

DEPARTMENT OF PUBLIC WORKS



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DESIGN GROUP**
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POG #LV-12068-C

REVISIONS	NO.	DATE	DESCRIPTION	APP'D

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 E

Reviewed By:

[Signature] 4/30/14
CLV CITY ENGINEER DATE

[Signature] 4-29-14
CLV PROJECT MANAGER DATE

[Signature] 4/30/14
CLV CONSTRUCTION MANAGER DATE

[Signature] 4/30/14
CLV TRAFFIC ENGINEER DATE

[Signature] 4/30/14
CLV CITY SURVEYOR DATE

[Signature] 4/7/14
SOUTHWEST GAS CORPORATION DATE

[Signature] 4-7-14
CENTRAL TELEPHONE COMPANY, D/B/A CENTURYLINK 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 STANDARD REGULATIONS.

[Signature] 4/7/14
COX COMMUNICATIONS LAS VEGAS, INC. DATE

[Signature] 4-14-2014
NV ENERGY - DISTRIBUTION 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.

[Signature] 4-14-2014
NV ENERGY - TRANSMISSION DATE

THE SIGNATURE 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.

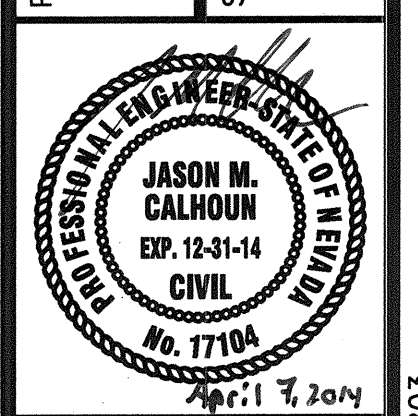
APPROVED FOR CONSTRUCTION
[Signature] 4/16/14
SOUTHERN NEVADA WATER AUTHORITY DATE
SNWA APPROVAL IS VALID FOR ONE (1) YEAR FROM THE SIGNATURE DATE.
IF CONSTRUCTION WITHIN THE EASEMENT OR RESTRICTED PIPE SAFETY
ZONE IS NOT COMPLETE, PLANS MUST BE RESUBMITTED TO SNWA FOR
REVIEW AND APPROVAL.

APPROVED FOR CONSTRUCTION
[Signature] 4/16/14
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

CLV BID NO. 13.46803
HANSEN #46803

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89108 • (702) 228-6276
CLV ENGINEER: JASON M. CALHOON, P.E.
CLV PROJECT MANAGER: JEREMY LEVITT, P.E.
DESIGNED BY: N. WILSON, P.E.
DRAWN BY: J. CALHOON, P.E.
CHECKED BY: J. CALHOON, P.E.
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: COVER SHEET



SHEET
G-01
01 of 43
CLV DRAWING NO.
307V1080

AS-BUILT DRAWINGS

Signature [Signature]

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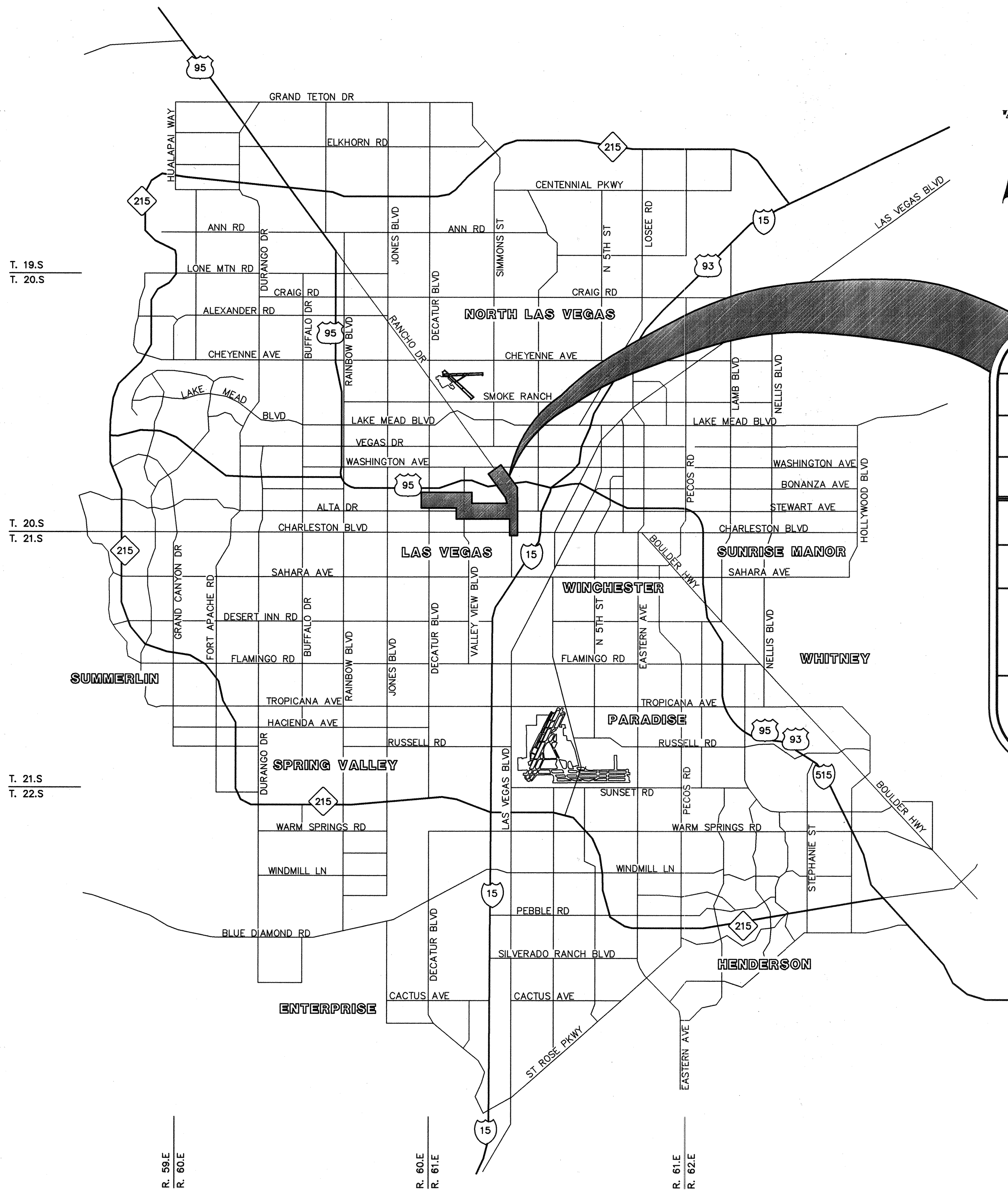
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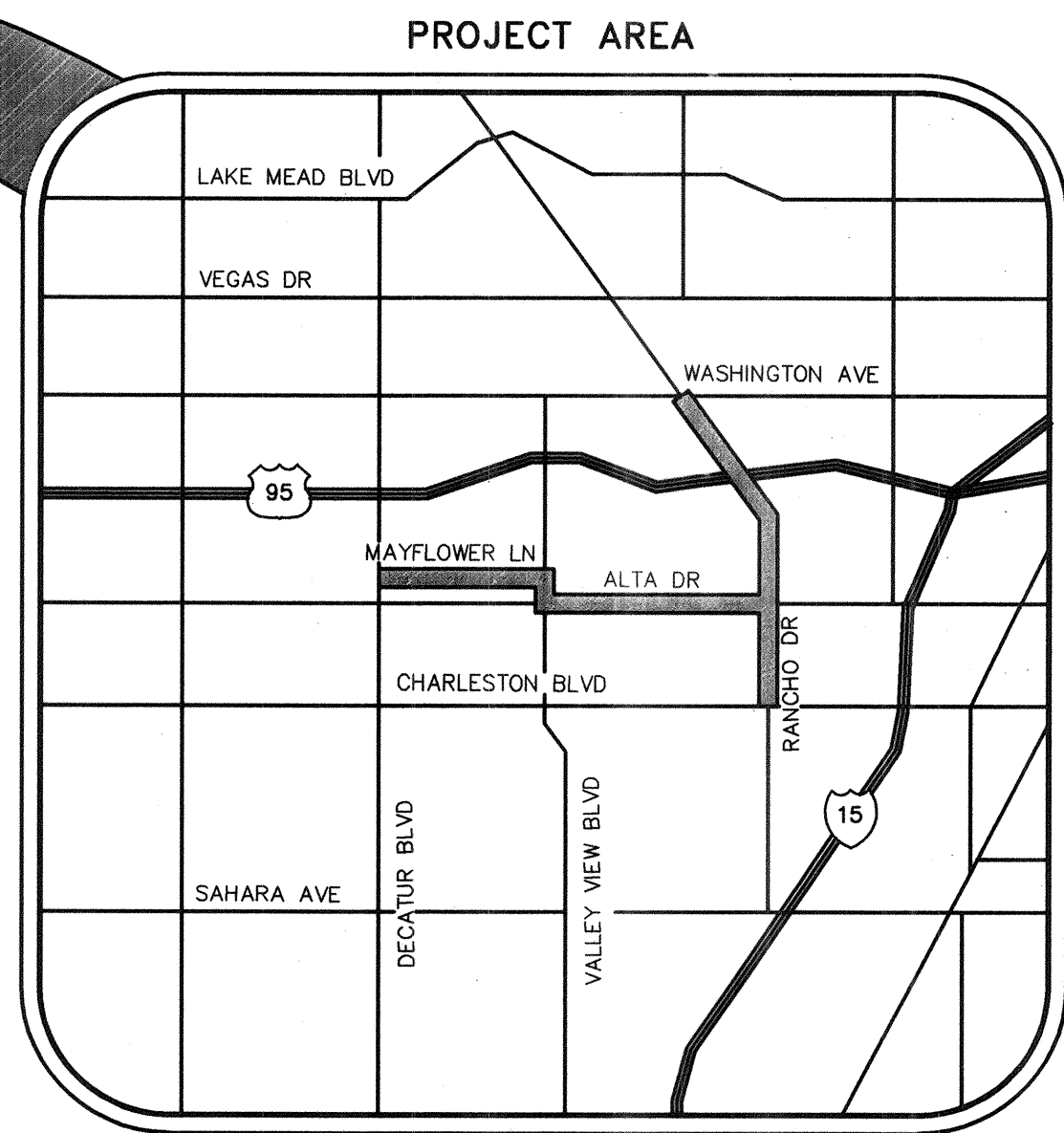
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VICINITY MAP

NOT TO SCALE



PROJECT AREA

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AS-BUILT DRAWINGS

Signature *Jan B...*



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PDG #LV-12068-C

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT MANAGEMENT

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CITY ENGINEER: DAVID BOWERS, PE, PTOE

PROGRAM MANAGER: JEREMY LEVITT, PE

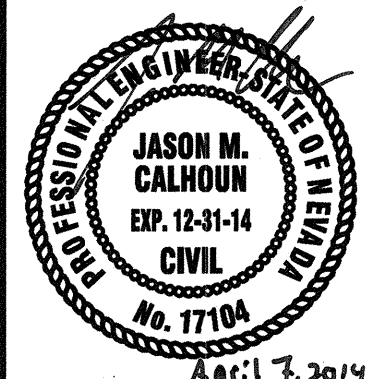
DESIGNED BY: N. WILSON, PE

DRAWN BY: J. CALHOUN, PE

CHECKED BY: J. CALHOUN, PE

PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: VICINITY MAP AND SHEET INDEX



SHEET

G-02
02 of 43

CLV DRAWING NO.
307V1080

HANSEN NO. 46803

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 EDITION; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WASTEWATER COLLECTION SYSTEMS, LATEST EDITION; 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 WITH AND AFFECTING UTILITIES DURING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR 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 SATISFACTORILY 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 UL 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 RELOCATION.
13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. IF 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 §25.350.
14. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTER 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 RISERS, 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 SPECIFICATIONS 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, LATERAL LOCATING DEVICES, ETC., THE CONTRACTOR SHALL OBTAIN PERMISSION 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 ALL LATERALS TO THE MAIN. THE LOCATION OF ALL LATERALS AND NEWER 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. THE LOCATION MAP(S) MUST BE SEALD AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINITIES 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 INSPECTION SHALL BE CONDUCTED PER THE CITY ENGINEER'S 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 (CPW VERSION)

AVOID HITTING UNDERGROUND TRAFFIC LINES, SYSTEMS AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY	AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY	Call before you Dig Avoid cutting underground utility lines needlessly.
Call before you Underground 1-800-225-7511 ARIZONA PUBLIC WORKS 1-702-438-5300 UTAH PUBLIC WORKS TRANSPORTATION (F.A.S.T.)	Call before you Overhead 1-702-227-2929 NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT	Call 811 OR 1-800-227-2600 CLARK COUNTY PUBLIC WORKS AND UTILITY OPERATIONS 1-702-455-7544

18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. IFC § C104.1

19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. IFC § 503.2.3

20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. IFC § 503.2.7; 503.2.8

21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. IFC § 503.2.4

22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13 FT 6 INS. IFC § 503.2.1.1

23. FIRE DEPARTMENT ACCESS ROADS IN ALL RESIDENTIAL DEVELOPMENTS (EXCEPT APARTMENT BUILDINGS) SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 36 FT (FLOW LINE TO FLOW LINE) (THIS WIDTH MAY BE REDUCED TO 24 FT IF ALL BUILDINGS FRONTING THE STREET ARE SPRINKLERED) FOR MAIN RESIDENTIAL STREETS, WITH PARKING PERMITTED ON BOTH SIDES OF THE STREET. PRIVATE DRIVE AISLES, DRIVEWAYS, ETC. SHALL BE REDUCED TO A MINIMUM WIDTH OF 24 FT FROM THE FLOW LINE TO FLOW LINE WHEN SERVING NO MORE THAN 6 RESIDENTS, AND WHEN ON STREET PARKING IS DISALLOWED. IFC § 503.2.1; 503.2.1.1

24. ALL FIRE APPARATUS ACCESS ROADS IN COMMERCIAL DEVELOPMENTS AND APARTMENT COMPLEXES SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 24 FT (FLOW LINE TO FLOW LINE), PROVIDED NO PARKING IS ALLOWED ON EITHER SIDE; 32 FT (FLOW LINE TO FLOW LINE), WITH PARALLEL PARKING ON ONE SIDE, AND 36 FT (FLOW LINE TO FLOW LINE), IF PARALLEL PARKING IS ALLOWED ON BOTH SIDES. THESE WIDTHS MAY BE REDUCED TO 24 FT IF SPRINKLERED. IFC § 503.2.1.1

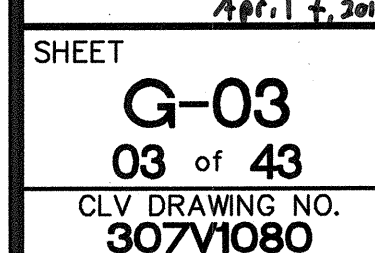
25. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. IFC § 503.1.1; 503.1.1

26. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROW(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT, AND FOR ALL COMMERCIAL, INDUSTRIAL, AND MULTI-FAMILY RESIDENTIAL DEVELOPMENTS. IFC § 503.1.2

27. ALL DEAD-END FIRE APPARATUS ROAD AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. IFC § 503.2.5

28. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT 100-FOOT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT ABOVE THE ROADWAY LEVEL. THE CURB OR EDGE OF THE PAVEMENT OR CEMENT (IF CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. IFC § 503.3

29. ELECTRONICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES. IFC § 503.6



HANSEN NO. 46803

BASIS OF BEARING

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM, LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°59' WEST OF THE GREENWICH MERIDIAN, THE REFERENCE FRAME BEING NAD 83 (CORS96) EPOCH 2002.0.

BENCHMARK

USED VARIOUS BENCHMARKS THROUGHOUT THE PROJECT. SEE HORIZONTAL CONTROL SHEETS (HC-01 TO HC-08) FOR BENCHMARKS AND ELEVATIONS USED.

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 PLAN 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 FOOT WIDE GRAVELED TURN OUT TEMPORARY BUS STOP.
3. THE CONTRACTOR SHALL MAINTAIN AND KEEP OPERATIONAL ALL EXISTING ITS INFRASTRUCTURE WITHIN THE CONSTRUCTION LIMITS. IF ANY EXISTING ITS INFRASTRUCTURE IS DAMAGED DUE TO CONSTRUCTION WITHIN THE PROJECT LIMITS THE CONTRACTOR SHALL IMMEDIATELY CONTACT MR. JESUS "CHUY" MARMOLEJO (RTC/FAST MANAGER TRAFFIC SYSTEMS MAINTENANCE) AT 702-604-7078.

GENERAL CONSTRUCTION NOTES

1. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES, SURFACES, AND STRUCTURES DURING CONSTRUCTION. ANY EXISTING FEATURES DAMAGED DURING CONSTRUCTION MUST BE REPAIRED IMMEDIATELY AND TO THE OWNERS SATISFACTION AT THE CONTRACTORS EXPENSE.
2. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF THE DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURES SHOWN ON THE DRAWINGS. FIELD MEASUREMENTS OF EXISTING AFFECTED STRUCTURES SHALL BE MADE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. BIDDERS ARE REQUIRED TO VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
3. EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. NO REPRESENTATION IS MADE TO THE ACCURACY OR COMPLETENESS OF EXISTING UTILITIES AS SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
4. IN THE CASE OF A CONFLICT ON THE CONTRACT DOCUMENTS OR DRAWINGS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS OR DRAWINGS IMMEDIATELY UPON DISCOVERY.
5. UNLESS NOTED OTHERWISE, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL PERMITS REQUIRED BY THE IMPROVEMENTS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO BECOME FAMILIAR WITH AND COMPLY WITH ALL STATE, FEDERAL, AND LOCAL AGENCIES HAVING JURISDICTION.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN AND COMPLY WITH THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS OR DRAWINGS AND THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
7. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS (USD) AND UNIFORM STANDARD SPECIFICATIONS (USS). IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS OR DEVIATIONS ENCOUNTERED.

LAS VEGAS VALLEY WATER DISTRICT NOTES

LVVWD PROJECT #121848

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 PRIVATE STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR PATCH ON THE STREET SURFACE. ANY DECORATIVE PAVING SURFACE WITHIN THE PRIVATE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE. 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 THE 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 PRIVATE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.

CITY OF LAS VEGAS TRAFFIC SIGNAL NOTES

1. ALL WORK PERFORMED ON ANY TRAFFIC SIGNAL COMPONENT MUST BE UNDER THE DIRECT ON-SITE SUPERVISION OF AN IMSA CERTIFIED TECHNICIAN. THE LEVEL OF CERTIFICATION REQUIRED SHALL BE LEVEL II.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL EXISTING UTILITIES. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TO VERIFY IN THE FIELD THE LOCATIONS OF THEIR INSTALLATIONS 72 HOURS PRIOR TO CONSTRUCTION.
CALL-BEFORE-YOU-OVERHEAD 1-702-227-2929
CALL-BEFORE-YOU-DIG 1-800-227-2600
STREETLIGHTS 1-702-229-6331
FAST 1-702-432-5300
3. ALL TRAFFIC SIGNAL INSTALLATIONS SHALL CONFORM TO THE UNIFORM STANDARD DRAWINGS SPECIFICATIONS AND SPECIAL PROVISIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, VOLUMES I AND II, ADOPTED BY THE REGIONAL TRANSPORTATION COMMISSION APRIL 8, 1992 WITH ALL SUBSEQUENT REVISIONS.
4. SERVICE SHALL HAVE 1-60 AMP SINGLE POLE BREAKER FOR SIGNAL, AND ONE 40 AMP SINGLE POLE BREAKERS FOR STREET LIGHTS. SERVICE SHALL BE 200 AMP PADMOUNT.
5. LINE SIDE OF METER TO BE WIRED WITH THREE #3/0 AWG THW. LOAD SIDE SHALL BE WIRED WITH FOUR #4 AWG THW (2 BLACK, 2 WHITE) AND ONE #8 AWG THW (GREEN).
6. LUMINAIRES ON ALL SIGNAL POLES SHALL BE 400 WATT HIGH PRESSURE SODIUM CUTOFF (G.E. M400A) WITH MC-111 DISTRIBUTION. EACH LUMINAIRE SHALL HAVE AN INDIVIDUAL 1000 WATT P.E. CONTROL. FOR LUMINAIRES THERE SHALL BE 2(TWO)-#4 AWG THW CONDUCTORS FROM THE SERVICE TO THE CABINET, IN THE CABINET, THE #4 AWG THW CONDUCTORS SHALL BRANCH OFF INTO #10 AWG THW CONDUCTORS INDIVIDUALLY FUSED WITH 10 AMP FUSES. THERE SHALL BE NO SPLICES BETWEEN THE CABINET AND LUMINAIRE FIXTURES.
7. THE INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE WIRED TO THE LUMINAIRES PHOTO CELL FOR CONTROL WITH #10 AWG THW COPPER STRANDED WIRE (TYPICAL). IN THE EVENT THERE IS NO LUMINAIRE ON THE TRAFFIC SIGNAL POLE, THE 1000 WATT P.E. CONTROL SHALL BE MOUNTED ON THE POLE CAP.
8. CHECK CONDUIT AND CABLE SCHEDULE FOR CONDUIT, CABLE, AND WIRE SIZE. VERIFY ALL EXISTING CONDUIT RUNS.
9. ALL PULLBOXES SHALL BE IN ACCORDANCE WITH UNIFORM STANDARD DRAWINGS NO. 705, NO. 706, AND NO. 707.
10. TRAFFIC SIGNAL CABLE SHALL BE 15 OR 25 CONDUCTOR #14 AWG SOLID (TYPICAL) CABLE AND SHALL CONFORM TO IMSA SPEC. NO. 20-1.
11. PEDESTRIAN PUSH BUTTONS SHALL BE AUDIBLE TACTILE "POLARA NAVIGATOR" TYPE (2 WIRE SYSTEM) OR CAMPBELL COMPANY ADVANCED ACCESSIBLE PEDESTRIAN SYSTEM PART NUMBERS AAPS APB912 (BUTTONS) WITH AAPS APC (CONTROLLER) IN ACCORDANCE WITH CITY OF LAS VEGAS SPECIAL PROVISIONS AND SECTION 623 OF THE CCA USS. PUSH BUTTON SIGNS SHALL BE R10-36 PER MUTCD, 2009 EDITION, WITH FULL MOUNTING BRACKETS, AND AS MODIFIED BY THE MANUFACTURER TO FIT ON A 9'x12" SIGN. ALL PUSH BUTTONS TO BE MOUNTED 42" ABOVE SIDEWALK. THE MAXIMUM HORIZONTAL REACH DISTANCE IS TO BE 24". SIDEWALK RAMPS WILL BE ACCORDING TO U.S.D. No. 235 (1-4) LATEST EDITION.
12. THE ROUTING AND TERMINATION OF CONDUITS AND THE PLACING OF POLES AND CABINETS SHALL BE AS INDICATED ON THE PLANS. ALL CHANGES SHALL BE APPROVED BY THE ENGINEER.
13. MAST ARM R10-12 SIGNS TO BE ADJACENT (NO GAP) TO THE M-5 SIGNAL HEAD.
14. TRAFFIC SIGNAL CABINET SHALL BE A TYPE VII CABINET. THIS IS COMMONLY REFERRED TO AS AN "R" CABINET. THE CABINET SHALL CONFORM TO THE UNIFORM STANDARD DRAWINGS SPECIFICATIONS AND SPECIAL PROVISIONS, CLARK COUNTY AREA, NEVADA. INSTALL CABINET NEAR THE R.O.W. LINE OR AS SHOWN ON THE DRAWINGS.
15. THE CONTRACTOR SHALL SUPPLY A 2070N OR M53 CONTROLLER TO THE CITY OF LAS VEGAS TRAFFIC SIGNAL REPAIR SHOP, FOURTEEN DAYS PRIOR TO SIGNAL TURN-ON, FOR TESTING PURPOSES. THE CONTRACTOR SHALL DELIVER THE CONTROLLER TO, AND PICKUP THE CONTROLLER AT 2801 E. CHARLESTON BOULEVARD. CONTRACTOR SHALL NOTIFY THE TRAFFIC SIGNAL REPAIR SHOP (229-6075) SEVEN DAYS PRIOR TO PICK UP. ALL 2070N CONTROLLERS MUST BE COMPATIBLE WITH AND FUNCTION PROPERLY WITH OS9 1996 OPERATION SYSTEM; THE LATEST REVISION OF THE "NEXT PHASE INTERSECTION MANAGEMENT SOFTWARE" (SIEMENS) AND THE ICONS (SIEMENS) GENERAL SOFTWARE.
16. CONTRACTOR SHALL POTHOLE SIGNAL POLE LOCATIONS PRIOR TO ORDERING OF POLES.
17. ALL MAST ARMS TO BE HOT-DIP GALVANIZED BY THE MANUFACTURER THE MAST ARM IS TO BE FABRICATED WITH END TENON ONLY. THE END TENON SHALL BE FACTORY INSTALLED AND THE REMAINING TENONS SHALL BE FABRICATED IN THE FIELD AT THE LOCATION SHOWN ON THE PLANS OR AS DIRECTED BY THE TRAFFIC ENGINEER AND/OR HIS AUTHORIZED REPRESENTATIVE. FOR TENON FABRICATION DETAILS SEE CLARK COUNTY AREA U.S.D. NO. 808 SHEET 2. ALL WELDING SHALL CONFORM TO AWS D 2.0, "SPECIFICATION FOR WELDED HIGHWAYS AND RAILWAY BRIDGES," AND TO ANY ADDITIONAL REQUIREMENTS OF SECTION 623 OF THE SPECIFICATIONS. ALL EXPOSED WELDS, SHALL BE PAINTED AS PROVIDED FOR REPAIRING DAMAGED GALVANIZED SURFACES.
18. ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL HAVE LIGHT EMITTING DIODE (LED) TYPE INDICATIONS, IN CONFORMANCE TO CITY OF LAS VEGAS SPECIAL PROVISIONS AND TO SECTION 623 OF THE CCA USS. ALL PEDESTRIAN SIGNAL FACES SHALL PROVIDE "WALKING PERSON", "HAND", AND "COUNTDOWN" MESSAGES AS PROVIDED BY DURALIGHT MODEL #JXM-400-VIEL OR DIALIGHT MODEL #430-6475-DDIX, OR APPROVED EQUAL.
19. VIDEO DETECTION SYSTEMS WILL BE EITHER ITERIS EDGE 2 WITH EDGECONNECT PAK, (IP ADDRESSABLE); OR PEEK VIDEOTRAK IQ (WITH ETHERNET PORT). WHEN VIDEO DETECTION IS SPECIFIED ON THE TRAFFIC SIGNAL PLANS. ALL VIDEO DETECTION SYSTEMS WILL BE STAND ALONE SYSTEMS TO INCLUDE ALL NECESSARY EQUIPMENT TO PROGRAM THE VIDEO DETECTION SYSTEM. A PROGRAMMING "MOUSE", KEYPAD OR LAPTOP COMPUTER (IF REQUIRED FOR PROGRAMMING THE VIDEO DETECTION SYSTEM) AND APPROPRIATE SOFTWARE WILL BE SUPPLIED WITH EACH VIDEO SYSTEM. PERSONAL COMPUTERS (PCs) MAY NOT BE SUBSTITUTED FOR LAPTOPS. A VIDEO MONITOR (COLOR FLAT SCREEN OR CRT) 9" TO 13" WILL BE SUPPLIED WITH EACH VIDEO DETECTION SYSTEM. EACH VIDEO CAMERA WILL HAVE POWER AND VIDEO CABLE DIRECTLY FROM THE CABINET. COAXIAL CABLE WILL BE TYPE 8281 (SOLID CENTER CONDUCTOR). CAMERAS THAT USE A PREFABRICATED CABLE INTEGRATING POWER AND COAXIAL CABLE INTO A SINGLE WEATHERPROOF CONNECTOR ARE ACCEPTABLE. "BNC" ARE THE ONLY ACCEPTABLE TERMINATION OF COAXIAL CABLES. CAMERAS WILL BE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS AND PER CLV TRAFFIC ENGINEER APPROVAL. EXTENSION BRACKETS (TYPE AB-0166-5-62 OR EQUIVALENT) WILL BE USED WHEN MOUNTING VIDEO CAMERAS ON MAST ARMS. A VIDEO FILTER (CX06-BNYC OR EQUIVALENT) WILL BE INSTALLED IN THE SIGNAL CABINET FOR EACH CAMERA VIDEO INPUT.
20. LOOP DETECTORS SHALL BE PREFORMED LOOPS AS MANUFACTURED BY RENO A & E OR NEVER-FAIL LOOP SYSTEMS. TWO (2) CHANNEL RACK- MOUNTED DETECTOR AMPLIFIERS SHALL BE INSTALLED IN THE CONTROLLER CABINET WHICH ACCOMMODATE 24 SEPARATE CHANNELS. LOOP LEAD-IN CABLE SHALL BE 6-PAIR 18 AWG MULTIPLE CONDUCTOR CABLE AS SPECIFIED IN SECTION 623T.02.04 OF THE CLV SPECIAL PROVISIONS. ALL WIRING HARNESES, RACK POSITIONS, AND LOOP LEAD-IN CABLE SHALL BE CLEARLY MARKED AS TO THE APPROPRIATE PHASE AND LETTER DESIGNATION TO WHICH IT BELONGS AS SHOWN ON THE TRAFFIC SIGNAL PLANS. ALL LOOPS SHALL BE INSTALLED IN THE ROADWAY PRIOR TO PLACEMENT OF THE FINAL PAVEMENT LIFT. LOOPS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC SIGNAL PLANS AND APPROVED BY THE CLV TRAFFIC ENGINEERING DIVISION PRIOR TO INSTALLATION. REFER TO SECTION 623T.02.04 OF THE CLV SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
21. OPTICAL PREEMPTION UNITS WILL BE GLOBAL TRAFFIC TECHNOLOGIES (ENCODING CAPABLE), MODEL 754 PHASE SELECTOR INSTALLED IN A MODEL 760 CARD RACK; OPTICAL SENSORS WILL BE MODEL 721 AND WILL BE INTERFACED TO THE TRAFFIC SIGNAL CONTROLLER CABINET WITH M-138 CABLE.
22. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY CONSTRUCTION, TEMPORARY REMOVAL, OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE CITY.
23. INTERCONNECT CABLE SHALL BE AS SHOWN IN THE WIRE SCHEDULE.
24. THE CONTRACTOR SHALL INSTALL CROSSWALKS, STOP BARS, STRIPING AND SIGNS AS IDENTIFIED ON THE PLANS.

REVISED 6/7/11



APPROVED FOR CONSTRUCTION

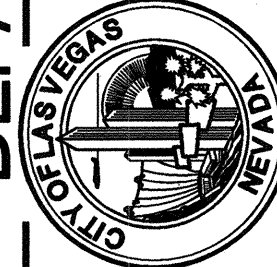
4. DISHAR BO DOAMEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature: *Jason M. Calhoun*

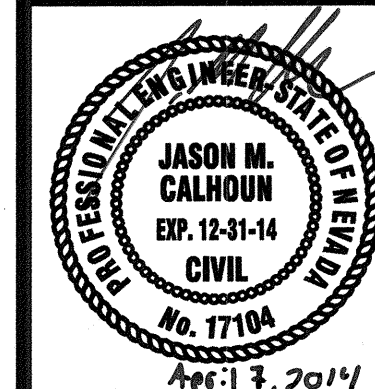
DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT MANAGEMENT



PROJECT TITLE: SEWER REHABILITATION GROUP E

NOTES



SHEET
G-04
04 of 43
CLV DRAWING NO. 307V1080

HANSEN NO. 46803

SEWER LATERAL NOTES

- A TAP FACTORY ACTIVE
- C TAP FACTORY CAPPED
- BA TAP BREAK-IN ACTIVE
- BC TAP BREAK-IN CAPPED
- BD TAP BREAK-IN DEFECTIVE
- SC SADDLE CAPPED

SEWER LINING NOTES

- 1 LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
- 2 CURED-IN-PLACE SPOT REPAIR PER SPEC 690

SEWER MANHOLE NOTES

- 50 REHAB MANHOLE PER SPEC 691

MAYFLOWER LANE MANHOLE STATIONS

CLV MANHOLE NAME	STREET & STA, OFFSET	SANTARY SEWER STA
CLV R2-271	9+90.87, 28.45'L	100+00.00
CLV R2-272	9+91.26, 17.93'L	100+10.53
CLV R2-270	10+02.18, 9.35'R	100+30.54
CLV R2-269	13+11.98, 9.37'R	103+40.34
CLV R2-651	13+50.34, 9.39'R	103+78.70
CLV R2-268	14+63.50, 9.55'R	104+91.87
CLV R2-267	16+61.63, 9.79'R	106+89.99
CLV R2-266	20+29.04, 10.22'R	110+57.40
CLV R2-265	24+00.45, 11.45'R	114+28.82
CLV R2-264	24+99.07, 11.88'R	115+27.43
CLV R2-263	27+69.04, 11.86'R	117+97.41
CLV R2-262	31+41.00, 13.30'R	121+69.37
CLV R2-261	32+84.67, 13.31'R	123+13.04
CLV R2-260	35+10.71, 14.27'R	125+39.08
CLV R2-259A		128+80.41
CLV R2-259		129+10.21
CLV R2-659		129+94.99
CLV R2-258		132+80.47
CLV R2-257		136+50.19
CLV R2-256		138+52.79
CLV R2-255		140+22.28

VALLEY VIEW BLVD MANHOLE STATIONS

CLV MANHOLE NAME	STREET & STA, OFFSET	SANTARY SEWER STA
CLV R2-297	19+14.67, 43.11'R	200+00.00
CLV R2-255	16+81.64, 43.66'R	202+33.03
CLV R2-236	15+11.41, 43.53'R	204+03.26
CLV R2-198	13+32.81, 43.92'R	205+81.86
CLV R2-198A (1)	10+51.53, 43.48'R	208+63.13
CLV R2-169	10+36.81, 30.81'R	208+82.56
CLV R2-169A (1)	10+25.30, 30.33'R	208+94.00

ALTA DRIVE MANHOLE STATIONS

CLV MANHOLE NAME	STREET & STA, OFFSET	SANTARY SEWER STA
CLV R2-169A (2)	14+12.04, 25.67'L	303+82.22
CLV R2-167	14+23.37, 37.15'L	303+98.35
CLV R2-165	17+05.83, 38.21'L	306+80.81
CLV R2-165A	17+62.49, 37.98'L	307+37.47
CLV R2-198A (2)	17+84.95, 14.84'L	307+69.72
CLV R2-XXX (1)	19+11.96, 15.08'L	308+96.73
CLV R2-162	20+08.72, 16.04'L	309+93.49
CLV R2-601	21+48.27, 10.08'L	311+31.41
CLV R2-151A	23+54.13, 3.57'L	313+37.85
CLV R2-151	23+60.80, 8.86'L	313+46.39
CLV R2-XXX (2)	23+68.76, 9.63'L	313+54.42
CLV R2-150	26+18.31, 6.35'L	316+03.99
CLV R2-152	27+22.96, 4.72'L	317+08.62
CLV R2-149	29+08.83, 4.95'L	318+94.52
CLV R2-148	30+76.50, 4.74'L	320+62.19
CLV R2-147	34+30.11, 5.12'L	324+15.80
CLV R2-145	36+95.25, 4.35'L	326+80.94
CLV R2-143	40+49.05, 4.30'L	330+34.74
CLV R2-142	44+03.30, 4.56'L	333+88.99
CLV R2-132	47+56.33, 4.17'L	337+42.02
CLV R2-132A	48+39.52, 4.59'L	338+25.21
CLV R2-129	51+07.40, 4.22'L	340+93.09
CLV R2-139	52+37.26, 4.34'L	342+22.96
CLV R2-128	54+61.75, 4.68'L	344+47.45
CLV R2-126	58+14.87, 4.66'L	348+00.57
CLV R2-125	61+66.45, 4.61'L	351+52.15
CLV R2-124	65+20.35, 4.58'L	355+08.05

RANCHO DRIVE MANHOLE STATIONS

CLV MANHOLE NAME	STREET & STA, OFFSET	SANTARY SEWER STA
CLV R2-586	93+23.70, 9.35'L	400+00.00
CLV R2-588	89+73.92, 9.44'L	403+49.78
CLV R2-635	88+43.59, 9.27'L	404+80.11
CLV R2-590	86+22.85, 7.81'L	407+00.74
CLV R2-593	82+72.03, 5.75'L	410+51.67
CLV R2-581	79+23.66, 8.12'L	414+00.05
CLV R2-562	75+76.97, 54.96'L	417+49.07
CLV R2-543	73+10.85, 57.88'L	420+11.38
CLV R2-542	72+98.10, 35.11'L	420+37.41
CLV R2-530	69+72.08, 39.90'L	423+60.30
CLV R-530A	68+80.76, 50.13'L	424+51.15
CLV R2-529	67+46.58, 58.13'L	425+83.73
CLV R2-520	64+49.72, 54.83'L	428+75.33
CLV R2-510	63+49.07, 58.63'L	429+74.61
CLV R2-491	61+28.60, 57.08'L	431+91.84
CLV R2-490	60+95.26, 55.70'L	432+24.73
CLV R2-451	57+39.26, 55.52'L	435+75.83
CLV R2-412(NOT FOUND)	54+67.70, 57.79'L	438+43.28
CLV R2-403	53+82.91, 54.74'L	439+26.92
CLV R2-369	50+27.36, 54.68'L	442+77.67
CLV R2-316	46+77.07, 54.96'L	446+27.96

RANCHO DRIVE MANHOLE STATIONS CONT'D

CLV MANHOLE NAME	STREET & STA, OFFSET	SANTARY SEWER STA
CLV R2-511	43+51.41, 54.65'L	449+53.63
CLV R2-251	43+26.99, 54.75'L	449+78.04
CLV R2-199	39+88.71, 54.05'L	453+16.33
CLV R2-123	36+51.15, 54.20'L	456+53.88
CLV R2-88	33+16.39, 53.87'L	459+88.65
CLV R2-71	29+84.37, 53.78'L	463+19.67
CLV R2-54	26+50.59, 46.96'L	466+53.52
CLV R2-33	23+22.80, 28.98'L	469+82.29
CLV OK-577	21+05.36, 23.45'L	472+05.96
CLV R2-23	19+79.84, 52.81'L	473+34.87
CLV R2-15	16+62.46, 212.70'L	476+90.25
CLV R2-9		480+46.00
CLV R2-633		482+14.11
CLV R2-632		483+47.88
CLV R2-3		484+17.13
CLV R2-2		485+69.21
CLV EC-744		486+14.91

LEGEND

- CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- AUTHORIZATION TO ENTER PROPERTY (AEP)
- ALIGNMENT TIE LINE
- SAWCUT LINE AND NEW PAVEMENT
- COX UNDERGROUND
- CENTURYLINK UNDERGROUND
- EXISTING GAS LINE
- EXISTING UNDERGROUND NEVADA ENERGY
- EXISTING STORM SEWER
- EXISTING WATER LINES
- EXISTING SEWER LINES (TO BE REHABED)
- EXISTING SEWER LINES (NOT A PART)
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING WALL
- PROPOSED WALL
- EXISTING FAST INFRASTRUTURE
- EXISTING CURB, GUTTER AND SIDEWALK
- PROPOSED CURB, GUTTER AND SIDEWALK
- EX SEWER LATERALS (TOP CONNECTION)
- EX SEWER MANHOLE (TO BE REHABILITATED)
- EX SEWER MANHOLE (NOT A PART)

- ★ AREA LIGHT
- ⊕ BENCHMARK
- ⊗ ELEC. VAULT/CABINET
- ⊙ ELECTRIC MANHOLE
- ⊙ ELECTRIC METER
- ⊙ FIRE HYDRANT
- ⊙ FOUND MONUMENT
- ⊙ GAS METER
- ⊙ GAS VALVE
- ⊙ IRR. CONTROLLER
- ⊙ IRR. VALVE
- ⊙ LOOP DETECTOR
- ⊙ PEDESTRIAN PUSH BUTTON
- ⊙ SANITARY SEWER MH
- ⊙ SET MONUMENT
- ⊙ OR ⊙ SIGN
- ⊙ 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

ABBREVIATIONS

- ABAN ABANDON
- AC ASPHALT CONCRETE
- ACP ASPHALT CONCRETE PAVEMENT
- ADA AMERICANS WITH DISABILITIES ACT
- ADD'L ADDITIONAL
- AGG AGGREGATE
- AIP ABANDON IN PLACE
- APPROX APPROXIMATE
- ARCH ARCHITECTURAL
- ASSY ASSEMBLY
- AV/AR COMBINATION AIR VALVE ASSEMBLY
- AVE AVENUE
- BC BACK OF CURB
- BFF BELOW FINISH FLOOR (ELEVATION)
- BLDG BUILDING
- BM BENCHMARK
- BO BACK-OF
- BSW BACK OF SIDEWALK
- BTW BETWEEN
- BVC BEGINNING OF VERTICAL CURVE
- C CENTERLINE
- C&G CURB AND GUTTER
- CATV CABLE TELEVISION
- CC CLARK COUNTY
- CCAUSD (SEE USS)
- CCAUSS (SEE USS)
- CF CUBIC FEET
- CFS CUBIC FEET PER SECOND
- CIP CAST IN PLACE (CONCRETE)/CAST IRON PIPE
- CLR CLEAR
- CLV CITY OF LAS VEGAS
- CMP CORRUGATED METAL PIPE
- CMU CONCRETE MASONRY UNIT
- CONV CITY OF NORTH LAS VEGAS COUNTY
- CO CLEANOUT (SANITARY)
- COH CITY OF HENDERSON
- COL COLUMN
- CONC CONCRETE
- CONST CONSTRUCTION/CONSTRUCT
- CONT CONTINUOUS
- COR CORNER
- CSAP CORRUGATED STEEL ARCH PIPE
- CU CUBIC/COPPER
- CY CUBIC YARD
- DCDA DOUBLE CHECK DETECTOR
- DCSWCS DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS
- DEPT DEPARTMENT
- DIA DIAMETER
- DIAG DIAGONAL
- DOM DOMESTIC (WATER)
- DW DRIVEWAY
- E ELECTRICAL
- EAC EDGE OF ASPHALT
- EQ EXISTING GRADE
- EL/ELEV ELEVATION
- EM EASEMENT
- ESMT EASEMENT
- EP EDGE OF PAVEMENT
- EVC END OF VERTICAL CURVE
- EX/EXIST EXISTING
- EXCL EXCLUDING
- FAST FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION
- FC FACE OF CURB
- FDC FIRE DEPT CONNECTION
- FF FINISH FLOOR
- FFE FINISH FLOOR ELEVATION
- FG FINISH GRADE
- FL FLOWLINE
- FND FOUNDATION
- FT FEET/FOOT
- FW FACE OF WALL
- GALV GALVANIZED
- GB GRADE BREAK
- GM GAS METER
- GV GATE VALVE
- GR GAS PRESSURE REGULATOR
- HGL HORIZONTAL
- HP HIGH POINT
- INCL INCLUDING
- INT INTERSECTION
- INV INVERT
- LOC LINEAR FEET
- LP LOW POINT
- LT LEFT
- MAX MAXIMUM
- ME MATCH EXISTING
- MECH MECHANICAL(LY)
- MEDN MEDIAN (ISLAND)
- MH MANHOLE
- MIN MINIMUM
- MUTCD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
- NDOT NEVADA DEPARTMENT OF TRANSPORTATION
- NTS NOT TO SCALE
- OC ON CENTER
- OG OPEN-GRADED PAVEMENT/ORIGINAL GROUND
- P PROPERTY LINE
- P POWER OF CURVATURE
- PC POINT OF CURVATURE
- PE POLYETHYLENE
- PGL PROFILE GRADE LINE
- PI POINT OF INTERSECTION
- PL PROPERTY LINE
- PDC POINT OF CONNECTION
- PMF PAVEMENT MARKING FILM
- PP POWER POLE
- PROP PROPOSED
- PT POINT OF TANGENCY
- PVC POLYVINYL CHLORIDE
- PVMT PAVEMENT
- PW PUBLIC WORKS
- PZ PRESSURE ZONE
- R/L RIGHT & LEFT (OFFSET)
- R/W RIGHT-OF-WAY
- R RADIUS
- RC REINFORCED CONCRETE
- RCB REINFORCED CONCRETE BOX
- RCP REINFORCED CONCRETE PIPE
- RD ROAD
- RDWY ROADWAY
- REF REFERENCE
- RELOC RELOCATED
- REINF REINFORCED/REINFORCING STEEL
- RIM RIM ELEVATION
- RP RADIUS POINT
- RPM RAISED PAVEMENT MARKER
- RPPA REDUCED PRESSURE PRINCIPLE ASSEMBLY (BACKFLOW PREVENTION)
- RT RIGHT
- S SLOPE
- SD STORM DRAIN
- SF SQUARE FEET
- SHDR SHOULDER
- SL STREETLIGHT
- SLV SLEEVE
- SNWA SOUTHERN NEVADA WATER AUTHORITY
- SP SPECIAL PROVISIONS
- SS SANITARY SEWER
- STA STATION
- STD STANDARD
- STL STREETLIGHT
- STLT STRUCTURAL
- STR SURVEY
- SVC SERVICE
- SWG SOUTHWEST GAS CORP.
- SY SQUARE YARD
- T TELEPHONE
- T MAXIMUM
- TBC THICKNESS
- TC TOP BACK OF CURB
- TEMP TEMPORARY
- TRFM TRANSFORMER
- THW TOP OF HEADWALL
- TOP TOP OF FOOTING
- TOS TOP OF SLAB
- TOW TOP OF WALL
- TP TOP OF PIPE
- TRANS TRANSITION
- TS TRAFFIC SIGNAL
- TSI TRAFFIC SIGNAL INTERCONNECT
- TW TOP OF WALL
- TYP TYPICAL
- UDACS UNIFORM DESIGN AND CONSTRUCTION STANDARDS (FOR POTABLE WATER SYSTEMS)
- UG UNDERGROUND
- USD (CLARK COUNTY AREA) UNIFORM STANDARD DRAWINGS
- USO (CLARK COUNTY AREA) UNIFORM STANDARD SPECIFICATIONS
- VAR VARIES
- VC VERTICAL CURVE
- VCP VITRIFIED CLAY PIPE

AS-BUILT DRAWINGS

Signature: *Jason M. Calhoun*



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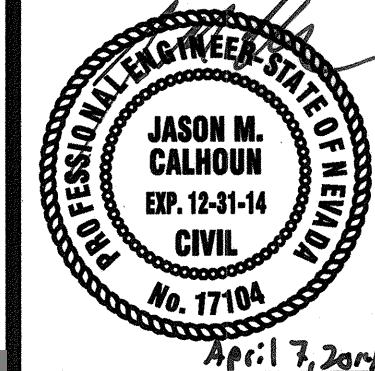
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-8276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE

DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION
GROUP E

SHEET TITLE: ABBREVIATIONS, LEGEND, CONST
NOTES AND MANHOLE TABLES



SHEET
G-05
05 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

EXISTING PIPE INVENTORY TABLE

MAYFLOWER LANE							
DWG NO.	Upstream Manhole	Downstream Manhole	Pipe Dia. (in)	Segment Length (ft)	Pipe Material	Rehab Level (PEC)	Rehab Level (PDG)
	R2-271	R2-272	12	9	VCP	IV	IV
	R2-272	R2-270	12	23	VCP	IV	IV
	R2-270	R2-269	12	309	VCP	III	III
	R2-269	R2-261	12	40	VCP	III	III
	R2-261	R2-268	12	113	VCP	IV	IV
	R2-268	R2-267	12	199	VCP	IV	IV
	R2-267	R2-266	12	378	VCP	II	II
	R2-266	R2-265	12	373	VCP	II	II
	R2-265	R2-264	12	97	VCP	IV	IV
	R2-264	R2-263	12	272	VCP	IV	IV
	R2-263	R2-262	12	374	VCP	IV	IV
	R2-262	R2-261	12	145	VCP	IV	IV
	R2-261	R2-260	12	228	VCP	IV	IV
	R2-260	R2-259A	12	342	VCP	II	II
	R2-259A	R2-259	12	30	VCP	IV	IV
	R2-259	R2-258	12	87	VCP	IV	IV
	R2-258	R2-257	12	284	VCP	IV	IV
	R2-257	R2-256	12	369	VCP	IV	IV
	R2-256	R2-255	12	203	VCP	III	III
	R2-255	R2-254	12	164	VCP	IV	III

VALLEY VIEW BOULEVARD AND ALTA DRIVE							
DWG NO.	Upstream Manhole	Downstream Manhole	Pipe Dia. (in)	Segment Length (ft)	Pipe Material	Rehab Level (PEC)	Rehab Level (PDG)
	R2-255	R2-236	12	171	VCP	IV	IV
	R2-236	R2-198	12	178	VCP	III	III
	R2-198	R2-169	12	284	VCP	IV	IV
	R2-167	R2-165	12	283	VCP	IV	IV
	R2-165	R2-162	12	340	VCP	IV	IV
	R2-162	R2-601	12	102	VCP	IV	IV
	R2-601	R2-151	12	221	VCP	III	III
	R2-151	R2-150	12	251	VCP	IV	IV
	R2-150	R2-152	12	105	VCP	IV	IV
	R2-152	R2-149	12	187	VCP	IV	IV
	R2-149	R2-148	12	168	VCP	IV	IV
	R2-148	R2-147	12	356	VCP	II	II
	R2-147	R2-145	12	283	VCP	III	III
	R2-145	R2-143	12	352	VCP	III	III
	R2-143	R2-142	12	354	VCP	IV	IV
	R2-142	R2-132	12	352	VCP	IV	IV
	R2-132	R2-129A	12	83	VCP	IV	III
	R2-129A	R2-129	12	287	VCP	III	III
	R2-129	R2-128	12	130	VCP	IV	IV
	R2-128	R2-128	12	225	VCP	IV	IV
	R2-128	R2-126	12	351	VCP	***	III
	R2-126	R2-125	12	352	VCP	***	III
	R2-125	R2-124	12	356	VCP	***	III
	R2-124	R2-123	12	312	VCP	IV	IV

RANCHO DRIVE							
DWG NO.	Upstream Manhole	Downstream Manhole	Pipe Dia. (in)	Segment Length (ft)	Pipe Material	Rehab Level (PEC)	Rehab Level (PDG)
	R2-586	R2-588	10	351	VCP	III	III
	R2-588	R2-635	10	131	VCP	III	III
	R2-635	R2-590	10	222	VCP	I	I
	R2-590	R2-593	10	352	VCP	IV	IV
	R2-593	R2-581	10	350	VCP	III	III
	R2-581	R2-562	10	351	VCP	IV	IV
	R2-562	R2-543	12	223	VCP	I	I
	R2-543	R2-542	12	38.5	VCP	III	III
	R2-542	R2-530	12	325	VCP	I	III
	R2-530	R2-530A	12	91	DIP/VCP	III	III
	R2-530A	R2-529	12	PIPELINE IS ABANDONED - 79' SEG.			
	R2-529	R2-520	12	294	VCP	II	II
	R2-520	R2-510	12	99	VCP	III	III
	R2-510	R2-491	12	220	VCP	III	III
	R2-491	R2-490	12	31	VCP	III	III
	R2-490	R2-451	12	354	VCP	III	III
	R2-451	R2-412	12	270	VCP	II	II
	R2-412	R2-403	12	86	VCP	II	II
	R2-403	R2-369	15	350	VCP	II	II
	R2-369	R2-316	15	351	VCP	II	II
	R2-316	R2-511	15	329	VCP	I*	I*
	R2-511	R2-251	15	19	VCP	N/A	III
	R2-251	R2-199	15	340	VCP	II	II
	R2-199	R2-123	15	340	VCP	III	III
	R2-123	R2-88	15	336	VCP	III	III
	R2-88	R2-71	15	332	VCP	III	III
	R2-71	R2-54	15	335	VCP	III	III
	R2-54	R2-33	15	333	VCP	III	III
	R2-33	OK-577	15	224	VCP	III	III
	OK-577	R2-23	15	129	VCP	III	III
	R2-23	R2-15	15	365	VCP	III	III
	R2-15	R2-9	15	357	VCP	III	III
	R2-9	R2-633	15	170	VCP	III	III
	R2-3	R2-2	12	153	VCP	II	II
	R2-2	EC-744	15	45	VCP	IV	IV

EXISTING MANHOLE INVENTORY TABLE

MAYFLOWER LANE									
DWG NO.	Manhole Number	Manhole Type	MH Cover Dia. (in)	Manhole Diameter (ft)	Adj. Ring	Cone	Shaft	Bench Condition	Rehab. Rating
	R2-271	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-272	Concrete	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-270	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-169	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-651	Concrete	24	4	OK	N/A	OK	OK	Good
	R2-268	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-267	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-266	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-265	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-264	Concrete	24	4	OK	N/A	Corroded	Corroded	Fair
	R2-263	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-262	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-261	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-260	Concrete	24	4	Visible	N/A	Visible	Visible	Poor
	R2-259A	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-259	Brick	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-659	Concrete	24	4	OK	N/A	OK	OK	Good
	R2-258	Brick	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-257	Brick	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-256	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair

VALLEY VIEW BOULEVARD AND ALTA DRIVE									
DWG NO.	Manhole Number	Manhole Type	MH Cover Dia. (in)	Manhole Diameter (ft)	Adj. Ring	Cone	Shaft	Bench Condition	Rehab. Rating
	R2-255	Brick	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-236	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-198	Concrete	24	4	OK	OK	OK	OK	Good
	R2-169	Concrete	24	4	OK	N/A	OK	Corroded	Fair
	R2-167	Concrete	24	4	OK	N/A	OK	Corroded	Fair
	R2-165	Brick	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-162	Brick	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-601	Concrete	24	4	OK	N/A	OK	OK	Good
	R2-151	Brick	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-150	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-152	Brick	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-149	Concrete	24	4	OK	N/A	OK	Corroded	Fair
	R2-148	Brick	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-147	Concrete	24	4	OK	N/A	Corroded	Corroded	Fair
	R2-145	Brick	24	4	OK	N/A	OK	OK	Good
	R2-143	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-142	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-132	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-129A	Concrete	24	4	OK	N/A	Corroded	Corroded	Fair
	R2-129	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-128	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-126	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-125	Brick	24	4	OK	N/A	OK	Corroded	Fair
	R2-124	Brick	24	4	OK	N/A	OK	Corroded	Fair

RANCHO DRIVE									
DWG NO.	Manhole Number	Manhole Type	MH Cover Dia. (in)	Manhole Diameter (ft)	Adj. Ring	Cone	Shaft	Bench Condition	Rehab. Rating
	R2-586	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-588	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-635	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-590	Concrete	24	4	Corroded	N/A	Aggregate	Aggregate	Fair
	R2-593	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-581	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-562	Concrete	24	4	Visible	N/A	Visible	Visible	Poor
	R2-543	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-542	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-530	Concrete	24	4	OK	N/A	OK	OK	Good
	R2-530A	Concrete	24	4	OK	N/A	OK	OK	Good
	R2-529	Concrete	24	4	OK	N/A	OK	OK	Good
	R2-520	Concrete	24	4	Corroded	N/A	OK	Corroded	Fair
	R2-510	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-491	Concrete	24	4	OK	N/A	OK	OK	Fair
	R2-490	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-451	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-412	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-403	Concrete	24	4	OK	N/A	Corroded	Aggregate	Fair
	R2-369	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-316	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-511	Brick	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-251	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-199	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-123	Concrete	24	4	Corroded	N/A	Aggregate	Aggregate	Poor
	R2-88	Concrete	24	4	Aggregate	N/A	Aggregate	Corroded	Poor
	R2-71	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-54	Concrete	24	4	Corroded	N/A	Corroded	Corroded	Fair
	R2-33	Concrete	24	4	Corroded	N/A	Aggregate	Aggregate	Poor
	OK-577	Concrete	24	4	OK	N/A	OK	Corroded	Fair
	R2-23	Concrete	24	4	Corroded	N/A	Visible	Visible	Poor
	R2-15	Concrete	24	4	Corroded	N/A	Aggregate	Aggregate	Poor
	R2-9	Concrete	24	4	Corroded	N/A	Corroded	Aggregate	Fair
	R2-3	Concrete	24	4	OK	N/A	OK	Corroded	Fair
	EC-744	Brick	24	4	Corroded	N/A	Corroded	Corroded	Fair

FLOW MONITORING/BYPASS PIPING

ESTIMATED SS FLOW			
	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
1	15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
3	12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
4	12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
5	12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
6	12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
7	15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
8	15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

CLV Sanitary Sewer Rehab (CH)01_H000.DWG Apr 03 2014 - 9:17am

Call before you Dig

1-702-455-7511

1-702-227-2829

1-702-455-7511

Call before you Overhead

1-702-455-7511

1-702-227-2829

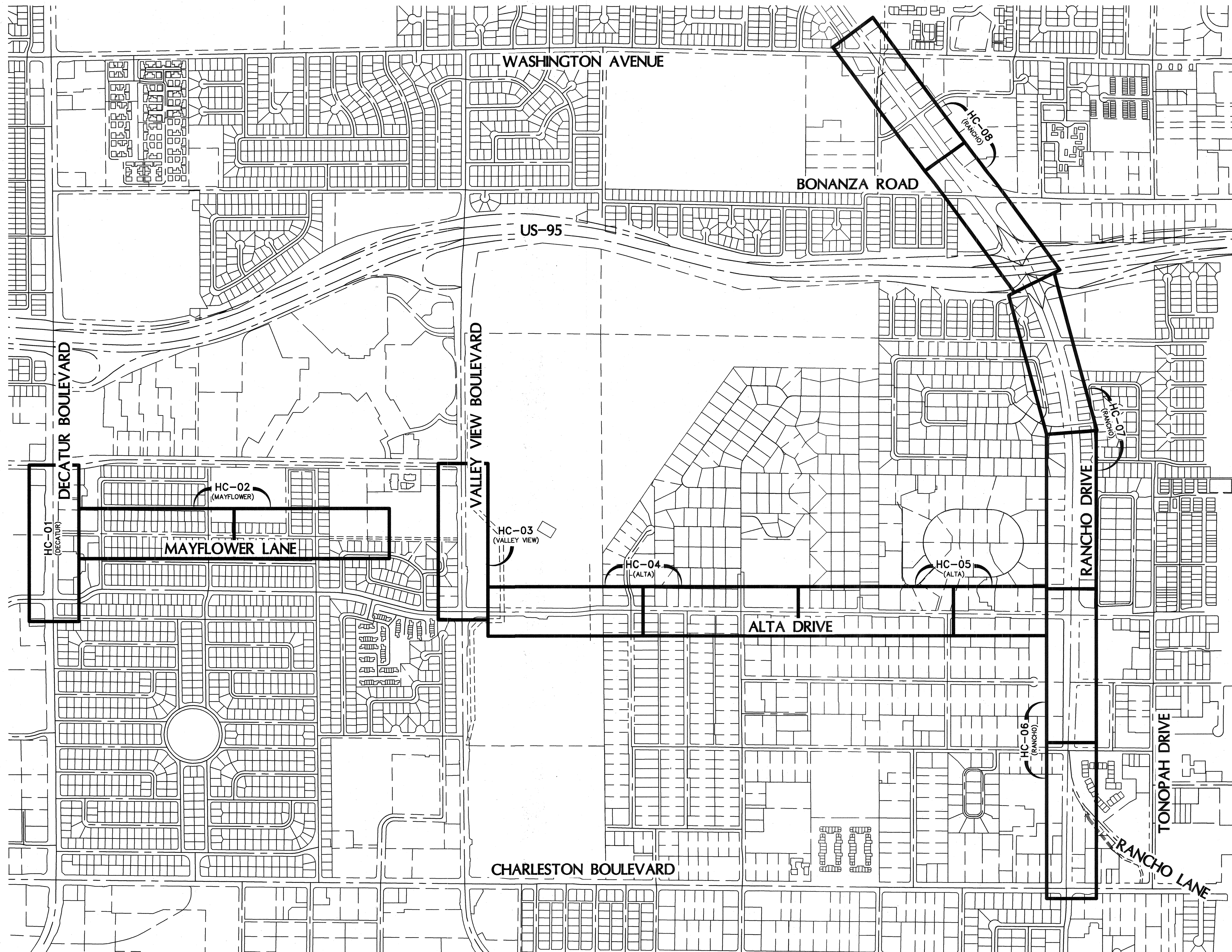
1-702-455-7511

Call before you Dig

1-702-455-7511

1-702-227-2829

1-702-455-7511



SURVEYOR'S NOTES

THE ALIGNMENT FOR RANCHO DRIVE WAS CREATED BY SPLITTING THE CONTROL LINES SHOWN ON RECORD OF SURVEY RECORDED IN FILE 151, PAGE 1, CLARK COUNTY OFFICIAL RECORDS WHENEVER POSSIBLE. THE AREA NORTH OF BONANZA ROAD WAS ESTABLISHED USING THE SPLIT OF SAID CONTROL LINES AND THE RECORD RIGHT OF WAY LINES. THE AREA NORTH OF PALOMINO LANE AND SOUTH OF PINTO LANE WAS ESTABLISHED WITH A DIRECT LINE BETWEEN THE RECORD INTERSECTIONS AS SHOWN ON SAID MAP.

IN INTERSECTIONS WHERE NO MONUMENTS WERE FOUND PROPORTIONED DISTANCES AND RECORD BEARINGS (ROTATED TO THE PROJECT BASIS OF BEARINGS) WERE USED.

RIGHT OF WAYS SHOWN HEREON ARE FOR GRAPHIC PURPOSES ONLY. NO ATTEMPT WAS MADE TO RESOLVE THE ACTUAL RIGHT OF WAYS.

THE ALIGNMENTS WERE CREATED FOR PIPE STATIONING REFERENCE ONLY, AND DOES NOT PURPORT TO REPRESENT A RECORD CENTERLINE WHERE NONE EXISTS TODAY.

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM, LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN. THE REFERENCE FRAME BEING NAD 83 (CORRS96) EPOCH 2002.0.

BENCHMARKS

USED VARIOUS BENCHMARKS THROUGHOUT THE PROJECT. SEE HORIZONTAL CONTROL SHEETS (HC-01 TO HC-08) FOR BENCHMARKS AND ELEVATIONS USED.

LEGEND

- ALIGNMENT CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- ALIGNMENT TIE LINE
- BENCHMARK
- FOUND MONUMENT AS NOTED
- FOUND REFERENCE MONUMENT AS NOTED
- CALCULATED POSITION
- NOTHING FOUND OR SET
- SANITARY SEWER MH

AS-BUILT DRAWINGS

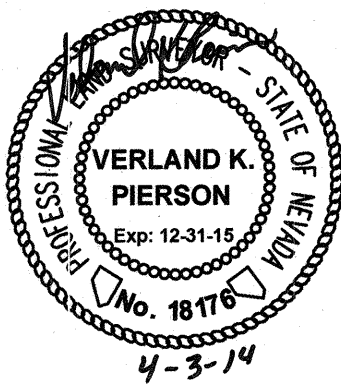
Signature *Jason M. Calhoun*



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www.poggemeyer.com

PDG #LV-12068-C



NO.	DATE	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT MANAGEMENT

337 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-9276

DESIGNED BY: J. WILSON, PE
DRAWN BY: J. WILSON, PE
CHECKED BY: J. CALHOUN, PE

DATE: 4/03/2014

CLV

SEWER REHABILITATION

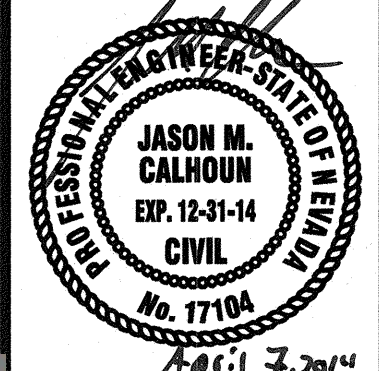
GROUP E

PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: HORIZONTAL CONTROL INDEX

AS-BUILT DRAWINGS

Signature *Jason M. Calhoun*

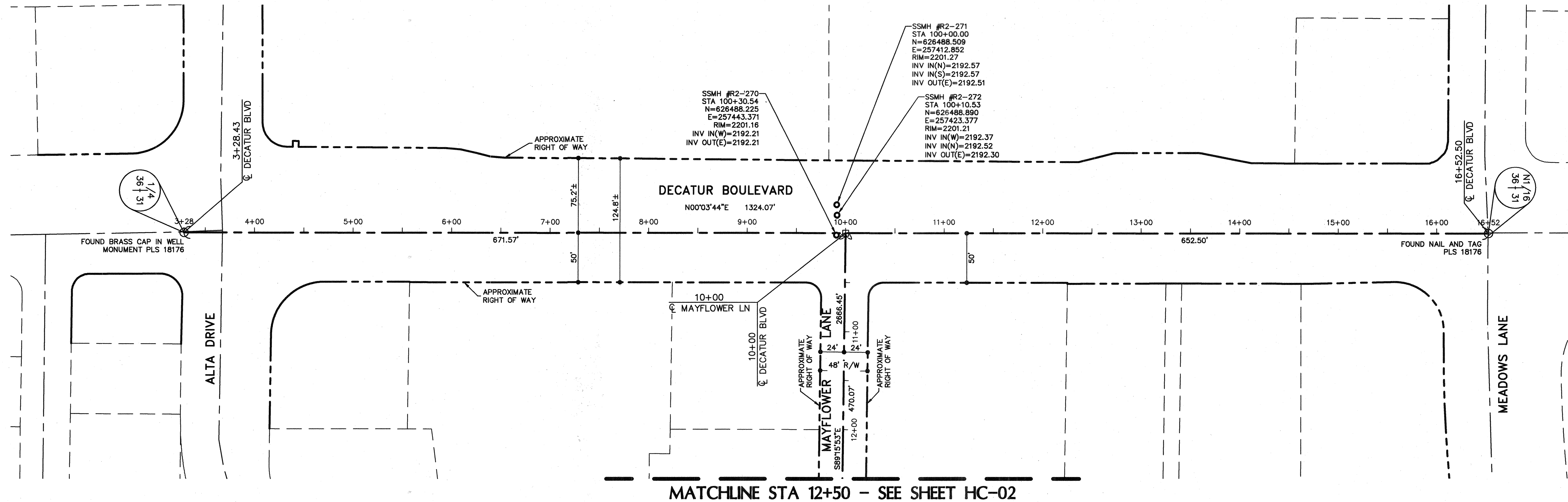


HC-00

07 of 43

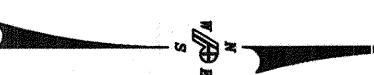
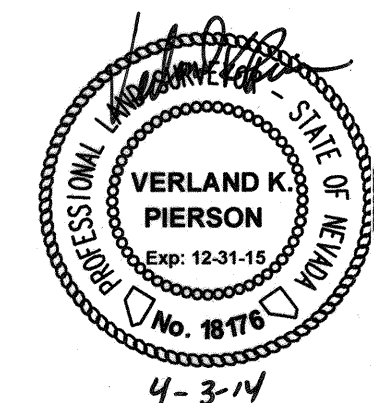
CLV DRAWING NO. 307V1080

HANSEN NO. 46803



LEGEND

- ALIGNMENT CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- ALIGNMENT TIE LINE
- BENCHMARK
- FOUND MONUMENT AS NOTED
- FOUND REFERENCE MONUMENT AS NOTED
- CALCULATED POSITION
- NOTHING FOUND OR SET
- SANITARY SEWER MH



GRAPHIC SCALE

AS-BUILT DRAWINGS

Signature

Jason M. Calhoun



6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128
p) 702.255.8100
f) 702.255.8375
www.poggemeyer.com

PDG #LV-12068-C

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89108 • (702) 225-6276

CITY ENGINEER: DAVID BOWERS, PE, PTOE

PROGRAM MANAGER: JEREMY LEAVITT, PE

DESIGNED BY: N. WILSON, PE

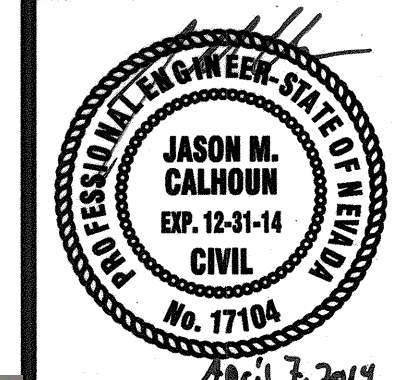
DRAWN BY: J. CALHOUN, PE

CHECKED BY: J. CALHOUN, PE

DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: DECATUR BOULEVARD STA 3+28 TO 16+52

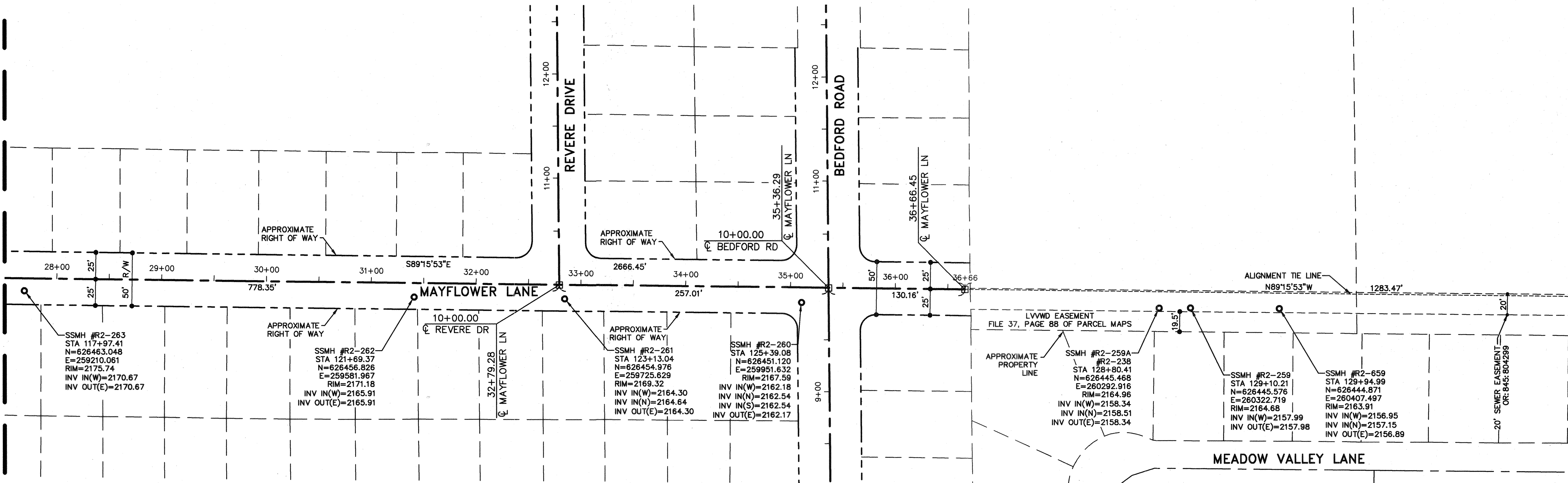


SHEET
HC-01
08 of 43
CLV DRAWING NO.
307V1080



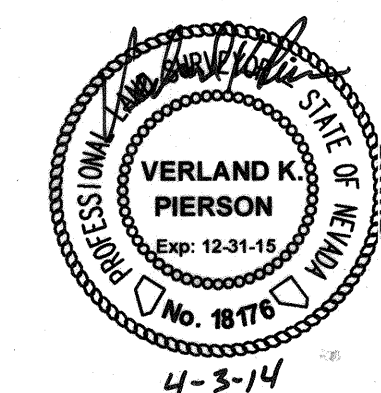
MATCHLINE STA 27+50 - SEE ABOVE RIGHT

MATCHLINE STA 12+50 - SEE HC-01



LEGEND

—	ALIGNMENT CENTERLINE
- - -	RIGHT OF WAY LINE
- - -	PROPERTY LINE
- - -	EASEMENT LINE
- - -	ALIGNMENT TIE LINE
⊕	BENCHMARK
⊕	FOUND MONUMENT AS NOTED
⊕	FOUND REFERENCE MONUMENT AS NOTED
⊕	CALCULATED POSITION
⊕	NOTHING FOUND OR SET
⊕	SANITARY SEWER MH



GRAPHIC SCALE

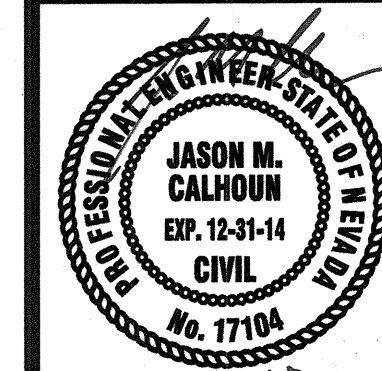
AS-BUILT DRAWINGS

Signature: *Jason M. Calhoun*

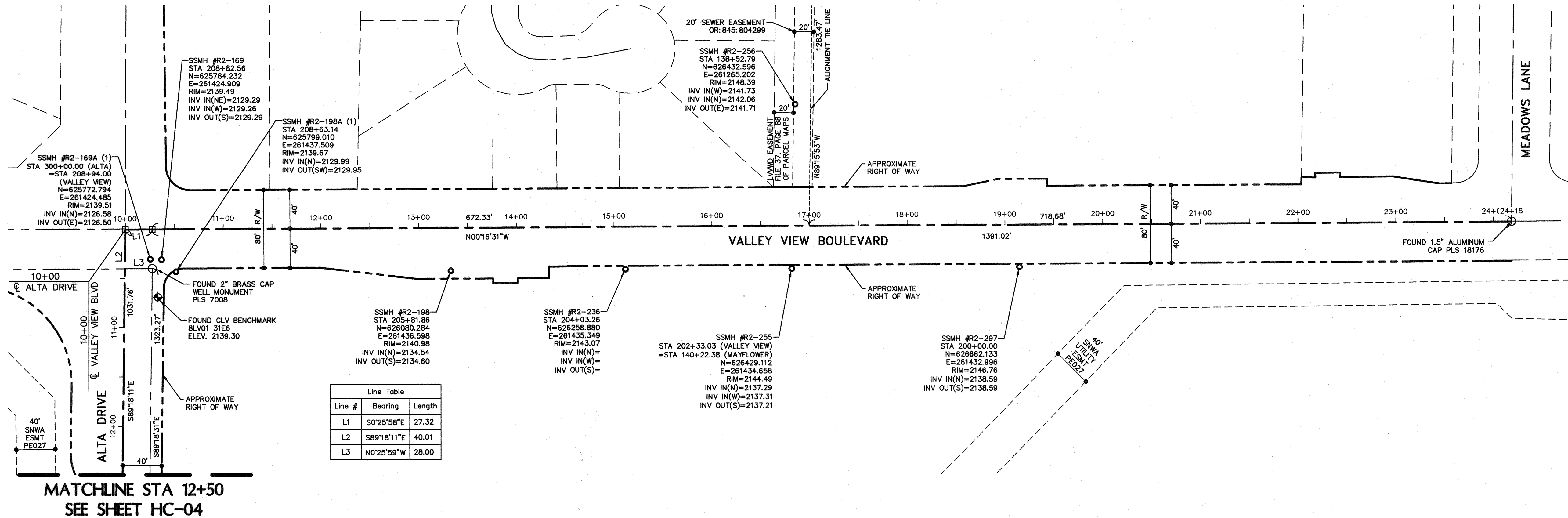


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CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 226-6276
CITY ENGINEER: DAWN POWERS, PE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: N. WILSON, PE
DRAWN BY: J. CALHOUN, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: MAYFLOWER LANE STA 12+50 TO 36+66.45

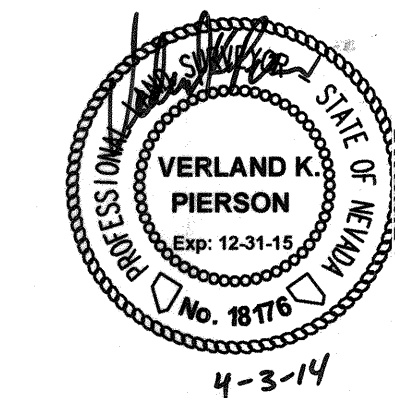


SHEET HC-02
09 of 43
CLV DRAWING NO. 307V1080



Line Table		
Line #	Bearing	Length
L1	S0°25'58"E	27.32
L2	S89°18'11"E	40.01
L3	N0°25'59"W	28.00

LEGEND	
	ALIGNMENT CENTERLINE
	RIGHT OF WAY LINE
	PROPERTY LINE
	EASEMENT LINE
	ALIGNMENT TIE LINE
	BENCHMARK
	FOUND MONUMENT AS NOTED
	FOUND REFERENCE MONUMENT AS NOTED
	CALCULATED POSITION
	NOTHING FOUND OR SET
	SANITARY SEWER MH



AS-BUILT DRAWINGS
Signature: *Jason M. Calhoun*

POGGEMEYER DESIGN GROUP
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PDG #LV-12068-C

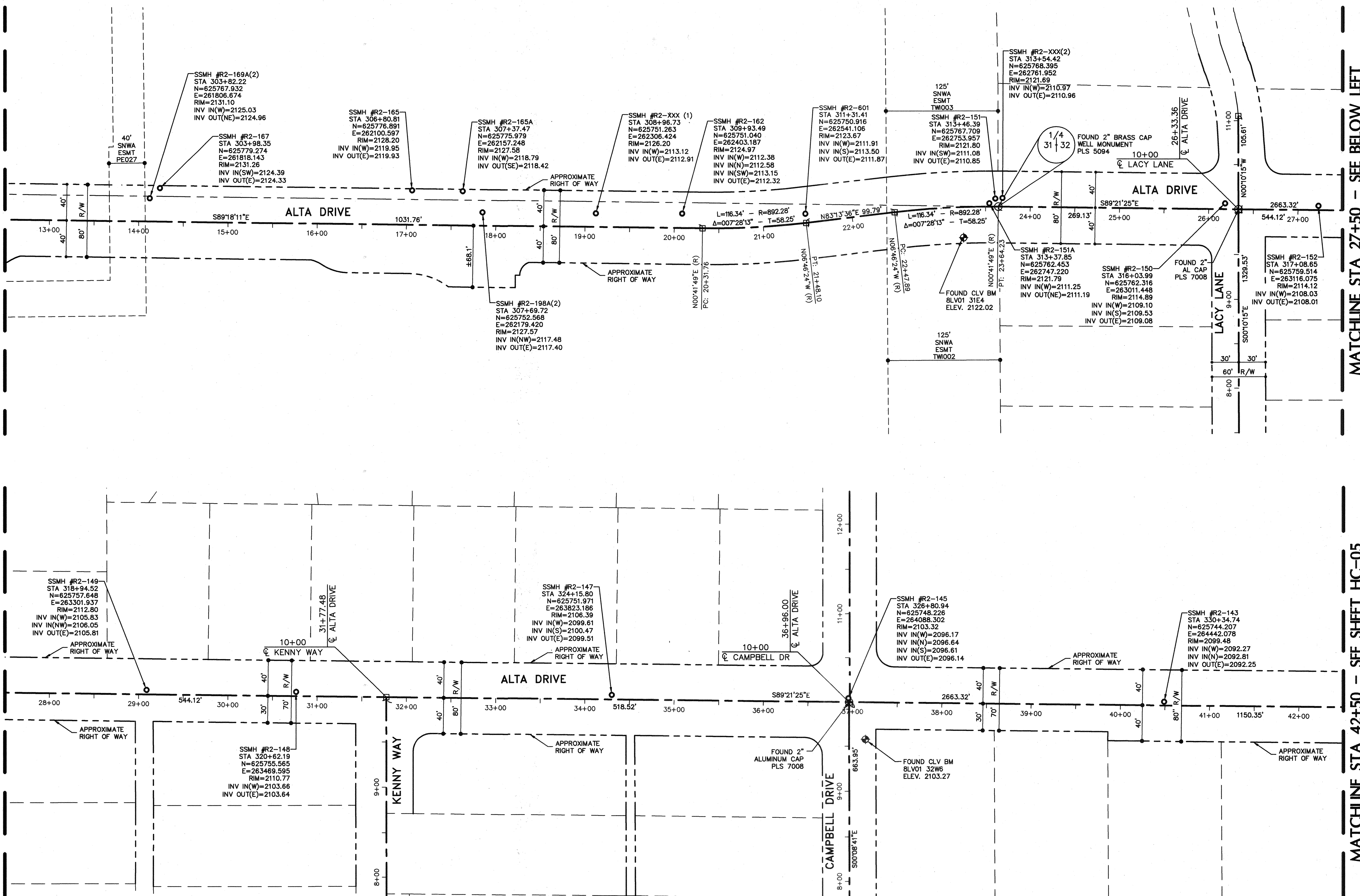
DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 228-6276 DESIGNED BY: J. WILSON, PE DRAWN BY: J. WILSON, PE CHECKED BY: J. CALHOUN, PE DATE: 4/03/2014	PROJECT TITLE: SEWER REHABILITATION GROUP E SHEET TITLE: VALLEY VIEW BOULEVARD STA 10+00 TO 24+18		NO.	DATE:	DESCRIPTION:	APP'D

SHEET
HC-03
10 of 43
CLV DRAWING NO. 307V1080



MATCHLINE STA 12+50 - SEE SHEET HC-03

MATCHLINE STA 27+50 - SEE ABOVE RIGHT



- LEGEND**
- ALIGNMENT CENTERLINE
 - RIGHT OF WAY LINE
 - PROPERTY LINE
 - EASEMENT LINE
 - ALIGNMENT TIE LINE
 - BENCHMARK
 - FOUND MONUMENT AS NOTED
 - FOUND REFERENCE MONUMENT AS NOTED
 - CALCULATED POSITION
 - NOTHING FOUND OR SET
 - SANITARY SEWER MH

MATCHLINE STA 42+50 - SEE SHEET HC-05

MATCHLINE STA 27+50 - SEE BELOW LEFT



AS-BUILT DRAWINGS
Signature: *Jason M. Calhoun*

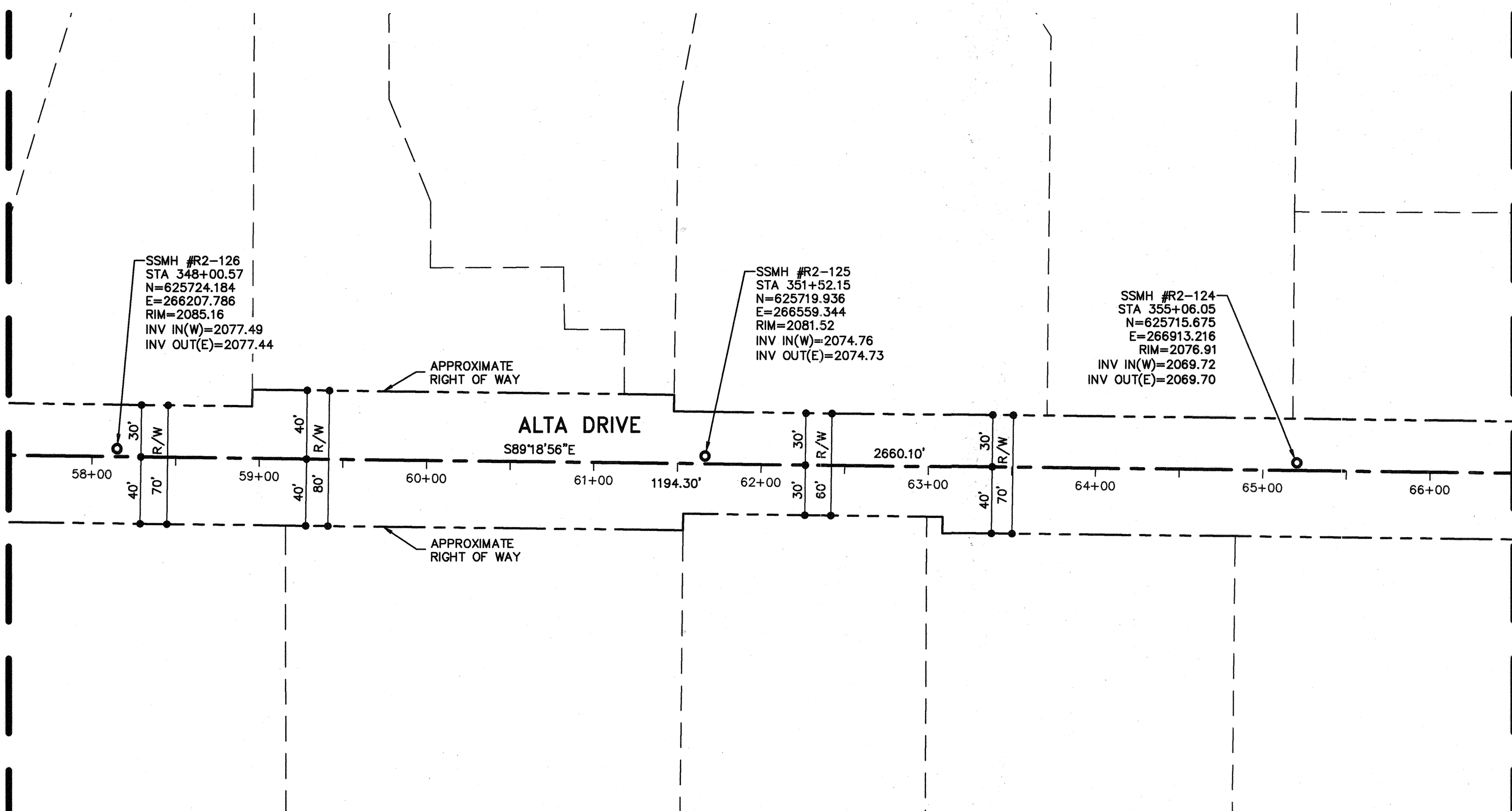
POGGEMEYER DESIGN GROUP
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Las Vegas, Nevada 89128
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f) 702.255.8375
www.poggemeyer.com
PDG #LV-12068-C

PROJECT TITLE: SEWER REHABILITATION GROUP E		SHEET TITLE: ALTA DRIVE STA 12+50 TO 42+50	
DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT MANAGEMENT		DESIGNED BY: N. WILSON, PE DRAWN BY: J. CALHOUN, PE CHECKED BY: J. CALHOUN, PE DATE: 4/03/2014	
333 NORTH RANCHO • LAS VEGAS, NEVADA 89108 • (702) 228-8276		307V1080	
NO. DATE: DESCRIPTION		APP'D	

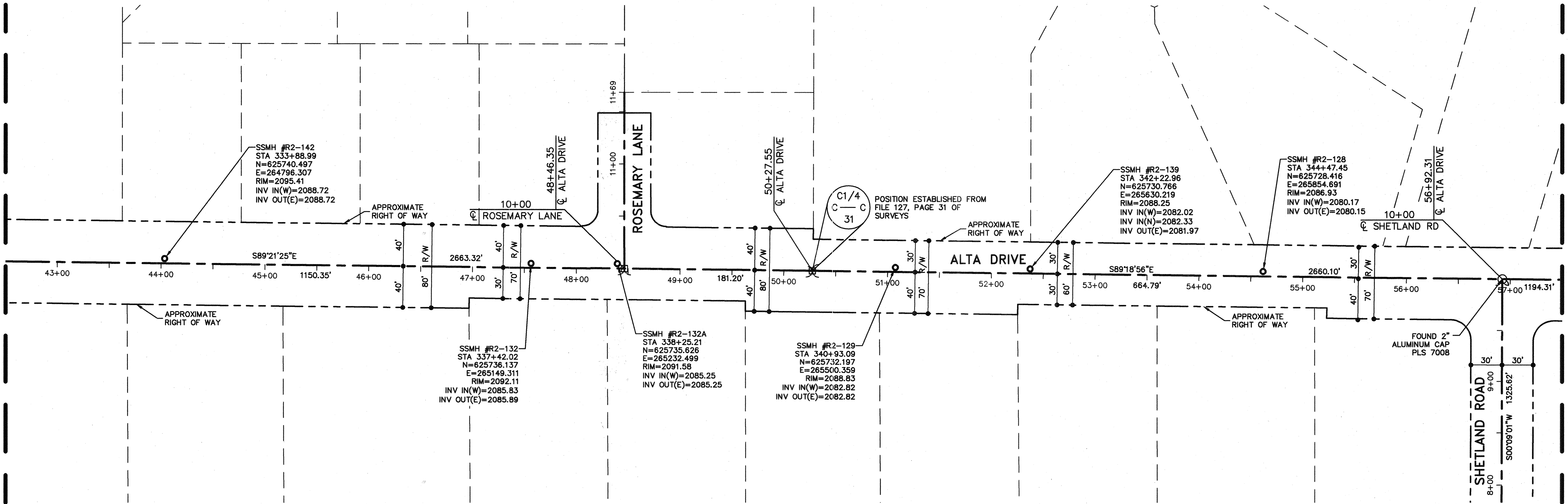


MATCHLINE STA 57+50 - SEE ABOVE RIGHT

MATCHLINE STA 42+50 - SEE SHEET HC-04



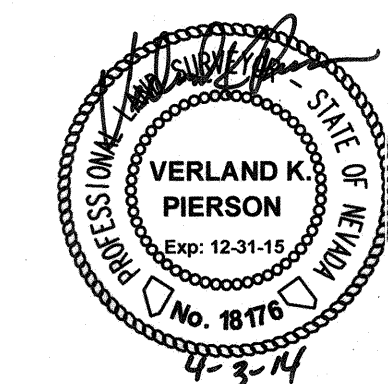
MATCHLINE STA 66+50 - SEE SHEET HC-06



MATCHLINE STA 57+50 - SEE BELOW LEFT

LEGEND

- ALIGNMENT CENTERLINE
- - - RIGHT OF WAY LINE
- - - PROPERTY LINE
- - - EASEMENT LINE
- - - ALIGNMENT TIE LINE
- ⊕ BENCHMARK
- FOUND MONUMENT AS NOTED
- △ FOUND REFERENCE MONUMENT AS NOTED
- CALCULATED POSITION
- NOTHING FOUND OR SET
- SANITARY SEWER MH



AS-BUILT DRAWINGS

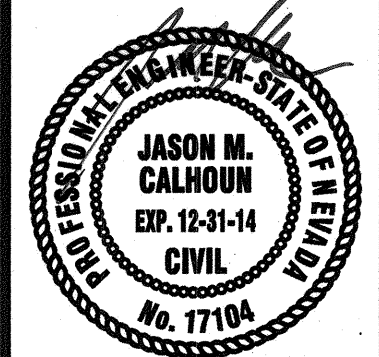
Signature *Jason M. Calhoun*

PROJECT TITLE: SEWER REHABILITATION GROUP E

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

ALTA DRIVE
STA 42+50 TO 66+50

SHEET TITLE:



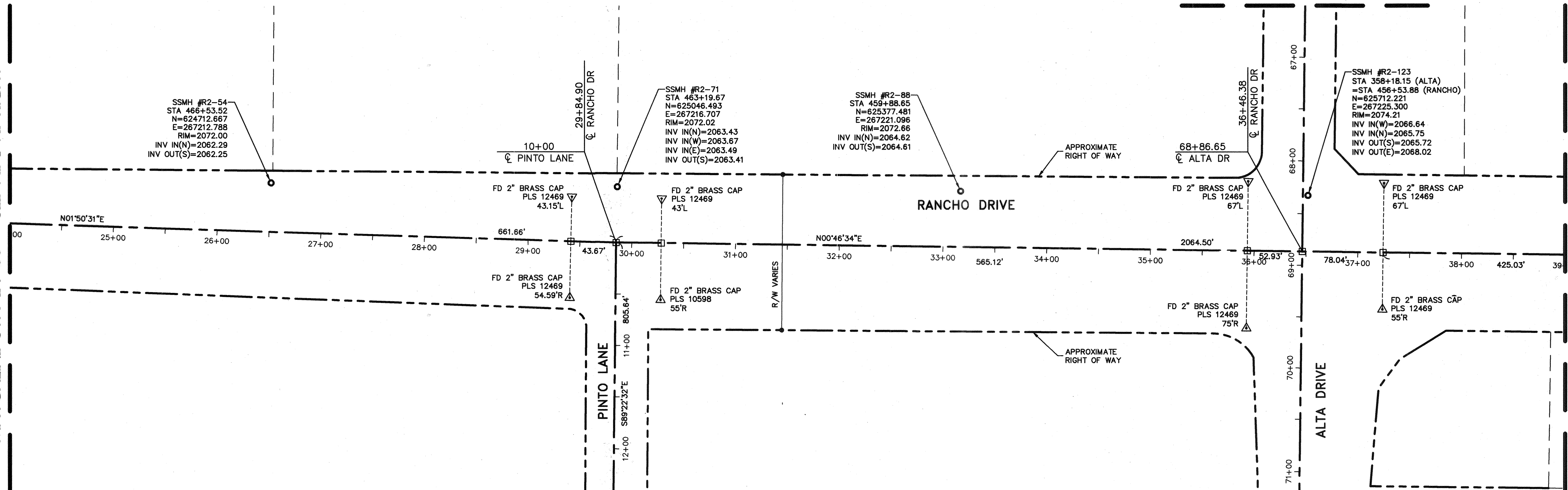
SHEET
HC-05
12 of 43
CLV DRAWING NO.
307V1080



NO.	DATE	DESCRIPTION	APP'D

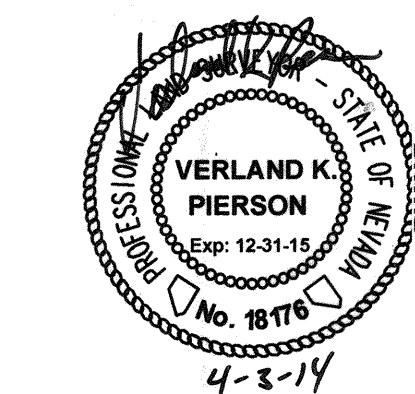


MATCHLINE STA 24+00 - SEE ABOVE RIGHT



LEGEND

- ALIGNMENT CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- ALIGNMENT TIE LINE
- BENCHMARK
- FOUND MONUMENT AS NOTED
- FOUND REFERENCE MONUMENT AS NOTED
- CALCULATED POSITION
- NOTHING FOUND OR SET
- SANITARY SEWER MH



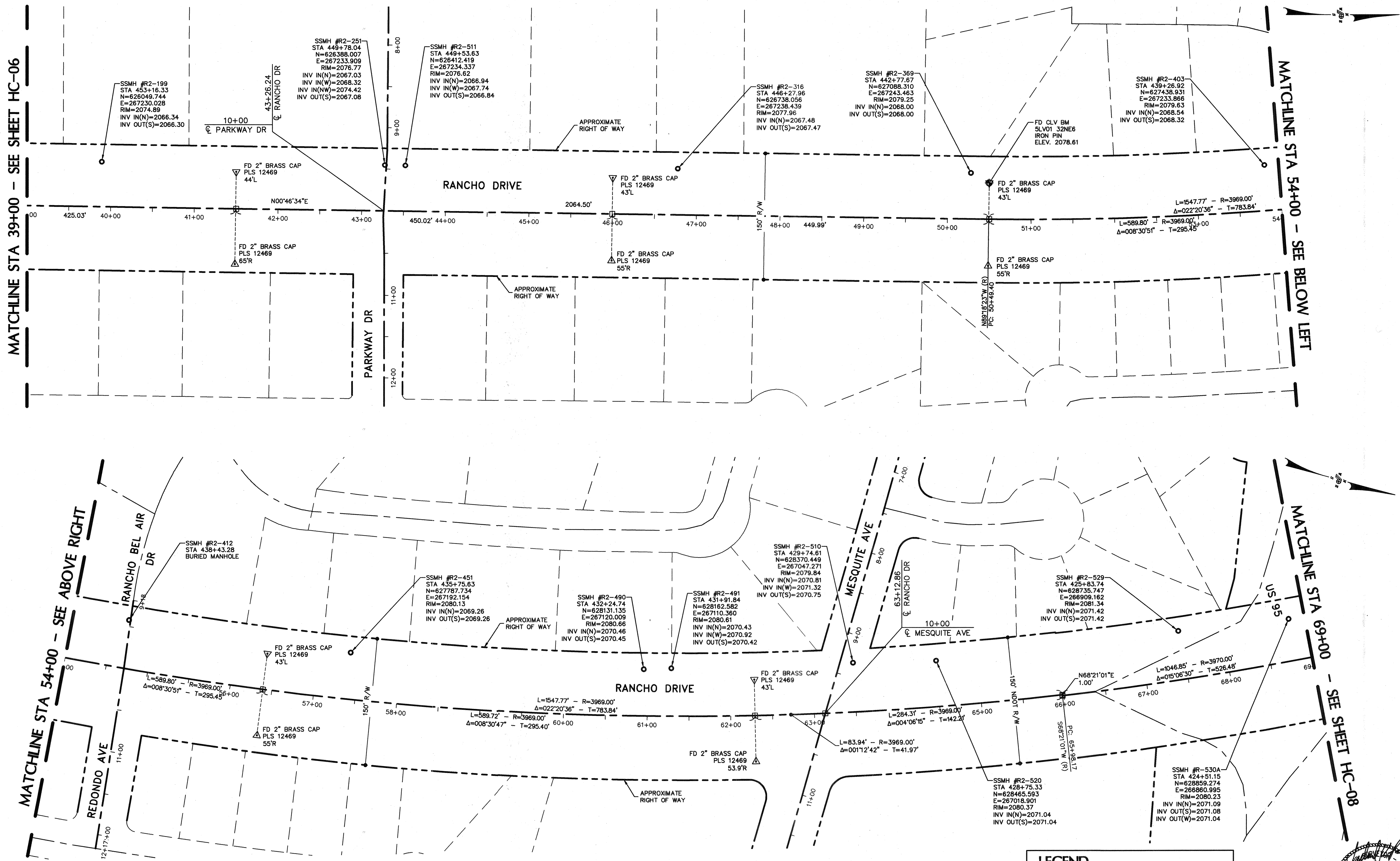
AS-BUILT DRAWINGS
Signature: *Jason M. Calhoun*



DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 226-6276
DESIGNED BY: J. WILSON, PE
DRAWN BY: J. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

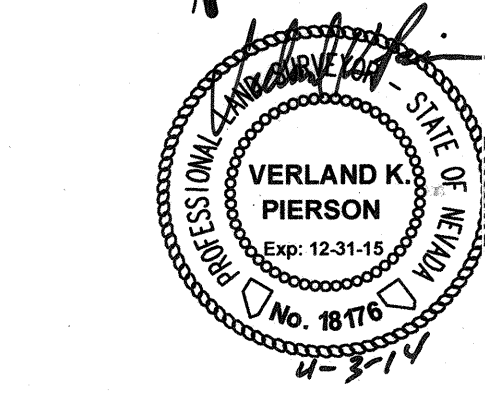
PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: RANCHO DRIVE STA 10+00 TO 39+00
SHEET: HC-06
13 OF 43
CLV DRAWING NO. 307V1080

Call before you Dig
 Call before you Dig
 1-702-455-7511
 1-702-227-2929
 1-702-455-7544



LEGEND

- ALIGNMENT CENTERLINE
- - - RIGHT OF WAY LINE
- - - PROPERTY LINE
- - - EASEMENT LINE
- - - ALIGNMENT TIE LINE
- BENCHMARK
- FOUND MONUMENT AS NOTED
- △ FOUND REFERENCE MONUMENT AS NOTED
- CALCULATED POSITION
- NOTHING FOUND OR SET
- SANITARY SEWER MH



AS-BUILT DRAWINGS
 Signature: *Jason M. Calhoun*

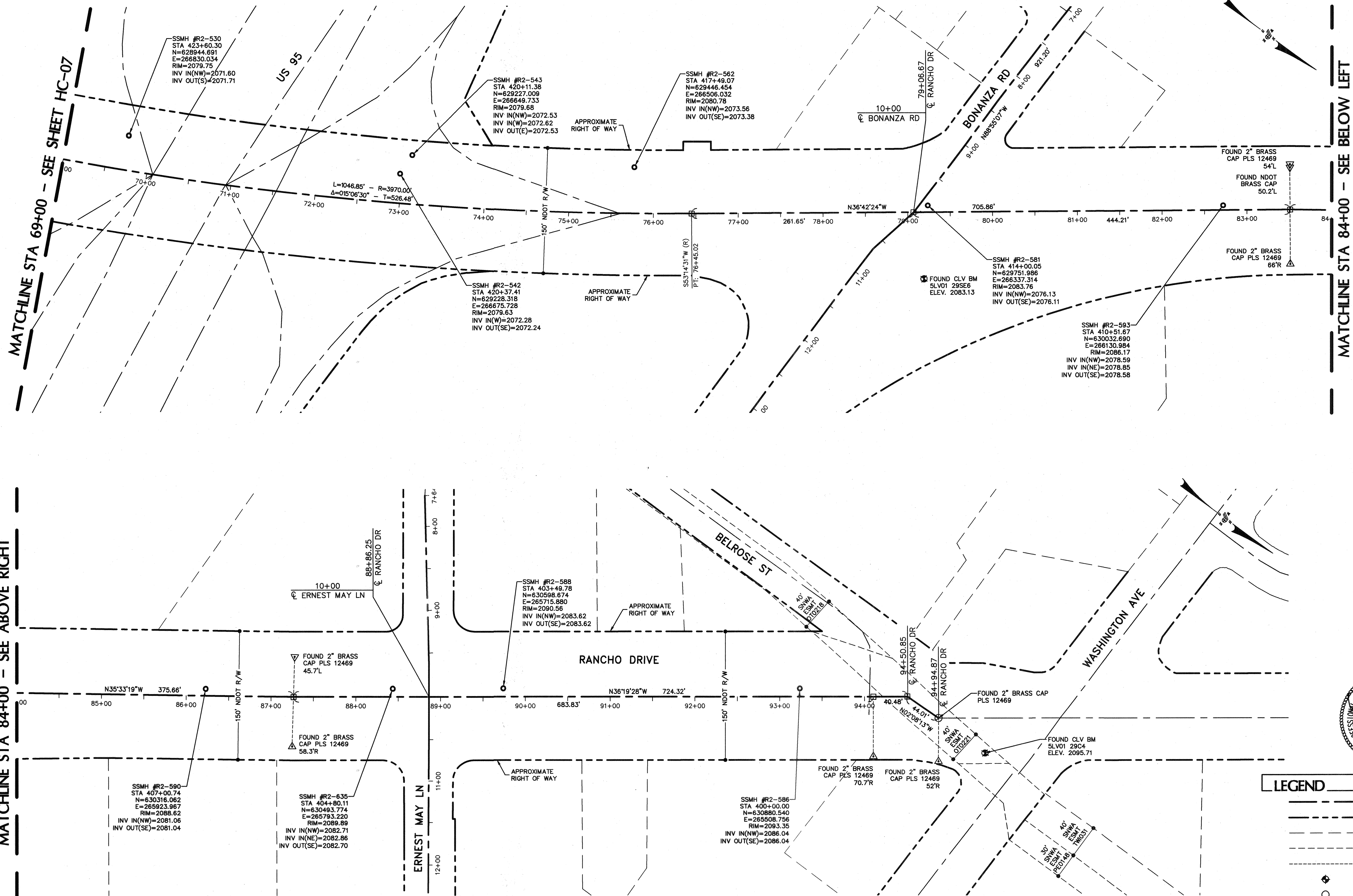
POGGEMEYER DESIGN GROUP
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 www.poggemeyer.com
 PDG #LV-12068-C

DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 228-8276 CITY ENGINEER: DAVID BOWEN, P.E. PROJECT MANAGER: JASON M. CALHOUN, P.E. DESIGNED BY: N. WILSON, P.E. DRAWN BY: J. CALHOUN, P.E. CHECKED BY: J. CALHOUN, P.E. DATE: 4/03/2014	
PROJECT TITLE: SEWER REHABILITATION GROUP E SHEET TITLE: RANCHO DRIVE STA 39+00 TO 69+00	SHEET: HC-07 14 of 43 CLV DRAWING NO. 307V1080

G:\12068 CLV Sanitary Sewer Rehab\DWG\12068-HC08-DWG.dwg Apr 03 2014 - 8:21am



MATCHLINE STA 84+00 - SEE ABOVE RIGHT



LEGEND

- ALIGNMENT CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- ALIGNMENT TIE LINE
- BENCHMARK
- FOUND MONUMENT AS NOTED
- FOUND REFERENCE MONUMENT AS NOTED
- CALCULATED POSITION
- NOTHING FOUND OR SET
- SANITARY SEWER MH

GRAPHIC SCALE

AS-BUILT DRAWINGS

Signature *Jim B...*



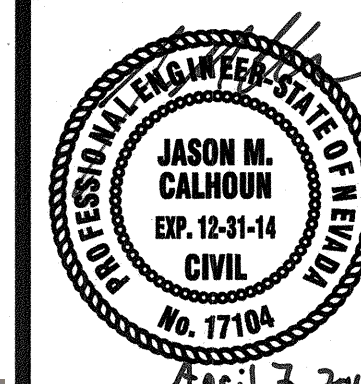
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PDG #LV-12068-C

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 228-6276
CITY ENGINEER: DAVID BOWERS, P.E., PDE
DESIGN MANAGER: JASON M. CALHOUN, P.E.
DRAWN BY: N. WILSON, P.E.
CHECKED BY: J. CALHOUN, P.E.
DATE: 4/03/2014



PROJECT TITLE: SEWER REHABILITATION
GROUP E
SHEET TITLE:
RANCHO DRIVE
STA 69+00 TO 94+50.85



SHEET
HC-08
15 OF 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

© 12008 CLV Sanitary Sewer Rehab/Valley View SS00.DWG Apr. 03 2014 - 9:21am

Call before you Dig

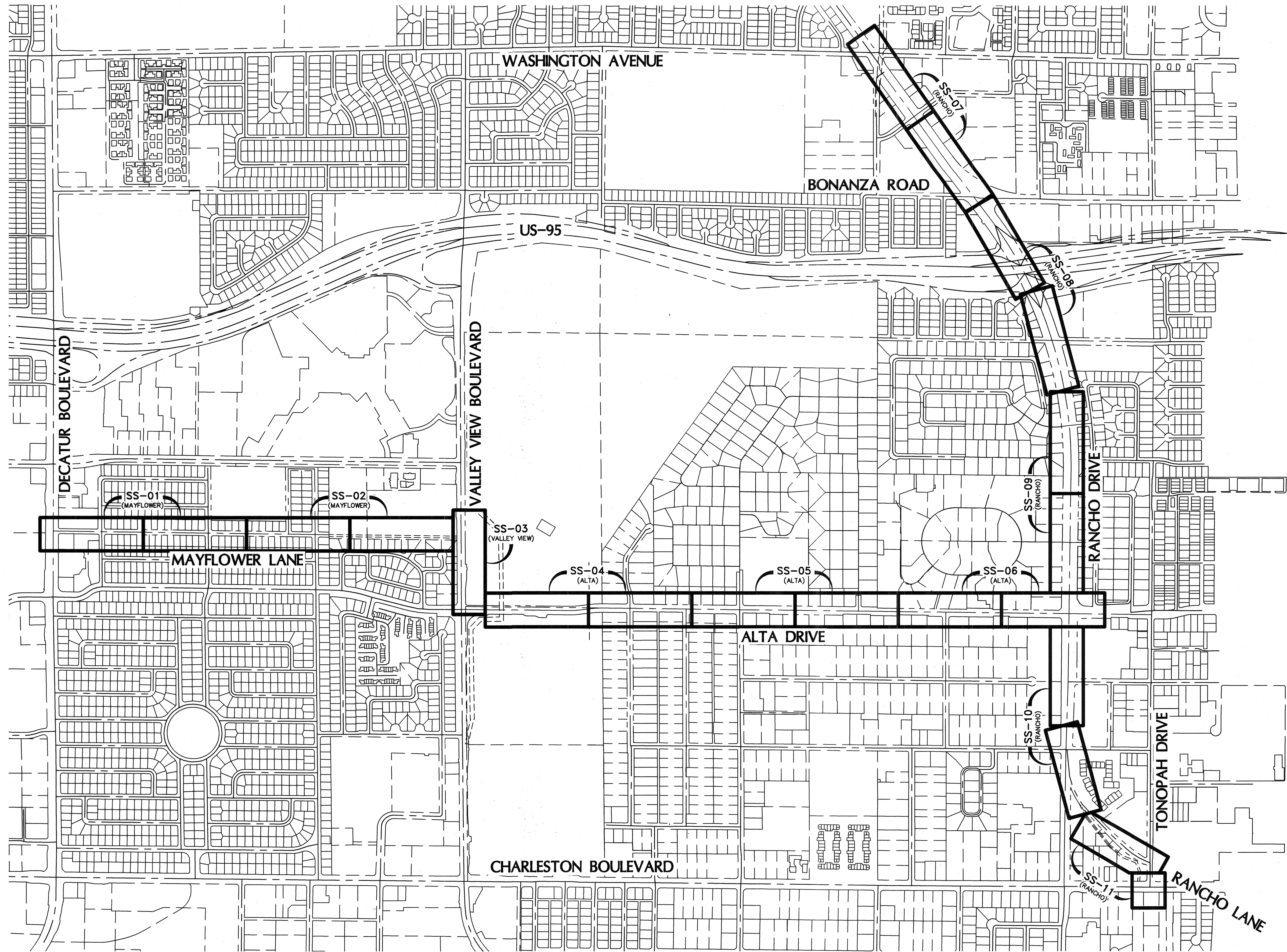
1-800-4-A-SAFE

1-800-455-7544

Call before you Overhead

1-800-455-7544

1-800-455-7544



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature

POGGEMEYER
DESIGN GROUP

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PDG #LV-12068-C

PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: CONSTRUCTION INDEX

SS-00
16 of 43
CLV DRAWING NO. 307V1080

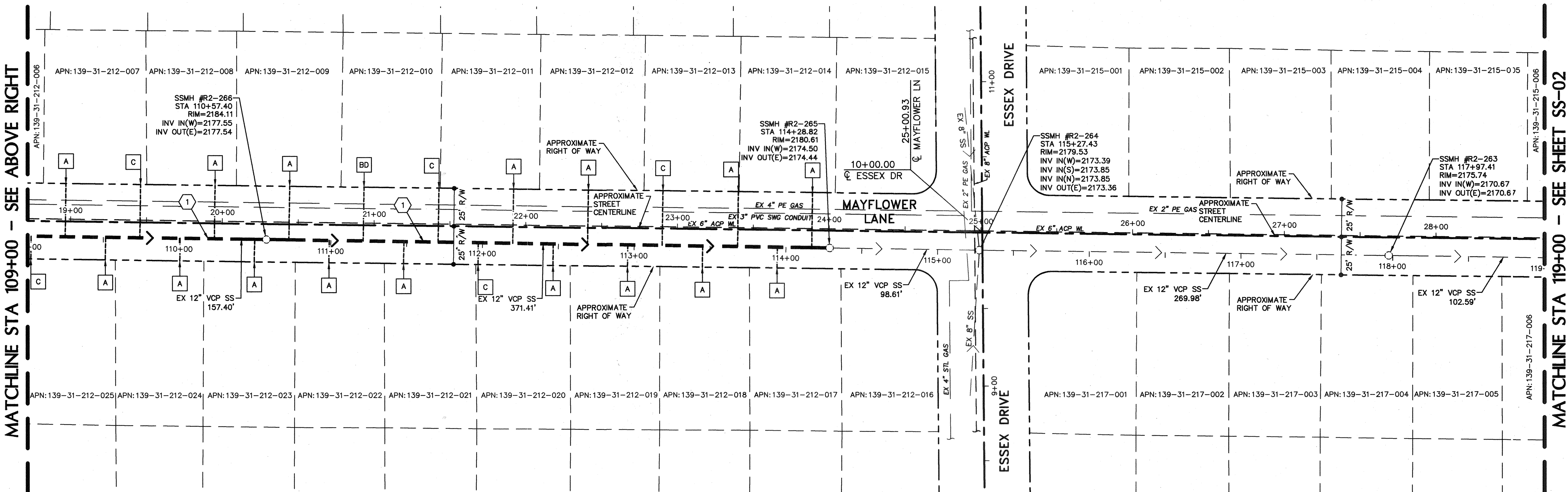
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 228-6278
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

REVISIONS

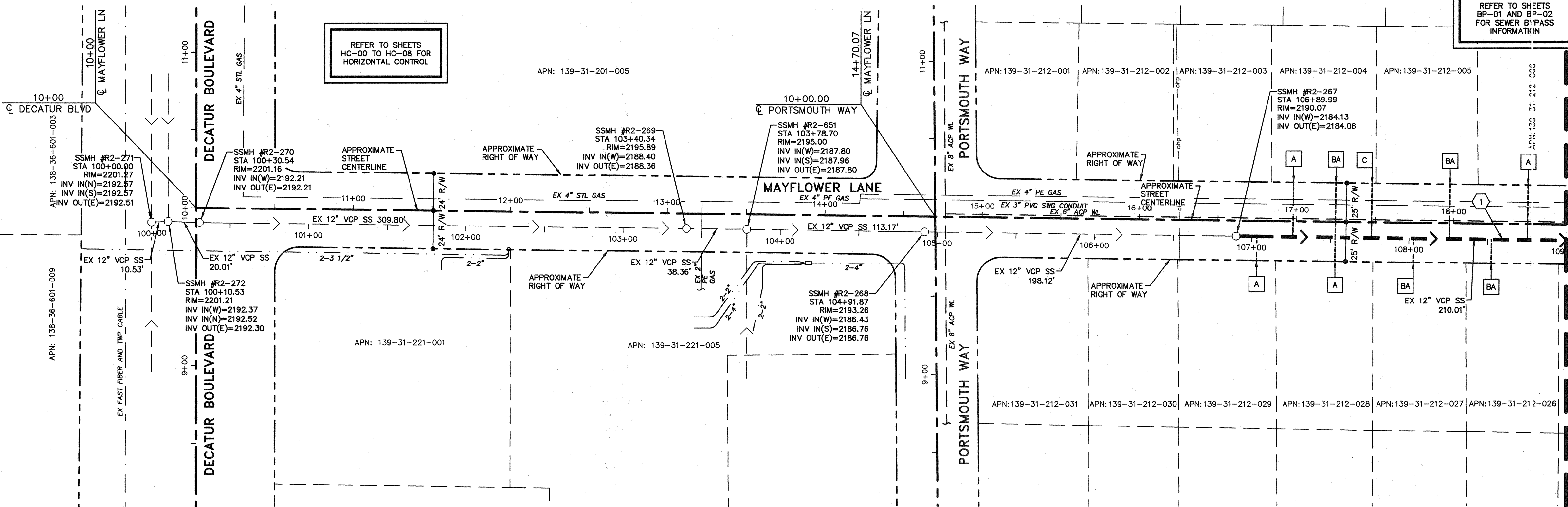
NO.	DATE	DESCRIPTION	APP'D

HANSEN NO. 46803



MATCHLINE STA 109+00 - SEE ABOVE RIGHT

MATCHLINE STA 119+00 - SEE SHEET SS-02



MATCHLINE STA 109+00 - SEE BELOW LEFT

UTILITY SYMBOLS	
	EX COX UNDERGROUND
	EX CENTURYLINK UNDERGROUND
	EX FAST INFRASTRUCTURE
	EX NVE UNDERGROUND
	EX WATER LINES
	EX OVERHEAD POWER
	EX SWG GAS LINE
	EXISTING STORM SEWER
	EX SEWER LINES (NOT A PART)
	EX SEWER LINES (TO BE REHABILITATED)
	EX SEWER LATERALS
	EX SEWER LATERALS (TOP CONNECTION)
	EX SEWER MANHOLE (TO BE REHABILITATED)
	EX SEWER MANHOLE (NOT A PART)

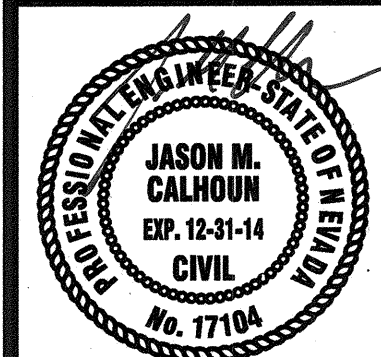
- SEWER LATERAL NOTES**
- A TAP FACTORY ACTIVE
 - C TAP FACTORY CAPPED
 - BA TAP BREAK-IN ACTIVE
 - BC TAP BREAK-IN CAPPED
 - BD TAP BREAK-IN DEFECTIVE
 - SC SADDLE CAPPED
- SEWER LINING NOTES**
- 1 LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
 - 2 CURED-IN-PLACE SPOT REPAIR PER SPEC 690
- SEWER MANHOLE NOTES**
- 50 REHAB MANHOLE PER SPEC 691

KEY MAP

POGEMEYER DESIGN GROUP
 6960 Smoke Ranch Suite 110
 Las Vegas, Nevada 89128
 P 702.255.8100
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 POG #LV-12068-C

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 DISHARI FOR DOAMEADE
 LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
 DATE 4/16/14 PROJECT NO. 121848 ES 4 018

AS-BUILT DRAWINGS
 Signature *Jason M. Calhoun*



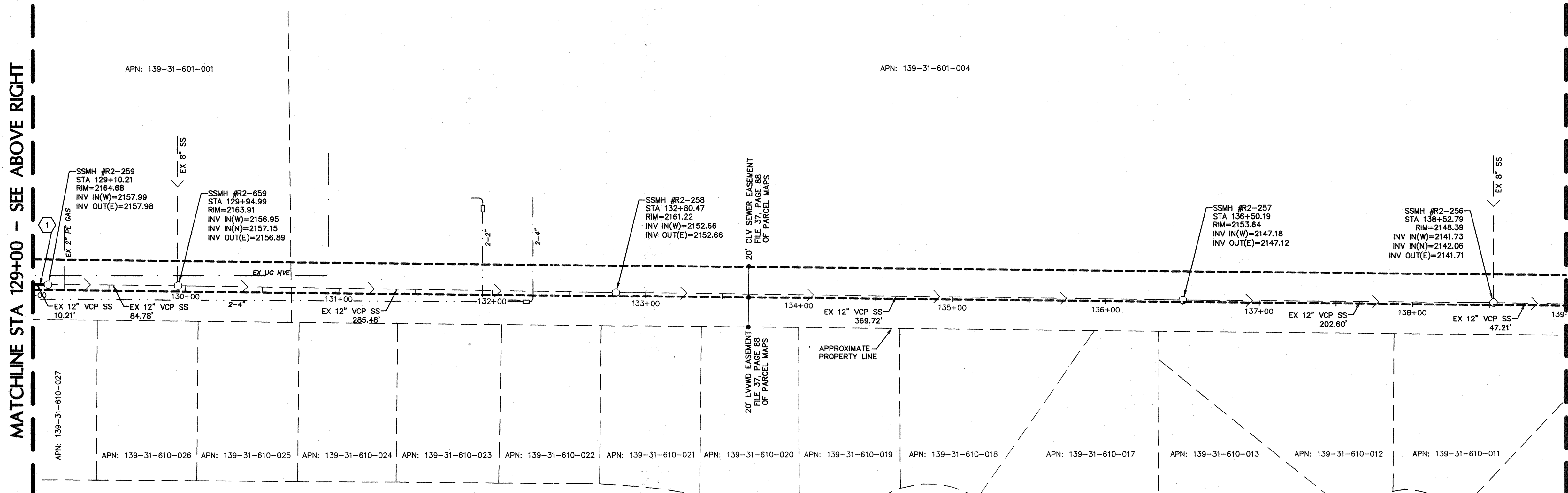
SHEET
SS-01
 17 of 43
 CLV DRAWING NO.
307V1080

PROJECT TITLE: **SEWER REHABILITATION GROUP E**
 SHEET TITLE: **MAYFLOWER LANE STA 100+00.00 TO 119+00.00**

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
 333 NORTH RANGHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276
 CITY ENGINEER: DAVID BOWERS, PE, PDE
 PROGRAM MANAGER: JEREMY LEVITT, PE
 DESIGNED BY: N. WILSON, PE
 CHECKED BY: J. CALHOUN, PE
 DATE: 4/03/2014

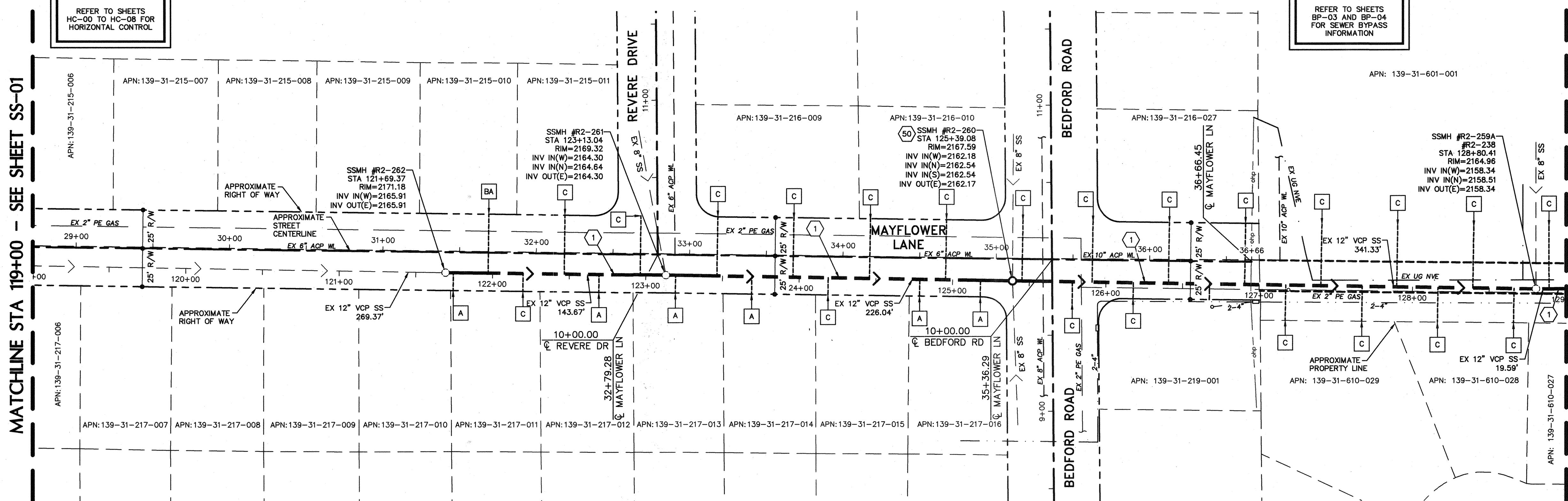
NO.	DATE	DESCRIPTION	APP'D

MATCHLINE STA 129+00 - SEE ABOVE RIGHT



MATCHLINE STA 139+00 - SEE SHEET SS-03

MATCHLINE STA 119+00 - SEE SHEET SS-01



MATCHLINE STA 129+00 - SEE BELOW LEFT

UTILITY SYMBOLS

---	EX COX UNDERGROUND
---	EX CENTURYLINK UNDERGROUND
---	EX FAST INFRASTRUCTURE
---	EX NVE UNDERGROUND
---	EX WATER LINES
---	EX OVERHEAD POWER
---	EX SWG GAS LINE
---	EXISTING STORM SEWER
---	EX SEWER LINES (NOT A PART)
---	EX SEWER LINES (TO BE REHABILITATED)
---	EX SEWER LATERALS
---	EX SEWER LATERALS (TOP CONNECTION)
---	EX SEWER MANHOLE (TO BE REHABILITATED)
---	EX SEWER MANHOLE (NOT A PART)

SEWER LATERAL NOTES

A	TAP FACTORY ACTIVE
C	TAP FACTORY CAPPED
BA	TAP BREAK-IN ACTIVE
BC	TAP BREAK-IN CAPPED
BD	TAP BREAK-IN DEFECTIVE
SC	SADDLE CAPPED

SEWER LINING NOTES

1	LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
2	CURED-IN-PLACE SPOT REPAIR PER SPEC 690

SEWER MANHOLE NOTES

50	REHAB MANHOLE PER SPEC 691
----	----------------------------

KEY MAP

POGEMEYER DESIGN GROUP
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PGD #LV-12068-C

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1-702-227-2929
1-800-227-2800
1-702-455-7544

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1-800-227-2800
1-702-455-7544

APPROVED FOR CONSTRUCTION
M. DISHAR...
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS
Signature: Jan B...
April 7, 2014

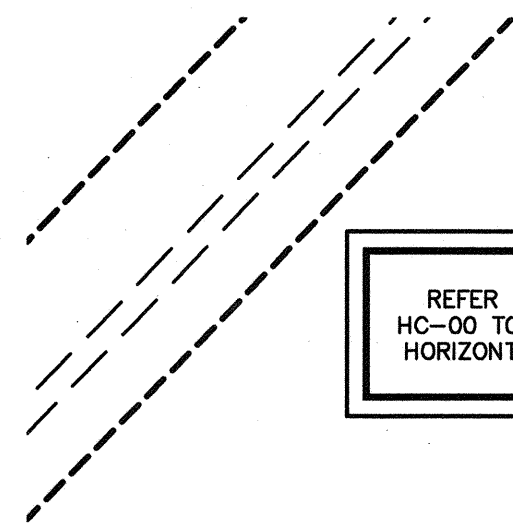
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANGHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JERRY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: MAYFLOWER LANE STA 119+00.00 TO 139+00.00

REVISIONS

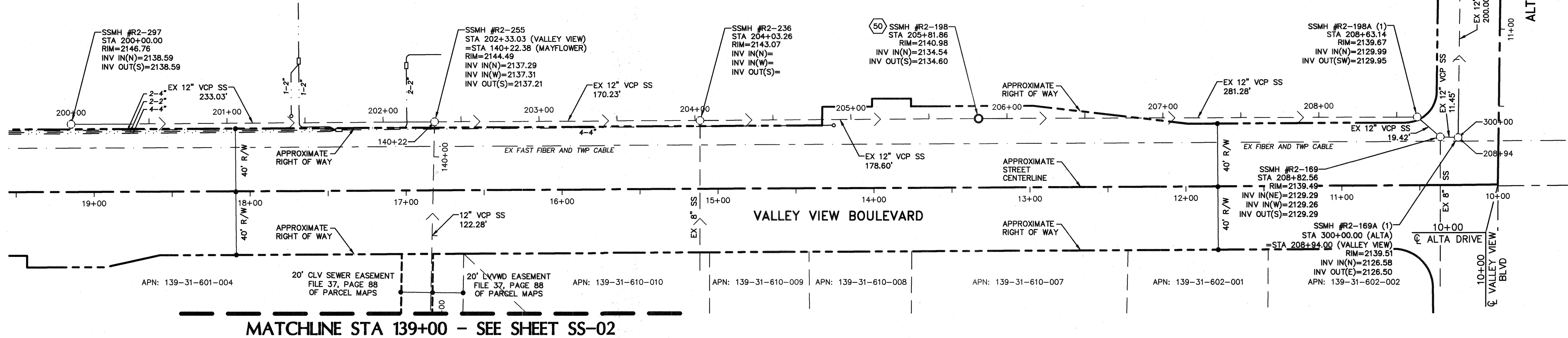
NO.	DATE	DESCRIPTION	APP'D

SS-02
18 of 43
CLV DRAWING NO. 307V1080

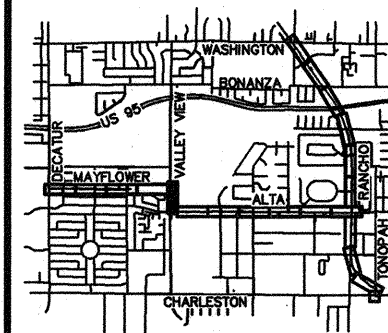


REFER TO SHEETS
HC-00 TO HC-08 FOR
HORIZONTAL CONTROL

APN: 139-31-602-003



MATCHLINE - STA 302+00
SEE SHEET SS-04



KEY MAP



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f) 702.255.8375
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PGC #LV-12068-C

SEWER LATERAL NOTES

- A TAP FACTORY ACTIVE
- C TAP FACTORY CAPPED
- BA TAP BREAK-IN ACTIVE
- BC TAP BREAK-IN CAPPED
- BD TAP BREAK-IN DEFECTIVE
- SC SADDLE CAPPED

SEWER LINING NOTES

- 1 LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
- 2 CURED-IN-PLACE SPOT REPAIR PER SPEC 690

SEWER MANHOLE NOTES

- 50 REHAB MANHOLE PER SPEC 691

UTILITY SYMBOLS

- EX COX UNDERGROUND
- EX CENTURYLINK UNDERGROUND
- EX FAST INFRASTRUCTURE
- EX NVE UNDERGROUND
- EX WATER LINES
- EX OVERHEAD POWER
- EX SWG GAS LINE
- EXISTING STORM SEWER
- EX SEWER LINES (NOT A PART)
- EX SEWER LINES (TO BE REHABILITATED)
- EX SEWER LATERALS
- EX SEWER LATERALS (TOP CONNECTION)
- EX SEWER MANHOLE (TO BE REHABILITATED)
- EX SEWER MANHOLE (NOT A PART)

GRAPHIC SCALE

AS-BUILT DRAWINGS

Signature *Jan B...*

APPROVED FOR CONSTRUCTION

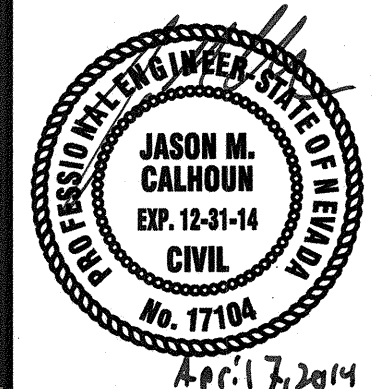
4.16.14
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E

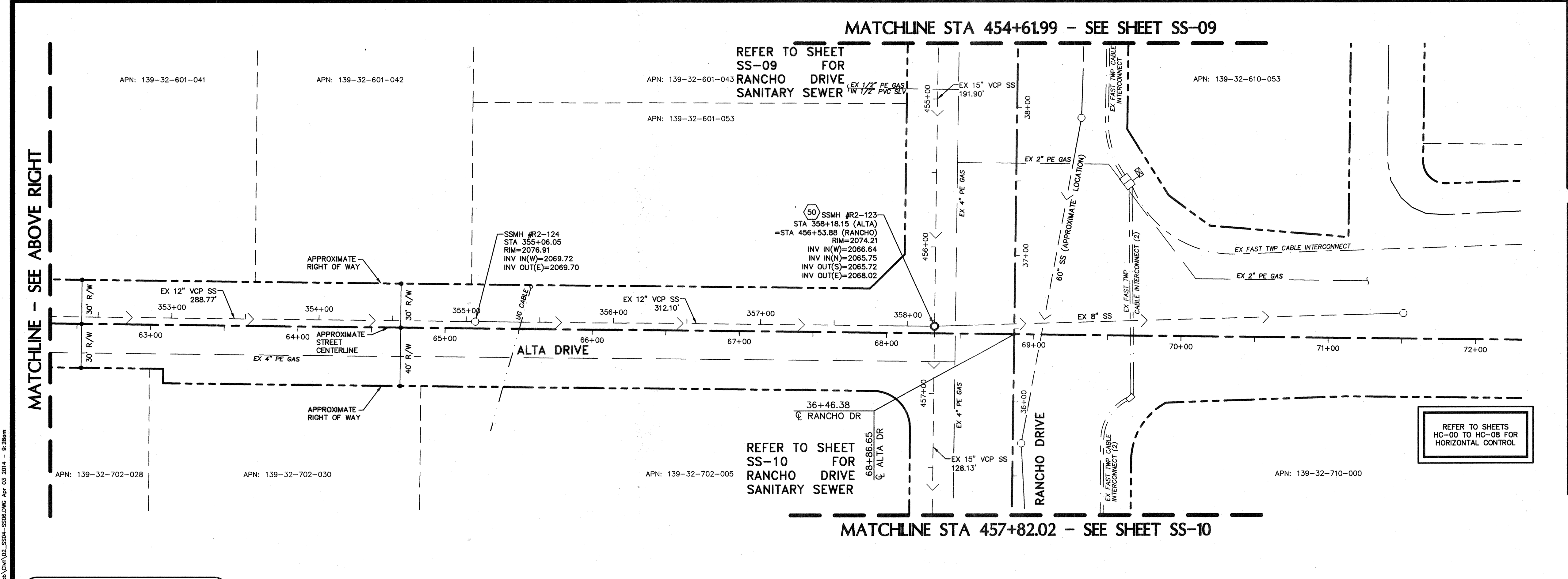
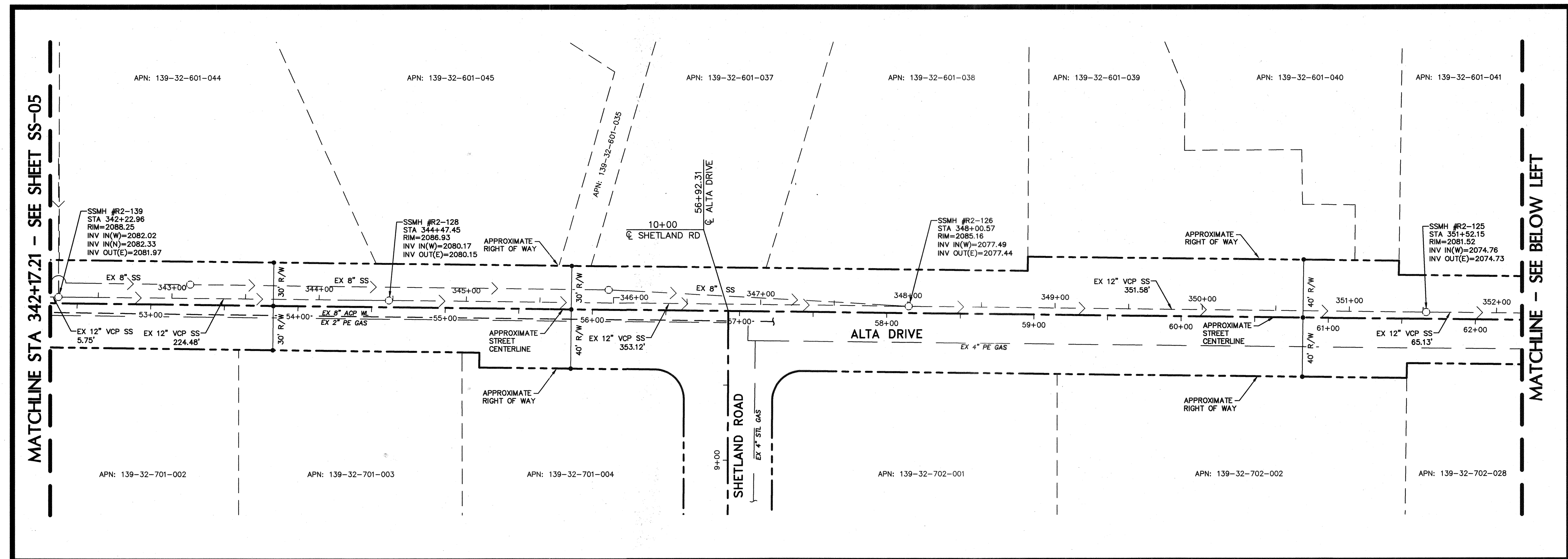
SHEET TITLE: VALLEY VIEW BOULEVARD
STA 200+00.00 TO 208+94.00



SHEET
SS-03
19 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

Call before you Dig
Call before you Overhead
1-800-455-7511
1-800-227-2929
1-800-455-7511
1-800-227-2929
1-800-455-7511
1-800-227-2929



KEY MAP

POGGEMEYER DESIGN GROUP

6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128
p) 702.255.8100
f) 702.255.8375
www.poggemeyer.com

PGC #LV-12068-C

- SEWER LATERAL NOTES**
- A TAP FACTORY ACTIVE
 - C TAP FACTORY CAPPED
 - BA TAP BREAK-IN ACTIVE
 - BC TAP BREAK-IN CAPPED
 - BD TAP BREAK-IN DEFECTIVE
 - SC SADDLE CAPPED
- SEWER LINING NOTES**
- 1 LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
 - 2 CURED-IN-PLACE SPOT REPAIR PER SPEC 690
- SEWER MANHOLE NOTES**
- 50 REHAB MANHOLE PER SPEC 691

- UTILITY SYMBOLS**
- EX COX UNDERGROUND
 - EX CENTURYLINK UNDERGROUND
 - EX FAST INFRASTRUCTURE
 - EX NVE UNDERGROUND
 - EX WATER LINES
 - EX OVERHEAD POWER
 - EX SWG GAS LINE
 - EXISTING STORM SEWER
 - EX SEWER LINES (NOT A PART)
 - EX SEWER LINES (TO BE REHABILITATED)
 - EX SEWER LATERALS
 - EX SEWER LATERALS (TOP CONNECTION)
 - EX SEWER MANHOLE (TO BE REHABILITATED)
 - EX SEWER MANHOLE (NOT A PART)

Call before you Dig

Call before you Dig
Underground
Overhead

1-702-227-2800
1-702-227-2829
1-702-455-7544

APPROVED FOR CONSTRUCTION

J. D. SHORR

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jan B...*

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-8276

CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE DATE: 4/03/2014

SEWER REHABILITATION GROUP E

ALTA DRIVE

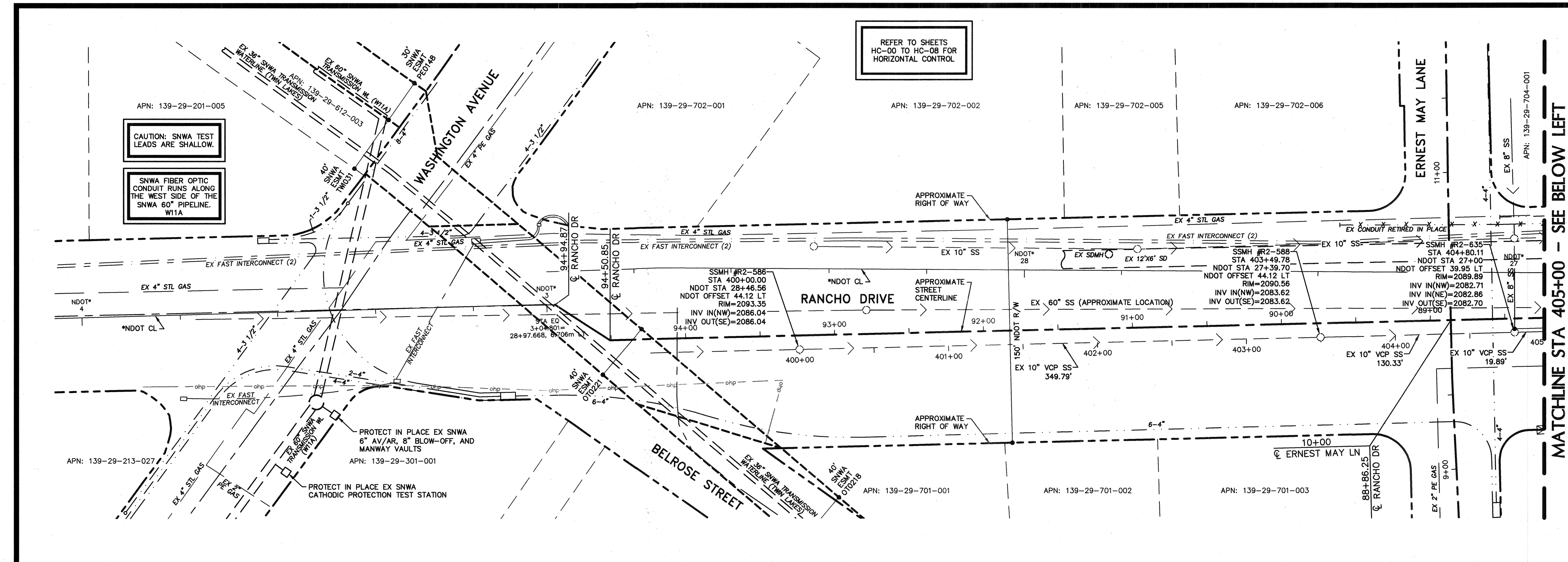
STA 342+17.21 TO 358+18.15

SS-06

22 of 43

CLV DRAWING NO. 307V1080

HANSEN NO. 46803

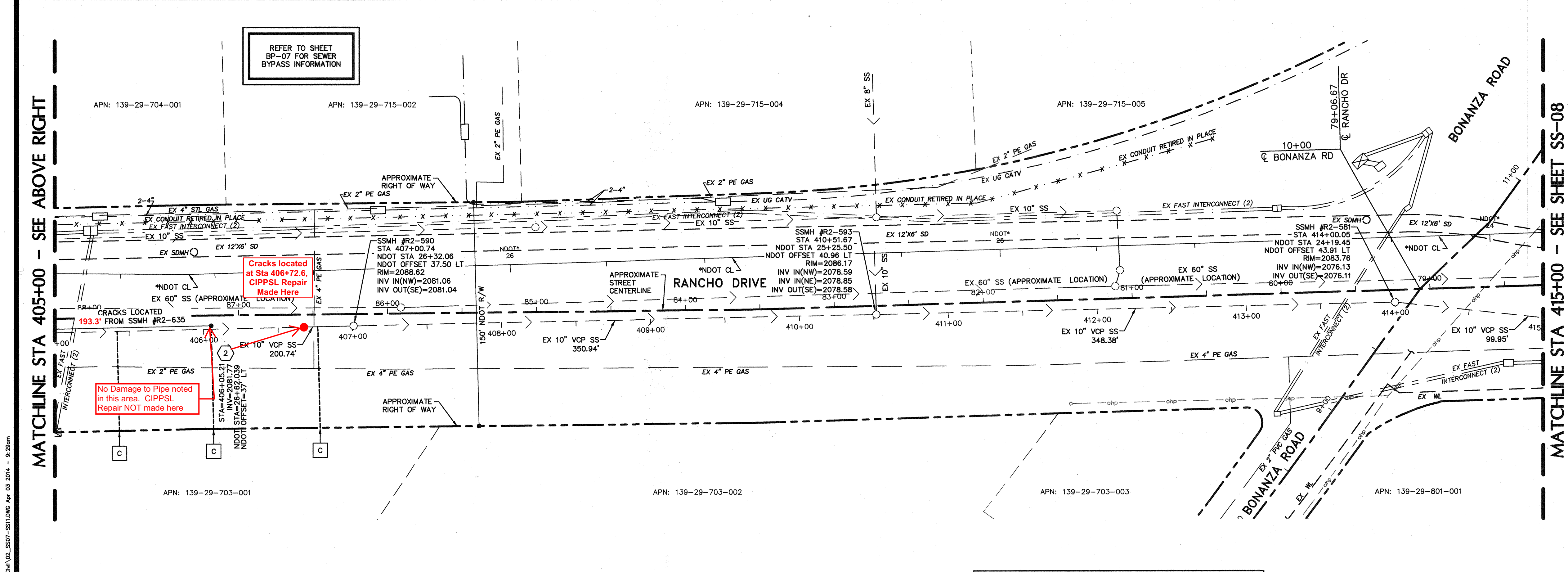


KEY MAP

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 Las Vegas, Nevada 89128
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 F 702.255.8375
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 PDS #LV-12068-C

NO.	DATE	DESCRIPTION	APPROVED

- SEWER LATERAL NOTES**
- A TAP FACTORY ACTIVE
 - C TAP FACTORY CAPPED
 - BA TAP BREAK-IN ACTIVE
 - BC TAP BREAK-IN CAPPED
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- SEWER MANHOLE NOTES**
- 50 REHAB MANHOLE PER SPEC 691



UTILITY SYMBOLS

- EX COX UNDERGROUND
- EX CENTURYLINK UNDERGROUND
- EX FAST INFRASTRUCTURE
- EX NVE UNDERGROUND
- EX WATER LINES
- EX OVERHEAD POWER
- EX SWG GAS LINE
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- EX SEWER LINES (NOT A PART)
- EX SEWER LINES (TO BE REHABILITATED)
- EX SEWER LATERALS
- EX SEWER LATERALS (TOP CONNECTION)
- EX SEWER MANHOLE (TO BE REHABILITATED)
- EX SEWER MANHOLE (NOT A PART)

Call before you Dig
 1-800-4-A-DAVE
 1-800-455-7511
 1-800-227-2929
 1-800-227-2600

Call before you Overhead
 1-800-4-A-DAVE
 1-800-455-7511
 1-800-227-2929
 1-800-227-2600

SNWA CONSTRUCTION NOTES:
 CONTRACTOR SHALL FIELD LOCATE AND PROTECT ALL SNWA/SNWS APPURTENANCES INCLUDING, BUT NOT LIMITED TO AV/AR, ACCESS MANWAYS AND CATHODIC PROTECTION SYSTEMS. ALL ABOVE GROUND STRUCTURES AND AT-GRADE STRUCTURES MUST BE ADJUSTED TO NEW GRADE. AT THE CONTRACTOR'S EXPENSE. CATHODIC PROTECTION TEST STATIONS, RECTIFIERS, AND AV/AR'S MUST BE RELOCATED TO THE SIDEWALK PER SNWA STANDARDS AND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO NOTIFY SOUTHERN NEVADA WATER AUTHORITY, DEVELOPMENT PLAN REVIEW AT (702) 258-3165 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITY.

APPROVED FOR CONSTRUCTION
 SOUTHERN NEVADA WATER AUTHORITY
 DEBS# 2013-0059
 SNWA APPROVAL IS VALID FOR ONE (1) YEAR FROM THE SIGNATURE DATE.
 IF CONSTRUCTION WITHIN THE EASEMENT OR RESTRICTED PIPE SAFETY ZONE IS NOT COMPLETE, PLANS MUST BE RESUBMITTED TO SNWA FOR REVIEW AND APPROVAL.

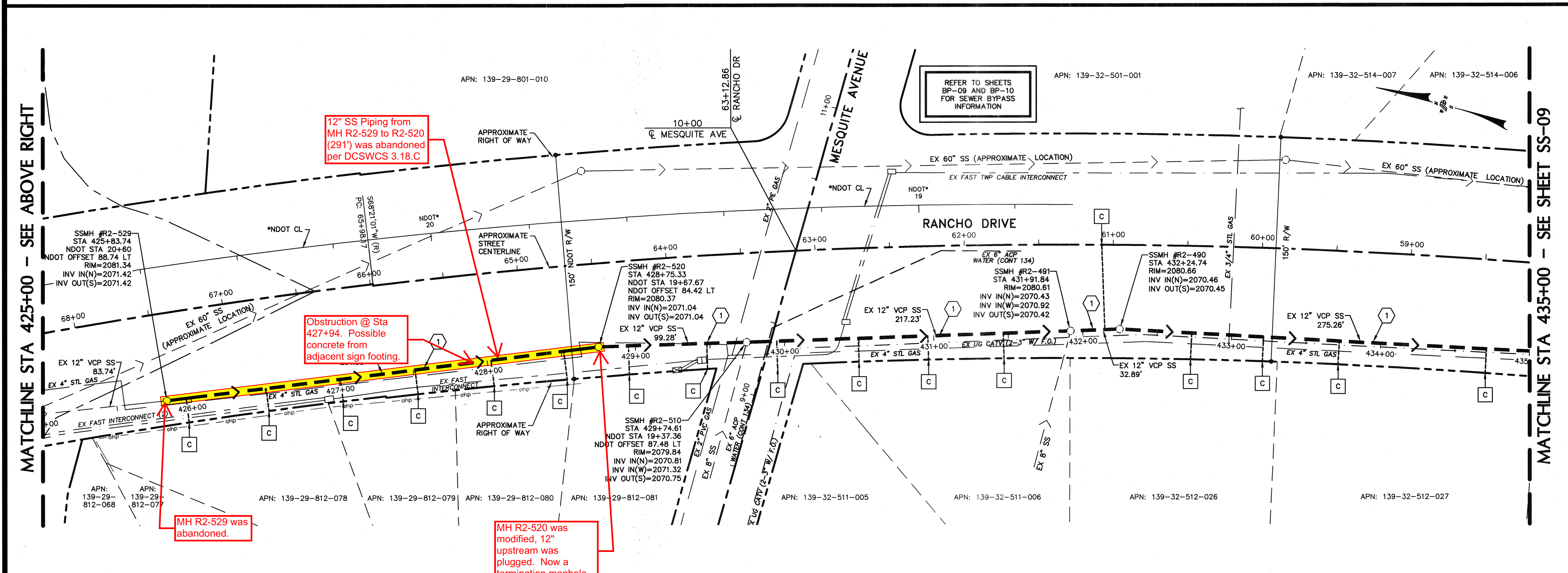
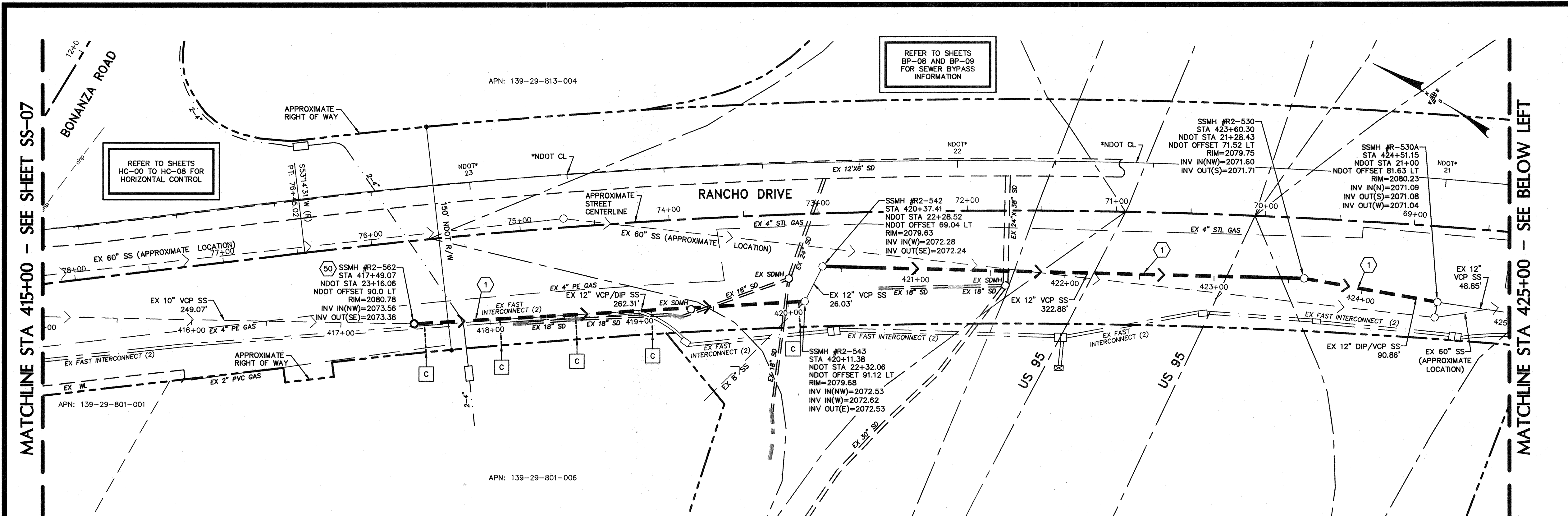
APPROVED FOR CONSTRUCTION
 LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
 DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS
 Signature: *Jan B...*

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
 333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 239-6276
 CITY ENGINEER: DAVID BOWERS, PE, PTOE
 PROGRAM MANAGER: JEREMY LEAVITT, PE
 DESIGNED BY: N. WILSON, PE
 CHECKED BY: J. CALHOUN, PE
 DATE: 4/03/2014

SEWER REHABILITATION GROUP E
RANCHO DRIVE
 STA 400+00.00 TO 415+00.00

SS-07
 23 of 43
 CLV DRAWING NO. 307V1080



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www.poggemeyer.com
PDS #LV-12068-C

- KEY MAP**
- SEWER LATERAL NOTES**
- A TAP FACTORY ACTIVE
 - C TAP FACTORY CAPPED
 - BA TAP BREAK-IN ACTIVE
 - BC TAP BREAK-IN CAPPED
 - BD TAP BREAK-IN DEFECTIVE
 - SC SADDLE CAPPED
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- 1 LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
 - 2 CURED-IN-PLACE SPOT REPAIR PER SPEC 690
- SEWER MANHOLE NOTES**
- 50 REHAB MANHOLE PER SPEC 691

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- EX COX UNDERGROUND
 - EX CENTURYLINK UNDERGROUND
 - EX FAST INFRASTRUCTURE
 - EX NVE UNDERGROUND
 - EX WATER LINES
 - EX OVERHEAD POWER
 - EX SWG GAS LINE
 - EXISTING STORM SEWER
 - EX SEWER LINES (NOT A PART)
 - EX SEWER LINES (TO BE REHABILITATED)
 - EX SEWER LATERALS
 - EX SEWER LATERALS (TOP CONNECTION)
 - EX SEWER MANHOLE (TO BE REHABILITATED)
 - EX SEWER MANHOLE (NOT A PART)

Call before you Dig
Call before you Dig
1-800-227-2829
1-800-227-2800
1-702-455-7511
1-702-455-7511
1-702-455-7511
1-702-455-7511

***NDOT CENTERLINE NOTE:**
THE CENTERLINE INFORMATION SHOWN ON THESE PLANS WAS PROVIDED BY NDOT AND IS FOR REFERENCE ONLY. THERE IS NO EXPRESSED OR IMPLIED GUARANTEE IT IS ACCURATE AND SHOULD NOT BE USED FOR CONSTRUCTION ACTIVITIES.

APPROVED FOR CONSTRUCTION
Jason M. Calhoun
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS
Signature *Jason M. Calhoun*

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

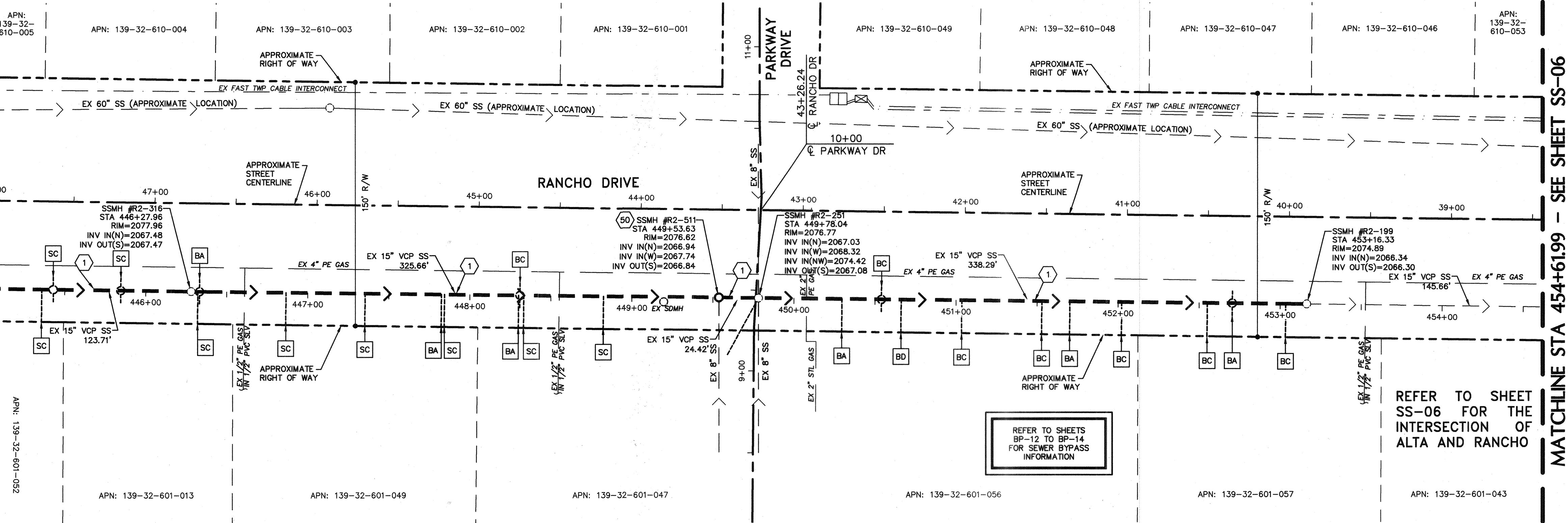
SEWER REHABILITATION GROUP E
RANCHO DRIVE
STA 415+00 TO 435+00

PROJECT TITLE: SHEET TITLE:
SHEET: **SS-08**
24 of 43
CLV DRAWING NO. 307V1080

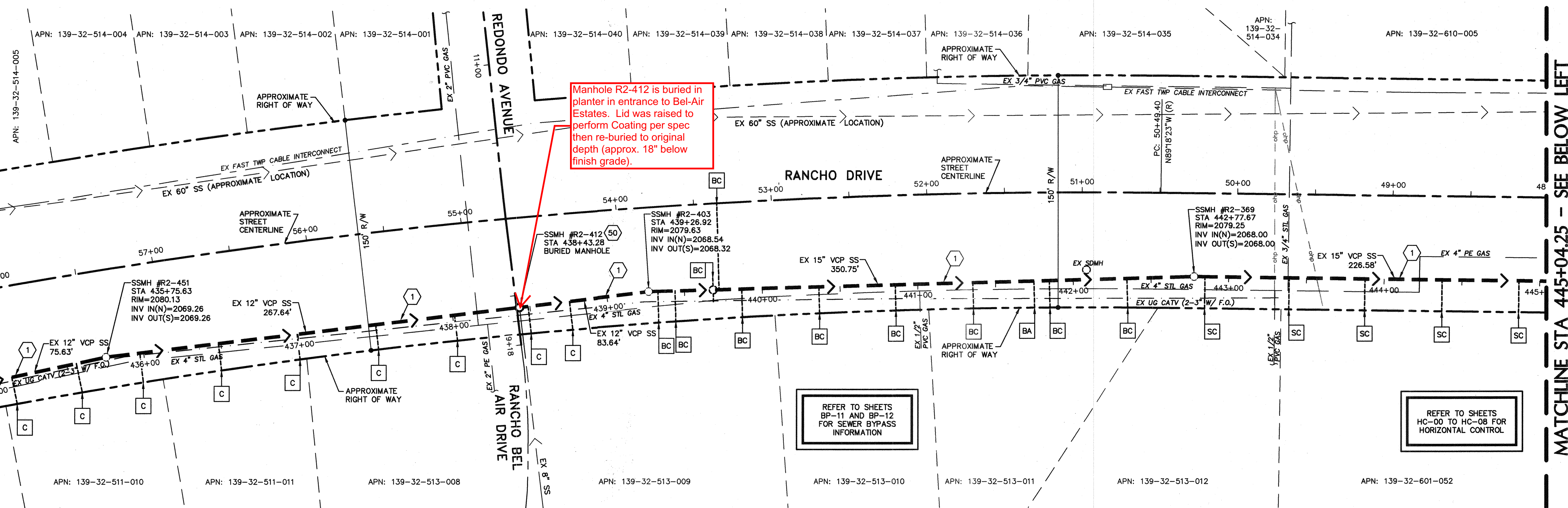
HANSEN NO. 46803

Call before you Dig
Call before you Overhead
1-702-455-7511
1-702-227-2929
1-800-227-2900
1-702-455-7511
1-702-227-2929
1-800-227-2900
1-702-455-7511
1-702-227-2929
1-800-227-2900

MATCHLINE STA 445+04.25 - SEE ABOVE RIGHT



MATCHLINE STA 435+00 - SEE SHEET SS-08



UTILITY SYMBOLS

---	EX COX UNDERGROUND
---	EX CENTURYLINK UNDERGROUND
---	EX FAST INFRASTRUCTURE
---	EX NVE UNDERGROUND
---	EX WATER LINES
---	EX OVERHEAD POWER
---	EX SWG GAS LINE
---	EXISTING STORM SEWER
---	EX SEWER LINES (NOT A PART)
---	EX SEWER LINES (TO BE REHABILITATED)
---	EX SEWER LATERALS
---	EX SEWER LATERALS (TOP CONNECTION)
---	EX SEWER MANHOLE (TO BE REHABILITATED)
---	EX SEWER MANHOLE (NOT A PART)

SEWER LATERAL NOTES

A	TAP FACTORY ACTIVE
C	TAP FACTORY CAPPED
BA	TAP BREAK-IN ACTIVE
BC	TAP BREAK-IN CAPPED
BD	TAP BREAK-IN DEFECTIVE
SC	SADDLE CAPPED

SEWER LINING NOTES

1	LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
2	CURED-IN-PLACE SPOT REPAIR PER SPEC 690

SEWER MANHOLE NOTES

50	REHAB MANHOLE PER SPEC 691
----	----------------------------

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F: 702.255.8375
www.poggemeyer.com
PDS #LV-12068-C

KEY MAP

APPROVED FOR CONSTRUCTION
J. D. SHAPIRO, P.E.
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS
Signature: J. B. B. B.

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: RANCHO DRIVE STA 435+00 TO 454+61.99

DESIGNED BY: J. B. B. B.
CHECKED BY: J. B. B. B.
DATE: 4/03/2014

SS-09
25 of 43
CLV DRAWING NO. 307V1080

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-8276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: J. B. B. B.
CHECKED BY: J. B. B. B.
DATE: 4/03/2014

MATCHLINE STA 457+82.02 - SEE SHEET SS-06

REFER TO SHEET
SS-06 FOR THE
INTERSECTION OF
ALTA AND RANCHO

APN: 139-32-710-000

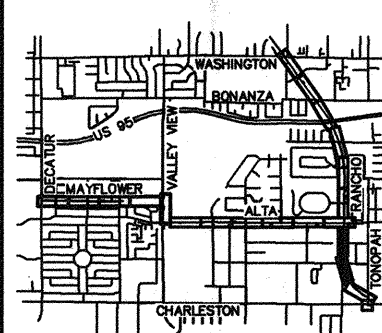
APN: 139-32-710-000

APN: 139-32-702-005

APN: 139-32-702-017

APN: 139-32-702-026

MATCHLINE STA 467+50 - SEE BELOW LEFT



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DESIGN GROUP

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P06 #V-12068-C

SEWER LATERAL NOTES

- A TAP FACTORY ACTIVE
- C TAP FACTORY CAPPED
- BA TAP BREAK-IN ACTIVE
- BC TAP BREAK-IN CAPPED
- BD TAP BREAK-IN DEFECTIVE
- SC SADDLE CAPPED

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SEWER MANHOLE NOTES

- 50 REHAB MANHOLE PER SPEC 691

UTILITY SYMBOLS

- EX COX UNDERGROUND
- EX CENTURYLINK UNDERGROUND
- EX FAST INFRASTRUCTURE
- EX NVE UNDERGROUND
- EX WATER LINES
- EX OVERHEAD POWER
- EX SWG GAS LINE
- EXISTING STORM SEWER
- EX SEWER LINES (NOT A PART)
- EX SEWER LINES (TO BE REHABILITATED)
- EX SEWER LATERALS
- EX SEWER LATERALS (TOP CONNECTION)
- EX SEWER MANHOLE (TO BE REHABILITATED)
- EX SEWER MANHOLE (NOT A PART)

MATCHLINE STA 467+50 - SEE ABOVE RIGHT

MATCHLINE STA 476+50 - SEE SHEET SS-11

APN: 139-32-710-000

APN: 139-32-897-002

APN: 139-32-804-001

APN: 139-32-702-026

APN: 139-32-802-008

APN: 139-32-802-012



APPROVED FOR CONSTRUCTION

J. DISHARER, P.E., D. MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

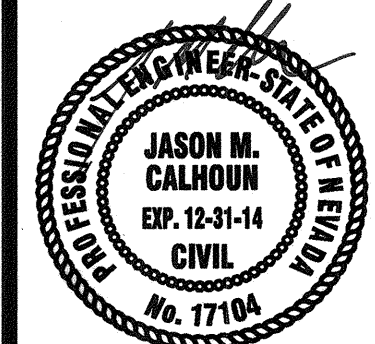
AS-BUILT DRAWINGS

Signature: *Jason M. Calhoun*

NO.	DATE	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-8276
CITY ENGINEER: DAVID BOWERS, PE, PTCE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

SEWER REHABILITATION
GROUP E
RANCHO DRIVE
STA 457+82.02 TO 476+50



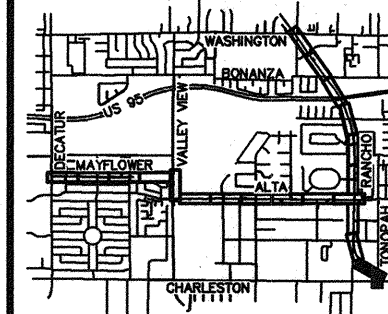
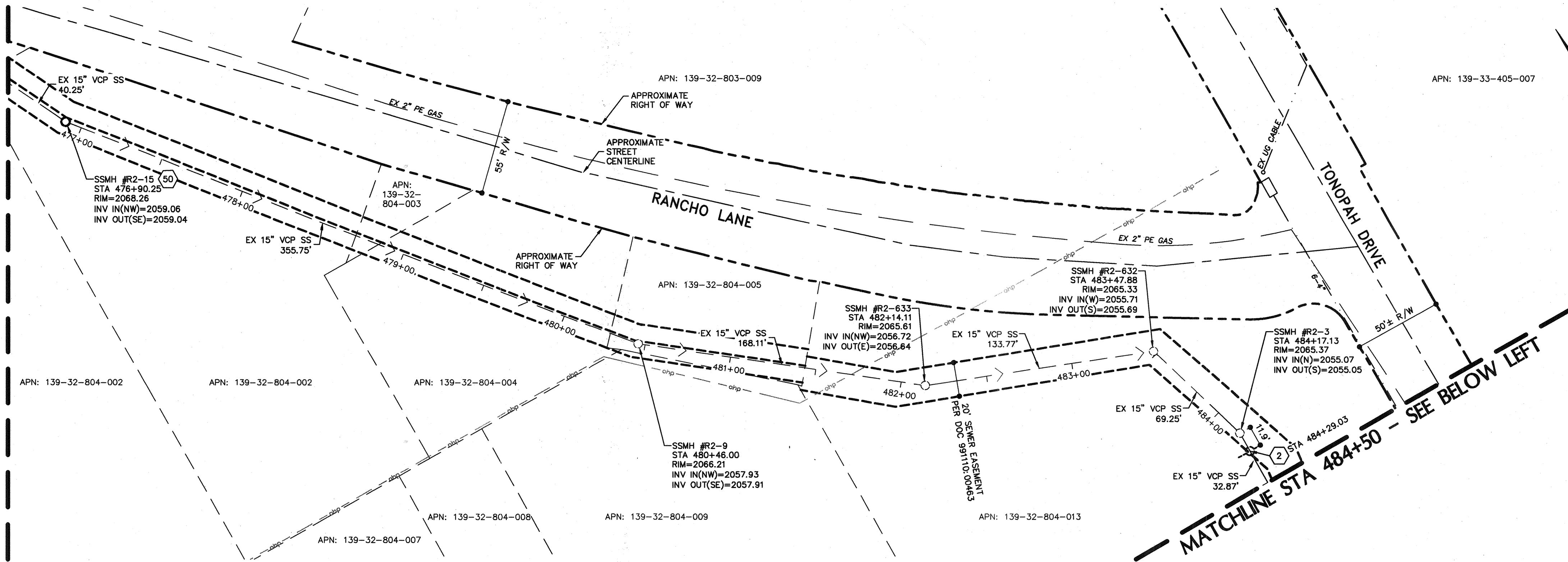
SHEET
SS-10
26 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

G:\V0068 CLV Sanitary Sewer Rehab\Drawings\SS-11.DWG, Apr. 03, 2014 - 9:30am



MATCHLINE STA 476+50 - SEE SHEET SS-10



**POGGE MEYER
DESIGN GROUP**

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Las Vegas, Nevada 89128

P) 702.255.8100
F) 702.255.8375

www.poggemeyer.com

FIG #LV-12068-C

KEY MAP

SEWER LATERAL NOTES

- A TAP FACTORY ACTIVE
- C TAP FACTORY CAPPED
- BA TAP BREAK-IN ACTIVE
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- SC SADDLE CAPPED

SEWER LINING NOTES

- 1 LINE EXISTING SANITARY SEWER WITH CURED-IN-PLACE LINER PER SPEC 690
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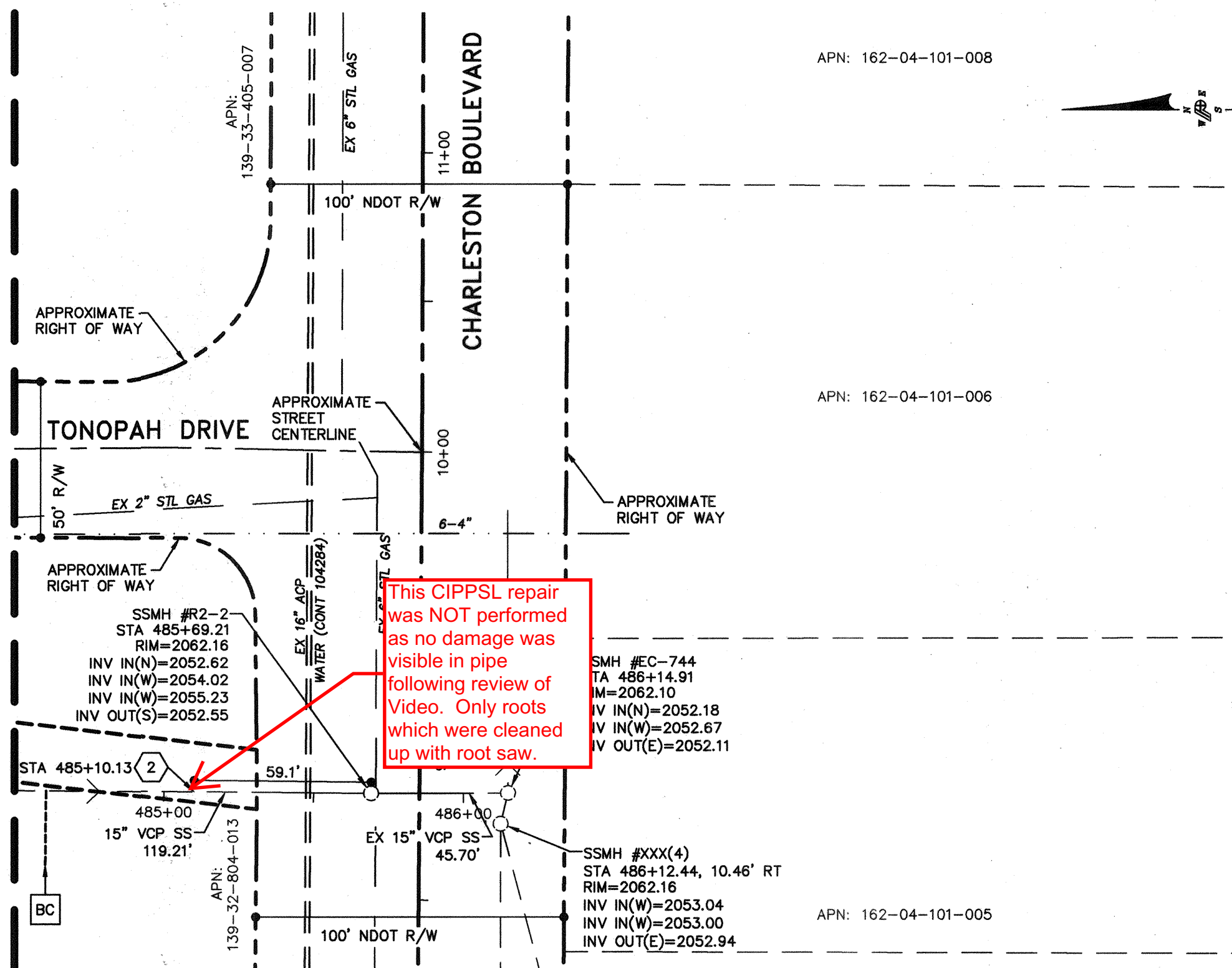
SEWER MANHOLE NOTES

- 50 REHAB MANHOLE PER SPEC 691

UTILITY SYMBOLS

- EX COX UNDERGROUND
- EX CENTURYLINK UNDERGROUND
- EX FAST INFRASTRUCTURE
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- EX SEWER LATERALS (TOP CONNECTION)
- EX SEWER MANHOLE (TO BE REHABILITATED)
- EX SEWER MANHOLE (NOT A PART)

MATCHLINE STA 484+50 - SEE ABOVE RIGHT



This CIPP/SL repair was NOT performed as no damage was visible in pipe following review of Video. Only roots which were cleaned up with root saw.

APPROVED FOR CONSTRUCTION

DISHAKIR DOAMEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jan B...*

REVISIONS	NO.	DATE	DESCRIPTION	APP'D

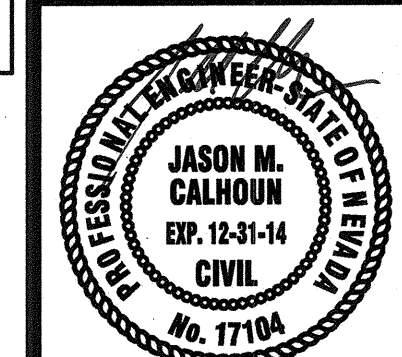
**DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT**

333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276

CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

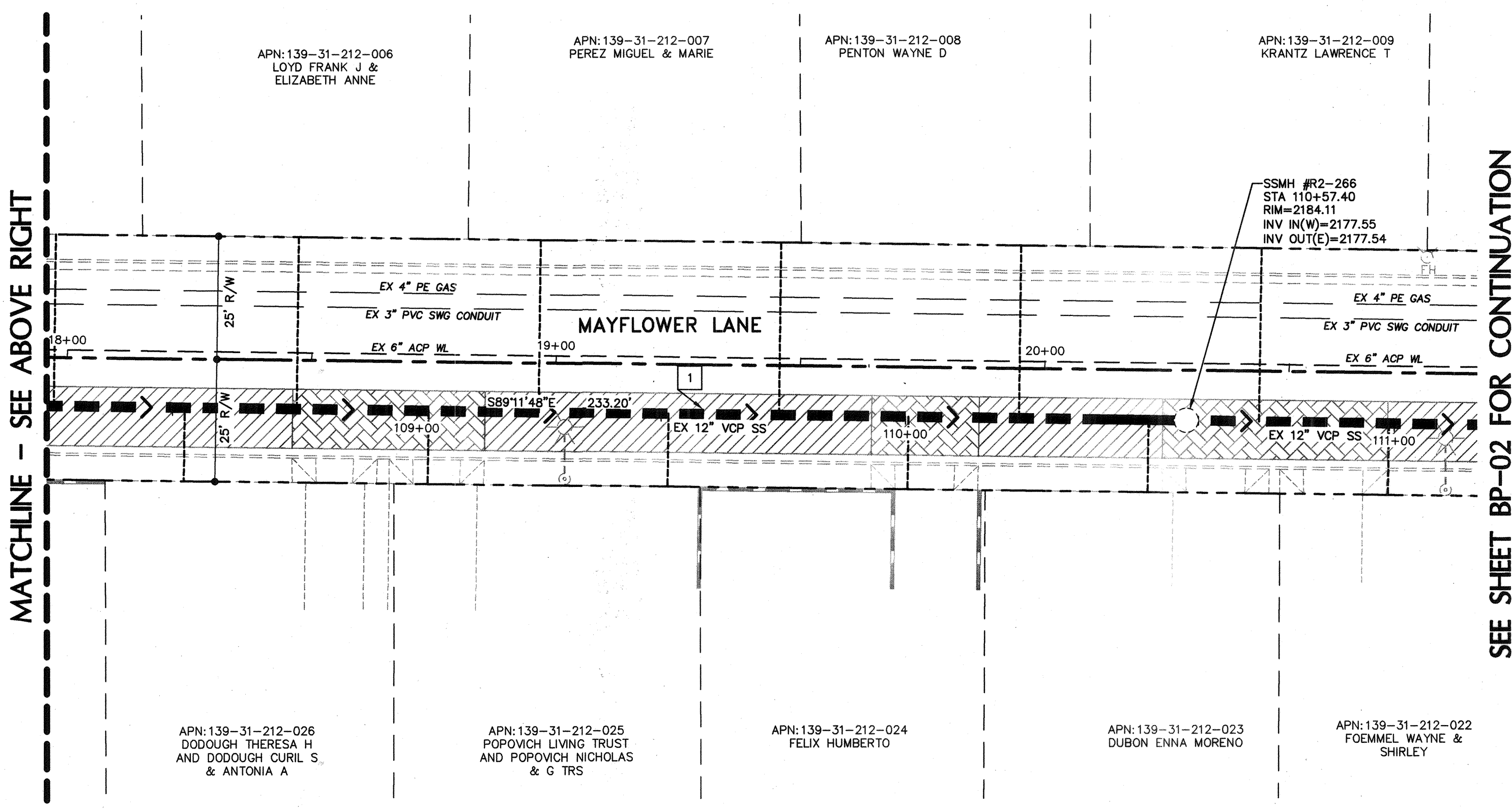
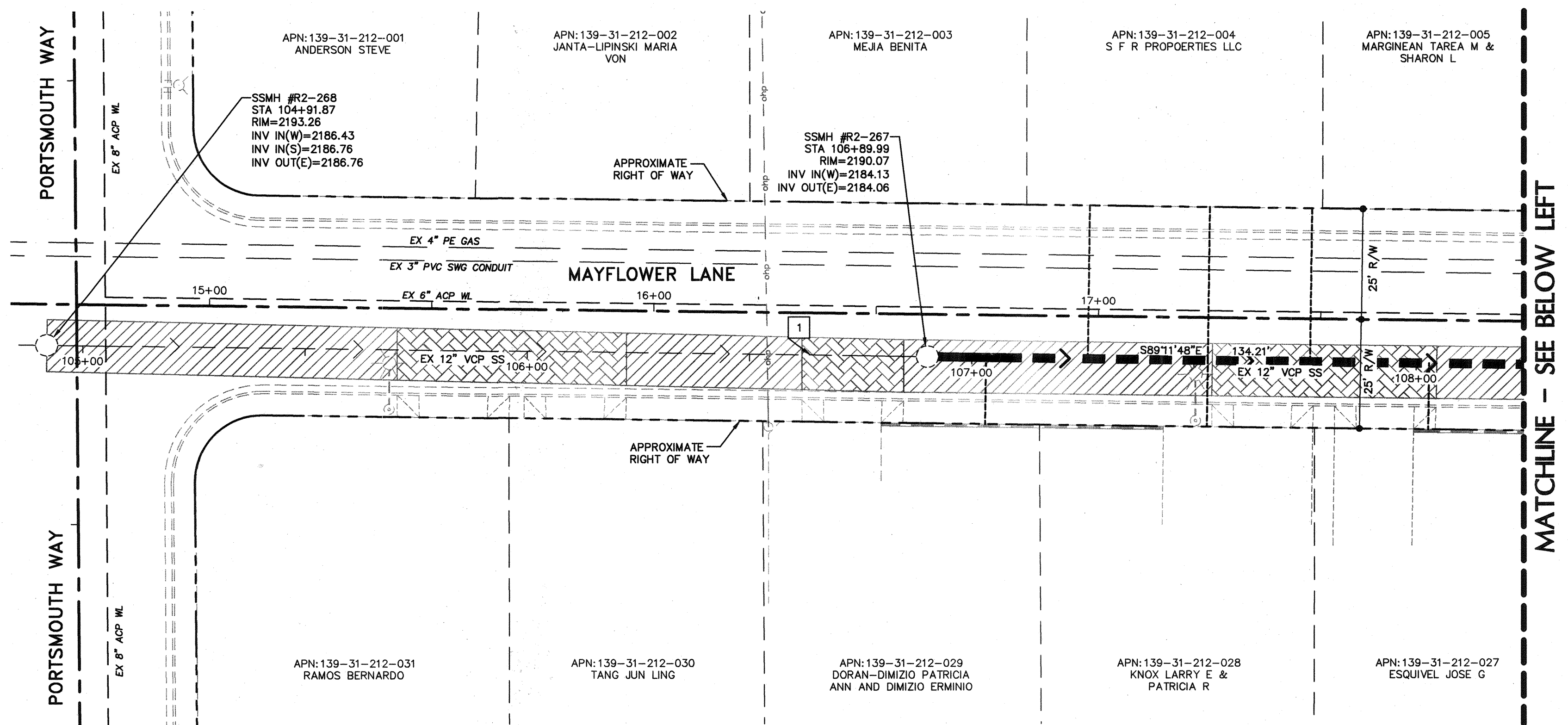
**SEWER REHABILITATION
GROUP E**

**RANCHO DRIVE
STA 476+50 TO 486+14.91**



SHEET
SS-11
27 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803



MAYFLOWER LANE - SSMH #R2-267 TO SSMH #R2-266

UTILITY SYMBOLS

EX COX UNDERGROUND	EX WATER LINES	EX SEWER LINES (NOT A PART)	EX SEWER MANHOLE (NOT A PART)
EX CENTURYLINK UNDERGROUND	EX OVERHEAD POWER	EX SEWER LINES (TO BE REHABILITATED)	EX SEWER MANHOLE (TO BE REHABILITATED)
EX FAST INFRASTRUCTURE	EX SWG GAS LINE	EX SEWER LATERALS (TO BE REHABILITATED)	EX SEWER LATERALS (TOP CONNECTION)
EX NVE UNDERGROUND	EXISTING STORM SEWER		

BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
1	15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
3	12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
4	12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
5	12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
6	12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
7	15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
8	15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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.
- 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.
- 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. REFER TO "ESTIMATED FLOWS" TABLE FOR FLOW VALUES AT POINTS SHOWN ON THESE PLANS.
- ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 & 696 OF THE SPECIAL PROVISIONS.
- 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).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
- THE CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TEMPORARY BYPASS PLAN.
- THE CONTRACTOR'S TEMPORARY BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TRAFFIC CONTROL PLAN 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 D-02. 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 BYPASSING OF SEWAGE.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJACENT 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.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS. THE CONTRACTOR IS TO REPLACE ALL REMOVED TRAFFIC PAVEMENT STRIPING AND MARKINGS.
- 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 AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK.
- BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING OUT AND COVER METHODS AS SHOWN ON SHEET D-02. THE CONTRACTOR IS TO PROTECT IN PLACE ALL EXISTING STREET LIGHTS AND TRAFFIC CONDUITS/WIRES.

LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
PRIOR TO THE 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 SEPARATION MITIGATION.

APPROVED FOR CONSTRUCTION
Jason M. Calhoun
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS
Signature *Jason M. Calhoun*

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PDC #LV-12068-C

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-8276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: N. WILSON, PE
DRAWN BY: J. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: MAYFLOWER LANE FLOW BYPASS DETAIL

APPROVED FOR CONSTRUCTION
JASON M. CALHOUN
EXP. 12-31-14
CIVIL
No. 17104
April 7, 2014

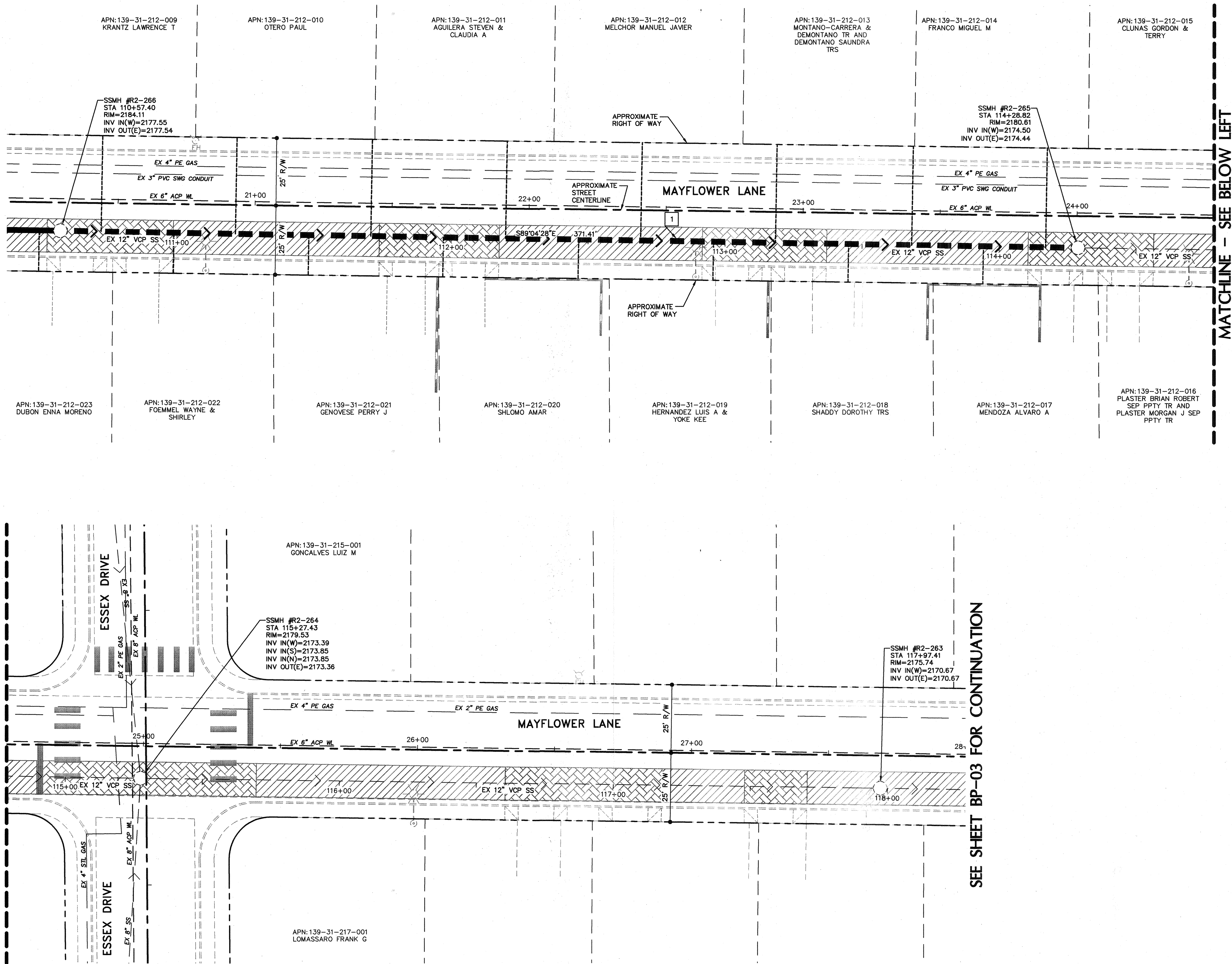
SHEET
BP-01
28 of 43
CLV DRAWING NO. 307V1080

Call before you Dig
Call before you Overhead
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1-702-227-2929
1-800-227-2600
1-702-455-7544

SEE SHEET BP-01 FOR CONTINUATION

MATCHLINE - SEE ABOVE RIGHT

SEE SHEET BP-03 FOR CONTINUATION



BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
1	15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
3	12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
4	12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
5	12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
6	12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
7	15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
8	15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) FOR THE BYPASS OPERATION (SEE SPECIAL PROVISIONS SECTION 665). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
- 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. REFER TO "ESTIMATED FLOWS" TABLE FOR FLOW VALUES AT POINTS SHOWN ON THESE PLANS.
- ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 & 696 OF THE SPECIAL PROVISIONS.
- 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).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
- THE CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TEMPORARY BYPASS PLAN.
- THE CONTRACTOR'S TEMPORARY BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TRAFFIC CONTROL PLAN 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 D-02. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SHOWING ALTERNATE DETAILS THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR BYPASSING OF SEWAGE.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
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- BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET D-02. THE CONTRACTOR IS TO PROTECT IN PLACE ALL EXISTING STREET LIGHTS AND TRAFFIC CONDUITS/WIRES.

LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
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APPROVED FOR CONSTRUCTION

1. DISHABAR DOA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE _____ PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jim B. W.*



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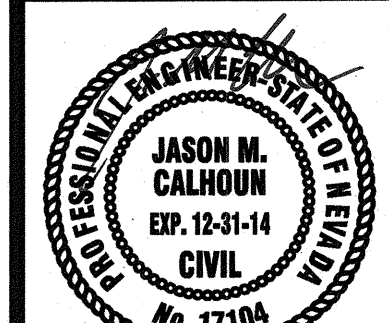
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89108 • (702) 229-8276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE

DESIGNED BY: N. WILSON, PE
DRAWN BY: J. CALHOUN, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION
GROUP E

SHEET TITLE: MAYFLOWER LANE
FLOW BYPASS DETAIL



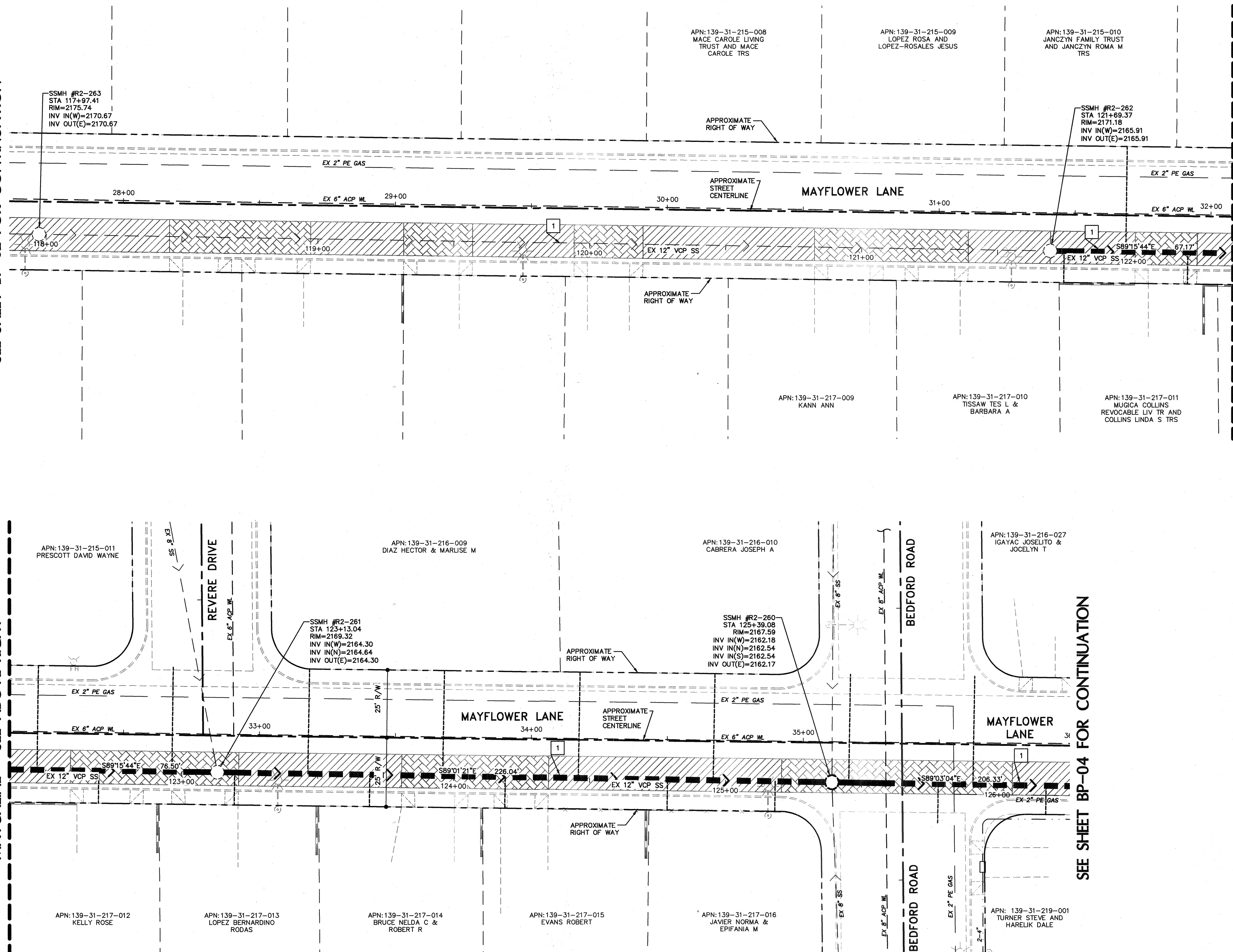
SHEET
BP-02
29 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

SEE SHEET BP-02 FOR CONTINUATION

MATCHLINE - SEE ABOVE RIGHT

MATCHLINE - SEE BELOW LEFT



BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

PIPE SIZE	AVERAGE FLOW	DESCRIPTION
15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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.
- 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.
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- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
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LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
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APPROVED FOR CONSTRUCTION

DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature Jason M. Calhoun



POGEMEYER DESIGN GROUP

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Las Vegas, Nevada 89128
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F) 702.255.8375
www.poggemeyer.com

P30 #V-12068-C

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

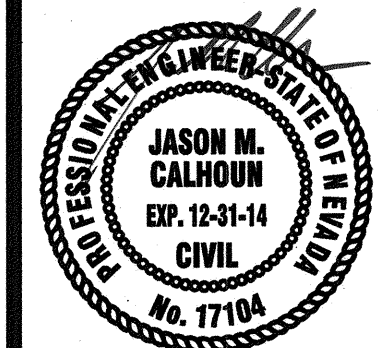
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

SEWER REHABILITATION
GROUP E

MAYFLOWER LANE
FLOW BYPASS DETAIL

PROJECT TITLE:

SHEET TITLE:



SHEET
BP-03
30 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

Call before you Dig
1-800-455-7811
1-702-455-7811
1-702-455-7811
1-702-455-7811

Call before you Overhead
1-800-227-2828
1-702-227-2828
1-702-227-2828
1-702-227-2828

Call before you Dig
1-800-227-2828
1-702-227-2828
1-702-227-2828
1-702-227-2828

UTILITY SYMBOLS

EX COX UNDERGROUND	EX WATER LINES	EX SEWER LINES (NOT A PART)	EX SEWER MANHOLE (NOT A PART)
EX CENTURYLINK UNDERGROUND	EX OVERHEAD POWER	EX SEWER LINES (TO BE REHABILITATED)	EX SEWER MANHOLE (TO BE REHABILITATED)
EX FAST INFRASTRUCTURE	EX SWG GAS LINE	EX SEWER LATERALS	EX SEWER LATERALS (TOP CONNECTION)
EX NVE UNDERGROUND	EXISTING STORM SEWER		



BYPASS FLOW DESIGNATION - REFER TO
ESTIMATED FLOWS TABLE THIS SHEET



PDG #LV-12068-C

ESTIMATED SS FLOW

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

_CONSTRUCTION BYPASS NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING OF THE PIPE DURING REHABILITATION. THIS INCLUDES ALL PUMPING EQUIPMENT, PIPING AND FITTINGS, POWER, COLLECTION AND DISTRIBUTION ELEMENTS TO MAINTAIN THE BYPASSING OF THE EXISTING SEWAGE FROM INTAKE TO DISCHARGE POINT.
2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TEMPORARY BYPASS PLAN (TBP) BYPASS OPERATION AT EACH LOCATION PRIOR TO BEGINNING SECTION 660). THE CONTRACTOR MUST HAVE AN APPROVED TBP PRIOR TO ANY PIPE LINING.
3. THE CONTRACTOR SHALL BYPASS ALL MANLINE AND LATERAL FLOWS. QUANTITY OF SEWAGE TO BE BYPASSED FROM POINT X POINT SHALL BE THE SUM OF ALL THE FLOWS ENTERING THE PIPELINE BEFORE POINT OF DISCHARGE. REFER TO "ESTIMATED FLOWS" TABLE FOR FLOW VALUES AT POINTS SHOWN ON THESE PLANS.
4. OODR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 & 696 OF THE SPECIAL PROVISIONS.
5. 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).
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
7. THE CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS, DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TEMPORARY BYPASS PLAN.
8. THE CONTRACTOR'S TEMPORARY BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TRAFFIC CONTROL PLAN ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED LIMITS TO 15 MPH 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 D-02. THE CONTRACTOR MAY REQUEST A VARIANCE TO THESE DETAILS BY SUBMITTING AN ALTERATION THAT WILL ACHIEVE THE REQUIRED SPEED LIMITS, PROVIDE SAFETY TO VEHICLES AND PEDESTRIANS, AND ACHIEVE THE DESIRED RESULTS FOR BYPASSING OF SEWAGE.
9. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
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SHOP DRAWING SUBMITTAL INDICATING THE MEANS AND METHOD MUST BE SUBMITTED
TO AND APPROVED BY LVVWD FOR SEWER-WATER SEPARATION MITIGATION.

APPROVED FOR CONSTRUCTION

4. DISHARI FOR DOA MEAD
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature _____

As Bm

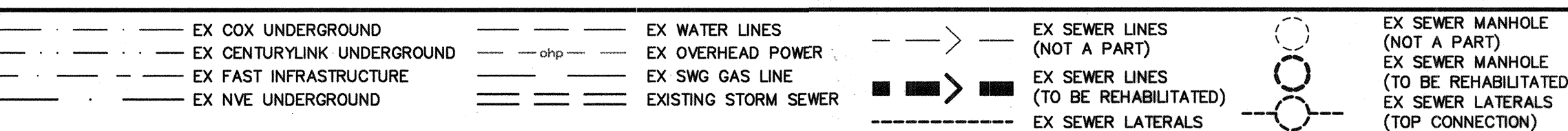
SHEET _____

BP-05
32 of 43
CLV DRAWING NO.
307V1080

HANSEN NO. 46803

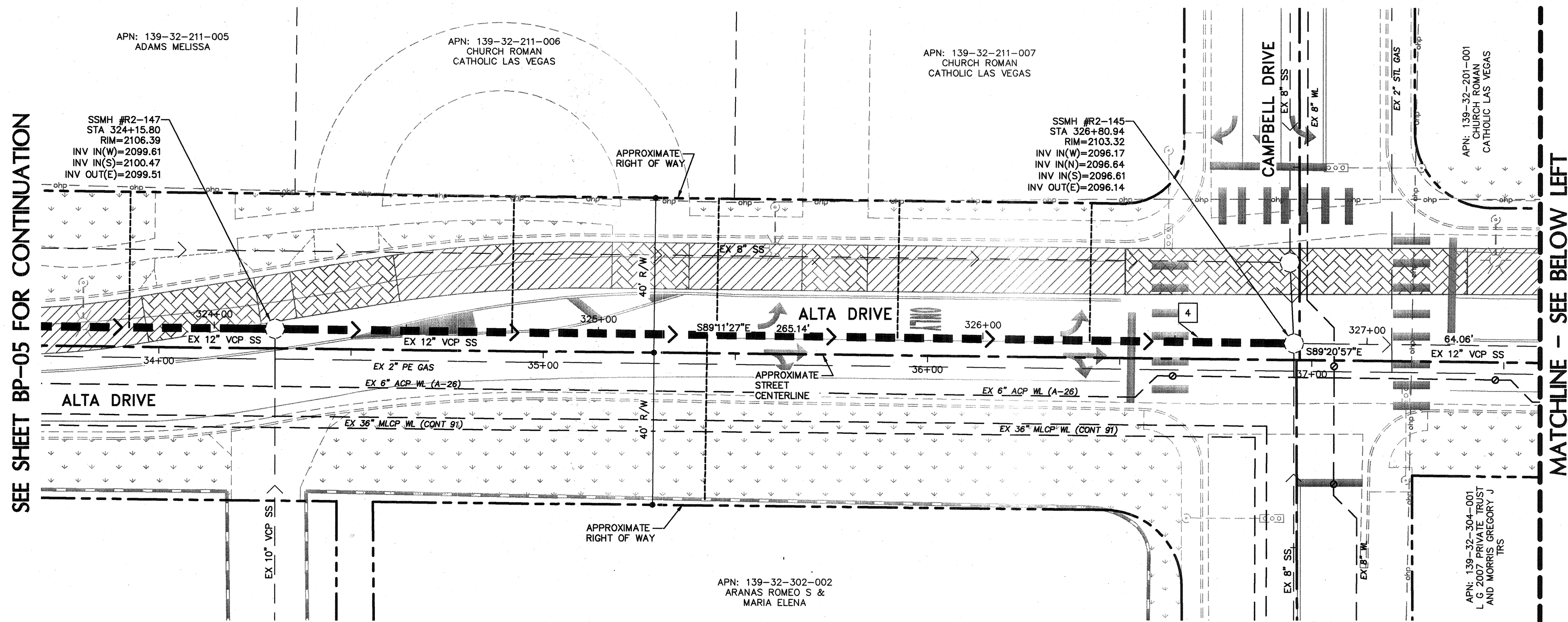


UTILITY SYMBOLS



AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM COMPANIES IT'S COSTLY Call before you Underground 1-702-455-7511 CLARK COUNTY CLERK OF COURTS 1-702-432-5300 FREEMAN AND ARMAHA, SYSTEMS	AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY Call before you Overhead 1-702-227-2929 NEVADA POWER & LIGHT SERVICE SAFETY DEPARTMENT	Call before you Dig and call underground utility lines. It's costly. Call 811 OR 1-800-227-2600 CLARK COUNTY CLERK OF COURTS 1-702-456-7544
--	--	---

\\12068 CLV Sanitary Sewer Rehab\Civil\03_BP05-BP06.DWG Apr 03 2014 -- 9:40am



BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

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	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
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2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
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FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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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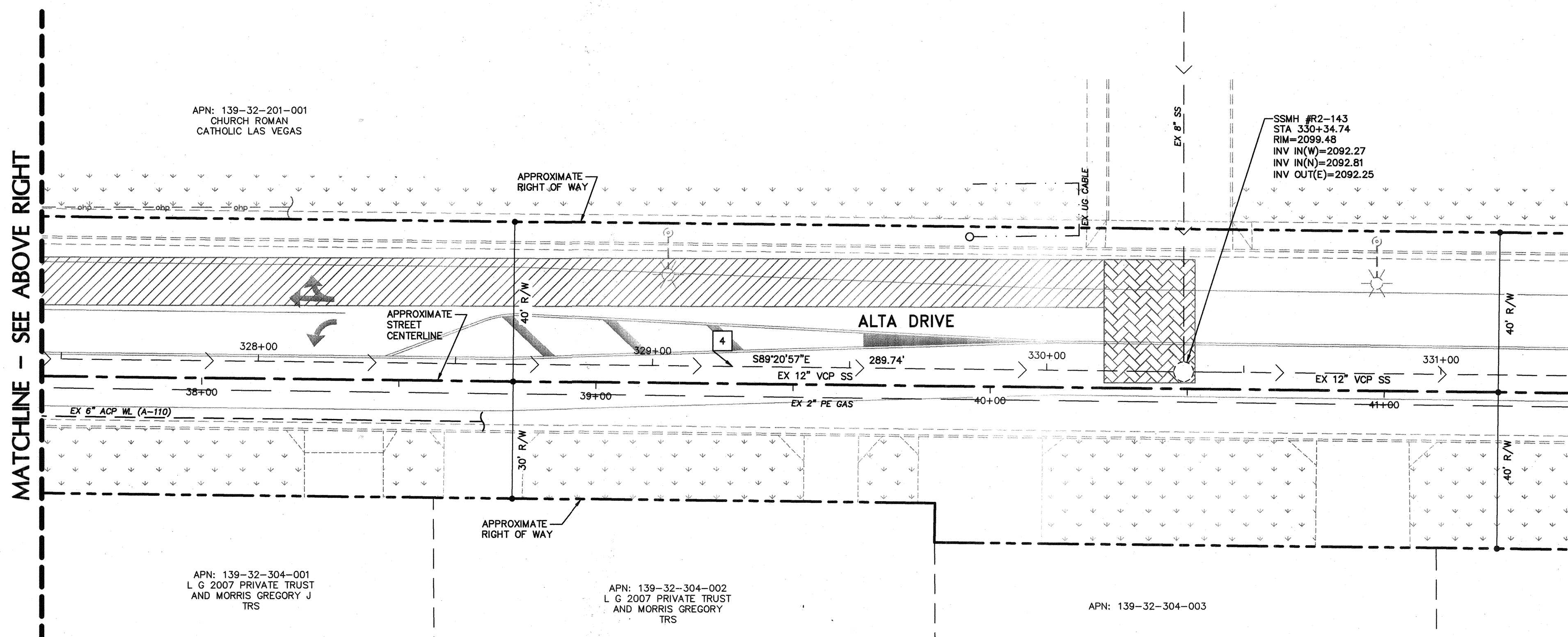
LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
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APPROVED FOR CONSTRUCTION

DISAPHER DOAMEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jan B...*

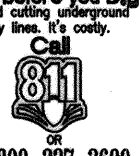


ALTA DRIVE - SSMH #R2-147 TO SSMH #R2-145

UTILITY SYMBOLS

- | | | | |
|----------------------------|----------------------|--------------------------------------|--|
| EX COX UNDERGROUND | EX WATER LINES | EX SEWER LINES (NOT A PART) | EX SEWER MANHOLE (NOT A PART) |
| EX CENTURYLINK UNDERGROUND | EX OVERHEAD POWER | EX SEWER LINES (TO BE REHABILITATED) | EX SEWER MANHOLE (TO BE REHABILITATED) |
| EX FAST INFRASTRUCTURE | EX SWG GAS LINE | EX SEWER LATERALS | EX SEWER LATERALS (TOP CONNECTION) |
| EX NVE UNDERGROUND | EXISTING STORM SEWER | | |

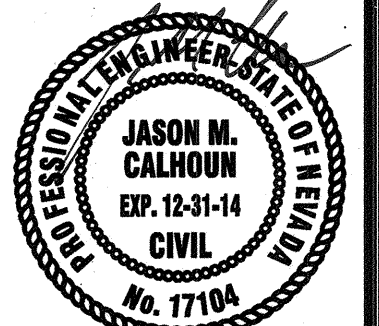
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1-702-455-7511
1-702-455-7511
1-702-455-7511
1-702-455-7511



DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

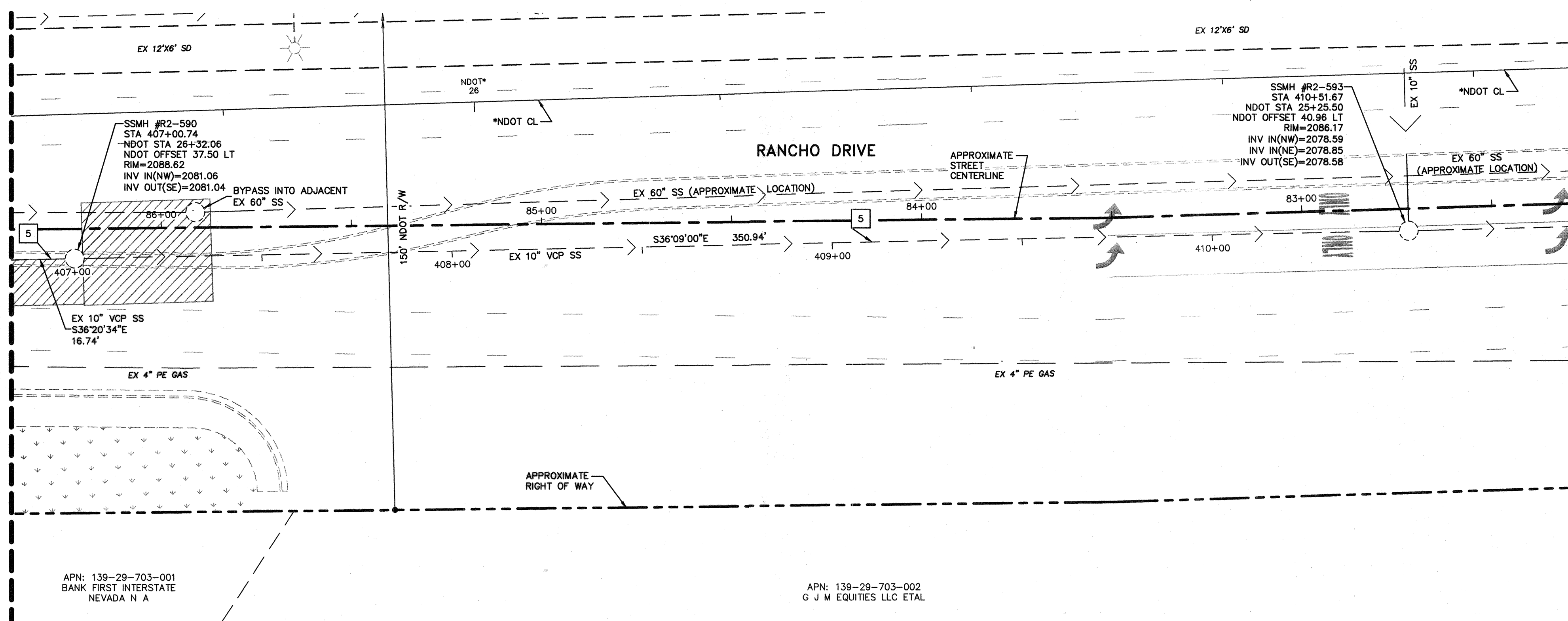
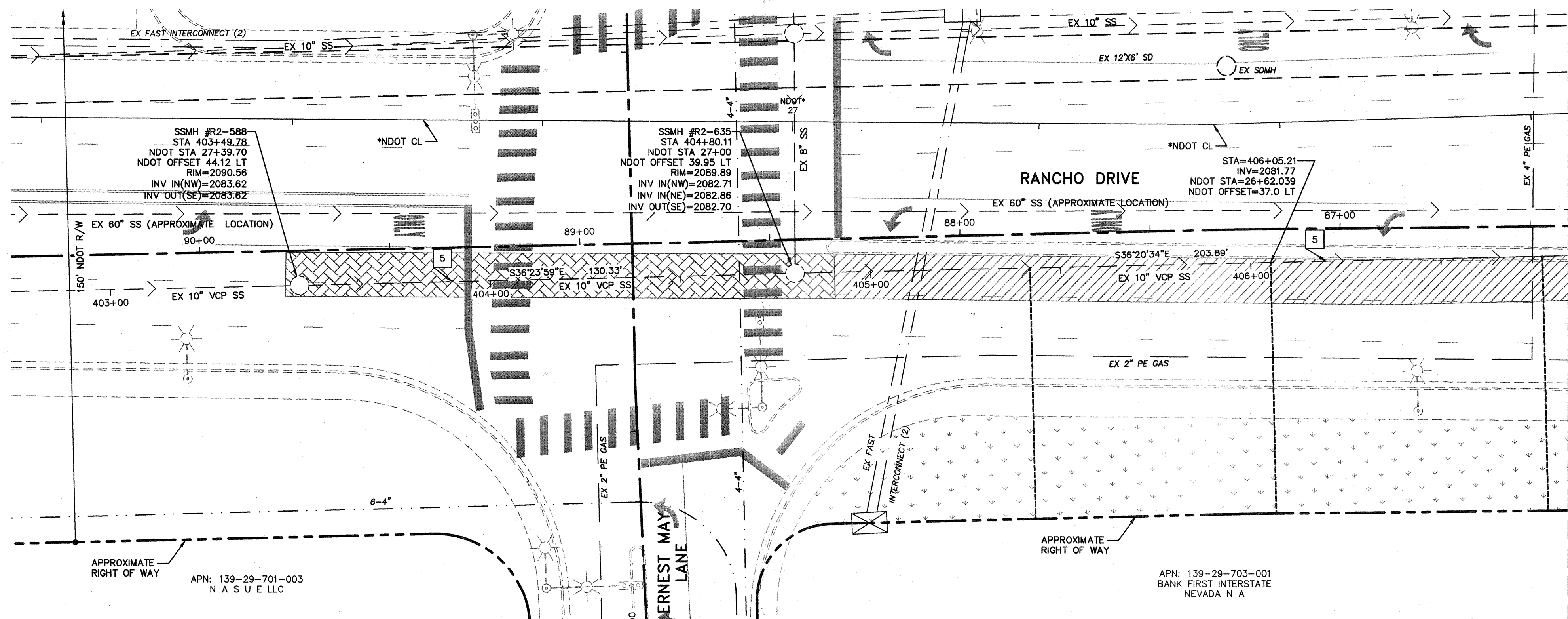
SEWER REHABILITATION
GROUP E

ALTA DRIVE
FLOW BYPASS DETAIL



SHEET
BP-06
33 of 43
CLV DRAWING NO. 307V1080

HANSEN NO. 46803



RANCHO DRIVE - SSMH #R2-635 TO SSMH #R2-590

BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
1	15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
3	12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
4	12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
5	12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
6	12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
7	15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
8	15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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.
- 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.
- 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. REFER TO "ESTIMATED FLOWS" TABLE FOR FLOW VALUES AT POINTS SHOWN ON THESE PLANS.
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APPROVED FOR CONSTRUCTION

Jason M. Calhoun
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jason M. Calhoun*



**POGGE MEYER
DESIGN GROUP**

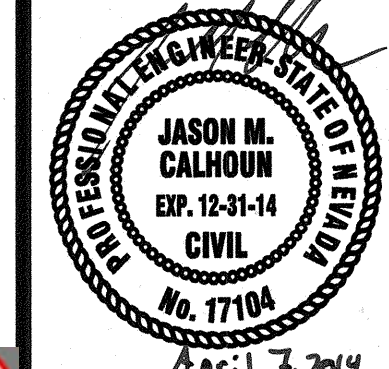
6960 Smoke Ranch Suite 110
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PDG #LV-12068-C

NO.	DATE	DESCRIPTION	APP'D

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89105 • (702) 228-6276
CITY ENGINEER: DAVID BOWERS, PE, PDE
PROGRAM MANAGER: JEREMY LEVITT, PE
DESIGNED BY: WILSON, PE
DRAWN BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

**SEWER REHABILITATION
GROUP E**
**RANCHO DRIVE
FLOW BYPASS DETAIL**



SHEET
BP-07
34 of 43
CLV DRAWING NO.
307V1080

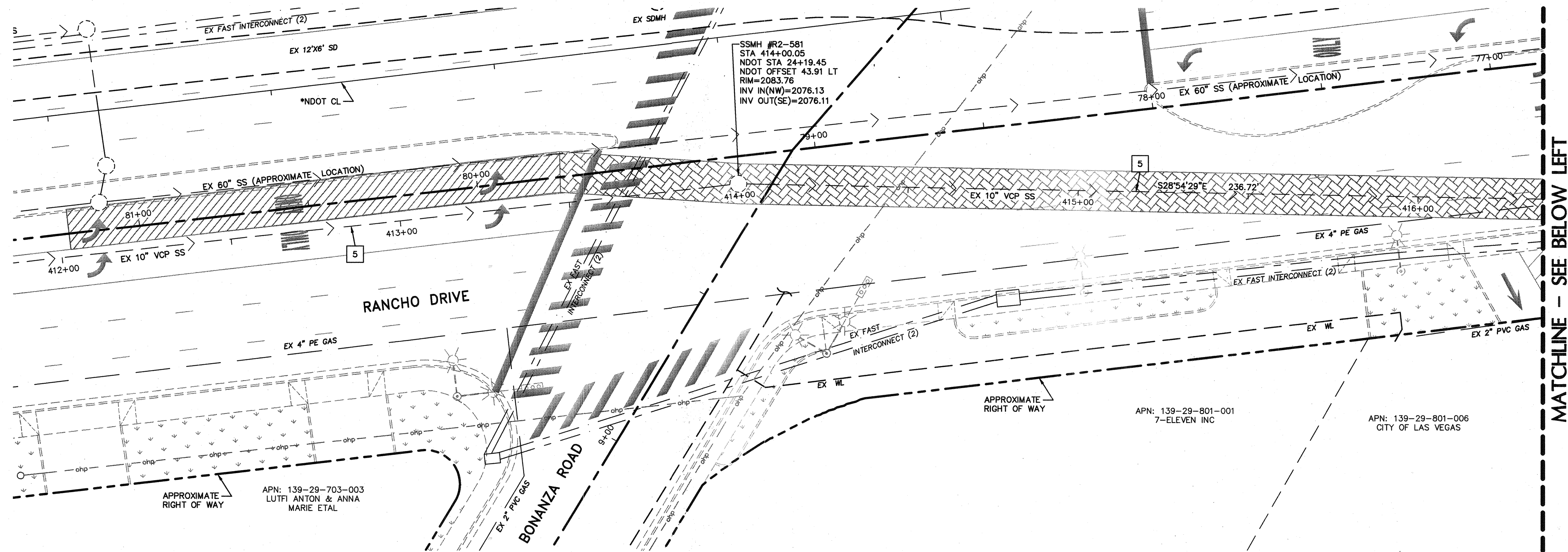
HANSEN NO. 46803

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1-702-227-2920
1-800-227-2600
NEVADA POWER DEPARTMENT AND
UTILITY SERVICES DEPARTMENT
1-702-455-7544

UTILITY SYMBOLS

EX COX UNDERGROUND	EX WATER LINES	EX SEWER LINES (NOT A PART)	EX SEWER MANHOLE (NOT A PART)
EX CENTURYLINK UNDERGROUND	EX OVERHEAD POWER	EX SEWER LINES (TO BE REHABILITATED)	EX SEWER MANHOLE (TO BE REHABILITATED)
EX FAST INFRASTRUCTURE	EX SWG GAS LINE	EX SEWER LATERALS	EX SEWER LATERALS (TOP CONNECTION)
EX NVE UNDERGROUND	EXISTING STORM SEWER		

***NDOT CENTERLINE NOTE:**
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BYPASS LEGEND

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ESTIMATED SS FLOW

PIPE SIZE	AVERAGE FLOW	DESCRIPTION
15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
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12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

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APPROVED FOR CONSTRUCTION

M. Disha B. BRIDGEMAN
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jan B. Wilson*



**POGGEMEYER
DESIGN GROUP**

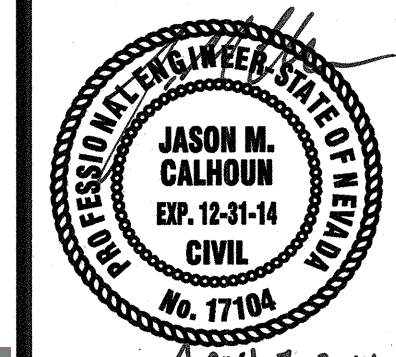
6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128
p) 702.255.8100
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DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89108 • (702) 229-8278
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
DRAWN BY: J. CALHOUN, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

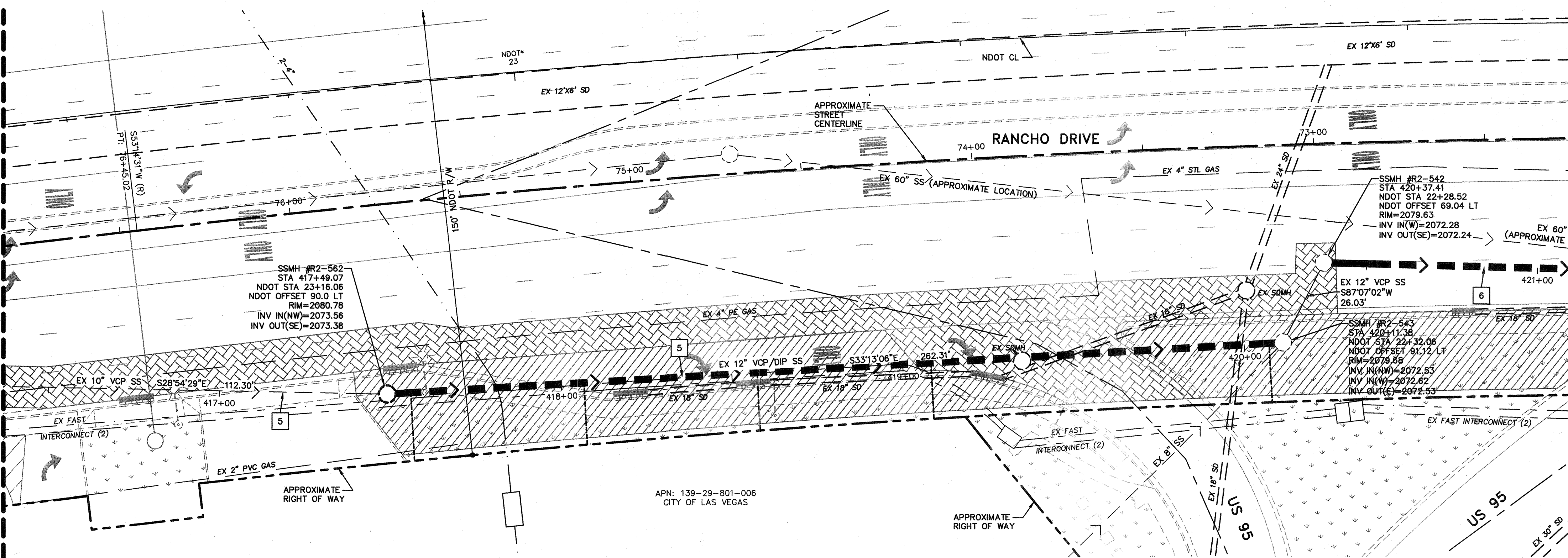
PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: RANCHO DRIVE
FLOW BYPASS DETAIL



SHEET
BP-08
35 of 43
CLV DRAWING NO.
307V1080

MATCHLINE - SEE ABOVE RIGHT



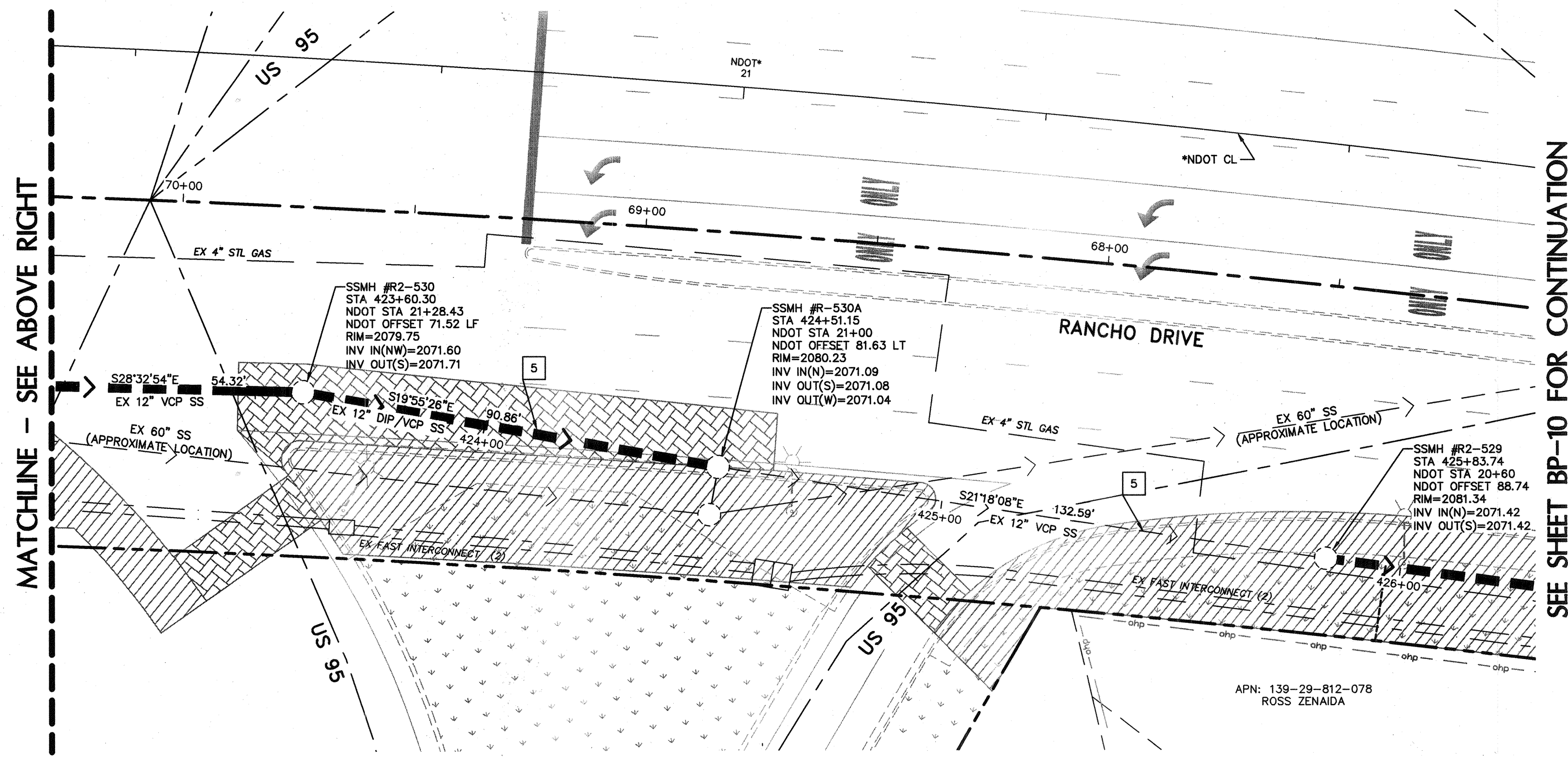
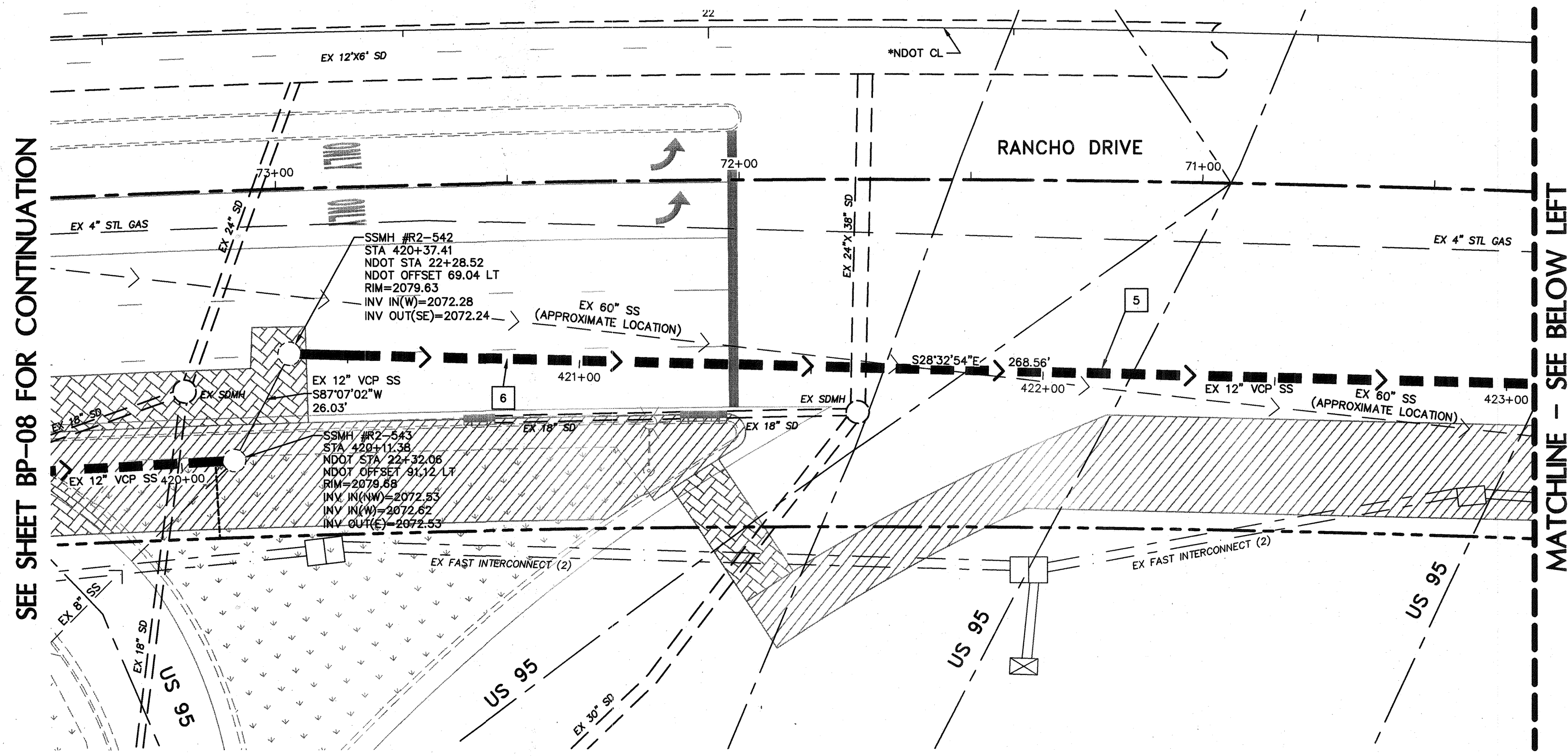
RANCHO DRIVE - SSMH #R2-562 TO SSMH #R2-543

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1-800-422-2820
1-800-422-2820
1-800-422-2820

UTILITY SYMBOLS

- | | | | |
|----------------------------|----------------------|--------------------------------------|--|
| EX COX UNDERGROUND | EX WATER LINES | EX SEWER LINES (NOT A PART) | EX SEWER MANHOLE (NOT A PART) |
| EX CENTURYLINK UNDERGROUND | EX OVERHEAD POWER | EX SEWER LINES (TO BE REHABILITATED) | EX SEWER MANHOLE (TO BE REHABILITATED) |
| EX FAST INFRASTRUCTURE | EX SWG GAS LINE | EX SEWER LATERALS | EX SEWER LATERALS (TOP CONNECTION) |
| EX NVE UNDERGROUND | EXISTING STORM SEWER | | |

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RANCHO DRIVE - SSMH #R2-542 TO SSMH #R2-530A

UTILITY SYMBOLS			
EX COX UNDERGROUND	EX WATER LINES	EX SEWER LINES (NOT A PART)	EX SEWER MANHOLE (NOT A PART)
EX CENTURYLINK UNDERGROUND	EX OVERHEAD POWER	EX SEWER LINES (TO BE REHABILITATED)	EX SEWER MANHOLE (TO BE REHABILITATED)
EX FAST INFRASTRUCTURE	EX SWG GAS LINE	EX SEWER LATERALS	EX SEWER LATERALS (TOP CONNECTION)
EX NVE UNDERGROUND	EXISTING STORM SEWER		

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APPROVED FOR CONSTRUCTION
Jason M. Calhoun
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
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ESTIMATED SS FLOW

PIPE SIZE	AVERAGE FLOW	DESCRIPTION
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FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

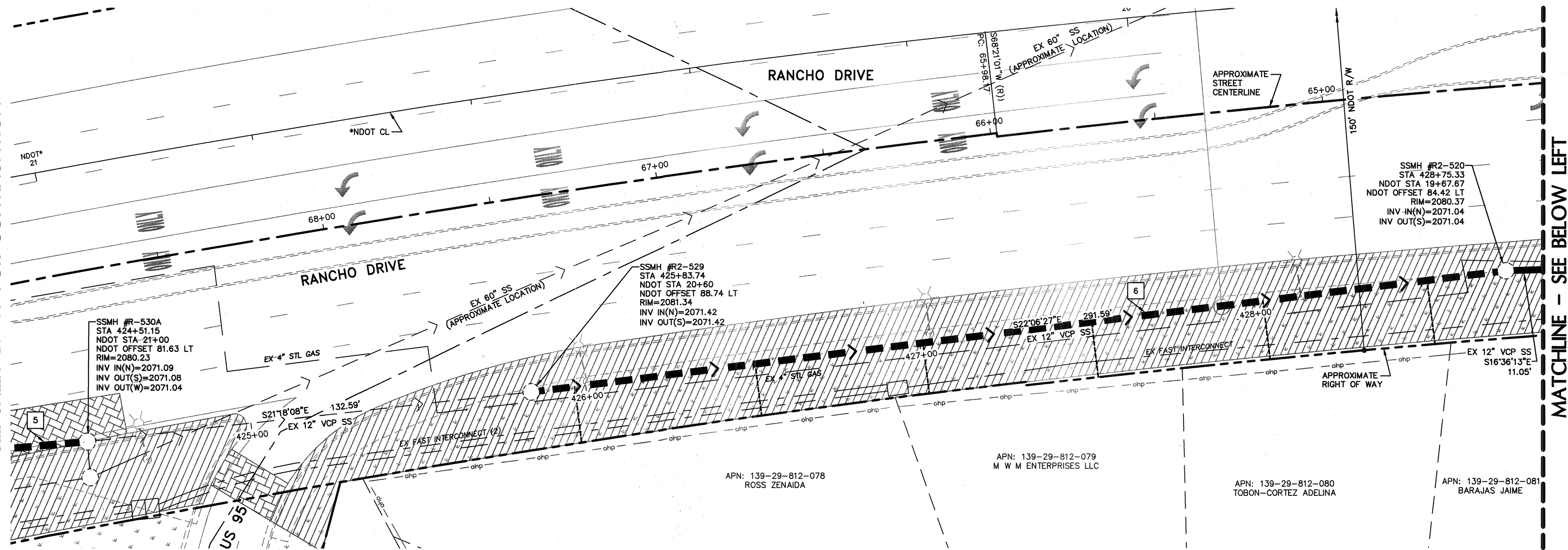
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- THE CONTRACTOR'S TEMPORARY BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TRAFFIC CONTROL PLAN ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH 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 D-02. 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 BYPASSING OF SEWAGE.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJACENT 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.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS. THE CONTRACTOR IS TO REPLACE ALL REMOVED TRAFFIC PAVEMENT STRIPING AND MARKINGS.
- 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 AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK.
- BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET D-02. THE CONTRACTOR IS TO PROTECT IN PLACE ALL EXISTING STREET LIGHTS AND TRAFFIC CONDUITS/WIRES.

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DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-8276 CITY ENGINEER: DAVID BOWERS, PE, PTOE PROGRAM MANAGER: JEREMY LEAVITT, PE DESIGNED BY: N. WILSON, PE DRAWN BY: J. CALHOUN, PE CHECKED BY: J. CALHOUN, PE DATE: 4/03/2014	PROJECT TITLE: SEWER REHABILITATION GROUP E	SHEET TITLE: RANCHO DRIVE FLOW BYPASS DETAIL
	SHEET NO.: BP-09 36 of 43 CLV DRAWING NO. 307V1080	
	APPROVED FOR CONSTRUCTION <i>Jason M. Calhoun</i> JASON M. CALHOUN EXP. 12-31-14 CIVIL No. 17104 April 7, 2014	
	HANSEN NO. 46803	

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SEE SHEET BP-09 FOR CONTINUATION



BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

PIPE SIZE	AVERAGE FLOW	DESCRIPTION
15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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.
- 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.
- 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. REFER TO "ESTIMATED FLOWS" TABLE FOR FLOW VALUES AT POINTS SHOWN ON THESE PLANS.
- ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 & 696 OF THE SPECIAL PROVISIONS.
- 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).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
- THE CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TEMPORARY BYPASS PLAN.
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- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TOP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TOP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJACENT 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.
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LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
PRIOR TO THE 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 SEPARATION MITIGATION.

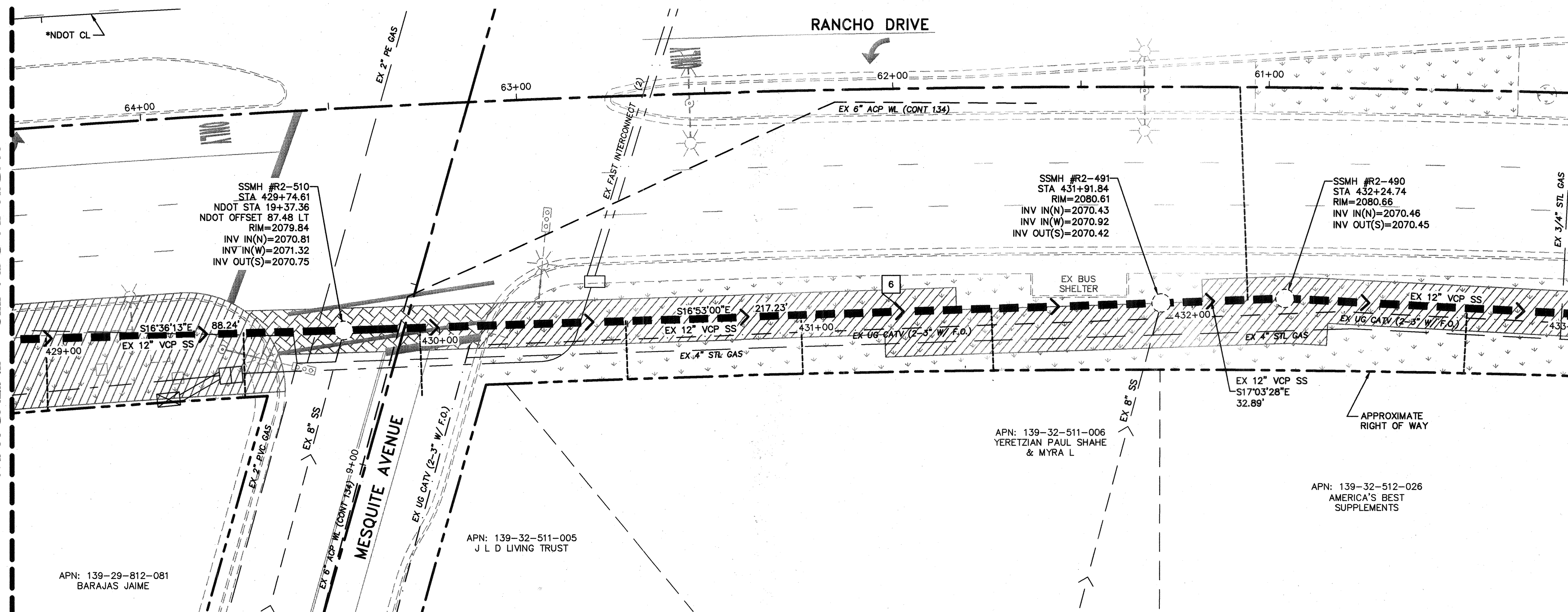
APPROVED FOR CONSTRUCTION

Jason M. Calhoun
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jason M. Calhoun*

MATCHLINE - SEE ABOVE RIGHT



SEE SHEET BP-11 FOR CONTINUATION

RANCHO DRIVE - SSMH #R2-529 TO SSMH #R2-491

UTILITY SYMBOLS

- EX COX UNDERGROUND
- EX CENTURYLINK UNDERGROUND
- EX FAST INFRASTRUCTURE
- EX NVE UNDERGROUND
- EX WATER LINES
- EX OVERHEAD POWER
- EX SWG GAS LINE
- EXISTING STORM SEWER
- EX SEWER LINES (NOT A PART)
- EX SEWER LINES (TO BE REHABILITATED)
- EX SEWER LATERALS
- EX SEWER MANHOLE (NOT A PART)
- EX SEWER MANHOLE (TO BE REHABILITATED)
- EX SEWER LATERALS (TOP CONNECTION)

*NDOT CENTERLINE NOTE:
THE CENTERLINE INFORMATION SHOWN ON THESE PLANS WAS PROVIDED BY NDOT AND IS FOR REFERENCE ONLY. THERE IS NO EXPRESSED OR IMPLIED GUARANTEE IT IS ACCURATE AND SHOULD NOT BE USED FOR CONSTRUCTION ACTIVITIES.



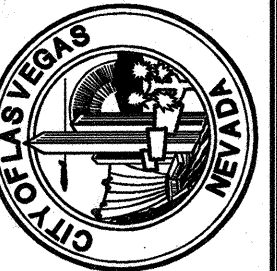
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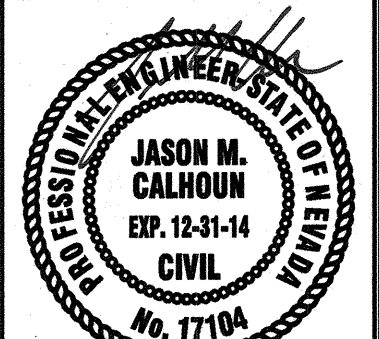
CAPITAL PROJECT MANAGEMENT

333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 228-6276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: WILSON, PE
DRAWN BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014



PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: RANCHO DRIVE FLOW BYPASS DETAIL



SHEET
BP-10
37 of 43
CLV DRAWING NO.
307V1080

SEE SHEET BP-10 FOR CONTINUATION

MATCHLINE - SEE ABOVE RIGHT

RANCHO DRIVE - SSMH #R2-490 TO SSMH #R2-412



UTILITY SYMBOLS			
EX COX UNDERGROUND	EX WATER LINES	EX SEWER LINES (NOT A PART)	EX SEWER MANHOLE (NOT A PART)
EX CENTURYLINK UNDERGROUND	EX OVERHEAD POWER	EX SEWER LINES (TO BE REHABILITATED)	EX SEWER MANHOLE (TO BE REHABILITATED)
EX FAST INFRASTRUCTURE	EX SWG GAS LINE	EX SEWER LATERALS	EX SEWER LATERALS (TOP CONNECTION)
EX NYE UNDERGROUND	EXISTING STORM SEWER		

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APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS
Signature: [Signature]

BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

PIPE SIZE	AVERAGE FLOW	DESCRIPTION
15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

CONSTRUCTION BYPASS NOTES

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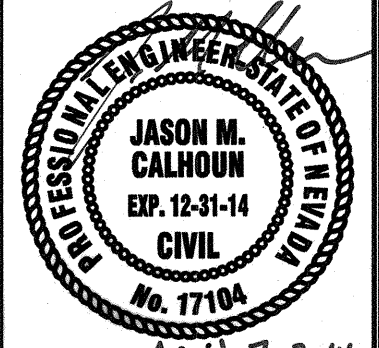
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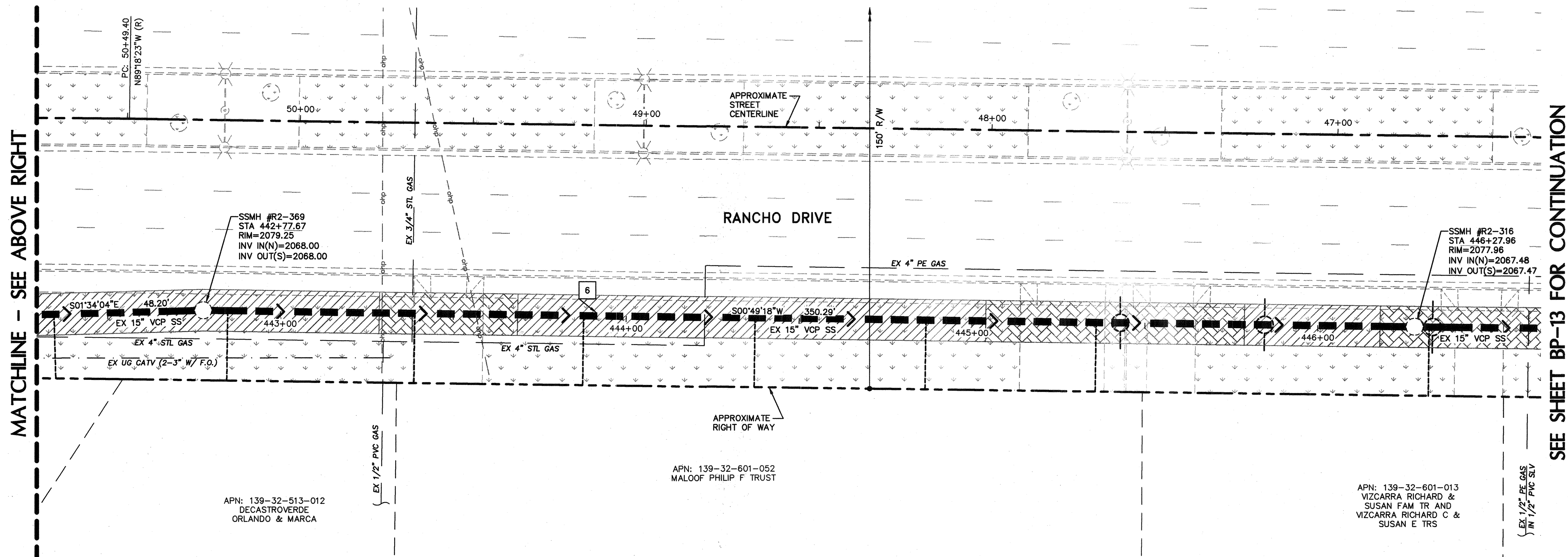
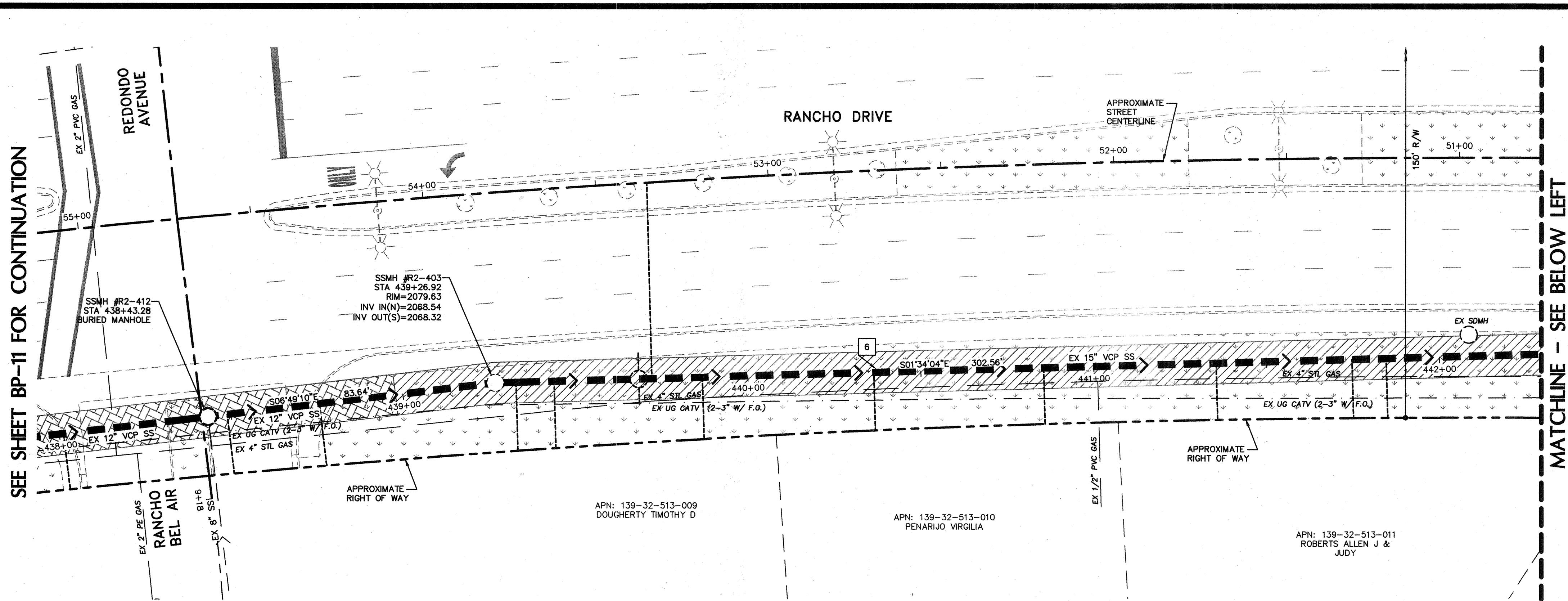
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CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
DRAWN BY: J. CALHOUN, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E

SHEET TITLE: RANCHO DRIVE FLOW BYPASS DETAIL



SHEET BP-11
38 of 43
CLV DRAWING NO. 307V1080



BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

ESTIMATED SS FLOW

	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
1	15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
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4	12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
5	12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
6	12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
7	15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
8	15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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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APPROVED FOR CONSTRUCTION

Disafer D. D. D. D. D.
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jan B. Wilson*

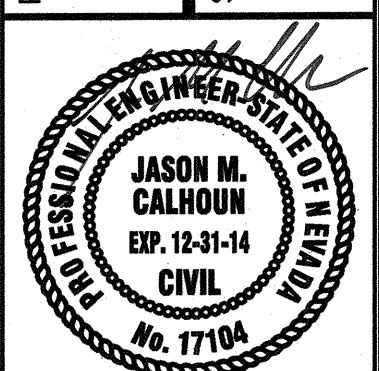


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NO.	DATE	DESCRIPTION	APPROVED

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89105 • (702) 228-4276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: WILSON, PE
DRAWN BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: RANCHO DRIVE FLOW BYPASS DETAIL

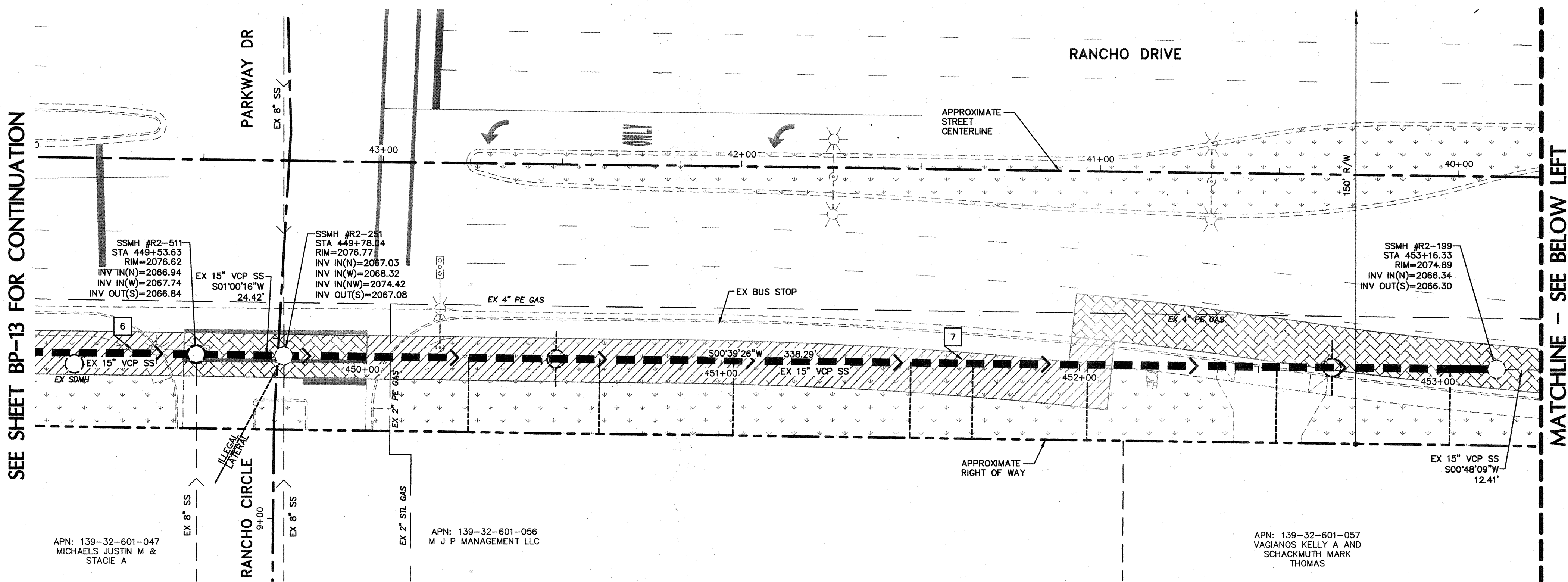


SHEET
BP-12
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CLV DRAWING NO. 307V1080

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Call before you Overhead
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1-800-455-7544

UTILITY SYMBOLS

EX COX UNDERGROUND	EX WATER LINES	EX SEWER LINES (NOT A PART)	EX SEWER MANHOLE (NOT A PART)
EX CENTURYLINK UNDERGROUND	EX OVERHEAD POWER	EX SEWER LINES (TO BE REHABILITATED)	EX SEWER MANHOLE (TO BE REHABILITATED)
EX FAST INFRASTRUCTURE	EX SWG GAS LINE	EX SEWER LATERALS	EX SEWER LATERALS (TOP CONNECTION)
EX NVE UNDERGROUND	EXISTING STORM SEWER		



BYPASS LEGEND

- BYPASS PIPING - CONTRACTOR TO SUPPLY BYPASS PLANS AND MAINTAIN PEDESTRIAN ACCESS - REFER TO BYPASS NOTES
- PROVIDE COVER/PROTECTION FOR BYPASS PIPING - REFER TO FLOW BYPASS DETAIL 2 ON SHEET D-02
- BYPASS FLOW DESIGNATION - REFER TO ESTIMATED FLOWS TABLE THIS SHEET

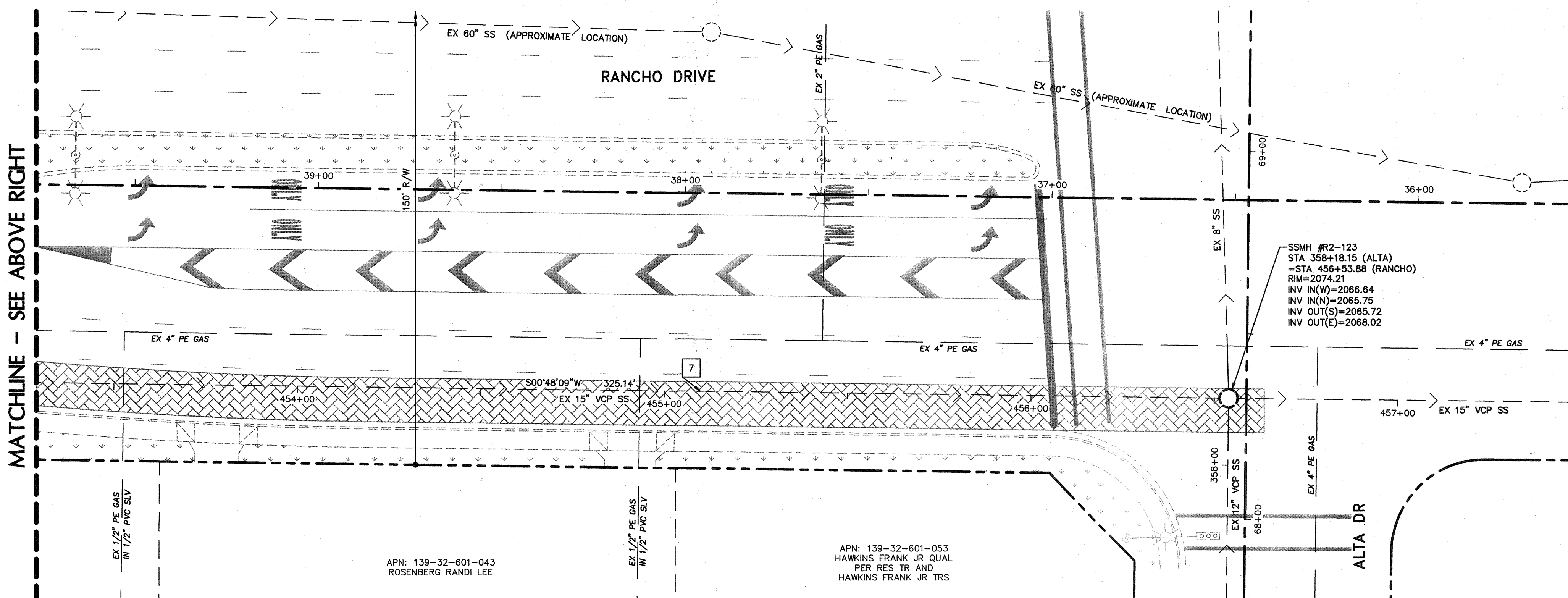
ESTIMATED SS FLOW

	PIPE SIZE	AVERAGE FLOW	DESCRIPTION
1	15"	0.291 MGD	FROM TEMP FM AT SITE R2-270, 4/25/2013 TO 5/09/2013
2	12"	0.128 MGD	FROM TEMP FM AT SITE R2-255, 4/25/2013 TO 5/09/2013
3	12"	0.508 MGD	FROM TEMP FM AT SITE R2-151, 4/25/2013 TO 5/09/2013
4	12"	0.553 MGD	FROM TEMP FM AT SITE R2-145, 4/25/2013 TO 5/09/2013
5	12"	0.054 MGD	FROM TEMP FM AT SITE R2-543, 4/25/2013 TO 5/09/2013
6	12"	0.060 MGD	FROM TEMP FM AT SITE R2-491, 4/25/2013 TO 5/09/2013
7	15"	0.076 MGD	FROM TEMP FM AT SITE R2-199, 4/25/2013 TO 5/09/2013
8	15"	0.806 MGD	FROM TEMP FM AT SITE R2-2, 4/25/2013 TO 5/09/2013

FOR CALCULATION OF PEAK FLOWS, SEE TABLE D, SHEET G-06

CONSTRUCTION BYPASS NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEWER BYPASS DESIGN FOR DE-WATERING 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.
- 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.
- 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. REFER TO "ESTIMATED FLOWS" TABLE FOR FLOW VALUES AT POINTS SHOWN ON THESE PLANS.
- ODOR CONTROL SHALL BE IN CONFORMANCE WITH SECTION 695 & 696 OF THE SPECIAL PROVISIONS.
- 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).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING STAGING AREAS FOR THEIR WORK.
- THE CONTRACTOR SHALL MAINTAIN STORM FLOW TO EXISTING DROP INLETS. DESIGNS FOR MAINTAINING FLOW WILL BE PREPARED BY THE CONTRACTOR AND INCLUDED IN THE TEMPORARY BYPASS PLAN.
- THE CONTRACTOR'S TEMPORARY BYPASS PLANS MUST CONSIDER THE EXISTING SPEED LIMITS AND ALLOWABLE REDUCTIONS IN DETERMINING THE LOCATION OF PIPING AND THE REQUIRED TRAFFIC CONTROL PLAN ELEMENTS. THE CONTRACTOR SHALL BE ALLOWED TO REDUCE SPEED AT EACH LOCATION WHERE THE PIPING CROSSES PERPENDICULAR TO A LANES OF TRAFFIC BY 10 MPH. THE LOCATION AND CONSTRUCTION OF THE BYPASS PIPING SHALL CONFORM TO THE DETAILS SHOWN ON DRAWING D-02. 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 BYPASSING OF SEWAGE.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) TO THE AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK (SEE SPECIAL PROVISIONS SECTIONS 107 AND 624). THE CONTRACTOR MUST HAVE AN APPROVED TCP PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS TO ALL ADJACENT 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.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH RAMPS AT CROSSWALKS. THE CONTRACTOR IS TO REPLACE ALL REMOVED TRAFFIC PAVEMENT STRIPING AND MARKINGS.
- 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 AUTHORITY HAVING JURISDICTION OF THE LOCATION OF THE WORK.
- BYPASS PIPING THROUGH SIGNALIZED AND/OR MAJOR INTERSECTIONS SHALL BE INSTALLED USING CUT AND COVER METHODS AS SHOWN ON SHEET D-02. THE CONTRACTOR IS TO PROTECT IN PLACE ALL EXISTING STREET LIGHTS AND TRAFFIC CONDUITS/WIRES.



RANCHO DRIVE - SSMH #R2-251 TO SSMH #R2-199

UTILITY SYMBOLS

- | | | | |
|----------------------------|----------------------|--------------------------------------|--|
| EX COX UNDERGROUND | EX WATER LINES | EX SEWER LINES (NOT A PART) | EX SEWER MANHOLE (NOT A PART) |
| EX CENTURYLINK UNDERGROUND | EX OVERHEAD POWER | EX SEWER LINES (TO BE REHABILITATED) | EX SEWER MANHOLE (TO BE REHABILITATED) |
| EX FAST INFRASTRUCTURE | EX SWG GAS LINE | EX SEWER LATERALS | EX SEWER LATERALS (TOP CONNECTION) |
| EX NVE UNDERGROUND | EXISTING STORM SEWER | | |

LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
PRIOR TO THE 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 SEPARATION MITIGATION.

APPROVED FOR CONSTRUCTION

1. DISHAP, ERIC A. MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature *Jason M. Calhoun*



POGGEMEYER DESIGN GROUP

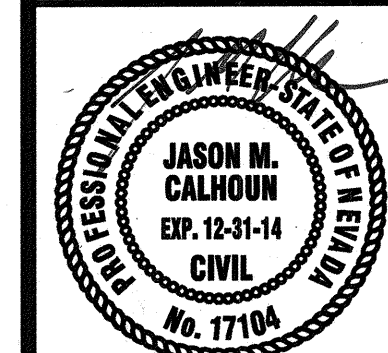
6960 Smoke Ranch Suite 110
Las Vegas, Nevada 89128
P 702.255.8100
F 702.255.8375
www.poggemeyer.com

PDC #LV-12068-C

NO.	DATE	DESCRIPTION	APP'D

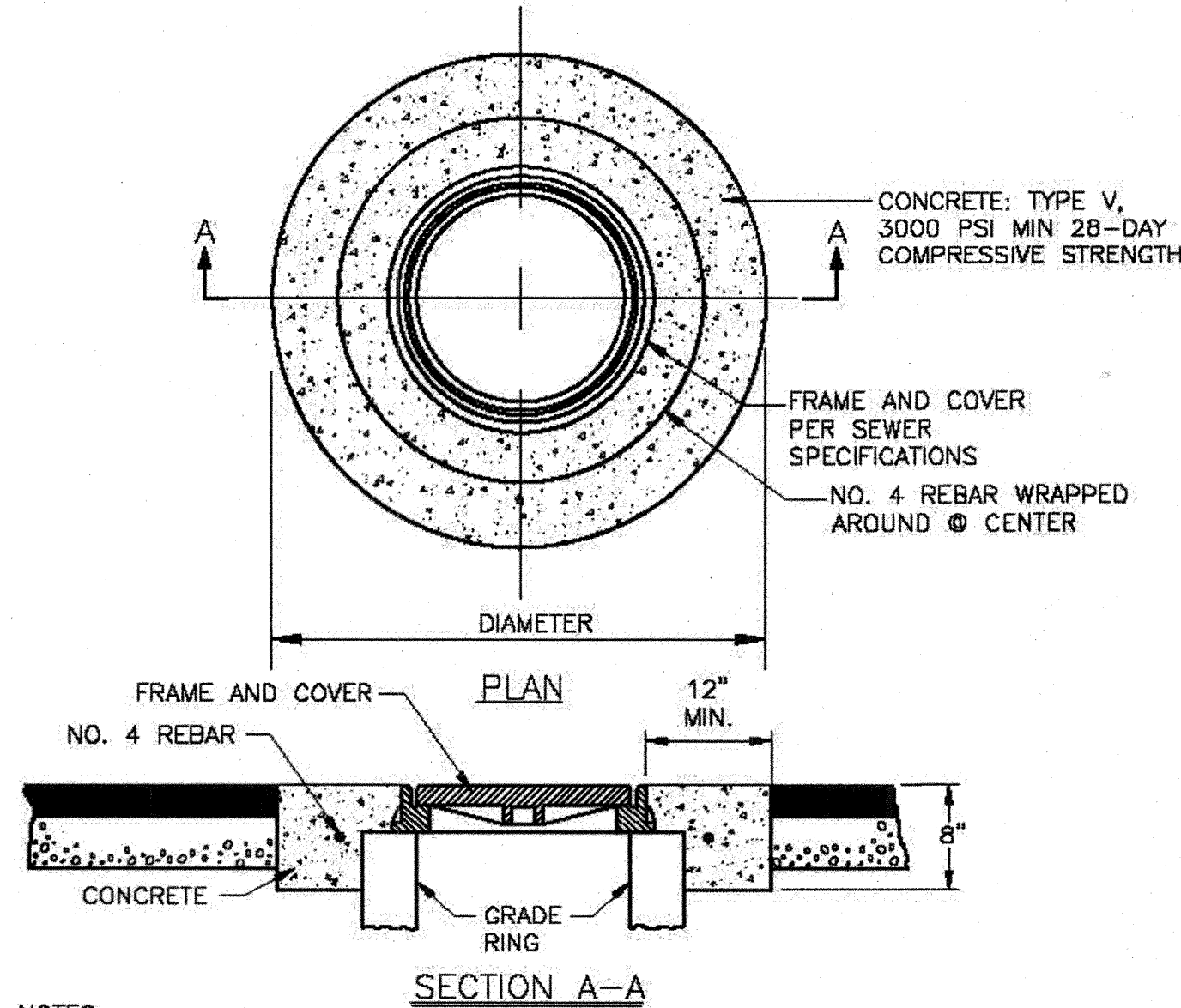
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
333 NORTH RANCHO • LAS VEGAS, NEVADA 89106 • (702) 229-6276
CITY ENGINEER: DAVID BOWERS, PE, PTOE
PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

SEWER REHABILITATION GROUP E
RANCHO DRIVE FLOW BYPASS DETAIL



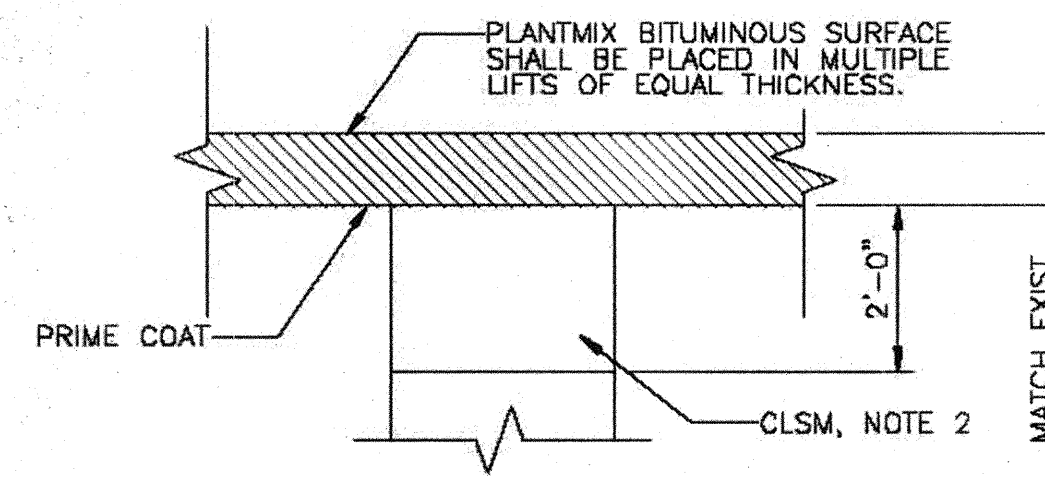
SHEET
BP-14
41 of 43
CLV DRAWING NO. 307V1080

HANSEN NO. 46803



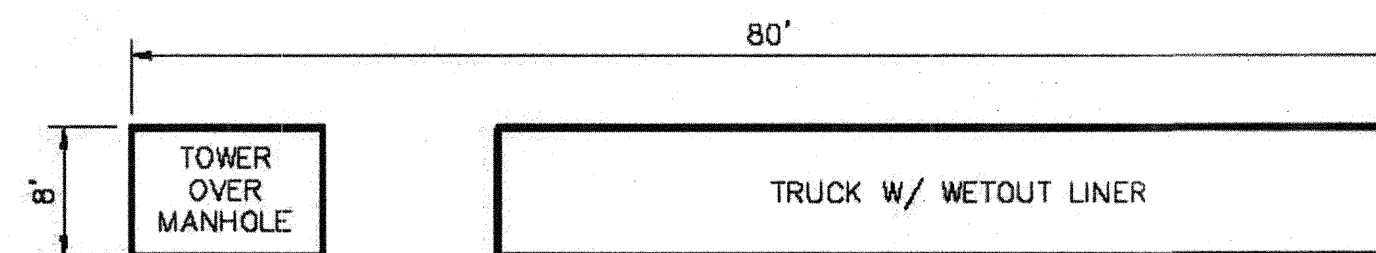
NOTES:
1. CONCRETE COLLAR TO BE CONSTRUCTED 1/8\"/>

1
D-01
CONCRETE COLLAR DETAIL
SCALE: NOT TO SCALE

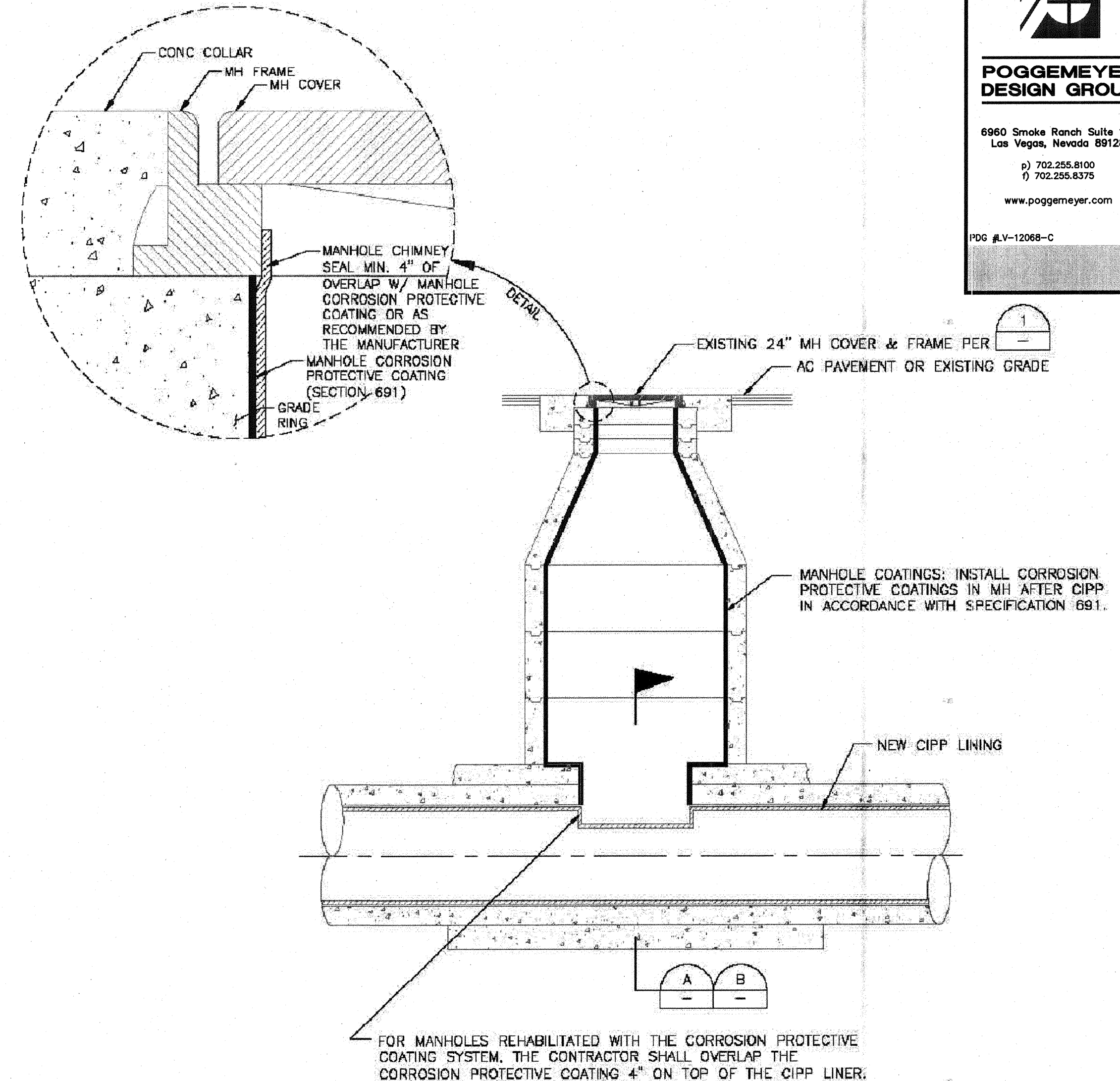


NOTES:
1. IN NO CASE SHALL THE DEPTHS OF BASE AND PAVEMENT BE LESS THAN EXISTING DEPTHS.
2. CLSM AS SPECIFIED IN STANDARD SPECIFICATIONS.
3. IF GEOTECHNICAL FABRIC IS ENCOUNTERED IN TRENCH, MATCH EXISTING WHEN BACKFILLING OR RESURFACING.

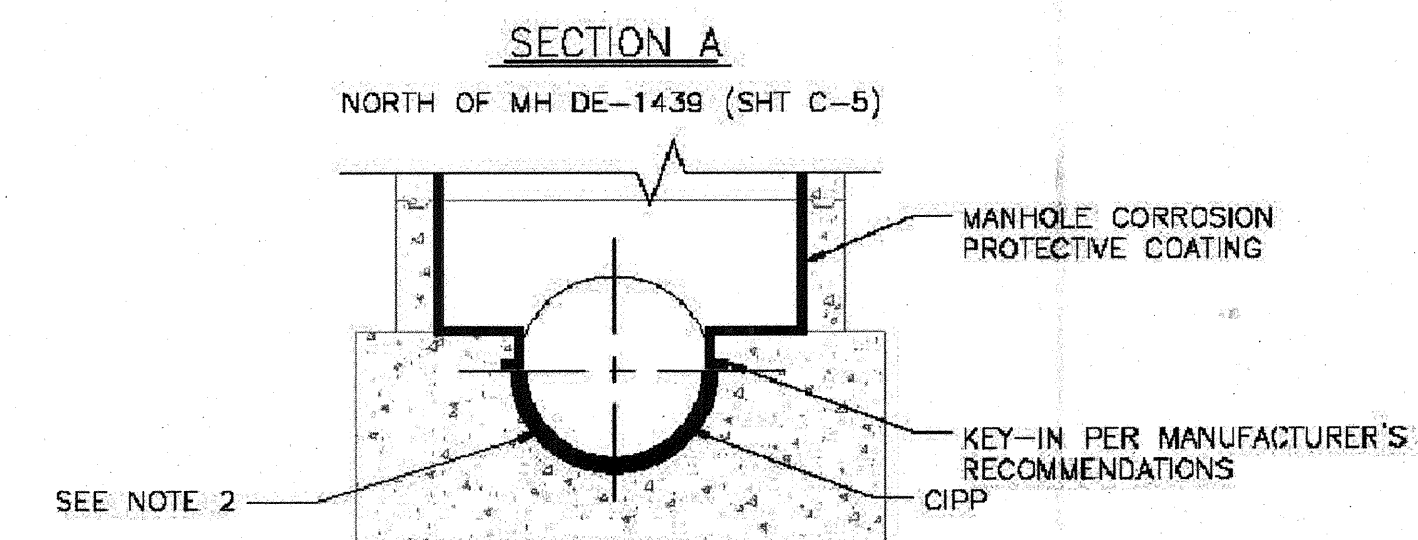
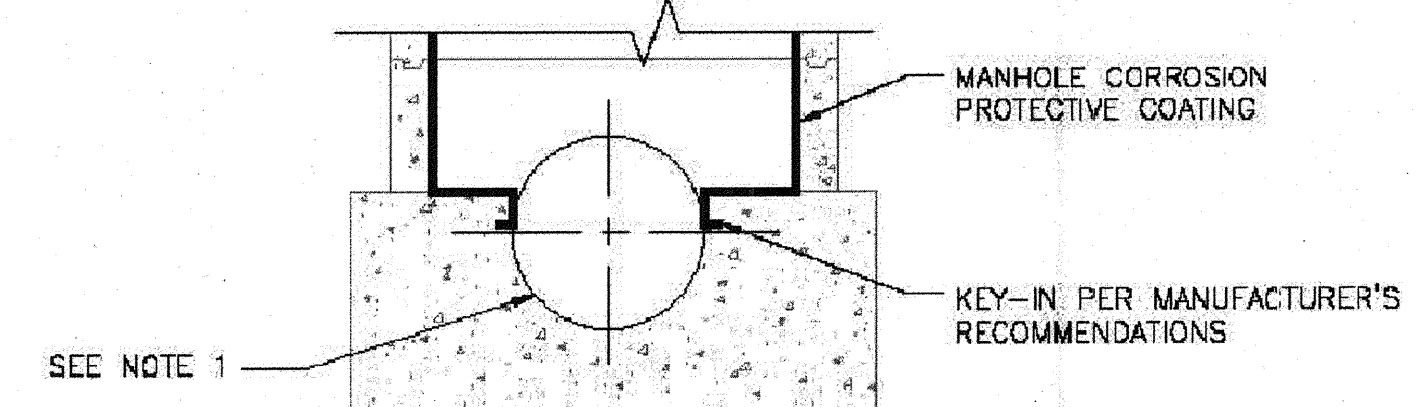
2
D-01
TYPICAL PAVEMENT SECTIONS
SCALE: NOT TO SCALE



3
D-01
TYPICAL PIPE CIPP INSTALLATION SETUP
SCALE: NOT TO SCALE



FOR MANHOLES REHABILITATED WITH THE CORROSION PROTECTIVE COATING SYSTEM, THE CONTRACTOR SHALL OVERLAP THE CORROSION PROTECTIVE COATING 4\"/>



NOTES:
1. MANHOLES NOT LINED THROUGH WITH CIPP SHALL BE COATED WITH CORROSION PROTECTIVE COATING UP TO THE SPRINGLINE OF THE PIPE CHANNEL AS SHOWN IN SECTION A AND SPECIAL PROVISIONS SECTION 691.
2. MANHOLES LINED THROUGH WITH CIPP SHALL BE COATED WITH CORROSION PROTECTIVE COATING AND CIPP LINED AS SHOWN IN SECTION B AND SPECIAL PROVISIONS SECTION 691.

4
D-01
MANHOLE CORROSION PROTECTIVE COATING DETAIL
SCALE: NOT TO SCALE

POGGEMEYER DESIGN GROUP
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NO.	DATE	DESCRIPTION	APP'D

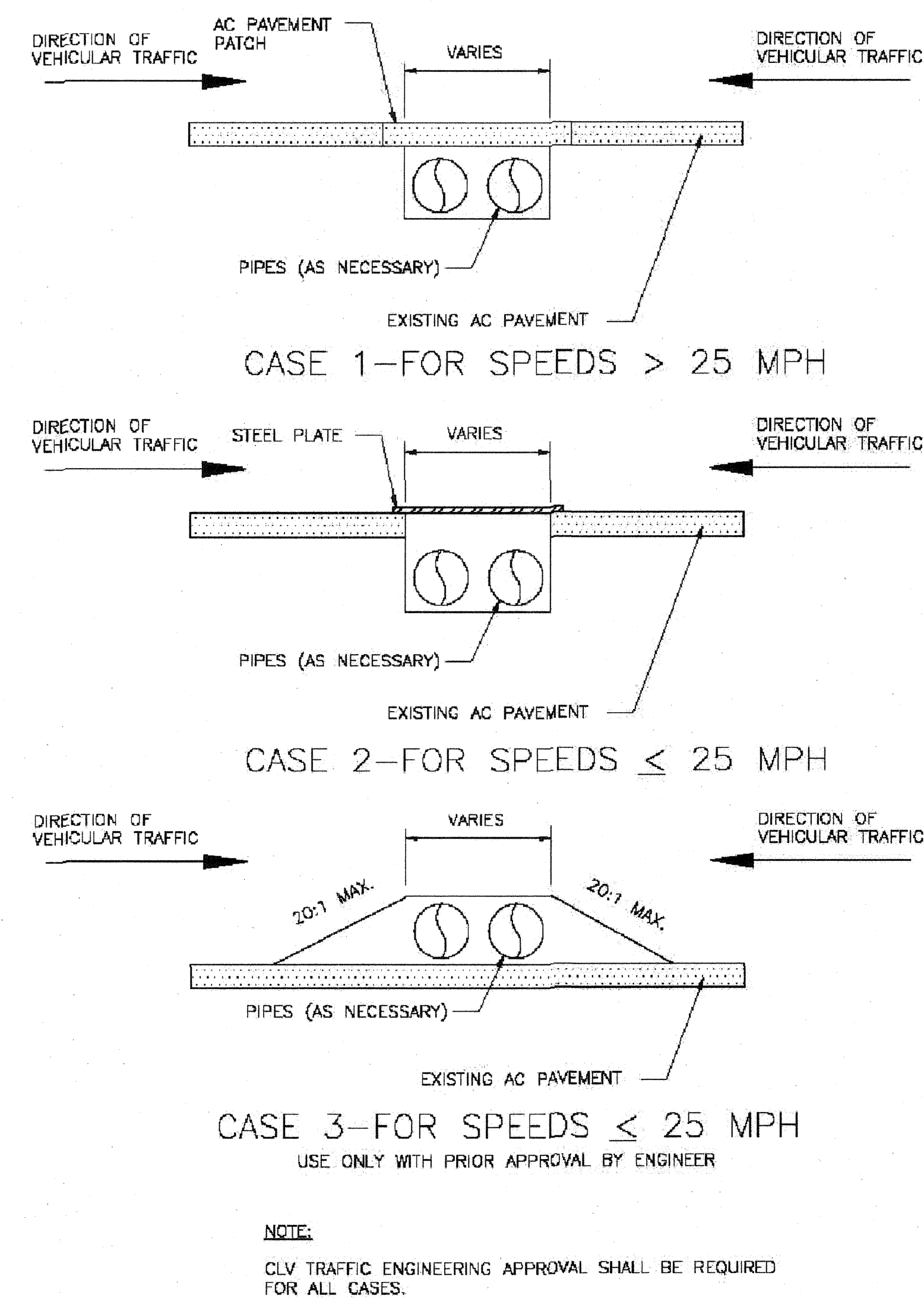
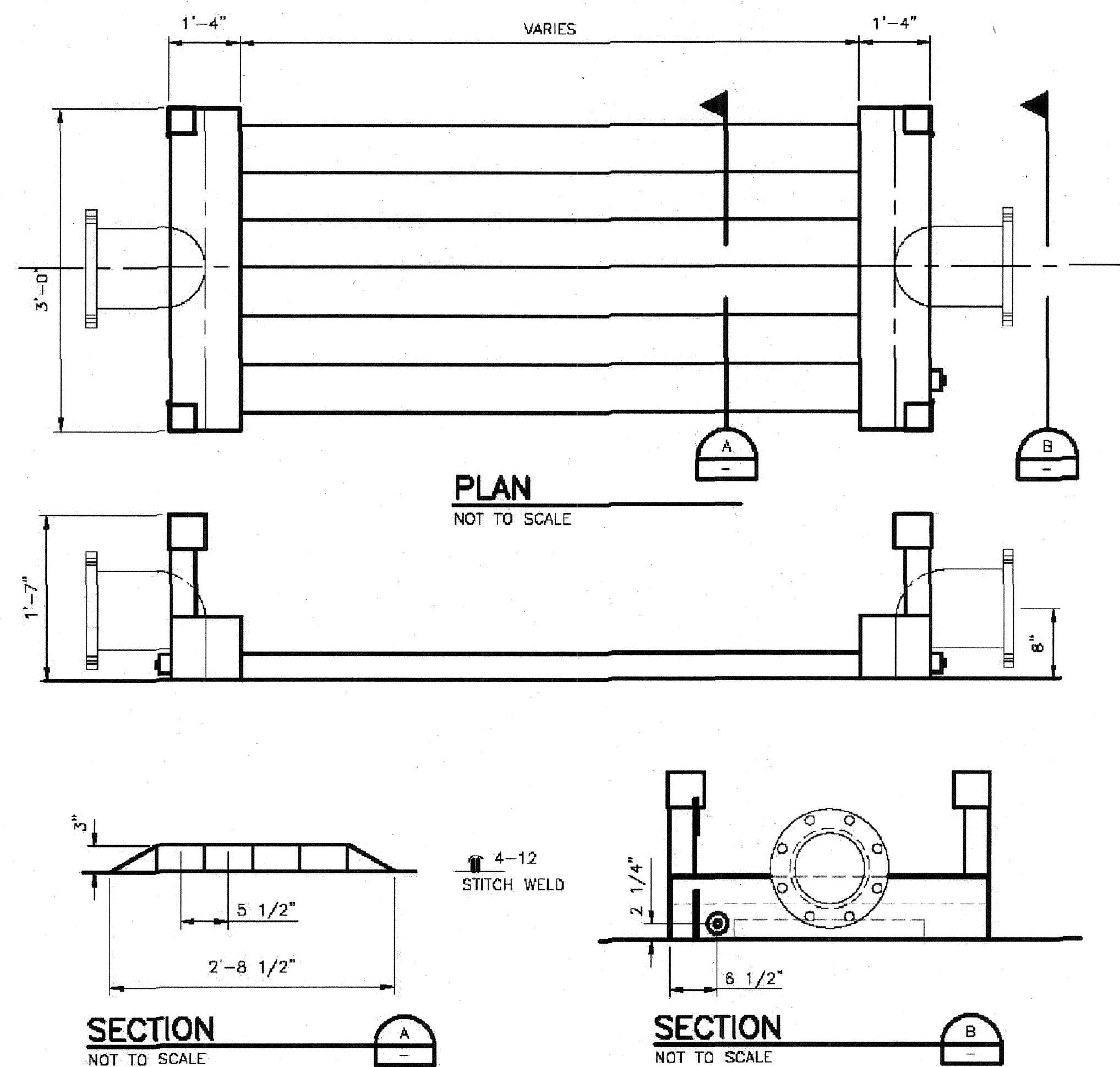
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT MANAGEMENT
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PROGRAM MANAGER: JEREMY LEAVITT, PE
DESIGNED BY: N. WILSON, PE
DRAWN BY: J. CALHOUN, PE
CHECKED BY: J. CALHOUN, PE
DATE: 4/03/2014

PROJECT TITLE: SEWER REHABILITATION GROUP E
SHEET TITLE: CIVIL DETAILS

JASON M. CALHOUN
EXP. 12-31-14
CIVIL
No. 17104
Apr 13 2014

SHEET
D-01
42 of 43
CLV DRAWING NO.
307V1080

AS-BUILT DRAWINGS
Signature: *Jason M. Calhoun*



LVVWD REQUIREMENT FOR BELOW PAVEMENT INSTALLATION
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APPROVED FOR CONSTRUCTION

4. DISHARIK, DA MEADE
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE 4/16/14 PROJECT NO. 121848 ESN 018

AS-BUILT DRAWINGS

Signature Jim Butler



**POGGEMEYER
DESIGN GROUP**

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f) 702.255.8375

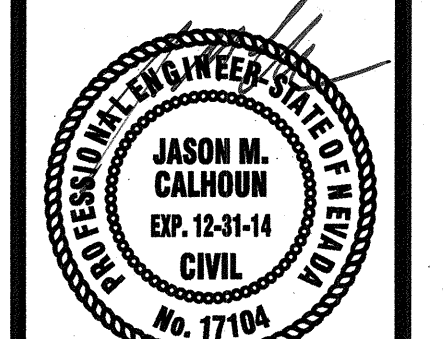
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	DEPARTMENT OF PUBLIC WORKS	
	CAPITAL PROJECT MANAGEMENT	
333 NORTH RANCHO • LAS VEGAS, NEVADA 89108 • (702) 229-8276		
CITY ENGINEER: DAVID BOWERS, PE, PTOE PROGRAM MANAGER: JEREMY LEAVITT, PE		
DESIGNED BY: N. WILSON, PE DRAWN BY: N. WILSON, PE CHECKED BY: J. CALHOUN, PE		
DATE: 4/03/2014		

PROJECT TITLE: **SEWER REHABILITATION**
GROUP E

SHEET TITLE: **CIVIL DETAILS**



2011.1.20/9

SHEET
D-02
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CLV DRAWING NO. 307V1080

ANSEN NO. 4683