

**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 CITY.
5. THE DEVELOPER AND/OR CONTRACTOR SHALL CONTACT THE PUBLIC WORKS DEPARTMENT 30 DAYS PRIOR TO BEGINNING CONSTRUCTION TO NEGOTIATE THE COST OF THE CITY'S PORTION OF THE WORK.
6. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.
7. 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.
8. CONSTRUCT DRIVEWAY APPROACHES PER STANDARD DRAWING 302. EXACT SIZE AND LOCATION TO BE STAKED BY THE PRIVATE ENGINEER PRIOR TO CONSTRUCTION OF THE CURB AND GUTTER.
9. THE SUBDIVIDER SHALL ARRANGE FOR A SOIL TEST TO BE MADE BY A SOILS ENGINEER AFTER THE STREETS HAVE BEEN PREPARED TO ROUGH GRADE AND PRIOR TO CURB AND GUTTER CONSTRUCTION. DEPTH OF BASE MATERIAL AND A.C. PAVING SHALL BE DETERMINED BY THE CITY OF RIVERSIDE DESIGN STANDARDS AND TEST PROCEDURES.
10. ALL OVERHANGING TREE LIMBS THAT ARE LESS THAN 14' ABOVE THE STREET GRADE SHALL BE TRIMMED BACK.
11. THE DEVELOPER AND/OR CONTRACTOR SHALL CONTACT THE STREET DIVISION (351-6127) TO PICK UP ANY EXISTING BARRICADES THAT ARE BEING REMOVED. THE CITY'S INSPECTOR WILL MAKE THE FINAL DETERMINATION ON WHETHER A BARRICADE CAN BE RELOCATED.
12. 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.
13. ALL TRAFFIC SIGNS SHALL BE INSTALLED PRIOR TO OPENING THE STREETS TO TRAFFIC.
14. ANY TRAFFIC CONTROL STRIPING OBLITERATED AND/OR BADLY WORN DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITHIN FIVE DAYS AFTER NOTIFICATION FROM THE CITY INSPECTORS.
15. 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 U.S.A.
16. LOCATION OF LATERALS TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE OWNER. AVOID CONFLICT WITH PROPOSED AND/OR EXISTING FACILITIES.
17. IN PAVEMENT OVERLAY AREAS, ANY DISTRESSED EXISTING PAVEMENT SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE INSPECTOR PRIOR TO OVERLAYING WITH A.C. PAVING.
18. QUALITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY.
19. FINAL STRIPING FOR TRAFFIC CONTROL AND/OR PAVEMENT MARKING TO BE THE RESPONSIBILITY OF THE DEVELOPER.

**NOTICE TO CONTRACTOR**

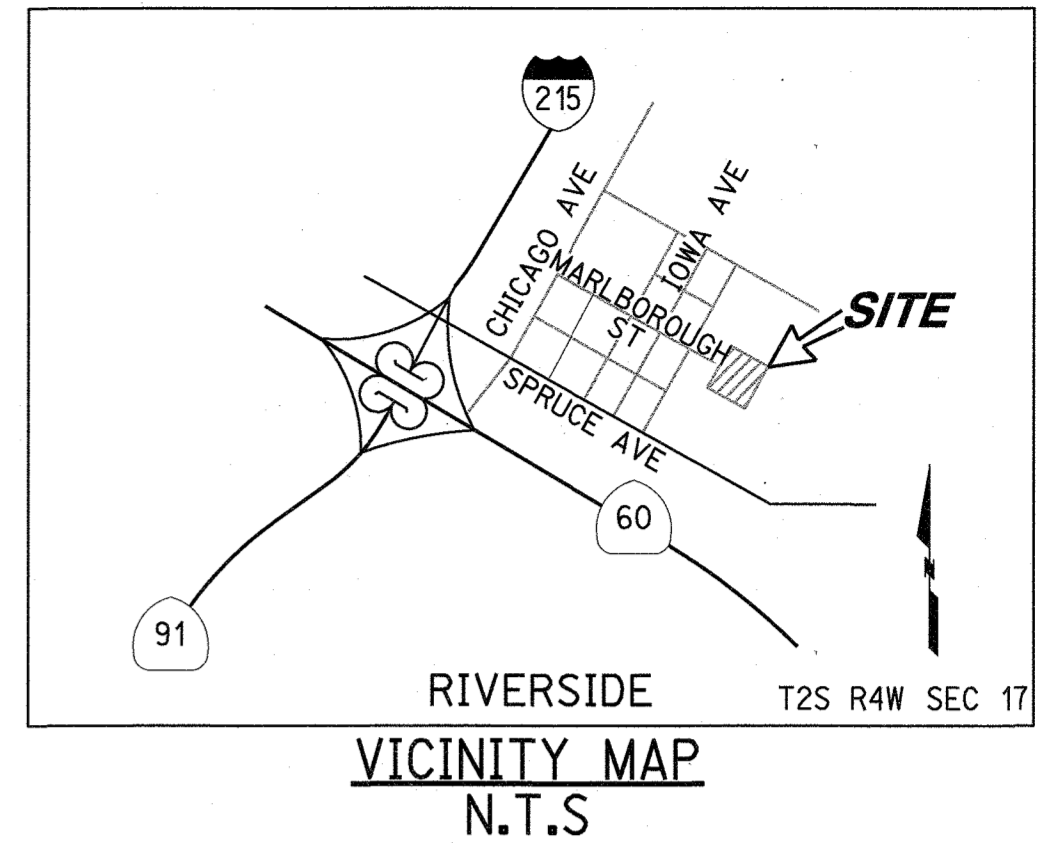
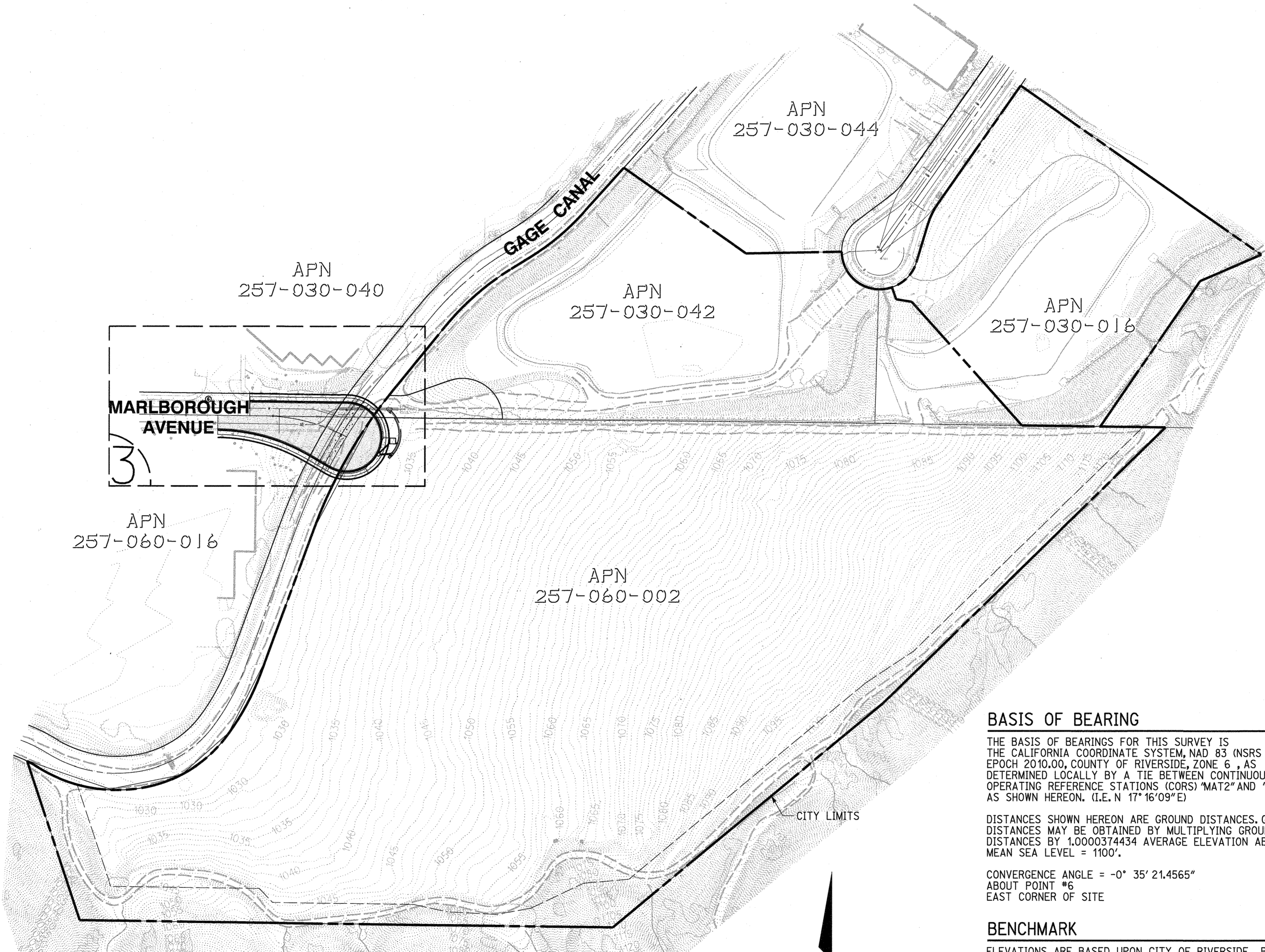
THE EXISTENCE AND LOCATIONS OF ALL UNDERGROUND UTILITIES (UTILITY PIPES, STRUCTURES, ETC.) SHOWN ON THESE PLANS (MAIN LINES ONLY - NO SERVICE LATERALS) WERE ASCERTAINED BY A REVIEW OF RECORDS PROVIDED BY THESE MEMBER AGENCIES AND ARE APPROXIMATE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. LOCATIONS OF UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION. CALL UNDERGROUND SERVICE ALERT (U.S.A.) 811 AT LEAST 2 WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

**WATER NOTE**

EXTEND EXISTING FIRE HYDRANT (BY CITY FORCES), PER PUW 18-0164, CONTACT WATER ENGINEERING AT 951-826-5285 TWO WEEKS PRIOR TO CONSTRUCTION TO SCHEDULE RELOCATION.

20. DEVELOPER AND/OR CONTRACTOR TO GIVE RCFC 5 DAYS WRITTEN NOTICE PRIOR TO STARTING WORK ON STORM DRAIN (OR DOING ANY WORK WITHIN RCFC EASEMENTS).
21. CONTRACTOR IS TO VERIFY EXISTING SEWER ELEVATION PRIOR TO CONSTRUCTION.
22. THE SEWER CONTRACTOR SHALL ADJUST MANHOLES TO FINAL GRADE AFTER PAVING IS COMPLETED.

IN THE CITY OF RIVERSIDE, CALIFORNIA  
**STREET IMPROVEMENT PLAN**  
 MARLBOROUGH AVENUE



**WORK TO BE DONE**

THESE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, THE CURRENT \*\*\*county/city\*\*\* STANDARDS AND SPECIFICATIONS, AND THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ('GREEN BOOK').

**PRIVATE ENGINEER'S NOTE TO CONTRACTOR**

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS. THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR'S AND SUBCONTRACTOR'S COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER 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 THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK OR EXCAVATION TO DETERMINE THE EXACT LOCATIONS OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HERE ON, AND FOR ANY DAMAGE OR PROTECTION TO THESE LINES.

**ENGINEER'S NOTES**

PRIVATE ENGINEER WILL NOT BE PROVIDING INSPECTION SERVICES OR CONSTRUCTION REVIEW. THESE FUNCTIONS ARE THE RESPONSIBILITY OF THE CITY AND/OR THE GENERAL CONTRACTOR. ENGINEER ACCEPTS NO LIABILITY FOR SUCH FUNCTIONS OR WORK THEREOF.

**OWNER/DEVELOPER**

GUTHRIE PERICLES, LLC.  
 1451 RESEARCH PARK DRIVE-SUITE 200  
 RIVERSIDE, CA 92507  
 ATTN: DOUGLAS THOMPSON  
 PHONE: (951) 784-7238

**CIVIL ENGINEER**

RICK ENGINEERING COMPANY  
 1770 IOWA AVENUE, SUITE 100  
 RIVERSIDE, CA 92507  
 ATTN: NATHAN CHARLES SMITH  
 (951) 782-0707

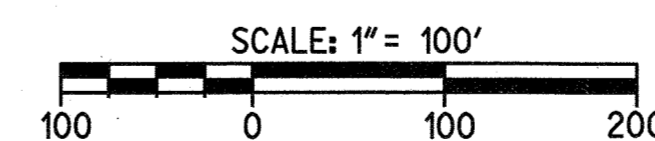
**GEOTECHNICAL ENGINEER**

JOHN R. BYERLY  
 2257 SOUTH LILAC AVE.  
 BLOOMINGTON, CA 92316-2903  
 ATTN: JOHN R BYERLY  
 (951) 783-1910

**SHEET INDEX**

TITLE SHEET	1
DETAIL SHEET	2
STREET PLAN AND PROFILE	3
MWS DETAIL SHEET	4
STRUCTURAL SLAB DETAIL	5

**INDEX MAP**  
 N.T.S.



**BASIS OF BEARING**

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, NAD 83 (NSRS 2011) EPOCH 2010.00, COUNTY OF RIVERSIDE, ZONE 6, AS DETERMINED LOCALLY BY A TIE BETWEEN CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) 'MAT2' AND 'RTHS' AS SHOWN HEREON. (I.L.E. N 17° 16' 09" E)

DISTANCES SHOWN HEREON ARE GROUND DISTANCES. GRID DISTANCES MAY BE OBTAINED BY MULTIPLYING GROUND DISTANCES BY 1.0000374434 AVERAGE ELEVATION ABOVE MEAN SEA LEVEL = 1100'.

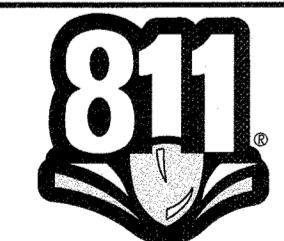
CONVERGENCE ANGLE = -0° 35' 21.4565"  
 ABOUT POINT #6  
 EAST CORNER OF SITE

**BENCHMARK**

ELEVATIONS ARE BASED UPON CITY OF RIVERSIDE BM JB-63  
 1989 ELEVATION = 933.305 (NAVD 88)  
 ADJUSTMENT YEAR: 2009

**DESCRIPTION:**

P.K. NAIL AND CITY ENGINEER TAG IN THE SOUTHEASTERLY CORNER OF A CATCH BASIN ALONG THE EASTERLY CURB OF IOWA AVENUE AT THE SOUTHEAST CURB RETURN OF IOWA AVENUE AND MARLBOROUGH AVENUE. (B.M. TRANSFER FROM JB-A3)



Know what's below.  
 Call before you dig.

Call at least 2 working days prior to excavating.

**CAUTION:**

EXACT LOCATION OF EXISTING UNDERGROUND FACILITIES IS UNKNOWN. CONTRACTOR TO VERIFY IN FIELD.

CITY OF RIVERSIDE  
 PUBLIC UTILITIES DEPARTMENT  
 WATER

APPROVED BY: *Chris Spa* 10/11/18  
 DATE

CITY OF RIVERSIDE  
 PUBLIC UTILITIES DEPARTMENT  
 OVERHEAD & UNDERGROUND

APPROVED BY: *[Signature]* 10/11/18  
 DATE

REGISTERED PROFESSIONAL ENGINEER  
 NATHAN CHARLES SMITH  
 No. 74754  
 Exp. 12-31-19  
 CIVIL  
 STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

*[Signature]* 10/8/18  
 NATHAN CHARLES SMITH  
 REGISTERED CIVIL ENGINEER NO. 74754

**RICK**  
 ENGINEERING COMPANY

1770 IOWA AVENUE - SUITE 100  
 RIVERSIDE, CA 92507  
 951.782.0707  
 (FAX) 951.782.0723

San Diego - Orange - San Luis Obispo - Bakerfield - Sacramento - Phoenix - Tucson

CITY BUSINESS TAX CERTIFICATE NO. 35225 EXP. DATE 7/31/19

BENCH MARK:  
 SEE SHEET ONE

MARK	BY	DATE	REVISIONS	APPR	DATE
ENGINEER	JOM	10/15/18		CITY	
DESIGNED BY		JOM	DRAWN BY		JOM
CHECKED BY		NCS			

CITY OF RIVERSIDE, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT

APPROVED BY: *[Signature]* 10/15/18  
 PRINCIPAL ENGINEER  
 TRAFFIC DIVISION  
 ENGINEERING MANAGER

APPROVED BY: *[Signature]* 11/05/2018  
 CIVIL ENGINEER

DATE: 11/05/2018

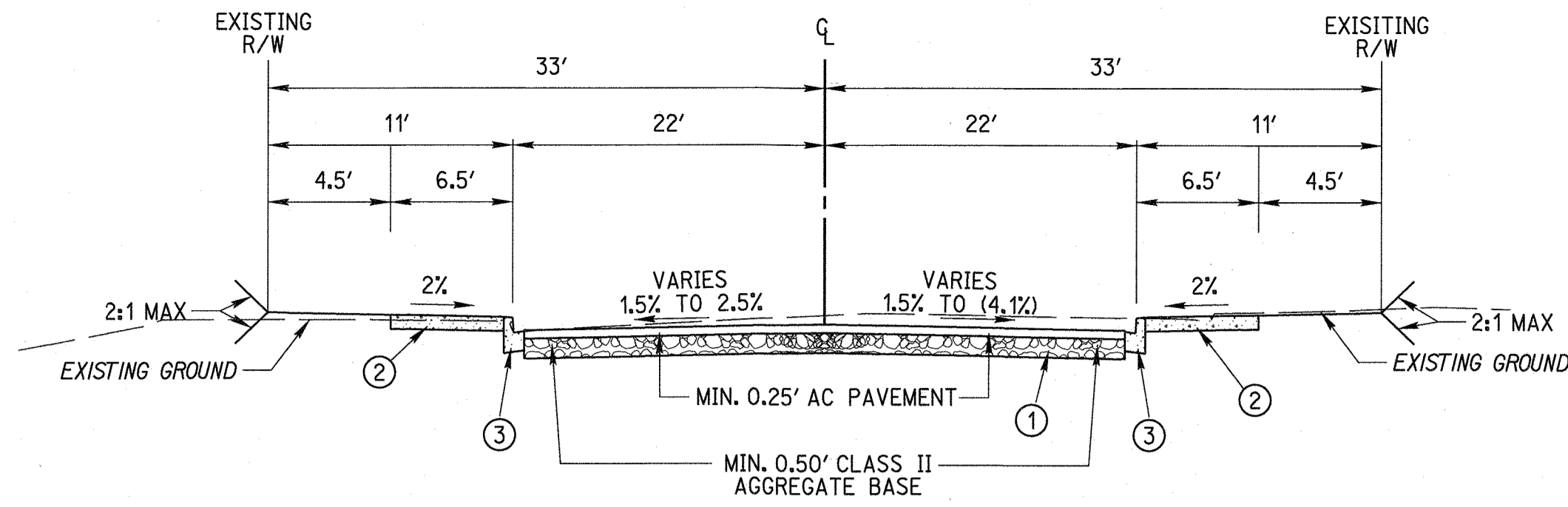
STREET IMPROVEMENT PLAN  
 MARLBOROUGH INDUSTRIAL  
 MARLBOROUGH AVENUE

750 MARLBOROUGH AVENUE

SCALE: HORIZ: 1"=100' VERT: N/A

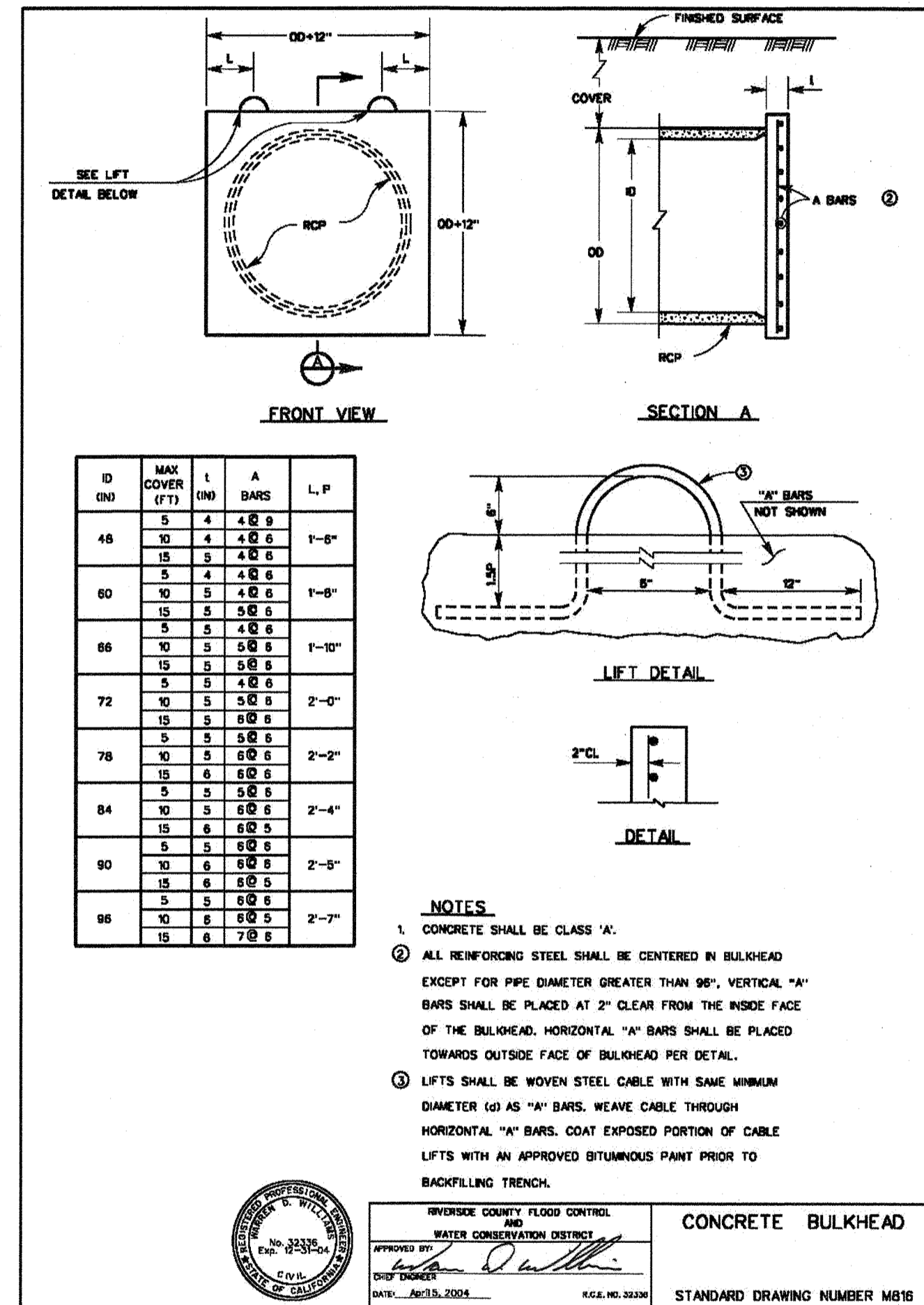
PW18-0346  
 R-447  
 SHEET 1 OF 5  
 FILE NO.





**36' LOCAL STREET**

MARLBOROUGH AVENUE  
PER MODIFIED CITY OF RIVERSIDE STD 101  
R-VALUE= 47 (PER R-3619)  
T.L.= 8.0  
N.T.S

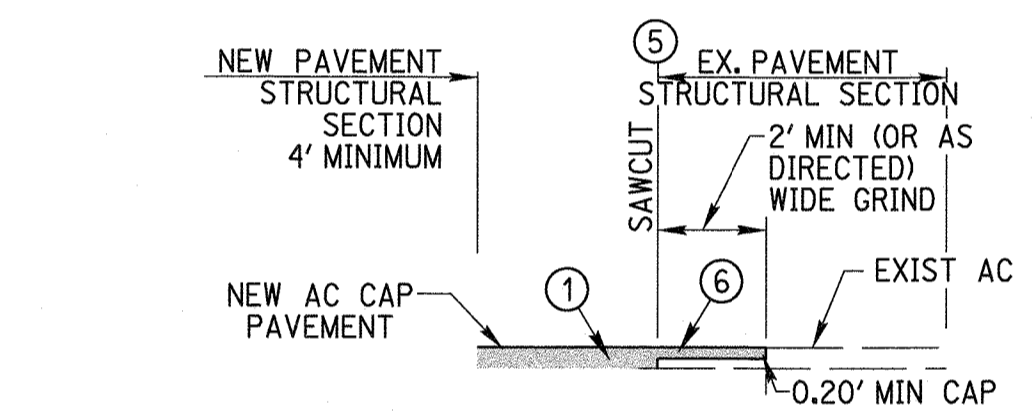


**CONCRETE BULKHEAD**

N.T.S.

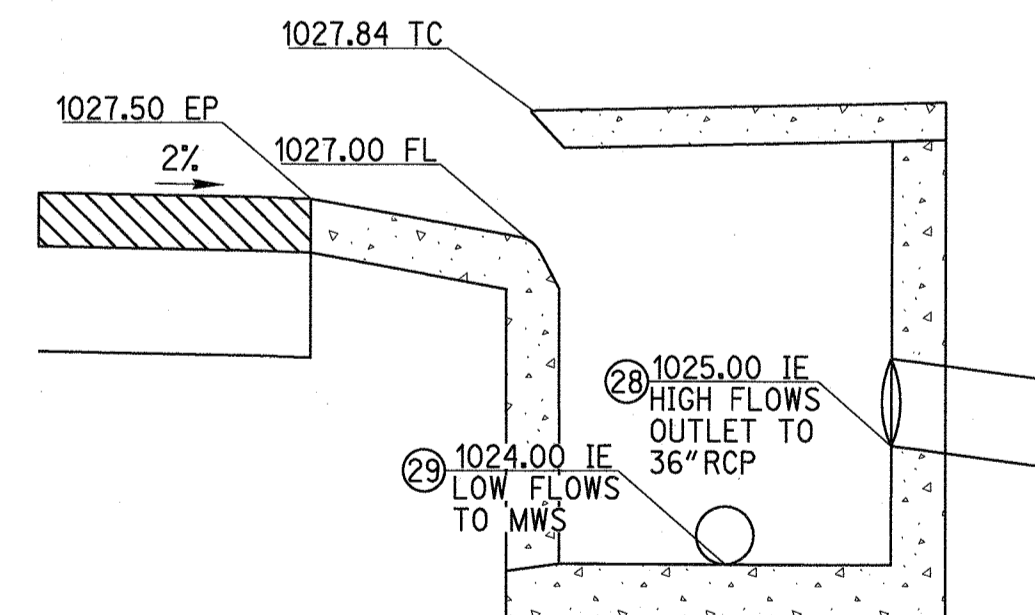
**CONSTRUCTION NOTES AND QUANTITY ESTIMATES**

- 1 PLACE 0.25" MIN. AC PAVEMENT OVER 0.5' MIN. CLASS II AGGREGATE BASE (R-VALUE 47) ..... 274 TONS
- 2 CONSTRUCT CURBSIDE SIDEWALK (W=6.5') PER CITY OF RIVERSIDE STD 325 ..... 2,900 SF
- 3 CONSTRUCT 6" CURB AND GUTTER TYPE 1 PER CITY OF RIVERSIDE STD 200 ..... 515 LF
- 4 CONSTRUCT DRIVEWAY APPROACH PER CITY OF RIVERSIDE STD 302 TYPE CURB-1 ..... 2 EA
- 5 SAWCUT EXIST. A.C. PVMT. SEE TYPICAL JOIN DETAIL ON THIS SHEET ..... 90 LF
- 6 GRIND AND OVERLAY EXISTING PAVEMENT. SEE TYPICAL JOIN DETAIL ON THIS SHEET ..... 180 SF
- 7 REMOVE EXISTING PAVEMENT ..... 6,900 SF
- 8 REMOVE EXISTING PARKWAY DRAIN ..... 1 EA
- 9 REMOVE BARRICADE ..... 155 LF
- 10 REMOVE EXISTING CURB AND GUTTER ..... 280 LF
- 11 ADJUST WATER VALVE TO GRADE ..... 4 EA
- 12 ADJUST STORM DRAIN MANHOLE TO GRADE ..... 1 EA
- 13 ADJUST SEWER MANHOLE TO GRADE PER SEWER PLAN ..... 1 EA
- 14 ADJUST STREET LIGHT TO GRADE ..... 1 EA
- 15 ADJUST EXISTING WATER METER TO GRADE ..... 6 EA
- 16 ADJUST EXISTING UTILITY BOX TO GRADE ..... 2 EA
- 17 ADJUST EXISTING ELECTRICAL TRANSFORMER TO GRADE ..... 1 EA
- 18 REMOVE EXISTING TREE ..... 1 EA
- 19 EXTEND FIRE HYDRANT BY CITY FORCES PER PUW 18-0164 ..... 1 EA
- 20 CONSTRUCT MODIFIED STORM WATER CATCH BASIN TYPE 1 CITY OF RIVERSIDE STD NO. 400 PER DETAIL ON THIS SHEET ..... 1 EA
- 21 INSTALL MODULAR WETLANDS STORMWATER BIOFILTRATION SYSTEM PER DETAILS ON SHEET 4. PER SEPARATE PERMIT, FOR REFERENCE ONLY ..... 1 EA
- 22 INSTALL 36" RCP, D-LOAD=3500 ..... 85 LF
- 23 INSTALL JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD 421 (D=36", A=45", B=36", L=6.4', C'=6.1', E'=5.6') ..... 1 EA
- 24 INSTALL JUNCTION STRUCTURE NO.4 PER CITY OF RIVERSIDE STD 423 ..... 1 EA
- 25 CONSTRUCT CONCRETE BULKHEAD PER RIVERSIDE COUNTY FLOOD CONTROL STD NO. M816. SEE DETAIL ON THIS SHEET ..... 1 EA
- 26 CONSTRUCT 17.5" PIPE CROSSING SLAB PER STRUCTURAL DETAIL ON SHEET 5 ..... 2,000 SF
- 27 CONSTRUCT MANHOLE JM PER CITY OF RIVERSIDE STD NO. 432 (D=36", A=45", B=18", L=5.0', C'=6.6', E'=4.6') ..... 1 EA
- 28 INSTALL 18" RCP, D-LOAD=3500 ..... 20 LF
- 29 INSTALL 12" HDPE ..... 30 LF



**SAWCUT, GRIND & OVERLAY DETAIL**

N.T.S.



**MODIFIED CATCH BASIN TYPE 1 DETAIL**

N.T.S.

**CONSTRUCTION LEGEND**

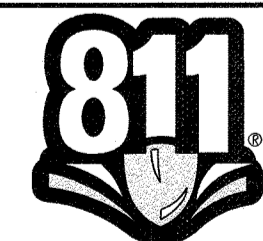
- PROPOSED CURB AND GUTTER
- PROPOSED SIDEWALK
- SAWCUT
- PROPOSED SIGN
- GRIND AND OVERLAY
- REMOVALS
- PROPOSED DRIVEWAY

**ABBREVIATIONS**

- AGGREGATE BASE AB
- ASPHALT CONCRETE AC
- BEGIN CURB RETURN BCR
- BEGIN CURVE BC
- BEGIN VERTICAL CURVE BVC
- CURB & GUTTER CBG
- END CURB RETURN ECR
- END CURVE EC
- END VERTICAL CURVE EVC
- FINISHED GRADE ELEVATION FG
- FINISHED SURFACE ELEVATION FS
- FLOW LINE ELEVATION FL
- GRADE BREAK GB
- TOP OF CURB ELEVATION TC
- NOT TO SCALE NTS
- PROPOSED PROP
- RIGHT-OF-WAY R/W

**EXISTING TOPO LEGEND**

- EXISTING FENCE
- DIRECTION OF FLOW
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM DRAIN MANHOLE
- EXISTING TELEPHONE VAULT
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING POLE AND GUY ANCHOR
- EXISTING POWER POLE
- EXISTING TELEPHONE POLE
- EXISTING JOINT USE POLE
- EXISTING TRAFFIC SIGNAL PULL BOX
- EXISTING TRAFFIC SIGNAL
- EXISTING STREET NAME SIGN
- EXISTING GAS METER
- EXISTING WALK-DON'T WALK PED SIGNAL
- PED PUSH BUTTON
- EXISTING TRAFFIC SIGNAL
- EXISTING TRAFFIC SIGNAL ON MAST ARM
- EXISTING TRAFFIC SIGNAL CONTROLLER
- EXISTING TRAFFIC SIGNAL PRESSURE DETECTOR
- EXISTING TRAFFIC SIGNAL LOOP DETECTOR
- EXISTING STREET LIGHT
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING BUILDING
- EXISTING PCC CURB
- EXISTING PCC CURB AND GUTTER
- EXISTING WALL



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**CAUTION:**

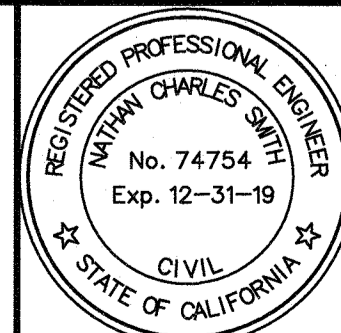
EXACT LOCATION OF EXISTING UNDERGROUND FACILITIES IS UNKNOWN. CONTRACTOR TO VERIFY IN FIELD.

CITY OF RIVERSIDE  
PUBLIC UTILITIES DEPARTMENT  
WATER

APPROVED BY: *Christi Egan* 10/11/18  
DATE

CITY OF RIVERSIDE  
PUBLIC UTILITIES DEPARTMENT  
OVERHEAD & UNDERGROUND

APPROVED BY: *[Signature]* 10/11/18  
DATE



PREPARED UNDER THE DIRECTION OF

NATHAN CHARLES SMITH  
REGISTERED CIVIL ENGINEER NO. 74754



1770 IOWA AVENUE - SUITE 100  
RIVERSIDE, CA 92507  
951.782.0707  
(FAX) 951.782.0723  
rickengineering.com

CITY BUSINESS TAX CERTIFICATE NO. 35225 EXP. DATE 7/31/19  
BENCH MARK: SEE SHEET ONE

MARK	BY	DATE	REVISIONS	APPR	DATE

CITY OF RIVERSIDE, CALIFORNIA  
PUBLIC WORKS DEPARTMENT

APPROVED BY: *[Signature]* BY: *[Signature]* DATE: 10/11/18  
PRINCIPAL ENGINEER  
TRAFFIC DIVISION  
ENGINEERING MANAGER  
APPROVED BY: *[Signature]* DATE: 11/05/2018  
CITY ENGINEER

STREET IMPROVEMENT PLAN

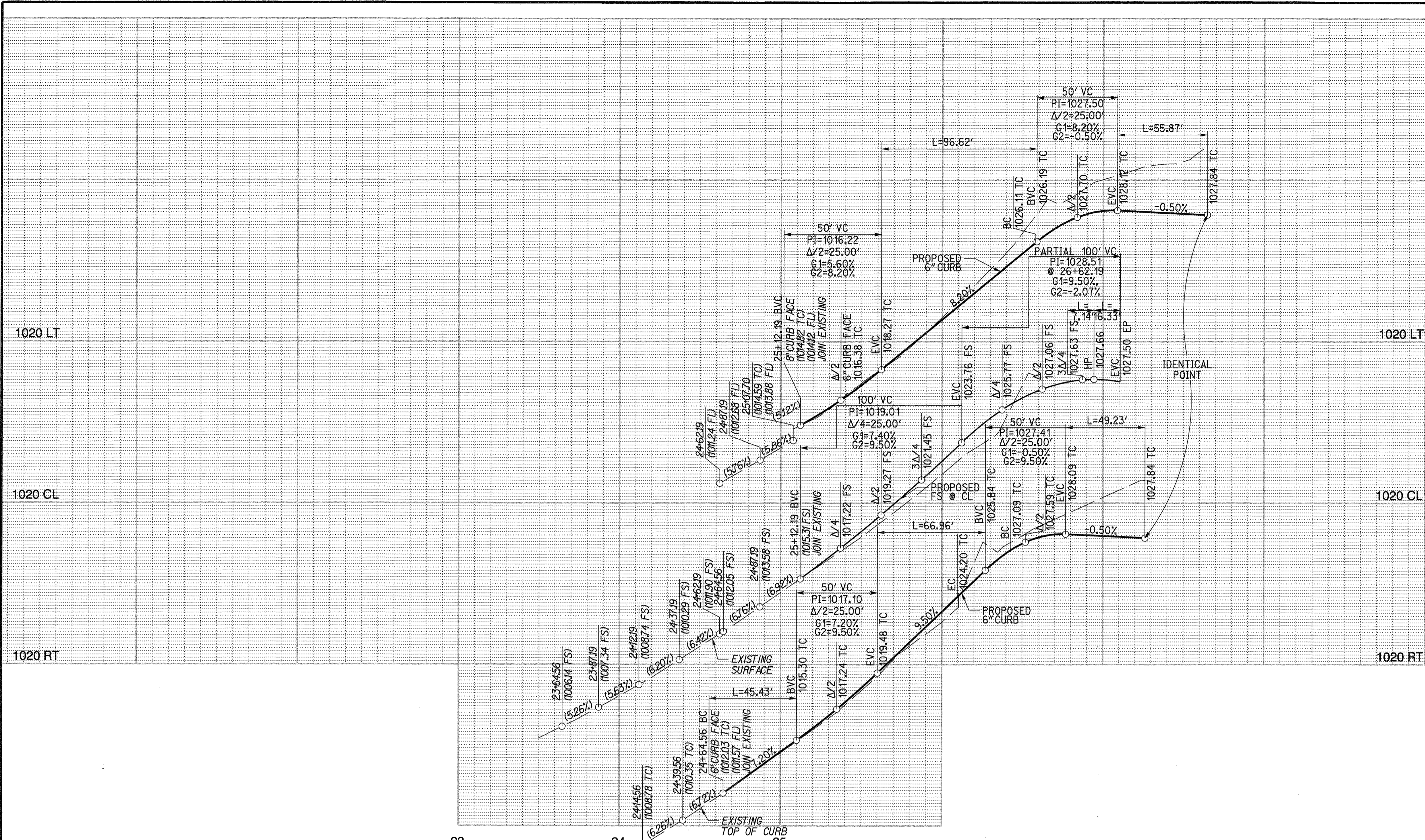
MARLBOROUGH INDUSTRIAL  
MARLBOROUGH AVENUE  
DETAILS  
SCALE: HORIZ: N/A VERT: N/A

PW18-0346

R-4447  
SHEET 2 OF 5  
FILE NO.



DESIGN SPEED  
25 MPH

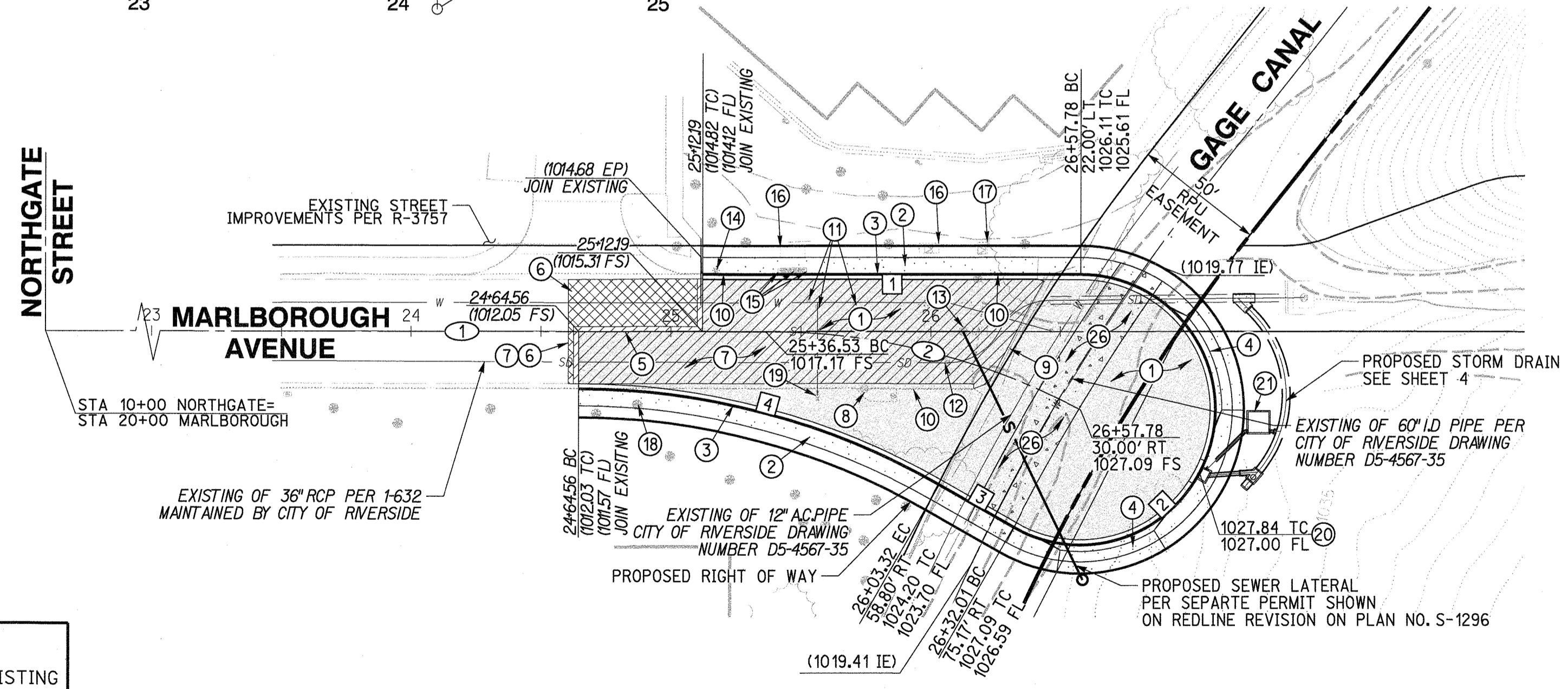
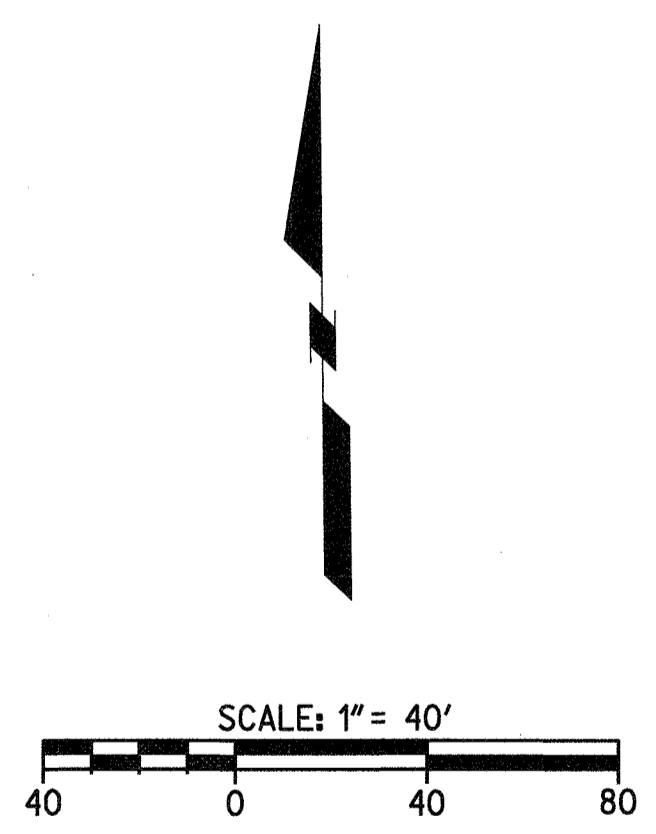


PROFILE SCALE:  
HORIZ: 1"=40'  
VERT: 1"=4'

CENTERLINE DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGENT
1	N 89°16'05" W		190.11'	
2	27°47'45"	260.00'	126.13'	64.33'

CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGENT
1	N 89°16'05" W		145.58'	
2	209°42'22"	52.00'	190.32'	1.00'
3	N 59°33'44" W		33.03'	
4	29°42'22"	280.00'	145.17'	74.26'

- CONSTRUCTION NOTES**
- PLACE 0.25" MIN. AC PAVEMENT OVER 0.5" MIN. CLASS II AGGREGATE BASE (R-VALUE = 47)
  - CONSTRUCT CURBSIDE SIDEWALK (W=6.5') PER CITY OF RIVERSIDE STD 325
  - CONSTRUCT 6" CURB AND GUTTER TYPE I PER CITY OF RIVERSIDE STD 200
  - CONSTRUCT DRIVEWAY APPROACH PER CITY OF RIVERSIDE STD 302 TYPE CURB-1
  - SAWCUT EXIST. A.C. PVMT. SEE TYPICAL JOIN DETAIL ON SHEET 2
  - GRIND AND OVERLAY EXISTING PAVEMENT. SEE TYPICAL JOIN DETAIL ON SHEET 2
  - REMOVE EXISTING PAVEMENT
  - REMOVE EXISTING PARKWAY DRAIN
  - REMOVE BARRICADE
  - REMOVE EXISTING CURB AND GUTTER
  - ADJUST WATER VALVE TO GRADE
  - ADJUST STORM DRAIN MANHOLE TO GRADE
  - ADJUST SEWER MANHOLE TO GRADE PER SEWER PLAN
  - ADJUST STREET LIGHT TO GRADE
  - ADJUST EXISTING WATER METER TO GRADE
  - ADJUST EXISTING UTILITY BOX TO GRADE
  - ADJUST EXISTING ELECTRICAL TRANSFORMER TO GRADE
  - REMOVE EXISTING TREE
  - EXTEND FIRE HYDRANT BY CITY FORCES PER PUW 18-0164
  - CONSTRUCT MODIFIED STORM WATER CATCH BASIN TYPE 1 CITY OF RIVERSIDE STD NO. 400 PER DETAIL ON SHEET 2
  - INSTALL MODULAR WETLANDS STORMWATER BIOFILTRATION SYSTEM PER DETAILS ON SHEET 4
  - CONSTRUCT 17.5" PIPE CROSSING SLAB PER STRUCTURAL DETAIL ON SHEET 5



PER SEPARATE PERMIT, FOR REFERENCE ONLY

**811**  
Know what's below.  
Call before you dig.  
Call at least 2 working days prior to excavating.

**CAUTION:**  
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CITY OF RIVERSIDE  
PUBLIC UTILITIES DEPARTMENT  
WATER  
APPROVED BY: *Chris...* 10/11/18  
DATE

CITY OF RIVERSIDE  
PUBLIC UTILITIES DEPARTMENT  
OVERHEAD & UNDERGROUND  
APPROVED BY: *...* 10/11/18  
DATE

REGISTERED PROFESSIONAL ENGINEER  
NATHAN CHARLES SMITH  
No. 74754  
Exp. 12-31-19  
CIVIL  
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF  
NATHAN CHARLES SMITH  
REGISTERED CIVIL ENGINEER NO. 74754

**RICK** ENGINEERING COMPANY  
1770 IOWA AVENUE - SUITE 100  
RIVERSIDE, CA 92507  
951.782.0707  
FAX 951.782.0723  
CITY BUSINESS TAX CERTIFICATE NO. 35225 EXP. DATE 7/31/19

MARK BY DATE REVISIONS APPR DATE  
ENGINEER CITY  
DESIGNED BY JOM DRAWN BY JOM CHECKED BY NCS

CITY OF RIVERSIDE, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
APPROVED BY: *...* BY: *...* DATE: 10/15/18  
TRAFFIC DIVISION  
ENGINEERING MANAGER

STREET IMPROVEMENT PLAN PW18-0346  
MARLBOROUGH INDUSTRIAL  
MARLBOROUGH AVENUE  
PLAN AND PROFILE  
R-4447  
SHEET 3 OF 5  
SCALE: HORIZ: 1"=40' VERT: 1"=4'  
FILE NO.

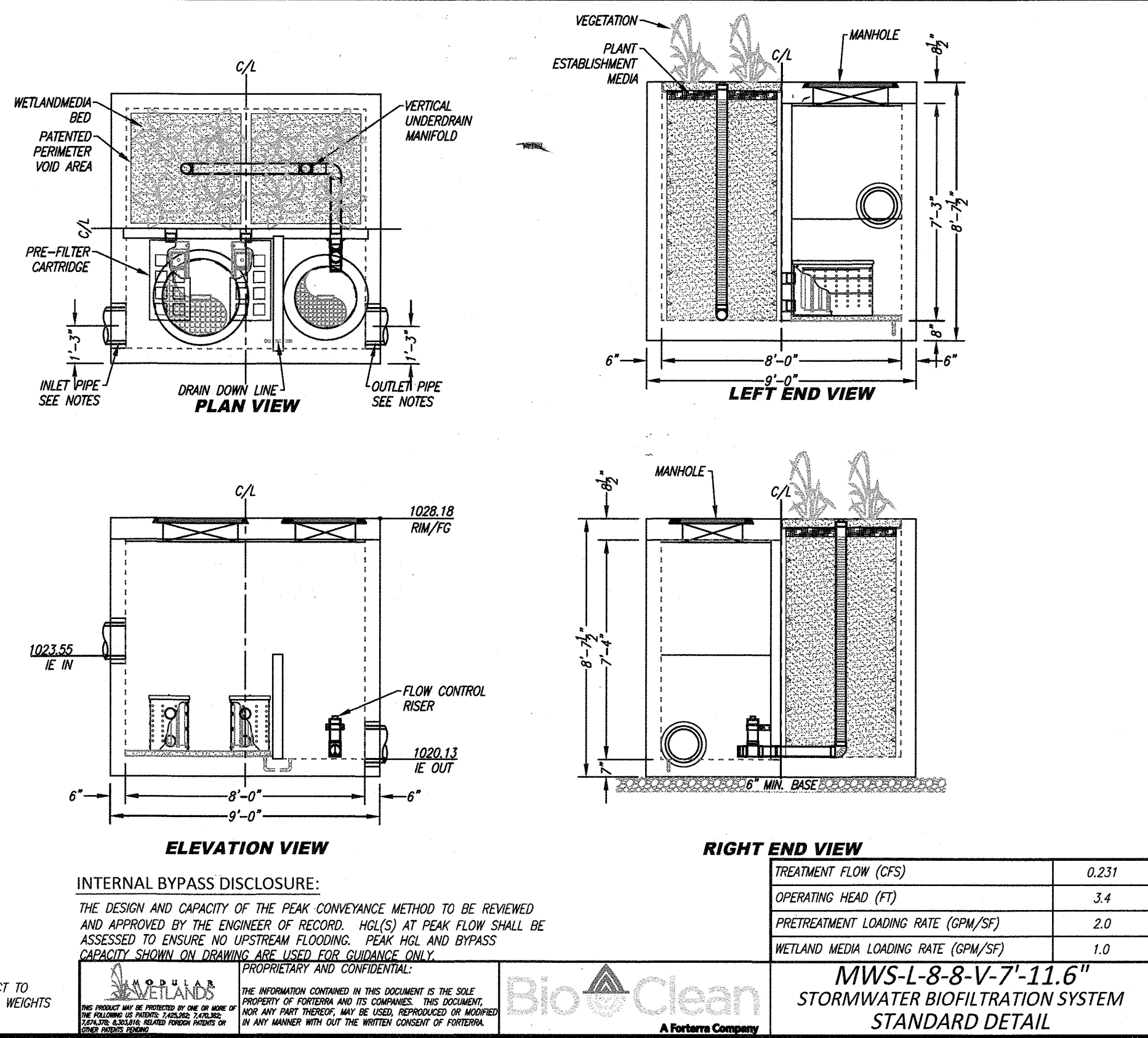


SITE SPECIFIC DATA			
PROJECT NUMBER	7529		
ORDER NUMBER	-----		
PROJECT NAME	MARLBOROUGH INDUSTRIAL		
PROJECT LOCATION	RIVERSIDE, CA		
STRUCTURE ID	MWS-1		
TREATMENT REQUIRED	VOLUME BASED (CF)		
	N/A		
	FLOW BASED (CFS)		
	0.231		
TREATMENT HGL AVAILABLE (FT)	N/A		
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	N/A		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	1023.55	HOPE	12"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	1020.13	HOPE	12"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	1028.18	1028.18	1028.18
SURFACE LOAD	PEDESTRIAN	OPEN PLANTER	PEDESTRIAN
FRAME & COVER	#30"	N/A	#24"
WETLAND MEDIA VOLUME (CY)	9.44		
ORIFICE SIZE (DIA. INCHES)	#2.17"		

**INSTALLATION NOTES**

- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED W/EPDM TIGHT PER MANUFACTURERS STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GRIND ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
- VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DOP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
- CONTRACTOR RESPONSIBLE FOR CONTRACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURERS WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

- GENERAL NOTES**
- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
  - ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.

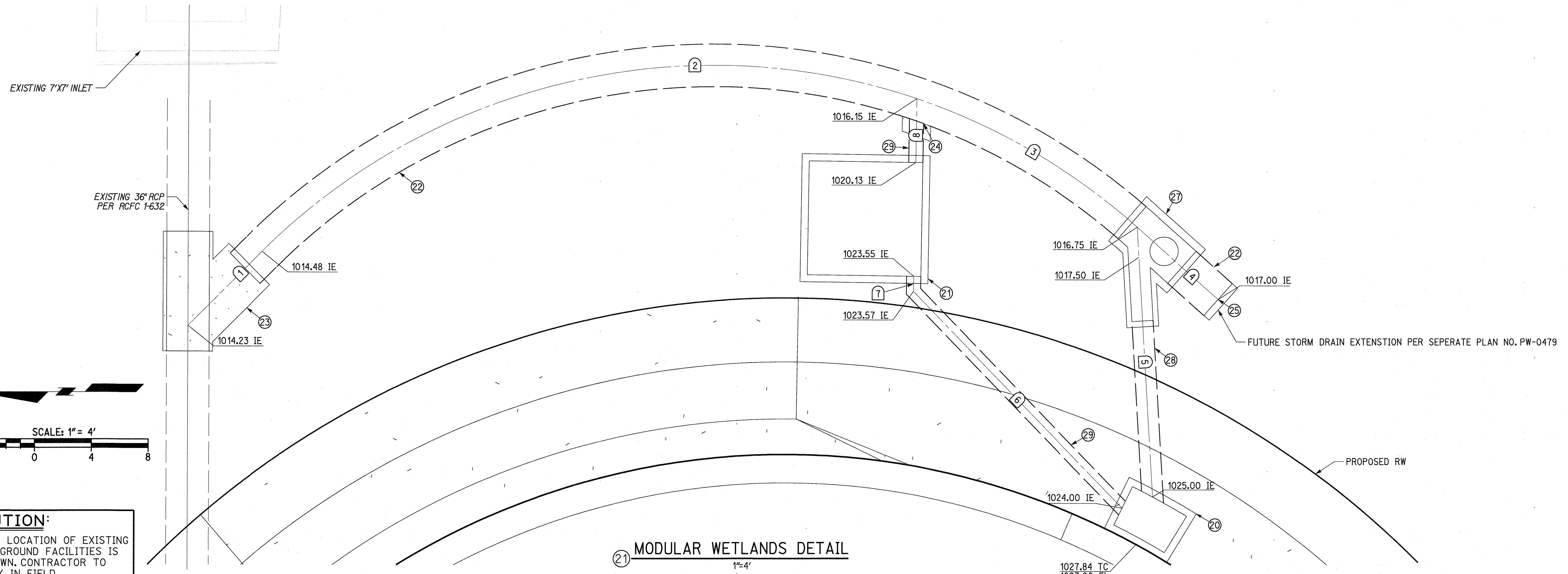


**CONSTRUCTION NOTES**

- CONSTRUCT MODIFIED STORM WATER CATCH BASIN TYPE 1 CITY OF RIVERSIDE STD NO. 400 PER DETAIL ON SHEET 2
- INSTALL MODULAR WETLANDS STORMWATER BIOFILTRATION SYSTEM PER DETAILS ON SHEET 4
- INSTALL 36" RCP, D-LOAD=3500
- INSTALL JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD 421 (D=36", A=45", B=36", L=6.4', C'=6.1', E'=5.6')
- INSTALL JUNCTION STRUCTURE NO.4 PER CITY OF RIVERSIDE STD 423
- CONSTRUCT CONCRETE BULKHEAD PER RIVERSIDE COUNTY FLOOD CONTROL STD NO. M816. SEE DETAIL ON SHEET 2
- CONSTRUCT MANHOLE JM PER CITY OF RIVERSIDE STD NO. 432 (D=36", A=45", B=18", L=5.0', C'=6.6', E'=4.6')
- INSTALL 18" RCP, D-LOAD=3500
- INSTALL 12" HOPE

STORM DRAIN DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGENT
1	N 44°52'03" W		7.37'	
2	63°29'26"	45.00'	49.87'	27.84'
3	23°01'51"	45.00'	18.09'	9.17'
4	N 41°39'15" E		7.63'	
5	N 86°39'15" E		18.99'	
6	N 45°55'49" E		21.17'	
7	N 89°04'11" W		1.06'	
8	N 89°04'11" W		4.50'	

21 MODULAR WETLANDS DETAIL FOR REFERENCE ONLY N.T.S.



21 MODULAR WETLANDS DETAIL 1"=4'

**811**  
Know what's below.  
Call before you dig.  
Call at least 2 working days prior to excavating.

**CAUTION:**  
EXACT LOCATION OF EXISTING UNDERGROUND FACILITIES IS UNKNOWN. CONTRACTOR TO VERIFY IN FIELD.

CITY OF RIVERSIDE  
PUBLIC UTILITIES DEPARTMENT  
WATER  
APPROVED BY: *Chris Egan* 10/14/18 DATE

CITY OF RIVERSIDE  
PUBLIC UTILITIES DEPARTMENT  
OVERHEAD & UNDERGROUND  
APPROVED BY: *JM* 10/14/18 DATE

REGISTERED PROFESSIONAL ENGINEER  
NATHAN CHARLES SMITH  
No. 74754  
Exp. 12-31-19  
CIVIL  
STATE OF CALIFORNIA

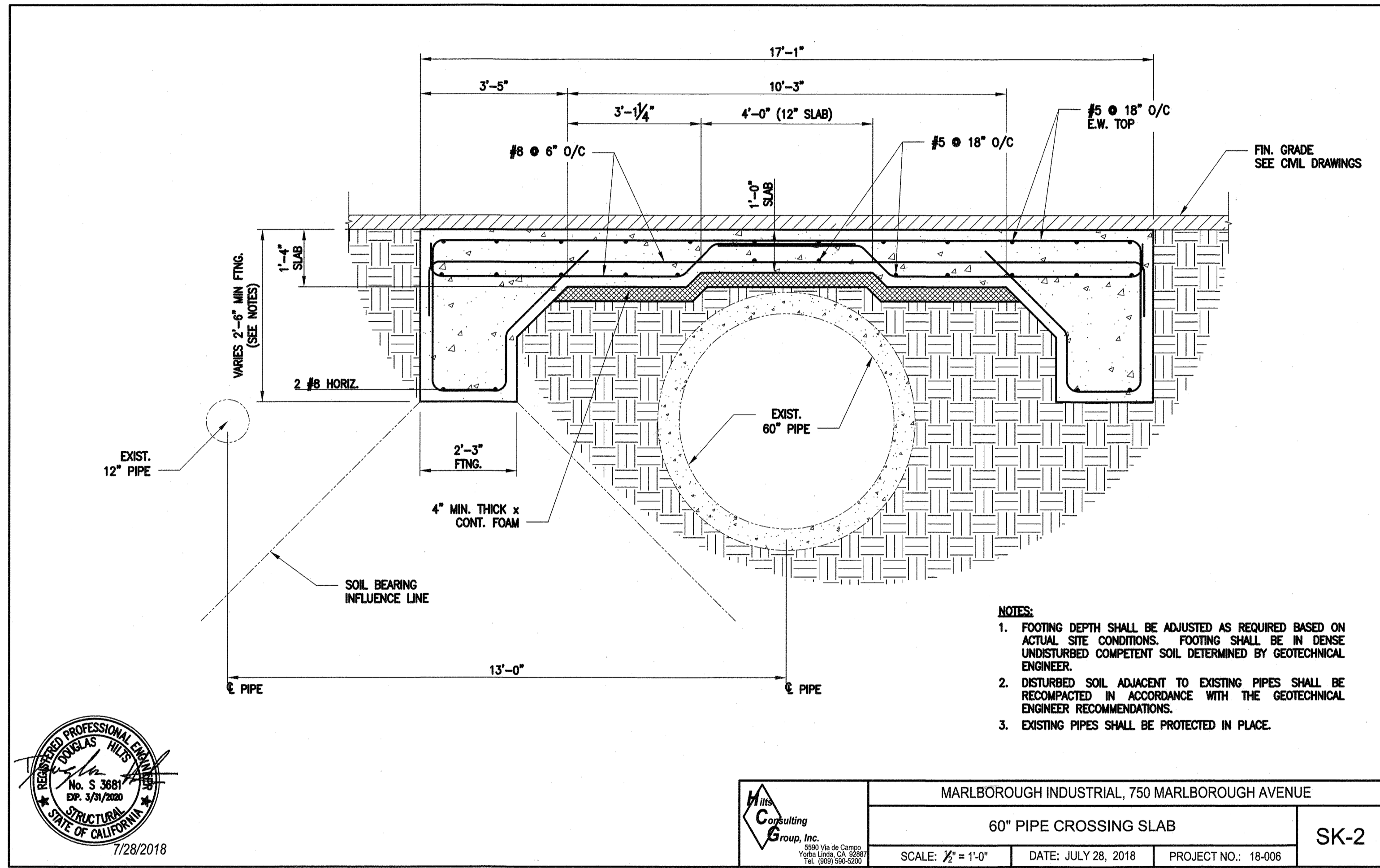
PREPARED UNDER THE DIRECTION OF  
NATHAN CHARLES SMITH DATE 10/16/18  
REGISTERED CIVIL ENGINEER NO. 74754

**RICK**  
ENGINEERING COMPANY  
1770 IOWA AVENUE - SUITE 100  
RIVERSIDE, CA 92507  
951.782.0707  
FAX 951.782.0723  
rickengineering.com  
San Diego - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson  
CITY BUSINESS TAX CERTIFICATE NO. 35225 EXP. DATE 7/31/19  
BENCH MARK: SEE SHEET ONE

MARK	BY	DATE	REVISIONS	APPR	DATE
DESIGNED BY	JOM				
DRAWN BY	JOM				
CHECKED BY	NCS				

CITY OF RIVERSIDE, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
APPROVED BY: *John D. Max* DATE 11/05/2018  
PRINCIPAL ENGINEER  
TRAFFIC DIVISION  
ENGINEERING MANAGER

STREET IMPROVEMENT PLAN PW18-0346  
MARLBOROUGH INDUSTRIAL  
MARLBOROUGH AVENUE  
MWS DETAIL SHEET  
R-4447  
SHEET 4 OF 5  
SCALE: HORIZ: 1"=4' VERT: N/A FILE NO.  
PLOT DATE: 04-OCT-2018 JN 17973



**STRUCTURAL DESIGN CRITERIA:**  
 1. 2016 IBC & ASCE 7-10  
 2. H20 TRUCK LOADING

**TESTS AND SPECIAL INSPECTION**  
 1. THE CONTRACTOR SHALL PROVIDE THE SERVICES OF A TESTING LABORATORY APPROVED BY THE OWNER TO PROVIDE SPECIAL DEPUTY INSPECTION SERVICES IN ACCORDANCE WITH CALIFORNIA BUILDING CODE CHAPTER 17, FOR THE FOLLOWING TYPES OF WORK.  
 2. CONCRETE:  
 A. REINFORCING STEEL PLACEMENT - PERIODIC  
 B. CONCRETE TEST SPECIMENS FOR 28-DAY COMPRESSION STRENGTH TEST, SLUMP, AIR CONTENT, AND TEMPERATURE - PERIODIC, EVERY 50 CUBIC YARDS  
 3. SOILS  
 A. MATERIAL ADEQUACY BELOW FOUNDATIONS - PERIODIC  
 B. EXCAVATIONS TO PROPER DEPTH AND INTO COMPETENT MATERIAL - PERIODIC  
 C. PREPARATION OF SUBGRADE MATERIAL PRIOR TO PLACING FILL MATERIALS - PERIODIC  
 D. PROPER MATERIALS, DENSITY, LIFT THICKNESS, AND COMPACTION OF FILL MATERIALS - CONTINUOUS  
 4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF SPECIAL INSPECTIONS. SPECIAL INSPECTIONS SHALL BE ARRANGED A MINIMUM OF 1 DAY IN ADVANCE OF WORK REQUIRING SPECIAL INSPECTION.  
 5. WORK CONCEALED PRIOR TO INSPECTION SHALL BE REMOVED OR EXPOSED TO PERFORM REQUIRED INSPECTIONS, AT THE CONTRACTOR'S EXPENSE.  
 6. A CERTIFICATION OF COMPLIANCE AND INSPECTION REPORTS SHALL BE SUBMITTED FOR ALL WORK ITEMS REQUIRING SPECIAL INSPECTION.

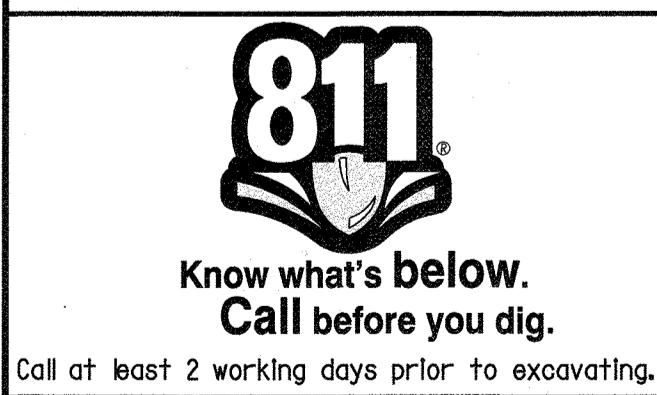
**FOUNDATIONS**  
 1. FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS CONTAINED IN THE SITE-SPECIFIC SOILS INVESTIGATION, 750 MARLBOROUGH INDUSTRIAL BUILDING, PREPARED BY JOHN R. BYERLY, DATED AUGUST 8, 2017.  
 2. SITE PREPARATION AND FOUNDATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SITE-SOILS INVESTIGATION REPORT. THE SOILS REPORT IS PART OF THESE CONTRACT DOCUMENTS AND SHALL BE KEPT ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.  
 3. ALLOWABLE SOIL BEARING = 2000 PSF  
 4. FOOTING DEPTH AND EMBEDMENT IS SUBJECT TO REVIEW OF THE GEOTECHNICAL ENGINEER AND SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.  
 5. FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF FILL SOILS, REINFORCING STEEL, OR CONCRETE.  
 6. CONTRACTOR SHALL PROVIDE FOR DEWATERING OR EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER, OR SEEPAGE.  
 7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEET PILES, AND SHORING REQUIRED TO COMPLY WITH ALL SAFETY REGULATIONS AND TO TEMPORARILY SUPPORT EXISTING IMPROVEMENTS WITHIN CONSTRUCTION AREA.  
 8. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITTING, AND INSTALLATION OF ALL REQUIRED BRACING.  
 9. CONTRACTOR SHALL REMOVE ALL ABANDONED FOOTINGS, UTILITIES, ETC. THAT UNDERMINE OR INTERFERE WITH THE NEW CONSTRUCTION.

**CAST-IN-PLACE CONCRETE**  
 1. REINFORCED CONCRETE WORK SHALL CONFORM TO THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), THE MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION (CRSI), AND THESE CONSTRUCTION DRAWINGS.  
 2. STRUCTURAL CAST-IN-PLACE CONCRETE SHALL BE HARDROCK CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH (f<sub>c</sub>) OF 5,000 PSI.  
 3. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE II/V WITH A MAXIMUM WATER/CEMENT RATIO (W/C) OF 0.45.  
 4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED OVER REINFORCING STEEL IN CAST-IN-PLACE CONCRETE, UNLESS NOTED OTHERWISE:  
 • CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"  
 • FORMED CONCRETE EXPOSED TO EARTH OR WEATHER = 2"  
 5. SECURELY TIE ANCHOR BOLTS, REINFORCING STEEL, INSERTS, ETC. IN PLACE PRIOR TO PLACING CONCRETE.  
 6. CONCRETE SLUMP SHALL NOT EXCEED 4". CONCRETE SHALL BE TESTED AND PASS SLUMP TEST PRIOR TO PLACING CONCRETE.

**FOAM**  
 1. FOAM SHALL BE CLOSED CELL POLYETHYLENE ETHAFOAM 180, MANUFACTURED BY SEALED AIR, OR APPROVED EQUAL.  
 2. FOAM SHALL BE 1.8 LB/CF DENSITY.  
 3. COMPRESSION DEFLECTION PROPERTY OF 5% AT 5 PSI, 25% AT PSI, AND 50% AT 15 PSI

**REINFORCING STEEL**  
 1. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.  
 2. ALL REINFORCING STEEL BENDS SHALL BE MADE COLD.  
 3. REINFORCING STEEL BEND RADIUS SHALL BE IN ACCORDANCE WITH ACI 318.  
 4. LAP SPICE LENGTH SHALL BE A MINIMUM OF  
 5. MINIMUM CLEAR DISTANCE BETWEEN REINFORCING STEEL, INCLUDING AREAS AT SPLICES, SHALL BE 1" OR 1-BAR DIAMETER, WHICHEVER IS GREATER.  
 6. LAP SPLICES SHALL BE FULL CONTACT SPLICES. SPLICES SHALL BE STAGGERED WHERE POSSIBLE.  
 7. REINFORCING SHALL BE LAPPED AS INDICATED ON THE DRAWINGS OR AS NOTED BELOW, WHICHEVER IS GREATER:  
 #5 = 3'-0"  
 #8 = 6'-0"

26 PIPE CROSSING SLAB DETAIL



**CAUTION:**  
 EXACT LOCATION OF EXISTING UNDERGROUND FACILITIES IS UNKNOWN. CONTRACTOR TO VERIFY IN FIELD.

CITY OF RIVERSIDE  
 PUBLIC UTILITIES DEPARTMENT  
 WATER  
 APPROVED BY: *[Signature]* DATE: 10/11/18

CITY OF RIVERSIDE  
 PUBLIC UTILITIES DEPARTMENT  
 OVERHEAD & UNDERGROUND  
 APPROVED BY: *[Signature]* DATE: 10/11/18

REGISTERED PROFESSIONAL ENGINEER  
 NATHAN CHARLES SMITH  
 No. 74754  
 Exp. 12-31-19  
 CIVIL  
 STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF  
 NATHAN CHARLES SMITH  
 DATE: 10/11/18  
 REGISTERED CIVIL ENGINEER NO. 74754

**RICK**  
 ENGINEERING COMPANY  
 1770 IOWA AVENUE - SUITE 100  
 RIVERSIDE, CA 92507  
 951.782.0727  
 (FAX) 951.782.0723  
 rickengineering.com  
 San Diego - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson  
 CITY BUSINESS TAX CERTIFICATE NO. 35225 EXP. DATE 7/31/19  
 BENCH MARK: SEE SHEET ONE

MARK	BY	DATE	REVISIONS	APPR	DATE
DESIGNED BY	JOM				
DRAWN BY	JOM				
CHECKED BY	NCS				

CITY OF RIVERSIDE, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 APPROVED BY: *[Signature]* BY: *[Signature]* DATE: 10/11/18  
 TRAFFIC DIVISION  
 ENGINEERING MANAGER  
 DATE: 11/16/2018

STREET IMPROVEMENT PLAN  
 MARLBOROUGH INDUSTRIAL  
 MARLBOROUGH AVENUE  
 STRUCTURAL SLAB  
 SCALE: HORIZ: N/A VERT: N/A

PW18-0346  
 R-4447  
 SHEET 5 OF 5  
 FILE NO.