DEPARTMENT OF PUBLIC WORKS

Mayor:
CAROLYN G. GOODMAN

City Council:
STAVROS S. ANTHONY (Mayor Pro-Tem)
LOIS TARKANIAN
STEVEN D. ROSS
RICKI Y. BARLOW
BOB COFFIN
BOB BEERS

City Manager:
ELIZABETH N. FRETWELL

Director of Public Works:
JORGE CERVANTES, P.E., P.T.O.E.

City Engineer:
DAVID N. BOWERS, P.E., P.T.O.E.

Funded By:
CITY OF LAS VEGAS
SANITATION FUND

SEWER REHABILITATION GROUP C

CLV BID NO. 14.45001

carollo

Reviewed By:

CITY ENGINEER	4/28/14 DATE
CITY PROJECT MANAGER	4/28/14 DATE
CITY TRAFFIC ENGINEER	4/23/14 DATE
CITY CONSTRUCTION MANAGER	4/23/14 DATE
SOUTHWEST GAS CORPORATION	4/7/14 DATE
"CENTRAL TELEPHONE COMPANY, D/B/A CENTURYLINK"	4/7/14 DATE

THE AFFIXED "CENTRAL TELEPHONE COMPANY, D/B/A CENTURYLINK" APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND/OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

COX COMMUNICATIONS LAS VEGAS, INC.	4/7/14 DATE
NV ENERGY – DISTRIBUTION	4.7.14 DATE

NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

NV ENERGY – TRANSMISSION	4-7-14 DATE

APPROVED FOR CONSTRUCTION
M. ISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070
SHEETS: CV, GN, ...

THE SIGNATURES ABOVE ACKNOWLEDGES THAT THE UTILITY COMPANY REPRESENTATIVE HAS REVIEWED THE PLANS, AND THAT TO THE BEST OF HIS OR HER KNOWLEDGE THE UTILITY LINES ARE SHOWN IN THE CORRECT LOCATIONS AND ARE THE CORRECT SIZES. WHILE SUCH DATA HAS BEEN COLLECTED WITH REASONABLE CARE, THERE IS NO EXPRESSED OR IMPLIED GUARANTEE THAT THE LOCATIONS ARE EXACT. THE CONTRACTOR SHALL BEAR THE RESPONSIBILITY OF OBTAINING THE ACTUAL FIELD LOCATIONS.

THE SIGNATURE ABOVE FURTHER ACKNOWLEDGES THAT THE UTILITY COMPANY DOES NOT ANTICIPATE CONSTRUCTION OR MAINTENANCE IN THE PROJECT AREA FOR FIVE (5) YEARS IN CONFORMANCE WITH THE CLV NO-CUT POLICY.

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

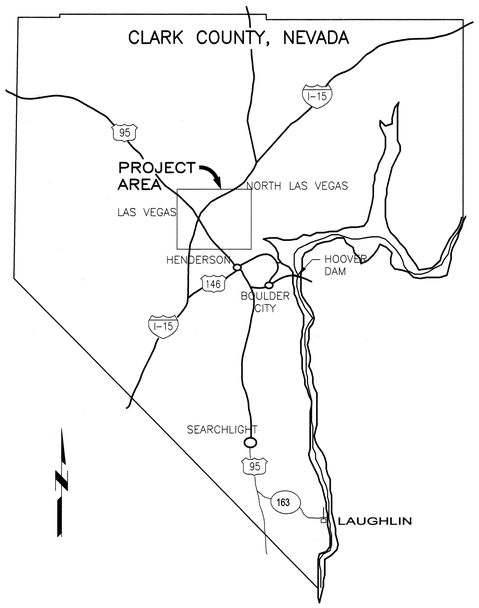
CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: AAF
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: COVER SHEET

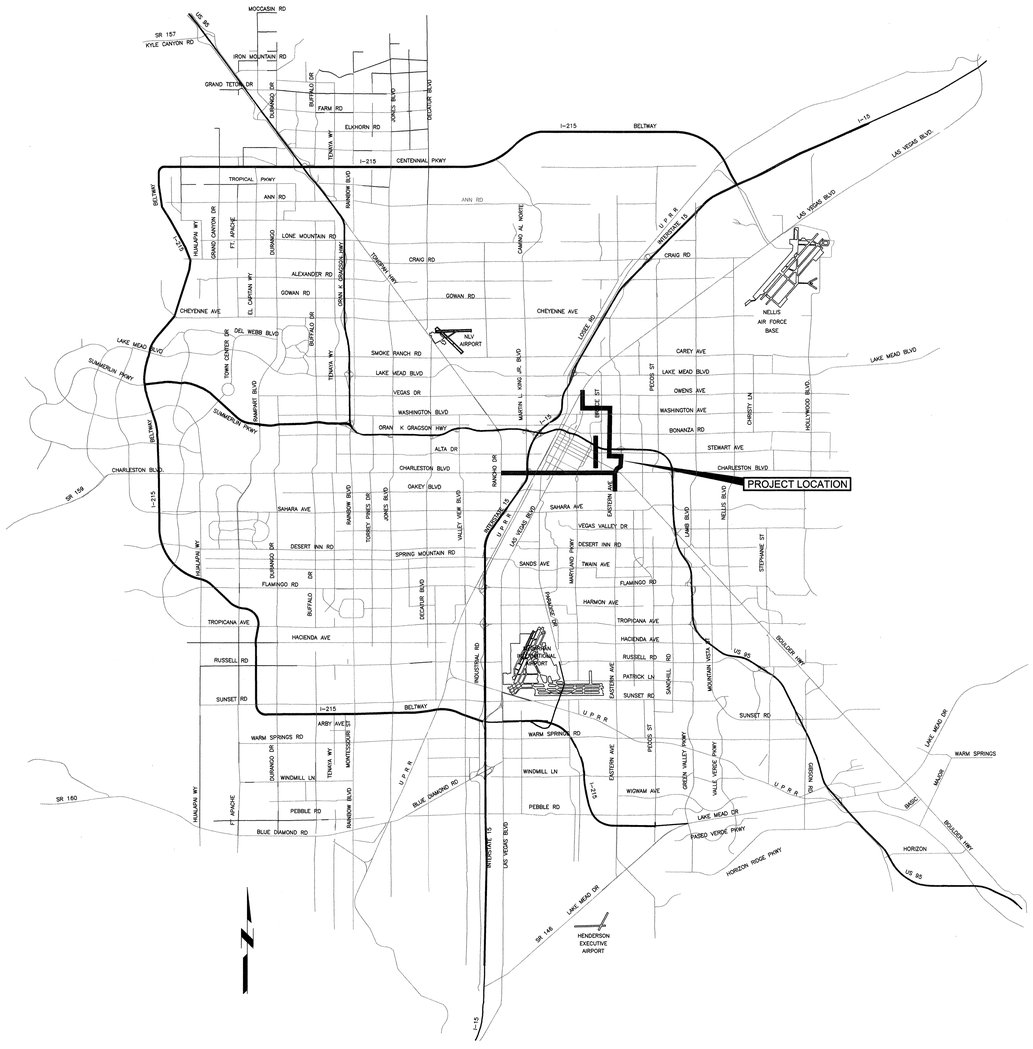
REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA MICHAEL FLEURY Exp. 06-30-15 CIVIL No. 20947 4/1/14

Sheet
G-1
1 of 62
DRAWING NO.
307V1067



LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE

SHEET INDEX

1.	G-1	COVER SHEET
2.	G-2	LOCATION MAP, VICINITY MAP & SHEET INDEX
3.	G-3	KEY MAP
4.	G-4	KEY MAP
5.	G-5	GENERAL ABBREVIATIONS, LEGEND & SYMBOLS
6.	G-6	DESIGN DATA
7.	G-7	GENERAL NOTES
8.	G-8	GENERAL NOTES FOR CIVIL DRAWINGS
9.	G-9	SURVEY HORIZONTAL COORDINATES
10.	C-1	15TH ST. PLAN & PROFILE STA 1+00 TO STA 7+50
11.	C-2	15TH ST. PLAN STA 7+50 TO STA 17+00
12.	C-3	15TH ST. PLAN & PROFILE STA 17+00 TO STA 26+00
13.	C-4	15TH ST. PLAN STA 26+00 TO STA 39+33±
14.	C-5	MESQUITE AVE. PLAN STA 1+00 TO STA 19+50
15.	C-6	MESQUITE AVE. PLAN STA 19+50 TO STA 37+50
16.	C-7	MESQUITE AVE. PLAN STA 37+50 TO STA 39+69±
17.	C-8	EASTERN AVE. PLAN STA 1+00 TO STA 14+50
18.	C-9	EASTERN AVE. PLAN STA 14+50 TO STA 22+00
19.	C-10	EASTERN AVE. PLAN STA 22+00 TO STA 26+70
20.	C-11	CHARLESTON BLVD. PLAN & PROFILE STA 10+00 TO STA 19+00
21.	C-12	CHARLESTON BLVD. PLAN & PROFILE STA 28+50 TO STA 37+00
22.	C-13	CHARLESTON BLVD. PLAN & PROFILE STA 37+00 TO STA 46+50
23.	C-14	CHARLESTON BLVD. PLAN STA 46+50 TO STA 64+50
24.	C-15	CHARLESTON BLVD. PLAN STA 64+50 TO STA 82+00
25.	C-16	CHARLESTON BLVD. PLAN STA 82+00 TO STA 100+00
26.	C-17	CHARLESTON BLVD. PLAN STA 100+00 TO STA 117+50
27.	C-18	CHARLESTON BLVD. PLAN STA 117+50 TO STA 135+50
28.	C-19	CHARLESTON BLVD. PLAN STA 135+50 TO STA 154+00
29.	C-20	CHARLESTON BLVD. PLAN STA 154+00 TO STA 161+00
30.	C-21	CHARLESTON BLVD. PLAN & PROFILE STA 161+00 TO STA 169+50±
31.	C-22	25TH ST. PLAN & PROFILE STA 1+00 TO STA 9+50
32.	C-23	25TH ST./EASTERN AVE. PLAN STA 9+50 TO STA 15+12±
33.	C-24	23RD ST. PLAN & PROFILE STA 1+00 TO STA 9+28±
34.	C-25	23RD ST. PLAN STA 1+00 TO STA 18+00
35.	C-26	23RD ST. PLAN STA 18+00 TO STA 24+55±
36.	C-27	21ST ST. PLAN STA 1+00 TO STA 17+00
37.	C-28	21ST ST. PLAN STA 17+00 TO STA 23+43±
38.	C-29	LAS VEGAS BLVD./FOREMASTER LANE PLAN STA 1+00 TO STA 18+00
39.	C-30	FOREMASTER LANE/BRUCE ST. PLAN STA 18+00 TO STA 40+10±
40.	BP-1	FLOW BYPASS PLAN 15TH ST. STA 1+00 TO STA 7+50
41.	BP-2	FLOW BYPASS PLAN 15TH ST. STA 7+50 TO STA 17+00
42.	BP-3	FLOW BYPASS PLAN 15TH ST. STA 17+00 TO STA 26+00
43.	BP-4	FLOW BYPASS PLAN 15TH ST. STA 26+00 TO STA 39+33±
44.	BP-5	FLOW BYPASS PLAN EASTERN AVE. STA 1+00 TO STA 14+50
45.	BP-6	FLOW BYPASS PLAN EASTERN AVE. STA 14+50 TO STA 22+00
46.	BP-7	FLOW BYPASS PLAN EASTERN AVE. STA 22+00 TO STA 26+70±
47.	BP-8	CHARLESTON BLVD. PLAN & PROFILE STA 10+00 TO STA 19+00
48.	BP-9	FLOW BYPASS PLAN CHARLESTON BLVD. STA 28+50 TO STA 37+00
49.	BP-10	CHARLESTON BLVD. PLAN & PROFILE STA 37+00 TO STA 46+50±
50.	BP-11	CHARLESTON BLVD. PLAN STA 154+00 TO STA 161+00±
51.	BP-12	FLOW BYPASS PLAN 25TH ST. STA 1+00 TO STA 9+50
52.	BP-13	FLOW BYPASS PLAN 25TH ST./EASTERN AVE STA 9+50 TO STA 15+12±
53.	BP-14	FLOW BYPASS PLAN 23RD ST. STA 1+00 TO STA 9+28±
54.	BP-15	FLOW BYPASS PLAN 23RD ST. TO 19TH ST.
55.	BP-16	FLOW BYPASS PLAN 23RD ST. STA 1+00 TO STA 18+00
56.	BP-17	FLOW BYPASS PLAN 23RD ST. STA 18+00 TO STA 24+55±
57.	BP-18	FLOW BYPASS PLAN 21ST ST. STA 1+00 TO STA 17+00±
58.	BP-19	FLOW BYPASS PLAN FOREMASTER LANE/BRUCE ST.
59.	CD-1	STANDARD DETAILS
60.	CD-2	STANDARD DETAILS
61.	CD-3	FLOW BYPASS DETAILS
62.	CD-4	TRENCH DETAILS

APPROVED FOR CONSTRUCTION

N. DISHARI FOR D. AMEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

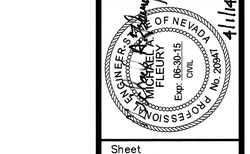
DESIGNED BY: MAF
DRAWN BY: XXX
CHECKED BY: GAG

DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: LOCATION MAP, VICINITY MAP & SHEET INDEX



Sheet G-2
2 of 62
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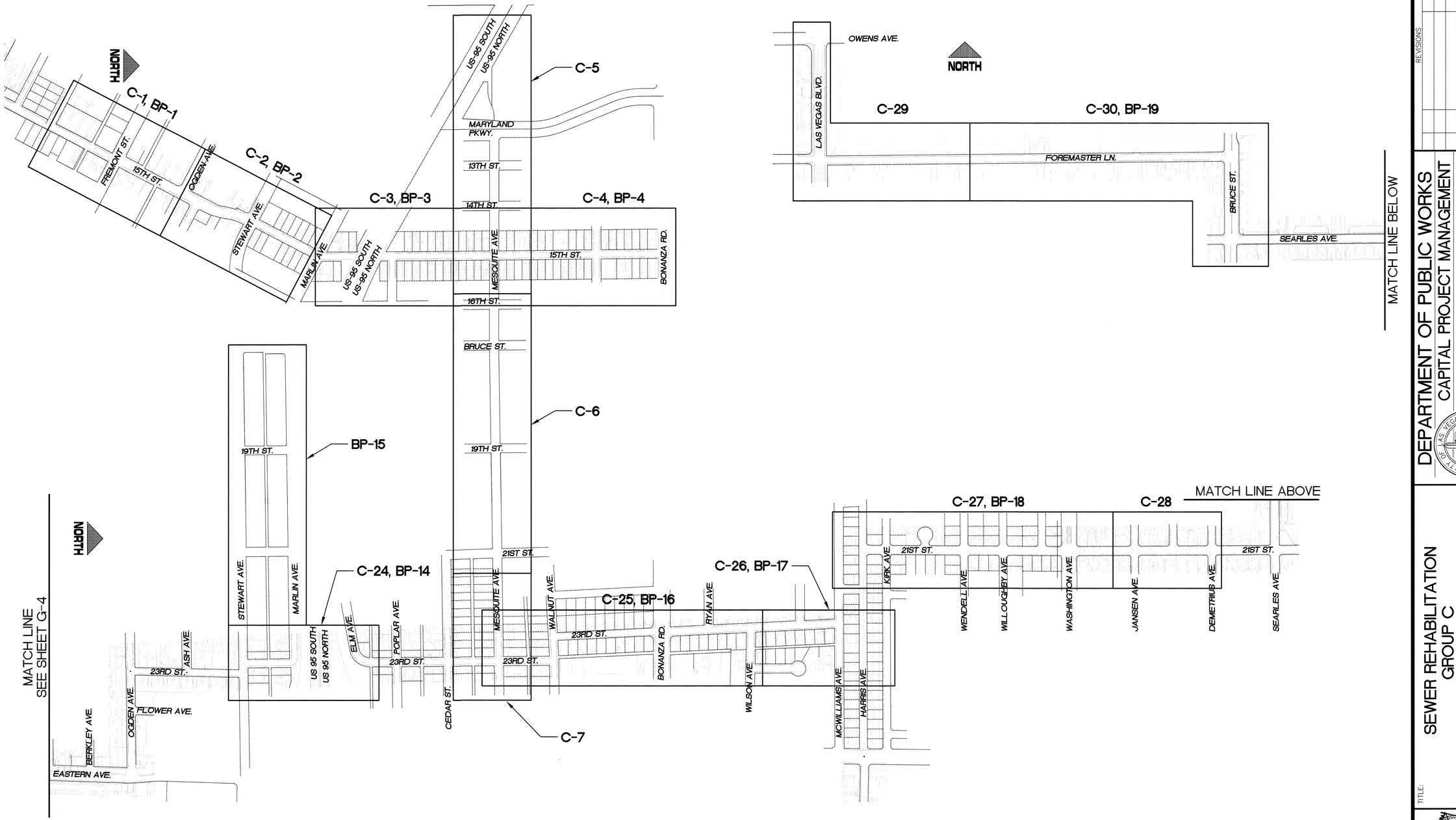


KEY MAP
NOT TO SCALE

APPROVED FOR CONSTRUCTION
M. Dishar for Doa Meade
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

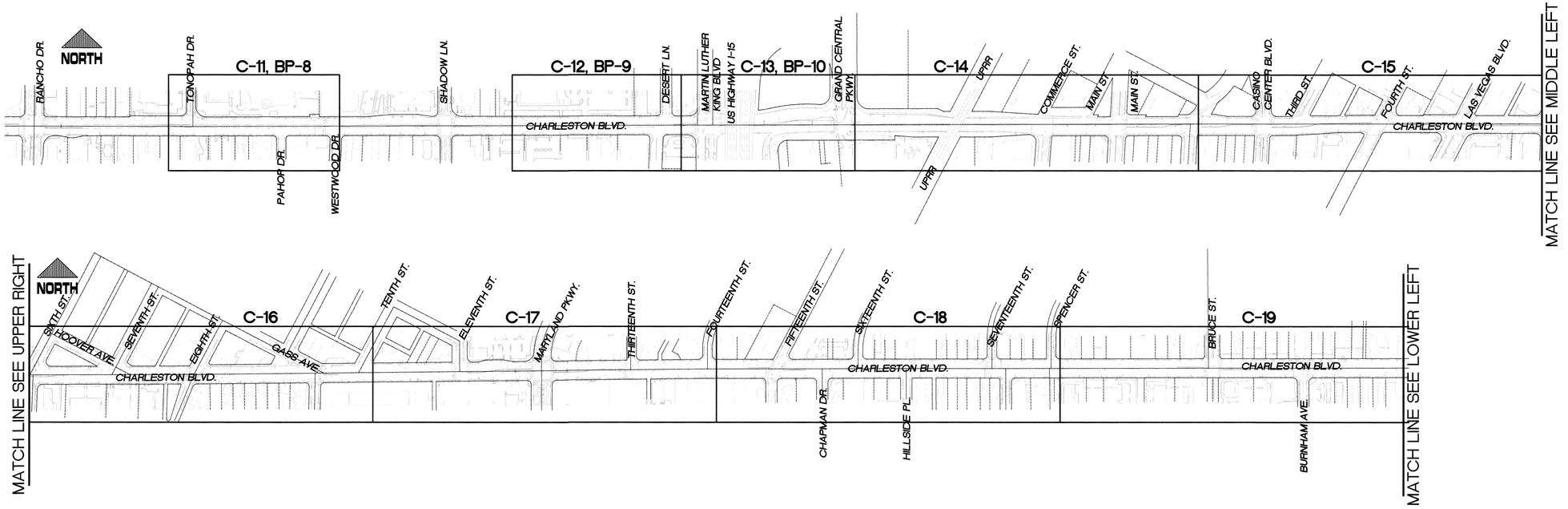
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: KEY MAP

STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20947
PROFESSIONAL ENGINEER
4/11/14

Sheet
G-3
3 of 62
DRAWING NO.
307V1067



KEY MAP
NOT TO SCALE

APPROVED FOR CONST.RUCTION
Y. DISHARI FOR DON MEADE
LAS VEGAS VALLEY WATER DIST.RICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY MCCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: KEY MAP

MICHAEL A. FLEURY
STATE OF NEVADA
Exp: 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/11/14

Sheet
G-4
4 of 62
DRAWING NO.
3071067

ABBREVIATIONS

@	AT
&	AND
Ø	DIAMETER
#	NUMBER
AB, ABAN	ABANDONED
AC	ASPHALTIC CONCRETE
ACP	ASBESTOS CEMENT PIPE
ADDL	ADDITIONAL
AGG	AGGREGATE
AIP	ABANDONED IN PLACE
ALT	ALTERNATE
APN	ASSESSOR'S PARCEL NUMBER
APP'D	APPROVED
APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIAL
AVE	AVENUE
AVG	AVERAGE
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BDR	BORDER
BDRY	BOUNDARY
BEG	BEGINNING
BLDG	BUILDING
BFV	BUTTERFLY VALVE
BLVD	BOULEVARD
BM	BENCHMARK
BTM	BOTTOM
BVC	BEGIN VERTICAL CURVE
BW	BACK OF SIDEWALK
C–C	CENTER TO CENTER
CATV	CABLE TELEVISION
CC	CLARK COUNTY
CF	CURB FACE
CFS	CUBIC FEET PER SECOND
C&G	CURB & GUTTER
CIP	CAST IRON PIPE
CIPP	CURED IN PLACE PIPE
C/L OR CL	CENTERLINE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLV	CITY OF LAS VEGAS
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COMM	COMMERCIAL
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUED
COR	CORNER
CSAP	CORRUGATED STEEL ARCH PIPE
CSP	CORRUGATED STEEL PIPE
COL	COLUMN
CULV	CULVERT
CY	CUBIC YARD
DB	DIRECT BURIED
DC	DEPRESSED CURB
DEPT	DEPARTMENT
DI	DROP INLET
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DMH	DROP MANHOLE
DR	DRIVE
DWG	DRAWING
DWY	DRIVEWAY
E	EAST
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
EF	EACH FACE
EL, ELEV	ELEVATION
ELEC	ELECTRICAL
EOC	ELECTRIC
EMBK	EMBANKMENT
EO	EDGE OF OIL
EOP	EDGE OF PAVEMENT
ESMT	EASEMENT
EVC	END VERTICAL CURVE
EW	EACH WAY
EX, EXIST	EXISTING
FA	FIRE ALARM
FC	FACE OF CURB
FD	FOUND
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
F/L	FLOW LINE
FL, FLG	FLANGE
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED PIPE
FRPMP	FIBERGLASS REINFORCED POLYMER MORTAR PIPE
FT	FOOT OR FEET
G	GAS
GALV	GALVANIZED
GB	GRADE BREAK
GM	GAS METER
GR	GAS PRESSURE REGULATOR
GUT	GUTTER
GV	GATE VALVE
GW	GUY WIRE
HDWL	HEADWALL
HORIZ	HORIZONTAL
HP	HIGH POINT/HIGH PRESSURE
HWY	HIGHWAY
I	INTERSTATE, RADIUS DELTA
ID	INSIDE DIAMETER
IN	INCH
INT	INTERSECTION
INV	INVERT
IRR	IRRIGATION
ISL	ISLAND
J	JUNCTION
JB	JUNTION BOX

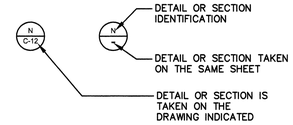
L	LENGTH
LAT	LATERAL
LF	LINEAL, LINEAR FEET
LOC	LENGTH OF CURB
LN	LANE
LP	LOW POINT
LS	LANDSCAPE
LT	LEFT
LVVWD	LAS VEGAS VALLEY WATER DISTRICT
MAX	MAXIMUM
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MLCP	MORTAR LINED AND COATED PIPE
MON	MONOLITHIC
MPH	MILES PER HOUR
MSDS	MSDS MAERIAL SAFETY DATA SHEET
N	NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NO	NUMBER
N/O	NORTH OF
NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
NE	NORTHEAST
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NV	NEVADA
NVE	NV ENERGY
O/C, OC	ON CENTER
OD	OUTSIDE DIAMETER
OG	OPEN–GRADE PAVEMENT, ORIGINAL GRADE
OHE	OVERHEAD ELECTRIC
OHP	OVERHEAD POWER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P	POWER
PB	PULLBOX
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PCP	PORTLAND CEMENT PAVEMENT
PE	POLYETHYLENE
PG	PAD GRADE
PHP	PLASTIC HIGH PRESSURE
PI	POINT OF INTERSECTION
PIP	PROTECT IN PLACE
PKWY	PARKWAY
P/L	PROPERTY LINE
PL	PLACE, PLATE
PLG	PLASTIC GAS
PP	POWER POLE
PROP	PROPOSED
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
Q	RATE OF FLOW
R	RADIUS
RC	REINFORCED CONCRETE
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REHAB	REHABILITATION
REINF	REINFORCED
RELOC	RELOCATE
RP	RADIAL POINT
RR	RAILROAD
RT	RIGHT
RTE	ROUTE
ROW, R/W	RIGHT–OF–WAY
S/O	SOUTH OF
S	SOUTH, SLOPE
SCCP	STEEL CYLINDER CONCRETE PIPE
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FOOT, FEET
SG	STEEL GAS
SHP	STEEL HIGH PRESSURE
SHT	SHEET
SIM	SIMILAR
SL	STREETLIGHT
SLV	SLEEVE
SMH	SEWER MANHOLE
SNWA	SOUTHERN NEVADA WATER AUTHORITY
SP	SPECIAL PROVISION
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SURV	SURVEY
SW	SIDEWALK, SOUTHWEST
SWG	SOUTHWEST GAS COMPANY
SY	SQUARE YARD
T	TELEPHONE
T&B	TOP & BOTTOM
TBA	TO BE ADJUSTED
TBR	TO BE REMOVED
TEL	TELEPHONE
TEMP	TEMPORARY
TMH	TOP OF MANHOLE
TOC	TOP OF CURB
TOP	TOP OF PIPE
TOW	TOP OF WALL
TRANS	TRANSITION
TS	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
TSI	TRAFFIS SIGNAL INTERCONNECT
TYP	TYPICAL
UG	UNDERGROUND
UGT	UNDERGROUND TELEPHONE
UGE	UNDERGROUND ELECTRIC
UGP	UNDERGROUND POWER
UPRR	UNION PACIFIC RAILROAD
UFC	UNIFORM FIRE CODE
USD	UNIFORM STANDARD DRAWING
VAR	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VG	VALLEY GUTTER
W	WATER, WEST
W/	WITH
W/O	WEST OF
W	WEST, WATER
WC	WHEEL CHAIR
WM	WATER METER
WV	WATER VALVE
YD	YARD

LEGEND AND SYMBOLS

- CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EXISTING FENCE
- —X" E— EXISTING ELECTRIC
- -X" OH E- EXISTING OVERHEAD ELECTRIC
- -X" GAS- EXISTING GAS
- —X" SS— EXISTING SEWER
- —X" SD— EXISTING STORM DRAIN
- -X" TEL- EXISTING TELEPHONE
- X" OH TEL EXISTING OVERHEAD TELEPHONE
- -X" CATV- EXISTING CABLE TELEVISION
- —X" W— EXISTING WATER
- EXISTING SEWER TO BE REHABILITATED BY FULL CIPP OR SECTIONAL LINER
- DIRECTION OF FLOW
- EXISTING SEWER TO BE REHABILITATED WITH SECTIONAL LINER

- AREA LIGHT
- BENCHMARK
- ELEC. VAULT/CABINET
- ELECTRIC MANHOLE
- ELECTRIC METER
- FIRE HYDRANT
- FOUND MONUMENT
- GAS METER
- GAS VALVE
- IRR. CONTROLLER
- IRR. VALVE
- LOOP DETECTOR
- SIDEWALK RAMP
- SIGN
- MANHOLE
- MANHOLE TO BE REHABILITATED
- (FM) FLOW MONITORING SITE
- STORM DRAIN INLET
- STORM DRAIN MH
- STREET LIGHT
- STREET LIGHT PB
- TELEPHONE MH
- TELEPHONE PB
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL PB
- TV PULLBOX
- UTILITY POLE
- UTILITY POLE GUY WIRE
- UTILITY VAULT
- WATER VAULT/CABINET
- WATER MANHOLE
- WATER METER
- WATER VALVE

DRAWING CROSS REFERENCE



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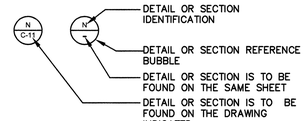
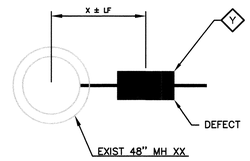


AT CROSS REFERENCE

GENERAL POINT DEFECT ENLARGED DETAIL



NOTES:

1. X = APPROX DISTANCE FROM CENTER OF EXISTING MH TO C/L OF DEFECT.
2. ◇Y REHABILITION METHODS CALLED OUT IN CONSTRUCTION NOTES. REHABILITATION DETAILS ARE SHOWN ON SHEET CD–2
3. SEE DWGS FOR MH'S TO BE REHABILITATED.

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: AAF
CHECKED BY: GAG
DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: GENERAL ABBREVIATIONS, LEGEND & SYMBOLS

ENGINEER'S CERTIFICATE
STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/1/14

Sheet G-5
5 of 62
DRAWING NO. 307V1067

carollo

PROJECT PIPELINES

1	2	3	4	5	6	7	8
SHEET NO.	UP MH NO.	DOWN MH. NO.	PIPE DIA (IN)	LATERALS (NO.)	PIPE LENGTH (FT)	PIPE MATERIAL	REHAB METHOD
C-1	DN-863	DN-864	15	5	"355" (3)	VCP	CIPP (1)
C-1/C-2	DN-864A	DN-703	15	10	288	VCP	CIPP
C-2	DN-703	DN-1074	15	14	"491" (3)	VCP	CIPP (1)
C-3	DN-1059	DN-1057	15	17	449	VCP	CIPP
C-3	DN-1057	DN-1048	15	16	317	VCP	CIPP
C-4	DN-649	DN-978	15	13	"299" (3)	VCP	CIPP (2)
C-4	DN-979	DN-338	15	11	411	VCP	CIPP
C-8	EA-442	EA-441	21	2	125 (3)	VCP	CIPP (1)
C-8	EA-429	EA-461	21	2	"234"	VCP	CIPP
C-8	EA-436	EA-387	21	2	233	VCP	CIPP
C-8/C-9	EA-387	EA-379	21	0	125	VCP	CIPP
C-9	EA-379	EA-378	21	0	367	VCP	CIPP
C-9/C-10	EA-378	EA-369	21	0	334	VCP	CIPP
C-10	EA-369	EA-364	21	0	37	VCP	CIPP
C-10	EA-364	EC-879	21	1	369	VCP	CIPP
C-11	EC-736	EC-735	18	0	"197" (3)	VCP	CIPP (1)
C-12	EC-716	EC-717	18	2	175	VCP	CIPP
C-12	EC-717	EC-718	18	0	69	VCP	CIPP
C-12/C-13	EC-718	EC-722	18	4	280	VCP	CIPP
C-21	EC-879	EC-884	18	0	337	VCP	CIPP
C-22	DN-1158	DN-1159	30	1	350	VCP	CIPP
C-22	DN-1159	DN-1160	30	0	349	VCP	CIPP
C-22/C-23	DN-1160	DN-1154	30	0	351	VCP	CIPP
C-24	DN-1874	DN-1875	36	0	27	RCP	CIPP
C-24	DN-1875	DN-1876	36	0	381	RCP	CIPP
C-24	DN-1876	DN-1877	36	0	26	RCP	CIPP
C-25	DN-196	DN-553	30	1	373	VCP	CIPP
C-25	DN-568	DN-566	30	0	"270" (3)	VCP	CIPP (1)
C-25/C-26	DN-579	DN-580	30	0	369	VCP	CIPP
C-26	DN-580	DN-45	30	0	328	VCP	CIPP
C-27	DN-52	DN-54	21	2	"265" (3)	VCP	CIPP (1)
C-30	DN-111	DN-110	15	2	"450" (3)	VCP	CIPP (2)

NOTES:

1. SECTIONAL LINER FOR SINGLE POINT REPAIR IN SEWER SEGMENT.
2. SECTIONAL LINER FOR MULTIPLE POINT REPAIRS IN SEWER SEGMENT.
3. SEWER SEGMENT "_____" PIPE LENGTH WITH POINT REPAIR(S).

TEMPORARY FLOW MONITORING DATA

1	2	3	4	5	6
SHEET NO.	MH NO.	PIPE DIA (IN)	PEAK MAX DEPTH (IN)	AVG DAILY FLOW (MGD)	PEAK DAILY FLOW (MGD)
C-1, BP-1	DN-863	15	2.43	0.070	0.162
C-2, BP-2	DN-1072	10	1.40	0.087	0.152
C-8, BP-5	DN-442	15	4.37	0.288	0.436
C-8, BP-5	DN-442	21	3.30	0.367	0.642
C-8, BP-5	EA-428	8	3.52	0.229	0.392
C-9, BP-6	EA-377	8	2.21	0.015	0.059
C-10, C-21, BP-7	EC-879	18	4.96	0.724	1.088
C-11, BP-8	EC-736	8	2.46	0.019	0.067
C-11, BP-8	EC-736	18	17.10	0.907	1.319
C-22, BP-12	DN-1159	30	11.90	0.000	0.000
C-25, BP-16	DN-196	30	9.10	0.719	1.059
C-25, BP-16	DN-170	12	2.64	0.022	0.057
C-25, BP-16	DN-579	30	7.25	0.828	1.138
C-30, BP-19	DN-111	18	13.03	0.451	0.869

NOTES:

1. THE TEMPORARY FLOW MONITORING WAS CONDUCTED BETWEEN 4/26/13 THROUGH 5/2/13 AND 5/31/13 THROUGH 6/13/13. DRY WEATHER FLOW MONITORING ONLY.

PROJECT MANHOLES

1	2	3	4	5	6	7
SHEET NO.	MH NO.	MH TYPE	COVER DIAMETER (IN)	MH DIAMETER (IN)	MH DEPTH (FT)	REHAB METHOD
C-1	DN-862E	PRECAST CONCRETE	24	48	10.1	EPOXY COATING
C-3	DN-1059	BRICK	24	48	5.1	EPOXY COATING
C-3	DN-1057	PRECAST CONCRETE	24	48	15.4	EPOXY COATING
C-3	DN-1048	PRECAST CONCRETE	28	48	10.2	EPOXY COATING
C-4	DN-1009	PRECAST CONCRETE	28	48	7.7	EPOXY COATING
C-4	DN-338	PRECAST CONCRETE	24	48	3.6	EPOXY COATING
C-5	DN-1000	PRECAST CONCRETE	24	48	13.2	EPOXY COATING
C-5	DN-1002	PRECAST CONCRETE	24	48	10.3	EPOXY COATING
C-5	DN-1003	PRECAST CONCRETE	24	48	8.7	EPOXY COATING
C-5	DN-1004	PRECAST CONCRETE	24	48	8.2	EPOXY COATING
C-5	DN-1005	PRECAST CONCRETE	24	48	7.9	EPOXY COATING
C-6	DN-645	PRECAST CONCRETE	24	60	9.9	EPOXY COATING
C-6	DN-653	PRECAST CONCRETE	24	60	7.8	EPOXY COATING
C-6	DN-651	PRECAST CONCRETE	24	60	7.1	EPOXY COATING
C-6	DN-657	PRECAST CONCRETE	28	60	6.7	EPOXY COATING
C-7	DN-658	PRECAST CONCRETE	24	48	6.8	EPOXY COATING
C-8	EA-442	BRICK	32	48	7.5	EPOXY COATING
C-9	EA-379	BRICK	24	48	7.3	EPOXY COATING
C-9	EA-378	BRICK	24	48	9.3	EPOXY COATING
C-10/C-21	EC-879	BRICK	24	48	8.4	EPOXY COATING
C-11	EC-744	PRECAST CONCRETE	24	48	10.0	EPOXY COATING
C-14	EC-737	PRECAST CONCRETE	24	48	8.1	EPOXY COATING
C-15	EC-733	PRECAST CONCRETE	32	48	9.6	EPOXY COATING
C-16	EC-745	PRECAST CONCRETE	32	48	7.8	EPOXY COATING
C-16	EC-748	PRECAST CONCRETE	24	48	9.5	EPOXY COATING
C-17	EC-752	PRECAST CONCRETE	32	48	9.7	EPOXY COATING
C-17	EC-758	PRECAST CONCRETE	32	48	7.6	EPOXY COATING
C-17	EC-756	PRECAST CONCRETE	24	48	10.9	EPOXY COATING
C-17	EC-760	PRECAST CONCRETE	24	48	9.4	EPOXY COATING
C-17	EC-765	PRECAST CONCRETE	24	48	3.0	EPOXY COATING
C-18	EC-768	PRECAST CONCRETE	24	48	10.3	EPOXY COATING
C-18	EC-781	PRECAST CONCRETE	24	48	9.7	EPOXY COATING
C-18	EC-782	PRECAST CONCRETE	24	48	10.0	EPOXY COATING
C-18	EC-788	PRECAST CONCRETE	24	48	9.4	EPOXY COATING
C-18	EC-792	PRECAST CONCRETE	24	48	7.1	EPOXY COATING
C-19	EC-794	PRECAST CONCRETE	24	48	6.6	EPOXY COATING
C-19	EC-808	PRECAST CONCRETE	24	48	7.8	EPOXY COATING
C-19	EC-805	PRECAST CONCRETE	24	48	8.1	EPOXY COATING
C-19	EC-793	PRECAST CONCRETE	24	48	7.6	EPOXY COATING
C-19	EC-828	PRECAST CONCRETE	32	48	6.8	EPOXY COATING
C-20	EC-821	PRECAST CONCRETE	24	48	7.2	EPOXY COATING
C-20	EC-836	PRECAST CONCRETE	24	48	8.0	EPOXY COATING

PROJECT MANHOLES (CONT)

1	2	3	4	5	6	7
SHEET NO.	MH NO.	MH TYPE	COVER DIAMETER (IN)	MH DIAMETER (IN)	MH DEPTH (FT)	REHAB METHOD
C-21	EC-831	PRECAST CONCRETE	24	48	11.2	EPOXY COATING
C-21	EC-884	BRICK	24	48	8.3	EPOXY COATING
C-21	EC-815	PRECAST CONCRETE	24	48	7.9	EPOXY COATING
C-21	EC-874	BRICK	24	48	9.0	EPOXY COATING
C-22	EC-872	PRECAST CONCRETE	24	48	18.0	EPOXY COATING
C-22	DN-1158	BRICK	24	48	18.2	EPOXY COATING
C-23	DN-1156	BRICK	24	48	8.5	EPOXY COATING
C-24	DN-1874	PRECAST CONCRETE	24	60"X60" RCB	10.8	EPOXY COATING
C-24	DN-1875	PRECAST CONCRETE	24	48	11.0	EPOXY COATING
C-24	DN-1876	PRECAST CONCRETE	24	48	9.9	EPOXY COATING
C-24	DN-1877	PRECAST CONCRETE	24	60"x60" RCB	11.1	EPOXY COATING
C-25	DN-567	BRICK	24	48	4.2	EPOXY COATING
C-25	DN-579	BRICK	28	48	4.2	EPOXY COATING
C-26	DN-580	PRECAST CONCRETE	24	48	5.3	EPOXY COATING
C-26	DN-46	PRECAST CONCRETE	24	48	6.7	EPOXY COATING
C-26	DN-47	PRECAST CONCRETE	26	60"X60" RCB	5.5	EPOXY COATING
C-26	DN-1236	PRECAST CONCRETE	24	48	4.0	EPOXY COATING
C-27	DN-51	BRICK	28	48	8.0	EPOXY COATING
C-27	DN-59	PRECAST CONCRETE	24	48	7.7	EPOXY COATING
C-27	DN-57	PRECAST CONCRETE	24	48	7.5	EPOXY COATING
C-27	DN-50	BRICK	28	48	7.0	EPOXY COATING
C-27	DN-55	PRECAST CONCRETE	28	48	5.9	EPOXY COATING
C-27	DN-54	BRICK	32	48	6.6	EPOXY COATING
C-27	DN-52	PRECAST CONCRETE	24	48	7.2	EPOXY COATING
C-28	DN-98	PRECAST CONCRETE	24	48	4.7	EPOXY COATING
C-28	DN-93	PRECAST CONCRETE	24	48	5.8	EPOXY COATING
C-28	DN-100	PRECAST CONCRETE	24	48	6.1	EPOXY COATING
C-29	DN-115	PRECAST CONCRETE	24	48	6.0	EPOXY COATING
C-29	DN-264	PRECAST CONCRETE	24	48	7.8	EPOXY COATING
C-29	DN-112	BRICK	32	48	8.2	EPOXY COATING
C-29	DN-113	BRICK	32	48	8.5	EPOXY COATING
C-30	DN-222	PRECAST CONCRETE	24	60	7.4	EPOXY COATING
C-30	DN-108	BRICK	32	48	4.8	EPOXY COATING
C-30	DN-106	BRICK	24	48	5.8	EPOXY COATING

NOTES:

1. CONTRACTOR TO VERIFY ACTUAL DIAMETER OF EXISTING PIPE.
2. CONTRACTOR TO VERIFY ACTUAL LENGTH OF PIPE SEGMENTS.
3. CONTRACTOR TO VERIFY LOCATION OF POINT REPAIRS.
4. CONTRACTOR TO VERIFY ACTUAL DEPTH, CONFIGURATION, AND SIZE OF MANHOLES.
5. CONTRACTOR TO FIELD VERIFY LOCATION AND NUMBER OF LATERALS.

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: DESIGN DATA

ENGINEERING SERVICES
STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20941
PROFESSIONAL

Sheet
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6 of 62
DRAWING NO.
307V1067

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CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER OR OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGN TO BE APPROVED BY THE QUALITY CONTROL DIVISION, PRIOR TO THE USE ON THE PROJECT.
6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
7. JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
8. AC PAVEMENT TO BE 1/2" ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS.
9. CURB AND GUTTER WITH A GRADE OF LESS THAN FOUR-TENTHS OF ONE PERCENT SHALL BE WATER-TESTED AS SOON AS POSSIBLE AFTER CONSTRUCTION. ANY CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY SHALL BE REMOVED AND REPLACED PER USD 216.
10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER USD 235, CASE I. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY PROJECT REPRESENTATIVE.
11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS, OR AS DESIGNATED IN THE FIELD BY CITY PROJECT REPRESENTATIVE.
12. EXACT LOCATION OF ALL SAWCUT LINES MAY BE DETERMINED IN THE FIELD BY A CITY PROJECT REPRESENTATIVE IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED, AND SHALL BE DONE ONLY BY A NEVADA PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE UNIFORM STANDARD DRAWINGS - CLARK COUNTY AREA. A RECORD-OF-SURVEY FOR REPLACEMENT OF PERMANENT SURVEY MONUMENTS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO RECORDING. THE RECORD-OF-SURVEY SHALL BE PREPARED IN ACCORDANCE WITH NEVADA REVISED STATUTES 625.350.
14. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE AFFECTED UTILITY COMPANY AND THE CITY ENGINEER.
15. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE CLV BUILDING DEPARTMENT.
16. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHTS OF WAY.
17. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, SEWER CLEANOUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
18. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT AND CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
19. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC, THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE ENGINEER CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
20. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PROJECT ACCEPTANCE. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXITS THE PUBLIC RIGHT-OF-WAY. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINTIES OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).
21. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST ADDITION.
22. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES. (REVISED MARCH 13, 2013 (CPM VERSION)

CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION, ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
4. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
5. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

	HORIZONTAL	VERTICAL
A. PAVEMENT AREA SUBGRADE	0.1'±	+0.0' TO -0.1'
B. ENGINEERED FILL	0.5'±	+0.1' TO -0.1'

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE. COMPACTION SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEER.

6. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
7. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
8. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT- OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
9. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, SUCH ITEM SHALL BE PROVIDED, AS DIRECTED BY THE CITY ENGINEER, AT NO EXPENSE TO THE CITY OF LAS VEGAS. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REV. DATE JULY 2008

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS, ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY PLANNING ENGINEER.
3. CHISEL 'S' OR 'G' IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.
5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE 'Y''S SHALL BE USED ON LINES TWELVE INCHES (12') OR ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
9. THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY PLANNING ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
10. INSTALLATION OF CURVED SEWERS REQUIRES THE USE OF C-900 PVC PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

REV. DATE JANUARY 2008

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SUGGESTED ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW TRAFFIC SIGNS SHALL UTILIZE TYPE XI RETROREFLECTIVE SHEETING IN ACCORDANCE WITH CCAUSS 627 AND 716 AND SHALL HAVE AN ANTI-GRAFFITI PROTECTIVE OVERLAY FILM THAT IS A MATCHING COMPONENT TO, AND OF THE SAME MANUFACTURER AS THE RETROREFLECTIVE SHEETING TO WHICH IT IS APPLIED. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT OF WAY.
11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING RTC – REGIONAL TRANSPORTATION COMMISSION OF SOUTHERN NEVADA, IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 7/3/13

RTC NOTES

1. THE CONTRACTOR SHALL NOT BE ALLOWED TO CLOSE MORE THAN ONE CONSECUTIVE BUS STOP ON THE SAME SIDE OF THE STREET. TEMPORARY CLOSURES SHALL BE PWD (PERSON'S WITH DISABILITY) ACCESSIBLE BEFORE ANY BUS STOP CAN BE CLOSED. THE CONTRACTOR SHALL NOTIFY CARL SCARBROUGH AT (702) 676-1608 OR ERIC TRAASDAHL AT (702) 676-1633, AT LEAST SEVEN WORKING DAYS IN ADVANCE.
2. THE CONTRACTOR SHALL SUBMIT A BUS STOP CLOSURES SCHEDULE WITH THE TRAFFIC CONTROL PLAN. THE BUS STOP CLOSURE SCHEDULE SHALL IDENTIFY SPECIFIC DURATIONS AND TIMES OF THE DAY FOR ALL PROPOSED BUS STOP CLOSURES. BUS STOP CLOSURES ARE NOT TO EXCEED TWO CONSECUTIVE STOPS AT ONE TIME, OR MORE THAN 1,000 FEET AT A TIME. PERSONS WITH DISABILITIES SHALL HAVE ACCESS TO BUS STOPS. THE CONTRACTOR SHALL PROVIDE A 100 FOOT LONG BY 10 FEET WIDE GRAVELED TURN OUT AT TEMPORARY BUS STOPS.
3. ALL INTEGRATED TRAFFIC SIGNAL (ITS) INFRASTRUCTURE SHALL BE PROTECTED AND MAINTAINED AT ALL TIMES. THE CONTRACTOR IS TO CONTACT MR. JESUS "CHUY" MARMOLEJO AT FAST (702) 432-5300 IMMEDIATELY IF ANY ITS CONDUIT AND/OR FIBER OPTIC INTERCONNECT CABLE IS DAMAGED.

LVVWD STANDARD NOTES

LVVWD PROJECT # 122070

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS.
9. ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD DISTRIBUTION SYSTEM.
10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD PRE-APPROVED MATERIALS AND MANUFACTURER'S LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT "811" OR 1-800-227-2600
14. THE INSTALLATION OF LAS VEGAS VALLEY WATER DISTRICT (LVVWD) MUNICIPAL WATER FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE.
15. ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ABUTTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF, ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.

LVVWD REQUIREMENT FOR BELOW GRADE INSTALLATION

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS WERE LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATION THE MEANS AND METHOD MUST BE SUMITTED TO AND APPROVED BY LVVWD FOR SEWER-WATER SEPARATION MITIGATION.

APPROVED FOR CONSTRUCTION

M. ISHARI FOR DAMEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

CITY OF LAS VEGAS STREET LIGHT NOTES

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION.
2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC AND CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE SPECIFICATIONS.
3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.
4. ALL EMPTY CONDUIT SHALL HAVE PULL STRINGS AND A #8 AWG TRACER WIRE INSTALLED PER SECTION 623 G.02.01 OF THE SPECIFICATIONS PRIOR TO BACKFILLING AND FINAL INSPECTION.
5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN COMPLIANCE WITH USD NO. 320A WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
7. SERVICE POINTS SHALL BE COORDINATED WITH NV ENERGY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT OR AS SHOWN ON THE PLANS.
8. THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
9. ALL STREET LIGHTING AND TRAFFIC SIGNAL EQUIPMENT REMOVED AND / OR DESIGNATED TO BE SALVAGED SHALL BE DELIVERED BY THE CONTRACTOR TO THE APPROPRIATE CLV SERVICE YARD WITH A MEANS TO UNLOAD. A MINIMUM 24-HOUR NOTICE OF DELIVERY IS REQUIRED. CALL 229-6331 TO SET UP DELIVERY TIME AND LOCATION. REPAIR OF ANY DAMAGE TO EQUIPMENT DURING THIS PROCESS WILL BE THE CONTRACTOR'S RESPONSIBILITY, AT NO ADDITIONAL COST TO THE CITY.REV. DATE FEBRUARY 10, 2010

DEVIATIONS FROM STANDARDS

THERE ARE NO DEVIATIONS FROM APPLICABLE CITY OF LAS VEGAS STANDARDS, UNLESS STATED IN THE SPECIAL PROVISIONS.

carollo

REVISIONS			
NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: GENERAL NOTES

PROFESSIONAL ENGINEER STATE OF NEVADA MICHAEL ANTHONY FLEURY Exp: 06-30-15 CIVIL No. 20941

4/11/14

Sheet G-7
7 of 62
DRAWING NO. 307V1067

GENERAL NOTES FOR CIVIL DRAWINGS:

1. HORIZONTAL CONTROL: HORIZONTAL CONTROL DATUM SURVEY IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83 NGS 2002).

2. VERTICAL CONTROL: ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BENCHMARKS AND/OR STRUCTURE ELEVATIONS FROM EXISTING SURVEYS OR REFERENCE DRAWINGS MAY RESULT IN VARIANCES WITH ELEVATIONS INDICATED ON THE DRAWINGS FOR EXISTING FACILITIES.

3. EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, OR OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN, OR MADE AVAILABLE TO, OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS. THE LOCATIONS, CONFIGURATIONS, AND ELEVATIONS OF SUBSURFACE FACILITIES AND UTILITIES ARE APPROXIMATE, AND NOT ALL UTILITIES AND FACILITIES MAY BE INDICATED. PIPING SIZES AND MATERIALS, WHERE KNOWN ARE DESIGNATED BASED ON AS-BUILT RECORDS AND INSPECTION DATA. CONTRACTOR TO VERIFY DURING INITIAL INSPECTION WORK. REPORT DISCREPANCIES TO THE ENGINEER. UTILITIES ARE NOT INDICATED IN ARCHITECTURAL ELEVATIONS, PROFILE OR SECTION DRAWINGS. THE ENGINEERING INVESTIGATIONS, LOCATION, AND DESIGNATION OF SUBSURFACE UTILITIES INDICATED IN THESE CONTRACT DOCUMENTS HAS BEEN PERFORMED TO QUALITY LEVEL C IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRINCIPLES AND PRACTICES AS OUTLINED IN ASCE STANDARD AND GUIDELINE BULLETIN CI/ASCE 38-02 UNLESS OTHERWISE DESIGNATED. WHERE SUCH ACTIVITIES HAVE BEEN TO A HIGHER LEVEL OF QUALITY, THE HIGHER QUALITY LEVEL FOR THE AFFECTED AREAS IS INDICATED IN THE CONTRACT DOCUMENTS.

4. "SCREENED"(LIGHT) DELINEATION INDICATED ON THE DRAWINGS DENOTES EXISTING FACILITIES. "SCREENED"INFORMATION WAS TAKEN FROM EXISTING CONSTRUCTION DRAWINGS AND DATA, IS FOR REFERENCE ONLY, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE ORDERING OF MATERIALS AND BEGINNING OF CONSTRUCTION. "BOLD"DELINEATION IS A WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.

5. PIPE SIZES AND MATERIALS, WHERE KNOWN ARE DESIGNATED BASED ON AS-BUILT RECORDS, AND INSPECTION DATA. CONTRACTOR SHALL VERIFY DURING INITIAL INSPECTION WORK. REPORT DISCREPANCIES TO THE ENGINEER.

6. DRAWINGS SHOW ONLY KNOWN SEWER PIPELINES AND LATERALS FROM AS-BUILT RECORDS. CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATIONS OF OTHER SEWER PIPES AND LATERALS DURING INITIAL INSPECTION OF WORK.

7. CONTRACTOR TO MAINTAIN CONTINUOUS SEWER SERVICE AT ALL TIMES DURING CONSTRUCTION.

8. RIM ELEVATIONS AND INVERT ELEVATIONS SHOWN ON THE DRAWINGS ARE BY LICENSED SURVEYOR. CONTRACTOR TO VERIFY ELEVATIONS DURING INITIAL INSPECTION WORK.

9. ALL CONFINED SPACE ENTRY WORK SHALL COMPLY WITH STATE AND FEDERAL OSHA REQUIREMENTS.

10. CONTRACTOR SHALL OBTAIN RIGHTS-OF-ENTRY FROM PRIVATE PROPERTY OWNERS PRIOR TO ENTERING PRIVATE PROPERTY.

11. PIPES, MANHOLES AND LATERALS NOT SHOWN FOR REHABILITATION, REPLACEMENT OR ABANDONMENT ON DRAWINGS ARE EXCLUDED FROM THE WORK.

12. ALL PIPES DESIGNATED AS "TO BE REHABILITATED" SHALL BE LINED USING CURED-IN-PLACE PIPE (CIPP). CONTRACTOR SHALL VERIFY CONDITION OF PIPE FOR SUITABILITY OF CIPP INSTALLATION. CHANGES TO THE SCHEDULED REHABILITATION SHALL BE APPROVED, IN ADVANCE OF ANY WORK, BY THE ENGINEER.

13. NOT ALL MANHOLES LOCATED ON PIPES SCHEDULED FOR REHABILITATION SHALL BE COATED. ANY CHANGES TO THE SCHEDULED MANHOLE REHABILITATION SHALL BE APPROVED, IN ADVANCE OF ANY WORK, BY THE ENGINEER.

14. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS.

15. MH DIAMETERS, IN GENERAL ARE STANDARD ECCENTRIC STRUCTURES IN ACCORDANCE WITH "SEWER SPECIFICATIONS".

16. MH INVERT ELEVATIONS SHOWN ON THE DRAWINGS REPRESENT THE APPROXIMATE CENTER OF THE MANHOLE INVERT OR INVERT OF INCOMING SEWERS.

17. REFERENCE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS, CLARK COUNTY AREA" SECTION 600 FOR STANDARD TRAFFIC CONTROL DRAWINGS.

18. CALL BEFORE YOU DIG. CONTRACTOR SHALL VERIFY PRECISE LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STRUCTURES, WHETHER INDICATED ON THE DRAWINGS OR NOT, IN THE FIELD IN ADVANCE OF EXCAVATING, BY CONTACTING ALL UTILITIES AND OTHER AGENCIES, AND BY PROSPECTING. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, DEMOLITION, RECONSTRUCTION, AND RECONNECTION OF EXISTING FACILITIES AS REQUIRED TO COMPLETE THE WORK. IF REQUIRED AFTER FIELD VERIFICATION, CONTRACTOR SHALL IMMEDIATELY COORDINATE WITH THE ENGINEER TO DETERMINE ANY NECESSARY MODIFICATIONS TO PROPOSED NEW WORK.

19. BEFORE CONSTRUCTION IS STARTED, CONTRACTOR SHALL COORDINATE WITH THE OWNER OF EACH UTILITY AND DEFINE THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT, OR RELOCATION OF ANY UTILITIES AFFECTED BY THE PROPOSED NEW WORK.

20. CONTRACTOR SHALL COMPLY WITH THE GOVERNING AGENCY NPDES CONSTRUCTION REQUIREMENTS, AND SHALL PROVIDE APPROPRIATE MITIGATION MEASURES OR PROTECTION AND RESTORATION AT ALL LOCATIONS AS REQUIRED BY THEIR OPERATIONS, AND AS DIRECTED BY ENGINEER.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS. PROPERTY CORNER MARKERS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF NEVADA.

22. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING TREES, SHRUBS, AND PLANTS, UNLESS OTHERWISE NOTED.

23. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS, BUILDINGS, OR OTHER STRUCTURES RESULTING FROM CONTRACTORS CONSTRUCTION ACTIVITIES. REPAIRS SHALL BE MADE TO THE SATISFACTION OF THE OWNER AND THE ENGINEER AT NO COST TO THE OWNER.

25. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJOINING PROPERTIES ACCESSIBLE TO THE PUBLIC AND EMERGENCY VEHICLES. DESIGNS FOR MAINTAINING ACCESS WILL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CONTROLLING AGENCY FOR REVIEW AND APPROVAL.

26. THE CONTRACTOR SHALL PREPARE AND SUBMIT TRAFFIC CONTROL PLAN (TCP) PER SPECIAL PROVISIONS 624. THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION.

27. THE CONTRACTOR SHALL PREPARE AND SUBMIT DIVERSION OF FLOW PLAN PER SPECIAL PROVISIONS 695. THE CONTRACTOR MUST HAVE AN APPROVED BYPASS PUMPING PLAN PRIOR TO ANY CONSTRUCTION.

28. ONLY WORK ADJACENT TO AND WITHIN NDOT RIGHT-OF-WAY IS PROFILED.

CONSTRUCTION KEY NOTES:

1. REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.
2. FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.
3. INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.
4. INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.
5. INSTALL CIPP SECTIONAL LINERS TO REHABILITATE MULTIPLE POINT REPAIRS IN EXISTING PIPE SEGMENT PER DETAIL 2, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.
6. REMOVE EXISTING CENTURY LINK 4-INCH CONDUIT THROUGH SEWER PRIOR TO POINT REPAIR.
7. FLOW MONITORING MANHOLE.
8. MH DN-1874 TO MH DN-1877 WILL REQUIRE EXTRA CLEANING TO REMOVE ACCUMULATED DEBRIS AND CONCRETE.
9. RAISE TO GRADE AND PROVIDE NEW FRAME AND COVER.

CONSTRUCTION BYPASS KEY NOTES:

1. USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.
2. FLOW MONITORING MANHOLE
3. PLUG 21-INCH INCOMING SEWER TO DN-1158
4. 3 ACTIVE SEWER LATERALS BETWEEN MH EC-622 AND MH EC-662.
5. 5 ACTIVE SEWER LATERALS BETWEEN MH DN-1132 AND MH DN-1154.
6. 12 ACTIVE SEWER LATERALS BETWEEN MH DN-194 AND MH DN-196.

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: GENERAL NOTES FOR CIVIL DRAWINGS

CIVIL ENGINEER: MICHAEL A. FLEURY, No. 23947, STATE OF NEVADA, PROFESSIONAL ENGINEER, Exp. 06-30-15, CIVIL
4/1/14

Sheet
G-8
8 of 62
DRAWING NO.
307V1067

CITY OF LAS VEGAS - SEWER REHABILITATION
GROUP C DESIGN

HORIZONTAL CONTROL SURVEY

BEING A PORTION OF OF SECTIONS 25, 26 AND 35, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., AND A PORTION OF SECTIONS 1 AND 2 OF TOWNSHIP 21 SOUTH, RANGE 61 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA

NORTH

GRAPHIC SCALE

600 0 300 600 1200

1 inch = 600 ft.

BASIS OF BEARING

GRID NORTH AS DEFINED BY THE NORTH AMERICAN DATUM OF 1983 (NAD83), NEVADA EAST 2701 ZONE, BASED ON A GROUND COORDINATE SYSTEM WITH A COMBINED SCALE FACTOR OF 1.0001671489. SAID BEARINGS WERE DETERMINED BY STATIC GLOBAL POSITIONING SYSTEM (GPS) MEASUREMENTS PROCESSED BY THE NATIONAL GEODETIC SURVEY DIVISION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION USING THE ON-LINE POSITIONING USER SERVICE (OPUS). THE REFERENCE FRAME USED WAS NAD 83 (2011) WITH AN EPOCH OF 2010.0000. ALL DISTANCES SHOWN HEREON ARE GROUND VALUES.

REFERENCES

PLAT MAPS

BOOK 2, PAGE 15 OF PLATS
BOOK 2, PAGE 80 OF PLATS
BOOK 3, PAGE 61 OF PLATS
BOOK 3, PAGE 82 OF PLATS
BOOK 4, PAGE 72 OF PLATS
BOOK 5, PAGE 71 OF PLATS

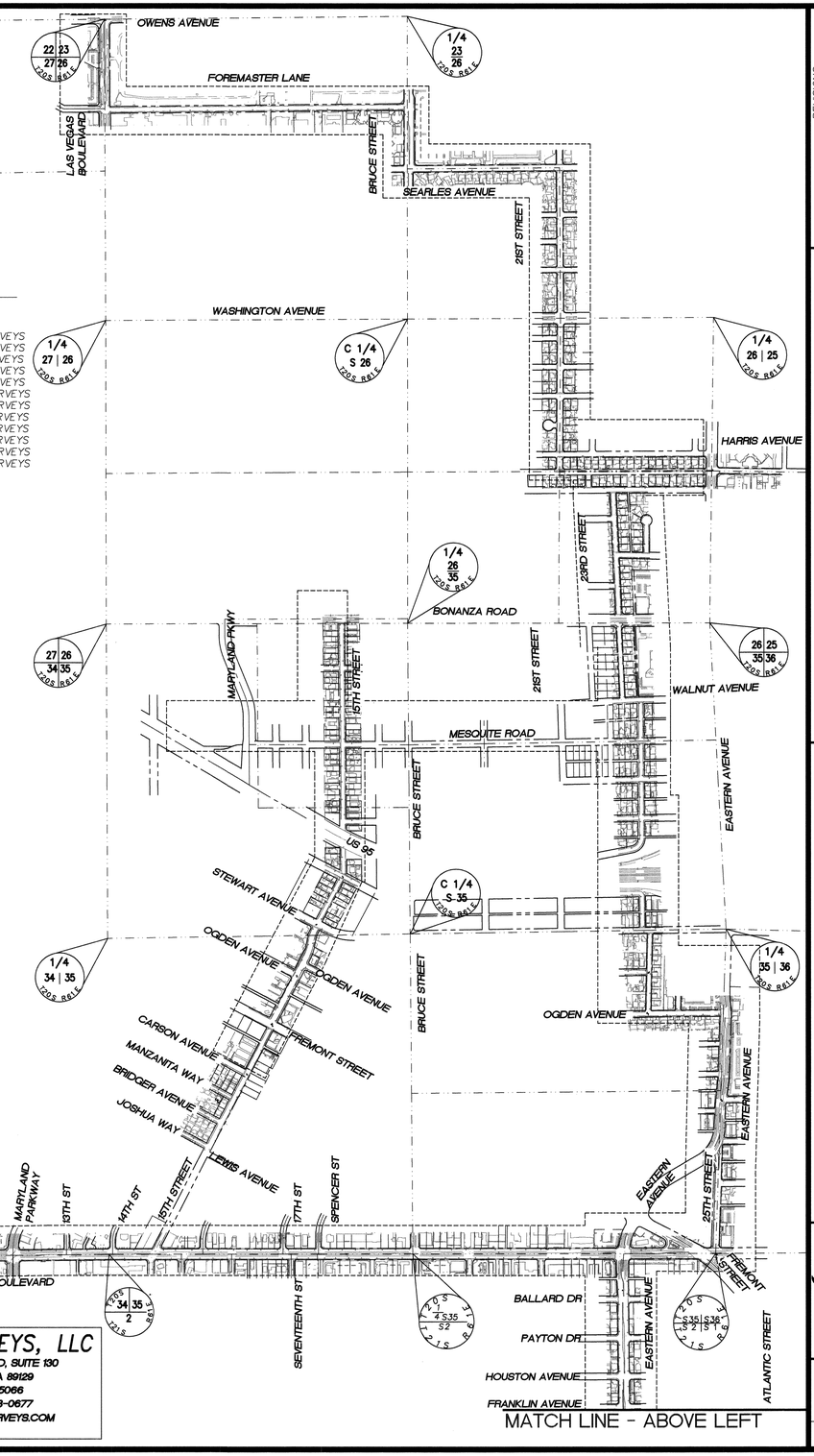
PARCEL MAPS

FILE 63, PAGE 93 OF PARCEL MAPS
FILE 72, PAGE 17 OF PARCEL MAPS
FILE 91, PAGE 69 OF PARCEL MAPS

SURVEYS

FILE 54, PAGE 64 OF SURVEYS
FILE 59, PAGE 95 OF SURVEYS
FILE 71, PAGE 07 OF SURVEYS
FILE 76, PAGE 88 OF SURVEYS
FILE 93, PAGE 52 OF SURVEYS
FILE 104, PAGE 88 OF SURVEYS
FILE 105, PAGE 34 OF SURVEYS
FILE 110, PAGE 03 OF SURVEYS
FILE 114, PAGE 02 OF SURVEYS
FILE 121, PAGE 05 OF SURVEYS
FILE 147, PAGE 34 OF SURVEYS
FILE 177, PAGE 04 OF SURVEYS

FOUND MONUMENT INFORMATION			PROJECT COORDINATES		STATE PLANE COORDINATES	
MON NO.	INTERSECTION	DESCRIPTION	NORTHING	EASTING	NORTHING	EASTING
1	MARLIN AVE & 15TH STREET	FOUND ALUMINUM CAP	26763050.4900	790823.4110	26758577.8231	790691.2478
2	STEWART AVE & 15TH STREET	FOUND ALUMINUM CAP	26762624.7600	790599.5460	26758152.1643	790467.4202
3	OGDEN AVE & 15TH STREET	FOUND ALUMINUM CAP	26762176.1370	790421.7710	26757703.6163	790289.6750
4	FREMONT STREET & 15TH STREET	FOUND ALUMINUM CAP HV 26	26761750.7100	790198.9240	26757278.2604	790066.8652
5	FREMONT STREET & 15TH STREET	FOUND ALUMINUM CAP	26761746.0750	790207.7120	26757273.6261	790075.6517
6	CARSON AVENUE & 15TH STREET	FOUND ALUMINUM CAP	26761321.0440	789984.7470	26756848.6662	789852.7240
7	OWENS AVENUE & LAS VEGAS BLVD	FOUND ALUMINUM CAP	26770520.5290	788743.4970	26766046.6137	788611.6814
8	EASTERN AVE & HARRIS AVE	FOUND BRASS CAP PLS 5094	26766578.6460	788743.4970	26762105.3895	788611.6814
11	SUNRISE AVE & EASTERN AVE	FOUND ALUMINUM CAP STAMPED PLS 5094	26761097.2590	794131.8460	26756624.9186	793999.1299
12	CHARLESTON BLVD & 25TH ST	FOUND WELL MONUMENT	26759767.0060	794083.9140	26755294.8879	793951.2059
13	OAKEY BLVD & EASTERN AVE	FOUND ALUMINUM CAP STAMPED PLS 5094	26757188.6850	793286.2230	26752716.9978	793153.6482



HORIZON SURVEYS, LLC
10501 WEST GOWAN ROAD, SUITE 130
LAS VEGAS, NEVADA 89129
PHONE (702) 228-5066
FAX (702) 228-0677
WWW.HORIZONSURVEYS.COM

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: XXX
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: SURVEY HORIZONTAL COORDINATES

STATE OF NEVADA DENNIS H. JENSEN PROFESSIONAL No. 5859 4-10-14

Sheet G-9
9 of 62
DRAWING NO. 307V1067

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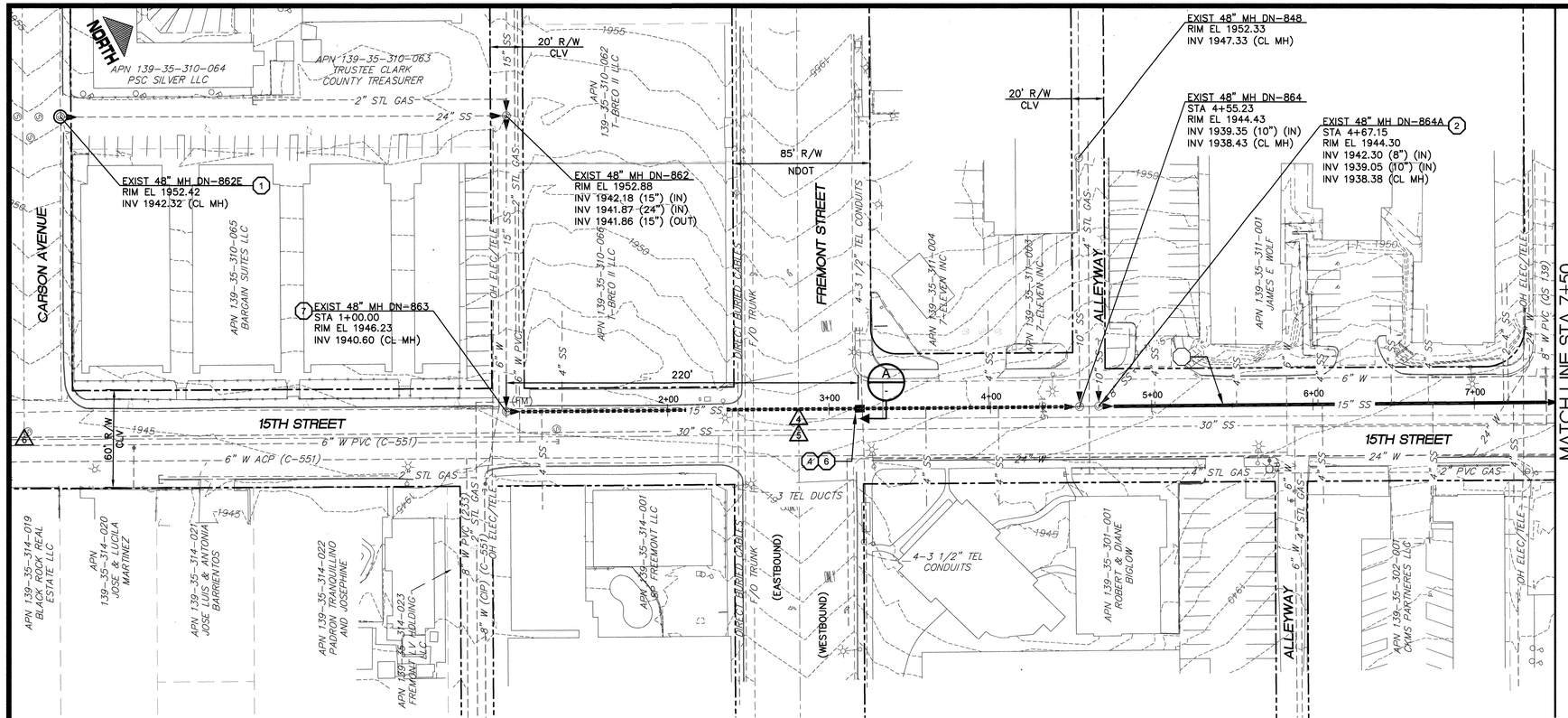
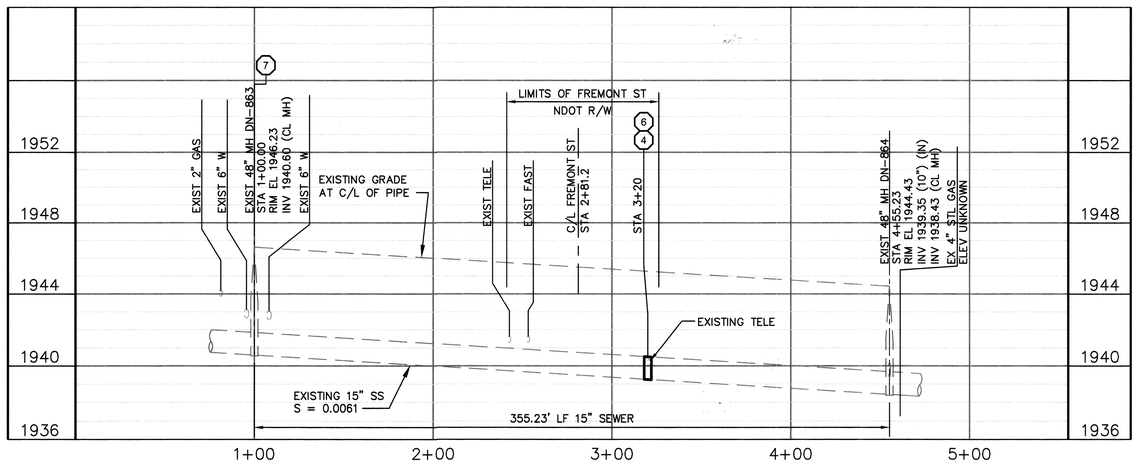


PLAN
1" = 40'



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

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(4) INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

(6) REMOVE EXISTING CENTURY LINK 4-INCH CONDUIT THROUGH SEWER PRIOR TO POINT REPAIR. SEE PHOTO A BELOW.

(7) FLOW MONITORING MANHOLE.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

A PHOTO
SCALE:
FILE: -

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 15TH STREET PLAN & PROFILE STA 1+00 TO STA 7+50

STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER

Sheet C-1
10 of 62
DRAWING NO. 307V1067

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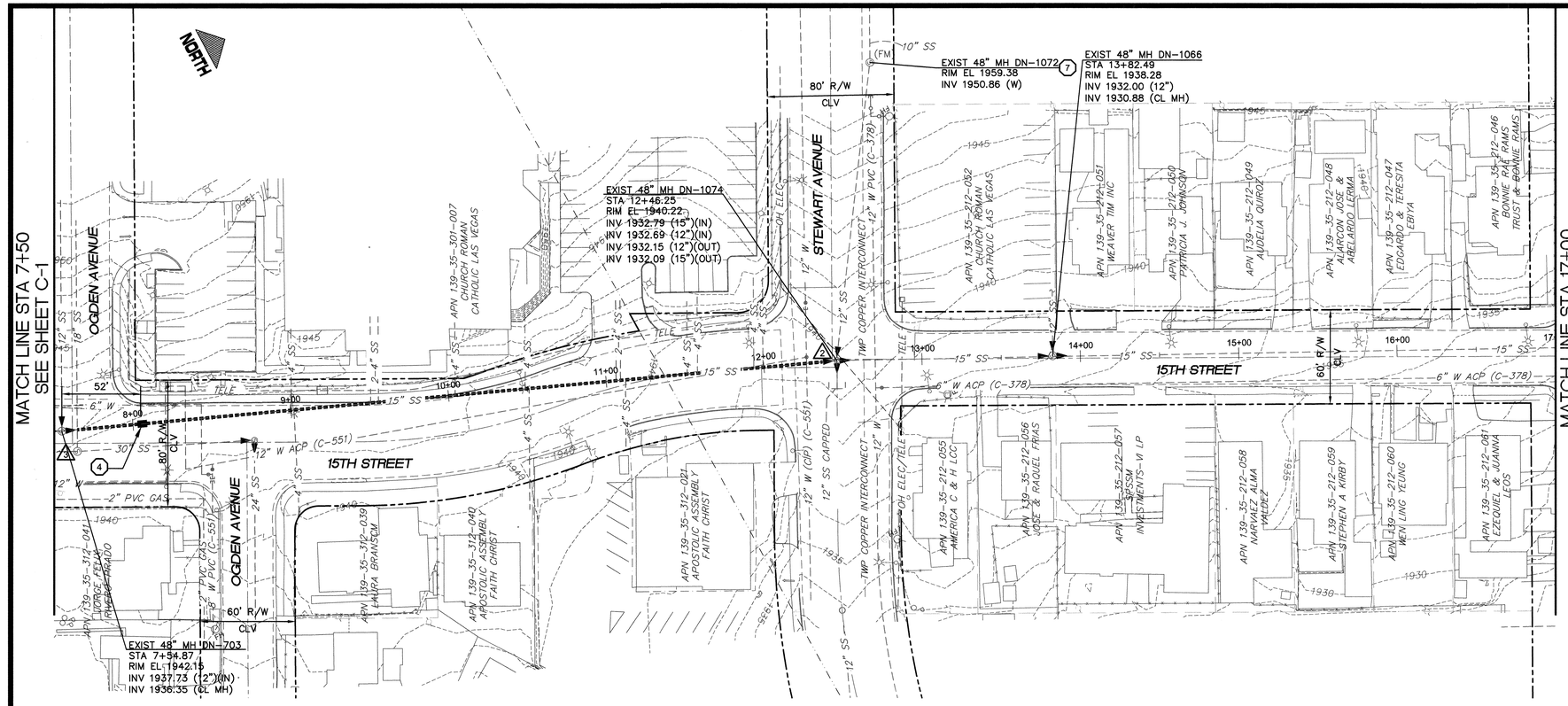

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines...it's costly. Call before you do Overhead 1-702-593-8111 OVERHEAD SERVICE ALERT

Call Before You Dig Underground 1-702-455-2611 1-702-229-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(4) INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION
M. DiSHARI FOR JOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWES, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 15TH STREET PLAN STA 7+50 TO STA 17+00

PROFESSIONAL ENGINEER STATE OF NEVADA MICHAEL A. FLEURY Exp. 06-30-15 CIVIL No. 20941 4/11/14

Sheet C-2
11 of 62
DRAWING NO. 307V1067

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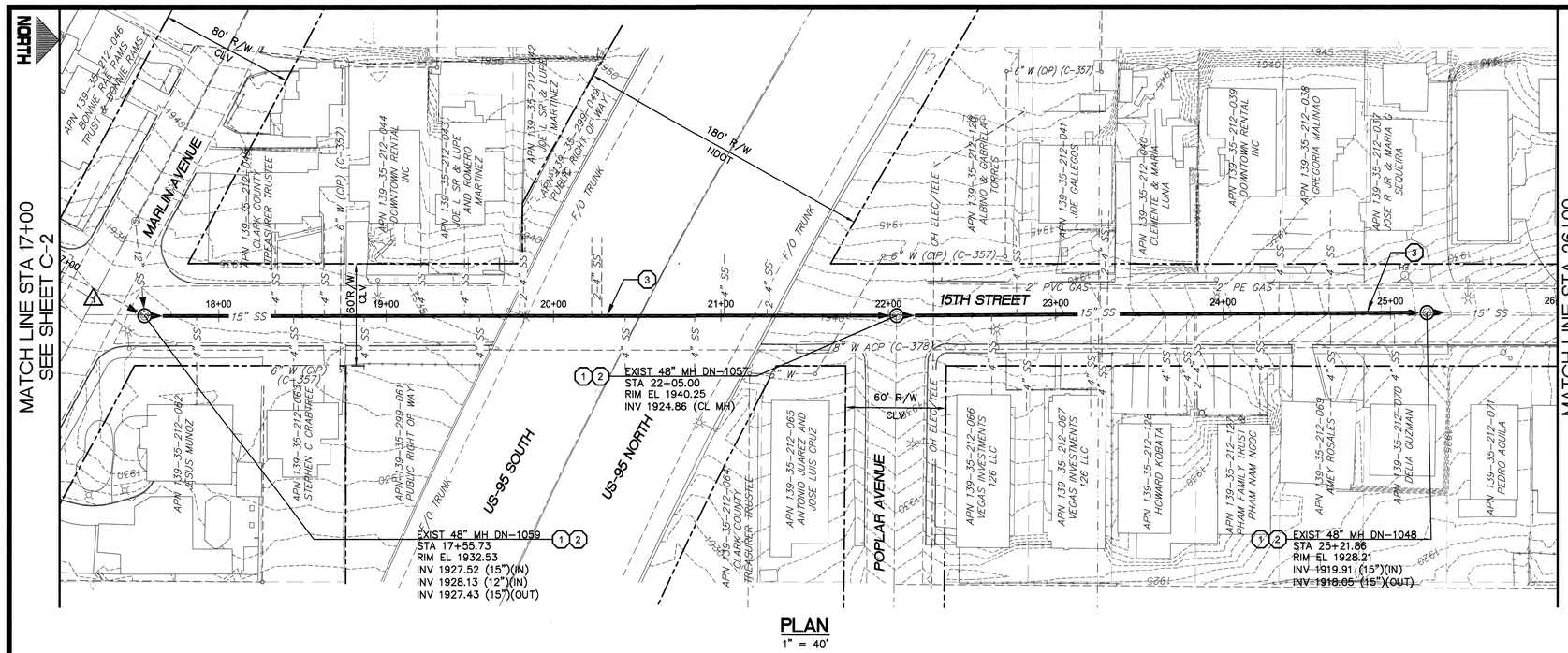
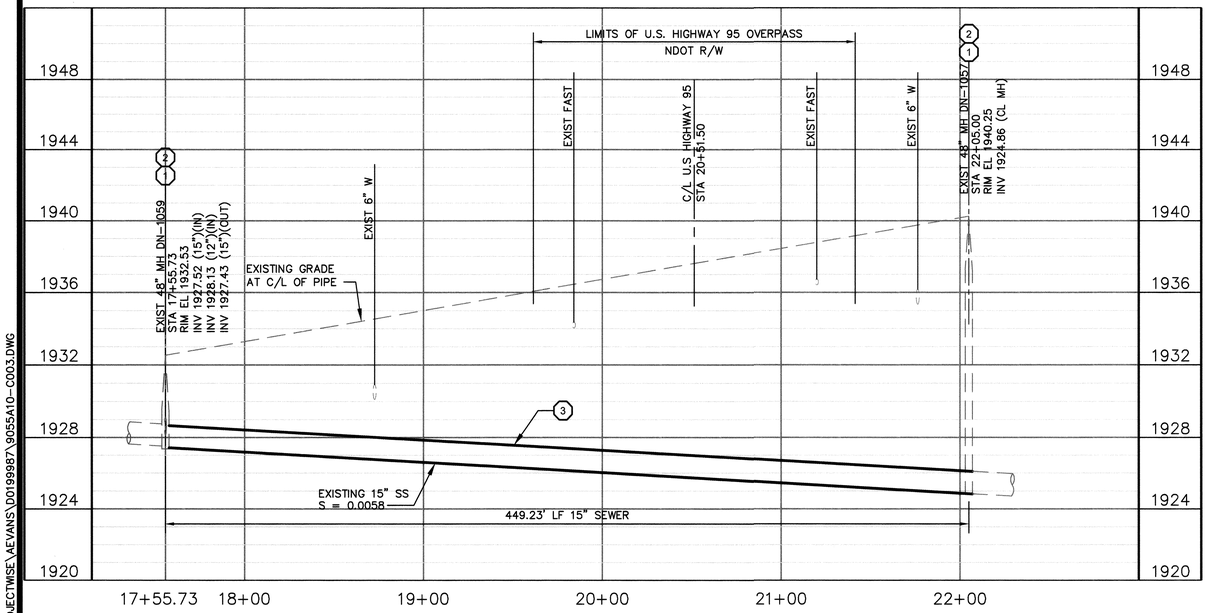


PLAN
1" = 40'



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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. — Call before you do Overhead 1-702-593-8111
Call before you Dig Underground 1-702-455-5511 — 1-702-201-5611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION
M. DISHAR FOR DOAMEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 15TH STREET PLAN & PROFILE STA 17+00 TO STA 26+00

STATE OF NEVADA — MICHAELA FLEURY — Exp: 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/4/14

Sheet C-3
12 of 62
DRAWING NO. 307V1067

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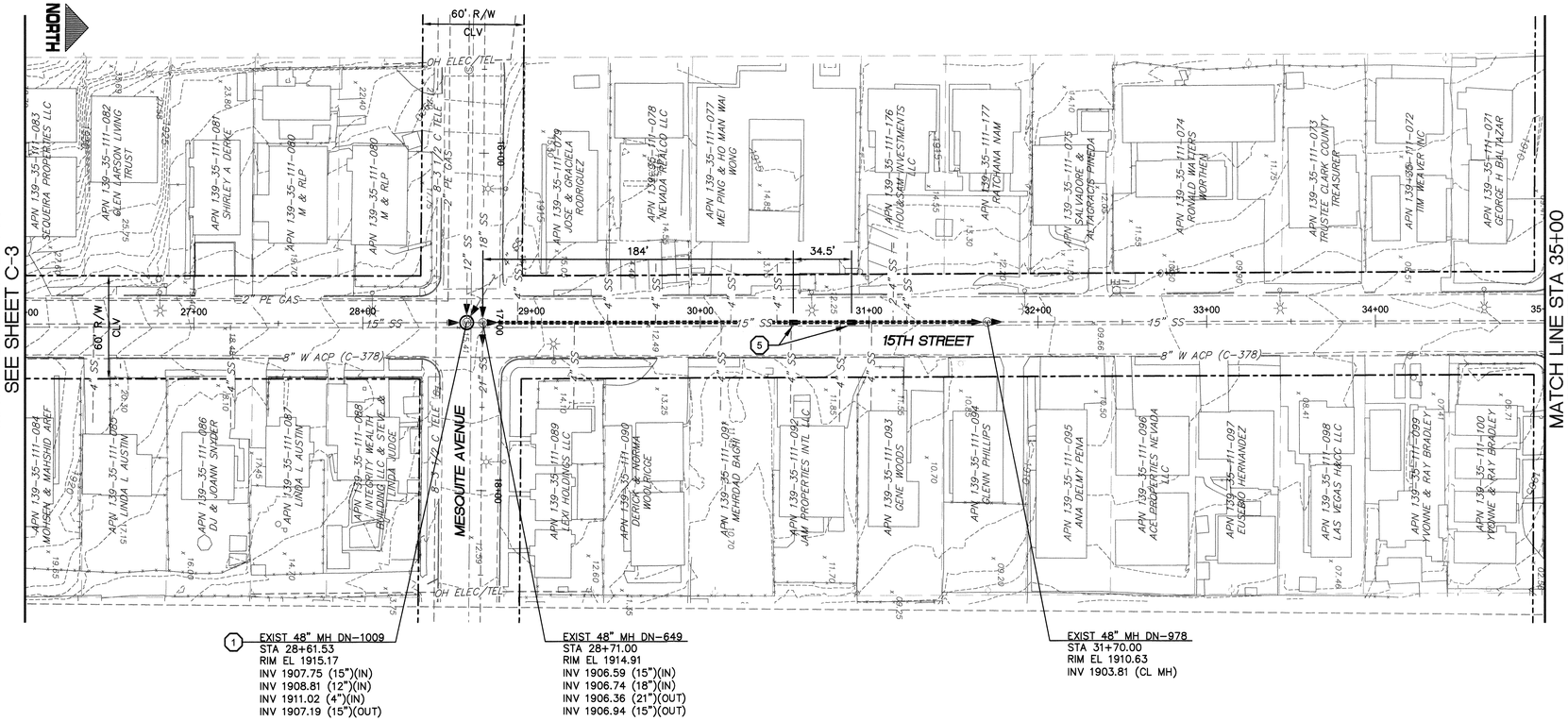

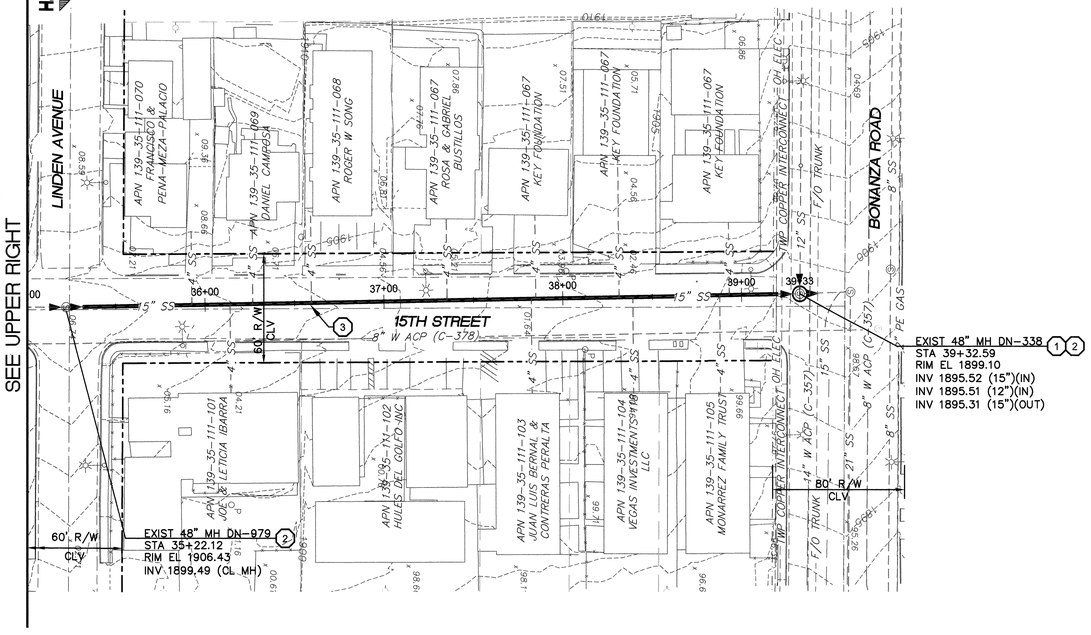

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's costly! Call before you do Overhead 1-702-693-8111

Call Before You Dig Underground 1-702-455-5211 1-702-702-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

1. REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.
2. FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.
3. INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.
5. INSTALL CIPP SECTIONAL LINERS TO REHABILITATE MULTIPLE POINT REPAIRS IN EXISTING PIPE SEGMENT PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOM MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 15TH STREET PLAN STA 26+00 TO STA 39+33±

STATE OF NEVADA PROFESSIONAL ENGINEER MICHAEL A. FLEURY Exp. 06-30-15 CIVIL No. 20941 4/11/14

Sheet C-4
13 of 62
DRAWING NO. 307V1067

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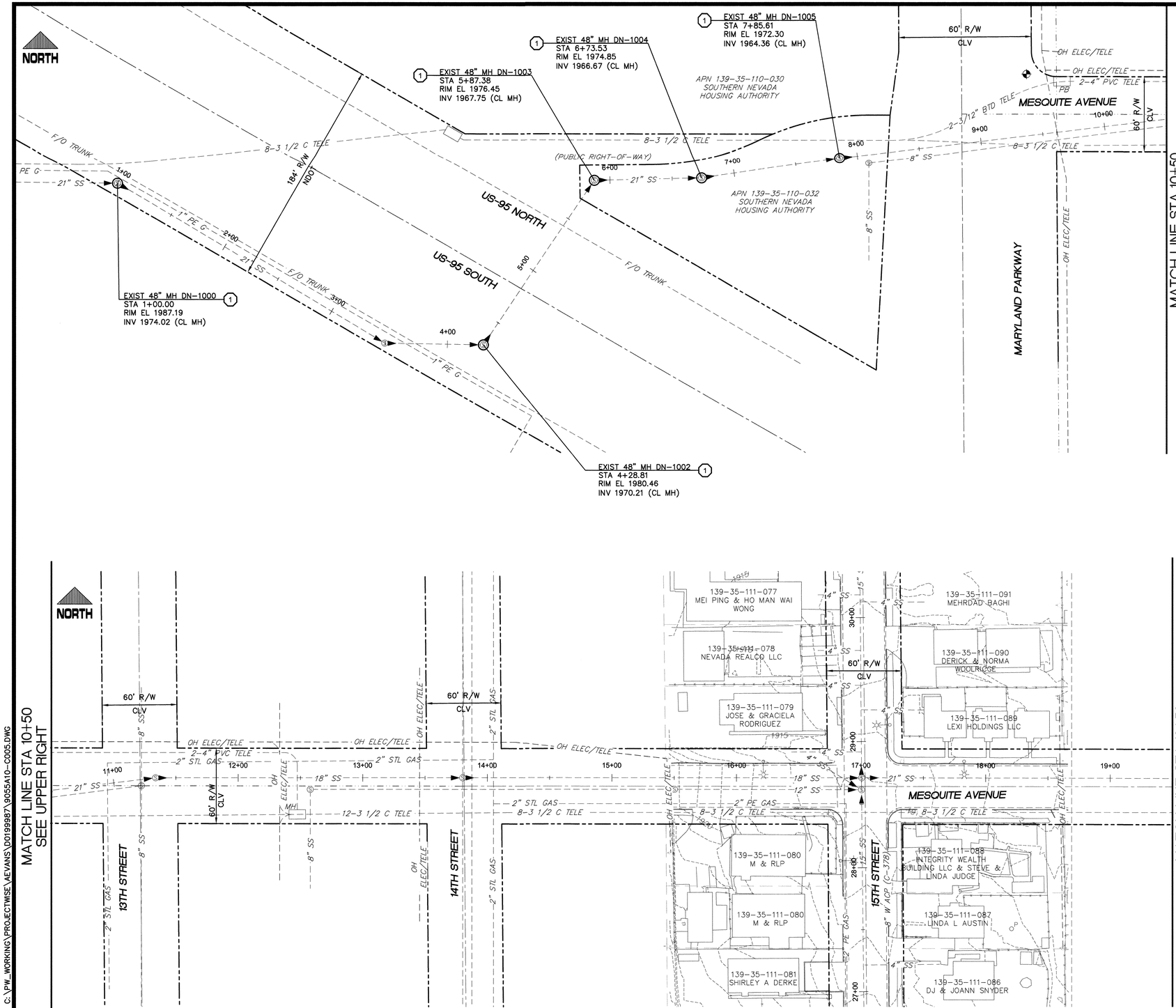

GRAPHIC SCALE

(IN FEET)

1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines, it's costly. Call before you do Overhead 1-702-493-8111 OVERHEAD SERVICE ALERT

Call Before You Dig Under Ground 1-702-455-7511 1-702-798-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY MCCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: MESQUITE AVENUE PLAN STA 1+00 TO STA 19+50

STATE OF NEVADA PROFESSIONAL ENGINEER MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20941

4/14

Sheet C-5
14 of 62
DRAWING NO. 307V1067

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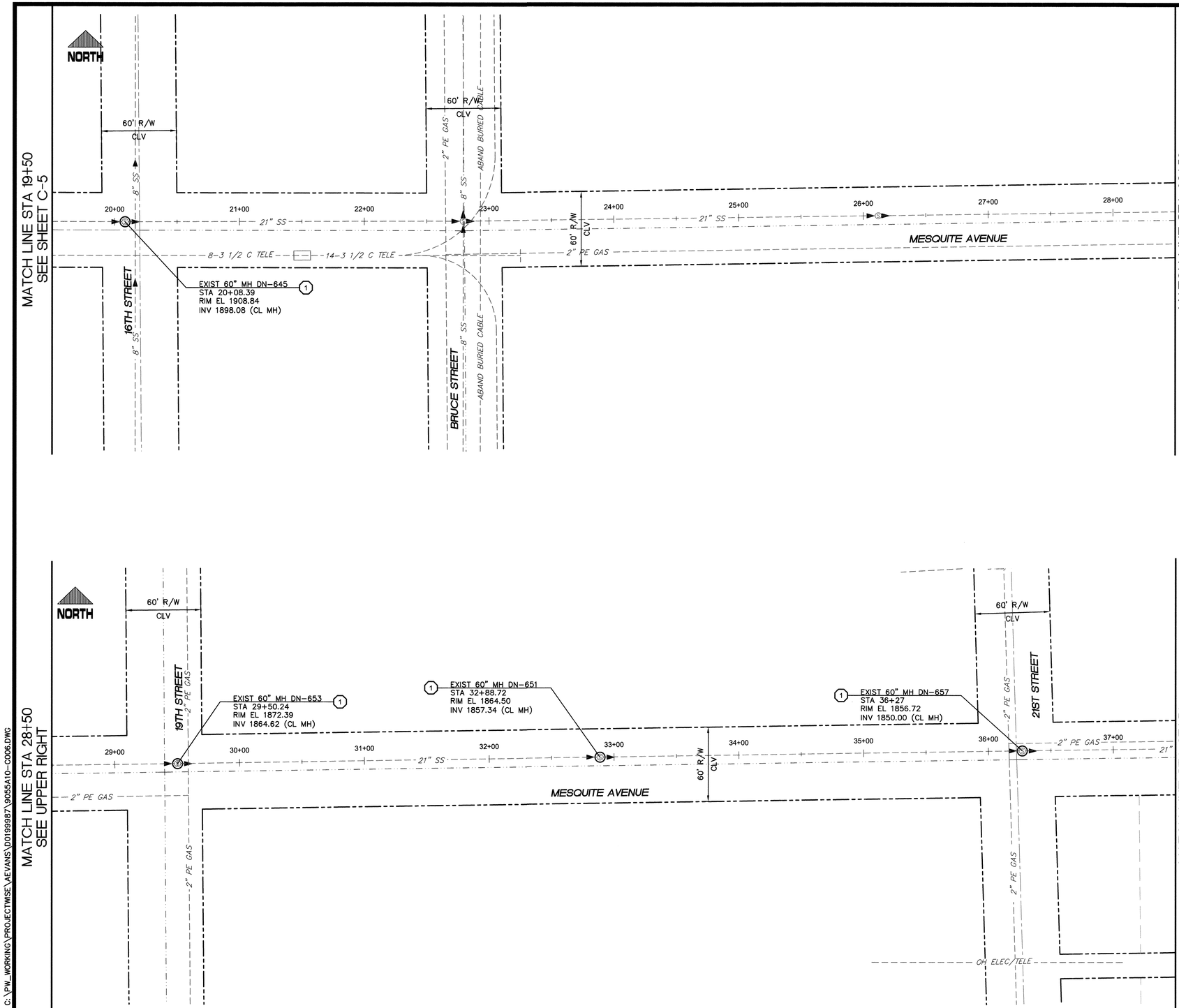

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: MESQUITE AVENUE PLAN STA 19+50 TO STA 37+50

STATE OF NEVADA
MICHAEL A. FLEURY
No. 20941
PROFESSIONAL ENGINEER
Exp: 05-30-15
CIVIL
4/11/14

Sheet C-6
15 of 62
DRAWING NO. 307V1067

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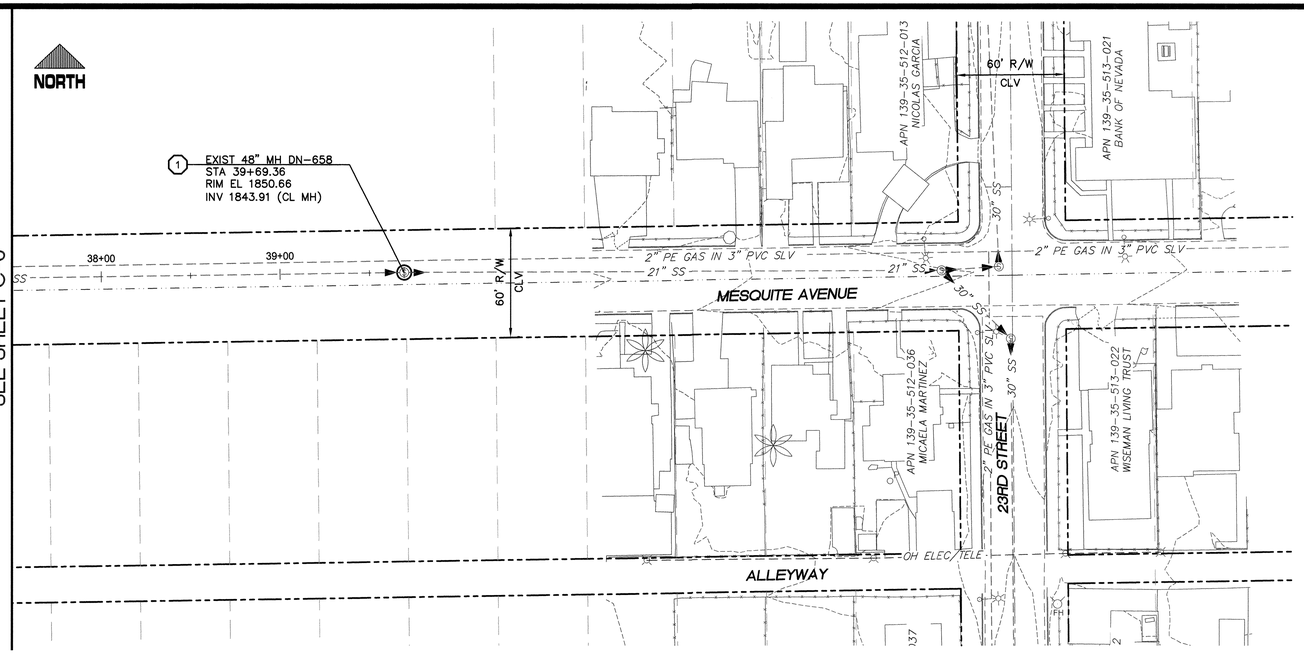


GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

carollo

REVISIONS

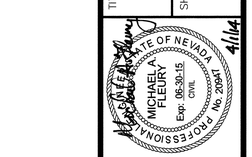
NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: MESQUITE AVENUE PLAN STA 37+50 TO STA 39+69±



Sheet C-7
16 of 62
DRAWING NO. 307V1067

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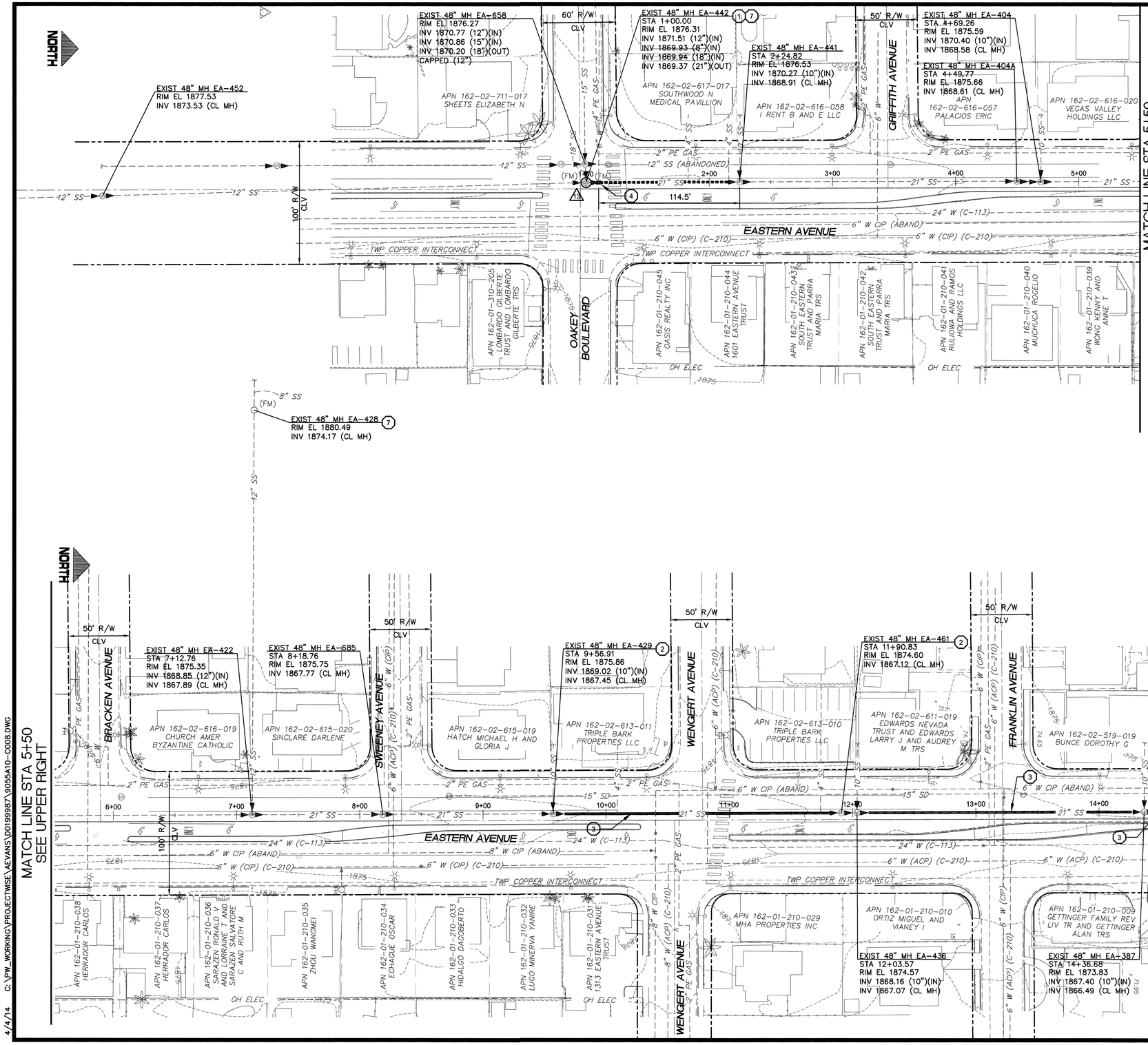

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GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig 811 — 1-800-227-2600 — 1-702-455-7044

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-493-811 — OVERHEAD SERVICE ALERT

Call Before You Dig — Under Ground — 1-702-455-5611 — 1-702-796-5611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

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(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(4) INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

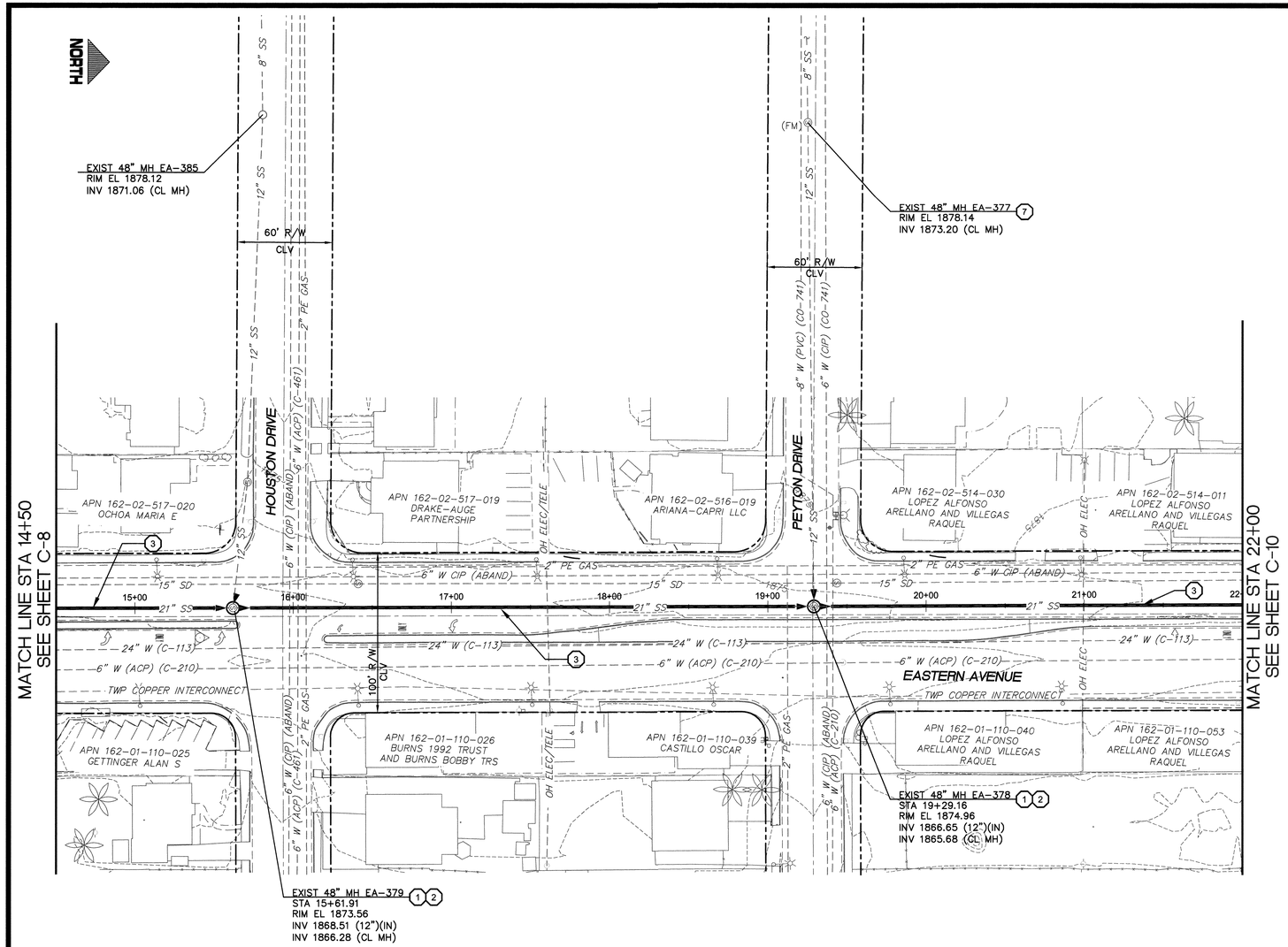
CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: EASTERN AVENUE PLAN STA 1+00 TO STA 14+50

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/11/14

Sheet C-8
17 of 62
DRAWING NO. 307V1067



GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION

M. DISHARIGAR DOAMEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. ROWERS, P.E.
RANDY MCCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

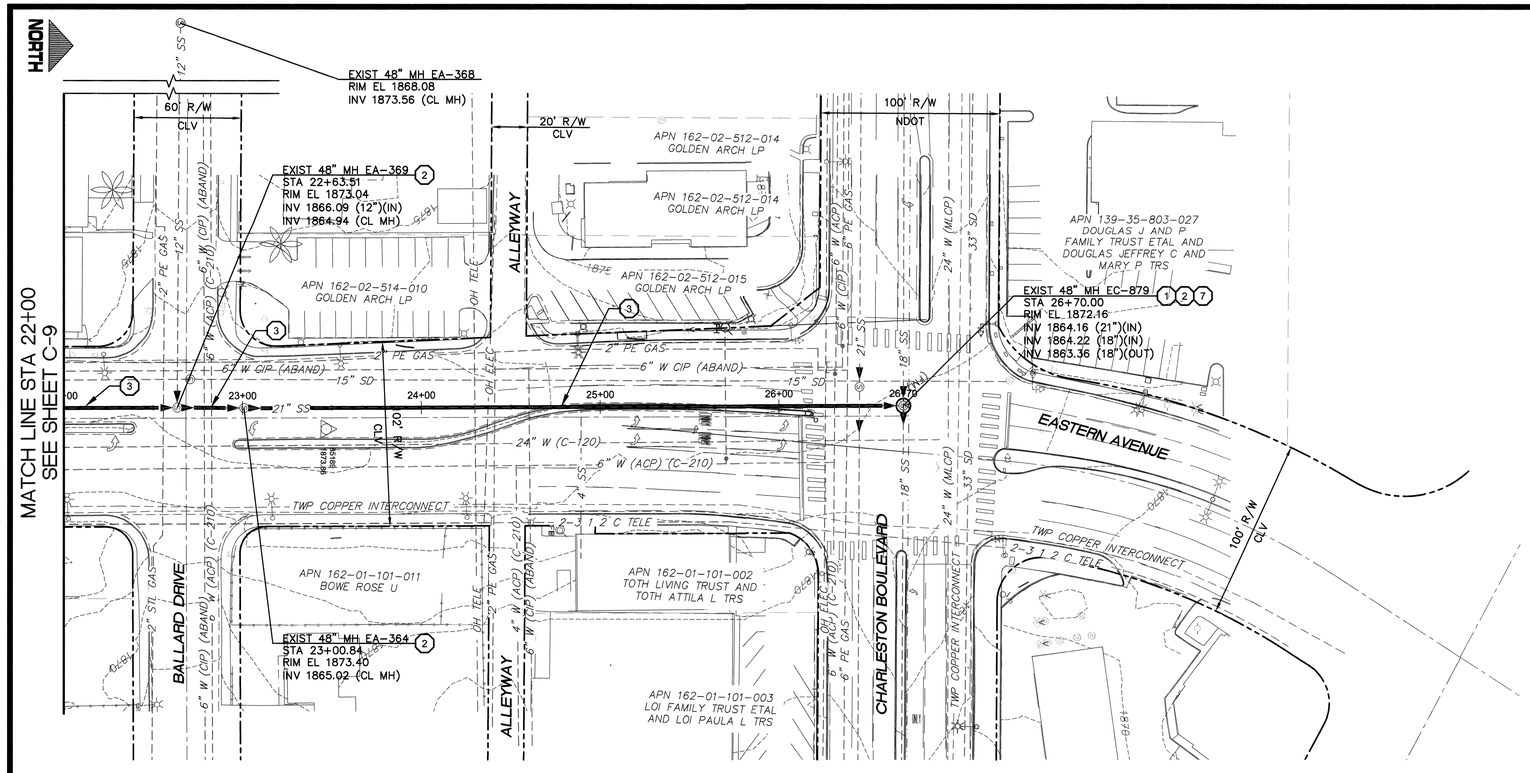
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

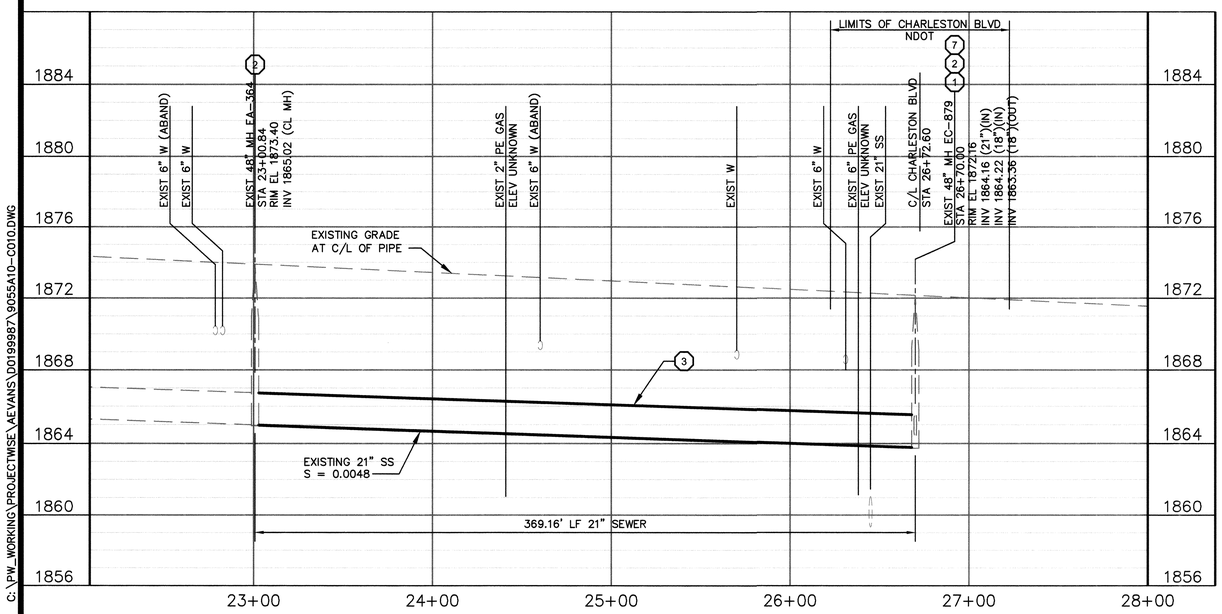
SHEET: EASTERN AVENUE PLAN STA 14+50 TO STA 22+00

STATE OF NEVADA
MICHAEL A. FLEURY
No. 20941
PROFESSIONAL ENGINEER
Exp: 05-30-15
CIVIL
4/1/14

Sheet
C-9
18 of 62
DRAWING NO.
307V1067



PLAN
1" = 40'



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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7044
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-599-4111 NEVADA POWER COMPANY
Call before you Dig Underground 1-702-455-7511 1-702-798-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.
3. SEE DRAWING C-21 AND C-22 FOR OTHER WORK IN CHARLESTON BLVD.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION
for DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

CITY OF LAS VEGAS

TITLE: SEWER REHABILITATION GROUP C

SHEET: EASTERN AVENUE PLAN STA 22+00 TO STA 26+70±

STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20541
PROFESSIONAL ENGINEER
4/1/14

Sheet C-10
19 of 62
DRAWING NO. 307V1067

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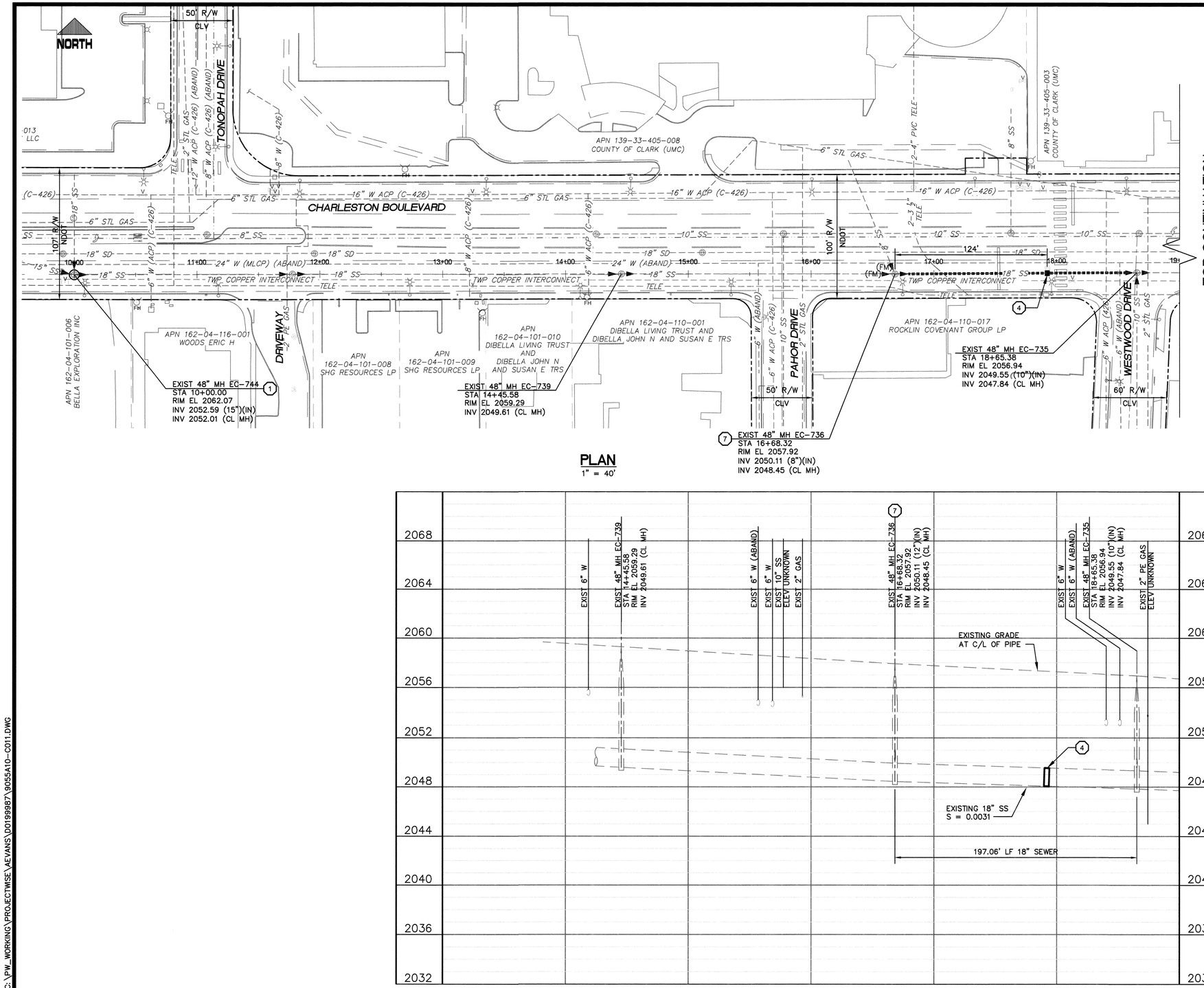

PLAN
1" = 40'

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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines, it's costly. Call before you do Overhead 1-702-593-6111 OVERHEAD SERVICE ALERT

Call Before You Dig Underground 1-702-455-2611 1-702-729-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(4) INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION
for DISHARI FOR DON MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWES, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN & PROFILE STA 10+00 TO STA 19+00

STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20041
PROFESSIONAL ENGINEER
4/11/14

Sheet C-11
20 of 62
DRAWING NO. 307V1067

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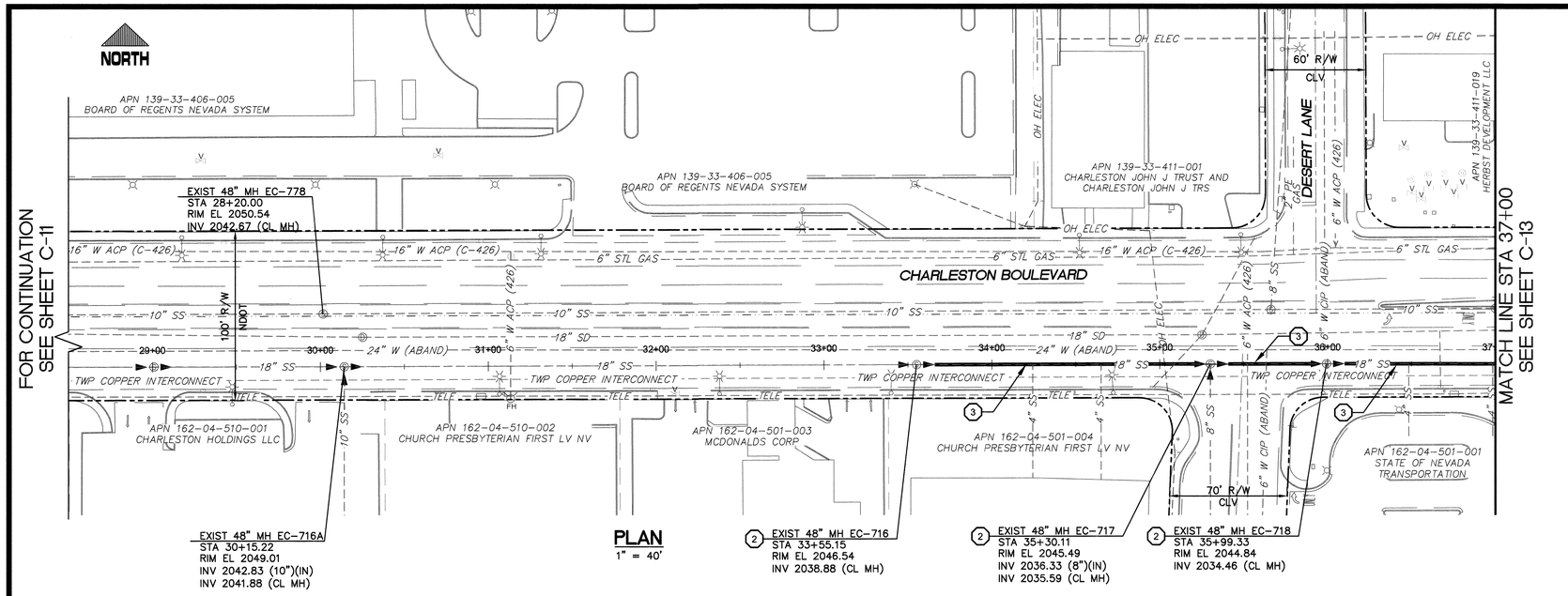

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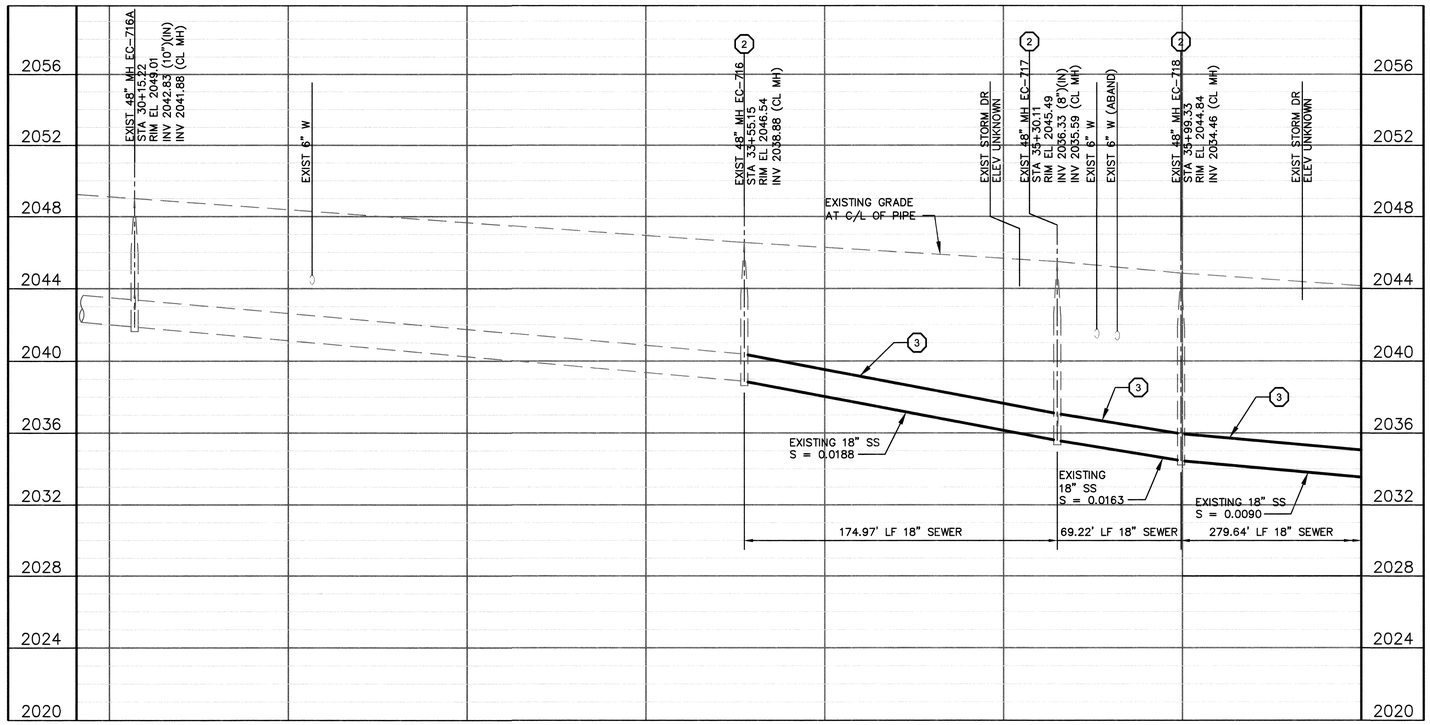

PROFILE
HORIZ: 1" = 40'
VERT : 1" = 4'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's cool! Call before you do Overhead 1-702-593-8111 OVERHEAD SERVICE ALERT

Call before you Dig Underground 1-702-455-7411 1-702-729-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION
M. DISHAR FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN & PROFILE STA 28+50 TO STA 37+00

STATE OF NEVADA PROFESSIONAL ENGINEER MICHAEL A. FLEURY No. 20941 Exp: 06-30-15 CIVIL 4/4/14

Sheet C-12
21 of 62
DRAWING NO. 307V1067

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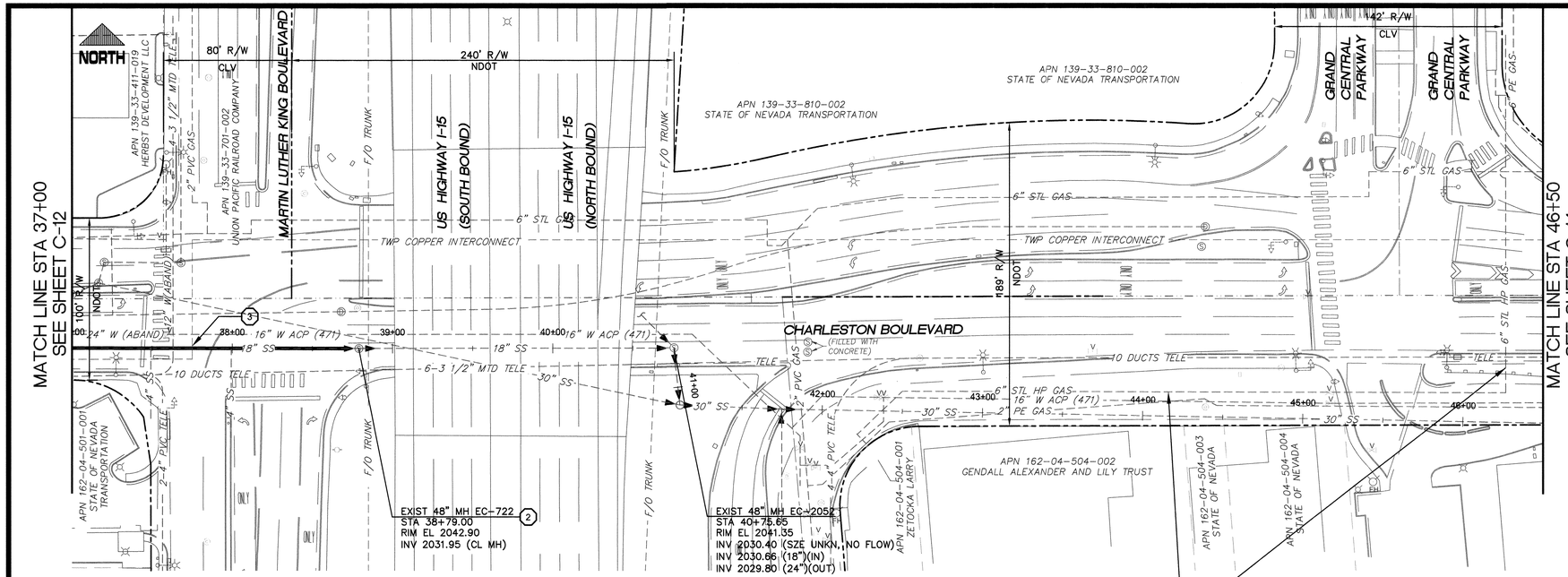
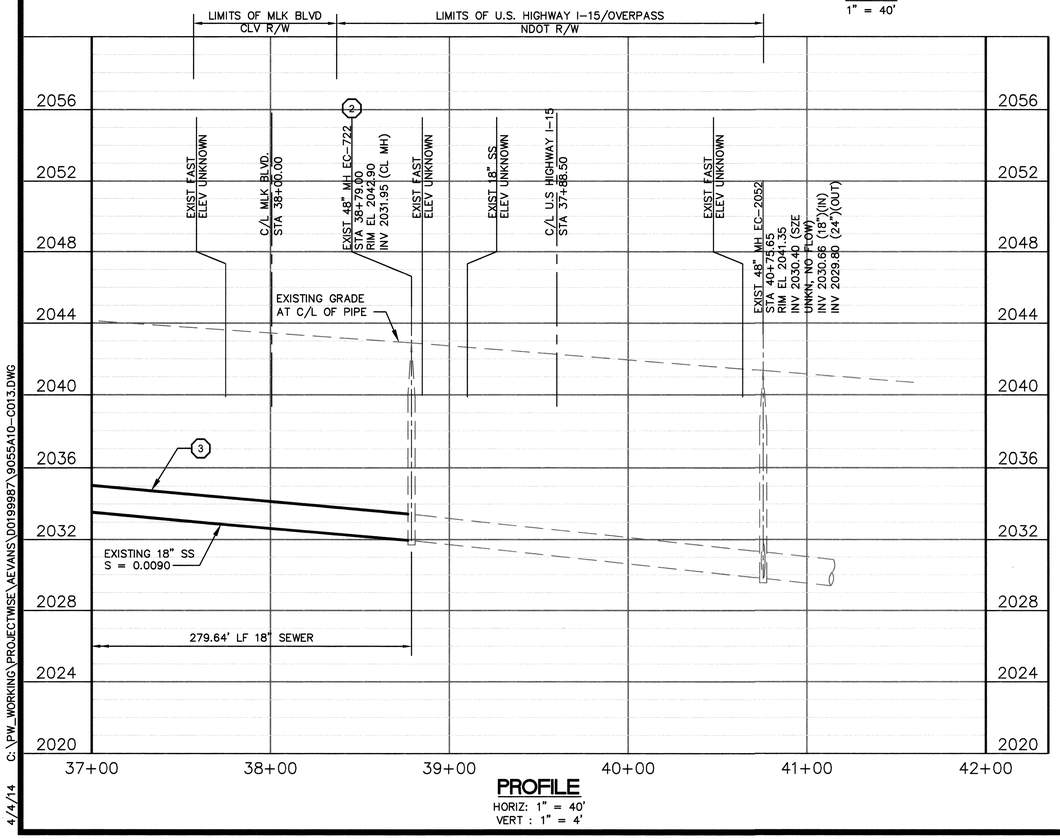


PLAN
1" = 40'



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

CALL SOUTHWEST GAS 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-693-6111
Call before you Under Ground 1-702-455-6011 1-702-920-6011

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN & PROFILE STA 37+00 TO STA 46+50

STATE OF NEVADA MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20941 PROFESSIONAL ENGINEER 4/4/14

Sheet C-13
22 of 62
DRAWING NO. 307V1067

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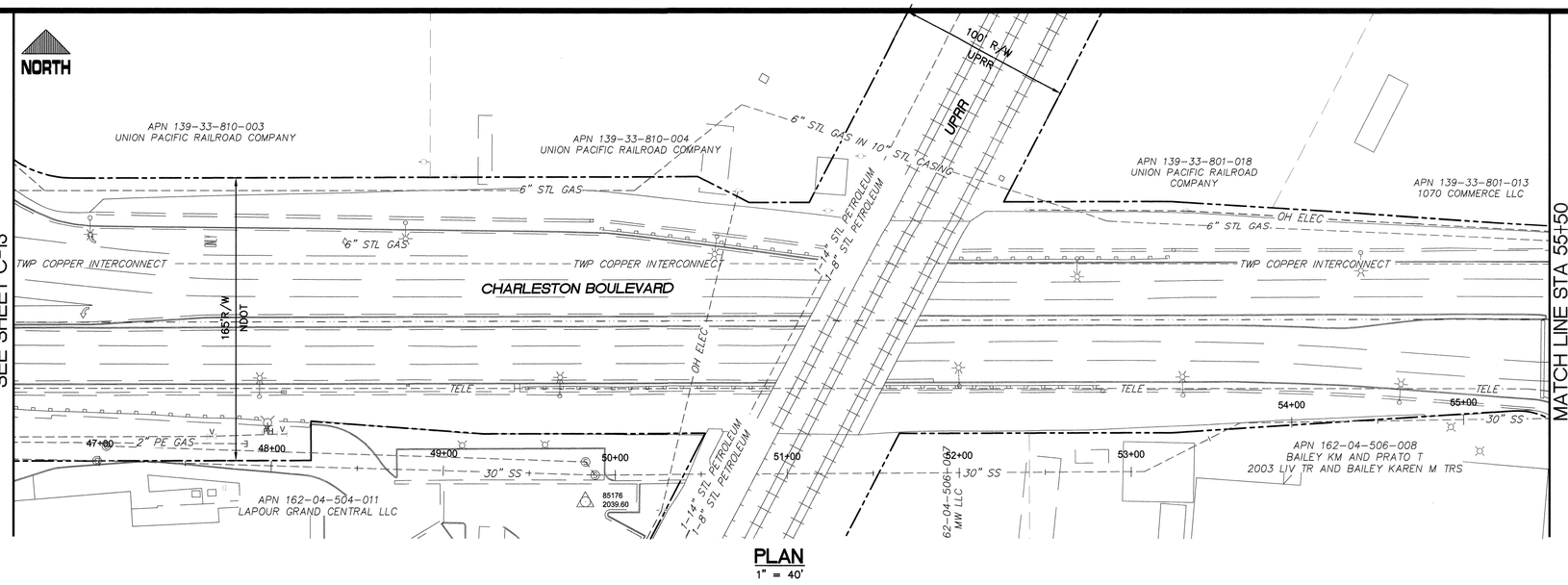
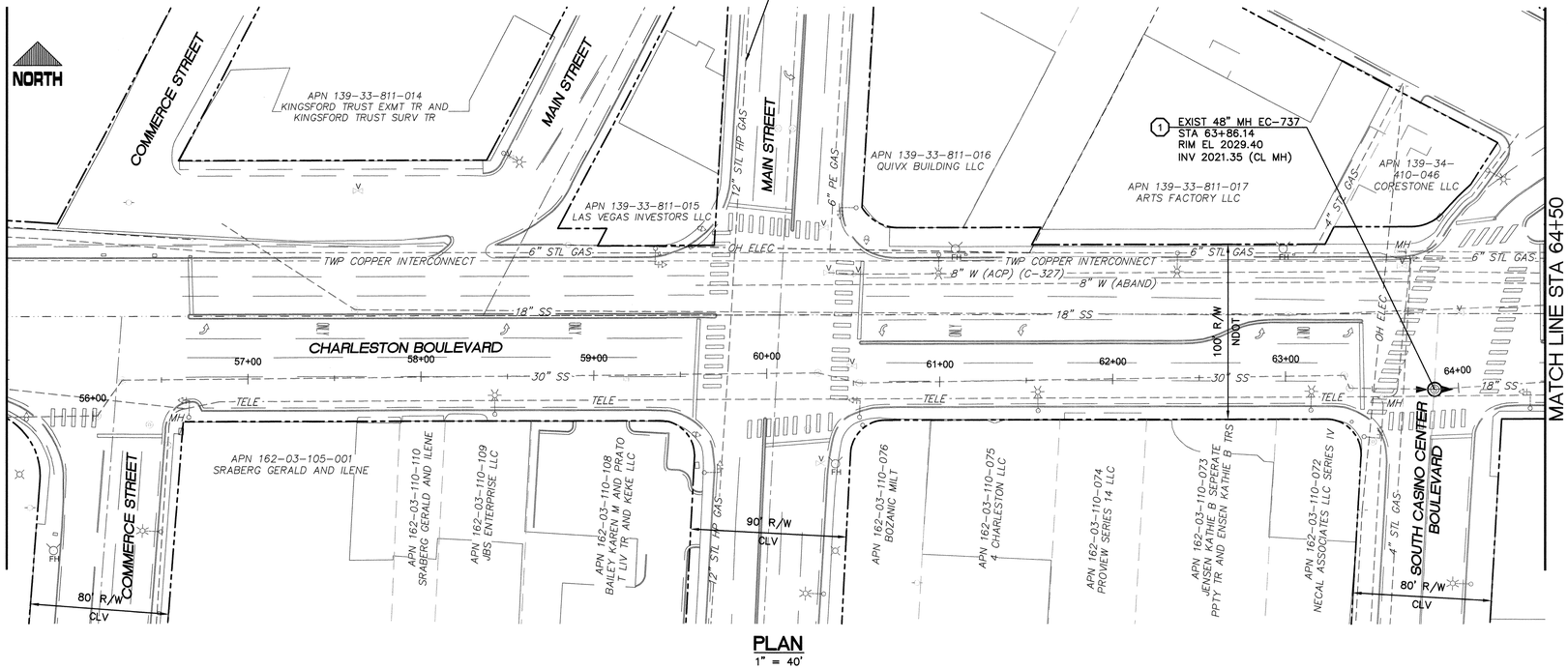


PLAN
1" = 40'

CALL SOUTHWEST GAS 702-651-2111
FOR STANDBY WHEN EXCAVATING OVER
OR NEAR HIGH PRESSURE GAS LINES.

CAUTION: HIGH PRESSURE GAS



PLAN
1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN STA 46+50 TO STA 64+50

STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/11/14

Sheet C-14
23 of 62
DRAWING NO. 307V1067

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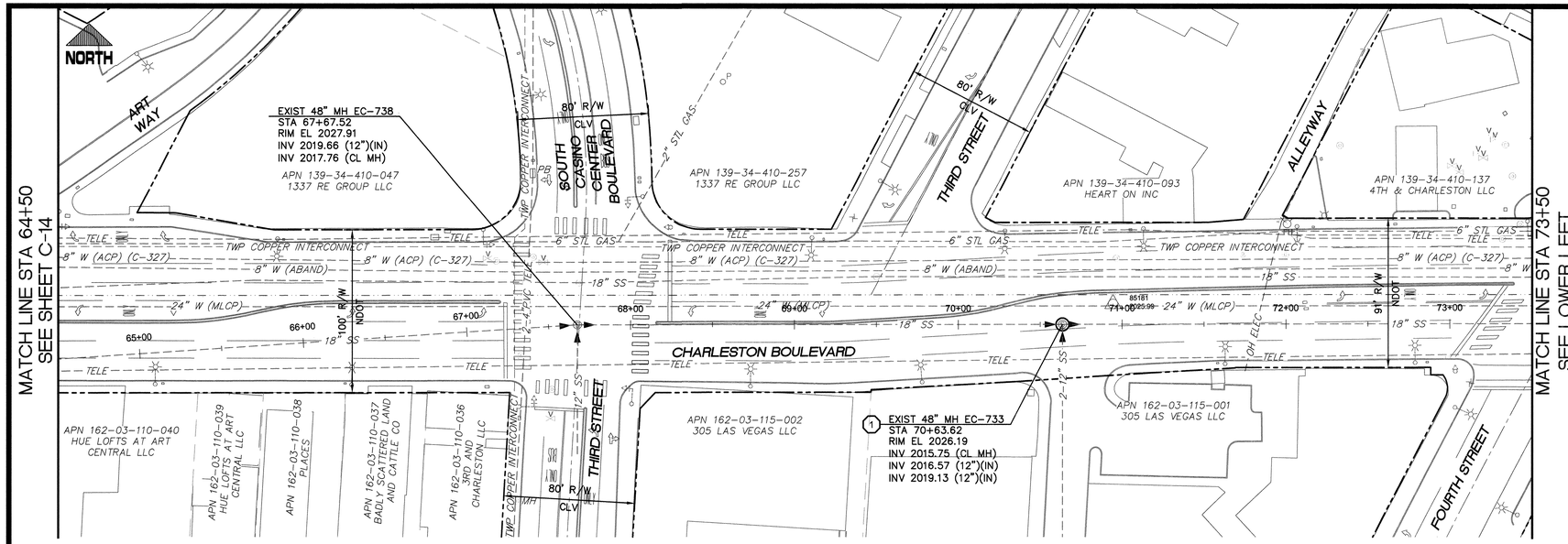
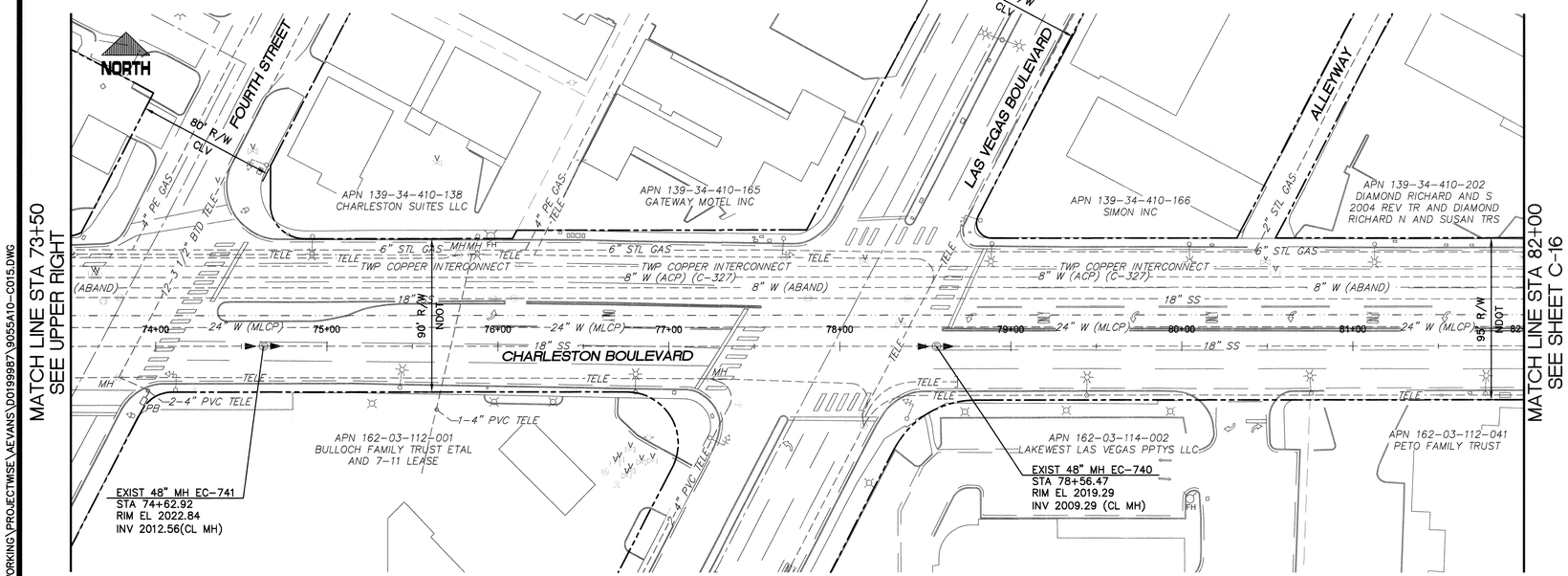


PLAN
1" = 40'



PLAN
1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN STA 64+50 TO STA 82+00

STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/4/14

APPROVED FOR CONSTRUCTION
for Disharoon Dos Heads
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

Sheet C-15
24 of 62
DRAWING NO. 3071067

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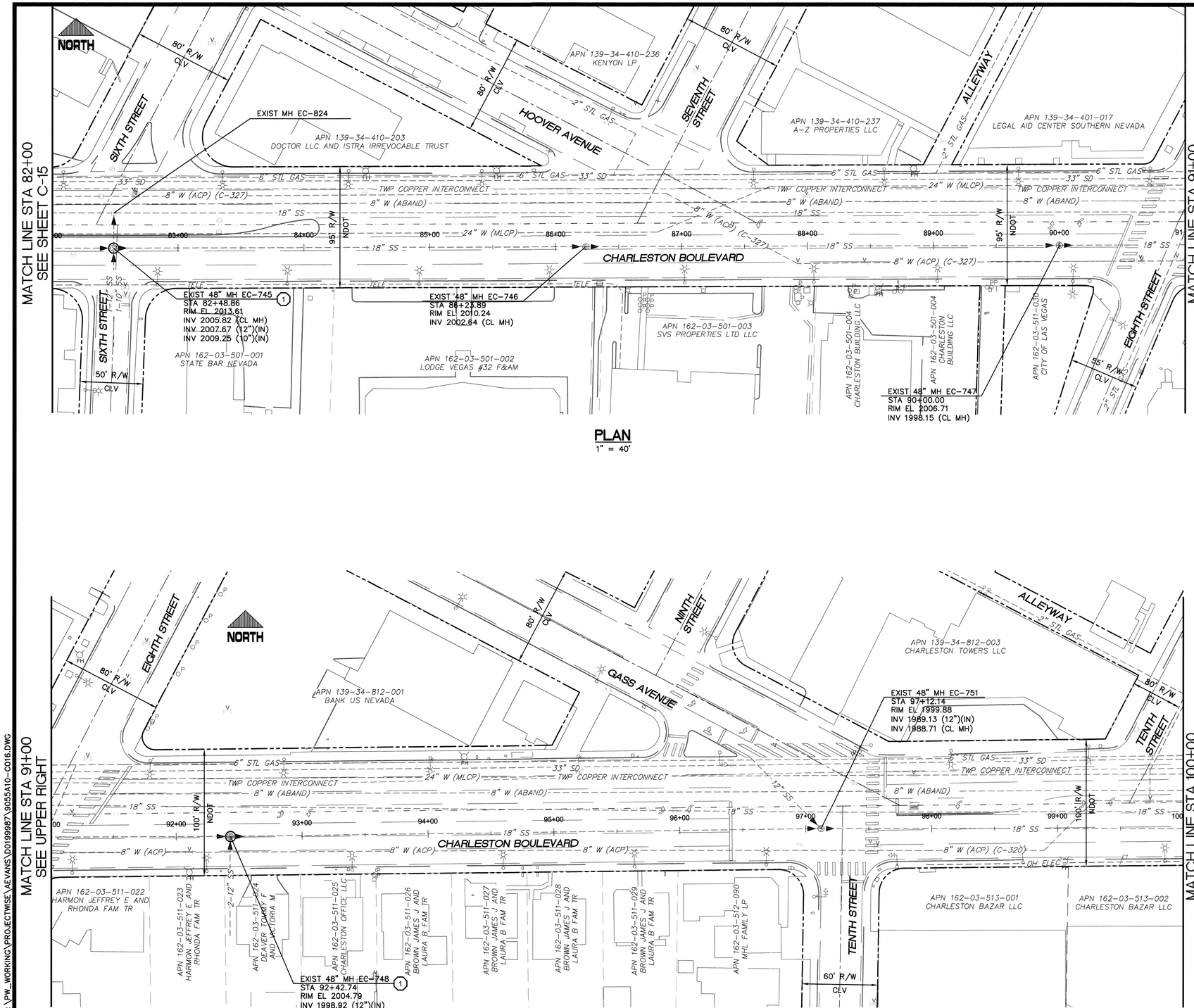

PLAN
1" = 40'

PLAN
1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's costly! Call before you go Overhead 1-702-593-8111 OVERHEAD SERVICE ALERT

Call before you Dig Underground 1-702-455-7611 1-702-729-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
4. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN STA 82+00 TO STA 100+00

PROFESSIONAL ENGINEER STATE OF NEVADA MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20947 4/14/14

Sheet C-16
25 of 62
DRAWING NO. 307V1067

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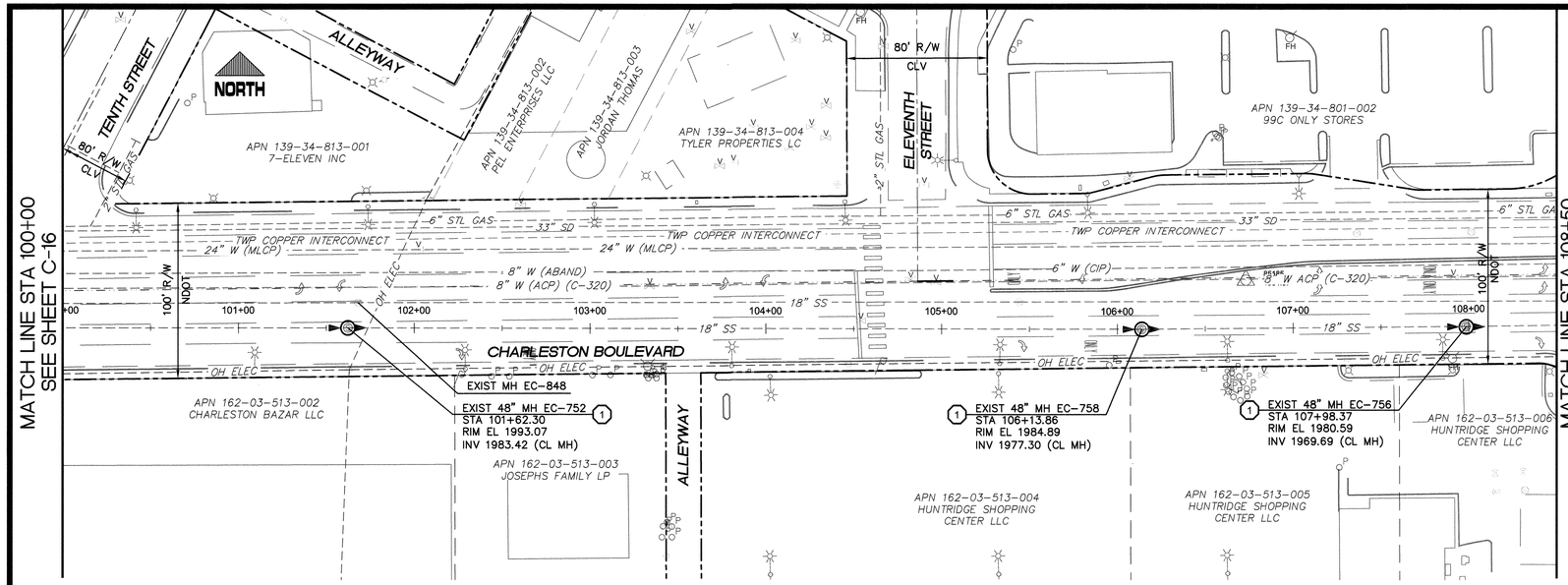
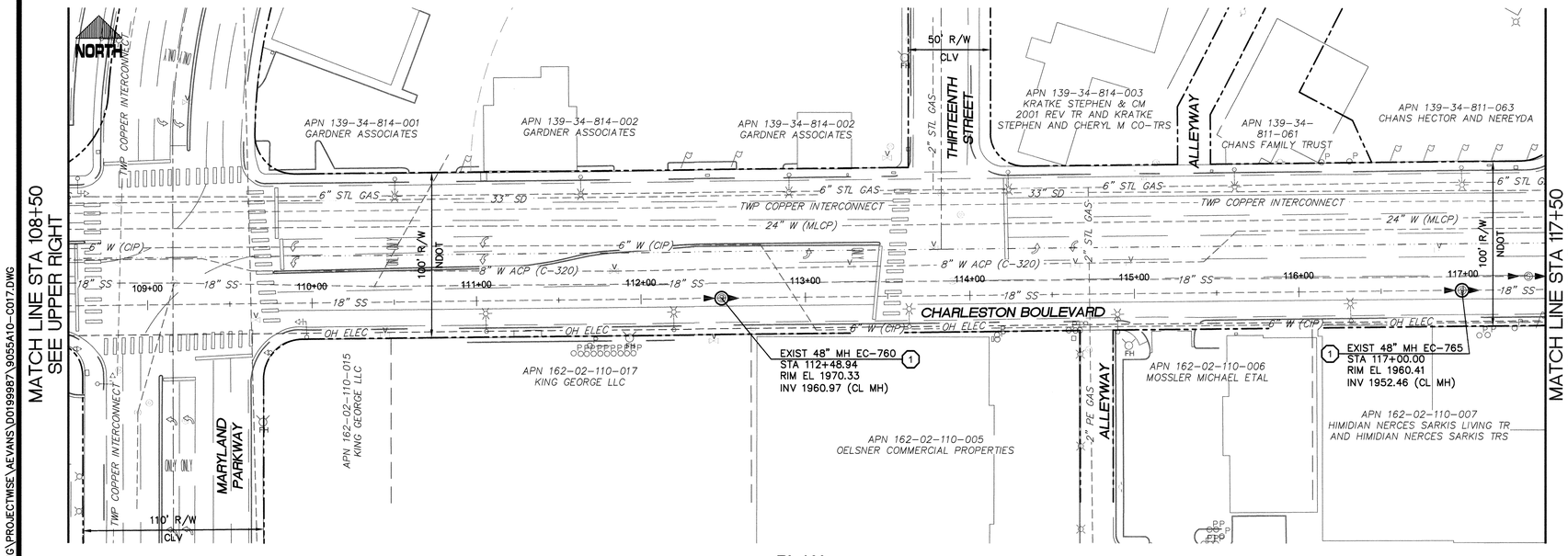


PLAN
1" = 40'



PLAN
1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 — OVERHEAD SERVICE ALERT

Call before you Dig Underground 1-702-455-7511 — 1-702-796-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
M. Dishari for JOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. ROWES, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN STA 100+00 TO STA 117+50

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/11/14

Sheet C-17
26 of 62
DRAWING NO. 307V1067

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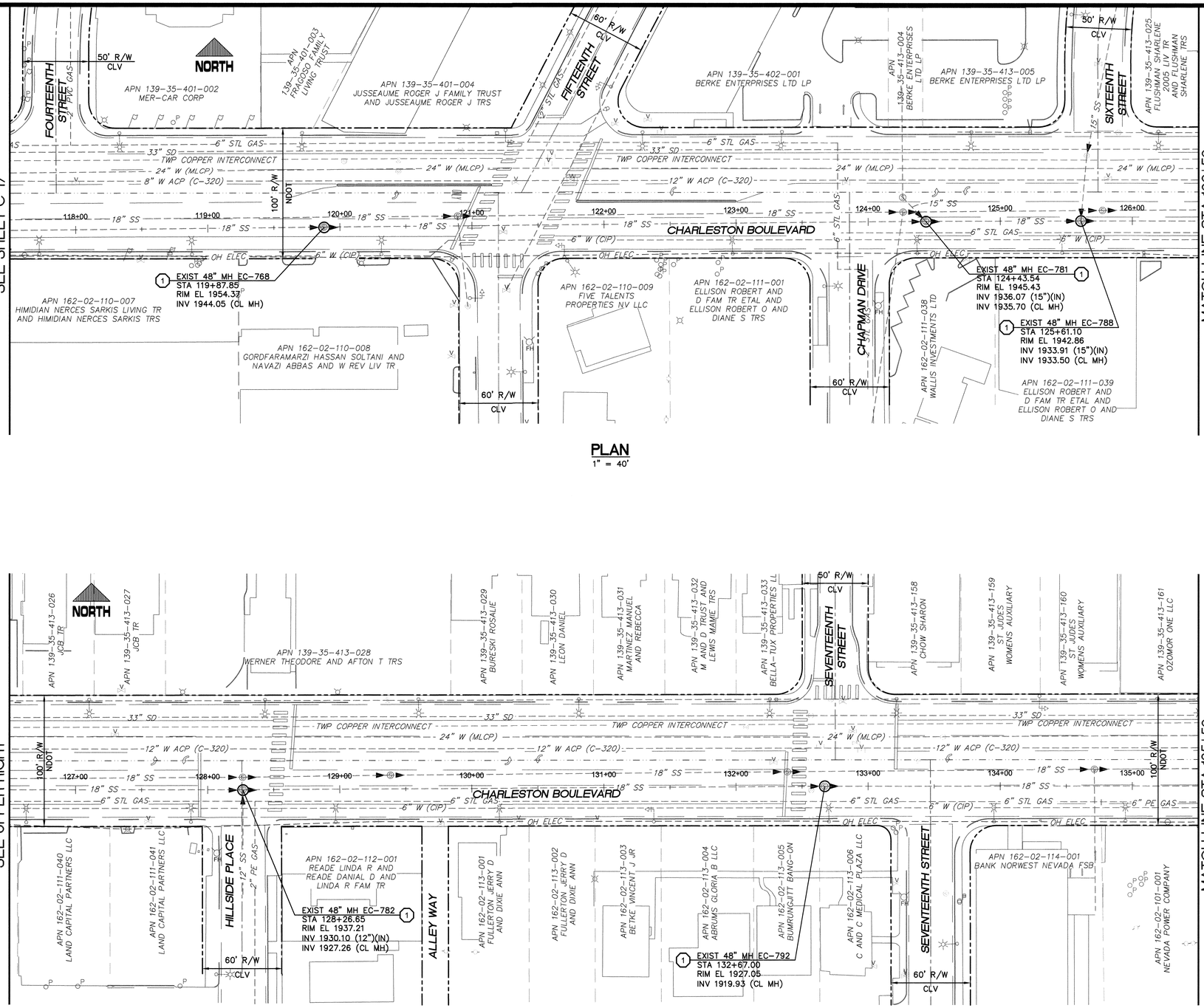

PLAN
1" = 40'

PLAN
1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111
Call before you Dig Underground 1-702-455-7511 — 1-702-220-6014

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
H. Dishaw FOR DAN MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

CITY OF LAS VEGAS

TITLE: SEWER REHABILITATION GROUP C
CHARLESTON BLVD PLAN
STA 117+50 TO STA 135+50

SHEET: 41 of 44

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER

Sheet C-18
27 of 62
DRAWING NO. 307V1067

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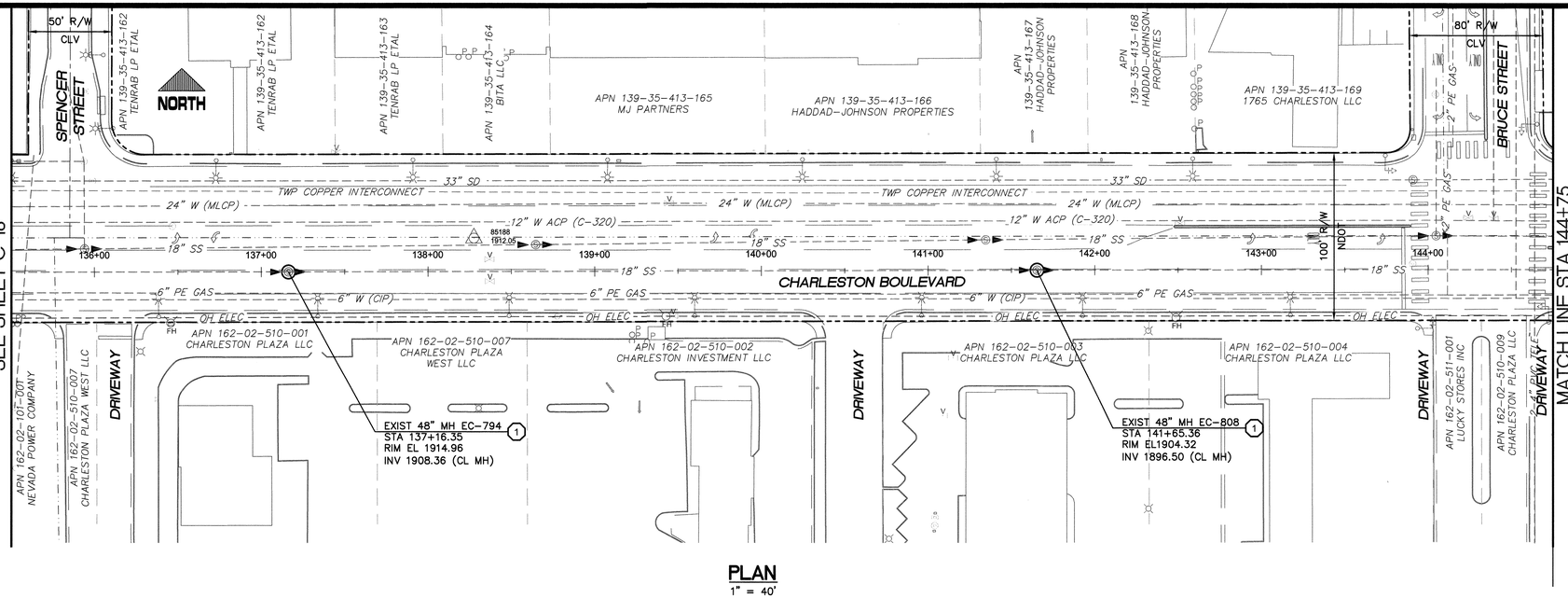
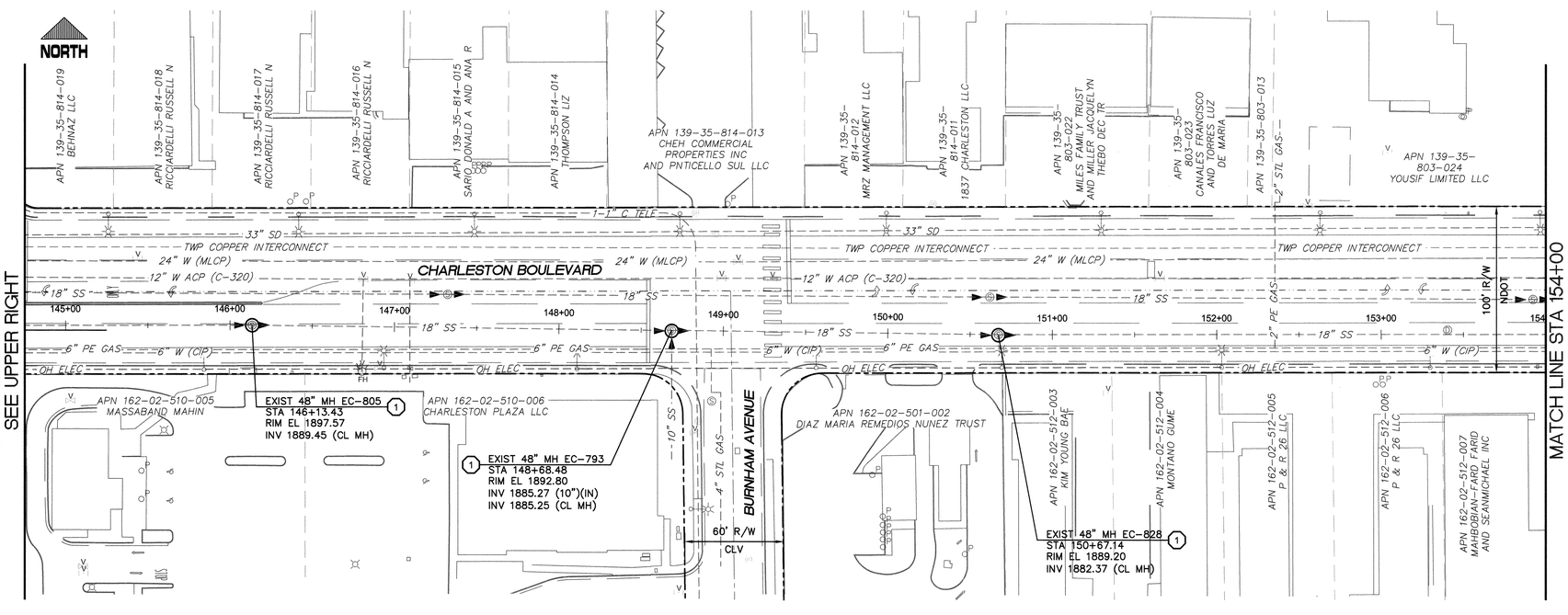


PLAN
1" = 40'



PLAN
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GRAPHIC SCALE
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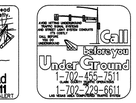
1 inch = 40 ft.



CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
Y. DISHAR FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

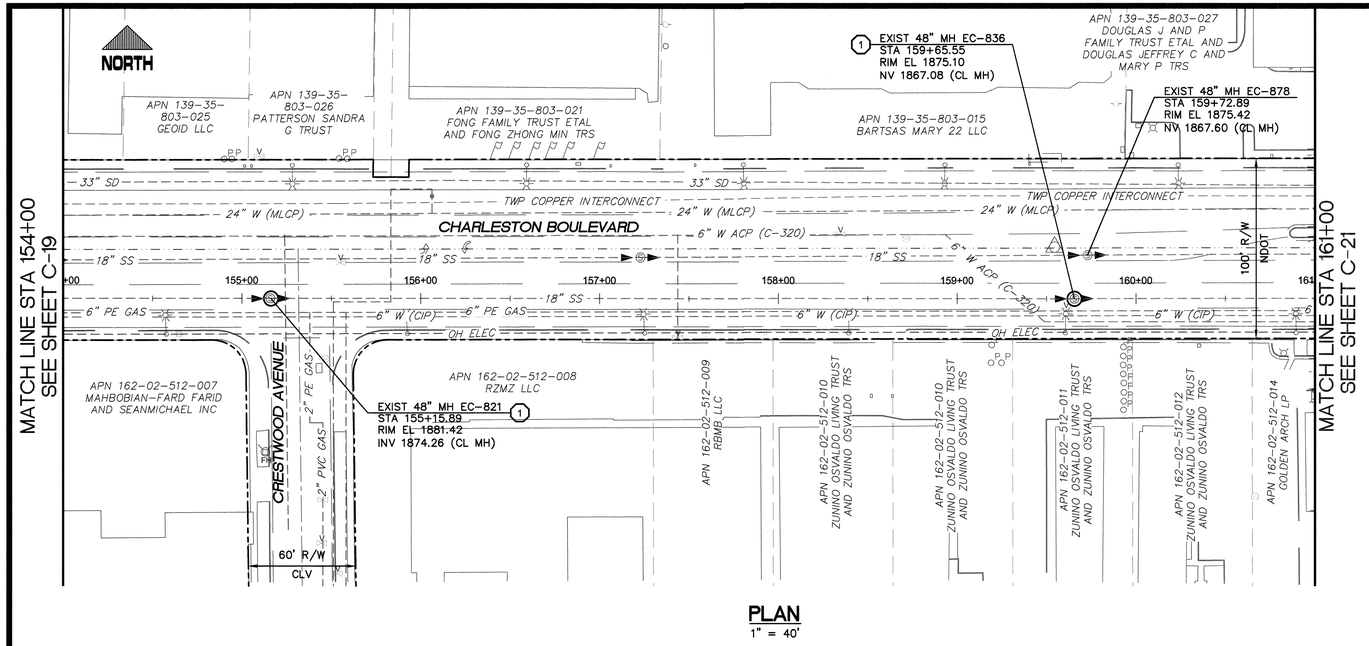
TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN STA 135+50 TO STA 154+00

MICHAEL A. FLEURY
STATE OF NEVADA
Exp. 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/4/14

Sheet
C-19
28 of 62
DRAWING NO.
307V1067

4/4/14 C:\PW_WORKING\PROJECTWISE\AEVANS\D0199987\9055A10-C019.DWG



PLAN
1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7541

Avoid cutting overhead utility lines. It's costly. Call before you dig Overhead 1-702-593-8111 OVERHEAD SERVICE ALERT

Call before you Dig Underground 1-702-455-7411 1-702-729-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN STA 154+00 TO STA 161+00

STATE OF NEVADA PROFESSIONAL ENGINEER MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20941 4/11/14

Sheet C-20
29 of 62
DRAWING NO. 307V1067

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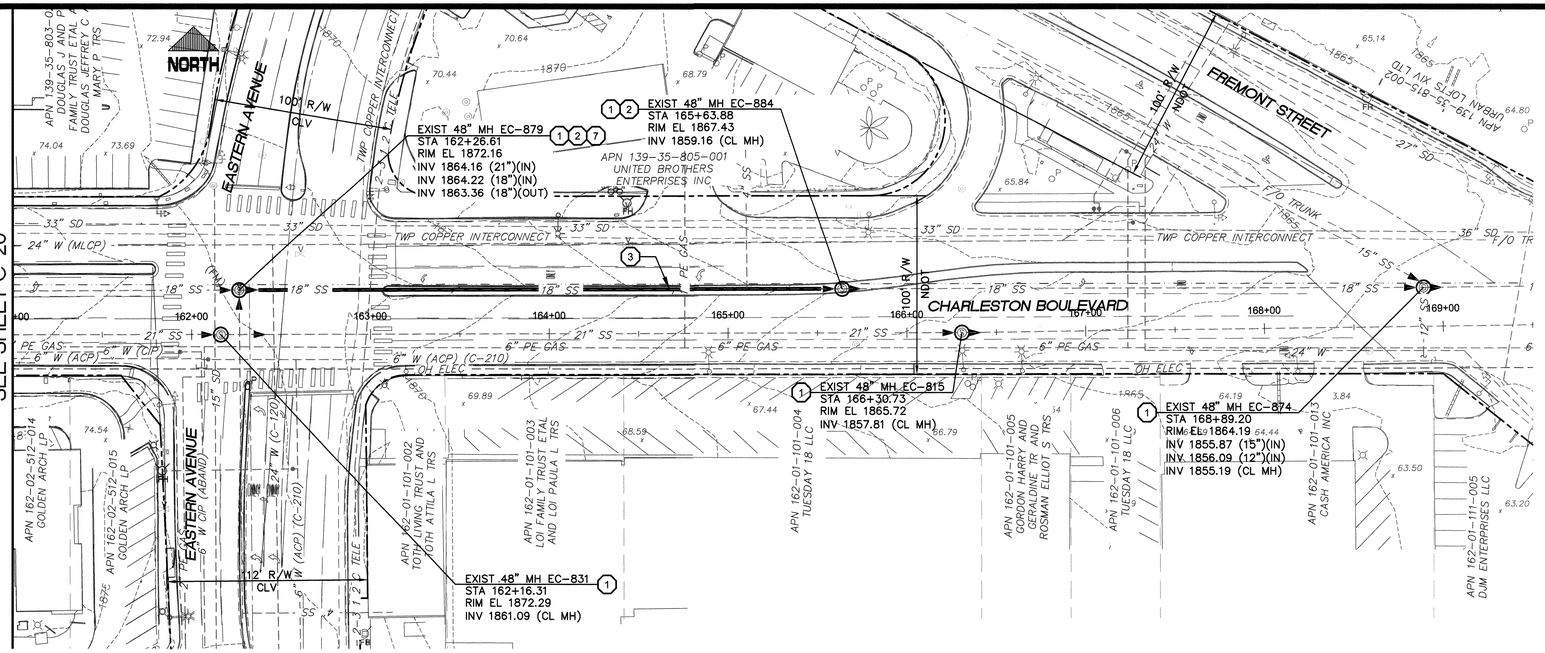
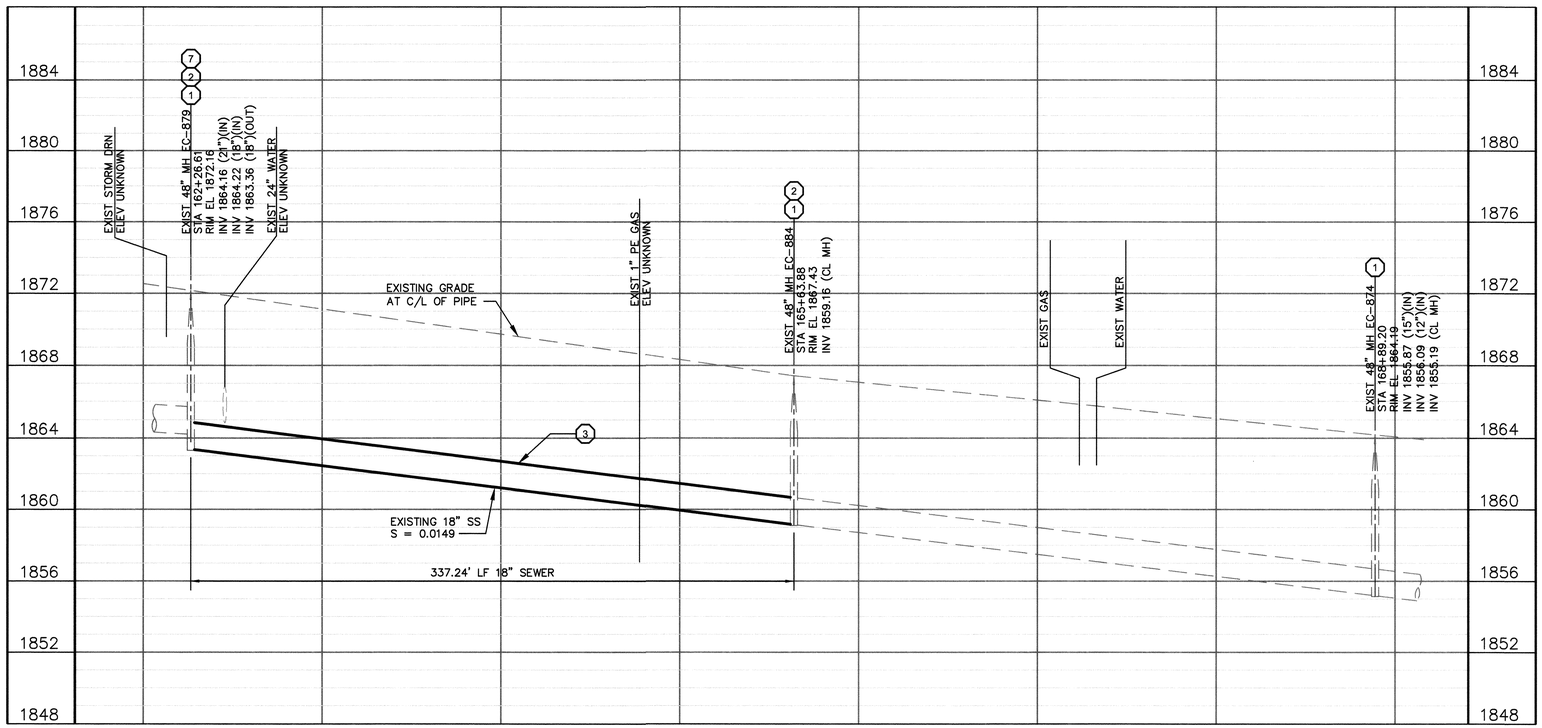


PLAN
1" = 40'



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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111

Call before you Dig Underground 1-702-455-7511 1-702-736-6014

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: CHARLESTON BLVD PLAN & PROFILE STA 161+00 TO STA 169+50±

STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/11/14

Sheet
C-21
30 of 62
DRAWING NO.
307V1067

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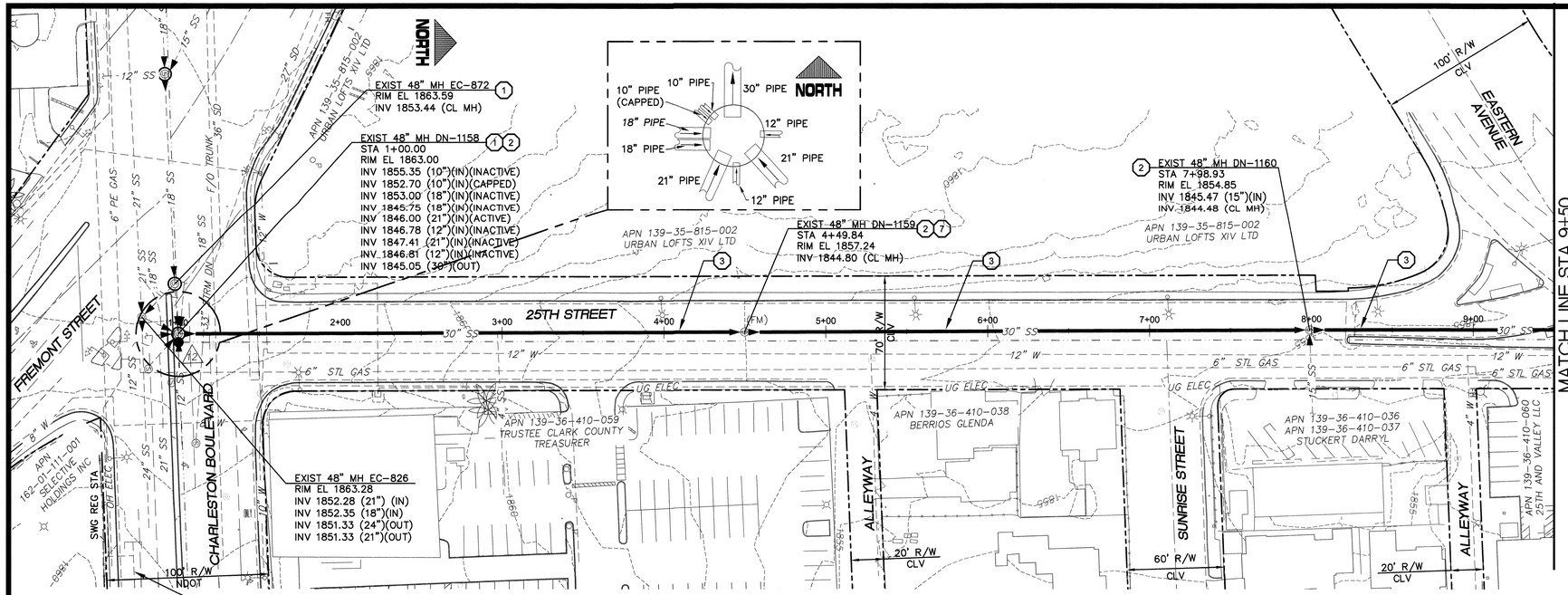
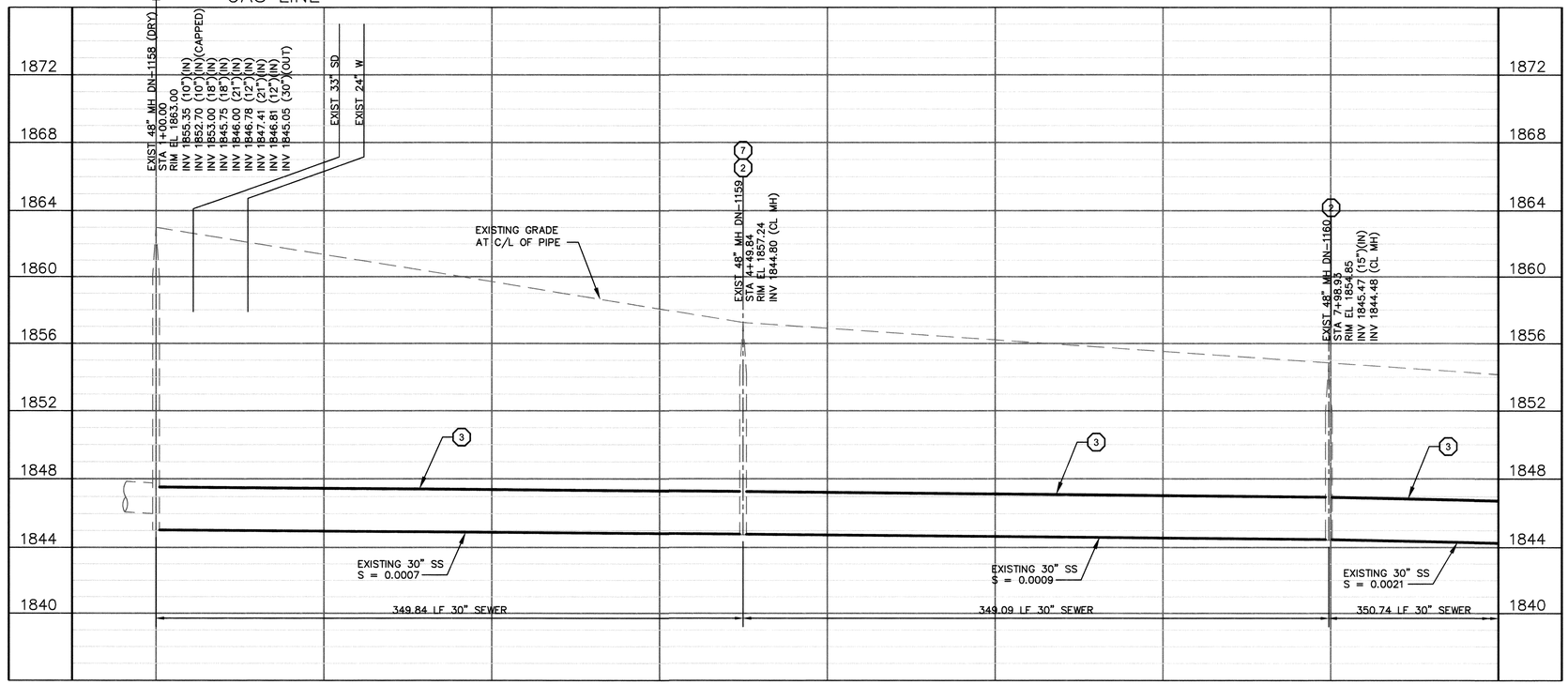


PLAN
1" = 40'



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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 (one number for Nevada and Southern California) 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you go Overhead 1-702-593-8111 OVERHEAD SERVICE ALERT

Call before you Dig Underground 1-702-455-7211 1-702-229-6611 (all Nevada)

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

CALL SOUTHWEST GAS 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES.

APPROVED FOR CONSTRUCTION
DISHARON DOAMEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E. / RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: XXX
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 25TH STREET PLAN & PROFILE STA 1+00 TO STA 9+50

STATE OF NEVADA PROFESSIONAL ENGINEER MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20941 4/4/14

Sheet C-22
31 of 62
DRAWING NO. 307V1067

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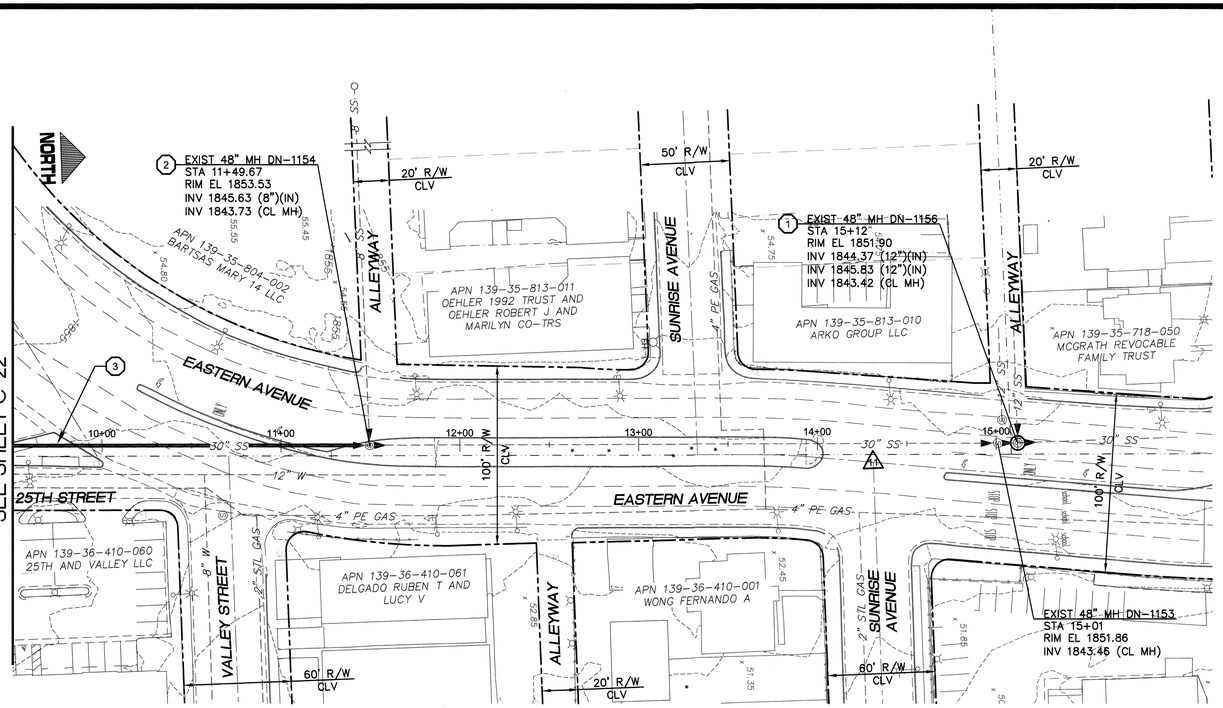

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION

M. DISHARI FOR DOA MEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 12207C

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: 25TH STREET/EASTERN AVE PLAN STA 9+50 TO STA 15+12±

PROFESSIONAL ENGINEER STATE OF NEVADA MICHAEL A. FLEURY Exp. 06-30-15 CIVIL No. 20941 4/11/14

Sheet C-23

32 of 62

DRAWING NO. 307V1067

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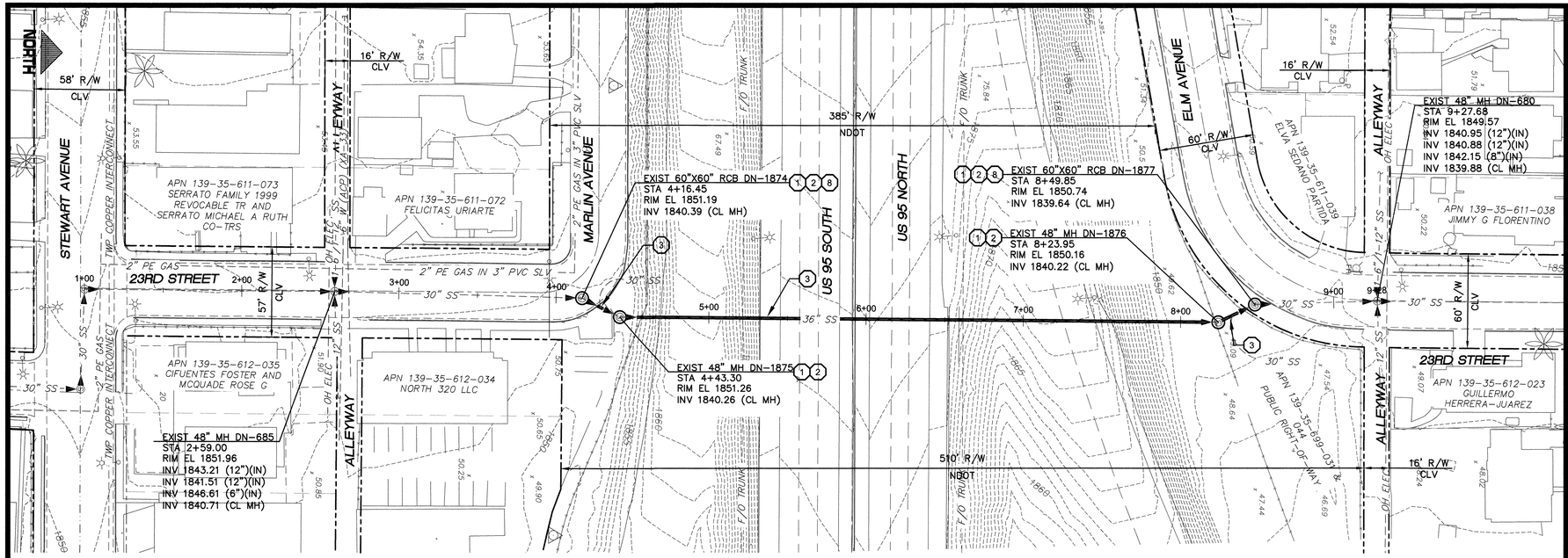
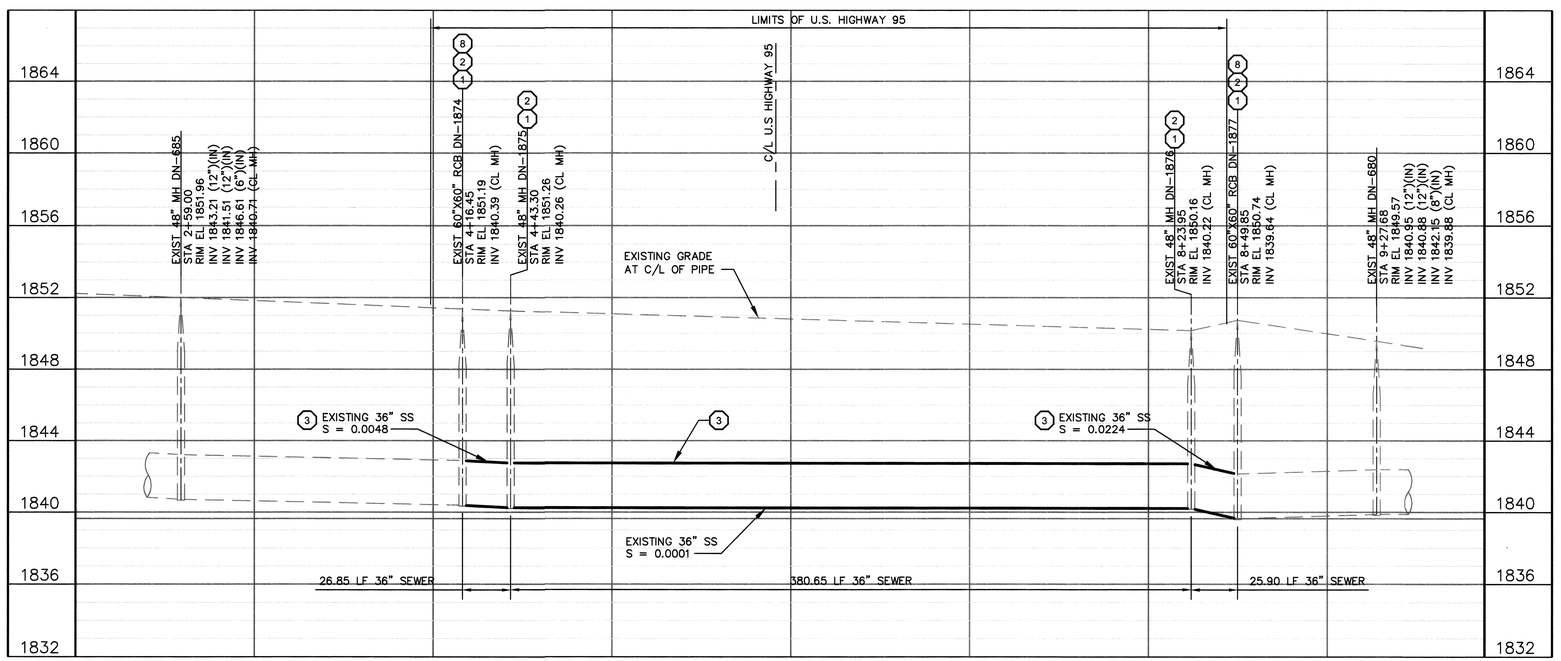


PLAN
1" = 40'



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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 (use non-member utility lines, e.g. cable) — 1-702-455-7544
Avoid cutting overhead utility lines, it's costly. Call before you do Overhead 1-702-593-6111 OVERHEAD SERVICE ALERT
Call before you Under Ground 1-702-455-7511 — 1-702-229-6611 (at least two working days before you begin work)

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(8) MH DN-1874 TO MH DN-1877 WILL REQUIRE EXTRA CLEANING TO REMOVE ACCUMULATED DEBRIS AND CONCRETE.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E. / RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 23RD STREET PLAN & PROFILE STA 1+00 TO STA 9+28±

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/11/14

Sheet C-24
33 of 62
DRAWING NO. 307V1067

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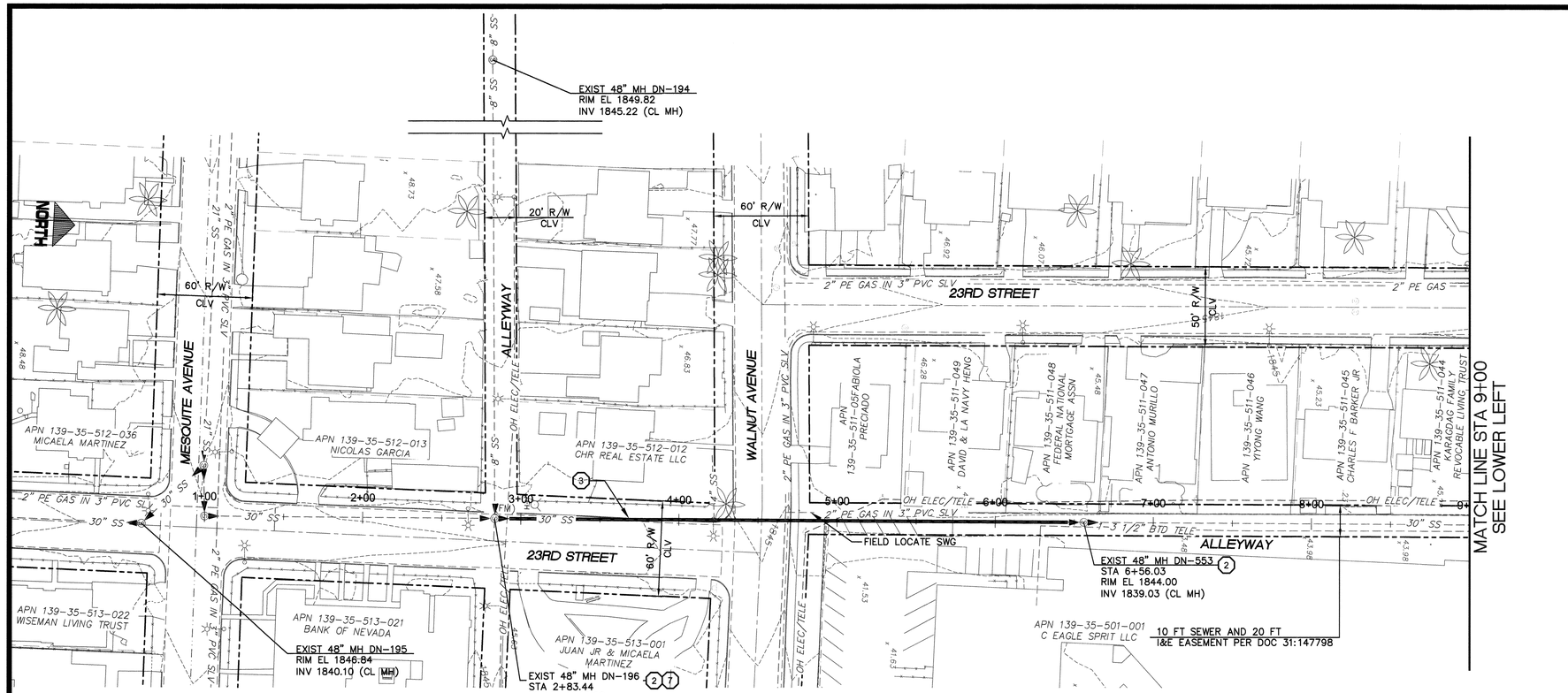

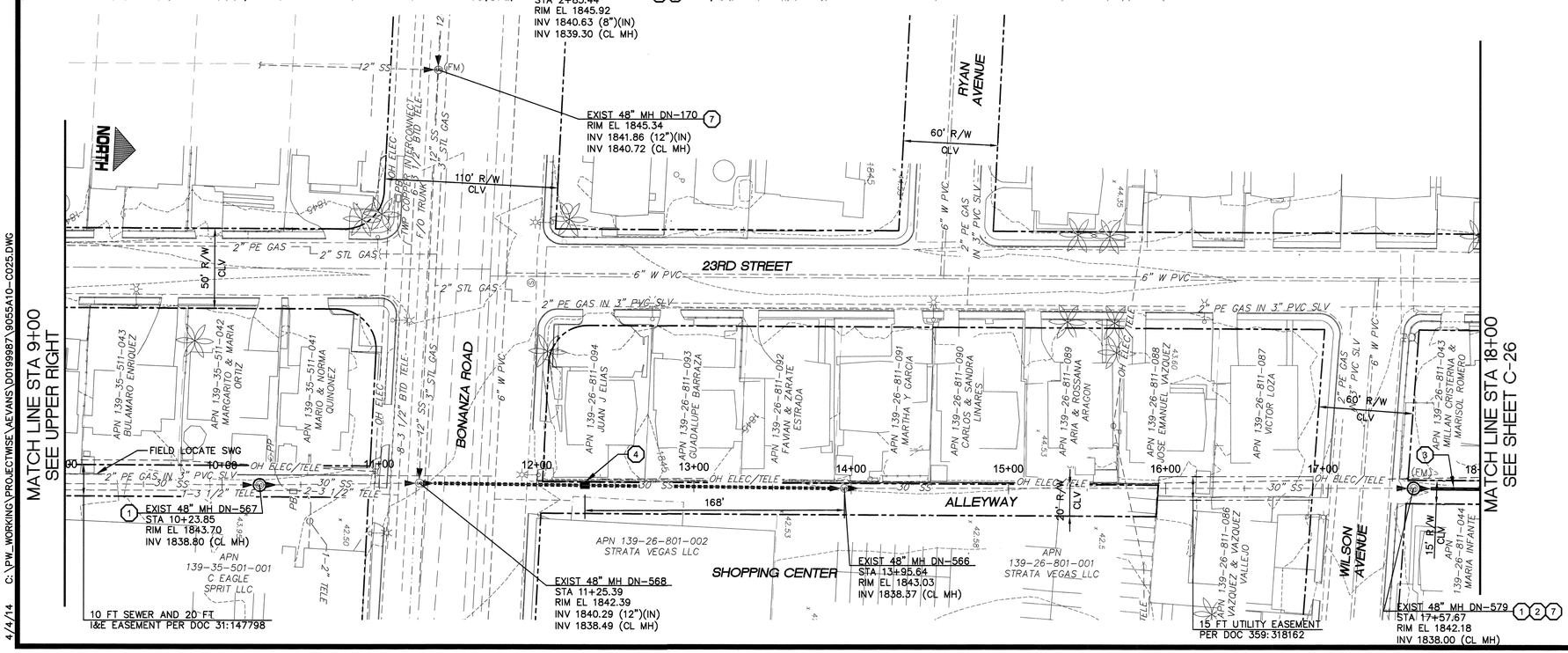

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7944

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-598-8111 OVERHEAD SERVICE ALERT

Call before you Under Ground 1-702-455-5511 1-702-876-5611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

(4) INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
REVISIONS			

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 23RD STREET PLAN STA 1+00 TO STA 18+00

MICHAEL A. FLEURY — STATE OF NEVADA — No. 20947 — PROFESSIONAL ENGINEER — Exp: 06-30-15 CIVIL — 4/1/14

Sheet C-25
34 of 62
DRAWING NO. 307V1067

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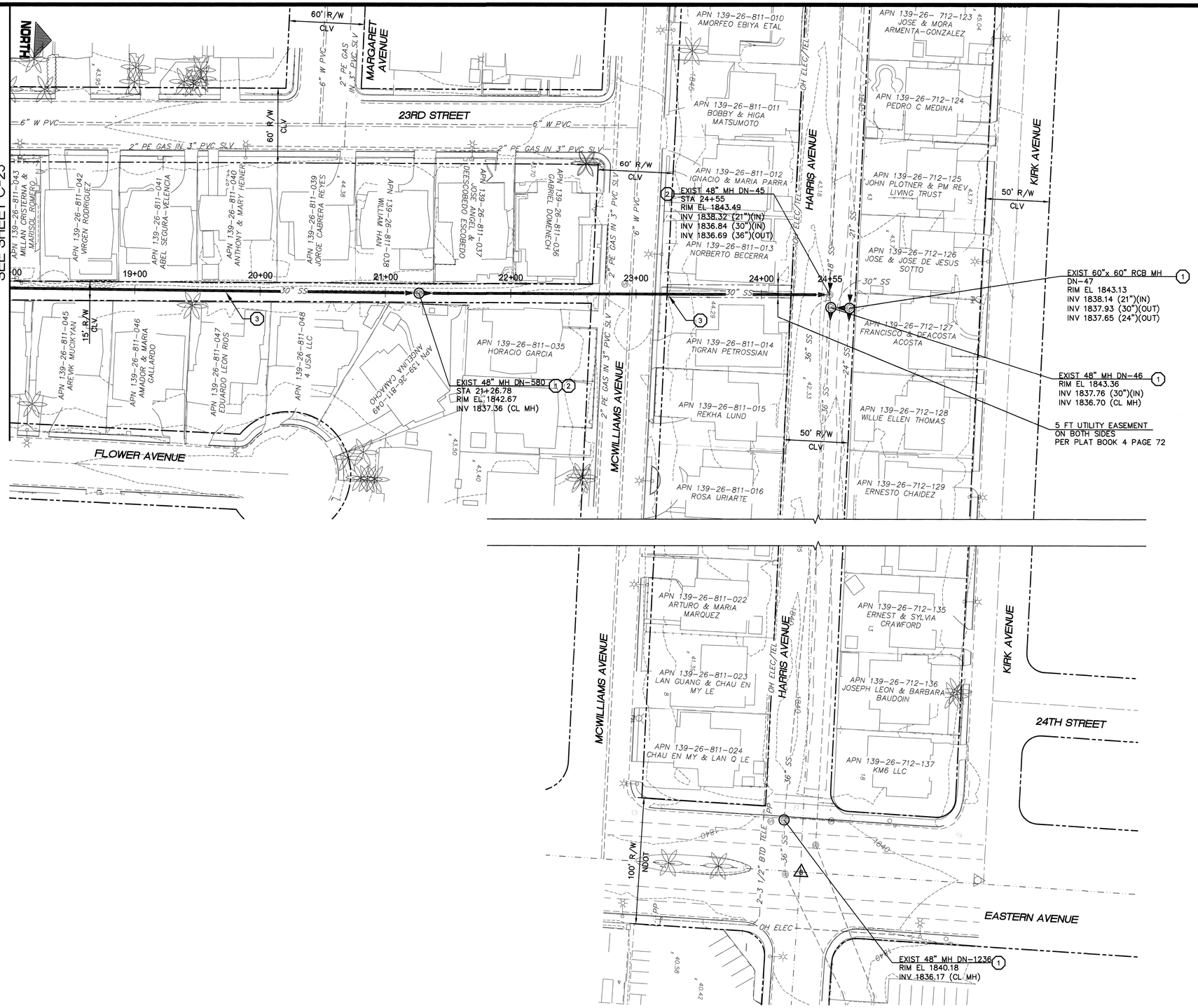

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 — OVERHEAD SERVICE ALERT

Call before you Dig Underground — 1-702-455-7511 — 1-702-798-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(2) FOR CIPP LINER TERMINATION AND MANHOLE REHABILITATION SEE DETAIL 2, DWG CD-1. FOR CIPP LINER THROUGH MANHOLE SEE DETAIL 1, DWG CD-1.

(3) INSTALL CIPP LINER IN EXISTING PIPE PER SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 23RD STREET PLAN STA 18+00 TO STA 24+55±

CITY OF LAS VEGAS — NEVADA

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/1/14

Sheet C-26
35 of 62
DRAWING NO. 307V1067

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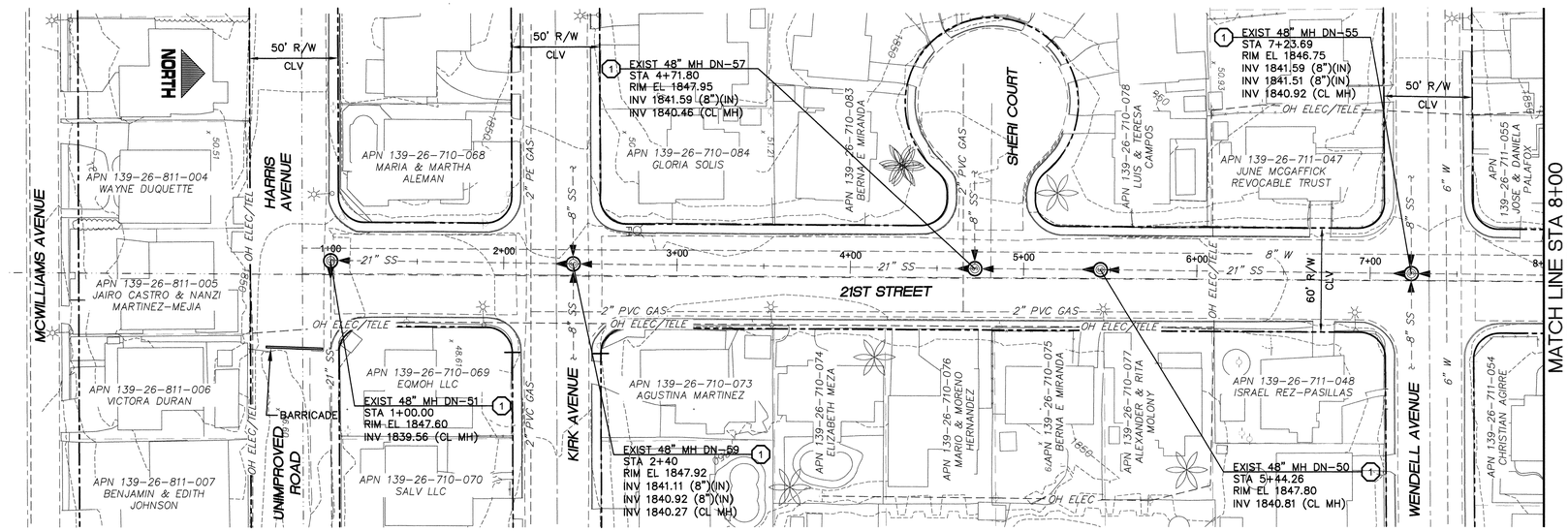

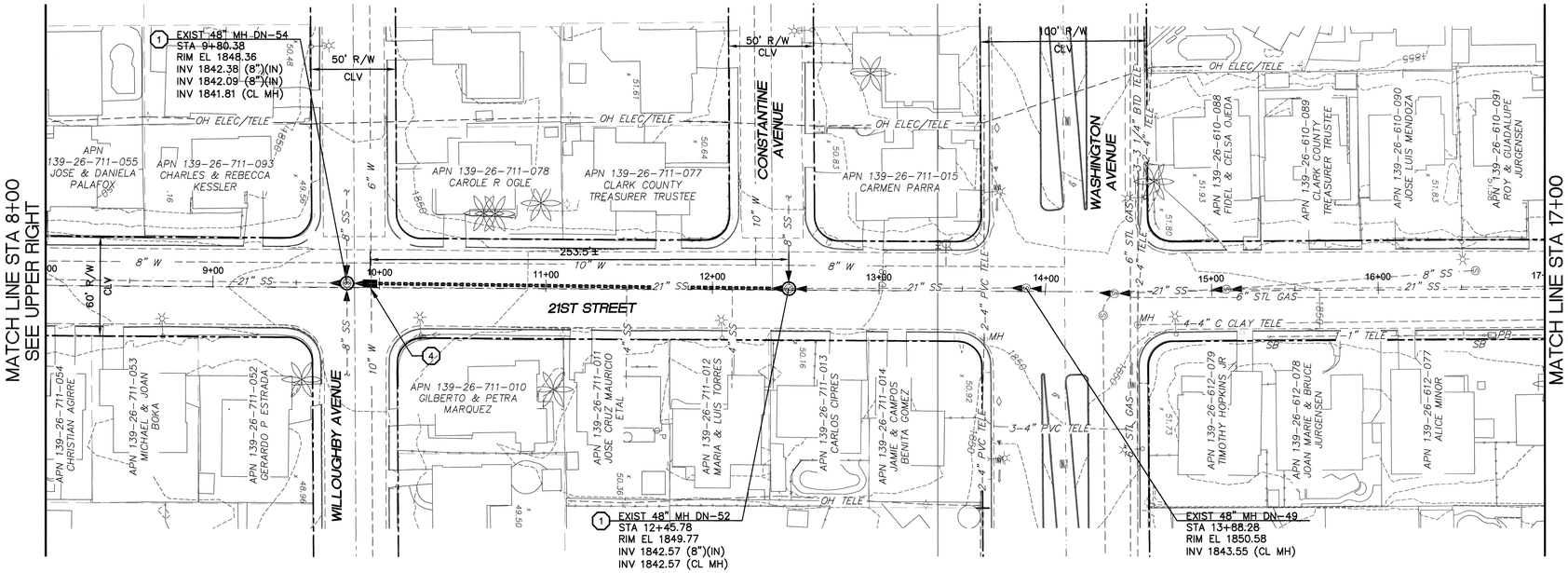

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting purchased utility lines, it's costly. Call before you go Overhead 1-702-593-8111 — Overhead Service Alert

Call before you Dig Underground 1-702-455-7611 — 1-702-729-6611

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(4) INSTALL CIPP SECTIONAL LINER TO REHABILITATE A SINGLE POINT REPAIR IN EXISTING PIPE PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: 21ST STREET PLAN STA 1+00 TO STA 17+00

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 — CIVIL — No. 20041 — PROFESSIONAL ENGINEER — 4/11/14

Sheet C-27

36 of 62

DRAWING NO. 307V1067

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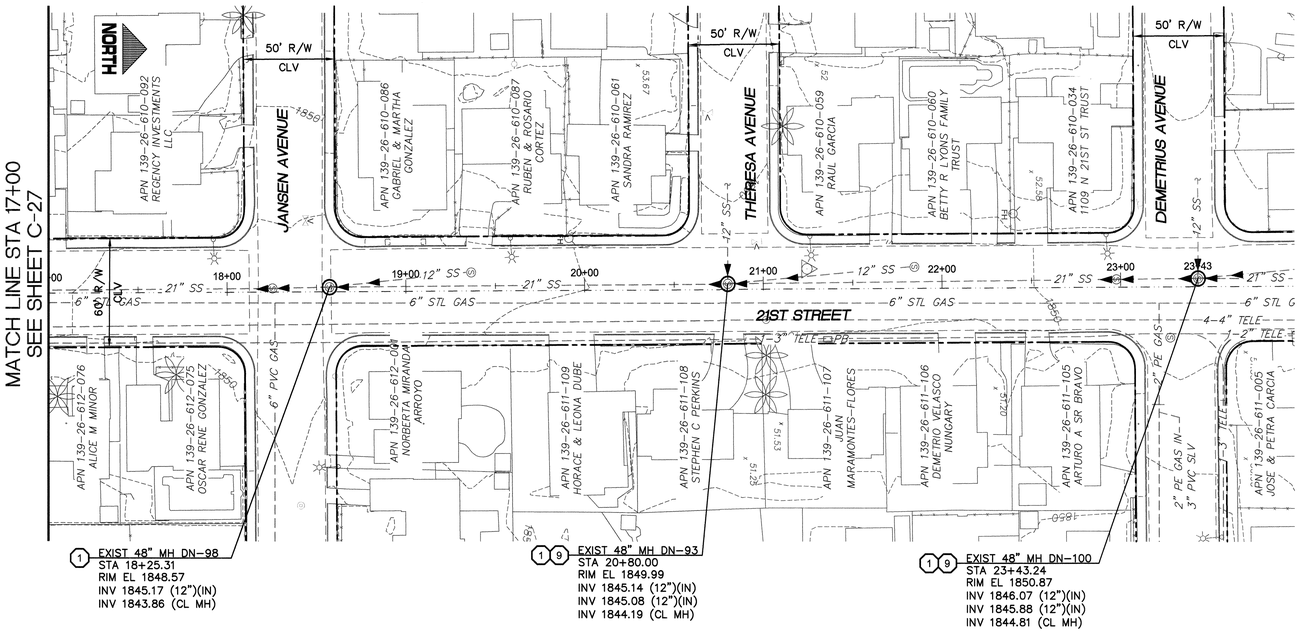
NORTH
MATCH LINE STA 17+00
SEE SHEET C-27
50' R/W
CLV
JANSEN AVENUE
THERESA AVENUE
DEMETRIUS AVENUE
21ST STREET
APN 139-26-610-092 REGENCY INVESTMENTS LLC
APN 139-26-610-086 GABRIEL & MARTHA GONZALEZ
APN 139-26-610-087 RUBEN & ROSARIO CORTEZ
APN 139-26-610-061 SANDRA RAMIREZ
APN 139-26-610-059 RAUL GARCIA
APN 139-26-610-060 BETTY R LYONS FAMILY TRUST
APN 139-26-610-034 1109 N 21ST ST TRUST
APN 139-26-612-076 ALICE M MINOR
APN 139-26-612-075 OSCAR RENE GONZALEZ
APN 139-26-612-094 NORBERTA MIRANDA ARROYO
APN 139-26-611-109 HORACE & LEONA DUBE
APN 139-26-611-108 STEPHEN C PERKINS
APN 139-26-611-107 JUAN MARAMONTES-FLORES
APN 139-26-611-106 DEMETRIO VELASCO NUNGARY
APN 139-26-611-105 ARTURO A SR BRAVO
APN 139-26-611-005 JOSE & PETRA CARCIA
18+00
19+00
20+00
21+00
22+00
23+00
23+43
12" SS
21" SS
6" STL GAS
6" PVC GAS
3" TELE
4-4" TELE
1-2" TELE
2" PE GAS IN
3" PVC SLV
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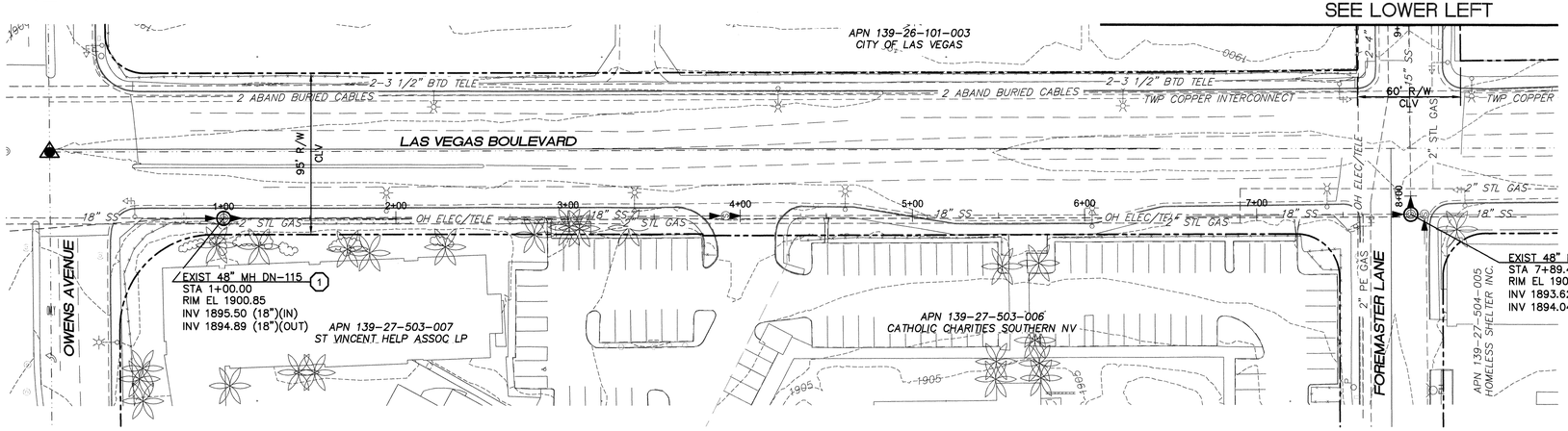

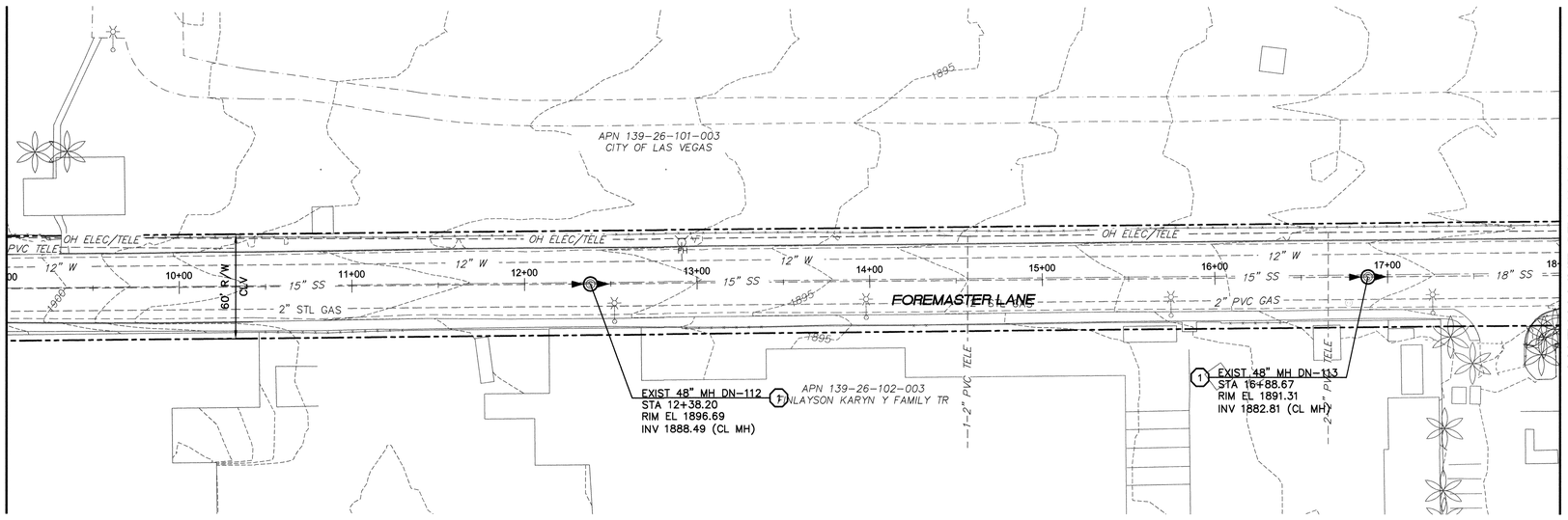

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 or 1-800-227-2600 or 1-702-455-7544

Avoid cutting overhead utility lines. It's costly! — Call before you do Overhead 1-702-593-8111

Call before you Dig Underground — 1-702-455-7511 or 1-702-734-6014

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: LAS VEGAS BLVD/FOREMASTER LANE PLAN STA 1+00 TO STA 18+00

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 — CIVIL — No. 20541 — PROFESSIONAL ENGINEER — 4/1/14

Sheet C-29
38 of 62
DRAWING NO. 307V1067

carollo

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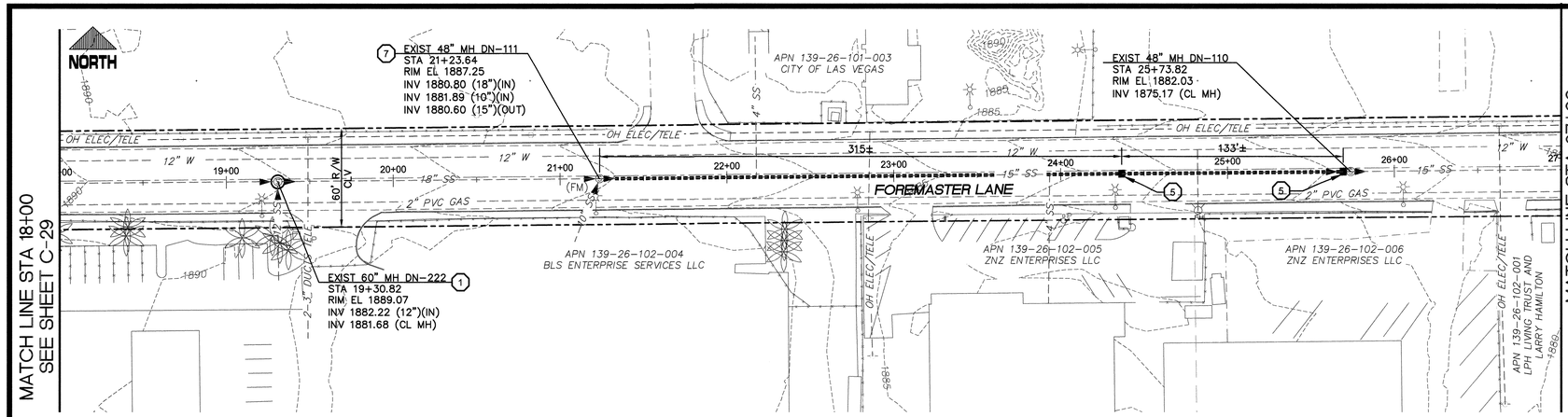

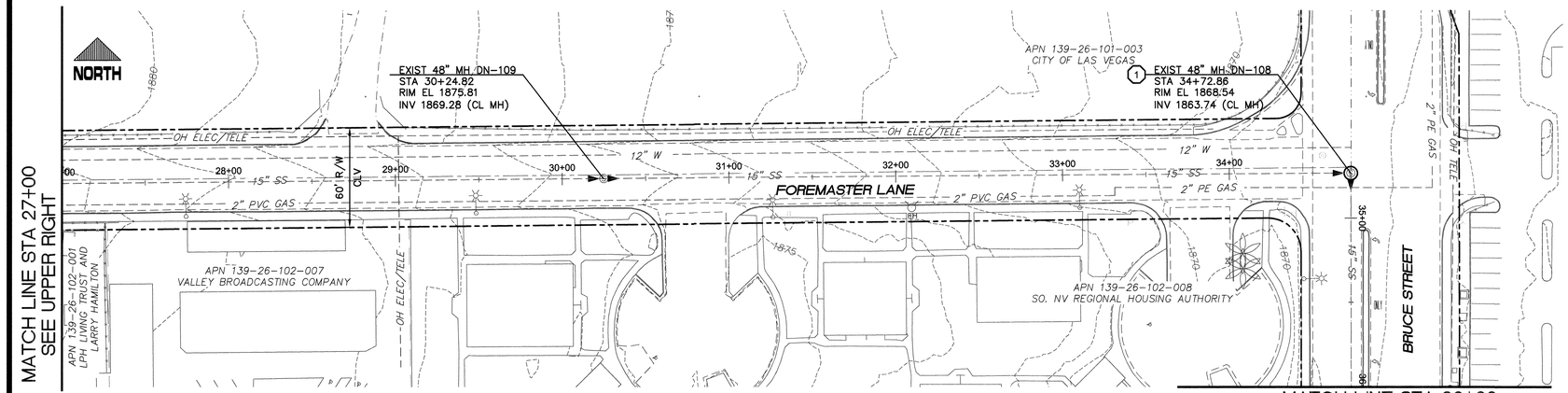

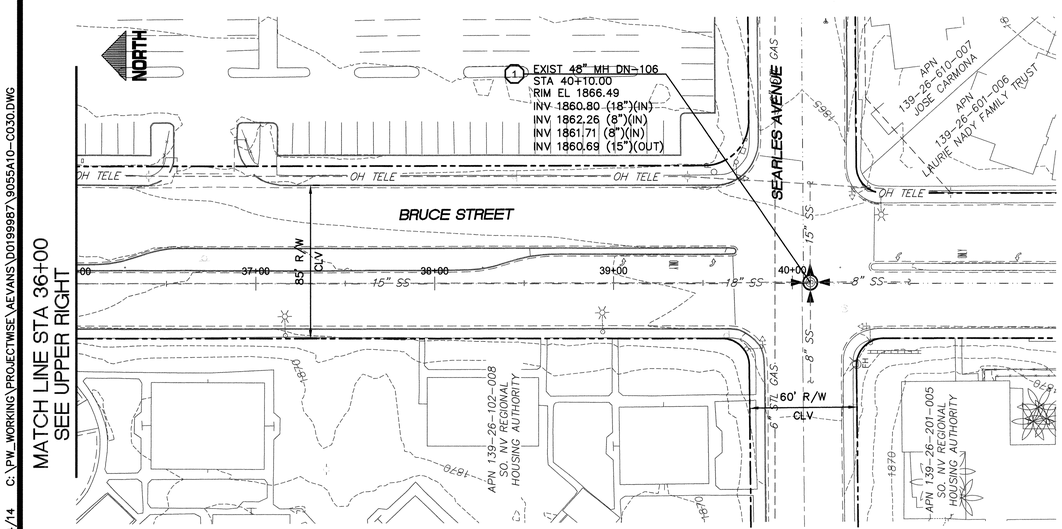

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-8111

Call before you Under Ground 1-702-455-7511 1-702-593-8111

CONSTRUCTION NOTES:

1. SEE DRAWING G-3 AND G-4 FOR OVERALL SHEET INDEX.
2. SEE DRAWING G-7 AND G-8 FOR GENERAL CIVIL AND OVERALL KEY NOTES.

CONSTRUCTION KEY NOTES:

(1) REHABILITATE MANHOLE WITH COATING SYSTEM PER DETAIL 2, DWG CD-1 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 691.

(5) INSTALL CIPP SECTIONAL LINERS TO REHABILITATE MULTIPLE POINT REPAIRS IN EXISTING PIPE SEGMENT PER DETAIL 1, DWG CD-2 AND IN ACCORDANCE WITH SPECIAL PROVISIONS 690-A.

(7) FLOW MONITORING MANHOLE.

APPROVED FOR CONSTRUCTION

M. DISHARI FOR DOA MEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION
GROUP C

SHEET: FOREMASTER LANE/BRUCE STREET PLAN
STA 18+00 TO STA 40+10±

CITY OF LAS VEGAS NEVADA

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/11/14

Sheet C-30
39 of 62
DRAWING NO. 3071067

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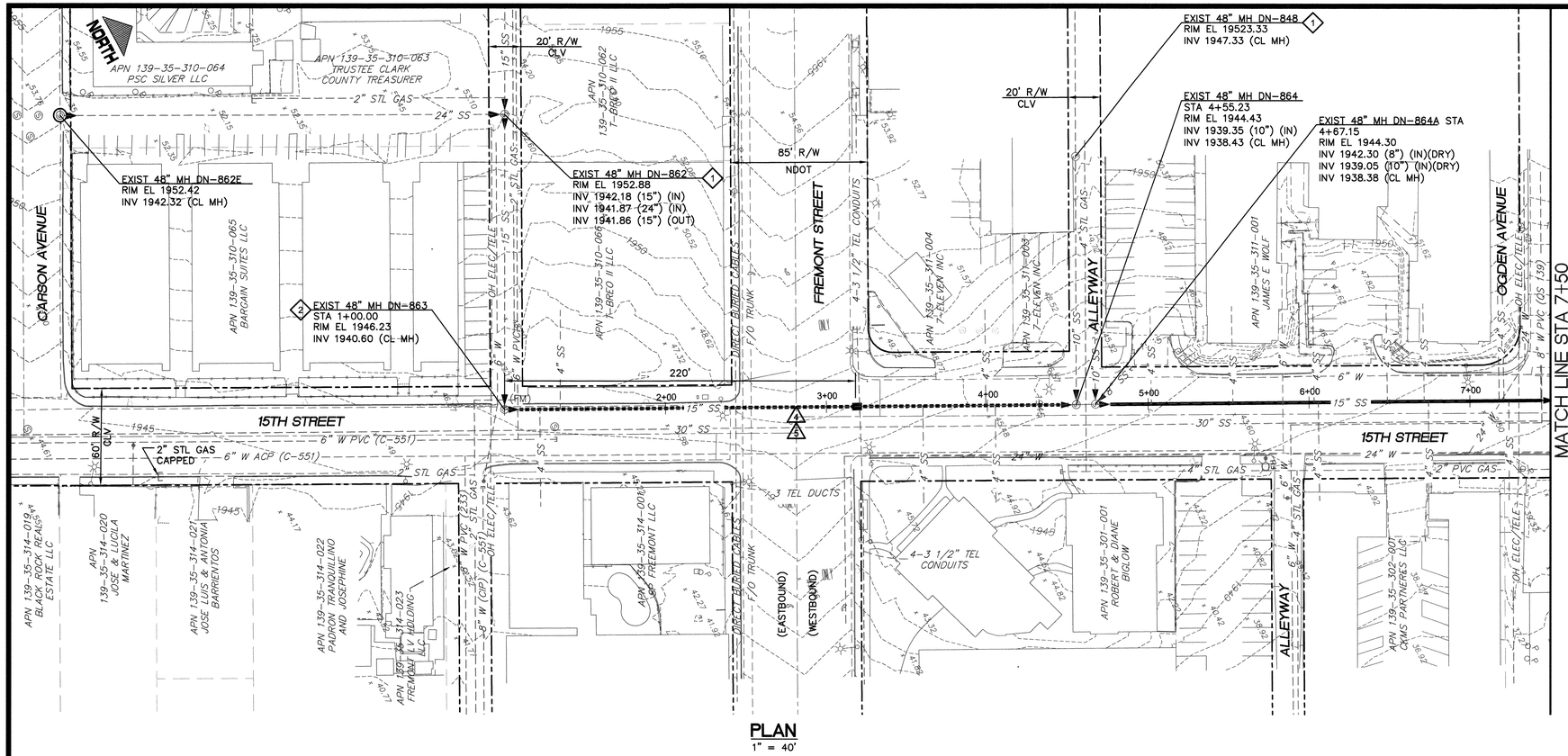
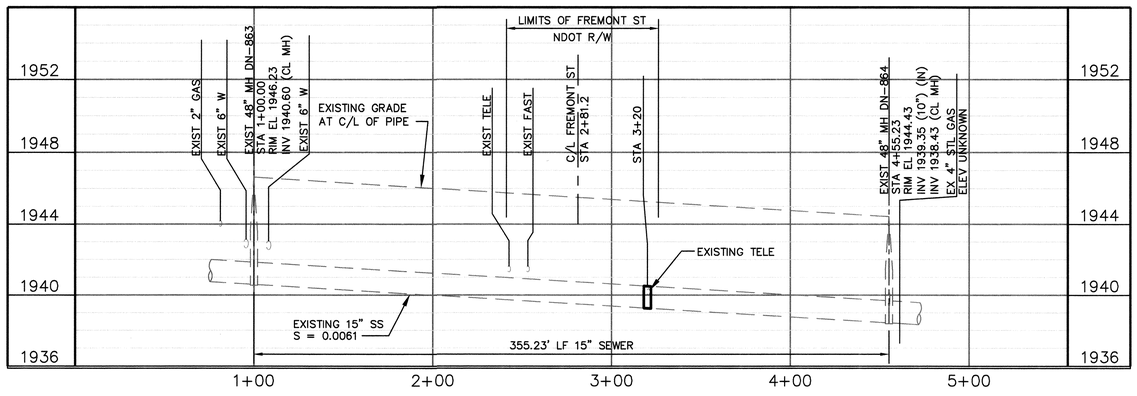


PLAN
1" = 40'



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

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION
M. DISHARI FOR JOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-493-8111 CLARK COUNTY, NEVADA AIRPORT
Call before you Dig Under Ground 1-702-455-5251 1-702-876-7811

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) FOR THE BYPASS OPERATION (SEE SPECIAL PROVISIONS SECTION 695). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
3. THE CONTRACTOR SHALL BYPASS ALL MAINLINE AND LATERAL FLOWS. QUANTITY OF SEWAGE TO BE BYPASSED FROM POINT TO POINT SHALL BE THE SUM OF ALL THE FLOWS ENTERING THE PIPELINE BEFORE POINT OF DISCHARGE.
4. ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 OF THE SPECIAL PROVISIONS.
5. THE CONTRACTOR BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TCP ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANE(S) OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING CD-3. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATIVES THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR THE BYPASSING OF SEWAGE.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION, AND NDOT FOR THE WORK (SEE SPECIAL PROVISIONS SECTION 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION.
7. STANDARD DETAILS FOR TRENCH EXCAVATION, TRENCH PLATING, AND FINISHED ROAD CROSS SECTIONS ARE SHOWN IN DETAILS ON SHEET CD-3 AND CD-4. CHANGES TO THESE DETAILS WILL REQUIRE APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
8. IF REQUIRED, REMOVE AND REINSTALL MANHOLE FRAME, COVER, GRADE RINGS, AND CONE PER SD-4 OF THE DESIGN CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (2009).
9. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJOINING PROPERTIES ACCESSIBLE TO THE PUBLIC AND EMERGENCY VEHICLES. DESIGNS FOR MAINTAINING ACCESS WILL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CONTROLLING AGENCY FOR REVIEW AND APPROVAL. SEE DETAIL 2 / SHEET CD-3 FOR DRIVEWAY RAMP.
10. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS.
11. ALL BYPASS OPERATIONS ARE TO OCCUR WITHIN THE BYPASS CORRIDOR SHOWN ON THE BYPASS DRAWINGS. IF THE CONTRACTOR REQUIRES AN ADDITIONAL CLOSURE AREA THEY MUST OBTAIN ADDITIONAL APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
13. CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TBP.
14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

CONSTRUCTION BYPASS KEY NOTES:

1. USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.
2. FLOW MONITORING MANHOLE

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN 15TH STREET STA 1+00 TO STA 7+50

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 CIVIL — No. 20541 — PROFESSIONAL ENGINEER — 4/11/14

Sheet BP-1
40 of 62
DRAWING NO. 3071067

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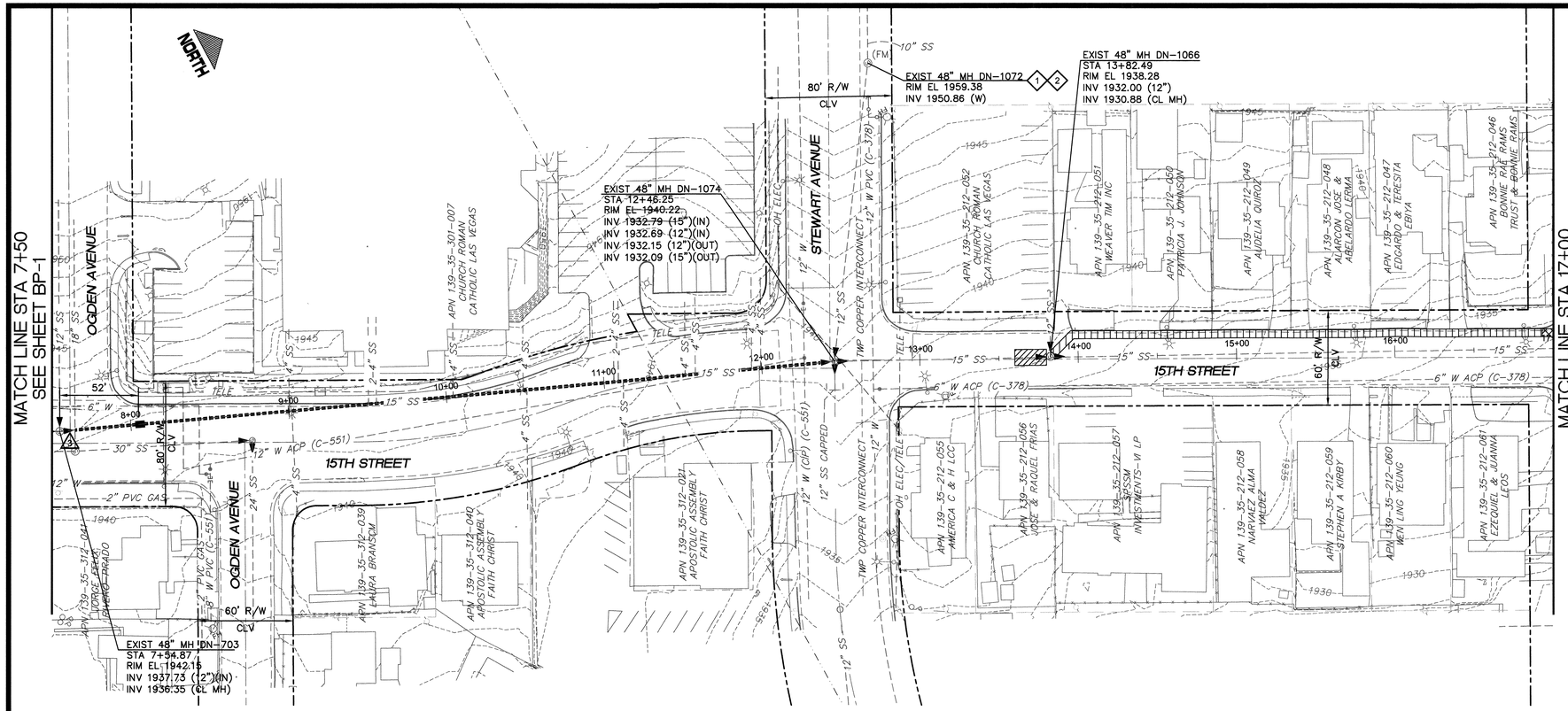

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 (use non-NV) 811 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. — Call before you go Overhead 1-702-593-6111 — OVERHEAD SERVICE ALERT

Call before you go Underground — 1-702-455-7511 — 1-702-729-6611

CONSTRUCTION BYPASS NOTES:

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CONSTRUCTION BYPASS KEY NOTES:

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2. FLOW MONITORING MANHOLE

LEGEND

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- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
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- SUCTION STAGING AREA

carollo

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN 15TH STREET STA 7+50 TO STA 17+00

STATE OF NEVADA — MICHAEL A. FLEURY — No. 20947 — PROFESSIONAL ENGINEER — CIVIL — Exp: 06-30-15 — 4/11/14

Sheet BP-2
41 of 62
DRAWING NO. 307V1067

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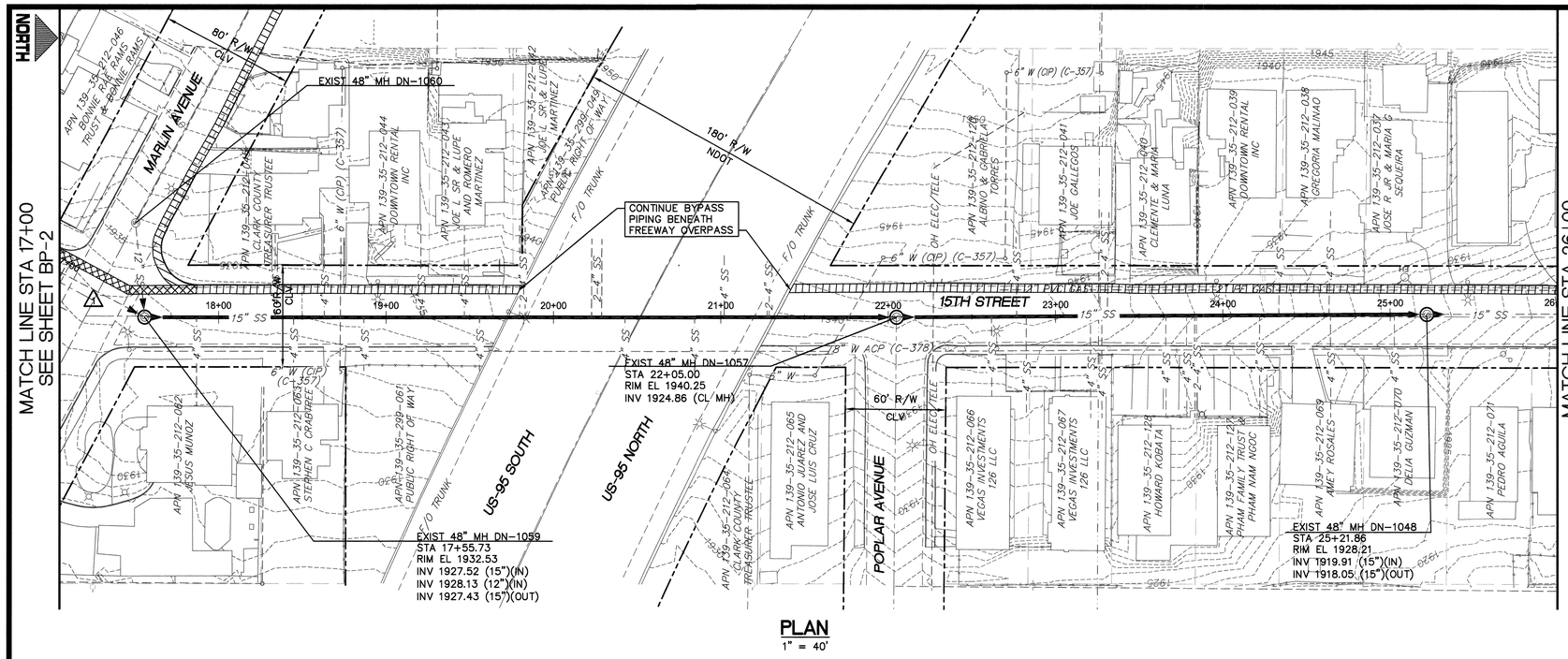
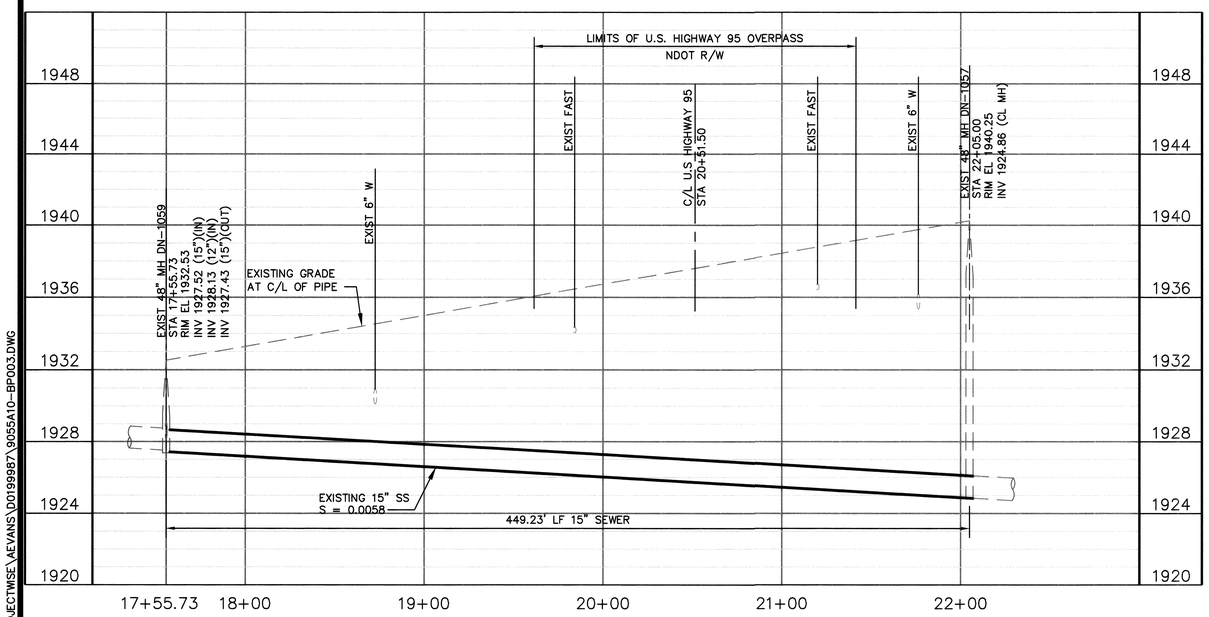


PLAN
1" = 40'



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APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 — 1-800-227-2600 / 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-383-8111 Overhead Service Alert
Call before you Go Underground 1-702-455-5011 / 1-702-221-5611

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LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

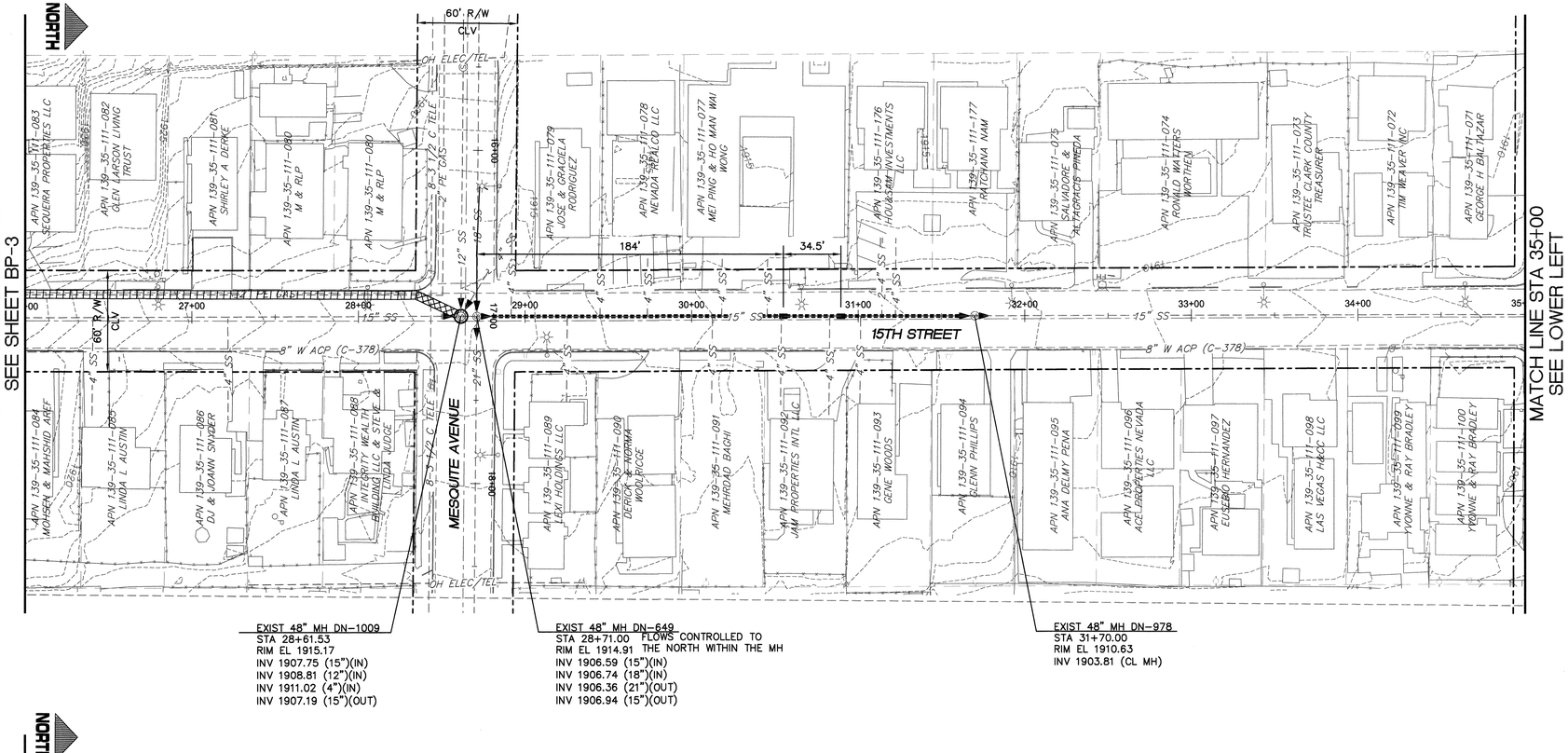
TITLE: SEWER REHABILITATION GROUP C

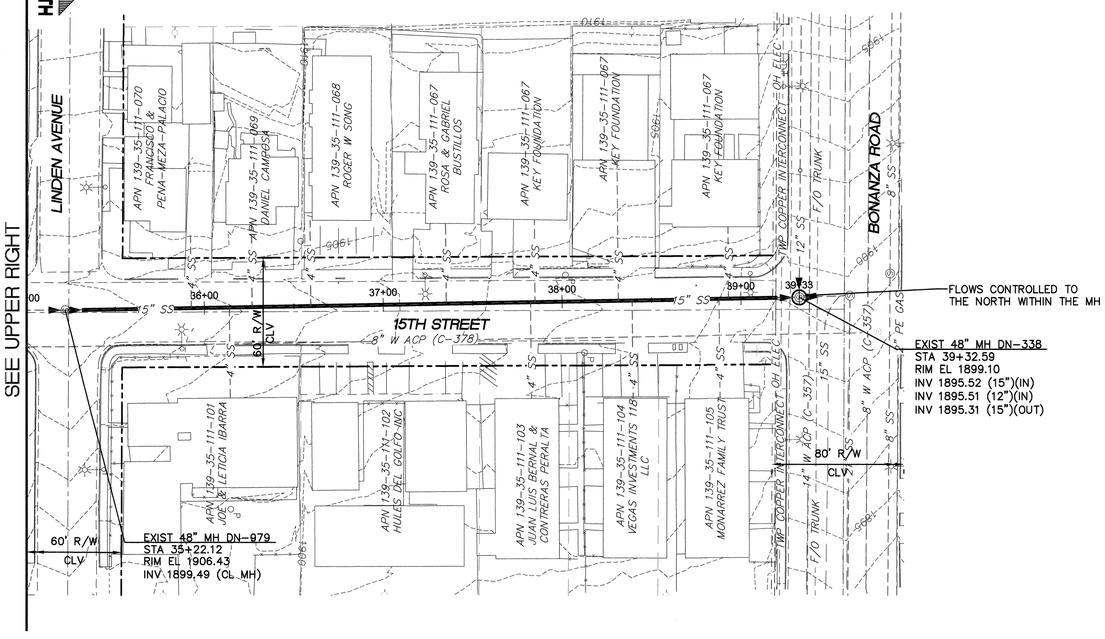
SHEET: FLOW BYPASS PLAN 15TH STREET STA 17+00 TO STA 26+00

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/1/14

Sheet
BP-3
42 of 62
DRAWING NO.
307V1067

4/4/14 C:\PW_WORKING\PROJECTWISE\AEVANS\D0199987\3055A10-BP003.DWG





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4/4/14

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

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Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-493-8111 OVERHEAD SERVICE ALERT

Call Sunrise Under Ground 1-702-455-6611

CONSTRUCTION BYPASS NOTES:

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8. IF REQUIRED, REMOVE AND REINSTALL MANHOLE FRAME, COVER, GRADE RINGS, AND CONE PER SD-4 OF THE DESIGN CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (2009).
9. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJOINING PROPERTIES ACCESSIBLE TO THE PUBLIC AND EMERGENCY VEHICLES. DESIGNS FOR MAINTAINING ACCESS WILL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CONTROLLING AGENCY FOR REVIEW AND APPROVAL. SEE DETAIL 2 / SHEET CD-3 FOR DRIVEWAY RAMP.
10. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS.
11. ALL BYPASS OPERATIONS ARE TO OCCUR WITHIN THE BYPASS CORRIDOR SHOWN ON THE BYPASS DRAWINGS. IF THE CONTRACTOR REQUIRES AN ADDITIONAL CLOSURE AREA THEY MUST OBTAIN ADDITIONAL APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
13. CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TBP.
14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION

M. Dishari FOR DOA MEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

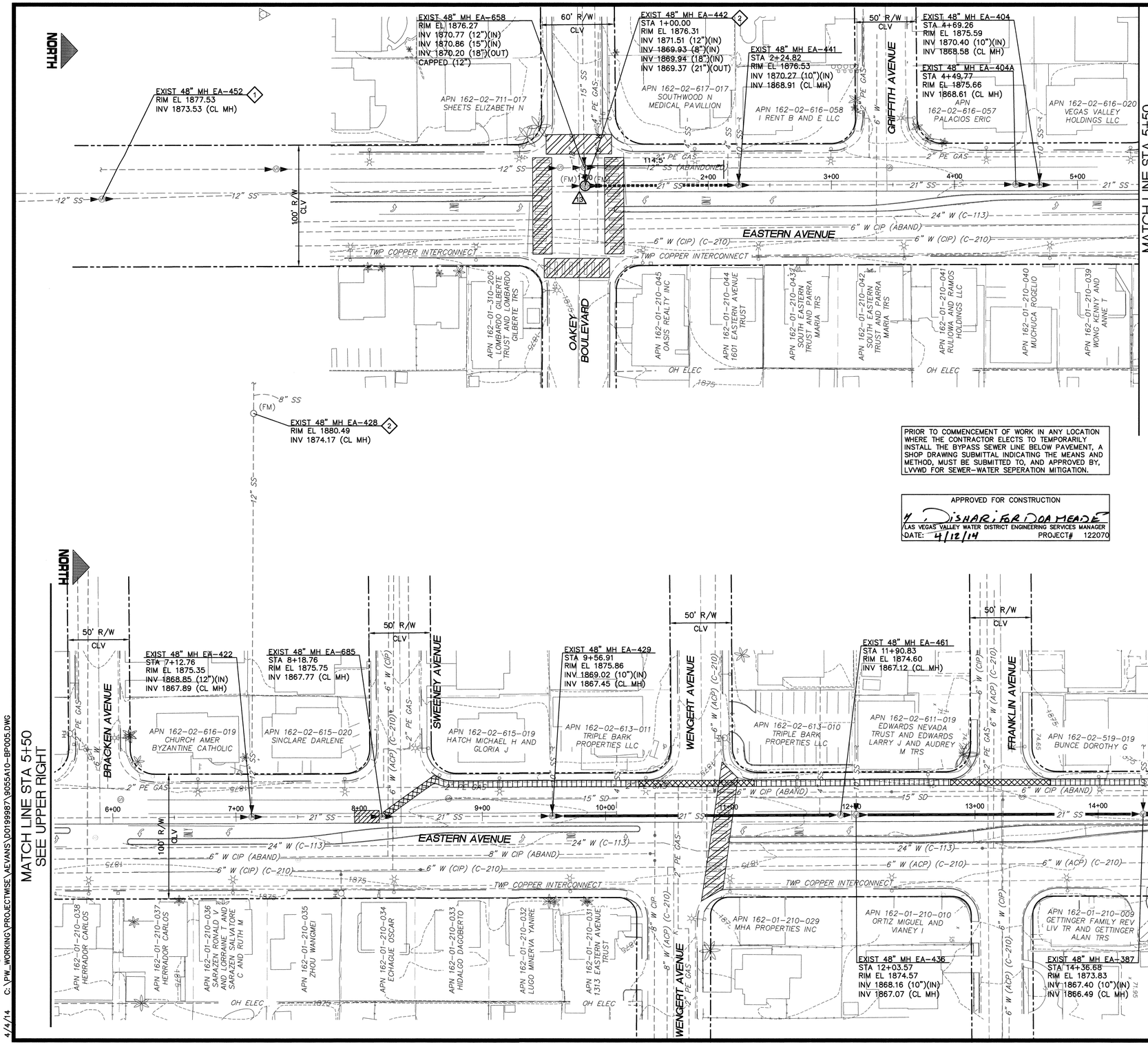
CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN 15TH STREET STA 26+00 TO STA 39+33±

STATE OF NEVADA MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20941 PROFESSIONAL ENGINEER 4/11/14

Sheet BP-4
43 of 62
DRAWING NO. 307V1067



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APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 or 1-800-227-2600 or 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 NV Energy Service Alert
Call before you Dig Underground 1-702-455-7511 1-702-593-6611

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) FOR THE BYPASS OPERATION (SEE SPECIAL PROVISIONS SECTION 695). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
3. THE CONTRACTOR SHALL BYPASS ALL MAINLINE AND LATERAL FLOWS. QUANTITY OF SEWAGE TO BE BYPASSED FROM POINT TO POINT SHALL BE THE SUM OF ALL THE FLOWS ENTERING THE PIPELINE BEFORE POINT OF DISCHARGE.
4. ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 OF THE SPECIAL PROVISIONS.
5. THE CONTRACTOR BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TCP ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANE(S) OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING CD-3. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATIVES THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR THE BYPASSING OF SEWAGE.
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CONSTRUCTION BYPASS KEY NOTES:

1 USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.
2 FLOW MONITORING MANHOLE

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN EASTERN AVENUE STA 1+00 TO STA 14+50

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER

Sheet
BP-5
44 of 62
DRAWING NO.
307V1067

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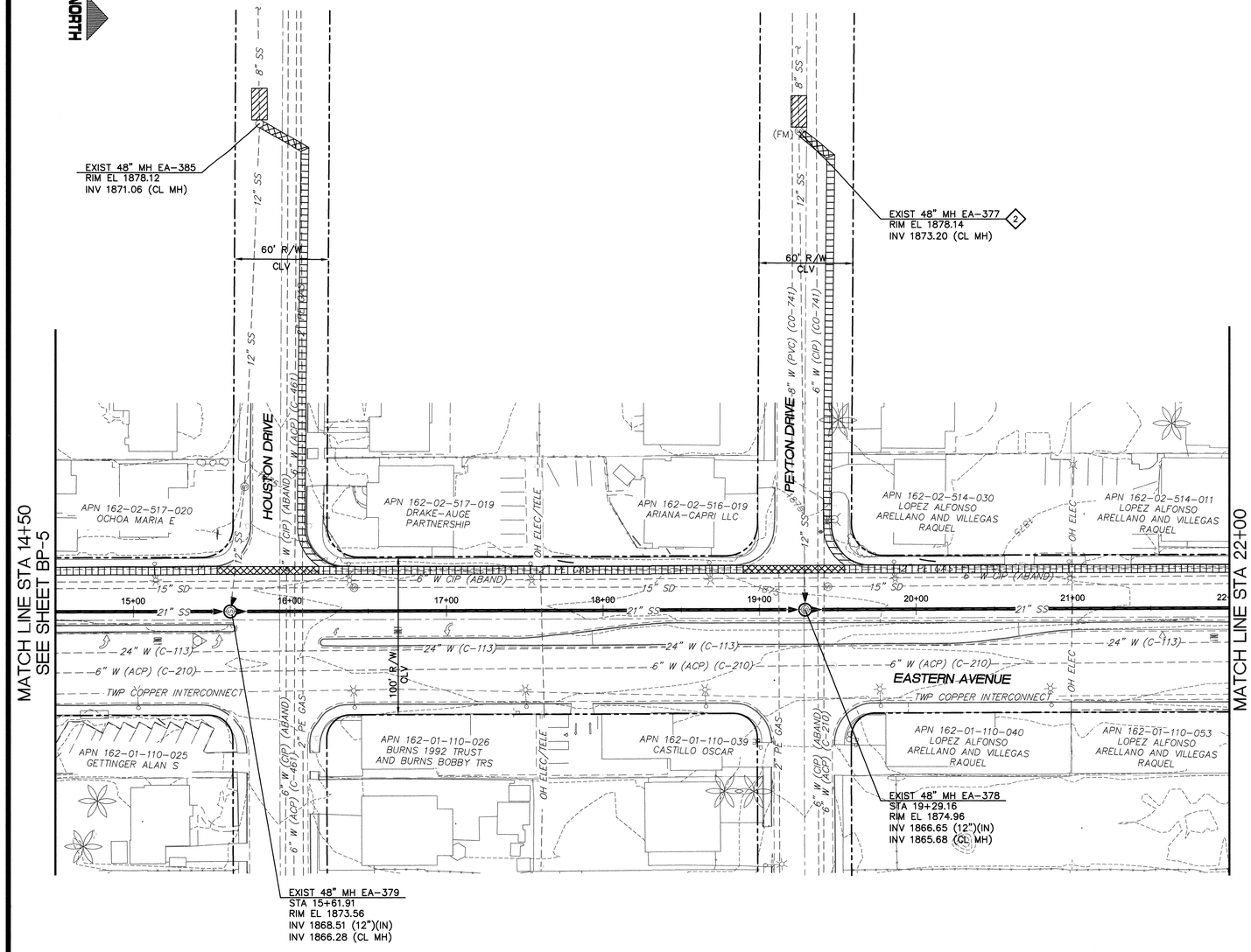

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. — Call before you do Overhead — 1-702-593-6111

Call before you Under Ground — 1-702-455-7511 — 1-702-229-6614

CONSTRUCTION BYPASS NOTES:

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APPROVED FOR CONSTRUCTION

M. Dishar FOR D. ADAMSKI

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

CONSTRUCTION BYPASS KEY NOTES:

2 FLOW MONITORING MANHOLE

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

NO.	DATE:	REVISIONS	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN EASTERN AVENUE STA 14+50 TO STA 22+00

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 — CIVIL — No. 20044 — PROFESSIONAL ENGINEER — 4/1/14

Sheet BP-6
45 of 62
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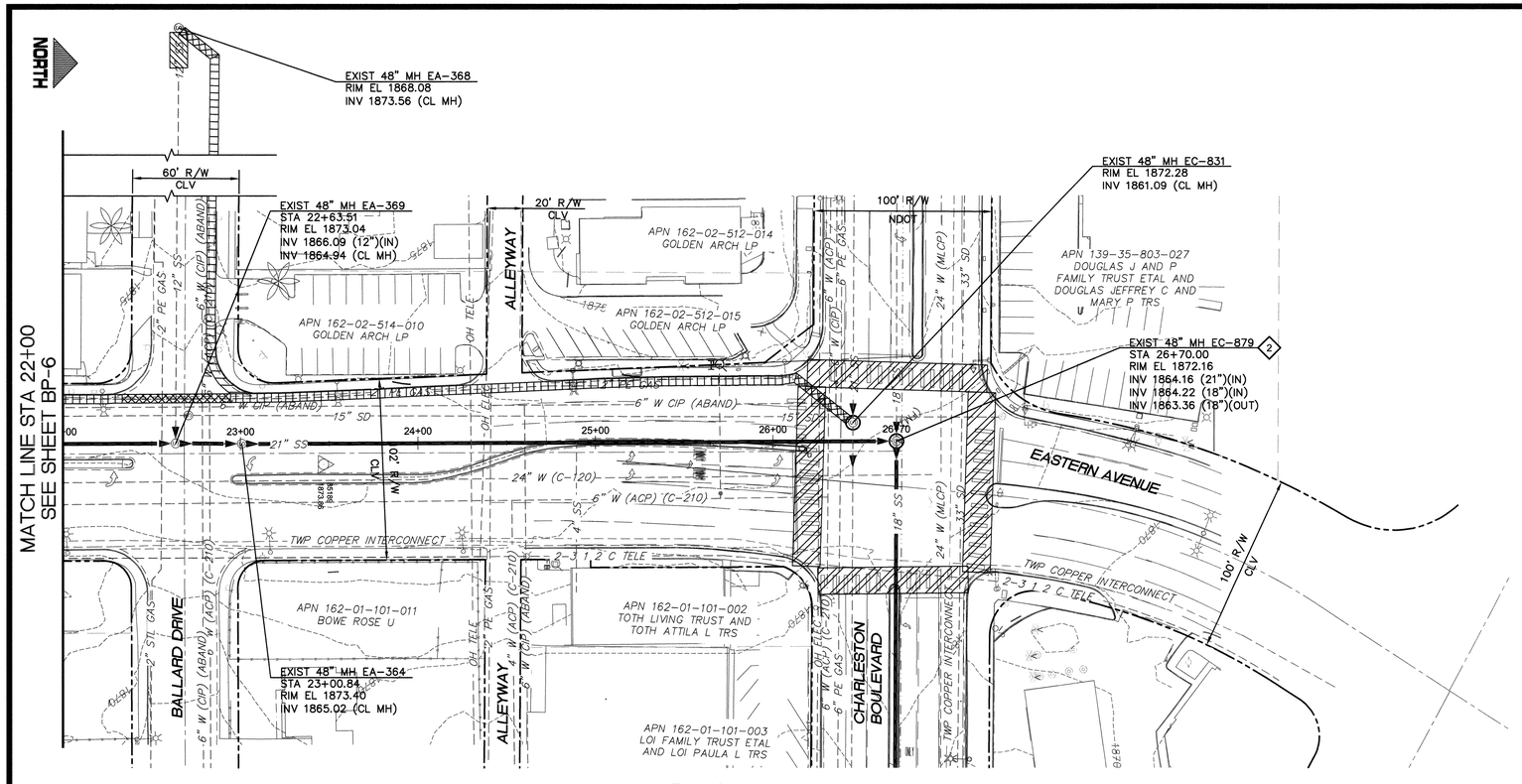
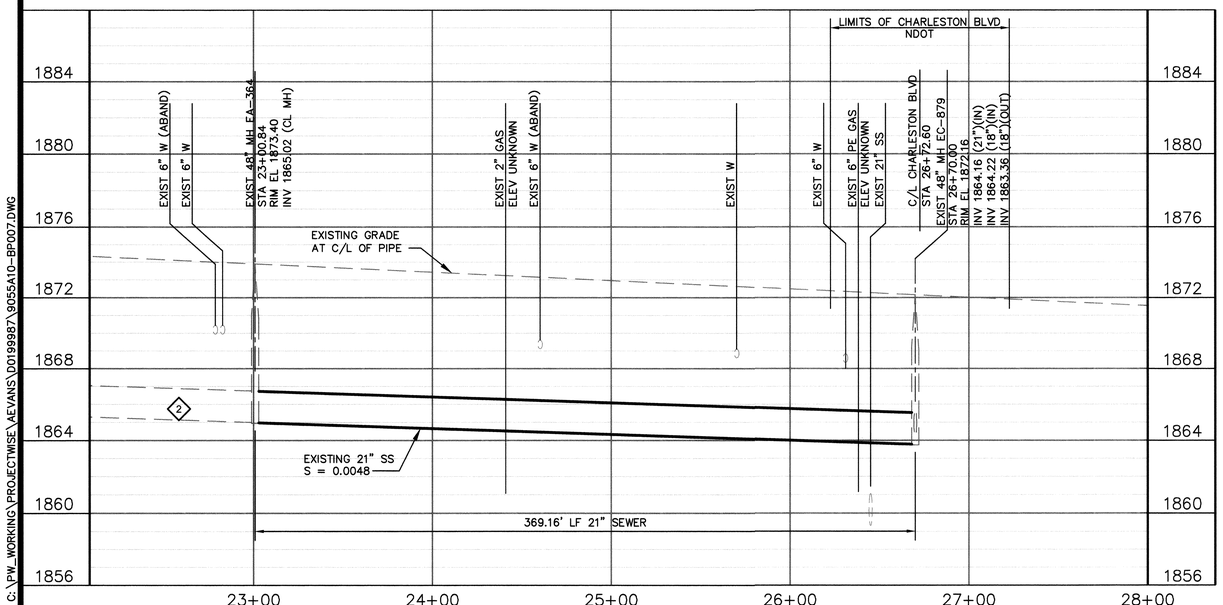


PLAN
1" = 40'



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

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4/4/14

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's cuttin'. Call before you do Overhead 1-702-593-6111

Call before you Under Ground 1-702-455-7511 1-702-220-6614

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
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COSTRUCTION BYPASS KEY NOTES:

(2) FLOW MONITORING MANHOLE

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION
M. DISHARI FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN EASTERN AVENUE STA 22+00 TO STA 26+70±

STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/11/14

Sheet
BP-7
46 of 62
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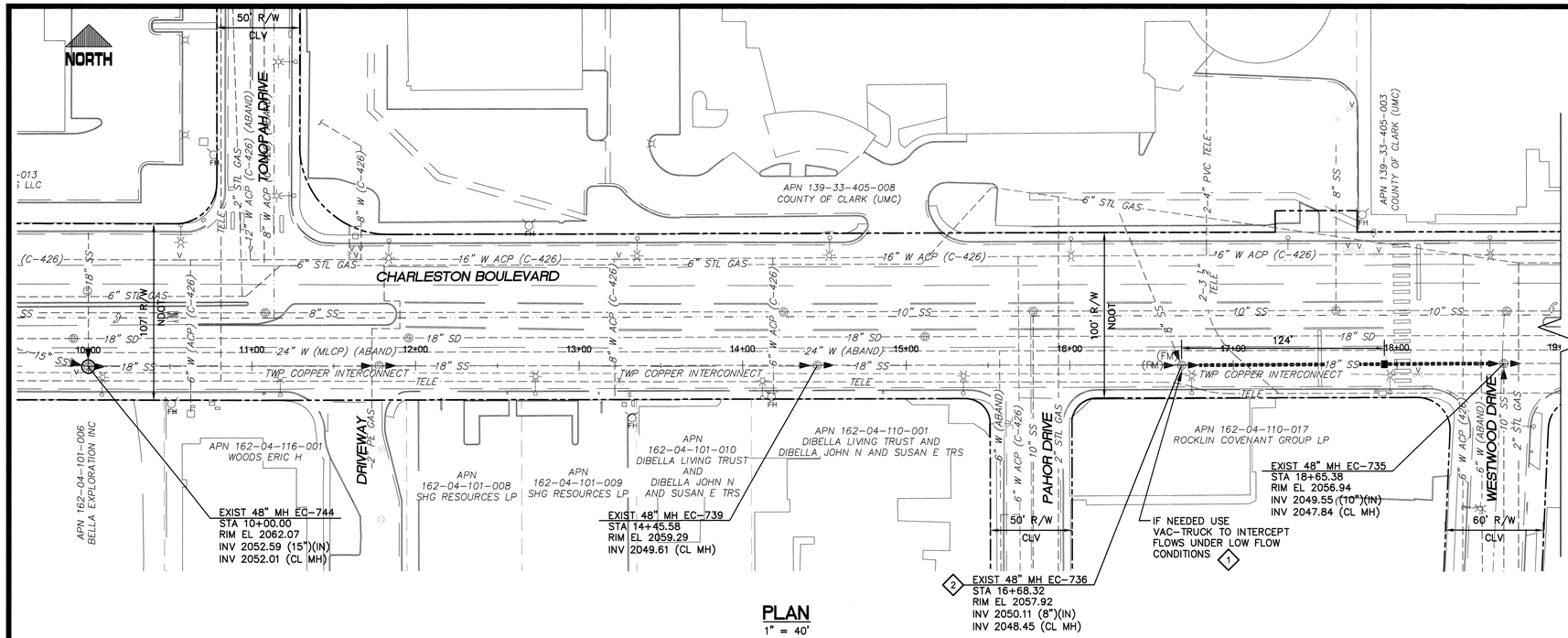
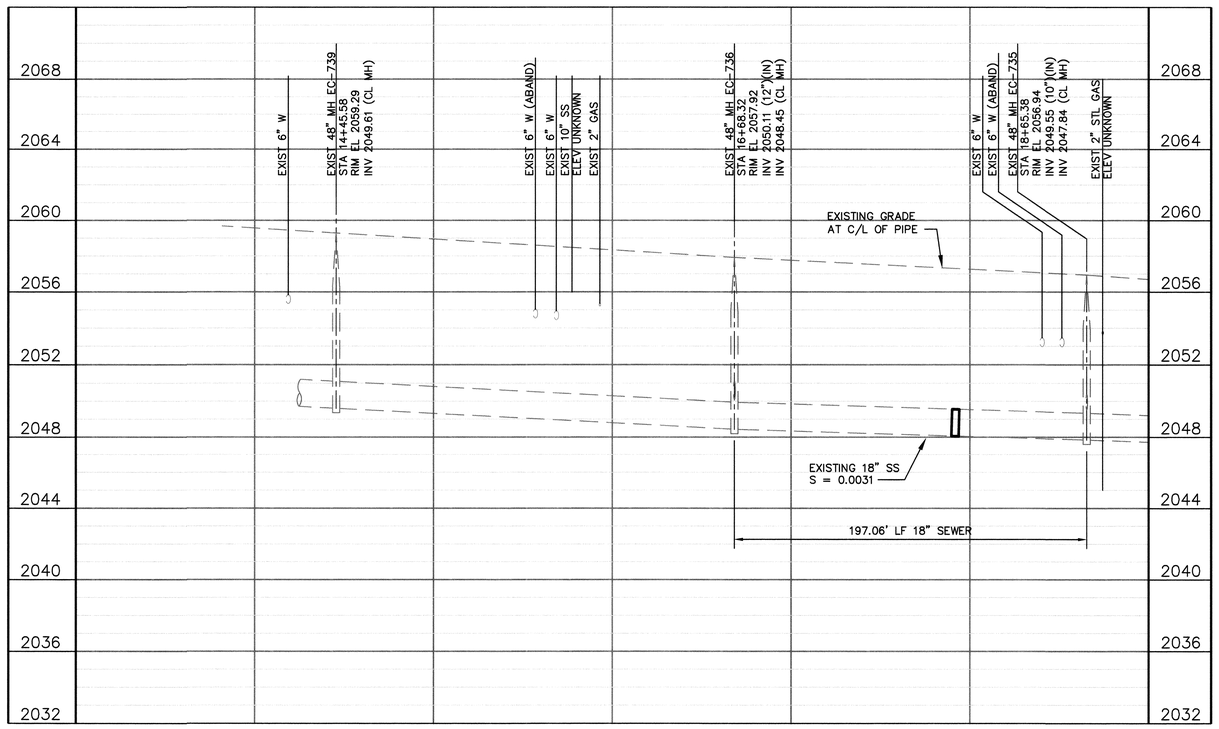
307V1067



PLAN
1" = 40'



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(IN FEET)
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Call before you Dig Underground — 1-702-455-7511 — 1-702-876-6611

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COSTRUCTION BYPASS KEY NOTES:

1 USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.
2 FLOW MONITORING MANHOLE

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
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carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN CHARLESTON BLVD STA 10+00 TO STA 19+00

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER

Sheet
BP-8
47 of 62
DRAWING NO.
307V1067

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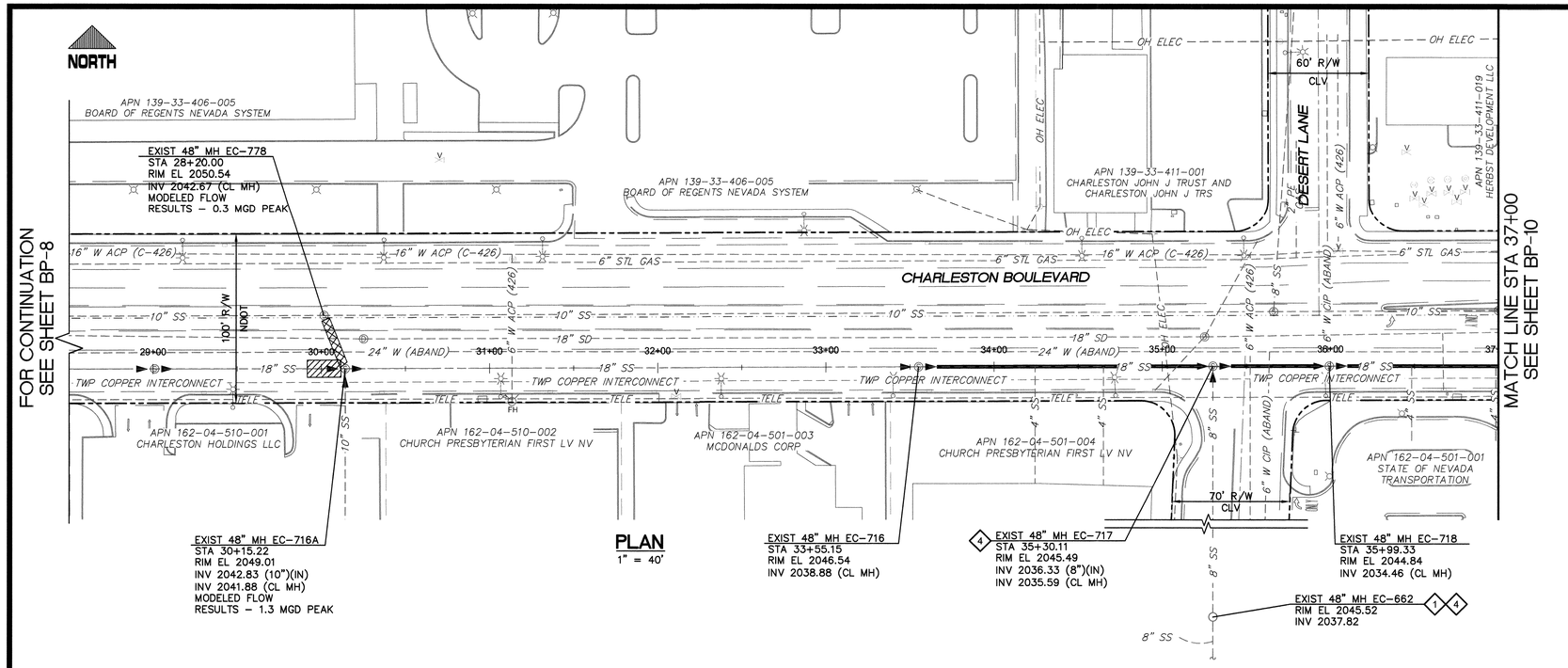

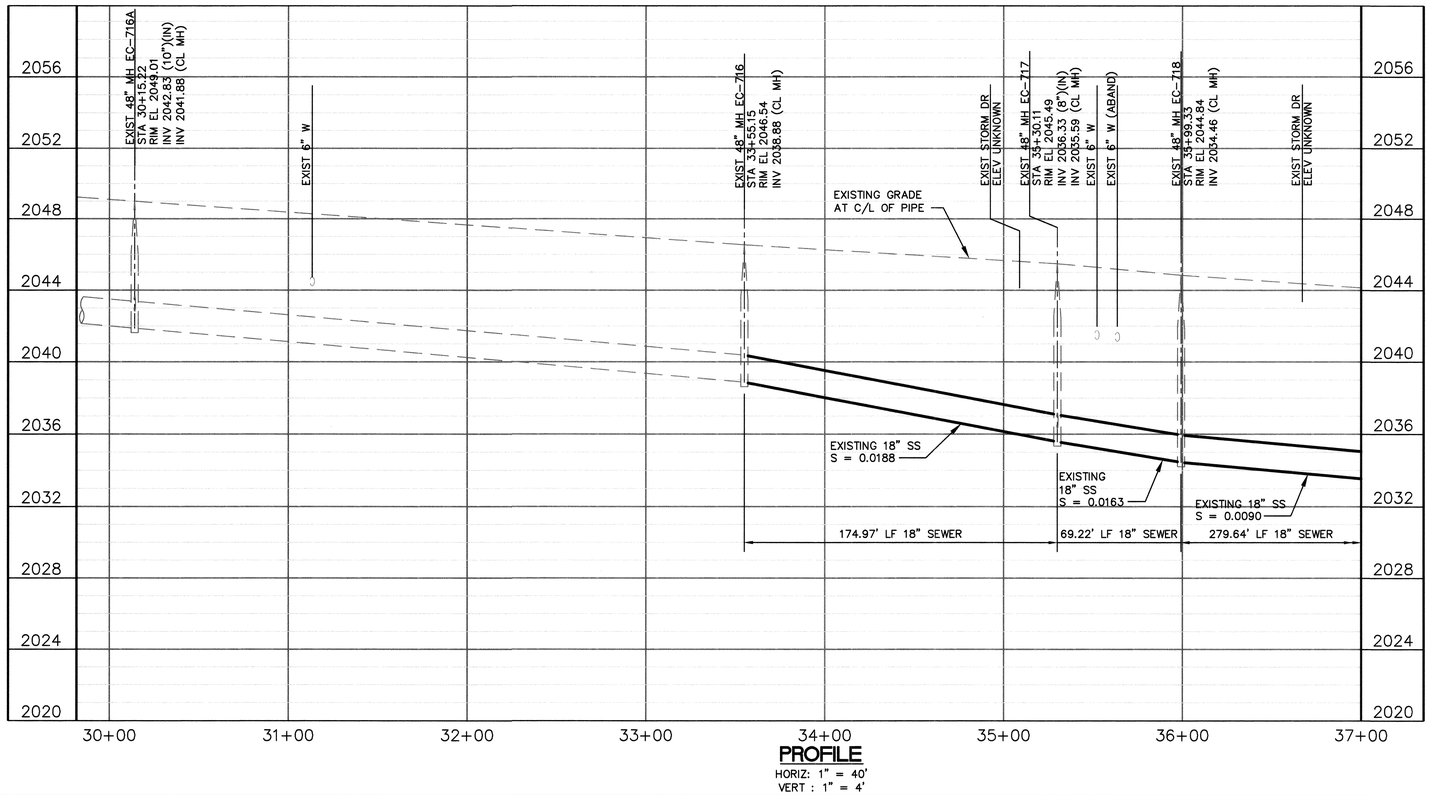

PROFILE
HORIZ: 1" = 40'
VERT : 1" = 4'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 OVERHEAD SERVICE ALERT

Call Before You Dig Underground 1-702-455-7511 1-702-593-6111

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) FOR THE BYPASS OPERATION (SEE SPECIAL PROVISIONS SECTION 695). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
3. THE CONTRACTOR SHALL BYPASS ALL MAINLINE AND LATERAL FLOWS. QUANTITY OF SEWAGE TO BE BYPASSED FROM POINT TO POINT SHALL BE THE SUM OF ALL THE FLOWS ENTERING THE PIPELINE BEFORE POINT OF DISCHARGE.
4. ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 OF THE SPECIAL PROVISIONS.
5. THE CONTRACTOR BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TCP ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANE(S) OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING CD-3. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATIVES THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR THE BYPASSING OF SEWAGE.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION, AND NDOT FOR THE WORK (SEE SPECIAL PROVISIONS SECTION 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION.
7. STANDARD DETAILS FOR TRENCH EXCAVATION, TRENCH PLATING, AND FINISHED ROAD CROSS SECTIONS ARE SHOWN IN DETAILS ON SHEET CD-3 AND CD-4. CHANGES TO THESE DETAILS WILL REQUIRE APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
8. IF REQUIRED, REMOVE AND REINSTALL MANHOLE FRAME, COVER, GRADE RINGS, AND CONE PER SD-4 OF THE DESIGN CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (2009).
9. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJOINING PROPERTIES ACCESSIBLE TO THE PUBLIC AND EMERGENCY VEHICLES. DESIGNS FOR MAINTAINING ACCESS WILL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CONTROLLING AGENCY FOR REVIEW AND APPROVAL. SEE DETAIL 2 / SHEET CD-3 FOR DRIVEWAY RAMP.
10. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS.
11. ALL BYPASS OPERATIONS ARE TO OCCUR WITHIN THE BYPASS CORRIDOR SHOWN ON THE BYPASS DRAWINGS. IF THE CONTRACTOR REQUIRES AN ADDITIONAL CLOSURE AREA THEY MUST OBTAIN ADDITIONAL APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
13. CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TBP.
14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION
H. DISHARI FOR DOM MEANS
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

CONSTRUCTION BYPASS KEY NOTES:

1 USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.
4 3 ACTIVE SEWER LATERALS BETWEEN MH EC-622 AND MH EC-662.

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY MCCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN CHARLESTON BLVD STA 28+50 TO STA 37+00

STATE OF NEVADA MICHAEL A FLEURY Exp: 06-30-15 CIVIL No. 20947 PROFESSIONAL ENGINEER 4/14

Sheet BP-9
48 of 62
DRAWING NO. 307V1067

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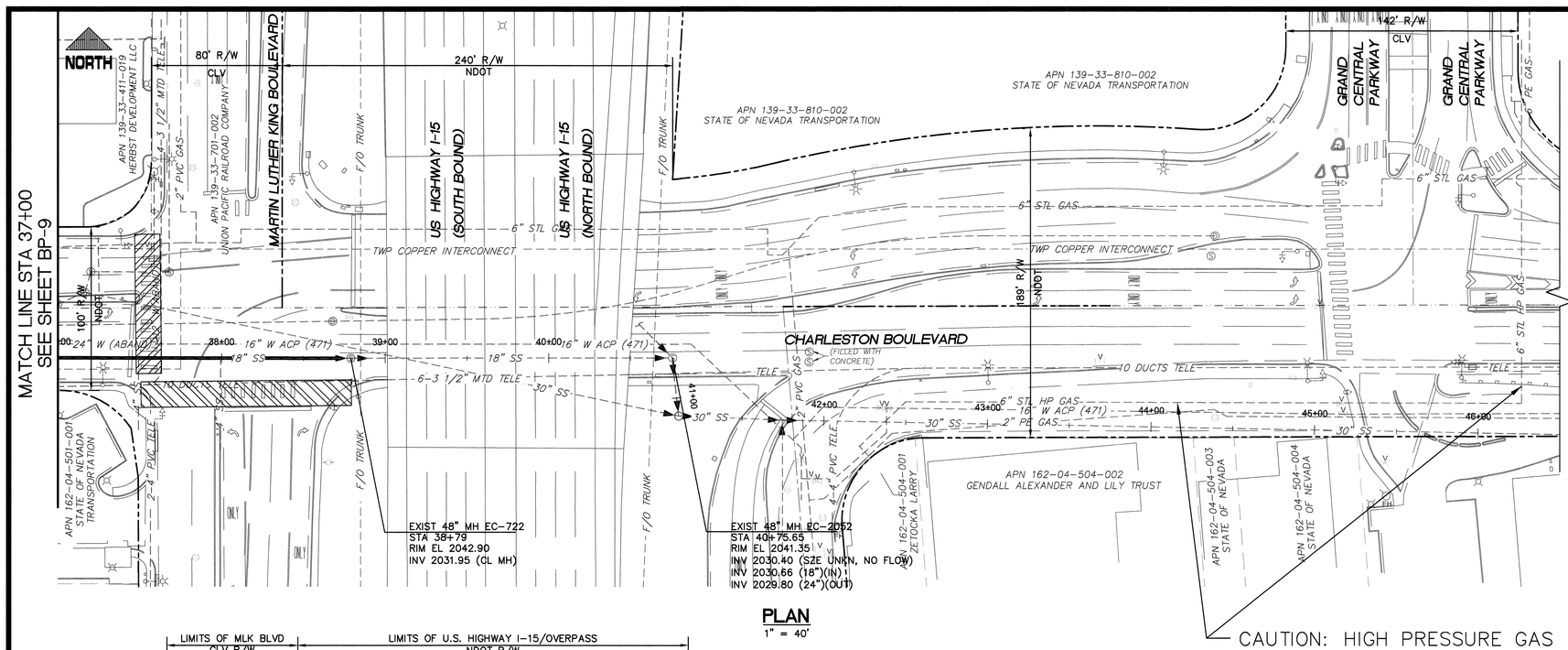
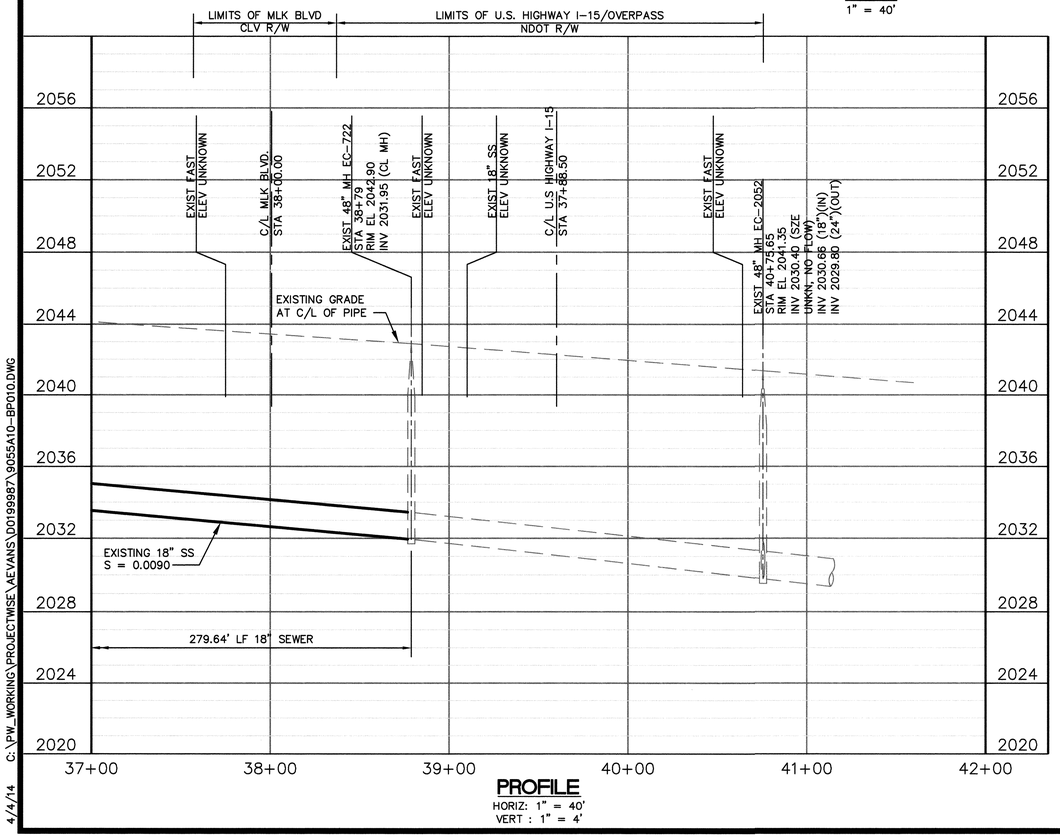


PLAN
1" = 40'



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

CALL SOUTHWEST GAS 702-651-2111
FOR STANDBY WHEN EXCAVATING OVER
OR NEAR HIGH PRESSURE GAS LINES.

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 2 working days before you excavate Call 811 or 1-800-227-2600 outside Clark County, NV 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 Overhead Service Alert

Call before you Dig Underground 1-702-455-7544 or 1-702-720-6611 Las Vegas Valley Underground Service Alert

CONSTRUCTION BYPASS NOTES:

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LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

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DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN CHARLESTON BLVD STA 37+00 TO STA 46+50±

STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20941
PROFESSIONAL ENGINEER
4/1/14

Sheet
BP-10
49 of 62
DRAWING NO.
307V1067

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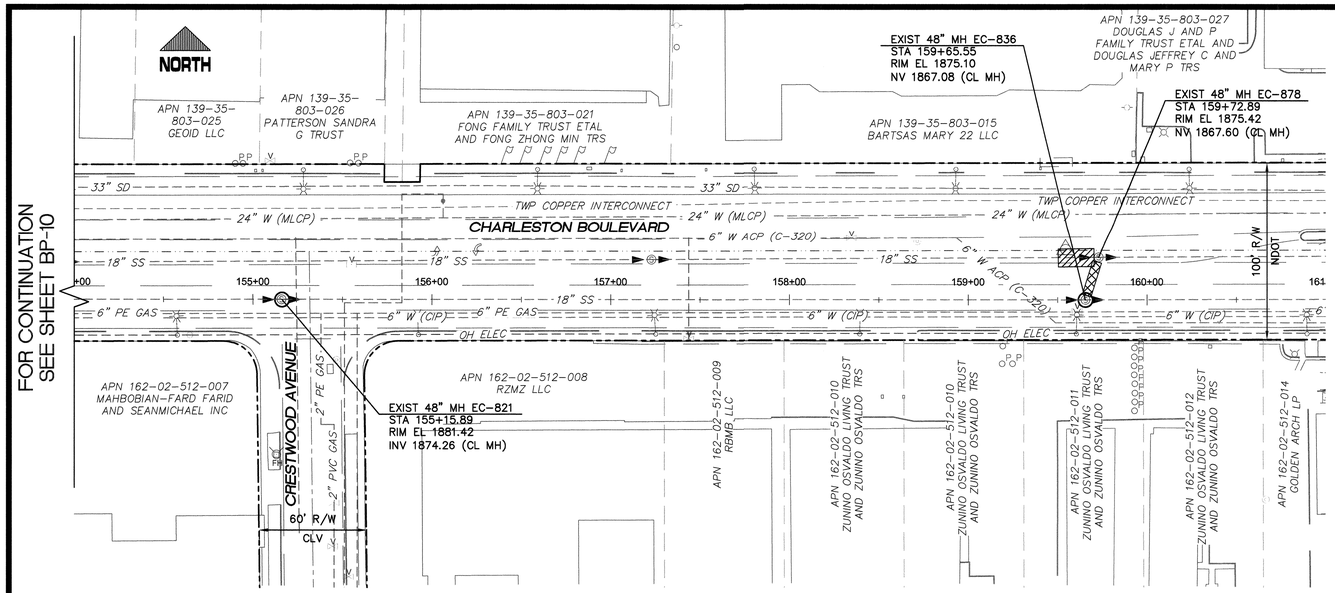

PLAN
1" = 40'

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-493-8111 — Southwest Gas Corporation

Call before you Dig Underground — 1-702-455-7511 — 1-702-644-6611

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15. SN-317 AT STEWART AND HONOLULU PLUG TO DIVERT FLOWS EAST DURING THIS BYPASS AND EASTERN BYPASS.

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

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DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E.
RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN CHARLESTON BLVD STA 154+00 TO STA 161+00±

DANIEL MICHAEL FLEURY — STATE OF NEVADA — PROFESSIONAL ENGINEER — No. 20541 — CIVIL — Exp: 06-30-15 — 4/1/14

Sheet
BP-11
50 of 62
DRAWING NO.
307V1067

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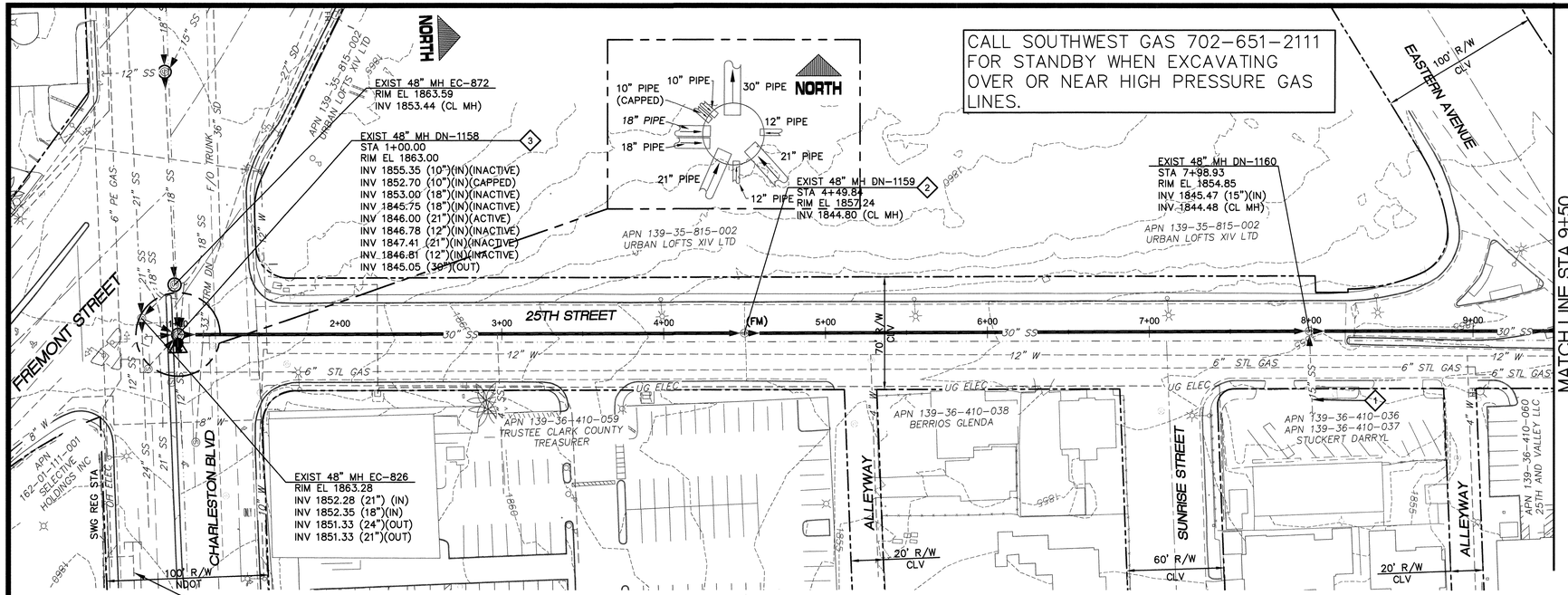

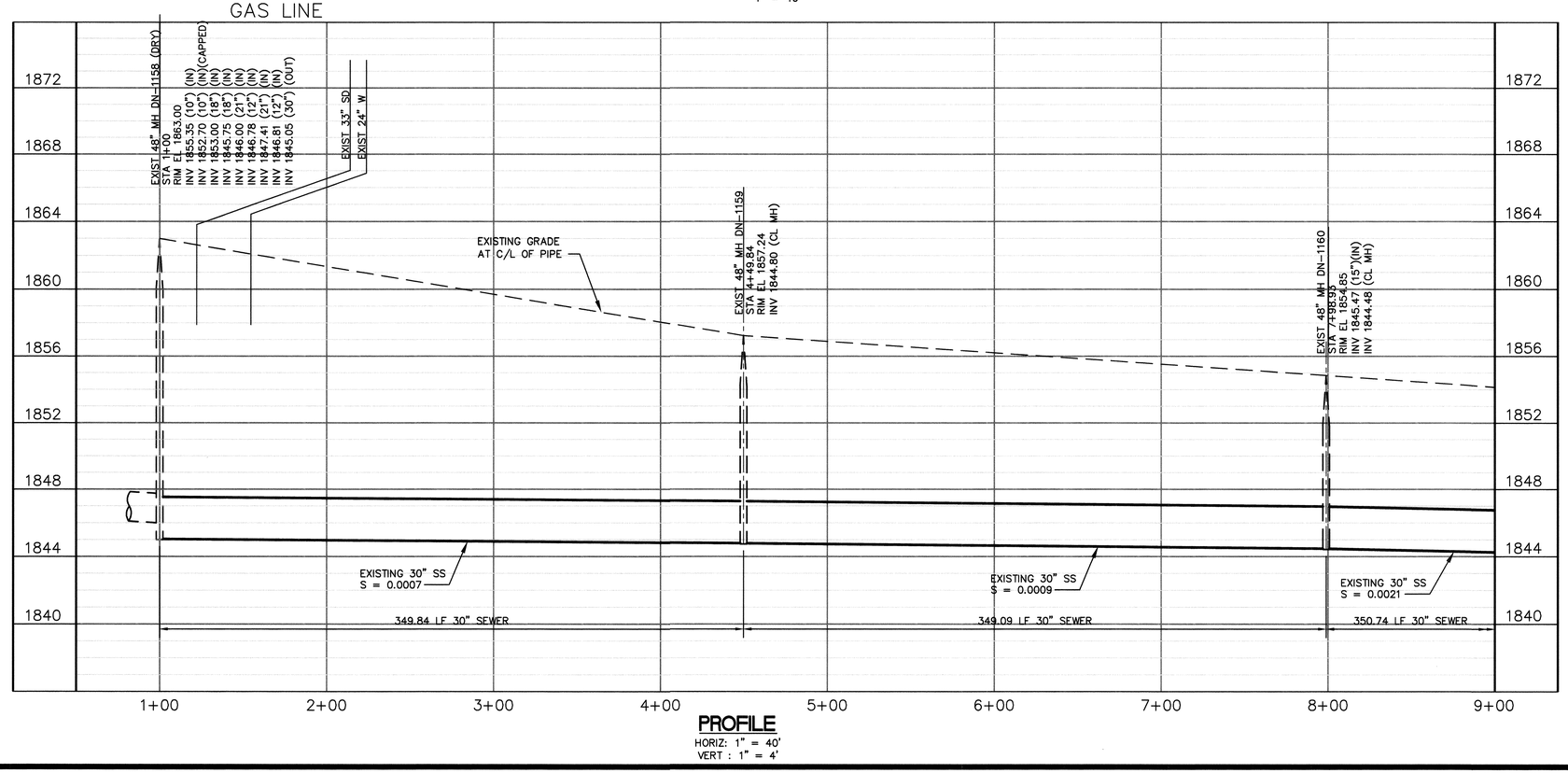

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VERT : 1" = 4'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
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Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's smart. Call before you go Overhead 1-702-593-8111 OVERHEAD SERVICE ALERT

Call Before You Dig Underground 1-702-455-7611 1-702-734-6611

CONSTRUCTION BYPASS NOTES:

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CONSTRUCTION BYPASS KEY NOTES:

1. USE VAC-TRUCK TO INTERCEPT FLOW.
2. FLOW MONITORING MANHOLE
3. PLUG 21-INCH INCOMING SEWER TO DN-1158

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

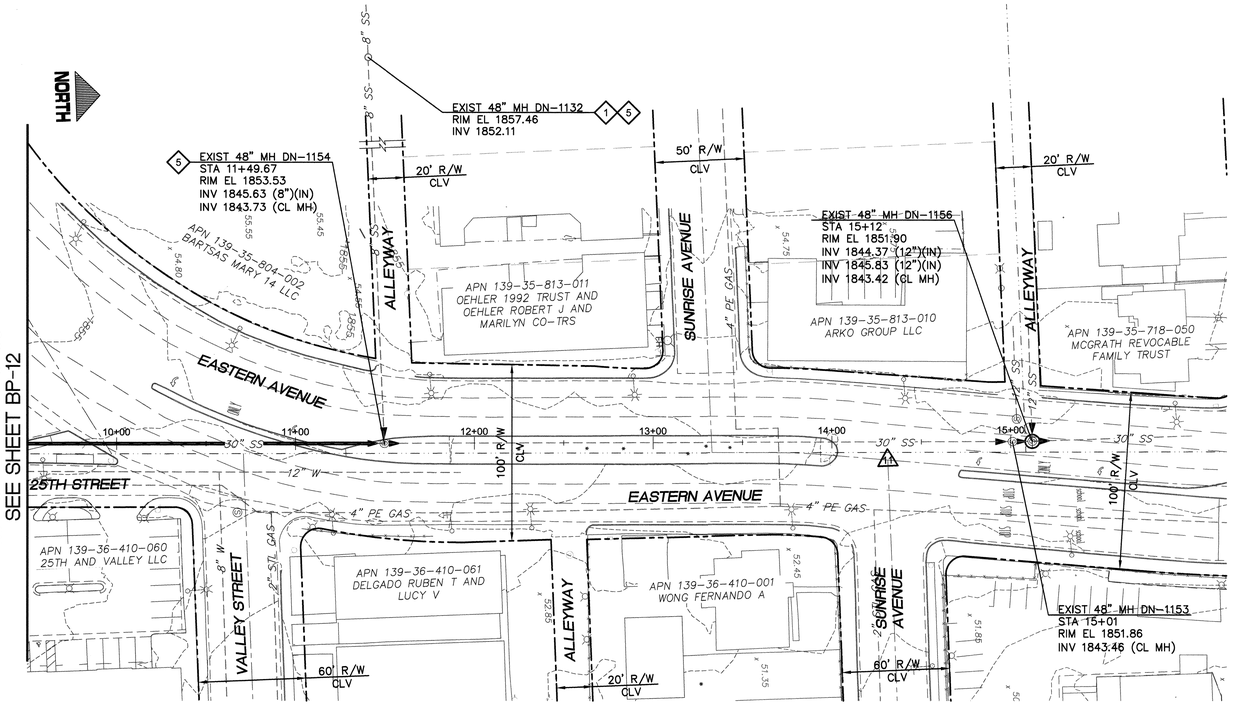
SHEET: FLOW BYPASS PLAN 25TH STREET STA 1+00 TO STA 9+50

CITY OF LAS VEGAS NEVADA

STATE OF NEVADA MICHAEL A. FLEURY Exp. 06-30-15 CIVIL No. 20941 PROFESSIONAL ENGINEER 4/1/14

Sheet BP-12
51 of 62
DRAWING NO. 307V1067

4/4/14 C:\PW_WORKING\PROJECTWISE\AEVANS\D0199987\9055A10-BP012.DWG



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(IN FEET)

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CONSTRUCTION BYPASS NOTES:

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2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) FOR THE BYPASS OPERATION (SEE SPECIAL PROVISIONS SECTION 695). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
3. THE CONTRACTOR SHALL BYPASS ALL MAINLINE AND LATERAL FLOWS. QUANTITY OF SEWAGE TO BE BYPASSED FROM POINT TO POINT SHALL BE THE SUM OF ALL THE FLOWS ENTERING THE PIPELINE BEFORE POINT OF DISCHARGE.
4. ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 OF THE SPECIAL PROVISIONS.
5. THE CONTRACTOR BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TCP ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANE(S) OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING CD-3. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATIVES THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR THE BYPASSING OF SEWAGE.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION, AND NDOT FOR THE WORK (SEE SPECIAL PROVISIONS SECTION 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION.
7. STANDARD DETAILS FOR TRENCH EXCAVATION, TRENCH PLATING, AND FINISHED ROAD CROSS SECTIONS ARE SHOWN IN DETAILS ON SHEET CD-3 AND CD-4. CHANGES TO THESE DETAILS WILL REQUIRE APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
8. IF REQUIRED, REMOVE AND REINSTALL MANHOLE FRAME, COVER, GRADE RINGS, AND CONE PER SD-4 OF THE DESIGN CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (2009).
9. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJOINING PROPERTIES ACCESSIBLE TO THE PUBLIC AND EMERGENCY VEHICLES. DESIGNS FOR MAINTAINING ACCESS WILL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CONTROLLING AGENCY FOR REVIEW AND APPROVAL. SEE DETAIL 2 / SHEET CD-3 FOR DRIVEWAY RAMP.
10. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS.
11. ALL BYPASS OPERATIONS ARE TO OCCUR WITHIN THE BYPASS CORRIDOR SHOWN ON THE BYPASS DRAWINGS. IF THE CONTRACTOR REQUIRES AN ADDITIONAL CLOSURE AREA THEY MUST OBTAIN ADDITIONAL APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
13. CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TBP.
14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

CONSTRUCTION BYPASS KEY NOTES:

1 USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.

5 5 ACTIVE SEWER LATERALS BETWEEN MH DN-1132 AND MH DN-1154

LEGEND

MAINTAIN PEDESTRIAN ACCESS

FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.

FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.

SUCTION STAGING AREA

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN 25TH STREET/EASTERN AVE STA 9+50 TO STA 15+12±

STATE OF NEVADA MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20941 PROFESSIONAL ENGINEER

Sheet BP-13
52 of 62
DRAWING NO. 307V1067

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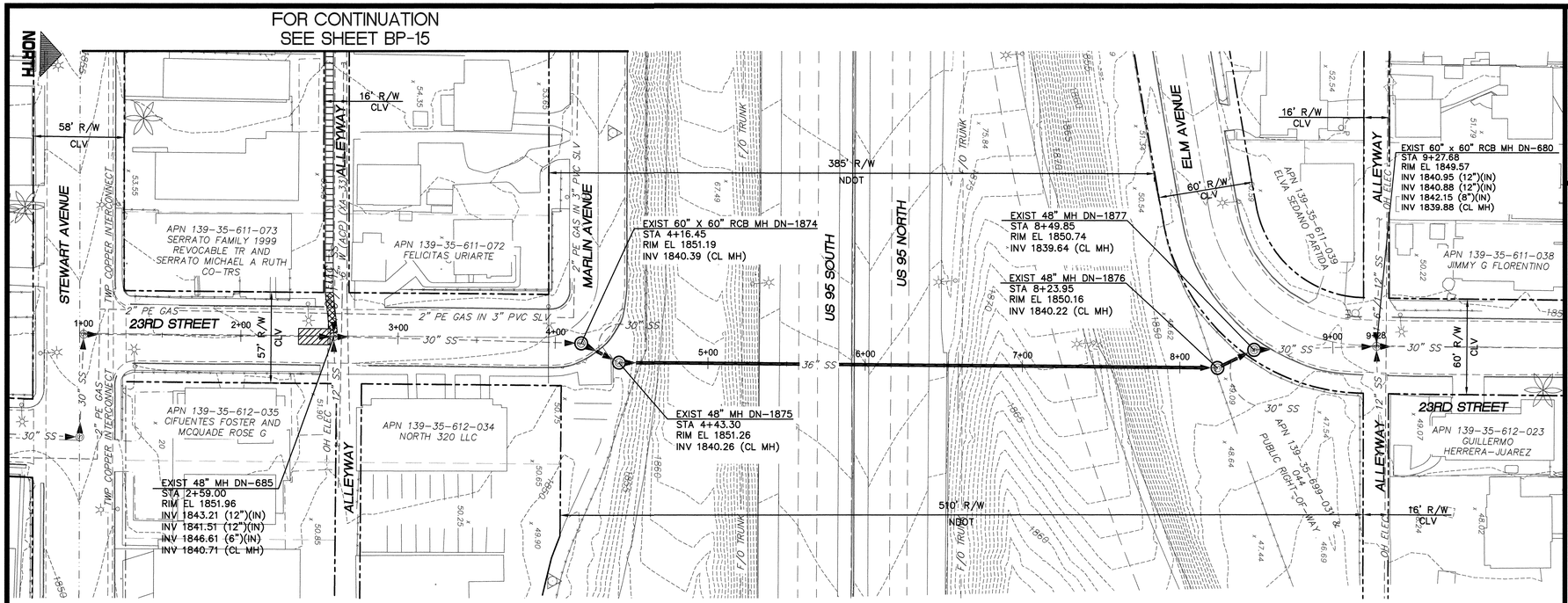
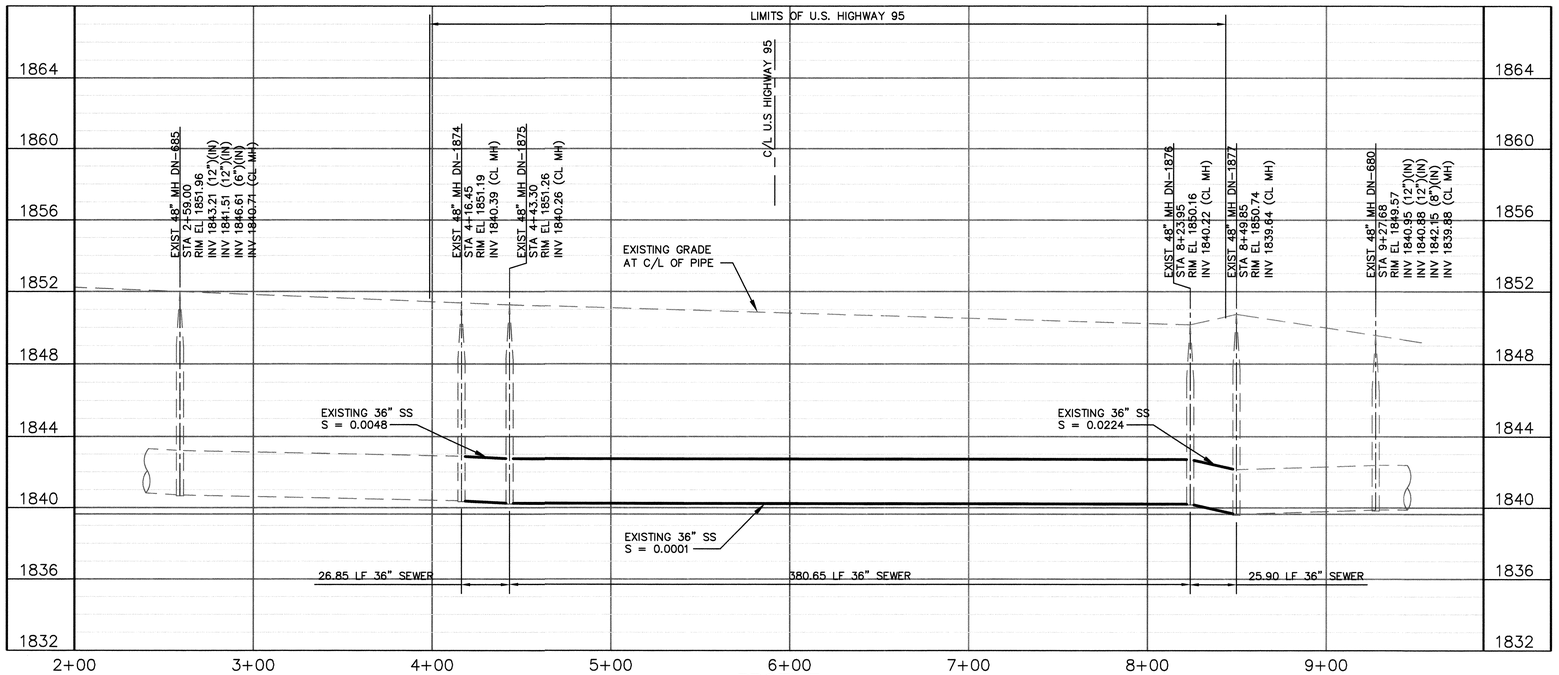


PLAN
1" = 40'



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

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 CLARK COUNTY SERVICE ALERT
Call before you Dig Under Ground 1-702-259-6611

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
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LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAC
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN 23RD STREET STA 1+00 TO STA 9+28±

STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20541
PROFESSIONAL ENGINEER

Sheet
BP-14
53 of 62
DRAWING NO.
307V1067

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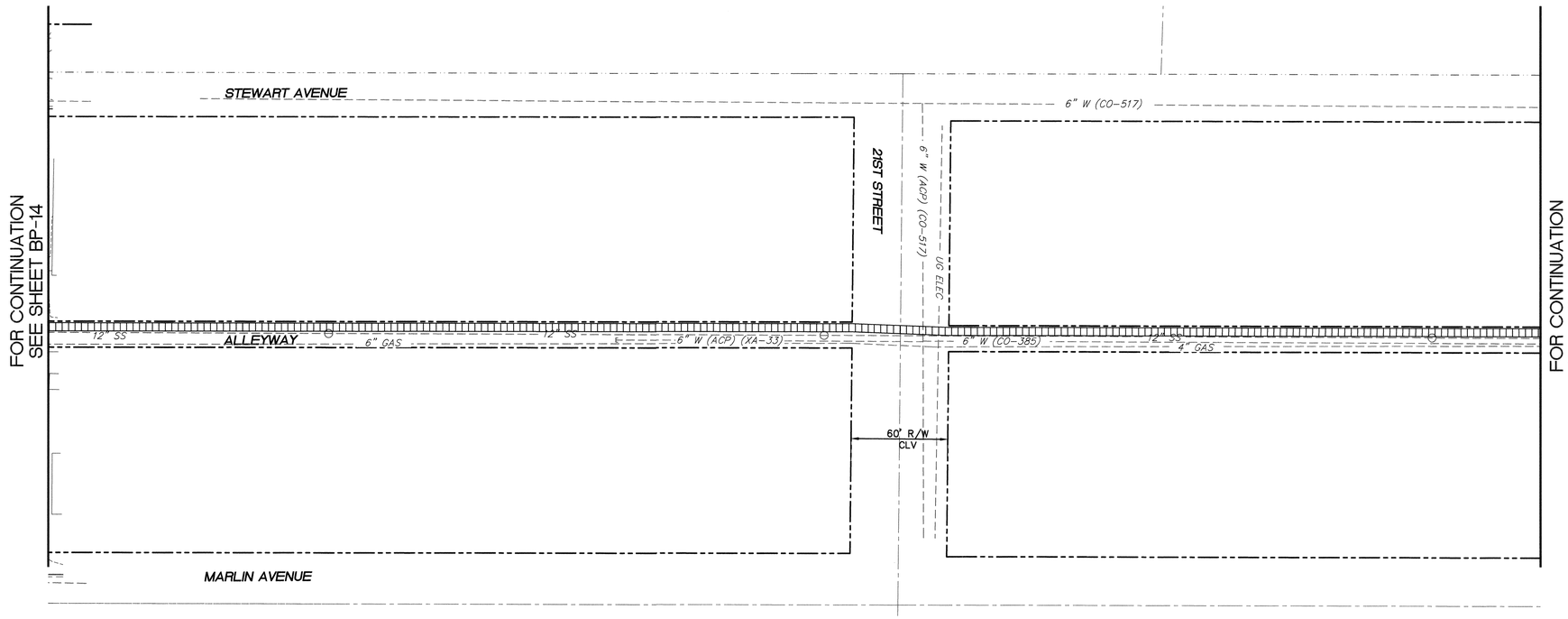
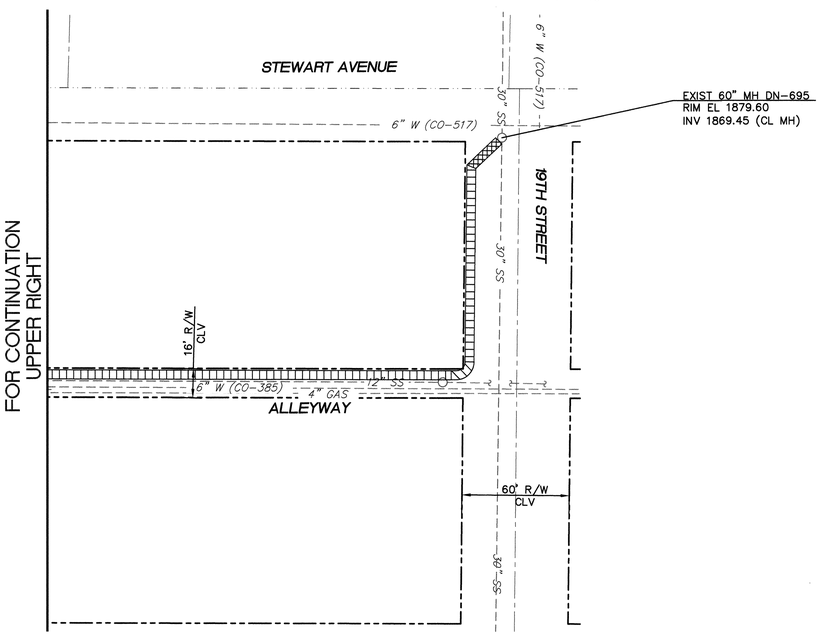


PLAN
1" = 40'



PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION

M. DISHARI FOR DOA MEADE

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE: 4/12/14 PROJECT# 122070

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Dig Alert: Call before you Dig — Call 811 or 1-800-227-2600 or 1-702-455-7544
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-693-6111 Overhead Service Alert
Call before you Dig Underground 1-702-455-7511 1-702-220-6014

CONSTRUCTION BYPASS NOTES:

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LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER:
PROGRAM MANAGER: DAVID N. BOWERS, P.E. / RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS PLAN 23RD STREET TO 19TH STREET

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/1/14

Sheet
BP-15
54 of 62
DRAWING NO.
307V1067

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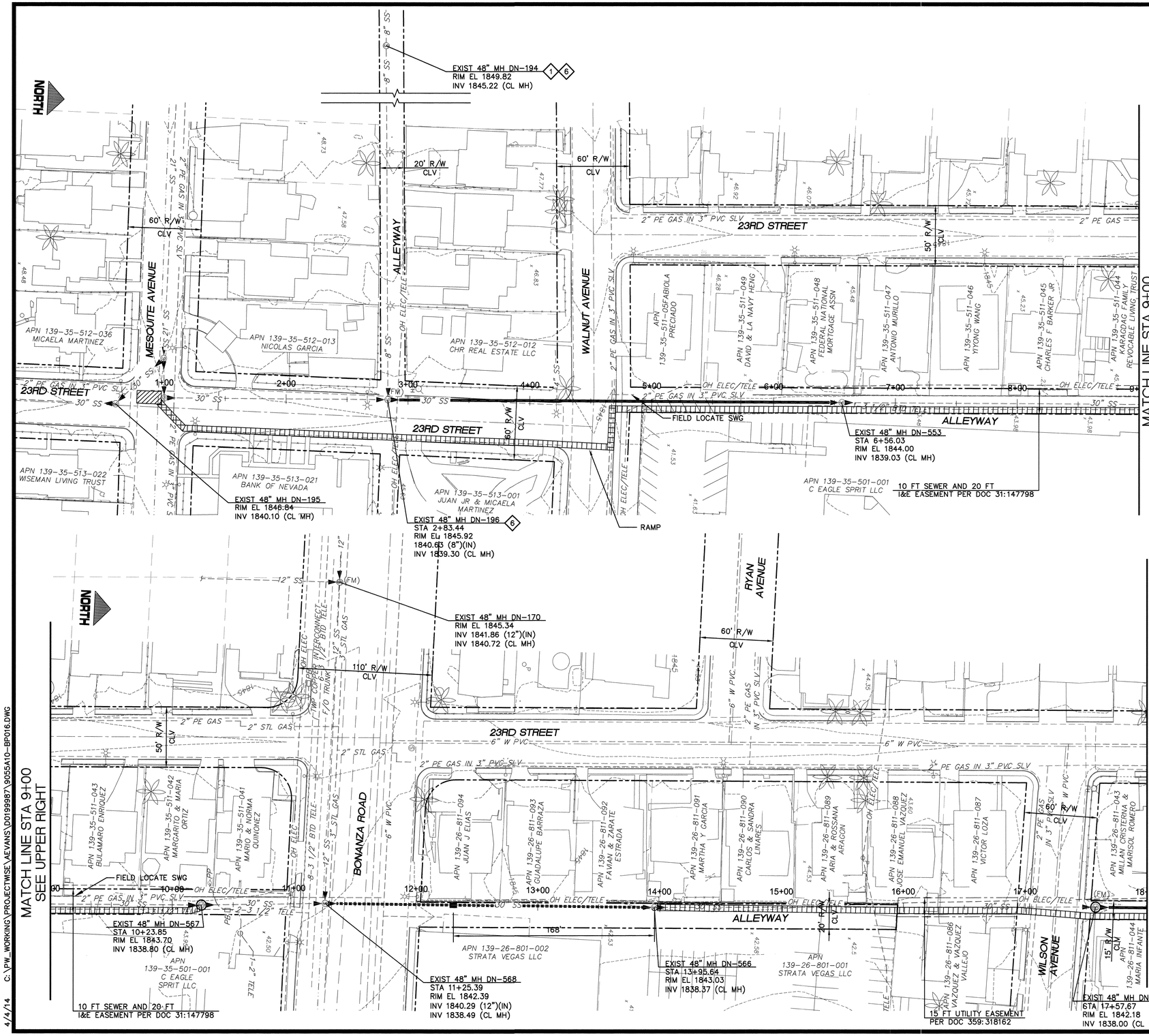

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-693-8111

Call before you Dig Underground 1-702-455-7511 1-702-294-8111

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
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4. ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 OF THE SPECIAL PROVISIONS.
5. THE CONTRACTOR BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TCP ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANE(S) OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING CD-3. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATIVES THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR THE BYPASSING OF SEWAGE.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION, AND NDOT FOR THE WORK (SEE SPECIAL PROVISIONS SECTION 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION.
7. STANDARD DETAILS FOR TRENCH EXCAVATION, TRENCH PLATING, AND FINISHED ROAD CROSS SECTIONS ARE SHOWN IN DETAILS ON SHEET CD-3 AND CD-4. CHANGES TO THESE DETAILS WILL REQUIRE APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
8. IF REQUIRED, REMOVE AND REINSTALL MANHOLE FRAME, COVER, GRADE RINGS, AND CONE PER SD-4 OF THE DESIGN CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (2009).
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14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

CONSTRUCTION BYPASS KEY NOTES:

1. USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.
2. FLOW MONITORING MANHOLE
6. 12 ACTIVE SEWER LATERALS BETWEEM MH DN-194 AND MH DN-196.

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: BYPASS FLOW PLAN 23RD STREET STA 1+00 TO STA 18+00

STATE OF NEVADA MICHAEL J. FLEURY Exp. 06-30-15 CIVIL No. 20941 PROFESSIONAL ENGINEER

4/14/14

Sheet BP-16
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DRAWING NO. 3071067

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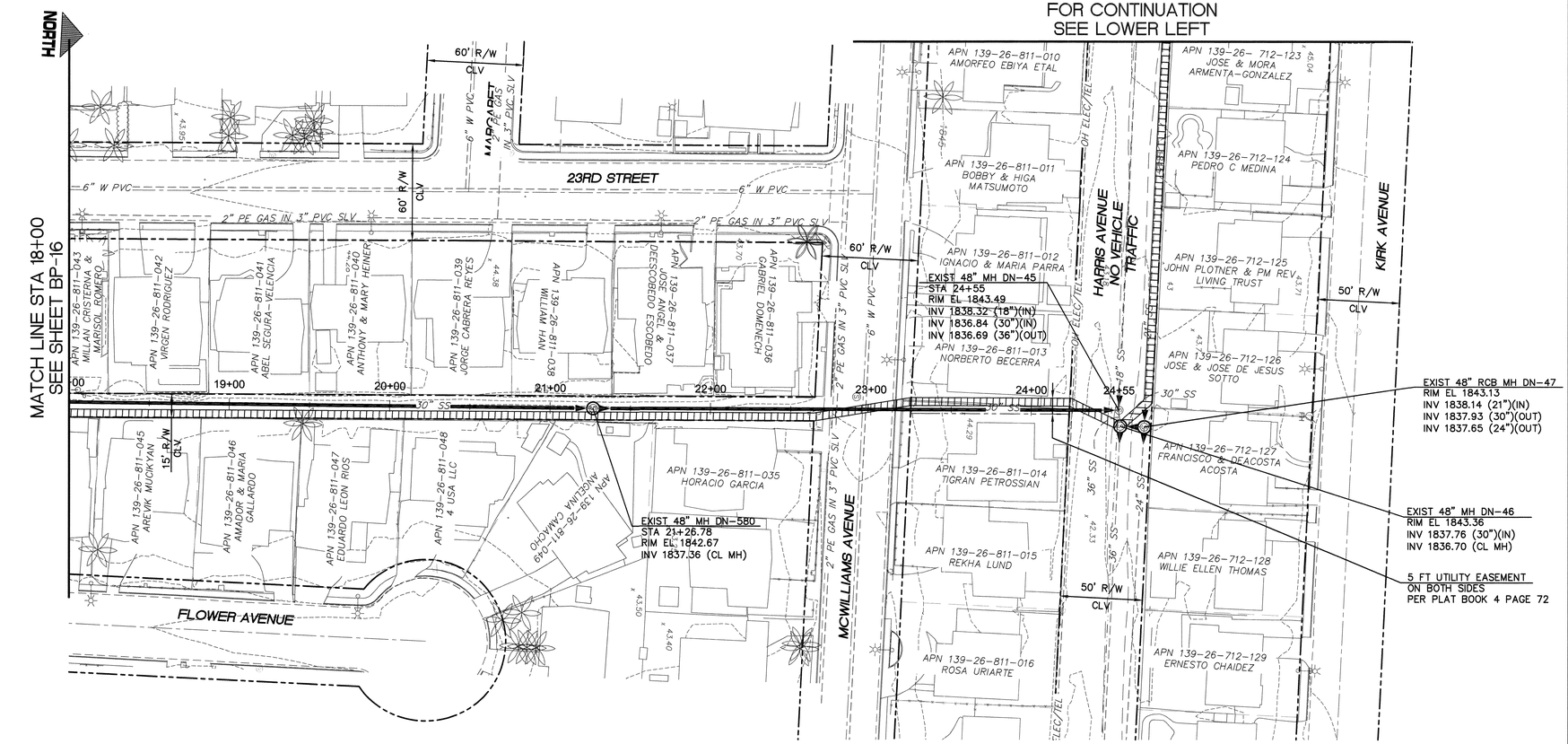

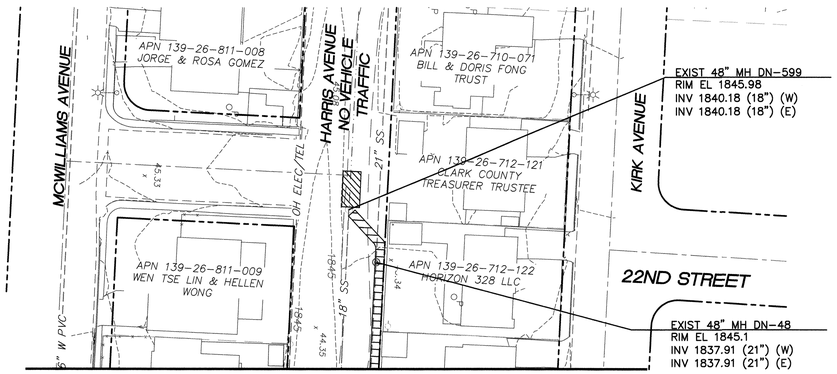

FOR CONTINUATION
SEE UPPER RIGHT

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Call before you Dig 811 1-800-227-2600 1-702-455-6500
Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-593-6111 OVERHEAD SERVICE ALERT
Call Before You Dig Underground 1-702-455-7411 1-702-729-6611

CONSTRUCTION BYPASS NOTES:

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10. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS.
11. ALL BYPASS OPERATIONS ARE TO OCCUR WITHIN THE BYPASS CORRIDOR SHOWN ON THE BYPASS DRAWINGS. IF THE CONTRACTOR REQUIRES AN ADDITIONAL CLOSURE AREA THEY MUST OBTAIN ADDITIONAL APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
13. CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TBP.
14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER-WATER SEPERATION MITIGATION.

APPROVED FOR CONSTRUCTION
DISHAR FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/2014 PROJECT# 122070

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: BYPASS FLOW PLAN 23RD STREET STA 18+00 TO STA 24+55±

STATE OF NEVADA PROFESSIONAL ENGINEER MICHAEL A. FLEURY Exp: 06-30-15 CIVIL No. 20947 4/11/14

Sheet BP-17
56 of 62
DRAWING NO. 307V1067

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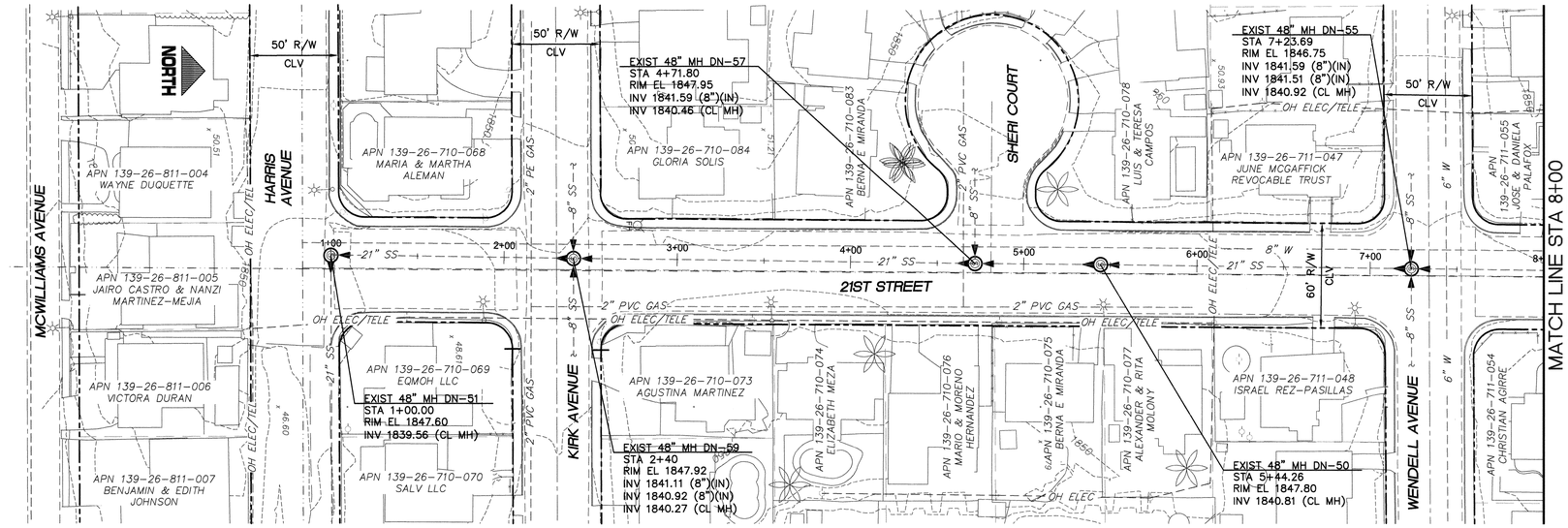

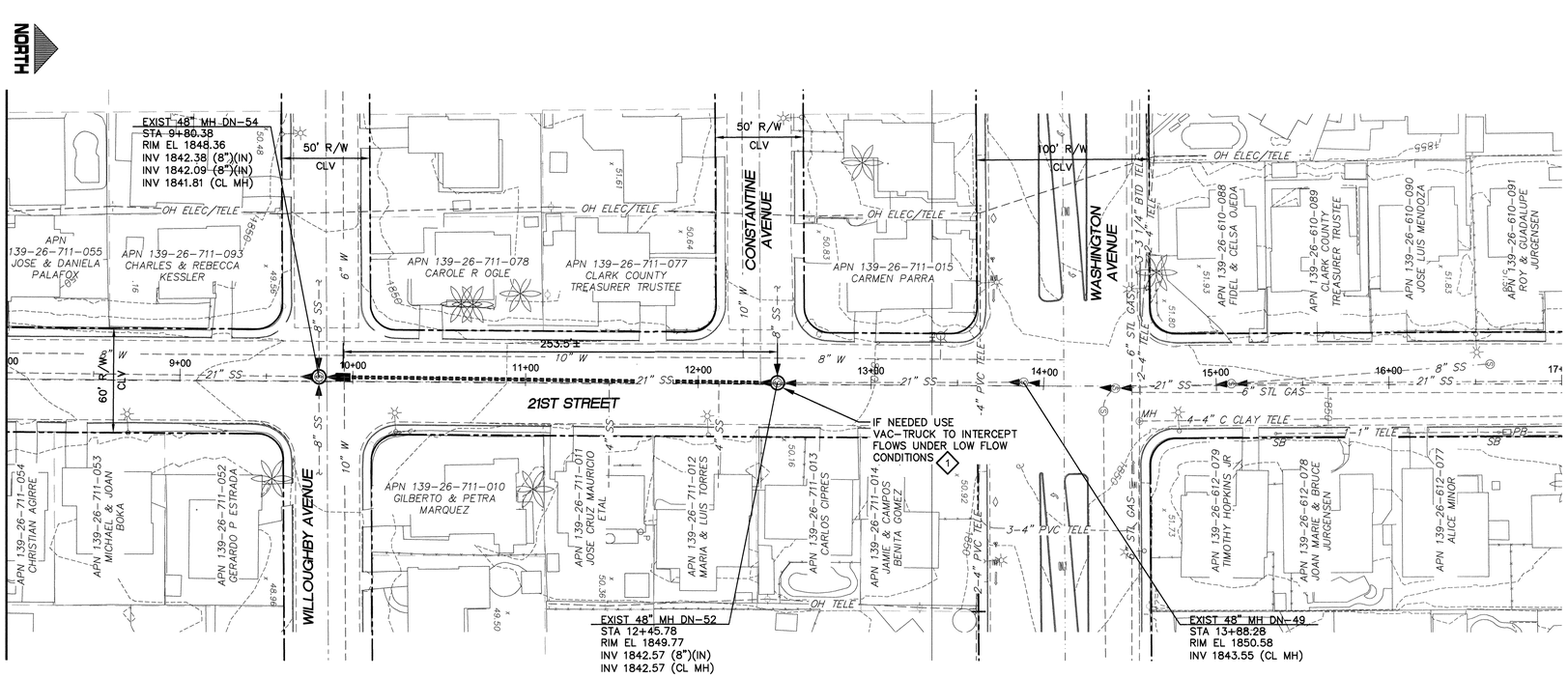

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's cost!! Call before you do Overhead 1-702-593-8111

Call before you Dig Underground 1-702-455-7511 1-702-229-6611

CONSTRUCTION BYPASS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DEWATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO ACHIEVE THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE POINT TO DISCHARGE POINT.
2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) FOR THE BYPASS OPERATION (SEE SPECIAL PROVISIONS SECTION 695). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
3. THE CONTRACTOR SHALL BYPASS ALL MAINLINE AND LATERAL FLOWS. QUANTITY OF SEWAGE TO BE BYPASSED FROM POINT TO POINT SHALL BE THE SUM OF ALL THE FLOWS ENTERING THE PIPELINE BEFORE POINT OF DISCHARGE.
4. ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 OF THE SPECIAL PROVISIONS.
5. THE CONTRACTOR BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TCP ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANE(S) OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING CD-3. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATIVES THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR THE BYPASSING OF SEWAGE.
6. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION, AND NDOT FOR THE WORK (SEE SPECIAL PROVISIONS SECTION 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION.
7. STANDARD DETAILS FOR TRENCH EXCAVATION, TRENCH PLATING, AND FINISHED ROAD CROSS SECTIONS ARE SHOWN IN DETAILS ON SHEET CD-3 AND CD-4. CHANGES TO THESE DETAILS WILL REQUIRE APPROVAL FROM THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DIVISION.
8. IF REQUIRED, REMOVE AND REINSTALL MANHOLE FRAME, COVER, GRADE RINGS, AND CONE PER SD-4 OF THE DESIGN CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (2009).
9. THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJOINING PROPERTIES ACCESSIBLE TO THE PUBLIC AND EMERGENCY VEHICLES. DESIGNS FOR MAINTAINING ACCESS WILL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CONTROLLING AGENCY FOR REVIEW AND APPROVAL. SEE DETAIL 2 / SHEET CD-3 FOR DRIVEWAY RAMP.
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14. BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET CD-3.

CONSTRUCTION BYPASS KEY NOTES:

1. USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

NO.	DATE:	DESCRIPTION	APP'D
		REVISIONS	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: BYPASS FLOW PLAN 21ST STREET STA 1+00 TO STA 17+00±

STATE OF NEVADA — MICHAEL A. FLEURY — Exp. 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER

Sheet BP-18
57 of 62
DRAWING NO. 307V1067

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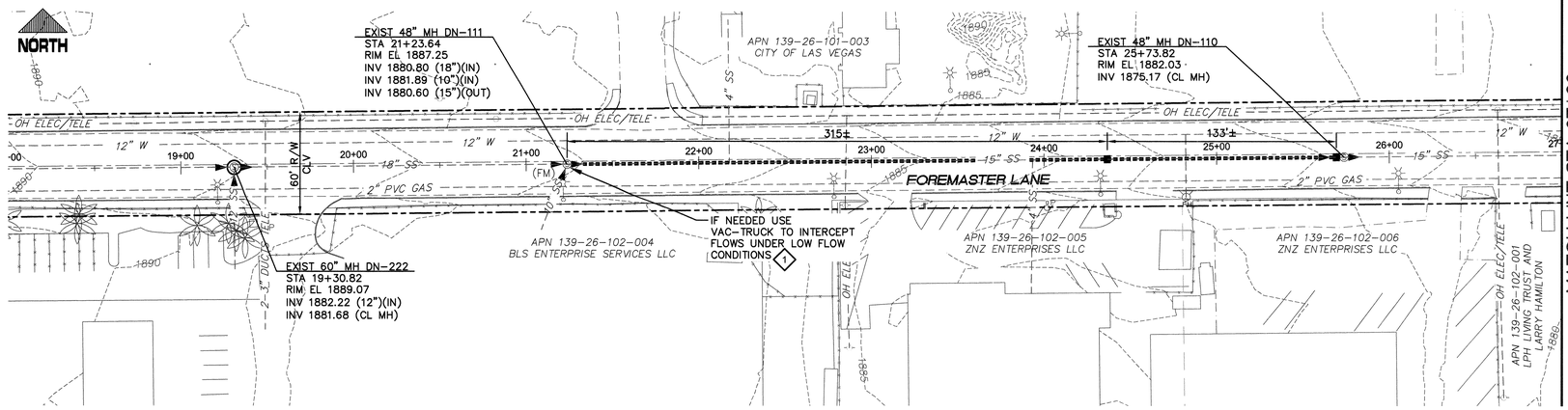

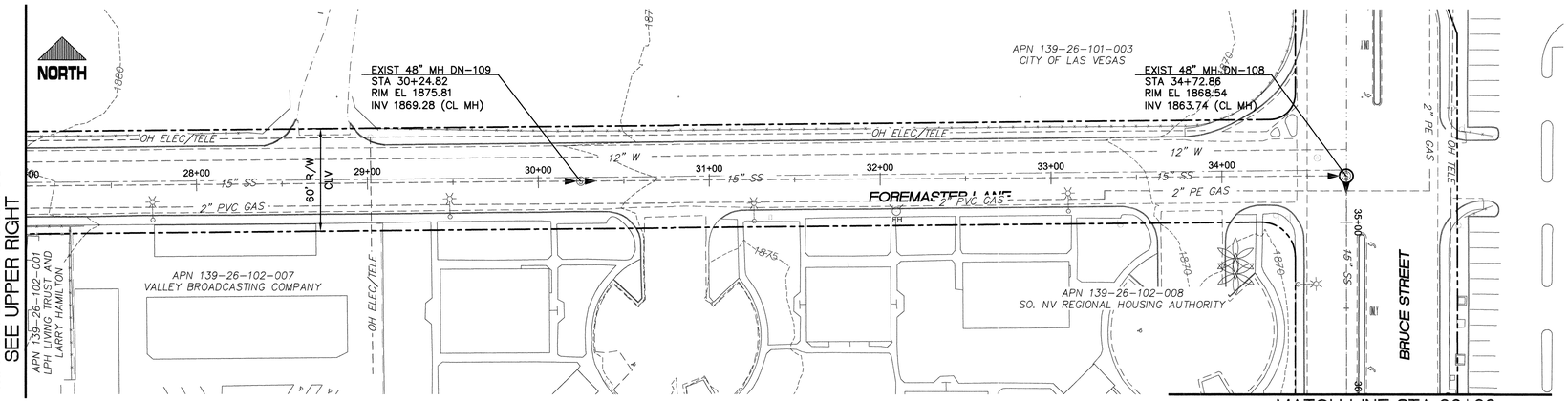

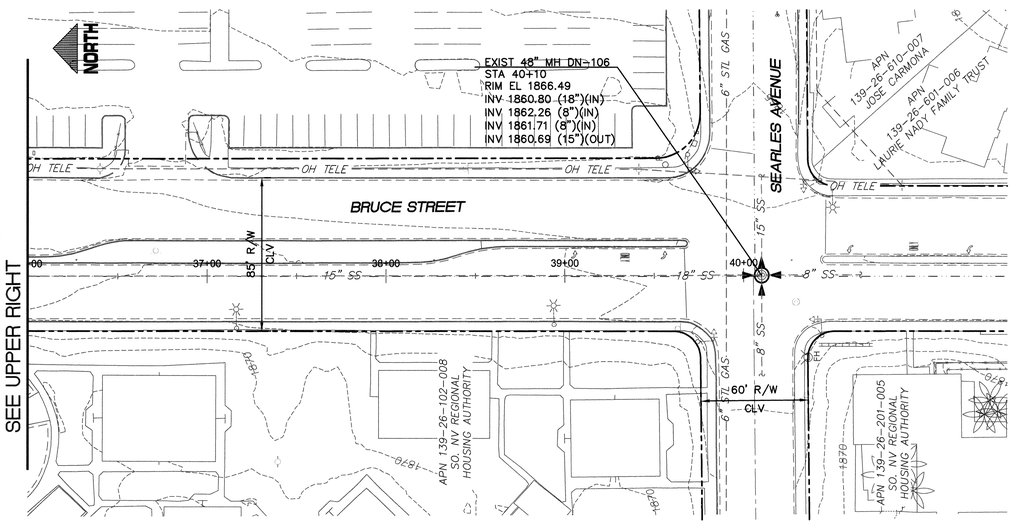

4/4/14 C:\PW_WORKING\PROJECTWISE_AEVANS\D0199987\9055A10-BP019.DWG

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

Call before you Dig — Call 811 — 1-800-227-2600 — 1-702-455-7544

Avoid cutting overhead utility lines. It's costly. Call before you do Overhead 1-702-693-6111

Call before you Dig Underground 702-455-7511 702-720-6011

CONSTRUCTION BYPASS NOTES:

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CONSTRUCTION BYPASS KEY NOTES:

1 USE VAC-TRUCK TO INTERCEPT UPSTREAM FLOW.

LEGEND

- MAINTAIN PEDESTRIAN ACCESS
- FLOW BYPASS CORRIDOR PIPE LAID ABOVE GRADE PER DETAIL SHOWN ON CD-3.
- FLOW BYPASS CORRIDOR PIPE TRENCHED PER DETAIL SHOWN ON CD-4.
- SUCTION STAGING AREA

carollo

REVISIONS				
NO.	DATE:	DESCRIPTION	APP'D	

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. ROWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

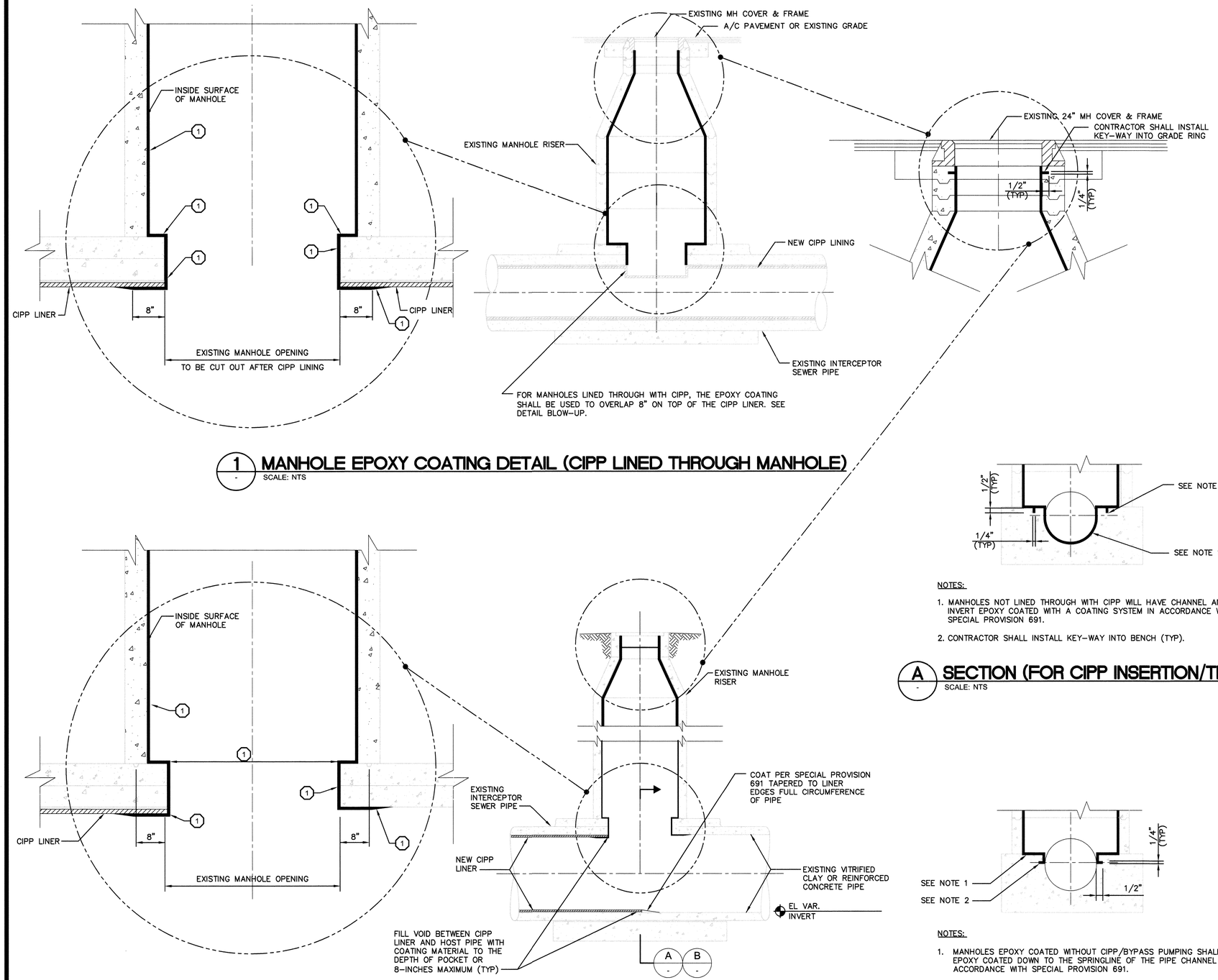
DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: BYPASS FLOW PLAN FOREMASTER LANE/BRUCE STREET STA 18+00 TO STA 40+10±

STATE OF NEVADA — MICHAEL A. FLEURY — Exp: 06-30-15 — CIVIL — No. 20941 — PROFESSIONAL ENGINEER — 4/4/14

Sheet BP-19
58 of 62
DRAWING NO. 307V1067



1 MANHOLE EPOXY COATING DETAIL (CIPP LINED THROUGH MANHOLE)

SCALE: NTS

CONSTRUCTION KEY NOTE:

(1) THE CONTRACTOR SHALL INSTALL A COATING SYSTEM AS SPECIFIED IN SPECIAL PROVISION 691 TO THE LIMITS AS SHOWN. THE CONTRACTOR SHALL INSTALL THE COATING SYSTEM ON ANY SURFACE OF THE PIPE NOT LINED BY THE CIPP LINER. THE COATING SHALL BE 1/8" MIN. (125mils) THICK ON THE MANHOLE SURFACE. THE CONTRACTOR SHALL THEN OVERLAP THE COATING 8-INCHES ON TOP OF THE CIPP LINER OR EXISTING PIPE W/TAPER AS SHOWN TO SEAL.

NOTES:

1. MANHOLES NOT LINED THROUGH WITH CIPP WILL HAVE CHANNEL AND INVERT EPOXY COATED WITH A COATING SYSTEM IN ACCORDANCE WITH SPECIAL PROVISION 691.
2. CONTRACTOR SHALL INSTALL KEY-WAY INTO BENCH (TYP).

A SECTION (FOR CIPP INSERTION/TERMINATION MANHOLE)

SCALE: NTS

2 MANHOLE EPOXY COATING AND/OR CIPP LINER TERMINATION AT MANHOLE DETAIL

SCALE: NTS

NOTES:

1. MANHOLES EPOXY COATED WITHOUT CIPP/BYPASS PUMPING SHALL BE EPOXY COATED DOWN TO THE SPRINGLINE OF THE PIPE CHANNEL IN ACCORDANCE WITH SPECIAL PROVISION 691.
2. CONTRACTOR SHALL INSTALL KEY-WAY IN LOCATION SHOWN.

B SECTION (FOR MANHOLE BASE EPOXY COATING ONLY)

SCALE: NTS

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

CITY OF LAS VEGAS NEVADA

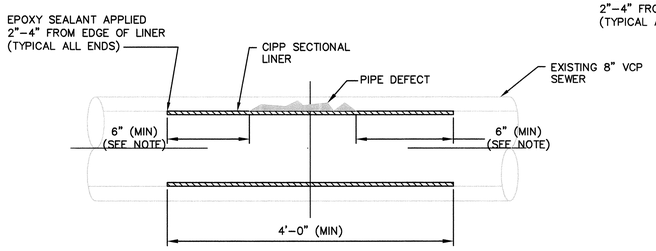
TITLE: SEWER REHABILITATION GROUP C

SHEET: STANDARD DETAILS

STATE OF NEVADA
MICHAEL A. FLEURY
Exp. 06-30-15
CIVIL
No. 20947
PROFESSIONAL ENGINEER
4/11/14

Sheet CD-1
59 of 62

DRAWING NO. 307V1067

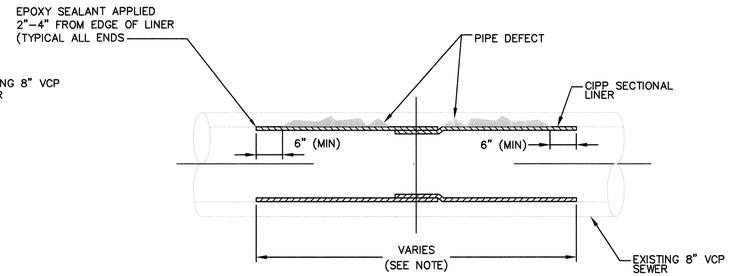


NOTE:

IF EDGE OF DEFECT TO EDGE OF LINER IS NOT 6" (BOTH SIDES), INSTALL MULTIPLE LINERS PER DETAIL 2.

1 - CIPP SECTIONAL LINER FOR A SINGLE POINT REPAIR

SCALE: N.T.S.
FILE:



NOTE:

IF DISTANCE EXCEEDS 4 FEET, INSTALL LINERS AS REQUIRED WITH AN OVERLAP OF 6 INCHES (MIN) AND 18 INCHES (MAX).

2 - CIPP SECTIONAL LINERS FOR A MULTIPLE POINT REPAIR

SCALE: NTS

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

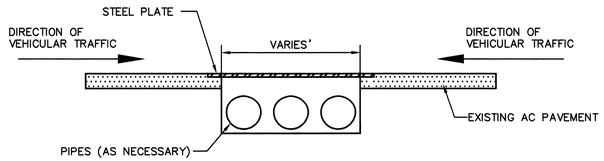
SHEET: STANDARD DETAILS

CITY OF LAS VEGAS NEVADA

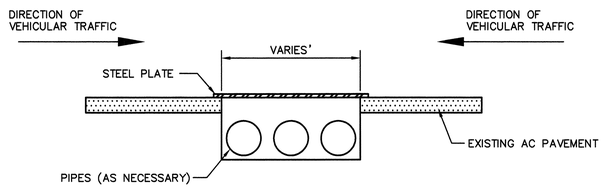
STATE OF NEVADA
MICHAEL A. FLEURY
Exp: 06-30-15
CIVIL
No. 20941
PROFESSIONAL
4/1/14

Sheet
CD-2
60 of 62
DRAWING NO.
307V1067

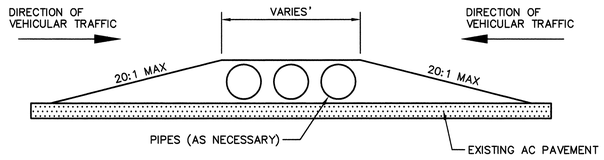
carollo



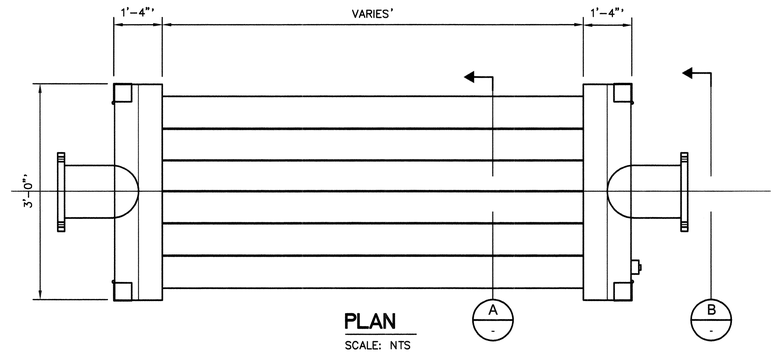
CASE 1-FOR SPEEDS ⟩ 25 MPH



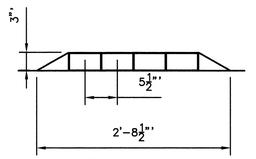
CASE 2-FOR SPEEDS ⟨ 25 MPH



CASE 3-FOR SPEEDS ⟨ 25 MPH

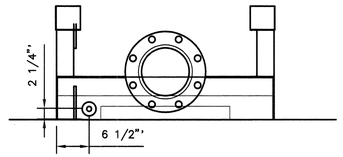


PLAN
SCALE: NTS



A SECTION
SCALE: NTS

4-12 STITCH WELD



B SECTION
SCALE: NTS

FLOW BYPASS PIPING DETAILS

1 - PERPENDICULAR TO TRAFFIC FLOW DETAIL
SCALE: NTS

NOTE:
1. PATCH EXISTING PAVEMENT PER DETAILS ON CD-4.

NOTE: CASE 1 AND CASE 2:

LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION PRIOR TO COMMENCEMENT OF WORK IN ANY LOCATION WHERE THE CONTRACTOR ELECTS TO TEMPORARILY INSTALL THE BYPASS SEWER LINE BELOW PAVEMENT, A SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD, MUST BE SUBMITTED TO, AND APPROVED BY, LVVWD FOR SEWER – WATER SEPERATION MITIGATION.

2 - DRIVEWAY RAMP
SCALE: NTS

APPROVED FOR CONSTRUCTION
Y. DISHAR FOR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/12/14 PROJECT# 122070

carollo

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE
DESIGNED BY:
DRAWN BY: MAF
CHECKED BY: ARF JAG
DATE: APRIL 2014

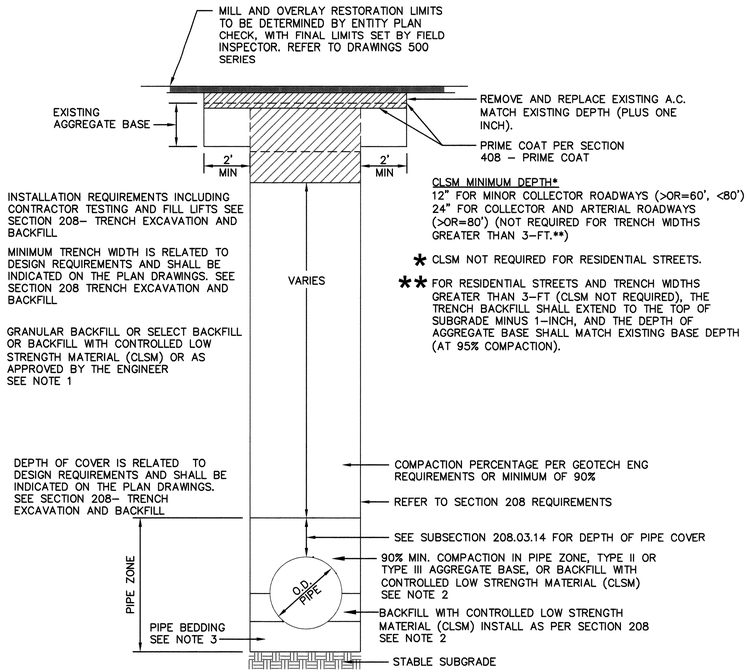
CITY OF LAS VEGAS NEVADA

TITLE: SEWER REHABILITATION GROUP C

SHEET: FLOW BYPASS DETAILS

STATE OF NEVADA MICHAEL A. FLEURY Exp. 06-30-15 CIVIL No. 20947 PROFESSIONAL ENGINEER 4/11/14

Sheet CD-3
64 of 62
DRAWING NO. 307V1067

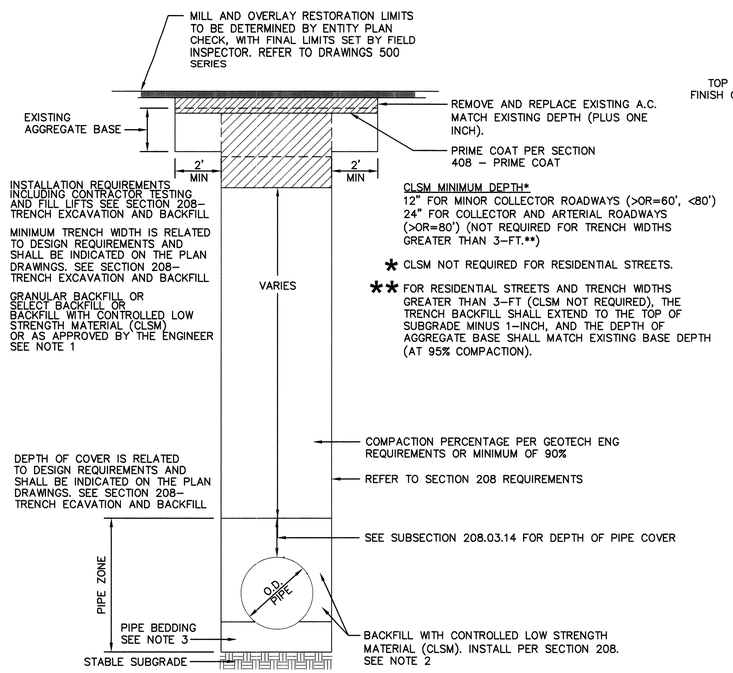


NOTES:

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA METHOD A FOR RIGID PIPE TRENCH BACKFILL – PAVED AREAS #503.2

1 - SCALE: NTS



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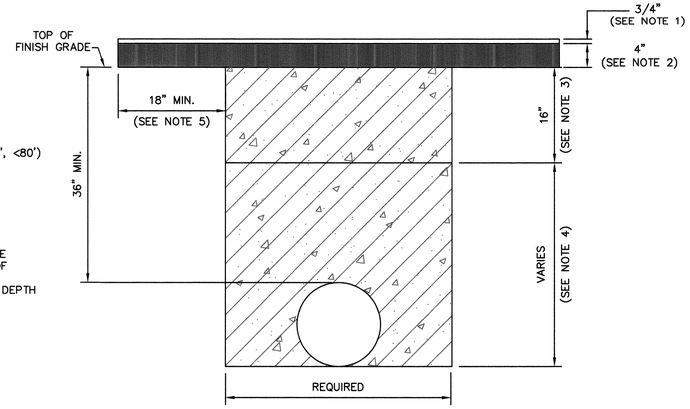
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA METHOD A FOR FLEXIBLE PIPE TRENCH BACKFILL – PAVED AREAS #503.1

2 - SCALE: NTS



NOTES:

1. 3/4 INCH OPEN GRADE.
2. 4 INCH MINIMUM DENSE GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE NDOT INSPECTOR.

NDOT METHOD OF PATCHING ROADWAY WHERE TRENCHING IS NECESSARY FOR UTILITY OR OTHER INSTALLATIONS

3 - SCALE: NTS

REVISIONS

NO.	DATE:	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

CITY ENGINEER: DAVID N. BOWERS, P.E.
PROGRAM MANAGER: RANDY McCONNELL, PE

DESIGNED BY: MAF
DRAWN BY: ARE
CHECKED BY: GAG

DATE: APRIL 2014

TITLE: SEWER REHABILITATION GROUP C

SHEET: TRENCH DETAILS

STATE OF NEVADA MICHAEL A. FLEURY Exp: 06-30-15 CIVIL PROFESSIONAL No. 20941 4/4/14

Sheet CD-4
62 of 62
DRAWING NO. 307V1067

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