

CITY OF LAS VEGAS			DATE:
INTER-OFFICE MEMORANDUM			June 24, 2021
TO: Land Development Services Department of Building & Safety			FROM: Jennifer Shinn, P.E. Flood Control, Engr. Associate Department of Public Works
SUBJECT:	Drainage Study for:		COPIES TO:
	Grand Canyon Village Onsites		VTN Nevada
Cross Streets:	Grand Canyon Dr. & Skye Canyon Park Dr.		Grand Canyon Village, LLC
File Number:	F:\Depot\DSMemos\DS5462A.doc		Bart Anderson, P.E., DevCo
Parcel Number:	125-07-601-012		CCRFCD NDOT
Zoning Action:			
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	6/7/2021	6/23/2021	See Comments Below	\$400.00	4324331: \$400
			TOTAL FEES (LDDRS):	\$400.00	----

REMARKS:

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

	is approved subject to conformance to all City standards and the following conditions:
X	must be resubmitted or supplemented including the following:
	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 are comments pertaining to the subject site specific drainage study and grading plans:

1. Provide a copy of the zoning/planning conditions associated with this site with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
2. The site is adjacent to or crosses an existing or proposed Clark County Regional Flood Control District (CCRFCD) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.

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

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

3. The project proposes to construct facilities and/or increase flows within Nevada Department of Transportation (NDOT) right-of-way. The engineer must contact NDOT for encroachment permit for the proposed project. NDOT concurrence is required.

4. All storm drain inlets that are more than 10'-deep require a special structural detail and calculations. Submit structural design and calculations to City Building & Safety Department for review and approval prior to the final approval of the drainage study.
5. **Figure 8:** A portion of subbasin ON1F flows out the entrance to Skye Canyon Park Drive. Adjust basin accordingly and quantify the flow that exits at this location.
6. **Figure 8:** Hydraulic Section 7 indicates there is a valley gutter on the upstream side of the road, plans indicate it is just an A type curb, no gutter. Additionally, the downstream side of the road section shows a vertical wall, however, this location meets graded dirt to form a ditch. The ditch line is formed where the pavement meets the dirt. Update the hydraulic section to match the plans and verify the flow velocity for erosion protection on the adjacent dirt.
7. **Figure 8:** Hydraulic cross section for FM11 does not make sense. Update to match the grading plans in this location.
8. The hydraulic section for Oso Blanca Road does not take into consideration any flow upstream of the project. Must consider all flow in Oso Blanca Road to adequately determine the road meets criteria in the developed conditions.
9. **Figure 8:** The lateral located in Oso Blanca Road originally accepted 33 cfs. It is now receiving 22 cfs from the onsite SD system. The additional flow is diverted to Oso Blanca Road to existing inlets. Provide calculations to demonstrate the inlets have capacity to accept the additional flow.
10. **Figure 9:** The parking lot LID criteria is stated to be met per the proposed inline stormwater interceptor. However only 22 cfs will flow through this. Provide supporting LID calculations to demonstrate that 22 cfs is sufficient percentage of flow treatment per Section 1500 of the CCRFCD Manual.
11. The CCRFCD Manual requires Valley Gutters through parking lots with a slope less than 1%. Provide a valley gutter(s) where parking lot flow lines are less than 1%, specifically west of SHOP B.
12. The following finish floors do not meet the Regional Flood Control District minimum criteria of twice the Q100 depth of flow up to 18-inches above the water surface (CCRFCD Manual Section 304.4.E.1) or 6-inch minimum above the highest adjacent top of curb (CCRFCD Manual Section 1602 304.4.E.1). The following finish floors should be revised or alternate flood protection provided.

PAD	FF shown	Min FF
A	2754.90'	2761.17'
13. As an alternate each lot must be discussed in the drainage study, shown to be flood protected, and any necessary flood improvements shown on the grading plan.
14. Technical Drainage Study Update is required for any development of the future Pads not constructed with this Study.
15. Reference the Grand Canyon Offsite Plans when identifying the current relocations of the existing storm drain facilities in Oso Blanca Road.
16. Provide an onsite storm drain manhole near the property line to separate/distinguish between public and private storm drain facilities. In addition, label the storm drain profiles as public or private facilities.
17. Add note to plans: "All on site storm drain facilities are privately owned and maintained by the Property Owner."
18. Section Detail O is indicated to be on Sheet DT2 however it is located on DT1.

19. L-Curbs are required where flows are conveyed. For example, it appears flows are directed toward the first median island located at the southwestern site entrance, conveyed south and around to the proposed valley gutter.
20. Provide a flow line offset from the onsite EOP such that the EOP does not also act as the flow line.
21. Provide a (temporary) BMP at DI #3 in order to mitigate sediment from entering the storm drain system from the temporary swale.
22. Reference CCAUSD Drawing No. 412.1 for proposed storm drain drop inlets.
23. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per CCAUSD Drawing No. 421 (Stormwater Quality Management Stamp and Sign Detail).
24. Provide the Sight Visibility Zones at the entrances to the site to demonstrate there are no obstructions within the SVZ.
25. The engineer must provide a table on the grading plans that shows a quantity estimate of all drainage improvements. All drainage improvements within Public Drainage Easements or Public Right of Way must be bonded and inspected.

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.

END OF REMARKS
HDR/JKS

T/R/S: T19S/R60E/S7
AREA G-07