

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: August 7, 2023
TO: Land Development Services Community Development - Building & Safety Division		FROM: Peter Jackson, CFM Senior Engineering Assoc. Department of Public Works
SUBJECT: Drainage Study for: Summerlin West Village 31 Detention Basin (Peaking Basin Improvements)		COPIES TO: Atkins
Cross Streets:	Lake Mead Boulevard	Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS5604C.doc	Bart Anderson, P.E., DevCo
Parcel Number:	137-21-101-007	CCRFCD
Zoning Action:	N/A	State of Nevada – Division of Water Resources, Dam Safety
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES X	NO

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	5/24/2011	7/13/2021	Not Approved	\$ 400.00	\$400
2 nd Submittal & Supplement	8/10/2022 & 3/8/2023	8/29/2022 & 1/18/2023 & 4/7/2023	See Comments Below	\$ 400.00	\$400
3 rd Submittal	6/28/2023	8/3/2023	Conditionally Approved	\$400.00	\$400
TOTAL FEES (LDDRS):				\$ 1,200.00	----

REMARKS: 3rd Submittal – Addressed overall design of the Detention Basin design parameters.

1st Submittal – 60% Design submittal under DS5457. Drainage Study Number has been changed to DS5604.

2nd Submittal – 90% Design iterations have revised the overall Detention Basin Design after the 1st submittal. Supplemental information provided.

The Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
X	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
X	is conditionally approved subject to State of Nevada, Division of Water Resources – Dam Safety concurrence.

The City of Las Vegas Flood Control Staff concurs with the Overall Drainage concepts presented and takes no exception to the Overall Hydrology impacting the Village 31 Detention Basin. The Detention Basin grading has been revised to reduce the slope impacts and the inlet structures have been changed to open channel chutes. The Detention Basin design has been revised using 4:1 slopes. The proposed concrete spillway cross section is also designed with 4:1 slopes.

1. Flood Control understands that the necessary Flood Control Master Plan Amendment that covers the Summerlin West Planning Area is being incorporated into the 2023 Master Plan Update. Any

further changes to the Summerlin West Planning Area will require a Flood Control Master Plan Amendment (MPA) prior to any additional facilities being accepted by the City.

2. The site is a proposed *Clark County Regional Flood Control District* (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study. The engineer must provide a copy of *Building Department* approval of the structures to CCRFCD before they will issue concurrence.

Please note that effective March 15, 2019, the CCRFCD adopted new requirements for the drainage study concurrence submittal. Follow the link below for specific guidance.

<http://gustfront.ccrfcd.org/LandDev/LandDev.aspx>

3. The proposed *Summerlin West Village 31 Detention Basin* must be approved by the State of Nevada, Division of Water Resources Dam Safety (DWR) prior to the issuance of any construction permits, including any request for early grading.
4. Continue to coordinate the monitoring station details and requirements with the Regional Flood Control District.
5. This proposed Detention Basin is adjacent to the Red Rock Canyon National Conservation Area (RRCA), a critical area of no disturbance. No grading impacts are allowed into the RRCA and an appropriate buffer has been identified on the plans. Typically block and cable fencing has been provided to secure the basin. Revise the Details to show a maximum 5-foot spacing between the blocks.
6. The current design for the spillway shows that the concrete spillway will be covered with 12-inch minimum sacrificial landscape cover to provide for Basin aesthetics. No vegetation will be allowed on the spillway/basin embankment.
7. The intent of Howard Hughes Company is to construct *Summerlin West Village 31 Detention Basin* with the associated collection facilities, to update the CCRFCD Master Plan facilities and then dedicate them to the City of Las Vegas upon completion. *Summerlin West Village 31 Detention Basin* shall be dedicated to the City as *Flood Control Right-of-Way*. The total area of the dedication shall be of sufficient size to meet the public operational needs. The dedication needs to include the entire impact area of the construction as well as incorporate access and maintenance activities. The maintenance activities include staging for equipment and a temporary storage area for sediment removal. The Maintenance Staging Area has been included on the plans.
8. Provide complete *Plans and Project Specifications* for approval by the *City of Las Vegas*. Provide a copy of the Geotechnical Report for the detention basin. The Structural Plans and Details shall be a part of the Civil Improvement Plan set. This project is considered as a *Capital Improvement Project* (CIP) with developer funding.
9. Structural plans for the proposed storm drain improvements and pertinent flood control facilities must be submitted for review. Provide soils report, structural calculations, specifications, structural plans, and a grading plan to the Building & Safety Division for processing. Coordinate the electronic submittal requirements with the Building & Safety Division. The engineer must provide a copy of Building & Safety Division approval of the structures to Flood Control prior to final acceptance of the drainage study.
10. All proposed improvements associated with *Summerlin West Village 31 Detention Basin* shall be bonded and inspected. This project, as an MPU facility, shall require that the inspection personnel be approved by the City. This project shall require Special Inspection. Coordinate the requirements of and the Agreements needed for Special Inspection with the Building Department.
11. Once this drainage study is approved, provide a legal description and exhibit for the easement dedication of the detention basin and collection facilities. This easement shall be recorded and would be subsequently replaced with the dedication of the facilities as *Flood Control Right-of-Way*.

Coordinate the easement submittal with Flood Control. The easement shall record prior to issuance of the permits for the construction of the detention basin.

12. Prior to the adoption of the detention basin as a regional facility by the *City of Las Vegas*, City Council and the final inspection and acceptance by the *City of Las Vegas Public Works Department*, the proposed *Summerlin West Village 31 Detention Basin* shall remain a private facility owned and maintained by the master developer.
13. Provide the legal description with an exhibit of the proposed detention basin to City Right-of-Way Section for the dedication as *Flood Control Right-of-Way* to the City of Las Vegas after final acceptance of the basin by the City Public Works Department.
14. The detention basin will require the submittal and approval of an Emergency Action Plan (EAP) for this regional facility. The EAP format shall meet the City of Las Vegas submittal requirements for inclusion with our overall EAP. Contact Flood Control for sample format requirements. The EAP must be approved by the *City of Las Vegas* and then submitted and approved by the *State of Nevada, Division of Water Resources - Dam Safety* prior to the release of any improvement bonds for the related detention basin improvements. The bonded improvements shall include a line item for the EAP in the amount of \$50,000.
15. Access roads shown for City use shall be dedicated access easements. The easements shall be dedicated prior to acceptance of facilities by the City.

The following comments are provided to assist in the submittal of Improvement Plans:

16. Add the Drainage Study # (DS5604) to the Grading Certification Note.
17. Clearly identify the Spillway limits and the ramp transitions up to the Embankment elevation of 4270.0 on the Grading Plans. See Sheets 8, 9, & 10.
18. Provide complete structural details of the spillway including identifying expansion joint layout and other required joints.
19. Provide complete structural details for the concrete embankment inletting structures including cutoff walls. Given the size of the Inlet Structures, provide expansion joint layout and provide all joint details.
20. Provide a complete detail of the Water Quality Wall. Provide 6" PVC openings 40-foot on center with a minimum of one opening on each wall segment. Referenced wall detail being sent by separate email.
21. The provided details for the 8-foot cut-off wall (Section C/32) at the upstream & downstream end of the spillway section are not referenced correctly and need to be fixed in Construction Note #27.
22. Provide complete details of the various types of cut-off walls. Include cross sections at the access ramp into the basin, top of the spillway, and the upstream side of the 14-foot access road.
23. Provide complete details of the orifice plate for the outlet structures. Verify anchor bolt location distance from edge of 1" thick steel plate. 1/4" seems too close to the edge of the steel plate. Provide detailed of location of all anchor bolts to secure orifice plate to outlet structure. Revise plans accordingly.
24. Verify the retaining wall elevations for the TW and BW at the west side of Inlet #1 near Station 17+62. TW is shown below the BW. Details reference a minimum wall height of 2-foot. Review wall elevations accordingly.
25. Provide TW elevations at grade breaks in all of the Inlet Structures.
26. Provide rip-rap dimensions adjacent to inlet structure walls. See Sheets 14, 15, & 16.
27. For the trash rack design, add post & cable gate for the "man-access" along with manhole steps to the bottom of the inlet structure. Provide updated Details.

28. Sheet 21 & 32 – remove the staggered baffle blocks adjacent to the Water Quality Wall.
29. Sheet 22 – Add the access road slopes to the profile.
30. Sheet 26 – Check layer control for road profile versus the wall profile.
31. Consider rounding up the inlet concrete ramp wall height to nearest 0.5-ft for ease of construction.
32. For detail 2/34, extend wall bracket bolt past the entire outlet structure wall thickness with backing plates on both sides.
33. For detail D/36, the concrete block and chain must be spaced at maximum of 5-ft between the blocks. The detail still shows 30-foot spacing.
34. Sheet 39 – Update Details to remove the pipe penetrations as the inlet structures have been updated.
35. Sheet 37 – Chain Link Perimeter Fencing is detailed with no location shown. Block and chain fencing is provided. Update plans.

***** The City of Las Vegas Flood Control is standardizing the file naming of drainage studies and plans during the digitizing process. When saving the project files in the CD or thumb drive, please follow the system below:**

If drainage study only contains one combined file, use the following naming convention in Document Title:

- 1st Submittal DS and Plans (for first and original submittal);
- 2nd Submittal DS and Plans (for second submittal (addendum #1)) etc.

If drainage study contains multiple files, use the following naming convention in Document Title:

- 1st Submittal DS (for the report of the drainage study)
- 1st Submittal Plan 1 (could be the drainage condition maps)
- 1st Submittal Plan 2 (could be the improvement plans) etc.

***** In an effort to increase administrative efficiency, for all original and re-submittal packages including updates and the addenda, the City of Las Vegas Public Works Department requires both a hardcopy and a digital copy (PDF) on CD for the drainage study.**

A letter sealed and signed by a Nevada registered civil engineer must be included in every submittal certifying documents on the electronic CD matches 100% of the hardcopy submittal. The new submittal requirement is effective on May 1, 2019. If there are any questions regarding these new requirements, please contact Albert Sung in the City Flood Control Section at (702) 229-6541.



Sample Letter to certify CD.pdf

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased

construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Update and accepted by the *City of Las Vegas Flood Control Section*. Additionally, final approval of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

END OF REMARKS
AYS/PBJ

T/R/S: T21S/R59E/S03
AREA K-21