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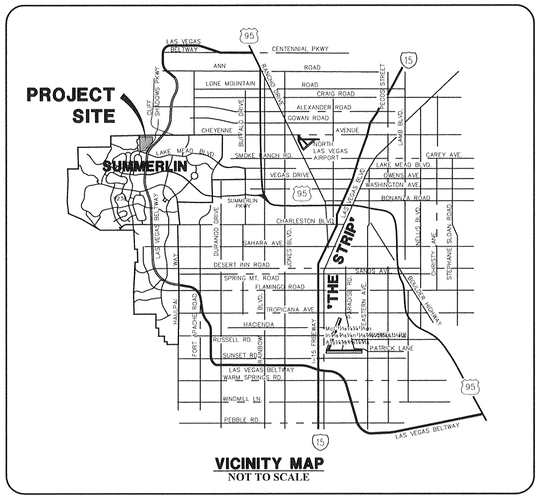
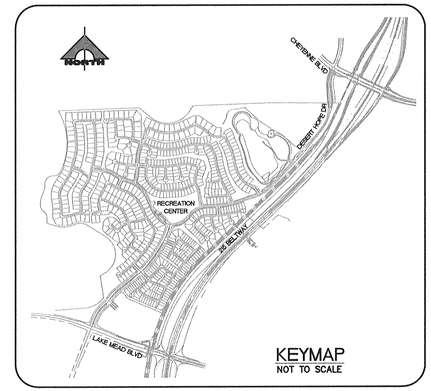
SUMMERLIN VILLAGE 26
REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

PORTIONS OF:

APN #137-13-101-007
APN #137-13-101-008
APN #137-14-601-002
APN #137-14-501-004
APN #137-14-601-003
APN #137-13-101-009



VICINITY MAP
NOT TO SCALE



KEYMAP
NOT TO SCALE

OWNERS

PN II, INC
8345 WEST SUNSET
LAS VEGAS, NV 89113
(702) 914-4800

HUGHES HOWARD COMPANY LLC
10801 W. CHARLESTON BLVD., 3RD FLOOR
LAS VEGAS, NV 89135
(702) 791-4300

ENGINEER

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

DEVELOPER

PN II, INC
8345 WEST SUNSET
LAS VEGAS, NV 89113
(702) 914-4800

LEGAL DESCRIPTION

APN'S 137-13-101-007 AND 137-14-601-002

THAT PORTION OF SECTIONS 13 AND 14, TOWNSHIP 20, RANGE 59 EAST, M.D.B.& M., DESCRIBED AS FOLLOWS:

PARCEL 1 AS SHOWN BY MAP THEREOF ON FILE IN FILE 112 OF PARCEL MAPS, PAGE 94, IN THE OFFICE OF THE COUNTY RECORDERS OFFICE, CLARK COUNTY, NEVADA.

APN'S 137-13-101-008 AND 137-14-601-004

THAT PORTION OF SECTIONS 13 AND 14, TOWNSHIP 20, RANGE 59 EAST, M.D.B.& M., DESCRIBED AS FOLLOWS:

PARCEL 2 AS SHOWN BY MAP THEREOF ON FILE IN FILE 112 OF PARCEL MAPS, PAGE 94, IN THE OFFICE OF THE COUNTY RECORDERS OFFICE, CLARK COUNTY, NEVADA.

BASIS OF BEARING

SOUTH 89°39'55" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 13, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP THEREOF ON FILE IN FILE 91, PAGE 28 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

UTILITY/AGENCY APPROVAL

NV ENERGY _____ DATE _____

NEVADA POWER COMPANY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NEVADA POWER COMPANY 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.

APPROVED FOR CONSTRUCTION

LAS VEGAS FIRE AND RESCUE, FIRE FLOW 1750 GPM AT 20 PSI RESIDUAL _____ DATE _____

_____ DATE _____
ALLEN PAVELKA, PE# 9029
CITY ENGINEER
CITY OF LAS VEGAS, NEVADA

APPROVAL OF THESE PLANS IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHTS-OF-WAY AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE THE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEVIATE FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS, EXCEPT THOSE SPECIFICALLY LISTED UNDER "DEVIATIONS FROM STANDARDS". THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN "DEVIATIONS FROM STANDARDS" IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS CLARK COUNTY AREA NEVADA.

THE HOWARD HUGHES COMPANY, LLC

KEVIN ORROCK _____ DATE _____
VICE PRESIDENT

H# _____ CLV DWG# _____

NEVADA LICENSED ENGINEER
STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-15
DWG
No. 16368
PROFESSIONAL ENGINEER
DATE 12/31/15
% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: ____
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:37:27

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\013CC1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

COVER SHEET

DRAWING
C1
1 OF 63 SHTS

CITY OF LAS VEGAS GRADING NOTES

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

	HORIZONTAL	VERTICAL	COMPACTION
A. PAVEMENT AREA SUBGRADE	0.1'±	+0.0' TO –0.1'	SEE SOILS REPORT
B. ENGINEERED FILL	0.5'±	+0.1' TO –0.1'	SEE SOILS REPORT

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

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

REVISED 4/15/10

STORMWATER RUNOFF MANAGEMENT

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

LAS VEGAS FIRE AND RESCUE GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. AUTHORIZED FIRE HYDRANTS ARE AS FOLLOWS:

   A. KENNEDY – GUARDIAN MODELS K81A AND K81D
   B. MUELLER – SUPER CENTURION 250 MODEL A–423
   C. CLOW – MEDALLION MODEL F–2546LVD
   D. U.S. PIPE – METROFLOW/M–03

3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON–SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. [IFC §105.7.12]
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [IFC §3310, §3312]
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. [IFC §507.5.7.3]
6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. [IFC §106.3]
7. ALL ON–SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. [IFC §507.2.1, NFPA 24]
8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. [IFC §507]
9. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED. [IFC §507.5.7.1]
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. [IFC §507]
11. FIRE HYDRANTS SPACING SHALL BE AS FOLLOWS: [IFC §C102]
    RESIDENTIAL – 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
    COMMERCIAL – 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM 1,000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FEET ON AN ALTERNATING BASIS. [IFC §C102.8]
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF THE CUL–DR–SAC OR WITHIN 20 FT OF THE PERIMETER OF THE RADIUS OF THE CUL–DE–SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [IFC §C102.12]
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE–TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [IFC §C102.4]
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [IFC § C102.7]
17. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD–END STREET SHALL NOT EXCEED 200 FT. [IFC §C102.6]
18. TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD–INS 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]
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 FEET 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]
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WDTH OF NOT LESS THAN 40 FT FLOW LINE TO THE FLOW LINE WITH PARALLEL PARKING PERMITTED ON BOTH SIDES. NOT LESS THAN 32 FT WIDE, FLOW–LINE TO FLOW–LINE, WHERE PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ACCESS ROAD. NOT LESS THAN 24 FT WIDE, FLOW–LINE TO FLOW–LINE, WHERE NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LANES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 24 FT. [IFC §503.2.1.1]
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASE TO 250 FT IF THE BUILDING IS SPRINKLERED. [IFC §503.1.1]
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD–ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA. [IFC §503.1.2]
26. ALL DEAD–END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. [IFC §503.2.5]
27. 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 INTERVALS 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 FROM ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. [IFC §503.3]
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE IFC 503.6 AND IFC APPENDIX M.

REVISED JULY 1, 2014

FLOOD ZONE NOTE

NO PORTION OF THE SITE FALLS WITHIN A FEMA DESIGNATED SPECIAL FLOOD HAZARD AREA. SITE LOCATED ON PANEL 32003C2150E, DATED SEPTEMBER 27, 2002, TO REFLECT A LOMR. THIS PANEL SHOWS THAT THE PROJECT IS LOCATED WITHIN A ZONE X AND NOT LOCATED WITHIN A FEMA DESIGNATED 100–YEAR ZONE A OR SPECIAL FLOOD HAZARD AREA.

CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF–SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE'S WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND 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 DESIGNS TO BE APPROVED BY THE CITY, 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. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED–TYPE CURB.
8. AC PAVEMENT TO BE ONE–HALF INCH (½") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
9. CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
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 THE TRANSITIONS TO BE AS SHOWN ON PLANS.
12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE ANGLE ENGINEER, PROJECT NUMBER 7705.3–1, DATED MAY 28, 2014, APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
13. EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.
15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. 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 BUILDING DEPARTMENT.
17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
19. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC, THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
21. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT–OF–WAY, AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. 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. 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).

    OR

    ~~SANITARY SEWER AND STORM DRAIN FACILITIES SHOWN ON THESE PLANS SHALL BE USED TO MEET THE REQUIREMENTS ON NRS 455 AND SHALL SHOW AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT–OF–WAY. ANY DEVIATIONS FROM THE INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED AS A REVISION TO THE PLANS AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION.~~
22. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST EDITION.
23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

REVISED 02/03/15

DEVIATION FROM STANDARDS

1. NONE

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT–OF–WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCED WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREET NAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI–GRAFFITI PROTECTIVE OVERLAY FILM; SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANTI–GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF–SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT–OF–WAY.
11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO TO THE TRAVELING PUBLIC.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828–3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 4/15/10

LEGEND

1	LOT NUMBER	[54.10]	FUTURE ELEVATION
1	BLOCK NUMBER	59.33 TC 59.14 FG	GRADE BREAK ELEVATION
PAD= 00.0 / F.F. = 00.0	PAD ELEVATION / FINISH FLOOR ELEVATION	56.22 TC 56.14 FG (56.21)	PROPOSED ELEVATION
PAD= (00.0) / F.F. = (00.0)	EXISTING PAD ELEVATION / EXIST. FINISH FLOOR ELEV.		EXISTING ELEVATION
	SCARP		RIGHT–OF–WAY
			PROPERTY LINE
4510	EXISTING CONTOUR (5' INTERVAL)		CENTER LINE
	EXISTING CONTOUR (1' INTERVAL)		RETAINING WALL
	CONCRETE DRIVEWAY		KNEE WALL
TF	TOP OF FOOTING		PERIMETER WALL
TW

LADDER LOCATION TABLE

SOUTH CHANNEL		NORTH CHANNEL	
RIGHT WALL STATION	LEFT WALL STATION	LEFT WALL STATION	RIGHT WALL STATION
15+50	15+67		
20+50	20+67		
23+00	23+15	23+30	23+45
23+60			
29+00	29+15	29+30	29+45
29+60			
35+00	35+15	35+30	35+45
35+60			
41+00	41+15	41+30	41+45
41+60			
45+00	45+15	45+30	45+45
45+60			

NOTE: ALL STATIONS BASED ON SOUTH CHANNEL CENTERLINE

MANHOLE SCHEDULE

MH#		TYPE	STATION	OFFSET	RIM ELEV.	INVERT ELEVATION NORTH	EAST	SOUTH	WEST	COMMENTS
1		48" TYPE I ACCESS	13+00	12.00' LT	3023.0±					
2		48" TYPE I ACCESS	17+00	12.00' LT	3229.0±					
3		48" TYPE I ACCESS	50+10.30	8.00' RT	3046.8±					
4		TYPE III	1+92.62	0.00	3055.0±	3048.00 NE		3048.00		
5		TYPE II	3+55.65	0.00	3023.1±	3017.17 NE	3015.17 SE		3015.67 SW	
6		TYPE III	5+74.12	0.00	3022.1±			3014.08 S	3014.08 NW	
7		TYPE III	6+97.52	0.00	3022.0±	3009.33 N	3009.33 E			
8		48" TYPE I	2+35.17	0.00	3022.6±		3018.10 E		3018.10 SW	
9		TYPE II	1+81.91	0.00	3009.1±	2996.00 NE			2996.00 SW	
10		TYPE II	3+41.54	0.00	3031.0±	3020.72 N			3020.72 SW	

H# _____ CLV DWG# _____

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gowenengineering.com
GCW ENGINEERS \ SURVEYORS

PROJECT NO. 764-204-013

DESIGN: HN
DRAWN: ____
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:37:18

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\03CC1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

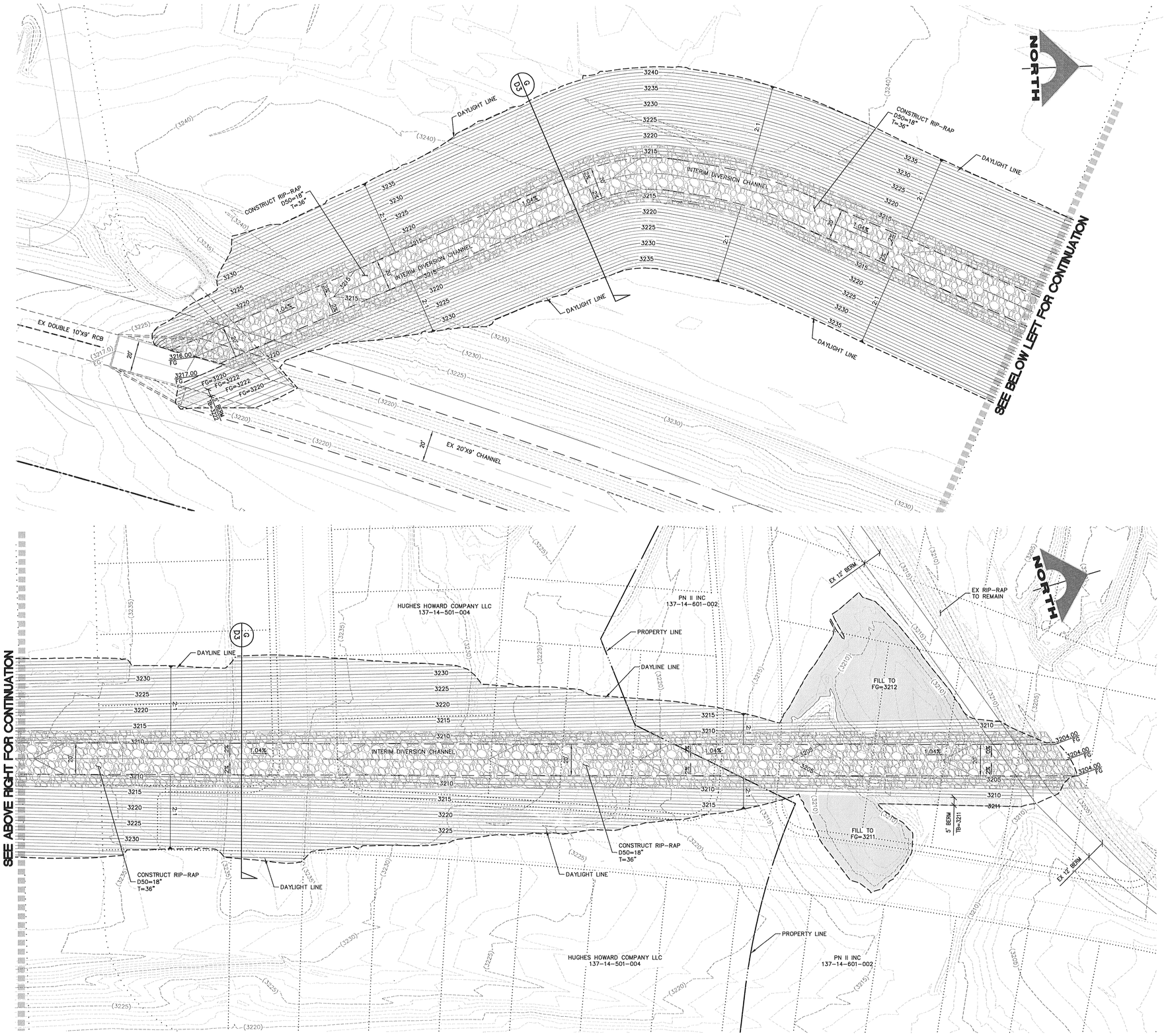
PROJECT DATA AND
MISCELLANEOUS NOTES SHEET

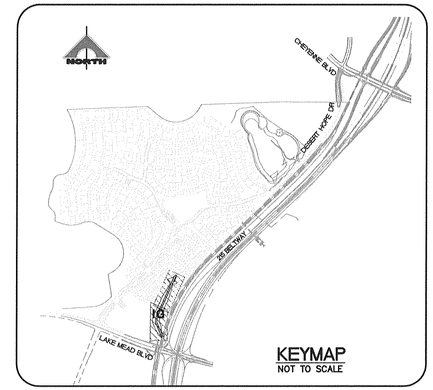
DRAWING
C3
3 OF 63 SHTS

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

LICENSED ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
No. 16383
PROFESSIONAL
Exp. 12-31-16
DATE 12/21/15

% COMPLETE





30' 0' 15' 30'

SCALE: 1" = 30'

NOTE

INTERIM DIVERSION CHANNEL TO BE CONSTRUCTED PRIOR TO ORIFICE PLATE.

NOTE TO CONTRACTOR

CONTRACTOR TO VERIFY ALL EXISTING SEWER, STORM DRAIN, & WATER SIZES, INVERTS AND LOCATIONS. IF A DISCREPANCY EXISTS, CONTRACTOR TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.

BASIS OF BEARING

SOUTH 89°39'55" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 13, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP THEREOF ON FILE IN FILE 91, PAGE 28 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
(D) CONSTRUCT 60" TYPE III MANHOLE PER USDCCA DWG NO. 406.1.
(E) CONSTRUCT LADDER PER STRUCTURAL PLANS. SEE SHEET C3 FOR LOCATION TABLE.
(F) CONSTRUCT SPLASH GUARD AT CHANNEL ACCESS RAMP WALL PER STRUCTURAL PLANS.
(G) CONSTRUCT 2" AC PAVEMENT OVER 4" TYPE II AB.
(H) CONSTRUCT 2" CRUSHED GRAVEL OVER 4" TYPE II 95% COMPACTION FOR H20 DRIVABLE SURFACE.

NOTE:

ALL EXISTING UTILITIES SHOWN FOR GRAPHICAL PURPOSES ONLY. CONTRACTOR RESPONSIBLE FOR UTILITY LOCATE AND VERIFICATION ENGINEER MUST BE NOTIFIED OF ANY DISCREPANCIES.

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM PANEL #32003C2150E
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

FAST
Call before you UnderGround
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES - IT'S EASY!
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

PLEASE NOTE THESE QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES MAY DIFFER FROM THE ESTIMATE DUE TO SOILS VARIATIONS IN THE FIELD. VOLUMES CALCULATED WITHOUT SHRINKAGE OR SUBSIDENCE FACTORS AND DO NOT INCLUDE OVEREXCAVATION REQUIRED FOR THE REMOVAL OF CALICHE OR ANY OTHER UNDESIRABLE MATERIALS. REFER TO THE SOILS REPORT FOR THESE AREAS. ALSO NOT INCLUDED ARE QUANTITIES FOR ADDITIONAL DITCHES & BERMS NOT SHOWN THAT MAY BE REQUIRED BY THE ENGINEER.

COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ___---___ CLV DWG# ___---___

NEVADA STATE OF NEVADA PROFESSIONAL ENGINEER WESLEY T. PETTY Exp. 12-31-15 CIVIL No. 16369

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: WP
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:36:59

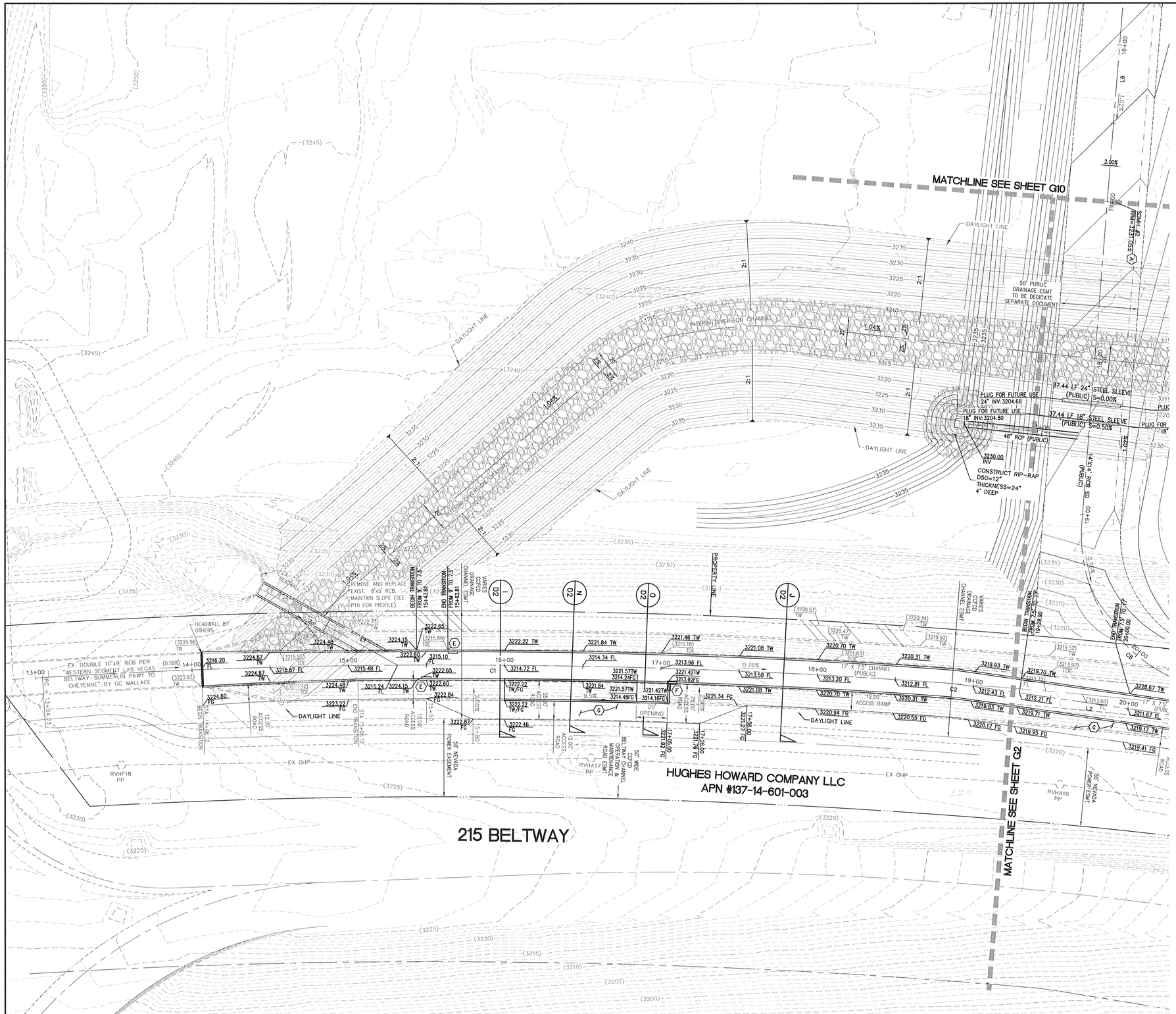
GCV ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\01GRDG.DWG
NATHAN LIM

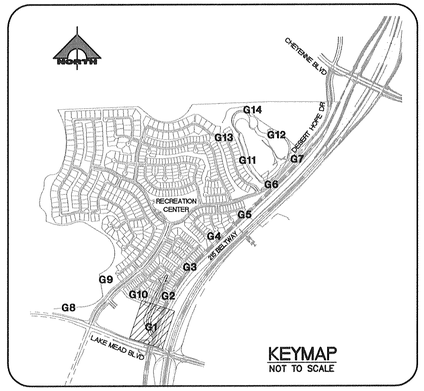
PULTE HOMES

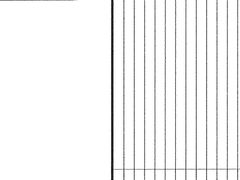
SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

INTERIM CHANNEL GRADING PLAN

DRAWING IG
4 OF 63 SHTS







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FIRM PANEL #32003C2150E
REVISED: SEPT 27, 2002.

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DRAINAGE CERTIFICATION

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WESLEY T. PETTY P.E. 16369 DATE

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H# ___ CLV DWG# ___

STATE OF NEVADA — WESLEY T. PETTY — No. 16369 — PROFESSIONAL ENGINEER — exp. 12-31-15 — CIVIL

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:36:08

GCW
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
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gcwengineering.com
ENGINEERS \ SURVEYORS

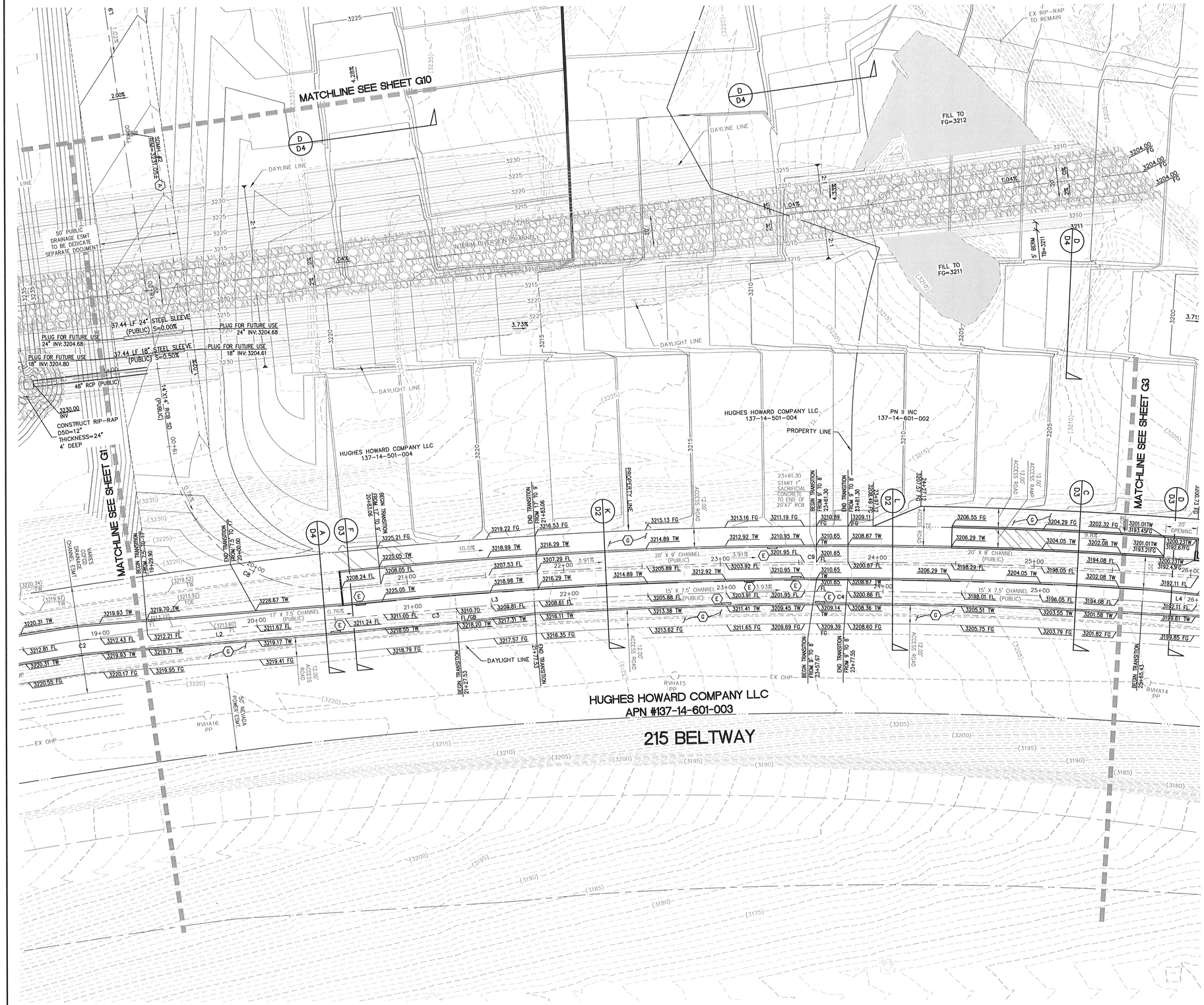
F:\PROJECTS\700\764-204-013\GWG\PRODUCTION\GS DRAINAGE\G13CC.DWG
NATHAN LIM

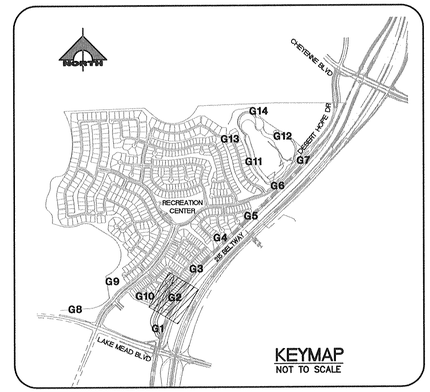
PULTE HOMES

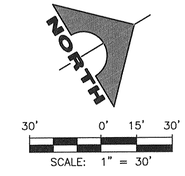
SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN I

DRAWING
G1
5 OF 63 SHTS







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BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 403.1.
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FLOOD ZONE NOTE:

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FIRM PANEL #32003C2150E
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

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COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ___---___ CLV DWG# ___---___

STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — No. 16369 — Exp. 12-31-15 — DATE: 12/11/15 — % COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:35:53

GCW ENGINEERS\SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

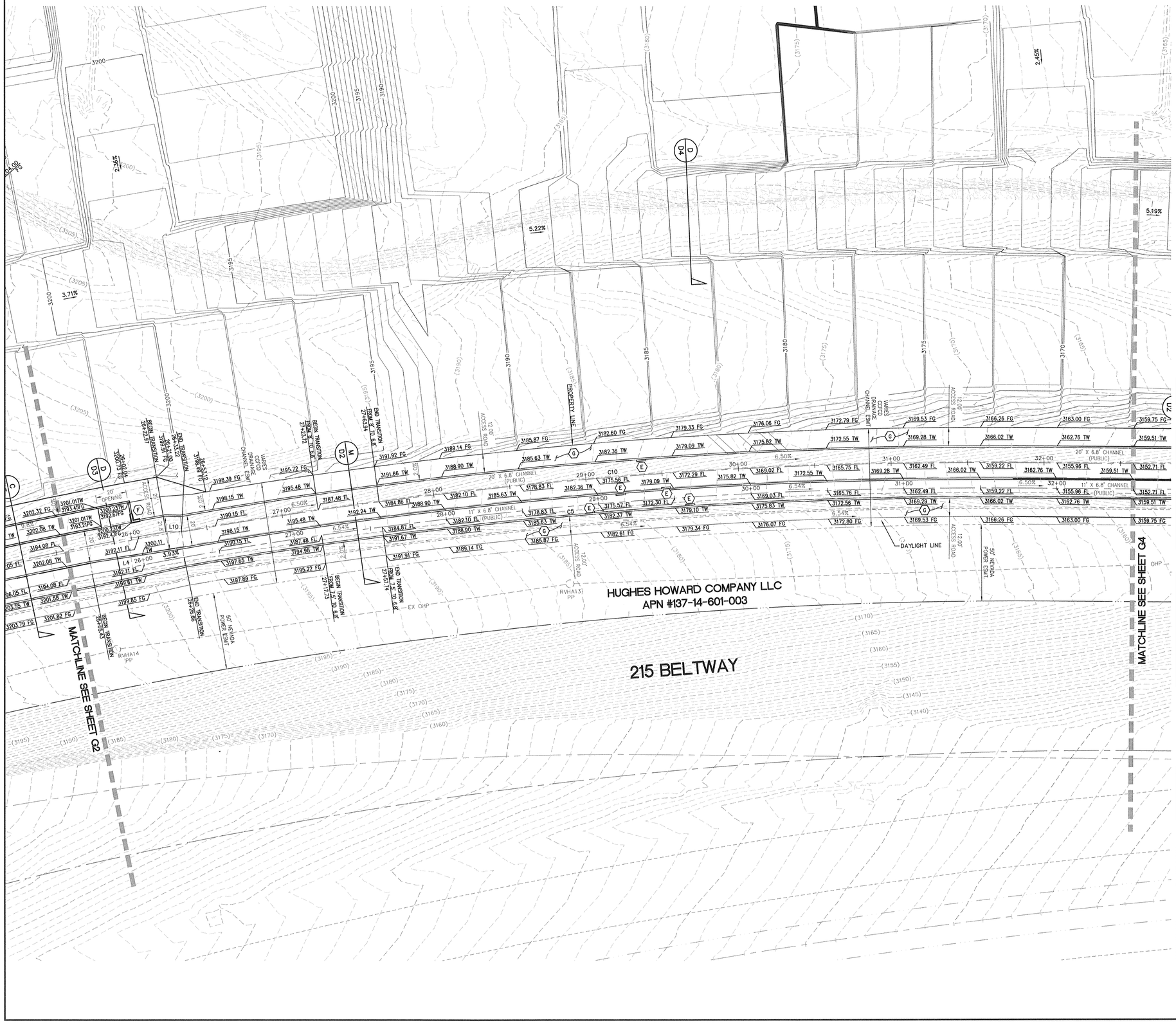
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\01GCG.DWG
NATHAN LIM

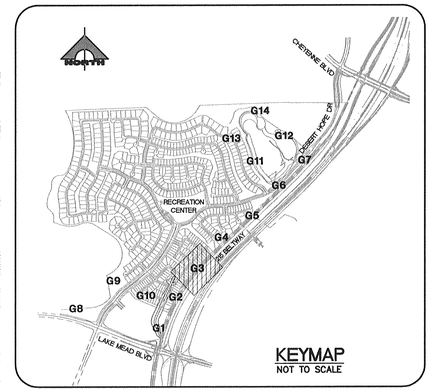
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN II

DRAWING
G2
6 OF 63 SHTS





KEYMAP
NOT TO SCALE

NORTH

30' 0' 15' 30'

SCALE: 1" = 30'

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PROFESSIONAL ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
No. 16369
Exp. 12-31-15
DATE: 12/21/15
% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:35:43

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

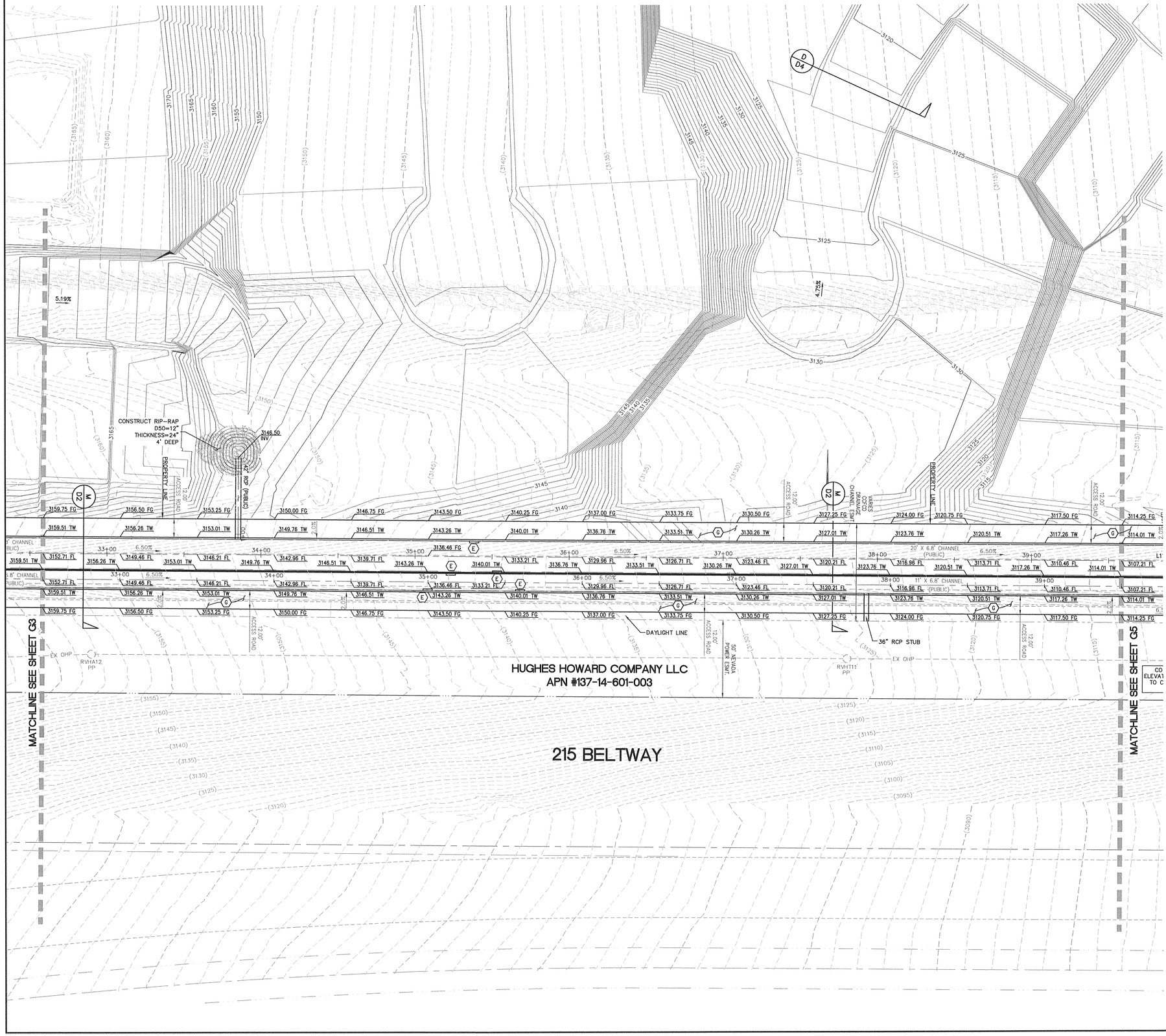
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\01GCD.DWG
NATHAN LIM

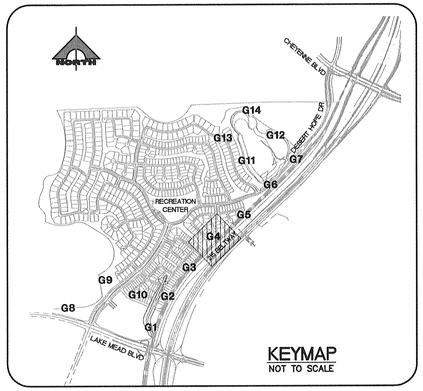
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN III

DRAWING
G3
7 OF 63 SHTS





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STATE OF NEVADA PROFESSIONAL ENGINEER
WESLEY T. PETTY
Exp. 12-31-15
No. 16369

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GOV APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:35:28

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

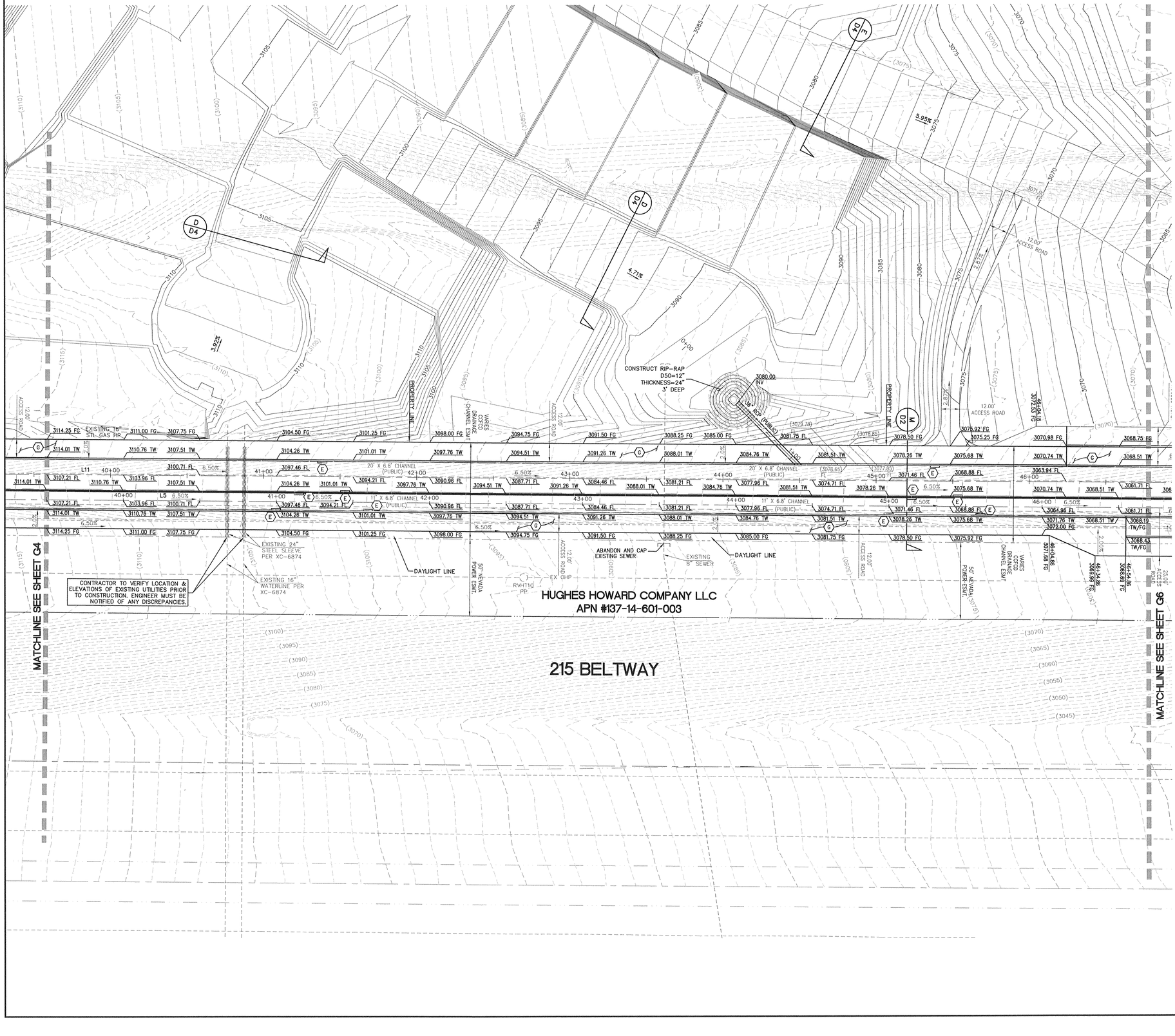
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\913GD.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN IV

DRAWING
G4
8 OF 63 SHTS



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WESLEY T. PETTY
No. 16369
PROFESSIONAL ENGINEER
STATE OF NEVADA
Exp. 12-31-15
CIVIL
DATE: 12-21-15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	CCW APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:35:13

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
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F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\01SCOD.DWG
NATHAN LIM

GCW ENGINEERS\SURVEYORS

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

GRADING PLAN V

DRAWING
G5
9 OF 63 SHTS

MATCHLINE SEE SHEET G11

MATCHLINE SEE SHEET G5

MATCHLINE SEE SHEET G7

CHUTE BLOCKS, SEE DETAIL THIS SHEET

2' STILL WALL

12" GAP

CUTOFF WALL

CONCRETE

PROVIDE FLOW DEPTH GAUGE SEE DETAIL 3/D1

CONSTRUCT 5'x6' RIP-RAP PAD D50=12" THICKNESS=24"

CONCRETE SEE STRUCTURAL PLAN

HEADWALL SEE STRUCTURAL PLANS

NEENAH R-4995-AX BOLTED TRANSVERSE GRATE STRUCTURAL DRAINAGE STRUCTURAL PLANS FOR DETAILS

221.54 LF 36" RCP SD S=0.50%

36" RCP SD(PUBLIC)

160.76 LF 36" RCP SD S=16.31%

SDMH #10

12.00' ACCESS ROAD

CONSTRUCT RIP-RAP D50=12" THICKNESS=24" 6' DEEP

36" RCP (PUBLIC)

SDMH #3

20'X7' RCB (PUBLIC)

6.08%

6.12%

6.50%

9.71%

5.70%

10.00%

47+80.45 GRADE BREAK

47+71.98 GB

START 1' SACRIFICIAL CONCRETE

DAYLIGHT LINE

20' OPENING

STA: 48+80.88 BEGIN TRANSITION END 1' SACRIFICIAL CONC.

STA: 49+81.21 END TRANSITION

EX. TRAP. CHANNEL 20' WIDE, 5' DEEP W/ 2:1 SIDE SLOPES PER "WESTERN SEGMENT LAS VEGAS BELTWAY–SUMMERLIN PKWY TO CHEYENNE" BY GC WALLACE

50' NEVADA POWER EASEMENT

50' PUBLIC DRAINAGE EASEMENT TO BE VACATED BY SEPARATE DOCUMENT

50' WIDE CCFCD BELTWAY CHANNEL MAINTENANCE & ROAD ESTMT

EX OHP

RVHT19 PP

12.00' ACCESS RAMP

12.00' ACCESS ROAD

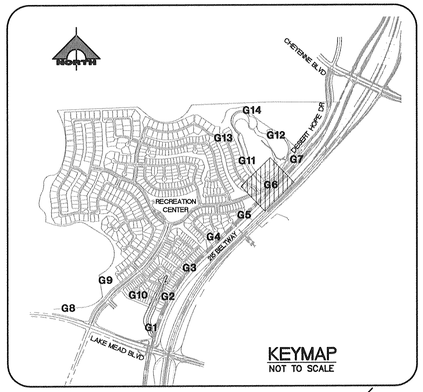
BOULDER JUNCTION

TAMES CCFCD DRAINAGE EASEMENT

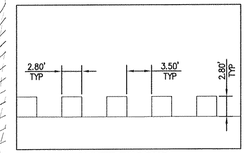
UNDEVELOPED APN# 137-13-199-015 PUBLIC RIGHT OF WAY (BELTWAY)

HUGHES HOWARD COMPANY LLC
APN #137-14-601-003

215 BELTWAY



KEYMAP
NOT TO SCALE



CHUTE BLOCKS
SCALE 1"=10'

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(H) CONSTRUCT 2" CRUSHED GRAVEL OVER 4" TYPE II 95% COMPACTION FOR H20 DRIVABLE SURFACE.

NOTE:

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FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM PANEL #32003C2150E
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call
or
1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

PLEASE NOTE THESE QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES MAY DIFFER FROM THE ESTIMATE DUE TO SOILS VARIATIONS IN THE FIELD. VOLUMES CALCULATED WITHOUT SHRINKAGE OR SUBSIDENCE FACTORS AND DO NOT INCLUDE OVEREXCAVATION REQUIRED FOR THE REMOVAL OF CALICHE OR ANY OTHER UNDESIRABLE MATERIALS. REFER TO THE SOILS REPORT FOR THESE AREAS. ALSO NOT INCLUDED ARE QUANTITIES FOR ADDITIONAL DITCHES & BERMS NOT SHOWN THAT MAY BE REQUIRED BY THE ENGINEER.

COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ____ CLV DWG# ____

PROFESSIONAL ENGINEER - STATE OF NEVADA - No. 16369 - WESLEY T. PETTY - Exp. 12-31-15 - CIVIL

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GOW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:34:55

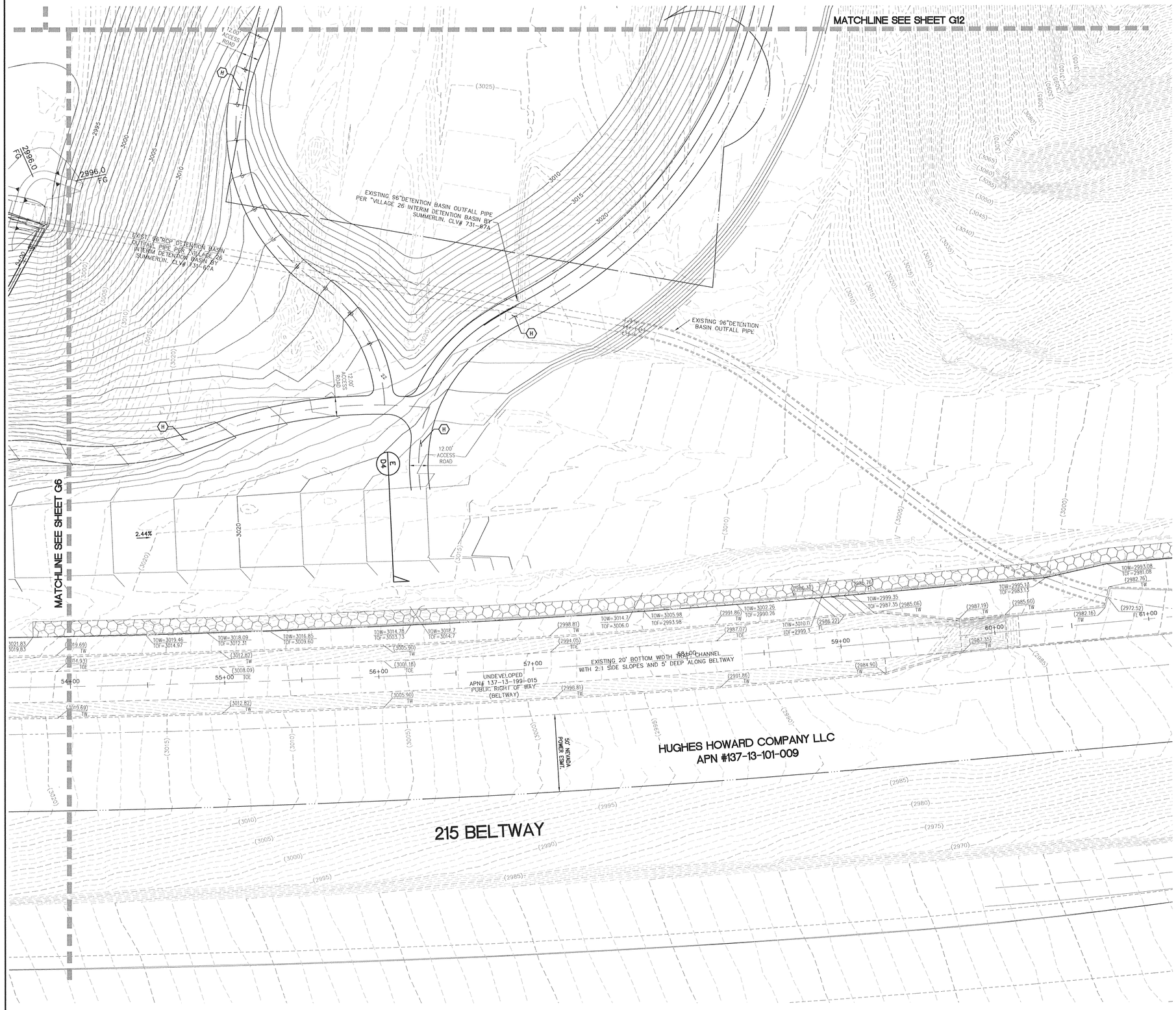
GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\013GD.DWG
NATHAN LIM

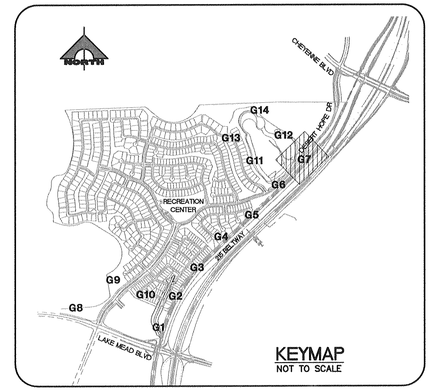
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN VI

DRAWING
G6
10 OF 63 SHTS





KEYMAP
NOT TO SCALE

NORTH

30' 0' 15' 30'

SCALE: 1" = 30'

NOTE TO CONTRACTOR

CONTRACTOR TO VERIFY ALL EXISTING SEWER, STORM DRAIN, & WATER SIZES, INVERTS AND LOCATIONS. IF A DISCREPANCY EXISTS, CONTRACTOR TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.

BASIS OF BEARING

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BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
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WESLEY T. PETTY P.E. 16369 DATE

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STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY Exp. 12-31-15 No. 16369

% COMPLETE

DESCRIPTION	DATE	AGEN APP	DATE	GDW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:34:38

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

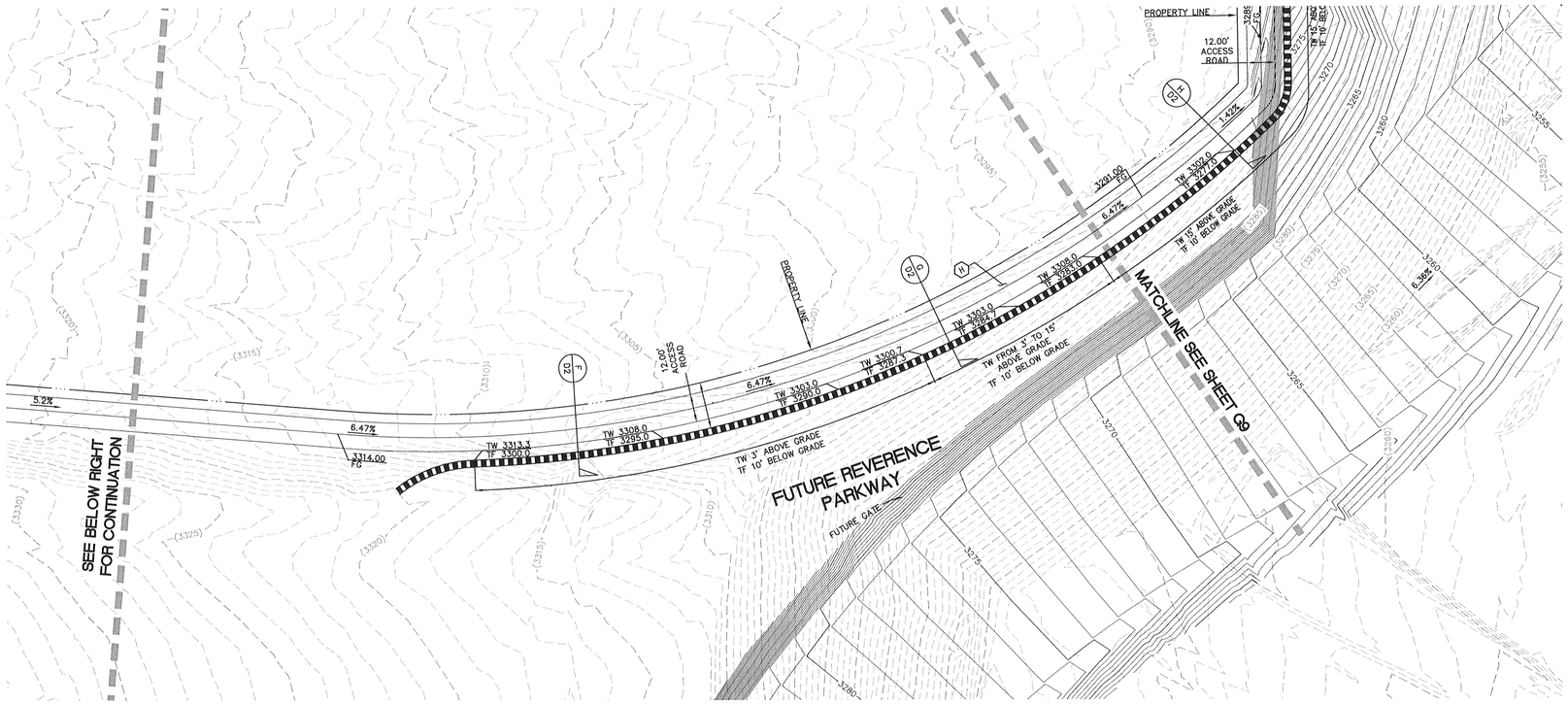
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\01GCD.DWG
NATHAN LIM

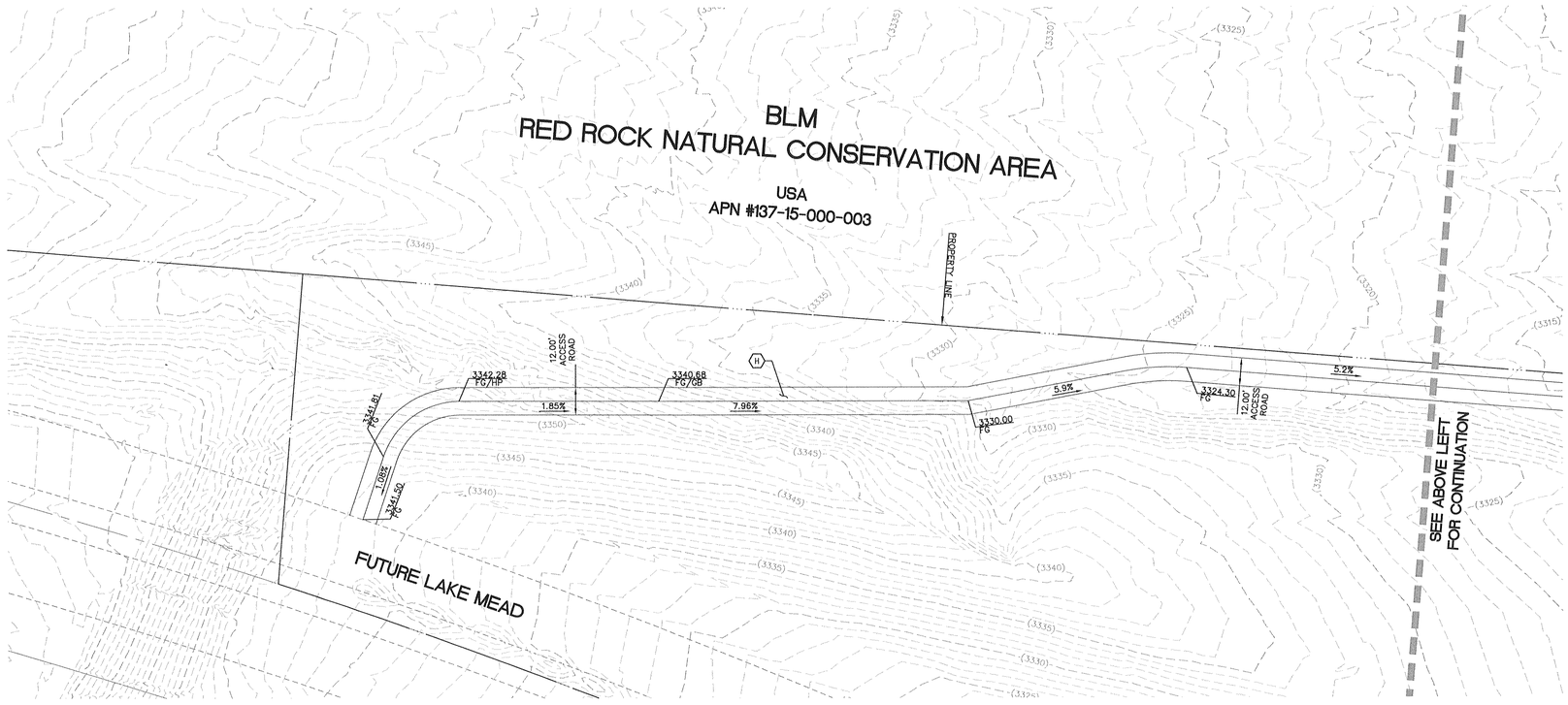
PULTE HOMES

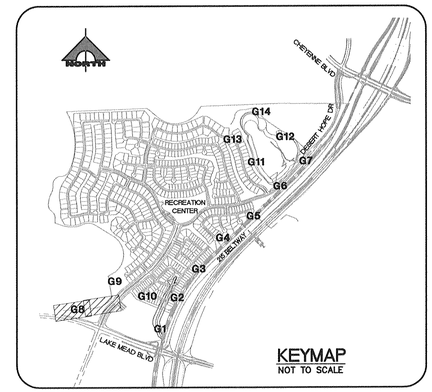
SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN VII

DRAWING
G7
11 OF 63 SHTS







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REVISED: SEPT 27, 2002.

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WESLEY T. PETTY P.E. 16369 DATE

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STATE OF NEVADA PROFESSIONAL ENGINEER
WESLEY T. PETTY
No. 16369
Exp. 12-31-15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:34:22

GCW ENGINEERS\ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\DS DRAINAGE\D13DS.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

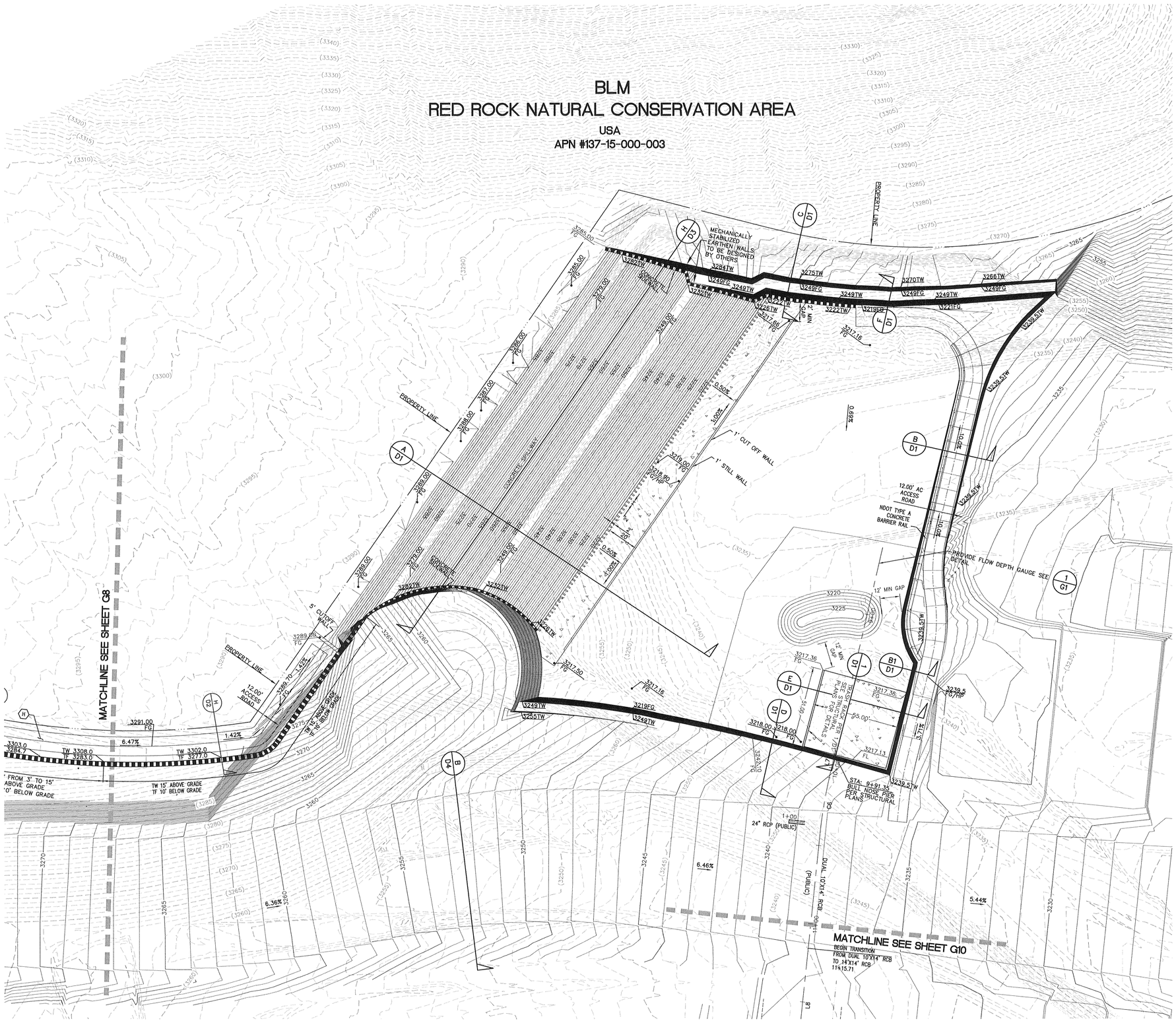
GRADING PLAN VIII

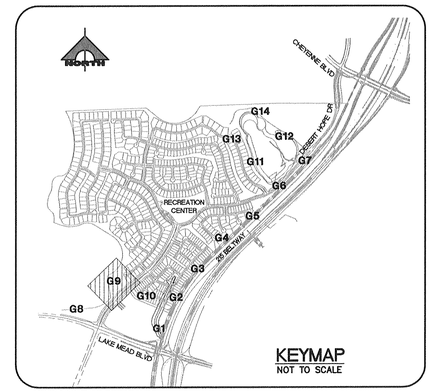
DRAWING
G8
12 OF 63 SHTS

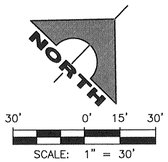
BLM
RED ROCK NATURAL CONSERVATION AREA

USA

APN #137-15-000-003







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CITY OF LAS VEGAS BENCHMARK #0368 3
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FIRM PANEL #32003C2150E
REVISED: SEPT 27, 2002.

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FAST
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1-702-432-5800
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WESLEY T. PETTY P.E. 16369 DATE

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CLV DWG# ---

NEVADA PROFESSIONAL ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
No. 16369
Exp. 12-31-15
CIVIL
DATE: 12/17/15

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013

DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:34:03

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

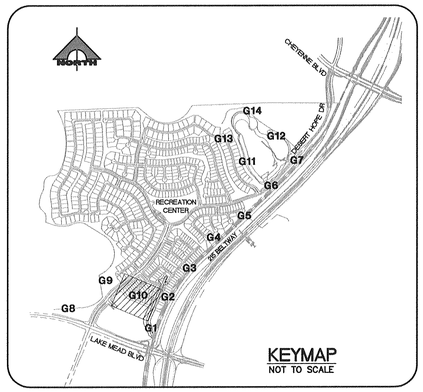
P:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\013GSDWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN IX

DRAWING
G9
13 OF 63 SHTS



KEYMAP
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WESLEY T. PETTY P.E. 16369 DATE

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NEVADA LICENSED ENGINEER - STATE OF NEVADA - WESLEY T. PETTY - No. 16369 - PROFESSIONAL - Exp. 11-30-19 - CIVIL

% COMPLETE

DATE: 12/21/15
GCW APP'
DATE
AGEN APP'
DATE
DESCRIPTION
REV
DATE

PROJECT NO. 764-204-013

DESIGN:
DRAWN:
CHECK:
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PLOT TIME: 09:33:46

GCW
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1555 S. RAINBOW BLVD.
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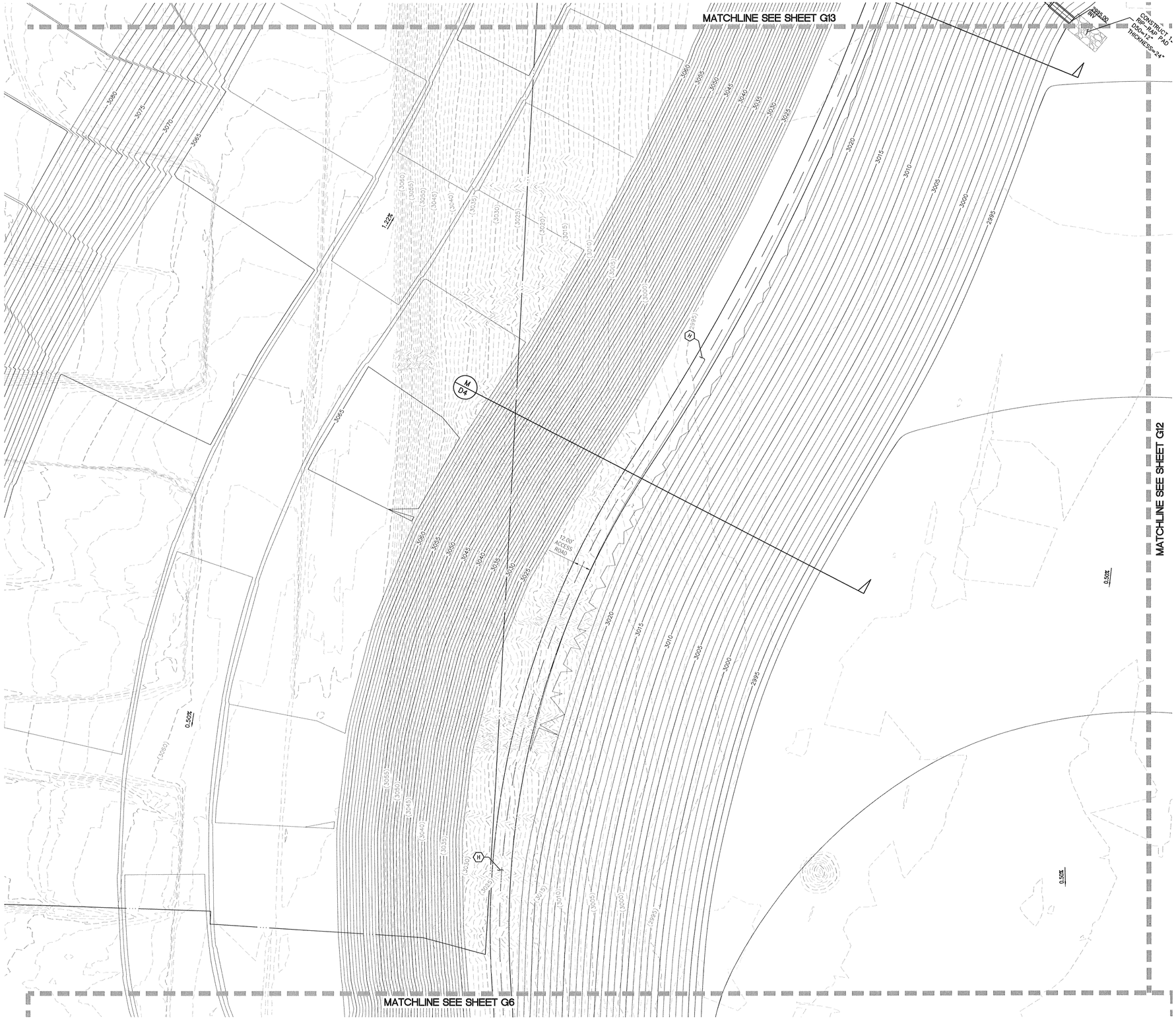
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\13GCG.DWG
NATHAN LIM

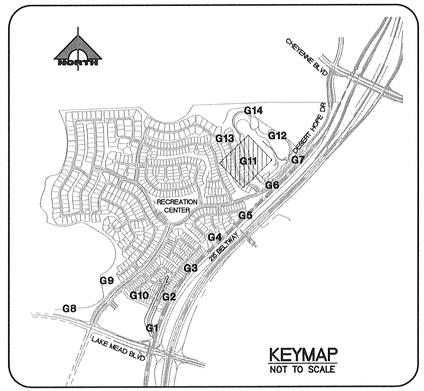
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

GRADING PLAN X

DRAWING
G10
14 OF 63 SHTS





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BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

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(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
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FLOOD ZONE NOTE:

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FIRM PANEL #32003C2150E
REVISED: SEPT 27, 2002.

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Call 811 or 1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

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COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---
CLV DWG# ---

STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — Exp. 12-31-15 — No. 16369

DATE 12/21/15 % COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:33:33

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

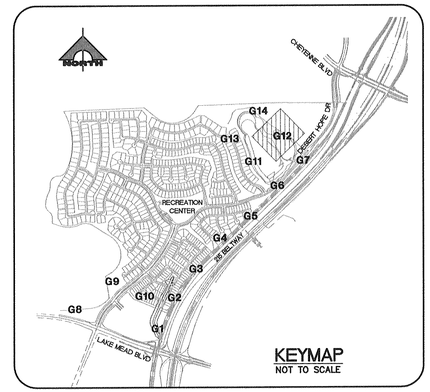
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\01302.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN XI

DRAWING G11
15 OF 63 SHTS



KEYMAP
NOT TO SCALE

NORTH

30' 0' 15' 30'

SCALE: 1" = 30'

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REVISED: SEPT 27, 2002.

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WESLEY T. PETTY P.E. 16369 DATE

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CLV DWG# ---

NEVADA PROFESSIONAL ENGINEER STATE OF NEVADA WESLEY T. PETTY No. 16369 Exp. 12-31-15

DATE: 12/31/15

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	QCW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:33:18

GCW ENGINEERS\SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

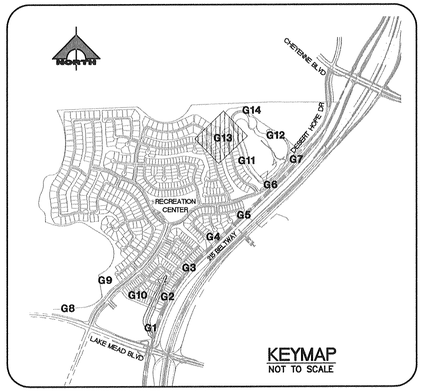
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\013GCD.DWG
PLOTTED BY: NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN XII

DRAWING
G12
16 OF 63 SHTS



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SCALE: 1" = 30'

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REVISED: SEPT 27, 2002.

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TRUCKEE MEADOWS REGIONAL SYSTEM OF TRANSPORTATION

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WESLEY T. PETTY P.E. 16369 DATE

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H# ___ CLV DWG# ___

ENGINEER
STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-16
No. 16369
PROFESSIONAL
DATE: 11/11/15
% COMPLETE

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

REV	DESCRIPTION	DATE	AGEN. APP	DATE	GCW APP	DATE

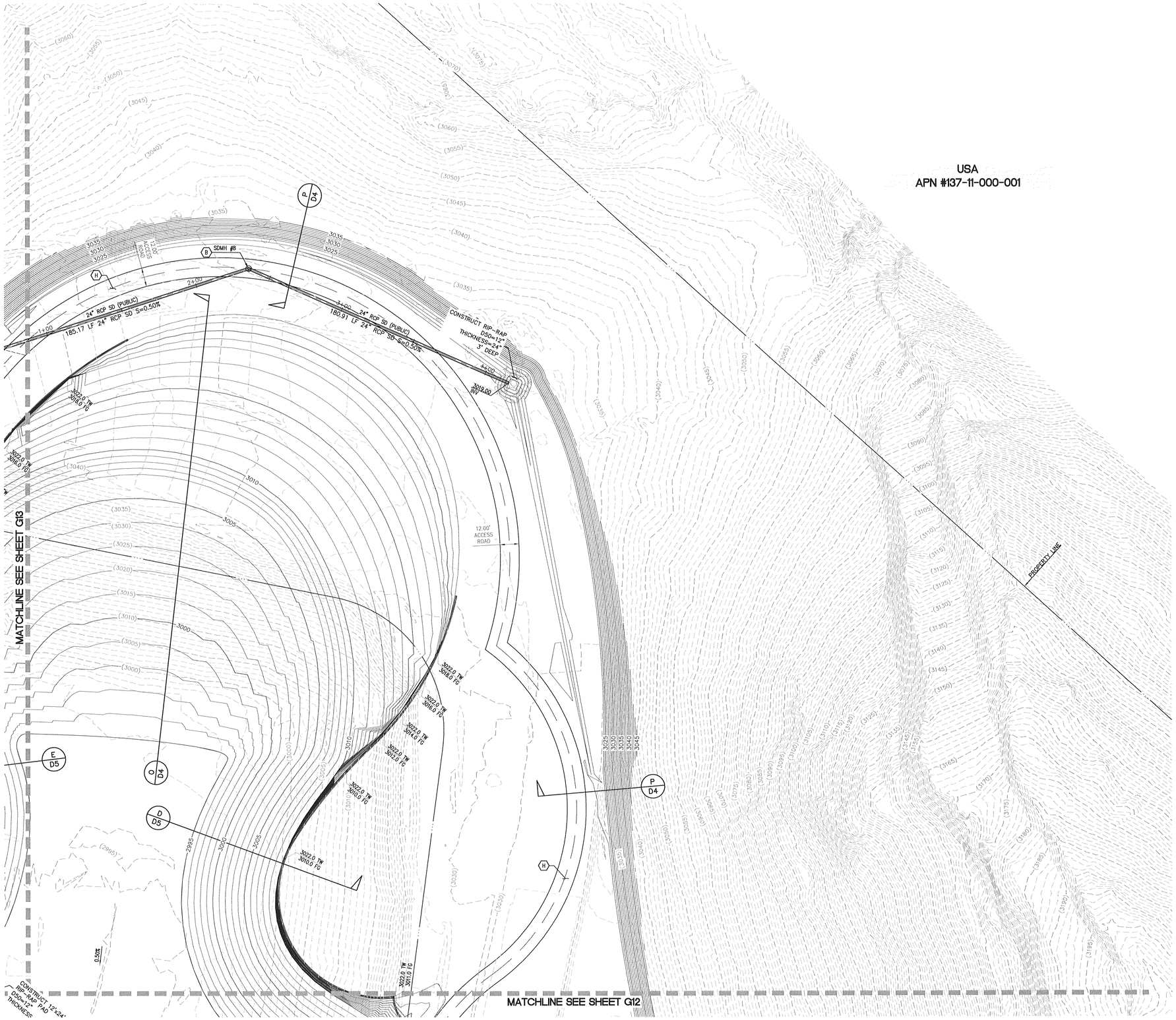
PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:33:03
P:\O...3CG.DWG
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\01SCG.DWG
NATHAN LIM

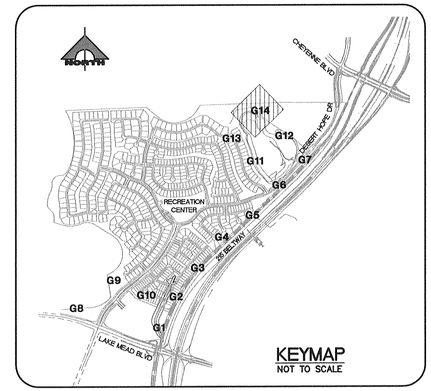
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN XIII

DRAWING
G13
17 OF 63 SHTS





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WESLEY T. PETTY P.E. 16369 DATE

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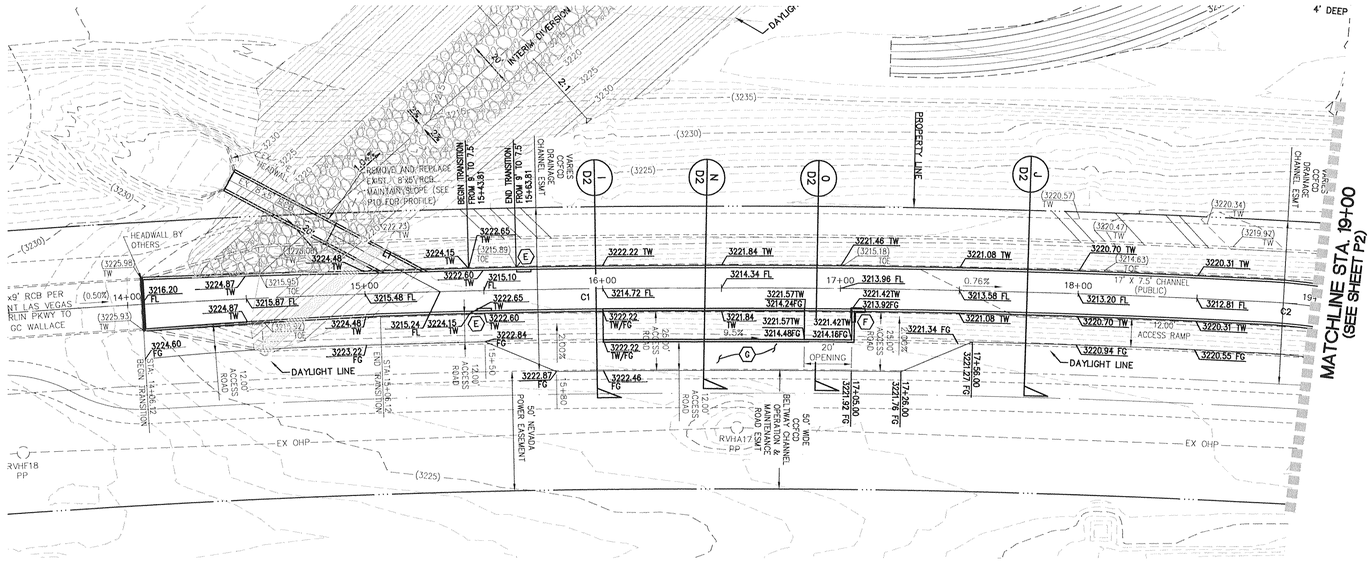
H# ___ CLV DWG# ___

ENGINEER - STATE OF NEVADA - PROFESSIONAL - WESLEY T. PETTY exp. 12-31-15 CIVIL No. 16369

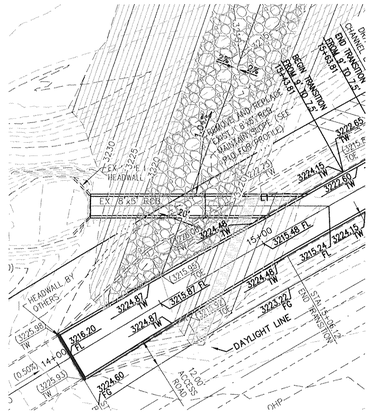
% COMPLETE

DESCRIPTION	REV	DATE



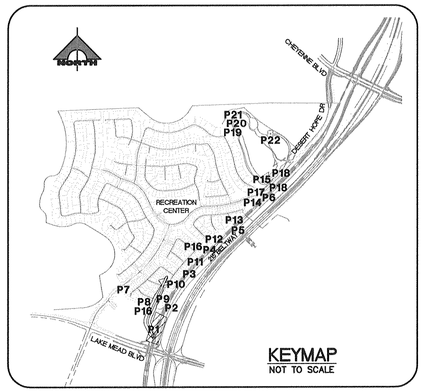
17' X 9' / 17' X 7.5' RECTANGULAR CHANNEL (RIGHT CHANNEL)

(PUBLIC)
SCALE: 1"=30'



8'X5' RCB

(PUBLIC)
SCALE: 1"=30'



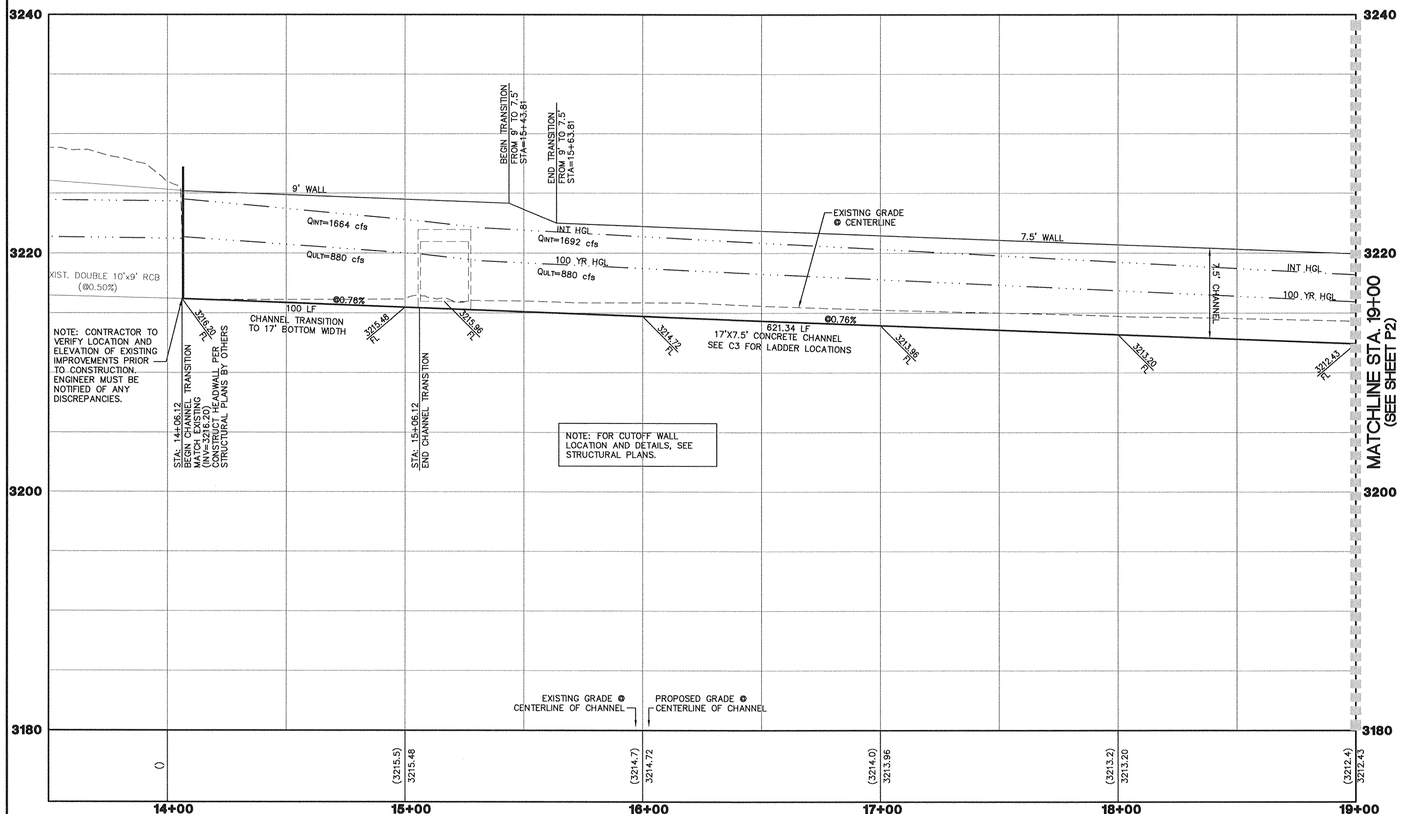
KEYMAP

NOT TO SCALE

30' 0' 15' 30'
SCALE: 1" = 30'

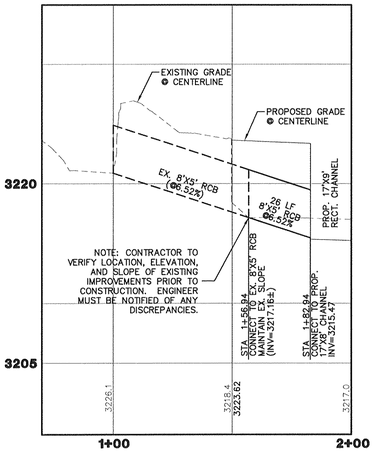
LINE TABLE		
LINE	LENGTH	BEARING
L1	51.94'	N47° 05' 49.86"E

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	4278.53'	474.67'	006°21'23"
C2	200.00'	14.16'	004°03'20"



PROFILE

SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'



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H# ___---___ CLV DWG# ___---___

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
WESLEY T. PETTY
No. 16396
Exp. 12-31-15
CIVIL
DATE 12-21-15
% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: WP
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 10:00:32
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\01SP1.DWG
NATHAN LIM

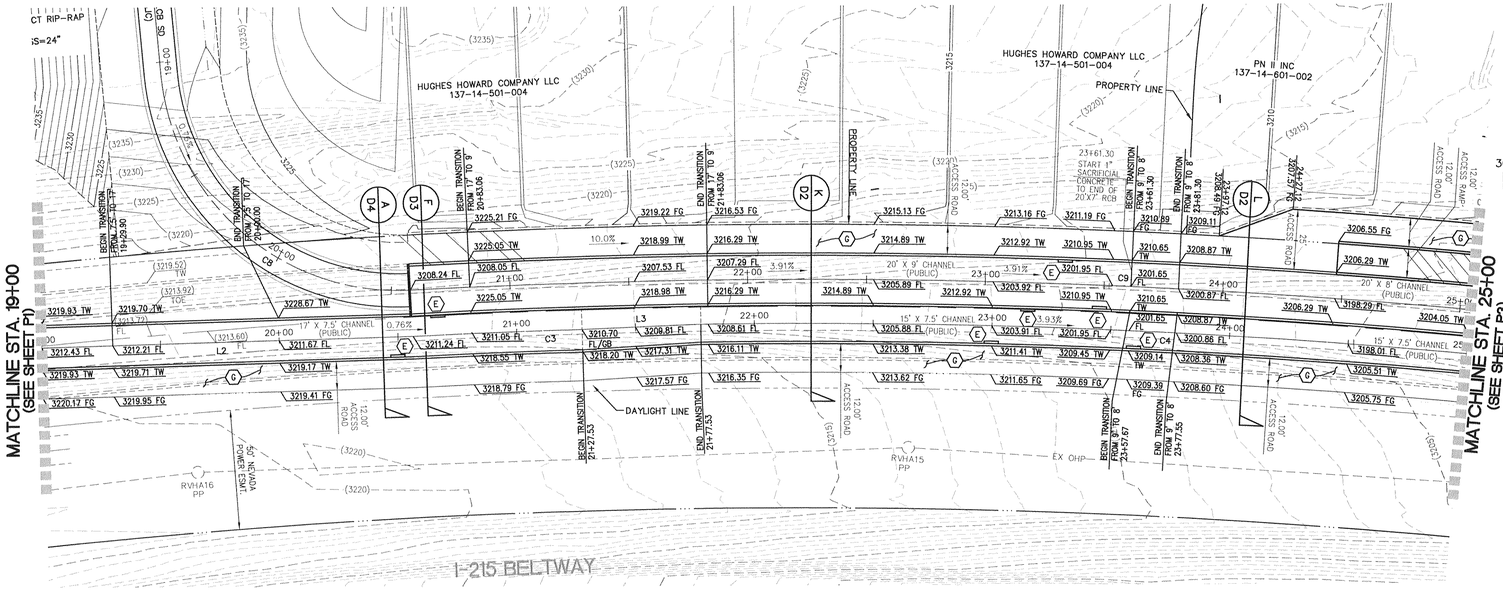
GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

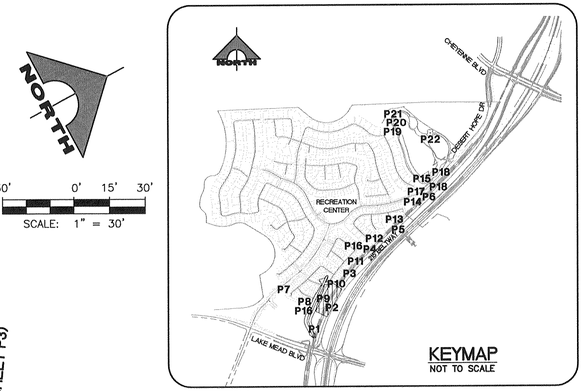
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

STORM CHANNEL PLAN AND PROFILE - STA 13+50 TO STA 19+00
8'X5' RCB PLAN AND PROFILE

DRAWING
P1
19 OF 63 SHTS





KEYMAP
NOT TO SCALE

NORTH

30' 0' 15' 30'

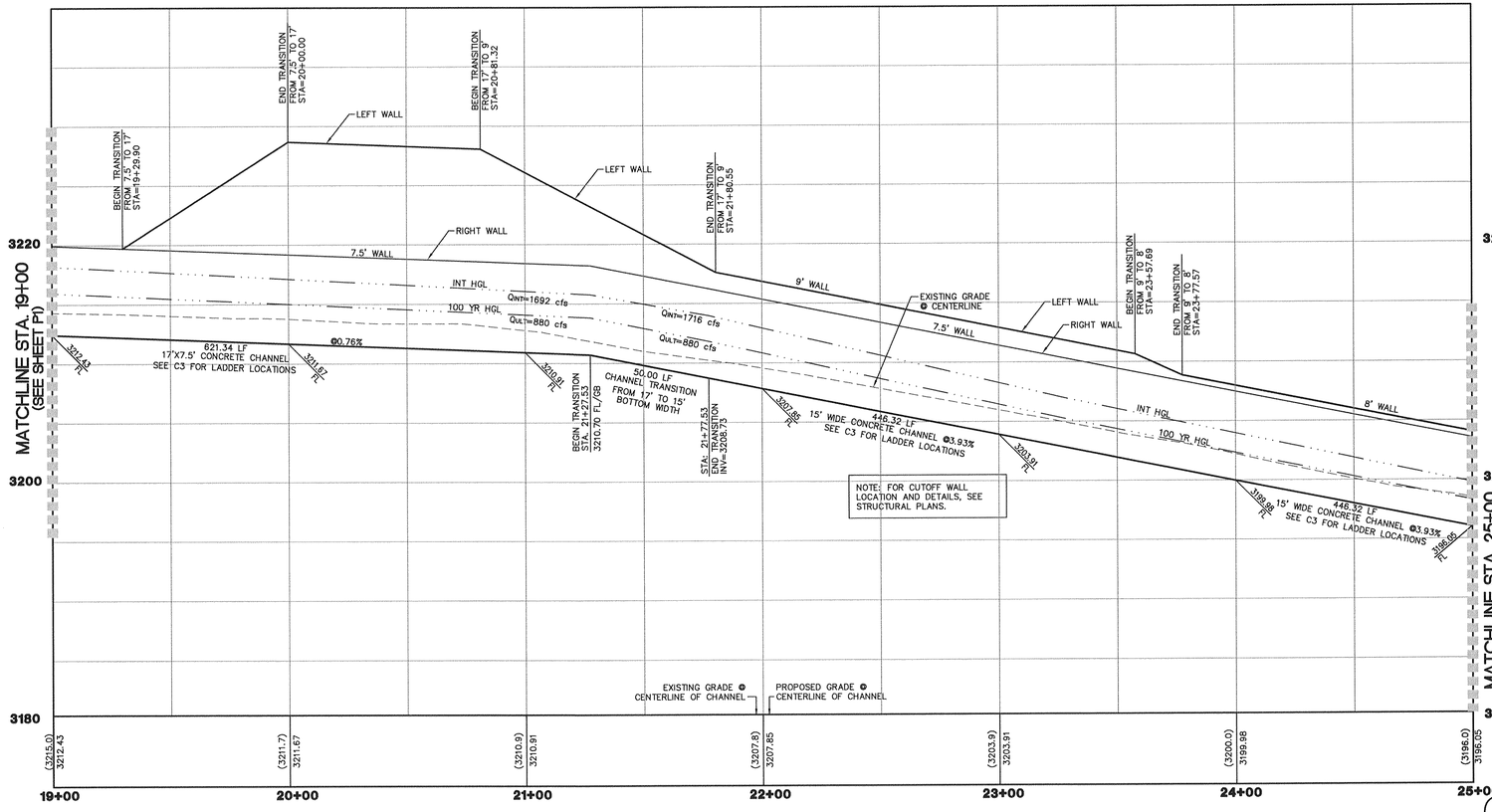
SCALE: 1" = 30'

17' X 7.5' / 15' X 7.5' RECTANGULAR CHANNEL (RIGHT CHANNEL)

(PUBLIC)
SCALE: 1"=30'

LINE TABLE		
LINE	LENGTH	BEARING
L2	161.38'	N26° 26' 16.42"E
L3	50.00'	N25° 48' 48.24"E

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C3	2991.90'	71.11'	001°21'42"
C4	2992.90'	388.09'	007°25'46"



PROFILE

SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
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NOTE TO CONTRACTOR

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SOUTH 89°39'55" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 13, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP THEREOF ON FILE IN FILE 91, PAGE 28 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

NOTE:

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FAST
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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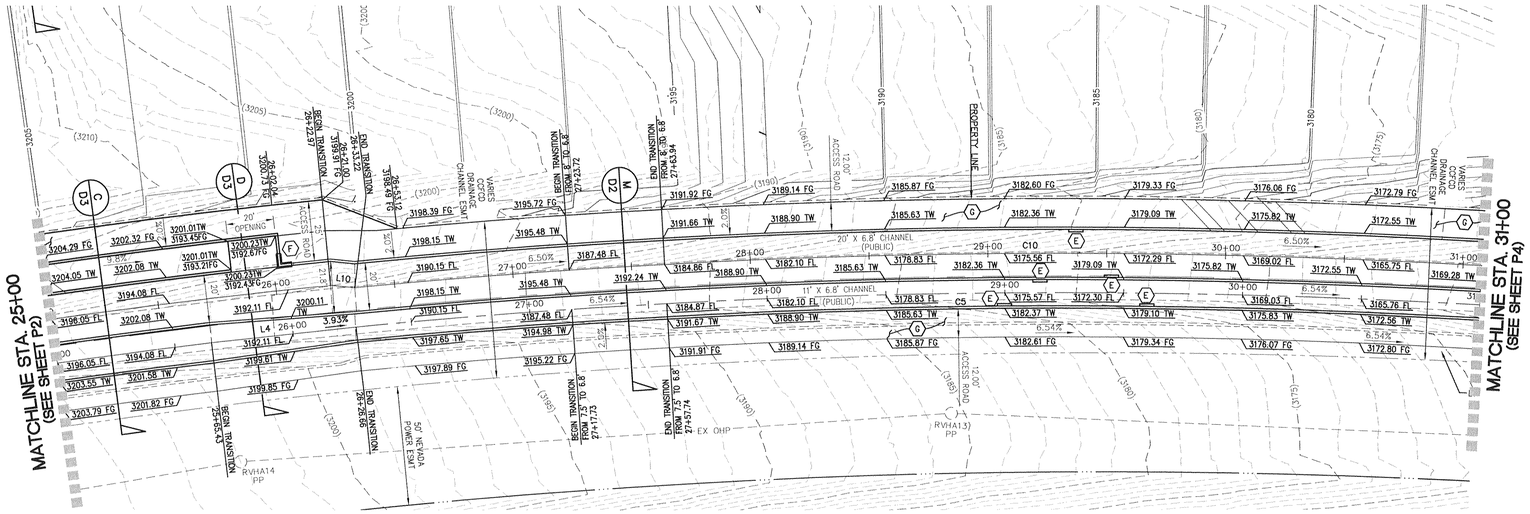
1-702-227-2929

H# ___ CLV DWG# ___

PROFESSIONAL ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-15
No. 15367

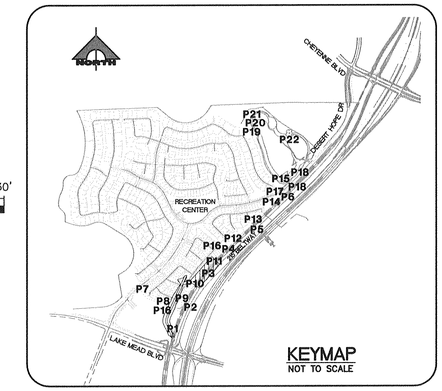
% COMPLETE

REV	DATE	DESCRIPTION

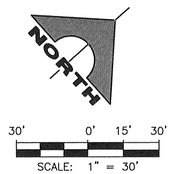


15' X 7.5' / 11' X 7.5.' / 11' X 6.8' RECTANGULAR CHANNEL (RIGHT CHANNEL)

(PUBLIC)



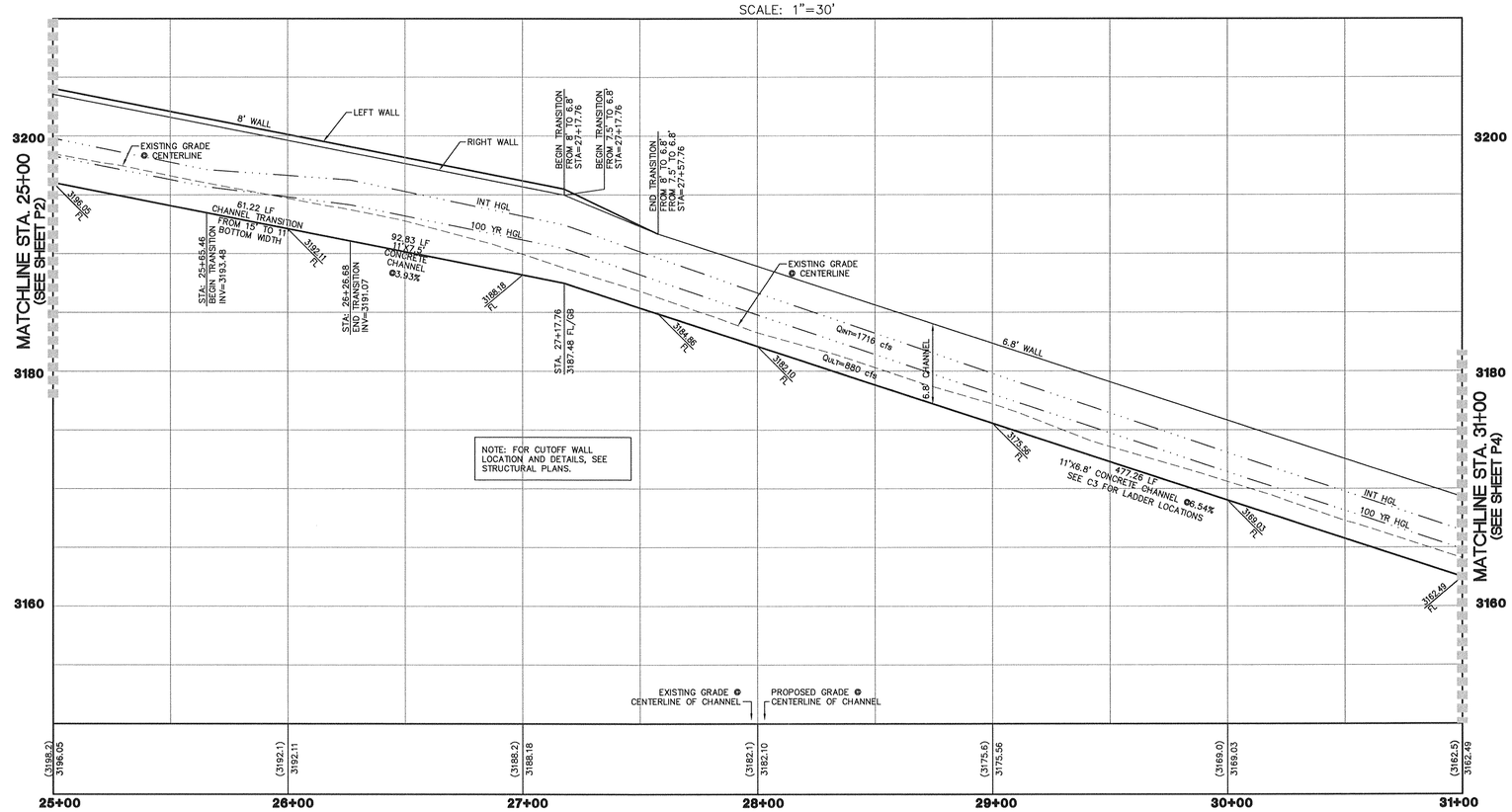
KEYMAP
NOT TO SCALE



LINE TABLE		
LINE	LENGTH	BEARING
L4	60.50'	N35° 26' 47.88"E

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C5	2992.90'	545.24'	010°26'17"

SCALE: 1"=30'



PROFILE

SCALE
HORIZ. 1" = 30'
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STORM DRAIN NOTES:

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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
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3246.62 U.S. SURVEY FEET

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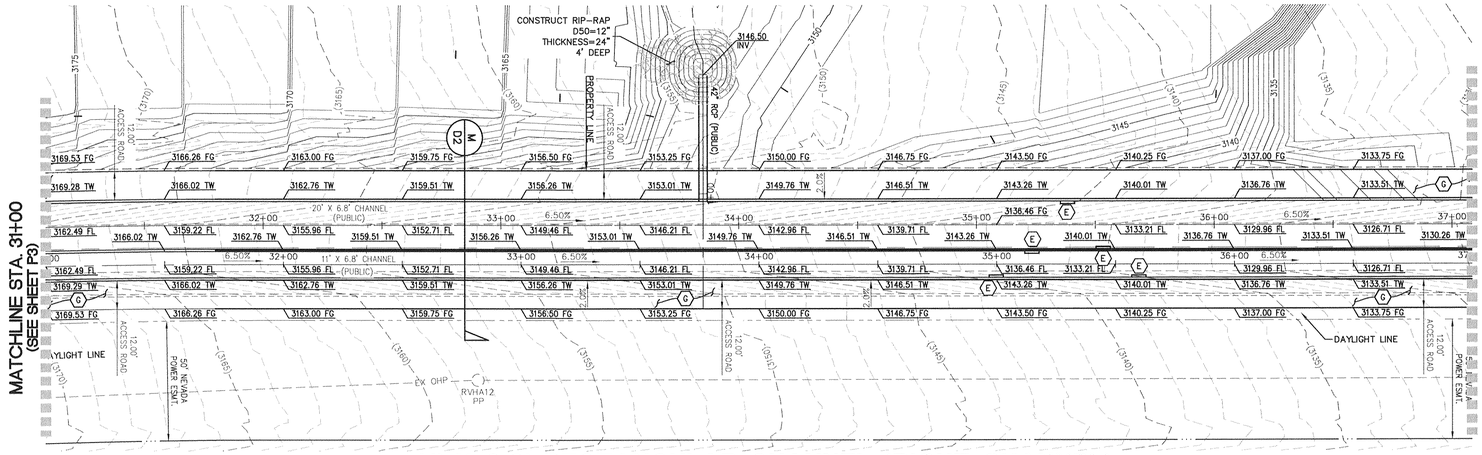
H# ---

CLV DWG# ---

STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — WESLEY T. PETTI — No. 16383 — Exp. 12-31-15

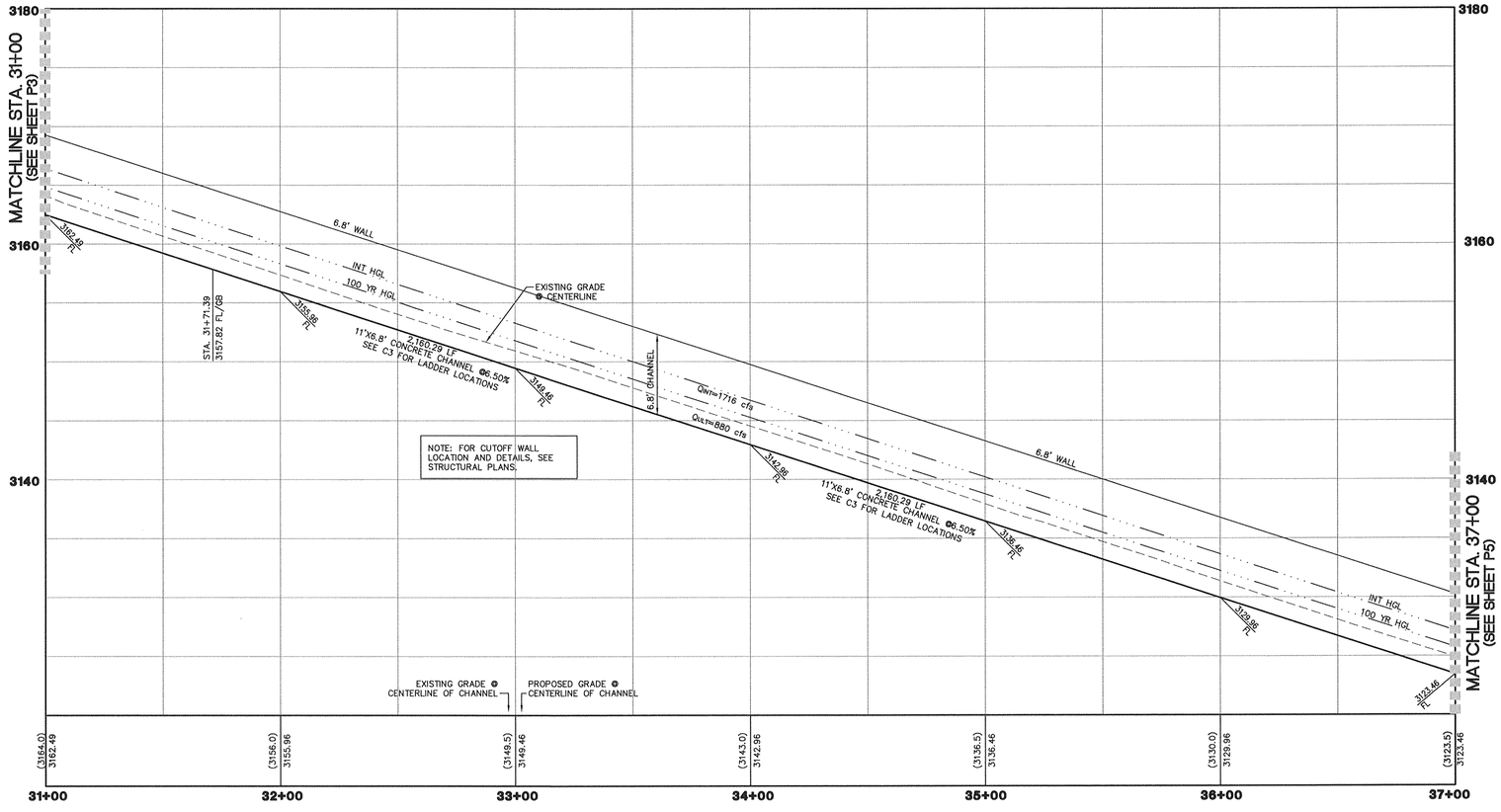
% COMPLETE

REV	DATE	DESCRIPTION



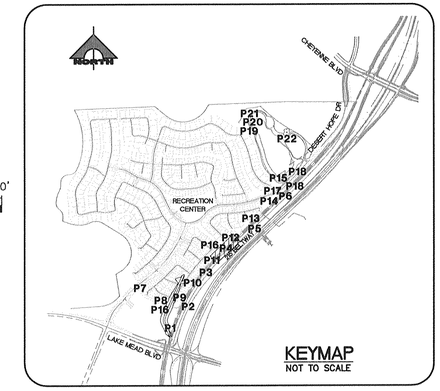
11' X 6.8' RECTANGULAR CHANNEL (RIGHT CHANNEL)

(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'



30' 0' 15' 30'
SCALE: 1" = 30'

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(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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H# ---
CLV DWG# ---

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\01.SCP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

RECTANGULAR CHANNEL PLAN AND PROFILE
STA 31+00 TO STA 37+00

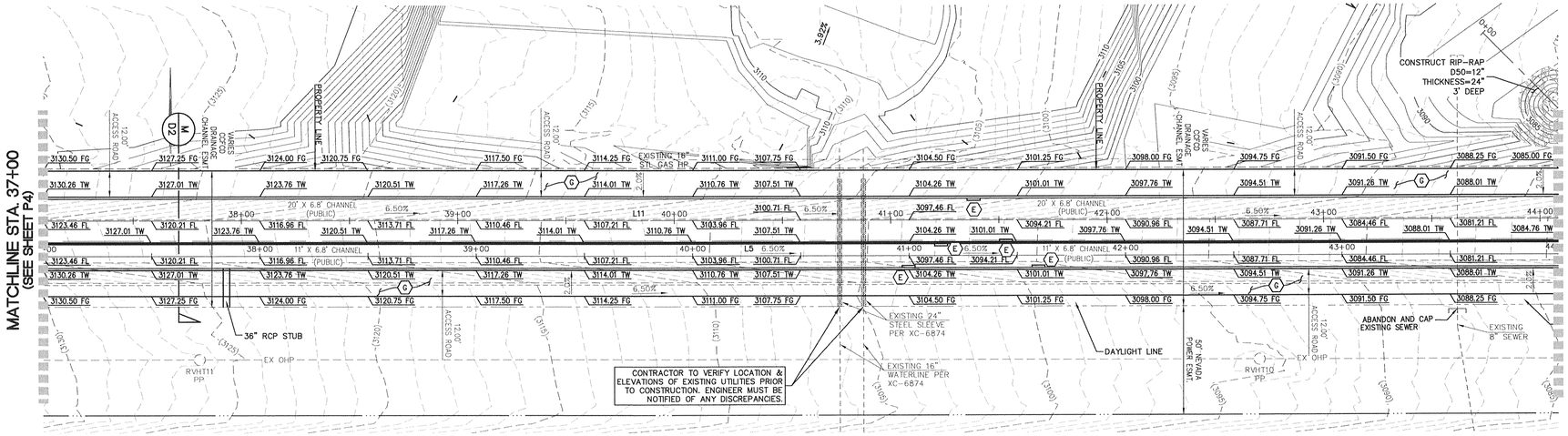
PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: ---
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:59:06

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOW APP

NEVADA · STATE OF NEVADA · 16982 · PROFESSIONAL ENGINEER · WESLEY T. PITTI · No. 16982 · Exp. 12-31-15 · DATE: 12/21/15

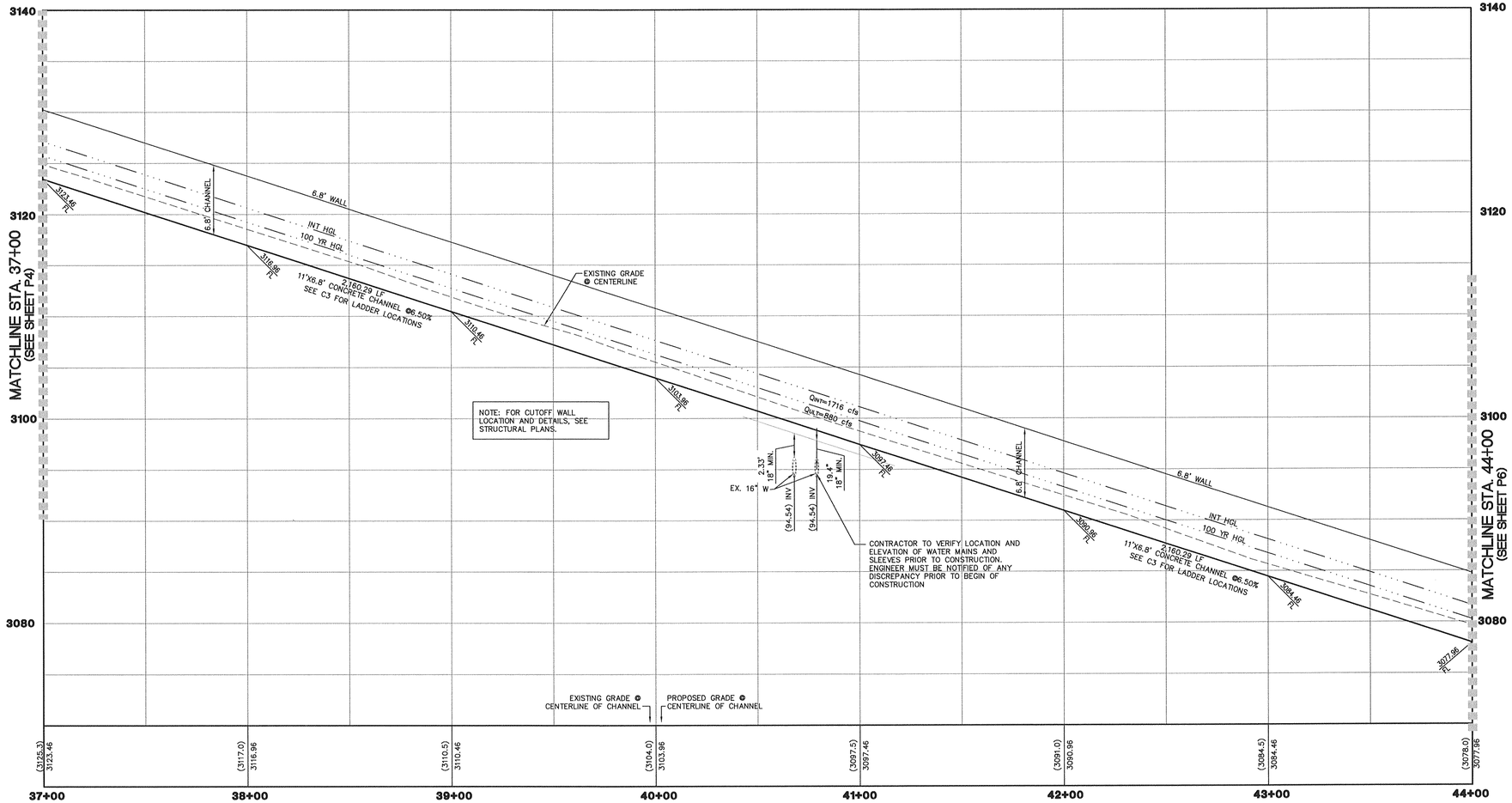
% COMPLETE

DRAWING
P4
22 OF 63 SHTS



11' X 6.8' RECTANGULAR CHANNEL (RIGHT CHANNEL)

(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
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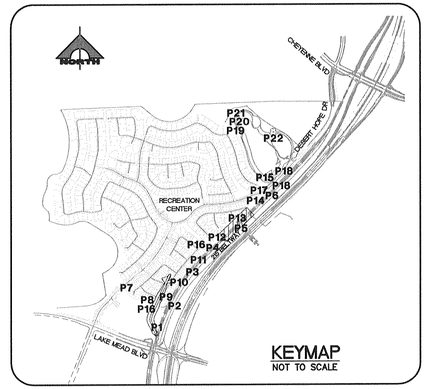
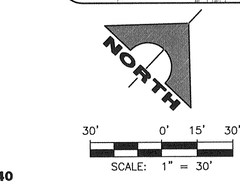
VERT. 1" = 6'





LINE TABLE		
LINE	LENGTH	BEARING
L5	1709.49'	N46° 27' 50.00"E

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BENCHMARK

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H# ---
CLV DWG# ---

DESIGNER'S STATE OF NEVADA
WESLEY T. PRUITT
No. 16358
PROFESSIONAL
Exp. 12-31-15
DATE: 12.16.14
% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	QCW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: ---
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:58:41

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

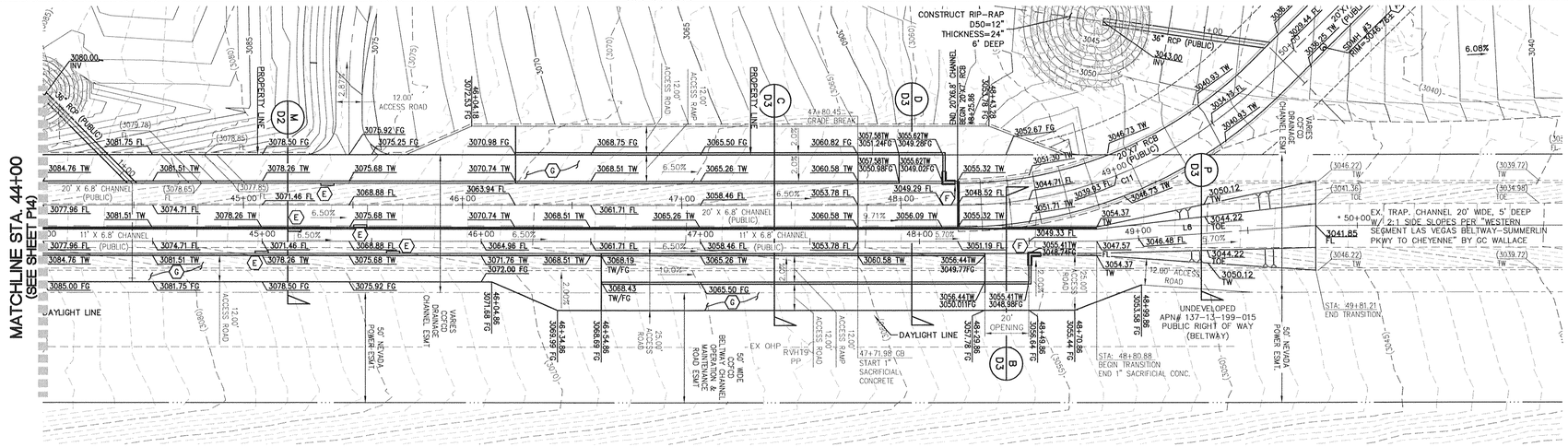
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\013CP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

RECTANGULAR CHANNEL PLAN AND PROFILE
STA 37+00 TO STA 44+00

DRAWING
P5
23 OF 63 SHTS

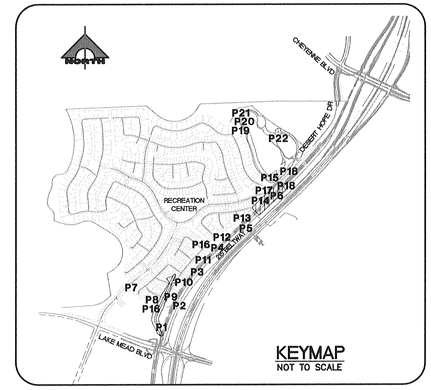


11' X 6.8' RECTANGULAR CHANNEL (RIGHT CHANNEL)

(PUBLIC)
SCALE: 1"=30'

PROFILE

SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'



LINE TABLE		
LINE	LENGTH	BEARING
L6	100.20'	N42° 24' 02.81"E

STORM DRAIN NOTES:

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H# ___ CLV DWG# ___

STATE OF NEVADA
REGISTERED PROFESSIONAL ENGINEER
WESLEY T. PETTY
No. 16363
EXP. 12-31-15

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:58:14

GCW ENGINEERS\SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

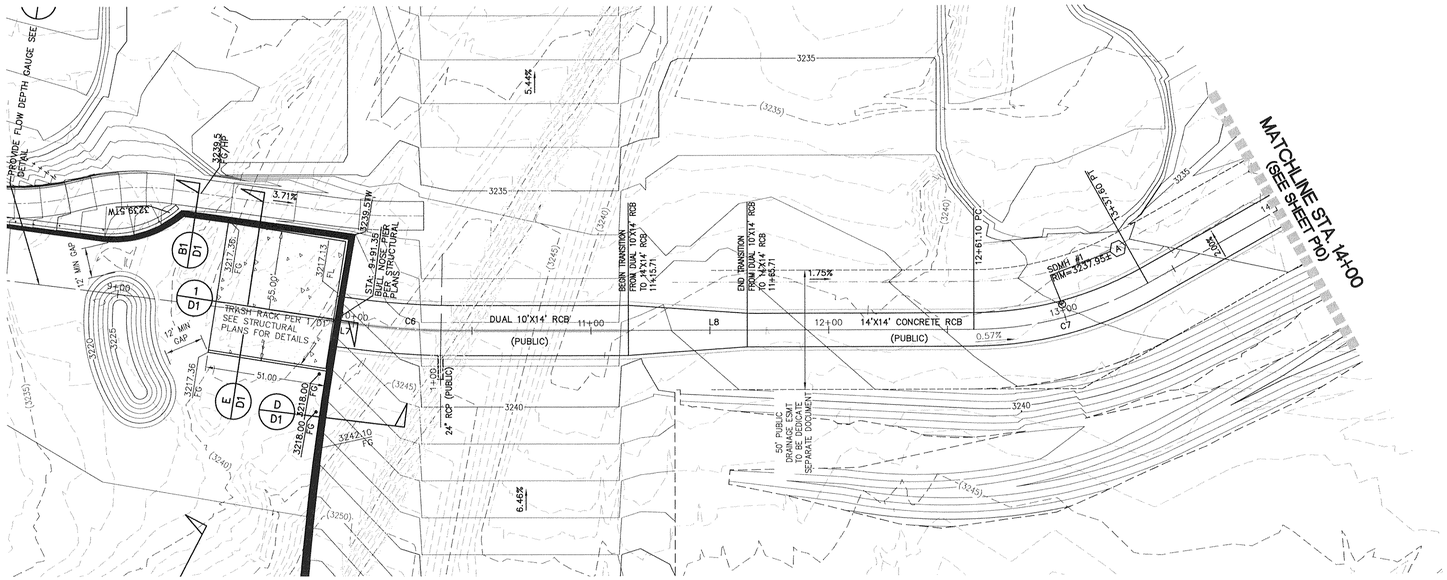
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\0132P1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

RECTANGULAR CHANNEL PLAN AND PROFILE
STA 44+00 TO STA 49+81.21

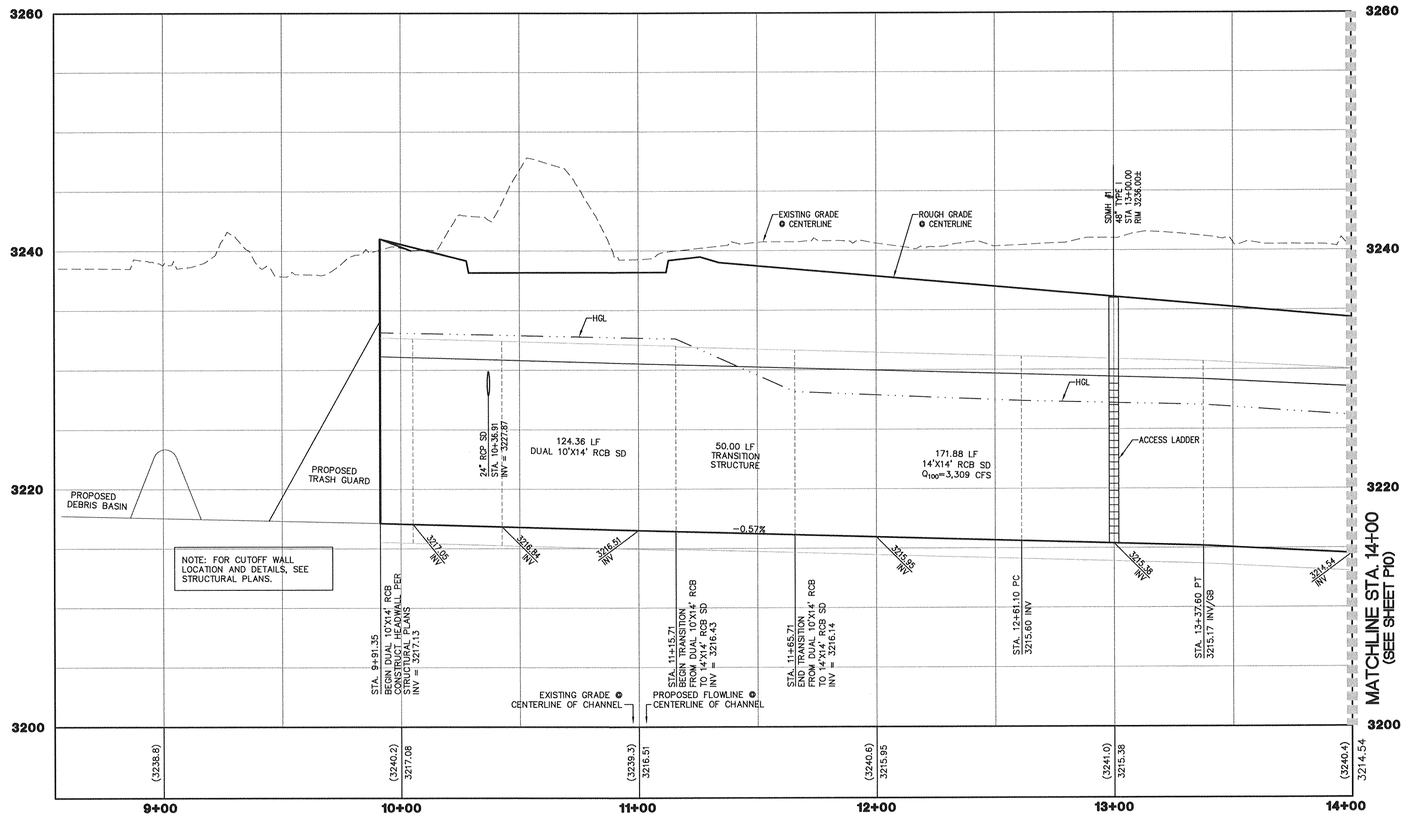
DRAWING
P6
24 OF 63 SHTS



14' X 14' RCB STORM DRAIN

(PUBLIC)

SCALE: 1"=30'



PROFILE

SCALE

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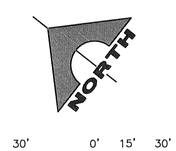
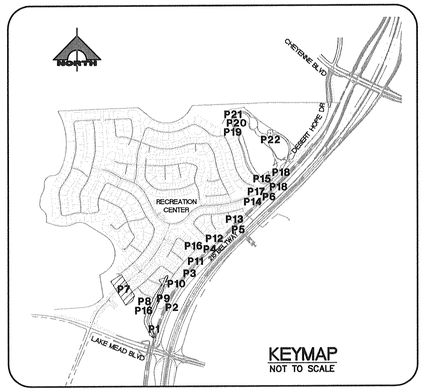
VERT. 1" = 6'





LINE TABLE		
LINE	LENGTH	BEARING
L7	13.76'	S30° 55' 54.03"E
L8	218.56'	S38° 04' 42.77"E

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C6	300.00'	37.42'	007°08'49"
C7	150.00'	76.50'	029°13'14"

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.

(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.

(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.

(D) CONSTRUCT 60" TYPE III MANHOLE PER USDCCA DWG NO. 406.1.

(E) CONSTRUCT LADDER PER STRUCTURAL PLANS. SEE SHEET C3 FOR LOCATION TABLE.

(F) CONSTRUCT SPLASH GUARD AT CHANNEL ACCESS RAMP WALL PER STRUCTURAL PLANS.

(G) CONSTRUCT 2" AC PAVEMENT OVER 4" TYPE II AB.

(H) CONSTRUCT 2" CRUSHED GRAVEL OVER 4" TYPE II 95% COMPACTION FOR H20 DRIVABLE SURFACE.

NOTE TO CONTRACTOR

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BASIS OF BEARING

SOUTH 89°39'55" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 13, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP THEREOF ON FILE IN FILE 91, PAGE 28 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

NOTE:

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Avoid cutting underground utility lines. It's costly.
Call 811
1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S EASY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

H# ---

CLV DWG# ---

WESLEY T. PITTS
Exp. 12-31-15
No. 16395
PROFESSIONAL ENGINEER
STATE OF NEVADA

DATE: 12/11/15

% COMPLETE

REV	DATE	DESCRIPTION

DATE AGEN APP | DATE QCW APP

PROJECT NO. 764-204-013

DESIGN: HN
DRAWN:
CHECK: WP

PLOT DATE: 12-21-15
PLOT TIME: 09:57:48

GCV
ENGINEERS \ SURVEYORS

1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

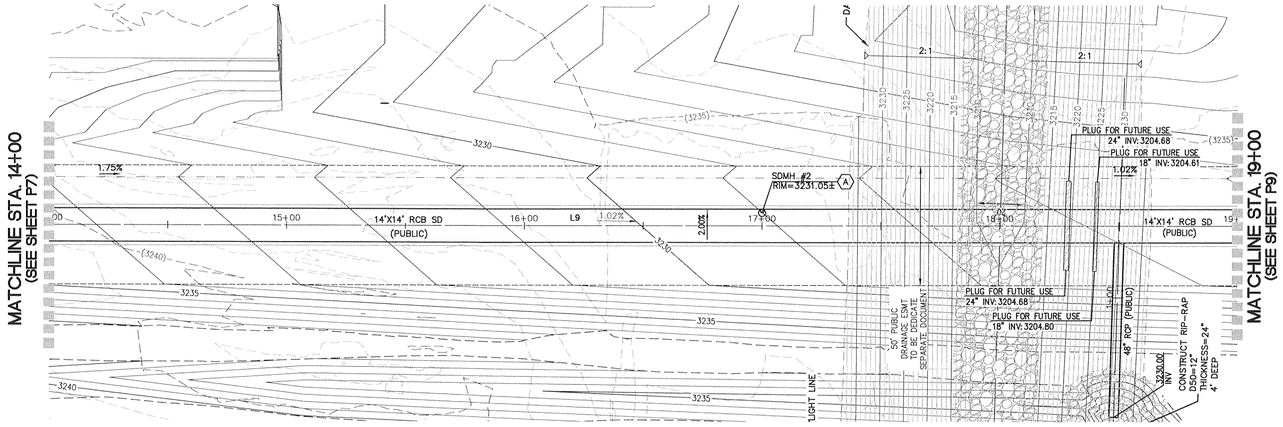
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\013CP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

STORM DRAIN PLAN AND PROFILE
STA 8+00 TO STA 14+00

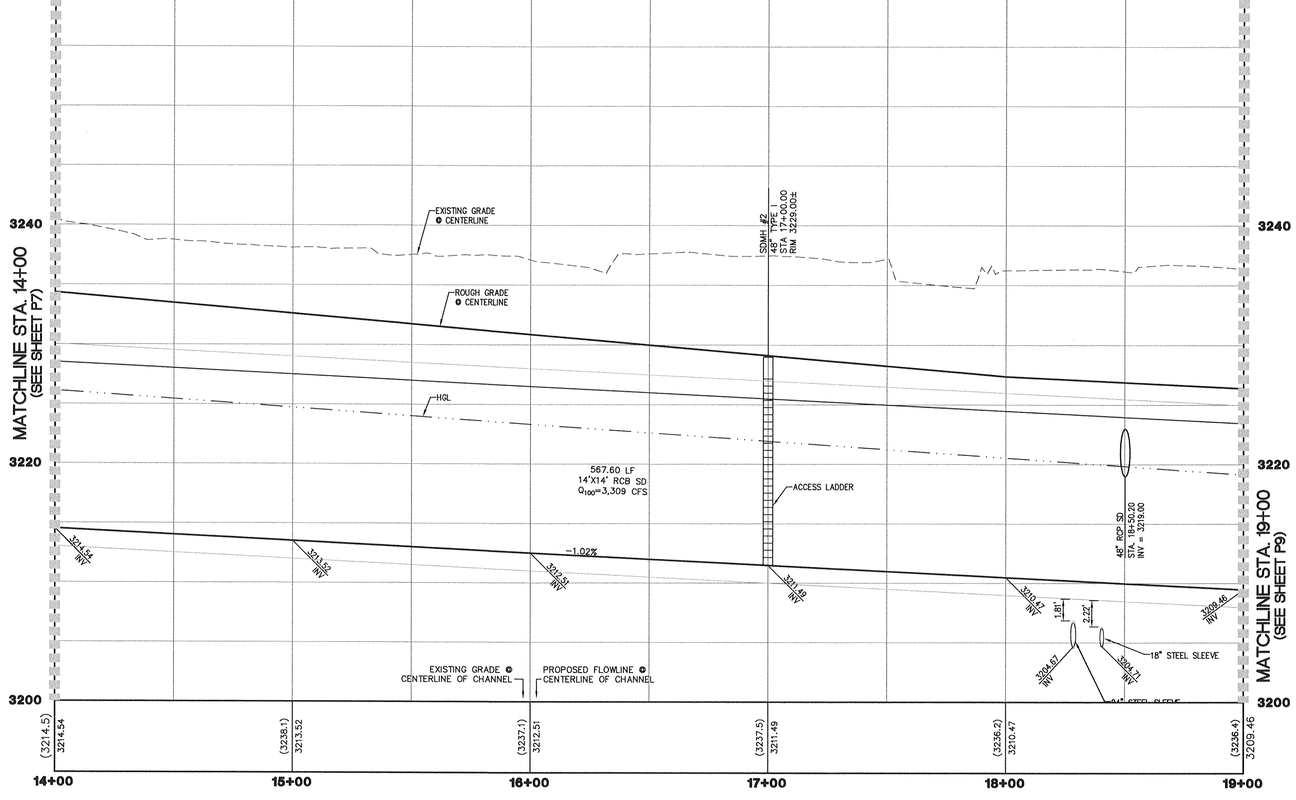
DRAWING
P7
25 OF 63 SHTS



14' X 14' RCB STORM DRAIN

(PUBLIC)

SCALE: 1"=30'

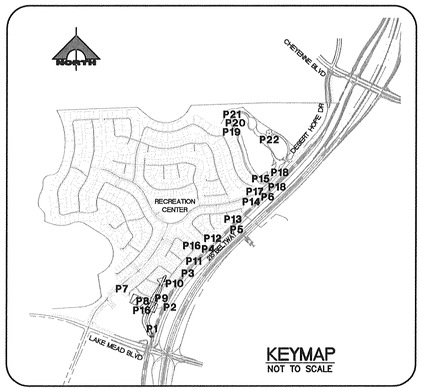


PROFILE

SCALE

HORIZ. 1" = 30'

VERT. 1" = 6'



LINE TABLE		
LINE	LENGTH	BEARING
L9	567.60'	S67° 17' 57.26"E

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
(D) CONSTRUCT 60" TYPE III MANHOLE PER USDCCA DWG NO. 406.1.
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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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H# ____---____ CLV DWG# ____---____

WESLEY T. PETTY
Exp. 12-31-15
CIVIL
No. 16389
STATE OF NEVADA
PROFESSIONAL ENGINEER

DATE: 12/21/21
% COMPLETE

REV	DATE	DESCRIPTION
	DATE	AGEN APP
	DATE	GOW APP

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: WP
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:57:18

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

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NATHAN LIM

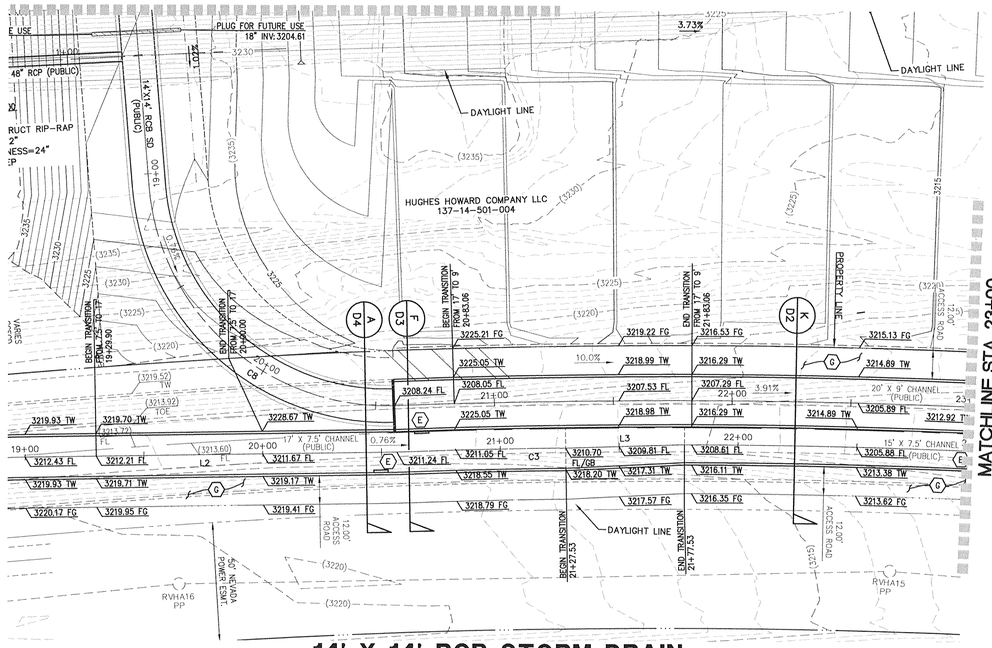
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

STORM DRAIN PLAN AND PROFILE
STA 14+00 TO STA 19+00

DRAWING
P8
26 OF 63 SHTS

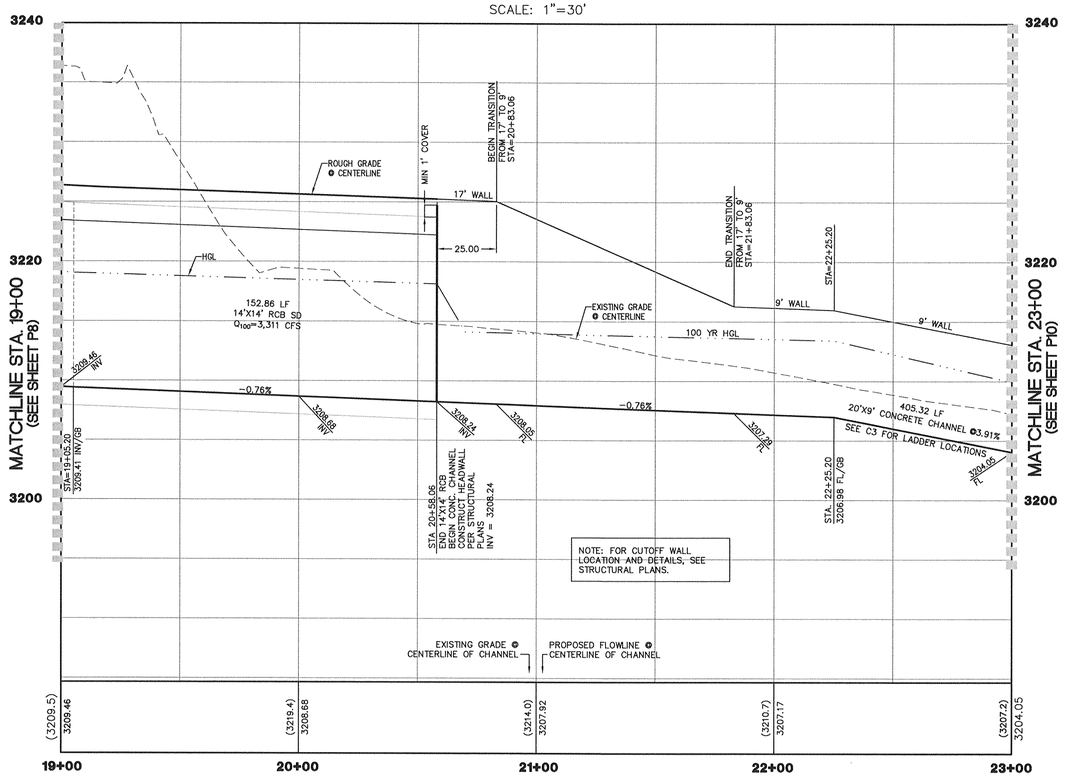
MATCHLINE STA. 19+00
(SEE SHEET P8)



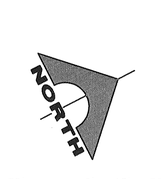
MATCHLINE STA. 23+00
(SEE SHEET P10)

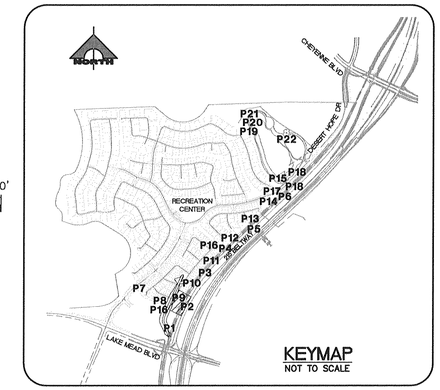
14' X 14' RCB STORM DRAIN
20' X 9' / 20' X 8' RECTANGULAR CHANNEL (LEFT CHANNEL)

(PUBLIC)
SCALE: 1"=30'



PROFILE
SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'





KEYMAP
NOT TO SCALE

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C8	100.00'	152.86'	087°35'01"

STORM DRAIN NOTES:

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(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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SUMMERLIN WEST: CLV NAVD 88/93
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1-702-227-2929

H# ___ CLV DWG# ___

PROFESSIONAL ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-15
CIVIL
No. 16989
DATE 12/21/15
% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	CCW APP

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: ___
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:56:56

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

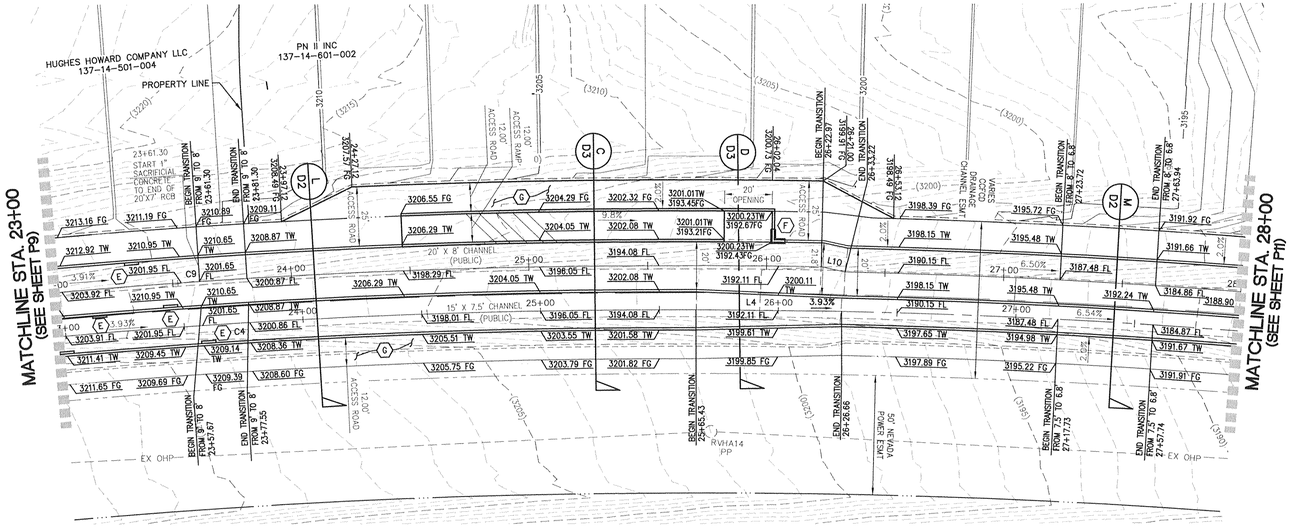
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\D13CP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

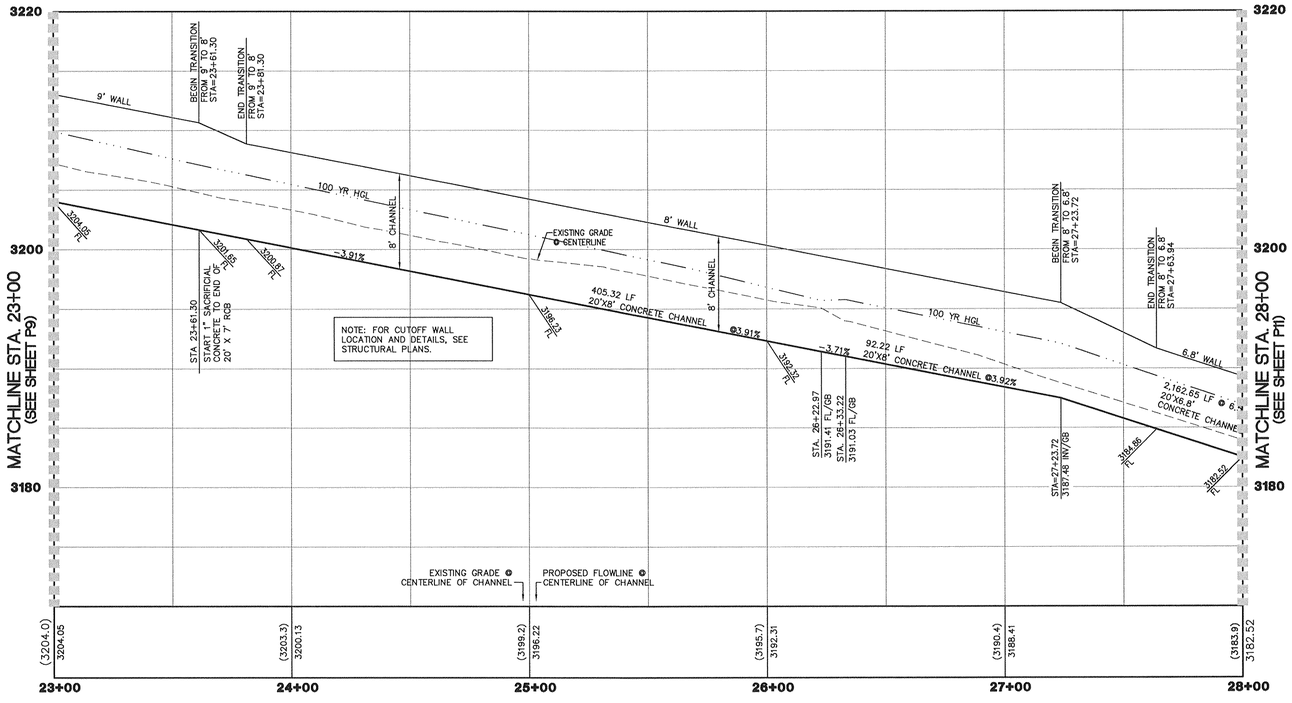
STORM DRAIN PLAN AND PROFILE
STA 19+00 TO STA 23+00

DRAWING
P9
27 OF 63 SHTS



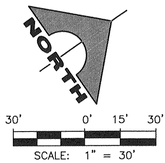
20' X 8' / 20' X 6.8' RECTANGULAR CHANNEL (LEFT CHANNEL)

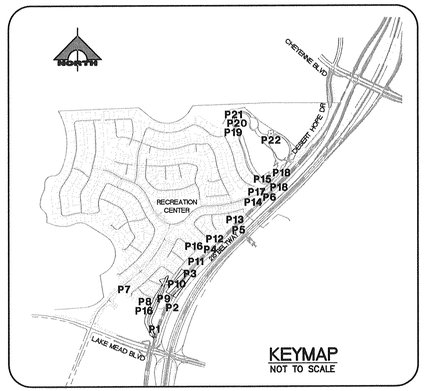
(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'





LINE TABLE		
LINE	LENGTH	BEARING
L10	10.25'	N47° 12' 48.08"E

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C9	3011.40'	564.91'	010°44'53"

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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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H# ---
CLV DWG# ---

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1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
ENGINEERS \ SURVEYORS

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NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

STORM DRAIN PLAN AND PROFILE
STA 23+00 TO STA 28+00

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:56:31

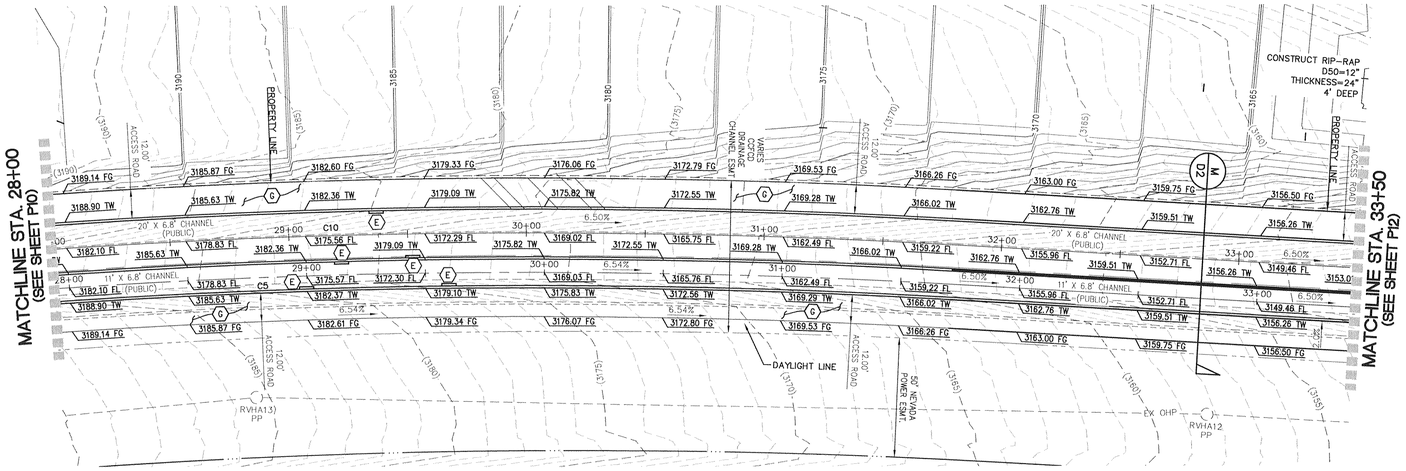
DRAWING
P10
28 OF 63 SHTS

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

WESLEY T. PITTS
No. 16385
STATE OF NEVADA
PROFESSIONAL ENGINEER

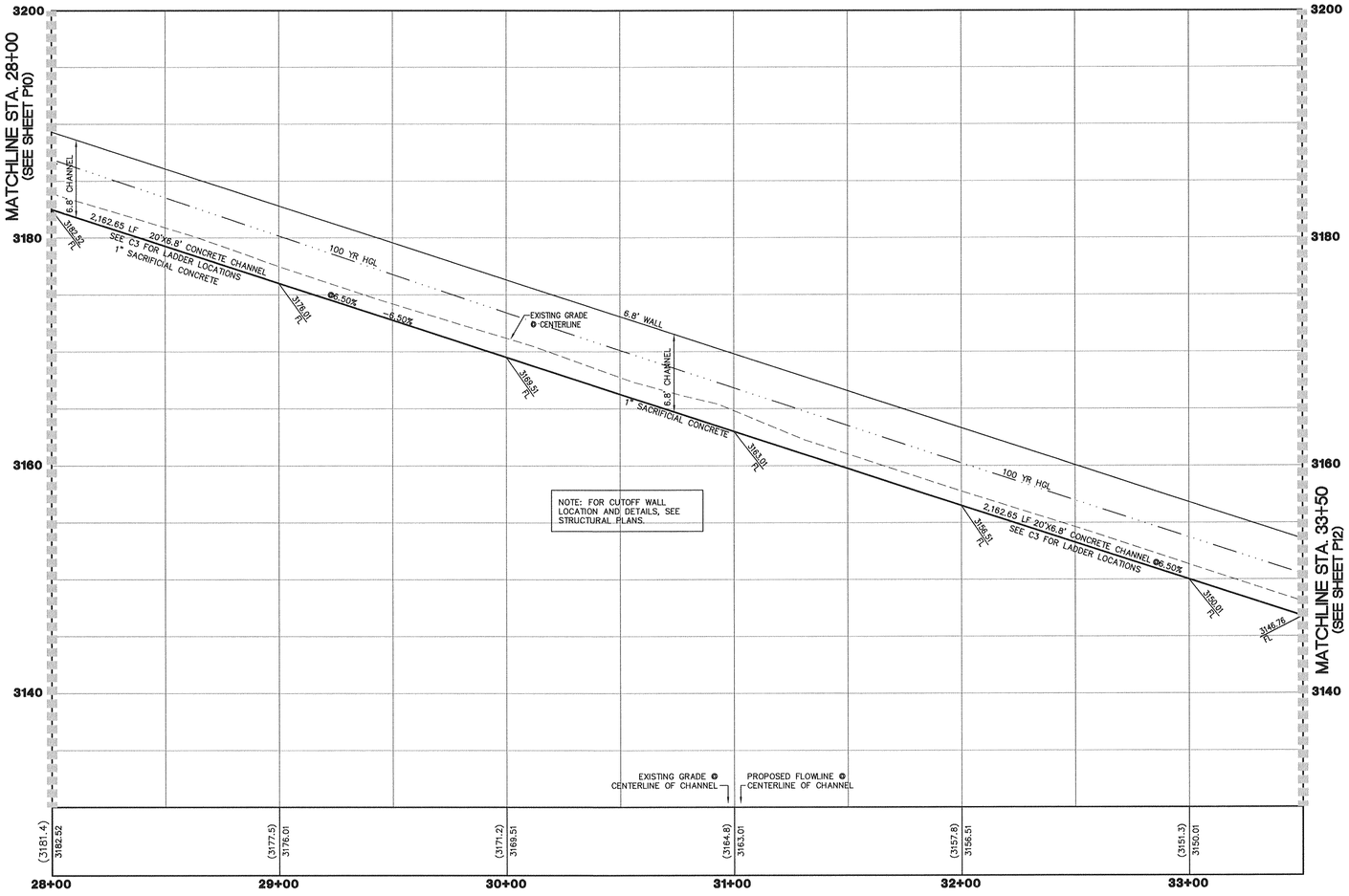
DATE: 12-21-15

% COMPLETE



20' X 6.8' RECTANGULAR CHANNEL (LEFT CHANNEL)

(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
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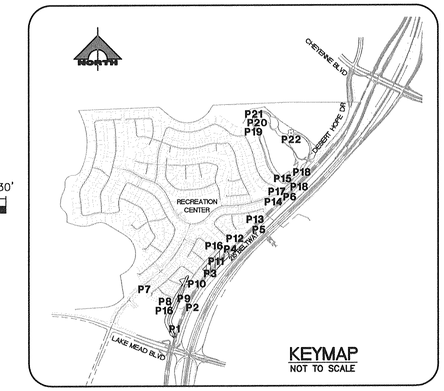
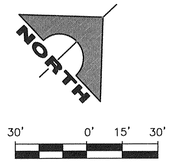
VERT. 1" = 6'



KEYMAP
NOT TO SCALE



CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C10	3009.40'	546.63'	010°24'26"

STORM DRAIN NOTES:

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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES OR EQUIPMENT
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

H# ___ CLV DWG# ___

GCV ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\013CP1.DWG
NATHAN LIM

PROJECT NO.
764-204-013
DESIGN: HN
DRAWN: ___
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:56:07

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP	DATE

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

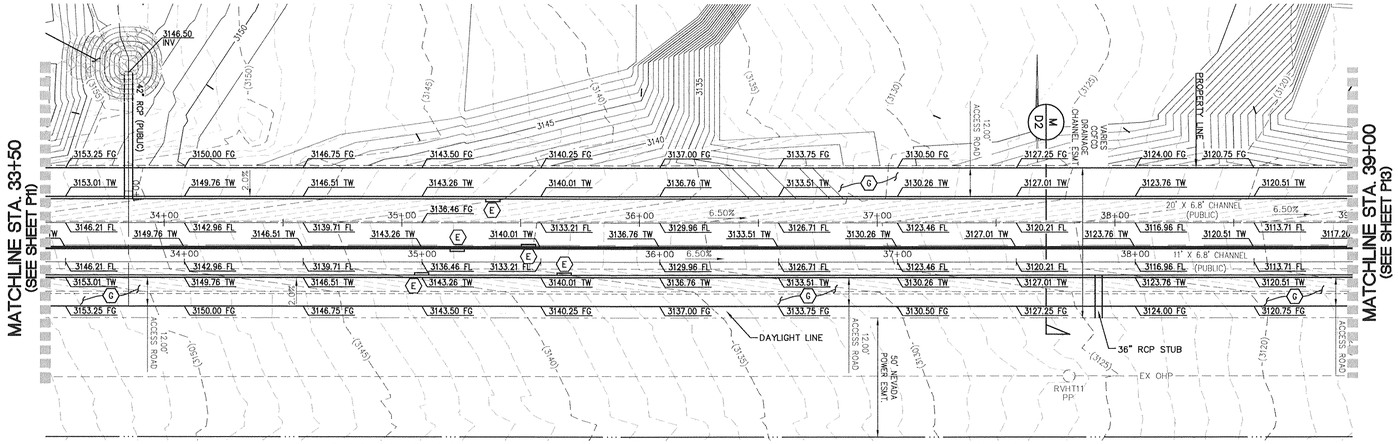
STORM DRAIN PLAN AND PROFILE
STA 28+00 TO STA 33+50

DRAWING
P11
29 OF 63 SHTS

WESLEY T. PETTY
No. 16356
Exp. 12-31-15
PROFESSIONAL ENGINEER
STATE OF NEVADA

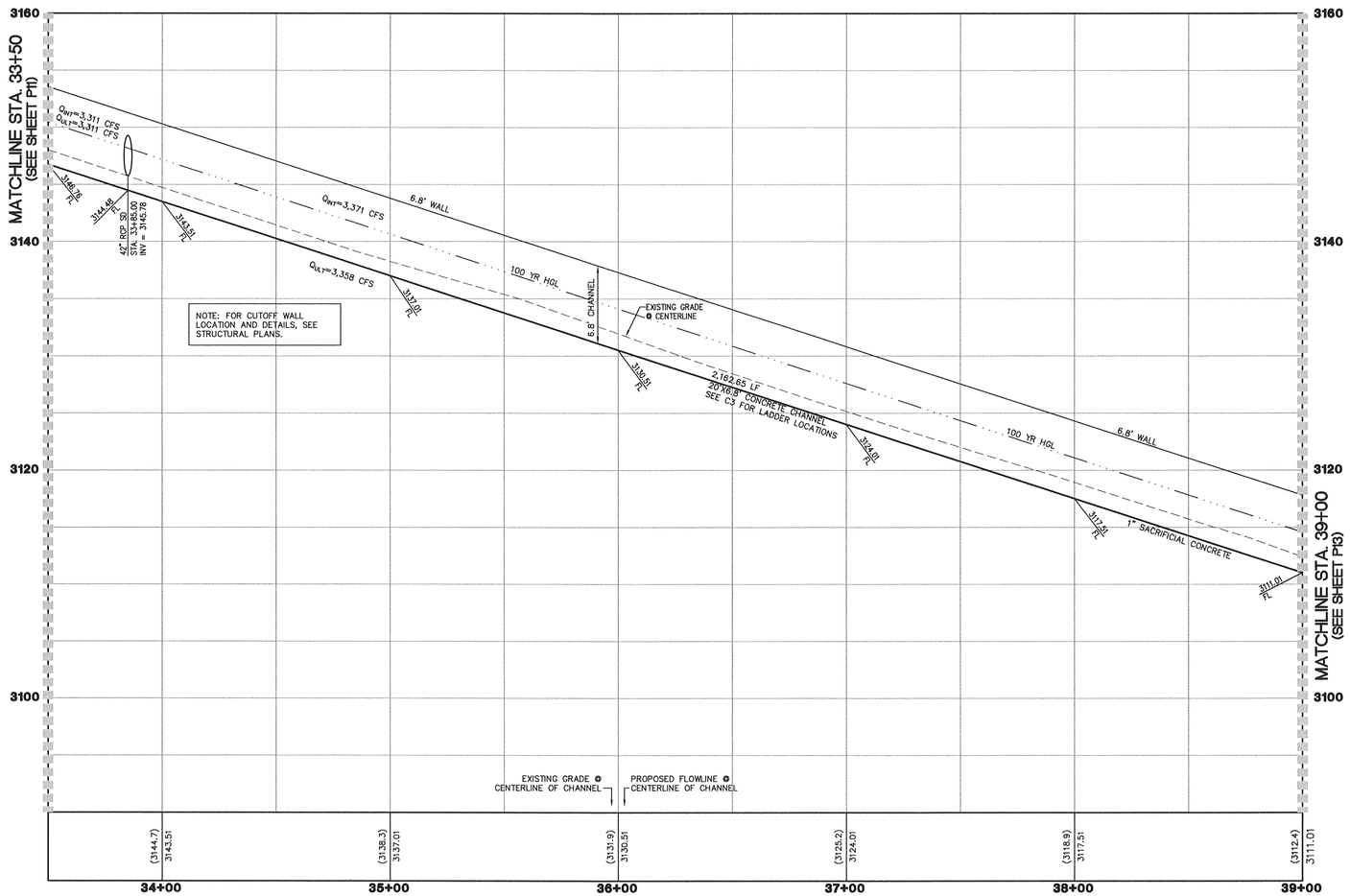
DATE: 12/21/15

% COMPLETE



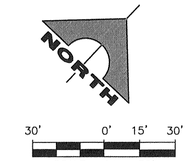
20' X 6.8' RECTANGULAR CHANNEL (LEFT CHANNEL)

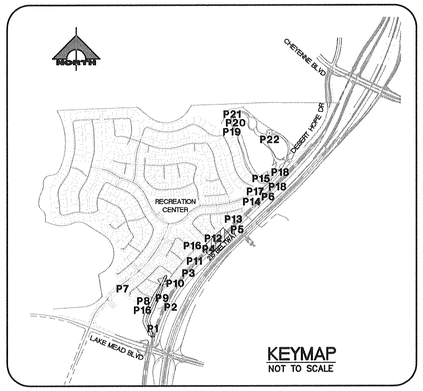
(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'





STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
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BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

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or
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FAST
Call before you UnderGround
1-702-432-5300
FREWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES OR CRANES
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

H# ___ CLV DWG# ___

ENGINEER'S STATE OF NEVADA PROFESSIONAL
WESLEY T. PETTI
Exp. 12-31-15
No. 16385
DATE 11/12/15

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:55:51

GCW ENGINEERS\ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

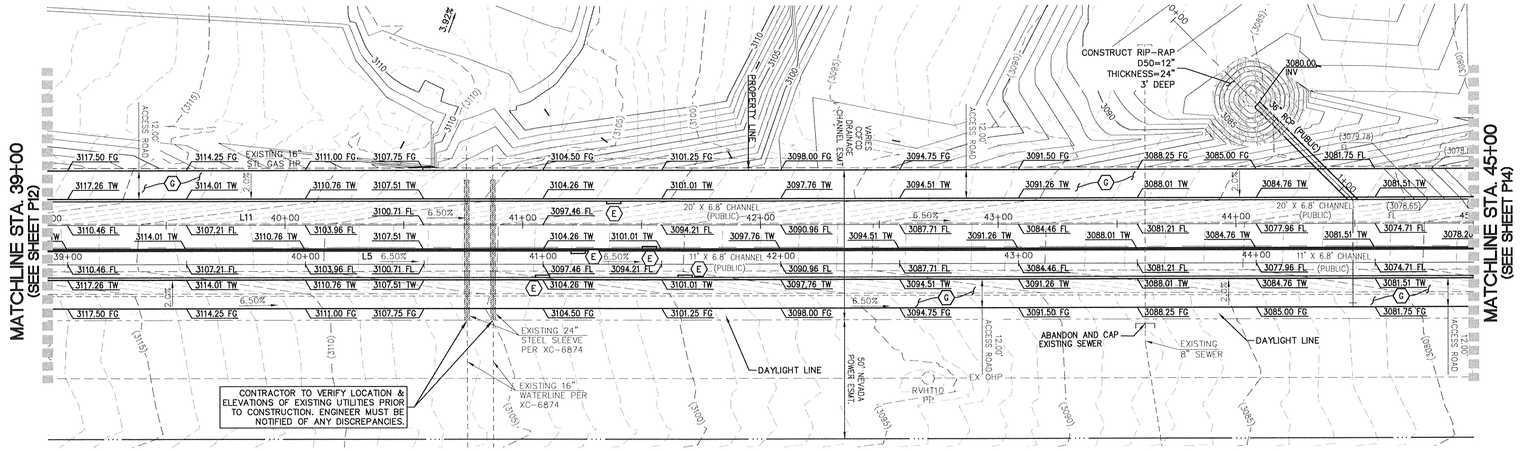
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\DS DRAINAGE\01.3SP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

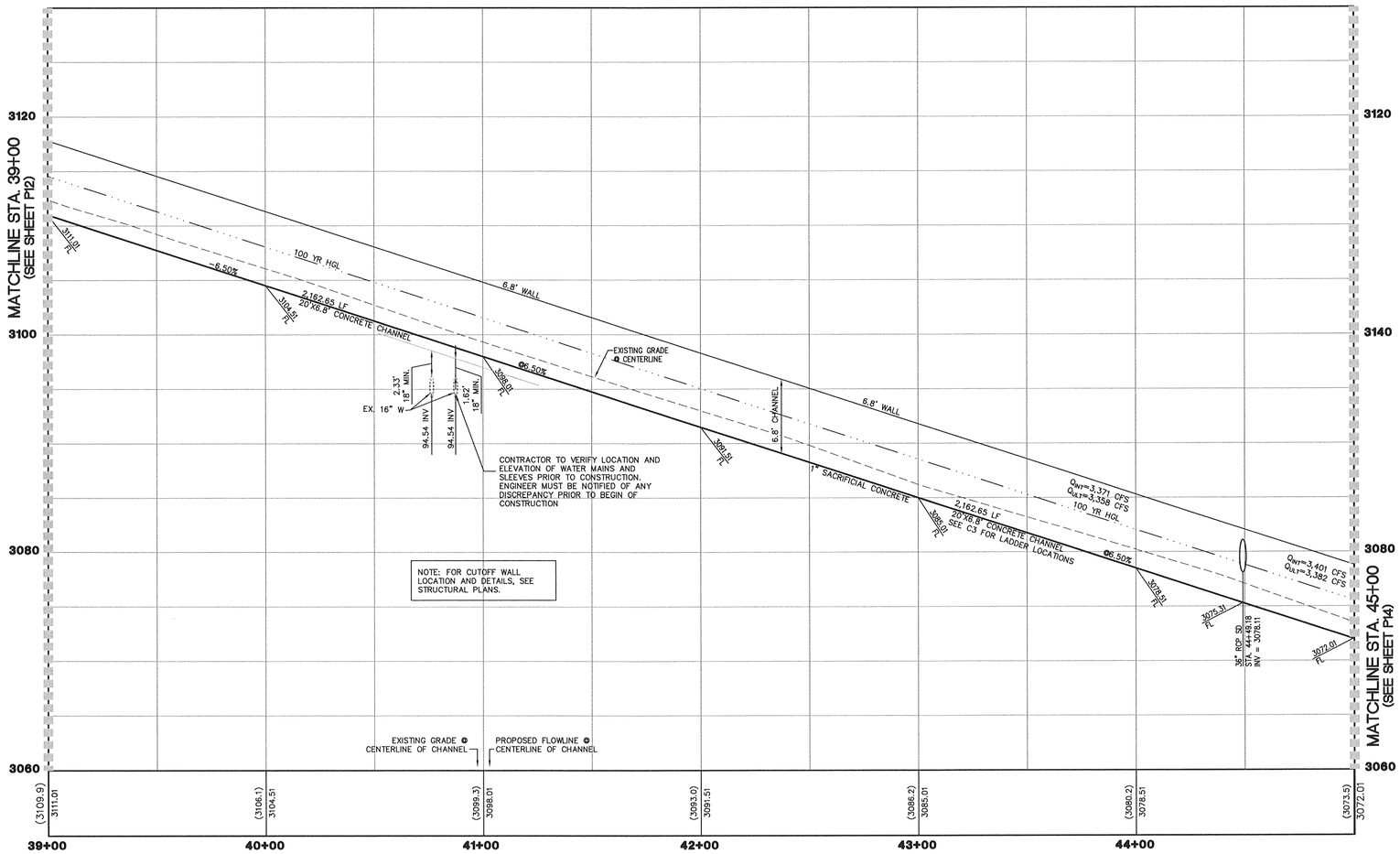
STORM DRAIN PLAN AND PROFILE
STA 33+50 TO STA 39+00

DRAWING
P12
30 OF 63 SHTS



20' X 6.8' RECTANGULAR CHANNEL (LEFT CHANNEL)

(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
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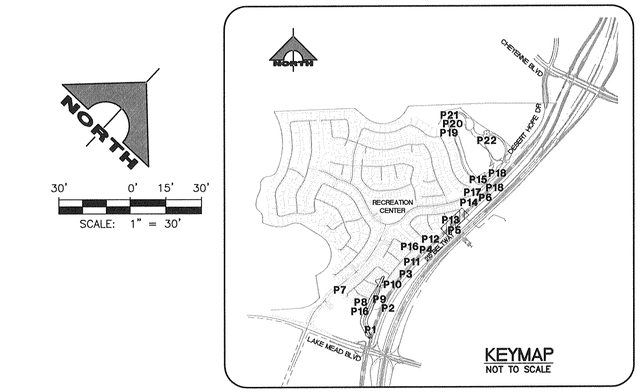

KEYMAP
NOT TO SCALE

LINE TABLE		
LINE	LENGTH	BEARING
L11	1646.01'	N46° 27' 50.00"E

STORM DRAIN NOTES:

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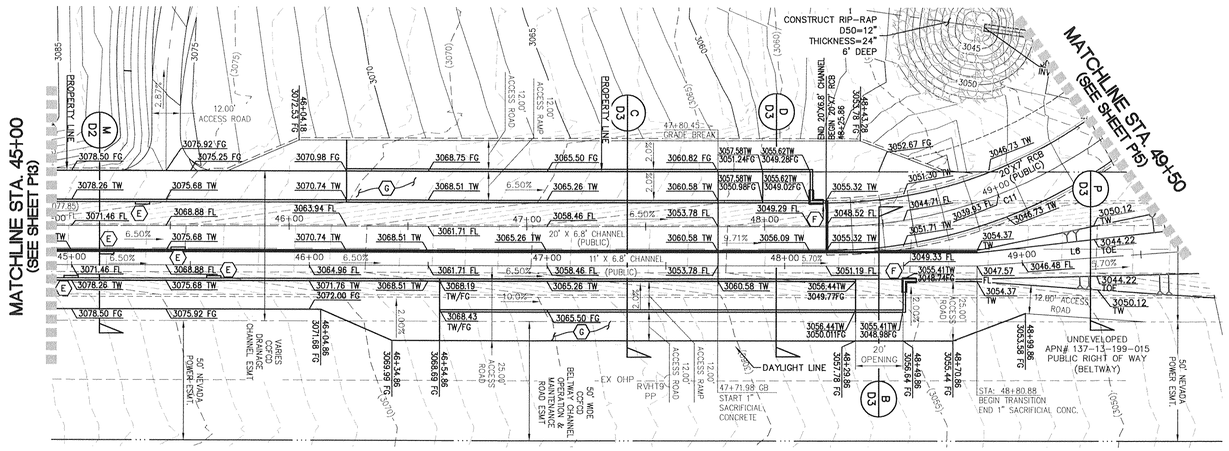
H# ___ CLV DWG# ___

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\DS DRAINAGE\013DP1.DWG
NATHAN LIM

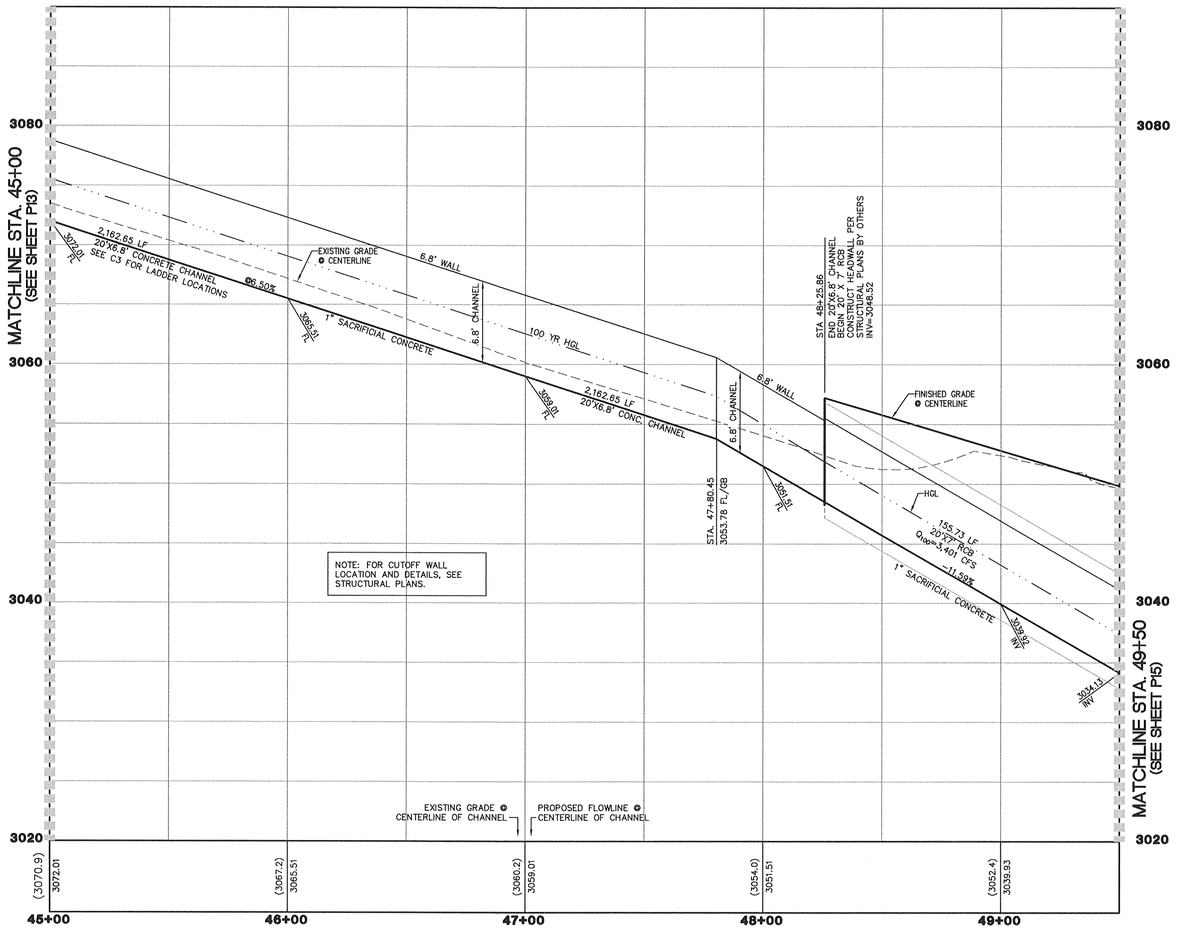
PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:55:26

REV	DATE	DESCRIPTION



20' X 6.8' RECTANGULAR CHANNEL (LEFT CHANNEL)
20' X 7' RCB STORM DRAIN

(PUBLIC)
SCALE: 1"=30'



PROFILE

SCALE
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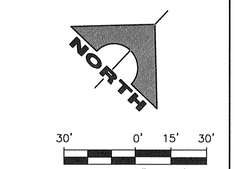
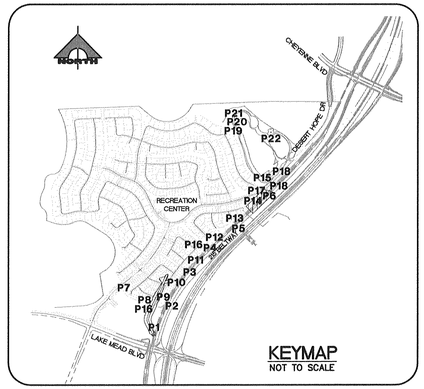
VERT. 1" = 6'





CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA
C11	200.00'	155.73'	044°36'52"

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H# ___ CLV DWG# ___

PROFESSIONAL ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-15
No. 16398
CIVIL
DATE: 12-21-15
% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:55:01

GCW ENGINEERS\SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

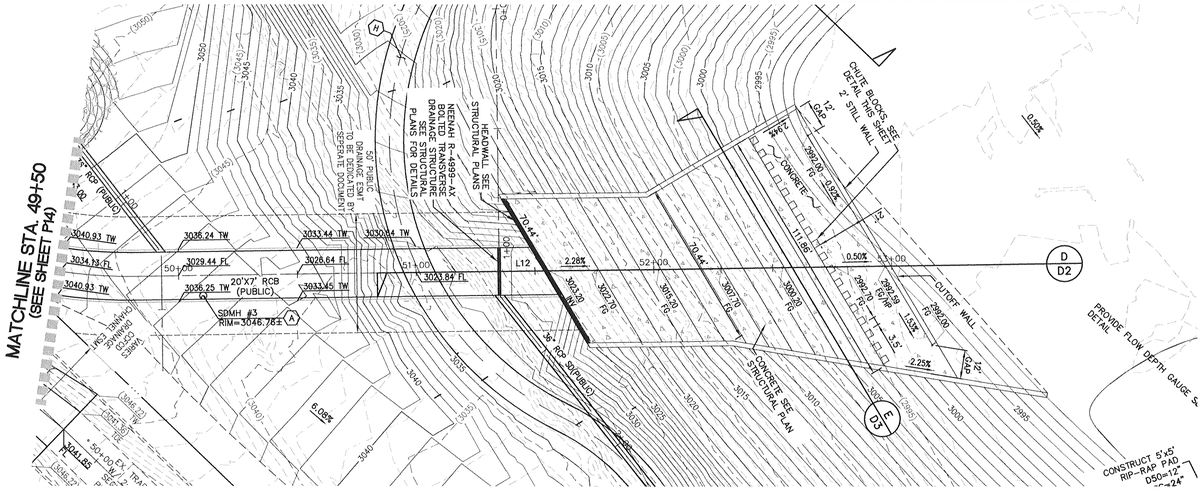
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\P13GP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

STORM DRAIN PLAN AND PROFILE
STA 45+00 TO STA 49+50

DRAWING
P14
32 OF 63 SHTS


MATCHLINE STA. 49+50
(SEE SHEET P14)
3040.93 TW
3034.13 FL
3035.24 TW
3029.44 FL
3036.25 TW
20'X7' RCB
(PUBLIC)
SDMH #3
RIM=3046.78±
3033.44 TW
3026.64 FL
3033.45 TW
3030.64 TW
3023.84 FL
L12
2.28%
70.44'
HEADWALL SEE STRUCTURAL PLANS
NEENAH R-4999-AX BOLTED TRANSVERSE DRAINAGE STRUCTURE
SEE STRUCTURAL PLANS FOR DETAILS
SEE DETAIL DOCUMENT
SEE PUBLIC DRAINAGE EASEMENT
CHUTE BLOCKS SEE DETAIL THIS SHEET
2 STILL WALL
CONCRETE
CUTOFF WALL
PROVIDE FLOW DEPTH GAUGE
CONSTRUCT 5'x5' RIP-RAP PAD
D50=12"
0.50%
1.53%
2.25%
6.08%
CONCRETE SEE STRUCTURAL PLAN
D
D2
E
D3
3041.85
3046.82
3046.78
3040.93
3035.24
3034.13
3029.44
3033.44
3026.64
3033.45
3030.64
3023.84
3023.20
3027.70
3030.20
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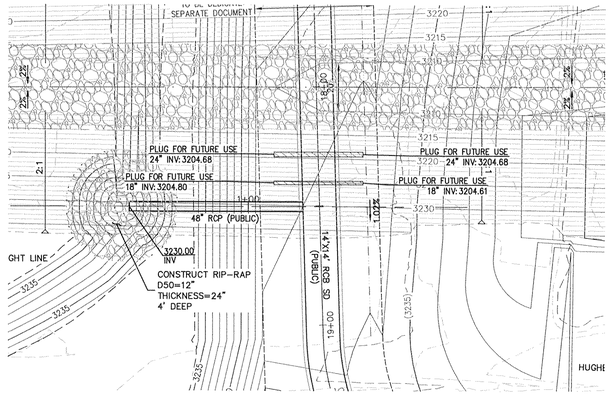
3122.70
3125.20

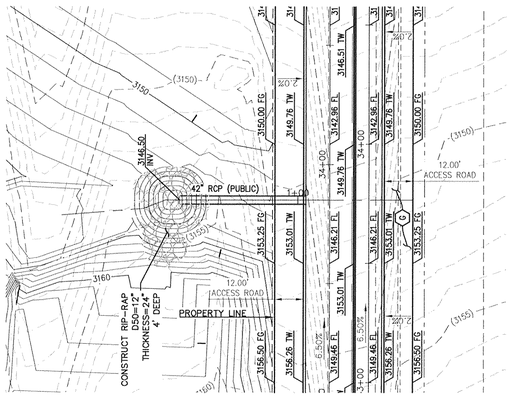


48" RCP LATERAL

STA. 18+50.20

(PUBLIC)

SCALE: 1"=30'

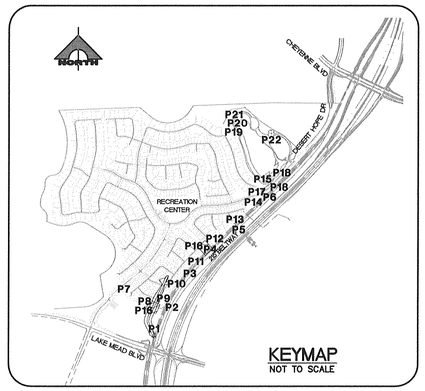


42" RCP LATERAL

STA. 33+85.00

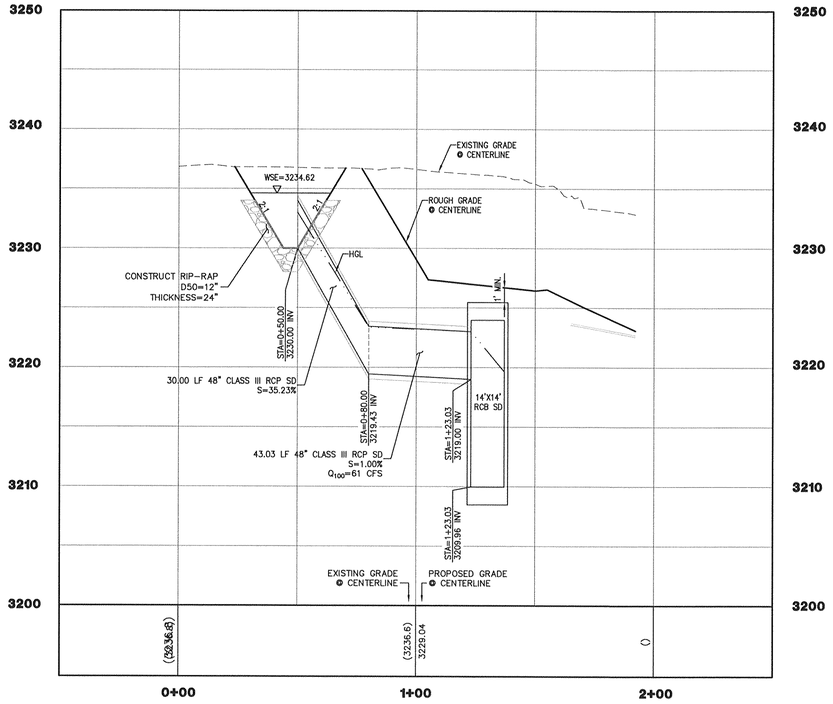
(PUBLIC)

SCALE: 1"=30'



30' 0' 15' 30'

SCALE: 1" = 30'

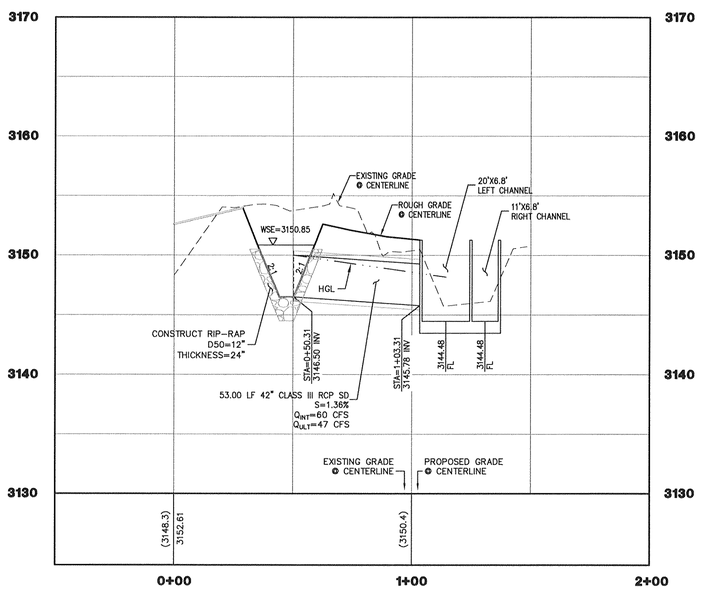


PROFILE

SCALE

HORIZ. 1" = 30'

VERT. 1" = 6'



PROFILE

SCALE

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H# ---

CLV DWG# ---

NEVADA REGISTERED PROFESSIONAL ENGINEER
WESLEY T. PETTY
Exp. 12-31-15
CIVIL
No. 16389
STATE OF NEVADA

DATE: 12/21/15

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GOW APP	DATE

PROJECT NO. 764-204-013

DESIGN: HN
DRAWN: WP
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:54:03

GCV
ENGINEERS & SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gowenginering.com

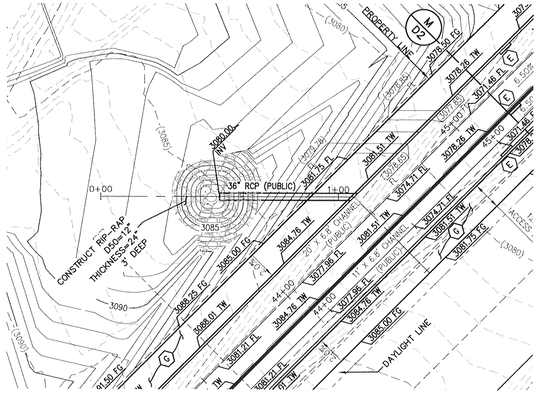
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\03CP1.DWG
NATHAN LIM

PULTE HOMES

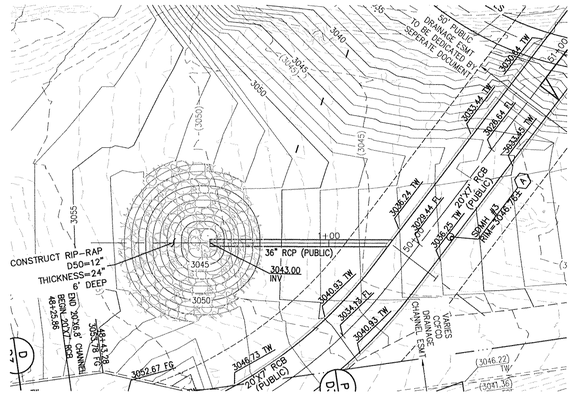
SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

48" RCP LATERAL AND PROFILE - STA 18+50.20
42" RCP LATERAL AND PROFILE - STA 33+85.00

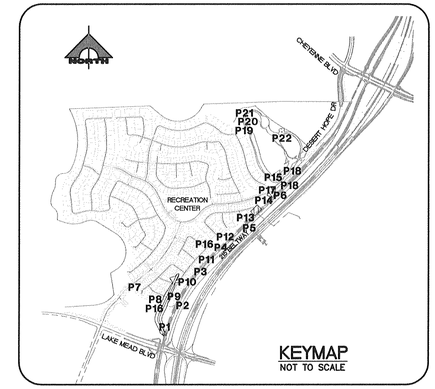
DRAWING
P16
34 OF 63 SHTS



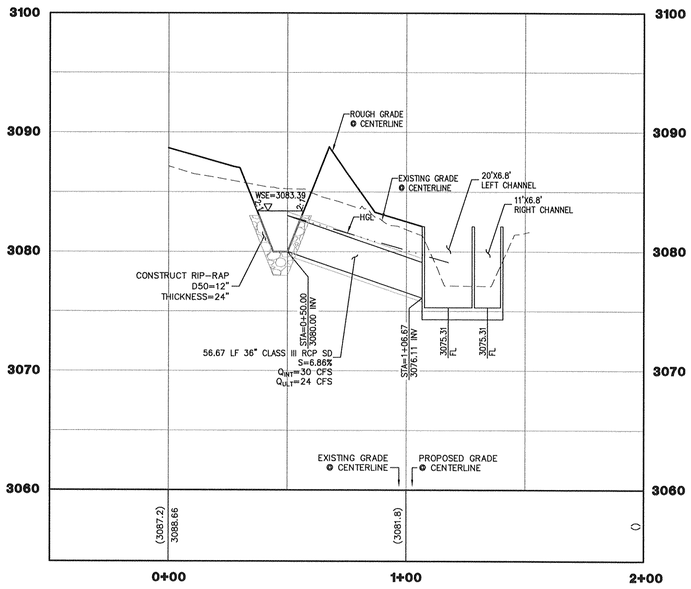
36" RCP LATERAL
STA. 44+49.18
(PUBLIC)
SCALE: 1"=30'



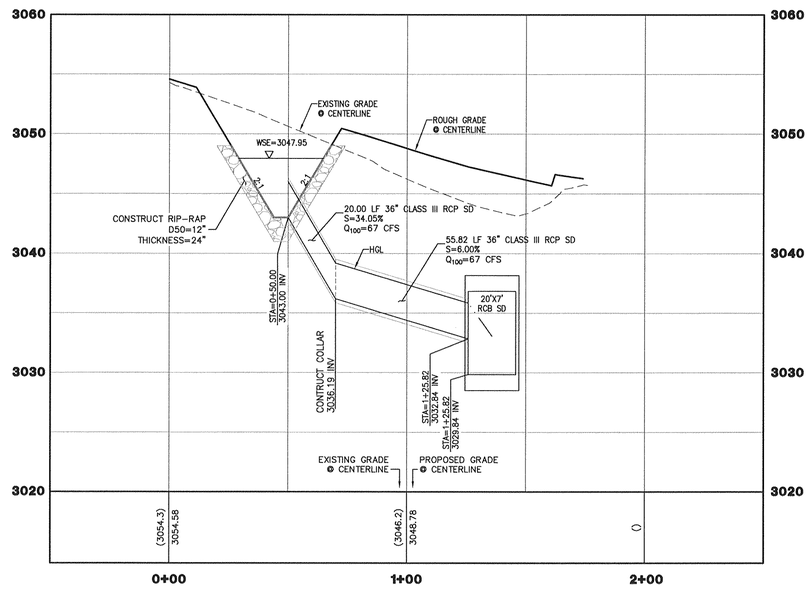
36" RCP LATERAL
STA. 49+92.04
(PUBLIC)
SCALE: 1"=30'



30' 0' 15' 30'
SCALE: 1" = 30'



PROFILE
SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'



PROFILE
SCALE
HORIZ. 1" = 30'
VERT. 1" = 6'

STORM DRAIN NOTES:
- (A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
- (B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
- (C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
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BENCHMARK
CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

NOTE:
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FAST — Call before you UnderGround 1-702-432-5300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. CALL BEFORE YOU DO OVERHEAD 1-702-227-2929

H# ___---___ CLV DWG# ___---___

WESLEY T. PETTY — STATE OF NEVADA — PROFESSIONAL ENGINEER — No. 16989 — CIVIL — Exp. 12-31-15
DATE: 12/21/15

% COMPLETE

REV	DATE	DESCRIPTION	DATE AGEN APP	DATE GCW APP

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: ___
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:53:42
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\DS DRAINAGE\D13CP1.DWG
NATHAN LIM

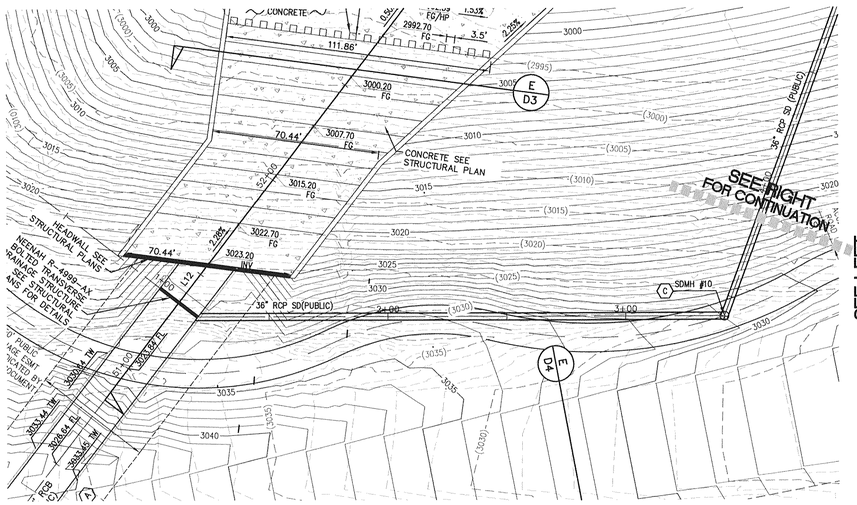
GCW ENGINEERS & SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

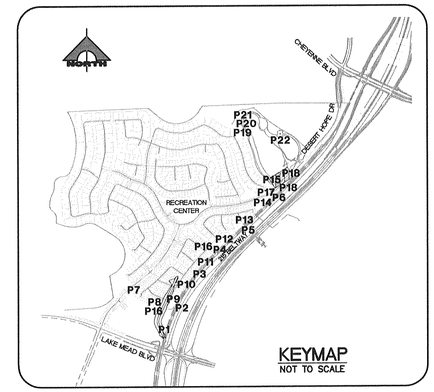
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

36" RCP LATERAL PLAN AND PROFILE - STA 44+49.18
36" RCP LATERAL PLAN AND PROFILE - STA 49+92.04

DRAWING
P17
35 OF 63 SHTS





30' 0' 15' 30'

SCALE: 1" = 30'

36" NUISANCE STORM DRAIN

(PUBLIC)

SCALE: 1"=30'

PROFILE

SCALE

HORIZ. 1" = 30'
VERT. 1" = 6'

STORM DRAIN NOTES:

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- (B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
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BENCHMARK

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H# ___ CLV DWG# ___

NEVADA — STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — Exp. 12-31-15 — CIVIL — No. 16396

DATE: 3-11-15 — % COMPLETE

REV	DATE	DESCRIPTION
AGEN APP	DATE	
GCW APP	DATE	

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:53:14

GCW ENGINEERS & SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

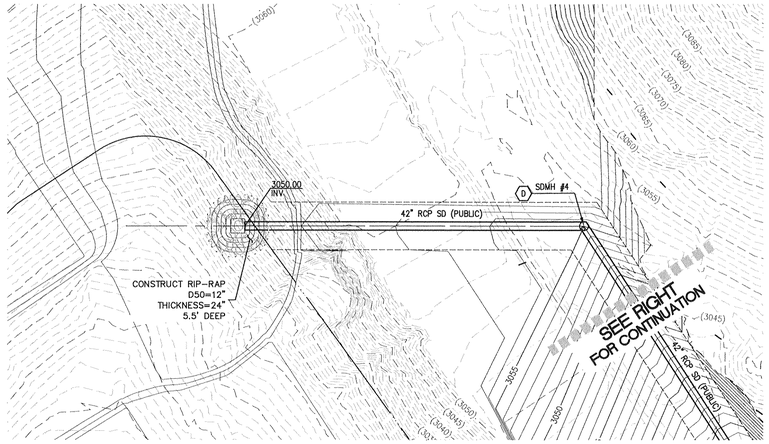
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\D13CP1.DWG
NATHAN LIM

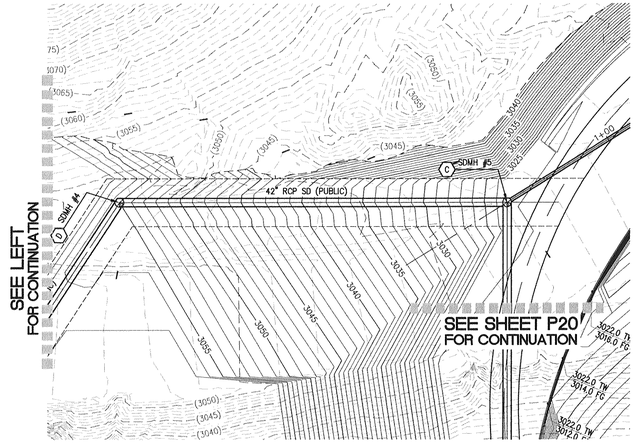
PULTE HOMES

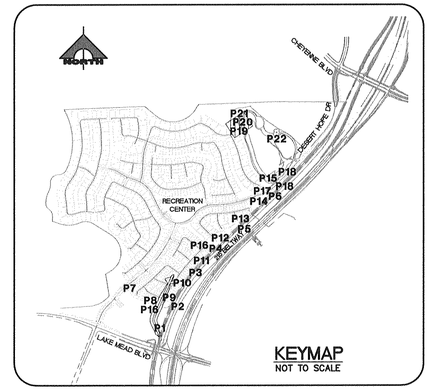
SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

36" NUISANCE STORM DRAIN
PLAN AND PROFILE

DRAWING
P18
36 OF 63 SHTS







30' 0' 15' 30'

SCALE: 1" = 30'

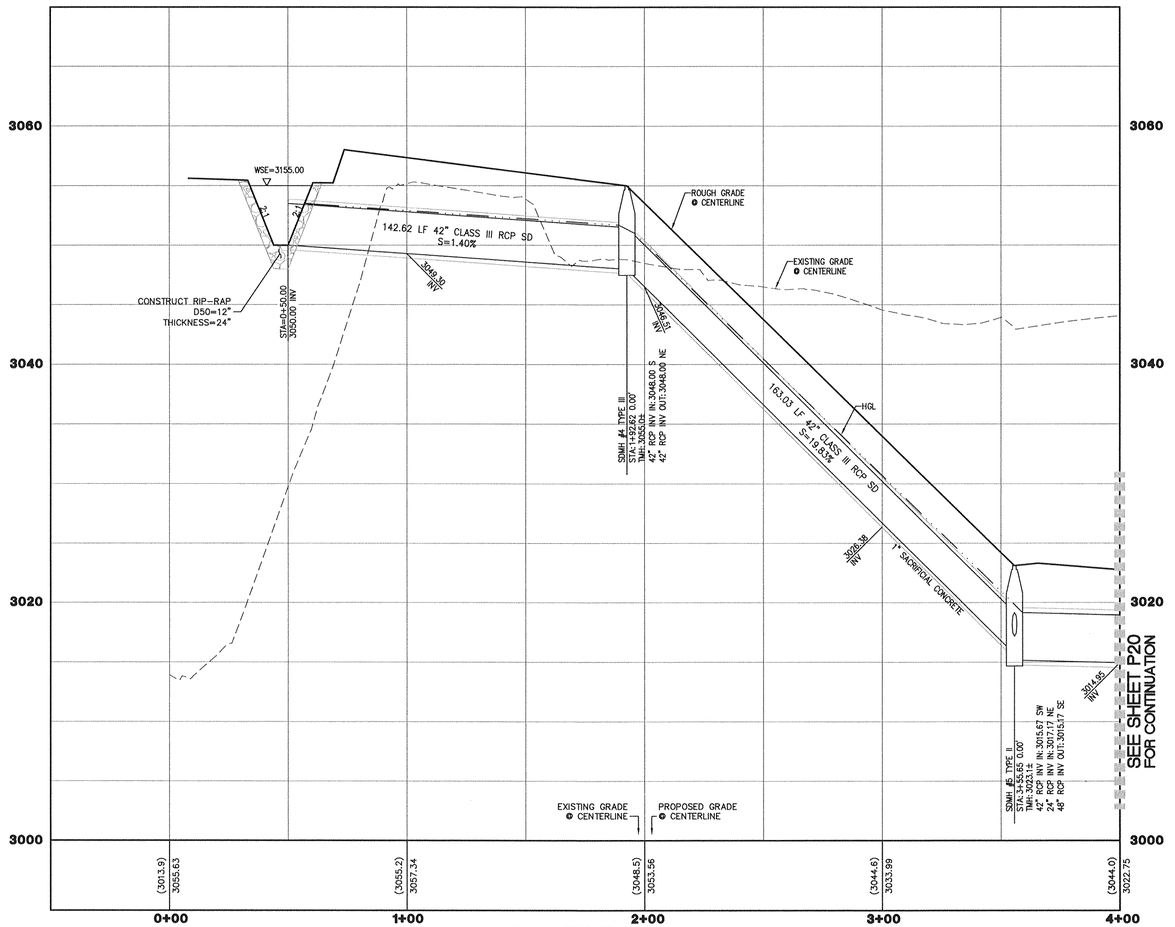
NORTH

DETENTION BASIN STORM DRAIN 1

(PUBLIC)

SCALE: 1"=30'

NORTH



PROFILE

SCALE

HORIZ. 1" = 30'

VERT. 1" = 6'

STORM DRAIN NOTES:

- (A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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H# ___ --- ___ CLV DWG# ___ --- ___

WESLEY T. FEIT
No. 9863
Exp. 12-31-15
PROFESSIONAL ENGINEER - STATE OF NEVADA

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GOW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 13:09:20

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

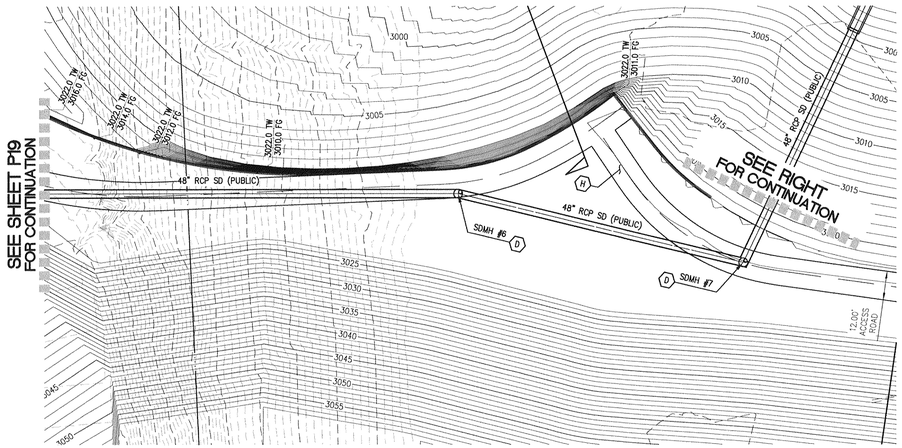
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\01SSP1.DWG
NATHAN LIM

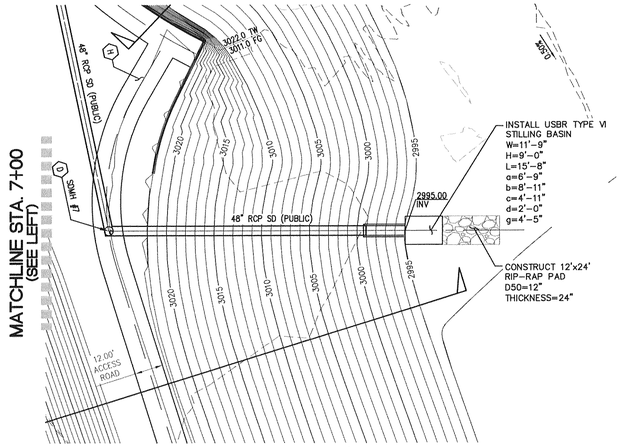
PULTE HOMES

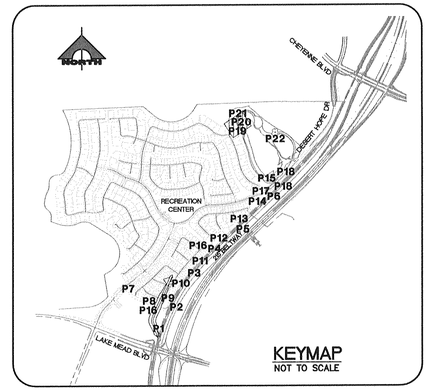
SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

DETENTION BASIN STORM DRAIN 1 PLAN AND PROFILE
BEGIN TO 4+00

DRAWING
P19
37 OF 63 SHTS







30' 0' 15' 30'

SCALE: 1" = 30'

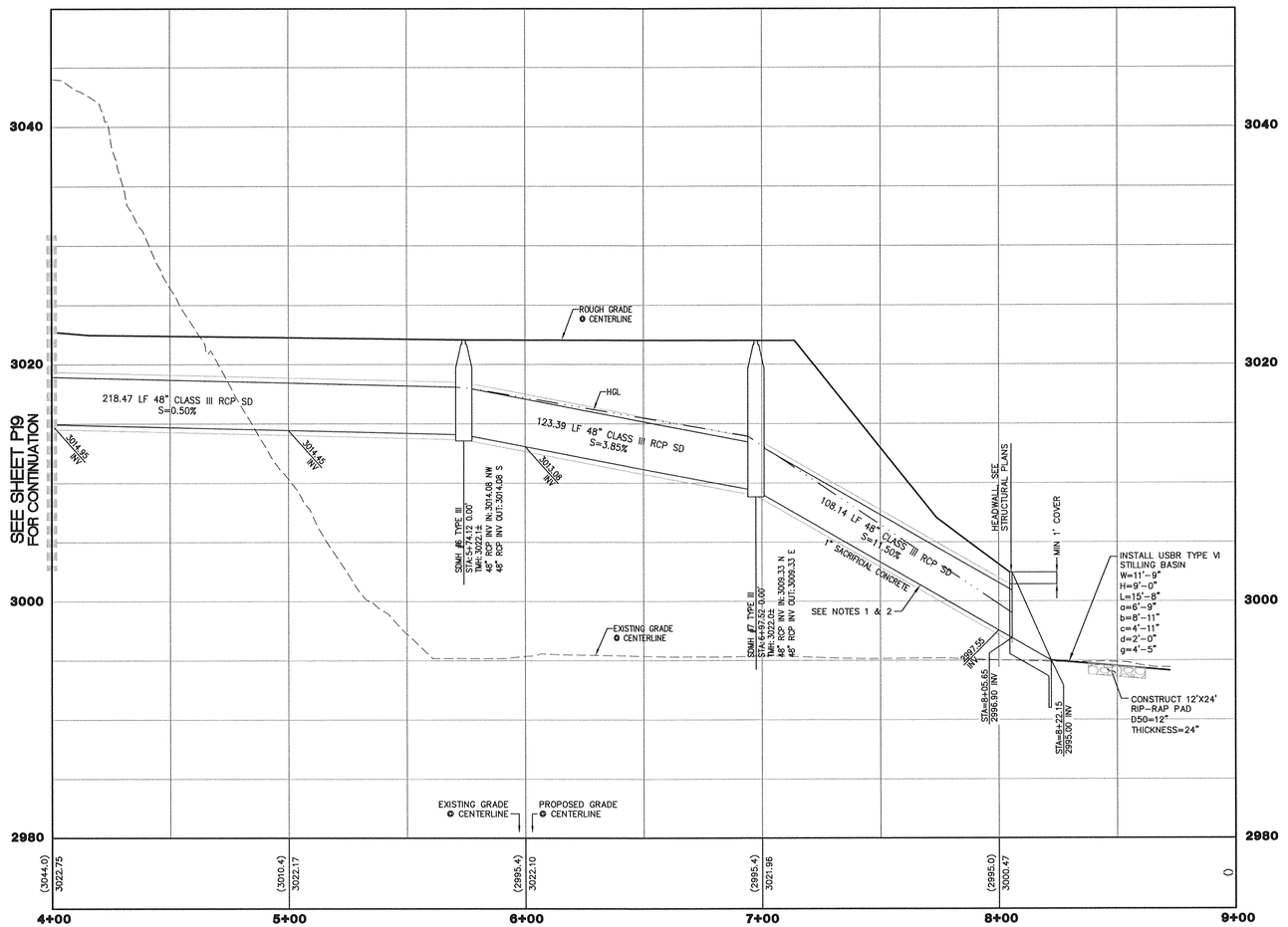
NORTH

NORTH

DETENTION BASIN STORM DRAIN 1

(PUBLIC)

SCALE: 1"=30'



PROFILE

SCALE

HORIZ. 1" = 30'

VERT. 1" = 6'

NOTES:

1. FLOWS IN CHANNEL GREATER THAN 30 CFS. INCREASE INVERT SLAB THICKNESS AS REQUIRED (7" MINIMUM).
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 6,000 PSI.

STORM DRAIN NOTES:

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BENCHMARK

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USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

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H# ___---___ CLV DWG# ___---___

STATE OF NEVADA
PROFESSIONAL ENGINEER
WESLEY T. PETTY
No. 16368
Exp. 12-31-15
CIVIL

DATE 12/21/15

% COMPLETE

REV	DATE	DESCRIPTION	APPR	DATE	APPR	DATE
			AGEN		GSW	

PROJECT NO. 764-204-013

DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 12:50:52

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\01\SSP1.DWG
NATHAN LIM

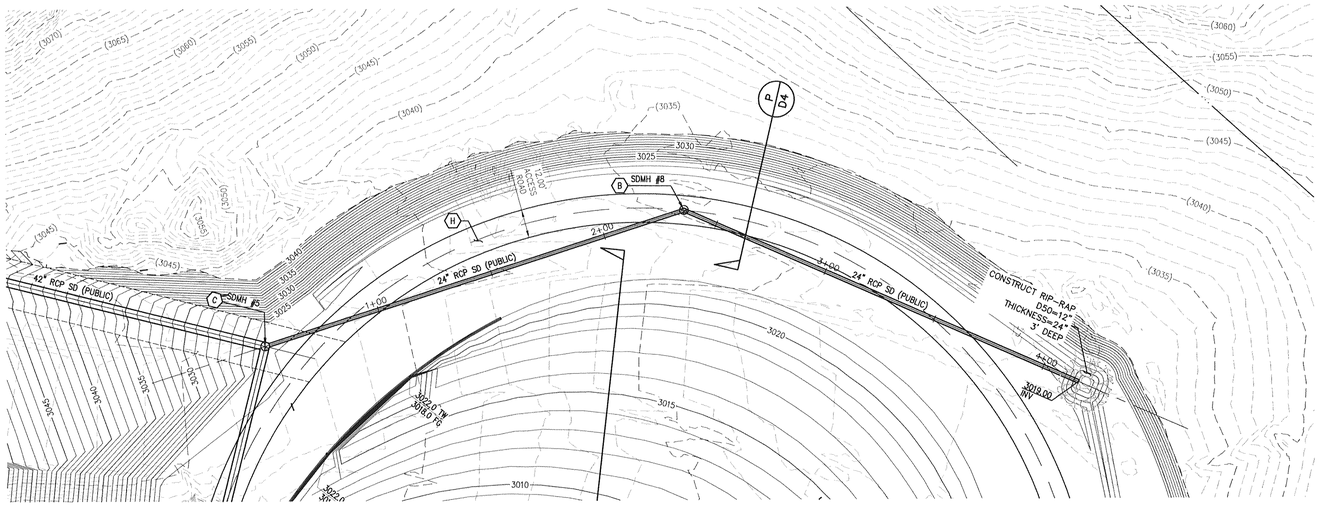
GCW
ENGINEERS & SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gowengineering.com

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

DETENTION BASIN STORM DRAIN 1 PLAN AND PROFILE
STA 4+00 TO END

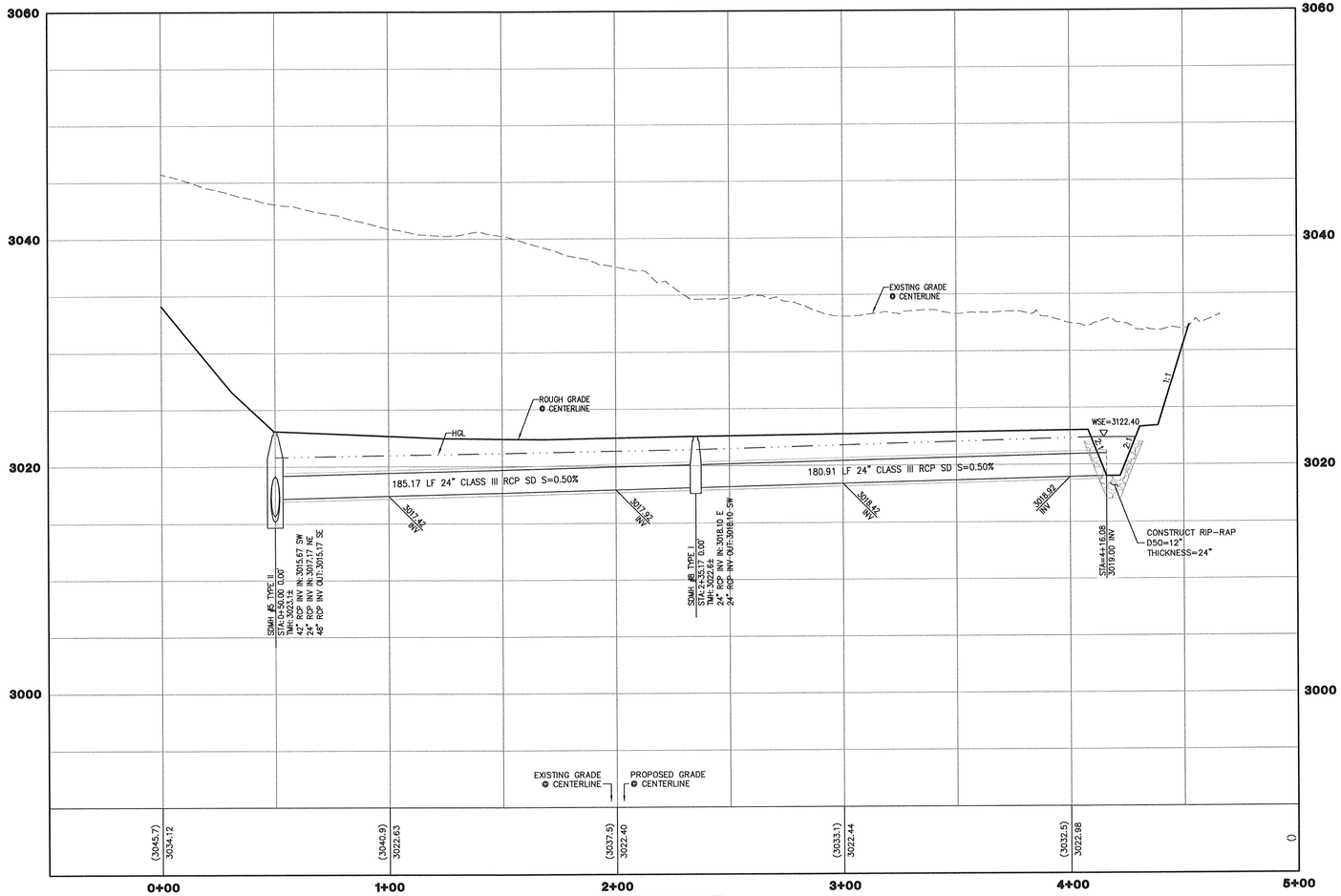
DRAWING
P20
38 OF 63 SHTS



DETENTION BASIN STORM DRAIN 2

(PUBLIC)

SCALE: 1"=30'



PROFILE

SCALE

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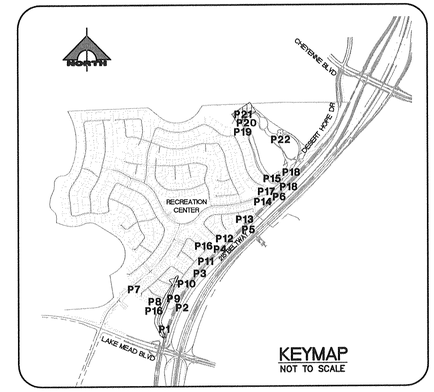
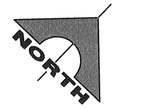
VERT. 1" = 6'





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SCALE: 1" = 30'

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1-702-227-2929

H# ___ ___

CLV DWG# ___ ___

STATE OF NEVADA PROFESSIONAL ENGINEER
WESLEY T. PETTI
Exp. 12-31-15
CIVIL
No. 16356

DATE: 12-21-15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:51:54

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

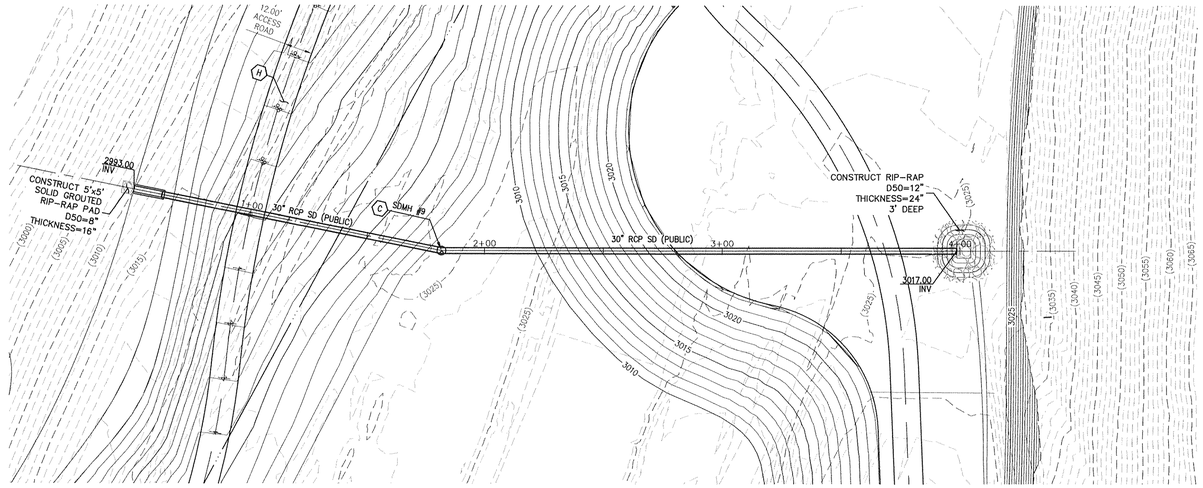
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\DS DRAINAGE\D13DP1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

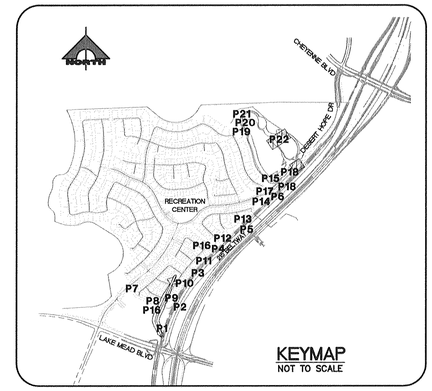
DETENTION BASIN STORM DRAIN 2
PLAN AND PROFILE

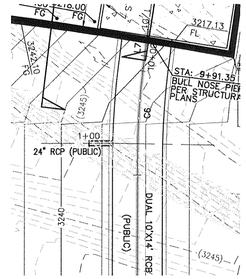
DRAWING
P21
39 OF 63 SHTS



DETENTION BASIN STORM DRAIN 3

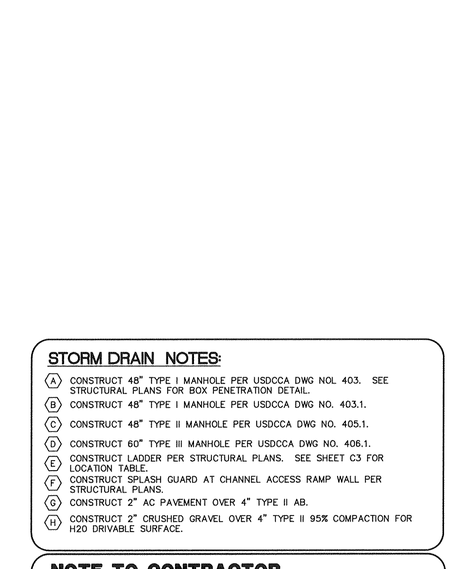
(PUBLIC)
SCALE: 1"=30'

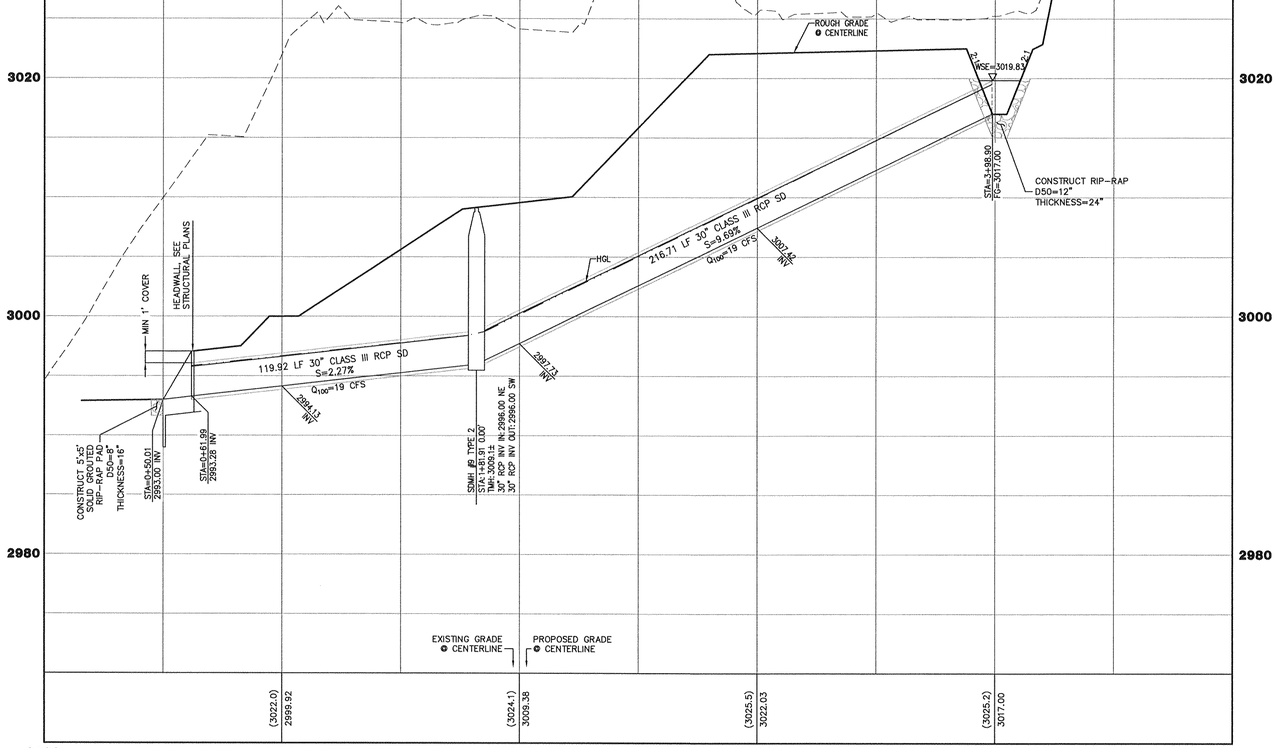




LEFT CHANNEL 24" STUB

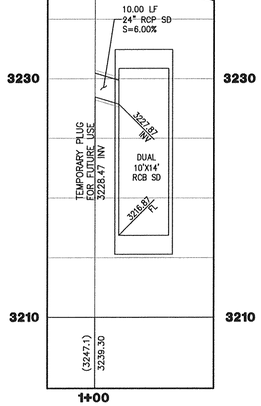
(PUBLIC)
SCALE: 1"=30'





PROFILE

SCALE
VERT. 1" = 6'
HORIZ. 1" = 30'



PROFILE

SCALE
VERT. 1" = 6'
HORIZ. 1" = 30'

STORM DRAIN NOTES:

(A) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NOL 403. SEE STRUCTURAL PLANS FOR BOX PENETRATION DETAIL.
(B) CONSTRUCT 48" TYPE I MANHOLE PER USDCCA DWG NO. 403.1.
(C) CONSTRUCT 48" TYPE II MANHOLE PER USDCCA DWG NO. 405.1.
(D) CONSTRUCT 60" TYPE III MANHOLE PER USDCCA DWG NO. 406.1.
(E) CONSTRUCT LADDER PER STRUCTURAL PLANS. SEE SHEET C3 FOR LOCATION TABLE.
(F) CONSTRUCT SPLASH GUARD AT CHANNEL ACCESS RAMP WALL PER STRUCTURAL PLANS.
(G) CONSTRUCT 2" AC PAVEMENT OVER 4" TYPE II AB.
(H) CONSTRUCT 2" CRUSHED GRAVEL OVER 4" TYPE II 95% COMPACTION FOR H20 DRIVABLE SURFACE.

NOTE TO CONTRACTOR

CONTRACTOR TO VERIFY ALL EXISTING SEWER, STORM DRAIN, & WATER SIZES, INVERTS AND LOCATIONS. IF A DISCREPANCY EXISTS, CONTRACTOR TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.

BASIS OF BEARING

SOUTH 89°39'55" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 13, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP THEREOF ON FILE IN FILE 91, PAGE 28 OF PARCEL MAPS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK #0368 3
USC&GS DISC SET IN ROCK EAST OF CHARLESTON SOUTH OF DETENTION BASIN

ELEV (NAVD 88) = 989.5990 METERS
3246.71 U.S. SURVEY FEET
SUMMERLIN WEST: CLV NAVD 88/93
ELEV = 989.5703 METERS
3246.62 U.S. SURVEY FEET

NOTE:

ALL EXISTING UTILITIES SHOWN FOR GRAPHICAL PURPOSES ONLY, CONTRACTOR RESPONSIBLE FOR UTILITY LOCATE AND VERIFICATION ENGINEER MUST BE NOTIFIED OF ANY DISCREPANCIES.

Call before you Dig
Avoid cutting underground utility lines it's costly.
Call 811 or 1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S DEADLY.
CALL BEFORE YOU DIG Call YOU OVERHEAD
1-702-227-2929

H# ---

CLV DWG# ---

STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — WESLEY T. PETTI — Exp. 12-31-15 — No. 16387

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 12:55:01

GCW ENGINEERS & SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

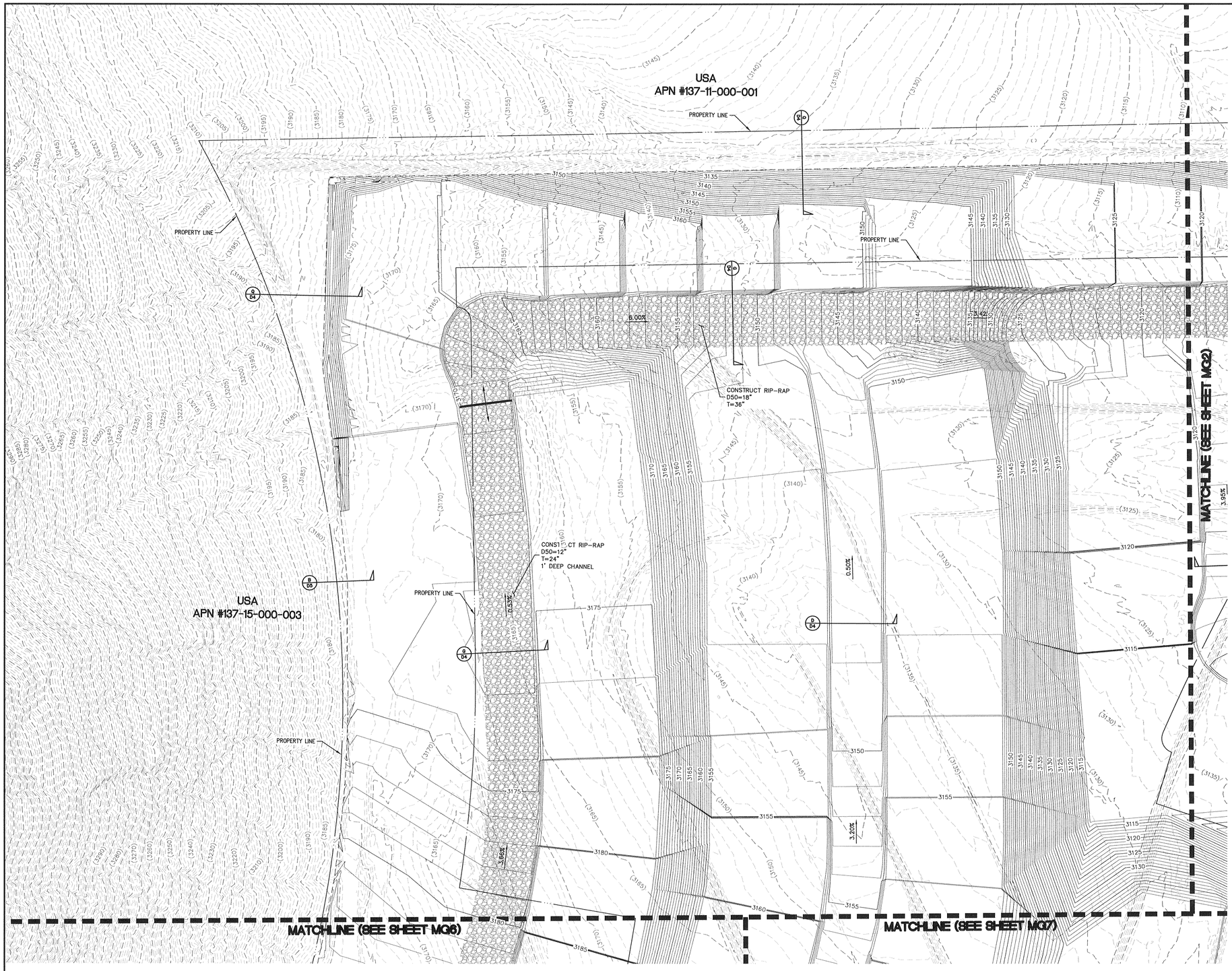
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\01SCP1.DWG
NATHAN LIM

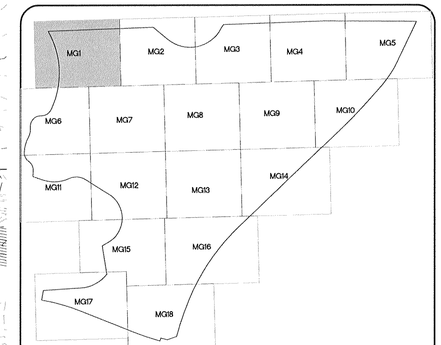
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

DETENTION BASIN STORM DRAIN 3 PLAN AND PROFILE
LEFT CHANNEL 24" STUB - STA 10+36.91

DRAWING
P22
40 OF 63 SHTS





KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

1. SEE THE UTILITY PLANS (SHEETS U1-U18) FOR WATER LINE DESIGN AND CONSTRUCTION INFORMATION.

2. FOR CONSTRUCTION NOTES SEE SHEET C2.

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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OR
1-800-227-2600

FAST
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1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

PLEASE NOTE THESE QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES MAY DIFFER FROM THE ESTIMATE DUE TO SOILS VARIATIONS IN THE FIELD. VOLUMES CALCULATED WITHOUT SHRINKAGE OR SUBSIDENCE FACTORS AND DO NOT INCLUDE OVEREXCAVATION REQUIRED FOR THE REMOVAL OF CALICHE OR ANY OTHER UNDESIRABLE MATERIALS. REFER TO THE SOILS REPORT FOR THESE AREAS. ALSO NOT INCLUDED ARE QUANTITIES FOR ADDITIONAL DITCHES & BERMS NOT SHOWN THAT MAY BE REQUIRED BY THE ENGINEER.

COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ___ CLV DWG# ___

STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — Exp. 12-31-15 — CIVIL — No. 16369

DATE: 12/21/15

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

% COMPLETE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:20:15

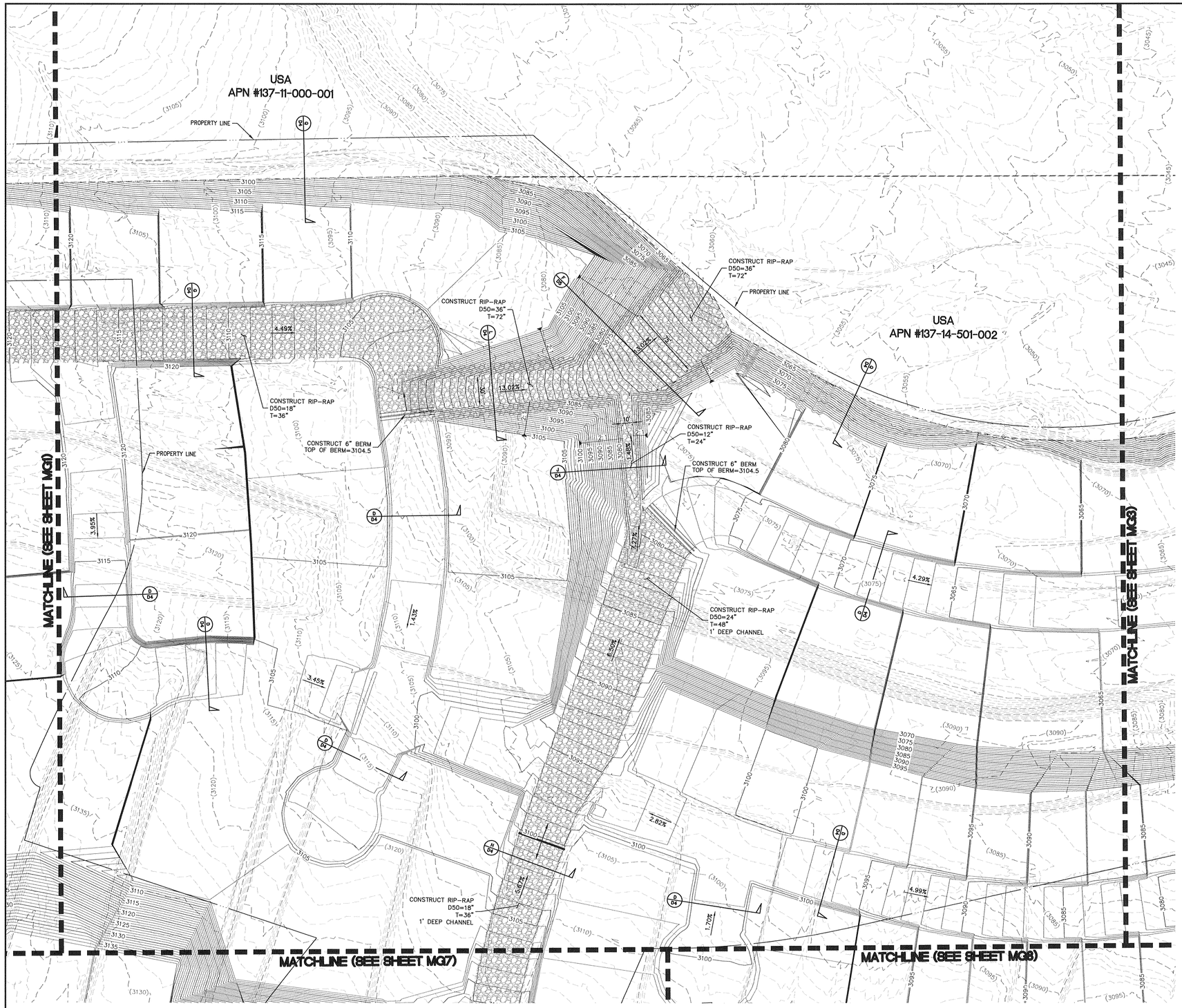
GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\01-3GMG.DWG
NATHAN LIM

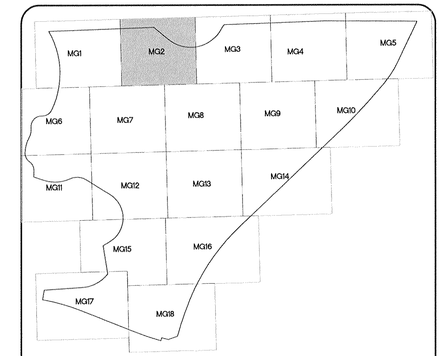
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

MASS GRADING PLAN I

DRAWING
MG1
41 OF 63 SHTS





KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

FLOOD ZONE NOTE:
FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

1. SEE THE UTILITY PLANS (SHEETS U1-U18) FOR WATER LINE DESIGN AND CONSTRUCTION INFORMATION.

2. FOR CONSTRUCTION NOTES SEE SHEET C2.

FLOOD ZONE NOTE:
FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT 27, 2002.

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Avoid cutting underground utility lines. It's costly.
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OR
1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
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1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

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COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---
CLV DWG# ---

STATE OF NEVADA
PROFESSIONAL ENGINEER
WESLEY T. PETTY
No. 16369
Exp. 12-31-15
CIVIL
DATE: 12-21-15

% COMPLETE

REV	DATE	DESCRIPTION	AGEN. APP	DATE	GCW APP	DATE

PROJECT NO.
764-204-013

DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:20:08

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

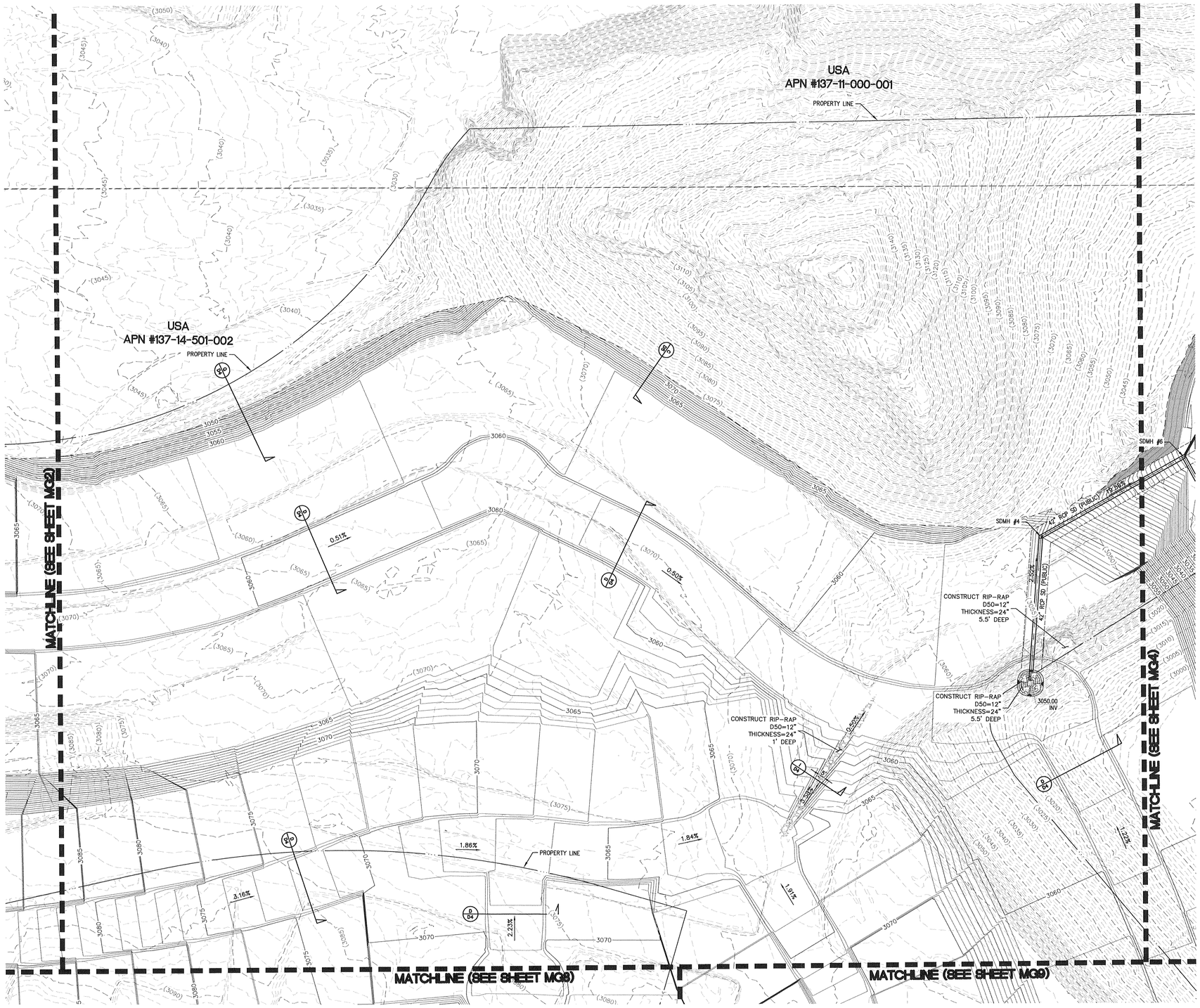
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\013OSMG.DWG
NATHAN LIM

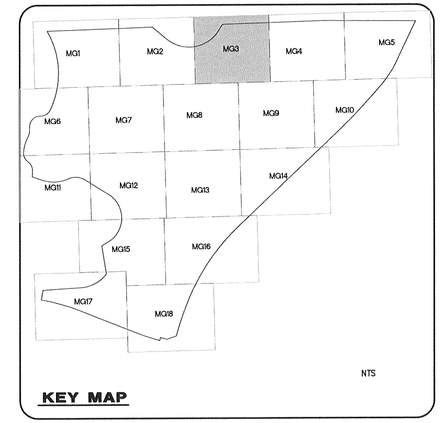
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN II

DRAWING
MG2
42 OF 63 SHTS





KEY MAP

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SCALE: 1" = 50'

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

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FIRM #2150 OF 4090
REVISED: SEPT 27, 2002.

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FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES - IT'S COSTLY
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

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WESLEY T. PETTY P.E. 16369 DATE

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IMPORT: 343,409 CYS

H# ---
CLV DWG# ---

STATE OF NEVADA PROFESSIONAL ENGINEER
WESLEY T. PETTY
Exp. 12-31-15
No. 16369

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:20:03

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\05MG3.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN III

DRAWING
MG3
43 OF 63 SHTS

USA
APN #137-11-000-001

USA
AND CITY OF LAS VEGAS LEASE
APN #137-12-401-001

PROPERTY LINE

CONSTRUCT RIP-RAP
D50=12"
THICKNESS=24"
3' DEEP

3019.00
INV

24" RCP SD (PUBLIC)

SDMH #8

SDMH #6

42" RCP SD (PUBLIC)

SDMH #7

48" RCP SD (PUBLIC)

INSTALL USBR TYPE VI
STILLING BASIN
W=11'-9"
H=9'-0"
L=15'-8"
a=8'-9"
b=8'-11"
c=4'-11"
d=2'-0"
g=4'-5"

2995.00
INV

CONSTRUCT 12'x24'
RIP-RAP PAD
D50=12"
THICKNESS=24"

CONSTRUCT RIP-RAP
D50=12"
THICKNESS=24"
3' DEEP

3017.00
INV

37" RCP SD (PUBLIC)

SDMH #9

30" RCP SD (PUBLIC)

CONSTRUCT 5'x5'
SOLID GROUTED
RIP-RAP PAD
D50=8"
THICKNESS=16"

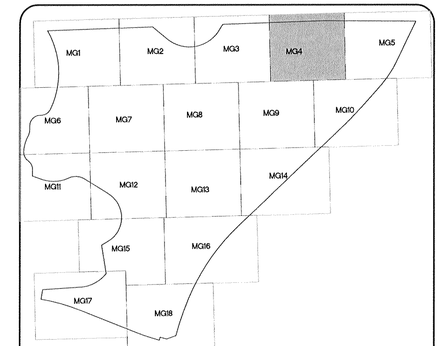
2993.00
INV

MATCHLINE (SEE SHEET MG3)

MATCHLINE (SEE SHEET MG5)

MATCHLINE (SEE SHEET MG9)

MATCHLINE (SEE SHEET MG10)



KEY MAP

NTS

50' 0' 25' 50'

SCALE: 1" = 50'

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

1. SEE THE UTILITY PLANS (SHEETS U1-U18) FOR WATER LINE DESIGN AND CONSTRUCTION INFORMATION.

2. FOR CONSTRUCTION NOTES SEE SHEET C2.

FLOOD ZONE NOTE:

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call
811
1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. DIG SAFELY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

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COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---

CLV DWG# ---

STATE OF NEVADA
WESLEY T. PETTY
No. 16369
PROFESSIONAL ENGINEER
Exp. 12-31-15
CIVIL

% COMPLETE

REV	DATE	DESCRIPTION	AGSN APP	DATE	GSW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE:12-21-15
PLOT TIME:13:03:40

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\03MG.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN IV

DRAWING
MG4
44 OF 63 SHTS

WEINMAN FAMILY TRUST AND
WEINMAN LAWRENCE THEODORE TRS
APN #137-12-401-010

PUBLIC RIGHT OF WAY
APN #137-12-499-002

CHURCH INTERNATIONAL LAS VEGAS
APN #137-12-401-011

USA AND CITY OF LAS VEGAS
LEASE
APN #137-12-401-040

PROPERTY LINE

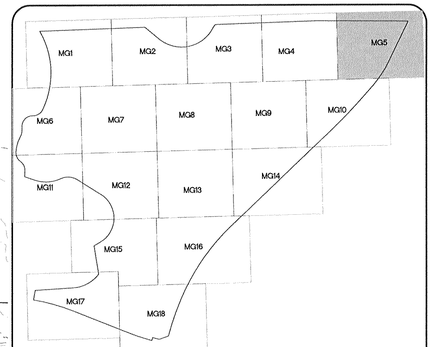
PROPERTY LINE

PROPERTY LINE

PROPERTY LINE

MATCHLINE (SEE SHEET MG4)

MATCHLINE (SEE SHEET MG10)



KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

FLOOD ZONE NOTE:

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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2. FOR CONSTRUCTION NOTES SEE SHEET C2.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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811
OR
1-800-227-2600

FAST
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1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
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1-702-227-2929

DRAINAGE CERTIFICATION

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WESLEY T. PETTY P.E. 16369 DATE

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COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---

CLV DWG# ---

GCW
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
ENGINEERS \ SURVEYORS
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\U13GMG.DWG
NATHAN LIM

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:58

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

DATE: 12-21-15

WESLEY T. PETTY
Exp. 12-31-15
No. 16369
PROFESSIONAL ENGINEER - STATE OF NEVADA

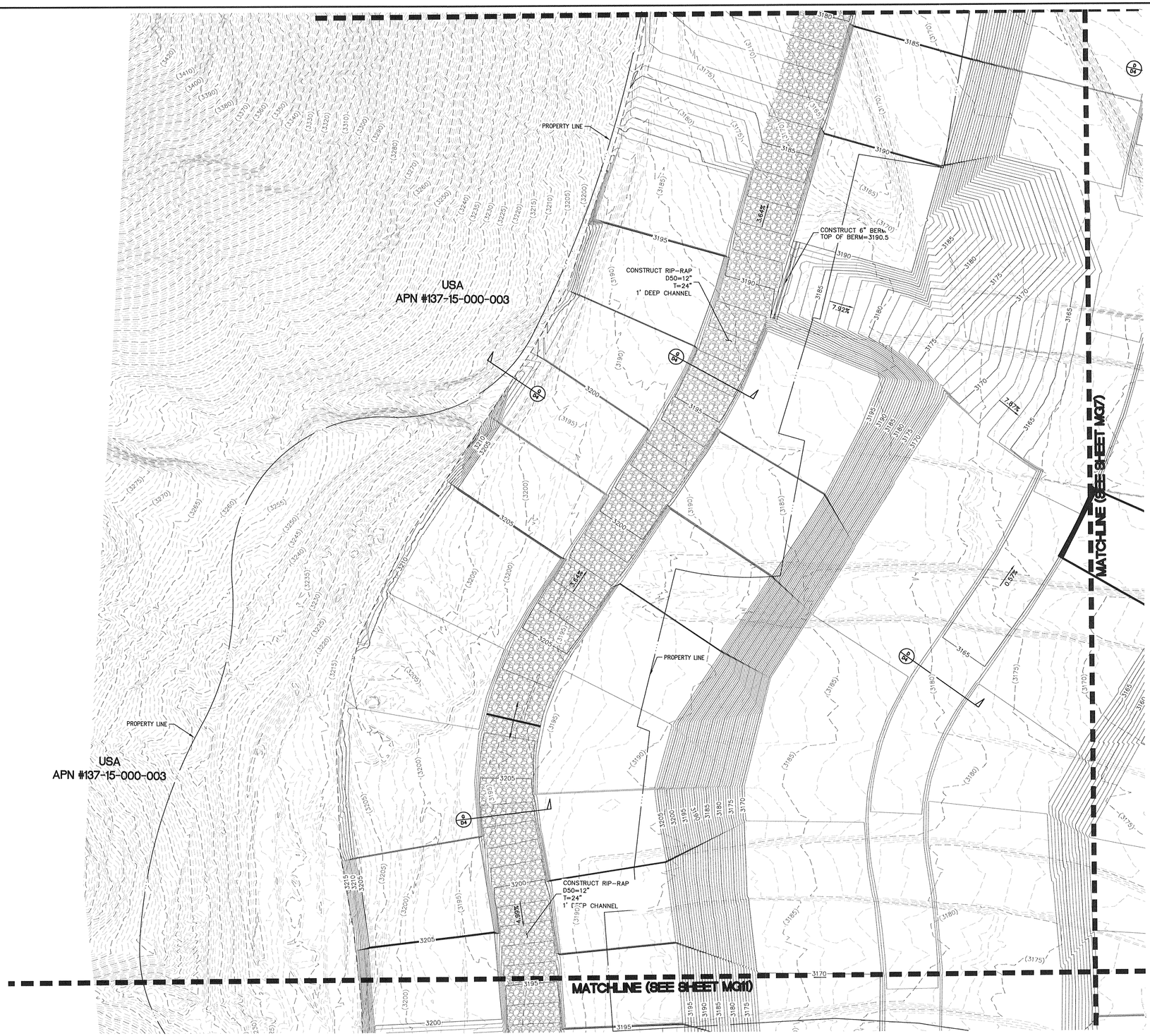
% COMPLETE

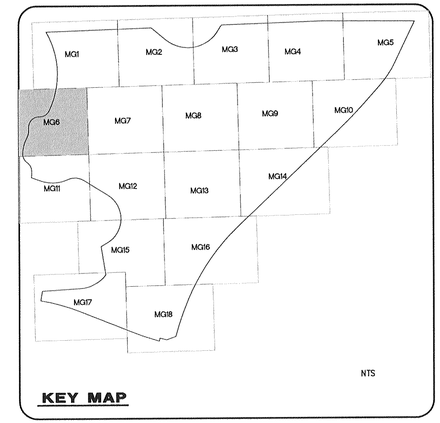
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN V

DRAWING
MG5
45 OF 63 SHTS





KEY MAP

50' 0' 25' 50'

SCALE: 1" = 50'

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

1. SEE THE UTILITY PLANS (SHEETS U1–U18) FOR WATER LINE DESIGN AND CONSTRUCTION INFORMATION.
2. FOR CONSTRUCTION NOTES SEE SHEET C2.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

FAST
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1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S DEADLY.
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1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

PLEASE NOTE THESE QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES MAY DIFFER FROM THE ESTIMATE DUE TO SOILS VARIATIONS IN THE FIELD. VOLUMES CALCULATED WITHOUT SHRINKAGE OR SUBSIDENCE FACTORS AND DO NOT INCLUDE OVEREXCAVATION REQUIRED FOR THE REMOVAL OF CALICHE OR ANY OTHER UNDESIRABLE MATERIALS. REFER TO THE SOILS REPORT FOR THESE AREAS. ALSO NOT INCLUDED ARE QUANTITIES FOR ADDITIONAL DITCHES & BERMS NOT SHOWN THAT MAY BE REQUIRED BY THE ENGINEER.

COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---

CLV DWG# ---

STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — No. 16369 — Exp. 12-31-15

DATE: 11.11.15

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:48

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

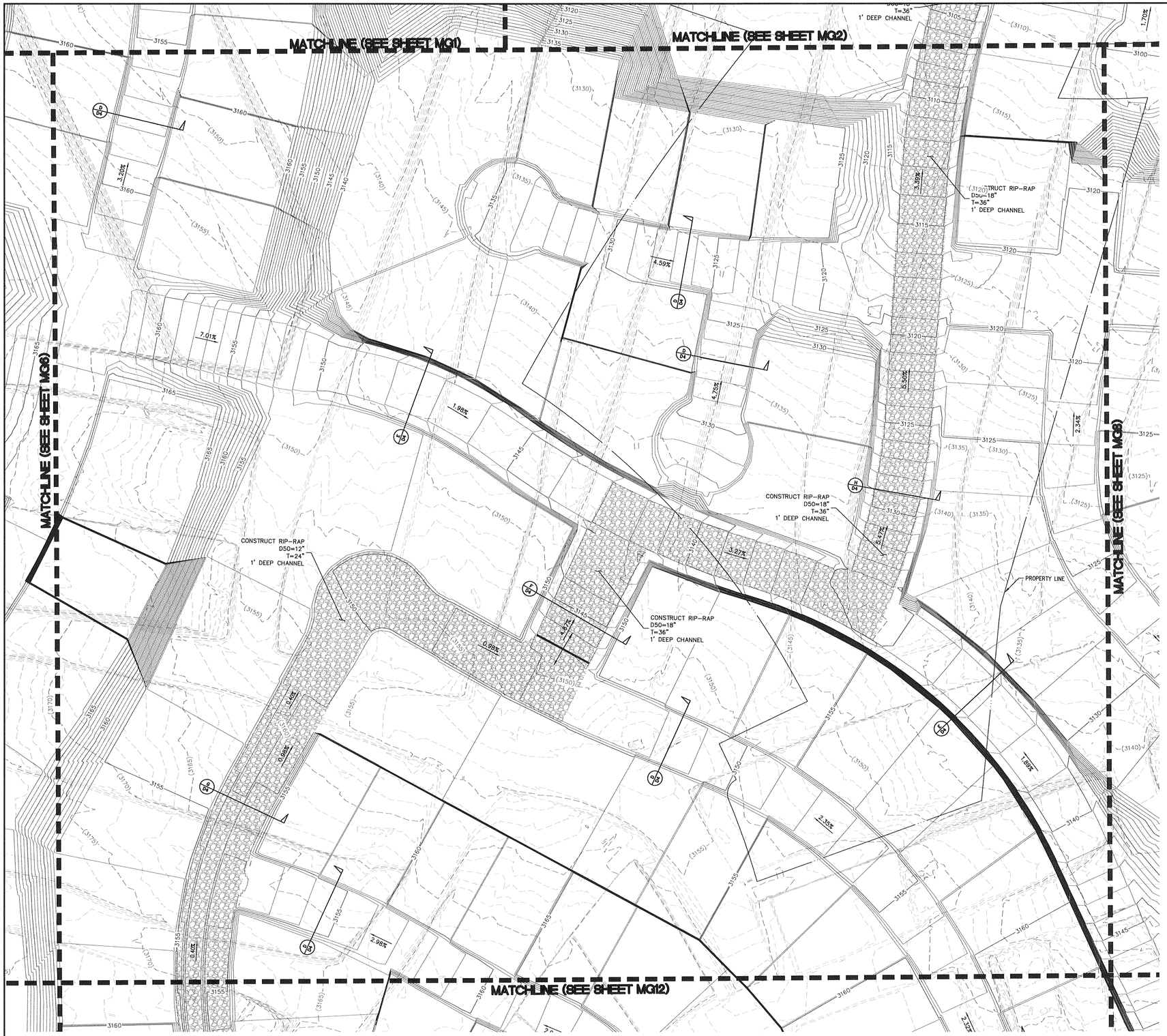
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\01GMG.DWG
NATHAN LIM

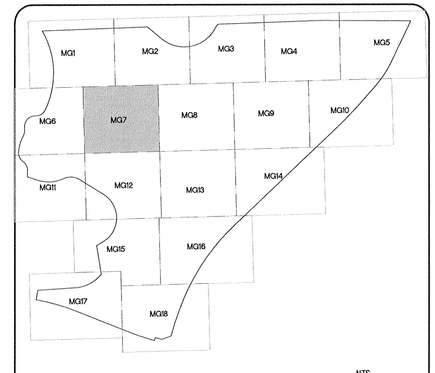
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROMENTS

MASS GRADING PLAN VI

DRAWING
MG6
46 OF 63 SHTS





KEY MAP

50' 0' 25' 50'

SCALE: 1" = 50'

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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WESLEY T. PETTY P.E. 16369 DATE

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H# ---

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PROFESSIONAL ENGINEER STATE OF NEVADA
WESLEY T. PETTY
No. 16369
Exp. 12-31-15

DATE | % COMPLETE

DESCRIPTION	DATE	REV
		GCW APP
		AGEN APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:43

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ENGINEERS \ SURVEYORS
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LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

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NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN VII

DRAWING
MG7
47 OF 63 SHTS

MATCHLINE (SEE SHEET MG2)

MATCHLINE (SEE SHEET MG3)

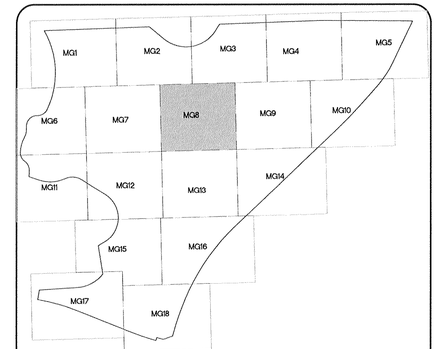
MATCHLINE (SEE SHEET MG7)

MATCHLINE (SEE SHEET MG9)

MATCHLINE (SEE SHEET MG13)

PROPERTY LINE

1.70%
0.50%
0.51%
2.34%
1.07%
1.34%
2.35%
0.66%
2.17%



KEY MAP

NTS

50' 0' 25' 50'

SCALE: 1" = 50'

FLOOD ZONE NOTE:

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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WESLEY T. PETTY P.E. 16369 DATE

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H# _____ CLV DWG# _____

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LAS VEGAS, NV 89146
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F: 702.804.2299
gcvengineering.com

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DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:38
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\GS DRAINAGE\01SGMG.DWG
NATHAN LIM

REV	DATE	DESCRIPTION	AGEN. APP	DATE	GOV APP	DATE

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

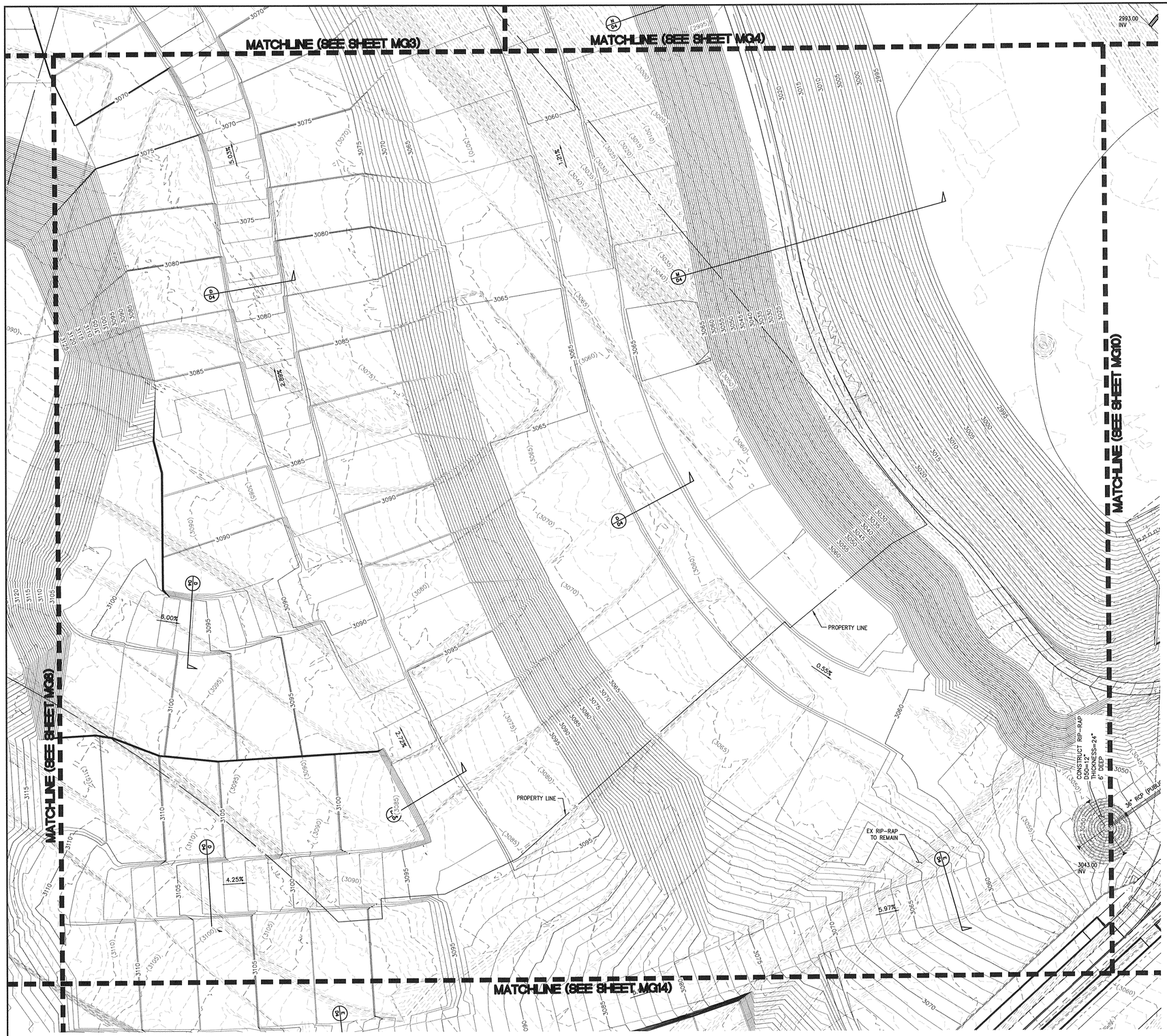
MASS GRADING PLAN VIII

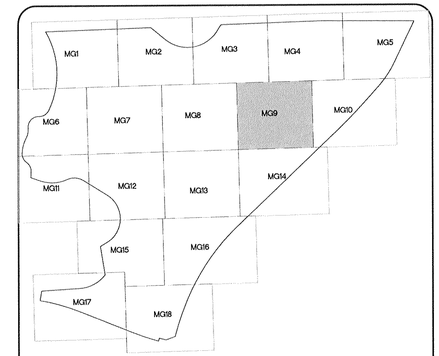
DRAWING
MG8
48 OF 63 SHTS

PROFESSIONAL ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-15
CIVIL
No. 16369

DATE 12/21/15

% COMPLETE





KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

FLOOD ZONE NOTE:

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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OR 1-800-227-2600

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DRAINAGE CERTIFICATION

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WESLEY T. PETTY P.E. 16369 DATE

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IMPORT: 343,409 CYS

H# ---
CLV DWG# ---

STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — WESLEY T. PETTY — No. 16369 — EXP. 12-31-15
DATE: 12/21/15
% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:33

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
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NATHAN JM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN IX

DRAWING
MG9
49 OF 63 SHTS

MATCHLINE (SEE SHEET MG4)

MATCHLINE (SEE SHEET MG5)

MATCHLINE (SEE SHEET MG9)

MATCHLINE (SEE SHEET MG14)

2993.00 INV

PROPERTY LINE

EXISTING INFILTRATION BASIN OVERFLOW PER FCD "VILLAGE 26 INTERIM DRAINAGE STUDY" DATED 12-21-15 ELEV=3028.00

EXISTING INFILTRATION BASIN OUTFLOW PIPE

CONSTRUCT RIP-RAP 150'x12' TRANSITION=24" THICK 6' DEEP

20'X7' RCB SD (PUBLIC)

36" RCP (PUBLIC)

SDMH #10

SDMH #3

3043.00 INV

5.99%

2.44%

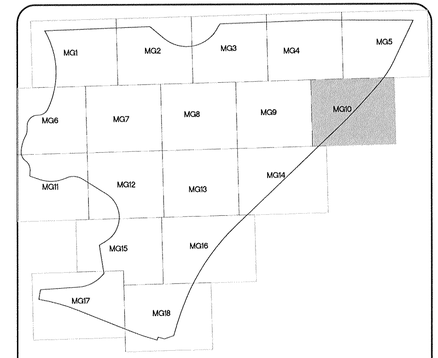
215 BELTWAY

HIGHES HOWARD COMPANY L.L.C
APN #137-13-101-009

CUT AND GRADE TO MEET EXISTING GRADE AT PROPERTY LINE

MATCH EXISTING GRADE AT PROPERTY LINE

KEY MAP



50' 0' 25' 50'

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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1-800-227-2600

FAST
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1-702-432-5300
OR
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DRAINAGE CERTIFICATION

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WESLEY T. PETTY P.E. 16369 DATE

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H# ---

CLV DWG# ---

STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — Exp. 12-31-15 — cert. no. 16369

DATE: 12/21/15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:28

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

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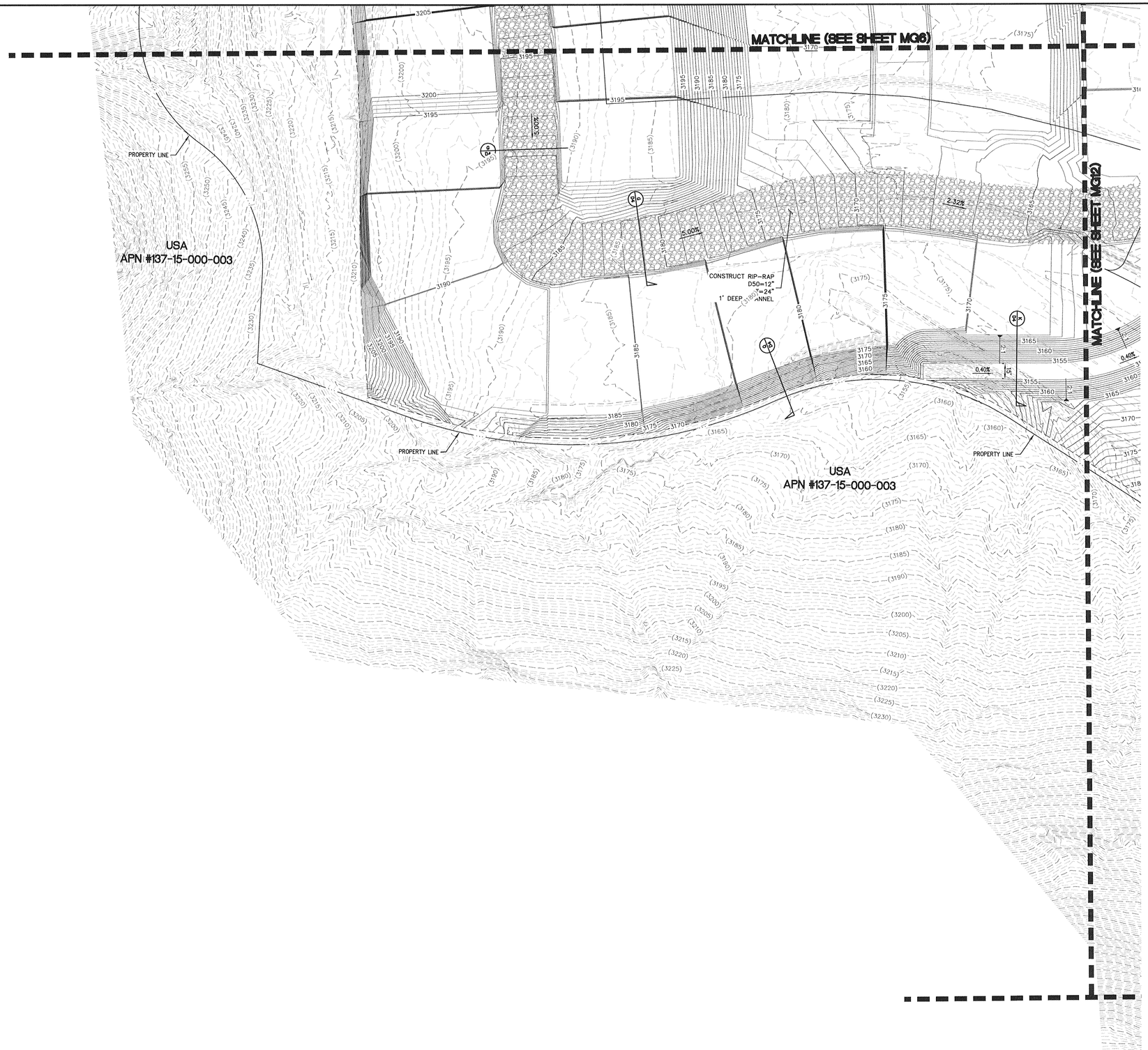
NATHAN LIM

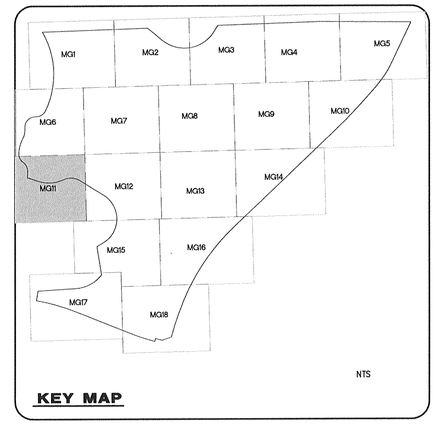
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN X

DRAWING
MG10
50 OF 63 SHTS





KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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H# ---
CLV DWG# ---

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

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NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 – REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

GRADING PLAN I

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:23

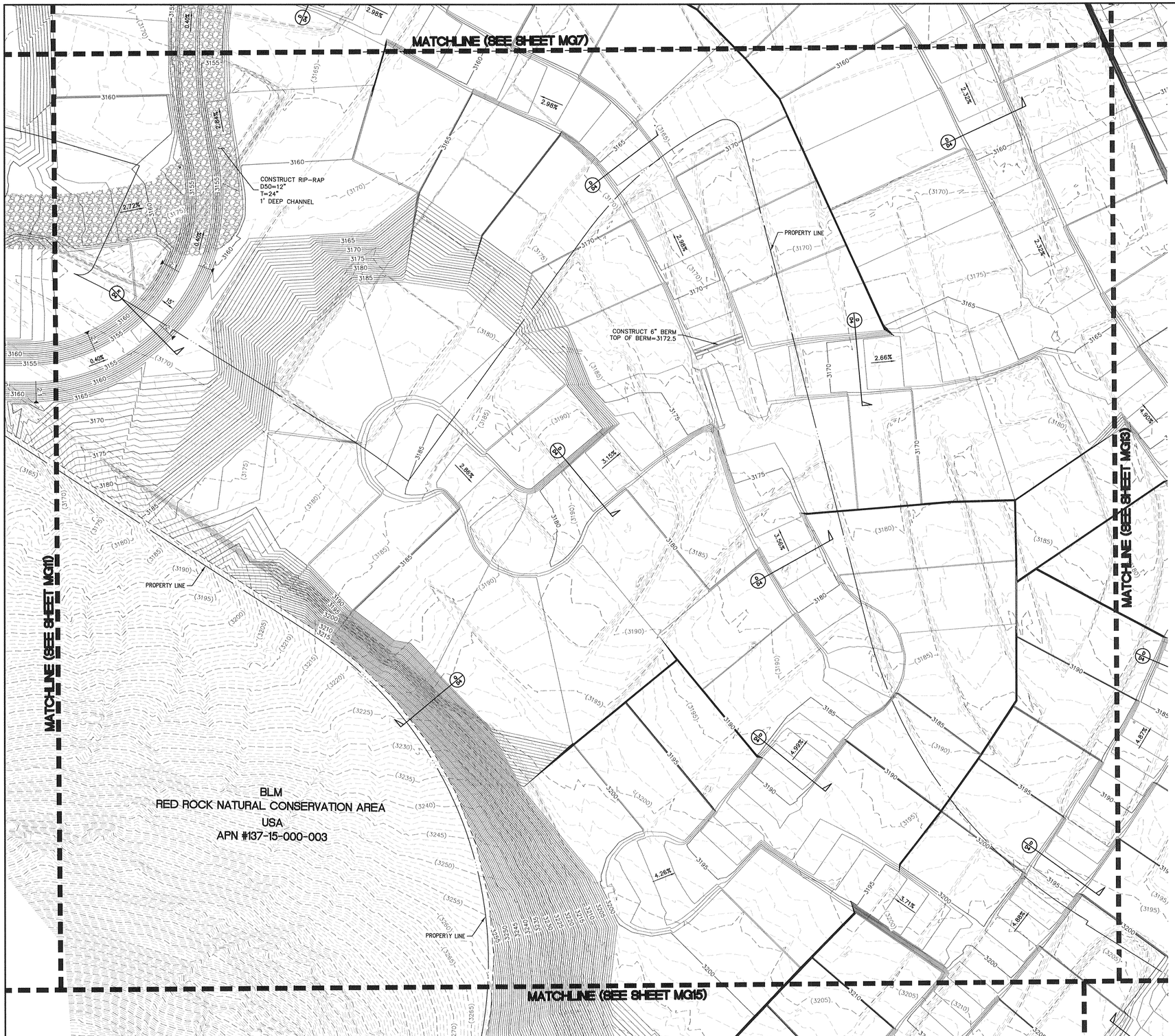
REV	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP	DATE

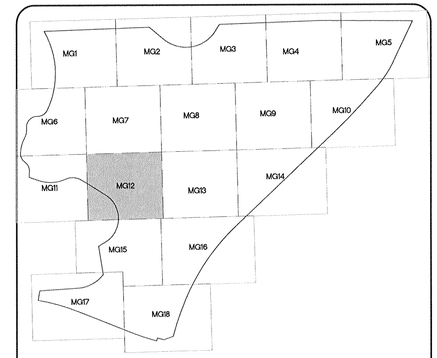
DRAWING
MG11
51 OF 63 SHTS

WESLEY T. PETTY
Exp. 12-31-15
PROFESSIONAL ENGINEER
STATE OF NEVADA
No. 16369

DATE: 12/21/15

% COMPLETE





KEY MAP

50' 0' 25' 50'

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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PROFESSIONAL ENGINEER - STATE OF NEVADA - WESLEY T. PETTY No. 16369 - Exp. 12-31-15 - CIVIL

DATE 11/15 % COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOW APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:18

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

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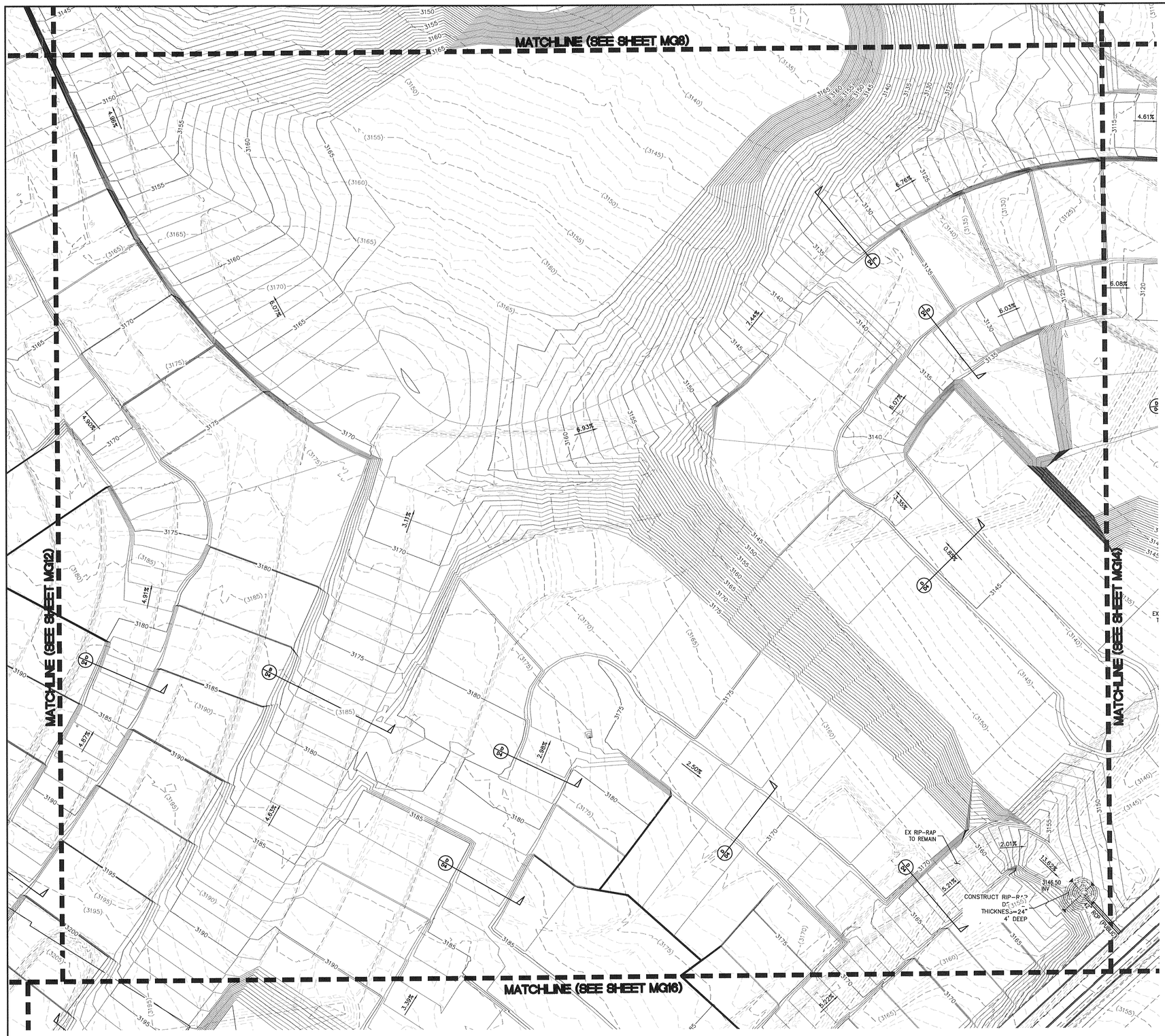
NATHAN LIM

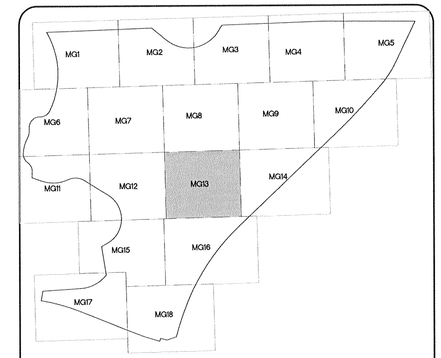
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN XII

DRAWING
MG12
52 OF 63 SHTS





KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

1. SEE THE UTILITY PLANS (SHEETS U1–U18) FOR WATER LINE DESIGN AND CONSTRUCTION INFORMATION.

2. FOR CONSTRUCTION NOTES SEE SHEET C2.

FLOOD ZONE NOTE:

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES WITH EQUIPMENT
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

DRAINAGE CERTIFICATION

I CERTIFY THAT THE GRADING PLANS ARE IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

PLEASE NOTE THESE QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES MAY DIFFER FROM THE ESTIMATE DUE TO SOILS VARIATIONS IN THE FIELD. VOLUMES CALCULATED WITHOUT SHRINKAGE OR SUBSIDENCE FACTORS AND DO NOT INCLUDE OVEREXCAVATION REQUIRED FOR THE REMOVAL OF CALICHE OR ANY OTHER UNDESIRABLE MATERIALS. REFER TO THE SOILS REPORT FOR THESE AREAS. ALSO NOT INCLUDED ARE QUANTITIES FOR ADDITIONAL DITCHES & BERMS NOT SHOWN THAT MAY BE REQUIRED BY THE ENGINEER.

COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---

CLV DWG# ---

STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — WESLEY T. PETTY — No. 16369 — Exp. 12-31-15
DATE: 12/21/15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 08:19:13

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

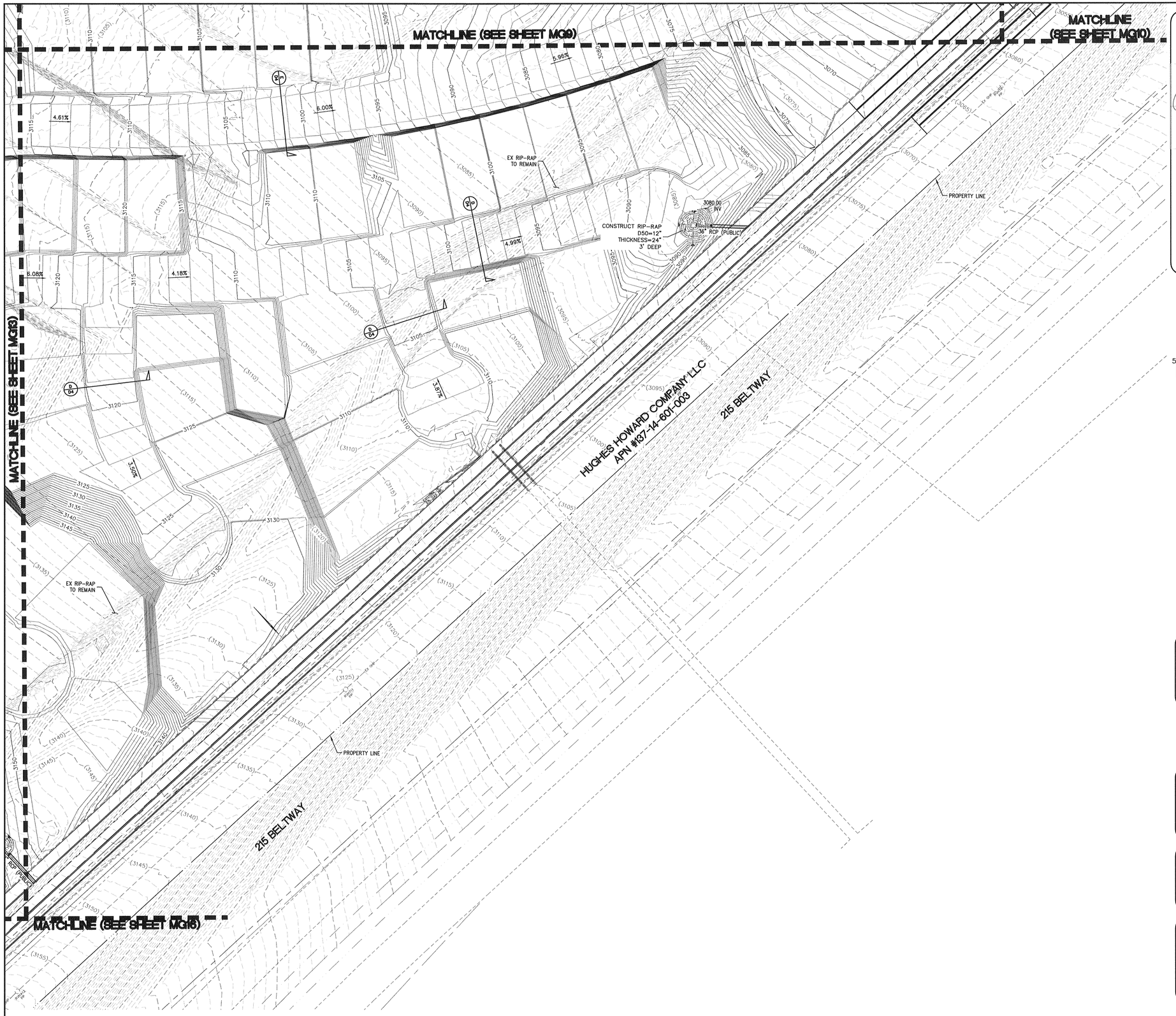
F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\013MG.DWG
NATHAN LIM

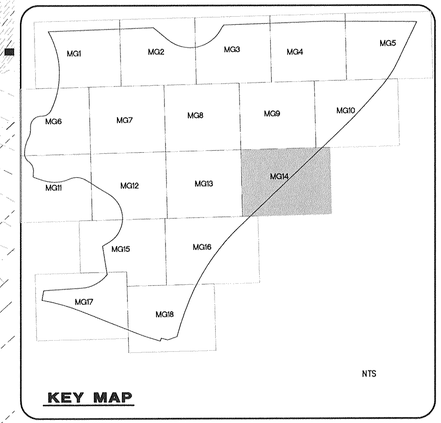
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN XIII

DRAWING
MG13
53 OF 63 SHTS





KEY MAP

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

Call before you Dig — Avoid cutting underground utility lines. It's costly. Call 811 or 1-800-227-2600

FAST — Call before you UnderGround 1-702-432-5300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY! CALL BEFORE YOU DO OVERHEAD 1-702-227-2929

DRAINAGE CERTIFICATION

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WESLEY T. PETTY P.E. 16369 DATE

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H# ___ CLV DWG# ___

PROFESSIONAL ENGINEER – STATE OF NEVADA – WESLEY T. PETTY Exp. 12-31-15 No. 16369 – CIVIL

% COMPLETE

REV	DATE	DESCRIPTION	AGEN APP	DATE	GOV APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:08

GCV ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

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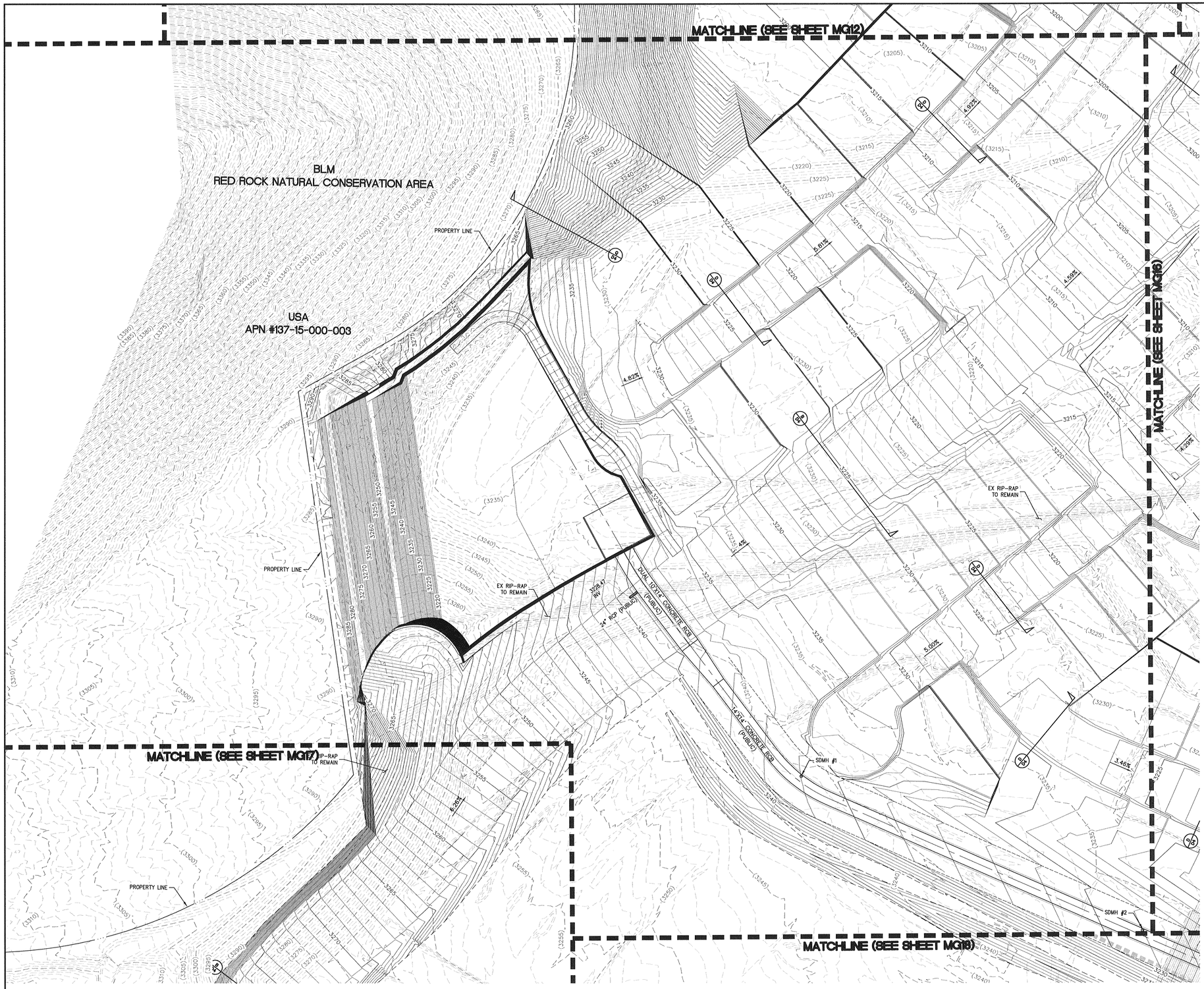
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 – REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN XIV

DRAWING
MG14
54 OF 63 SHTS



KEY MAP

50' 0' 25' 50'
SCALE: 1" = 50'

FLOOD ZONE NOTE:

FLOOD ZONE: NOT IN 100 YEAR ZONE.
FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

GENERAL NOTES

1. SEE THE UTILITY PLANS (SHEETS U1-U18) FOR WATER LINE DESIGN AND CONSTRUCTION INFORMATION.

2. FOR CONSTRUCTION NOTES SEE SHEET C2.

FLOOD ZONE NOTE:

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
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FAST
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1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

DRAINAGE CERTIFICATION

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WESLEY T. PETTY P.E. 16369 DATE

ENGINEER'S EVALUATION OF GRADING QUANTITIES

PLEASE NOTE THESE QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES MAY DIFFER FROM THE ESTIMATE DUE TO SOILS VARIATIONS IN THE FIELD. VOLUMES CALCULATED WITHOUT SHRINKAGE OR SUBSIDENCE FACTORS AND DO NOT INCLUDE OVEREXCAVATION REQUIRED FOR THE REMOVAL OF CALICHE OR ANY OTHER UNDESIRABLE MATERIALS. REFER TO THE SOILS REPORT FOR THESE AREAS. ALSO NOT INCLUDED ARE QUANTITIES FOR ADDITIONAL DITCHES & BERMS NOT SHOWN THAT MAY BE REQUIRED BY THE ENGINEER.

COMPUTED CUT VOLUME: 1,383,691 CYS
COMPUTED FILL VOLUME: 1,727,100 CYS
IMPORT: 343,409 CYS

H# ---
CLV DWG# ---

GCW
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
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F: 702.804.2299
gcwengineering.com
ENGINEERS \ SURVEYORS

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NATHAN LIM

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:19:00

REV	DATE	DESCRIPTION	AGEN APP	DATE	GCW APP	DATE

DATE 12-21-15
% COMPLETE

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN XV

DRAWING
MG15
55 OF 63 SHTS

MATCHLINE (SEE SHEET MG13)

MATCHLINE (SEE SHEET MG14)

MATCHLINE (SEE SHEET MG15)

MATCHLINE (SEE SHEET MG18)

EX RIP-RAP TO REMAIN

EX RIP-RAP TO REMAIN

REMOVE RIP-RAP AND FILL INTERIM CHANNEL. INTERIM RIGHT AND LEFT CHANNELS HAVE BEEN CONSTRUCTED

PROPERTY LINE

PROPERTY LINE

PROPERTY LINE

HUGHES HOWARD COMPANY, LLC
APN #137-14-601-003

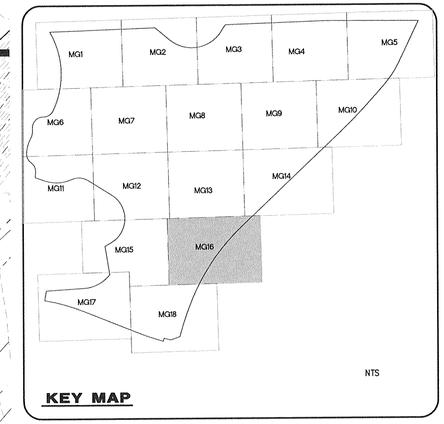
215 BELTWAY

215 BELTWAY

SDMH #2

PLS PLANT

PLS PLANT



KEY MAP

50' 0' 25' 50'

SCALE: 1" = 50'

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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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2. FOR CONSTRUCTION NOTES SEE SHEET C2.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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or
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FAST
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1-702-432-5300
OR
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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1-702-227-2929

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H# ___ CLV DWG# ___

STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — WESLEY T. PETTY — No. 16369 — Exp. 12-31-15 — CIVIL

DATE 11/21/15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	CGW APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 08:18:50

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

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NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

MASS GRADING PLAN XVI

DRAWING
MG16
56 OF 63 SHTS

MATCHLINE (SEE SHEET MG15)

EX RIP-RAP TO REMAIN

BLM
RED ROCK NATURAL CONSERVATION AREA
USA
APN #137-15-000-003

PROPERTY LINE

PROPERTY LINE

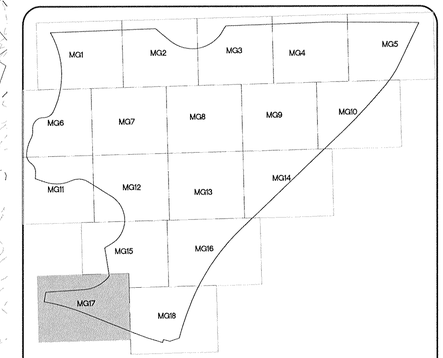
LAKE MEAD BLVD

HUGHES HOWARD COMPANY LLC
APN #137-14-401-002

PROPERTY LINE

HUGHES HOWARD COMPANY LLC
APN #137-14-401-002

MATCHLINE (SEE SHEET MG18)



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FIRM #2150 OF 4090
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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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H# ---

CLV DWG# ---

ENGINEER - STATE OF NEVADA - PROFESSIONAL
WESLEY T. PETTY
Exp. 12-31-15
No. 16369
DATE 12/21/15

% COMPLETE

REV	DESCRIPTION	DATE	AGEN APP	DATE	GOV APP	DATE

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:18:40

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

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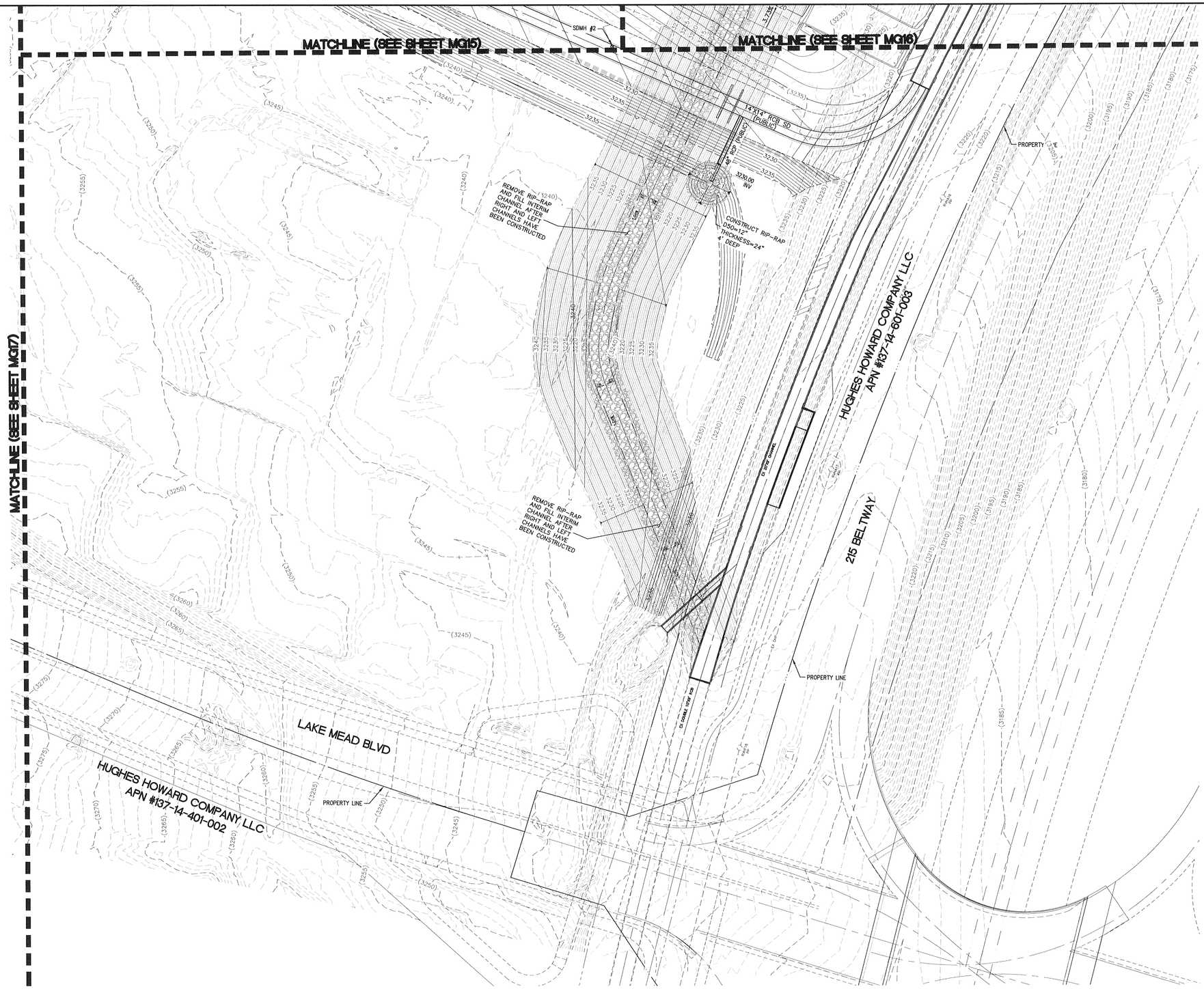
NATHAN LIM

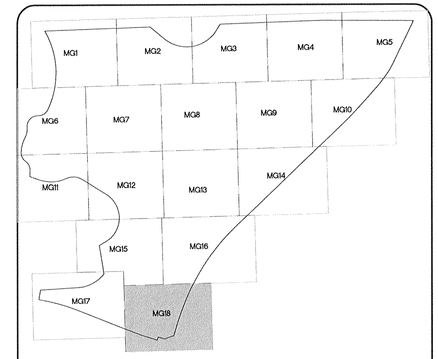
PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

MASS GRADING PLAN XVII

DRAWING
MG17
57 OF 63 SHTS





KEY MAP

50' 0' 25' 50'
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FIRM #2150 OF 4090
REVISED: SEPT. 27, 2002.

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FIRM PANEL #2150 OF 4090
REVISED: SEPT 27, 2002.

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ENGINEER - STATE OF NEVADA
WESLEY T. PETTY
Exp. 12-31-15
CIVIL
No. 16369
PROFESSIONAL

DATE: 12/11/15

% COMPLETE

REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP

PROJECT NO. 764-204-013
DESIGN:
DRAWN:
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:18:33

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com

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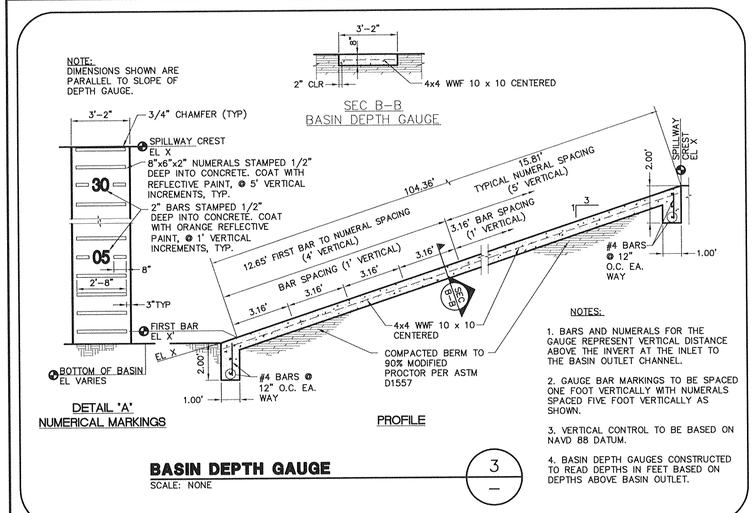
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

MASS GRADING PLAN XVIII

DRAWING
MG18
58 OF 63 SHTS



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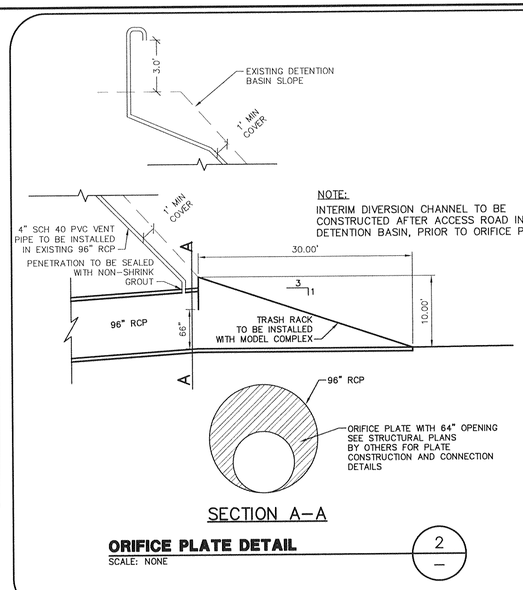

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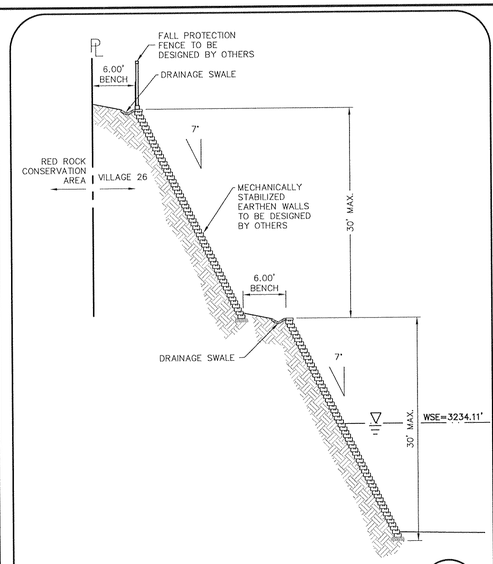

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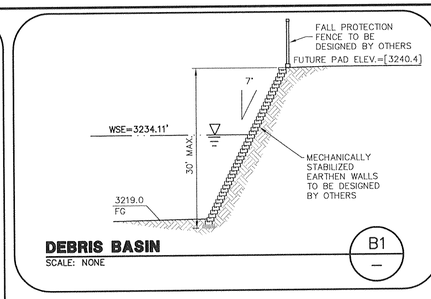
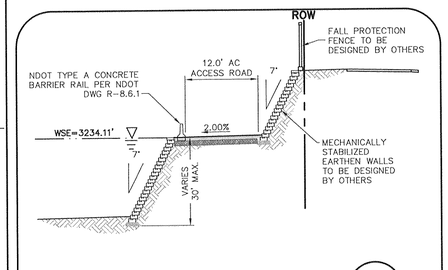
SCALE: NONE



DEBRIS BASIN — B1
SCALE: NONE



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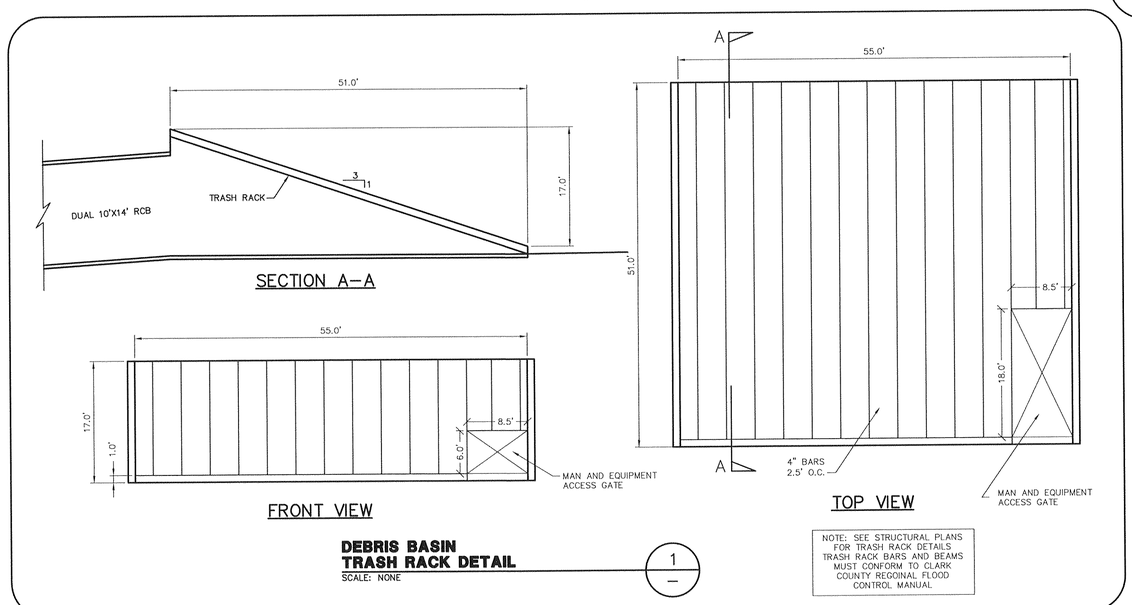

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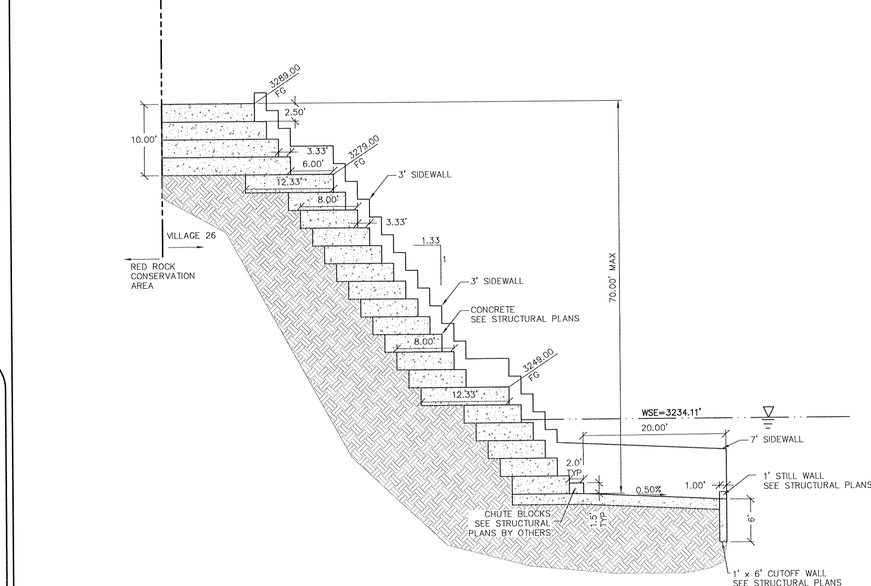
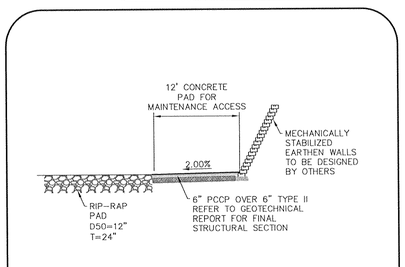
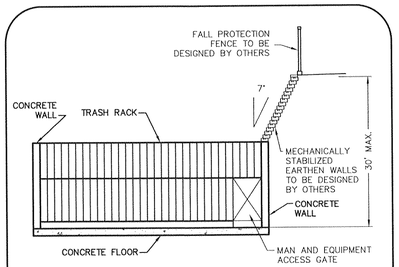
TRASH RACK DETAIL — 1
SCALE: NONE



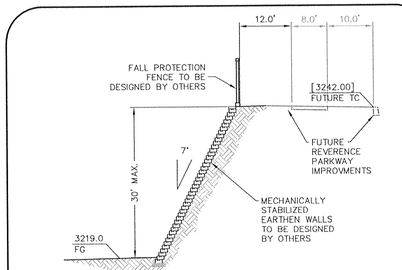
DEBRIS BASIN — A
SCALE: NONE



DEBRIS BASIN — F
SCALE: NONE



DEBRIS BASIN — E
SCALE: NONE



DEBRIS BASIN — D
SCALE: NONE

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F: 702.804.2299
gcwengineering.com

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NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVMENTS

DETAIL SHEET I

DRAWING
D1
59 OF 63 SHTS

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:17:18

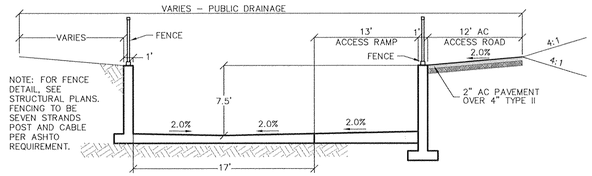
REV	DESCRIPTION	DATE	AGEN. APP	DATE	GCW APP

DATE: 12.21.15

NEVADA — STATE OF NEVADA — WESLEY T. FELTY — No. 16585 — PROFESSIONAL ENGINEER — Exp. 07/31

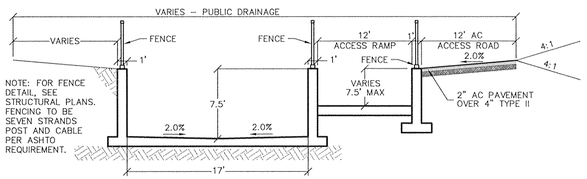
% COMPLETE

H# ---
CLV DWG# ---



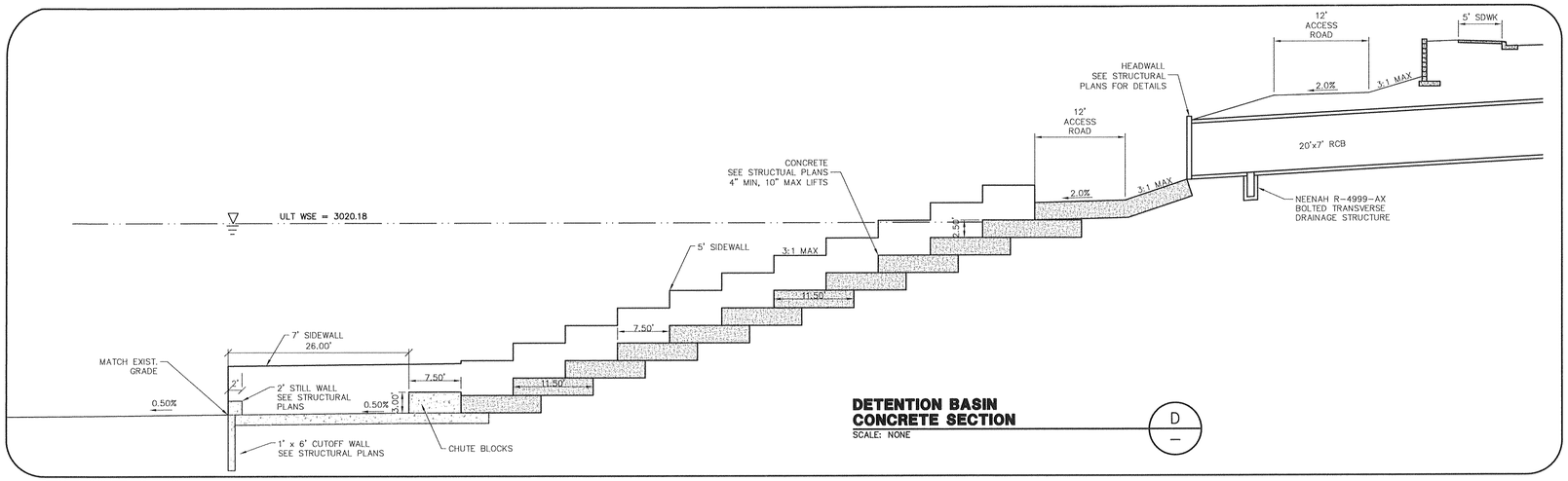
ACCESS RAMP SECTION — O

SCALE: NONE



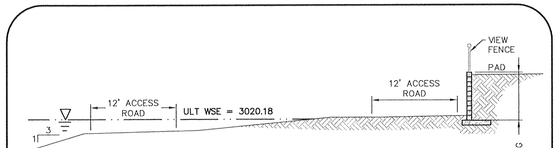
ACCESS RAMP SECTION — N

SCALE: NONE



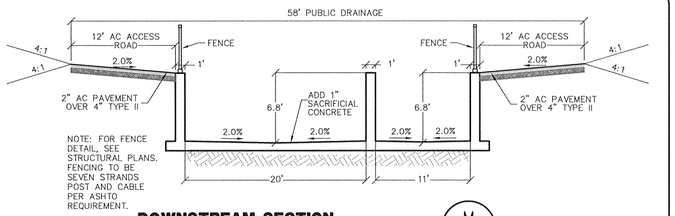
DETENTION BASIN CONCRETE SECTION — D

SCALE: NONE



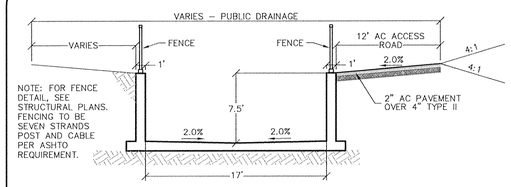
SECTION C — C

SCALE: NONE



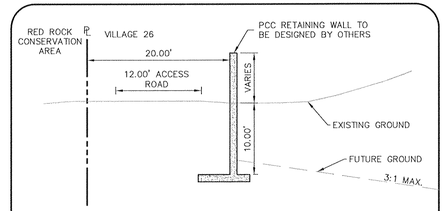
DOWNSTREAM SECTION — M

SCALE: NONE



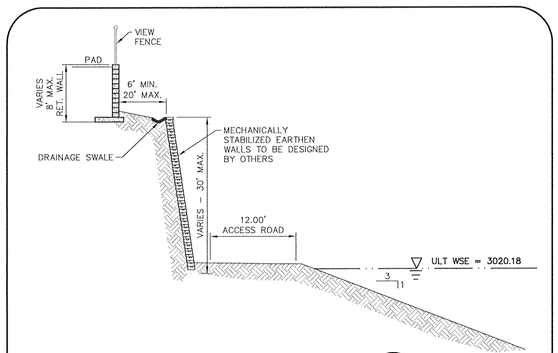
DOWNSTREAM SECTION — J

SCALE: NONE



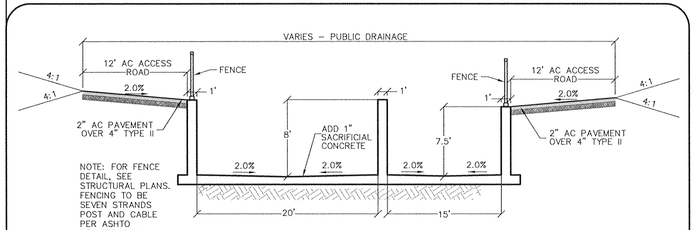
10' DEEP RETAINING WALL SECTION — G

SCALE: NONE



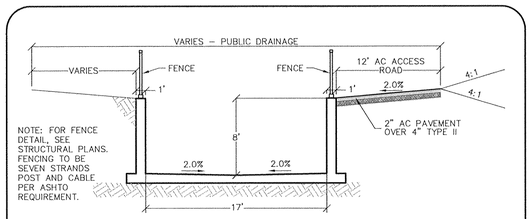
ROCKWOOD WALLS SECTION — B

SCALE: NONE



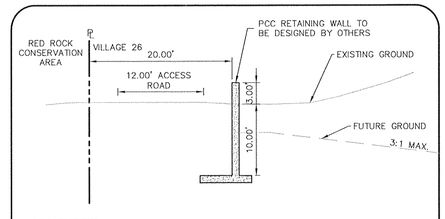
DOWNSTREAM SECTION — L

SCALE: NONE



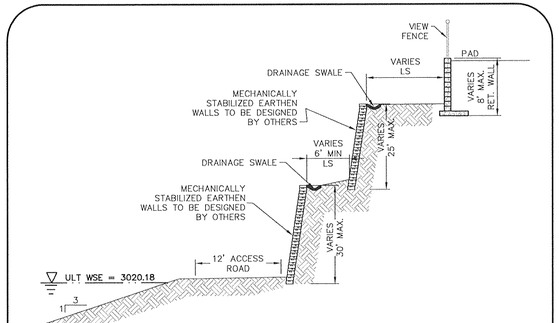
DOWNSTREAM SECTION — I

SCALE: NONE



10' DEEP RETAINING WALL SECTION — F

SCALE: NONE



ROCKWOOD WALLS SECTION — A

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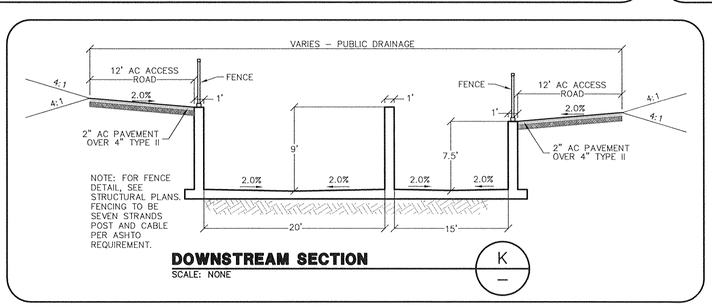
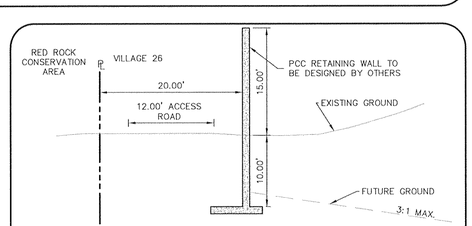


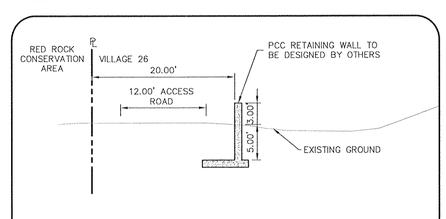
DOWNSTREAM SECTION — K

SCALE: NONE



10' DEEP RETAINING WALL SECTION — H

SCALE: NONE



5' DEEP RETAINING WALL SECTION — E

SCALE: NONE

H# ___---___ CLV DWG# ___---___

STATE OF NEVADA — PROFESSIONAL ENGINEER — WESLEY T. PETTY — Exp. 12-31-15 — No. 16398 — CIVIL

% COMPLETE 1 1 2 2 1 1

DATE	DESCRIPTION	REV	DATE

DESIGN: HN
DRAWN: ___
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:17:12
PROJECT NO. 764-204-013

GCV ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\013D01.DWG
NATHAN LIM

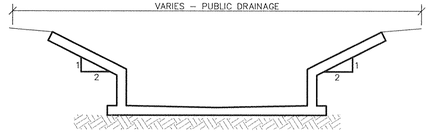
PULTE HOMES

SUMMERLIN VILLAGE 26 – REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

DETAIL SHEET II

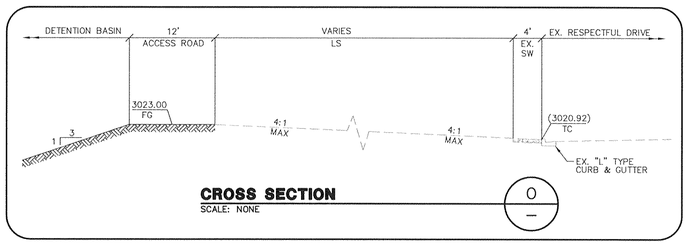
DRAWING D2

60 OF 63 SHTS



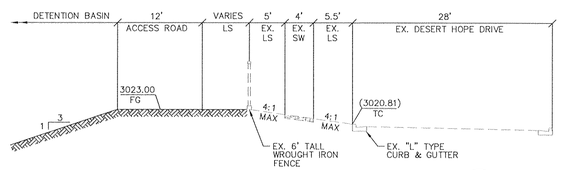
RECTANGULAR TO TRAPAZOIDAL DETAIL
SCALE: NONE

P



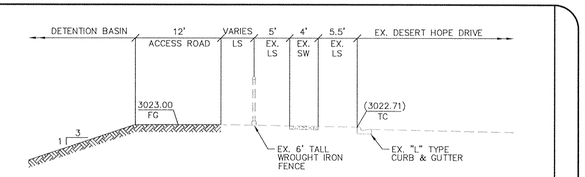
CROSS SECTION
SCALE: NONE

O



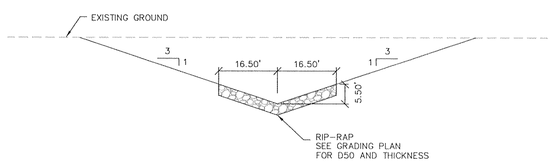
CROSS SECTION
SCALE: NONE

N



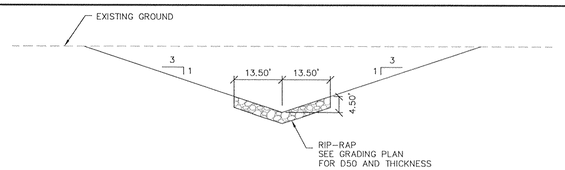
CROSS SECTION
SCALE: NONE

M



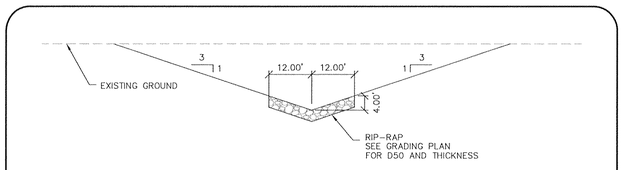
V-DITCH SECTION
SCALE: NONE

L



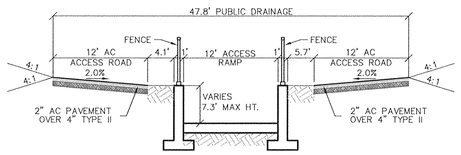
V-DITCH SECTION
SCALE: NONE

K



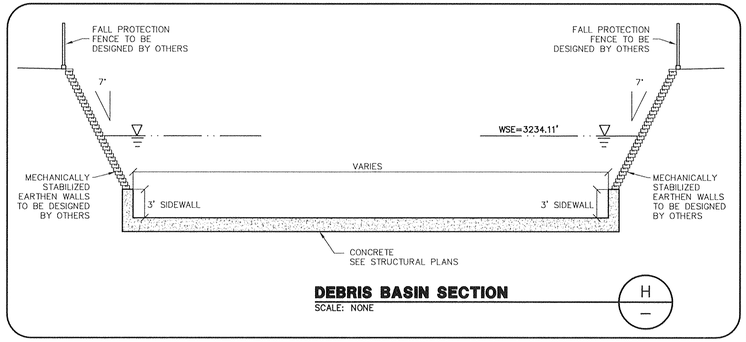
V-DITCH SECTION
SCALE: NONE

J



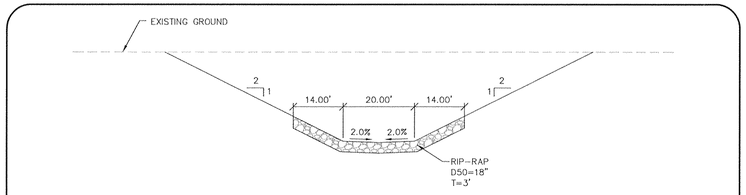
ACCESS RAMP SECTION
SCALE: NONE

I



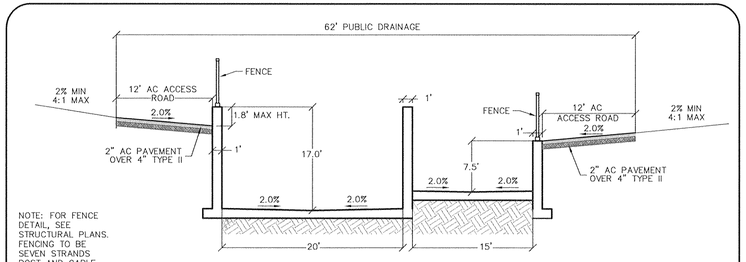
DEBRIS BASIN SECTION
SCALE: NONE

H



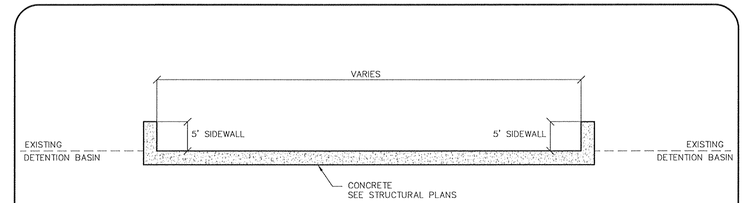
INTERIM DIVERSION CHANNEL SECTION
SCALE: NONE

G



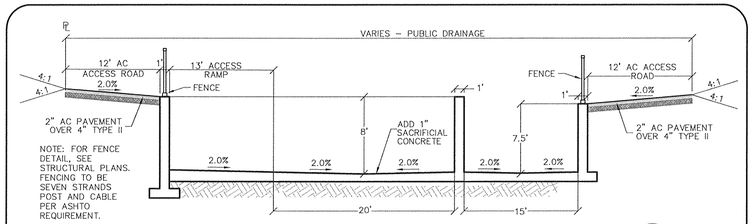
CHANNEL SECTION
SCALE: NONE

F



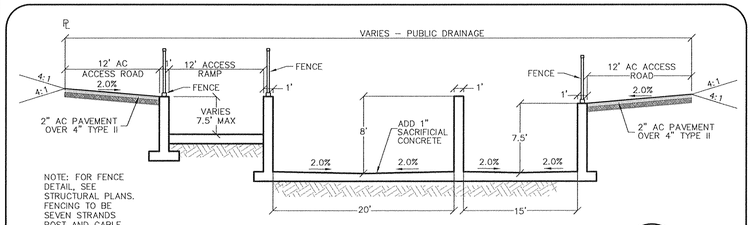
DETENTION BASIN SECTION
SCALE: NONE

E



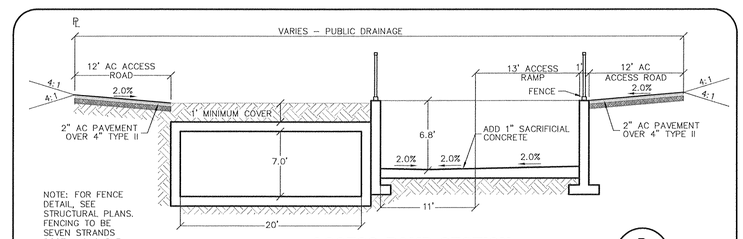
ACCESS RAMP SECTION
SCALE: NONE

D



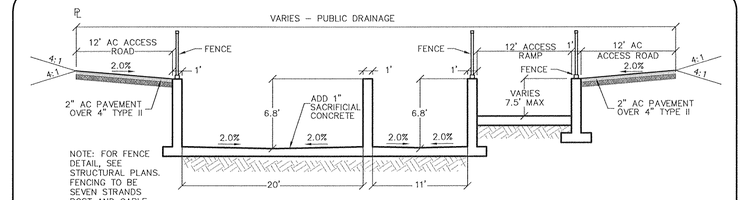
ACCESS RAMP SECTION
SCALE: NONE

C



ACCESS RAMP SECTION
SCALE: NONE RIGHT CHANNEL STATION 38+40

B



ACCESS RAMP SECTION
SCALE: NONE

A

H# ---

CLV DWG# ---

GCW
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcwengineering.com
ENGINEERS \ SURVEYORS

F:\PROJECTS\700\764-204-03\DWG\PRODUCTION\DS DRAINAGE\D13CD1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

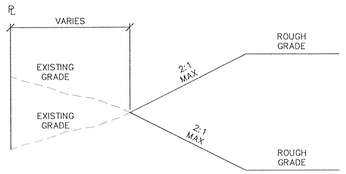
DETAIL SHEET III

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN: WP
CHECK:
PLOT DATE: 12-21-15
PLOT TIME: 09:17:07

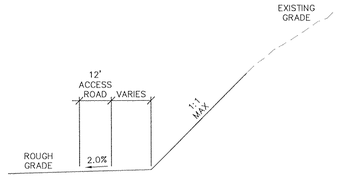
DRAWING D3
61 OF 63 SHTS

DATE: 12/21/15
% COMPLETE

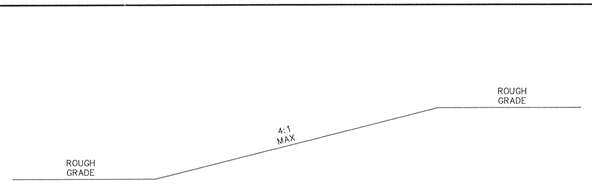
REV	DATE	DESCRIPTION	DATE	AGEN APP	DATE	GCW APP



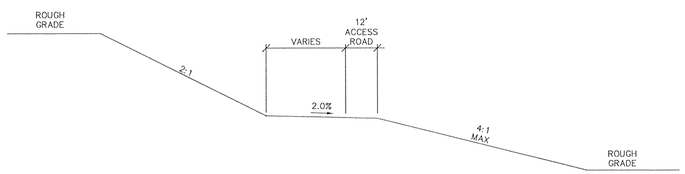
TYPICAL SECTION — Q
SCALE: NONE



TYPICAL SECTION — P
SCALE: NONE



TYPICAL SECTION — O
SCALE: NONE



TYPICAL SECTION — N
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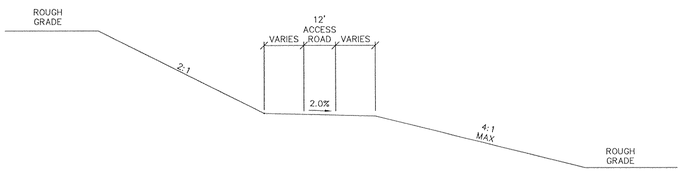
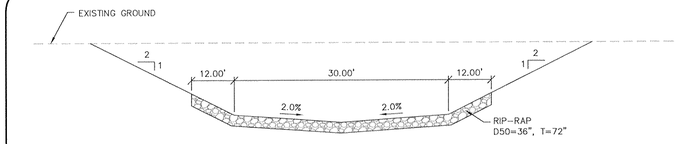
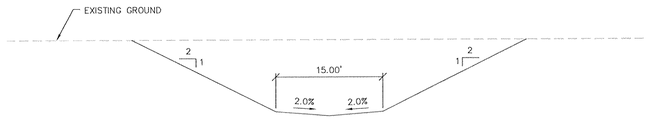


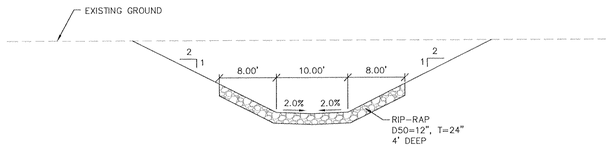
TYPICAL SECTION — M
SCALE: NONE



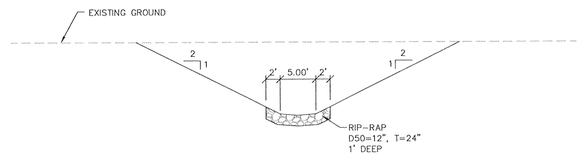
30' BOTTOM WIDTH CHANNEL — L
SCALE: NONE



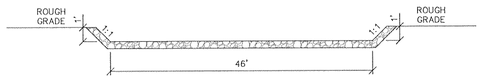
15' BOTTOM WIDTH CHANNEL — K
SCALE: NONE



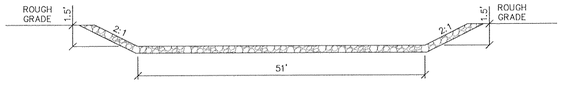
10' BOTTOM WIDTH CHANNEL — J
SCALE: NONE



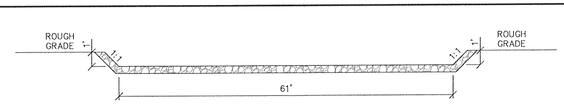
5' BOTTOM WIDTH CHANNEL — I
SCALE: NONE



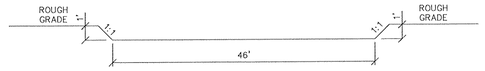
TYPICAL SECTION — H
SCALE: NONE



TYPICAL SECTION — G
SCALE: NONE



TYPICAL SECTION — F
SCALE: NONE



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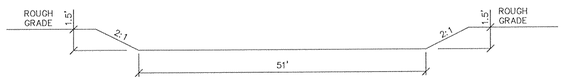
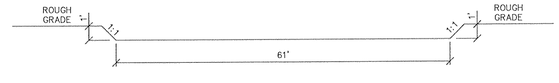
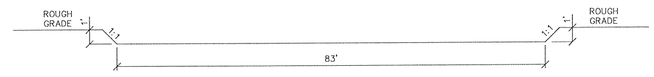
SCALE: NONE



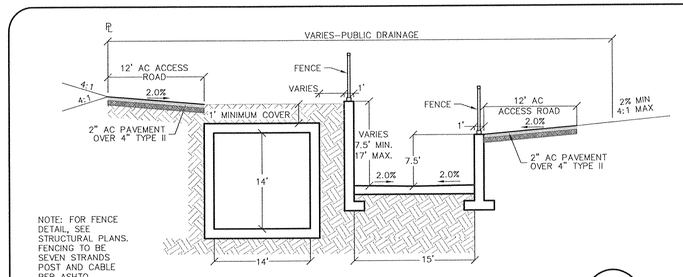
TYPICAL SECTION — D
SCALE: NONE



TYPICAL SECTION — C
SCALE: NONE



TYPICAL SECTION — B
SCALE: NONE



NOTE: FOR FENCE DETAIL, SEE STRUCTURAL PLANS. FENCING TO BE SEVEN STRANDS POST AND CABLE PER ASHTO REQUIREMENT.

CHANNEL SECTION — A
SCALE: NONE

H# ___---___ CLV DWG# ___---___

ENGINEER - STATE OF NEVADA - PROFESSIONAL
WESLEY T. PETTI
Exp. 12-31-15
CIVIL
No. 16396

% COMPLETE

REV	DATE	DESCRIPTION	DATE AGEN APP	DATE GOV APP

PROJECT NO. 764-204-013
DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:17:02

GCV
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD.
LAS VEGAS, NV 89146
T: 702.804.2000
F: 702.804.2299
gcvengineering.com

F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\OS DRAINAGE\013CD1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

DETAIL SHEET IV

DRAWING
D4
62 OF 63 SHTS

75' BOTTOM WIDTH CHANNEL
SCALE: NONE

F
—

TYPICAL SECTION
SCALE: NONE

E
—

TYPICAL SECTION
SCALE: NONE

D
—

TYPICAL SECTION
SCALE: NONE

C
—

TYPICAL SECTION
SCALE: NONE

B
—

TYPICAL SECTION
SCALE: NONE

A
—

H# ———— CLV DWG# ————

WESLEY T. PETTY
Exp. 12-31-15
CIVIL
No. 16359
PROFESSIONAL ENGINEER - STATE OF NEVADA

DATE: 11/12/15

% COMPLETE

DESCRIPTION	REV	DATE

AGEN APP	DATE	GCW APP	DATE

PROJECT NO. 764-204-013

DESIGN: HN
DRAWN:
CHECK: WP
PLOT DATE: 12-21-15
PLOT TIME: 09:16:56

GCW
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F:\PROJECTS\700\764-204-013\DWG\PRODUCTION\05 DRAINAGE\013D1.DWG
NATHAN LIM

PULTE HOMES

SUMMERLIN VILLAGE 26 - REVERENCE
OFFSITE DRAINAGE IMPROVEMENTS

DETAIL SHEET V

DRAWING
D5
63 OF 63 SHTS