CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: March 12, 2024
TO: **Land Development Services** Department of Building & Safety				FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:			**COPIES TO:**
Summerlin West Village 29 & 32 - Park Drift Trail & Loop Road Rough Grading				AtkinsRealis
Cross Streets:	Park Drift Trail from Spring Run Drive to Future Village 32 Loop Road			Howard Hughes Company, LLC
File Number:	F:\Depot\DSMemos\DS5741A.doc			Bart Anderson, P.E., DevCo.
Parcel Number:	137-28-201-001			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 #
1st Submittal	2/13/2024	3/12/2024	See Comments Below	$400.00	5629150: $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.

1. The project proposes to build a temporary drainage facility along the *Loop Road* and *Park Drift Trail*. Prior to final plan approval the developer must complete a maintenance and liability agreement for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of $50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to *City of Las Vegas Flood Control* for approval. Once the drainage study is conditionally approved, the engineer should contact the City's Land Development Section (229-6371) to begin the agreement process.

   In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

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. Per **FIG 9** of *Summerlin West Village 29 Master Drainage Storm Drain Facilities Map*, Facility 29 (7'x6' RCB) at the southern end of Park Drift Trail was routed south into the *Future Channel* and eventually discharge to *Inlet Structure #2* of *DB #5*. However, the subject study proposed to re-route the storm drain box northerly, discharges at *COS-3/COS-4 Wash Improvements* and eventually to *Inlet Structure #1* of *DB #5*.

   Discuss the discrepancy and the impact to the *COS-3/COS-4 Wash Improvements* and Inlet Structure #1 of DB #5 in the next submittal.

4. **Figure 3A:** A portion of ***int 1.1*** is not accounted for at *Combination Point C-3-3.1* in the HEC-1 or shown on the exhibit. An additional sub basin of ***int 1.1*** should be added to OFF 3-3 and OFF 3-4a at *CP C-3-3.1*. Review and revise all pertinent calculations and tables accordingly.

5. **Figure 3b and Figure 5:** The flows used at each inlet do not match the basin flows provided in Figure 3B. For example: SDDI #7 collects 4 cfs, but the associated basin PDT4aN contributes 2 cfs. SDDI #8 collects 2 cfs, but the associated basin PDT4bN contributes 3 cfs. SDDI #10 collects 4 cfs, but the associated basin PDT4bN contributes 2 cfs and bypass from SDDI #9 has 1 cfs of bypass. SDDI #8 collects 2 cfs, but the associated basin PDT4bN contributes 3 cfs. SDDI #14 collects 1 cfs, but the associated basin PDT7N contributes 4 cfs. SDDI #15 collects 1 cfs, but the associated basin PDT7S contributes 4 cfs. Review and address in the next submittal.

6. **Sheet 7** and **Sheets 11 & 12**: At SDMH #1, address whether there is any need to extend the storm drain to the south, ie, it may need to provide a 5'-stub at the south side of SDMH #1 for future extension.

7. **Sheet 11:** Provide riprap sizing calculations supporting the proposed D_{50}=8" riprap collecting the ***int3.2*** basin of 148 cfs.

8. **Sheets 13 & 14**: Provide a SDMH at the 24"-laterals connection point with the 5'x5' RCB.

9. ***Junction Structures #1, #2*** are special design facilities. Structural plans for the proposed reinforced concrete structures must be submitted for review. Provide soils report, structural calculations and specifications, two wet stamped structural sets, and a grading plan to the *Building Department* for processing. The engineer must provide a copy of *Building Department* approval of the structures to *Flood Control* prior to final acceptance of the drainage study.

10. **Sheets 15 & 16**: Provide a SDMH at the angle point of the 9'x6' RCB.

11. **Sheets 15 & 16**: Provide a SDMH at the connection point of the 54"-RCP with the 5'x5' RCB.

12. **Sheets 17 & 18**: Provide a SDMH at the connection points of the laterals to the 10'x6' RCB at two locations.

13. **Sheet 17:** Label SDDI #9, # is left blank on plans.

14. **Sheets 19 & 20**: Provide a SDMH at the connection points at the connection points of the laterals to the 10'x6' RCB at two locations.

15. **Sheets 21 & 22**: Provide a SDMH at the connection point of the laterals to the 10'x6' RCB and at the angle point of the 10'x6' RCB.

16. **Sheets 21 & 22** and **Sheet 25**: Show how the outfall of the culvert structure (4#14'x7' RCB and 1#10'x6' RCB) ties into the improved *COS-3/COS-4 Wash* as approved in the *Summerlin V29 COS-3/COS-4 Wash Improvement* project.

    Provide and show the improved downstream *COS-3/COS-4 Wash* for verification in the next submittal.

17. It appears that the 4#14'x7' RCB and 1#10'x6' RCB integrated culvert structure does not have proper WSPG calculation to evaluate the water profile downstream of the culvert to match the water profile in the approved *Summerlin V29 COS-3/COS-4 Wash Improvement* project.

    The improvement plan for the integrated culvert structure appears to be preliminary. Further comments may be issued upon next review.

18. **Sheets 23 & 24**: Provide a SDMH at the angle point of 9'x7' RCB.

19. **Sheets 23 & 24**: Provide concrete pad for erosion protection at the discharge point of the 9'x7' RCB.

20. **Sheet 27:** The riprap sizing calculations provided show that the *Reservoir Access Road Channel* should have a minimum of D_{50}=9" riprap, but 8" riprap is proposed, and only for a portion of the swale. Address in the next submittal.

21. **Sheet 43:** for SDDI #5, the HGL does not meet 1' below grade in the interim condition. Address and resolve in the next submittal.

22. WSPG for SDDI #2 was missing. Provide as such in the next submittal.

23. *Storm Drain Lateral Profile* for SDDI #11 was missing.

24. The flow in portions of the *Park Drift Trail* storm drain system exceeds the maximum velocity allowed (25 ft/s) per the *CCRFCD Hydrologic & Hydraulic Design Manual*. The Engineer must clearly identify the portions of the storm drain with velocity exceed 25 ft/s and label additional sacrificial concrete in all pertinent plan & profiles sheets.

    Provide a detail showing additional sacrificial concrete (1-inch minimum). A Special Construction Note must be added to the Grading Plans and the Plan and Profile Sheets that call out the special construction requirement for the additional sacrificial concrete.

25. Provide maintenance access ramp to the bottom of the culvert from both sides of *Park Drift Trail*. Provide as such in the next submittal.

26. Submit a separate set of improvement plans to *City of Las Vegas Street & Storm Services Division* for their review. Contact Mr. Matthew Meyer of *Operations and Maintenance Department* at mmeyer@lasvegasnevada.gov for direction. Approval from *Street & Storm Services* must be obtained prior to the final approval of the drainage study.

27. 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.

28. All storm drain manholes that are more than 18'-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.

29. All offsite interim flood control facilities such as but not limited to berms/ditches and temporary sumps are privately owned and to be privately maintained by the *Howard Hughes Company*. Provide a note as such on the grading 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.

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
HDR/AYS

T/R/S: T21S/R59E/28
AREA K-28