



Response to CCRFCD Comments to Update #4 to
the Technical Drainage Study for

Summerlin Detention Basin #5 Modifications

62052-3080B

October 2025

Prepared for:
The Howard Hughes Company, LLC
1700 S. Pavilion Center Dr, Suite 250
Las Vegas, Nevada 89135

Prepared by GCW, Inc.

1555 South Rainbow Blvd
Las Vegas, NV 89146

P: 702.804.2000
F: 702.804.2298

info@gcwengineering.com
www.gcwengineering.com

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Summerlin Detention Basin #5 Modifications Date: October 2025

Location of Development: a) Descriptive (Cross Streets) North/South: Sky Vista Dr
East/West: Alta Dr

b) Section: 33 Township: 20S Range: 59E

c) APN : 137-33-101-008, 137-33-512-003, 137-33-596-001

Name of Owner: The Howard Hughes Company, LLC

Telephone No.: (702) 791-4518 Fax No.: (702) 791-4385 E-Mail Address: April.Chapman@howardhughes.com

Address: 1700 S. Pavilion Center Drive, Suite 250, Las Vegas, Nevada 89135

Contact Person-Name: Mohammad Masih Edalat, PhD, PE Telephone No.: (702) 804-2000

* E-Mail Address: MEdalat@gcwengineering.com Fax No.: (702) 804-2299

Firm: GCW, Inc.

Address: 1555 South Rainbow Boulevard, Las Vegas, Nevada 89146

Type of Land Development/Land Disturbance Process:

<input type="checkbox"/>	Rezoning	<input type="checkbox"/>	Subdivision Map	<input type="checkbox"/>	Clearing and Grading Only
<input type="checkbox"/>	Parcel Map	<input type="checkbox"/>	Planned Unit Development	<input checked="" type="checkbox"/>	Other (Please specify below)
<input type="checkbox"/>	Large Parcel Map	<input type="checkbox"/>	Building Permit	<input type="checkbox"/>	Detention Basin and Structures

1. Total Owned Land Area: At Site: +/- 173.3 Acres Being Developed/Disturbed: +/- 4 Acres

2. Is a portion or all of the subject property located in a designated FEMA Flood Hazard Area? Yes** No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? Yes** No

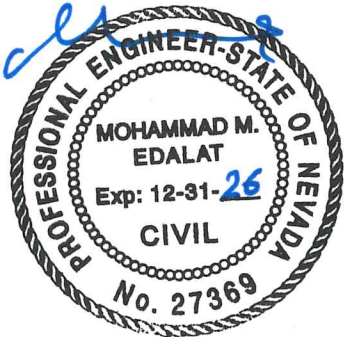
4. Proposed type of development (Residential, Commercial, Etc.): Detention Basin Modification

5. Approximate upstream land area which drains to the subject site: +/- 7.3 sq mi

6. Has the site drainage been evaluated in the past? YES NO If yes, please identify documentation: Update #3 to the Summerlin Detention Basin #5 Modifications

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: The detention basin outlets into the existing (2) 7'x5.5' RCB outlet

8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal 10/9/2025

Submit this form as part of the required drainage study to the local entity which has jurisdiction over the subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

***New Required Field**

****Review and concurrence of the Clark County Regional Flood Control District is required.**

Revision	Date

Local Entity File No. _____

REFERENCE:

STANDARD FORM 1

62052-3080B

October 9, 2025

Oh-Sang Kwon, PE
City of Las Vegas - Department of Public Works
495 S. Main Street
Las Vegas, NV 89101

**Re: Response to Clark County Regional Flood Control Comments to Update #4 to the
 Technical Drainage Study for Summerlin Detention Basin #5 Modifications**

Dear Mr. Kwon,

This letter is to certify that all documents provided on electronic submittal (CD) match the hardcopy version of the study.

Respectfully submitted,



Masih Edalat, PhD, P.E.
Senior Engineer





Andrew Trelease, P.E.
General Manager/Chief
Engineer

BOARD OF DIRECTORS

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Mr. Oh Sang Kwon, P.E.
City of Las Vegas Department of Public Works
495 S Main Street, 5th Floor
Las Vegas, NV 89101

**DISTRICT COMMENT(S): UPDATE #4 TO SUMMERLIN DETENTION BASIN #5
MODIFICATIONS
(DS5225L) (RFCD No. 25-14822)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated March 3, 2025, Addendum No. 1 dated April 15, 2025, and Addendum No. 2 dated May 20, 2025, for the above-mentioned project as submitted by GCW, INC. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas Department of Public Works dated May 22, 2025.

District has the following comment(s):

1. The project proposes a new inflow structure to the existing Detention Basin #5 of the District's MPU facility APM 50000 and, per the City of Las Vegas approval letter, requires structural plan review, calculations, and structural approval prior to the next District submittal and concurrence. The Structural Approval Documentation and any revisions to the structural plan and calculations must be provided with the next submittal and prior to District concurrence.
2. It is noted that the City has required a Master Plan Amendment (MPA) to the currently adopted 2023 MPU to be submitted to address the proposed modifications to Detention Basin #5 as part of the master conceptual study per the City's DS5834D. Coordinate with the City on MPA submittal progression, as concurrence of the modifications to Detention Basin #5 may not occur until the MPA has been processed by the City and in the agenda cycle for Board approval.
3. It is noted the project proposes a new inlet #4 with 8'x6' RCB to be capped and to eliminate the existing inlet #3 to Detention Basin #5 for inflow in the future condition. However, in the existing and interim conditions, there appears to be a 50-ft wide bottom-width earthen channel to convey flows to Detention Basin #5. Coordinate with the City of Las Vegas on drainage easement requirements, velocity limitations, and scour and erosion protection to the earthen channel to ensure the proposed development area is properly flood protected in the interim condition before the 8'x6' RCB is brought online.
4. Provide additional detail for the 6" concrete apron with steel reinforcement as noted on construction note 10/R.
5. Clarify discrepancy in width of the proposed concrete low-flow channel as shown on Sheet GD and Details 2/LP1 and 3/LP1.
6. Address the following plan comments for the proposed rip-rap improvements:
 - a. Provide additional detail for the proposed rip-rap improvements to include granular bedding or filter fabric to ensure adequate inspection and constructability.



Mr. Oh Sang Kwon, P.E.

June 25, 2025

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- b. It appears portions of the proposed rip-rap are shown alongside slopes. Provide detailed cross-section, where necessary, to detail proposed slopes to ensure they are not considered unacceptable due to stability, safety, and maintenance considerations.
 - c. Clarify line type and dimensions for the proposed rip-rap improvements at the terminus of the 8'x6' RCB per Detail 2/LP1 to be consistent with those shown on Sheet GD for adequate inspection and constructability.
7. Clarify fall protection at the terminus of the proposed 8'x6' RCB at the NDOT Type I headwall to ensure protection is provided where a vertical drop of more than 4-ft to the invert has been proposed as shown on Sheet LP1 to match the post-and-cable pm Sheet GD for consistency.
8. Provide additional structural details to show the connection and call-out proposed joint details between the proposed concrete apron and concrete low-flow channel.
9. Clarify detail 3/LP1 for the connection between the proposed and existing concrete low-flow channel to clarify doweling or method of connection for adequate inspection and constructability.
10. Coordinate with the City of Las Vegas on access restrictions to the Detention Basin #5 improvements. It is noted that a double swing chain link gate and wrought iron fence is provided at the point of access from Alta Drive as shown on Sheet GD and immediately transitions to block and chain. Additionally, there does not appear to be any restrictions to the west of the 8'x6' RCB and access road at the point of access from Alta Drive. Clarify if the proposed improvements can be turned over to the City or additional improvements are to be expected prior to acceptance by the City.
11. Coordinate with the City of Las Vegas and provide a drainage easement exhibit to ensure the proposed improvements are within public drainage easements and the City will have rights to own, maintain, and operate in the future when the facilities are turned over to the City for public maintenance.
12. Coordinate with the City of Las Vegas on bedding and compaction requirements beneath the proposed concrete low-flow channel and concrete apron that was not shown on the Structural detail sheet S1 to ensure adequate inspection and constructability.
13. It is noted that the City of las Vegas approval letter has conditioned updated submittal to the State of Nevada – Division of Water Resources for Dam Safety for the modifications to the Detention Basin #5 inflow structures. Continue to coordinate any revisions from State Dam Safety review with the City of Las Vegas.
14. The District requests the City of Las Vegas to require a third-party inspector and special inspections for the proposed storm drain systems associated to the modifications to Detention Basin #5 of the District's MPU facility APM 50000 to ensure all structural and geotechnical concerns for the proposed facilities are adequately addressed.
15. The District requests to be invited for the final walk-through by the City of Las Vegas for the proposed improvements intended to be part of the ultimate Regional Master Planned system as shown on the latest adopted Master Planned Update, prior to acceptance of public maintenance by the City of Las Vegas.



Mr. Oh Sang Kwon, P.E.

June 25, 2025

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16. Note that per District's Policies and Procedures Manual, Section VIII.D.13 Uniform Regulations for the Control of Drainage, the Lead Entity shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have a regional flood control significance.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage*.

The consultant must be advised to submit any revisions to the Technical Drainage Study and Improvement Plans to City of Las Vegas Department of Public Works for review/re-approval. District review of any such revisions will commence upon acceptance by City of Las Vegas Department of Public Works.

Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by GCW, INC., may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage.

The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.

ANDREW R. TRELEASE, P.E., CFM

General Manager/Chief Engineer

BY: *Ching C. Wang*
Ching C. Wang (Jun 26, 2025 10:30 PDT)
Ching C. Wang, P.E.
Principal Civil Engineer

CCW:rm

c: MOHAMMAD MASIH EDALAT, GCW, INC.

P:\Letters and Memos\Local Drainage\Land Development & Drainage\2025\L-25-14822comment.docx

62052-3080B

Subject: Response to the Clark County Regional Flood Control District Comments on Update #4 to the Technical Drainage Study for Summerlin Detention Basin #5 Modifications (DS5225) (RFCD No. 25-14822)

This report addresses Clark County Regional Flood Control District (CCRFCD) review comments dated June 25, 2025, regarding the project in its entirety.

Comment 1:

The project proposes a new inflow structure to the existing Detention Basin #5 of the District's MPU facility APM 50000 and, per the City of Las Vegas approval letter, requires structural plan review, calculations, and structural approval prior to the next District submittal and concurrence. The Structural Approval Documentation and any revisions to the structural plan and calculations must be provided with the next submittal and prior to District concurrence.

Response:

Noted. Structural approval was received on October 4, 2025. The confirmation for Structural Approval has been provided in the Appendix of this submittal. The structural plans are included with the full plan set provided as well.

Comment 2:

It is noted that the City has required a Master Plan Amendment (MPA) to the currently adopted 2023 MPU to be submitted to address the proposed modifications to Detention Basin #5 as part of the master conceptual study per the City's DS5834D. Coordinate with the City on MPA submittal progression, as concurrence of the modifications to Detention Basin #5 may not occur until the MPA has been processed by the City and in the agenda cycle for Board approval.

Response:

As discussed on July 8th, 2025, between CCRFCD, City of Las Vegas (CLV), and GCW, it was decided that a Master Plan Amendment would be developed for the entirety of Summerlin Village 28 and 32 including the proposed Inlet #4 modifications to Detention Basin #5 rather than multiple MPAs for each project within the area. Additionally, the client, Howard Hughes, would need to maintain all major facilities within the Summerlin Village 28 and 32 area until the MPA is formally adopted and accepted by CLV for maintenance. The development of the MPA is currently in progress. It is requested that the MPA is no longer a condition of approval.

Comment 3:

It is noted the project proposes a new inlet #4 with 8'x6' RCB to be capped and to eliminate the existing inlet #3 to Detention Basin #5 for inflow in the future condition. However, in the existing and interim conditions, there appears to be a 50-ft wide bottom-width earthen channel to convey flows to Detention Basin #5. Coordinate with the City of Las Vegas on drainage easement requirements, velocity limitations, and scour and erosion protection to the earthen channel to

ensure the proposed development area is properly flood protected in the interim condition before the 8'x6' RCB is brought online.

Response:

An existing drainage easement encapsulates the entirety of Detention Basin #5 within APN 137-33-512-003. An additional 80-ft flood control right-of-way and access easement exists along Alta Drive within APN 137-33-596-001. Improvements located with APN 137-33-101-008 (Parcel C) occur on private property. Note that the 50-ft bottom-width earthen channel is located within the DB5 easement or within private property. This channel is also a temporary interim channel until the 8'x6' RCB is brought online. Hydraulic cross sections have been provided in the TDS that show the velocities within the channel. Towards the outlet of the channel, riprap has been proposed for erosion control during the interim condition.

Comment 4:

Provide additional detail for the 6" concrete apron with steel reinforcement as noted on construction note 10/R.

Response:

The RCB Type III Headwall Detail A on Sheet DT2 shows the steel reinforcement for the 6" concrete apron. Refer to the revised improvement plans.

Comment 5:

Clarify discrepancy in width of the proposed concrete low-flow channel as shown on Sheet GD and Details 2/LP1 and 3/LP1.

Response:

The proposed concrete low-flow channel is 7-ft wide consisting of a 6-ft wide bottom width and 6-inch-thick concrete sides. The callouts for the channel have been revised to be consistent on all pertinent sheets. Refer to the revised improvement plans.

Comment 6:

Address the following plan comments for the proposed rip-rap improvements:

- a. Provide additional detail for the proposed rip-rap improvements to include granular bedding or filter fabric to ensure adequate inspection and constructability.
- b. It appears portions of the proposed rip-rap are shown alongside slopes. Provide detailed cross-section, where necessary, to detail proposed slopes to ensure they are not considered unacceptable due to stability, safety, and maintenance considerations.
- c. Clarify line type and dimensions for the proposed rip-rap improvements at the terminus of the 8'x6' RCB per Detail 2/LP1 to be consistent with those shown on Sheet GD for adequate inspection and constructability.

Response:

- a. An additional detail for the proposed riprap has been included on the plans.
- b. An additional detail has been provided perpendicular to the low-flow channel at the outlet of the 8'x6' RCB. Note that the maximum slope where riprap is proposed is 3:1.
- c. Dimensions have been added to Detail 2 on Sheet LP1. Refer to the revised improvement plans.

Comment 7:

Clarify fall protection at the terminus of the proposed 8'x6' RCB at the NDOT Type I headwall to ensure protection is provided where a vertical drop of more than 4-ft to the invert has been proposed as shown on Sheet LP1 to match the post-and-cable pm Sheet GD for consistency.

Response:

Additional callouts have been provided on Detail 1 on Sheet LP1 to clearly show the proposed post-and-cable railing behind the headwall. On Sheet GD, construction note 15/R calls out post-and-cable railing behind the proposed NDOT Type III headwall. The post-and-cable railing is also show on Detail 2 on Sheet LP1.

Comment 8:

Provide additional structural details to show the connection and call-out proposed joint details between the proposed concrete apron and concrete low-flow channel.

Response:

Additional details have been provided on the structural sheets for the apron connection to the low-flow channel. Refer to the revised improvement plans.

Comment 9:

Clarify detail 3/LP1 for the connection between the proposed and existing concrete low-flow channel to clarify doweling or method of connection for adequate inspection and constructability.

Response:

Additional details have been provided on the structural sheets for the apron connection to the low-flow channel. Refer to the revised improvement plans.

Comment 10:

Coordinate with the City of Las Vegas on access restrictions to the Detention Basin #5 improvements. It is noted that a double swing chain link gate and wrought iron fence is provided at the point of access from Alta Drive as shown on Sheet GD and immediately transitions to block and chain. Additionally, there does not appear to be any restrictions to the west of the 8'x6' RCB and access road at the point of access from Alta Drive. Clarify if the proposed improvements can

be turned over to the City or additional improvements are to be expected prior to acceptance by the City.

Response:

The wrought iron fence connects to a CMU screen wall that is provided to the west of the 8'x6' RCB as seen on Detail A on Sheet DT1. The screen wall then transitions to a block and chain fence at the outlet of the proposed 50-ft bottom-width channel. The screen wall and fence provide access restrictions all along the west side of the detention basin. The improvements are proposed within the public drainage easement of APN 137-33-512-003. A meeting was held on August 20, 2025, between CLV, Howard Hughes, and GCW to review CLV's maintenance and access concerns regarding the proposed RCB on Alta Drive connecting to Detention Basin 5. During the meeting, CLV confirmed that the design meets their criteria and expressed no concerns regarding the proposed improvements.

Comment 11:

Coordinate with the City of Las Vegas and provide a drainage easement exhibit to ensure the proposed improvements are within public drainage easements and the City will have rights to own, maintain, and operate in the future when the facilities are turned over to the City for public maintenance.

Response:

The easements are provided on the improvement plans. An existing drainage easement encapsulates the entirety of Detention Basin #5 within APN 137-33-512-003. An additional 80-ft flood control right-of-way and access easement exists along Alta Drive within APN 137-33-596-001. Coordination with CLV has been made and will continue to ensure proper maintenance of the facilities.

Comment 12:

Coordinate with the City of Las Vegas on bedding and compaction requirements beneath the proposed concrete low-flow channel and concrete apron that was not shown on the Structural detail sheet S1 to ensure adequate inspection and constructability.

Response:

Additional details have been provided on Sheet S1 for the proposed concrete low-flow channel and concrete apron. Refer to the revised improvement plans.

Comment 13:

It is noted that the City of Las Vegas approval letter has conditioned updated submittal to the State of Nevada – Division of Water Resources for Dam Safety for the modifications to the Detention Basin #5 inflow structures. Continue to coordinate any revisions from State Dam Safety review with the City of Las Vegas.

Response:

Noted. Dam Safety Approval was received on July 18, 2025. A copy of the approval email has been provided in the Appendix of this submittal.

Comment 14:

The District requests the City of Las Vegas to require a third-party inspector and special inspections for the proposed storm drain systems associated to the modifications to Detention Basin #5 of the District's MPU facility APM 50000 to ensure all structural and geotechnical concerns for the proposed facilities are adequately addressed.

Response:

Noted. On Sheet S1, notes regarding special inspections are provided.

Comment 15:

The District requests to be invited for the final walk-through by the City of Las Vegas for the proposed improvements intended to be part of the ultimate Regional Master Planned system as shown on the latest adopted Master Planned Update, prior to acceptance of public maintenance by the City of Las Vegas.

Response:

Noted. The District will be invited for the final walk-through.

Comment 16:

Note that per District's Policies and Procedures Manual, Section VIII.D.13 Uniform Regulations for the Control of Drainage, the Lead Entity shall provide As-Built plans or record drawings to the District after completion and final inspection of such privately installed flood control facilities that have a regional flood control significance.

Response:

Noted. As-Built plans will be provided to the District after completion and final inspection.

If you have any questions or require additional information, please do not hesitate to contact GCW at (702) 804-2130.

Respectfully,
GCW, Inc.



Masih Edalat, PhD, PE
Senior Engineer



Elizabeth Martinez, PE

APPENDIX

Dam Safety Approval Documentation 7/18/2025

From: Keith Conrad <kconrad@water.nv.gov>

Sent: Friday, July 18, 2025 1:15 PM

To: Oh-Sang Kwon <okwon@lasvegasnevada.gov>; Todd L. Myers <tmyers@regionalflood.org>

Cc: Masih Edalat <medalat@gcwengineering.com>; Jerry Pruitt <jpruitt@gcwengineering.com>

Subject: Summerlin Detention Basin #5 J-770 Engineering Design Change Approval

Hello,

This email serves as an approval for the Engineering Design Change submitted to the Nevada Division of Water Resources by Masih Edalat, PhD, P.E. of GCW via email on May 28, 2025, for the alteration of the Summerlin Detention Basin #5. This alteration proposes to:

- remove approximately 1.3 acres from the southwest corner of the basin area,
- add a new RCB inlet to the basin, designated as “INLET 4”, and
- reduce the 100-year peak inflow and water surface elevation due to updated hydrologic study.

Significant design changes to the proposed alteration will need approval in our officer prior to implementation.

Upon completion of the alteration project, please submit updated ‘as-built’ drawings and other supporting construction documentation for the project. This will include updated hydrologic data such as stage-storage curves, stage-area curves, etc. As this is a non-fee review, the State ID remains J-770.

Please let me know if you have any questions or comments.

Have a good day, and weekend,

Keith Conrad, P.E.

Chief, Dam Safety Section

Nevada Division of Water Resources

Department of Conservation and Natural Resources

901 S. Stewart St., Suite 2002

Carson City, NV 89701

kconrad@water.nv.gov

(O) 775-684-2844

L25-01338 - OffSite Permit (OffSite)

Key Number: 1983703

Current Status: Waiting for Blue Line Resubmit

Application Received: 6/25/2025

Project Name: Summerlin Detention Basin #5 Modifications

Type of Work: Civil

Permit Issued:

Expiration Date: 10/6/2026

Location Of The Project: Alta Dr and Crossbridge Dr

Scope of Work: Improvement plans for Summerlin Detention Basin #5 Modifications.

Click to view the Quality Assurance Agreement (QAA) [QAA Information](#)

**Structural Approval
Documentation
10/4/2025**

 Offsite Card

Applicant

[Click to open](#)

Review Info

[Print](#)

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Land Development Xpress was Denied on 10/6/2025

SPECIALITY was **Approved** on 10/4/2025

Show Incomplete/Open Review

#	Review Type	Review #	Plan Submittal Data to City	City Review Start Date	City Review Completion Date	City Plans Reviewer	Plan Review Result
1	Land Development Xpress	4	10/4/2025	10/6/2025	10/6/2025	Rolando K. (702)229-4730	Denied

Comments:

- 1) Aside from David Turner, this plan must have the PE digital signature of Alexander Santiago.
- 2) Address redlines - submit maintenance bond estimate and exhibits for the Flood Control Right of Way per DS item 5.
- 3) Bond advisory at next review.
- 4) Email me when you resubmit so that I can add Flood review.

2	SPECIALITY	4	9/23/2025	10/4/2025	10/4/2025	Nenad M. (702)229-4839	Approved
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