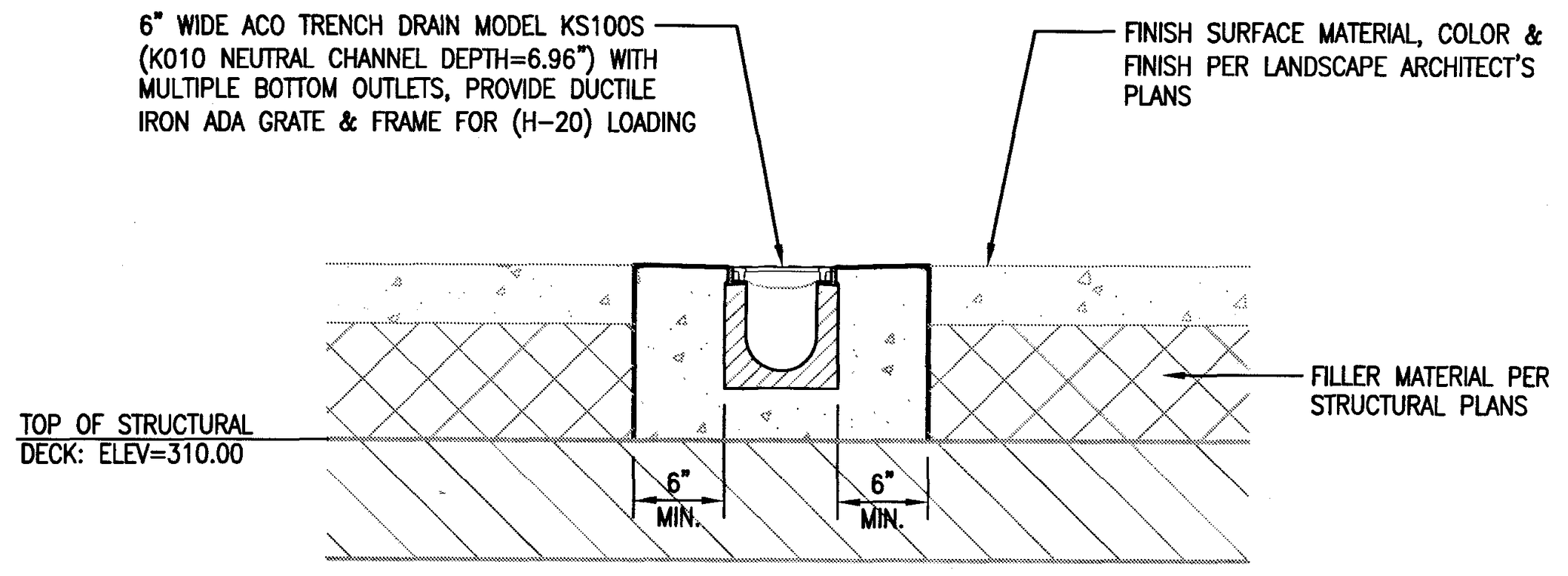

PLASTIC TRENDS 45° BENDS OR APPROVED EQUAL

PVC SMOOTH SWEEP RADIUS PIPE FITTINGS

SCALE: NONE

SMOOTH SWEEP RADIUS PIPE FITTINGS

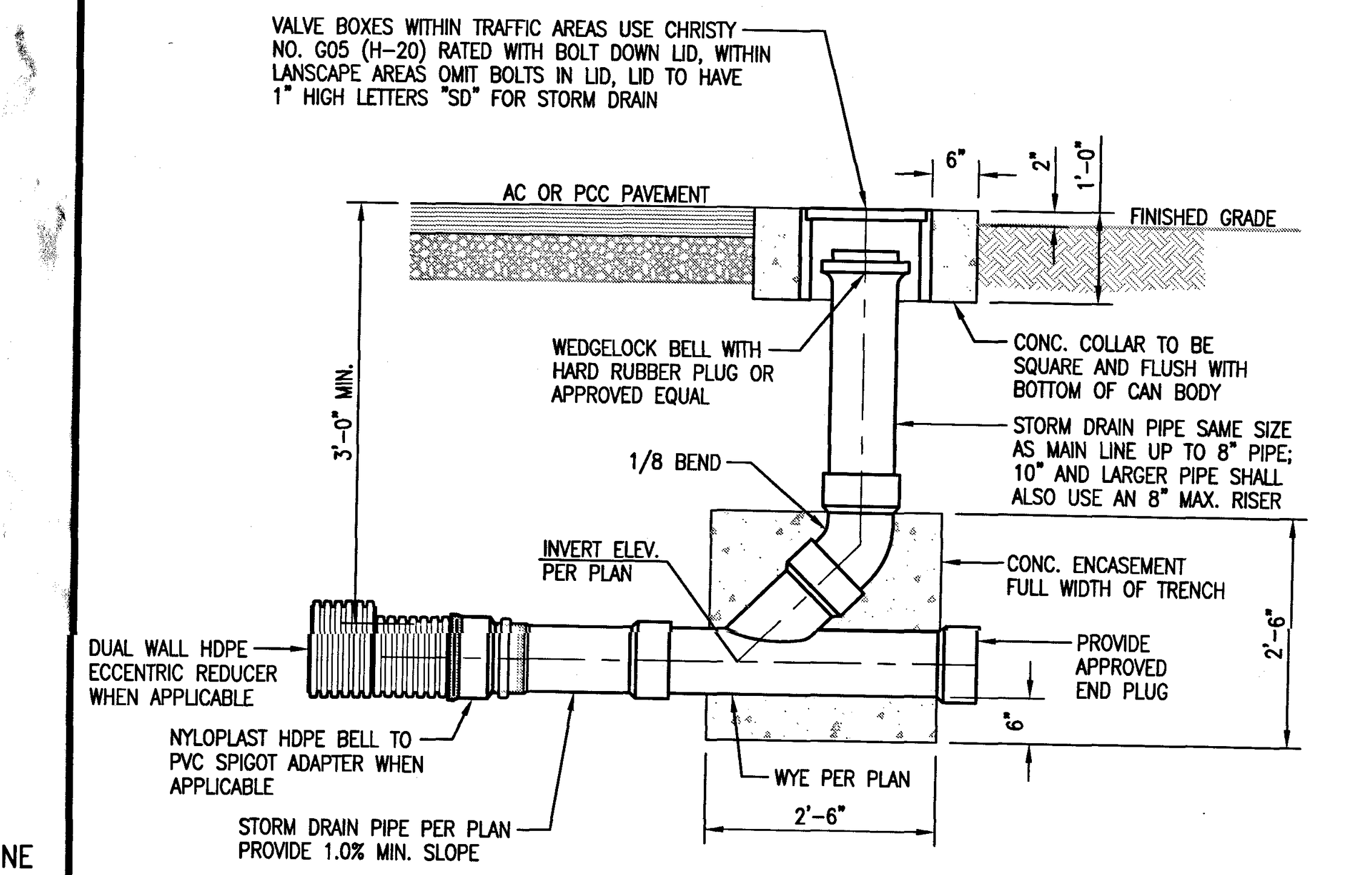
16


6" WIDE ACO TRENCH DRAIN MODEL KS100S (K010 NEUTRAL CHANNEL DEPTH=6.96") WITH MULTIPLE BOTTOM OUTLETS, PROVIDE DUCTILE IRON ADA GRATE & FRAME FOR (H-20) LOADING
FINISH SURFACE MATERIAL, COLOR & FINISH PER LANDSCAPE ARCHITECT'S PLANS
FILLER MATERIAL PER STRUCTURAL PLANS
TOP OF STRUCTURAL DECK: ELEV=310.00
6" MIN.
6" MIN.

SCALE: NONE

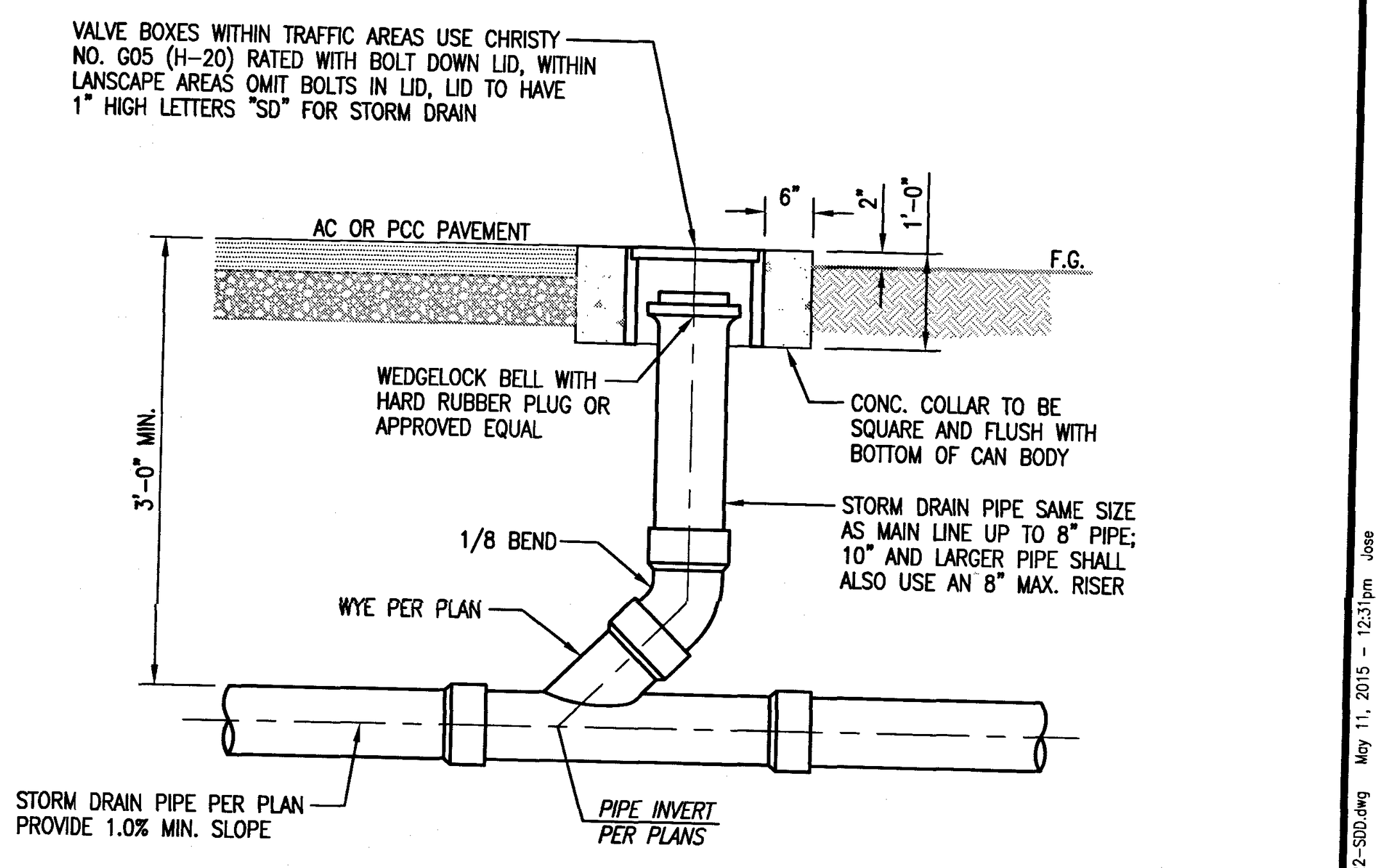
6" WIDE TRENCH DRAIN ON STRUCTURAL DECK

12


VALVE BOXES WITHIN TRAFFIC AREAS USE CHRISTY NO. G05 (H-20) RATED WITH BOLT DOWN LID, WITHIN LANSCAPE AREAS OMIT BOLTS IN LID, LID TO HAVE 1" HIGH LETTERS "SD" FOR STORM DRAIN
6"
2"
1'-0"
AC OR PCC PAVEMENT
FINISHED GRADE
3'-0" MIN.
WEDGELOCK BELL WITH HARD RUBBER PLUG OR APPROVED EQUAL
CONC. COLLAR TO BE SQUARE AND FLUSH WITH BOTTOM OF CAN BODY
STORM DRAIN PIPE SAME SIZE AS MAIN LINE UP TO 8" PIPE; 10" AND LARGER PIPE SHALL ALSO USE AN 8" MAX. RISER
1/8 BEND
INVERT ELEV. PER PLAN
CONC. ENCASEMENT FULL WIDTH OF TRENCH
2'-6"
DUAL WALL HDPE ECCENTRIC REDUCER WHEN APPLICABLE
PROVIDE APPROVED END PLUG
6"
NYLOPLAST HDPE BELL TO PVC SPIGOT ADAPTER WHEN APPLICABLE
WYE PER PLAN
2'-6"
STORM DRAIN PIPE PER PLAN PROVIDE 1.0% MIN. SLOPE

TERMINAL CLEANOUT

8


VALVE BOXES WITHIN TRAFFIC AREAS USE CHRISTY NO. G05 (H-20) RATED WITH BOLT DOWN LID, WITHIN LANSCAPE AREAS OMIT BOLTS IN LID, LID TO HAVE 1" HIGH LETTERS "SD" FOR STORM DRAIN
6"
2"
1'-0"
AC OR PCC PAVEMENT
F.G.
3'-0" MIN.
WEDGELOCK BELL WITH HARD RUBBER PLUG OR APPROVED EQUAL
CONC. COLLAR TO BE SQUARE AND FLUSH WITH BOTTOM OF CAN BODY
STORM DRAIN PIPE SAME SIZE AS MAIN LINE UP TO 8" PIPE; 10" AND LARGER PIPE SHALL ALSO USE AN 8" MAX. RISER
1/8 BEND
WYE PER PLAN
STORM DRAIN PIPE PER PLAN PROVIDE 1.0% MIN. SLOPE
PIPE INVERT PER PLANS

SCALE: NONE

IN-LINE CLEANOUT

4

Know what's below. Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
#1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:

KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

James H Kawamura

SHEET DESCRIPTION:

STORM DRAIN DETAILS

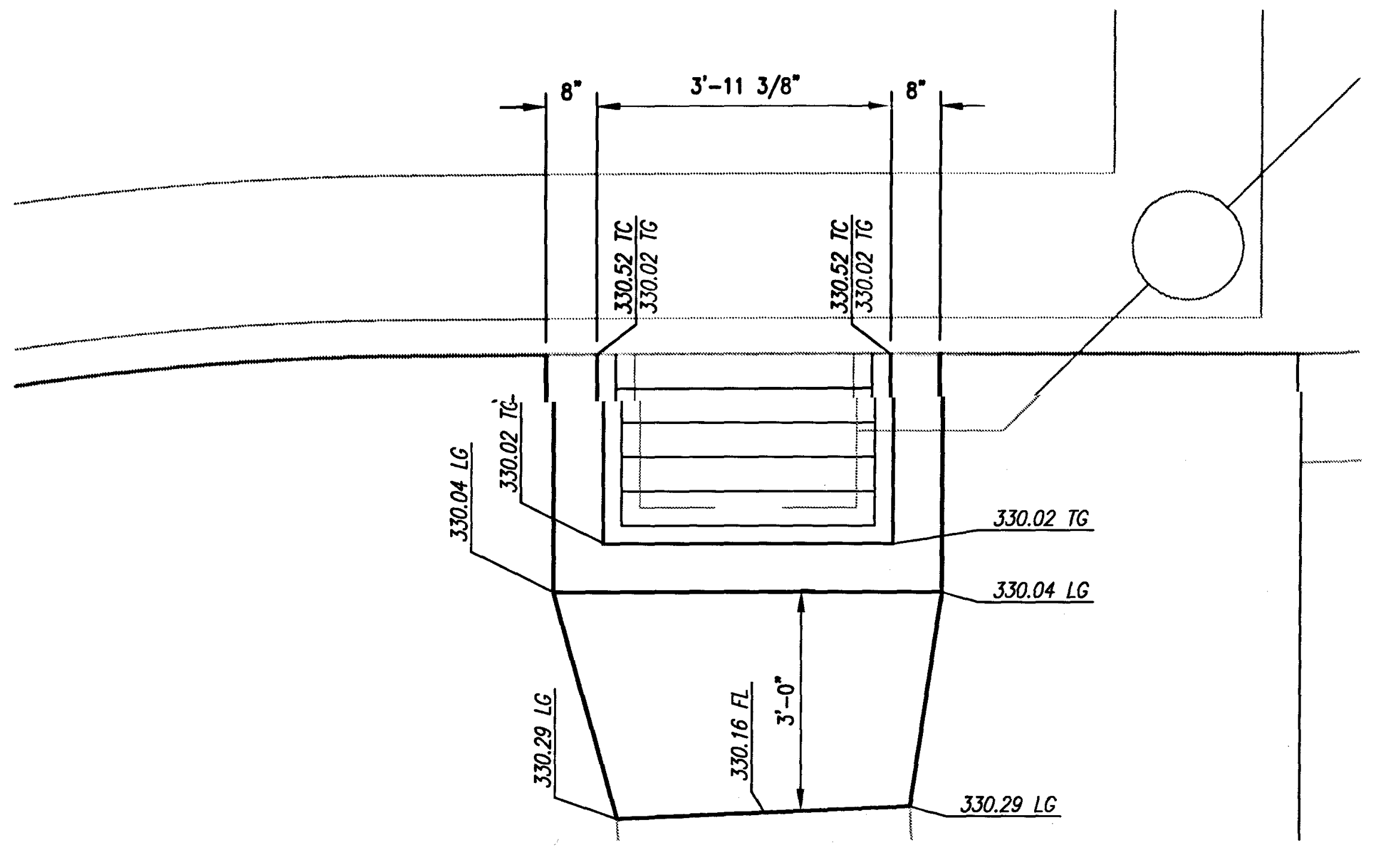
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

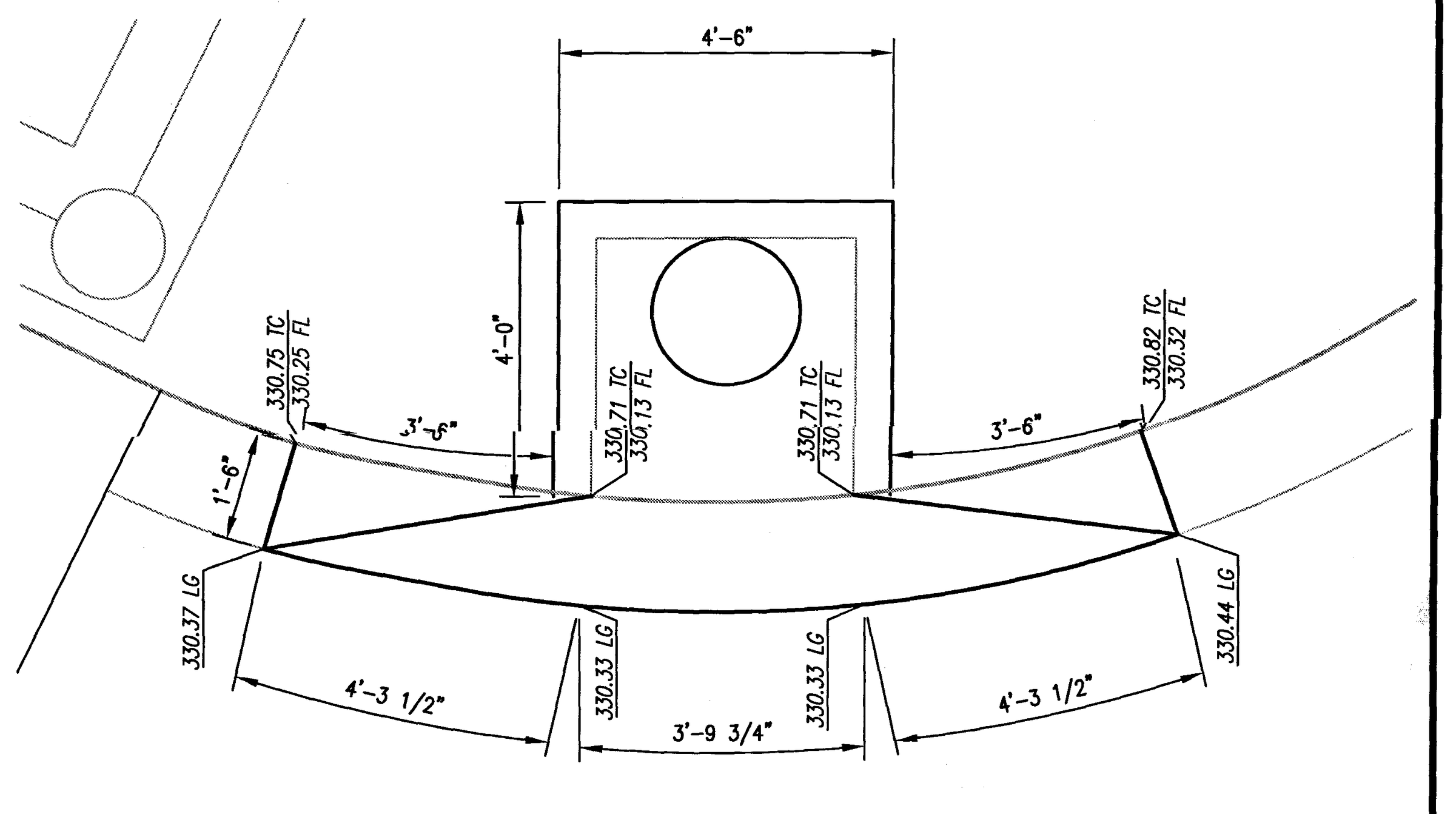
SHEET NO.
C-22 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-22-SDD.dwg May 11, 2015 - 12:31pm Jose


8"
3'-11 3/8"
8"
330.52 TC
330.02 TG
330.52 TC
330.02 TG
330.02 TG
330.04 LG
330.02 TG
330.04 LG
3'-0"
330.29 LG
330.16 FL
330.29 LG

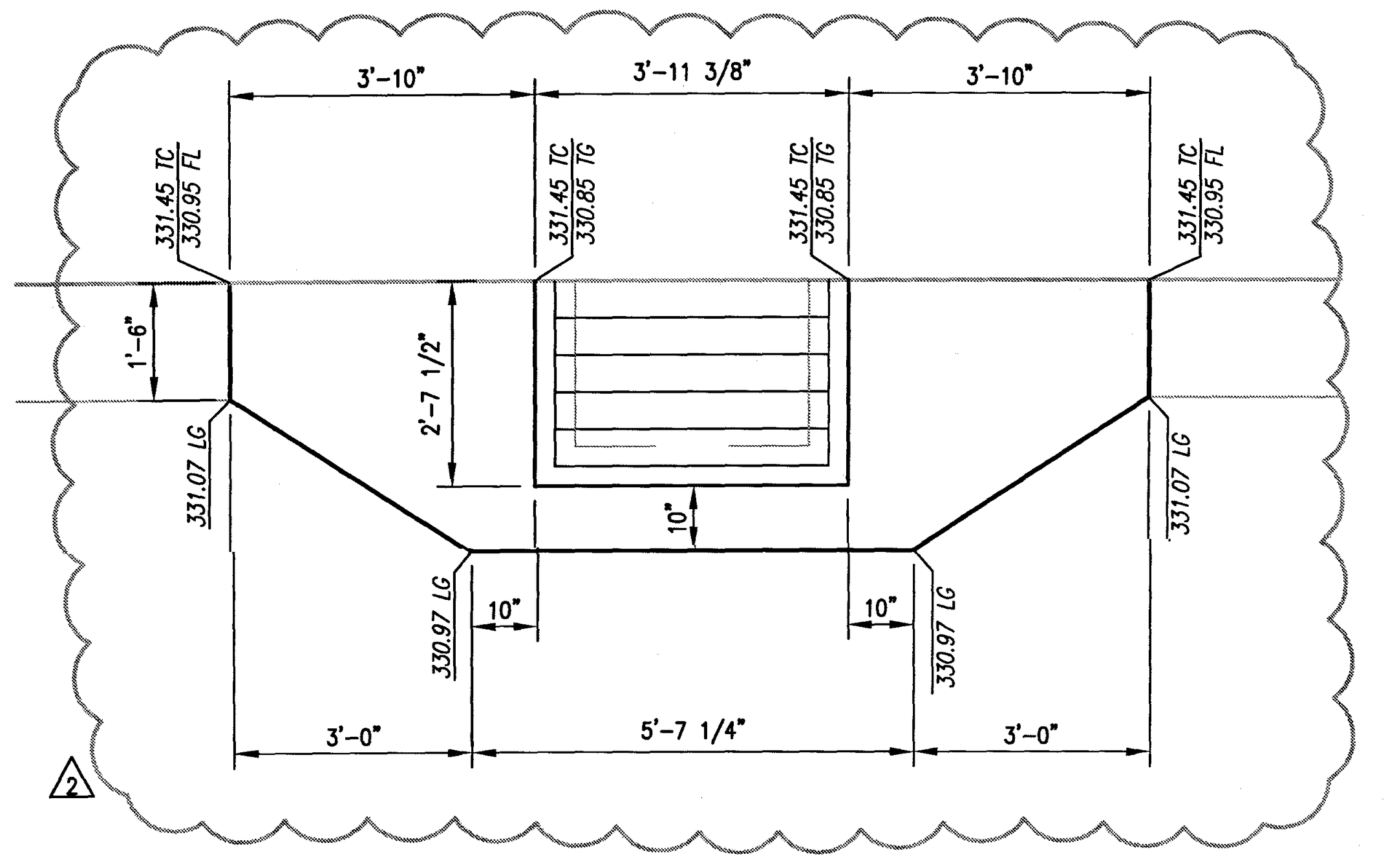
LOCAL DEPRESSION DETAIL #1

8


4'-6"
4'-0"
330.75 TC
330.25 FL
3'-6"
330.71 TC
330.13 FL
330.71 TC
330.13 FL
3'-6"
330.82 TC
330.32 FL
1'-6"
330.37 LG
330.33 LG
330.33 LG
330.44 LG
4'-3 1/2"
3'-9 3/4"
4'-3 1/2"

LOCAL DEPRESSION DETAIL #2

9

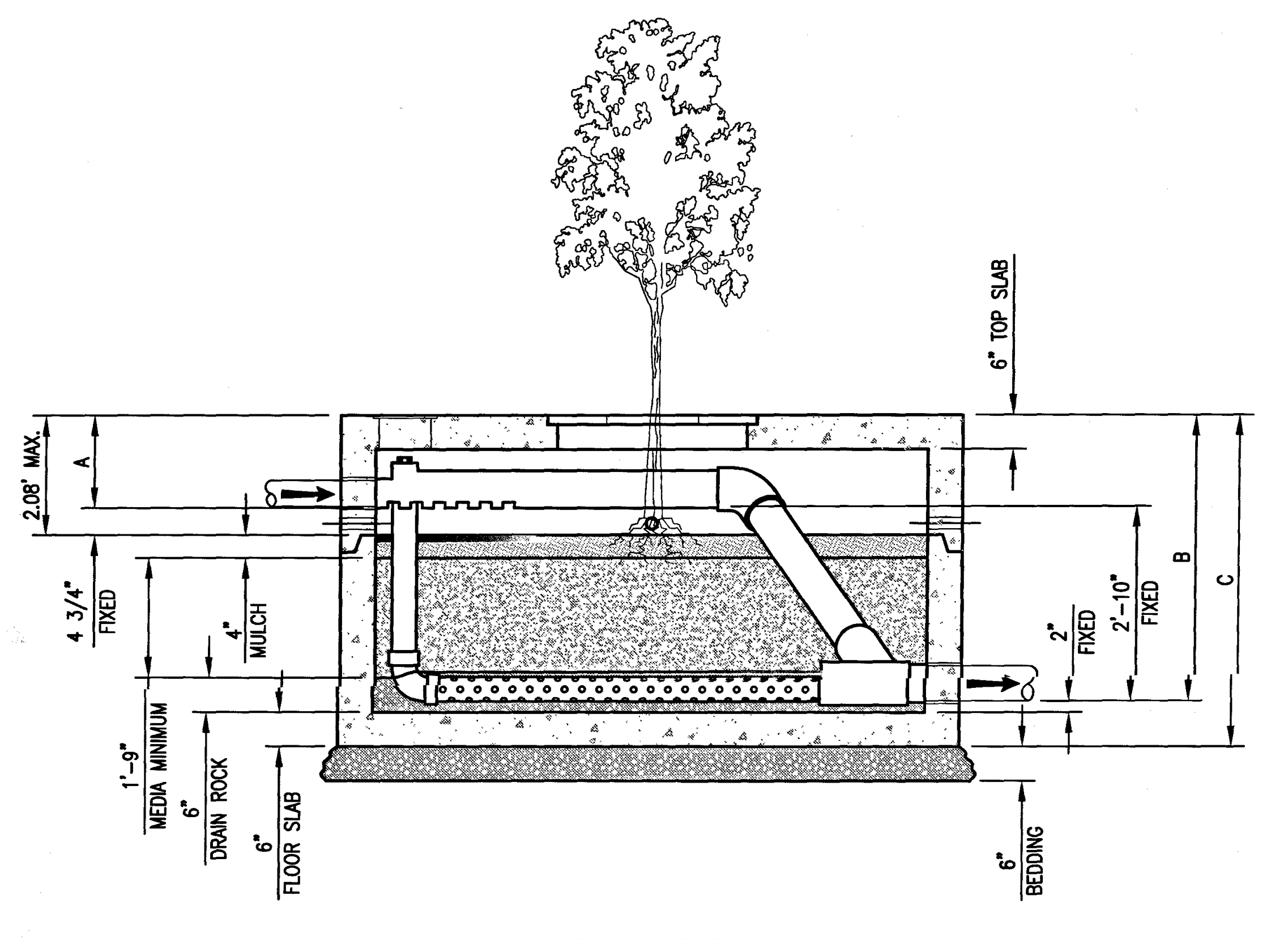

3'-10"
3'-11 3/8"
3'-10"
331.45 TC
330.95 FL
331.45 TC
330.85 TG
331.45 TC
330.85 TG
331.45 TC
330.95 FL
1'-6"
2'-7 1/2"
331.07 LG
331.07 LG
10"
330.97 LG
10"
10"
330.97 LG
3'-0"
5'-7 1/4"
3'-0"

LOCAL DEPRESSION DETAIL #3

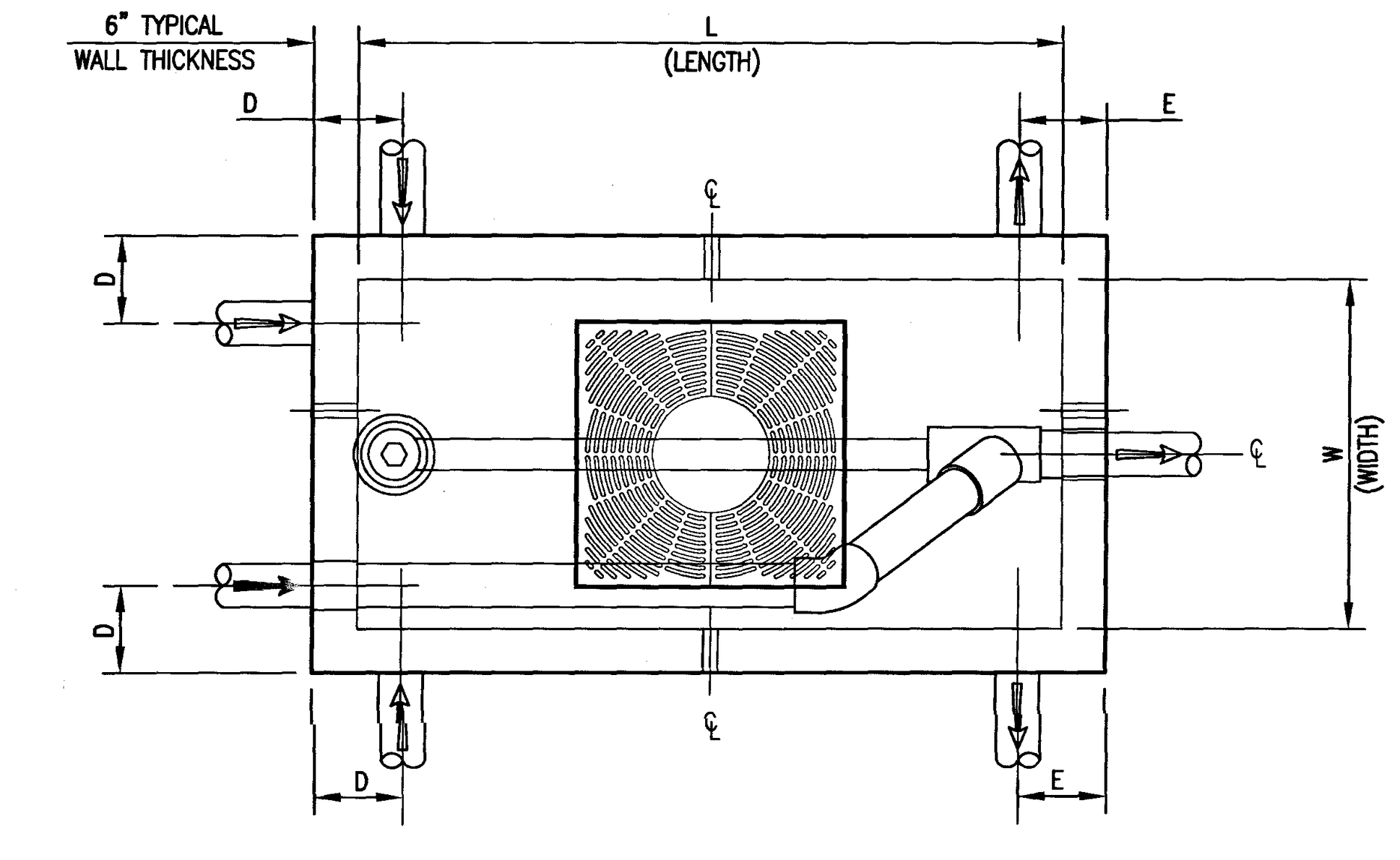
10

SIZING CHART - FOOTPRINT & PIPE SIZES

FILTERRA ROOFDRAIN UNIT SIZE OR (FTRD)	W DIMENSION (WIDTH)	L DIMENSION (LENGTH)	PERFORATED PIPE & CLEANOUT SIZE	TREE GRATE QUANTITY/SIZE	INLET/OUTLET PIPE SIZE (DIAMETER INCHES)
FTRD 4.0'x8.0'	4.00' [48.00"]	8.00' [96.00"]	4.00"	1 EA. / 3' x 3'	6.00" & 8.00"
FTRD 8.0'x12.0'	8.00' [96.00"]	12.00' [144.00"]	6.00"	2 EA. / 4' x 4'	6.00", 8.00" & 10.00"


6" TOP SLAB
2.08' MAX.
A
4 3/4"
FIXED
4"
MULCH
1'-9"
MEDIA MINIMUM
6"
DRAIN ROCK
6"
FLOOR SLAB
2"
FIXED
2'-10"
FIXED
B
C
6"
BEDDING

CUTAWAY SECTION

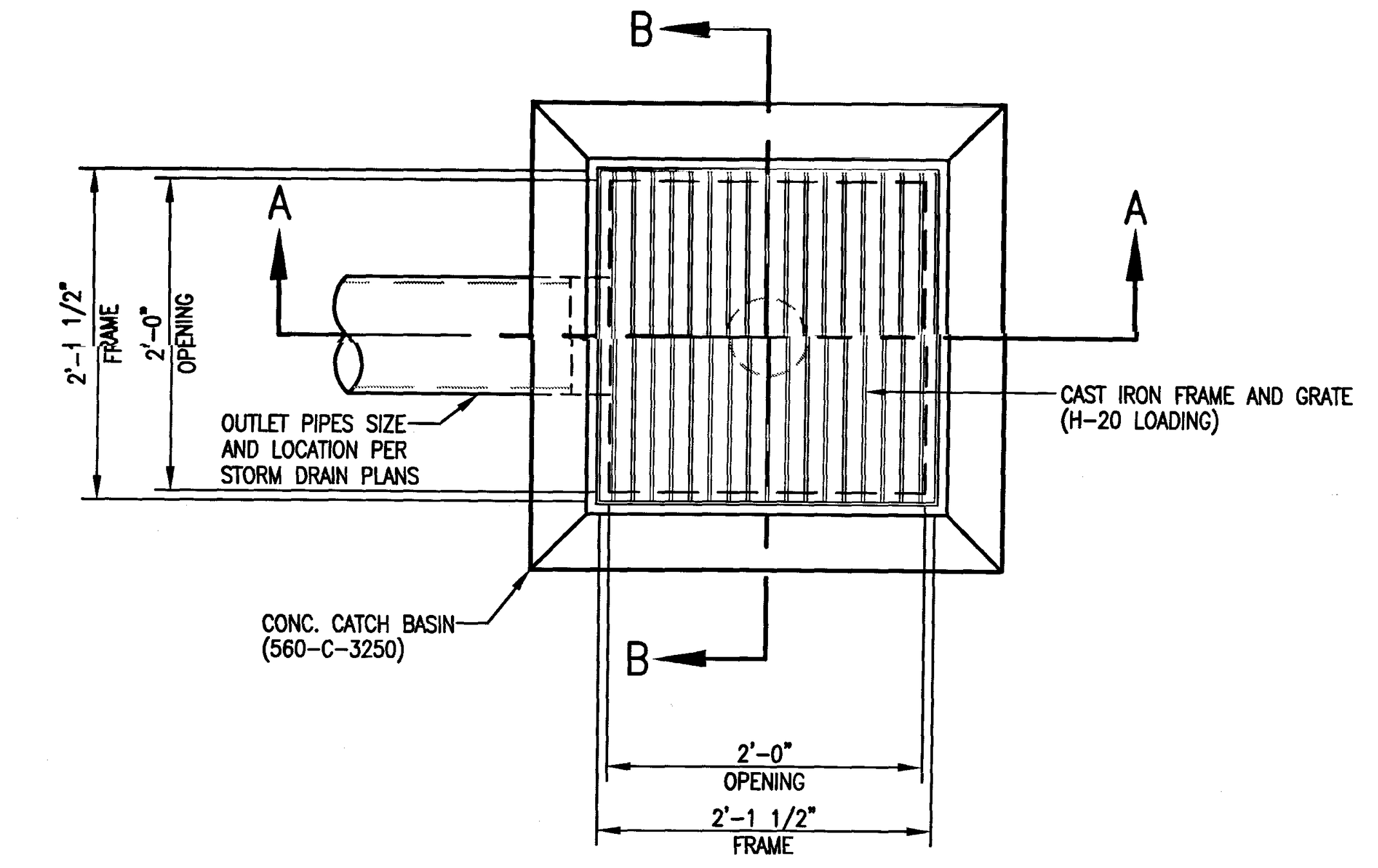

6" TYPICAL
WALL THICKNESS
L
(LENGTH)
D
E
D
D
D
E
℄
℄
℄
W
(WIDTH)

PLAN VIEW

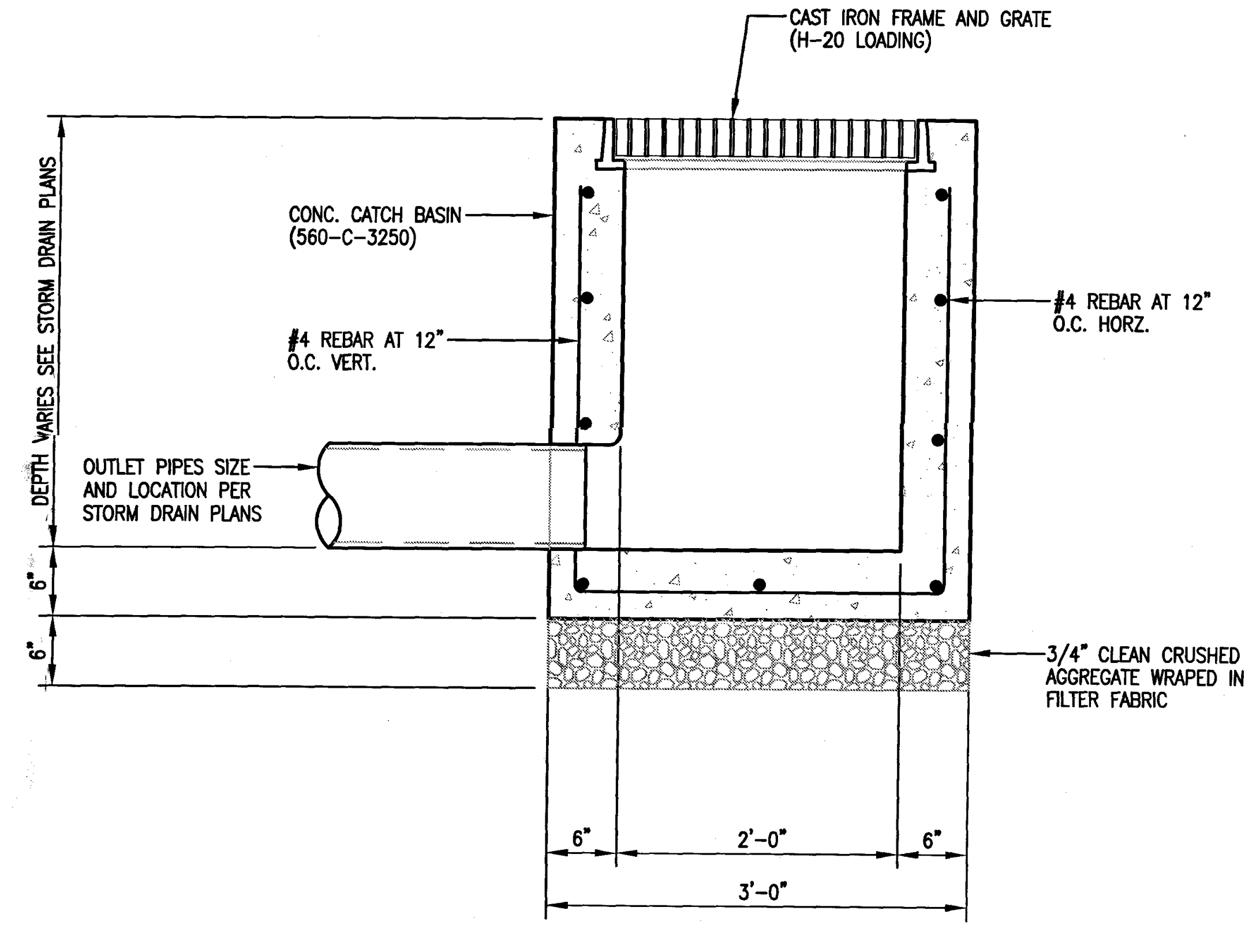
SCALE: NONE

TYPICAL FILTERRA ROOF DRAIN BOX

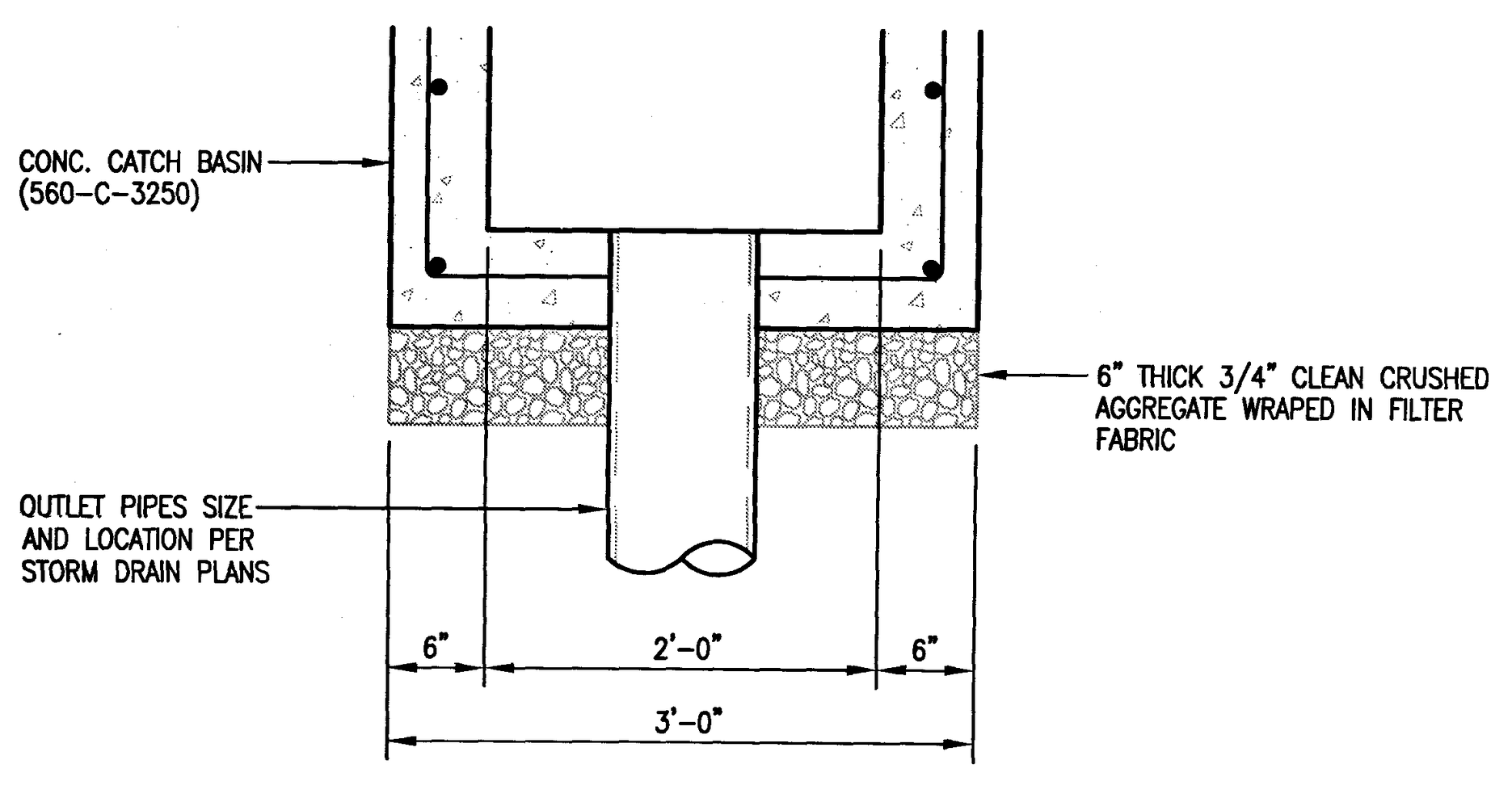
7


B
A
A
B
2'-1 1/2"
FRAME
2'-0"
OPENING
OUTLET PIPES SIZE
AND LOCATION PER
STORM DRAIN PLANS
CAST IRON FRAME AND GRATE
(H-20 LOADING)
CONC. CATCH BASIN
(560-C-3250)
2'-0"
OPENING
2'-1 1/2"
FRAME

PLAN VIEW


CAST IRON FRAME AND GRATE
(H-20 LOADING)
CONC. CATCH BASIN
(560-C-3250)
#4 REBAR AT 12"
O.C. VERT.
#4 REBAR AT 12"
O.C. HORZ.
DEPTH VARIES SEE STORM DRAIN PLANS
OUTLET PIPES SIZE
AND LOCATION PER
STORM DRAIN PLANS
6"
6"
3/4" CLEAN CRUSHED
AGGREGATE WRAPED IN
FILTER FABRIC
6"
2'-0"
6"
3'-0"

SECTION "A"-"A"

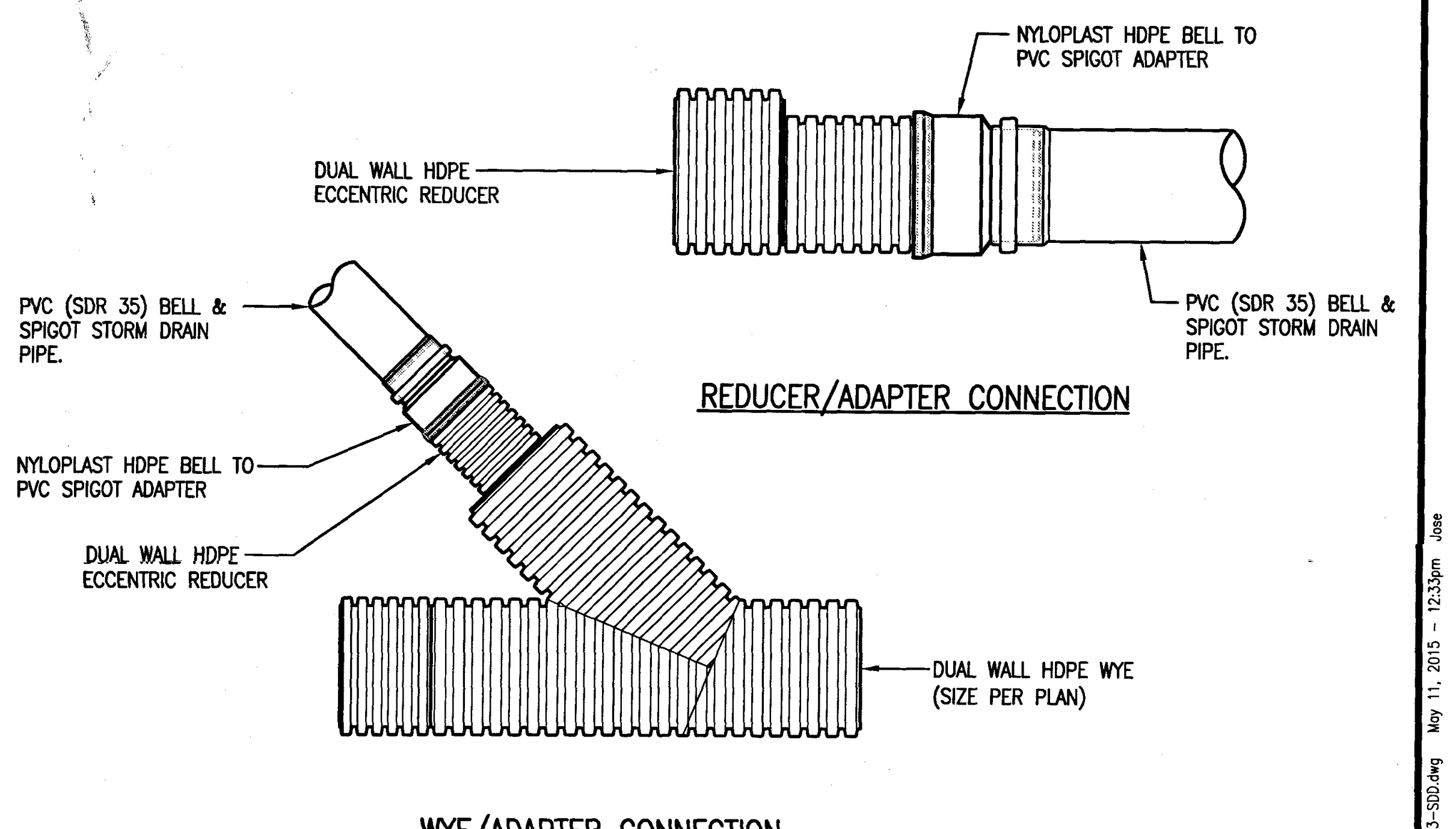

CONC. CATCH BASIN
(560-C-3250)
6" THICK 3/4" CLEAN CRUSHED
AGGREGATE WRAPED IN FILTER
FABRIC
OUTLET PIPES SIZE
AND LOCATION PER
STORM DRAIN PLANS
6"
2'-0"
6"
3'-0"

SECTION "B"-"B" ALTERNATIVE BOTTOM OUTLET

SCALE: NONE

24" x 24" PCC DROP INLET

1


NYLOPLAST HDPE BELL TO
PVC SPIGOT ADAPTER
DUAL WALL HDPE
ECCENTRIC REDUCER
PVC (SDR 35) BELL &
SPIGOT STORM DRAIN
PIPE.
PVC (SDR 35) BELL &
SPIGOT STORM DRAIN
PIPE.
NYLOPLAST HDPE BELL TO
PVC SPIGOT ADAPTER
DUAL WALL HDPE
ECCENTRIC REDUCER
DUAL WALL HDPE WYE
(SIZE PER PLAN)

REDUCER/ADAPTER CONNECTION

WYE/ADAPTER CONNECTION

SCALE: NONE

DISSIMILAR PIPE MATERIAL ADAPTERS

4

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	ADDED DETAILS 8, 9 & 10; REVISED PROJECT ADDRESS; SHIFTED SHEET #	
		DUE TO ADDITION OF NEW DRIVEWAY	
2	1/16/15	REVISED DETAIL 10, LOCAL DEPRESSION #3	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:

STORM DRAIN DETAILS

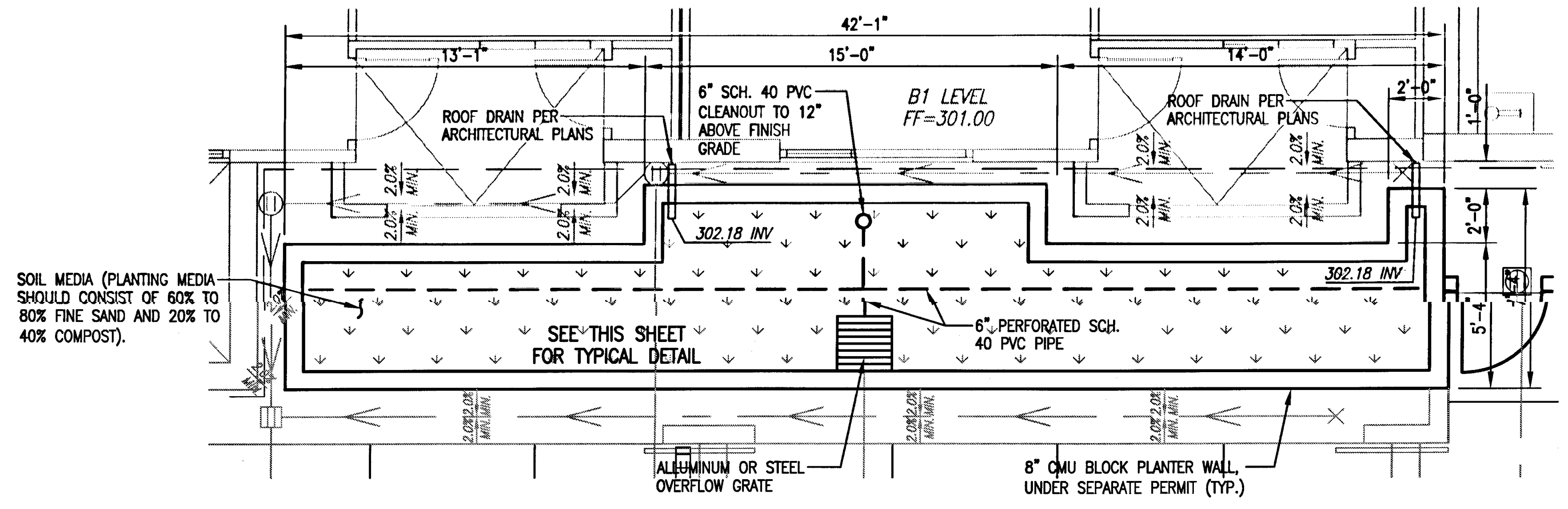
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

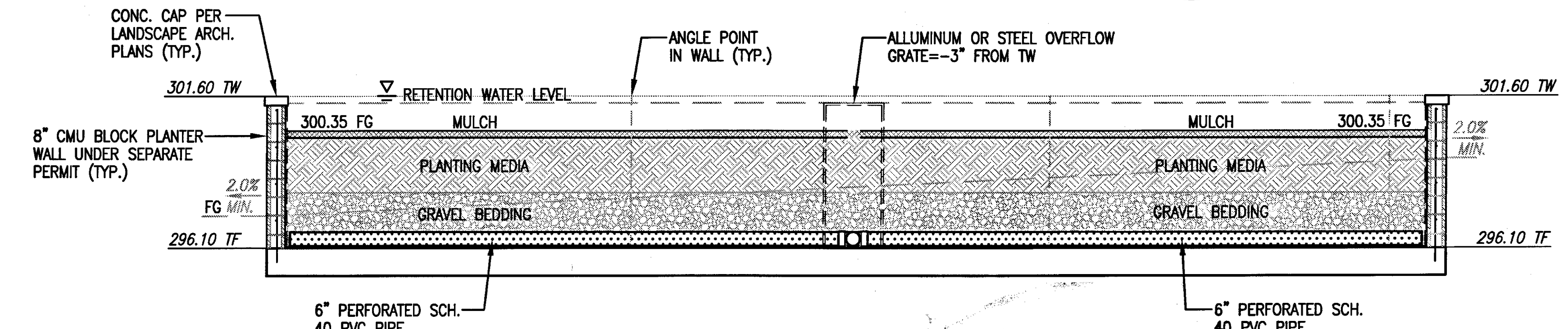
SHEET NO.
C-23

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-23-SDD.dwg May 11, 2015 - 12:33pm Jose


42'-1"
13'-1"
15'-0"
14'-0"
2'-0"
1'-0"
2'-0"
5'-4"
B1 LEVEL
FF=301.00
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
ROOF DRAIN PER ARCHITECTURAL PLANS
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
302.18 INV
SEE THIS SHEET FOR TYPICAL DETAIL
6" PERFORATED SCH. 40 PVC PIPE
2.0% MIN.
ALUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

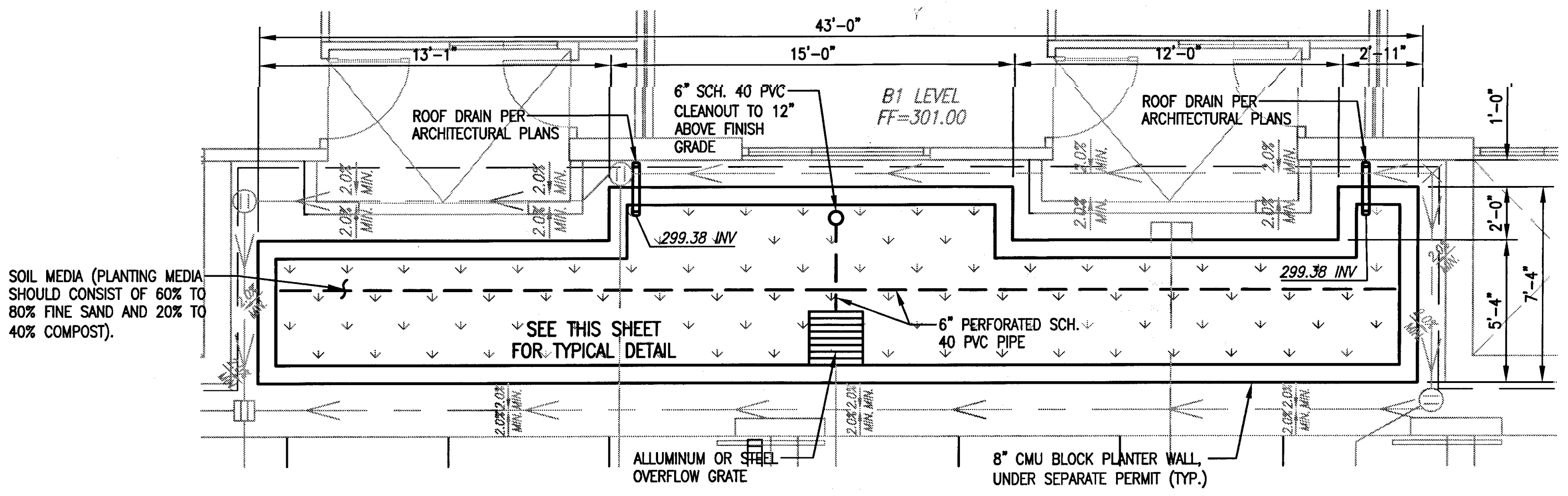
FLOW THROUGH PLANTER #1

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCH. PLANS (TYP.)
ANGLE POINT IN WALL (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
301.60 TW
RETENTION WATER LEVEL
300.35 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
296.10 TF
6" PERFORATED SCH. 40 PVC PIPE

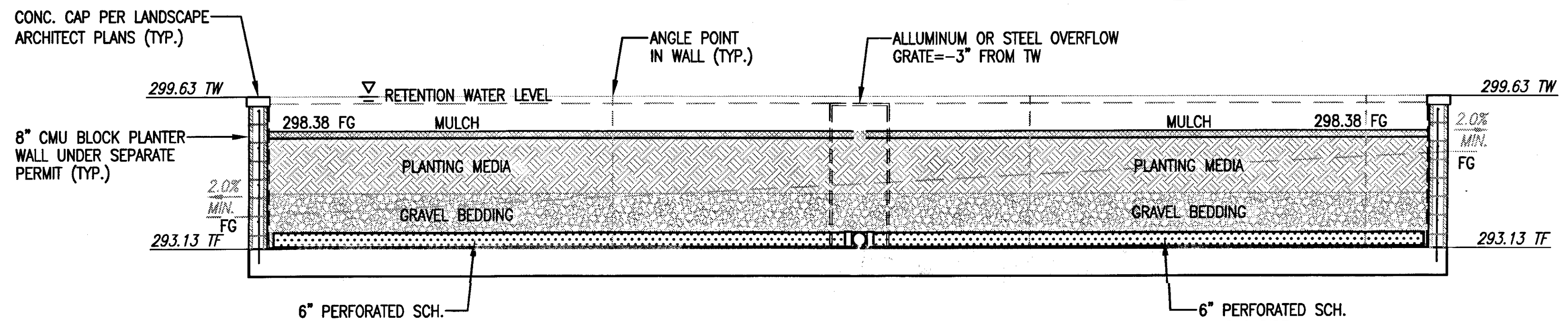
SECTION (FTP #1)

SCALE: 1"=4'


43'-0"
13'-1"
15'-0"
12'-0"
2'-11"
1'-0"
2'-0"
5'-4"
7'-4"
B1 LEVEL
FF=301.00
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
ROOF DRAIN PER ARCHITECTURAL PLANS
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
299.38 INV
SEE THIS SHEET FOR TYPICAL DETAIL
6" PERFORATED SCH. 40 PVC PIPE
2.0% MIN.
ALUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

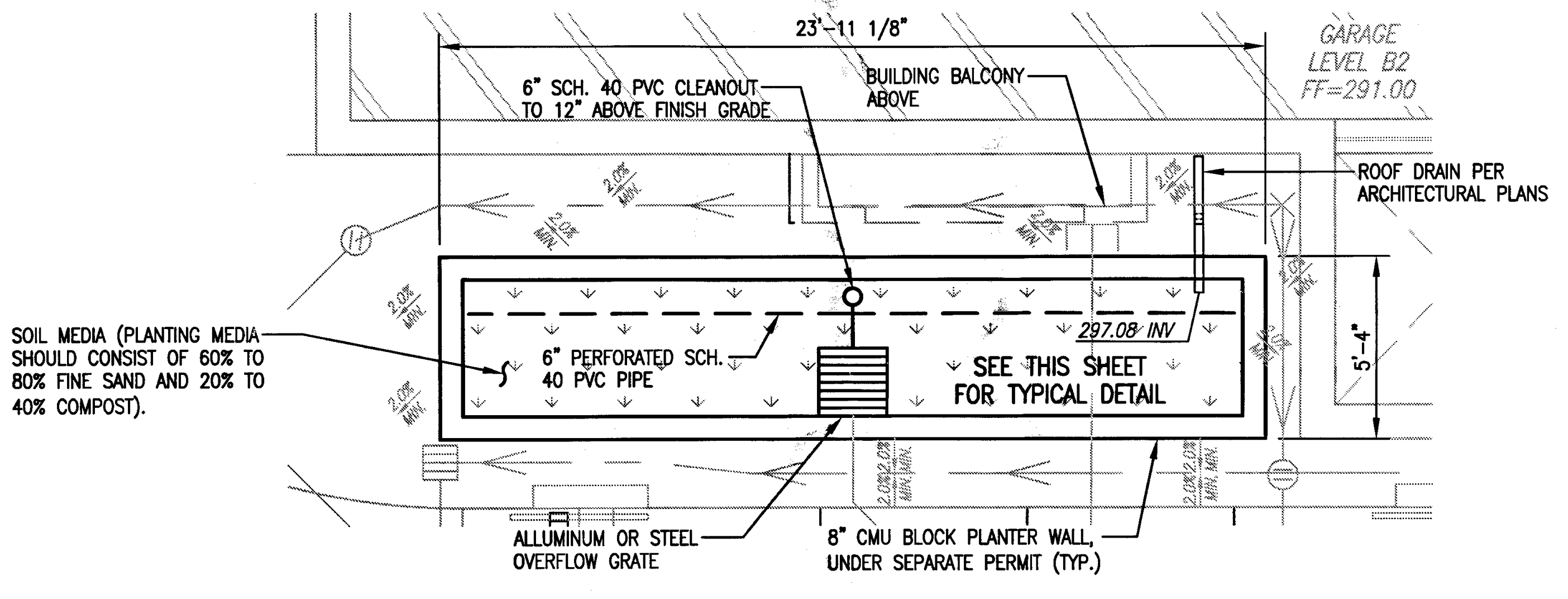
FLOW THROUGH PLANTER #2

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ANGLE POINT IN WALL (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
299.63 TW
RETENTION WATER LEVEL
298.38 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
293.13 TF
6" PERFORATED SCH. 40 PVC PIPE

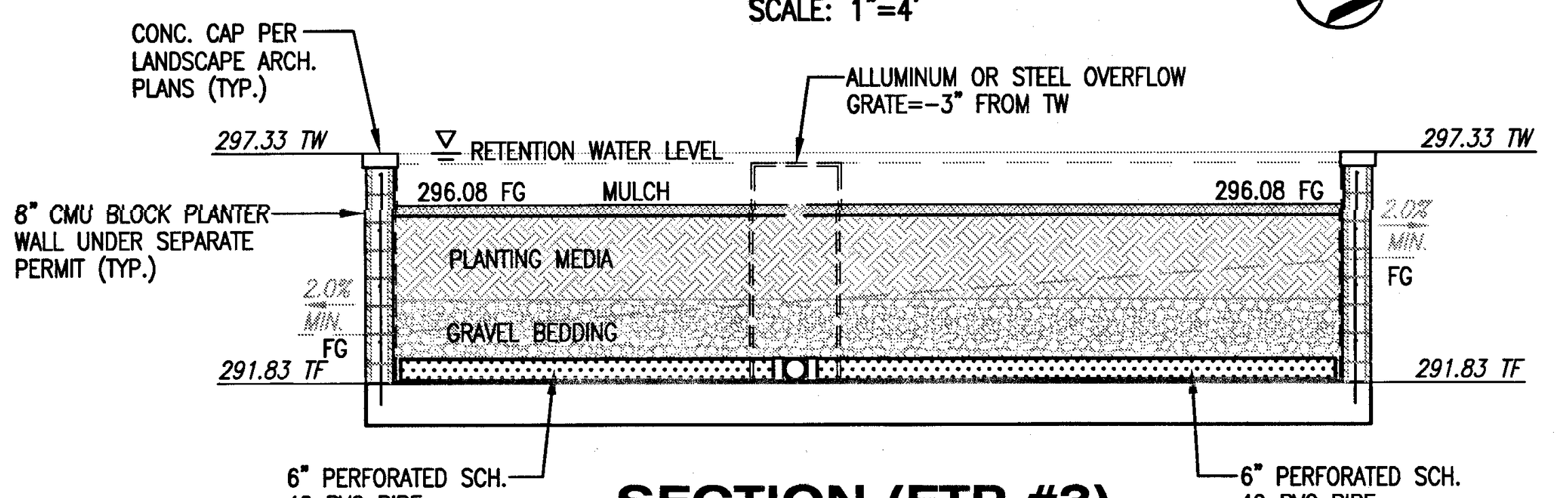
SECTION (FTP #2)

SCALE: 1"=4'


23'-11 1/8"
GARAGE LEVEL B2
FF=291.00
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
BUILDING BALCONY ABOVE
ROOF DRAIN PER ARCHITECTURAL PLANS
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
6" PERFORATED SCH. 40 PVC PIPE
297.08 INV
SEE THIS SHEET FOR TYPICAL DETAIL
5'-4"
2.0% MIN.
ALUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

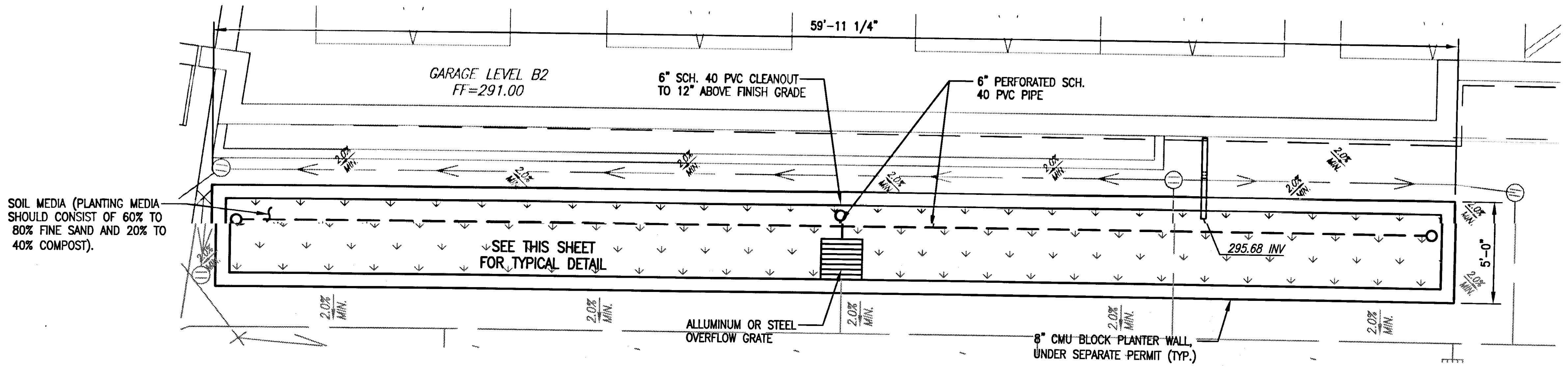
FLOW THROUGH PLANTER #3

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCH. PLANS (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
297.33 TW
RETENTION WATER LEVEL
296.08 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
291.83 TF
6" PERFORATED SCH. 40 PVC PIPE

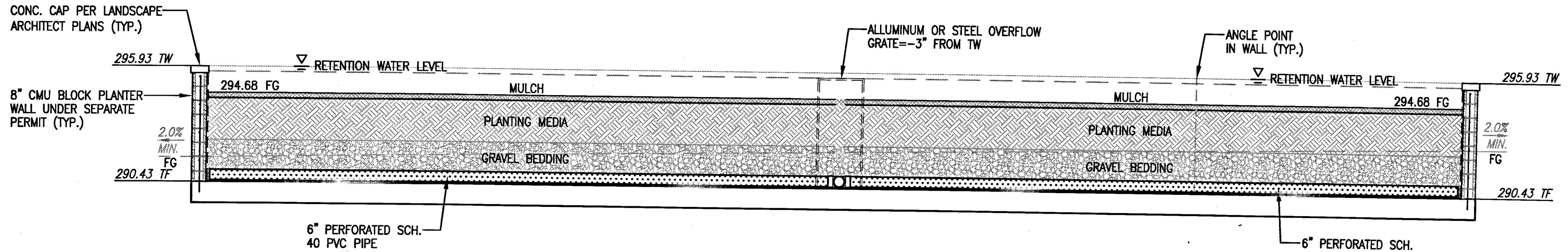
SECTION (FTP #3)

SCALE: 1"=4'


59'-11 1/4"
GARAGE LEVEL B2
FF=291.00
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
6" PERFORATED SCH. 40 PVC PIPE
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
SEE THIS SHEET FOR TYPICAL DETAIL
295.68 INV
5'-0"
2.0% MIN.
ALUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

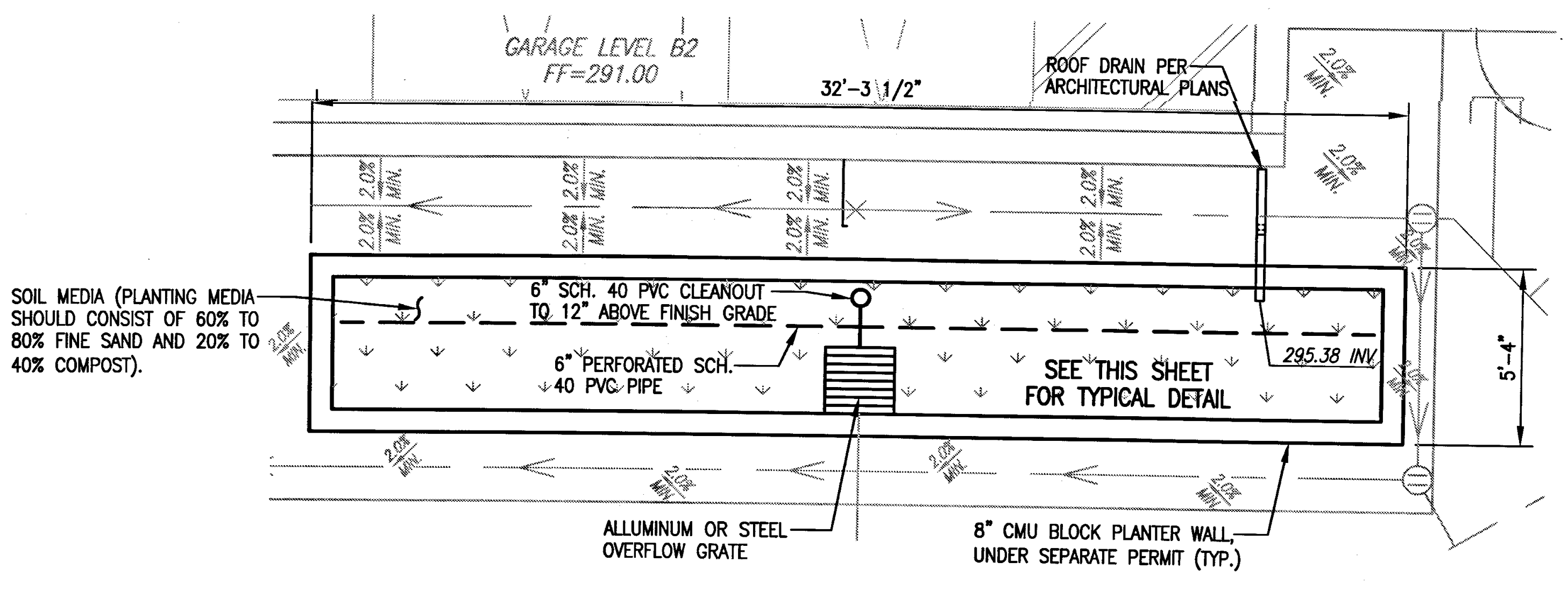
FLOW THROUGH PLANTER #4

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
ANGLE POINT IN WALL (TYP.)
295.93 TW
RETENTION WATER LEVEL
294.68 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
290.43 TF
6" PERFORATED SCH. 40 PVC PIPE

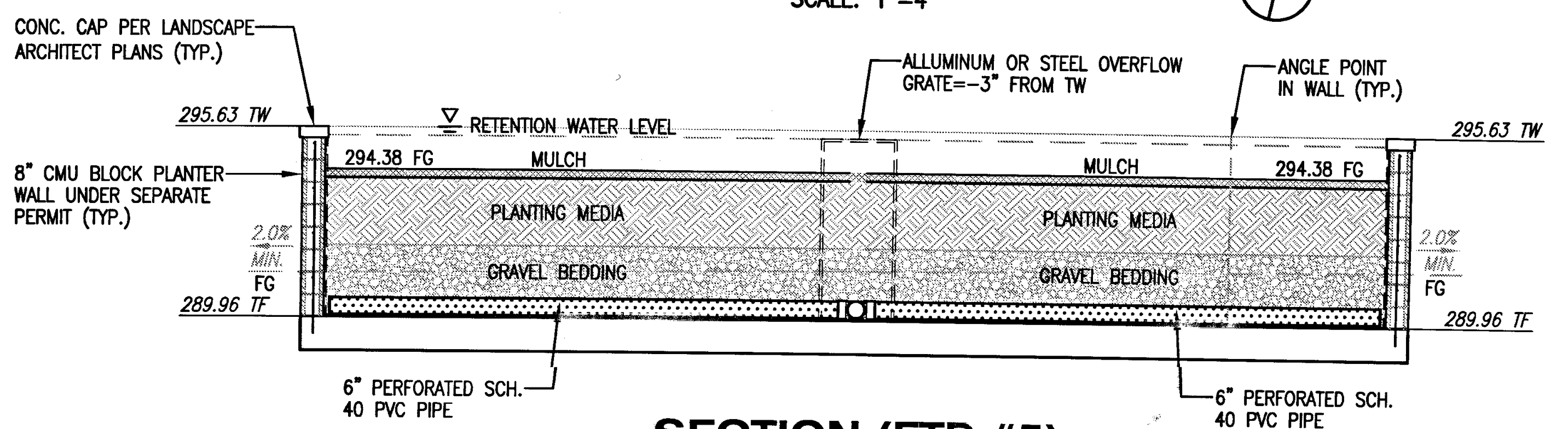
SECTION (FTP #4)

SCALE: 1"=4'


GARAGE LEVEL B2
FF=291.00
32'-3 1/2"
ROOF DRAIN PER ARCHITECTURAL PLANS
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
6" PERFORATED SCH. 40 PVC PIPE
SEE THIS SHEET FOR TYPICAL DETAIL
295.38 INV
5'-4"
2.0% MIN.
ALUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

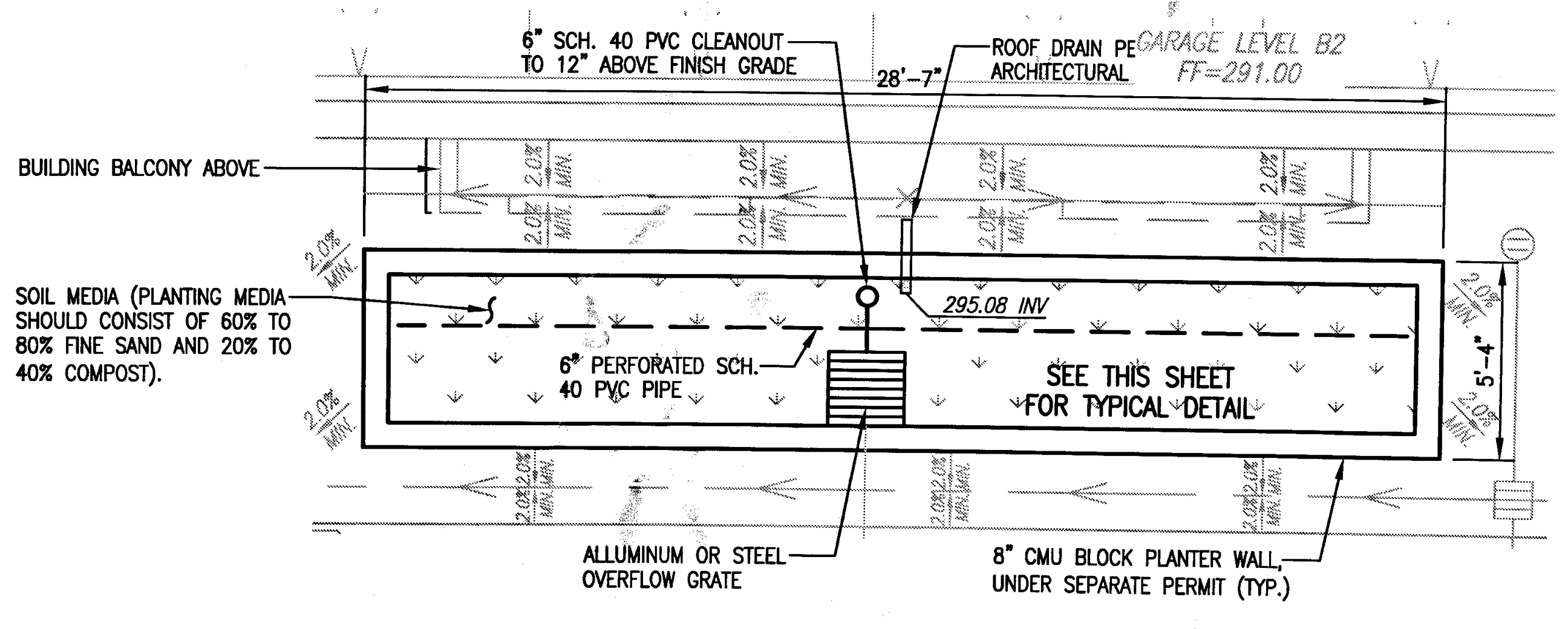
FLOW THROUGH PLANTER #5

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
ANGLE POINT IN WALL (TYP.)
295.63 TW
RETENTION WATER LEVEL
294.38 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
289.96 TF
6" PERFORATED SCH. 40 PVC PIPE

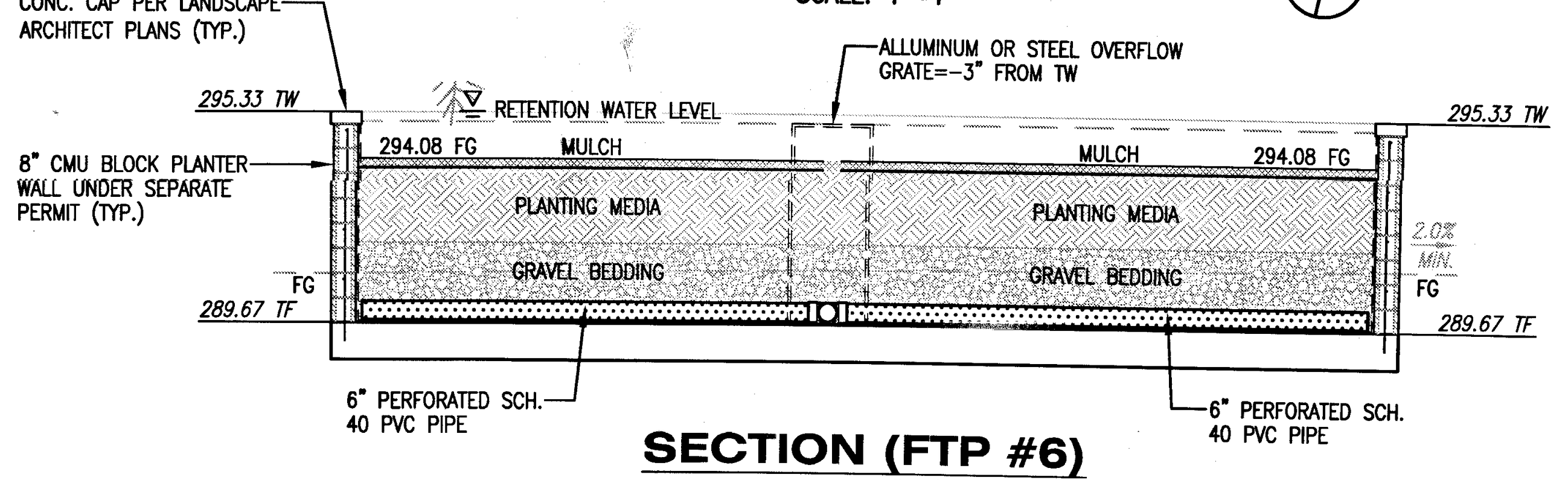
SECTION (FTP #5)

SCALE: 1"=4'


6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
ROOF DRAIN PER ARCHITECTURAL
GARAGE LEVEL B2
FF=291.00
28'-7"
BUILDING BALCONY ABOVE
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
295.08 INV
6" PERFORATED SCH. 40 PVC PIPE
SEE THIS SHEET FOR TYPICAL DETAIL
5'-4"
2.0% MIN.
ALUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

FLOW THROUGH PLANTER #6

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
295.33 TW
RETENTION WATER LEVEL
294.08 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
289.67 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #6)

SCALE: 1"=4'

LEGEND:

① 6" DIA. PERFORATED SCH. 40 PVC PIPE, PROVIDE END CAPS AT BOTH ENDS OF PIPE.

② SLOPE CLOSED MESH REMOVABLE GRATE BOLTED TO SUPPORT FRAME

③ 6" DIA. SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE. PROVIDE SEALED CAP.

④ 3'-0" WIDE x 3'-6" LONG x 3" THICK CONC. SPLASH PAD AT ALL BUILDING DRAINS.

⑤ STEEL OR ALUMINUM CLEANOUT FRAME AND GRATE SYSTEM TO SUPPORT SURROUNDING SOILS, ENGINEERED BY OTHERS. SUBMIT SHOP DRAWINGS FOR CIVIL REVIEW.

⑥ 8" CMU PLANTER WALL & FOUNDATION UNDER SEPARATE PERMIT.

⑦ CORE DRILL CMU WALL 1-INCH THAN PROPOSED OUTLET PIPE DIA. AND FILL WITH NON-METALLIC NON-SHRINK GROUT.

⑧ WATERPROOFING SYSTEM WITHIN FLOW THROUGH PLANTERS SHALL BE DESIGNED BY THE OWNER'S WATERPROOFING CONSULTANT TO ENSURE A WATER TIGHT SYSTEM.

⑨ 6" DIA. SCH. 40 PVC CROSS FITTING.

⑩ 6" x 90° SCH. 40 PVC BEND.

⑪ ORIFICE DRILLED INTO OVERFLOW DRAIN WALL AT UNDERDRAIN PIPE INVERT

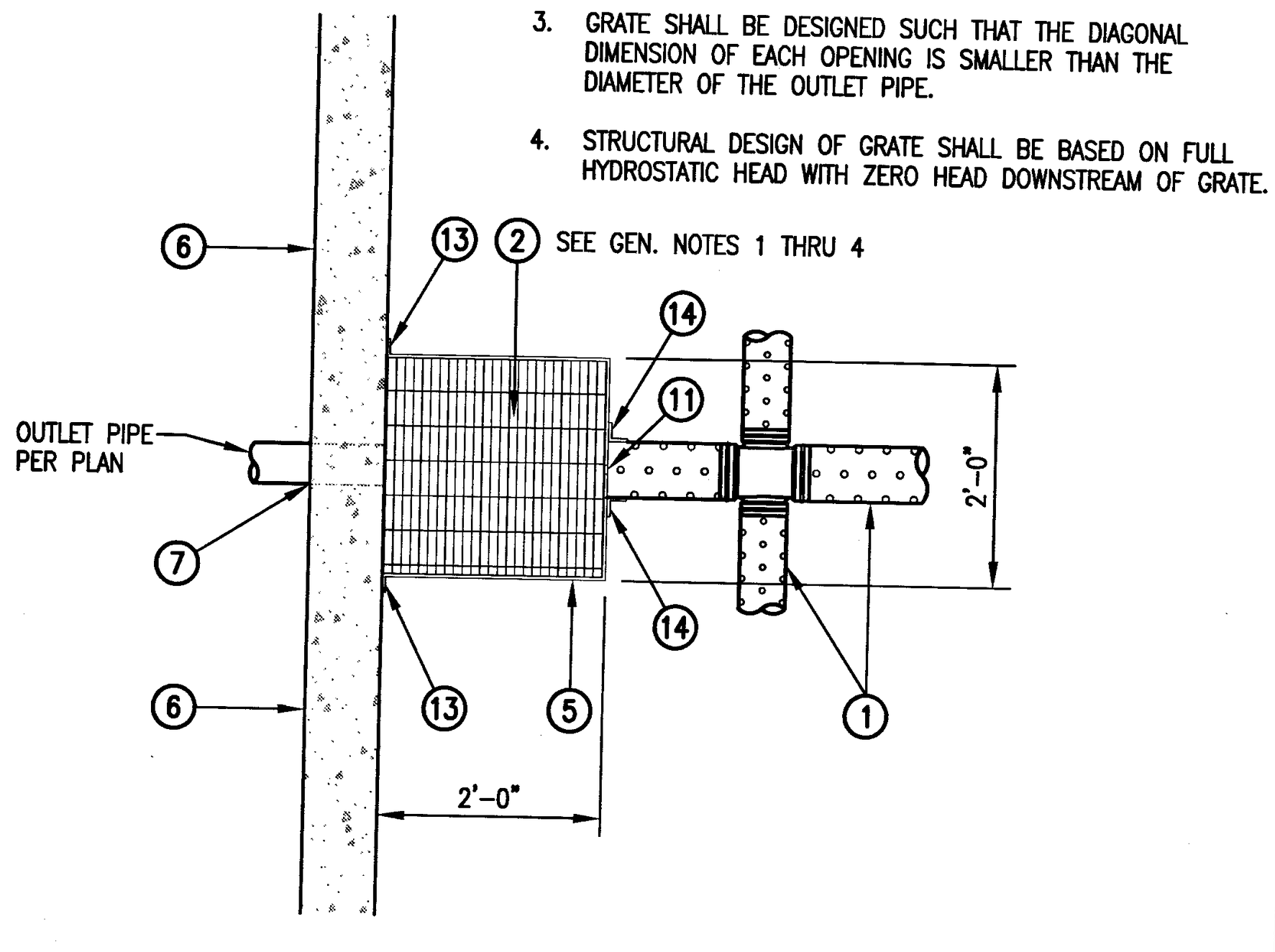
⑫ FORM A 1.5" DEEP x 1" + FRAME THICKNESS WIDE GROOVE IN CONCRETE AND PROVIDE A CONTINUOUS WATERTIGHT CONNECTION USING AN APPROVED SEALANT.

⑬ WATERTIGHT CONNECTION, INSTALL 1/8" TO 1/4" THICK x 2" WIDE CONTINUOUS 30 DUROMETER NEOPRENE GASKET, ALL AROUND VAULT FRAME.

⑭ BOLT FLANGE TO OVERFLOW DRAIN WALL

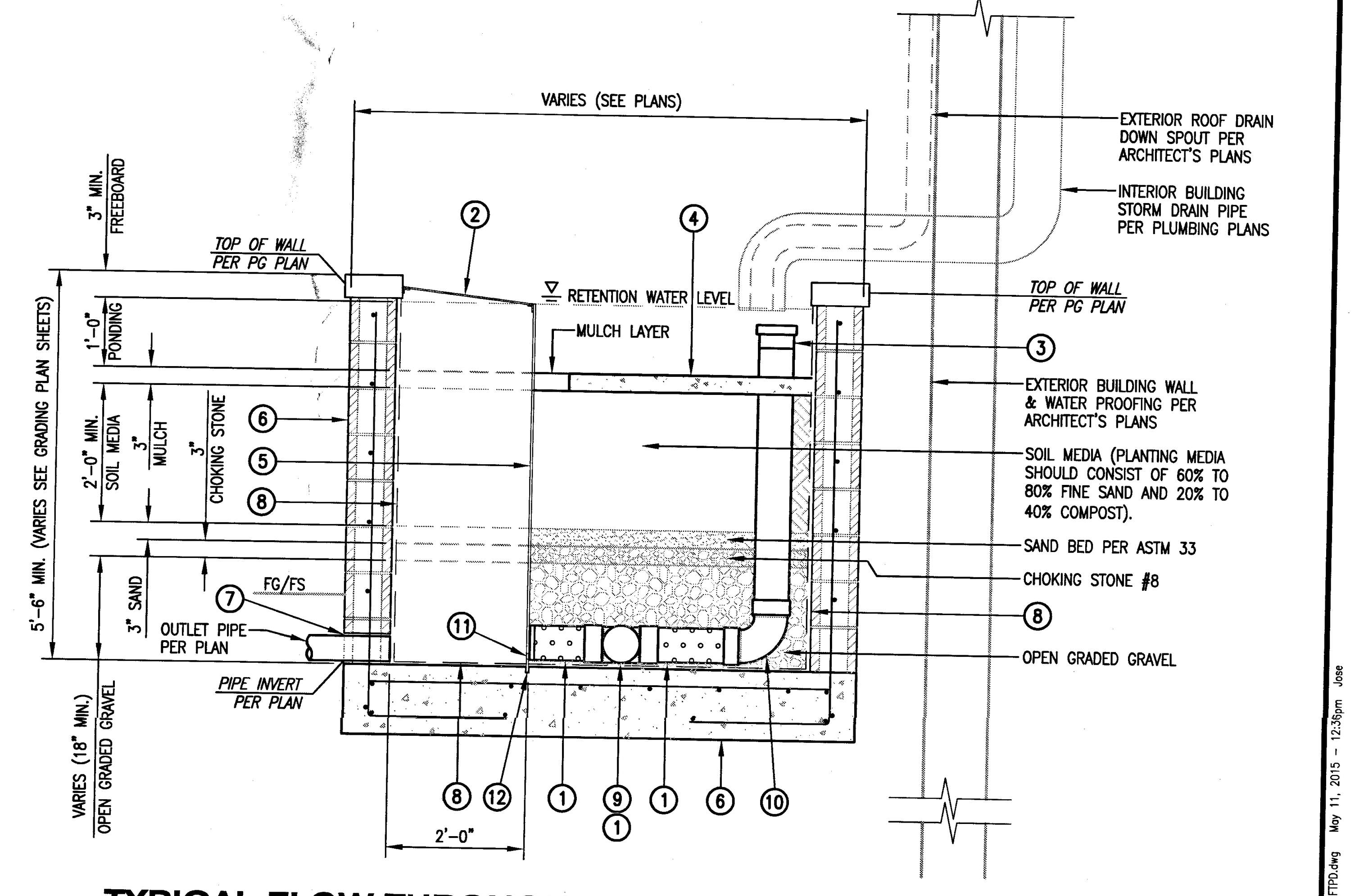
GENERAL OUTLET DETAIL NOTES:

1. GRATE SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. GRATE SHALL BE STAINLESS STEEL, ALUMINUM OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.
3. GRATE SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF GRATE SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF GRATE.


⑬ ② SEE GEN. NOTES 1 THRU 4
⑥
⑭
⑪
OUTLET PIPE PER PLAN
2'-0"
⑦
⑥
⑬
⑤
⑭
①
2'-0"

GENERAL OUTLET DETAIL

SCALE: NONE


VARIES (SEE PLANS)
EXTERIOR ROOF DRAIN DOWN SPOUT PER ARCHITECT'S PLANS
INTERIOR BUILDING STORM DRAIN PIPE PER PLUMBING PLANS
3" MIN. FREEBOARD
②
④
TOP OF WALL PER PG PLAN
RETENTION WATER LEVEL
TOP OF WALL PER PG PLAN
1'-0" PONDING
MULCH LAYER
③
EXTERIOR BUILDING WALL & WATER PROOFING PER ARCHITECT'S PLANS
5'-6" MIN. (VARIES SEE GRADING PLAN SHEETS)
2'-0" MIN. SOIL MEDIA
3" MULCH
3" CHOKING STONE
⑥
⑤
⑧
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
SAND BED PER ASTM 33
CHOKING STONE #8
3" SAND
FG/FS
⑦
OUTLET PIPE PER PLAN
⑪
⑧
OPEN GRADED GRAVEL
PIPE INVERT PER PLAN
VARIES (18" MIN.) OPEN GRADED GRAVEL
⑧ ⑫ ① ⑨ ① ① ⑥ ⑩
2'-0"

TYPICAL FLOW THROUGH PLANTER DETAIL (#1)

SCALE: NONE

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED FLOW THROUGH PLANTERS LOCATION AND/OR SIZE TO AVOID CONFLICTS WITH BLDG. FOOTING; REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:

FLOW THROUGH PLANTER DETAILS

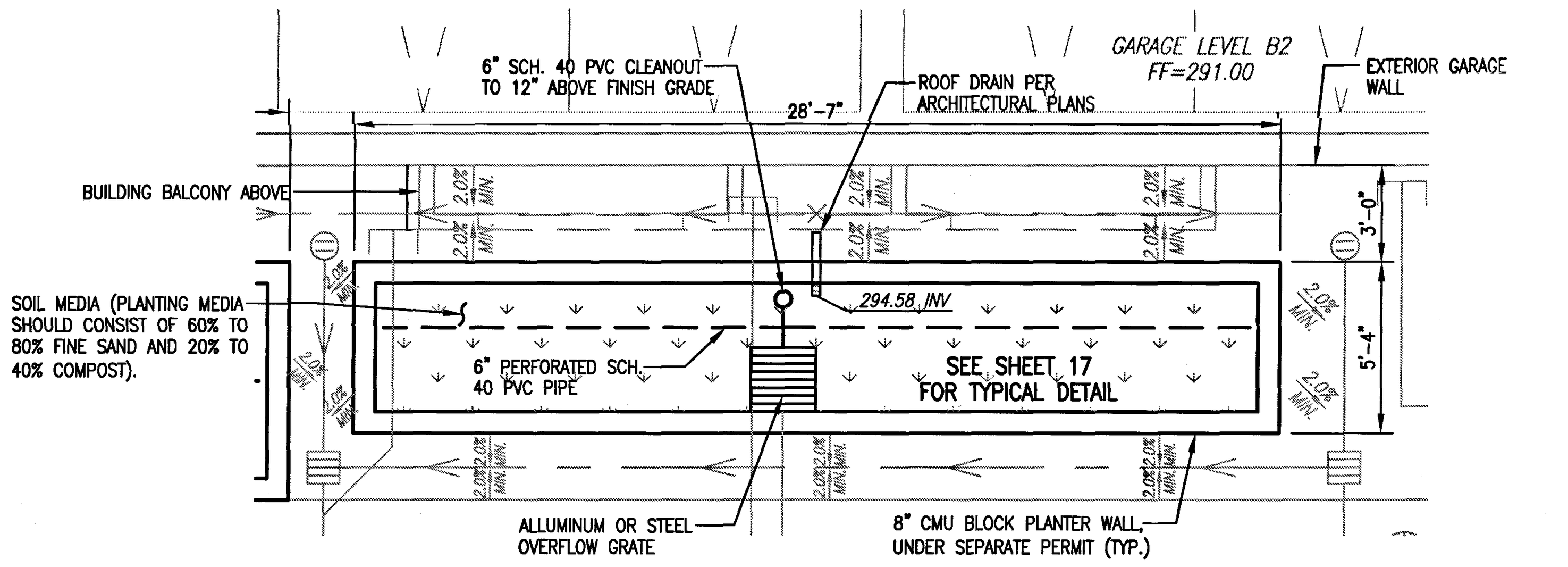
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-24

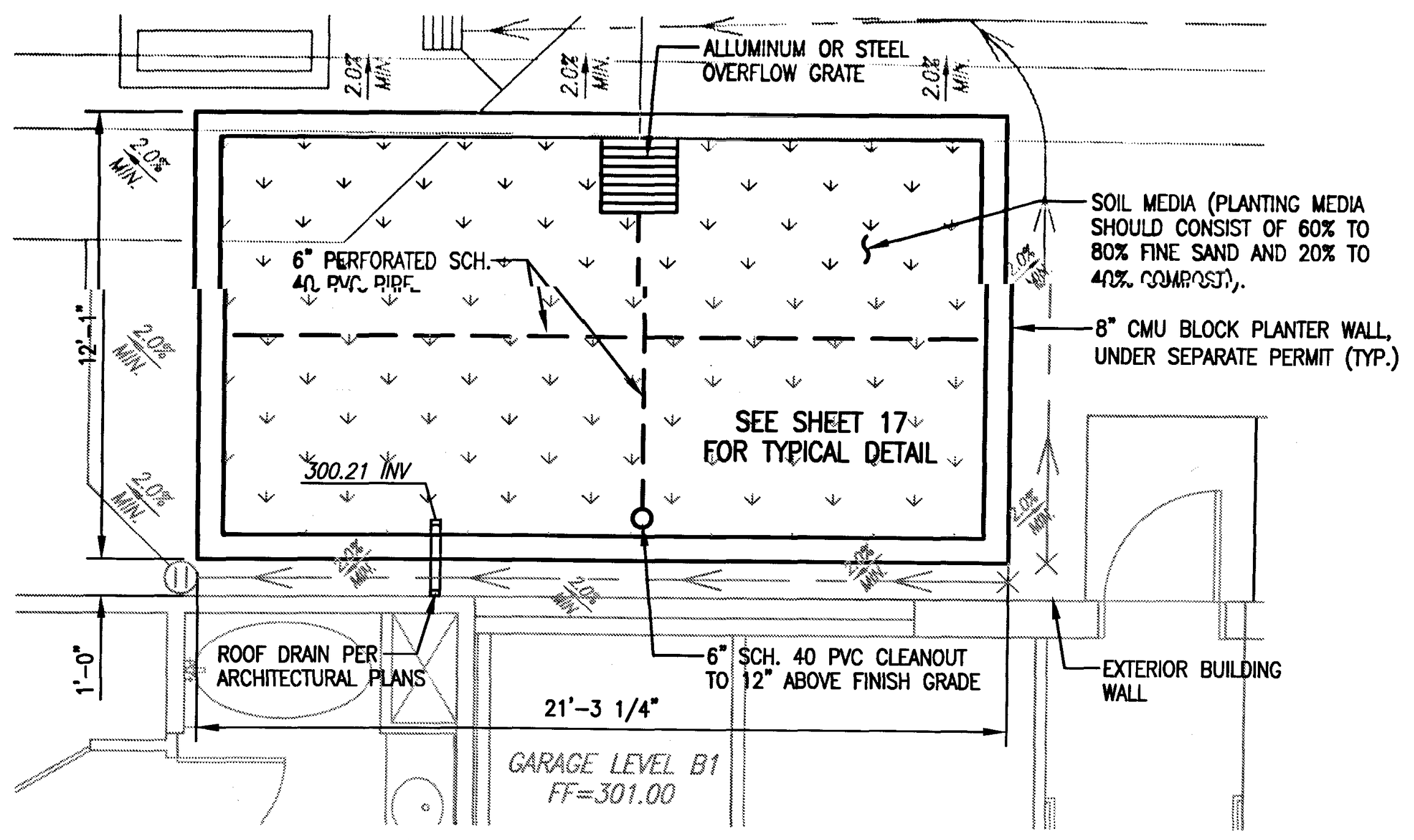
R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-24-FTPD.dwg May 11, 2015 - 12:36pm Jose



GARAGE LEVEL B2
FF=291.00
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
ROOF DRAIN PER ARCHITECTURAL PLANS
EXTERIOR GARAGE WALL
28'-7"
BUILDING BALCONY ABOVE
3'-0"
5'-4"
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
294.58 INV
6" PERFORATED SCH. 40 PVC PIPE
SEE SHEET 17 FOR TYPICAL DETAIL
2.0% MIN.
ALLUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

FLOW THROUGH PLANTER #7

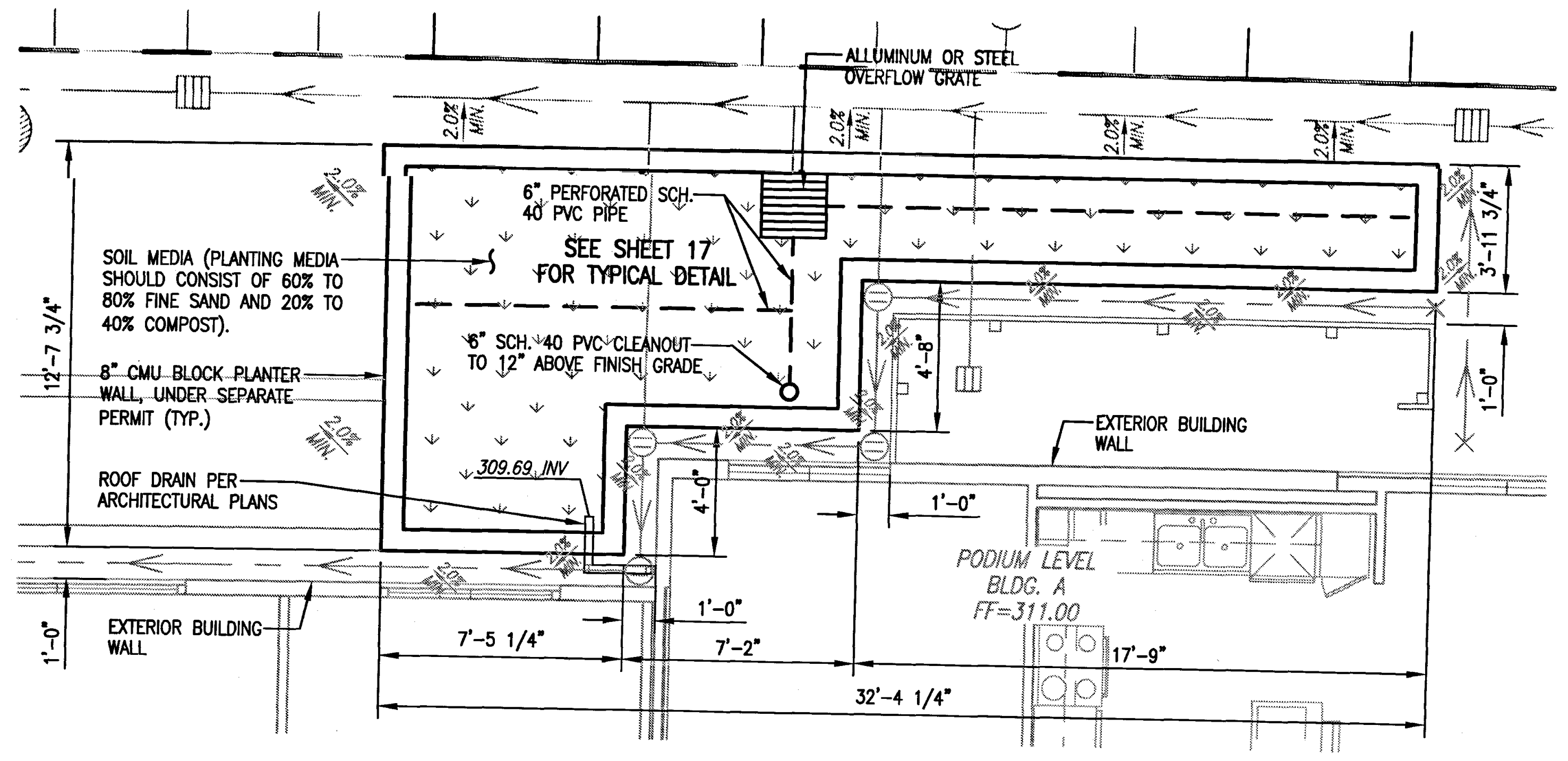
SCALE: 1"=4'



ALLUMINUM OR STEEL OVERFLOW GRATE
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
6" PERFORATED SCH. 40 PVC PIPE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)
12'-1"
SEE SHEET 17 FOR TYPICAL DETAIL
300.21 INV
2.0% MIN.
1'-0"
ROOF DRAIN PER ARCHITECTURAL PLANS
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
EXTERIOR BUILDING WALL
21'-3 1/4"
GARAGE LEVEL B1
FF=301.00

FLOW THROUGH PLANTER #9

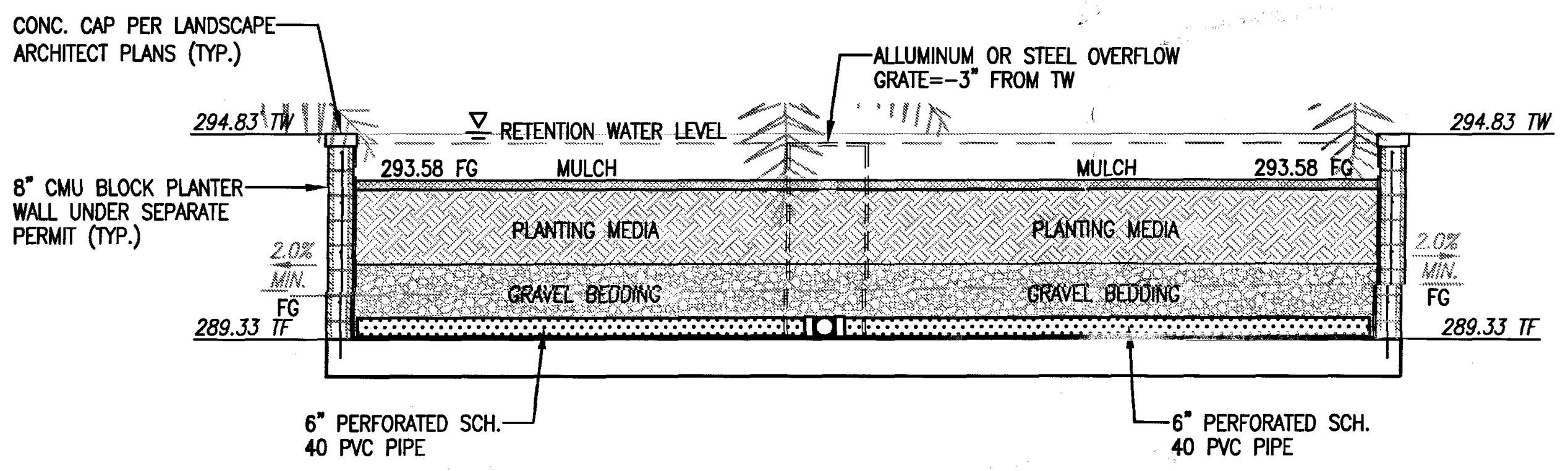
SCALE: 1"=4'



ALLUMINUM OR STEEL OVERFLOW GRATE
6" PERFORATED SCH. 40 PVC PIPE
SEE SHEET 17 FOR TYPICAL DETAIL
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)
ROOF DRAIN PER ARCHITECTURAL PLANS
309.69 INV
12'-7 3/4"
3'-11 3/4"
4'-8"
4'-0"
1'-0"
EXTERIOR BUILDING WALL
PODIUM LEVEL
BLDG. A
FF=311.00
7'-5 1/4"
7'-2"
17'-9"
32'-4 1/4"
2.0% MIN.

FLOW THROUGH PLANTER #11

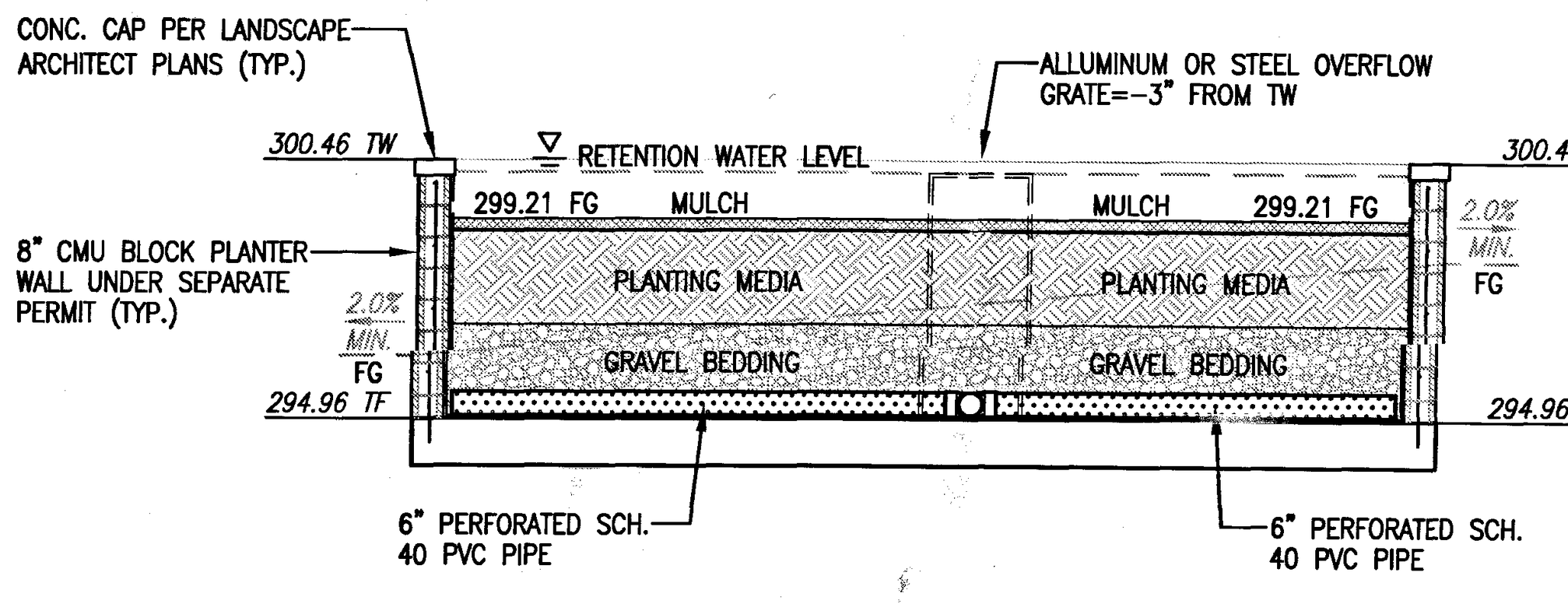
SCALE: 1"=4'



CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
294.83 TW
RETENTION WATER LEVEL
293.58 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
289.33 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #7)

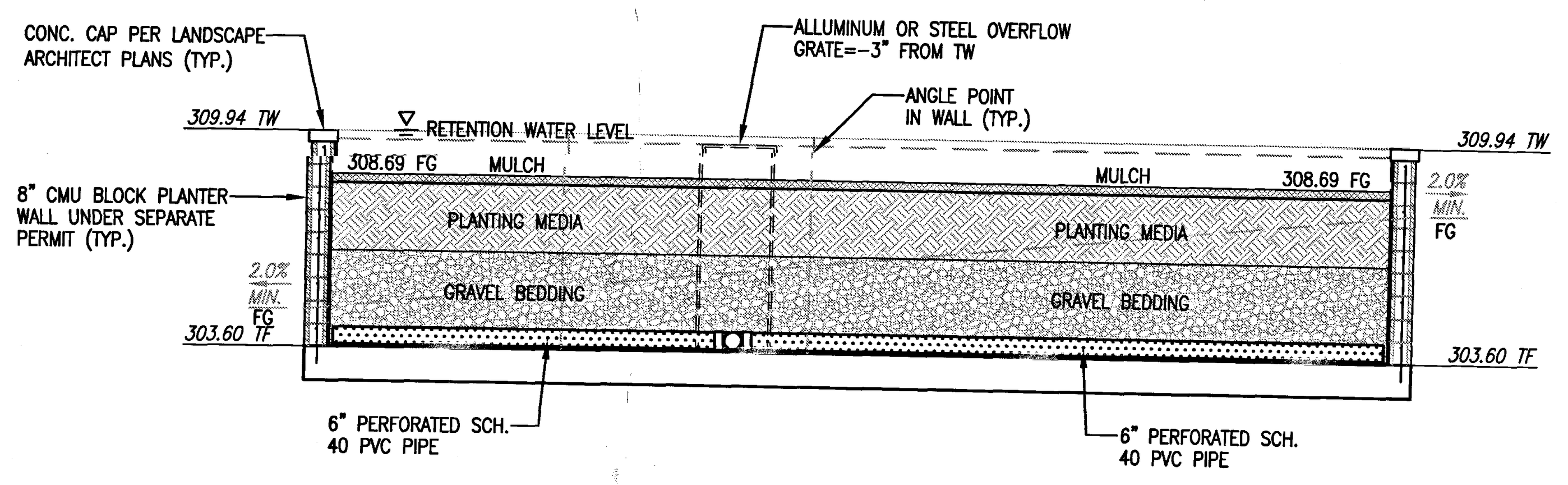
SCALE: 1"=4'



CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALLUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
300.46 TW
RETENTION WATER LEVEL
299.21 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
294.96 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #9)

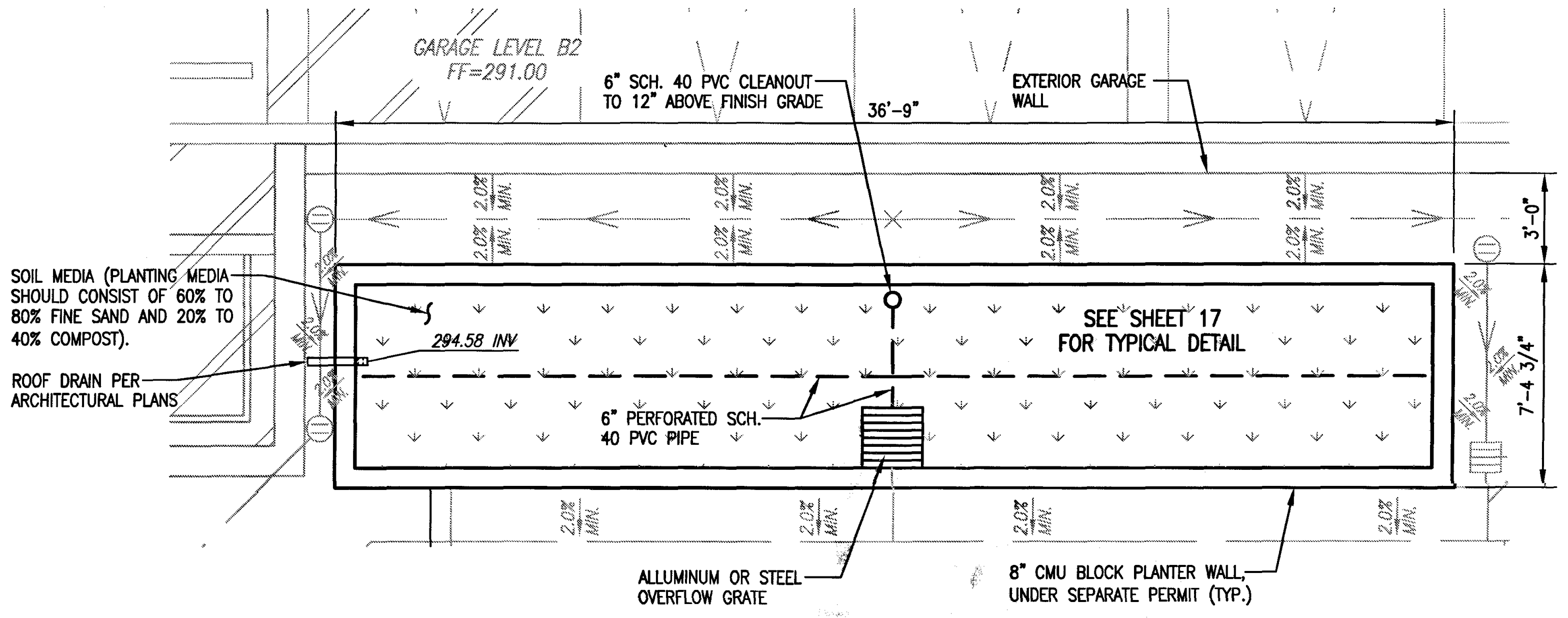
SCALE: 1"=4'



CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALLUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
ANGLE POINT IN WALL (TYP.)
309.94 TW
RETENTION WATER LEVEL
308.69 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
303.60 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #11)

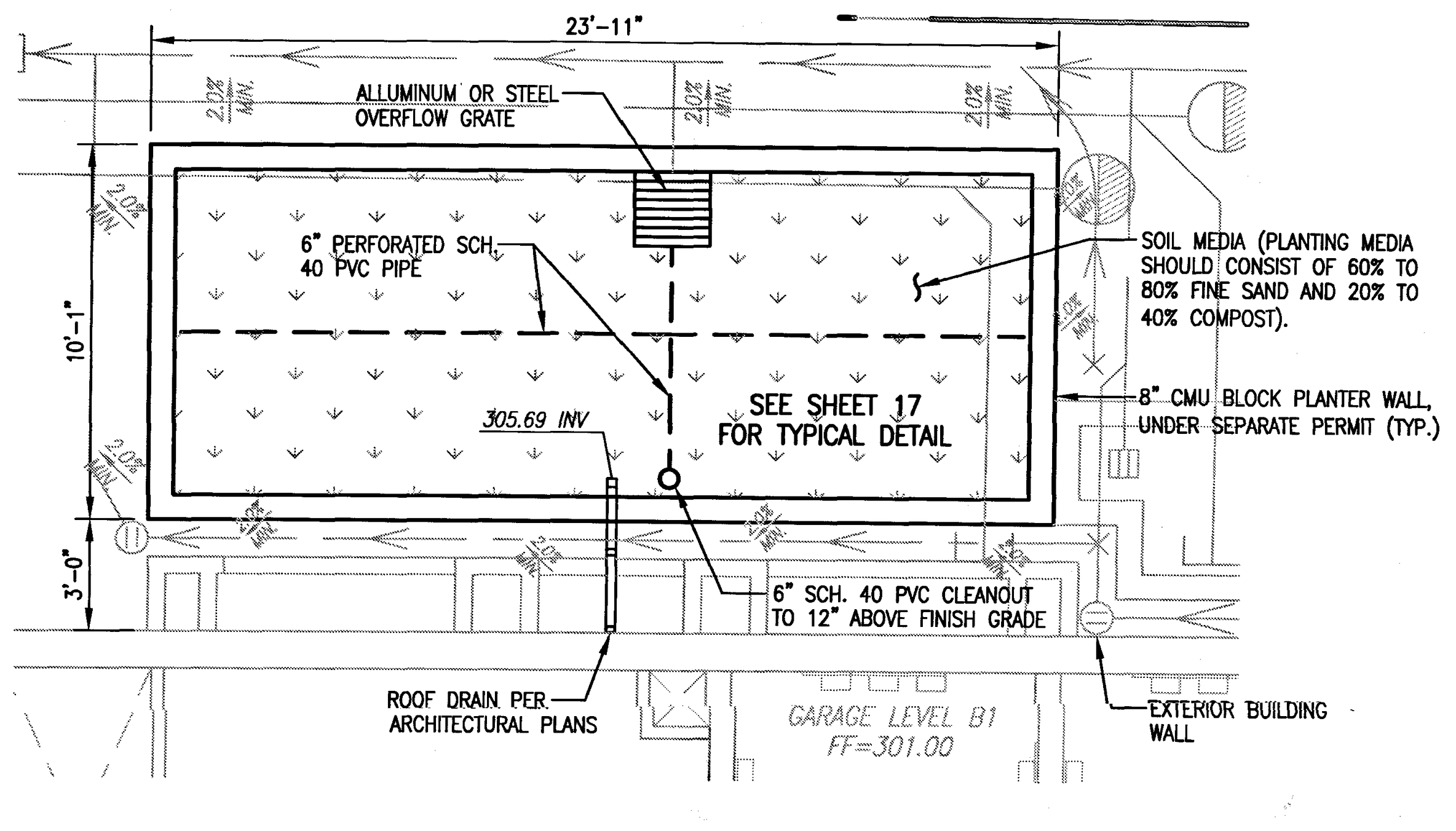
SCALE: 1"=4'



GARAGE LEVEL B2
FF=291.00
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
EXTERIOR GARAGE WALL
36'-9"
3'-0"
7'-4 3/4"
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
294.58 INV
ROOF DRAIN PER ARCHITECTURAL PLANS
SEE SHEET 17 FOR TYPICAL DETAIL
6" PERFORATED SCH. 40 PVC PIPE
2.0% MIN.
ALLUMINUM OR STEEL OVERFLOW GRATE
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)

FLOW THROUGH PLANTER #8

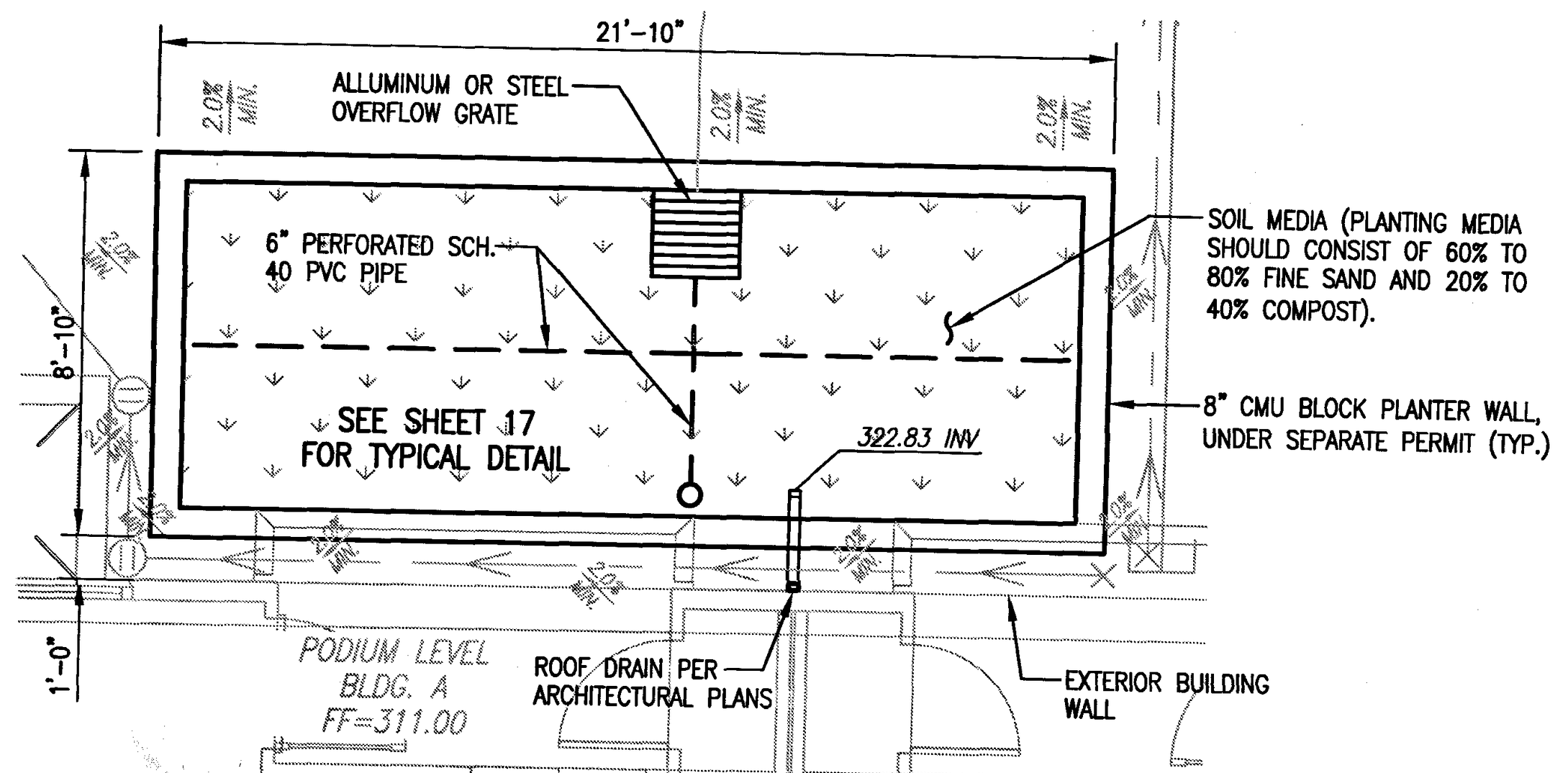
SCALE: 1"=4'



23'-11"
ALLUMINUM OR STEEL OVERFLOW GRATE
6" PERFORATED SCH. 40 PVC PIPE
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)
10'-1"
3'-0"
SEE SHEET 17 FOR TYPICAL DETAIL
305.69 INV
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
ROOF DRAIN PER ARCHITECTURAL PLANS
GARAGE LEVEL B1
FF=301.00
EXTERIOR BUILDING WALL
2.0% MIN.

FLOW THROUGH PLANTER #10

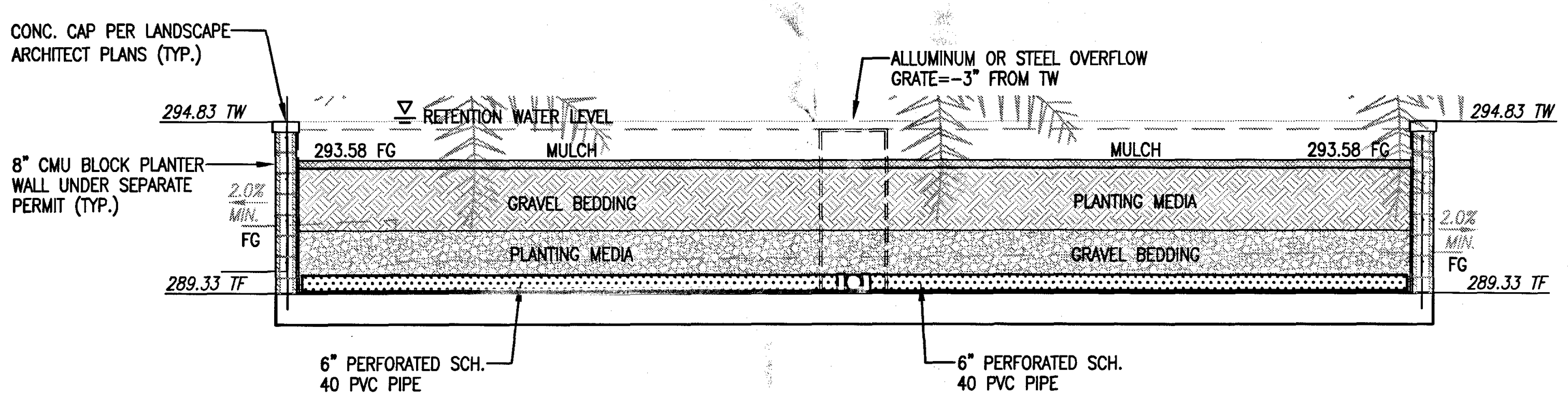
SCALE: 1"=4'



21'-10"
ALLUMINUM OR STEEL OVERFLOW GRATE
6" PERFORATED SCH. 40 PVC PIPE
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)
8'-10"
1'-0"
SEE SHEET 17 FOR TYPICAL DETAIL
322.83 INV
PODIUM LEVEL
BLDG. A
FF=311.00
ROOF DRAIN PER ARCHITECTURAL PLANS
EXTERIOR BUILDING WALL
2.0% MIN.

FLOW THROUGH PLANTER #12

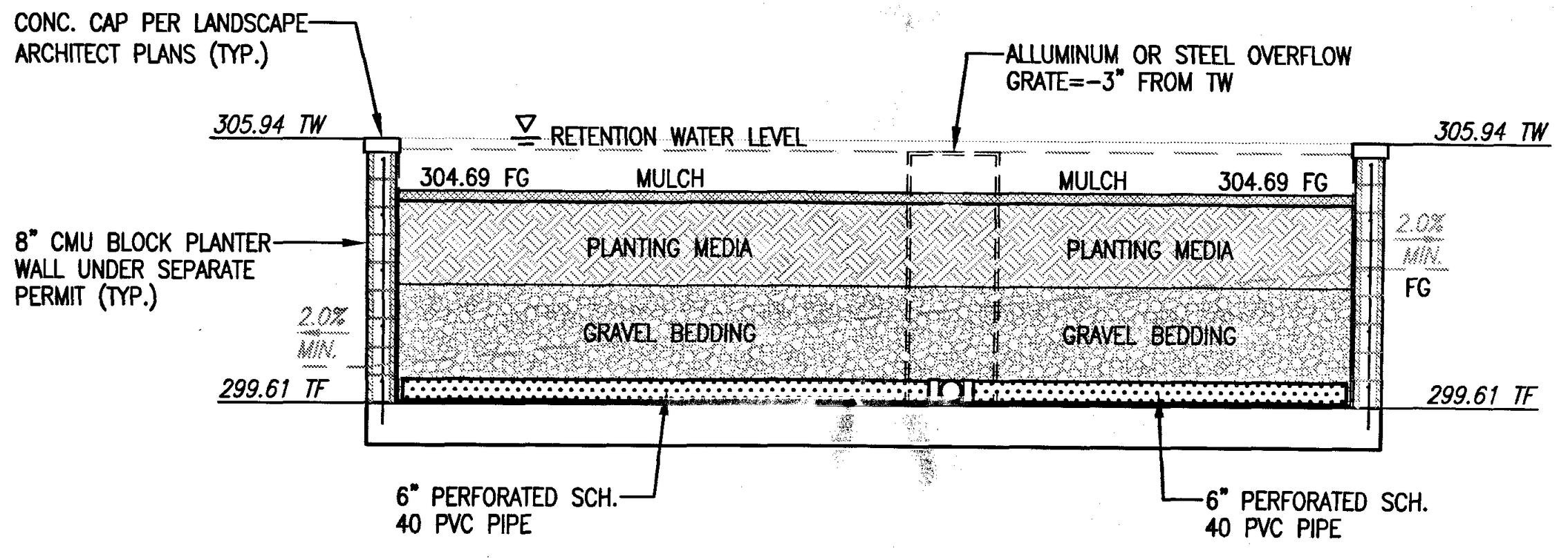
SCALE: 1"=4'



CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALLUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
294.83 TW
RETENTION WATER LEVEL
293.58 FG
MULCH
GRAVEL BEDDING
PLANTING MEDIA
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
289.33 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #8)

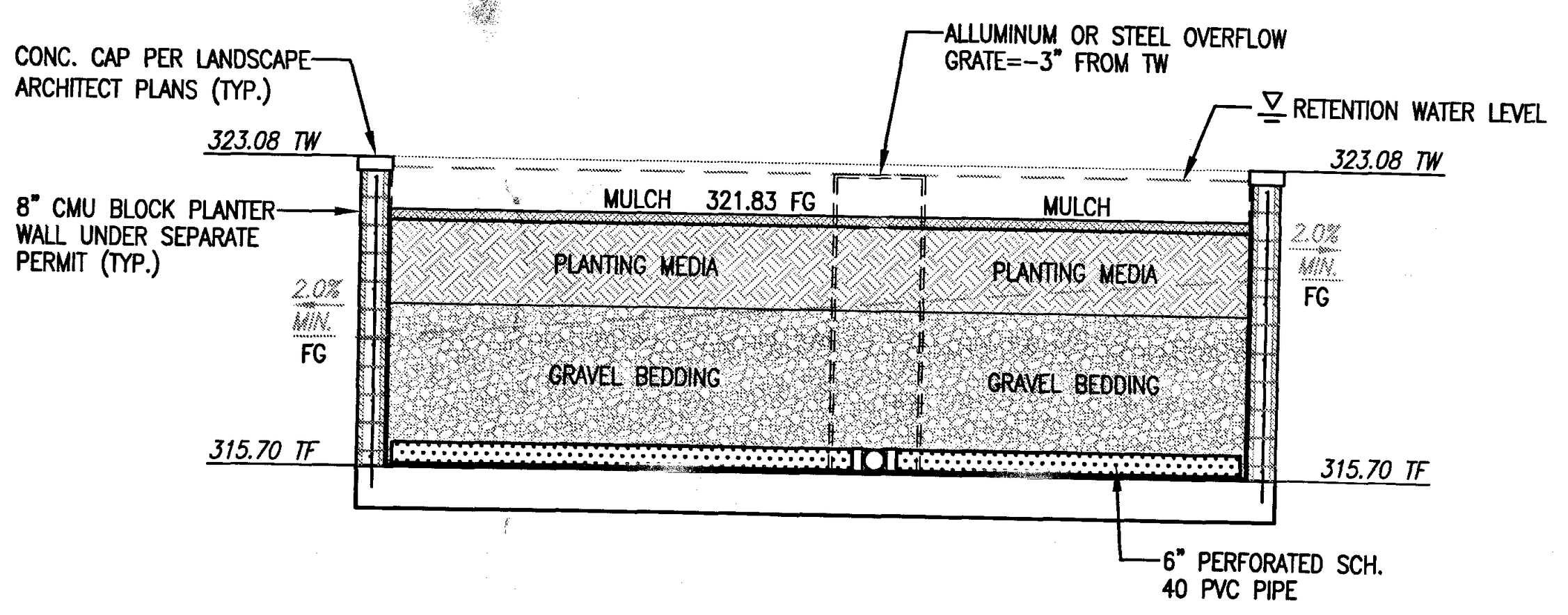
SCALE: 1"=4'



CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALLUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
305.94 TW
RETENTION WATER LEVEL
304.69 FG
MULCH
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
299.61 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #10)

SCALE: 1"=4'



CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALLUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
RETENTION WATER LEVEL
323.08 TW
MULCH
321.83 FG
PLANTING MEDIA
GRAVEL BEDDING
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
2.0% MIN.
FG
315.70 TF
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #12)

SCALE: 1"=4'

Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
No. 30560

SHEET DESCRIPTION:

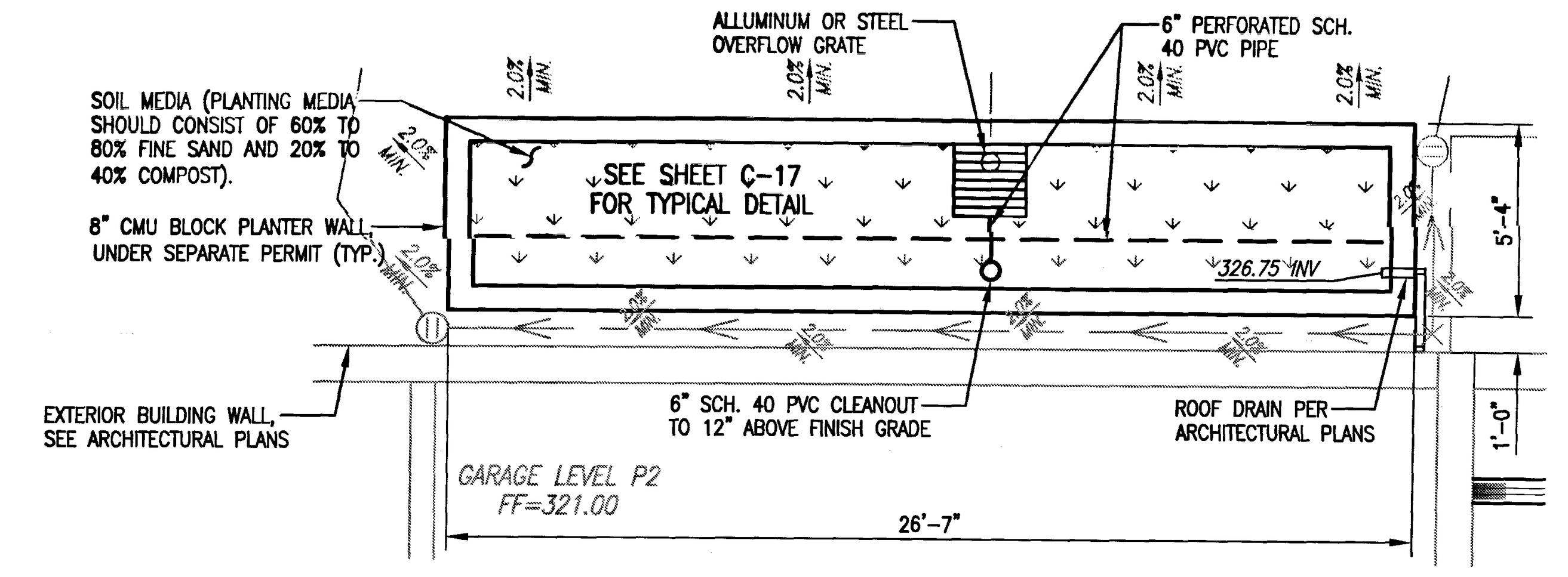
FLOW THROUGH PLANTER DETAILS

CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

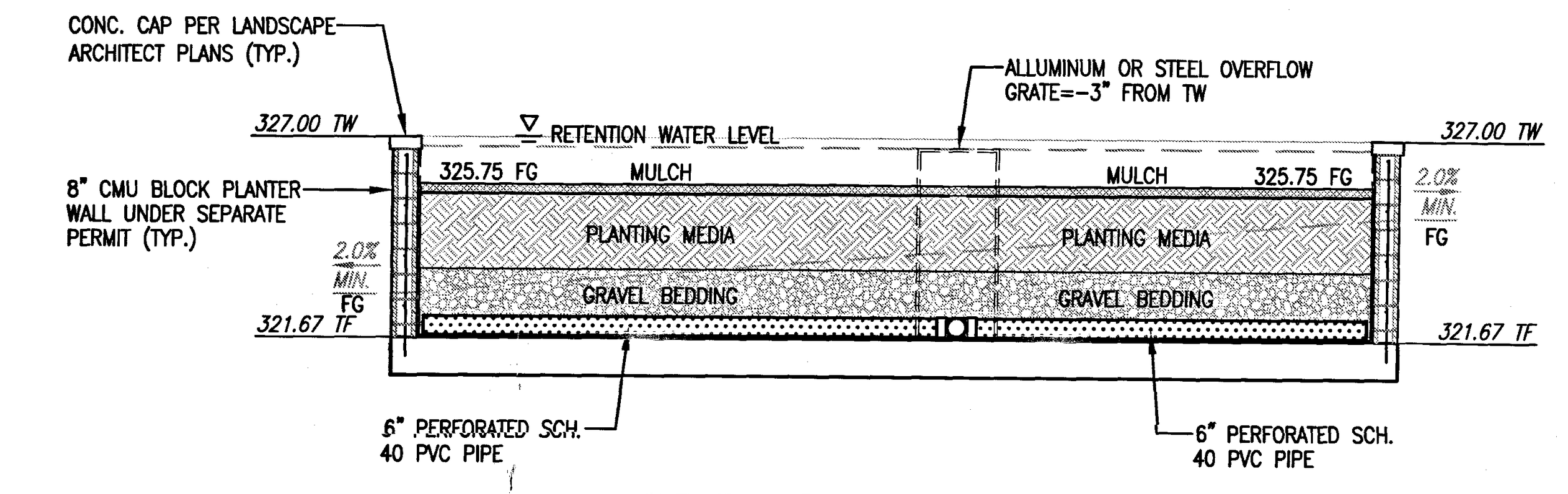
PROJECT NUMBER
5376001

SHEET NO.
C-25 △


ALLUMINUM OR STEEL OVERFLOW GRATE
6" PERFORATED SCH. 40 PVC PIPE
SOIL MEDIA (PLANTING MEDIA SHOULD CONSIST OF 60% TO 80% FINE SAND AND 20% TO 40% COMPOST).
8" CMU BLOCK PLANTER WALL, UNDER SEPARATE PERMIT (TYP.)
SEE SHEET C-17 FOR TYPICAL DETAIL
2.0% MIN.
326.75 INV
5'-4"
1'-0"
EXTERIOR BUILDING WALL, SEE ARCHITECTURAL PLANS
6" SCH. 40 PVC CLEANOUT TO 12" ABOVE FINISH GRADE
ROOF DRAIN PER ARCHITECTURAL PLANS
GARAGE LEVEL P2
FF=321.00
26'-7"

FLOW THROUGH PLANTER #13

SCALE: 1"=4'


CONC. CAP PER LANDSCAPE ARCHITECT PLANS (TYP.)
ALLUMINUM OR STEEL OVERFLOW GRATE=-3" FROM TW
327.00 TW
RETENTION WATER LEVEL
327.00 TW
8" CMU BLOCK PLANTER WALL UNDER SEPARATE PERMIT (TYP.)
325.75 FG
MULCH
MULCH
325.75 FG
PLANTING MEDIA
PLANTING MEDIA
GRAVEL BEDDING
GRAVEL BEDDING
2.0% MIN. FG
2.0% MIN. FG
321.67 TF
321.67 TF
6" PERFORATED SCH. 40 PVC PIPE
6" PERFORATED SCH. 40 PVC PIPE

SECTION (FTP #13)

SCALE: 1"=4'

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
CIVIL

James H. Kawamura

SHEET DESCRIPTION:

FLOW THROUGH PLANTER DETAILS

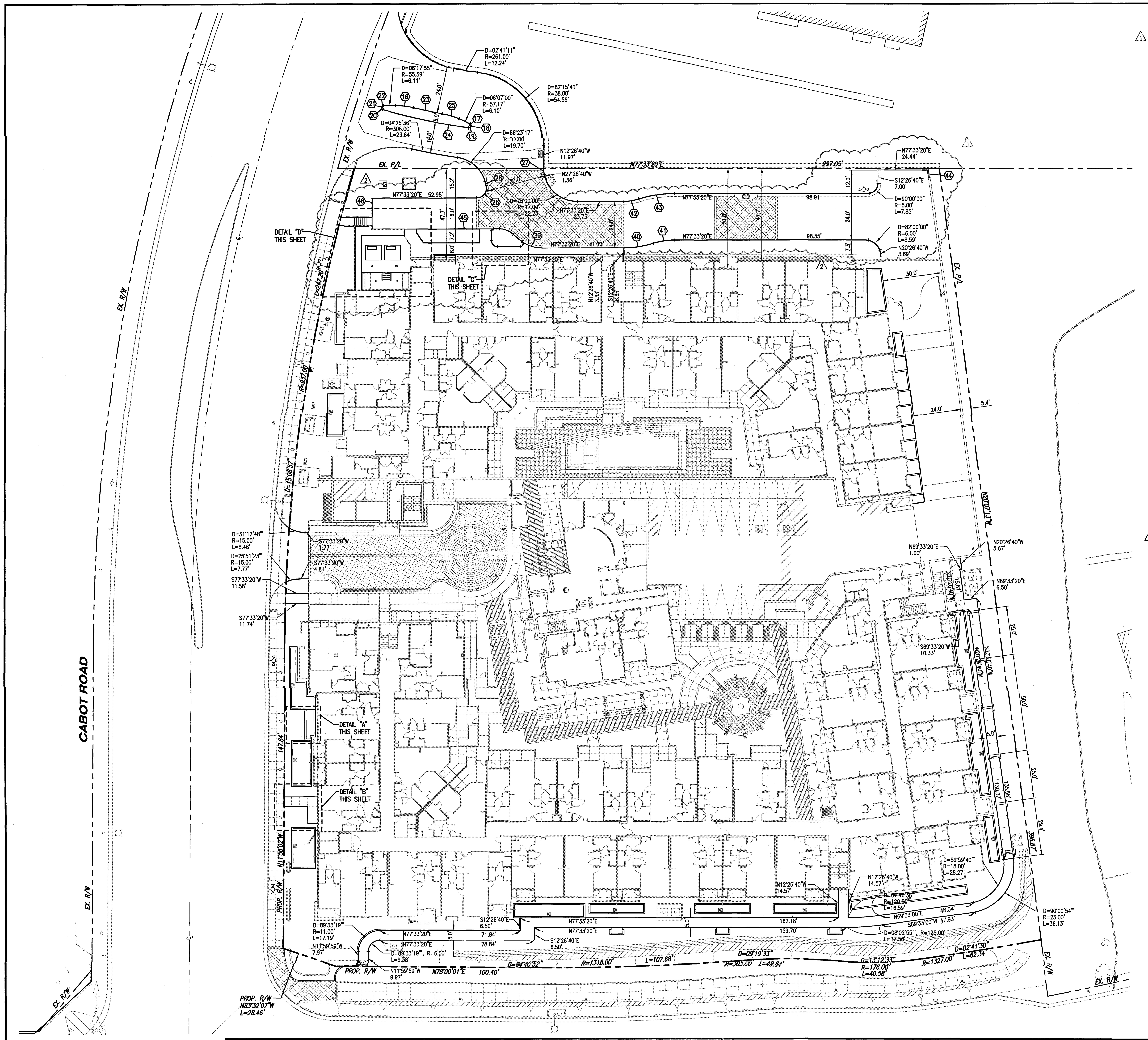
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

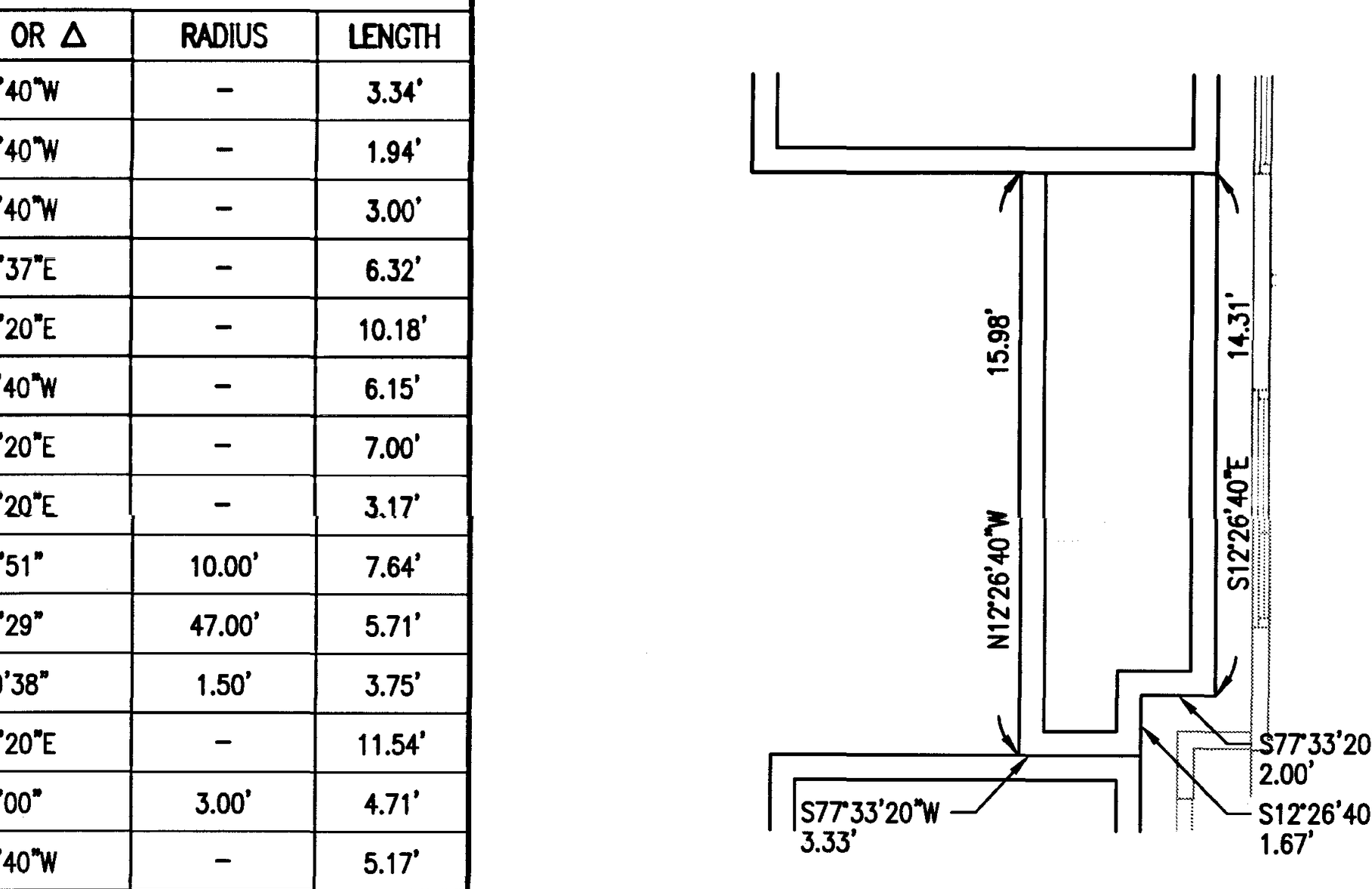
PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-26 △1

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-26-FTPD.dwg May 11, 2015 - 12:41pm Jose

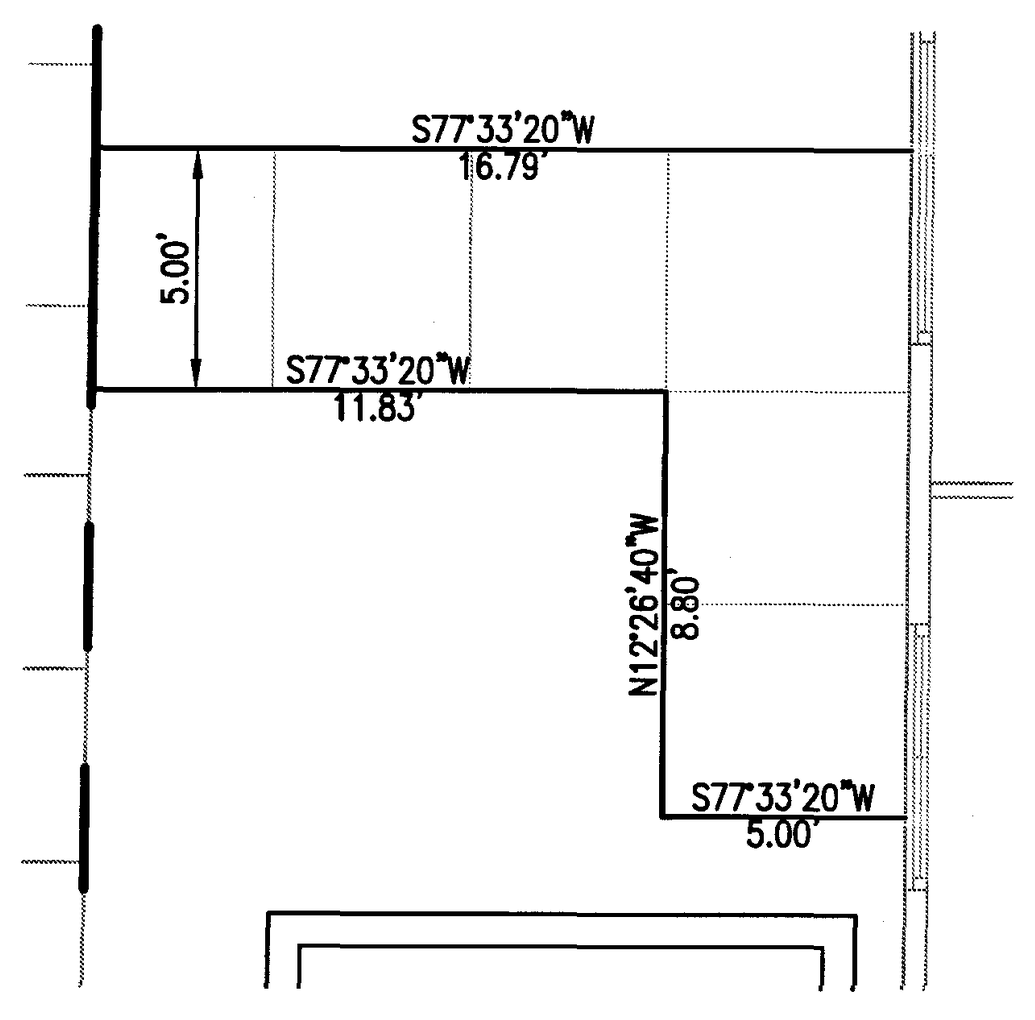

CABOT ROAD
EX. R/W
EX. P/L
PROP. R/W
N77°33'20"E 297.05'
N20°26'40"W 396.87'
R=317.00'
D=15°06'57"
L=247.20'
N11°58'02"W 147.64'
DETAIL "A" THIS SHEET
DETAIL "B" THIS SHEET
DETAIL "C" THIS SHEET
DETAIL "D" THIS SHEET
N78°00'01"E 100.40'
D=04°40'52" R=1318.00' L=107.68'
D=09°19'33" R=305.00' L=49.64'
D=13°12'33" R=176.00' L=40.58'
D=02°41'30" R=1327.00' L=62.34'
PROP. R/W N83°32'07"W L=28.46'
N11°59'59"W 9.97
D=90°00'54" R=23.00' L=36.13'
D=89°59'40" R=18.00' L=28.27'



DETAIL "A"

SCALE: 1"=5'

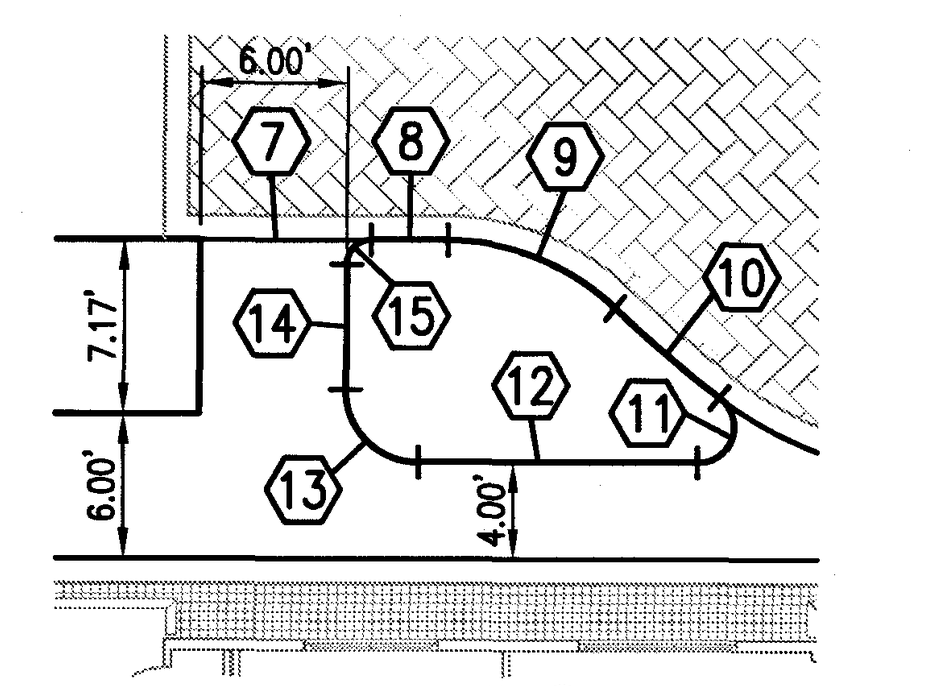
15.08'
14.31'
N12°26'40"W
S12°26'40"E
S77°33'20"W 3.33'
S77°33'20"W 2.00'
S12°26'40"E 1.67'



DETAIL "B"

SCALE: 1"=5'

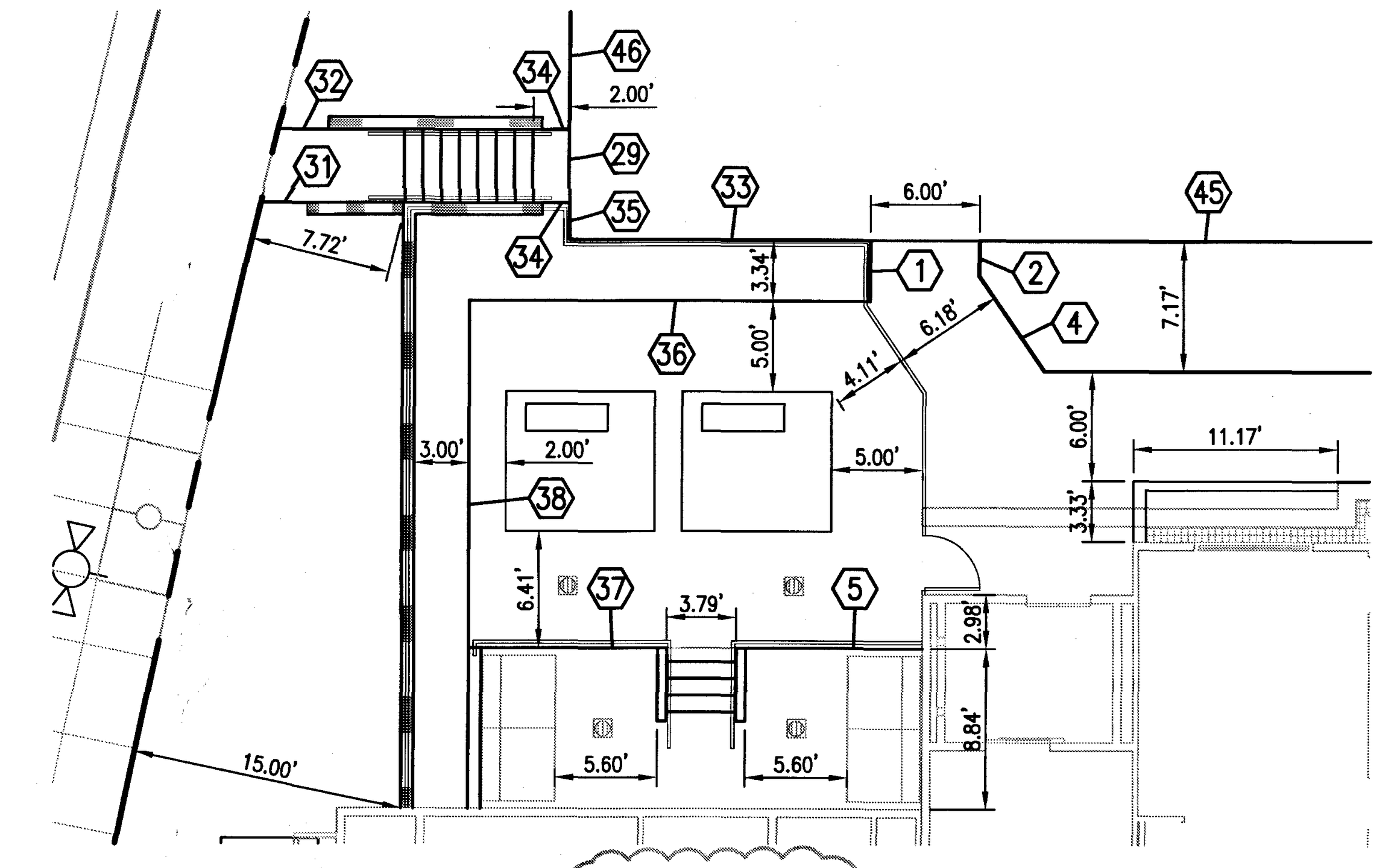
S77°33'20"W 16.79'
5.00'
S77°33'20"W 11.83'
N12°26'40"W 8.80'
S77°33'20"W 5.00'



DETAIL "C"

SCALE: 1"=10'

6.00'
7.17'
6.00'
4.00'
7
8
9
10
11
12
13
14
15



DETAIL "D"

SCALE: 1"=8'

32
34
46
2.00'
29
31
35
33
6.00'
1
2
45
7.72'
36
3.34'
5.00'
4.11'
6.18'
4
7.17'
3.00'
2.00'
38
5.00'
6.00'
11.17'
3.33'
6.41'
37
3.79'
5
2.98'
8.84'
15.00'
5.60'
5.60'

SEGMENT DATA

SEGMENT	BEARING OR Δ	RADIUS	LENGTH
1	N12°26'40"W	–	3.34'
2	N12°26'40"W	–	1.94'
3	N12°26'40"W	–	3.00'
4	N46°31'37"E	–	6.32'
5	N77°33'20"E	–	10.18'
6	N12°26'40"W	–	6.15'
7	N77°33'20"E	–	7.00'
8	N77°33'20"E	–	3.17'
9	43°47'51"	10.00'	7.64'
10	06°57'29"	47.00'	5.71'
11	143°09'38"	1.50'	3.75'
12	N77°33'20"E	–	11.54'
13	90°00'00"	3.00'	4.71'
14	N12°26'40"W	–	5.17'
15	90°00'00"	1.00'	1.57'
16	11°48'58"	43.51'	8.97'
17	68°52'10"	1.00'	1.20'
18	N04°46'08"W	–	0.17'
19	90°11'54"	1.00'	1.57'
20	91°06'48"	1.00'	1.59'
21	N05°19'31"E	–	0.16'
22	67°45'33"	1.00'	1.18'
23	03°01'27"	285.00'	15.04'
24	08°46'34"	290.00'	44.42'
25	11°48'58"	43.51'	8.97'
26	105°00'00"	5.00'	9.16'
27	15°00'00"	12.00'	3.14'
28	N27°26'40"	–	2.23'
29	N77°33'20"E	–	4.00'
30	N77°33'20"E	–	8.83'
31	N77°33'20"E	–	2.57'
32	N77°33'20"E	–	2.74'
33	N77°33'20"E	–	16.47'
34	N77°33'20"E	–	1.50'
35	N12°26'40"W	–	2.87'
36	N77°33'20"E	–	16.92'
37	N12°26'40"W	–	8.50'
38	N12°26'40"W	–	28.40'
39	36°52'12"	17.00'	10.44'
40	17°45'10"	49.00'	10.44'
41	17°45'10"	35.00'	10.85'
42	17°45'10"	25.00'	7.75'
43	17°45'10"	59.00'	18.28'
44	N20°26'40"W	–	4.04'
45	N77°33'20"E	–	32.00'
46	N12°26'40"W	–	9.98'

GENERAL NOTES

1. THIS SHEET IS NOT PART OF THE GRADING PERMIT (SHOWN FOR REFERENCE ONLY).

0 10 20 40 60
SCALE: 1"=20'

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

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REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/11/14	REVISED PROJECT ADDRESS. SHIFTED SHEET # DUE TO THE ADDITION OF NEW DRIVEWAY; ADDED CURB DATA INFORMATION FOR THE NEW DRIVEWAY & TRANSFORMER ENCLOSURE.	
2	1/16/15	REVISED TRANSFORMER AREA; REVISED ALIGNMENT OF ROADWAY; ADDED CURB DATA INFORMATION; ADDED DETAILS C & D	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

James H. Kawamura

SHEET DESCRIPTION:

HORIZONTAL CONTROL PLAN

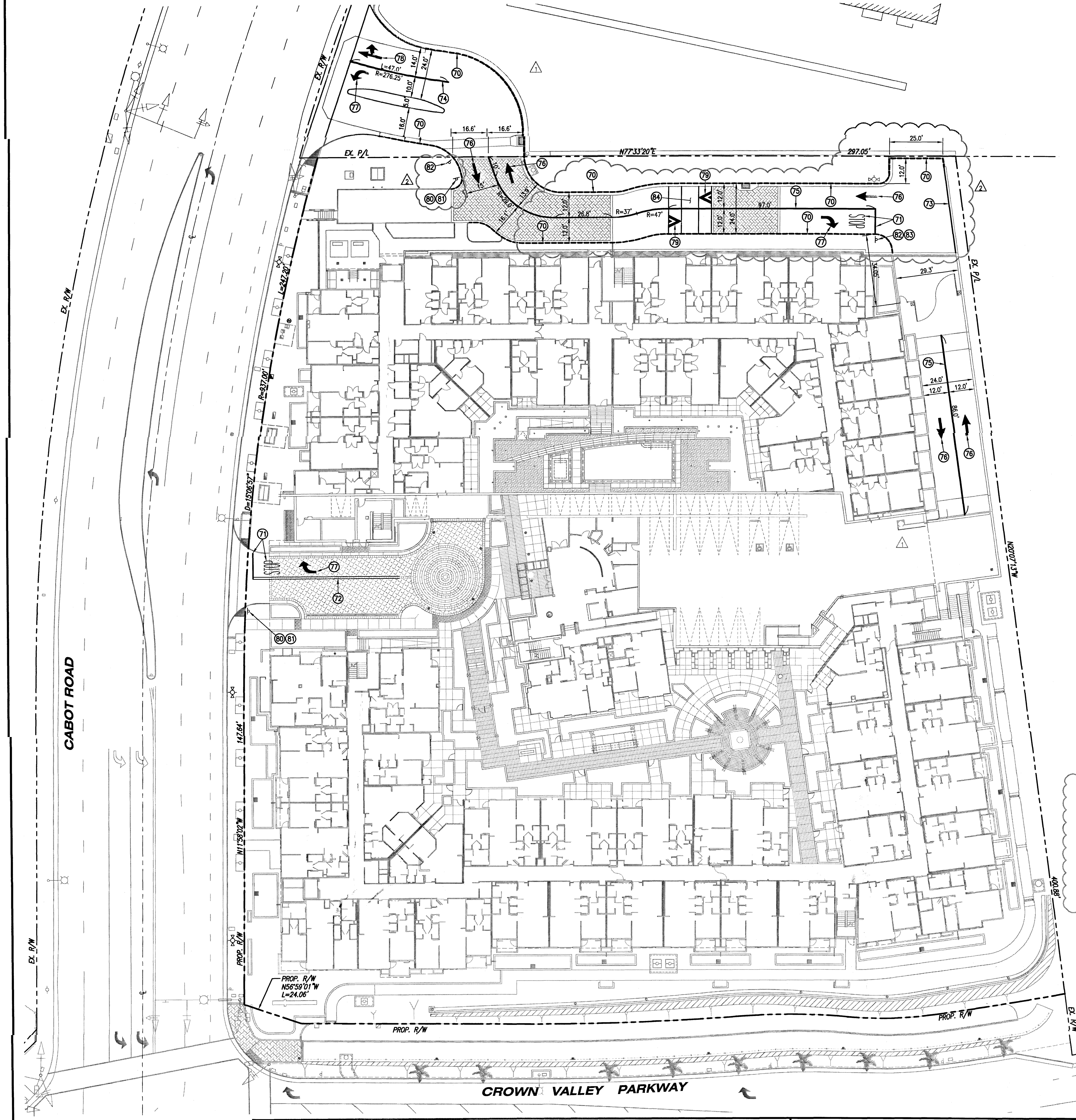
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-27

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-27-HRZT.dwg May 11, 2015 - 12:43pm Jose


CABOT ROAD
CROWN VALLEY PARKWAY
EX. R/W
EX. P/L
PROP. R/W
N77°33'20"E
297.05'
L=247.20'
R=837.00'
D=15°06'57"
N11°58'02"W
147.64'
N00°13'51"W
400.88'
PROP. R/W
N56°59'01"W
L=24.06'
R=276.25'
R=37'
R=47'
STOP
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84

STRIPING NOTES

⑦⓪ PAINT TOP AND CURB FACE RED WITH 4-INCH HIGH WHITE LETTERS LABELED "NO PARKING FIRE LANE" AT 30-FEET O.C.

⑦① PAINT 12-INCH WIDE WHITE LIMIT LINE AND STOP LEGEND PER CALTRANS STANDARD PLAN NO. A24D AND A24E.

⑦② PAINT 4-INCH DOUBLE YELLOW CENTERLINE PER CALTRANS STANDARD PLAN NO. A20A, DETAIL 21.

⑦③ PAINT 8-INCH SOLID RED STRIPING AND 3-INCH HIGH WHITE LETTERS LABELED "NO PARKING FIRE LANE" AT CENTER OF THE 8-INCH RED STRIPING. SEE DETAIL ON THIS SHEET.

⑦④ PAINT 8-INCH SINGLE POCKET CHANNELIZATION LINE.

⑦⑤ PAINT 4-INCH SINGLE YELLOW CENTERLINE, PER CALTRANS STANDARD PLAN NO.A20A.

⑦⑥ PAINT SOLID WHITE THERMOPLASTIC DIRECTION OF TRAVEL ARROWS.

⑦⑦ PAINT WHITE THERMOPLASTIC TURN LANE ARROWS, PER CALTRANS STANDARD PLAN NO. A24A, TYPE IV.

⑦⑧ PAINT WHITE THERMOPLASTIC TURN LANE ARROWS, PER CALTRANS STANDARD PLAN NO. A24A, TYPE VII.

⑦⑨ PAINT SOLID WHITE "V" SHAPED MARKINGS CENTERED IN EACH TRAVEL LANE. SEE DETAIL ON THIS SHEET.

SIGNING NOTES

⑧⓪ PROVIDE AND INSTALL NEW ACCESSIBILITY SITE WARNING SIGN ON A SQUARE GALVANIZED STEEL POST. SEE DETAIL ON THIS SHEET.

⑧① PROVIDE AND INSTALL NEW FIRE LANE ENTRANCE SIGN ON A SQUARE GALVANIZED STEEL POST. SEE DETAIL ON THIS SHEET.

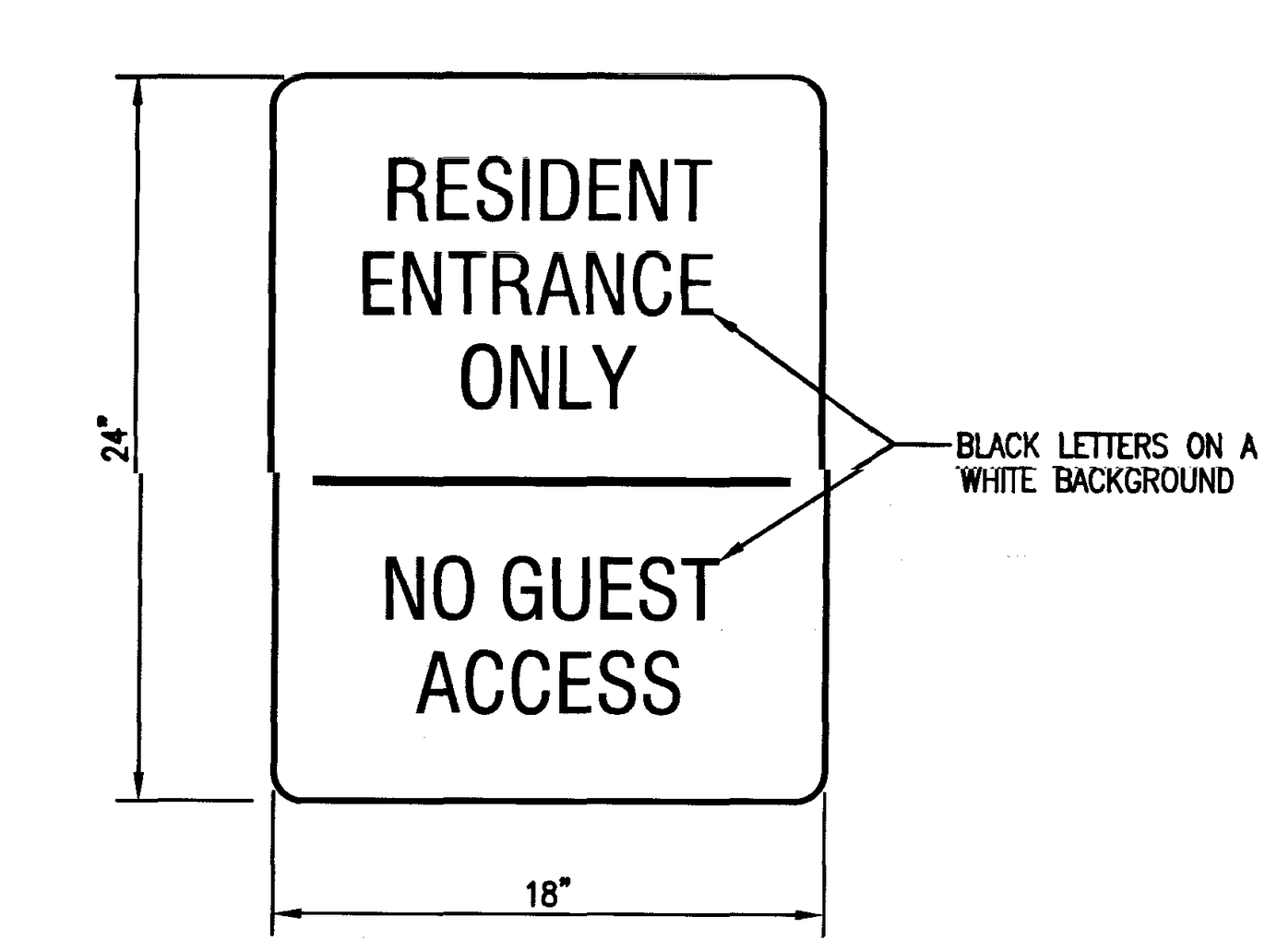
⑧② PROVIDE AND INSTALL "RESIDENT ENTRANCE ONLY NO GUEST ACCESS" SIGN ON A SQUARE GALVANIZED STEEL POST. SEE DETAIL ON THIS SHEET.

⑧③ PROVIDE AND INSTALL R1-1 (STOP) SIGN PER MUTCD STANDARDS.

⑧④ CONSTRUCT ASPHALT CONCRETE SPEED TABLE. SEE DETAIL ON THIS SHEET.

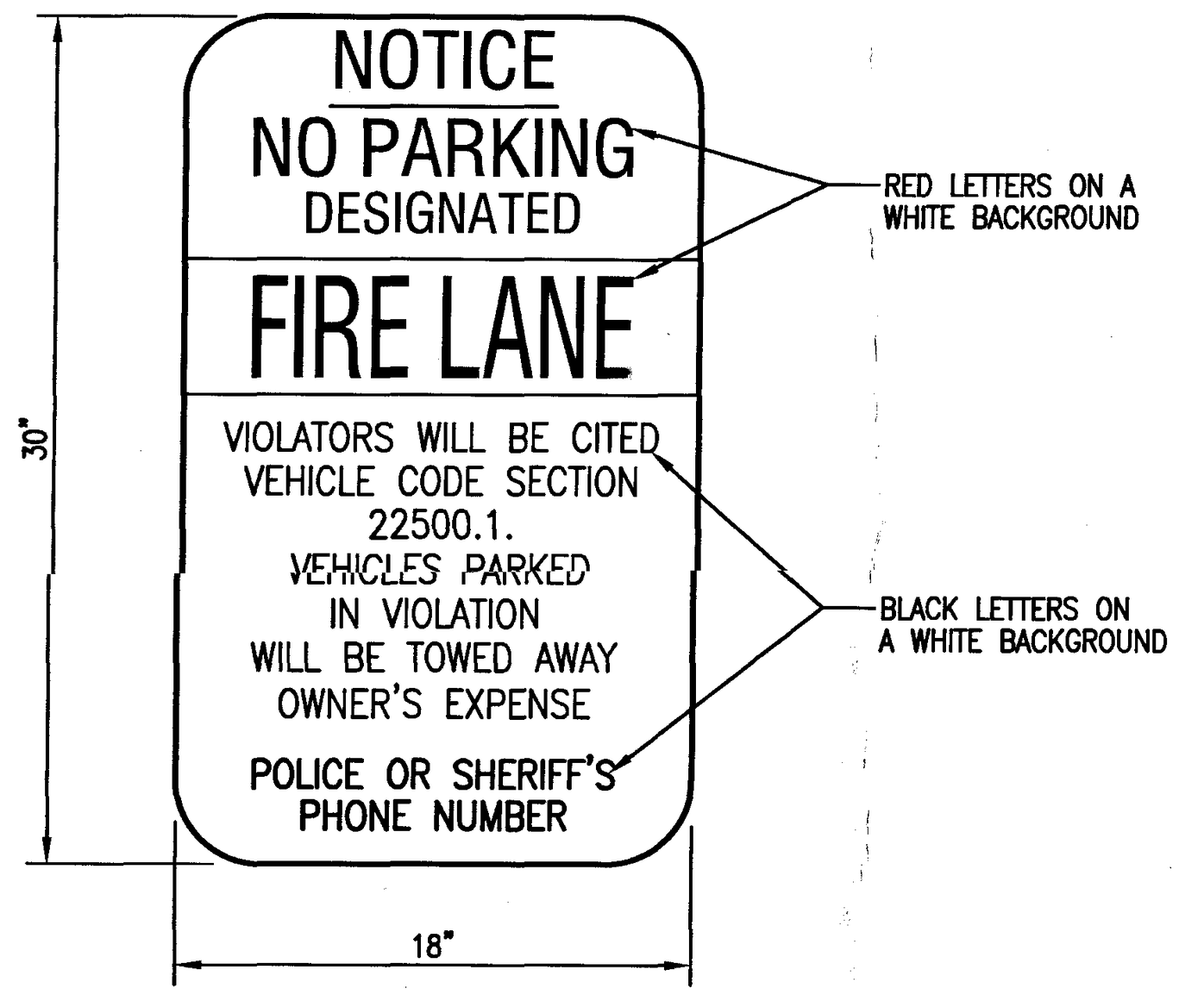
GENERAL NOTES

1. THIS SHEET IS NOT PART OF THE GRADING PERMIT (SHOWN FOR REFERENCE ONLY).
2. ALL STRIPING SHALL BE APPLIED WITH MINIMUM TWO COATS OF PAINT.


RESIDENT
ENTRANCE
ONLY
NO GUEST
ACCESS
BLACK LETTERS ON A WHITE BACKGROUND
24"
18"

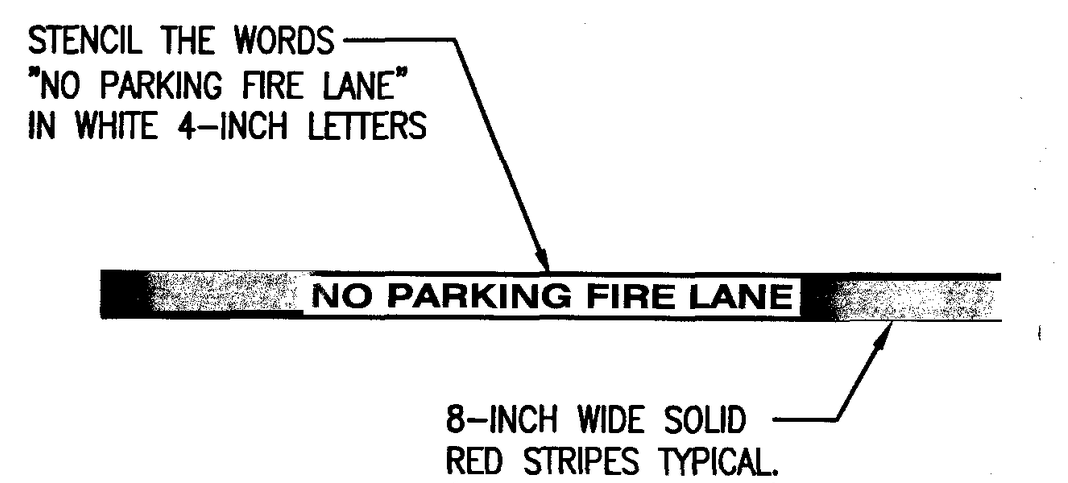
RESIDENT ENTRANCE SIGN DETAIL

SCALE: NONE


NOTICE
NO PARKING
DESIGNATED
FIRE LANE
VIOLATORS WILL BE CITED
VEHICLE CODE SECTION
22500.1.
VEHICLES PARKED
IN VIOLATION
WILL BE TOWED AWAY
OWNER'S EXPENSE
POLICE OR SHERIFF'S
PHONE NUMBER
RED LETTERS ON A WHITE BACKGROUND
BLACK LETTERS ON A WHITE BACKGROUND
30"
18"

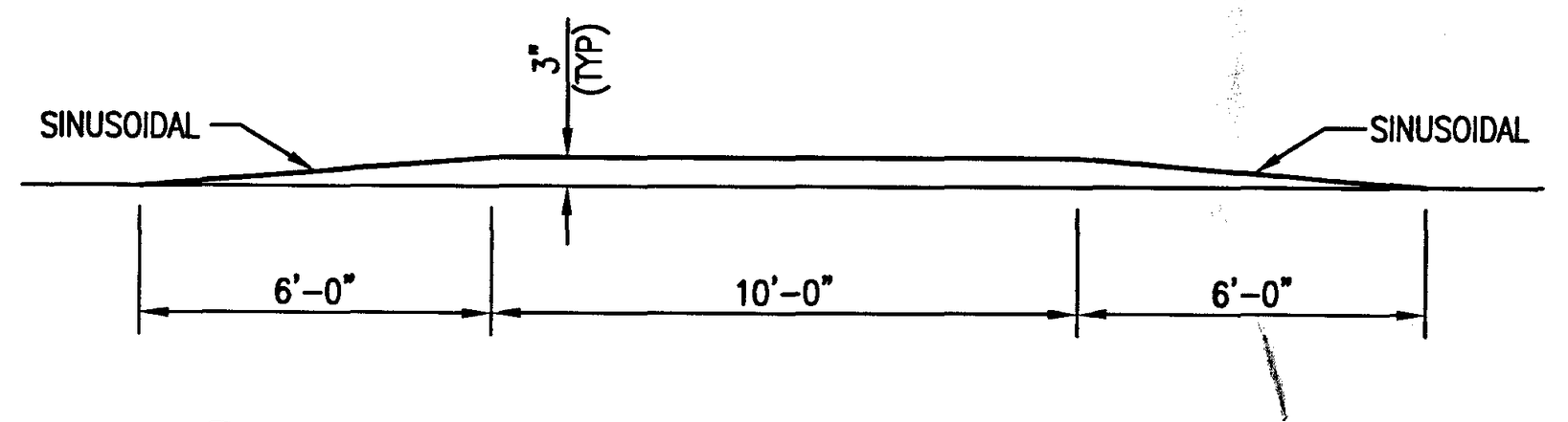
FIRE LANE ENTRANCE SIGN DETAIL

SCALE: NONE


STENCIL THE WORDS "NO PARKING FIRE LANE" IN WHITE 4-INCH LETTERS
NO PARKING FIRE LANE
8-INCH WIDE SOLID RED STRIPES TYPICAL. (TWO COATS MINIMUM)

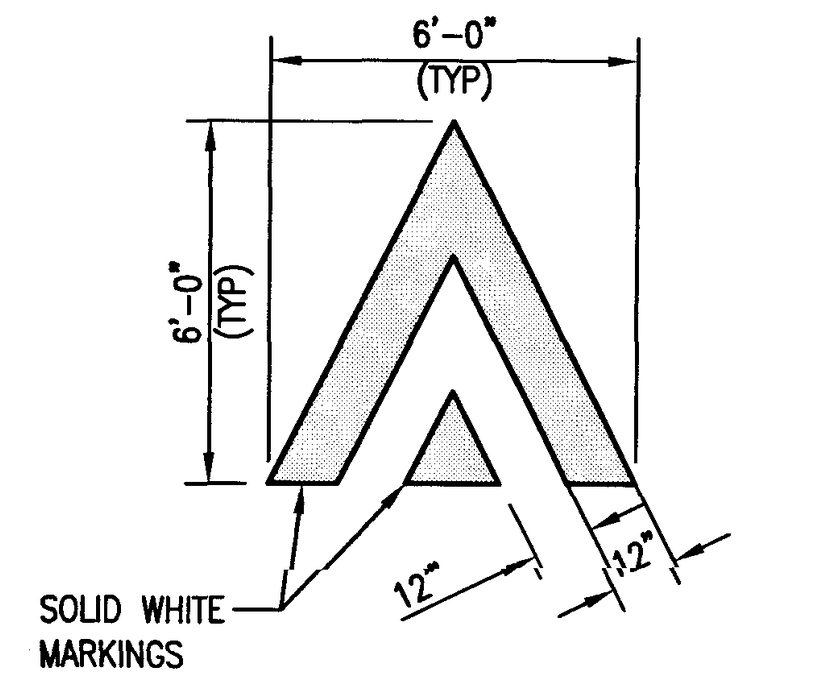
FIRE LANE STRIPING DETAIL

SCALE: NONE


3" (TYP)
SINUSOIDAL
SINUSOIDAL
6'-0"
10'-0"
6'-0"

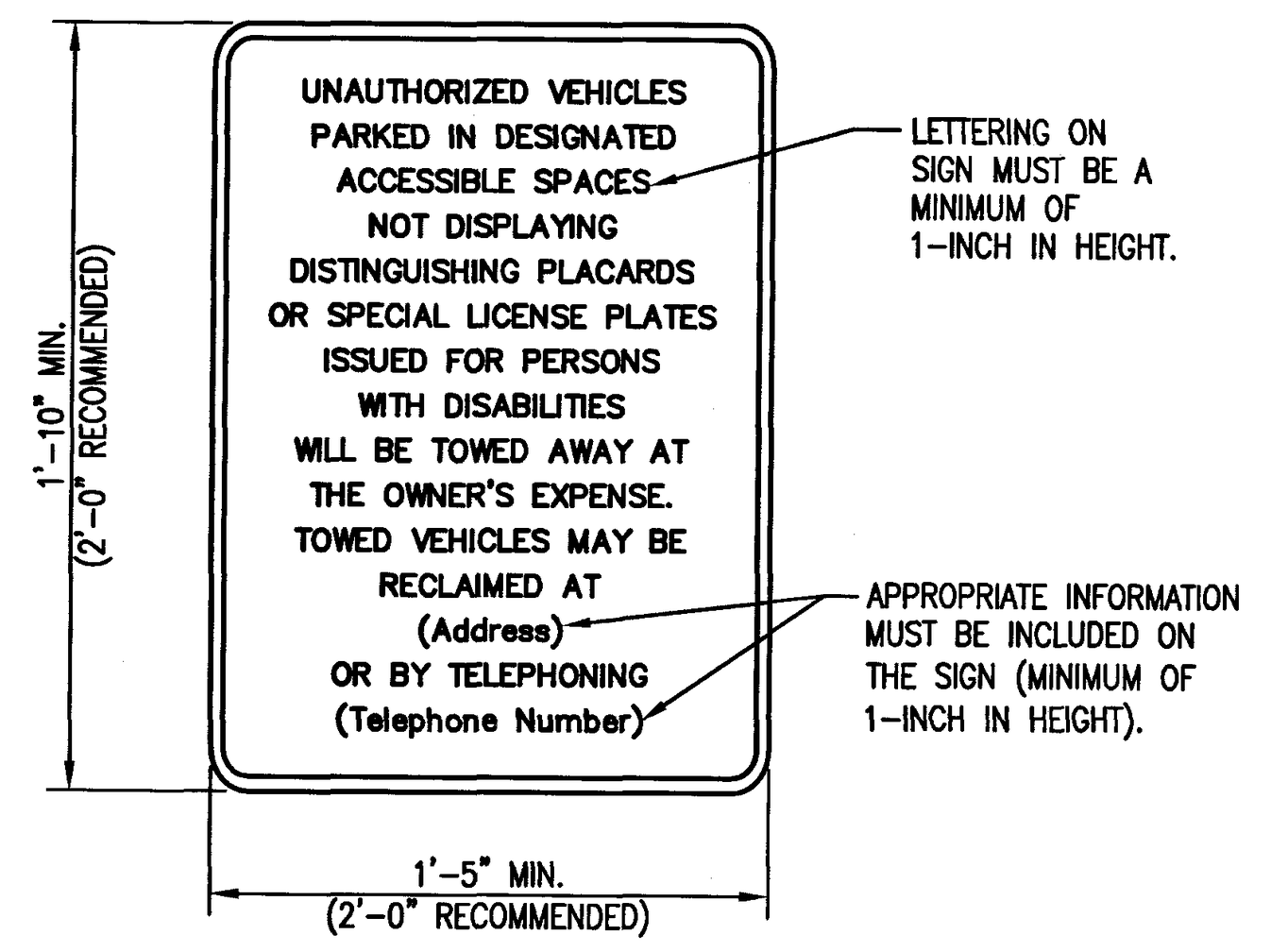
SPEED TABLE PROFILE DETAIL

SCALE: NONE


6'-0" (TYP)
6'-0" (TYP)
12"
12"
SOLID WHITE MARKINGS

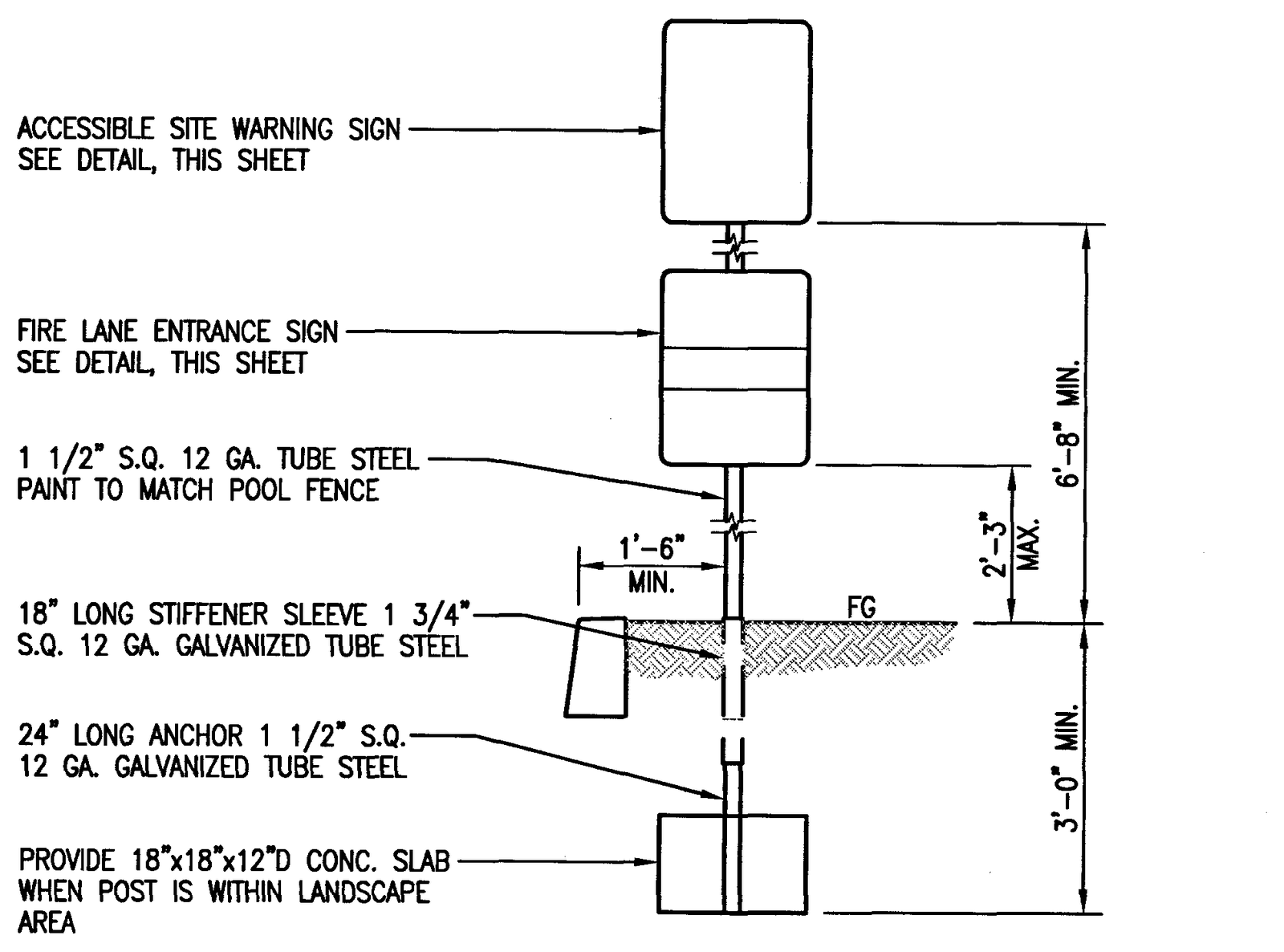
"V" SHAPED MARKING DETAIL

SCALE: NONE


UNAUTHORIZED VEHICLES
PARKED IN DESIGNATED
ACCESSIBLE SPACES
NOT DISPLAYING
DISTINGUISHING PLACARDS
OR SPECIAL LICENSE PLATES
ISSUED FOR PERSONS
WITH DISABILITIES
WILL BE TOWED AWAY AT
THE OWNER'S EXPENSE.
TOWED VEHICLES MAY BE
RECLAIMED AT
(Address)
OR BY TELEPHONING
(Telephone Number)
LETTERING ON SIGN MUST BE A MINIMUM OF 1-INCH IN HEIGHT.
APPROPRIATE INFORMATION MUST BE INCLUDED ON THE SIGN (MINIMUM OF 1-INCH IN HEIGHT).
1'-10" MIN. (2'-0" RECOMMENDED)
1'-5" MIN. (2'-0" RECOMMENDED)

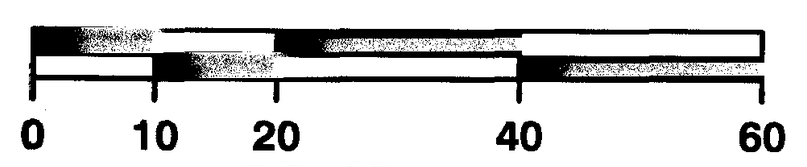
TYPICAL SITE WARNING SIGN DETAIL

SCALE: NONE


ACCESSIBLE SITE WARNING SIGN SEE DETAIL, THIS SHEET
FIRE LANE ENTRANCE SIGN SEE DETAIL, THIS SHEET
1 1/2" S.Q. 12 GA. TUBE STEEL PAINT TO MATCH POOL FENCE
18" LONG STIFFENER SLEEVE 1 3/4" S.Q. 12 GA. GALVANIZED TUBE STEEL
24" LONG ANCHOR 1 1/2" S.Q. 12 GA. GALVANIZED TUBE STEEL
PROVIDE 18"x18"x12"D CONC. SLAB WHEN POST IS WITHIN LANDSCAPE AREA
1'-6" MIN.
FG
2'-3" MAX.
6'-8" MIN.
3'-0" MIN.

TYPICAL SIGNAGE POST DETAIL

SCALE: NONE



SCALE: 1"=20'

Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY; RENUMBERED & ADD CONSTRUCTION NOTES; ADDED ENTRANCE AND FIRE LANE STRIPING	
2	3/25/15	CHANGED ROADWAY ALIGNMENT; ADDED RESIDENT ENTRANCE AND STOP SIGNS; ADDED SPEED TABLE; ADDED DETAILS; ADD CONSTRUCTION NOTES	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
James H. Kawamura

SHEET DESCRIPTION:

SIGNING AND STRIPING PLAN

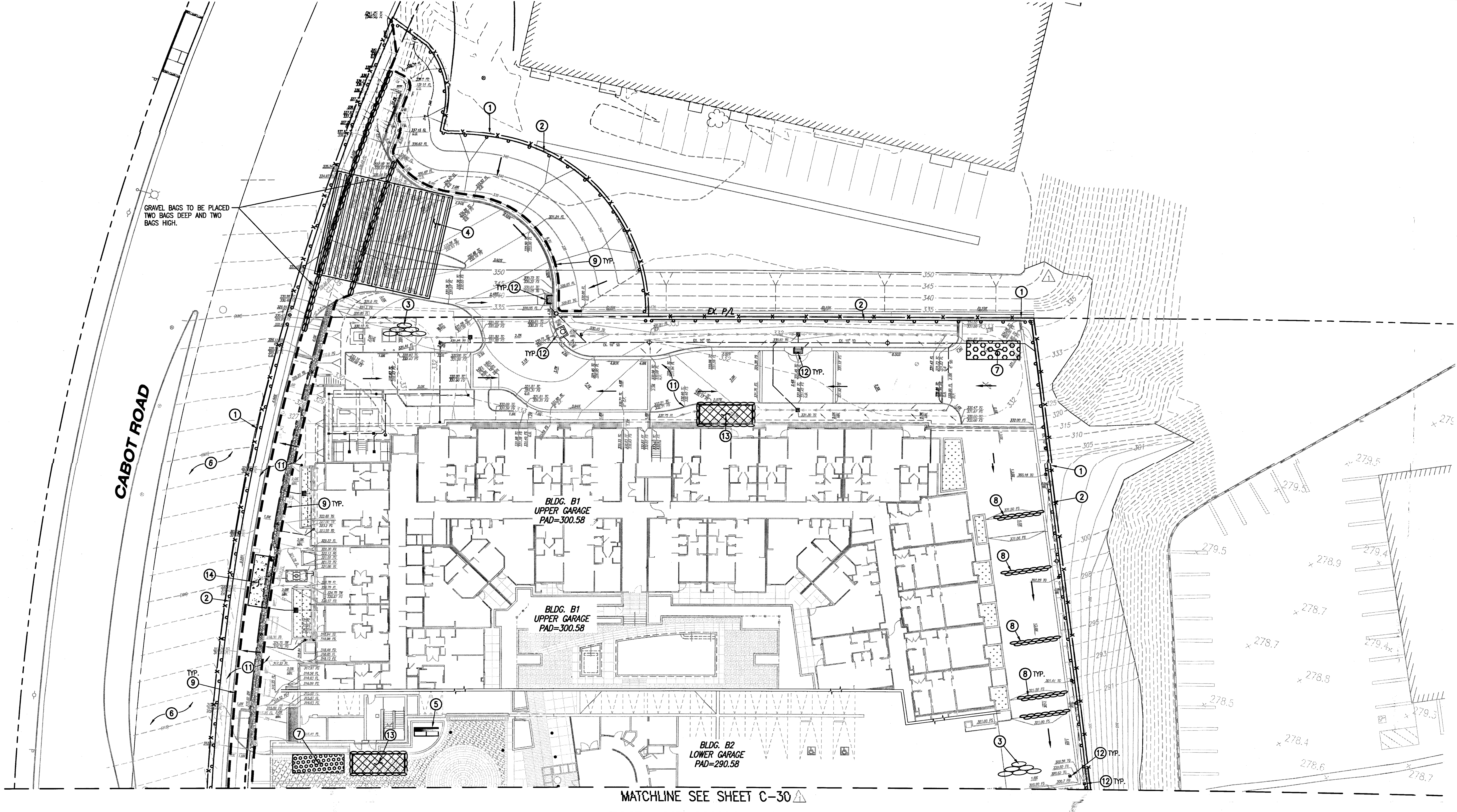
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-28

R:\MCRT\MCRT–Laguna Niguel\CD\Precise Grading\MCRLN–PG–28–SS.dwg May 11, 2015 – 12:46pm Jose


GRAVEL BAGS TO BE PLACED TWO BAGS DEEP AND TWO BAGS HIGH.
CABOT ROAD
EX. P/L
TYP.
BLDG. B1 UPPER GARAGE PAD=300.58
BLDG. B1 UPPER GARAGE PAD=300.58
BLDG. B2 LOWER GARAGE PAD=290.58
MATCHLINE SEE SHEET C-30 △

CONSTRUCTION NOTES

① INSTALL 6-FOOT HIGH CHAIN LINK FENCE WITH SCREENING AROUND PERIMETER OF PROPERTY.

② BMP'S SE-1, SE-5, SE-6, SE-12: PLACE SILT FENCE AND GRAVEL BAGS (3 HIGH) ALONG CONSTRUCTION PERIMETER IN ACCORDANCE WITH CASQA BMP STANDARD.

③ STOCKPILE BMPs THROUGHOUT CONSTRUCTION AREA FOR REPLACEMENT OF DAMAGED BMP'S AND/OR CREATION OF EMERGENCY BMPs.

④ BMP TC-1: CONSTRUCT TEMPORARY DRIVE PAD WITH A WIDTH EQUAL TO THE ENTRANCE/EXIT OF PROJECT SITE AND AT LEAST 50-FEET MIN. IN LENGTH. PURPOSE OF DRIVE PAD IS TO MITIGATE TRACKING OF MUD AND SILT ONTO PUBLIC STREETS. DESIGN ACCORDING TO CASQA STANDARD.

⑤ BMP WM-9: PLACE PORTABLE TOILET 50-FEET AWAY FROM DOWNSTREAM DRAINAGE FACILITIES, WATERCOURSES, AND CONSTRUCTION PERIMETER. SECONDARY CONTAINMENT SHALL BE RPOVIDED IN CASE OF SPILLS. USE CASQA BMP STANDARD.

⑥ BMP SE-7: SWEEP AND/OR VACUUM ALL STREETS AND SIDEWALKS, AS NEEDED, TO REMOVE VISIBLE SEDIMENT TRACKED FROM THE CONSTRUCTION SITE. ANY TRACKED SEDIMENT WILL BE REMOVED PRIOR TO THE END OF THE WORK DAY. USE CASQA BMP STANDARD.

⑦ BMP WM-5: PLACE WATERTIGHT TRASH CONTAINERS AWAY FROM DRAINAGE FACILITIES AND WATERCOURSES. ARRANGEMENTS FOR WASTE COLLECTION SHALL BE MADE PRIOR TO TWO-THIRDS CAPACITY. TRASH CONTAINERS SHALL BE COVERED AT THE END OF WORK DAY. USE CASQA BMP STANDARD.

⑧ BMP SE-4, SE-6: PLACE CHECK DAM AT INTERVALS BASED ON GRADES AS SPECIFIED BY DETAIL ON SHEET 29.

⑨ BMP SE-5: PLACE FIBER ROLLS OR STRAW WATTLES ALONG EVEN CONTOURS AT VERTICAL SPACING SPECIFIED BY DETAIL ON SHEET 29.

⑪ SPRAY EARTHGUARD OR EQUIVALENT ON ALL ACTIVE AND NON-ACTIVE SOIL AREAS THROUGHOUT THE ENTIRE SITE. APPLICATION SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S STANDARDS AND REAPPLIED AS NEEDED.

⑫ SE-10: PLACE GRAVEL BAGS AND FILTER FABRIC AT CATCH BASINS TO PROVIDE FOR DESILTING OF RAIN OR EXCESS WATER. USE CASQA BMP STANDARD.

⑬ BMP'S WM-1, WM-3, WM-5, WM-7, WM-8: USE PRIMARY (COVER) AND SECONDARY (GRAVEL BAG BERM) CONTAINMENT FOR TEMPORARY EXPOSED STORAGE AREAS IN ACCORDANCE WITH CASQA BMP STANDARDS.

⑭ BMP'S WM-8, NS-8: LOCATE TEMPORARY CONCRETE TRUCK/EQUIPMENT WASHOUT AREA AT LEAST 50-FEET FROM DOWNSTREAM STORM DRAIN INLETS. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD NOT ALLOW FOR ANY RUNOFF AND SHALL HAVE SUFFICIENT CAPACITY TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. WASHOUTS SHALL HAVE SECONDARY CONTAINMENT. USE CASQA BMP STANDARD.

LEGEND

─o──o──o─	PERIMETER CONTROL (SILT FENCE, GRAVEL BAGS, ETC.)
←	DIRECTION OF PROPOSED SURFACE DRAINAGE
(#)	CONSTRUCTION NOTE CALLOUT REFERENCE
── ─ ─ ──	RIGHT OF WAY LINE/PROPERTY LINE
──x──	CONSTRUCTION FENCE
▥	GRAVEL BED AND/OR (IF ON ASPHALT)) RUMBLE PLATES
○○○	TEMPORARY DUMPSTER AREA
▬	TEMPORARY PORTABLE TOILET
⬭	GRAVEL BAG
▬ ▬ ▬	FIBER ROLL/STRAW WATTLE
▩	TEMPORARY STORAGE AREA
⬚	TEMPORARY CONCRETE WASHOUT AREA

NOTE

SPRAY EARTHGUARD OR EQUIVALENT ON ALL DISTURBED AREAS, DISTURBED SLOPES AND STOCKPILES, PRIOR TO THE RAIN EVENT/STORM (SEE NOTE BELOW).

50. DURING THE WET SEASON, BETWEEN OCTOBER 1ST AND APRIL 30TH, EROSION CONTROL PROTECTIVE DEVICES AND MEASURES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY PROBABILITY-OF-RAIN EXCEEDS 40%. DURING THE REMAINDER OF THE YEAR, THE EROSION CONTROL PROTECTIVE DEVICES AND MEASURES SHALL BE ONSITE AND READY FOR INSTALLATION WHEN THE 5-DAY PROBABILITY-OF-RAIN EXCEED 50% AND IN PLACE AT THE END OF EACH DAY WHEN THE 48 HOUR PROBABILITY-OF-RAIN EXCEEDS 50%.

BMP - NOISE CONTROL

BEST MANAGEMENT PRACTICES, NOISE CONTROL (GSP MM4.10-1 - MM4.10-4) - PRIOR TO ISSUANCE OF GRADING OR BUILDING PERMITS, THE PROJECT APPLICANT SHALL DOCUMENT ON THE GRADING AND BUILDING PLANS THE FOLLOWING CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPS), TO BE IMPLEMENTED BY CONTRACTORS TO REDUCE CONSTRUCTION NOISE LEVELS:

(MM4.10-1)

a. ENSURE THAT CONSTRUCTION EQUIPMENT IS PROPERLY MUFFLED ACCORDING TO INDUSTRY STANDARDS AND IN GOOD WORKING CONDITION.

b. PLACE NOISE-GENERATING CONSTRUCTION EQUIPMENT AND LOCATE CONSTRUCTION STAGING AREAS AWAY FROM SENSITIVE USES, WHERE FEASIBLE.

c. SCHEDULE HIGH NOISE-PRODUCING ACTIVITIES BETWEEN THE HOURS OF 8:00 AM AND 5:00 PM TO MINIMIZE DISRUPTION ON SENSITIVE USES, MONDAY THROUGH SATURDAY.

d. IMPLEMENT NOISE ATTENUATION MEASURES, WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY NOISE BARRIERS OR NOISE BLANKETS AROUND STATIONARY CONSTRUCTION NOISE SOURCES, WHERE FEASIBLE.

e. USE ELECTRIC AIR COMPRESSORS AND SIMILAR POWER TOOLS RATHER THAN DIESEL EQUIPMENT, WHERE FEASIBLE.

f. CONSTRUCTION-RELATED EQUIPMENT, INCLUDING HEAVY-DUTY EQUIPMENT, MOTOR VEHICLES, AND PORTABLE EQUIPMENT, SHALL BE TURNED OFF WHEN NOT IN USE FOR MORE THAN 10 MINUTES.

g. CONSTRUCTION HOURS, ALLOWABLE WORKDAYS, AND THE PHONE NUMBER OF THE JOB SUPERINTENDENT SHALL BE CLEARLY POSTED AT ALL CONSTRUCTION ENTRANCES TO ALLOW FOR SURROUNDING OWNERS AND RESIDENTS TO CONTACT THE JOB SUPERINTENDENT. IF THE CITY OR THE JOB SUPERINTENDENT RECEIVES A COMPLAINT, THE SUPERINTENDENT SHALL INVESTIGATE, TAKE APPROPRIATE CORRECTIVE ACTION, AND REPORT THE ACTION TAKEN TO THE REPORTING PARTY.

h. (MM4.10-2) CONSTRUCTION STAGING AREAS ALONG WITH THE OPERATION OF EARTHMOVING EQUIPMENT WITHIN THE PROJECT AREA WOULD BE LOCATED AS FAR AWAY FROM VIBRATION AND NOISE SENSITIVE SITES AS POSSIBLE.

i. (MM4.10-3) HEAVILY LOADED TRUCKS USED DURING CONSTRUCTION WOULD BE ROUTED AWAY FROM RESIDENTIAL STREETS.

j. (MM4.10-4) USE OF NOISE-REDUCING PILE DRIVING TECHNIQUES IF NEARBY STRUCTURES ARE SUBJECT TO PILE DRIVING NOISE AND VIBRATION. THESE TECHNIQUES INCLUDE PRE-DRILLING PILE HOLES (IF FEASIBLE, BASED ON SOILS) TO THE MAXIMUM FEASIBLE DEPTH, INSTALLING STATE-OF-THE-ART INTAKE AND EXHAUST MUFFLERS ON PILE DRIVING EQUIPMENT, VIBRATING PILES INTO PLACE WHEN FEASIBLE, AND INSTALLING SHROUDS AROUND THE PILE DRIVING HAMMER WHERE FEASIBLE. PILE DRIVING ACTIVITIES SHALL BE SCHEDULED BETWEEN THE HOURS OF 8:00 AM AND 4:00 PM ON MONDAYS THROUGH FRIDAYS ONLY.

BMP - AIR QUALITY

BEST MANAGEMENT PRACTICES, AIR QUALITY (GSP MM4.2-1 - MM4.2-14) - PRIOR TO ISSUANCE OF A GRADING AND/OR A BUILDING PERMIT, THE FOLLOWING BMPS SHALL BE INCLUDED ON THE PROJECT GRADING AND/OR BUILDING PLANS, AS DETERMINED APPROPRIATE BY THE COMMUNITY DEVELOPMENT DIRECTOR OR BUILDING OFFICIAL:

a. (MM4.2-1) NAME AND PHONE NUMBER OF THE CONTRACTOR'S SUPERINTENDENT HIRED BY THE APPLICANT SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT AND PUBLIC WORKS DEPARTMENTS. IN ADDITION, CLEARLY VISIBLE SIGNS SHALL BE POSTED ON THE PERIMETER OF THE SITE INDICATING WHO SHALL BE CONTACTED FOR INFORMATION REGARDING THIS DEVELOPMENT AND ANY ONSTRUCTION/GRADING-RELATED CONCERNS. THIS CONTACT PERSON SHALL BE AVAILABLE IMMEDIATELY TO ADDRESS ANY CONCERNS OR ISSUES RAISED BY ADJACENT PROPERTY OWNERS DURING THE CONSTRUCTION ACTIVITY. S/HE WILL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH THE CONDITIONS HEREIN, SPECIFICALLY, GRADING ACTIVITIES, TRUCK ROUTES, CONSTRUCTION HOURS, NOISE, ETC. SIGNS SHALL INCLUDE THE APPLICANT'S CONTACT NUMBER REGARDING GRADING AND CONSTRUCTION ACTIVITIES, AND "1-800-CUTSMOG" IN THE EVENT THERE ARE CONCERNS REGARDING FUGITIVE DUST AND COMPLIANCE WITH SCAQMD RULE NO. 403.

b. (MM4.2-2) WIND BARRIERS SHALL BE INSTALLED ALONG THE PERIMETER OF THE SITE AND/OR AROUND AREAS BEING GRADED.

c. (MM4.2-3) PROJECT APPLICANT SHALL ESTABLISH AN ON-SITE CONSTRUCTION EQUIPMENT STAGING AREA AND CONSTRUCTION WORKER PARKING, LOCATED ON EITHER PAVED SURFACES OR UNPAVED SURFACES SUBJECTED TO SOIL STABILIZATION TREATMENTS, AS CLOSE AS POSSIBLE TO A PUBLIC ROADWAY.

d. (MM4.2-4) PROJECT APPLICANT SHALL CONTROL ACCESS TO THE PUBLIC BY LIMITING CURB CUTS/DRIVEWAYS TO MINIMIZE PROJECT CONSTRUCTION IMPACTS UPON ROADWAY TRAFFIC OPERATIONS.

e. (MM4.2-5) PROJECT APPLICANT SHALL PROPERLY MAINTAIN NONVEHICULAR EQUIPMENT ENGINES TO MINIMIZE THE VOLUME OF EXHAUST EMISSIONS.

f. (MM4.2-6) PROJECT APPLICANT SHALL USE ELECTRICITY FROM POWER POLES, RATHER THAN TEMPORARY DIESEL OR GASOLINE POWERED GENERATORS, AS FEASIBLE.

g. (MM4.2-7) PROJECT APPLICANT SHALL USE ON-SITE MOBILE EQUIPMENT POWERED BY ALTERNATIVE FUEL SOURCES (I.E., METHANOL, NATURAL GAS, PROPANE, OR BUTANE) AS FEASIBLE.

h. (MM4.2-8) PROJECT APPLICANT SHALL PAVE ALL CONSTRUCTION ROADS AS FEASIBLE.

i. (MM4.2-9) PROJECT APPLICANT SHALL PROVIDE RIDESHARING OR SHUTTLE SERVICE FOR CONSTRUCTION WORKERS, AS FEASIBLE.

BMP - AIR QUALITY (CONTINUED)

j. (MM4.2-10) PROJECT APPLICANT SHALL PROVIDE TEMPORARY TRAFFIC CONTROLS SUCH AS A FLAG PERSON, DURING ALL PHASES OF CONSTRUCTION TO MAINTAIN SMOOTH TRAFFIC FLOW, AS DEEMED NECESSARY BY THE PUBLIC WORKS DIRECTOR.

k. (MM4.2-11) PROJECT APPLICANT SHALL PROVIDE DEDICATED TURN LANES FOR MOVEMENT OF CONSTRUCTION TRUCKS AND EQUIPMENT ON AND OFF SITE, AS DEEMED NECESSARY BY THE PUBLIC WORKS DIRECTOR.

l. (MM4.2-12) PROJECT APPLICANT SHALL REROUTE CONSTRUCTION TRUCKS AWAY FROM CONGESTED STREETS OR SENSITIVE RECEPTOR AREAS, AS FEASIBLE;

m. (MM4.2-13) PROJECT APPLICANT SHALL REQUIRE THE USE OF CLEANEST BURNING DIESEL HAUL TRUCKS AVAILABLE, SUCH AS TRUCKS THAT MEET 2010 MODEL YEAR EPA STANDARDS.

n. (MM4.2-14) PROJECT APPLICANT SHALL ENSURE THAT ALL ARCHITECTURAL COATING (PAINT AND PRIMER) PRODUCTS APPLIED DURING CONSTRUCTION HAVE A LOW TO NO VOC RATING.

BMP - DUST CONTROL

DUST CONTROL - DURING CLEARING, GRADING, EARTH-MOVING, OR EXCAVATION OPERATIONS, EXCESSIVE FUGITIVE DUST EMISSIONS SHALL BE CONTROLLED BY REGULAR WATERING OR OTHER DUST-PREVENTIVE MEASURES USING THE FOLLOWING PROCEDURES, AS SPECIFIED IN THE SCAQMD RULE 403 LISTED BELOW. PRIOR TO GRADING PERMIT ISSUANCE, THESE CONTROL TECHNIQUES SHALL BE NOTED ON THE PROJECT GRADING PLANS. COMPLIANCE WITH THE MEASURE SHALL BE SUBJECT TO PERIODIC SITE INSPECTIONS BY THE CITY.

a. ON-SITE VEHICLE SPEED SHALL BE LIMITED TO 15 MILES PER HOUR.

b. ALL MATERIAL EXCAVATED OR GRADED SHALL BE SUFFICIENTLY WATERED TO PREVENT EXCESSIVE AMOUNTS OF DUST. WATERING SHALL OCCUR AT LEAST TWICE DAILY WITH COMPLETE COVERAGE, PREFERABLY IN THE LATE MORNING AND AFTER WORK IS DONE FOR THE DAY.

c. STREETS ADJACENT TO THE PROJECT SITE SHALL BE SWEPT AS NEEDED TO REMOVE SILT THAT MAY HAVE ACCUMULATED FROM CONSTRUCTION ACTIVITIES SO AS TO PREVENT EXCESSIVE AMOUNTS OF DUST.

d. ALL TRUCKS HAULING DIRT, SAND, SOIL, OR OTHER LOOSE MATERIALS SHALL BE SECURELY COVERED, OR MAINTAIN AT LEAST 0.6 METERS (2 FEET) OF FREEBOARD (VERTICAL SPACE BETWEEN THE TOP OF THE LOAD AND TOP OF THE TRAILER) IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA VEHICLE CODE (CVC) SECTION 23114.

e. THE AREA DISTURBED BY CLEARING, GRADING, EARTH-MOVING, OR EXCAVATION OPERATIONS SHALL BE MINIMIZED SO AS TO PREVENT EXCESSIVE AMOUNTS OF DUST.

f. VISIBLE DUST BEYOND THE PROPERTY LINE EMANATING FROM THE PROJECT SHALL BE PREVENTED TO THE MAXIMUM EXTENT FEASIBLE.

BEST MANAGEMENT PRACTICES

THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) CONSTRUCTION BEST MANAGEMENT PRACTICES (BMP) HANDBOOK, NOVEMBER 2009, OR 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).

TEMPORARY EROSION CONTROL

EC-1	SCHEDULING
EC-2	PRESERVATION OF EXISTING VEGETATION
EC-3	HYDRAULIC MULCH
EC-4	HYDROSEEDING
EC-5	SOIL BINDERS
EC-6	STRAW MULCH
EC-7	GEOTEXTILES AND MATS
EC-8	WOOD MULCHING
EC-9	EARTH DIKES AND DRAINAGE SWALES
EC-10	VELOCITY DISSIPATION DEVICES
EC-11	SLOPE DRAINS
EC-12	STREAMBANK STABILIZATION
EC-13	RESERVED (FORMERLY PAM)
EC-14	COMPOST BLANKETS
EC-15	SOIL PREPARATION/ROUGHENING
EC-16	NON-VEGETATIVE STABILIZATION

TEMPORARY SEDIMENT CONTROL

SE-1	SILT FENCE
SE-2	SEDIMENT BASIN
SE-3	SEDIMENT TRAP
SE-4	CHECK DAM
SE-5	FIBER ROLLS
SE-6	GRAVEL BAG BERM
SE-7	STREET SWEEPING AND VACUUMING
SE-8	SANDBAG BARRIER
SE-9	STRAW BALE BARRIER
SE-10	STORM DRAIN INLET PROTECTION
SE-11	ACTIVE TREATMENT SYSTEMS
SE-12	TEMPORARY SILT DIKE
SE-13	COMPOST SOCKS AND BERMS
SE-14	BIOFILTER BAGS

WIND EROSION CONTROL

WE-1	WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL

TC-1	STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2	STABILIZED CONSTRUCTION ROADWAY
TC-3	ENTRANCE/OUTLET TIRE WASH

NON-STORMWATER MANAGEMENT CONTROL

NS-1	WATER CONSERVATION PRACTICES
NS-2	DEWATERING OPERATIONS
NS-3	PAVING AND GRINDING OPERATIONS
NS-4	TEMPORARY STREAM CROSSING
NS-5	CLEAR WATER DIVERSION
NS-6	ILLICIT CONNECTION/DISCHARGE
NS-7	POTABLE WATER/IRRIGATION
NS-8	VEHICLE AND EQUIPMENT CLEANING
NS-9	VEHICLE AND EQUIPMENT FUELING
NS-10	VEHICLE AND EQUIPMENT MAINTENANCE
NS-11	PILE DRIVING OPERATIONS
NS-12	CONCRETE CURING
NS-13	CONCRETE FINISHING
NS-14	MATERIAL OVER WATER
NS-15	DEMOLITION ADJACENT TO WATER
NS-16	TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL

WM-1	MATERIAL DELIVERY AND STORAGE
WM-2	MATERIAL USE
WM-3	STOCKPILE MANAGEMENT
WM-4	SPILL PREVENTION AND CONTROL
WM-5	SOLID WASTE MANAGEMENT
WM-6	HAZARDOUS WASTE MANAGEMENT
WM-7	CONTAMINATED SOIL MANAGEMENT
WM-8	CONCRETE WASTE MANAGEMENT
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT
WM-10	LIQUID WASTE MANAGEMENT

0 10 20 40 60
SCALE: 1"=20'

811 Know what's below. Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444
UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16
CIVIL

SHEET DESCRIPTION:

EROSION CONTROL PLAN - PRECISE GRADING

CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD △1
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-29 △1

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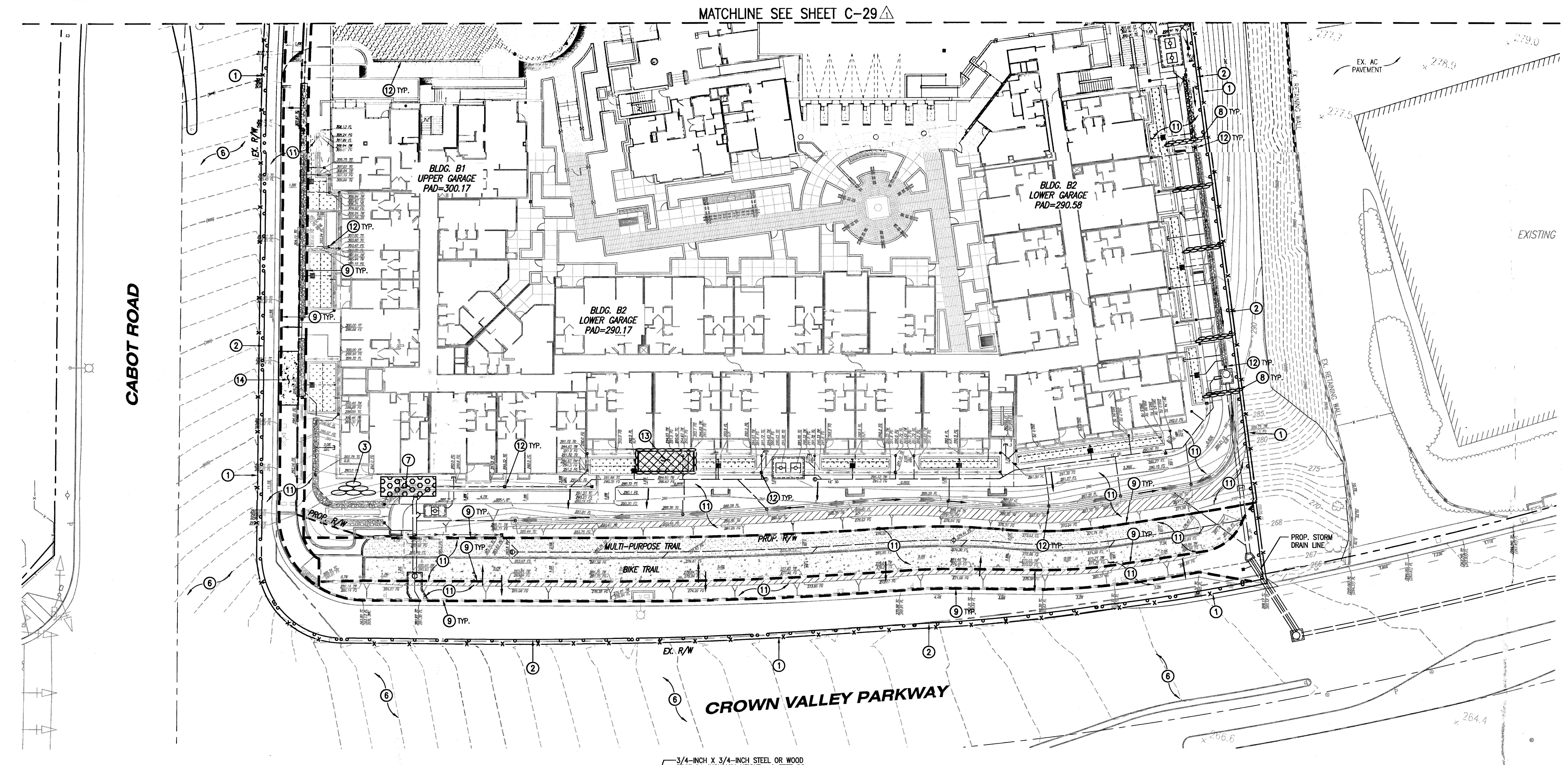
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EX. R/W
PROP. R/W
MULTI-PURPOSE TRAIL
BIKE TRAIL
PROP. STORM DRAIN LINE
EX. AC PAVEMENT
EXISTING
EX. RETAINING WALL
12 TYP.
9 TYP.
8 TYP.
1
2
3
6
7
11
13
14

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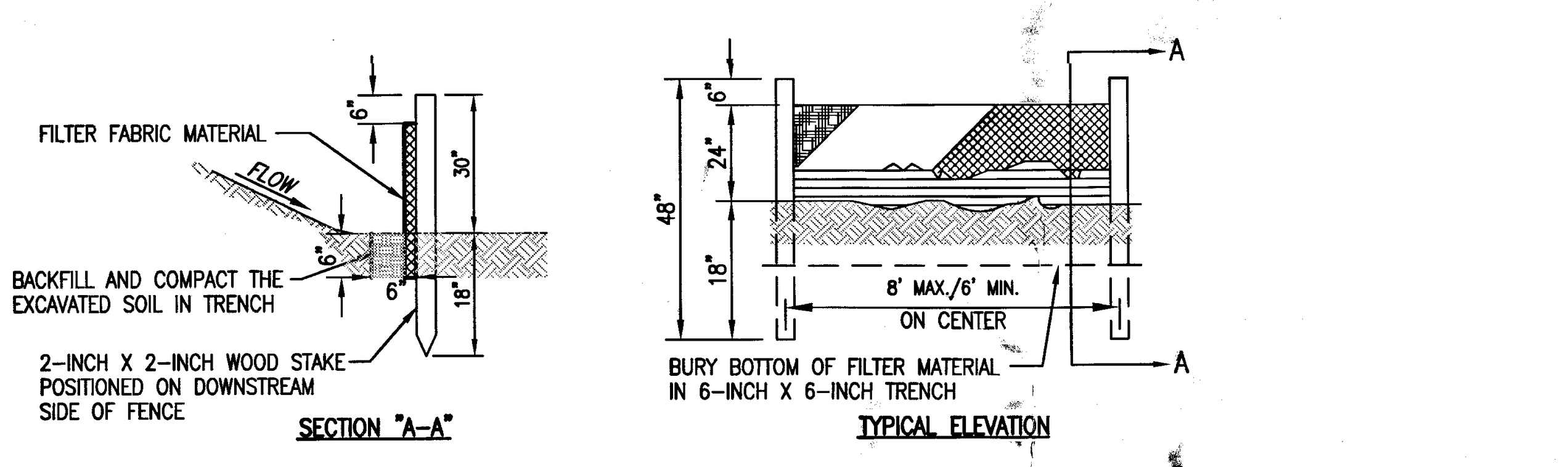
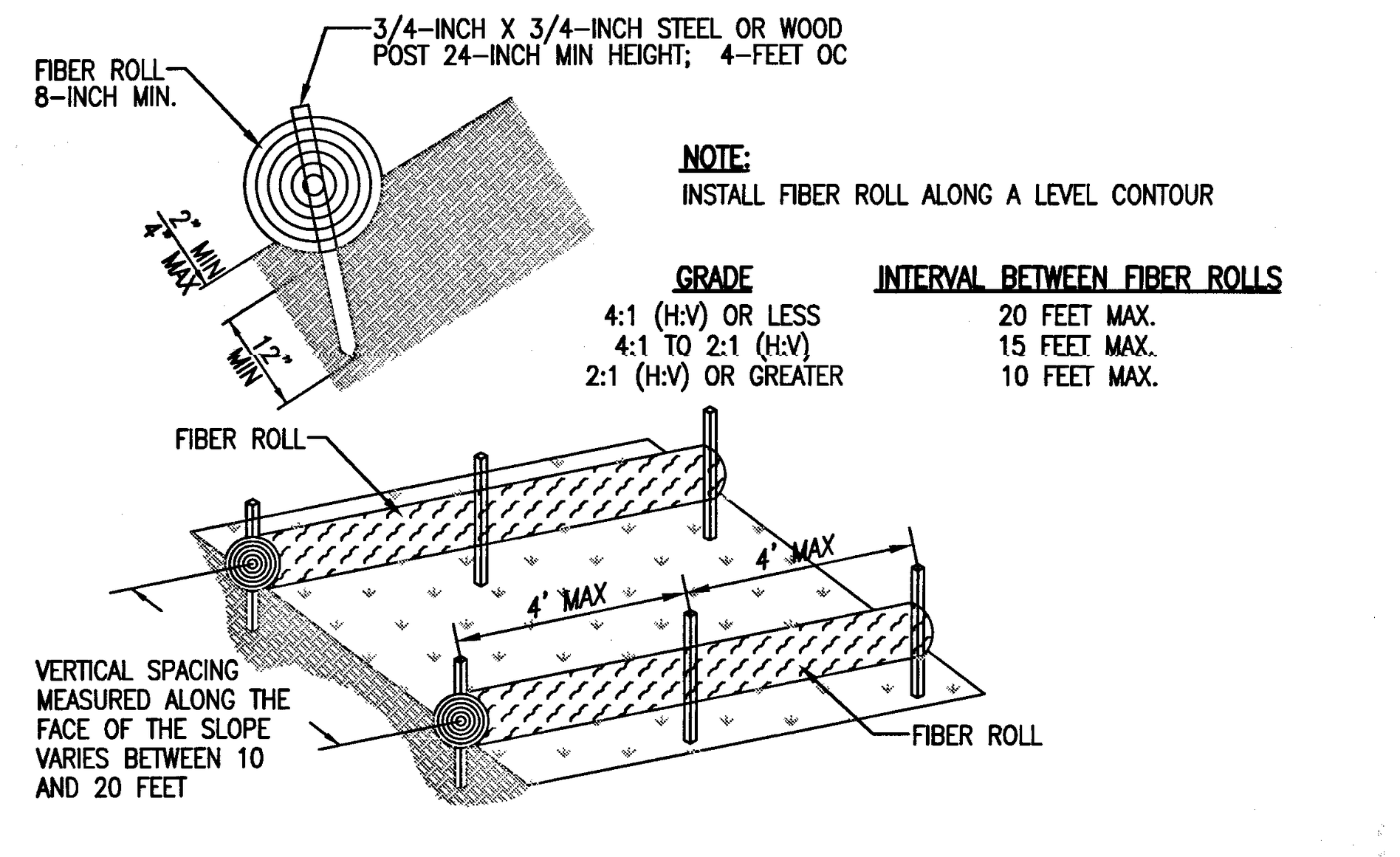

FILTER FABRIC MATERIAL
FLOW
6"
30"
18"
BACKFILL AND COMPACT THE EXCAVATED SOIL IN TRENCH
2-INCH X 2-INCH WOOD STAKE POSITIONED ON DOWNSTREAM SIDE OF FENCE
SECTION "A-A"
48"
24"
8' MAX./6' MIN. ON CENTER
A
BURY BOTTOM OF FILTER MATERIAL IN 6-INCH X 6-INCH TRENCH
TYPICAL ELEVATION

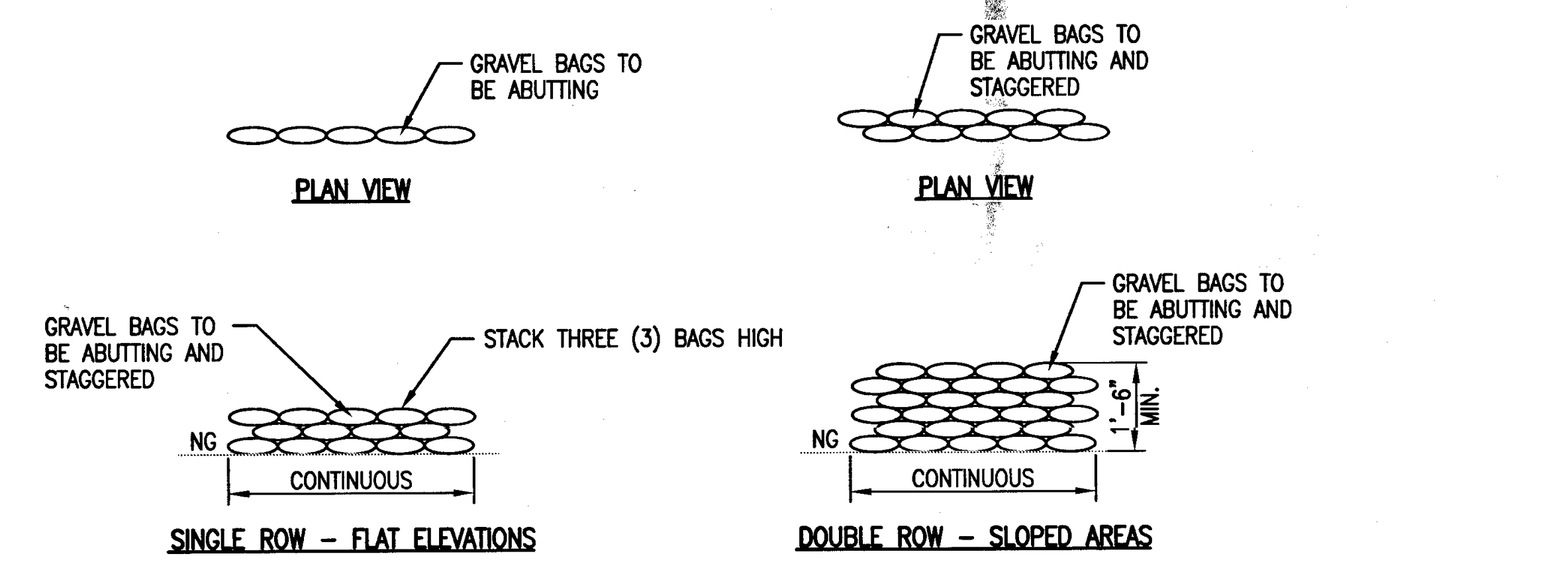
SE-1: SILT FENCE
SCALE: NONE


FIBER ROLL 8-INCH MIN.
3/4-INCH X 3/4-INCH STEEL OR WOOD POST 24-INCH MIN HEIGHT; 4-FEET OC
2" MIN
4" MAX
12" MIN
FIBER ROLL
4' MAX
4' MAX
VERTICAL SPACING MEASURED ALONG THE FACE OF THE SLOPE VARIES BETWEEN 10 AND 20 FEET
FIBER ROLL

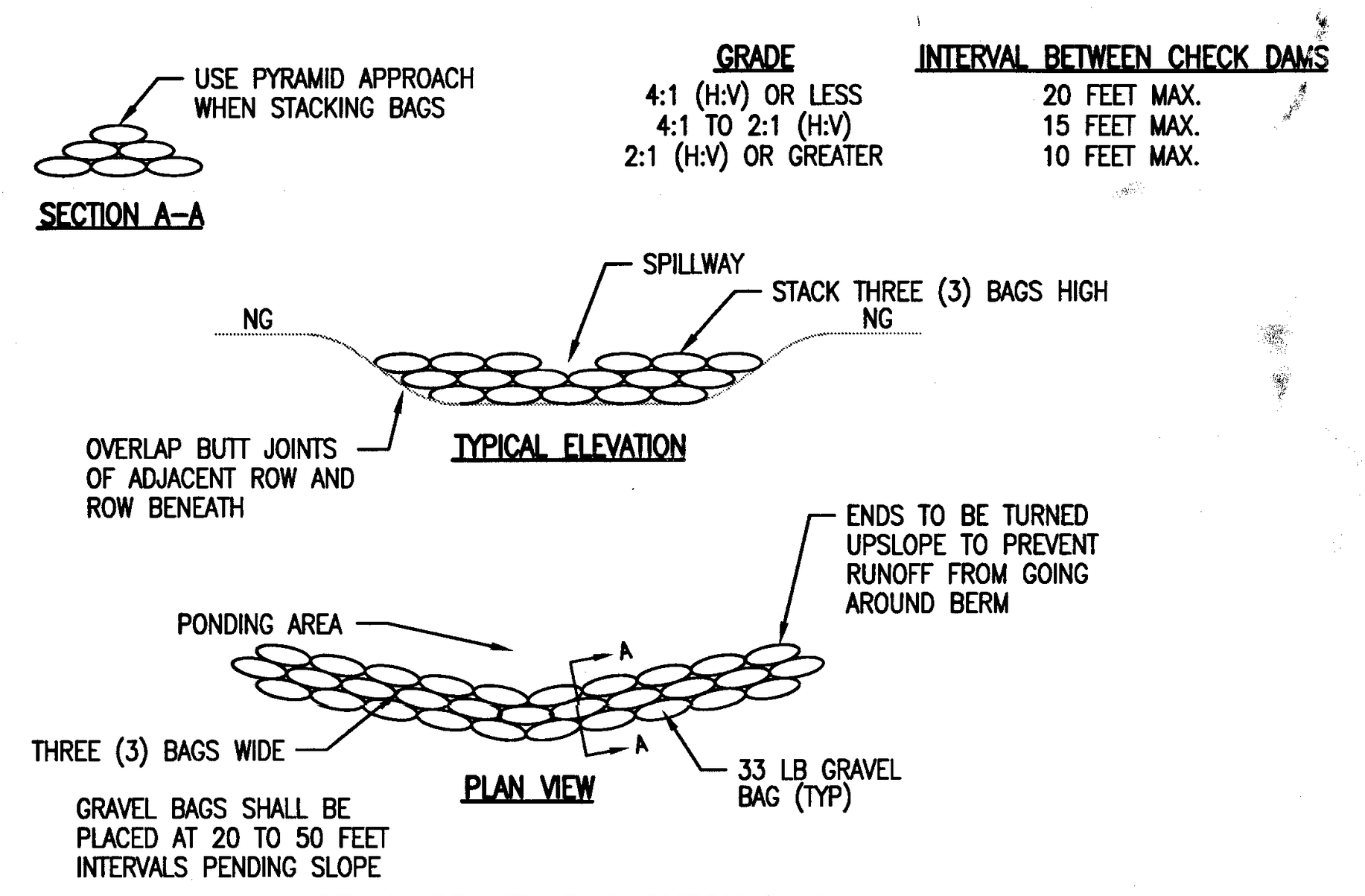
NOTE:
INSTALL FIBER ROLL ALONG A LEVEL CONTOUR

GRADE	INTERVAL BETWEEN FIBER ROLLS
4:1 (H:V) OR LESS	20 FEET MAX.
4:1 TO 2:1 (H:V)	15 FEET MAX.
2:1 (H:V) OR GREATER	10 FEET MAX.

SE-5: FIBER ROLLS
SCALE: NONE

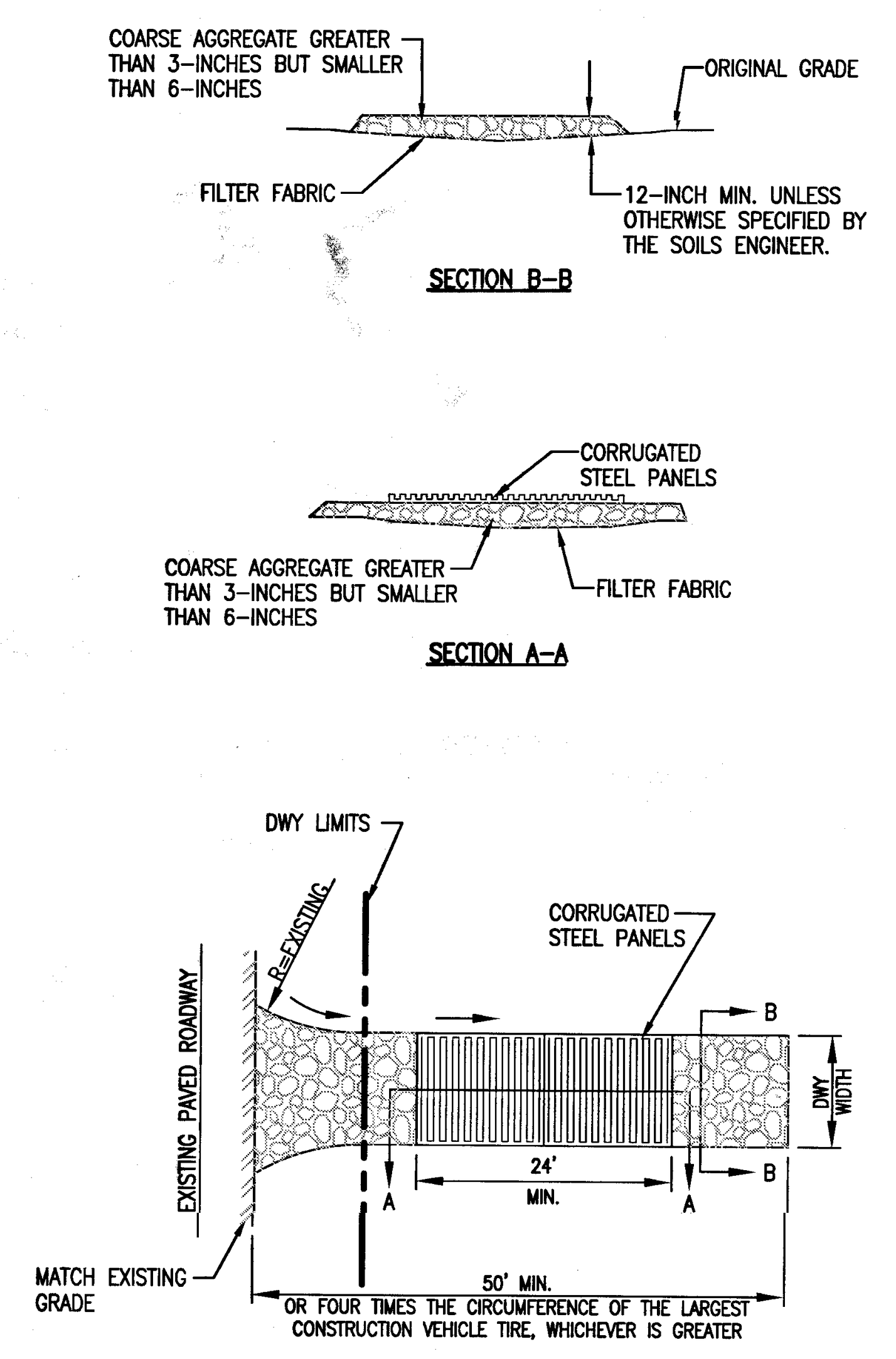

GRAVEL BAGS TO BE ABUTTING
PLAN VIEW
GRAVEL BAGS TO BE ABUTTING AND STAGGERED
PLAN VIEW
GRAVEL BAGS TO BE ABUTTING AND STAGGERED
STACK THREE (3) BAGS HIGH
NG
CONTINUOUS
SINGLE ROW - FLAT ELEVATIONS
GRAVEL BAGS TO BE ABUTTING AND STAGGERED
NG
1'-6" MIN.
CONTINUOUS
DOUBLE ROW - SLOPED AREAS

SE-6: GRAVEL BAGS ALONG CONSTRUCTION AREA
SCALE: NONE

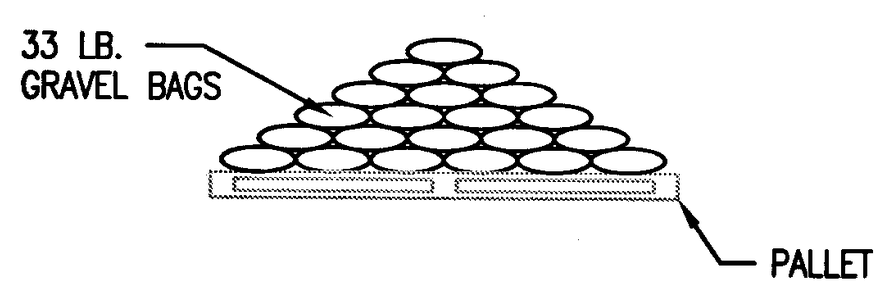

USE PYRAMID APPROACH WHEN STACKING BAGS
SECTION A-A
SPILLWAY
STACK THREE (3) BAGS HIGH
NG
NG
OVERLAP BUTT JOINTS OF ADJACENT ROW AND ROW BENEATH
TYPICAL ELEVATION
ENDS TO BE TURNED UPSLOPE TO PREVENT RUNOFF FROM GOING AROUND BERM
PONDING AREA
A
THREE (3) BAGS WIDE
PLAN VIEW
33 LB GRAVEL BAG (TYP)
GRAVEL BAGS SHALL BE PLACED AT 20 TO 50 FEET INTERVALS PENDING SLOPE

GRADE	INTERVAL BETWEEN CHECK DAMS
4:1 (H:V) OR LESS	20 FEET MAX.
4:1 TO 2:1 (H:V)	15 FEET MAX.
2:1 (H:V) OR GREATER	10 FEET MAX.

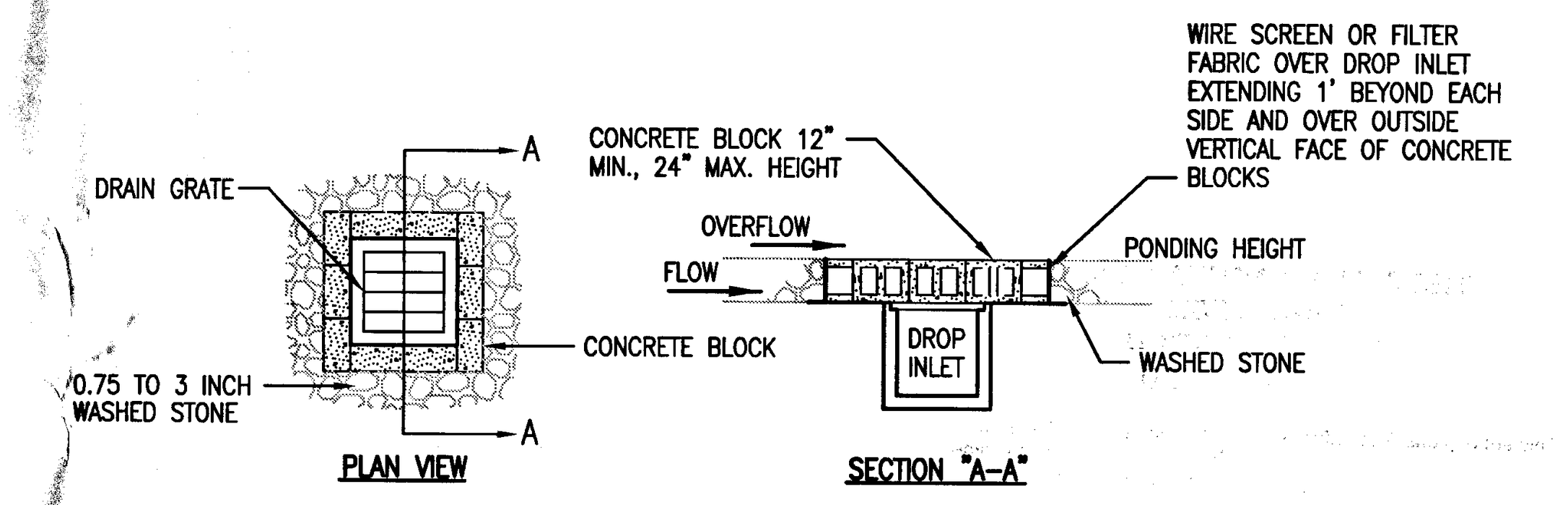
SE-4: GRAVEL BAG CHECK DAM
SCALE: NONE


COARSE AGGREGATE GREATER THAN 3-INCHES BUT SMALLER THAN 6-INCHES
ORIGINAL GRADE
FILTER FABRIC
12-INCH MIN. UNLESS OTHERWISE SPECIFIED BY THE SOILS ENGINEER.
SECTION B-B
CORRUGATED STEEL PANELS
COARSE AGGREGATE GREATER THAN 3-INCHES BUT SMALLER THAN 6-INCHES
FILTER FABRIC
SECTION A-A
DWY LIMITS
R=EXISTING
CORRUGATED STEEL PANELS
EXISTING PAVED ROADWAY
B
DWY WIDTH
24' MIN.
A
MATCH EXISTING GRADE
50' MIN.
OR FOUR TIMES THE CIRCUMFERENCE OF THE LARGEST CONSTRUCTION VEHICLE TIRE, WHICHEVER IS GREATER

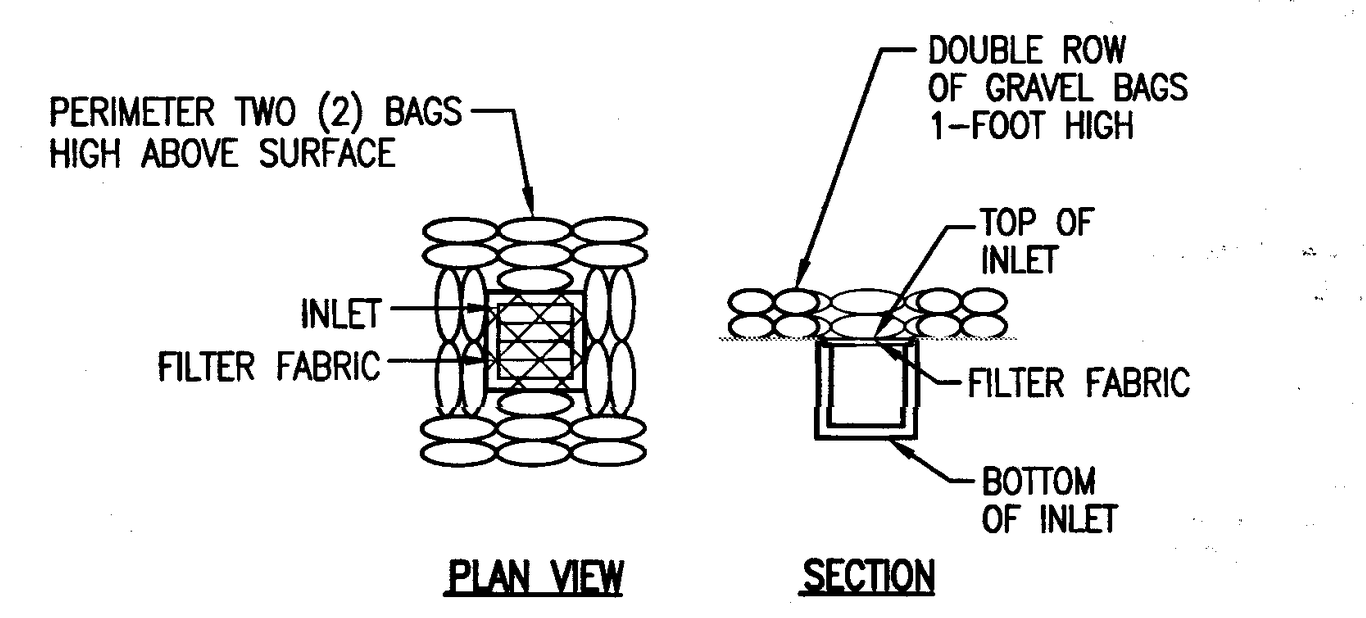
TC-1 TRACKING CONTROL
SCALE: NONE


33 LB. GRAVEL BAGS
PALLET

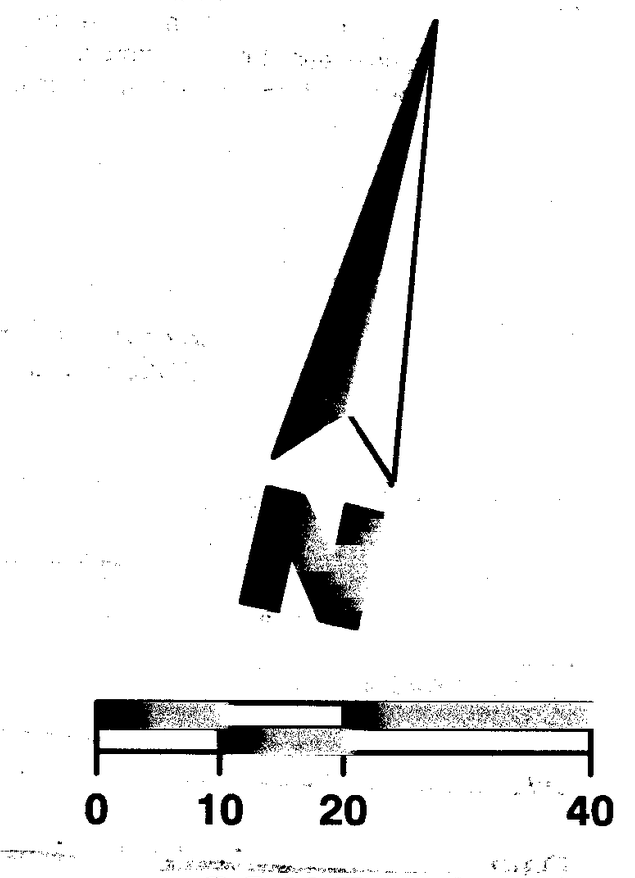
GRAVEL BAG STOCKPILE
SCALE: NONE


DRAIN GRATE
A
CONCRETE BLOCK
0.75 TO 3 INCH WASHED STONE
PLAN VIEW
CONCRETE BLOCK 12" MIN., 24" MAX. HEIGHT
WIRE SCREEN OR FILTER FABRIC OVER DROP INLET EXTENDING 1' BEYOND EACH SIDE AND OVER OUTSIDE VERTICAL FACE OF CONCRETE BLOCKS
OVERFLOW
FLOW
PONDING HEIGHT
DROP INLET
WASHED STONE
SECTION "A-A"

SE-10: INLET PROTECTION FOR RAIN EVENTS
SCALE: NONE


PERIMETER TWO (2) BAGS HIGH ABOVE SURFACE
INLET
FILTER FABRIC
DOUBLE ROW OF GRAVEL BAGS 1-FOOT HIGH
TOP OF INLET
FILTER FABRIC
BOTTOM OF INLET
PLAN VIEW
SECTION

SE-10 STORM DRAIN INLET PROTECTION
SCALE: NONE



SCALE:1=20

811
Know what's below.
Call before you dig.

NOTICE TO CONTRACTOR

CONTRACTOR HEREBY AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF PERSONS AND PROPERTIES; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

REVISIONS

NO.	DATE:	DESCRIPTION	APPROVAL
1	12/12/14	REVISED PROJECT ADDRESS; SHIFTED SHEET # DUE TO ADDITION OF NEW DRIVEWAY.	

PREPARED BY:
KHR ASSOCIATES
CONSULTING ENGINEERS/SURVEYORS/PLANNERS
4100 Newport Place Drive - Suite 200
Newport Beach, California 92660
(949) 756-6440 Fax (949) 756-6444

UNDER THE SUPERVISION OF: JAMES H. KAWAMURA (R.C.E. 30560)

James H. Kawamura
JAMES H. KAWAMURA
No. 30560
Expiration: 03/31/16

SHEET DESCRIPTION:

EROSION CONTROL PLAN - PRECISE GRADING

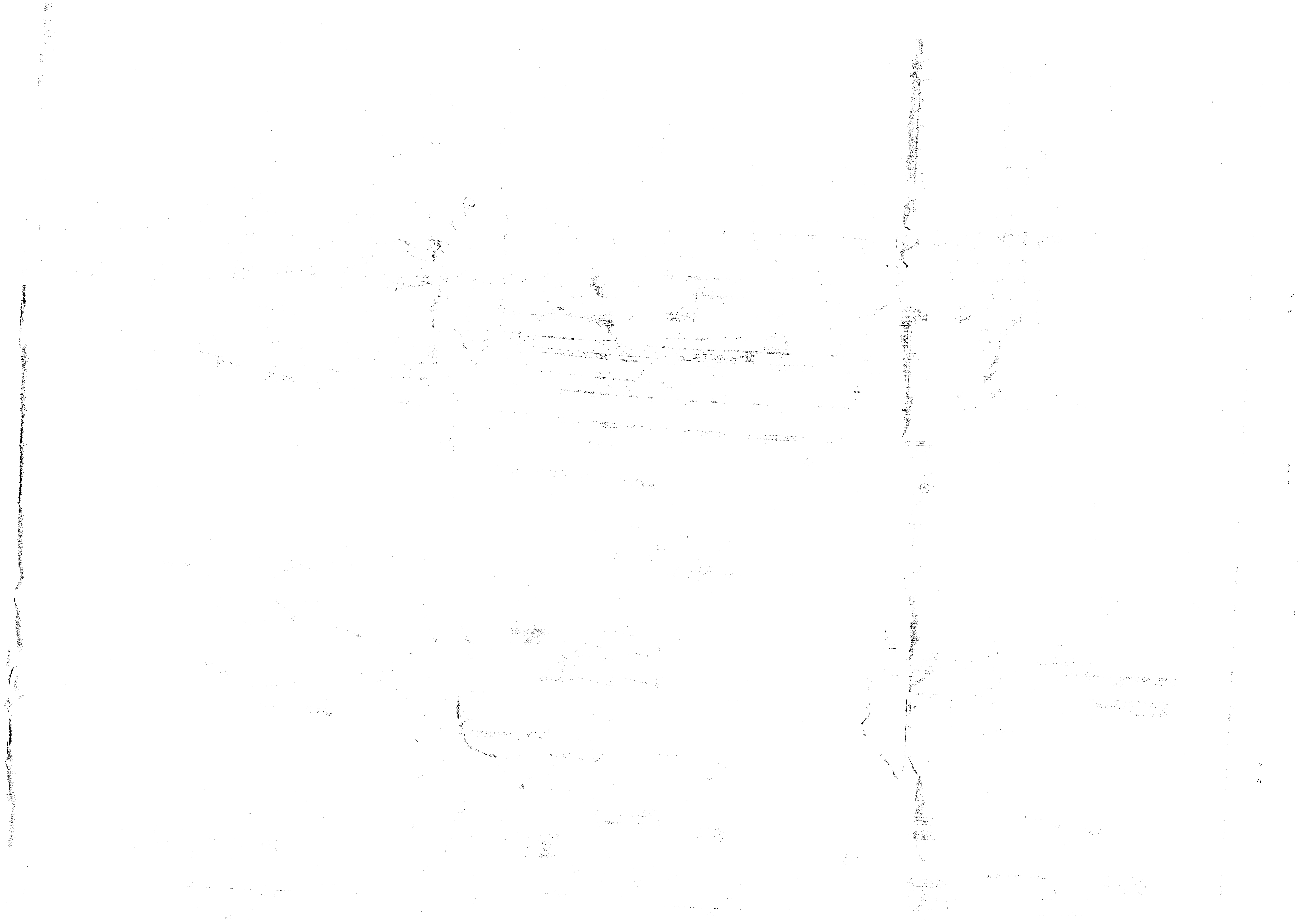
CROWN CABOT LUXURY APARTMENTS
27960 CABOT ROAD ⚠
LAGUNA NIGUEL, CALIFORNIA

PERMIT # G13-005

PROJECT NUMBER
5376001

SHEET NO.
C-30 ⚠

R:\MCRT\MCRT-Laguna Niguel\CD\Precise Grading\MCRLN-PG-29-30-EC.dwg May 11, 2015 - 12:47pm Jose



#2
REVISION
PERMIT # G13-005
FEE RECEIPT #

THE CITY OF LAGUNA NIGUEL
REGULATION
GRADING SECTION
APPROVED

This set of plans & specifications must be kept on the job at all times and it is unlawful to make any changes or alterations on same without written permission by the Grading Section, City of Laguna Niguel.
The stamping of this plan & specifications SHALL NOT be held to permit or be an approval of the violation of any provisions of any City and County Ordinance or State Law
This permit is an application for inspection the issuance of which is not an approval or an authorization for the work specified herein.
This permit does not authorize or permit, nor shall it be construed as authorizing or permitting the violation or failure to comply with an applicable law. The City of Laguna Niguel, its boards, departments, officers, and employees, hereby expressly deny any warranty or responsibility for the design, construction or operation of the work described, the condition of the property or the soil upon which the work is undertaken. No statement by any officer, employee, or agent written or oral, can alter this denial.
This grading plan does not Allow or Approve ANY Construction within the dedicated Right of Way. A permit is required from Department of Public Works for encroachment on public Right of Way

Gary Hacken
BUILDING OFFICIAL

GRADING PERMIT # G13-005

☐ PRELIMINARY
NO BUILDING PERMITS SHALL BE ISSUED UNTIL THIS PERMIT IS SUPERSEDED BY A PRECISE GRADING PERMIT

☒ PRECISE
BUILDING PERMITS MAY BE ISSUED AFTER ROUGH GRADING HAS BEEN APPROVED

By ______

Date 5/14/15