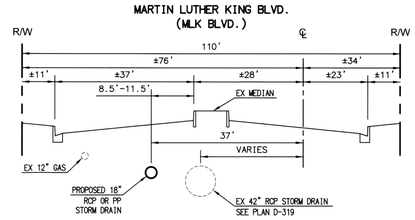
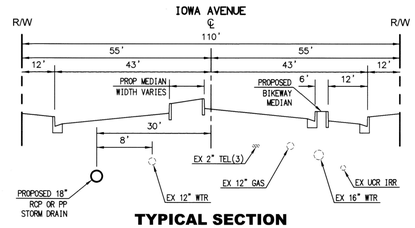
RIVERSIDE CALIFORNIA

PUBLIC WORKS DEPARTMENT
IOWA AVENUE STORM DRAIN IMPROVEMENTS

(FROM MARTIN LUTHER KING BLVD. TO UNIVERSITY AVENUE)



TYPICAL SECTION
NOT TO SCALE
STORM DRAIN MAIN LINE
STATION 10+00 TO 12+00



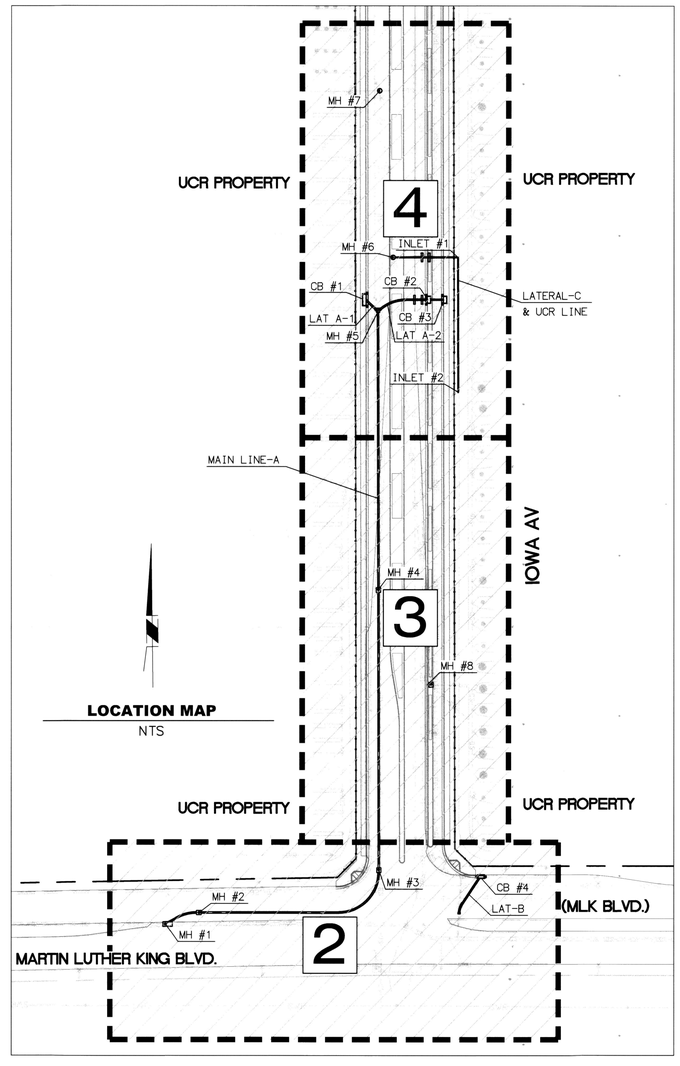
TYPICAL SECTION
NOT TO SCALE
STORM DRAIN MAIN LINE
STATION 12+66.31 EC TO 18+90.60

CONSTRUCTION NOTES:

- (Hexagon) NUMBERS ABOVE 100 IN A HEXAGON ON THE PLAN REFER TO THE RESPECTIVE STANDARD DRAWING AND SHALL BE CONSTRUCTED ACCORDINGLY, UNLESS MODIFICATIONS ARE NOTED ON THE PLAN OR COVER SHEET. ANY NUMBER SHOWN BELOW THE STANDARD DRAWING NUMBER INDICATES THE SPECIFIC ALTERNATE TO BE CONSTRUCTED.
- PIP/XX — PROTECT IN PLACE, DESCRIPTION PER PLAN: (CRB) CURB. (C&G) CURB & GUTTER. (ELEC) ELECTRICAL LINE. (GAS) GAS LINE. (TEL) TELEPHONE/FIBER LINE (SD) STORM DRAIN LINE. (WTR) WATERLINE.
- REM/XX — REMOVE AND DISPOSE OF EXISTING IMPROVEMENTS, DESCRIPTION PER PLAN: (SD) STORM DRAIN LINE. (CB) CATCH BASIN.
- ABN/XX — ABANDON OF EXISTING IMPROVEMENTS PER SPECIAL PROVISIONS, DESCRIPTION PER PLAN: (SD) STORM DRAIN LINE. (CB) CATCH BASIN.
- ADJ/XX — ADJUST STORM DRAIN MANHOLE FRAME AND COVER TO FINISHED GRADE.
- RCP/12" — FURNISH AND INSTALL 12" RCP, (D-LOAD: 2000) OR PROFILE POLYPROPYLENE (PP) PIPE.
- RCP/18" — FURNISH AND INSTALL 18" RCP, (D-LOAD: 2000) OR PROFILE POLYPROPYLENE (PP) PIPE.
- SD/12" — FURNISH AND INSTALL 12" HDPE PIPE.
- CB — FURNISH AND INSTALL 12"x12"x12" DRAINAGE BASIN, WITH 90 DEGREE HORIZONTAL BEND. SEE DETAIL ON SHEET 4; UTILIZE COUPLING TO CONNECT PVC DRAINAGE BASIN TO RCP STORM DRAIN LINE. (ALL CONNECTIONS SHALL BE GASKETED)
- CB/RSR — FURNISH AND INSTALL 12" HDPE PIPE RISER, HEIGHT VARIES (GASKETED CONNECTION).
- CB/GRT — FURNISH AND INSTALL 12" ATRIUM GRATE
- CB/ELB — FURNISH AND INSTALL 12" PVC 90 DEGREE ELBOW (GASKETED CONNECTION).
- 431/XX — CONSTRUCT JUNCTION STRUCTURE PER CITY STD 432 WITH THE FOLLOWING MODIFICATION (XX): (M1) = MODIFY ALL EXISTING, AND PROPOSED STORM DRAIN LINES TO CONNECT TO MANHOLE STRUCTURE. FRAME AND COVER TO MATCH FINISHED SURFACE.
- MH/251 — CONSTRUCT JUNCTION STRUCTURE PER RCFC & WCD STD MH251 WITH THE FOLLOWING MODIFICATION: EXPOSE AND RECONSTRUCT EXISTING MANHOLE PER RCFC & WCD STD MH251. RAISE FRAME AND COVER TO FINISHED GRADE. RECONSTRUCT CURB MEDIAN TO ACCOMMODATE PROPER SPACING FOR MANHOLE COVER.
- 451/XX — CONSTRUCT JUNCTION STRUCTURE PER CITY STD 451 WITH THE FOLLOWING MODIFICATION (XX): (M1) = VERTICAL SECTION OF EXISTING SHAFT SHALL BE CUT DOWN LOW ENOUGH TO RECONSTRUCT PER CITY STD 451. FRAME AND COVER MATCH TO FINISHED SURFACE.
- 452/XX — CONSTRUCT PIPE BEDDING PER CITY OF RIVERSIDE STANDARD NO. 452, CASE III, 3/4" CRUSHED ROCK; CASE IV, CSLM SHALL BE UTILIZED WHEN TOP OF PIPE IS LESS THAN 3.5'. CSLM SHALL BE INSTALLED TO BOTTOM OF CAB WHEN THICKNESS OF BACKFILL IS LESS THAN 1.5'.
- 453 — CONSTRUCT TRENCH BACKFILL (10 FEET WIDE) PER CITY OF RIVERSIDE STANDARD NO. 453 AND THE REST OF THE STREET WIDTH SHALL BE SLURRY SEAL (AS DESCRIBED IN THE SPECIAL PROVISIONS).
- ENC — ENCASE EXISTING PIPE AT CROSSING PER CITY STD 452, CASE IV; MINIMUM 10 FEET LENGTH.
- VID — VIDEO INSPECTION AND CLEANING OF EXISTING UTILITY PIPE PER SPECIAL PROVISIONS.

EXISTING TOPOGRAPHY:

- SANITARY SEWER M.H.
- STORM DRAIN M.H.
- ELECTRIC M.H.
- WATER M.H.
- TELEPHONE M.H.
- TRAFFIC SIGN
- CATCH BASIN
- ELECTRICAL TEST STATION (PIPELINE)
- GATE VALVE
- FIRE HYDRANT
- BLOW-OFF VALVE
- WATER METER
- STREET LIGHT ON MAST ARM
- POWER POLE
- GUY ANCHOR
- PALM TREE
- MISC. TREE
- EDGE OF PAVEMENT



LOCATION MAP
NTS

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC AS INDICATED IN THE ASSOCIATED PROJECT SPECIAL PROVISIONS.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE STANDARD DRAWINGS AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2012 EDITION.
3. EXISTING UTILITIES SHOWN ON THIS PLAN ARE PLOTTED FROM UTILITY RECORDS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO LOCATE AND PROTECT ALL UTILITIES WHETHER OR NOT SHOWN ON THIS PLAN.
4. CONFLICTING UTILITIES SHOWN WITHIN CONSTRUCTION AREA WILL BE RELOCATED PRIOR TO CONSTRUCTION.
5. ALL STREET PULL BOXES, GATE VALVES, MANHOLES, ETC, AFFECTED BY CONSTRUCTION, SHALL BE ADJUSTED TO THE PROPOSED GRADE.
6. PRIME CONTRACTOR COMPLETING WORK FOR ENTIRE PROJECT SHALL HAVE A CLASS "A" LICENSE.
7. THE SEAM BETWEEN PASSES OF THE AC OVERLAY SHALL COINCIDE, AS CLOSE AS POSSIBLE, TO THE LANE LINES.
8. COLD MILLING SHALL BE AS DESCRIBED ON THE PLANS AND SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
9. ANY DISTRESSED EXISTING PAVEMENT SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEERING AFTER COLD-MILLING AND PRIOR TO PLACEMENT OF DGAC.
10. ALL EXISTING IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO: CURB, GUTTERS, AC BERM, CROSS GUTTERS, SIDEWALK, DRIVEWAYS, PARKWAY CULVERTS, INLETS, ETC, SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
11. EXISTING IRRIGATION SHALL BE PROTECTED OR MODIFIED, INCLUDING FURNISHING NEW MATERIALS, AS NECESSARY TO CONSTRUCT NEW CONCRETE IMPROVEMENTS.
12. ADEQUATE FLOW LINES SHALL BE MAINTAINED AT ALL LOCATIONS.
13. THE CONTRACTOR SHALL CALL IN A UTILITY LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (U.S.A.) TOLL FREE 811, TWO WORKING DAYS BEFORE DIGGING. NO CONSTRUCTION PERMIT WILL BE ISSUED BY PUBLIC WORKS DEPARTMENT INVOLVING EXCAVATION FOR UNDERGROUND UTILITIES UNLESS THE APPLICANT HAS BEEN PROVIDED AN INQUIRY IDENTIFICATION NUMBER BY U.S.A..
14. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY AGENCIES REGARDING TEMPORARY SUPPORT AND SHORING REQUIREMENTS FOR THE VARIOUS UTILITY CROSSINGS SHOWN ON THESE PLANS. ALL UTILITIES SHALL BE PROTECTED IN PLACE EXCEPT AS NOTED ON PLANS AND SPECIFICATIONS.
15. THE CONTRACTOR SHALL UTILIZE EITHER REINFORCED CONCRETE PIPE (RCP) OR PROFILE POLYPROPYLENE PIPE (PP). THE CONTRACTOR SHALL SUBMIT MATERIAL TYPE CHOICE TO ENGINEER FOR APPROVAL.

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND NOTES
2	STA. 10+00 TO STA. 13+00 AND LATERAL-B
3	STA. 13+00 TO 17+50
4	STA. 17+50 TO 18+90.60 AND LATERALS (A-1, A-2 AND C)

As Built 5/03/23 B.O

BENCHMARK 18-H3
ELEVATION: 1000.223
DATUM: (NGVD 1929)
P.K. NAIL AND CITY ENGINEER TAG IN THE TOP OF CURB, 2 FEET NORTHERLY OF THE NORTHEAST CURB RETURN AT IOWA AVENUE AND EVERTON PLACE.

CALL BEFORE YOU DIG — Underground Service Alert of Southern California
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

CITY OF RIVERSIDE

ENGINEER IN RESPONSIBLE CHARGE
Edward Lara
Edward Lara
R.C.E. No. 63753 EXPIRES: 9-30-20
DATE November 19, 2019

REGISTERED PROFESSIONAL ENGINEER — EDWARD LARA — No. 63753 — Exp. 9-30-20 — CIVIL — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY CN DRAWN BY CN CHECKED BY EL

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
ENGINEERING MANAGER	FM	12/12/19
CONSTRUCTION ADMIN.	DC	12/16/19
TRAFFIC DIVISION	NM	12/12/19
SURVEY	CB	12/18/19
STREETS		

APPROVED BY
CITY ENGINEER
DATE 12-12-19

STORM DRAIN IMPROVEMENTS

IOWA AVENUE
STORM DRAIN IMPROVEMENTS

TITLE SHEET AND NOTES

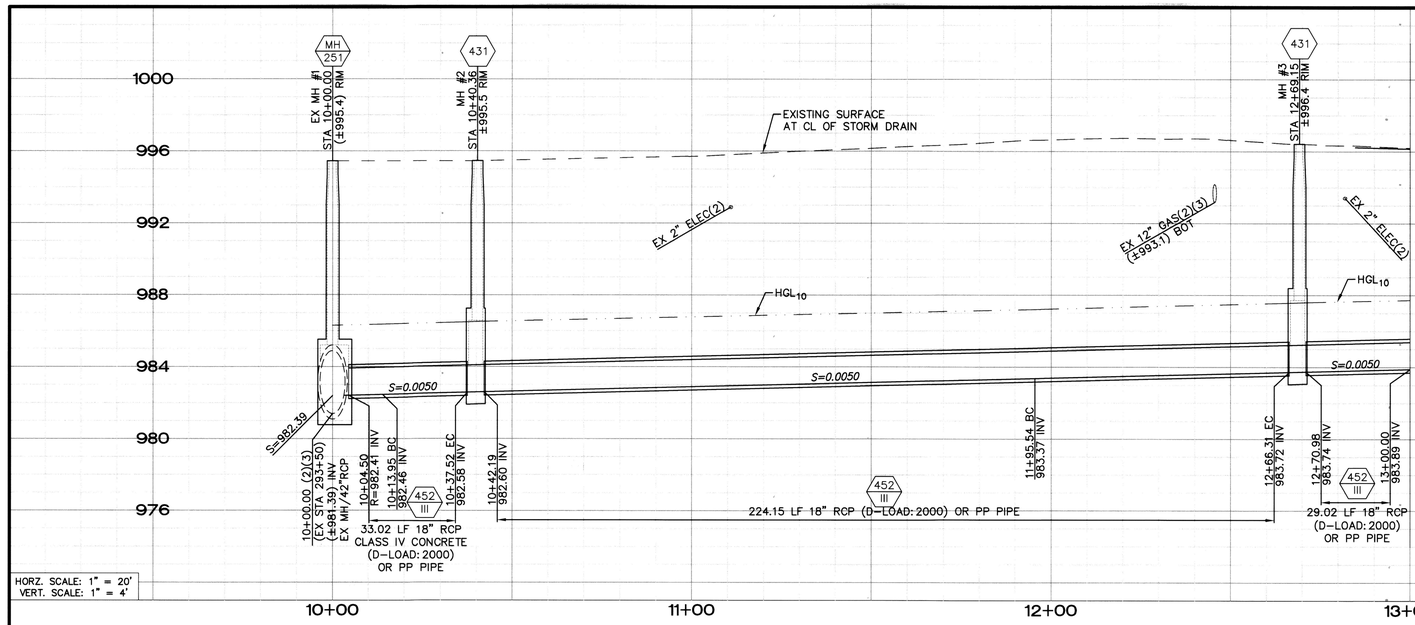
HORIZ. SCALE: NA VERT. SCALE: NA

DESIGN WORK ORDER NO.: 1906545
CONSTR. WORK ORDER NO.: 1906546

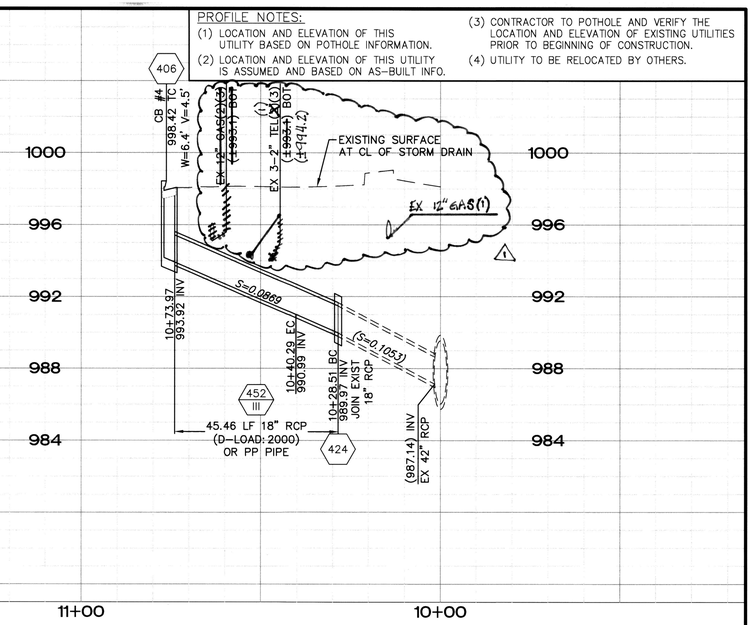
D-904

SHEET 01 OF 04

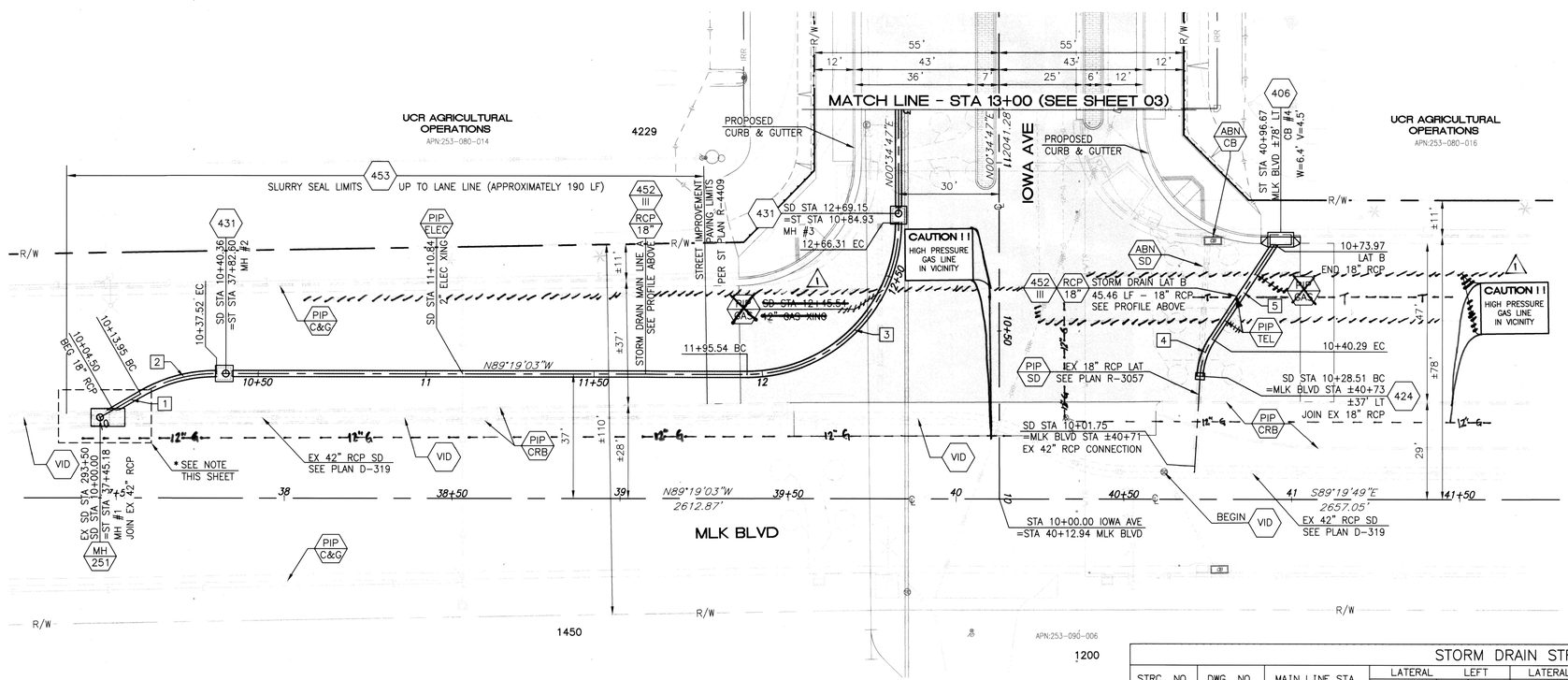
FILE NAME: D904-01.DWG



MAIN LINE - A



LATERAL B



* EXISTING MANHOLE, PAVED OVER. RECONSTRUCT USING RCFC&WCD STD. DWG. MH251. RAISE MANHOLE RIM TO FINISHED SURFACE AND RECONSTRUCT MEDIAN CURB AND CONCRETE TO ACCOMMODATE MANHOLE.

CURVE/LINE TABLE

#	DELTA/BEARING	RADIUS	LENGTH	TANGENT
1	N60°40'52"E	--	9.45'	--
2	30°00'06"	45.00'	23.56'	12.06'
3	90°06'10"	45.00'	70.77'	45.08'
4	30°00'00"	22.50'	11.78'	6.03'
5	N33°58'36"E	--	35.44'	--

STORM DRAIN STRUCTURE DATA TABLE

STRC. NO.	DWG. NO.	MAIN LINE STA.	LATERAL LEFT ANGLE	LATERAL LEFT B	LATERAL LEFT C'	LATERAL RIGHT ANGLE	LATERAL RIGHT B	LATERAL RIGHT C'	D_1	D_2	H	E'	F	T	L	L'	ELEV. R	ELEV. S
MH #2	431	10+40.36	-	-	-	-	-	-	18"	18"	4.0'	-	-	8"	4.0'	-	-	-
MH #3	431	12+69.15	-	-	-	-	-	-	18"	18"	4.0'	-	-	8"	4.0'	-	-	-

As Built 5/03/23 B.O

SCALE: 1"=20'

20 10 0 20 40 60
SCALE

Under Ground Service Alert of Southern California
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

CITY OF RIVERSIDE

ENGINEER IN RESPONSIBLE CHARGE
Edward Lara
Edward Lara
R.C.E. No. 63753 EXPIRES: 9-30-20
DATE November 19, 2019

REGISTERED PROFESSIONAL ENGINEER EDWARD LARA No. 63753 Exp. 9-30-20 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE
1	REVISE EX. PIPE XING & LABELS	EL	1-31-20

DESIGNED BY CN DRAWN BY CN CHECKED BY EL

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
ENGINEERING MANAGER	FM	12/12/19
CONSTRUCTION ADMIN.	DC	12/10/19
TRAFFIC DIVISION	NM	12/12/19
SURVEY	CS	12/13/19
STREETS		

APPROVED BY
CITY ENGINEER
DATE 12-12-19

STORM DRAIN IMPROVEMENTS

IOWA AVENUE
STORM DRAIN IMPROVEMENTS

10+00 TO 13+00 AND LAT-B

HORIZ. SCALE: 1"=20' VERT. SCALE: 1"=4'

DESIGN WORK ORDER. NO.: 1906545
CONSTR. WORK ORDER. NO.: 1906546

D-904

SHEET 02 OF 04

FILE NAME: D904-02.DWG

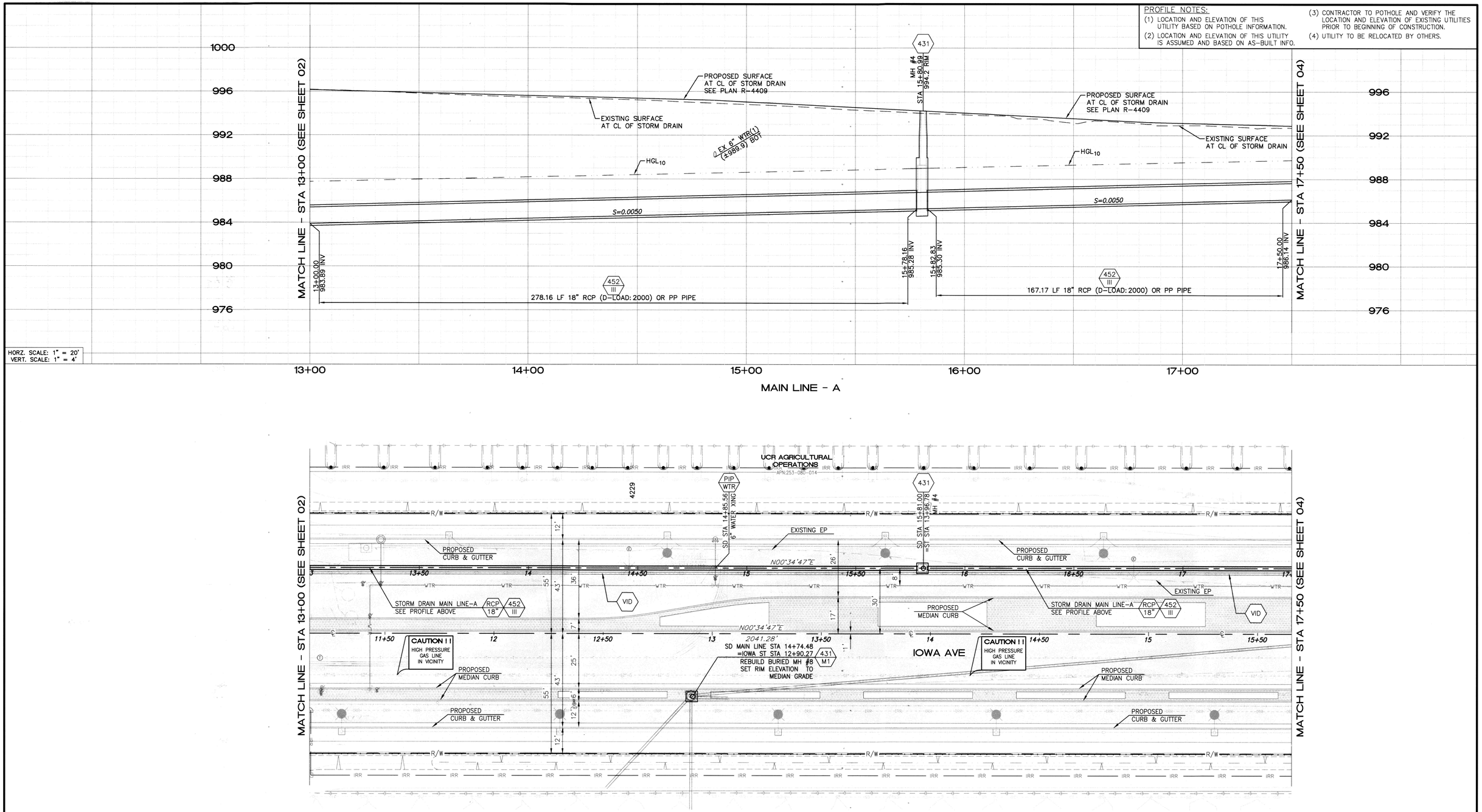
PROFILE NOTES:

(1) LOCATION AND ELEVATION OF THIS UTILITY BASED ON POTHOLE INFORMATION.

(2) LOCATION AND ELEVATION OF THIS UTILITY IS ASSUMED AND BASED ON AS-BUILT INFO.

(3) CONTRACTOR TO POTHOLE AND VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.

(4) UTILITY TO BE RELOCATED BY OTHERS.



STORM DRAIN STRUCTURE DATA TABLE																		
STRC. NO.	DWG. NO.	MAIN LINE STA.	LATERAL LEFT ANGLE	LATERAL LEFT B	LATERAL LEFT C'	LATERAL RIGHT ANGLE	LATERAL RIGHT B	LATERAL RIGHT C'	D_1	D_2	H	E'	F	T	L	L'	ELEV. R	ELEV. S
MH #4	431	15+81.00	–	–	–	–	–	–	18"	18"	4.0'	–	–	8"	4.0'	–	–	–

As Built 5/03/23 B.O

SCALE: 1"=20'

20 10 0 20 40 60

SCALE

Under Ground Service Alert of Southern California

Call: TOLL FREE 1-800 227-2600

TWO WORKING DAYS BEFORE YOU DIG

CITY OF RIVERSIDE

ENGINEER IN RESPONSIBLE CHARGE

Edward Lara

Edward Lara

R.C.E. No. 63753 EXPIRES: 9-30-20

DATE November 19, 2019

REGISTERED PROFESSIONAL ENGINEER EDWARD LARA No. 63753 Exp. 9-30-20 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY CN DRAWN BY CN CHECKED BY EL

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
ENGINEERING MANAGER	FM	12/2/19
CONSTRUCTION ADMIN.	DC	12/16/19
TRAFFIC DIVISION	NM	12/12/19
SURVEY	CS	12/13/19
STREETS		

APPROVED BY CITY ENGINEER

DATE 12-13-19

STORM DRAIN IMPROVEMENTS

IOWA AVENUE
STORM DRAIN IMPROVEMENTS

13+00 TO 17+50

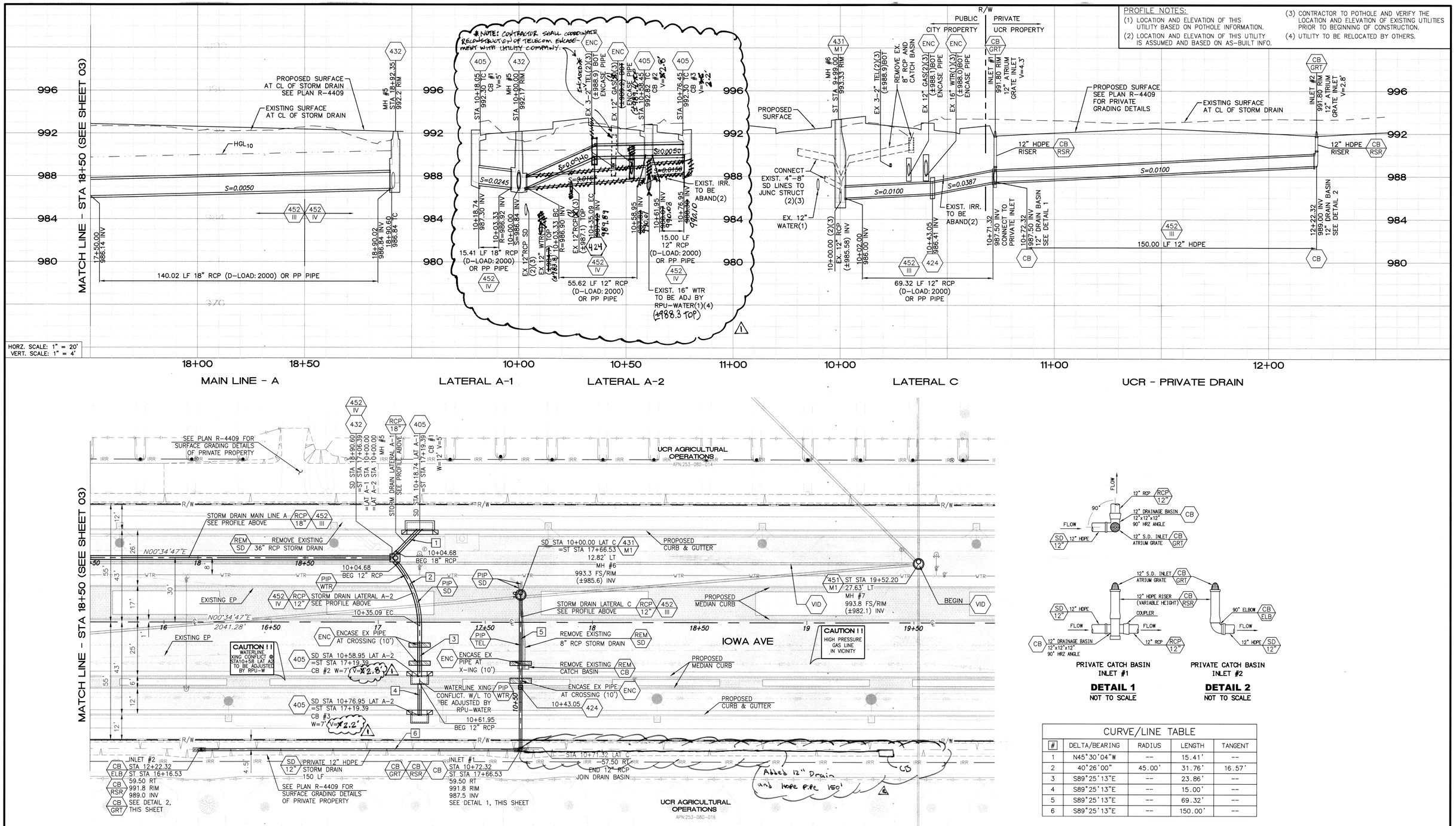
HORIZ. SCALE: 1"=20' VERT. SCALE: 1"=4'

DESIGN WORK ORDER NO.: 1906545
CONSTR. WORK ORDER NO.: 1906546

D-904

SHEET 03 OF 04

FILE NAME: D904-03.DWG



CURVE/LINE TABLE

#	DELTA/BEARING	RADIUS	LENGTH	TANGENT
1	N45°30'04"W	--	15.41'	--
2	40°26'00"	45.00'	31.76'	16.57'
3	S89°25'13"E	--	23.86'	--
4	S89°25'13"E	--	15.00'	--
5	S89°25'13"E	--	69.32'	--
6	S89°25'13"E	--	150.00'	--

STORM DRAIN STRUCTURE DATA TABLE

STRC. NO.	DWG. NO.	MAIN LINE STA.	LATERAL ANGLE	LEFT B	LEFT C'	LATERAL ANGLE	RIGHT B	RIGHT C'	D_1	D_2	H	E'	F	T	L	L'	ELEV. R	ELEV. S
MH 5	432	18+90.60	45°00'00"	18"	3.75'	45°00'00"	18"	3.75'	18"	18"	-	3.75'	4.5"	-	5.5'	4.75'	986.95'	986.84'
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

As Built 5/03/23 B.O

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MARK	REVISIONS	APPR.	DATE
3	Added Drain / C13	E.L.	5-8-23
2	REVISE LAT A-2 PROFILE AND EXIST. UTILITY XING DATA	E.L.	1-31-22

DESIGNED BY CN DRAWN BY CN CHECKED BY EL

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
ENGINEERING MANAGER	FM	12/2/19
CONSTRUCTION ADMIN.	DC	12/6/19
TRAFFIC DIVISION	NM	12/12/19
SURVEY	⌂	12/13/19
STREETS		

APPROVED BY
CITY ENGINEER
DATE 12-12-19

STORM DRAIN IMPROVEMENTS

IOWA AVENUE
STORM DRAIN IMPROVEMENTS

STA. 17+50 TO 18+90.60 AND LATS A-1, A-2 AND C

HORIZ. SCALE: 1"=20' VERT. SCALE: 1"=4'

DESIGN WORK ORDER. NO.: 1906545
CONSTR. WORK ORDER. NO.: 1906546

D-904

SHEET 04 OF 04

FILE NAME: D904-04.DWG