

CITY OF ALBUQUERQUE



July 24, 2017

David Aube, PE
Hartman + Majewski Design Group
120 Vassar Dr. SE Suite 100
Albuquerque, NM 87106

**Re: GAHP Casa Feliz
523 Espanola Street SE
Request for Permanent C. O. – Accepted
Engineers Stamp Date 12/18/15 (L19D073I)
Certification dated: 7/12/2017**

Dear Mr. Aube,

Based on the Engineer's Certification provided in your submittal received 7/17/2017, Hydrology has no objection to the issuance of a Permanent Certificate of Occupancy. This letter serves as the "green tag" from Hydrology for a Permanent Certificate of Occupancy.

PO Box 1293

Albuquerque

If you have any questions, you can contact me at 924-3986 or Totten Elliott at 924-3982.

New Mexico 87103

Sincerely,

www.cabq.gov

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

JH
C: email

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: GAHP Casa Feliz (L19D073G H, I)
DRB #: _____ EPC#: _____

ZONE MAP/DRG. FILE #: L-19-Z
WORK ORDER#: _____

LEGAL DESCRIPTION: Lot 13-18, 18-20 Block 4, Lots 4-8, 17-18 Block 5, etc. Emil Mann Addition
CITY ADDRESS: 443, 511, and 523 Espanola Street SE

ENGINEERING FIRM: Hartman + Majewski Design Group
ADDRESS: 120 Vassar Dr SE, Suite 100
CITY, STATE: Albuquerque, NM 87106

CONTACT: David Aube
PHONE: 505-998-6430
ZIP CODE: 87106

OWNER: Greater Albuquerque Housing Partnership
ADDRESS: 320 Gold SW, Suite 918
CITY, STATE: Albuquerque, NM

CONTACT: Felipe Rael
PHONE: 505-244-1614
ZIP CODE: 87102

ARCHITECT: Hartman + Majewski Design Group
ADDRESS: 120 Vassar Dr SE, Suite 100
CITY, STATE: Albuquerque, NM

CONTACT: Mark Wade
PHONE: 505-998-6442
ZIP CODE: 87106

SURVEYOR: Community Sciences
ADDRESS: _____
CITY, STATE: Albuquerque, NM

CONTACT: _____
PHONE: 505-
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: July 14, 2017

BY: David Aube P.E.

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

I. PURPOSE AND SCOPE

THE PURPOSE OF THIS DRAINAGE PLAN IS TO PRESENT THE EXISTING AND PROPOSED DRAINAGE MANAGEMENT PLANS FOR THE GREATER ALBUQUERQUE HOUSING PROJECT TITLED CASA FELIZ.

II. SITE DESCRIPTION AND HISTORY

THE PROJECT CONTAINS MANY SCATTERED SITES, LOCATED AROUND A PREVIOUS PROJECT BY GREATER ALBUQUERQUO HOUSING AUTHORITY CALLED PLAZA FELIZ. THE SITES ARE LOCATED ON ESPANOLA STREET SE, SAN PABLO STREET SE, GROVE STREET SE, BELL AVENUE SE, AND TRUMBELL AVENUE SE.

THIS AREA WAS AT ONE TIME FULLY DEVELOPED WITH A FOURPLEX ON EACH OF THE LOTS BEING REDEVELOPED BY THIS PROJECT. THE LAND WAS ORIGINALLY SUBDIVIDED IN 1944 AND WAS FULLY DEVELOPED PRIOR TO THE IMPLEMENTATION OF THE DRAINAGE ORDINANCE RESTRICTING FLOW FROM THE SITES INTO THE PUBLIC WAY. DEMOLITION OF THESE PRIOR FOURPLEXES WAS COMPLETED BY 2010 WITH THE EXCEPTION OF ONE LOT THAT STILL NEEDS TO HAVE THE BUILDING REMOVED FOR THIS PROJECT.

THE SITES WERE ALL FREE DISCHARGE INTO THE STREET, OR IN SOME CASES INTO THE ADJACENT PROPERTIES. EACH OF THE SITES WERE ANALYZED AS TYPE C SOIL TO ACCOUNT FOR THE PREVIOUSLY COMPACTED SOIL CONDITIONS. THIS INCLUDES THE LOT WITH THE EXISTING BUILDING TO BE REMOVED.

III. COMPUTATIONAL PROCEDURES

HYDROLOGIC ANALYSIS WAS PERFORMED UTILIZING THE DESIGN CRITERIA BASED ON SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL.

IV. PRECIPITATION

THE STORM EVENT USED FOR THE FOLLOWING CALCULATIONS IS THE 100YR-6HR STORM. THE PROJECT SITE IS LOCATED IN ZONE 3.

V. EXISTING DRAINAGE CONDITIONS (REFER TO CD EX1)

CURRENTLY THE SITES FLOW FROM EAST TO WEST AND TOWARD BELL AVENUE FROM BOTH NORTH AND SOUTH. WITH THE PRIOR DEVELOPMENT, MANY OF THE LOTS CREATED CROSS LOT DRAINAGE PATTERNS THAT WILL BE CORRECTED WITH THIS PROJECT. HISTORICALLY THE SITES HAD BEEN DEVELOPED AS FOURPLEX UNITS WITH APPROXIMATELY 6 PARKING SPACES ON SITE. THE SITES CONTAINED MINIMAL LANDSCAPING AND WERE LIKELY 85% IMPERVIOUS (USING SURROUNDING UNITS AS A TYPICAL DEVELOPMENT DENSITY).

USING THE 85% D AND 15% C SOIL TREATMENTS THE TYPICAL 50X135 LOT (6750 SF) CREATES A PEAK RUNOFF RATE OF 0.74 CFS AND AN EXCESS RUNOFF VOLUME OF 0.0284 ACRE FEET DURING THE 100 YEAR 6 HOUR EVENT.

TO BE MORE CONSERVATIVE, THE SITES WERE ANALYZED AS 100% C SOIL AS REQUIRED FOR SOIL COMPACTED BY HUMAN ACTIVITY. THE REDUCES THE PEAK RUNOFF RATE TO 0.53 CFS AND AN EXCESS RUNOFF VOLUME OF 0.0167 ACRE FEET DURING THE 100 YEAR 6 HOUR EVENT.

VI. PROPOSED DRAINAGE CONDITIONS

THE SCATTERED SITE HAVE BEEN ANALYZED INDIVIDUALLY. BUILDINGS HAVE BEEN ASSIGNED LETTERS AND THIS REPORT IS ORGANIZED TO FOLLOW THAT SAME ORDER.

BUILDING/SITE A IS LOCATED IN A SINGLE LOT THAT WILL HAVE A PORTION OF TRUMBELL VACATED AND IS THEREFORE SLIGHTLY LARGER THAN THE TYPICAL LOT AND CONTAINS 7425 SF. THIS SITE CURRENTLY CONTAINS AN APARTMENT BUILDING THAT WILL BE DEMOLISHED. THE SITE IS BROKEN UP INTO TWO SUB BASINS, THE FIRST FLOWING WEST TOWARD SAN PABLO AND THE OTHER TO THE EAST AND INTO TRUMBELL ON THE SOUTH. THE COMBINED FLOW RATES FOR THIS SITE 0.70 CFS WHICH IS LESS THAN THE ACTUAL CURRENT CONDITIONS OF 0.82 SF. THESE NUMBERS WERE ADJUSTED BECAUSE THE SITE CONTAINS THE 7425 SF IN LIEU OF THE TYPICAL 6750 SF. THE INCLUSION OF SHALLOW PONDING AREAS (4" DEEP) THAT HARVEST 113 OF THE FIRST FLUSH VOLUME (91.6 CF REQUIRED) WILL FURTHER REDUCE THE PEAK RUNOFF.

BUILDING/SITE B CONTAINS 7 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 5.18 CFS (7 * 0.74 CFS). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 4.32 CSF AND AN EXCESS RUNOFF VOLUME OF 0.1520 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 576 CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 305.6 CF.

BUILDING/SITE C AND D CONTAINS 5 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 3.71 CFS (5 * 0.74 CFS). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 3.28 CSF AND AN EXCESS RUNOFF VOLUME OF 0.1156 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 454 CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 271.3 CF.

BUILDING/SITE E, F AND G CONTAINS 7 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 5.19 CFS (7 * 0.74 CFS). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 4.35 CSF AND AN EXCESS RUNOFF VOLUME OF 0.1527 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 393 CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 263.0 CF.

EXCESS RUNOFF FROM THESE SITES CAN DISCHARGE INTO ESPANOLA THROUGH THE DRIVEWAY OPENING OR THROUGH A SMALL RUNDOWN CHANNEL LOCATED ON THE SOUTH SIDE OF BUILDING G AND THROUGH A SIDEWALK CULVERT UNDER THE PUBLIC SIDEWALK.

BUILDING/SITE H CONTAINS 3 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 2.22 CFS (3 * 0.74 CFS). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 1.81 CSF AND AN EXCESS RUNOFF VOLUME OF 0.0629 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 315 CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 203.6 CF.

EXCESS RUNOFF FROM THESE SITES CAN DISCHARGE INTO ESPANOLA THROUGH THE DRIVEWAY OPENING OR THROUGH A SMALL RUNDOWN CHANNEL LOCATED ON THE SOUTH SIDE OF BUILDING H AND THROUGH A SIDEWALK CULVERT UNDER THE PUBLIC SIDEWALK.

BUILDING/SITE I CONTAINS 4 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 2.97 CFS (4 * 0.74 CFS). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 2.88 CSF AND AN EXCESS RUNOFF VOLUME OF 0.1089 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 218.3 CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 117.1 CF. THIS SITE DRAINS OUT THE SOUTHERN DRIVEWAY INTO BELL AVENUE, SE.

BUILDING/SITE J CONTAINS 4 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 3.03 CFS (SLIGHTLY LARGER DUE TO VACATED ROW ON BELL AVENUE SE THAT IS INCORPORATED INTO THE SITE). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 2.48 CSF AND AN EXCESS RUNOFF VOLUME OF 0.0848 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 308 CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 151 CF. THIS SITE DRAINS OUT THE NORTHERN DRIVEWAY INTO BELL AVENUE, SE.

BUILDING/SITE K CONTAINS 3 PARCELS AND WOULD HAVE CREATED A PEAK RUNOFF IN THE PREVIOUSLY DEVELOPED CONDITION OF 2.22 CFS (3 * 0.74 CFS). THE PROPOSED DEVELOPMENT WILL CREATE A PEAK RUNOFF OF 1.81 CSF AND AN EXCESS RUNOFF VOLUME OF 0.0629 ACRE FEET. THE SHALLOW PONDS SURROUNDING THE BUILDING WILL HARVEST 338CF WHICH EXCEEDS THE FIRST FLUSH REQUIRED VOLUME OF 102 CF.

BUILDING/SITE L IS LOCATED IN A SINGLE LOT THAT WILL HAVE A PORTION OF TRUMBELL VACATED AND IS THEREFORE SLIGHTLY LARGER THAN THE TYPICAL LOT AND CONTAINS 7425 SF. THE COMBINED FLOW RATES FOR THIS SITE 0.70 CFS WHICH IS LESS THAN THE ACTUAL CURRENT CONDITIONS OF 0.81 SF. THE INCLUSION OF SHALLOW PONDING AREAS (4" DEEP) THAT HARVEST 116 OF THE FIRST FLUSH VOLUME (91.6 CF REQUIRED) WILL FURTHER REDUCE THE PEAK RUNOFF.

VII. CONCLUSIONS

EACH INDIVIDUAL SITE HAS BEEN DESIGNED TO HARVEST MORE THAN IS REQUIRED TO MEET THE MSSSS PERMIT REQUIREMENTS FOR FIRST FLUSH VOLUMES. SITES HAVE BEEN DESIGNED TO DIRECT EXCESS RUNOFF TO THE PUBLIC STREETS WHERE PREVIOUS DEVELOPMENTS DISCHARGED IN A CROSS LOT CONFIGURATION.

EACH LOT IS STILL ALLOWING FOR FREE DISCHARGE FOR RUNOFF EXCEEDING THAT CONTAINED IN THE MSSSS REQUIREMENTS DESCRIBED ABOVE. THIS IS CONSISTENT WITH A REDUCTION FROM THE HISTORIC DISCHARGE RATES FROM THE PREVIOUSLY DEVELOPED LOTS.

BECAUSE THERE IS A REDUCTION IN FLOW RATES AND EXCESS RUNOFF IS DIRECTED TOWARD THE PUBLIC STREET INSTEAD OF CROSS LOT DRAINAGE, THERE SHOULD BE BENEFITS TO THE DOWNSTREAM LOTS.

Drainage Summary

Project: Casa Feliz
Project Number: 2491
Date: 10/12/15
By: Dave A

Site Location

3 Per Table A-1 COA DPM Section 22.2

Existing summary

| Basin Name | EX A | EX B | EX C & D | EX E | EX F & G | EX H | EX I | EX J | EX K | EX L | Typ 85% D | Typ 100% C |
|---------------------------|--------|--------|----------|--------|----------|--------|--------|--------|--------|--------|-----------|------------|
| Area (sf) | 7425 | 47202 | 33742 | 13504 | 33742 | 20250 | 26999 | 27556 | 20250 | 7425 | 6750 | 6750 |
| Area (acres) | 0.170 | 1.084 | 0.775 | 0.310 | 0.775 | 0.465 | 0.620 | 0.633 | 0.465 | 0.170 | 0.155 | 0.155 |
| %A Land treatment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| %B Land treatment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| %C Land treatment | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 100 |
| %D Land treatment | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 0 |
| Soil Treatment (acres) | | | | | | | | | | | | |
| Area "A" | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area "B" | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area "C" | 0.03 | 0.16 | 0.07 | 0.36 | 0.12 | 0.07 | 0.09 | 0.09 | 0.07 | 0.03 | 0.02 | 0.15 |
| Area "D" | 0.14 | 0.92 | 0.66 | 0.26 | 0.66 | 0.40 | 0.53 | 0.54 | 0.40 | 0.14 | 0.13 | 0.00 |
| Excess Runoff (acre-feet) | | | | | | | | | | | | |
| 100yr. 6hr. | 0.0312 | 0.1986 | 0.1420 | 0.0568 | 0.1420 | 0.0852 | 0.1136 | 0.1160 | 0.0852 | 0.0312 | acre-ft. | 0.0284 |
| 10yr. 6hr. | 0.0194 | 0.1235 | 0.0883 | 0.0353 | 0.0883 | 0.0530 | 0.0707 | 0.0721 | 0.0530 | 0.0194 | acre-ft. | 0.0177 |
| 2yr. 6hr. | 0.0112 | 0.0710 | 0.0508 | 0.0203 | 0.0508 | 0.0305 | 0.0406 | 0.0415 | 0.0305 | 0.0112 | acre-ft. | 0.0102 |
| 100yr. 24hr. | 0.0073 | 0.0270 | 0.1694 | 0.0678 | 0.1694 | 0.1017 | 0.1356 | 0.1384 | 0.1017 | 0.0373 | acre-ft. | 0.0339 |
| Peak Discharge (cfs) | | | | | | | | | | | | |
| 100 yr. | 0.82 | 5.18 | 3.71 | 1.48 | 3.71 | 2.22 | 2.97 | 3.03 | 2.22 | 0.82 | cfs | 0.74 |
| 10yr. | 0.54 | 3.45 | 2.46 | 0.99 | 2.46 | 1.48 | 1.97 | 2.01 | 1.48 | 0.54 | cfs | 0.49 |
| 2yr. | 0.32 | 2.01 | 1.43 | 0.57 | 1.43 | 0.86 | 1.15 | 1.17 | 0.86 | 0.32 | cfs | 0.29 |

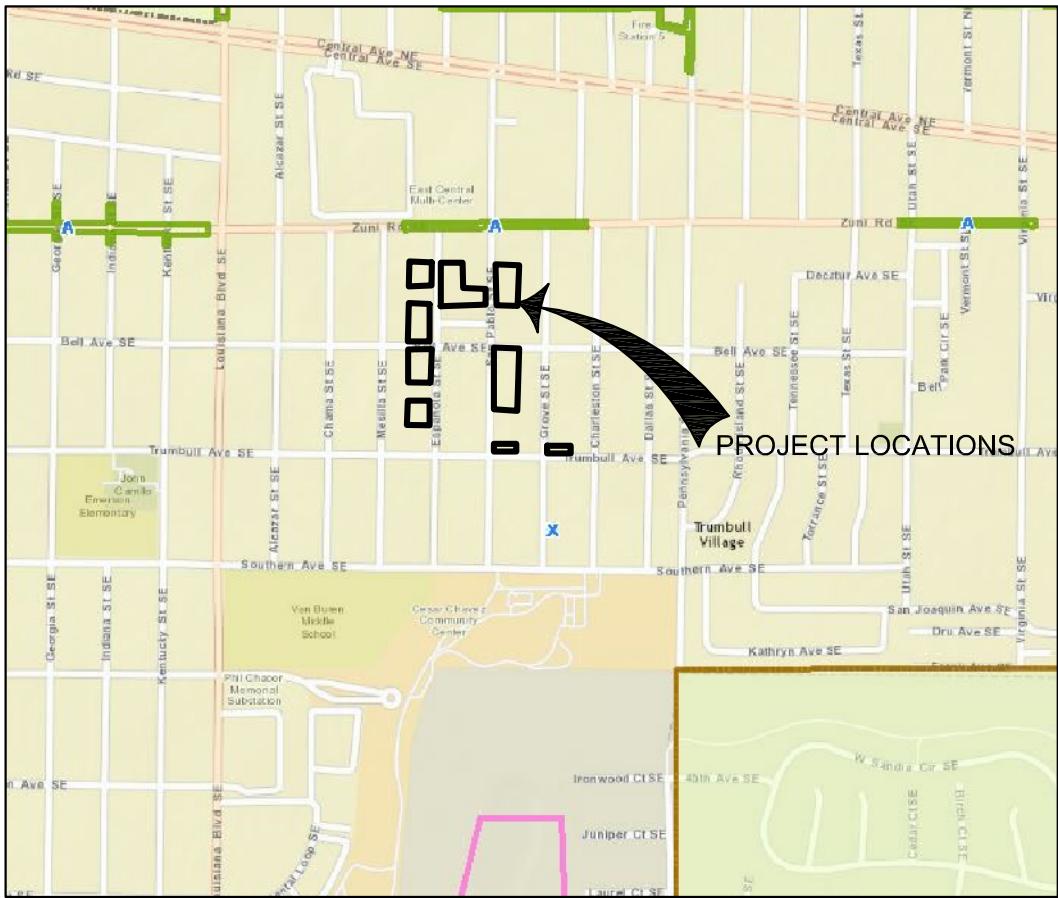
Proposed summary

| Basin Name | Pro A1 | Pro A2 | Pro B1 | Pro B2 | Pro C1 | Pro C2 | Pro D1 | Pro E1 | Pro F1 | Pro F2 | Pro G1 | Pro H1 | Pro H2 | Pro I1 | Pro I2 | Pro I3 | Pro J1 | Pro J2 | Pro J3 | Pro K1 | Pro K2 | Pro L1 | Pro L2 |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Area (sf) | 2104 | 5321 | 12942 | 34260 | 4525 | 25692 | 4525 | 7462 | 4525 | 30721 | 4525 | 6275 | 13975 | 3257 | 3342 | 20400 | 5469 | 21808 | 278 | 6435 | 13815 | 2104 | 5321 |
| Area (acres) | 0.048 | 0.122 | 0.297 | 0.787 | 0.104 | 0.590 | 0.104 | 0.171 | 0.104 | 0.705 | 0.104 | 0.144 | 0.321 | 0.075 | 0.077 | 0.468 | 0.126 | 0.501 | 0.006 | 0.148 | 0.317 | 0.048 | 0.122 |
| %A Land treatment | 10 | 0 | 15 | 15 | 10 | | 10 | 50 | 10 | | 10 | 25 | 10 | 10 | | | 25 | 10 | | 25 | 10 | 10 | |
| %B Land treatment | 25 | 65 | 25 | 50 | 25 | 65 | 25 | 15 | 25 | 65 | 25 | 25 | 60 | 20 | 65 | 15 | 25 | 60 | 50 | 25 | 60 | 25 | 65 |
| %C Land treatment | 65 | 35 | 60 | 35 | 65 | 35 | 65 | 35 | 65 | 35 | 65 | 50 | 30 | 70 | 35 | 85 | 50 | 30 | 50 | 50 | 30 | 65 | 35 |
| %D Land treatment | | | | | | | | | | | | | | | | | | | | | | | |
| Soil Treatment (acres) | | | | | | | | | | | | | | | | | | | | | | | |
| Area "A" | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area "B" | 0.00 | 0.00 | 0.04 | 0.12 | 0.01 | 0.00 | 0.01 | 0.09 | 0.01 | 0.00 | 0.01 | 0.04 | 0.03 | 0.01 | 0.00 | 0.00 | 0.03 | 0.05 | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 |
| Area "C" | 0.01 | 0.08 | 0.03 | 0.36 | 0.03 | 0.03 | 0.03 | 0.46 | 0.03 | 0.04 | 0.19 | 0.01 | 0.05 | 0.01 | 0.05 | 0.07 | 0.03 | 0.30 | 0.00 | 0.04 | 0.19 | 0.01 | 0.08 |
| Area "D" | 0.03 | 0.04 | 0.18 | 0.28 | 0.07 | 0.21 | 0.07 | 0.06 | 0.07 | 0.25 | 0.07 | 0.07 | 0.10 | 0.05 | 0.03 | 0.40 | 0.06 | 0.15 | 0.00 | 0.07 | 0.10 | 0.03 | 0.04 |
| Excess Runoff (acre-feet) | | | | | | | | | | | | | | | | | | | | | | | |
| 100yr. 6hr. | 0.0078 | 0.0169 | 0.0465 | 0.1055 | 0.0169 | 0.0818 | 0.0169 | 0.0211 | 0.0169 | 0.0978 | 0.0169 | 0.0208 | 0.0421 | 0.0125 | 0.0106 | 0.0858 | 0.0181 | 0.0657 | 0.0010 | 0.0213 | 0.0416 | 0.0078 | 0.0169 |
| 10yr. 6hr. | 0.0047 | 0.0094 | 0.0275 | 0.0583 | 0.0101 | 0.0456 | 0.0101 | 0.0114 | 0.0101 | 0.0545 | 0.0101 | 0.0119 | 0.0229 | 0.0075 | 0.0059 | 0.0534 | 0.0104 | 0.0358 | 0.0006 | 0.0122 | 0.0227 | 0.0047 | 0.0094 |
| 2yr. 6hr. | 0.0026 | 0.0045 | 0.0147 | 0.0276 | 0.0055 | 0.0217 | 0.0055 | 0.0053 | 0.0055 | 0.0259 | 0.0055 | 0.0061 | 0.0105 | 0.0042 | 0.0028 | 0.0307 | 0.0053 | 0.0164 | 0.0003 | 0.0063 | 0.0104 | 0.0026 | 0.0045 |
| 100yr. 24hr. | 0.0062 | 0.0187 | 0.0539 | 0.1169 | 0.0197 | 0.0904 | 0.0197 | 0.0236 | 0.0197 | 0.1081 | 0.0197 | 0.0238 | 0.0461 | 0.0147 | 0.0118 | 0.1024 | 0.0207 | 0.0719 | 0.0011 | 0.0244 | 0.0456 | 0.0092 | 0.0187 |
| Peak Discharge (cfs) | | | | | | | | | | | | | | | | | | | | | | | |
| 100 yr. | 0.21 | 0.49 | 1.27 | 3.05 | 0.46 | 2.36 | 0.46 | 0.61 | 0.46 | 2.82 | 0.46 | 0.58 | 1.23 | 0.33 | 0.31 | 2.24 | 0.51 | 1.92 | 0.03 | 0.59 | 1.22 | 0.21 | 0.49 |
| 10yr. | 0.14 | 0.30 | 0.81 | 1.86 | 0.29 | 1.47 | 0.29 | 0.36 | 0.29 | 1.75 | 0.29 | 0.36 | 0.75 | 0.22 | 0.19 | 1.49 | 0.31 | 1.17 | 0.02 | 0.37 | 0.74 | 0.14 | 0.30 |
| 2yr. | 0.07 | 0.15 | 0.43 | 0.99 | 0.16 | 0.72 | 0.16 | 0.16 | 0.16 | 0.86 | 0.16 | 0.18 | 0.35 | 0.12 | 0.09 | 0.87 | 0.16 | 0.55 | 0.01 | 0.19 | 0.35 | 0.07 | 0.15 |
| Roof Areas | 1615 | 1615 | 5394 | 5394 | 1643 | 6296 | 1643 | 1355 | 1643 | 4641 | 1643 | 3598 | 3598 | 1367 | 0 | 2796 | 2505 | 2812 | 0 | 1800 | 1800 | 1615 | 1615 |
| First Flush Ponding Voulme (cf) | 45.8 | 45.8 | 152.8 | 152.8 | 46.6 | 178.1 | 46.6 | 38.4 | 46.6 | 131.5 | 46.6 | 101.9 | 101.9 | 38.7 | 0.0 | 78.4 | 71.0 | 79.7 | 0.0 | 51.0 | 51.0 | 45.8 | 45.8 |
| First Flush Acre Feet | 0.0011 | 0.0011 | 0.0035 | 0.0035 | 0.0011 | 0.0041 | 0.0011 | 0.0009 | 0.0011 | 0.0030 | 0.0011 | 0.0023 | 0.0023 | 0.0009 | 0.0000 | 0.0018 | 0.0016 | 0.0018 | 0.0000 | 0.0012 | 0.0012 | 0.0011 | 0.0011 |

Drainage Certification (L19-D073G, DRB#1010672, 16ZHE-80041) & (L19-D073H, DRB#1010667, 16ZHE-80041) & (L19-D073I, DRB#1010667, 16ZHE-80041)

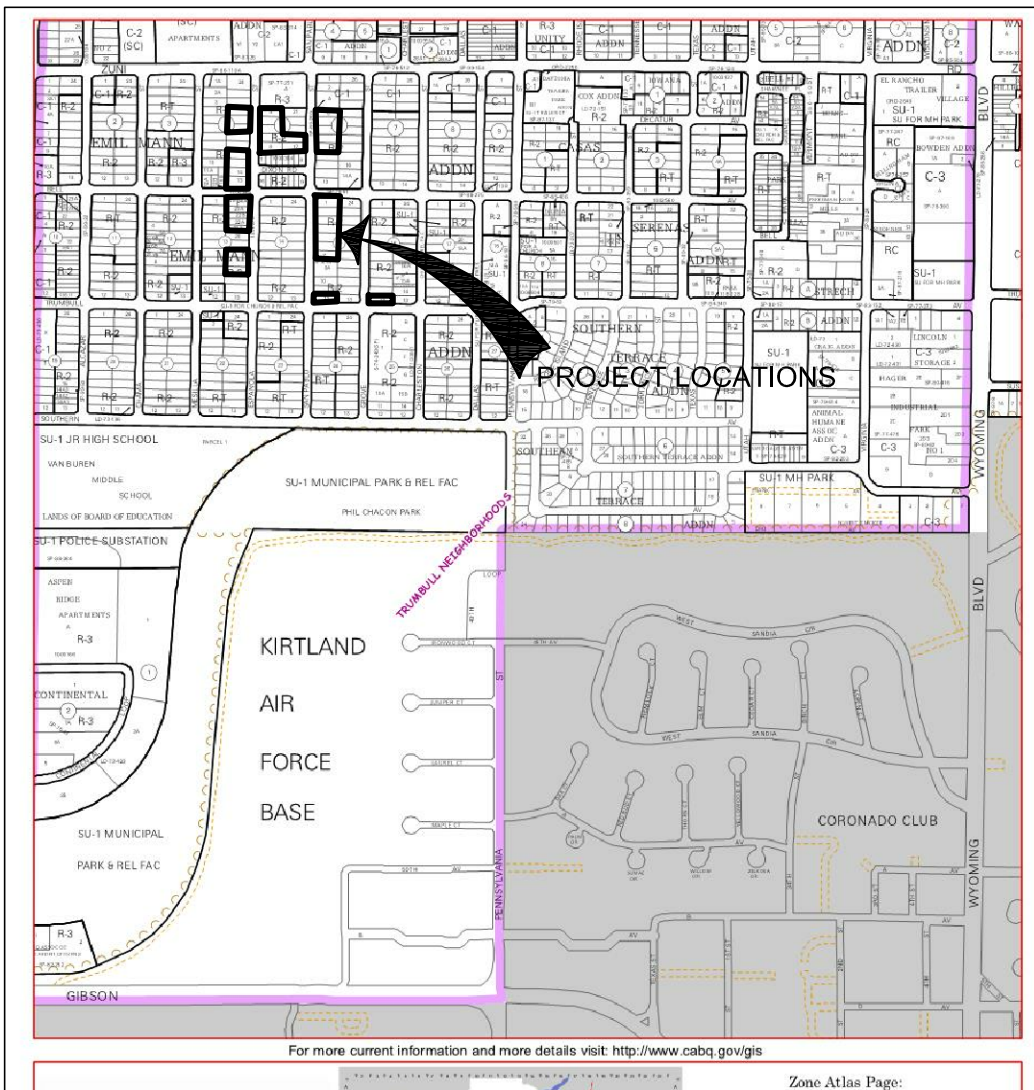
I, David A Aube, NMPE 14221, of the firm The Hartman + Majewski Design Group, Inc, hereby certify that portion of the project (Building I, J and K located at 443, 511 and 523 Espanola Street SE) is in substantial compliance with and in accordance with the design intent of the Grading and Drainage plan approved plan dated 12-18-15. The record information that has been edited onto the original design documents where obtained by Community Sciences Corporation on May 4th, 2017. I further certify that I have personally visited the project site on July 11th, 2017 and have determined by visual inspection that the actual site conditions shown on this plan to be true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Permanent Certificate of Occupancy for Building I, J and K located at 443, 511 and 523 Espanola Street SE.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the drainage aspects of this project. Those relying on the record documents are advised to obtain independent verification of its accuracy before using it for any other purpose.



FIMA FLOOD MAP

SCALE: NOT TO SCALE



L-19-Z ZONE ATLAS PAGE

SCALE: NOT TO SCALE



THE HARTMAN + MAJEWSKI

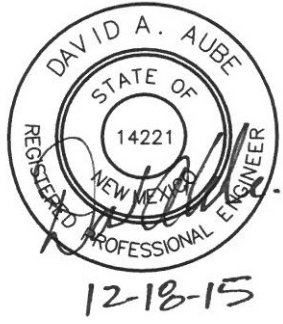
DESIGN GROUP

Architects • Engineers • Interior Design
Planners • Urban Designers • LEED®

120 Vassar Dr SE Suite 100
Albuquerque New Mexico 87106
T 505 242 6880 • F 505 242 6881

CONSULTANT

STAMP



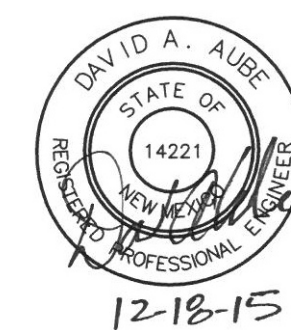


THE HARTMAN + MAJEWSKI
DESIGN GROUP
Architects • Engineers • Interior Design
Planners • Urban Designers • LEED®

120 Vassar Dr SE Suite 100
Albuquerque New Mexico 87106
T 505 242 6880 • F 505 242 6881

CONSULTANT

STAMP



100% CONSTRUCTION
DOCUMENTS

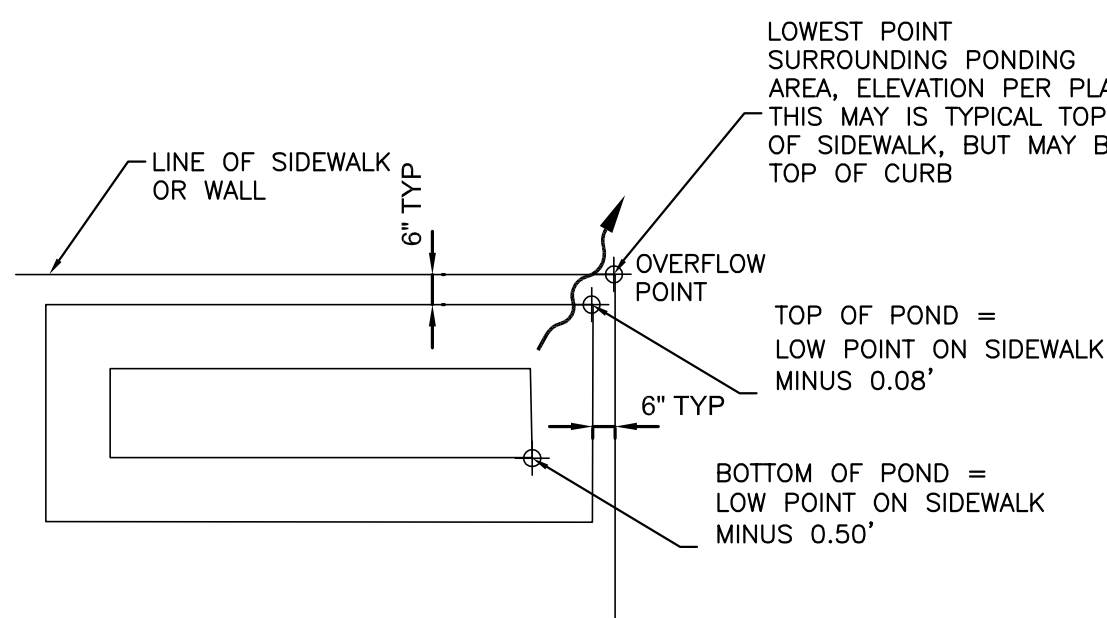
PROJECT NAME
CASA FELIZ

441 ESPANOLA STREET SE,
ALBUQUERQUE, NEW MEXICO 87108

GREATER ALBUQUERQUE
HOUSING PATRNTNERSHIP

DRAINAGE PLAN GENERAL NOTES

- SEE SHEET CG001 FOR COMPLETE LIST OF GENERAL NOTES AND SYMBOL/LINETYPE LEGEND THAT APPLY TO ALL SHEETS.
- SEE SHEET CD-202 FOR 3" PVC DRAINAGE PIPES THROUGH SIDEWALKS AND UNDER SIDEWALKS THROUGH CITY CURB FACE.



TYPICAL POND DETAIL

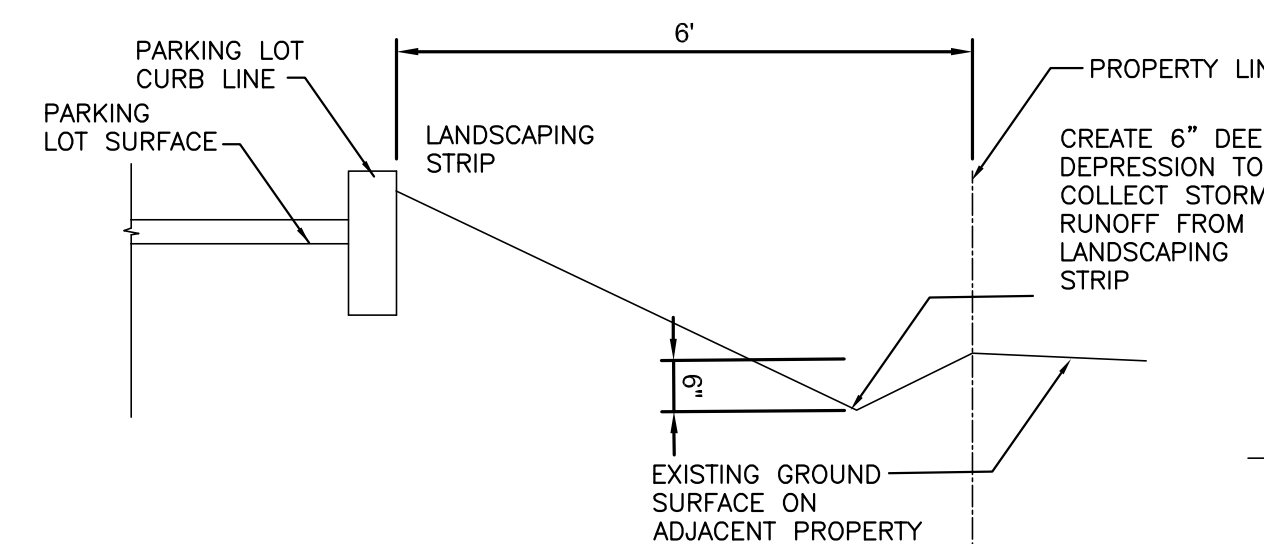
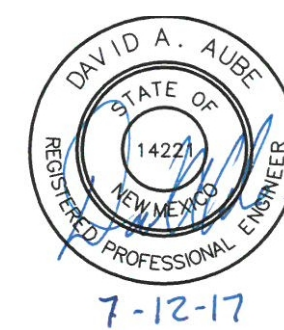
NOT TO SCALE

| BUILDING K | | | |
|------------|-----------------------------|----------|-------------|
| POND | LOWEST POINT ON CURB OR TSW | TOP ELEV | BOTTOM ELEV |
| A | 5341.29 | 5340.37 | 5341.21 |
| B | 5340.89 | 5341.62 | 5340.81 |
| C | 5341.70 | 5341.62 | 5341.20 |
| D | 5340.61 | 5340.66 | 5340.53 |

Drainage Certification (L19-D073G, DRB#1010672, 16ZHE-80041) & (L19-D073H, DRB#1010667, 16ZHE-80041) & (L19-D073I, DRB#1010667, 16ZHE-80041)

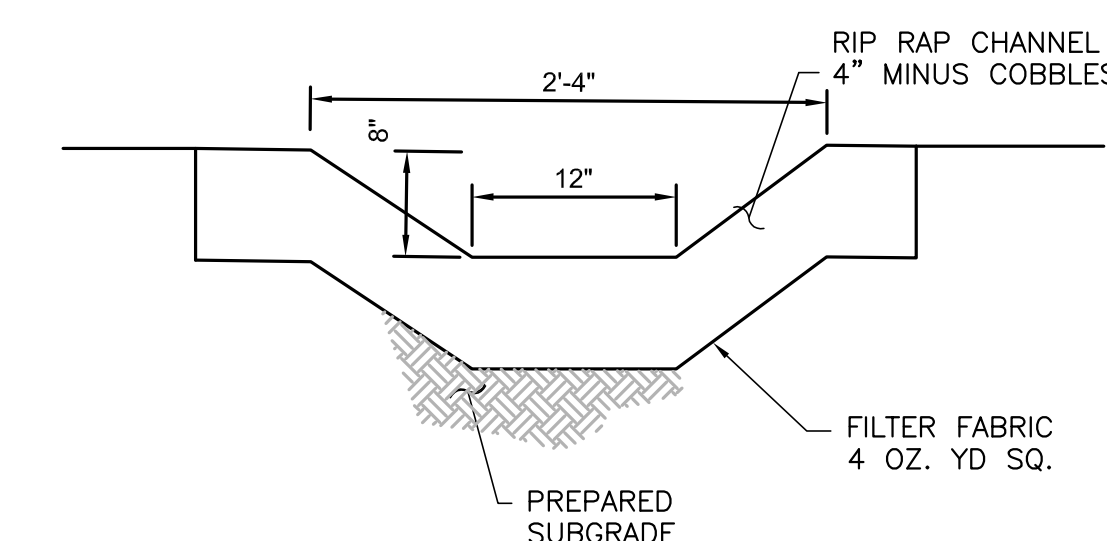
I, David A. Aube, NMPE 14221, of the firm The Hartman + Majewski Design Group, Inc, hereby certify that portion of the project (Building I, J and K located at 443, 511 and 523 Espanola Street SE) is in substantial compliance with and in accordance with the design intent of the Grading and Drainage plan approved plan dated 12-18-15. The record information that has been edited onto the original design documents where obtained by Community Sciences Corporation on May 4th, 2017. I further certify that I have personally visited the project site on July 11th, 2017 and have determined by visual inspection that the actual site conditions shown on this plan to be true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Permanent Certificate of Occupancy for Building I, J and K located at 443, 511 and 523 Espanola Street SE.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the drainage aspects of this project. Those relying on the record documents are advised to obtain independent verification of its accuracy before using it for any other purpose.



SECTION A-A

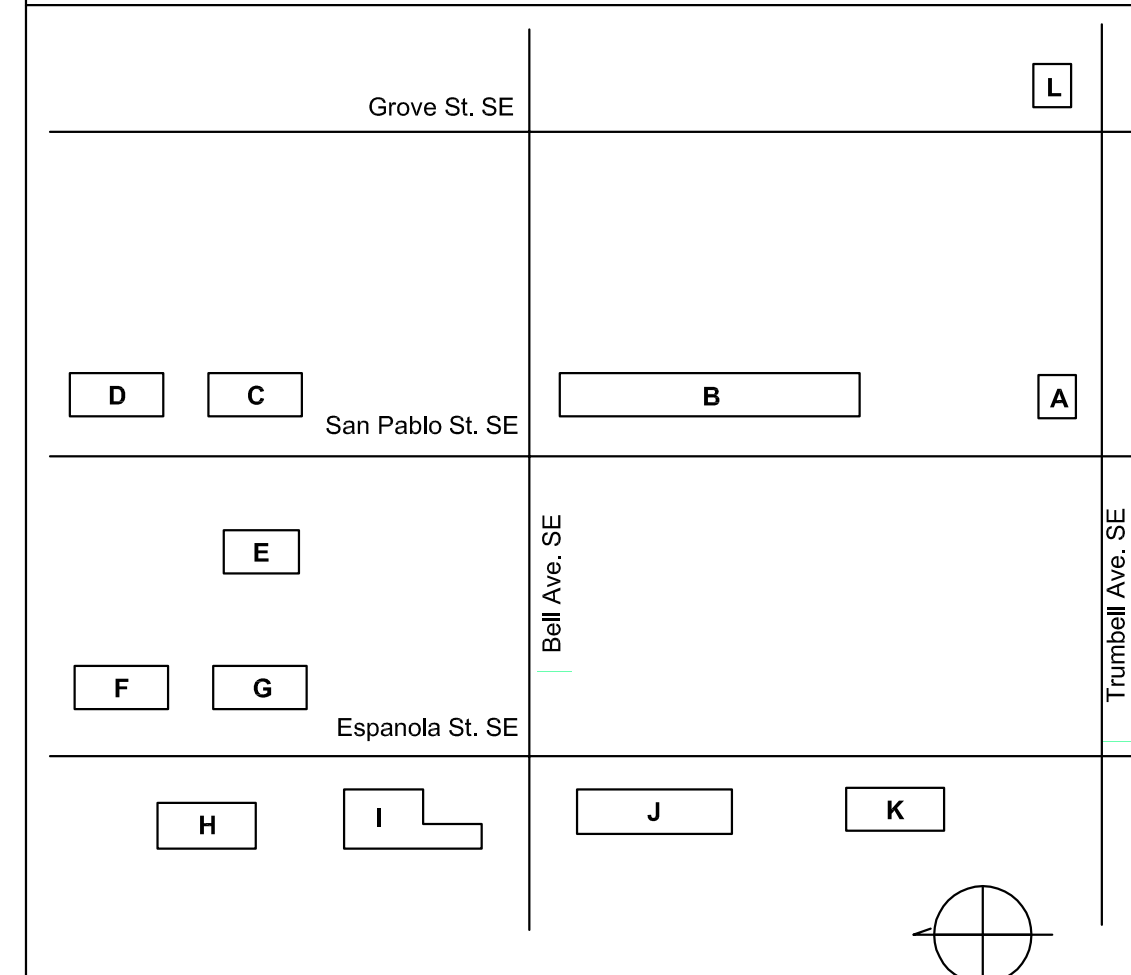
NOT TO SCALE



RIP-RAP CHANNEL SECTION B-B

NOT TO SCALE

KEY PLAN



REVISIONS

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Copyright: Design Group

Drawn by: DAA
Checked by: DAA
Date: OCTOBER 19, 2015
Project number: 2491

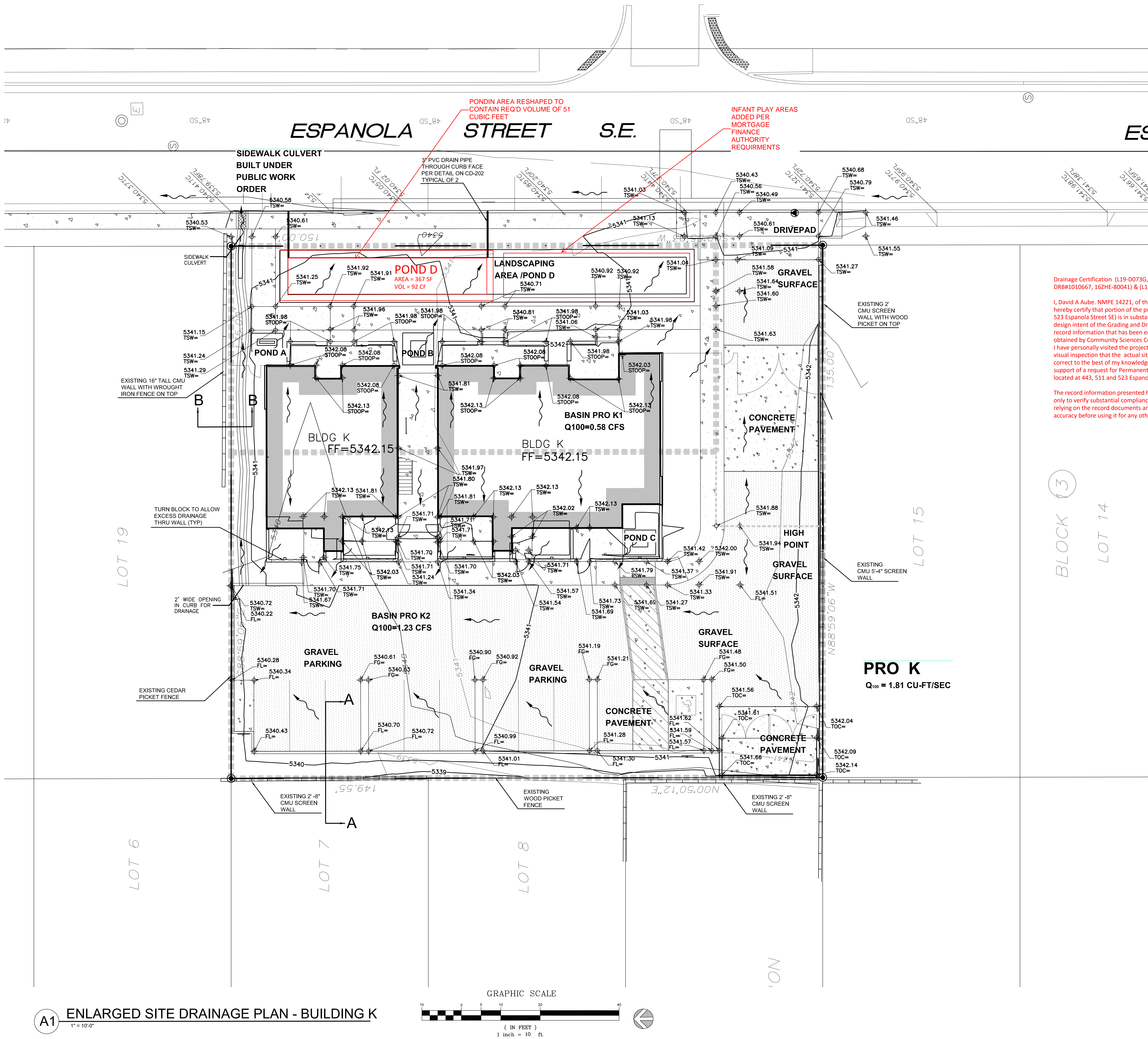
SHEET TITLE

ENLARGED
SITE DRAINAGE PLAN

BUILDING K

SHEET NUMBER

CD-211



A1 ENLARGED SITE DRAINAGE PLAN - BUILDING K