IN THE CITY OF RIVERSIDE, CALIFORNIA

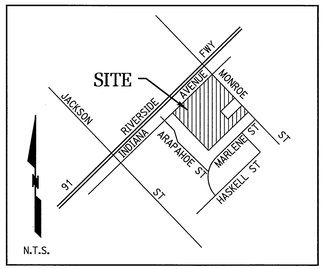
STORM DRAIN IMPROVEMENT PLANS

TRACT 31415

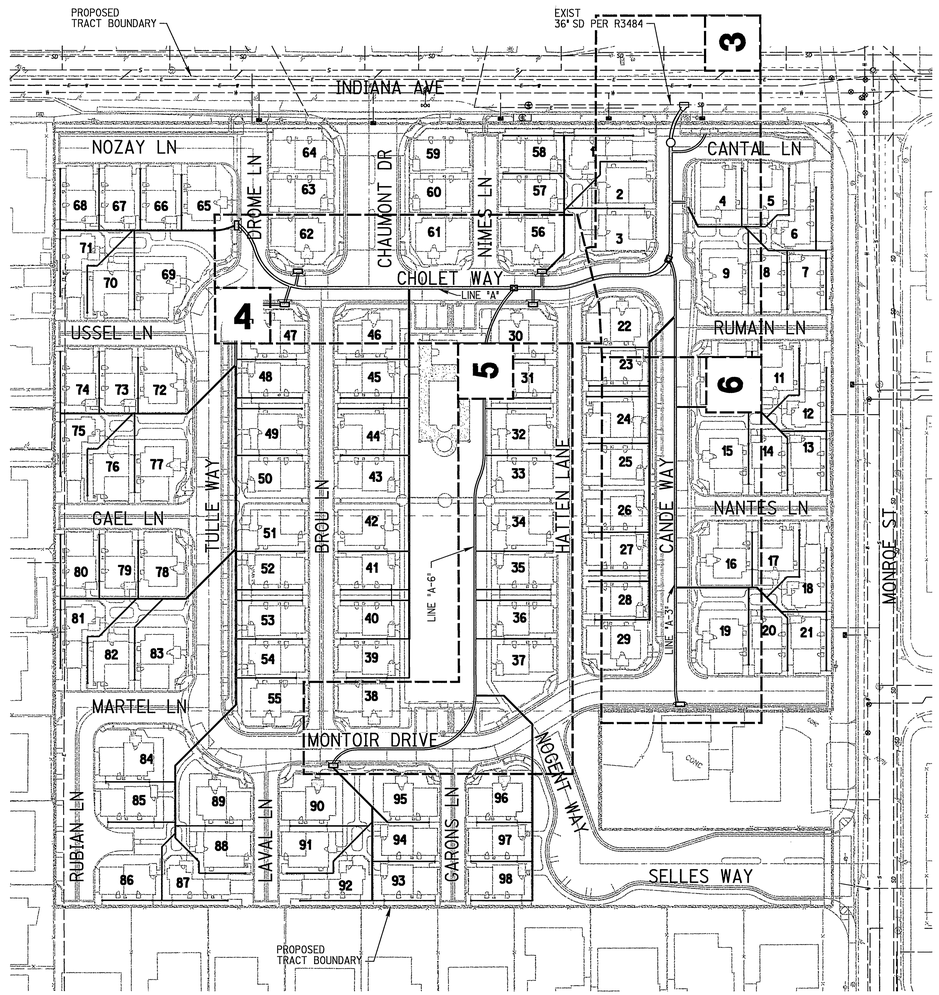
(PRIVATE FACILITIES)

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. QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY.
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. 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.
5. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
6. 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.
7. THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (U.S.A.) PHONE NO. 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.
8. THE DEVELOPER SHALL BE RESPONSIBLE FOR PRESERVING OR RE-ESTABLISHING AND REFERENCING SURVEY MONUMENTS DESTROYED, DISTURBED OR BURIED AS A RESULT OF CONSTRUCTION SHOWN HERON.
9. ALL EMBANKMENT FILL SHALL BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DRY DENSITY AND SHALL BE OF AN APPROVED QUALITY.
10. BEFORE THE RIP RAP IS ACCEPTED BY THE CITY, AS PLACED, AT THE OUTLET OF ANY DRAINAGE STRUCTURE, IT SHALL BE TESTED UNDER FLOWS AS CLOSE AS POSSIBLE TO DESIGN CONDITIONS WITH WATER OBTAINED FROM FIRE HYDRANTS IN THE IMMEDIATE AREA.
11. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.
12. THE CONTRACTOR SHALL COORDINATE TRENCHING FOR CABLE TELEVISION WITH OTHER TRENCHING WITHIN THE SUBDIVISION.
13. CONTRACTOR IS TO VERIFY EXISTING STORM DRAIN ELEVATION PRIOR TO CONSTRUCTION.
14. ALL PROVISIONS OF THE RECOMMENDATIONS FOR SITE PREPARATION PREPARED BY GEOSOILS, INC., DATED JULY 20, 2004, W.O. 4315-A-SC, REPORT NO. 5551 SHALL BE COMPLIED WITH DURING GRADING OPERATIONS. CITY BUSINESS TAX CERTIFICATE NUMBER 31230, EXPIRATION DATE 04/18/05.



VICINITY MAP



INDEX MAP

SCALE: 1" = 60'

60 0 60 120

WORK TO BE DONE

THESE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, THE CURRENT CITY OF RIVERSIDE STANDARDS AND SPECIFICATIONS, AND THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORK 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 RISING 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 HEREON, AND FOR ANY DAMAGE OR PROTECTION TO THESE LINES.

DEVELOPER/OWNER

D.R. HORTON LOS ANGELES HOLDING CO., INC.
119 N. MAPLE STREET, SUITE A
CORONA, CALIFORNIA 92880
TEL: (951)272-9000 FAX: (951)272-9797

CIVIL ENGINEER

RICK ENGINEERING COMPANY
1223 UNIVERSITY AVE., SUITE 240
RIVERSIDE, CA. 92507
TEL: (951)782-0707 FAX: (951)782-0723
CONTACT: MARTEN L ANDERSON

GEOTECHNICAL ENGINEER

GEOSOILS, INC.
26590 MADISON AVENUE
MURRIETA, CA. 92562
(951)677-9651 FAX: (951)677-9301
CONTACT: PAUL McCLAY

UTILITIES

POWER:	CITY OF RIVERSIDE	951-826-5421
WATER:	CITY OF RIVERSIDE	951-826-5421
TELEPHONE:	PACIFIC TELEPHONE CO.	909-666-5454
SEWER:	CITY OF RIVERSIDE	951-351-6140
GAS:	SOUTHERN CALIFORNIA GAS COMPANY	909-335-3919

SHEET INDEX

SHT NO	DESCRIPTION
1	TITLE SHEET
2	NOTES AND DETAILS
3	LINE "A", LAT "A-1" AND "A-2"
4	LINE "A" , LAT "A-4", "A-5", "A-7" AND "A-8"
5	LINE "A-6" 10+00.00 TO 15+03.09
6	LINE "A-3" 10+00.00C TO 13+75.76

CITY OF RIVERSIDE
PUBLIC UTILITIES DEPARTMENT, WATER DIVISION
APPROVED BY _____ DATE 3/18/05
APPROVAL OF SHEETS 1 - 6
VOID ONE YEAR FROM THIS DATE

DIG ALERT
CALL BEFORE YOU DIG!
1-800-227-2600
UNDERGROUND SERVICE ALERT
Call at least 2 working days prior to excavating.

REGISTERED PROFESSIONAL ENGINEER MARTEN L. ANDERSON No. 51313 Exp. 6-30-06 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
MARTEN L. ANDERSON
REGISTERED CIVIL ENGINEER NO. 51313
EXPIRATION DATE 6-30-06

RICK ENGINEERING COMPANY
San Diego Riverside Orange Phoenix Tucson
1223 University Ave., Ste. 240 • Riverside, CA 92507-3418 • (951)782-0707 • FAX (951)782-0723 • www.rickeng.com
CITY OF RIVERSIDE BUSINESS TAX CERTIFICATE. No. 35225 EXP. DATE: 07/20/2005
BENCH MARK POINT ID: F4-A1 ELEVATION: 810.333 REF: FB735/7 DATUM: 1929
CALIFORNIA DIVISION OF HIGHWAYS BRAS DISK STAMPED "C/L MONROE" IN WELL AT 40 FEET NORTHERLY ALONG THE CENTERLINE OF MONROE STREET FROM THE INTERSECTION OF MONROE STREET AND INDIANA AVENUE

WDID # 8 33C329138

MARK	REVISIONS	APPR	DATE

DESIGNED BY SGS DRAWN BY ME CHECKED BY MA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		5/21/05
STREET SERVICES		

APPROVED BY _____
CITY ENGINEER
DATE 3/21/05

STORM DRAIN PLANS
TRACT 31415
TITLE SHEET

SCALE HORIZ SEE ABOVE

PW05-0209
D-775
SHEET 1 OF 6
FILE NO.

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INDEXED 3-24-05 LH

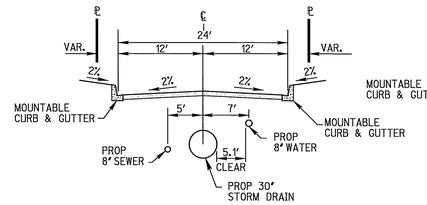
PLOT DATE: 17-MAR-2005 JN 14635A

CONSTRUCTION NOTES AND QUANTITIES

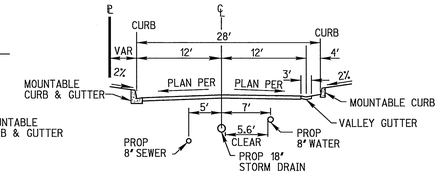
(8)	CONSTRUCT 7' CATCH BASIN PER CITY DWG 405	8 EA
(9)	CONSTRUCT 7' CATCH BASIN PER CITY DWG 406	1 EA
(19)	CONSTRUCT MANHOLE 'JM' PER CITY STD DWG 432	1 EA
(20)	CONSTRUCT MANHOLE 'EZ' PER CITY STD DWG 431	2 EA
(21)	INSTALL 12" X 12" IRON GRATE WITH 8" RISER (NDS 1213 + 1221 OR EQUIVALENT)	1 EA
(22)	CONSTRUCT 30" RCP (D-LOAD PER PLAN) WITH BEDDING PER CITY STD 452 (CASE 1)	26 LF
(23)	INSTALL 30" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT	226 LF
(24)	INSTALL 24" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT	258 LF
(25)	INSTALL 18" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT	1105 LF
(41)	INSTALL 18" X 4" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)	8 EA
(42)	INSTALL 18" X 8" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)	4 EA
(44)	INSTALL 24" X 12" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)	1 EA
(45)	INSTALL 24" X 18" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)	2 EA
(46)	INSTALL 30" X 18" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)	4 EA
(57)	INSTALL 18" X 12" H.D.P.E. WYE (N-12 OR APPROVED EQUIVALENT)	1 EA
(62)	CONSTRUCT VORTEX SEPARATOR PER DETAIL SHEET 2	1 EA

ABBREVIATIONS

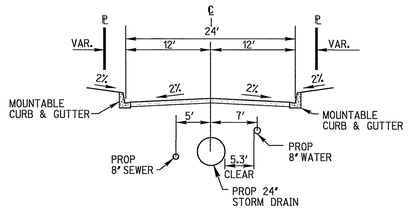
FINISH SURFACE	FS
FINISH GRADE	FG
GRADE BREAK	GB
HIGH POINT	HP
LOW POINT	LP
TOP OF WALL	TW
TOP OF FOOTING	TF
TOP OF CURB	TC
BEGIN CURB RETURN	BCR
END CURB RETURN	ECR
BEGIN CURVE	BC
END CURVE	EC
BEGIN VERTICAL CURVE	BVC
END VERTICAL CURVE	EVC
PAD ELEVATION	PE
CENTER LINE	C/L
RIGHT OF WAY	R/W
STORM DRAIN EASEMENT	SD EMNT
LENGTH OF CURVE	L
PAD ELEVATION	PE
INVERT ELEVATION	IE
FINISHED FLOOR	FF
FINISHED SURFACE ELEVATION	FS
FINISHED GARAGE ELEVATION	GF
FINISHED GRADE ELEVATION	FG



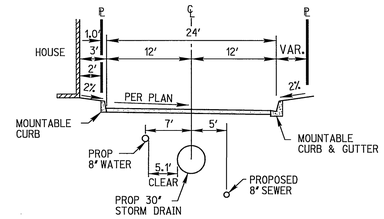
TYPICAL SECTION
CHOLET WAY
WITH 30" SD
NOT TO SCALE



TYPICAL SECTION
CANDE WAY
INFRONT OF LOTS 22-29
NOT TO SCALE

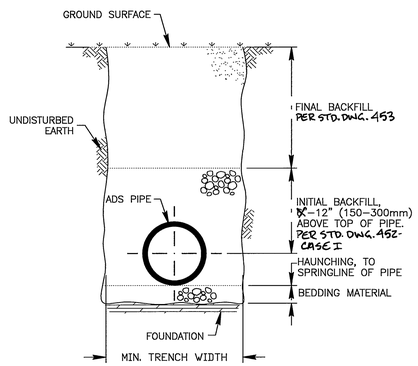


TYPICAL SECTION
CHOLET WAY
WITH 24" SD
NOT TO SCALE



TYPICAL SECTION
CANDE WAY
INFRONT OF LOTS 2 AND 3
NOT TO SCALE

TRENCH INSTALLATION DETAIL



TYPICAL TRENCH CROSS-SECTION
(N.T.S.)

NOTE TO THE ENGINEER: WHEN THIS DETAIL IS TO BE INCORPORATED INTO CONTRACT DOCUMENTS, PLEASE REFERENCE SECTION X-2, "RECOMMENDATIONS FOR INCORPORATION INTO CONTRACT DOCUMENTS" OF ASTM SPECIFICATION D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS" SO THAT APPROPRIATE MODIFICATIONS CAN BE MADE TO ACCOMMODATE SITE SPECIFIC NEEDS.

NOTES:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.

2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

   UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100-600mm) CORRUGATED POLYETHYLENE PIPE (CPEP); 6" (150mm) FOR 30"-60" (750-1500mm) CPEP.

3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

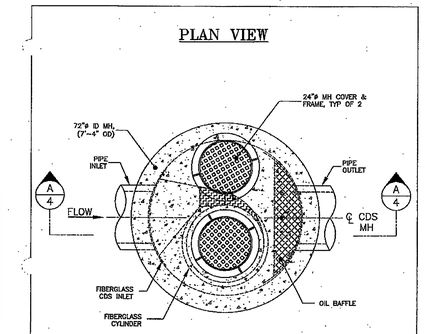
4. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

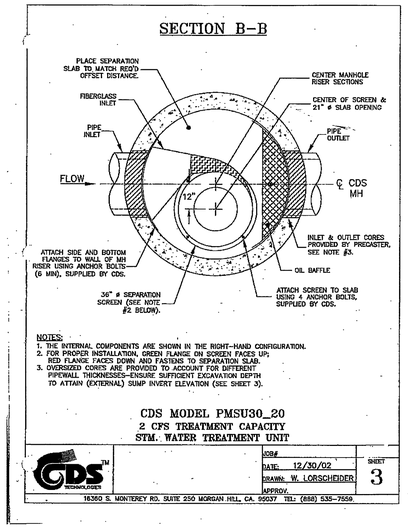
NOMINAL ø in (mm)	MIN. RECOMMENDED TRENCH WIDTH, in (mm)
4 (100)	21 (530)
6 (150)	23 (580)
8 (200)	25 (630)
10 (250)	28 (710)
12 (300)	31 (790)
15 (375)	34 (860)
18 (450)	39 (990)
24 (600)	48 (1220)
30 (750)	66 (1680)
36 (900)	78 (1980)
42 (1050)	83 (2110)
48 (1200)	89 (2260)
60 (1500)	102 (2590)

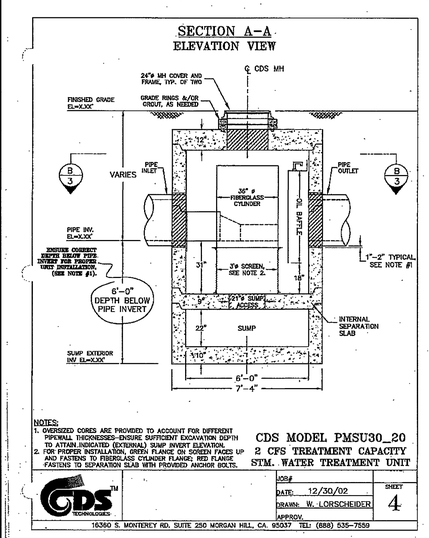
5. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF PIPE TO THE GROUND SURFACE.

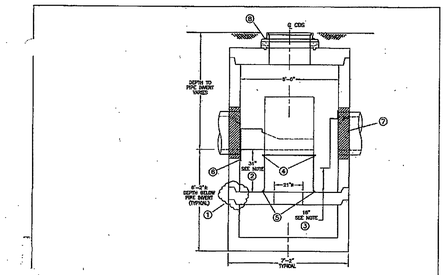
SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in (mm)
H25 (FLEXIBLE PAVEMENT)	12 (300), 24 (600) FOR 60" (1500) PIPE*
H25 (RIGID PAVEMENT)	12 (300), 24 (600) FOR 60" (1500) PIPE
E80 RAILWAY	24 (600)
HEAVY CONSTRUCTION	48 (1200)

*TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT SECTION









CONSTRUCTION NOTES:

1. APPLY BUTYL MASTIC AND/OR GROUT TO SEAL JOINTS OF MANHOLE STRUCTURE. APPLY LOAD TO MASTIC SEAL IN JOINTS OF MH SECTIONS TO COMPRESS SEALANT IF NECESSARY. UNIT MUST BE WATER TIGHT, HOLDING WATER UP TO FLOW LINE INVERT (MINIMUM).
2. IF SEPARATION SLAB IS NON-INTEGRAL TO THE SEPARATION SECTION OF THE UNIT, SET AND VERIFY TOP ELEVATION BEFORE PLACING MORE PRE CAST COMPONENTS OR BACKFILLING. ENSURE 31" FROM TOP OF SEPARATION SLAB TO PIPE AND CDS INLET INVERT.
3. SET BOTTOM OF OIL BAFFLE 18" ABOVE SEPARATION SLAB FLOOR; DRILL AND INSERT A MINIMUM OF FOURTEEN (14) 3/8" x 3 1/2" SS EXPANSION BOLTS @ 12 O.C. EQUALLY SPACED TO SECURE BAFFLE FLANGE TO RISER WALL-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES).
4. FASTEN FIBERGLASS CYLINDER/INLET TO SCREEN ASSEMBLY USING FOUR (4) SETS OF 1/2" x 1 1/4" SS HEX HEAD BOLTS W/ NUTS AND WASHERS-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES). IN THE LEFT-HANDED CONFIGURATION THE RED PAINTED FLANGE ON THE SCREEN CYLINDER SHALL FACE UP. IN THE RIGHT-HANDED CONFIGURATION, THE GREEN PAINTED FLANGE SHALL FACE UP.
5. VERIFY THAT SCREEN ASSEMBLY IS CENTERED OVER SUMP ACCESS HOLE AND INLET PIPE IS REASONABLY CENTERED WITHIN FIBERGLASS INLET ORIFICE (ADJUST IF NECESSARY); FASTEN SCREEN TO SEPARATION SLAB USING FOUR (4) 3/8" x 3 1/2" SS EXPANSION BOLTS-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES).
6. DRILL AND INSERT A MINIMUM OF SIX (6) 3/8" x 3 1/2" SS EXPANSION BOLTS EQUALLY SPACED TO SECURE FIBERGLASS INLET FLANGE TO RISER WALL-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES).
7. GROUT PIPE CONNECTIONS TO SEAL JOINT.
8. GRADE RINGS AND/OR GROUT TO MATCH FINISHED GRADE AS NEEDED.

PMSU30_20 CONSTRUCTION NOTES
JOB#
DATE: 5/7/02
DRAWN: J.S.F
APPROV.
SCALE N.T.S.
SHEET 5
16360 S. MONTEREY RD. SUITE 250 MORGAN HILL, CA. 95037 TEL: (888) 535-7559

ADS STANDARD DETAILS DISCLAIMER: "ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS STANDARD DETAIL TO DEMONSTRATE ADS' RECOMMENDED INSTALLATION OF ITS PRODUCTS FOR THE DEPICTED APPLICATION. IN ADDITION TO ADS' RECOMMENDATIONS, THERE MAY BE OTHER NATIONAL, STATE OR LOCAL SPECIFICATIONS THAT ARE PERTINENT TO THIS APPLICATION. ADS' STANDARD DETAIL IS NOT INTENDED TO SUPERSEDE ANY NATIONAL, STATE OR LOCAL SPECIFICATIONS, AND ADS RECOMMENDS THAT THOSE REQUIREMENTS BE REVIEWED AND CONSULTED PRIOR TO THE INSTALLATION OF ADS' PRODUCTS. ADS HAS NOT AUTHORIZED, AND IT BEARS NO RESPONSIBILITY FOR, ANY REVISIONS, ALTERATIONS OR DEVIATIONS FROM THIS STANDARD DETAIL."

ADVANCED DRAINAGE SYSTEMS, INC.

DRAWN BY	APPROVED BY	DRAWING #

REVISIONS	
BY	DATE

DIG ALERT
CALL BEFORE YOU DIG!
1-800-227-2600
UNDERGROUND SERVICE ALERT
Call at least 2 working days prior to excavating.

REGISTERED PROFESSIONAL ENGINEER
MARTEN L. ANDERSON
No. 51313
Exp. 6-30-06
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
MARTEN L. ANDERSON
REGISTERED CIVIL ENGINEER NO. 51313
EXPIRATION DATE 6-30-06

RICK ENGINEERING COMPANY
San Diego Riverside Orange Phoenix Tucson
1223 University Ave., Ste. 240 • Riverside, CA 92507-3418 • (951)782-0707 • FAX (951)782-0723 • www.rickeng.com
CITY OF RIVERSIDE BUSINESS TAX CERTIFICATE. No. 35225 EXP. DATE: 07/20/2005
BENCH MARK POINT ID: F4-A1 ELEVATION: 810.933 REF: FB735/7 DATUM: 1929
CALIFORNIA DIVISION OF HIGHWAYS BRAS DISK STAMPED "C/L MONROE" IN WELL AT 40 FEET NORTHERLY ALONG THE CENTERLINE OF MONROE STREET FROM THE INTERSECTION OF MONROE STREET AND INDIANA AVENUE

WDID # 8 33C329138

MARK	REVISIONS	APPR	DATE

DESIGNED BY SGS DRAWN BY ME CHECKED BY MA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER	RK	3/21/05
STREET SERVICES		

APPROVED BY
CITY ENGINEER
DATE 3/21/05

STORM DRAIN PLANS
TRACT 31415
NOTES AND DETAILS

SCALE HORIZ NONE

PW05-0209
D-775
SHEET 2 OF 6
FILE NO.

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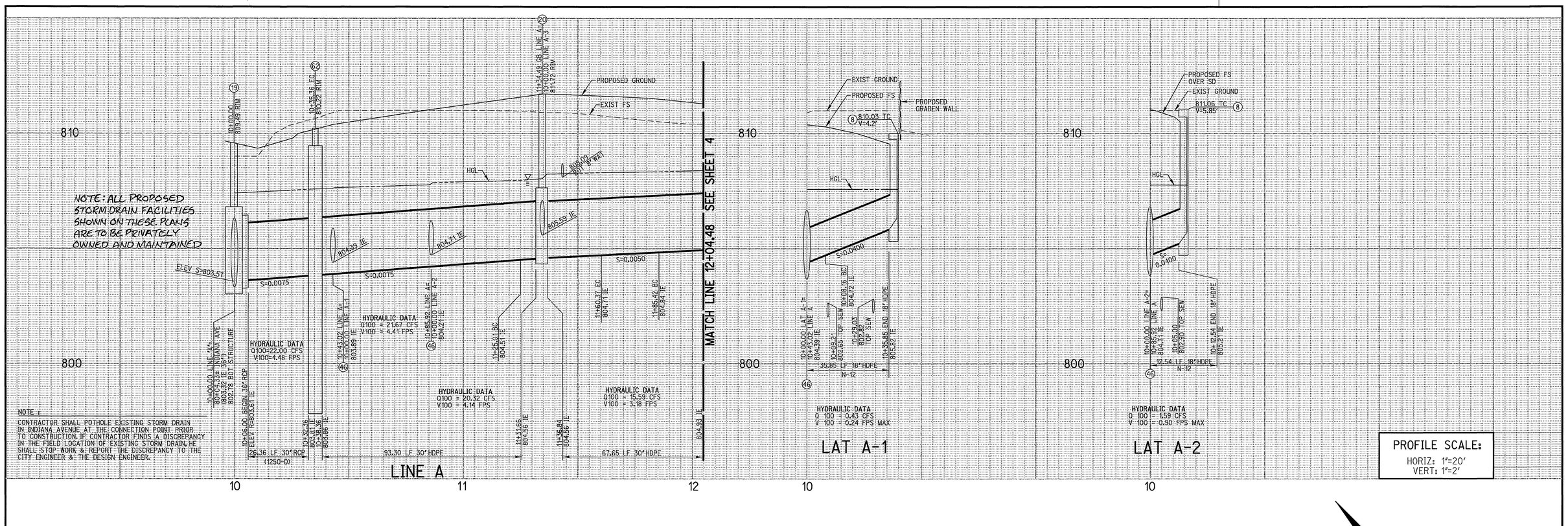
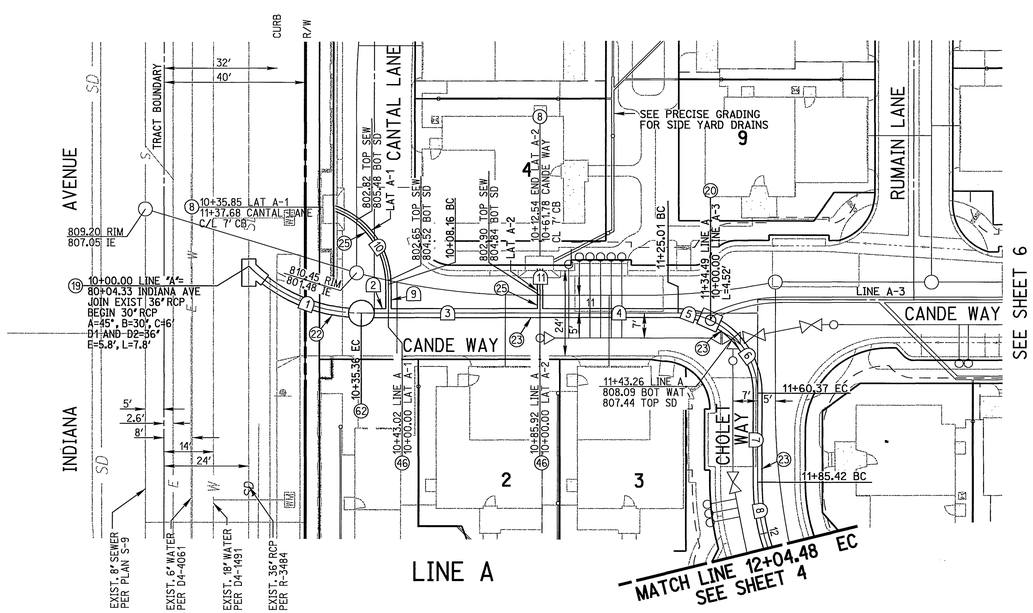
Indexed 3-24-05 KH

PLOT DATE: 17-MAR-2005 JN 14635A



NOTE :
CONTRACTOR SHALL POTHOLE EXISTING STORM DRAIN IN INDIANA AVENUE AT THE CONNECTION POINT PRIOR TO CONSTRUCTION. IF CONTRACTOR FINDS A DISCREPANCY IN THE FIELD LOCATION OF EXISTING STORM DRAIN, HE SHALL STOP WORK & REPORT THE DISCREPANCY TO THE CITY ENGINEER & THE DESIGN ENGINEER.



NOTE :
CONTRACTOR SHALL POTHOLE EXISTING STORM DRAIN IN INDIANA AVENUE AT THE CONNECTION POINT PRIOR TO CONSTRUCTION. IF CONTRACTOR FINDS A DISCREPANCY IN THE FIELD LOCATION OF EXISTING STORM DRAIN, HE SHALL STOP WORK & REPORT THE DISCREPANCY TO THE CITY ENGINEER & THE DESIGN ENGINEER.

CONSTRUCTION NOTES

(8) CONSTRUCT 7' CATCH BASIN PER CITY DWG. 405
(19) CONSTRUCT MANHOLE "JM" PER CITY PER DWG 432
(20) CONSTRUCT MANHOLE "EZ" PER CITY STD 431
(22) CONSTRUCT 30" RCP (D-LOAD PER PLAN) WITH BEDDING PER CITY STD 452 (CASE 1)
(23) INSTALL 30" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT
(25) INSTALL 18" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT
(46) INSTALL 30" X 18" TEE H.D.P.E. (N-12 OR APPROVED EQUIVALENT)
(62) CONSTRUCT VORTEX SEPARATOR PER DETAIL SHEET 2

SCALE: 1" = 20'
20 0 20 40

STORM DRAIN DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGENT
1	45°01'25"	45.00'	35.36'	18.65'
2	N 33°38'45" W		7.66'	
3	N 33°38'45" W		42.89'	
4	N 33°38'45" W		39.10'	
5	24°07'06"	22.50'	9.47'	4.81'
6	65°54'19"	22.50'	25.88'	14.59'
7	N 56°22'40" E		25.05'	
8	18°11'56"	60.00'	19.06'	9.61'
9	N 56°22'40" E		8.16'	
10	70°29'47"	22.50'	27.68'	15.90'
11	N 56°21'15" E		12.54'	

DIG ALERT
CALL BEFORE YOU DIG!
1-800-227-2600
UNDERGROUND SERVICE ALERT
Call at least 2 working days prior to excavating.

REGISTERED PROFESSIONAL ENGINEER MARTEN L. ANDERSON No. 51313 Exp. 6-30-06 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
MARTEN L. ANDERSON
REGISTERED CIVIL ENGINEER NO. 51313
EXPIRATION DATE 6-30-06

RICK ENGINEERING COMPANY
Sun Diego Riverside Orange Phoenix Tucson
1223 University Ave., Ste. 240 • Riverside, CA 92507-3418 • (951)782-0707 • FAX (951)782-0723 • www.rickeng.com
CITY OF RIVERSIDE BUSINESS TAX CERTIFICATE. No. 35225 EXP. DATE: 07/20/2005
BENCH MARK POINT ID: F4-A1 ELEVATION: 810.933 REF: FB735/7 DATUM: 1929
CALIFORNIA DIVISION OF HIGHWAYS BRAS DISK STAMPED "C/L MONROE" IN WELL AT 40 FEET NORTHERLY ALONG THE CENTERLINE OF MONROE STREET FROM THE INTERSECTION OF MONROE STREET AND INDIANA AVENUE

WDID # 8 33C329138

MARK	REVISIONS	APPR	DATE

DESIGNED BY SGS DRAWN BY ME CHECKED BY MA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT
APPROVED BY — BY — DATE
PRINCIPAL ENGINEER
STREET SERVICES
APPROVED BY
CITY ENGINEER
DATE 3/21/05

STORM DRAIN PLANS
TRACT 31415
LINE "A"
10+00.00 TO 12+04.48,
LAT A-1 AND A-2

PW05-0209
D-775
SHEET 3 OF 6
SCALE HORIZ: 1"= 20' VERT: 1"= 2'
FILE NO.

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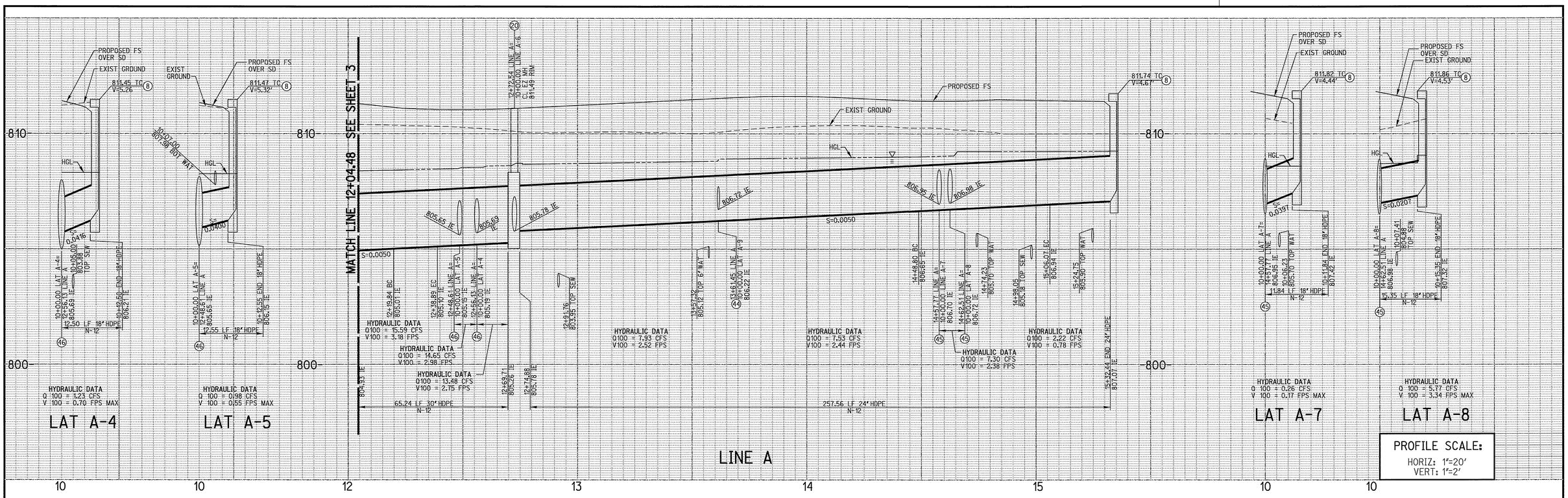
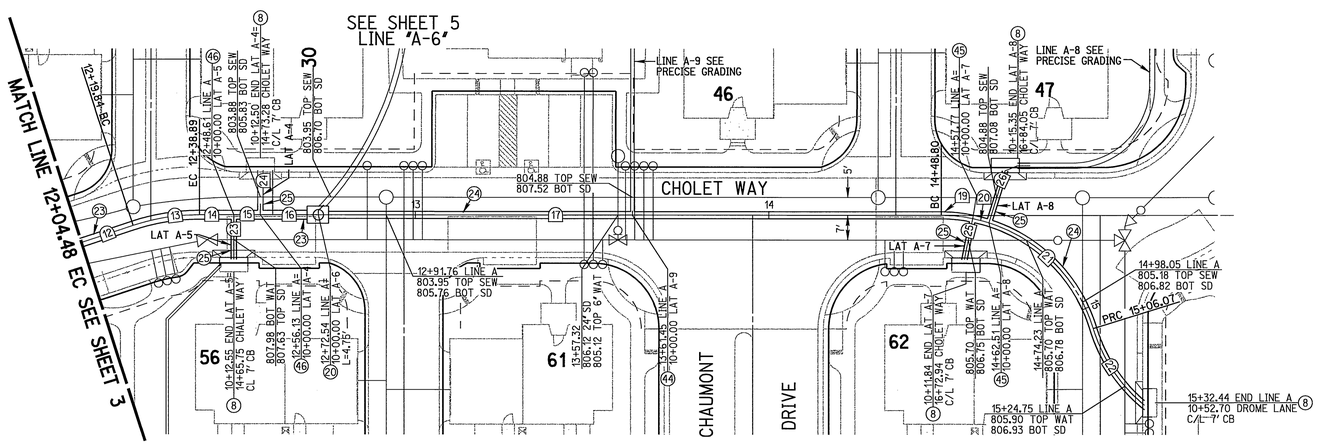
INDEXED 3-24-05
PLOT DATE: 17-MAR-2005 JN 14635A





LINE A

CONSTRUCTION NOTES

(8) CONSTRUCT 7' CATCH BASIN PER CITY DWG 405
(20) CONSTRUCT MANHOLE "EZ" PER CITY STD DWG 431
(23) INSTALL 30" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT
(24) INSTALL 24" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT
(25) INSTALL 18" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT
(44) INSTALL 24" X 12" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)
(45) INSTALL 24" X 18" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)
(46) INSTALL 30" X 18" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)

SCALE: 1" = 20'
20 0 20 40

STORM DRAIN DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGENT
12	N 38°10'43" E		15.36'	
13	18°11'56"	60.00'	19.06'	9.61'
14	N 56°22'40" E		9.72'	
15	N 56°22'40" E		7.51'	
16	N 56°22'40" E		16.41'	
17	N 56°22'40" E		176.25'	
18	NOT USED			
19	11°25'40"	45.00'	8.98'	4.50'
20	6°01'44"	45.00'	4.74'	2.37'
21	55°27'58"	45.00'	43.56'	23.66'
22	33°34'46"	45.00'	26.37'	13.58'
23	N 33°37'20" W		12.50'	
24	N 33°37'20" W		12.55'	
25	N 22°11'40" W		11.84'	
26	N 16°09'56" W		15.35'	

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1-800-227-2600
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Call at least 2 working days prior to excavating.

REGISTERED PROFESSIONAL ENGINEER
MARTEN L. ANDERSON
No. 51313
Exp. 6-30-06
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
MARTEN L. ANDERSON
REGISTERED CIVIL ENGINEER NO. 51313
EXPIRATION DATE 6-30-06

RICK ENGINEERING COMPANY
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CITY OF RIVERSIDE BUSINESS TAX CERTIFICATE. No. 35225 EXP. DATE: 07/20/2005
BENCH MARK POINT ID: F4-AT ELEVATION: 810.933 REF: FB735/7 DATUM: 1929
CALIFORNIA DIVISION OF HIGHWAYS BRAS DISK STAMPED "C/L MONROE" IN WELL AT 40 FEET NORTHERLY ALONG THE CENTERLINE OF MONROE STREET FROM THE INTERSECTION OF MONROE STREET AND INDIANA AVENUE

WDID # 8 33C329138

MARK	REVISIONS	APPR	DATE

DESIGNED BY SGS DRAWN BY ME CHECKED BY MA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

	BY	DATE
APPROVED BY PRINCIPAL ENGINEER		3/1/05
STREET SERVICES		

APPROVED BY
CITY ENGINEER
DATE 3/4/05

STORM DRAIN PLANS
TRACT 31415
LINE "A"
12+04.48 TO 15+32.44,
A-4,A-5,A-7 AND A-8

PW05-0209
D-775
SHEET 4 OF 6

SCALE
HORIZ: 1"= 20' VERT: 1"= 2'

FILE NO.

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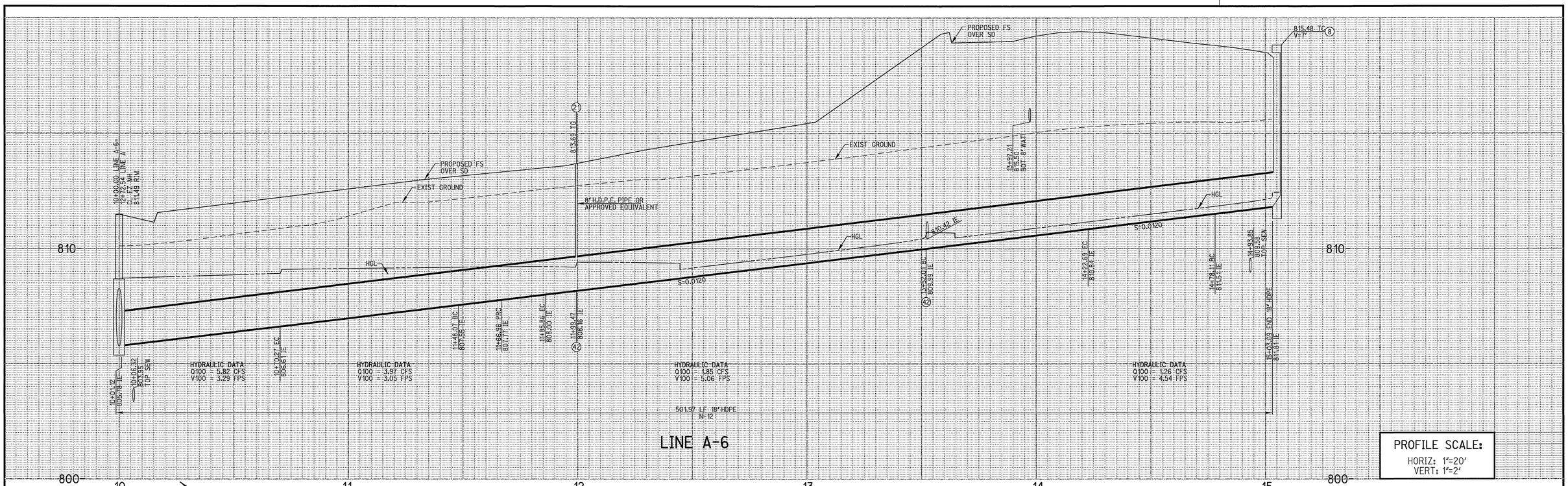
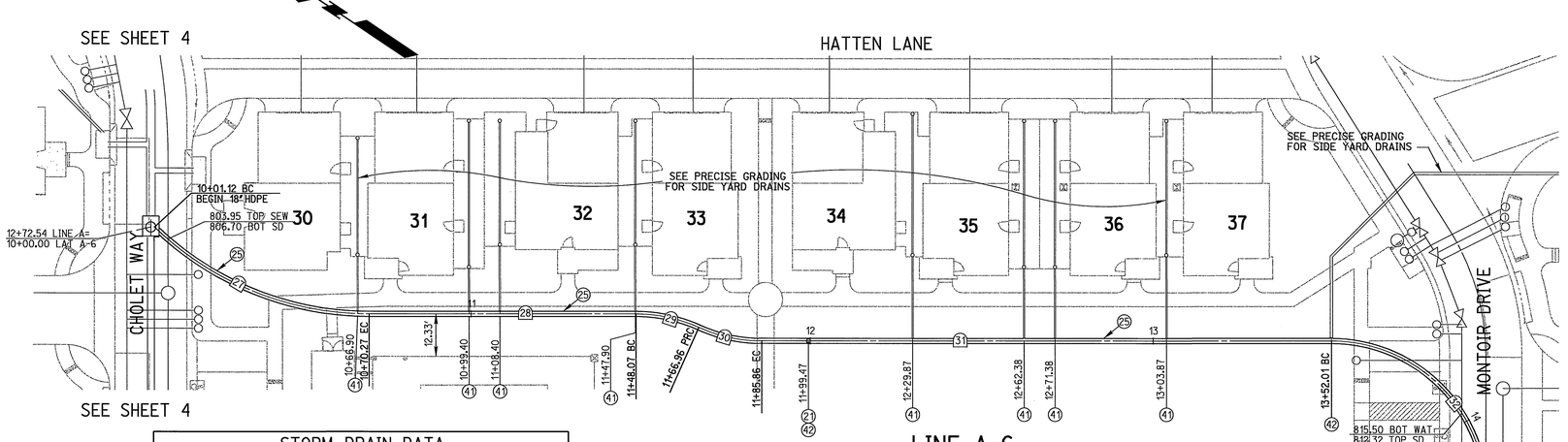
INDEXED 3-24-05 LH

PLOT DATE: 17-MAR-2005 JN 14635A



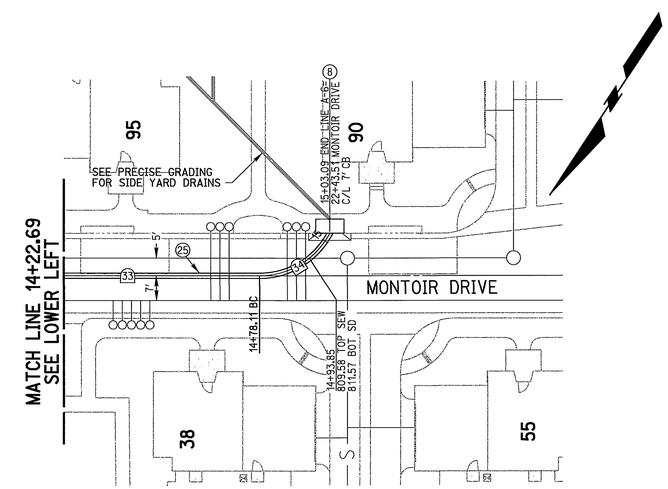
LINE A-6

PROFILE SCALE:
HORIZ: 1"=20'
VERT: 1"=2'



LINE A-6

MATCH LINE 14+22.69
SEE UPPER RIGHT



STORM DRAIN DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGENT
27	44°01'01"	90.00'	69.14'	36.38'
28	N 33°38'46" W		77.80'	
29	24°03'30"	45.00'	18.90'	9.59'
30	24°03'30"	45.00'	18.90'	9.59'
31	N 33°38'46" W		166.15'	
32	89°59'59"	45.00'	70.69'	45.00'
33	N 56°21'13" E		55.41'	
34	63°36'44"	22.50'	24.98'	13.95'

CONSTRUCTION NOTES

8 CONSTRUCT 7' CATCH BASIN PER CITY DWG 405

21 INSTALL 12" X 12" IRON GRATE WITH 8" RISER (NDS 1213 + 1221 OR EQUIVALENT)

25 INSTALL 18" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT

41 INSTALL 18" X 4" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)

42 INSTALL 18" X 8" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)

SCALE: 1" = 20'
20 0 20 40

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1-800-227-2600
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Call at least 2 working days prior to excavating.

REGISTERED PROFESSIONAL ENGINEER
MARTEN L. ANDERSON
No. 51313
Exp. 6-30-06
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
MARTEN L. ANDERSON
REGISTERED CIVIL ENGINEER NO. 51313
EXPIRATION DATE 6-30-06

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San Diego Riverside Orange Phoenix Tucson
1223 University Ave., Ste. 240 • Riverside, CA 92507-3418 • (951)782-0707 • FAX (951)782-0723 • www.rickeng.com
CITY OF RIVERSIDE BUSINESS TAX CERTIFICATE, No. 35225 EXP. DATE: 07/20/2005
BENCH MARK POINT ID: F4-A1 ELEVATION: 810.933 REF: FB735/7 DATUM: 1929
CALIFORNIA DIVISION OF HIGHWAYS BRAS DISK STAMPED "C/L MONROE" IN WELL AT 40 FEET NORTHERLY ALONG THE CENTERLINE OF MONROE STREET FROM THE INTERSECTION OF MONROE STREET AND INDIANA AVENUE

WDID # 8 33C329138

MARK	REVISIONS	APPR	DATE

DESIGNED BY SGS DRAWN BY ME CHECKED BY MA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		3/21/05
STREET SERVICES		

APPROVED BY
CITY ENGINEER
DATE 3/21/05

STORM DRAIN PLANS
TRACT 31415
LINE A-6
10+00.00 TO 15+03.09

PW05-0209
D-775
SHEET 5 OF 6
SCALE
HORIZ: 1" = 20' VERT: 1" = 2'
FILE NO.

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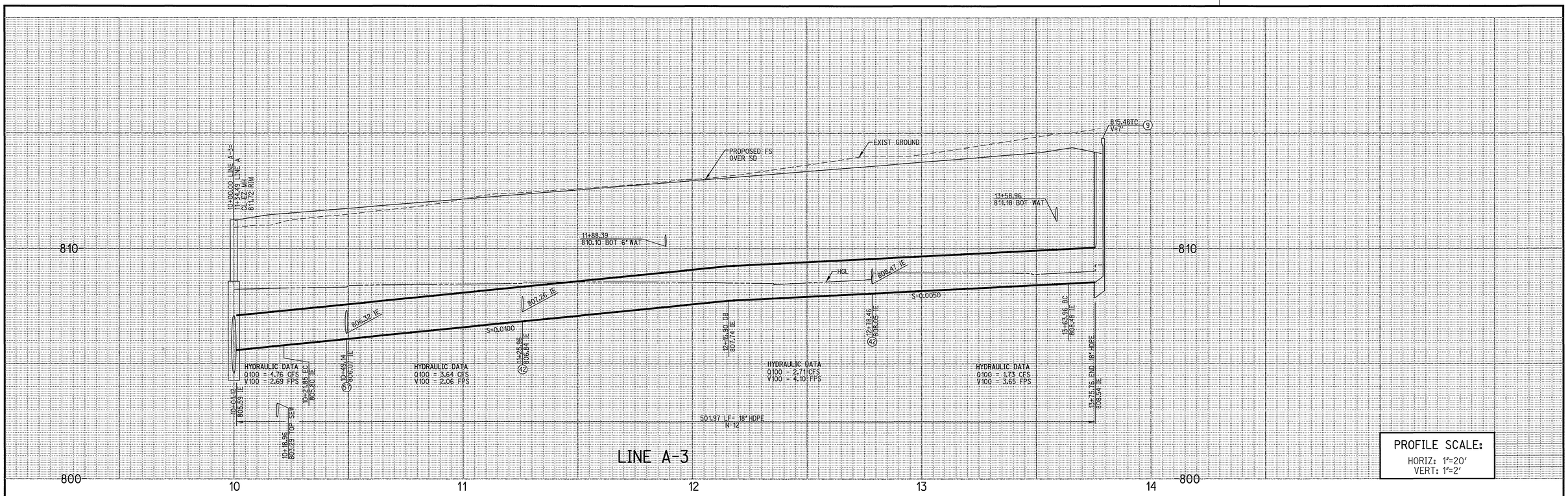
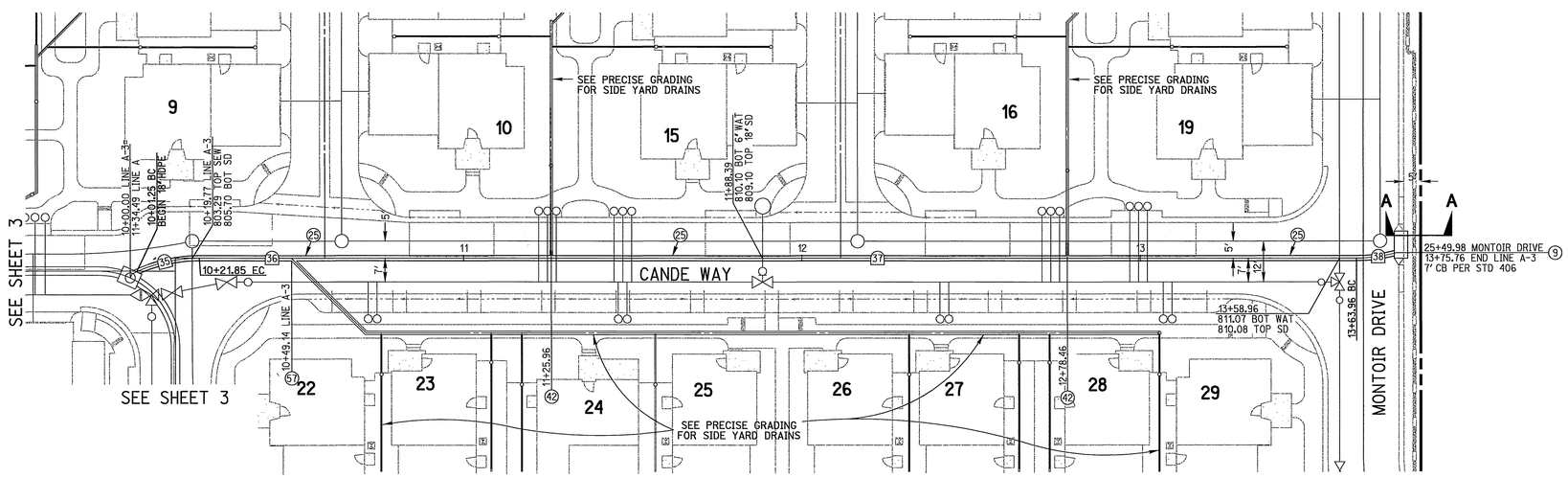
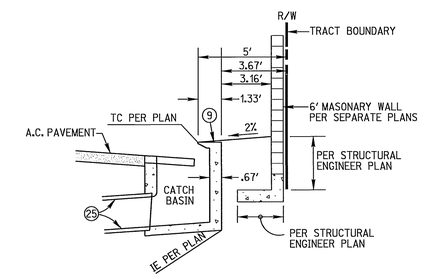
INDEXED 3-24-05 GH

PLOT DATE: 17-MAR-2005 JN 14635A







SECTION A-A
NOT TO SCALE

STORM DRAIN DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	TANGET
35	26°14'01"	45.00'	20.60'	10.49'
36	N 33°38'45" W		27.28'	
37	N 33°38'45" W		314.82'	
38	15°01'32"	45.00'	11.80'	5.93'

LINE A-3

CONSTRUCTION NOTES

(9) CONSTRUCT 7' CATCH BASIN PER CITY DWG 406

(25) INSTALL 18" ADS N-12 H.D.P.E. PIPE OR APPROVED EQUIVALENT

(42) INSTALL 18" X 8" H.D.P.E. TEE (N-12 OR APPROVED EQUIVALENT)

(57) INSTALL 18" X 12" H.D.P.E. WYE (N-12 OR APPROVED EQUIVALENT)

SCALE: 1" = 20'
20 0 20 40

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Exp. 6-30-06
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CITY OF RIVERSIDE BUSINESS TAX CERTIFICATE. No. 35225 EXP. DATE: 07/20/2005
BENCH MARK POINT ID: F4-A1 ELEVATION: 810.933 REF: FB1357/7 DATUM: 1929
CALIFORNIA DIVISION OF HIGHWAYS BRAS DISK STAMPED "C/L MONROE" IN WELL AT 40 FEET NORTHERLY ALONG THE CENTERLINE OF MONROE STREET FROM THE INTERSECTION OF MONROE STREET AND INDIANA AVENUE

WDID # 8 33C329138

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CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

	BY	DATE
APPROVED BY PRINCIPAL ENGINEER		3/14/05
STREET SERVICES		

APPROVED BY
CITY ENGINEER
DATE 3/16/05

STORM DRAIN PLANS
TRACT 31415
LINE A-3
10+00.00 TO 13+75.76

PW05-0209
D-775
SHEET 6 OF 6
FILE NO.

SCALE
HORIZ: 1"= 20' VERT: 1"= 2'

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PLOT DATE: 17-MAR-2005 JN 14635A