# **GENERAL NOTES:**

1. NO PERSON SHALL PERFORM ANY CONSTRUCTION ACTIVITY OR INSTALL ANY OBJECTS WITHIN THE PUBLIC RIGHTS-OF-WAY OR EASEMENTS OF THE CITY OF RIVERSIDE WITHOUT A VALID CONSTRUCTION PERMIT, OR A STREET OPENING PERMIT, OR AN ENCROACHMENT PERMIT ISSUED BY THE CITY'S PUBLIC WORKS DEPARTMENT.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT OF WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH UTILITY INCLUDING IRRIGATION LINES AND APPURTENANCES AND AT NO COST TO THE CITY.

3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE DEPARTMENT OF PUBLIC WORKS, STANDARD DRAWINGS, ITS SUPPLEMENTAL NOTES AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.

4. THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE

5. QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY.

6. THE DEVELOPER SHALL BE RESPONSIBLE FOR PRESERVING OR REESTABLISHING AND REFERENCING SURVEY MONUMENTS DESTROYED, DISTURBED, OR BURIED AS A RESULT OF CONSTRUCTION SHOWN HEREON.

7. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.

8. WHERE NEW PAVEMENT IS TO JOIN THE EXISTING PAVEMENT, THE EDGE OF THE EXISTING PAVEMENT SHALL BE TRIMMED IN A SMOOTH AND STRAIGHT LINE. CONSTRUCT MATCH-UP PAVING AS SHOWN ON THE PLANS AND OVERLAY PAVING AS DIRECTED IN THE FIELD TO PRODUCE A SMOOTH SECTION.

9. CONSTRUCT DRIVEWAY APPROACHES PER STANDARD DRAWING 302 TYPE PL I. EXACT SIZE AND LOCATION TO BE AS SHOWN AND STAKED BY THE PRIVATE ENGINEER PRIOR TO CONSTRUCTION OF THE CURB AND GUTTER.

10. ON ALL AREAS WITHIN PUBLIC RIGHT OF WAY WHERE THE FILL IS ONE (1) FOOT OR GREATER, A LETTER WILL BE REQUIRED FROM THE SOILS ENGINEER, CERTIFYING THE COMPACTION OF THE FILL BELOW SUBGRADE, PRIOR TO ISSUANCE OF THE CONSTRUCTION PERMIT/CUT SHEETS.

11. THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (USA), PHONE # 1-800-227-2600, TWO WORKING DAYS BEFORE DIGGING. NO CONSTRUCTION PERMIT WILL BE ISSUED BY THE PUBLIC WORKS DEPARTMENT INVOLVING EXCAVATION FOR UNDERGROUND FACILITIES UNLESS THE APPLICANT HAS BEEN PROVIDED AN INQUIRY IDENTIFICATION NUMBER BY USA.

12. CONTRACTOR IS TO VERIFY SEWER ELEVATION PRIOR TO CONSTRUCTION.

13. LOCATION OF LATERALS TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE OWNER. AVOID CONFLICT WITH PROPOSED AND/OR EXISTING FACILITIES.

14. NO FINISHED FLOOR ELEVATION SHALL BE LESS THAN 6" ABOVE THE UPPER MANHOLE RIM ELEVATION OF THE SEWER LINE SEGMENT BEING CONNECTED TO, WITHOUT HAVING A PROPER BACKWATER VALVE INSTALLED IN THE LATERAL.

15. IN PAVEMENT OVERLAY AREAS, ANY DISTRESSED EXISTING PAVEMENT SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE INSPECTOR PRIOR TO OVERLAYING WITH

16. THE CONTRACTOR SHALL COORDINATE TRENCHING FOR CABLE TELEVISION WITH OTHER TRENCHING WITHIN THE PROJECT.

17. ALL TRAFFIC SIGNS SHALL BE INSTALLED PRIOR TO OPENING THE STREETS TO TRAFFIC.

18. ANY TRAFFIC CONTROL STRIPING OBLITERATED AND/OR WORN DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITHIN FIVE DAYS AFTER NOTIFICATION FROM

19. FINAL STRIPING FOR TRAFFIC CONTROL AND/OR PAVEMENT MARKING TO BE THE RESPONSIBILITY OF THE DEVELOPER.

20. R-VALUE SHALL BE TAKEN BY A SOILS ENGINEER FOR FINAL PAVEMENT SECTION CALCULATION, PRIOR TO THE APPROVAL OF THIS PLAN.

# STREET LIGHT COORDINATION NOTE:

STREET LIGHTS TO BE LOCATED AND INSTALLED PER CITY OF RIVERSIDE REQUIREMENTS AS SPECIFIED ON THE UNDERGROUND STRUCTURE AND STREET LIGHT PLANS. FOR COORDINATING STREET LIGHT INSTALLATION, CONTACT VAHID BAZEL AT (951)

# WATER DEPARTMENT NOTE:

DEVELOPER TO GIVE CITY WATER DIVISION FIVE (5) WORKING DAYS WRITTEN NOTICE PRIOR TO START OF CONSTRUCTION AND TO ALLOW CITY TEN (10) WORKING DAYS FOR COMPLETION OF WORK. (951) 351-6368

# **ENGINEER'S NOTICE TO CONTRACTORS:**

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

2. CARE SHOULD BE TAKEN TO PREVENT GRADED DITCHES AND SWALES FROM UNDERMINING STREET IMPROVEMENTS. UPON INSPECTION OF THE SITES, THE CITY ENGINEER MAY REQUIRE TEMPORARY GUNITE SWALES

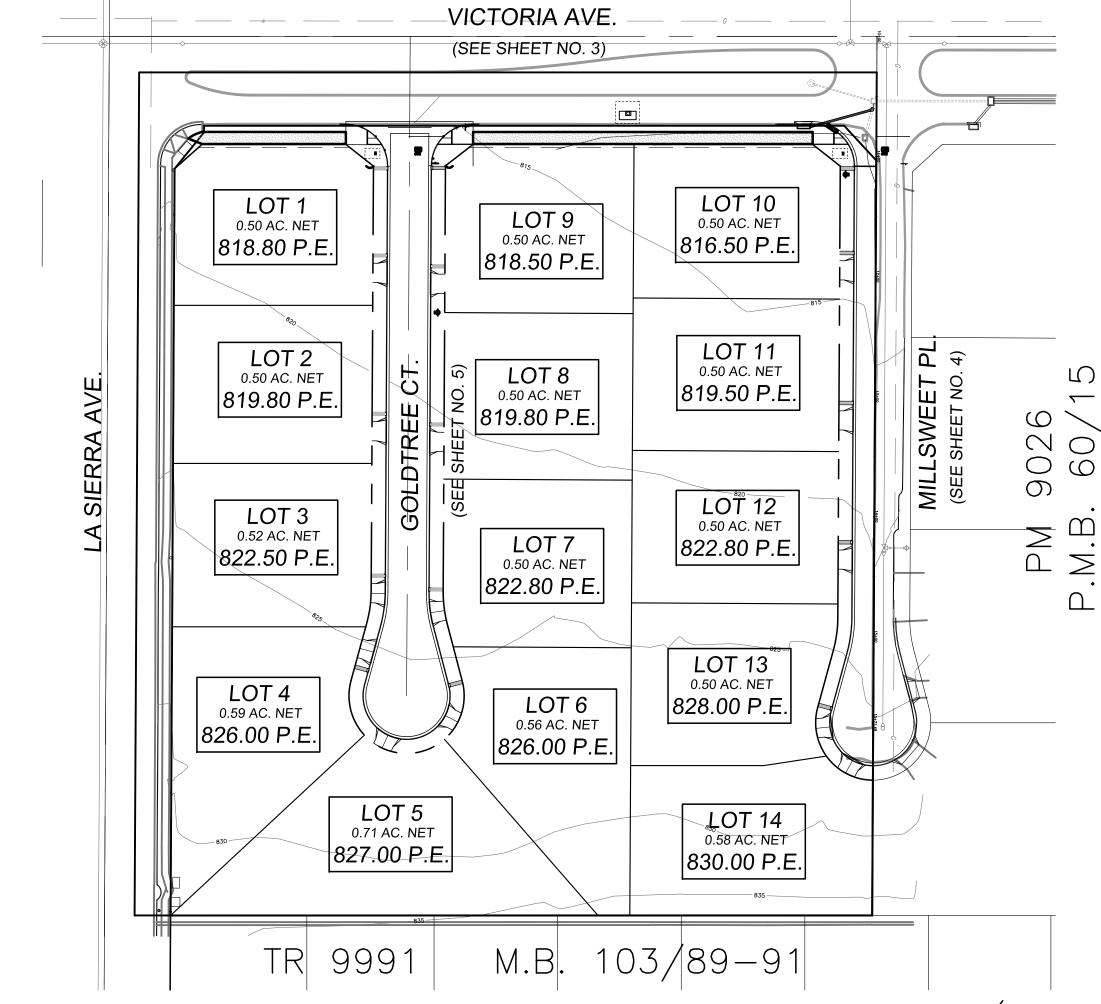
3. ALL AREAS SHALL SLOPE A MINIMUM OF 1.0% TO STREETS, DRIVE OR SWALE UNLESS

4. QUANTITIES SHOWN HERE ARE FOR PLAN CHECKING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE TO PERFORM HIS OWN QUANTITIES TAKEOFF. 5. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR

JOB SITE CONDITIONS; DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THE REQUIREMENTS SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY OF RIVERSIDE AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CITY OF RIVERSIDE OR THE ENGINEER.

# CITY OF RIVERSIDE STREET IMPROVEMENT PLAN

# TRACT 37764



# LEGAL DESCRIPTION:

LOT 6 IN BLOCK 12 OF THE RESUBDIVISION OF LANDS OF J. F. MOULTON AND H. B. PRAED, AS SHOWN BY MAP ON FILE IN BOOK 1 PAGES 49 AND 50 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF RIVERSIDE.

# **BASIS OF BEARINGS & ELEVATIONS:**

BASIS OF BEARINGS: THE CENTERLINE OF VICTORIA AVENUE BEING NORTH 55°35'00"EAST AS SHOWN ON P.M.B. 153/15-17.

CITY OF RIVERSIDE BM# D3-A2; P.K. NAIL AND TAG AT NORTHERLY CORNER OF A CONCRETE SLAB AT THE SOUTHERLY CORNER OF LA SIERRA AVE. AND THE WESTERLY INTERSECTION OF DUFFERIN AVE.

ELEVATION: 882.135' (1988 ELEVATION)

# UTILITIES

ELECTRIC	CITY OF RIVERSIDE
GAS	SO. CAL. GAS CO.
WATER	CITY OF RIVERSIDE
SEWER	CITY OF RIVERSIDE
TELEPHONE	- PACIFIC TELEPHONE

- FLOW LINE

# LEGEND

——————————————————————————————————————	PROPERTY LINE
	CENTER LINE
$  -$	EXISTING WATER LINE
— — SS — —	EXISTING SANITARY SEWER LINE
CYY Y YY	EXISTING SLOPE
	PROPOSED SLOPE
(600)	
<del></del> 601 <del></del>	PROPOSED CONTOUR

G.B. = GRADE BREAK H.P. = HIGH POINT E.P. = EDGE OF PAVEMENT D.L. = DAYLIGHT G.S. = GROUND SHOTEW.V. = WATER VALVE

W.M. = WATER METER FL = FLOW LINEF.G. = FINISHED GRADE BM = BENCH MARK LS = LANDSCAPING T.G. = TOP OF GRATE INV. = INVERT ELEVATION

A.C. = ASPHALT CONCRETE

W = WATER MAIN

TW = TOP OF WALL R = RADIUSTF = TOP OF FOOTING (600) = EXIST. ELEVATION600 = PROPOSED ELEVATION FG = FINISHED GRADE

FS = FINISHED SURFACE TB = TOP OF BERMTOE = TOE OF SLOPE TOP = TOP OF SLOPE TOP/D.L. = TOP OF SLOPE/DAYLIGHT TC = TOP OF CURBFF = FINISHED FLOOR

# NOTICE TO CONTRACTORS:

CONTRACTOR SHALL POTHOLE AT THE TIE-IN STATIONS AND AT ANY OTHER POINTS OF POTENTIAL CONFLICTS WITH UNDERGROUND FACILITIES BEFORE STARTING CONSTRUCTION. EXISTING SUBSURFACE UTILITY DATA ON DRAWINGS WERE COMPILED FROM INFORMATION FURNISHED BY VARIOUS SOURCES. NEITHER THE ACCURACY NOR THE COMPLETENESS OF THE INFORMATION SHOWN IS GUARANTEED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING WATER MAINS, GAS MAINS, SANITARY SEWERS, STORM DRAINS, ELECTRIC CONDUITS, TELEPHONE LINES AND ANY OTHER UTILITIES WHICH MAY CONFLICT WITH THE DESIGN AND CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. RIM ELEVATIONS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE RING AND COVER SHALL BE ADJUSTED IN THE FIELD TO MATCH THE FINISHED SURFACE OF THE PAVEMENT TO FORM A SMOOTH DRIVING SURFACE. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS FOR THE REPAIR OF ANY AND ALL DAMAGE TO THE CONTRACT WORK OR TO ANY UTILITY (WHETHER PREVIOUSLY KNOWN OR DISCLOSED DURING THE WORK) AS MAY BE CAUSED BY HIS OPERATIONS. UTILITIES NOT SHOWN ON THE DRAWING TO BE RELOCATED OR ALTERED BY OTHERS SHALL BE MAINTAINED BY THE CONTRACTOR. AT THE COMPLETION OF THE CONTRACT WORK, THE CONTRACTOR SHALL LEAVE ALL UTILITIES AND APPURTENANCES IN A CONDITION SATISFACTORY TO THE OWNERS AND

# PROJECT AREA:

TOTAL AREA= 9.91 ACRES TOTAL AREA DISTURBED= 8.81 ACRES

# **INDEX MAP**

# **EMERGENCY PHONE NUMBERS:**

CITY OF RIVERSIDE FIRE DEPARTMENT(951) 826-5321	GOODHEW AMBULANCE (951) 684-5520	
CITY OF RIVERSIDE POLICE ALERT(951) 826-5700	PACIFIC BELL TELEPHONE(800) 303-3000	
CITY OF RIVERSIDE TRAFFIC DIVISION(951) 826-5366	CITY OF RIVERSIDE ELECTRIC DEPT. (951) 687-0791	
CITY OF RIVERSIDE TRAFFIC SIGNALS(951) 351-6096	SOUTHERN CALIFORNIA GAS COMPANY (800) 427-2200	
STREET SUPERINTENDENT (951) 351-6127	UNDERGROUND SERVICE	
RIVERSIDE SCHOOLS (951) 788-7132	(800) 227-2600	

REVIEWED FOR CONFLICTS

BENCHMARK:

CITY OF RIVERSIDE, WATER DIVISION

CITY OF RIVERSIDE BM# D3-A2; P.K. NAIL AND TAG AT NORTHERLY CORNER OF A CONCRETE SLAB AT

CITY OF RIVERSIDE, CALIFORNIA DEPARTMENT OF PUBLIC WORKS

CITY OF RIVERSIDE, ELECTRIC DIVISION

BY DATE APPROVED BY APPROVED BY CITY ENGINEER

# INDEX:

TITLE SHEET AND INDEX MAP SHEET 2 TYPICAL SECTIONS AND CONSTRUCTION NOTES SHEET 3 TRAIL GRADING AND CONSTRUCTION NOTES PLAN AND PROFILE (VICTORIA AVE.) SHEET 4 PLAN AND PROFILE (MILLSWEET PL. SHEET 5 PLAN AND PROFILE (GOLDTREE CT.)

# **ENGINEER:**

SAKE ENGINEERS, INC. 400 S. RAMONA AVE. STE. 202 CORONA, CA 92879 (951) 279-4041 PH. (951) 279-2830 FAX

# **SOURCE OF TOPOGRAPHY:**

LANDMARK SURVEYING MAPPING & FNGINFFRING INC. 14586 CHOKE CHERRY DRIVE VICTORVILLE, CA 92392 (760) 955-4141 PH. (760) 955-3441 FAX

# OWNER/DEVELOPER:

LA SIERRA VICTORIA DEVELOPMENT LLC HITESH PATEL 19215 WILD MUSTANG CT. APPLE VALLEY, CA 92307 (760) 963-3475 PH.

# ASSESSORS PARCEL NO.

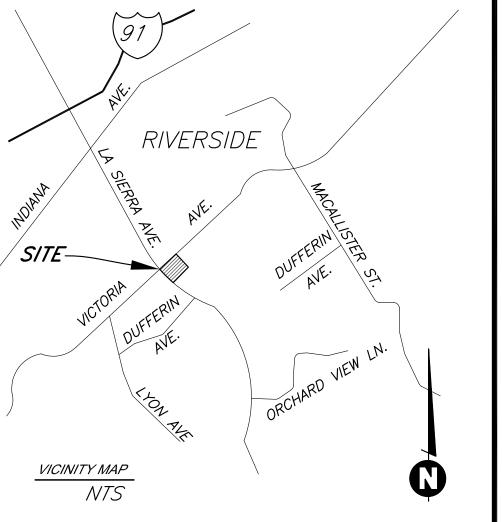
136-220-016

# REFERENCE DRAWINGS:

SEWER DWG. S - 2157R - 4421 STREET DWG. PW17-0496 GRADING DWG.

# THOMAS BROTHERS MAP PAGE/GRID:

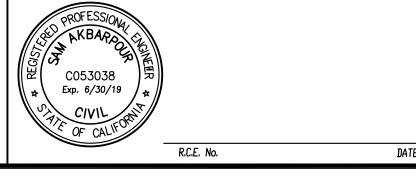
PAGE 744, GRID H-4, 2004 EDITION



STREET IMPROVEMENT PLANS PROJECT NO. PW17-0497 R - 4421TRACT 37764

**COVER SHEET** SHEET \_\_\_\_1\_\_\_\_SHEET \_\_\_\_6

48 HOURS BEFORE YOU DIG



CITY OF RIVERSIDE BUSINESS TAX ACCOUNT #74172 EXP. 7/31/19 ENGINEERING • SURVEYING • LAND DEVELOPMENT 400 S. RAMONA AVE., STE. 202 CORONA, CALIFORNIA 92879

(951) 279-4041

FAX: (951) 279–2830

ELEVATION: 882.135' APPR. DATE designed by <u>SA</u> drawn by <u>RL</u> checked by \_

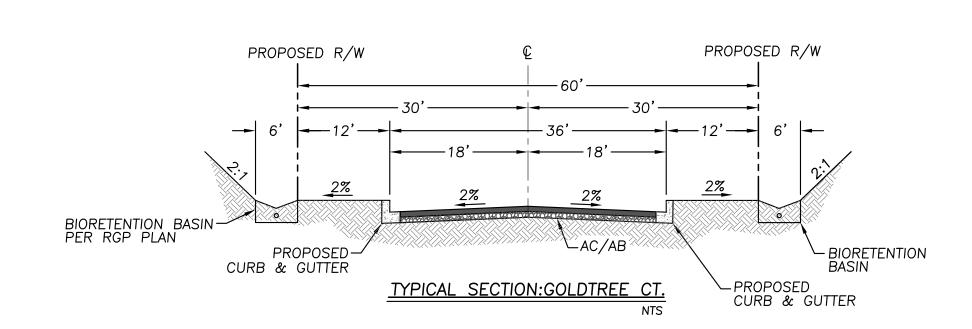
THE SOUTHERLY CORNER OF LA SIERRA AVE. AND THE WESTERLY INTERSECTION OF DUFFERIN AVE. (1988 ELEVATION)

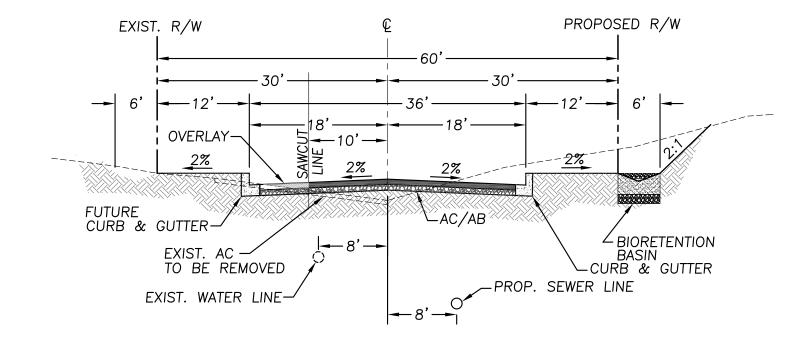
PRINCIPAL ENGINEER ENGINEERING MANAGER RAFFIC DIVISION PARK AND RECREATION

REVIEWED FOR CONFLICTS

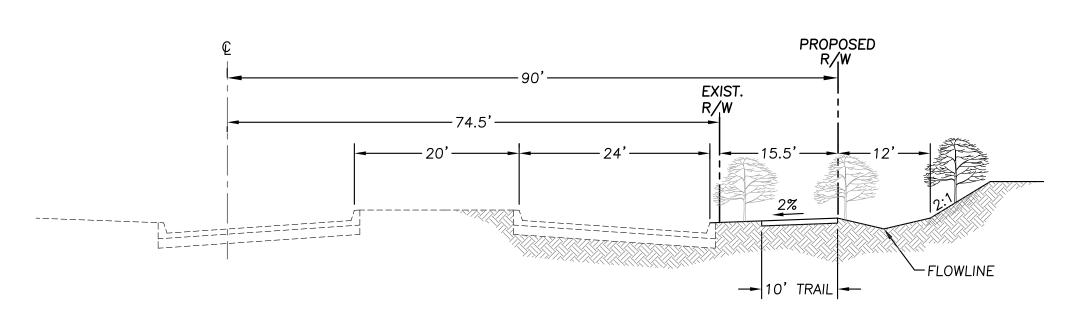
HORIZ. SCALE: NONE VERT. SCALE: NONE

# TYPICAL SECTION: LA SIERRA AVENUE





# TYPICAL SECTION: MILLSWEET LANE



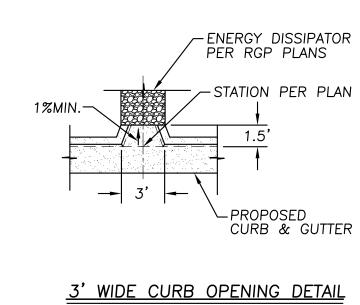
# TYPICAL SECTION: VICTORIA AVENUE

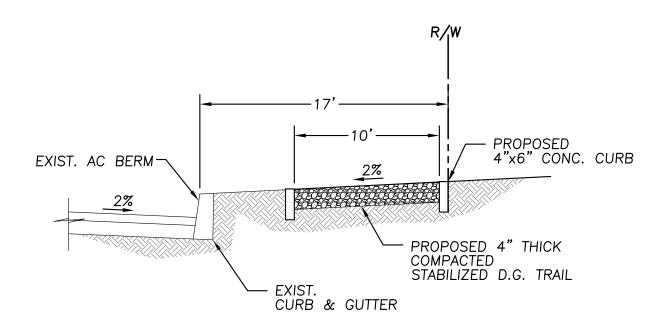
NOTE
PROTECT IN PLACE TWO ROWS OF EXISTING MATURE
ORANGE TREES AND A THIRD ROW OF SHADE TREES TO
BE ADDED ACROSS THE FRONTAGE OF VICTORIA AVENUE
IN ACCORDANCE WITH THE VICTORIA AVENUE ADHOC
COMMITTEE DESIGN AND DEVELOPMENT STANDARDS AND
THE GENERAL PLAN 2025.

C053038

Exp. 6/30/19

R.C.E. No.





# TYPICAL SECTION: D.G. TRAIL

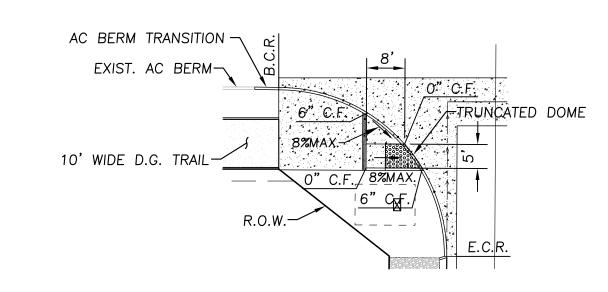
NOTE
PROTECT IN PLACE TWO ROWS OF EXISTING MATURE
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BE ADDED ACROSS THE FRONTAGE OF VICTORIA AVENUE
IN ACCORDANCE WITH THE VICTORIA AVENUE ADHOC
COMMITTEE DESIGN AND DEVELOPMENT STANDARDS AND
THE GENERAL 2025 TRAILS MASTER PLAN.

COMPACTED STABILIZED DECOMPOSED GRANITE IS TO BE USED FOR THE TRAIL ACCORDING TO TRAIL GRADING AND CONSTRUCTION SPECIFICATIONS SECTION 02211 AND TRAIL DETAIL 1. (SEE SHEET 3)

AT-GRADE OR ABOVE-GRADE FIXTURES SUCH AS UTILITY BOXES, CABINETS, VALVES, AND SIMILIAR, SHALL NOT BE LOCATED WITHIN THE MULTIPURPOSE TRAIL.

CONSTRUCTION NOTES:		QUANTITIES	
1 — SAWCUT & REMOVE PORTION OF EXIST. PAVEMENT	6,100	S.F.	
2 SAWCUT & REMOVE PORTION OF EXIST. AC BERM	550	L.F.	
GRIND EXIST. A.C. AND OVERLAY (0.15' MIN.) PER PLAN	6,426	S.F.	
(4)—CONST" A.C. OVER" A.B.	36,800	S.F.	
5 — CONST. 6" CURB & GUTTER PER CITY OF RIVERSIDE STD. 200 (TYPE I)	1,480	L.F.	
6 CONST. DRIVEWAY APPROACH PER CITY OF RIVERSIDE STD. 302 (PL I)	14	EA.	
7 — CONST. 3' WIDE OPENING PER DETAIL HEREON	14	EA.	
8 — CONST. AC BERM PER CITY OF RIVERSIDE STD 250 (TYPE I)	25	L.F.	
9—CONST. CROSS GUTTER PER CITY OF RIVERSIDE STD. 220 (W=6'; D=1")	1	EA.	
10)—RELOCATE EXIST. STREET LIGHT PER DEVELOPER/CONTRACTOR	1	EA.	
(11)—CONST. 10' WIDE D.G. TRAIL PER DETAIL HEREON AND SHEET NO. 3	500	L.F.	
(12)—APPLY THERMOPLASTIC 12" WHITE LIMIT LINE PER CALTRANS 2010 STD. PLAN A24E	2	EA.	
(13)—APPLY THERMOPLASTIC "STOP" PAVEMENT MARKING PER CALTRANS 2010 STD. PLAN A24D	2	EA.	
(14)—INSTALL 36" STOP SIGN R1-1 PER CA. MUTCD 2014 FIG. 3B-103 (CA)	1	EA.	
(15)—INSTALL STREET NAME SIGN PER CITY OF RIVERSIDE STD. 662	1	EA.	
(16)—CONSTRUCT PCC WHEELCHAIR RAMP PER DETAIL HEREON	3	EA.	
CONST. TRENCH AND BACKFILL PER CITY RIVERSIDE STD. 453	500	S.F.	
(20)—REMOVE EXIST. INLET STRUCTURE	1	EA.	
21)—REMOVE PORTION OF EXIST. 18" RCP	22	L.F.	
22 CONST. 18" RCP CL-IV STORM DRAIN	54	L.F.	
23)—CONST. TYPE I CATCH BASIN PER CITY OF RIVERSIDE STD. 400	1	EA.	
24)—CONST. CONCRETE COLLAR PER CITY OF RIVERSIDE STD. 424	1	EA.	
(25)—CONST. 12" RCP	1	EA.	

★ ACTUAL PAVEMENT SECTION WILL BE BASED ON THE R-VALUE DETERMINED BY A SOILS ENGINEER ON SITE.



TYPICAL A.D.A. RAMP DETAIL

CITY OF RIVERSIDE STD. 304

(TYPE 3) MODIFIED

DATE

ENGINEERING • SURVEYING • LAND DEVELOPMENT

400 S. RAMONA AVE., STE. 202

CORONA, CALIFORNIA 92879

(951) 279-4041 FAX: (951) 279-2830

File Name: \\SERVER\projects\CI RIVERSIDE\JN3053 Hitesh\Civi\\ST-IMP.DWG Layout: ST-IMP 2

PREPARED BY: R.C.E. NO. 53038 MARK

ERS, INC.

INGINGERS.COM

DEVELOPMENT

TE. 202

THE WESTERLY INTERSECTION OF DUFFERIN AVE.

PAGE LAYOUT: ST-IMP 2

R.C.E. NO. 53038
DATE: Jul. 09, 2019
DESIGNED BY SA DRAWN BY RL CHECKED BY SA

BENCHMARK:

CITY OF RIVERSIDE BM# D3-A2; P.K. NAIL AND TAG AT NORTHERLY CORNER OF A CONCRETE SLAB AT THE SOUTHERLY CORNER OF LA SIERRA AVE. AND THE WESTERLY INTERSECTION OF DUFFERIN AVE.

ELEVATION: 882.135' (1988 ELEVATION)

CITY OF I
DEPARTM

OF A CONCRETE SLAB AT
OF LA SIERRA AVE. AND
ON OF DUFFERIN AVE.

(1988 ELEVATION)

CITY OF I
DEPARTM

APPROVED BY
PRINCIPAL ENGINEE
ENGINEERING MANA

CITY OF RIVERSIDE, WATER DIVISION

REVIEWED FOR CONFLICTS

CITY OF RIVERSIDE, CALIFORNIA DEPARTMENT OF PUBLIC WORKS

APPROVED BY BY DATE APPROVED BY

CITY OF RIVERSIDE, ELECTRIC DIVISION

REVIEWED FOR CONFLICTS

DEPARTMENT OF PUBLIC WORKS

APPROVED BY
PRINCIPAL ENGINEER
ENGINEERING MANAGER
TRAFFIC DIVISION
PARK AND RECREATION

HORIZ

STREET IMPROVEMENT PLANS

PROJECT NO. PW17-0497

R-4421

COVER SHEET

SHEET \_\_2 SHEET \_\_6

HORIZ. SCALE: NONE VERT. SCALE: NONE FILE NO.

DIG ALERT

TOLL FREE

1-800-227-2600

48 HOURS BEFORE YOU DIG

| | | |SIDE\JN3053 Hitesh\Civil\ST-IMP.DWG, 7/9/2019 10:07:50 AM, "

# SECTION 02211-TRAIL GRADING AND CONSTRUCTION

### PART 1 - GENERAL

- 1.01 STANDARD SPECIFICATIONS: The provisions of the "Standard Specifications for Public Works Construction" shall apply except as modified herein.
- 1.02 SCOPE: The Work of this Section shall consist of furnishing all labor, materials, equipment, appliances and services necessary for the execution and completion of all Trail Grading and Construction Work as shown on the Plans and
  - as described in the Specifications including, but not necessarily limited to, the following: Rough grading as shown on the plans, including cut, fill, backfill and backfill compaction
  - Subgrade preparation for D. G. paving including any over-excavation and re-compaction as may be required
  - Excavation of soils for all trail fence posts and structures
  - Excavation, backfill and compaction of soils for all mowcurbs
  - Soil compaction as required;
  - Protective measures;
  - Dust and noise abatement;
- Borrow from and/or export to a local borrow/disposal site as directed and as necessary for a balanced grading
- Fine grading of the work site;
- Decomposed Granite Paving;
- Soil testing as required; Coordination with Work of other Sections;
- Clean-up; and,
- Erosion Repairs, Guarantees and Warranty Work.

1.03 RELATED WORK SPECIFIED ELSEWHERE: Finish Grading in Landscaped Areas

### 1.04 QUALITY ASSURANCE

- A. Other Requirements: All Work of this Section shall comply with the requirements of the following:
- 1. The Grading Code of the City of Riverside.
- 2. The Soils Engineering Investigation Reports for the site prepared by Soils Engineer (see Appendix\_\_\_).

### B. Tests and Inspections:

- 1. All Work in this Section shall be subject to the observation and testing as required by the Soils Engineer selected by City. The Soils Engineer will submit a compaction report to the Parks Department Representative certifying Contractor's compliance with the Plans, Specifications, Soils Reports and City Grading Ordinance in placing all fills and backfills. The Soils Engineer will conduct all specified tests to insure compliance. The Soils Engineer will also test, identify and make recommendations on borrow site fill materials as
- 2. The number and location of soils tests shall be at the discretion of the Soils Engineer to assure uniformity and compliance with the City Grading Ordinance, and shall be at least one test per two vertical feet of fill, but not less than one test per 500 cubic yards, all as approved by the Parks Department Representative.
- 3. The costs of services of the Soils Engineer for specified field density and maximum density tests, compaction reports and certificates of compliance, will be borne by City except that additional tests and recompactions made necessary by inadequate compaction, inadequate materials provided by Contractor, or inaccurate excavations shall be paid for by Contractor.
- 1.05 GRADING A "BALANCED" OPERATION: It is the intent of the Plans and Specifications that the grading shall be a balanced operation with site material. No import nor export is contemplated. If during grading operations an excess or deficiency of earth becomes apparent, Contractor shall notify the Parks Department Representative immediately in writing and ask for direction in adjustment of plan grades such that the grading shall be completed with site material conforming as nearly as possible to the finish grades shown and insuring positive drainage all at no additional cost to City.
- 1.06 WATER: See Special Provisions Section 7-8.5 Temporary Light, Power, and Water regarding temporary construction

# 1.07 JOB CONDITIONS:

- Protection of Existing Items
- Contractor shall furnish, place and maintain all shoring and bracing as may be required for protection of existing structures and utility services during execution of the Work.
- All bench marks, monuments and other reference points shall remain undisturbed unless specifically directed otherwise by the Park Projects Inspector.

# B. Coordination with Others:

- 1. Contractor shall give written notice to the Parks Department Representative, utility agencies, and other legal authorities prior to starting Work.
- 2. Contractor shall coordinate Contractor's operations with other trades, utility agencies, and other affected public departments to assure continuity for both access and service of all utility service distribution lines, in conformance with applicable requirements of these organizations. No services to any property shall be

# C. Abandoned and Unknown Utilities:

- Abandoned lines, meters and boxes, obstructions or piping, shall be removed, plugged, or capped in accordance with the requirements and approval of the agencies affected, or as directed by the Park Projects Inspector. Coordinate all such Work with applicable mechanical or electrical trade having responsibility. Remove all abandoned utility lines, pipes, or conduits, to a point outside new construction lines.
- 2. Where unmarked utility lines or other underground obstructions or piping are uncovered within the Work area, notify the agencies or service utility companies having jurisdiction and take necessary measures to prevent interruption of service. Should such lines or services be damaged, broken, or interrupted through Contractor's own negligence, those services shall be repaired immediately by the party designated by the utility owner, at Contractor's expense. If an unmarked utility is damaged other than through the negligence of Contractor, Contractor's responsibility is limited to providing immediate and proper notification of the damage to the utility owner so that repairs can be made. Contractor shall cooperate with the utility owner and provide access for repair work.

# PART 2 - MATERIALS

# 2.01 D.G. PAVING:

- A. D.G.: Shall be color as approved by the Inspector to match existing, decomposed granite free of silt, clay, weed seed, and any other deleterious material, conforming with Section 400-2.3 Disintegrated Granite, per the Standard Specifications and as approved by the Parks Department Representative. Contractor shall provide a one pound sample to the Parks Department Representative a minimum of 35 days prior to ordering materials for the review and approval of the Parks Department Representative.
- Stabilizer: Shall be "Stabilizer" as manufactured by Stabilizer Solutions, Phoenix, AZ PH: 1/800/336-2468; "Poly Pavement" as manufactured by Poly Pavement Co, Los Angeles, CA 90036 PH: 323/954-2240, or City approved
- 2.02 DRAIN ROCK: Drain rock for all sumps and french drains shall be pervious backfill as specified in Standard Specifications, Section 300-3.5.2 Pervious Backfill.

### 2.03 FILL MATERIAL

- A. Required Approval: All fill material must be approved by the Soils Engineer and the Parks Department Representative.
- B. On-site Material: On-site excavated materials may be used for fill as approved by the Soils Engineer and the Parks Department Representative.
- 2.04 GRANULAR BEDDING MATERIAL: Where called for on the Plans, granular bedding material shall be crushed stone or pea gravel conforming to the following grading:

### Sieve Size % Passing

3/4" 100 1/2" 95

## 2.05 IMPORT:

- A. Landscape Fills: All import soil used for fill in landscape areas shall be Class 'A' topsoil per Standard Specifications, Section 212-1.1 Top Soil, General
- B. Structural Fills: All import soil used solely for structural fill shall be non-expansive, predominantly granular material free from organic contaminants, and capable of attaining the required compacted densities.
- C. Approved Samples: Samples of all import soil, as obtained by the City's Inspector at the borrow site, must be approved by the Parks Department Representative prior to start of import of soil to the Project site.
- 2.06 TRAIL FENCE: Trail fence shall be a heavy duty two rail white vinyl fence designed for agricultural uses, as manufactured by Kroy Building Products, Inc. (800/933-5769), Ultra Guard Fence (800/592-6220), or City approved equal. Fence rails shall be nominal 2 x 6 x 16' ribbed type, with minimum 0.11 inch wall thickness. Posts shall be nominal 5" square by minimum 6' length with minimum 0.20 inch wall thickness, installed with a minimum 24" bury at 8' on center. Use aluminum inserts at all end, corner and gate posts (both latch and hinge sides), or fill with concrete.

# **PART 3 - EXECUTION**

### 3.01 GENERAL:

- A. Work Sequence: All demolition, clearing and grubbing of objectionable materials must be completed to the satisfaction of the Parks Department Representative before starting any earthwork grading and excavation.
- B. Survey: See Special Provisions Section 2-9.3 Survey Service regarding responsibility for provision of all survey services as necessary for horizontal and vertical control points, layouts, lines and levels, and staking of the Work.
- C. Allowable Gradients: Trails shall be constructed in the field to comply with the following maximum and minimum
  - 1) Cross Slope: Trail cross slope shall be between 1% minimum and 2% maximum.
- 2) Longitudinal Gradients:
- a) Accessible Trails: Trails designated for ADA access shall not exceed a longitudinal slope of 5% (20:1) unless configured as an Accessible Ramp.
- b) Non-Accessible Trails: Trails designated as non-accessible, must be so marked, and generally shall not exceed a longitudinal gradient of 10% (10:1). However, slopes steeper than this for short distances may be allowed under the following conditions:
  - Maximum of 15% slope for distance of 500' or less.
  - 20% slope permitted only in unique situations and limited to 100' or less.
- Under no circumstances shall any slope exceed 20%. Alternate Trail Designs: Where the natural terrain is so steep that provision of a trail at more than 20%

whichever is greater, all per ADA requirements. All ramps and landings shall be provided with accessible

- gradient is required, to decrease grade, terrace steps may be used. 3) Accessible Ramp Systems: All ramps shall not exceed a maximum slope of 8.333% (12:1). Ramps shall not exceed a maximum of 30' in length between landings. All landings shall not exceed a maximum cross slope of 2% in any direction. All landings shall be sized at a minimum of 60" x 60" or the width of the trail
- 4) Trail Edge: Where adjacent to developed landscape areas, the trail D.G. shall be contained by a concrete mowcurb on each edge of the trail tread. Where adjacent to native landscapes, no mowcurb is required and
- 5) Trail Fence and Markers: All trails along public streets shall be fenced and marked per Trails Standard
- 6) Crossing Concrete: Where the trail is designated to cross concrete aprons and sidewalks, such aprons and sidewalks shall be constructed of concrete with rough broom or rake finish to prevent slipping. Where such areas exist, they shall be removed and replaced with rough broom finish concrete, or shall be heavy sandblasted in place to provide an equivalent non-slip surface.

# 3.02 ROUGH GRADING:

- A. Conformance with Plans: Rough grading of the site shall be completed in accordance with indicated contours, elevations, and limit lines shown on the Plans and shall allow for the depths of slabs, paving, sub-base, topsoil, and controlled fills.
- B. Grading Tolerances:
- Sub-grades to receive slabs and pavements shall be graded to a tolerance of plus or minus one-half (1/2) inch, and shall be compacted as specified below in Sub-section 3.04 CONTROLLED FILL, paragraph G. Relative Compaction Requirements, sub-paragraph 1. Slabs & Pavement Subgrades.
- Tolerance for rough grading in all other areas is 1/10th of a foot. 3. In all areas, appearance and positive drainage will be factors in the acceptability of grades.
- C. Compacted Lifts: Graded material shall not be left in loose layers, but shall be stockpiled for use in controlled fill or compacted in thin layers as grading takes place in accordance with the requirements for controlled fill.
- D. Scarification: Shall be performed on all areas indicated to receive paving to depths as indicated in the soils report. In the absence of a soils report, scarification shall be to a minimum depth of six (6) inches or to a depth permitting twelve (12) inches of controlled fill whichever is greater.
- E. Engineer's Approval: Contractor shall obtain the Soil Engineer's approval of all scarified surfaces prior to placement of fill.

# 3.03 CONTROLLED FILL

- A. Landscape Fills: The topmost 12" of fill in all landscape areas shall be topsoil.
- B. Rocks: Rocks larger than two (2) inches in diameter shall be removed from all fills to be compacted.
- C. <u>Lifts</u>: Fill material shall be spread in uniform lifts of six (6) to eight (8) inches of un-compacted thickness.
- D. Moisture Content: Prior to starting compaction, the fill material shall be brought to optimum moisture content by spraying with water if too dry, and aeration if too wet.

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- E. Mixing: Thoroughly mix each lift to assure uniform distribution of water content.
- Allow for Shrinkage & Subsidence: Bring fills to suitable elevations above required grades to provide for effects of shrinkage and settlement.
- G. Relative Compaction Requirements
  - 1. D.G. Pavement Subgrades: For all areas designated to receive D.G. pavement and within a perimeter five (5) feet outside these areas, each lift shall be compacted to a minimum of 90% of maximum density as determined by ASTM D1557-78.
  - 2. Planting Areas: Where fill is required in planting areas each lift shall be compacted to a minimum of 85% maximum density.
  - Mechanical Equipment: Perform all compaction by suitable mechanical equipment and methods approved by the Soils Engineer.
- H. Contractor's Responsibility: During the grading operations, inspection and field tests will be carried on by the Soils Engineer. However, Contractor is responsible to ensure obtaining the required degree of compaction and the proper moisture content. Where compaction of less than the specified percentage is found, additional compaction effort shall be made with adjustment of the moisture content as necessary until the minimum specified compaction is obtained.
- Over-excavation Due to Unsuitable Materials: Excessively wet material, material in any soft or spongy spots, and material in standing water shall be over-excavated to such depth as directed by the Soils Engineer and replaced with suitable material, properly compacted.
- 3.04 EXCAVATION: Contractor shall perform all necessary excavation work for trail fence footings and mowcurbs and shall perform any additional excavation work necessary to provide ample room for installation of concrete forms where required. The bottom of all excavations shall be level and free from loose material, and shall be brought to the indicated or required grades in undisturbed earth. All excavations shall be kept free of standing water. Contractor shall perform all pumping, draining, and dewatering as may be necessary to keep excavations free of standing water while carrying on the Work. Should excavations for footings, through error, be excavated to a greater depth or size than indicated or required, such additional depth or size shall be filled with concrete at Contractor's expense.
- 3.05 OPEN TRENCH OPERATIONS: Shall conform with Standard Specifications Section 306-1 Open Trench Operations, as modified by the following:
  - A. General: Add the following to Standard Specifications Section 306-1.1.1 General: "Where trench is close to existing pole mounted lights, catch basins, or other structures that are to remain, Contractor shall brace as necessary to prevent dislocation of such structures. In the area of any such structures, the trench backfill shall be compacted to 90% to the full depth of the structure."
  - B. Unsuitable Material: Add new subsection 306-1.1.7 as follows:
    - 3.06-1.1.7 Unsuitable Material. The conditions and requirements for the determination and disposition of unsuitable material encountered during open trench operations shall be in accordance with Standard Specifications Section 300-2.2 Unsuitable Material.

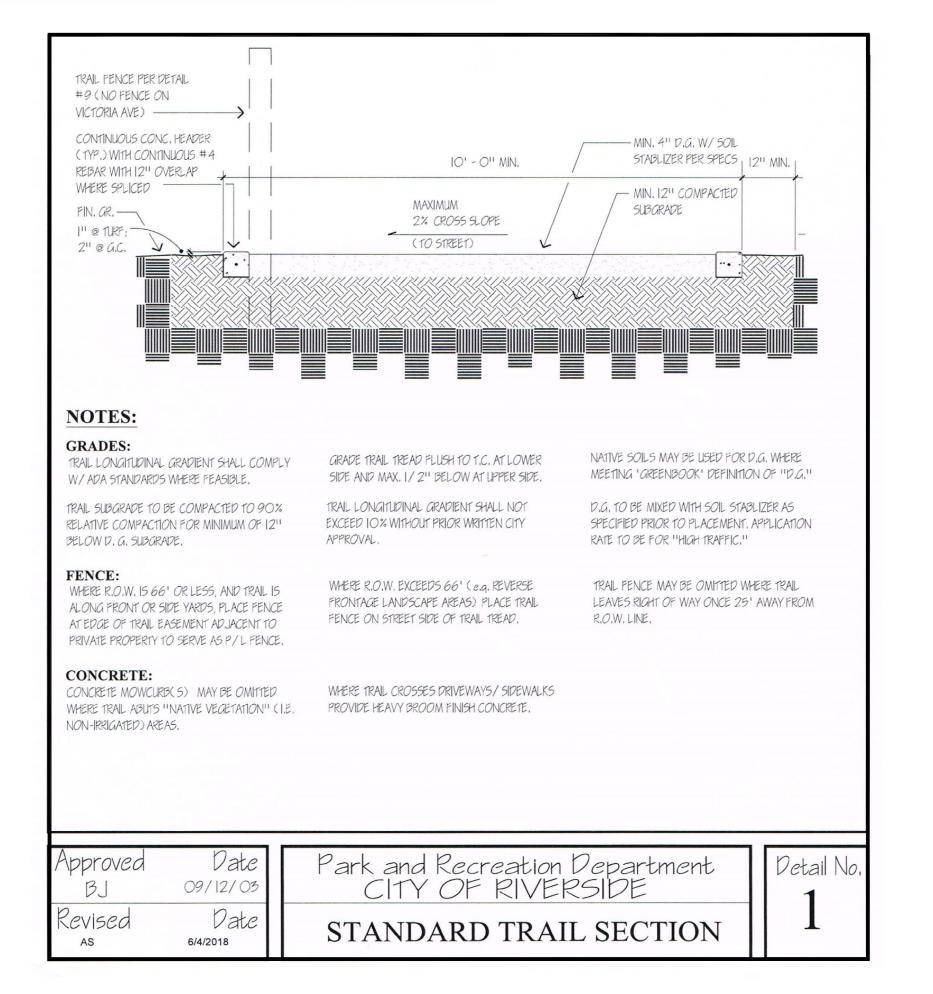
- C. Trench Backfill: Shall conform with Public Works Department Standard Drawing No. 453.
- 3.06 BACKFILLING
  - A. Material: Select site material shall be used for backfill of trenches and shall be free from large stones and clods. Material shall be as approved by the Soils Engineer.
  - B. <u>Pre-Conditioning and Placement:</u>
    - 1. Layers of backfill shall be pre-conditioned by moistening with water, the amount to be controlled to insure optimum moisture conditions for the type of fill material used. Excess water causing saturated earth beneath footings, walks, and curbs is unacceptable
    - 2. Backfill shall be deposited in layers of maximum six inch thickness.
  - 3. Backfill shall be compacted by suitable means to a minimum relative compaction of 90%.
  - 4. All trenches shall be backfilled in accordance with this Section, and may be tested at the discretion of the Engineer.
- 3.07 FINE GRADING: Fine grading, as specified under this Section, is a separate operation from finish grading as specified under Section 02480 Planting. Fine Grading Work is to commence upon completion of all trenching and backfill operations, and prior to soil preparation.

Upon completion of Fine Grading Work all areas shall slope to drain without water pockets or irregularities and shall conform to the intent of all Plans and Specifications after thorough settlement and compaction of the soil. Fine grading should allow for Soil Preparation Work as specified under Section 02480 Planting, such that finish grades shall meet the elevations indicated on the Plans. Tolerance for fine grading is 1/4 inch, plus or minus. Any corrections to the Grading Work required to obtain proper drainage and to bring it into conformance with the intent of the Plans and Specifications and City codes shall be performed by Contractor at no additional cost to City.

3.08 <u>DECOMPOSED GRANITE</u>: Stabilizer shall be mixed with decomposed granite in proportions as recommended by the manufacturer for "high traffic" usage. Pre-mixed D.G. and stabilizer shall be placed in lifts, wetted and compacted as specified by the stabilizer manufacturer to a minimum relative compaction of 90%. D.G. pavement shall be smooth, free of rills, dips, and flow lines, such that surface water will properly drain off the surface of the pavement. Contractor shall provide as a turn-over item a minimum of 10 pounds of stabilizer product per 1000 lineal feet of trail being installed.

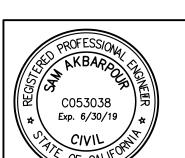
3.09 DUST AND NOISE ABATEMENT: During the entire construction period, site areas shall be kept sprinkled (either with water or an approved dust palliative) as necessary to minimize dust in the air and annoyance to surrounding properties. Adhere to the requirements of City ordinances for dust and noise control.

END OF SECTION



CITY OF RIVERSIDE, WATER DIVISION CITY OF RIVERSIDE, ELECTRIC DIVISION REVIEWED FOR CONFLICTS REVIEWED FOR CONFLICTS STREET IMPROVEMENT PLANS PROJECT NO. PW17-0497 CITY OF RIVERSIDE, CALIFORNIA BENCHMARK: DEPARTMENT OF PUBLIC WORKS TRACT 37764 CITY OF RIVERSIDE GPS POINT69-A; A 2 1/2" BRASS DISK SET IN THE NORTH END OF A CATCH BASIN AT THE SE CURB RETURN OF WASHINGTON AND BRADLEY R - 4421BY DATE APPROVED BY APPROVED BY TRAIL GRADING STREETS. PRINCIPAL ENGINEER AND CONSTRUCTION NOTES ELEV = 1083.685' SHEET <u>3</u> SHEET <u>6</u> TRAFFIC DIVISION CITY ENGINEER APPR. DATE





R.C.E. No.

ENGINEERING • SURVEYING • LAND DEVELOPMENT CORONA. CALIFORNIA 92879 (951) 279-4041 FAX: (951) 279-2830

400 S. RAMONA AVE., STE. 202 File Name: \\SERVER\projects\Cl RIVERSIDE\JN3053 Hitesh\Civil\ST-IMP.DWG Layout: ST-IMP 3

R.C.E. NO. 53038 MARK

DATE: Jul. 09, 2019 DESIGNED BY SA DRAWN BY RL CHECKED BY SA

HORIZ. SCALE: NONE VERT. SCALE: NONE

