

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: April 9, 2022	
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:	
Main Street Entertainment Venue		Kimley-Horn and Associates, Inc.	
Cross Streets:	Main Street & Chicago Av/Philadelphia Ave	The 361 Venture, LLC	
File Number:	F:\Depot\DSMemos\DS5554A.doc	Bart Anderson, P.E., DevCo	
Parcel Number:	162-03-301-001; 003-013,015; 162-03-399-001; 010, 011, 013, 015; 162-04-720-041, 056-059, 162-04-799-008, 021-024		
Zoning Action:	???		
FEMA Flood Zone	YES	NO	X
Proposed Storm Drain	YES	NO	X

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	3/15/2022	4/9/2022	See Comments Below	\$400.00	4697025: \$400
TOTAL FEES (LDDRS):				\$400.00	----

REMARKS:

**** A meeting between the engineer and City staff to resolve the general drainage issue will be required prior to the next submittal.**

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.

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. Per the grading plans, it appears that the west boundary of the proposed project does not quite reach *Fairfield Avenue*. However, the *Vicinity Map (Figure 1)* shows the project fronting *Fairfield Avenue* which is not accurate. Review and revise *Figure 1* and all pertinent maps accordingly.
3. The proposed onsite storm drain system tying into an existing 24"-storm drain in *Main Street* is problematic. Per the "**City of Las Vegas Downtown Storm Drain Master Plan Figure 2-8 (100-Year Storm Frequency Existing Drainage Condition Overland Flow Inundation Areas)**", Commerce Street and Chicago Avenue is an existing low point. The vicinity of the subject site is experiencing a flood depth of 1.50' to 2.0' centering the intersection of *Commerce Street* and *Chicago Avenue* during a major storm event.

The existing 24"-storm drain in *Main Street* is essentially a nuisance drain and will be over capacity to be burdened by the proposed onsite flow connection. The proposed drainage condition will not alleviate the existing flood problem but will exacerbate the already bad situation.

The engineer shall consider running the proposed onsite storm drain system in *Commerce Street*. A regional facility is proposed in *Commerce Street* north of *Oakey Boulevard*. The storm drain system can tie to the regional facility in the future so that the onsite flooding problem will be permanently resolved.

It is understood that this comment may result in major re-design of the subject grading plan and drainage pattern. The engineer is recommended to meet with the City staff to reach a mutual acceptable resolution prior to submitting any revision.

The following comments are issued per the design in the last submittal. They may not be relevant if a major change in design is resulted per the above Comment #3:

4. **Ultimate Condition Drainage Map ULT-2** The *Street Section Summary Table* says the contributing basin flow for MS-1 is CP-2 and lists 155 cfs however the CP2 100 year flow is 37 cfs. The flowmaster for this sections is calculated using 38.50 cfs. Double check the consistency of the flows used in the summary tables and in the FlowMaster for all hydraulic sections.
5. The proposed onsite storm drain system started from inlets in *Chicago Avenue* collecting public flow (*Chicago Avenue* is a public right-of-way) onto the subject site. The onsite system will be dedicated as PUBLIC storm drain because it conveys public flow. A minimum 20'-wide public drainage easement will be required and to be dedicated containing the storm drains throughout the proposed development area.

Delineate the required public drainage easements on all pertinent grading plans and record as such either by a final map or by separate document prior to the final approval of the improvement plans.
6. The project proposed eight (8) onsite drop inlets all in sump condition. Looking at DI #1 for example: The grate elevation is at 2031.65 and the high point in the adjacent driveway for emergency overflow is at 33.94 TC/HP. The worst case ponding depth when the onsite system is clogged will be about 2' deep which is not acceptable. Revise to have a maximum ponding depth of 6" for emergency overflow situation.

Address the overflow path and the maximum ponding depth situation for every proposed drop inlets clearly in the next submittal.
7. It appears that *Philadelphia Avenue* is narrowed along the frontage of the project site. Provide approval of the vacation of portion of or entirety of the public street from the *City Planning Department* prior to the final approval of the drainage study.
8. Provide Inlet ponding depth calculations for the existing sump inlets in *Main St.* to verify the FF elevation.
9. Inlet DI#8 calculations show a 10.5 cfs bypass, this inlet is in sump so the bypass is going to weir over the curb at this location and go to the trench drains. Confirm this is the intent, does this trench drain have capacity for this overflow?
10. The *WSPG* assumption that the HGL downstream is the elevation of the top of the pipe is not sufficient. Must verify the HGL in the downstream system (in *Main St*) at the 100 year to prove the existing system can handle the additional flow.
11. Provide *City of Las Vegas* recorded drawing number on all existing storm drains shown on the grading plans.

12. Per the referenced *Main Street Improvements* plans there is an existing 24" SD that goes through the proposed site. Show this existing storm drain on the grading plan and show intention for either abandonment or removal for this storm drain.
13. **Sheet C3.01:** There is a hump shown at the entrance on *Commerce St*, however the FL call out at the entrance (south side) is 33.45 and the TC at the HP is 33.90. Therefore, the high point is actually lower than the FL at the entrance. Review the provided grading at the entrance.
14. **Sheet C3.04:** The proposed CDS hydrodynamic separator must be called out on the proposed grading plans.
15. **Sheet C3.04:** Provide existing FL elevations in the valley gutter that crosses the *Main St.* entrance to verify the entrance hump provides 6" of protection.
16. Provide a note on the grading plans: Post-Construction BMPs (PCBMPs) / Control Measures noted on the Grading Plans are mandatory permanent regulatory stormwater pollution controls. These PCBMPs must be installed per the approved plans and must be permanently maintained.
17. Update the Stormwater Management Notes to the current version with the Improvement Plan submittal to Building Department – Land Development.

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/AYS

T/R/S: T21S/R61E/03
AREA R-03