CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

October 22, 2019

Dennis Lorenz, P.E.
Lorenz Design & Consulting
2501 Rio Grande NW, Suite A
Albuquerque, NM 87104

RE: Springstone Parking Lot and Garage
9010 Davenport St NW
Grading and Drainage Plan Stamp Date: 10/10/19
Hydrology File: C12D003B2

Dear Mr. Lorenz:

Based on the submittal received on 10/18/19, this project is approved for Building Permit.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Prior to Certificate of Occupancy (For Information):

1. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.

2. A Bernalillo County Recorded Drainage Covenant (No Public Easement) is required for the stormwater control pond. The original notarized form, exhibit A (legible on 8.5x11 paper), and recording fee ($25, payable to Bernalillo County) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) regarding the routing and recording process for covenants. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: SPRINGSTONE Building Permit #: — Hydrology File #: C12_D003B2

DRB#: — EPC#: — Work Order#: —

Legal Description: LOT 1B, BLK B, ALBUQUERQUE WEST

City Address: 9010 DAVENPORT ST NW

Applicant: DENNIS LORENZ Contact: D. LORENZ

Address: 2501 RIO GRANDE NW STE A, ABQ NM 87104

Phone#: 220.0869 Fax#: E-mail:

Other Contact: CONSTRUCTION ENTERPRISES Contact: R. FRAKES

Address: 6421 THUNDERBIRD CT NW, ABQ, NM 87120

Phone#: 220.6255 Fax#: — E-mail: CEISWH@AOL.COM

TYPE OF DEVELOPMENT: ____ PLAT (# of lots) ____ RESIDENCE ____ DRB SITE X ADMIN SITE

IS THIS A RESUBMITTAL? X Yes ____ No

DEPARTMENT ____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

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

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X 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: 10.14.19 By: DENNIS LORENZ

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____

FEE PAID: ____

LORENZ
DESIGN & CONSULTING, LLC
Civil Engineering | Construction Management

October 18, 2019

Dana Peterson, PE
Senior Engineer - Hydrology Section
Development and Building Services
City of Albuquerque
Plaza Del Sol
Albuquerque, New Mexico 87102

SUBJECT: *Springstone Parking Lot and Garage*
9010 Davenport Street NW
Grading & Drainage Plan (C12/D003B2)

Dear Dana:

Submitted herewith is one copy of the ***Grading & Drainage Plan for Springstone Parking Lot and Garage*****.** The Plan has been revised to address your comments issued October 13, 2019 as follows:

1. To avoid excessive fill and retaining walls the site will implement a 100-year-10-day retention pond.
2. The property is address is provided on the Plan.
3. Property line sections are provided on Detail Sheet C.4.
4. The short version of AHYMO for small watersheds was used to calculate developed flowrates and volumes.
5. The project benchmark is provided on the Plan.
6. Attached is an unsigned copy Drainage Covenant. I will submit a signed original to Madeline Carruthers after the G&D Plan is approved.

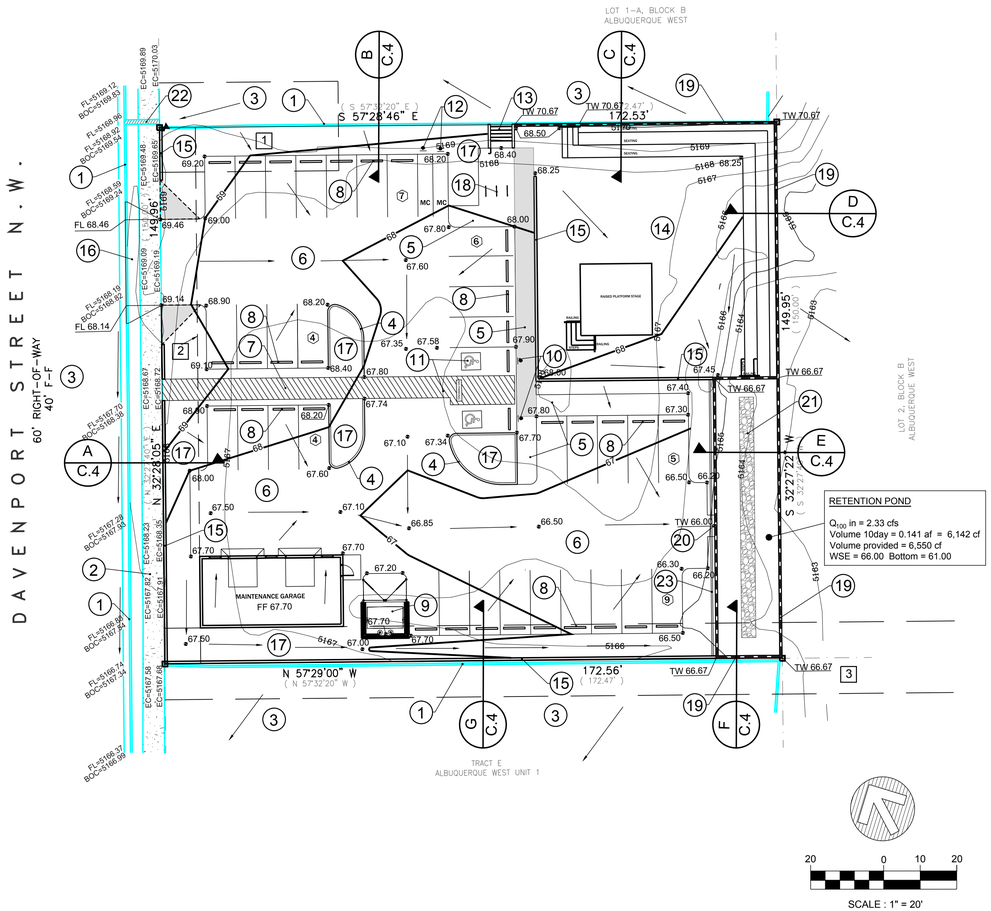
Thank you for your assistance with this project. If you have any questions regarding this matter, please call me.

Sincerely,

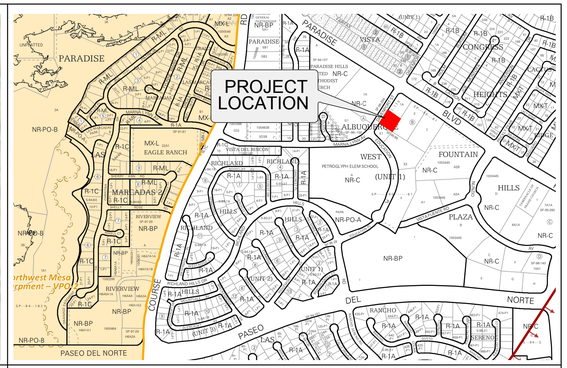
LORENZ DESIGN & CONSULTING, LLC

Dennis A. Lorenz, PE

P\19-018\dp10142019



FIRM PANEL 35001C0116G
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

GRADING AND DRAINAGE PLAN

PURPOSE AND SCOPE

Pursuant to the Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Grading and Drainage Plan outlines the drainage management criteria for controlling developed runoff from the project site. The project consists of the design and construction of a maintenance garage, amphitheater and parking lot for Springstone Montessori, located Davenport Street NW. The project also includes paving, landscaping, utility, grading, and drainage improvements to support the project. The purpose of this Plan is to support building permit approval and construction. The scope of this plan is to present grading and drainage criteria for the safe management of excess runoff impacting the site from upstream drainage basins, and controlling excess runoff from the project site in a well-managed, non-erosive manner.

EXISTING CONDITIONS

The property is located at Davenport Street NW, southwest of Paradise Blvd NW. The site is bounded by Davenport Street on the northwest, developed properties on the northeast and southwest, and undeveloped property on the southeast. The site is presently undeveloped. Site topography slopes away from Davenport Street to the southeast. The site presently drains southeast into a temporary ponding area on undeveloped property. No off site flows impact the site. As shown by the attached FIRM Panel the site does not lie within a mapped 100 year Flood Zone.

PROPOSED IMPROVEMENTS

As stated above, the project consists of the construction of a maintenance garage, amphitheater and parking lot for Springstone Montessori, with paving, landscaping, utility, grading, and drainage improvements. The approved Grading and Drainage Master Plan for Fountain Hills (C12D003) prepared by Bohannan Huston & Assoc., recommended discharging developed from this site and the adjacent Springstone Montessori located to the north to Davenport Street NW, at a maximum rate of 8.06cfs. Discharging developed flows from this site to Davenport Street would require either the import of fill material and the construction of 6' high retaining walls, or the implementation of pumping systems. IN lieu of these alternatives the Owner has decided to provide a retention pond with a storage volume equivalent to the 100 year-10 day volume of 6,141 cf.

First flush storage will be attained within the proposed landcsaping improvements and detention pond. Construction will disturb an area of less than 1.0 acre, therefore a Storm Water Pollution Prevention Plan will not be required.

CALCULATIONS

The calculations shown hereon define the 100-year/6 hour design storm falling within the project area under existing and proposed conditions. The hydrology is per "Section 22.2, Part A, Development Process Manual, Vol 2". Supplemental calculations are provided separately to demonstrate First Flush requirements and Detention Pond design.

LEGEND

ITEM	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT		
CURB AND GUTTER		
6" CONCRETE CURB		
RETAINING WALL	R/R	
SPOT ELEVATION	× 75.5	01.5
CONTOUR W/ ELEVATION	5800	5800
DIRECTION OF FLOW		
CONCRETE		
RIP RAP ROCK		

KEYED NOTES

1. EXISTING CONCRETE CURB AND GUTTER.
2. EXISTING 6' PUBLIC SIDEWALK.
3. EXISTING ASPHALT PAVEMENT
4. CONSTRUCT 6-INCH CONCRETE CURB. SEE DETAIL B/C.3.
5. CONSTRUCT 6' CONCRETE SIDEWALK.
6. CONSTRUCT ASPHALT PAVEMENT. SEE DETAIL A/C.3.
7. CONSTRUCT 6' ASPHALT PEDESTRIAN ACCESS.
8. INSTALL CONCRETE TIRE STOPS.
9. CONSTRUCT NEW REFUSE ENCLOSURE. SEE DETAIL E/C.3.
10. CONSTRUCT ADA ACCESSIBLE PARKING SIGN ASSEMBLY. SEE DETAIL C/C.3.
11. CONSTRUCT HANDICAP STRIPING PER CODE.
12. CONSTRUCT MOTOR CYCLE PARKING SIGN. SEE DETAIL D/C.3.
13. CONSTRUCT ACCESS STAIRS. SEE ARCHITECTURAL PLAN.
14. CONSTRUCT AMPHITHEATER AND SEATING. SEE ARCHITECTURAL PLAN.
15. CONSTRUCT 42 INCH CMU SCREEN WALL. SEE DETAIL K/C.4.
16. CONSTRUCT 24' CONCRETE DRIVEPAD. SEE COA STANDARD DRAWING 2425.
17. NEW LANDSCAPING. SEE LANDSCAPE PLAN.
18. INSTALL NEW BICYCLE RACK - 3 SPACES MINIMUM. SEE DETAILS F&G/C.3.
19. CONSTRUCT CMU RETAINING WALL. SEE DETAIL J/C.4.
20. PROVIDE 32-INCH WEIR IN TOP OF WALL. DEE DETAIL H/C.4.
21. CONSTRUCT ROCK TRENCH DRAIN. SEE DETAIL E/C.4.
22. EXISTING SIDEWALK CULVERT.
23. CONSTRUCT WROUGHT IRON FENCE. SEE SHOP DRAWINGS.

GENERAL NOTES

1. **LDC recommends that the Owner obtain a Geotechnical Evaluation of the on-site soils prior to foundation/structural design.**
2. **This Plan recommends positive drainage away from all structures to prohibit ponding of runoff which may cause structural settlement. Future alteration of grades adjacent to the proposed structures is not recommended.**
3. **Irrigation within 10 feet of any proposed structure is not recommended. Introduction of irrigation water into subsurface soils adjacent to the structure could cause settlement.**
4. **This Plan is prepared to establish on-site drainage and grading criteria only. LDC assumes no responsibility for subsurface analysis, foundation/structural design, or utility design.**
5. **Local codes may require all footings to be placed in natural undisturbed soil. If the Contractor plans to place footings on engineered fill, a certification by a registered Professional Engineer will be required. If the contractor wishes LDC to prepare the Certification, we must be notified PRIOR to placement of the fill.**
6. **LDC recommends that the Owner obtain the services of a Geotechnical Engineer to test and inspect all earthwork aspects of the project.**
7. **The property boundary shown on this Plan is given for information only to describe the project limits. Property boundary information shown hereon does not constitute a boundary survey. A boundary survey performed by a licensed New Mexico Registered Professional Surveyor is recommended prior to construction.**
8. **All spot elevations are finished grade or top of pavement, unless noted otherwise.**
9. **The City of Albuquerque has received its EPA MS4 Permit for stormwater quality with an effective date of March 1, 2012.**
10. **See Site Plan for dimension control and location of all site improvements.**

PROJECT DATA

PROPERTY ADDRESS:

9010 DAVENPORT STREET NW
ALBUQUERQUE, NEW MEXICO 87114

LEGAL DESCRIPTION:

LOT 1B, BLOCK B, ALBUQUERQUE WEST

SURVEY:

ALL PROJECT SURVEYING BY
ANTHONY L. HARRIS NMPLS 11463
DATE OF SURVEY: APRIL 2019

PROJECT BENCHMARK:

ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE STATION No. "7_C12", HAVING AN ELEVATION OF 5175.074, NAVD 1988

EASEMENTS

1. PRIVATE COMMOM ACCESS & DRAINAGE EASEMENT.
2. 10' PUBLIC UTILITY EASEMENT.
3. 20' PRIVATE DRAINAGE AND PUBLIC UTILITY EASEMENT.

FIRST FLUSH CRITERIA

By ordinance the site is required to retain the 90th percentile rainfall depth. In order to comply with this criterion, where practical, all surface areas will be routed through landscaped areas before release to downstream public drainage facilities. The proposed plan will rout runoff through a permanent retention pond with flush storage. Storage in excess of the 90th percentile rainfall will be provided as illustrated below.

90th percentile depth	0.44"
Less initial abstraction	0.10"
Total retained depth	034"

Site Area Type D = 0.46 ac.
Storage requirement = Ad(0.34") = 0.46 ac(43,560 sf/ac)(0.34"/12"/ft) = 568 cf

First flush storage to be provided within the retention pond.

PROJECT HYDROLOGY
SPRINGSTONE PARKING LOT AND GARAGE
AHYMO

ZONE:	1
P_{6HOUR}	2.20
$P_{10\ DAY}$	3.67

EXISTING CONDITIONS

BASIN	AREA (ac)	A (ac)	B (ac)	C (ac)	D (ac)	E	Q (cfs)	VOL (ac ft)	10 Day VOL (ac ft)
SITE	0.59	0.00	0.00	0.59	0.00	0.99	1.69	0.049	0.049

PROPOSED CONDITIONS

BASIN	AREA (ac)	A (ac)	B (ac)	C (ac)	D (ac)	E	Q (cfs)	VOL (ac ft)	10 Day VOL (ac ft)
SITE	0.59	0.00	0.06	0.07	0.46	1.72	2.33	0.085	0.141

IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DRAINAGE ORDINANCE, EFFECTIVE MAY 12, 2014, ALL NEW DEVELOPMENT PROJECT S ARE REQUIRED TO MANAGE THE RUNOFF WHICH OCCURS DURING THE 90TH PERCENTILE STORM EVENT. IN ORDER TO COMPLY WITH THIS CRITERIA, WHERE PRACTICAL, ALL SURFACE DRAINAGE SHALL BE ROUTED THROUGH LANDSCAPED AREAS BEFORE RELEASE INTO DOWNSTREAM DRAINAGE FACITLITIES. THIS PLAN RECOMMENDS ALL LANDSCAPED AREAS BE DEPRESSED A MINIMUM OF 3-INCHES BELOW THE ADJACENT PAVED SURFACE TO RETAIN THE FIRST FLUSH RUNOFF.

POND STORAGE TABLE

ELEVATION	AREA (sf)	VOL (cf)	VOL (ac-ft)
61.00	1310	0	0.0000
62.00	1310	1310	0.0301
63.00	1310	2620	0.0601
64.00	1310	3930	0.0902
65.00	1310	5240	0.1203
66.00	1310	6550	0.1504

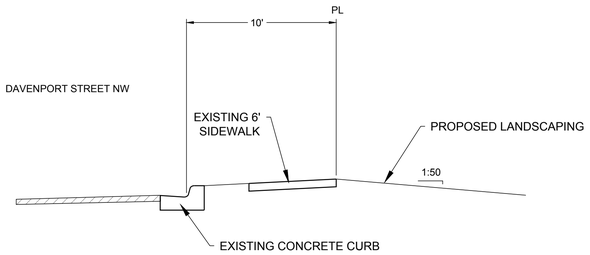
SPRINGSTONE PARKING LOT AND GARAGE GRADING & DRAINIAGE PLAN

BRIANS A. LORENZ
NEW MEXICO
9647
REGISTERED PROFESSIONAL ENGINEER
10-10-2019

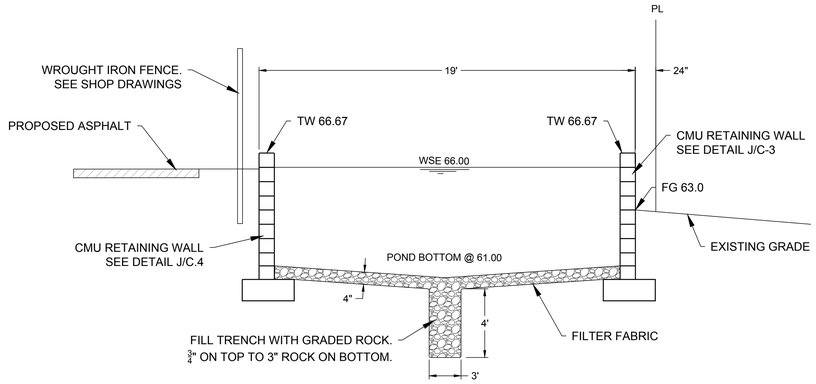
LORENZ DESIGN & CONSULTING, LLC
Civil Engineering | Construction Management
2501 Rio Grande Blvd NW, Suite A
Albuquerque, New Mexico 87104
Ph: 505-888-6088 Fax: 505-242-6655

DRAWN BY: DAL
CHECKED BY: DAL
FILE: 19-018
DATE: September 2019

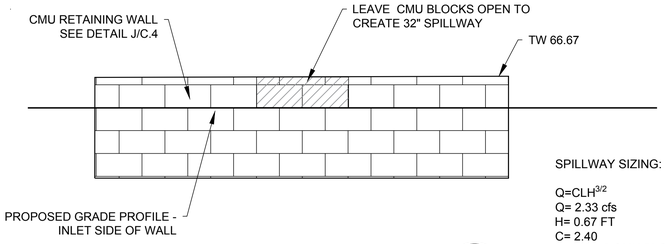
C.2



NW PROPERTY LINE SECTION — NTS — A / C.4



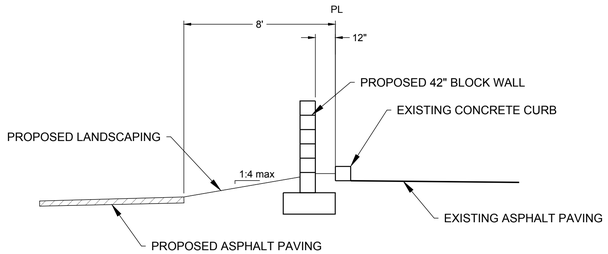
SE PROPERTY LINE SECTION — NTS — E / C.4



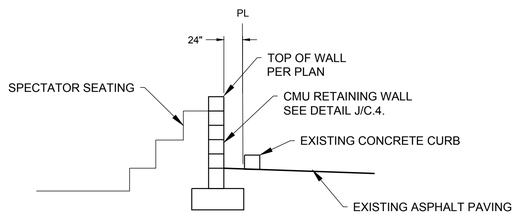
SPILLWAY SIZING:

$Q=CLH^{3/2}$
Q= 2.33 cfs
H= 0.67 FT
C= 2.40
L= 28" = 2 CMU BLOCKS (32")

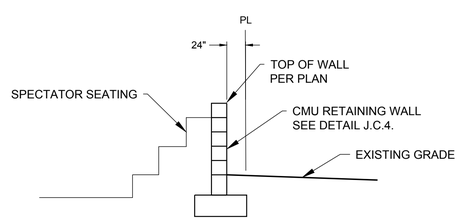
POND INLET SPILLWAY — NTS — H / C.4



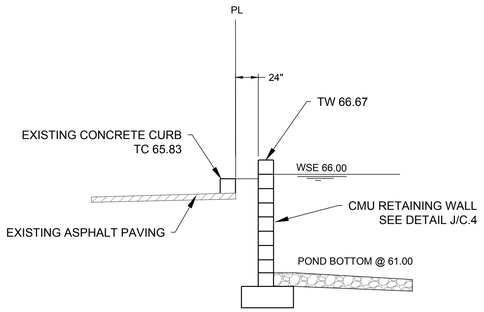
NE PROPERTY LINE SECTION — NTS — B / C.4



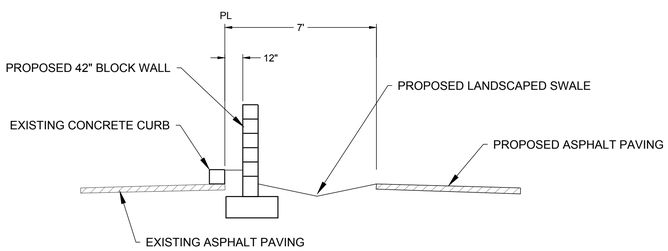
NE PROPERTY LINE SECTION — NTS — C / C.4



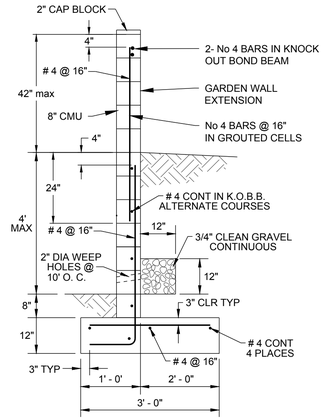
SE PROPERTY LINE SECTION — NTS — D / C.4



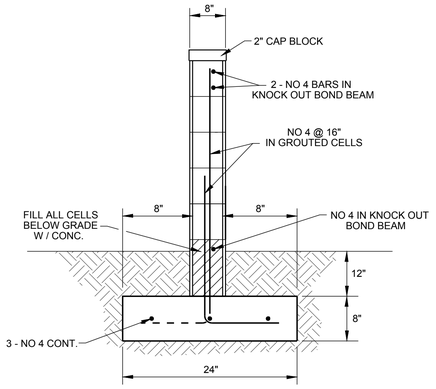
SW PROPERTY LINE SECTION — NTS — F / C.4



SW PROPERTY LINE SECTION — NTS — G / C.4



RETAINING WALL SECTION — NTS — J / C.4



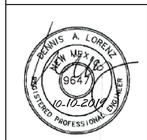
CMU GARDEN WALL DETAIL — NTS — K / C.4

RETAINING WALL NOTES:

1. ALL CELLS SHALL BE COMPLETELY FILLED WITH CONCRETE.
2. ALL WALL SECTIONS ARE DESIGNED BASED ON SPECIAL INSPECTION PER UBC.
3. CONTRACTOR SHALL SUBMIT TO OWNER RESULTS OF MASONRY TEST PRISMS BUILT AND TESTED PER UBC STD 24-26, UBC SEC 2405.
4. FOOTING SUBGRADE AND BASE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR PER ASTM D-1557.
5. 1/2" FELT EXPANSION JOINTS SHALL BE INSTALLED AT 30 FEET ON CENTER AND AT SECTION CHANGES.
6. ALL MASONRY SHALL BE LAID IN RUNNING BOND ONLY.
7. THIS RETAINING WALL IS DESIGNED EXCLUSIVELY FOR USE ON STONEBRIDGE AND IS NOT APPLICABLE TO ANY OTHER SITE.
8. ALL MASONRY SURFACES TO BE BACKFILL SHALL BE COATED WITH EMULSIFIED ASPHALT, OR OTHER MOISTURE BARRIER AS APPROVED BY THE ENGINEER.
9. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ANY UTILITIES WHICH MAY BE WITHIN THE WORK AREA.
10. WALLS ARE DESIGNED ASSUMING THE FOLLOWING:

fc = 4000 psi: maximum aggregate size = 3/4"
fy = 60,000 psi (ASTM A-615 GR 60)
fm = 1500 psi
unit weight of backfill = 115 pcf
concrete / soil coeff of friction = 0.40
allowable soil bearing pressure = 1500 psf
active pressure = 34 psf / ft
slope active pressure = 34 psf / ft
passive pressure = 400 psf / ft

SPRINGSTONE PARKING LOT AND GARAGE SITE DETAILS



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Albuquerque, New Mexico 87104
Ph: 505-888-6088 Fax: 505-242-6655

DRAWN BY: DAL	DATE: September 2019
CHECKED BY: DAL	C.4
FILE: 19-018	

PRIVATE FACILITY
DRAINAGE COVENANT

This Drainage Covenant ("Covenant"), between Patrick & Patricia Abbott, Trustees, Abbott Family RV Trust ("Owner"), whose address is 10522 Everhart Bay Dr, Las Vegas , NV 89135, and whose telephone number is (_____)_____, and the City of Albuquerque, New Mexico, a municipal corporation whose address is P.O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. Recital. The Owner is the current owner of the following described real property located at [give legal description, and street address] :

9010 Davenport Street NW, Albuquerque, New Mexico 87114

Tract 1-B, Block B, Albuquerque West, recorded on November 19,1991, Book 91C, Page 259 in the records of the Bernalillo County Clerk, State of New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this Covenant to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facility. The Owner shall construct the following "Drainage Facility" within the Property at the at the Owner's sole expense in accordance with the standards, plans and specifications approved by the City:

Stormwater retention pond as detailed in the Grading and Drainage Plan for Springstone Parking Lot and Garage, Prepared by Lorenz Design & Consulting, LLC, dated October 10, 2019.

The Drainage Facility is more particularly described in **Exhibit A** attached hereto and made a part hereof.

3. Maintenance of Drainage Facility. The Owner shall maintain the Drainage Facility at Owner's sole cost in accordance with the approved Drainage Report and plans.

4. Benefit to Property. The Owner acknowledges and understands that the Drainage Facility required herein to be constructed on the Owner's property is for the private benefit and protection of the Owner's property and that failure to maintain such facility could result in damage or loss to the Property.

5. Inspection of Drainage Facility. The City shall have no duty or obligation whatsoever

to perform any inspection, maintenance or repair of the Drainage Facility, it being the duty of the Owner, its heirs, successors and assigns to construct and maintain the facility in accordance with approved plans and specifications.

6. Liability of City. The Owner understands and agrees that the City shall not be liable to the Owner, its heirs, successors or assigns, or to any third parties for any damages resulting from the Owner's failure to construct, maintain or repair the Drainage Facility.

7. Indemnification. The Owner owns and controls the Drainage Facility and shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public. The Owner agrees to indemnify, defend and hold harmless the City, its officials, agents and employees, from any claims, actions, suits or other proceedings arising from or out of the negligent acts or omissions of the Owner, its agents, representatives, contractors or subcontractors or arising from the failure of the Owner, its agents, representatives, contractors or subcontractors to perform any act or duty required of the Developer or Owner herein; provided, however, to the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Covenant, this Covenant to indemnify will not extend to liability, claims, damages, losses or expenses, including attorneys' fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the respective indemnitee, or the agents or employees of the respective indemnitee; or (2) the giving of or the failure to give direction or instructions by the respective indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

8. Assessment. Nothing in this Covenant shall be construed to relieve the Owner, its heirs, assigns and successors from an assessment against the Owner's property for improvements to the property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

9. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on the Owner, its heirs, assigns and successors and on the Owner's property and constitute covenants running with the Owner's property until released by the City. This Covenant can only be released by the City's Chief Administrative Officer with concurrence of the City Engineer.

10. Entire Covenant. This Covenant contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

11. Changes to Covenant. Changes to this Covenant are not binding unless made in writing, signed by both parties.

12. Effective Date of Covenant. This Covenant shall be effective as of the date of signature of the Owner.

OWNER:

By [signature]: _____

Name [print]: _____

Title: _____

Dated: _____

CITY OF ALBUQUERQUE:

By: _____

Shahab Biazar, P.E., City Engineer

Dated: _____

OWNER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on this _____ day of _____, 20___, by _____ (name of person signing permit), _____(title of person signing permit) of _____ (Owner).

(SEAL)

_____
Notary Public
My Commission Expires: _____

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on this _____ day of _____20__, by Shahab Biazar, P.E., City Engineer, of the City of Albuquerque, a municipal corporation, on behalf of said corporation.

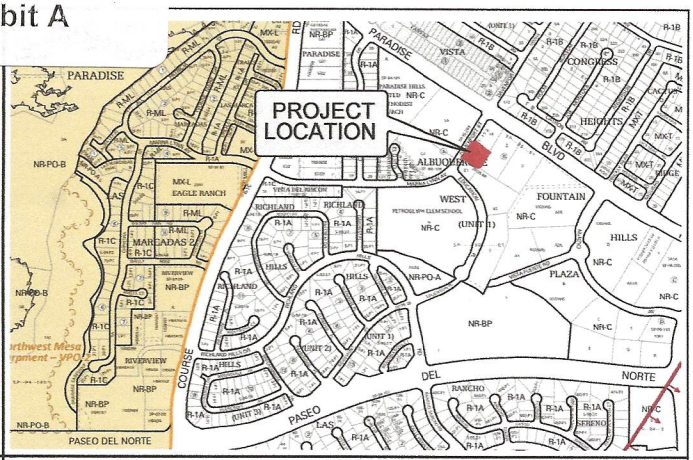
(SEAL)

_____
Notary Public
My Commission Expires: _____

(EXHIBIT A ATTACHED)

Exhibit A

FIRM PANEL 35001C0116G
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

GRADING AND DRAINAGE PLAN

PURPOSE AND SCOPE

Pursuant to the Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Grading and Drainage Plan outlines the drainage management criteria for controlling developed runoff from the project site. The project consists of the design and construction of the a maintenance garage, amphitheater and parking lot for Springstone Montessori, located Davenport Street NW. The project also includes paving, landscaping, utility, grading, and drainage improvements to support the project. The purpose of this Plan is to support building permit approval and construction. The scope of this plan is to present grading and drainage criteria for the safe management of excess runoff impacting the site from upstream drainage basins, and controlling excess runoff from the project site in a well-managed, non-erosive manner.

EXISTING CONDITIONS

The property is located at Davenport Street NW, southwest of Paradise Blvd NW. The site is bounded by Davenport Street on the northwest, developed properties on the northeast and southwest, and undeveloped property on the southeast. The site is presently undeveloped. Site topography slopes away from Davenport Street to the southeast. The site presently drains southeast into a temporary ponding area on undeveloped property. No off site flows impact the site. As shown by the attached FIRM Panel the site does not lie within a mapped 100 year Flood Zone.

PROPOSED IMPROVEMENTS

As stated above, the project consists of the construction of a maintenance garage, amphitheater and parking lot for Springstone Montessori, with paving, landscaping, utility, grading, and drainage improvements. The approved Grading and Drainage Master Plan for Fountain Hills (C12D003) prepared by Bohannan Huston & Assoc., recommended discharging developed from this site and the adjacent Springstone Montessori located to the north to Davenport Street NW, at a maximum rate of 8.06cfs. Discharging developed flows from this site to Davenport Street would require either the import of fill material and the construction of 6' high retaining walls, or the implementation of pumping systems. IN lieu of these alternatives the Owner has decided to provide a retention pond with a storage volume equivalent to the 100 year-10 day volume of 6,141 cf.

First flush storage will be attained within the proposed landcsaping improvements and detention pond. Construction will disturb an area of less than 1.0 acre, therefore a Storm Water Pollution Prevention Plan will not be required.

CALCULATIONS

The calculations shown hereon define the 100-year/6 hour design storm falling within the project area under existing and proposed conditions. The hydrology is per "Section 22.2, Part A, Development Process Manual, Vol 2". Supplemental calculations are provided separately to demonstrate First Flush requirements and Detention Pond design.

GENERAL NOTES

1. **LDC recommends that the Owner obtain a Geotechnical Evaluation of the on-site soils prior to foundation/structural design.**
2. **This Plan recommends positive drainage away from all structures to prohibit ponding of runoff which may cause structural settlement. Future alteration of grades adjacent to the proposed structures is not recommended.**
3. **Irrigation within 10 feet of any proposed structure is not recommended. Introduction of irrigation water into subsurface soils adjacent to the structure could cause settlement.**
4. **This Plan is prepared to establish on-site drainage and grading criteria only. LDC assumes no responsibility for subsurface analysis, foundation/structural design, or utility design.**
5. **Local codes may require all footings to be placed in natural undisturbed soil. If the Contractor plans to place footings on engineered fill, a certification by a registered Professional Engineer will be required. If the contractor wishes LDC to prepare the Certification, we must be notified PRIOR to placement of the fill.**
6. **LDC recommends that the Owner obtain the services of a Geotechnical Engineer to test and inspect all earthwork aspects of the project.**
7. **The property boundary shown on this Plan is given for information only to describe the project limits. Property boundary information shown hereon does not constitute a boundary survey. A boundary survey performed by a licensed New Mexico Registered Professional Surveyor is recommended prior to construction.**
8. **All spot elevations are finished grade or top of pavement, unless noted otherwise.**
9. **The City of Albuquerque has received its EPA MS4 Permit for stormwater quality with an effective date of March 1, 2012.**
10. **See Site Plan for dimension control and location of all site improvements.**

LEGEND

ITEM	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT		
CURB AND GUTTER		
6" CONCRETE CURB		
RETAINING WALL	R/R	
SPOT ELEVATION	× 75.5	01.5 ●
CONTOUR W/ ELEVATION	5800	5800
DIRECTION OF FLOW		
CONCRETE		
RIP RAP ROCK		

KEYED NOTES

1. EXISTING CONCRETE CURB AND GUTTER.
2. EXISTING 6' PUBLIC SIDEWALK.
3. EXISTING ASPHALT PAVEMENT
4. CONSTRUCT 6-INCH CONCRETE CURB. SEE DETAIL B/C.3.
5. CONSTRUCT 6' CONCRETE SIDEWALK.
6. CONSTRUCT ASPHALT PAVEMENT. SEE DETAIL A/C.3.
7. CONSTRUCT 6' ASPHALT PEDESTRIAN ACCESS.
8. INSTALL CONCRETE TIRE STOPS.
9. CONSTRUCT NEW REFUSE ENCLOSURE. SEE DETAIL E/C.3.
10. CONSTRUCT ADA ACCESSIBLE PARKING SIGN ASSEMBLY. SEE DETAIL C/C.3.
11. CONSTRUCT HANDICAP STRIPING PER CODE.
12. CONSTRUCT MOTOR CYCLE PARKING SIGN. SEE DETAIL D/C.3.
13. CONSTRUCT ACCESS STAIRS. SEE ARCHITECTURAL PLAN.
14. CONSTRUCT AMPHITHEATER AND SEATING. SEE ARCHITECTURAL PLAN.
15. CONSTRUCT 42 INCH CMU SCREEN WALL.. SEE DETAIL K/C.4.
16. CONSTRUCT 24' CONCRETE DRIVEPAD. SEE COA STANDARD DRAWING 2425.
17. NEW LANDSCAPING. SEE LANDSCAPE PLAN.
18. INSTALL NEW BICYCLE RACK - 3 SPACES MINIMUM. SEE DETAILS F&G/C.3.
19. CONSTRUCT CMU RETAINING WALL. SEE DETAIL J/C.4.
20. PROVIDE 32-INCH WEIR IN TOP OF WALL. DEE DETAIL H/C.4.
21. CONSTRUCT ROCK TRENCH DRAIN. SEE DETAIL E/C.4.
22. EXISTING SIDEWALK CULVERT.
23. CONSTRUCT WROUGHT IRON FENCE. SEE SHOP DRAWINGS.

PROJECT DATA

PROPERTY ADDRESS:

9010 DAVENPORT STREET NW
ALBUQUERQUE, NEW MEXICO 87114

LEGAL DESCRIPTION:

LOT 1B, BLOCK B, ALBUQUERQUE WEST

SURVEY:

ALL PROJECT SURVEYING BY
ANTHONY L. HARRIS NMPLS 11463
DATE OF SURVEY: APRIL 2019

PROJECT BENCHMARK:

ELEVATIONS ARE BASED ON CITY OF ALBUQUERUQUE STATION No. "7_C12", HAVING AN ELEVATION OF 5175.074, NAVD 1988

SPRINGSTONE PARKING LOT AND GARAGE GRADING & DRAINIAGE PLAN

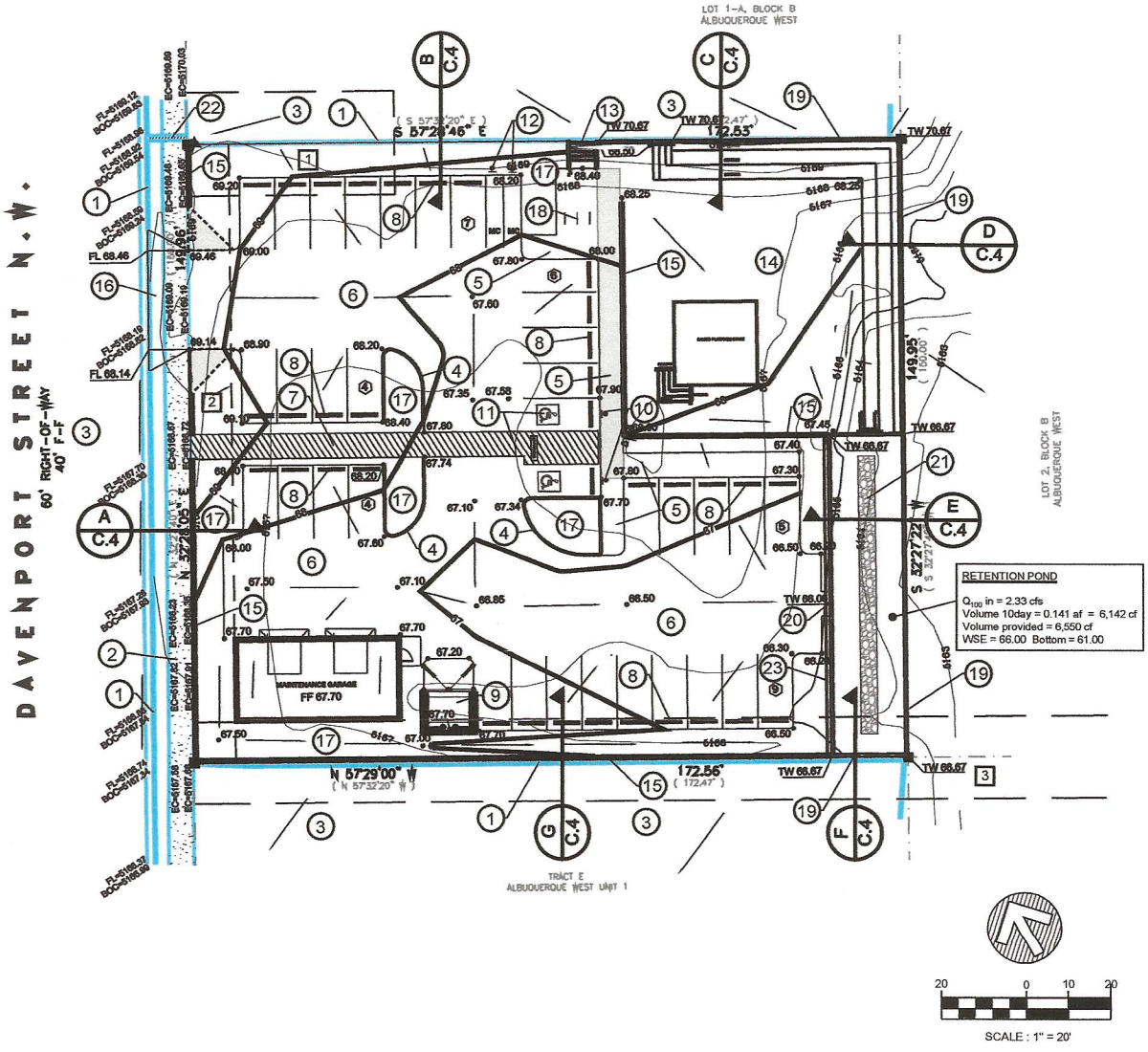
DENNIS A. LORENZ
NEW MEXICO
9647
10-10-2019
REGISTERED PROFESSIONAL ENGINEER

LORENZ
DESIGN & CONSULTING, LLC
Civil Engineering | Construction Management
2501 Rio Grande Blvd NW, Suite A
Albuquerque, New Mexico 87104
Ph: 505-266-8085 Fax
505-242-8555

DRAWN BY: DAL
CHECKED BY: DAL
FILE: 19-018
DATE: September 2019

C.2

Exhibit A



EASEMENTS

1. PRIVATE COMMOM ACCESS & DRAINAGE EASEMENT.
2. 10' PUBLIC UTILITY EASEMENT.
3. 20' PRIVATE DRAINAGE AND PUBLIC UTILITY EASEMENT.

FIRST FLUSH CRITERIA

By ordinance the site is required to retain the 90th percentile rainfall depth. In order to comply with this criterion, where practical, all surface areas will be routed through landscaped areas before release to downstream public drainage facilities. The proposed plan will rout runoff through a permanent retention pond with flush storage. Storage in excess of the 90th percentile rainfall will be provided as illustrated below.

90th percentile depth	0.44"
Less initial abstraction	0.10"
Total retained depth	034"

Site Area Type D = 0.46 ac.
Storage requirement = Ad(0.34") = 0.46 ac(43,560 sf/ac)(0.34"/12"/ft) = 568 cf

First flush storage to be provided within the retention pond.

PROJECT HYDROLOGY
SPRINGSTONE PARKING LOT AND GARAGE
AHYMO

ZONE:	1
P_{6HOUR}	2.20
$P_{10\ DAY}$	3.67

EXISTING CONDITIONS

BASIN	AREA (ac)	A (ac)	B (ac)	C (ac)	D (ac)	E	Q (cfs)	VOL (ac ft)	10 Day VOL (ac ft)
SITE	0.59	0.00	0.00	0.59	0.00	0.99	1.69	0.049	0.049

PROPOSED CONDITIONS

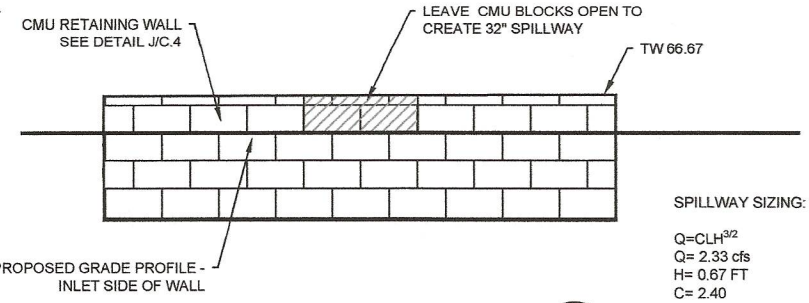
BASIN	AREA (ac)	A (ac)	B (ac)	C (ac)	D (ac)	E	Q (cfs)	VOL (ac ft)	10 Day VOL (ac ft)
SITE	0.59	0.00	0.06	0.07	0.46	1.72	2.33	0.085	0.141

IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DRAINAGE ORDINANCE, EFFECTIVE MAY 12, 2014, ALL NEW DEVELOPMENT PROJECT S ARE REQUIRED TO MANAGE THE RUNOFF WHICH OCCURS DURING THE 90TH PERCENTILE STORM EVENT. IN ORDER TO COMPLY WITH THIS CRITERIA, WHERE PRACTICAL, ALL SURFACE DRAINAGE SHALL BE ROUTED THROUGH LANDSCAPED AREAS BEFORE RELEASE INTO DOWNSTREAM DRAINAGE FACITLITIES. THIS PLAN RECOMMENDS ALL LANDSCAPED AREAS BE DEPRESSED A MINIMUM OF 3-INCHES BELOW THE ADJACENT PAVED SURFACE TO RETAIN THE FIRST FLUSH RUNOFF.

POND STORAGE TABLE

ELEVATION	AREA (sf)	VOL (cf)	VOL (ac-ft)
61.00	1310	0	0.0000
62.00	1310	1310	0.0301
63.00	1310	2620	0.0601
64.00	1310	3930	0.0902
65.00	1310	5240	0.1203
66.00	1310	6550	0.1504

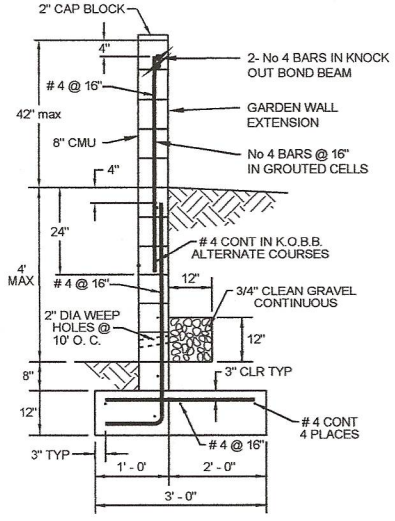
Exhibit A



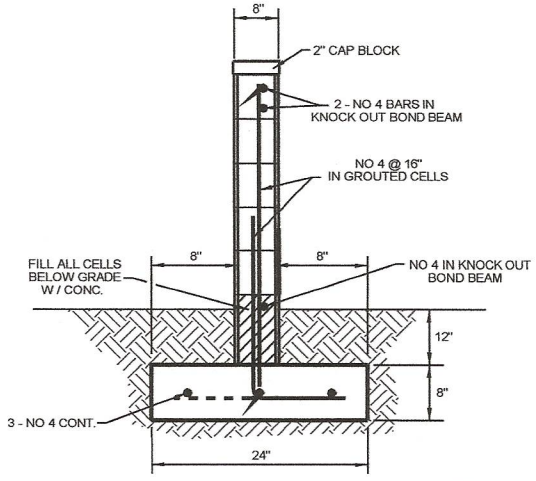
SPILLWAY SIZING:

$Q=CLH^{3/2}$
Q= 2.33 cfs
H= 0.67 FT
C= 2.40
L= 28" = 2 CMU BLOCKS (32")

POND INLET SPILLWAY — NTS — H / C.4



RETAINING WALL SECTION — NTS — J / C.4



CMU GARDEN WALL DETAIL — NTS — K / C.4

RETAINING WALL NOTES:

1. ALL CELLS SHALL BE COMPLETELY FILLED WITH CONCRETE.
2. ALL WALL SECTIONS ARE DESIGNED BASED ON SPECIAL INSPECTION PER UBC.
3. CONTRACTOR SHALL SUBMIT TO OWNER RESULTS OF MASONRY TEST PRISMS BUILT AND TESTED PER UBC STD 24-26, UBC SEC 2405.
4. FOOTING SUBGRADE AND BASE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR PER ASTM D-1557.
5. 1/2" FELT EXPANSION JOINTS SHALL BE INSTALLED AT 30 FEET ON CENTER AND AT SECTION CHANGES.
6. ALL MASONRY SHALL BE LAID IN RUNNING BOND ONLY.
7. THIS RETAINING WALL IS DESIGNED EXCLUSIVELY FOR USE ON STONEBRIDGE AND IS NOT APPLICABLE TO ANY OTHER SITE.
8. ALL MASONRY SURFACES TO BE BACKFILL SHALL BE COATED WITH EMULSIFIED ASPHALT, OR OTHER MOISTURE BARRIER AS APPROVED BY THE ENGINEER.
9. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ANY UTILITIES WHICH MAY BE WITHIN THE WORK AREA.
10. WALLS ARE DESIGNED ASSUMING THE FOLLOWING:

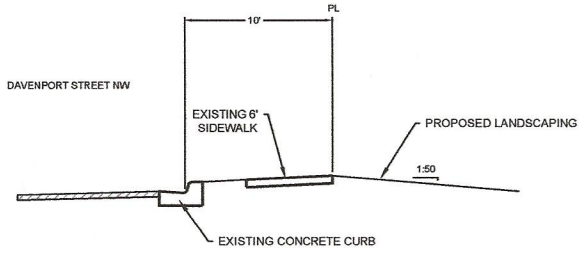
fc = 4000 psi: maximum aggregate size = 3/4"
fy = 60,000 psi (ASTM A-615 GR 60)
fm = 1500 psi
unit weight of backfill = 115 pcf
concrete / soil coeff of friction = 0.40
allowable soil bearing pressure = 1500 psf
active pressure = 34 psf / ft
slope active pressure = 34 psf / ft
passive pressure = 400 psf / ft

SPRINGSTONE PARKING LOT AND GARAGE
SITE DETAILS

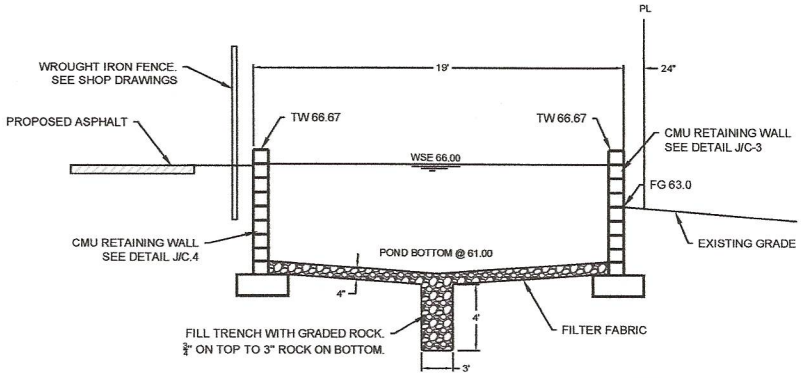
LORENZ
DESIGN & CONSULTING, LLC
Civil Engineering | Construction Management
2501 Rio Grande Blvd NW, Suite A
Albuquerque, New Mexico 87104
Ph: 505-881-6688 Fax:
505-242-6665

DRAWN BY: DAL	DATE: September 2019
CHECKED BY: DAL	C.4
FILE: 19-018	

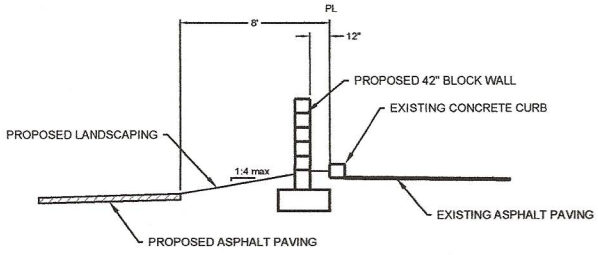
Exhibit A



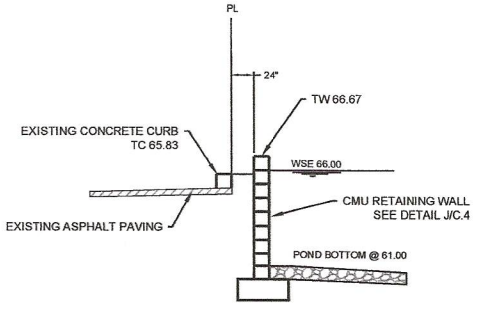
NW PROPERTY LINE SECTION — NTS — A / C.4



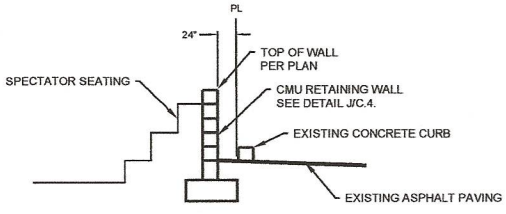
SE PROPERTY LINE SECTION — NTS — E / C.4



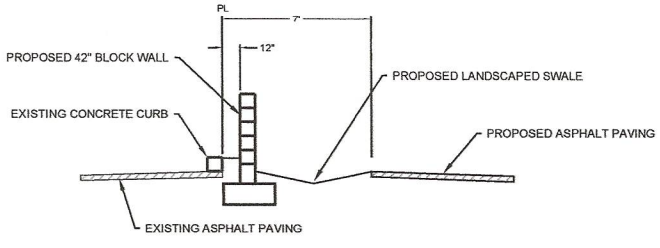
NE PROPERTY LINE SECTION — NTS — B / C.4



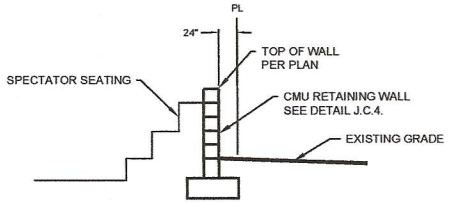
SW PROPERTY LINE SECTION — NTS — F / C.4



NE PROPERTY LINE SECTION — NTS — C / C.4



SW PROPERTY LINE SECTION — NTS — G / C.4



SE PROPERTY LINE SECTION — NTS — D / C.4