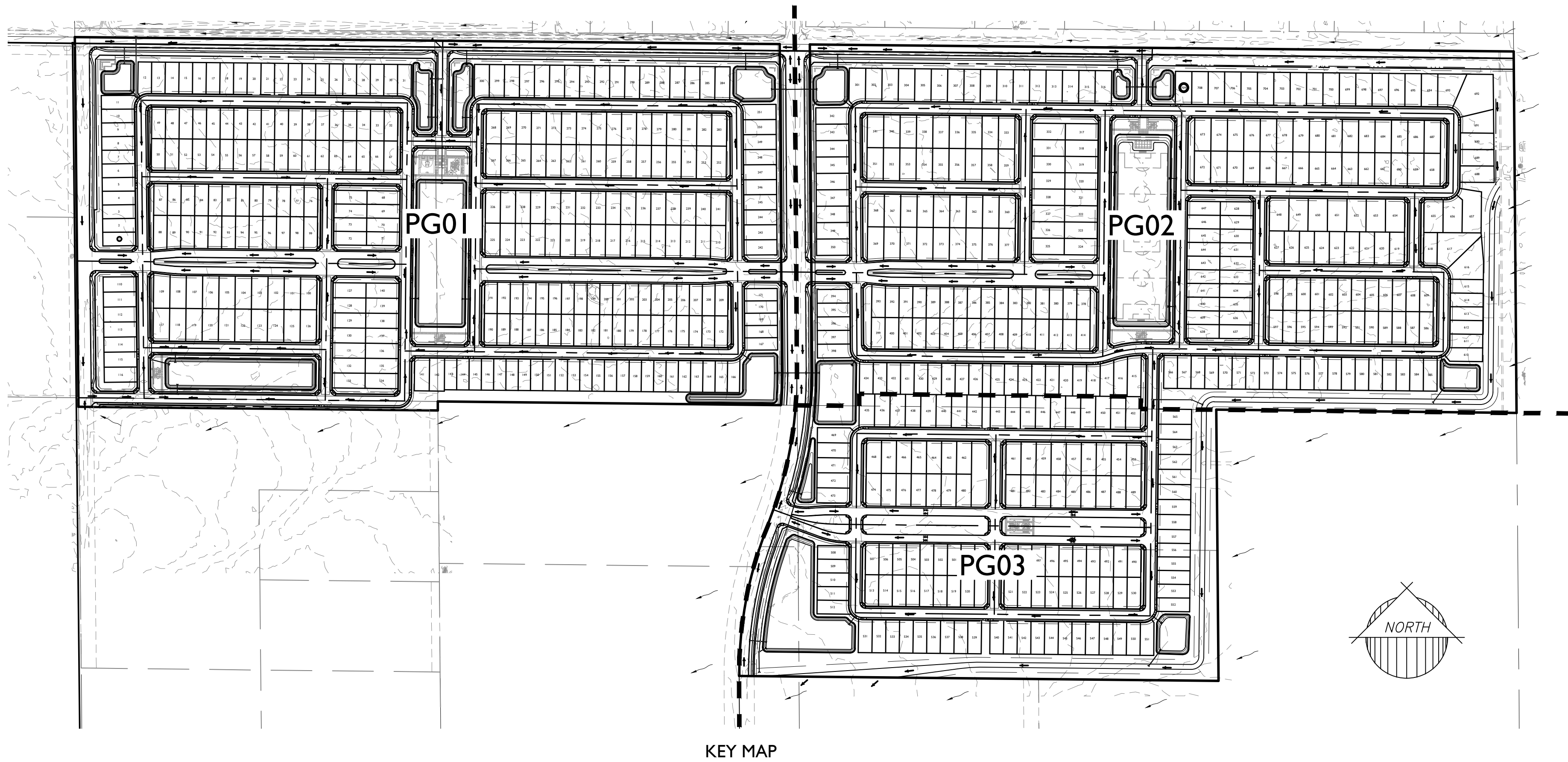


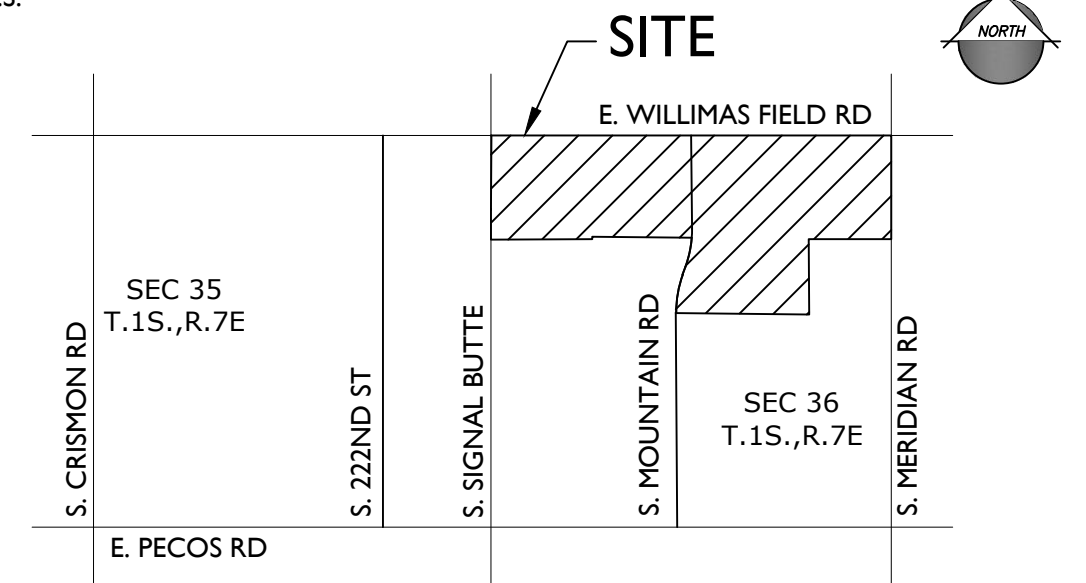
Retention Calculations									
Project:	Destination at Gateway								
Storm Event:	100-yr 2-hr								
Prepared by:	Naillie Gabbert								
	Date: 1/7/2019								
$V = C \times A \times P / 12^{(1)}$									
Where:									
V = Runoff Volume									
C = Runoff Coefficient									
A = Drainage Area									
P = 2.21 in									
Surface Retention Basin Volume Calculations									
Basin ID	Elevation	Area (ft ²)	Increasingly volume (ft ³)	Volume Provided, V _p (ft ³)	Volume Provided, V _p (ac-ft)				
B4	0	7,343							
	1	8,882	8,113						
	2	10,520	9,701						
	3	12,250	11,390	29,203	0.67				
B5	0	45,840							
	1	50,750	48,295						
	2	55,761	53,255						
	3	60,872	58,316	159,987	3.67				
B6A	0	7,990							
	1	9,765	8,724						
	2	11,852	10,681						
	3	14,244	13,099	32,685	0.75				
B6B	0	7,875							
	1	9,925	8,900						
	2	12,074	11,000						
	3	14,327	13,201	33,102	0.76				
B8	0	81,514							
	1	88,920	84,217						
	2	92,426	89,873						
	3	96,032	95,229	269,119	6.18				
B9	0	12,502							
	1	14,250	13,391						
	2	15,159	15,220						
	3	16,133	17,149	45,759	1.05				
B10	0	17,854							
	1	21,325	19,495						
	2	25,088	23,207						
	3	28,951	27,019	69,721	1.60				
B11	0	10,925							
	1	12,568	11,758						
	2	14,348	13,487						
	3	16,210	15,279	40,502	0.93				
B12	0	85,807							
	1	28,501	57,154						
	2	31,295	29,898						
	3	34,190	32,743	119,795	2.75				
B13A	0	3,730							
	1	4,758	4,249						
	2	5,809	5,337						
	3	7,145	6,525	16,111	0.37				
B13B	0	2,255							
	1	3,255	2,755						
	2	4,290	3,776						
	3	5,430	4,853	11,394	0.26				
B14	0	116,619							
	1	126,775	121,697						
	2	135,250	131,018						
	3	143,885	139,822	392,337	9.01				
B15	0	2,933							
	1	4,614	3,774						
	2	6,787	5,691						
	3	8,855	7,811	17,275	0.40				
B16	0	67,017							
	1	72,434	69,725						
	2	77,957	75,201						
	3	83,617	80,792	225,715	5.18				
B17	0	8,895							
	1	10,551	9,723						
	2	12,345	11,448						
	3	14,250	13,297	34,468	0.79				
B18	0	10,989							
	1	12,799	11,893						
	2	14,735	13,768						
	3	16,801	15,768	41,427	0.95				
Volume Required and Summary									
Retention Basin ID	Drainage Area ID	Sub-Basin Area Description	Contributing Area (ft ²)	C _n	Required Volume (ft ³)	Your O.K. Volume Provided, V _p (ft ³)			
B4	A5	Onsite	128,775	0.95	22,530.44				
		Total	128,775	0.95	22,530.44	29,203.47			
B5	A7	Onsite	125,193	0.95	21,886.23				
		Total	903,850	0.91	134,833.32	159,866.58			
B6A	A9	Onsite	80,330	0.95	15,452.84				
		Onsite	310,338	0.91	46,249.97				
		Excess to B6B			32,314.94				
		Total	396,419	0.94	29,397.88	32,554.91			
B6B		Excess from B6A			32,314.94				
		Total	0	#DIV/0!	32,314.94	33,101.58			
B8	A11	Onsite	1,438,051	0.91	214,521.20				
		Total	1,438,051	0.95	214,521.20	269,118.64			
B9	A12	Onsite	25,232	0.95	4,414.59				
		Onsite	85,651	0.91	12,715.98				
		Excess from B11			22,070.18				
		Total	110,883	0.94	39,268.34	45,759.21			
B10	A14	Onsite	294,895	0.91	44,001.56				
		Onsite	84,035	0.95	14,702.70				
		Total	379,002	0.94	58,704.27	59,721.31			
B11	A15	Onsite	93,429	0.95	16,345.24				
		Onsite	287,034	0.91	42,816.29				
		Excess to B9			22,070.18				
		Total	380,463	0.94	37,087.75	40,501.89			
B12	A18	Onsite	91,115	0.95	15,941.26				
		Onsite	508,674	0.91	75,612.86				
		Total	597,888	0.93	91,554.12	119,795.30			
B13A	A20	Onsite	120,325	0.95	21,155.99				
		Excess to B13B			6,045.29				
B13B	A21	Onsite	22,400	0.95	3,915.98				
		Excess from B13A			6,045.29				
B14	A22	Onsite	22,400	0.95	3,915.98				
		Onsite	1,891,371	0.91	282,145.34				
		Onsite	33,725	0.95	5,900.85				
		Total	1,925,098	0.91	288,045.99	392,337.38			
B15	A24	Onsite	51,695	0.95	9,044.51				
		Total	51,695	0.95	9,044.51	17,275.52			
B16	A25	Onsite	1,001,499	0.95	156,776.28				
		Onsite	105,345	0.95	9,700.48				
		Onsite	30,634	0.95	5,394.75				
		Total	1,137,577	0.92	171,871.33	225,177.83			
B17	A28	Onsite	201,249	0.95	31,505.47				
		Total	201,249	0.95	31,505.47	34,468.11			
B18	A29	Onsite	257,783	0.95	40,353.81				
		Total	257,783	0.95	40,353.81	41,427.13			

PRELIMINARY GRADING PLANS FOR DESTINATION AT GATEWAY

A PORTION OF THE NORTH HALF OF SECTION 36
TOWNSHIP 1 SOUTH, RANGE 7 EAST OF GILA AND SALT RIVER MERIDIAN,
MARICOPA COUNTY, ARIZONA



VICINITY MAP
N.T.S.



PROJECT TEAM

DEVELOPER:
FREEDOM COMMUNITIES, LLC
1256 W. CHANDLER BLVD, STE H
CHANDLER, AZ 85266
TEL: (480)-474-4385
FAX: (480)-814-0628
CONTACT: GARY LANE / BRENT HICKEY

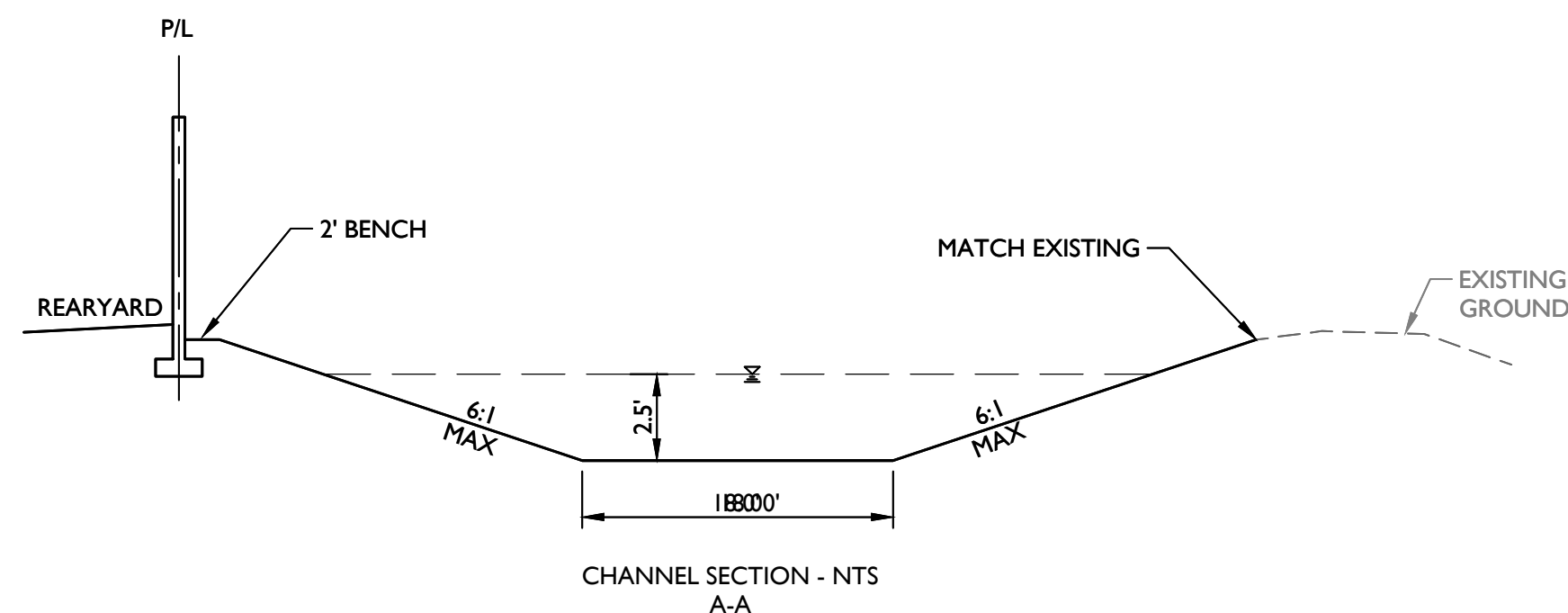
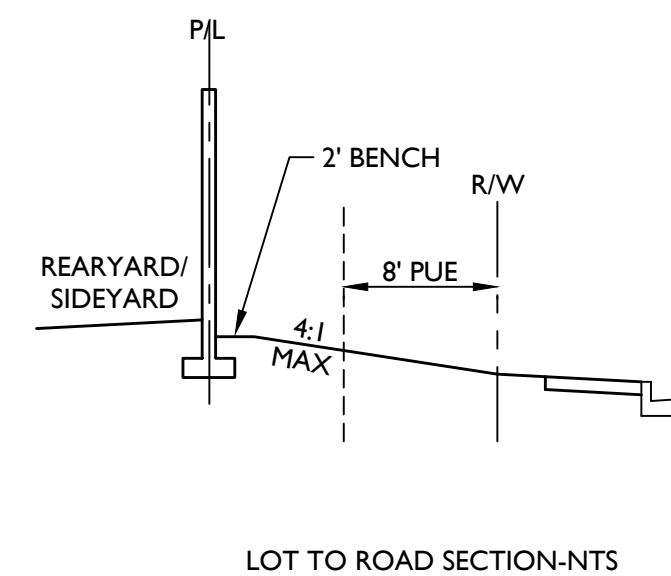
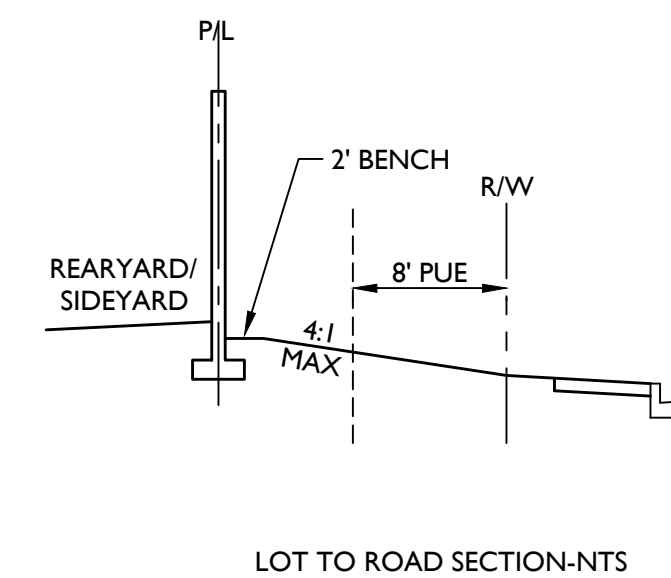
PLANNER, ENGINEER:
EPS GROUP, INC.
2045 S. VINEYARD, SUITE 101
MESA, AZ 85210
TEL: (480)-503-2250
FAX: (480)-503-2258
CONTACT: JOSEPH W. PETRUCCI, PE

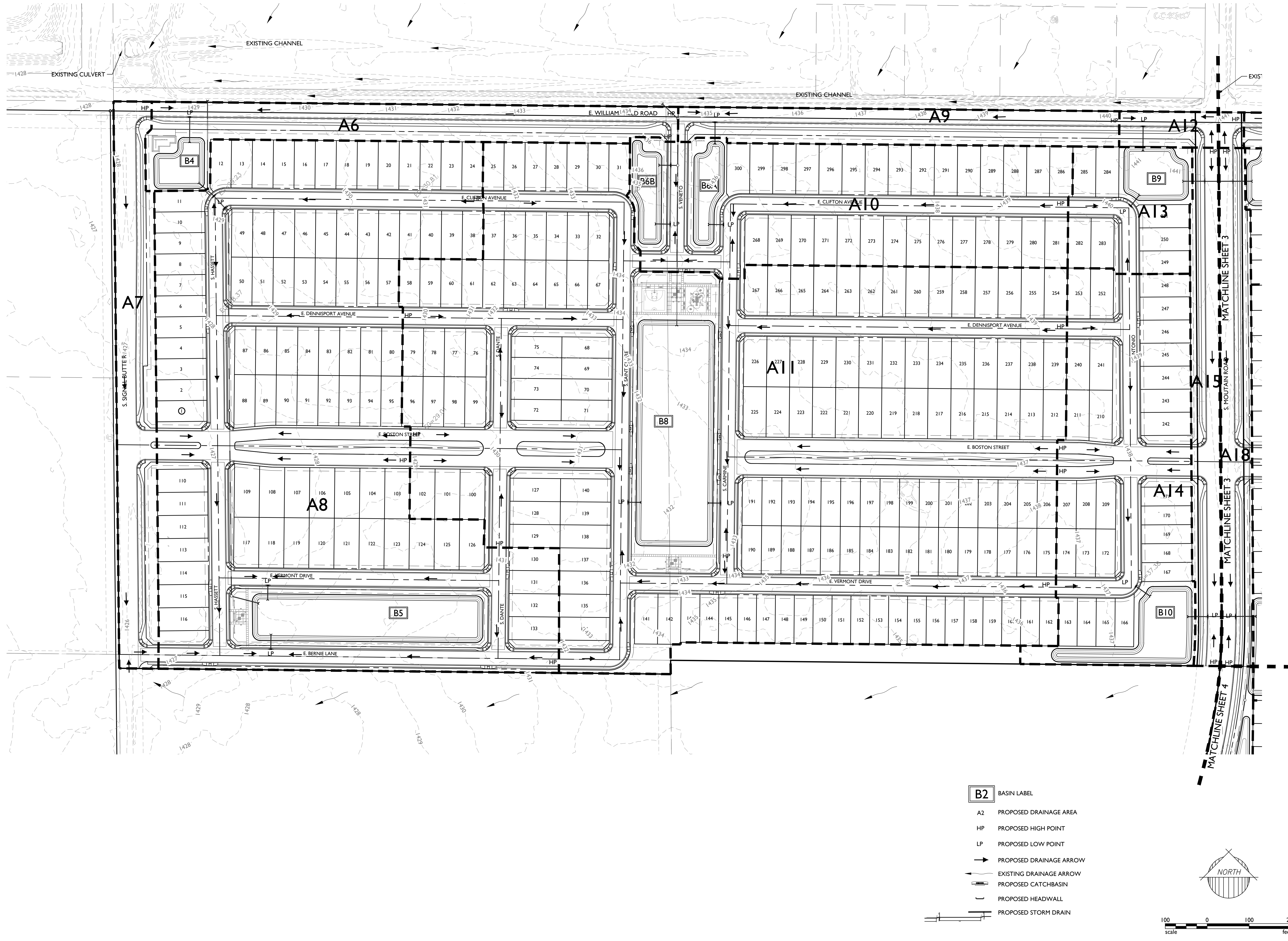
ATTORNEY:
PEW & LAKE, PLLC
1744 S. VAL VISTA DRIVE SUITE 217
MESA, AZ 85204
TEL: (480)-461-4670
CONTACT: SEAN B. LAKE

LANDSCAPE ARCHITECT:
THOMAS + CROWLEY, LLC
126 E. CONSTITUTION COURT
GILBERT, AZ 85296
TEL: (480)-878-4708
CONTACT: CRAIG CROWLEY, RLA

SHEET INDEX

SHEET 1	CS01	COVER SHEET
SHEET 2	PG01	PRELIMINARY GRADING PLAN
SHEET 3	PG02	PRELIMINARY GRADING PLAN
SHEET 4	PG03	PRELIMINARY GRADING PLAN





2045 S. Vineyard Ave, Suite 101
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Project:

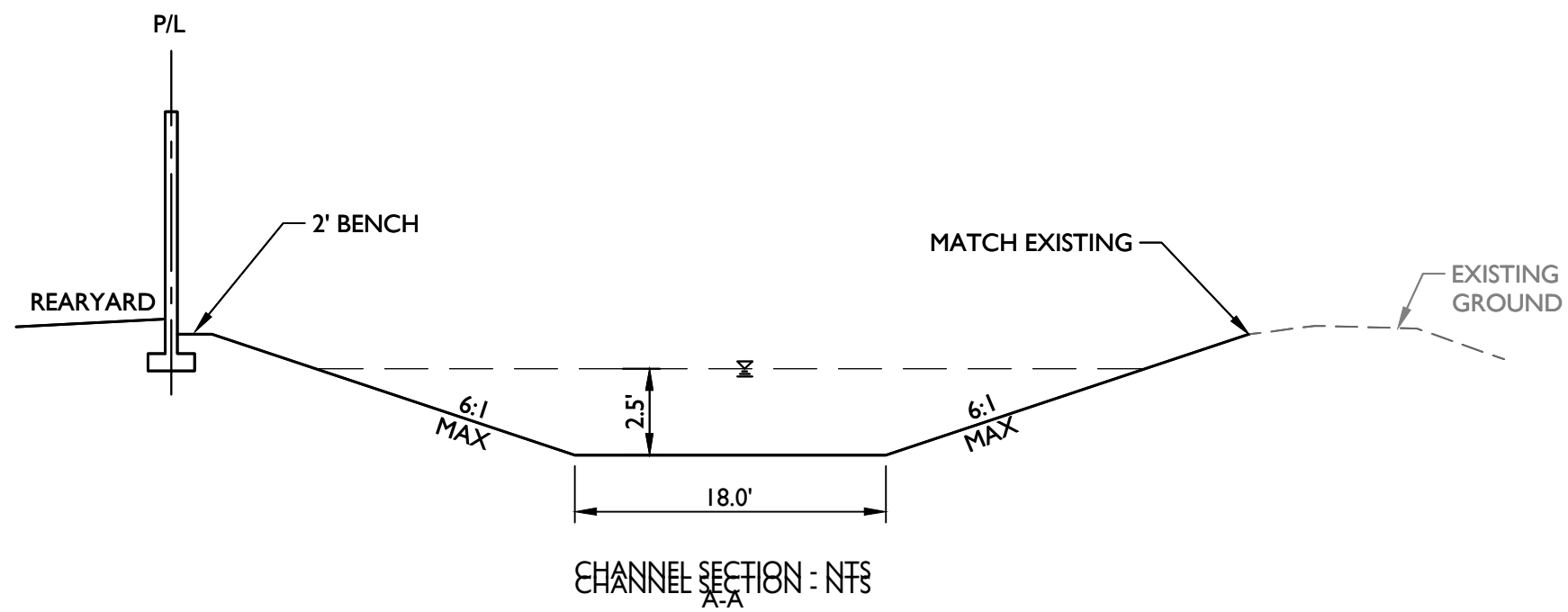
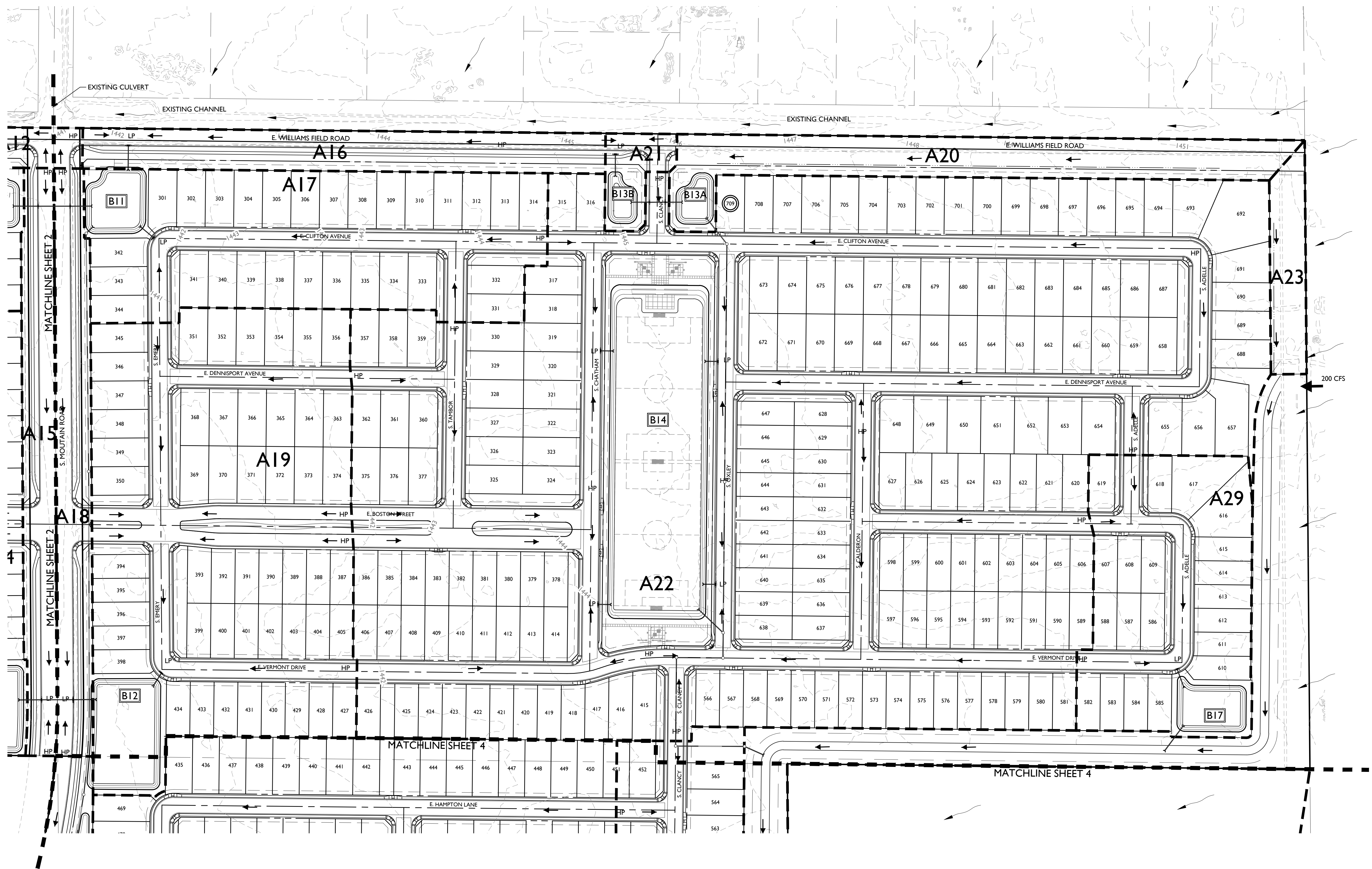
Revisions:

Design: JP
Drawn by: NLJ

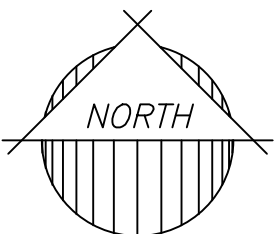
Job No.
17-199

PG01

Sheet No.
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- B2** BASIN LABEL
- A2 PROPOSED DRAINAGE AREA
 - HP PROPOSED HIGH POINT
 - LP PROPOSED LOW POINT
 - PROPOSED DRAINAGE ARROW
 - EXISTING DRAINAGE ARROW
 - ▭ PROPOSED CATCHBASIN
 - PROPOSED HEADWALL
 - PROPOSED STORM DRAIN



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EPS GROUP

Project: Destination at Gateway
Mesa, Arizona

Revisions:

Rev	Description	By	Date

Designer: JP
Drawn by: NLJ

Professional Engineer Seal:
54540 JOSEPH W. PETRUCCI
Arizona State Board of Professional Engineers and Surveyors

Job No. 17-199
PG02
Sheet No. 3 of 4

