

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: August 22, 2024
TO: Land Development Services Department of Community Development Building & Safety Division		FROM: Tyler Key Flood Control Engineering Associate Department of Public Works
SUBJECT:	Drainage Study for:	COPIES TO:
Summerlin West Village 27 – Debris Basin and Outlet (Western boundary of V27, Portion of Parcel COS-1)		Atkins
Cross Streets:	V27 Sunset Run Dr. & V22 Lake Mead Blvd.	Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS5576D.doc	Bart Anderson, P.E., DevCo
Parcel Number:	Portion of 137-15-401-003	CCRFCD
Zoning Action:	N/A	
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	5/26/2022	6/24/2022	See Comments Below	\$400.00	4805619: \$400
2 nd Submittal & Supplemental	11/28/2022, 2/2/2023, 4/10/2023 & 8/16/2023	1/18/2023, 2/2/2023, 5/18/2023 & 9/22/2023	See Comments Below	\$400.00	5051498: \$400
3 rd Submittal	6/5/2024	7/2/2024	See Comments Below	\$400.00	5796981: \$400
4 th Submittal	8/7/2024	8/21/2024	See Comments Below	\$400.00	5882039: \$400
TOTAL FEES (LDDRS):				\$1,600.00	----

REMARKS: The proposed update is acceptable in concept, but comments from CCRFCD must be addressed and approved by the City prior to issuing conditional approval.

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.
	is conditionally approved subject to Clark County Public Works Department concurrence.

The following Summerlin West Master Drainage facilities that shall be substantially complete prior to the Permitting of Homes within the shadow of protection of these proposed facilities: Construction of the Village 27 Debris Basin:

- Summerlin West Village 31 Detention Basin
- Summerlin West Village 27 Debris Basin and Outlet

Summerlin West Village 27, Parcel E Boundary Channel

Flood Control understands that the following parameters are proposed for the V27 Debris Basin:

Bulked 100-year inflow: 2,356 cfs

Clear water 100-yr outflow: 2,208 cfs

Debris Basin 100-year Water Surface Elevation (WSE) = 3774.62 ft

Debris Basin 100-year WSE with included 7.4 AF of Sediment/Debris Storage = 3778.0

Debris Basin Spillway Elevation = 3781.0 | Outflow at 3781.0 ft = 4,863 cfs

Total below-spillway storage volume = 11.3 AF.

Sediment Storage = 7.4 AF

An additional 50% of the sediment volume is added (3.7 AF) to account for debris, organic matter, and other design uncertainties [7.4 AF + 3.7 = 11.1]

Debris Basin provides 3-feet of Freeboard to spillway when accounting for Sediment (7.4 AF) and water storage during 100-year event.

Debris Basin provides 2-foot Freeboard to the top of the embankment when accounting for Sediment/Debris during 100-year event.

Debris Basin Spillway Weir calculations are based upon a 190-foot width at an elevation of 3781.0. The included concrete access road that serves as the spillway provides for a 20-ft spillway at 3783.5 ft.

Debris Basin Embankment Elevation = 3783.5

Debris Basin Outlet Invert Elevation = 3767.52

Debris Basin Outfall is comprised of four - 12' x 6' RCB's

Any changes to the above Debris Basin design parameters shall require a Drainage Study Update.

1. The Debris Basin outfall includes 4 - 12'x6' RCB's with associated outlet protection for the interim condition. Flood Control understands that the downstream facility will be a separate submittal and that these debris basin improvements are a "stand alone" facility. The interim improvements include maintenance access with a concrete apron and grouted rip-rap to reduce the flow velocity. The proposed interim outlet discharge facility will be the maintenance responsibility of the Developer.
2. This proposed Debris Basin is adjacent to the Red Rock Canyon National Conservation Area (RRCA), a critical area of no disturbance. No grading impacts are allowed within the RRCA and an appropriate buffer has been identified on the plans.
3. Flood Control understands that the intent of Howard Hughes Company is to construct *Summerlin West Village 27 Debris 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 27 Debris Basin* shall be dedicated to the City as *Flood Control Right-of-Way*. The provided Overall Site Plan dated August 14, 2023 shows the area of the dedication and is of the 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 for this debris basin to function as intended. The maintenance activities include staging for equipment and a temporary storage area for debris removal.

4. Flood Control understands that the proposed *Summerlin West Village 27 Debris Basin* does not require approval by the State of Nevada, Division of Water Resources Dam Safety (DWR) based upon a meeting with DWR on August 17, 2022.
5. **This drainage study is acceptable in concept;** however, *City of Las Vegas* will not formally accept the study until the *Clark County Regional Flood Control District (CCRFCD)* has issued a letter of concurrence. The engineer should address the CCRFCD comments issued on March 7th in the RFCN No. 24-14538 review.
6. Provide complete *Plans and Project Specifications* for approval by the *City of Las Vegas*. 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.
7. 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 Department for processing. Coordinate the submittal requirements with the Building Department. The engineer must provide a copy of Building Department approval of the structures to Flood Control prior to final acceptance of the drainage study.
8. All proposed improvements associated with *Summerlin West Village 27 Debris 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.
9. Prior to the release of the Improvement Bonds, the developer must complete a maintenance and liability agreement for the interim drainage improvements and post a minimum maintenance bond of \$50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The Maintenance Bond shall be submitted for approved by Flood Control. The maintenance bond will be released upon acceptance of the improvements as a regional facility by the City.
10. Once this drainage study is approved, provide a legal description and exhibit for the easement dedication of the debris 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 debris basin.
11. Prior to the adoption of the debris 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 27 Debris Basin* shall remain a private facility owned and maintained by the master developer.
12. Provide the legal description with an exhibit of the proposed debris 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 debris basin by the City Public Works Department.
13. Access roads shown for City use shall be dedicated access easements. The easements shall be dedicated prior to acceptance of facilities by the City.
14. This proposed Regional Debris Basin shall be secured. Show the proposed Control of Access measures for the debris basin per the Manual requirements. Provide a section and details of the fencing and access gates. The gates have been shown as chain link fencing while other fencing is block & chain or wrought iron. Coordinate the desired fencing type with HHC.
15. Continue to the coordinate of monitoring station details and requirements with Regional Flood.

***** 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.

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
OSK/PBJ/TJK/JRT

T/R/S: T21S/R59E/15
AREA K-15