

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

February 20, 2019

Matt Satches
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

**RE: Harper Senior Living
Grading and Drainage Plan
Engineer's Stamp Date: 02/01/19
Hydrology File: E20D020B**

Dear Mr. Satches:

PO Box 1293

Based upon the information provided in your submittal received 02/06/2019, the Conceptual Grading Plan and Drainage Report is approved for action by the DRB for Site Plan for Building Permit.

Albuquerque

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

NM 87103

www.cabq.gov

Also as a reminder, please provide a Drainage Covenant per Chapter 17 of the DPM for both stormwater quality ponds prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A \$25 fee will be required.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: _____ Building Permit #: _____ Hydrology File #: _____
 DRB#: _____ EPC#: 1007412 Work Order#: _____
 Legal Description: _____
 City Address: _____

Applicant: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

Other Contact: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF DEVELOPMENT: PLAT RESIDENCE DRB SITE ADMIN SITE

Check all that Apply:

DEPARTMENT:

- HYDROLOGY/ DRAINAGE
- TRAFFIC/ TRANSPORTATION

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) _____

TYPE OF SUBMITTAL:

- ENGINEER/ARCHITECT CERTIFICATION
- PAD CERTIFICATION
- CONCEPTUAL G & D PLAN
- GRADING PLAN
- 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?

IS THIS A RESUBMITTAL?: Yes No

DATE SUBMITTED: _____ By: _____

COA STAFF: _____

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

February 4, 2019

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department
City of Albuquerque
600 2nd St NW
Albuquerque, NM 87102

Re: Harper Senior Living, E20D020B Hydrology Site Plan for Building Permit Approval

Dear Ms. Brissette:

Enclosed for your review is a copy of the Harper Senior Living Grading and Drainage Resubmittal. Below is a brief description of how the comments from your letter dated 12/13/18 were addressed:

1. FIRM Map has been added to sheet C-100.
2. Vicinity Map has been added to sheet C-100.
3. Legal Description has been added to sheet C-100.
4. Benchmark Information has been added to sheet C-100.
5. The 100 Year Flood Zone Line per your comment is now shown and is more legible. The "Floodplain Easement" roughly follows the limits of this flood zone.
6. The Existing Contour Labels have been adjusted to be more legible.
7. A retaining wall is now shown along the sidewalk as noted.
8. A headwall will be installed to allow us to pull the storm drain end section further from the ditch's flow line. Riprap is now provided at this outfall location for energy dissipation as well.
9. The Bank Stabilization has been wrapped around the SW corner of the site per COA's request.
10. Concrete lining the bottom of the Pond 1 seems unnecessary. Concrete lining eliminates storm water harvesting as a portion of this pond was intended to be used for. An emergency riprap lined overflow is located along the west side of the pond. In the event of an emergency, this pond will discharge to the COA's ditch and the bank stabilization will be designed to accommodate this overflow.
11. The pipe now discharges through the concrete bank stabilization. This pipe will be mitered to the slope of the bank stabilization. A riprap energy dissipater is now located at the outfall location.
12. Runoff within Basin 1 will flow to the south then west within the drive aisle. We have now shown the location of a highpoint that will prevent any runoff from entering the AMAFCA access road. Any runoff that falls south of the drive aisle will enter a riprap

Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

swale that discharges into the drive aisle near the AMAFCA access road. Detailed grading during the building permit phase of the project will refine this area and basins minimally.

13. Detail has been added and modified to reflect the correct section.
14. The flow from the park east of the site is incidental. The basins were delineated using the plans from the park. The offsite basins are different when comparing existing versus proposed because the proposed onsite grading design redirects the offsite flows to different outfall locations. The existing and proposed DMP's reflect this.
15. - 17 We will address these items as noted in the comment letter.

With this submittal, we are requesting City of Albuquerque Hydrology Site Plan for Building Permit Approval. If you have any questions or require further information, please feel free to contact me.

Sincerely,



Matt Satches, PE
Engineer
Community Development & Planning

MHS/Enclosures

Harper Road Senior Living
Existing Developed Conditions Basin Data Table

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr) (CFS)	V(100yr) (inches)	V(100yr-6hr) (CF)	V(100yr-24hr) (CF)	Weighted Curve #
			A	B	C	D					
CURRENT ONSITE BASINS											
EX 1	394631	9.06	65.0%	0.0%	35.0%	0.0%	18.41	0.88	28956	28956	80
EX 2	37715	0.87	100.0%	0.0%	0.0%	0.0%	1.41	0.66	2074	2074	77
EX 3	79743	1.83	35.0%	0.0%	65.0%	0.0%	4.54	1.07	7107	7107	83
EX 4	135422	3.11	70.0%	0.0%	30.0%	0.0%	6.32	0.85	9581	9581	80
OFF1A	11453	0.26	0.0%	0.0%	100.0%	0.0%	0.78	1.29	1231	1231	86
OFF1B	11856	0.27	0.0%	0.0%	100.0%	0.0%	0.81	1.29	1275	1275	86
TOTAL	670820	15.40	-	-	-	-	32.27	-	50224	50224	-

EXISTING DRAINAGE NARRATIVE

INTRODUCTION:

THE PURPOSE OF THIS SUBMITTAL IS TO PROVIDE AN EXISTING DRAINAGE MANAGEMENT PLAN FOR THE HARPER ROAD SENIOR LIVING DEVELOPMENT AND REQUEST DRB SITE PLAN FOR BUILDING PERMIT APPROVAL.

THE SITE IS LOCATED ON THE SOUTH SIDE OF HARPER ROAD, SOUTHWEST OF THE EXISTING HOFFMANTOWN CHURCH. IT IS CURRENTLY UNDEVELOPED. THE SITE HAS A SIGNIFICANT SLOPE FROM EAST TO WEST AND ULTIMATELY DISCHARGES TO THE EXISTING PINO ARROYO TO THE SOUTH.

THE SITE IS PARTIALLY LOCATED WITHIN A FEMA DESIGNATED FLOODZONE AO (FEMA FIRM #35001C0143G). THIS FLOODZONE LIES WITHIN A TEMPORARY AMAFCA DRAINAGE EASEMENT ONSITE. THE ARROYO WILL BE ALTERED WITH THIS PROJECT TO MOVE THE FEMA FLOODZONE TO THE SOUTH WHERE IT WILL LIE WITHIN THE EXISTING 200' AMAFCA DRAINAGE EASEMENT.

METHODOLOGY:

THE CITY IS IN THE PROCESS OF UPDATING THE DPM. ALTHOUGH THE DPM UPDATE HAS NOT BEEN OFFICIALLY ADOPTED, THE ANALYSIS METHODOLOGY IS PER THE PROPOSED UPDATE.

THE METHODOLOGY SELECTED TO COMPUTE RUNOFF VOLUME IS BASED ON THE SCS UNIT HYDROGRAPH. RAINFALL VALUES WERE BASED ON THE PROPOSED VALUES FROM THE DPM. THE SITE WAS ANALYZED FOR THE 100 YEAR 6 HOUR STORM EVENT USING THE US ARMY CORPS OF ENGINEERS HYDROLOGIC ENGINEERING CENTER'S HYDROLOGIC MODELING SYSTEM (HEC-HMS, VERSION 4.2). SURFACE CHARACTERISTICS AFFECTING INITIAL ABSTRACTION AND INFILTRATION RATES ARE PRESENTED BY CURVE NUMBERS. CURVE NUMBERS ARE BASED ON LAND TREATMENT AREAS AS SPECIFIED IN THE DPM UPDATE.

EXISTING CONDITIONS:

BASED ON THE EXISTING TOPOGRAPHY, THE EXISTING SITE WAS BROKEN INTO FOUR ONSITE BASINS AND TWO OFFSITE BASINS.

EXISTING BASIN 1 IS APPROXIMATELY 9.06 ACRES AND CONSISTS OF NATURAL DESERT SHRUBS AND STEEP SLOPES (GREATER THAN 20%). OFFSITE BASIN 1B JOINS EXISTING BASIN 1 AND DISCHARGES A TOTAL OF 19.22 CFS TO THE SOUTHWEST CORNER OF THE SITE.

EXISTING BASIN 2 IS APPROXIMATELY 0.87 ACRES AND CONSISTS OF ALL NATURAL DESERT SHRUBS. THIS BASIN DISCHARGES 1.41 CFS TO THE WEST AND INTO AN EXISTING CITY OF ALBUQUERQUE DRAINAGE SWALE LOCATED WITHIN AN EXISTING EASEMENT ON THE WEST EDGE OF THE PROPERTY.

EXISTING BASIN 3 IS APPROXIMATELY 1.83 ACRES AND CONSISTS NATURAL DESERT SHRUBS AND STEEP SLOPES (GREATER THAN 20%). OFFSITE BASIN 1A JOINS EXISTING BASIN 3 AND DISCHARGES 5.32 CFS TO THE NORTH INTO HARPER ROAD RIGHT OF WAY. THIS RUNOFF PROCEEDS TO THE WEST WHERE IT ENTERS INLETS THAT DISCHARGE INTO THE SAME DRAINAGE SWALE LOCATED WITHIN AN EXISTING EASEMENT ON THE WEST EDGE OF THE PROPERTY.

EXISTING BASIN 4 IS APPROXIMATELY 3.11 ACRES AND CONSISTS NATURAL DESERT SHRUBS AND STEEP SLOPES (GREATER THAN 20%). THIS BASIN IS MAINLY THE EXISTING DRAINAGE SWALE LOCATED WITHIN THE DRAINAGE EASEMENT AND SOME AREA AT THE SOUTH END OF THE PROPERTY WITHIN PINO ARROYO. THIS BASIN DRAINS 6.32 CFS TO THE SOUTH AND WEST AND THEN DISCHARGES TO THE SOUTHWEST CORNER OF THE PROPERTY.

THE TOTAL FLOW LEAVING THE SOUTHWEST CORNER IN EXISTING CONDITIONS IS 26.95 CFS.

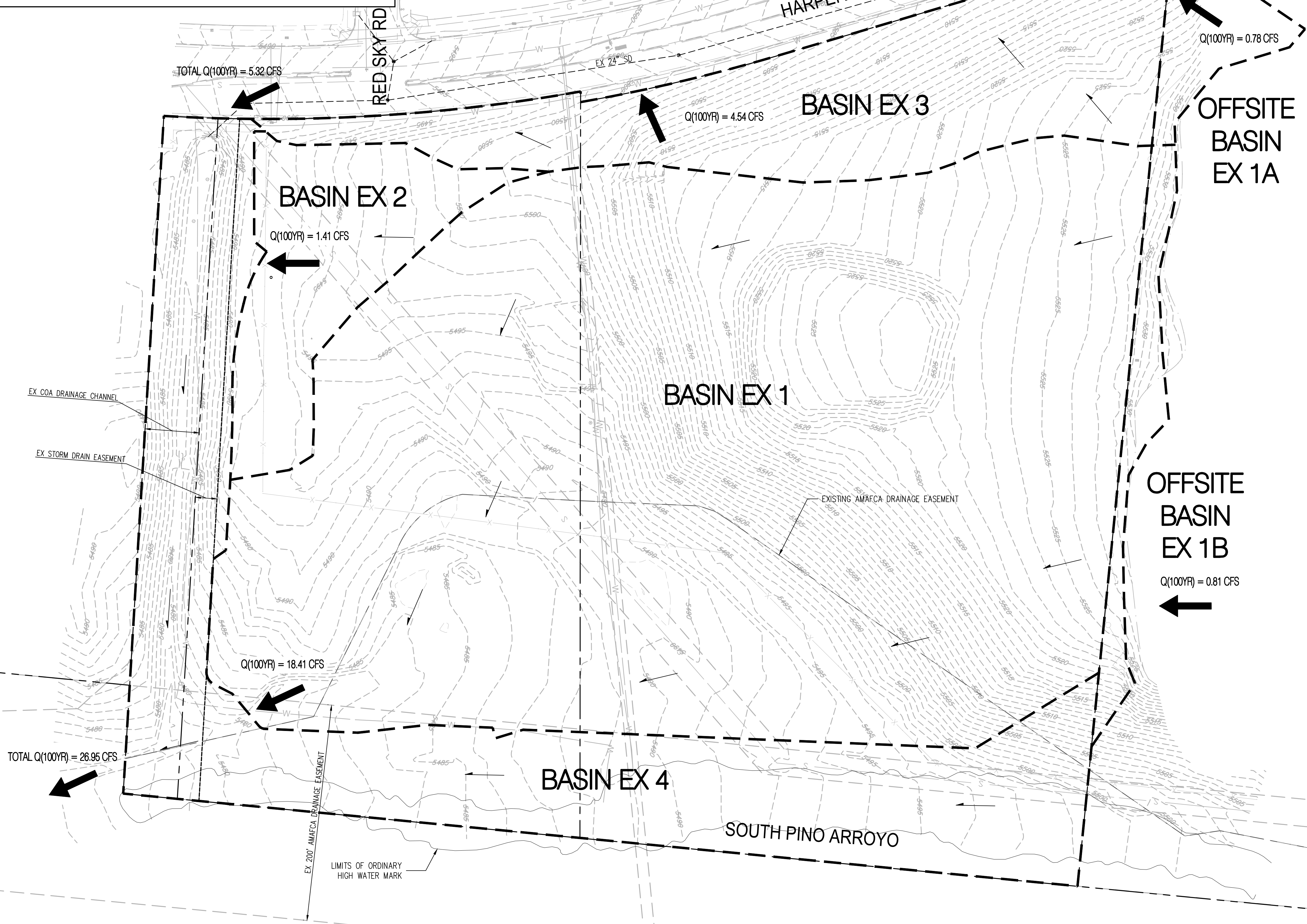
SEE BASIN DATA TABLE (THIS SHEET) FOR MORE INFORMATION.



NOT FOR CONSTRUCTION

GRADING LEGEND

--- PROPERTY LINE	--- PROPOSED CURB & GUTTER
--- PROJECT LIMITS OF GRADING	--- DIRECTION OF FLOW
--- 5025 EXISTING INDEX CONTOUR	--- WATER BLOCK/GRADE BREAK
--- 5024 EXISTING INTERMEDIATE CONTOUR	--- PROPOSED STORM DRAIN LINE
⊕ 5025.25 EXISTING GROUND SPOT ELEVATION	⊙ PROPOSED STORM DRAIN MANHOLE
--- 5025 PROPOSED INDEX CONTOUR	⊕ PROPOSED STORM DRAIN INLETS
--- 5024 PROPOSED INTERMEDIATE CONTOUR	--- PROPOSED RETAINING WALL
--- PROPOSED FLOW LINE	--- EASEMENT
⊕ 26.75 PROPOSED FINISHED GRADE SPOT ELEVATION	
TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK, TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW	



Architecture + Planning
888.456.5849
ktgy.com



Senior Resource Group
500 Stephens Avenue
Solana Beach, CA 92075

HARPER ROAD SENIOR LIVING
ALBUQUERQUE, NM # 2017-0235



0 25 50 100
SCALE: 1"=50'

EXISTING DMP
FEBRUARY 4, 2019

C-001

Harper Road Senior Living
Proposed Developed Conditions Basin Data Table

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr) (CFS)	V(100yr) (inches)	V _(100yr-6hr) (CF)	V _(100yr-24hr) (CF)	Weighted Curve #	FIRST FLUSH (CF)
			A	B	C	D						
CURRENT ONSITE BASINS												
B1	279631	6.42	0.0%	0.0%	25.0%	75.0%	29.58	2.09	48761	57499	95	5942
B2	200337	4.60	0.0%	0.0%	35.0%	65.0%	20.35	1.99	33147	38573	94	3690
B3	32216	0.74	0.0%	0.0%	15.0%	85.0%	3.54	2.20	5905	7046	96	776
B4	135327	3.11	70.0%	0.0%	30.0%	0.0%	6.37	0.85	9574	9574	80	0
OFF1A	17368	0.40	0.0%	0.0%	100.0%	0.0%	1.18	1.29	1867	1867	86	0
OFF1B	5940	0.14	0.0%	0.0%	100.0%	0.0%	0.40	1.29	639	639	86	0
TOTAL	670819	15.40	-	-	-	-	61.36	-	99893	115198	-	10408

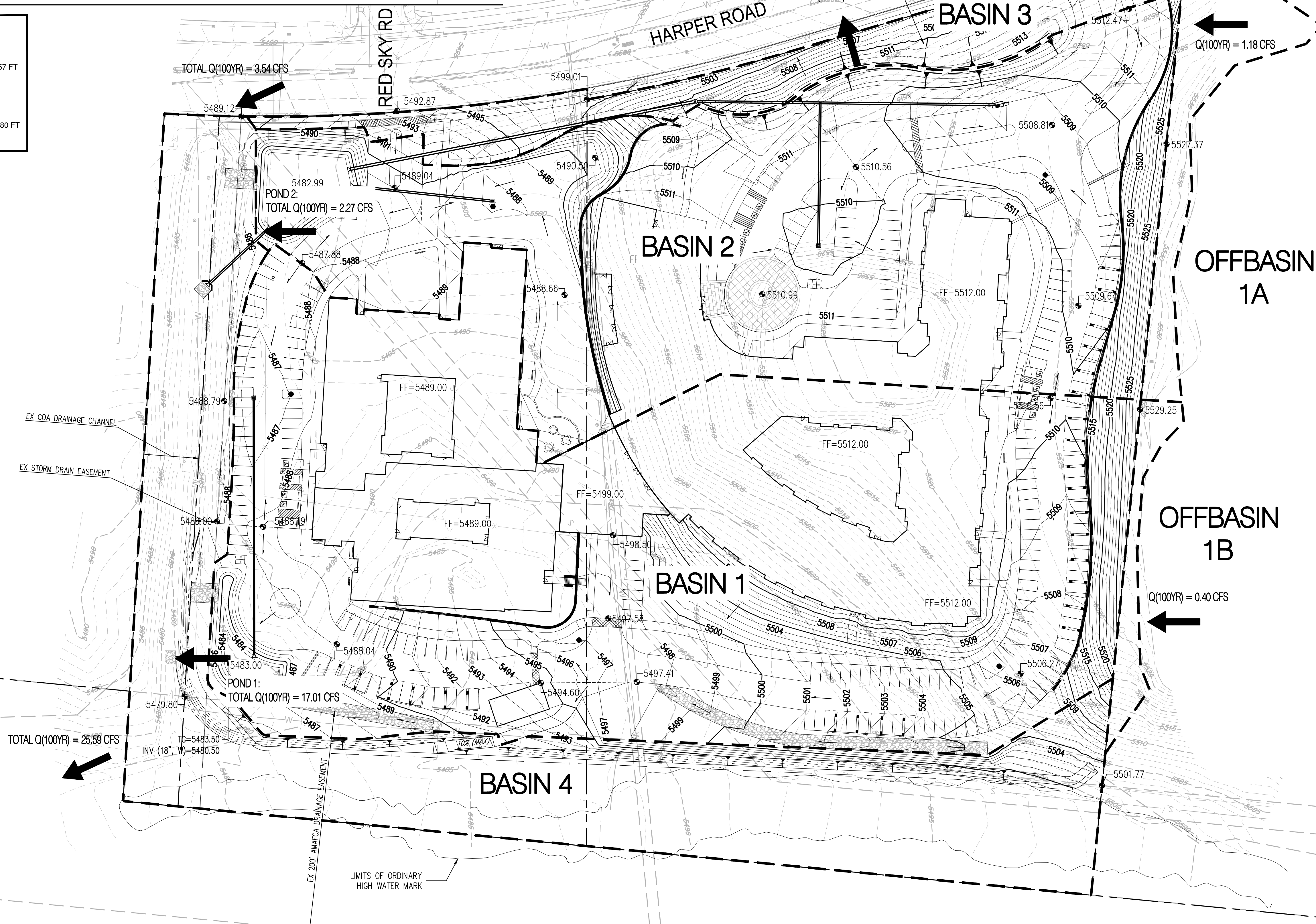
POND DATA TABLE:

POND 1:

BOTTOM OF POND: 5483.50 FT
MAXIMUM WATER SURFACE ELEVATION: 5486.57 FT
TOP OF POND: 5487.00 FT
DISCHARGE RATE: 17.01 CFS

POND 2:

BOTTOM OF POND: 5483.00 FT
MAXIMUM WATER SURFACE ELEVATION: 5486.80 FT
TOP OF POND: 5487.00 FT
DISCHARGE RATE: 2.27 CFS



PROPOSED DRAINAGE NARRATIVE

PROPOSED CONDITIONS:

UNDER PROPOSED CONDITIONS, THE ONSITE BASINS WERE MODIFIED SO THAT BASIN 1 DRAINS TO DETENTION POND 1 LOCATED AT THE SOUTHWEST CORNER OF THE SITE AND THAT BASIN 2 DRAINS TO DETENTION POND 2 LOCATED AT THE NORTHWEST CORNER.

THE FINISHED FLOOR ELEVATIONS WERE ESTABLISHED IN AN EFFORT TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING AND REMAIN HIGHER THAN THE ADJACENT ARROYO WATER SURFACE ELEVATION. THE PROPOSED SITE GRADING WILL CONTINUE TO GENERALLY SLOPE FROM EAST TO WEST. THE EXISTING PINO ARROYO IS DESIGNED FOR ULTIMATE DEVELOPED CONDITIONS, HOWEVER TO BE CONSERVATIVE, THE DISCHARGE FROM THE PROPOSED CONDITIONS IS ANTICIPATED TO NOT EXCEED EXISTING CONDITIONS BY UTILIZING TWO ONSITE DETENTION PONDS WITH RESTRICTED OUTFLOWS.

LANDSCAPED AREAS THROUGHOUT THE SITE WILL BE DEPRESSED IN AN EFFORT TO ADDRESS THE COA FIRST FLUSH REQUIREMENTS. ANY VOLUME NOT RETAINED WILL BE PAID FOR CASH INLIEU. THERE IS SIGNIFICANT GRADE CHANGE THROUGHOUT THE SITE WHICH WILL REQUIRE RETAINING WALLS AND 3:1 SLOPES. THE FINISHED FLOOR ELEVATIONS OF THE BUILDINGS WILL WORK WITH THE EXISTING TOPOGRAPHY TO HELP WITH EARTHWORK.

BASED ON THE PROPOSED GRADING PLAN, THE PROPOSED SITE WAS BROKEN INTO FOUR ONSITE BASINS AND TWO OFFSITE BASINS.

BASIN 1 IS APPROXIMATELY 6.42 ACRES AND CONSISTS OF MOSTLY IMPERVIOUS PAVEMENT/ROOF AREAS AND SOME LANDSCAPE AREAS. THIS BASIN JOINS OFFSITE BASIN 1B AND DRAINS 29.98 CFS INTO POND 1.

BASIN 2 IS APPROXIMATELY 4.60 ACRES AND CONSISTS OF MOSTLY IMPERVIOUS PAVEMENT/ROOF AREAS AND SOME LANDSCAPE AREAS. THIS BASIN JOINS OFFSITE BASIN 1A AND DRAINS 21.53 CFS TO THE WEST INTO POND 2.

BASIN 3 IS APPROXIMATELY 0.74 ACRES AND CONSISTS OF STEEP LANDSCAPE AREAS. THIS BASIN DRAINS TO THE NORTH OFF THE PROPERTY AND RELEASES 3.54 CFS INTO THE HARPER ROAD RIGHT OF WAY.

BASIN 4 IS APPROXIMATELY 3.11 ACRES AND CONSISTS OF LANDSCAPE AREA AND STEEP SLOPES. THIS BASIN IS MAINLY THE EXISTING SWALE LOCATED WITHIN THE EASEMENT ON THE WEST SIDE OF THE PROPERTY AND SOME AREA AT THE SOUTH END OF THE PROPERTY. THIS BASIN DRAINS 6.31 CFS TO THE SOUTH AND WEST AND THEN DISCHARGES TO THE SOUTHWEST CORNER OF THE PROPERTY.

THE TOTAL FLOW DEVELOPED FROM BASIN 1 AND 1B FLOWS TO DETENTION POND 1 AT A PEAK INFLOW RATE OF 29.98 CFS. THE MAXIMUM WATER SURFACE ELEVATION IS 5486.57 FT. THE PROPOSED POND HAS A VOLUME OF APPROXIMATELY 0.23 AC-FT. THE TOP OF POND IS AT AN ELEVATION OF 5487.00 FT. THIS PROVIDES APPROXIMATELY 0.50 FT OF FREEBOARD DURING THE 100 YEAR EVENT. THE PEAK DISCHARGE FROM POND 1 IS 17.01 CFS.

THE TOTAL FLOW DEVELOPED FROM BASIN 2 AND 1A FLOWS TO DETENTION POND 2 AT A PEAK INFLOW RATE OF 21.53 CFS. THE MAXIMUM WATER SURFACE ELEVATION IS 5486.80 FT. THE PROPOSED POND HAS A VOLUME OF APPROXIMATELY 0.50 AC-FT. THE PEAK DISCHARGE FROM POND 2 IS 2.27 CFS.

A LETTER OF MAP REVISION (LOMR) IS NECESSARY TO ELIMINATE THE EXISTING FEMA FLOOD ZONE CURRENTLY ENCRANCHING ON TO THE SITE. THIS EFFORT REQUIRES COORDINATION WITH FEMA, AMAFCA, AND THE ARMY CORPS OF ENGINEERS. THE RESULTANT IMPROVEMENTS PROPOSED WILL BE A COLORED SHOTCRETE BANK STABILIZATION CONSTRUCTED AT THE NORTH SIDE OF THE EXISTING ARROYO ALONG THE ENTIRE FRONTAGE OF THE SITE. THIS STABILIZATION WILL BE CONSTRUCTED AT 2:1 SLOPE AND A MINIMUM OF 4-5 FEET IN HEIGHT. COORDINATION DIRECTLY WITH THE REVIEWING ENTITIES AND THE EXACT LOCATION IS CURRENTLY BEING REVIEWED AND DETERMINED.

CONCLUSION:

WITH THE PROPOSED POND VOLUME AND PROPOSED CONTROLLED OUTFLOWS, THE TOTAL PEAK DISCHARGE FROM THE SITE IS LESS THAN THE EXISTING CONDITIONS. THEREFORE WE ARE IN CONFORMANCE WITH THE CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS. WITH THIS SUBMITTAL WE ARE REQUESTING CITY OF ALBUQUERQUE HYDROLOGY SITE PLAN FOR BUILDING PERMIT APPROVAL.



NOT FOR CONSTRUCTION

GRADING LEGEND

- PROPERTY LINE
- PROJECT LIMITS OF GRADING
- - - 5025 EXISTING INDEX CONTOUR
- - - 5024 EXISTING INTERMEDIATE CONTOUR
- ⊕ 5025.25 EXISTING GROUND SPOT ELEVATION
- - - 5025 PROPOSED INDEX CONTOUR
- - - 5024 PROPOSED INTERMEDIATE CONTOUR
- - - PROPOSED FLOW LINE
- ⊕ 26.75 PROPOSED FINISHED GRADE SPOT ELEVATION
- TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK, TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW
- PROPOSED CURB & GUTTER
- DIRECTION OF FLOW
- WATER BLOCK/GRADE BREAK
- PROPOSED STORM DRAIN LINE
- ⊕ PROPOSED STORM DRAIN MANHOLE
- ⊕ PROPOSED STORM DRAIN INLETS
- PROPOSED RETAINING WALL
- EASEMENT
- PROPOSED WATER HARVESTING AREAS (FIRST FLUSH REQUIREMENT)

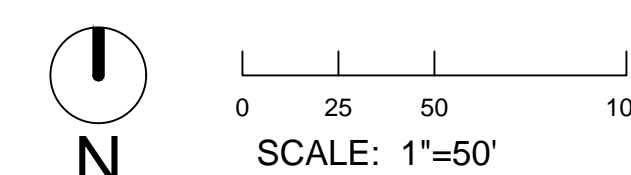


Architecture + Planning
888.456.5849
ktgy.com



Senior Resource Group
500 Stephens Avenue
Solana Beach, CA 92075

HARPER ROAD SENIOR LIVING
ALBUQUERQUE, NM # 2017-0235

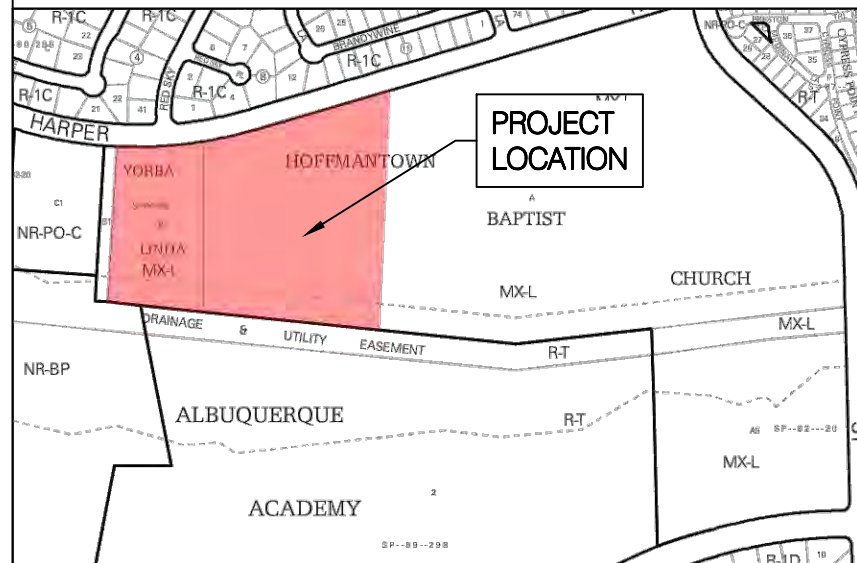


PROPOSED DMP
FEBRUARY 4, 2019

C-002

VICINITY MAP

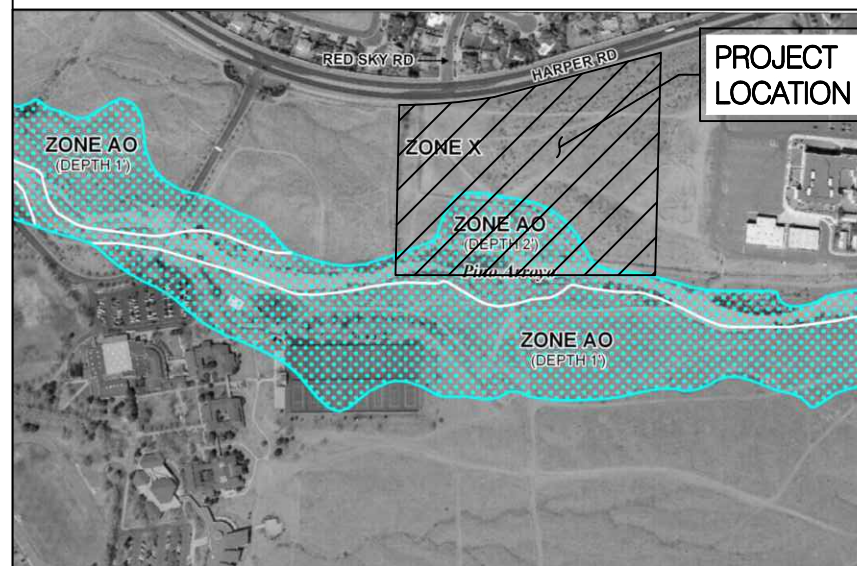
ZONE MAP E-20-Z



LEGAL DESCRIPTION
TRACT A-2 HOFFMANTOWN BAPTIST CHURCH SITE

FEMA FIRM

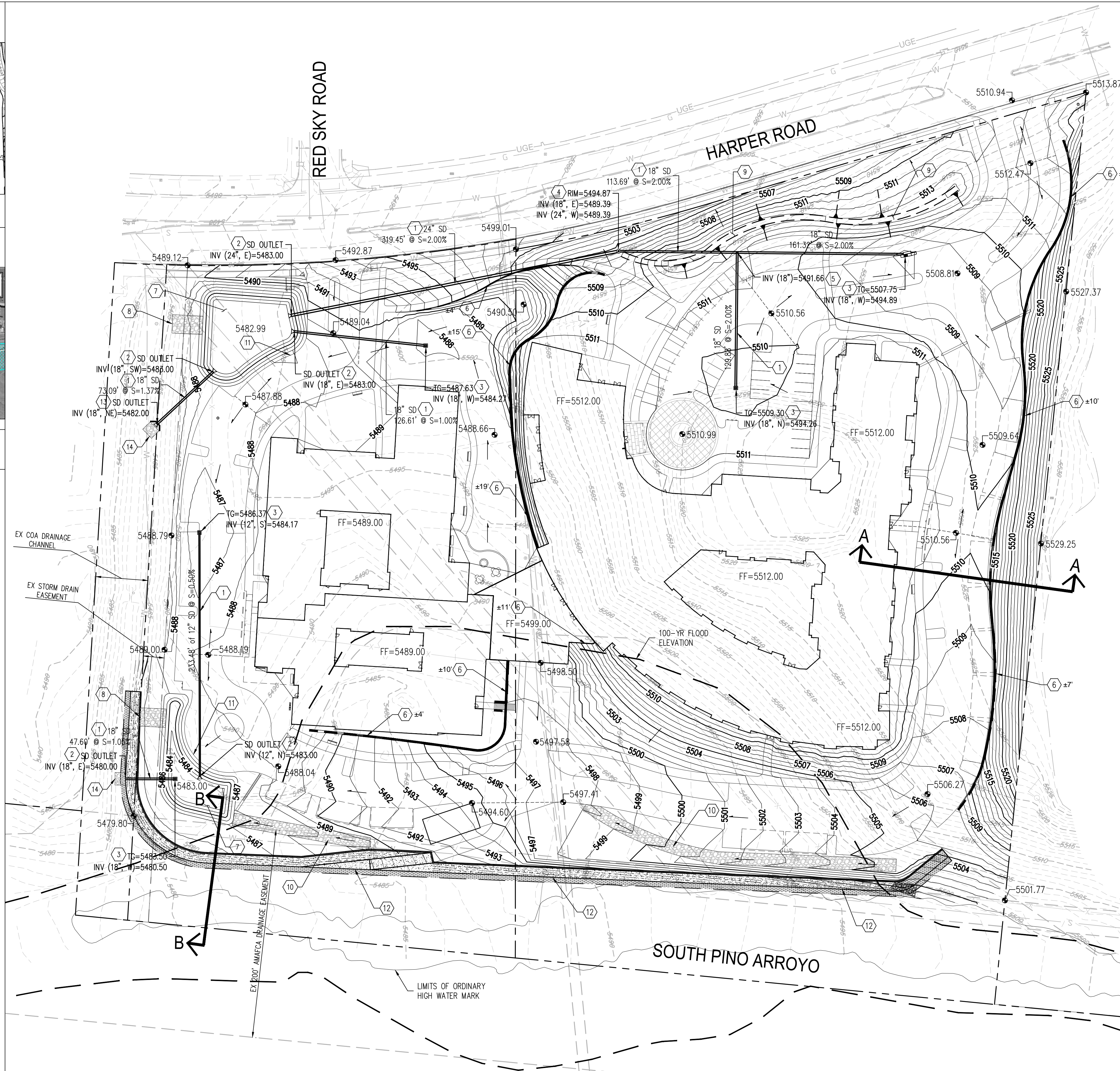
MAP # 35001C0143G; MAP REVISED 9.26.08



BENCHMARK

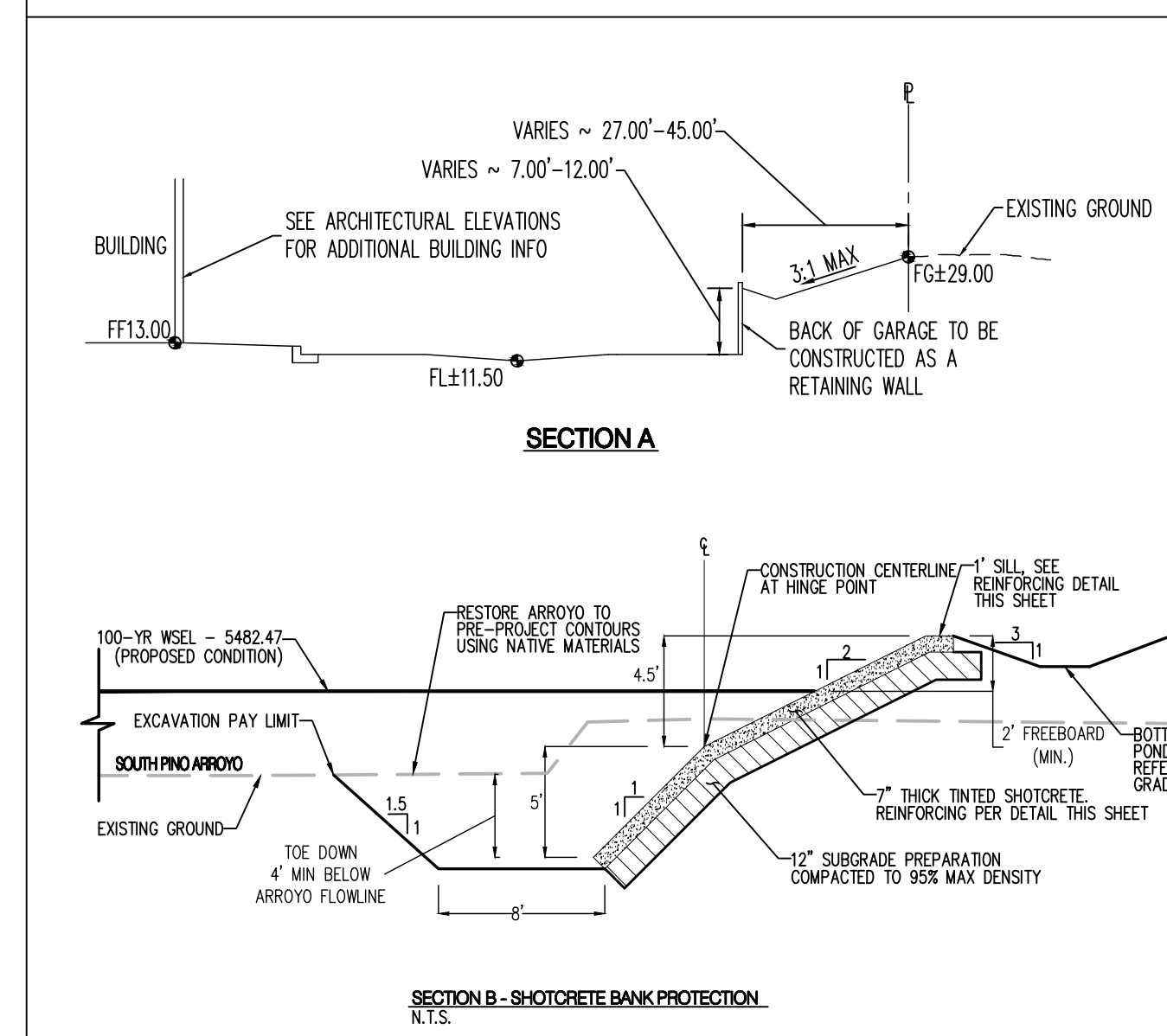
BHI 17-476-01 2" ALUMINUM CAP

NAD 83
NEW MEXICO CENTRAL ZONE
N= 1512351.739, E= 1551474.473
GROUND TO GRID= 0.999650558
NAVD88 ELEV= 5492.665



GRADING KEYNOTES

1. INSTALL STORM DRAIN PIPE.
2. INSTALL END SECTION.
3. INSTALL INLET.
4. INSTALL MANHOLE.
5. INSTALL STORM DRAIN FITTING.
6. RETAINING WALL.
7. DETENTION POND.
8. EMERGENCY OVERFLOW.
9. BERM.
10. SWALE.
11. CURB OPENING AND CONCRETE RUNDOWN
12. BANK STABILIZATION. A LETTER OF MAP REVISION (LOMR) IS NECESSARY TO ELIMINATE THE EXISTING FEMA FLOOD ZONE CURRENTLY ENCRoACHING ON TO THE SITE. THIS EFFORT REQUIRES COORDINATION WITH FEMA, ANAFCA, AND THE ARMY CORPS OF ENGINEERS. THE RESULTANT IMPROVEMENTS PROPOSED WILL BE A COLORED SHOTCRETE BANK STABILIZATION CONSTRUCTED AT THE NORTH SIDE OF THE EXISTING ARROYO ALONG THE ENTIRE FRONTAGE OF THE SITE. THIS STABILIZATION WILL BE CONSTRUCTED AT 2:1 SLOPE AND A MINIMUM OF 4-5 FEET IN HEIGHT. COORDINATION DIRECTLY WITH THE REVIEWING ENTITIES AND THE EXACT LOCATION IS CURRENTLY BEING REVIEWED AND DETERMINED.
13. INSTALL HEADWALL AT STORM DRAIN AT OUTFALL. ENSURE OUTFALL IS LOCATED AWAY FROM EXISTING DITCH FLOWLINE.
14. INSTALL ENERGY DISSIPATION RIP-RAP PAD.



NOT FOR CONSTRUCTION

GRADING LEGEND

---	PROPERTY LINE	---	PROPOSED CURB & GUTTER
---	PROJECT LIMITS OF GRADING	---	DIRECTION OF FLOW
---	EXISTING INDEX CONTOUR	---	WATER BLOCK/GRADE BREAK
---	EXISTING INTERMEDIATE CONTOUR	---	PROPOSED STORM DRAIN LINE
⊕ 5025.25	EXISTING GROUND SPOT ELEVATION	⊕	PROPOSED STORM DRAIN MANHOLE
---	PROPOSED INDEX CONTOUR	⊕	PROPOSED STORM DRAIN INLETS
---	PROPOSED INTERMEDIATE CONTOUR	---	PROPOSED RETAINING WALL
---	PROPOSED FLOW LINE	---	EASEMENT
⊕ 26.75	PROPOSED FINISHED GRADE SPOT ELEVATION		
	TC=TOP OF CURB,		
	FL=LOW LINE,		
	TS=TOP OF SIDEWALK		
	TG=TOP OF GRADE,		
	FGH=FINISH GROUND HIGH,		
	FGL=FINISH GROUND LOW		

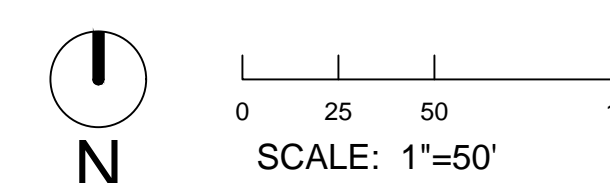


Architecture + Planning
888.456.5849
ktgy.com



Senior Resource Group
500 Stephens Avenue
Solana Beach, CA 92075

HARPER ROAD SENIOR LIVING
ALBUQUERQUE, NM # 2017-0235



CONCEPTUAL GRADING PLAN
FEBRUARY 4, 2019

C-100