CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

June 23, 2021
Asa Nilsson-Webber PE
Isaacson & Arfman, Inc.
128 Monroe St. NE

Re: Desert Ridge Trails North
Temporary Pond on 7151 Beverly Hills Ave. NE
Engineer's Certification
Engineer's Stamp Date 5/18/2021 (B19D021)

Dear Mr. Vallejos,

Based upon the information provided in your submittal received 6/2/2021, the above referenced Engineer's Certification is approved. This certification pertains to the maintenance and improvements that have been made to the pond in response to the Notice of Failure to Maintain dated June 14, 2018. The pond maintenance is acceptable to the City.

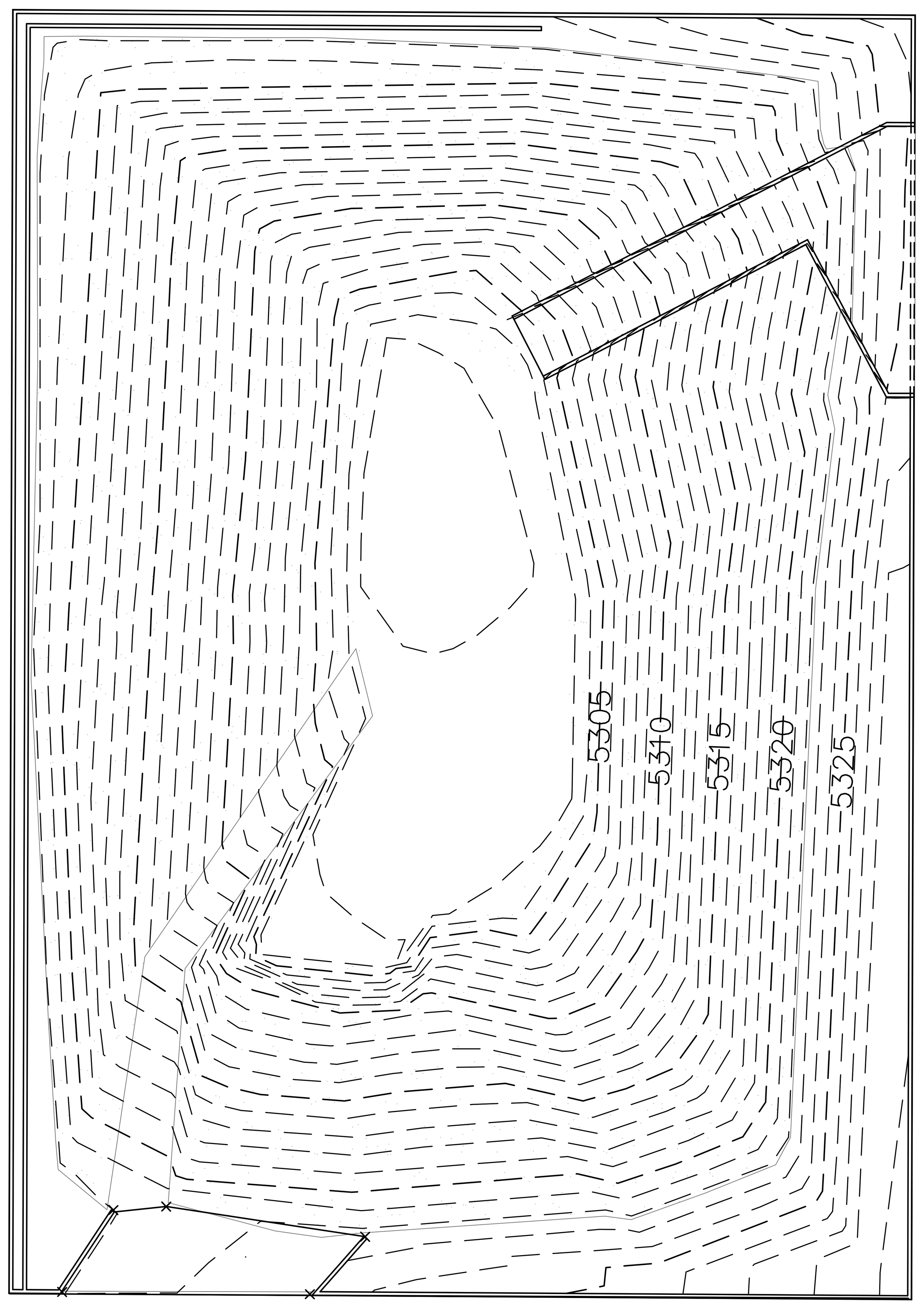
If you have any questions, you can contact me at 924-3420 or jhughes@cabq.gov .

Sincerely,

James D. Hughes

James D. Hughes, P.E.
Principal Engineer, Planning Dept.
Development and Review Services

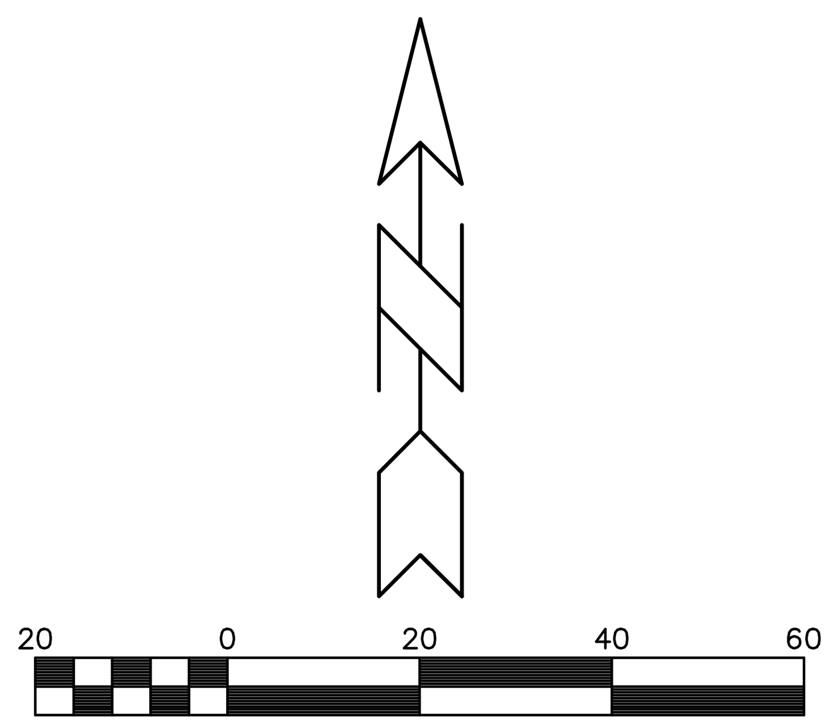
TOPOGRAPHIC SURVEY
LOT 25, BLOCK 2,
TRACT 1, UNIT 3,
NORTH ALBUQUERQUE ACRES
WITHIN THE
ELENA GALLEGOS GRANT
PROJECTED SECTION 7,
TOWNSHIP 11 NORTH, RANGE 4 EAST, N.M.P.M.
BERNALILLO COUNTY, NEW MEXICO
APRIL, 2021



7151 BEVERLY HILLS AVE NE
TEMPORARY RETENTION POND
HYDROLOGY #B19-D21

LEGEND

- 5325 — CONTOUR (MAJOR)
- — — CONTOUR (MINOR)
- ═══ WALL

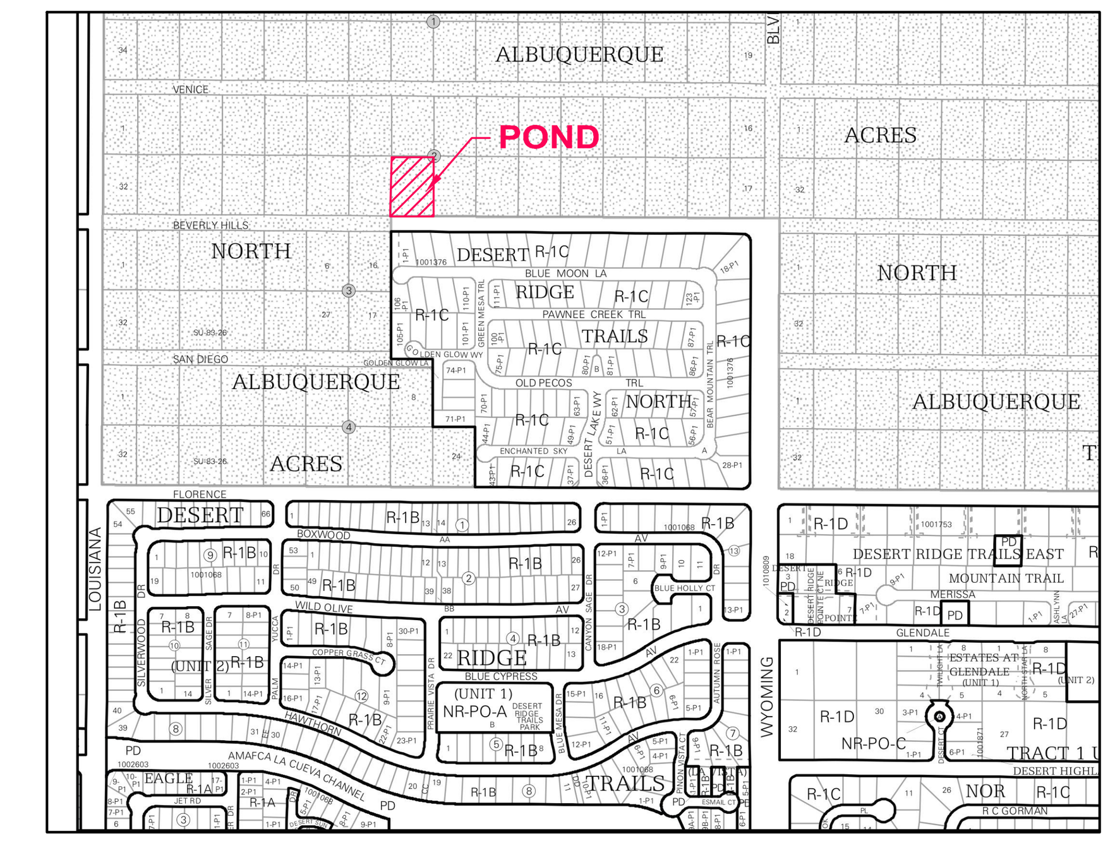


THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS AND PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY. BOUNDARY DATA SHOWN IS FROM PREVIOUS SURVEY REFERENCED HEREON.

BENCHMARKS
AGRS Brass Cap stamped "HEAVEN"
From the intersection of I-25 and Alameda Boulevard, go east on
Alameda Boulevard 0.2 miles to San Pedro Boulevard. Go north on San
Pedro Boulevard 0.3 miles to the station on the right.
Geographic Position, in feet (NAD83)
N.M. State Plane Coordinates (Central Zone)
N=1524123.885, E=1542565.263, G-G=0.999665042, DA=-00°11'19.43"
Elevation, in feet (NAVD88) = 5222.090

Drawn By:	TA	Date:	04-28-21
Checked By:	TA	Drawing Name:	21055GD.DWG
Job No.:	21-055	Sheet:	1 of 1

ALDRICH LAND SURVEYING
P.O. BOX 30701, ALBQ., N.M. 87190
505-884-1990



VICINITY MAP
ZONE ATLAS B-19

DRAINAGE CERTIFICATION FOR POND VOLUME

I, Åsa Nilsson-Weber, NMPE 17631, of the firm Isaacson & Arfman, Inc., hereby certify that the pond volume currently provided will function in substantial compliance with the intent of the approved drainage report for Desert Ridge Trails North prepared by D. Mark Goodwin & Assoc. dated 3/10/2003 and the as-built grading plan for Desert Ridge Trails North prepared by Mark D. Goodwin & Associates dated 08/05/2003 (City Hydrology file #B19-D21).

The 100-year, 10-day storm pond volume requirement as calculated in the drainage report prepared by D. Mark Goodwin & Associates dated 03/10/2003 is 6.788 ac-ft.

The pond volume as calculated by me based on an as-built survey after recent improvements to the pond, including removal of vegetation, installation of rock stabilization on side slopes and an access road into the pond is 6.328 ac-ft and is provided with this submittal.

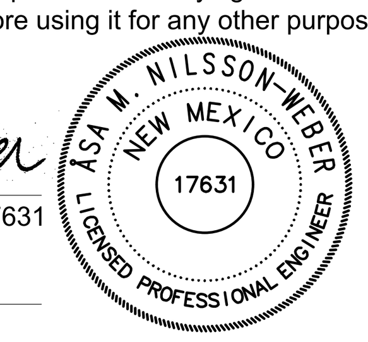
The additional flow that will discharge to Beverly Hills Ave. due to the volume being less than what was required in the 2003 drainage report will increase the 100-year flow depth by 0.02 ft., as shown by the street capacity calculations prepared by me and provided with this submittal. This increase is considered negligible and will not impact any of the residences along Beverly Hills Ave.

The as-built survey information dated April 2021, has been provided by Timothy Aldrich of the firm Aldrich Land Surveying, NMPS number 7719. I further certify that I personally visited the project site on 05/15/2021 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for pond volume certification.

The record information presented hereon is not necessarily complete and intended only to verify that in the 100-year, 10-day storm event, the pond volume provided will function in substantial compliance with the design intent of the 2003 Drainage Report. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

Åsa Nilsson-Weber
Åsa Nilsson-Weber NMPE 17631

05/18/2021
Date



Isaacson & Arfman, Inc.
Civil Engineering Consultants
128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

Engineer

TEMPORARY RETENTION POND
7151 Beverly Hills Ave. NE
Client: Scott Patrick Homes

ENGINEER'S
ISSUE: CERTIFICATION
PROJECT NUMBER: IA 2224
FILE:
DRAWN BY: ÅNW
CHECKED BY: FCA
DATE: 05-18-2021

No	Date	Description

SHEET TITLE

POND VOLUME CERTIFICATION

SHEET NUMBER

C-100

MAY 18, 2021

POND VOLUME INVESTIGATION AND CALCULATIONS

FOR

TEMPORARY RETENTION POND 7151 BEVERLY HILLS AVE.

ALBUQUERQUE, NEW MEXICO

PREPARED BY

Isaacson & Arfman, Inc. EST 1980
Civil Engineering Consultants

128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

POND VOLUME INVESTIGATION AND CALCULATIONS.

Isaacson & Arfman, Inc. is under contract with Scott Patrick Homes to certify that pond volumes are in substantial compliance after recent improvements to the pond including removal of vegetation, installing a concrete rundown at the northwest corner of the pond, adding side slope erosion protection and adding an access road from the overflow spillway at Beverly Hills Ave. to the bottom of the pond.

The drainage report for Desert Ridge Trails North, prepared by D. Mark Goodwin & Associates dated 3/10/03, calculated the required Q100yr-10day volumes to be retained in the pond at 6.788 ac-feet. The pond retains storm water from the subdivision to the south (Desert Trails Ridge North) and street flows from Beverly Hills Ave. and Wyoming Blvd. Additional undeveloped offsite flows are accepted into the pond, routed through the pond and 75.1 cfs is discharged to Beverly Hills Ave. via a spillway and conveyed to the tee intersection at Louisiana Blvd. and Beverly Hills Ave. and then spills over to an arroyo west of Louisiana Blvd. per historical drainage pattern. When the offsite contributing basins develop, the discharge will be reduced to 45.1 cfs.

The pond volume calculated by Isaacson & Arfman, Inc. based on a topographic survey by Aldrich Land Surveying dated April, 2021, shows that the pond currently holds 6.328 ac-ft, including storage in gravel voids and in the 42" and 48" storm drains with a top of pond overflow set at the flowline elevation of the inlet adjacent to the pond. Removing the access road would not provide the additional volume required to meet 6.788 ac-ft--the ramp is at a 5:1 slope.

The decreased storage in the pond compared to the required volume is 0.46 ac-ft--approximately 7%. All flows (100-yr, 10-day) from the Desert Ridge Trails North subdivision and a portion of the roadway flows will be retained, but a portion of the roadway flows, estimated at approximately 6.0 cfs will bypass the pond. Therefore, the total street flow in Beverly Hills Ave. will increase from 75.1 cfs to approximately 81.1 cfs. Note that prior to the pond being installed 276 cfs was carried in Beverly Hills Ave.

Beverly Hills Ave. has standard curb on the south side, asphalt curb on the north side and is cross-sloped at 2% to the south. At 81.1 cfs, 2.5% street slope, the flow depth is 0.78 ft. and the EGL depth is 1.45 ft., which is below the curb on the north side of the street. At 75.1 cfs, 2.5% street slope (original design), the flow depth is 0.76 ft. and the EGL depth is 1.42 ft. The increased water depth of 0.02 ft. with the addition of 6 cfs is negligible.

On the south side of Beverly Hills Ave., there is a swale and a berm adjacent to the street, so should a hydraulic jump occur, the flows would overtop the curb and be contained by the berm. On the north side of the street, there are some non-typical driveways installed where the height of driveways at the right-of-way appear to be lower than the top of curb. The homes at the non-typical driveways will be protected from the storm water since they are constructed higher than the curb. If a hydraulic jump occurs, it appears the storm water would overtop the south curb and enter into an existing swale before it would enter the driveways.

Non-Typical Driveway at Beverly Hills Ave. West of the Pond (Looking East)

CONCLUSION:

In the 100-year, 10-day storm event, the pond as constructed will function in substantial compliance with the design intent per the 2003 drainage report.

INCLUDED CALCULATIONS/INFORMATION:

- Pond volume calculations based on as-built survey by Aldrich Land Surveying, April 2021.
- Excerpts from the Drainage Report for Desert Ridge Trails North by D. Mark Goodwin & Associates, dated 3/10/03 and Grading Plan for Desert Ridge Trails North by D. Mark Goodwin & Associates, dated 8/5/03
- Street capacity calculations for Beverly Hills Ave. based on 1) original design of 75.1 cfs and 2) as-built overflow of 81.1 cfs (including an additional 6 cfs).

POND VOLUME CALCULATIONS

7151 BEVERLY HILLS AVE. TEMPORARY RETENTION POND

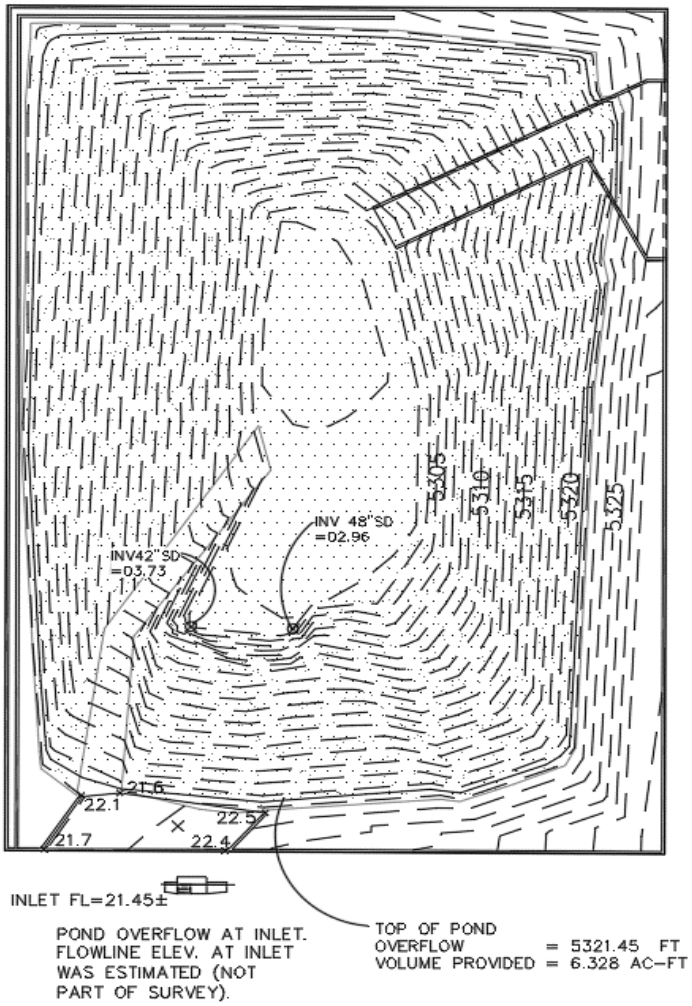
By: Åsa Nilsson-Weber, P.E.
Isaacson & Arfman, Inc.
May 18, 2021

POND VOLUME IS CALCULATED BASED ON THE ONE-FOOT INTERVAL CONTOURS IN THE TOPOGRAPHIC SURVEY PROVIDED BY TIM ALDRICH, ALDRICH LAND SURVEYING, APRIL 2021. THE CALCULATED TOTAL PROVIDED VOLUME INCLUDES STORAGE IN GRAVEL VOIDS AND IN 42" & 48" STORM DRAIN.

TOP OF POND AT OVERFLOW (INLET) =	**5321.45**	**+/- FT**
BOTTOM OF POND =	**5301.3**	**FT**
REQUIRED Q100-10day VOLUME LISTED IN 2003 DRAINAGE REPORT* =	**6.788**	**AC-FT**
TOTAL PROVIDED VOLUME =	**6.328**	**AC-FT**

** From Mark Goodwin & Assoc. (MGA) drainage report dated 3/5/03*

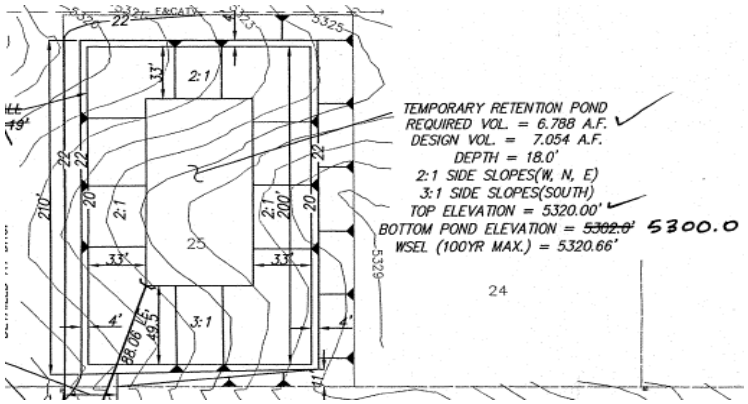
As-Built Pond Survey by Aldrich Land Surveying, April, 2021



7151 BEVERLY HILLS AVE AS-BUILT POND VOLUME CALCULATIONS				
ELEVATION OF CONTOUR (FT)	CONTOUR AREA (SF)	PARTIAL VOLUME (CF)	PARTIAL VOLUME (Ac-ft)	VOLUME SUMMARY AT ELEVATION (Ac-ft)
5301.3	27			
5302	1,314	469	0.011	0.011
5303	4,073	2694	0.062	0.073
5304	5,157	4615	0.106	0.179
5305	5,946	5552	0.127	0.306
5306	6,806	6376	0.146	0.452
5307	7,733	7270	0.167	0.619
5308	8,721	8227	0.189	0.808
5309	9,731	9226	0.212	1.020
5310	10,839	10285	0.236	1.256
5311	12,036	11438	0.263	1.519
5312	13,307	12672	0.291	1.810
5313	14,616	13962	0.321	2.130
5314	16,005	15311	0.351	2.481
5315	17,445	16725	0.384	2.865
5316	18,970	18208	0.418	3.283
5317	20,517	19744	0.453	3.737
5318	22,092	21305	0.489	4.226
5319	23,764	22928	0.526	4.752
5320	25,489	24627	0.565	5.317
5321	27,556	26523	0.609	5.926
5321.45	28,591	12633	0.290	6.216
			POND VOLUME =	**6.216**

ADDITIONAL VOLUME IN GRAVEL VOIDS				
AREA (SF)	THICKNESS (FT)	VOIDS (%)	VOLUME (CF)	VOLUME (AC-FT)
25155	0.333	30	2516	0.0577
ADDITIONAL VOLUME IN 42- & 48-IN. STORM DRAINS				
PIPE DIA. (FT)	AREA(SF)	LENGTH (FT)	VOLUME (CF)	VOLUME (AC-FT)
48	12.57	118	1483	0.0340
42	9.62	88	847	0.0194
			TOTAL POND VOLUME INCL. GRAVEL VOIDS & PIPE STORAGE =	**6.328**

EXCERPTS FROM D. MARK GOODWIN & ASSOC.
DRAINAGE REPORT FROM 3/10/2003 - Hydrology File B19-D21
7151 BEVERLY HILLS AVE. TEMPORARY RETENTION POND



D. Mark Goodwin & Assoc. Grading Plan dated 8/5/03 (As-Built)

At the northwest corner of the project site the onsite and offsite flows are to be combined in the storm sewer and then routed through an offsite temporary retention pond located on Lot 25 immediately north and adjacent to the north side of Beverly Hills Avenue. This temporary retention pond is sized to contain the 100 year 10 day storm event for all the developed flows originating from this project site, Wyoming Blvd. and Beverly Hills Avenue. When the 'developed' flows from the project site and the 'existing' flows from the offsite subasins 1A, 1B, and 4A are routed through the offsite retention pond there is a peak discharge over the spillway of 75.1 cfs. When the 'developed' flows from the project site and the developed' flows from the offsite subasins 1A, 1B, and 4A are routed through the pond there is a peak discharge over the spillway of 45.4 cfs. It should be noted that these flows are still considerably less than the (+) 276 cfs that would currently flow towards Beverly Hills and then westward to the Louisiana/Beverly Hills intersection under 'existing' drainage conditions. Refer to Figure 4 where flows from subasins 204.0 and upstream from there are being removed and subasin 204.1 east of Wyoming is be diverted to the retention pond. All the AHYMO output files can be found in Appendix A.

The 'existing drainage conditions' flows from Subasins 1A, 1B and 4A will be routed through the pond. A spillway along the south side of the pond will allow overflow to discharge into Beverly Hills. It is proposed that overflow from the temporary retention pond be directed south across Beverly Hills and then west along a 24' wide curb and gutter pavement section to Louisiana Blvd. before spilling into the existing arroyo west of the Louisiana/Beverly Hills intersection. The diversion of these flows north in Wyoming and then west in Beverly Hills around our project site will allow some of the area in the Sport Plex to be removed from the floodplain while returning the overflow from the pond to the existing flow path of the floodplain downstream of the proposed diversions in Wyoming Blvd.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

PROJECT Desert Ridge Trails North
SUBJECT
BY DLH DATE 3-10-03
CHECKED DATE
SHEET OF

Offsite Retention Pond – Required Volume Calcs.

$V_{100AY} = V_{6HR} + A_D\left(\frac{4.52" - 2.6"}{12}\right)$

SUBASIN

204.1C 3.855AF + (30.21AC)(.45)(.16) = 6.030 AF subdivision
204.1D 0.194 AF + (1.13AC)(.82)(.16) = 0.342AF } Rds
204.1E 0.236AF + (1.325AC)(.85)(.16) = 0.416AF }
REQ'D VOLUME 6.788AF

DESIGN VOLUME = 7.054 AC-FT

RUNOFF VOLUME TO RETENTION POND FOR 100YR 6HR

SUBASIN

204.1C (DEV.) 3.855 AF – Subdivision
204.1AE (EXIST) 0.771 AF – Bev Hills small
204.1BE (EXIST) 0.581 AF – softball
204.4AE (EXIST) 4.385AF – Florence
204.1D (DEV) 0.194AF – Bev Hill rd
204.1E (DEV) 0.236AF – Wyom rd
10.022 AF

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1
INPUT FILE = DRTR_N.DAT

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)
START						
RAINFALL TYPE= 1						
COMPUTE NM HYD	204.1AE	-	1	.01691	22.46	.771
COMPUTE NM HYD	204.1BE	-	1	.01274	18.49	.581
COMPUTE NM HYD	204.4AE	-	1	.09620	92.42	4.385
COMPUTE NM HYD	204.4BE	-	1	.09033	86.57	4.117
COMPUTE NM HYD	204.1A	-	1	.01691	26.22	.896
COMPUTE NM HYD	204.1B	-	1	.01274	21.44	.675
COMPUTE NM HYD	204.1C	-	1	.04426	109.26	3.855
COMPUTE NM HYD	204.1D	-	1	.00177	5.14	.194
COMPUTE NM HYD	204.1DD	-	1	.00312	9.11	.344
COMPUTE NM HYD	204.2A	-	1	.06870	189.71	7.052
COMPUTE NM HYD	204.1E	-	1	.00207	6.21	.236

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, May 18 2021

BEVERLY HILLS AVE. WEST OF THE POND - LOOKING EAST (CROSS-SLOPED TO THE

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.50
N-Value	= 0.016

Calculations

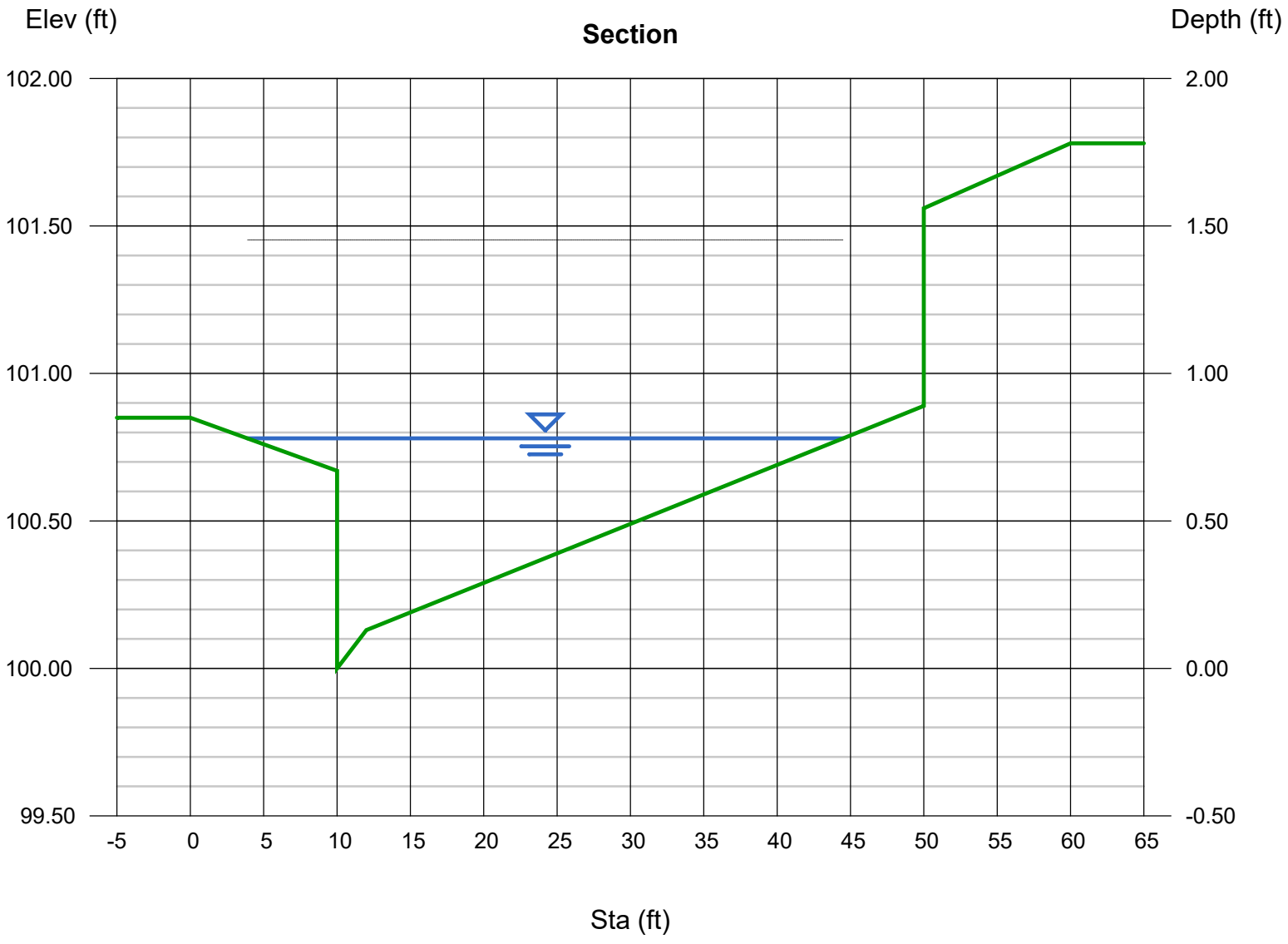
Compute by:	Known Q
Known Q (cfs)	= 81.10

Highlighted

Depth (ft)	= 0.78
Q (cfs)	= 81.10
Area (sqft)	= 12.33
Velocity (ft/s)	= 6.58
Wetted Perim (ft)	= 41.29
Crit Depth, Yc (ft)	= 0.98
Top Width (ft)	= 40.61
EGL (ft)	= 1.45

(Sta, El, n)-(Sta, El, n)...

(0.00, 100.85)-(10.00, 100.67, 0.017)-(10.00, 100.00, 0.013)-(12.00, 100.13, 0.017)-(30.00, 100.49, 0.017)-(48.00, 100.85, 0.013)-(50.00, 100.89, 0.013) -(50.00, 101.56, 0.013)-(60.00, 101.78, 0.017)



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, May 18 2021

75.1 CFS (PER 2003 DRAINAGE REPORT) BEVERLY HILLS AVE. WEST OF THE POND -

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.50
N-Value	= 0.016

Calculations

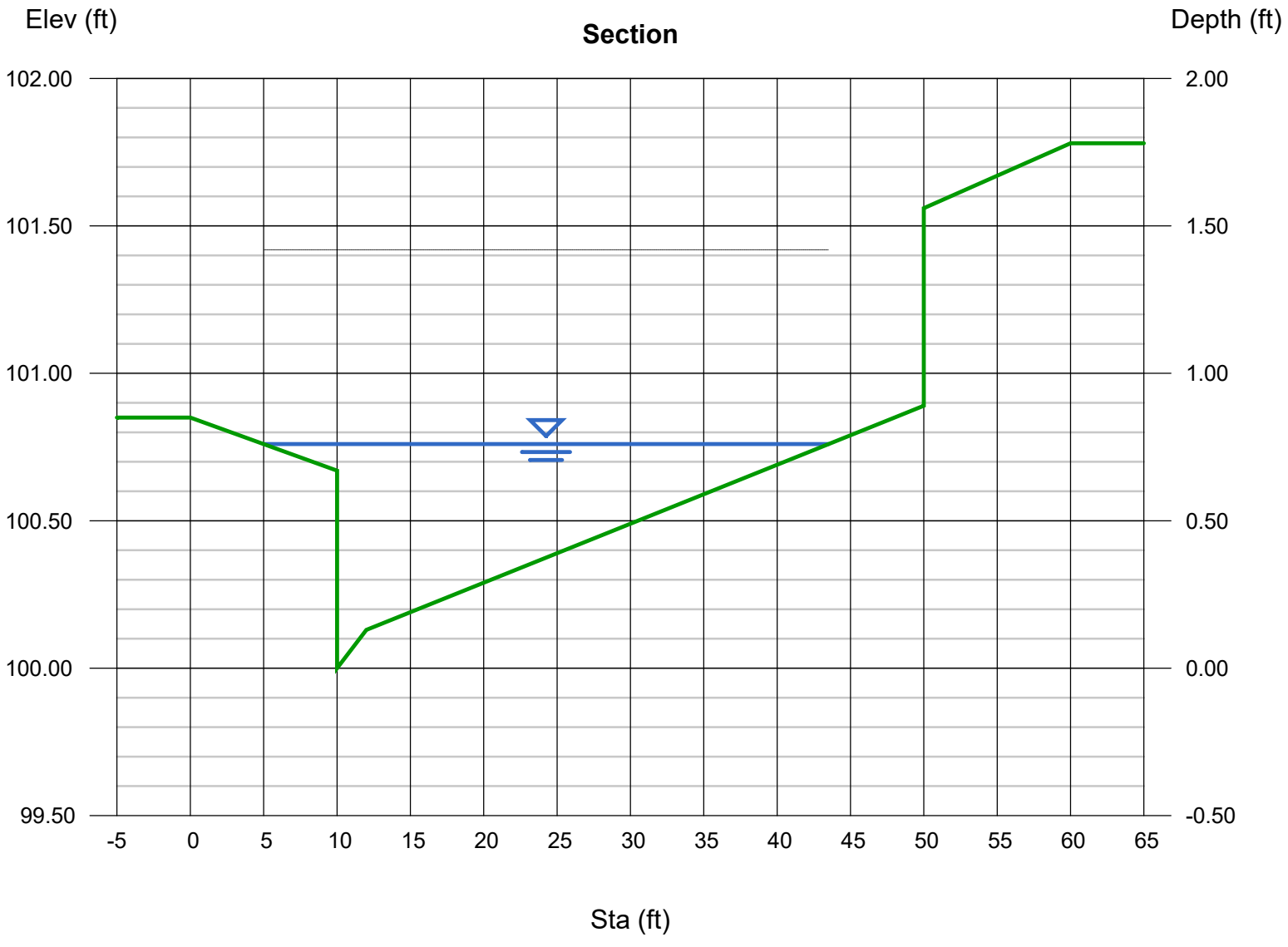
Compute by:	Known Q
Known Q (cfs)	= 75.10

Highlighted

Depth (ft)	= 0.76
Q (cfs)	= 75.10
Area (sqft)	= 11.54
Velocity (ft/s)	= 6.51
Wetted Perim (ft)	= 39.18
Crit Depth, Yc (ft)	= 0.96
Top Width (ft)	= 38.50
EGL (ft)	= 1.42

(Sta, El, n)-(Sta, El, n)...

(0.00, 100.85)-(10.00, 100.67, 0.017)-(10.00, 100.00, 0.013)-(12.00, 100.13, 0.017)-(30.00, 100.49, 0.017)-(48.00, 100.85, 0.013)-(50.00, 100.89, 0.013) -(50.00, 101.56, 0.013)-(60.00, 101.78, 0.017)



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: Beverly Hills Ave. Temp. Pond Building Permit #: _____ Hydrology File #: B19-D21

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Lot 25, Block 2, Tract 1, Unit 3, North Albuquerque Acres

City Address: 7151 Beverly Hills Ave.

Applicant: Isaacson & Arfman, Inc. Contact: Åsa Nilsson-Weber

Address: 128 Monroe Street, NE

Phone#: 505-268-8828 Fax#: N/A E-mail: asaw@iacivil.com

Owner: Superior Land Investments, LLC c/o Scott Patrick Homes Contact: Trace Salley

Address: 8300 Carmel Ave. NE

Phone#: _____ Fax#: _____ E-mail: trace@scottpatrickhomes.com

TYPE OF SUBMITTAL: _____ PLAT (___# OF LOTS) ____ RESIDENCE ____ DRB SITE __X__ ADMIN SITE

IS THIS A RESUBMITTAL?: _____ Yes __X__ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION __X__ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
____ GRADING PLAN
____ DRAINAGE MASTER PLAN
____ DRAINAGE REPORT
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
__X__ OTHER (SPECIFY) POND VOLUME CERTIFICATION
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY
____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL
____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: ~~06-18-2021~~ XXXXXX 06-02-2021 By: Åsa Nilsson-Weber

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____