

CITY OF ALBUQUERQUE

Hydrology Section Planning Department
David S. Campbell, Director



Timothy M. Keller, Mayor

October 24, 2018

Michael Balaskovits, PE
Bohannon-Huston
7500 Jefferson St NE Courtyard I
Albuquerque, NM 87109

**Re: Mesa Del Sol Montage Unit 3B
Grading and Drainage Plan Engineer's Stamp dated: 8/29/2018, Drainage
Report Engineer's Stamp dated 4/25/2014 (R16D006)**

Dear Mr. Balaskovits,

Based on the application received 10/12/2018, the above referenced plan cannot be approved for Preliminary Plat or Grading Permit until the following comments are addressed.

1. An Erosion and Sediment Control Plan must be submitted to Stormwater Quality prior to approval for Grading Permit.
2. The revised hydrology calculations shown on the updated Basin Map must be stamped and signed by a professional engineer licensed in the state of New Mexico.
3. The pond volume summary on the revised Basin Map is not adequate for review. Since this plan is revising the previous design of the ponds, a complete presentation of all related calculations is required. Detailed pond volume calculations are required including hydrology calculations and basin maps of all areas that drain to the ponds and volume calculations that show the area of each contour and the associated volume calculated using the conic equation. Show all pipes connecting to the ponds and provide HGL calculations for the pipes. Label 100-year water surface elevations and associated volumes of the ponds. Additional pond comments may be forthcoming after the design calculations are provided.
4. Provide HGL calculations per DPM and profiles showing HGL. The InRoads calculations in the report do not account for the minor losses using the DPM equations. An overall plan view and profiles should be included with the hydrology submittal and must agree with the G&D Plan. Profiles of all pipes, including the laterals, are required both in the Hydrology submittal and on the DRC plans. Programs proven to use Bernoulli's Equation, the momentum equation for junction losses, manhole losses, contraction losses, expansion losses, and bend losses per the DPM include, WSPGW - Water Surface Pressure Gradient by CivilDesign, HydroCad, and Stormwater Studio. The HEC-22 3rd Edition calculations agree with the DPM but the earlier editions do not use Bernoulli's correctly and that may be the problem here.

PO Box 1293

Albuquerque

NM 87103

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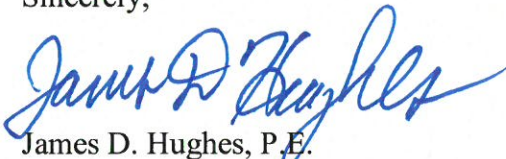
5. Show all retaining walls including those less than 2' and differentiate walls to be constructed by developer from walls to be deferred to builders.
6. Show typical sections at the walls showing both the interim grading that will be certified on the Engineer's Certification after the developer's work is complete and the future grading that will occur after the walls are built by the home builder. The typical sections should show the property lines and horizontal and vertical dimensions (maximum and minimum).
7. Show how the side yard walls will terminate, detailing the transition from 1.9' height to 0.0' height of retaining. Show that the grade is the same on both sides of the wall at the termination point. For example, there is a 1.9' grade difference between lots 8 and 9 in block 12 and lot 9 is 2' higher than the alley to the north. Show how the grade of lot 8 ties into the grade of the alley.
8. Add typical sections at walls, both retaining and garden walls, where they are next to right of ways showing that the footer does not encroach into the right of way.
9. Add the standard private maintenance note to the preliminary plat note regarding the drainage easement on the alleys.
10. More grading detail is needed on the interface between the alleys, the streets, and the lots. For example the side yard swale elevations at the rear of lot 9 block 12 and the right of way elevation of Witkin Street next to lot 9 is about 0.5' higher than the pad, and the pad is about 1.3' higher than the adjacent grade in the alley which seems to indicate that some drainage is going to the alley. Show the sidewalks on sheet 3
11. Several spot elevations on sheet 2 appear to be incongruous with the surrounding elevations:
 - a. Elevation 07.22 on the south side of Lot 5 Block 13 is 18" higher than the adjacent lot and street grades.
 - b. Elevation 04.97 on the west corner of Lot 9 Block 12 is about half of a foot low relative to the adjacent street grades
 - c. Elevation 04.01 on the east corner of Lot 6 Block 12 is 3.5' higher than the adjacent street.
 - d. Elevation 01.64 on the south corner of Lot 6 Block 12 is 18" lower than the adjacent lot and street grades.
 - e. Elevation 05.58 on the east corner of Lot 1 Block 15 is one foot too high relative to the adjacent lot and street grades.

All of the sheets need to be checked and fixed.

12. Hydrology review fees must be paid prior to the next review.

If you have any questions, please contact me at 924-3986 or e-mail jhughes@cabq.gov.

Sincerely,



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



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: MDS Montage Unit 3B **Building Permit #:** _____ **Hydrology File #:** R16/D006
DRB#: 2018-0013331 **EPC#:** _____ **Work Order#:** _____
Legal Description: _____
City Address: _____

Applicant: BHI **Contact:** Mike Balaskovits
Address: 7500 Jefferson St. NE
Phone#: 505-798-7891 **Fax#:** _____ **E-mail:** mbalaskovits@bhinc.com

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

TYPE OF DEVELOPMENT: ☒ (135) PLAT (# of lots) _____ RESIDENCE _____ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL? ☒ Yes _____ No

DEPARTMENT _____ TRANSPORTATION _____ HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION
- ☐ PAD CERTIFICATION
- ☐ CONCEPTUAL G & D PLAN
- ☒ GRADING PLAN
- ☒ DRAINAGE REPORT (Resubmittal)
- ☐ 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:

- ☐ 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: 10/12/18 **By:** Mike Balaskovits, PE

COA STAFF:

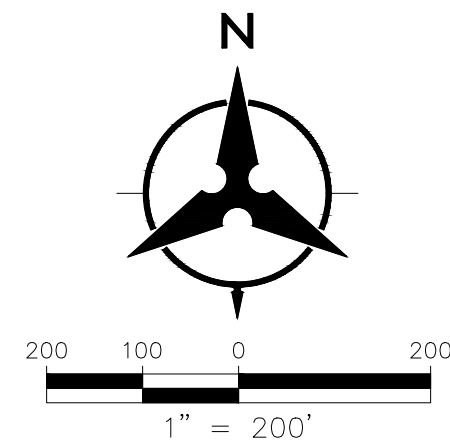
ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

UPDATED BASIN SUMMARY TABLE TO ACCOUNT FOR THE ADDITION OF 5 LOTS TO MONTAGE UNIT 3B

BASIN I.D.	AREA (AC)	REV UNITS	ORIGINAL UNITS	BASIN SUMMARY				ORIG-D	10 YR	DISCHARGE (CFS)		STORMWATER VOLUME		
				A	B	C	REV-D			100YR	ORIG-100YR	100 YR 6HR	100 YR 10-DAY	100Y-10D
Basin A-1	5.8	32	32	0.0%	23.0%	24.0%	53.0%	53.0%	13.29	21.83	21.83	0.76	1.17	1.17
Basin A-2	4.7	21	21	0.0%	27.0%	27.0%	46.0%	46.0%	10.16	17.01	17.01	0.58	0.87	0.87
Basin A-3	4.4	17	17	0.0%	29.5%	29.5%	41.0%	41.0%	9.11	15.49	15.49	0.53	0.77	0.77
Basin A-4	5.2	24	24	0.0%	26.5%	26.5%	47.0%	47.0%	11.33	18.92	18.92	0.65	0.98	0.98
Basin A-5	4.4	16	15	0.0%	30.4%	30.4%	38.2%	38.0%	8.97	15.33	15.22	0.52	0.75	0.74
Basin A-6	3.2	10	9	0.0%	34.1%	34.1%	31.9%	31.9%	7.05	12.35	12.21	0.41	0.57	0.55
Basin B-1	9.3	52	47	0.0%	23.1%	23.1%	53.0%	47.0%	21.43	35.13	33.85	1.23	1.90	1.75
Basin B-2	2.2	0	0	0.0%	22.4%	22.4%	55.2%	57.0%	10.47	17.11	17.27	0.60	0.93	0.95
Basin B-3	4.5	26	27	0.0%	22.4%	22.4%	55.2%	57.0%	10.47	17.11	17.27	0.60	0.93	0.95
Basin B-4	4.6	23	24	0.0%	25.3%	25.3%	49.5%	51.0%	10.23	16.97	17.11	0.59	0.89	0.91
Basin B-5	6.6	28	29	0.0%	28.1%	28.1%	43.8%	45.0%	14.00	23.60	23.76	0.81	1.19	1.21
Basin B-6	3.7	10	9	0.0%	34.1%	34.1%	31.9%	31.9%	7.05	12.35	12.21	0.41	0.57	0.55
Basin B-7	2.9	11	10	0.0%	29.8%	29.8%	40.4%	38.0%	5.97	10.17	10.03	0.34	0.50	0.48
Basin C	0.8	0	0	0.0%	35.0%	35.0%	25.0%	25.0%	3.96	7.09	7.09	0.23	0.30	0.30
Basin M	2.2	4	4	0.0%	35.0%	35.0%	25.0%	25.0%	3.96	7.09	7.09	0.23	0.30	0.30
Future Basin 1	8.8	n/a	n/a	0.0%	24.5%	24.5%	51.0%	51.0%	19.81	32.73	32.73	1.14	1.73	1.73
Future Basin 2	7.7	n/a	n/a	0.0%	24.5%	24.5%	51.0%	51.0%	17.34	28.64	28.64	0.99	1.52	1.52
Future Basin 3	10.3	n/a	n/a	0.0%	24.5%	24.5%	51.0%	51.0%	23.19	38.31	38.31	1.33	2.03	2.03
Future Basin 4	13.1	n/a	n/a	0.0%	24.5%	24.5%	51.0%	51.0%	29.50	48.72	48.72	1.69	2.58	2.58
Future Basin 5	61.1	n/a	n/a	0.0%	24.5%	24.5%	51.0%	51.0%	137.57	227.24	227.24	7.89	12.04	12.04
Future Basin 6	36.6	n/a	n/a	0.0%	12.5%	12.5%	75.0%	75.0%	88.28	153.64	153.64	5.58	9.24	9.24
TOTAL	202.1	286	281	5	<Lot difference				404.25	764.77	764.57	26.50	43.00	42.85
									Montage 3B Difference	130.7	129.5	6.72	6.58	
									Percentage Difference	12	0.14	0.14	2.12%	

MESA DEL SOL NEIGHBORHOOD MONTAGE UNITS 3 & 4 DEVELOPED CONDITIONS UPDATED BASIN MAP 10/2018



LEGEND	
	PROPOSED BASIN BOUNDARY
	EXISTING BASIN BOUNDARY
	BASIN FLOW DIRECTION

PREVIOUS BASIN SUMMARY TABLE FROM 2014

BASIN I.D.	AREA (AC)	DISCHARGE (CFS)		STORMWATER VOLUME	
		100YR	ORIG-100YR	100 YR 6HR	100 YR 10-DAY
Basin A-1	5.8	21.83	21.83	0.76	1.17
Basin A-2	4.7	17.01	17.01	0.58	0.87
Basin A-3	4.4	15.49	15.49	0.53	0.77
Basin A-4	5.2	18.92	18.92	0.65	0.98
Basin A-5	4.4	15.22	15.22	0.51	0.74
Basin A-6	3.2	10.75	10.75	0.36	0.50
Basin B-1	9.3	33.85	33.85	1.16	1.75
Basin B-2	2.2	7.96	7.96	0.27	0.41
Basin B-3	4.5	17.27	17.27	0.61	0.95
Basin B-4	4.6	17.11	17.11	0.59	0.91
Basin B-5	6.6	23.76	23.76	0.81	1.21
Basin B-6	3.7	12.21	12.21	0.40	0.55
Basin B-7	2.9	10.03	10.03	0.34	0.48
Basin C	0.8	2.80	2.80	0.09	0.14
Basin M	2.2	7.09	7.09	0.23	0.30
Future Basin 1	8.8	32.73	32.73	1.14	1.73
Future Basin 2	7.7	28.64	28.64	0.99	1.52
Future Basin 3	10.3	38.31	38.31	1.33	2.03
Future Basin 4	13.1	48.72	48.72	1.69	2.58
Future Basin 5	61.1	227.24	227.24	7.89	12.04
Future Basin 6	36.6	153.64	153.64	5.58	9.24

POND SUMMARY - FULLY DEVELOPED CONDITIONS			
POND	MAX WSE	REQ'D STORAGE VOLUME (AC-FT)	MAX DEPTH (FT)
1 (Future)		12.04	
2A	5300.0	3.98	5.5
2B	5300.0	7.82	11.0
3	5300.0	8.54	11.0
4	5297.0*	19.04	14*

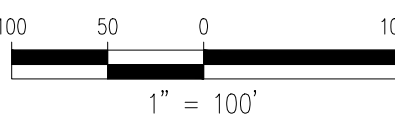
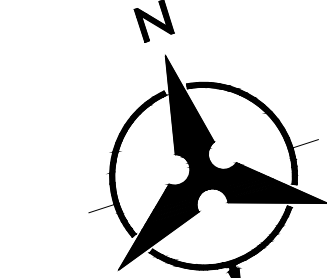
* Denotes pond to be designed in future

POND SUMMARY - REQUIRED VOLUMES FOR UNITS 3 AND 4				
POND	MAX WSE	REQ'D STORAGE VOLUME (AC-FT)	MAX DEPTH (FT)	MAX AVAILABLE VOLUME (AC-FT)
1 (Future)	NOT NEEDED	0.00	N/A	N/A
2A	5300.0	3.98	N/A	4.1
2B	5300.0	7.82	11.0	10.1
3	5300.0	8.54	11.0	10.1
4	5297.0	6.26	8.0	10.2

- NOTES:
- EXISTING POND 2A HAS ALREADY BEEN CONSTRUCTED AND CERTIFIED TO THE ABOVE VOLUME.
 - EXISTING POND 4 HAS BEEN CONSTRUCTED, AND CERTIFIED TO THE ABOVE VOLUME.
 - PONDS 2B AND 3 WILL BE UPSIZED BY THIS PROJECT TO ACCOMMODATE FLOWS FROM UNITS 3 AND 4 AS WELL AS EXISTING UNITS 1 AND 2.



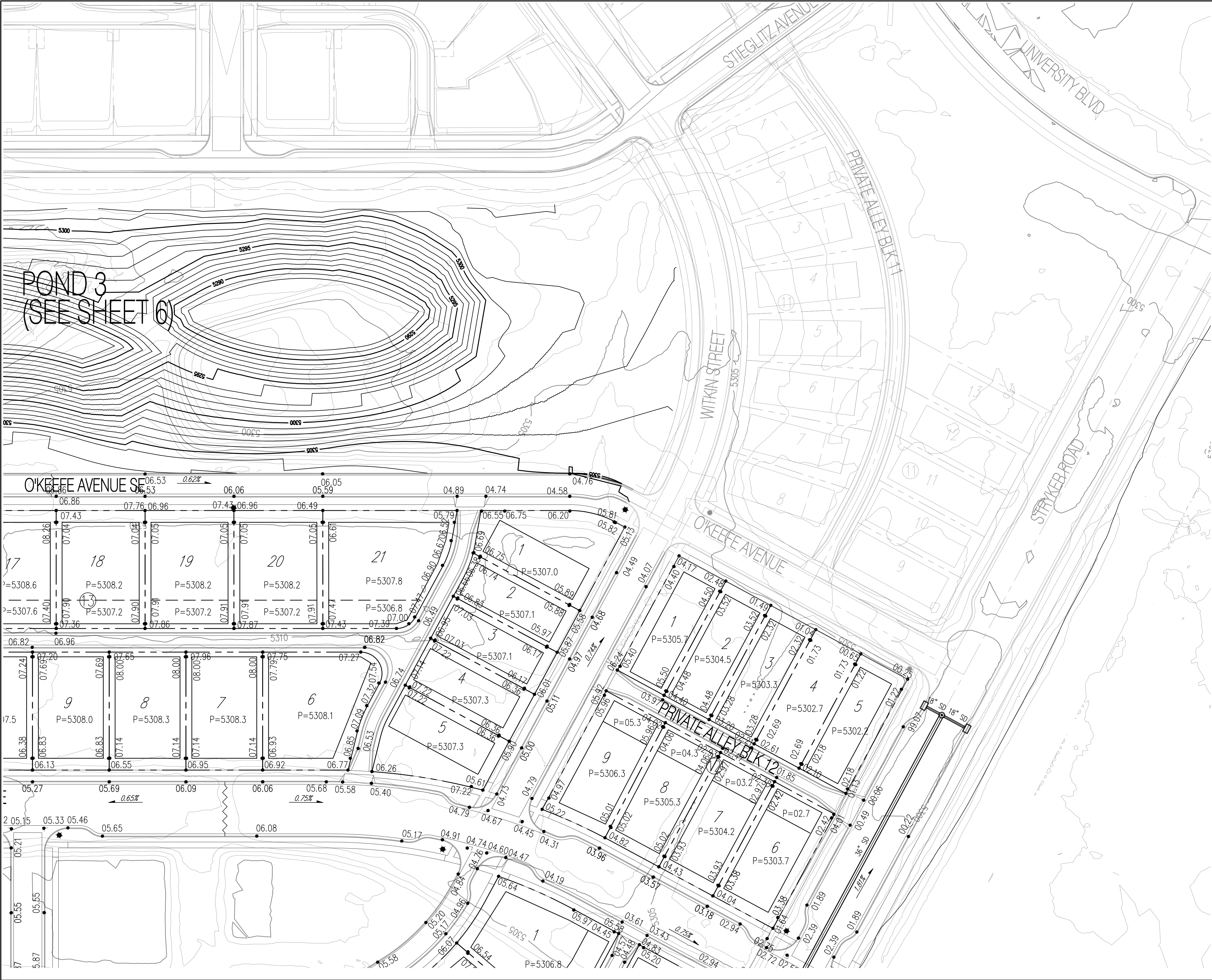
- GENERAL NOTES**
1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
 2. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATION AS NOTED IN THE SOILS REPORT BY GEO-TEST, INC. DATED 9-29-10
 3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
 4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL, SHEET 3B, AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
 5. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
 6. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.
 7. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.
 8. ALL LOTS ADJACENT TO UNIVERSITY SHALL DRAIN TO THE ALLEY AS PER GRADES SHOWN ON GRADING PLAN. ROOF DRAINAGE SHALL BE GUTTERED TO PREVENT THESE FLOWS FROM ENTERING UNIVERSITY BLVD.



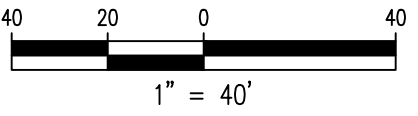
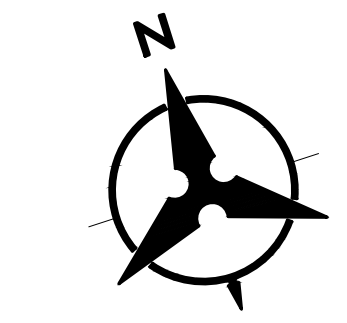
- LEGEND**
- (91.62) FUTURE SPOT ELEVATION
 - 91.62 PROPOSED SPOT ELEVATION
 - × 92.46 EXISTING SPOT ELEVATION (GRND & TC)
 - ===== EXISTING CURB & GUTTER
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 - ===== PROPOSED STANDARD CURB & GUTTER
 - 54.70 — EXISTING CONTOUR W/ INDEX ELEVATION
 - FLOW ARROW
 - ===== PROPOSED RETAINING WALL (TO BE BUILT BY HOME BUILDER)
 - ===== PROPOSED GARDEN WALL, CONCRETE FILLED TO 1-FOOT DEPTH
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 - ===== PROPOSED STORM DRAIN
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 - ===== PROPOSED CATTLE GUARD INLET
 - ===== WALL DRAIN
 - GRADING PHASE BOUNDARY

Bohannon & Huston
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		CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT	
MESA DEL SOL MONTAGE UNIT 3B GRADING AND DRAINAGE PLAN OVERALL			
Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
	R-15,16 S-15,16	1	6



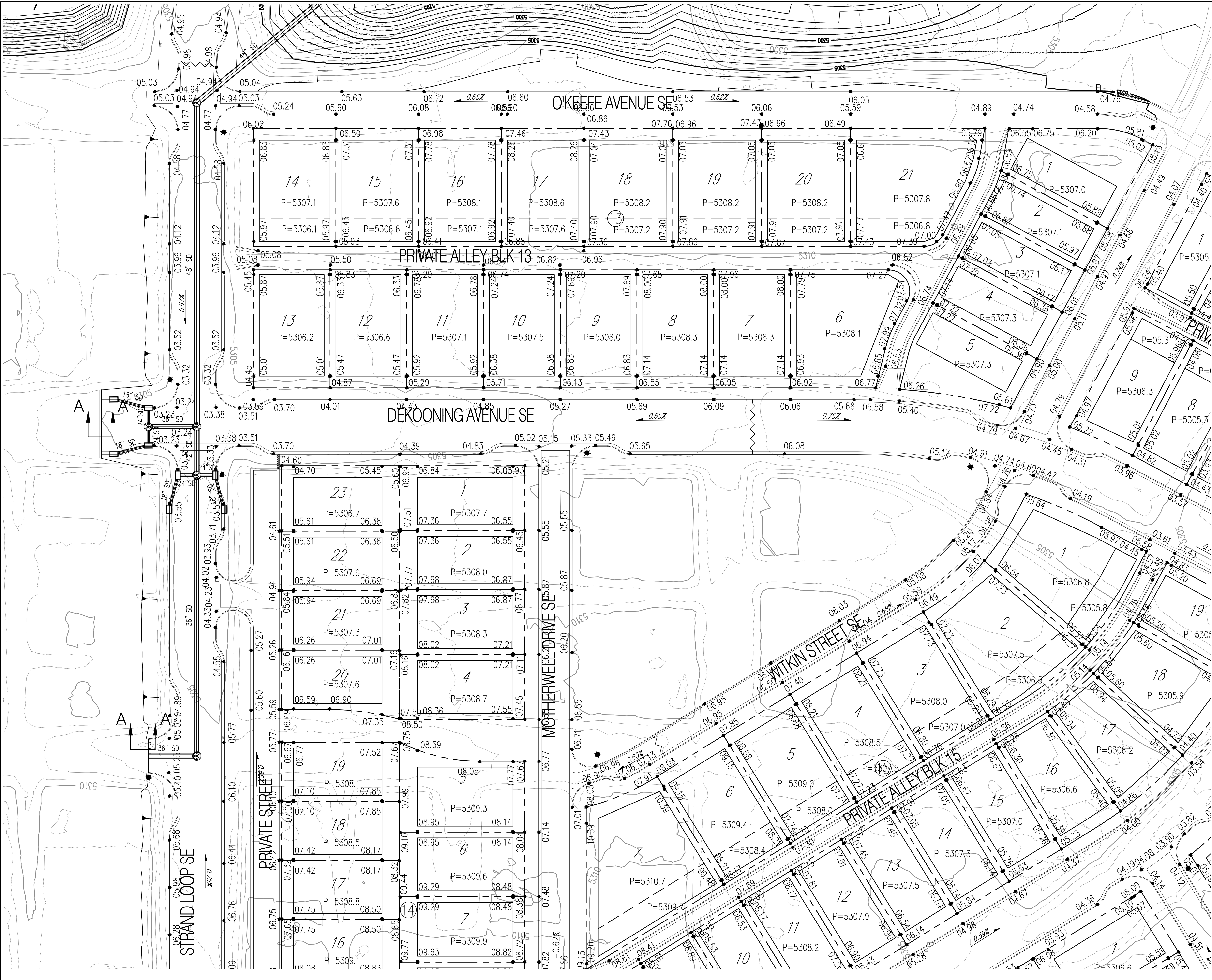
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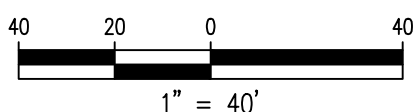
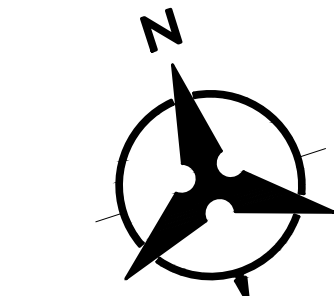
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		PUBLIC WORKS DEPARTMENT	
MESA DEL SOL MONTAGE UNIT 3B			
GRADING AND DRAINAGE PLAN			
Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
	R-15,16 S-15,16	2	6



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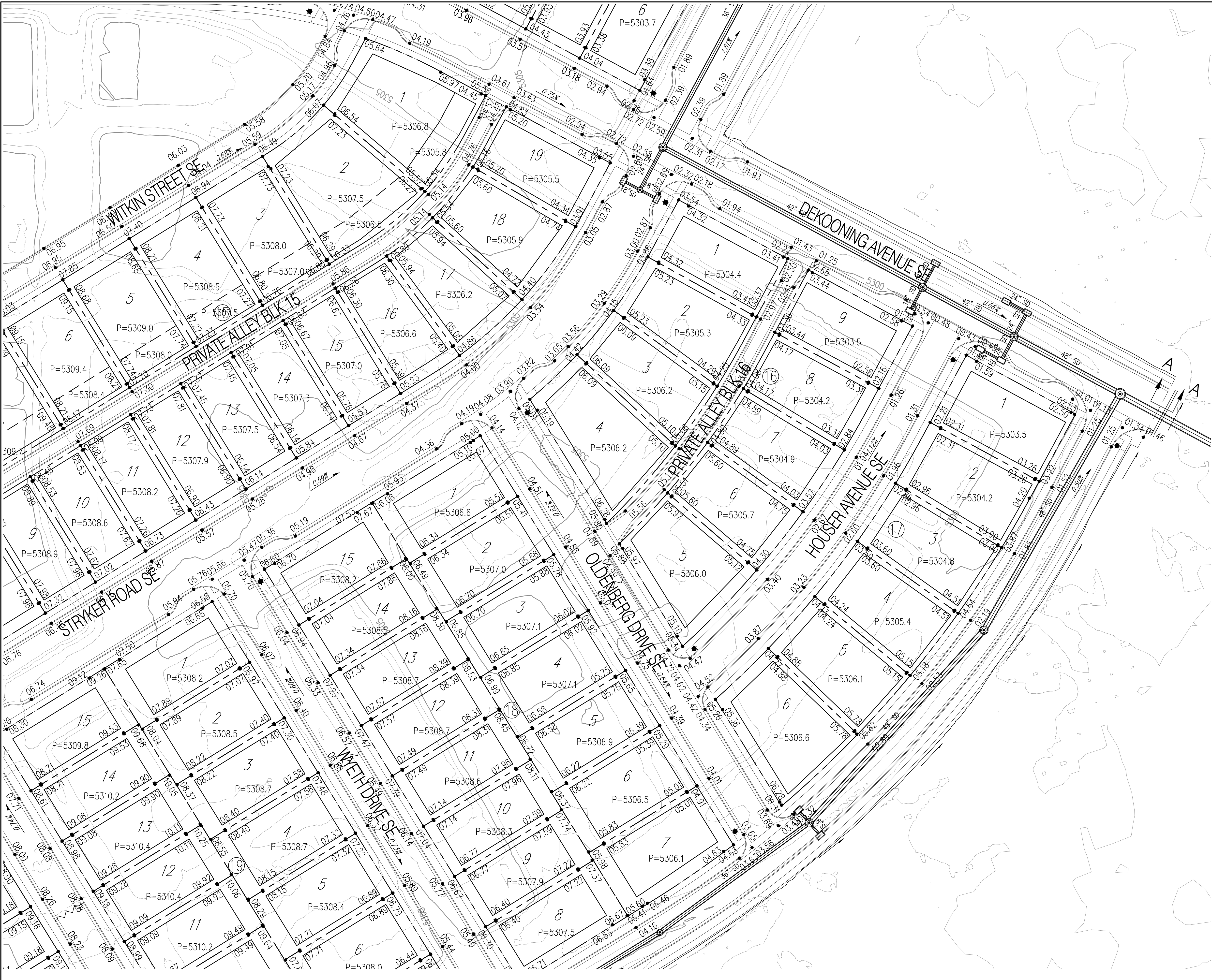
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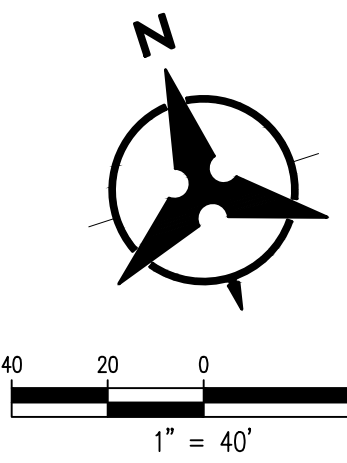
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		R-15,16 S-15,16	3	6



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 3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
 4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL, SHEET 3B, AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
 5. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
 6. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.
 7. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.
 8. ALL LOTS ADJACENT TO UNIVERSITY SHALL DRAIN TO THE ALLEY AS PER GRADES SHOWN ON GRADING PLAN. ROOF DRAINAGE SHALL BE GUTTERED TO PREVENT THESE FLOWS FROM ENTERING UNIVERSITY BLVD.



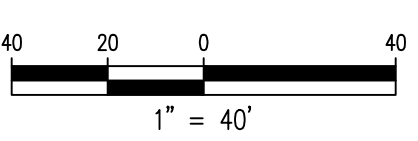
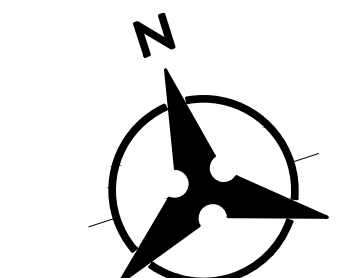
- LEGEND**
- (91.62) FUTURE SPOT ELEVATION
 - 91.62 PROPOSED SPOT ELEVATION
 - × 92.46 EXISTING SPOT ELEVATION (GRND & TC)
 - ===== EXISTING CURB & GUTTER
 - ===== PROPOSED MOUNTABLE CURB & GUTTER
 - ===== PROPOSED STANDARD CURB & GUTTER
 - EXISTING CONTOUR W/ INDEX ELEVATION
 - FLOW ARROW
 - ===== PROPOSED RETAINING WALL (TO BE BUILT BY HOME BUILDER)
 - ===== PROPOSED GARDEN WALL, CONCRETE FILLED TO 1-FOOT DEPTH
 - ===== PROPOSED SLOPE
 - ===== PROPOSED STORM DRAIN
 - PROPOSED STORM DRAIN MANHOLE
 - PROPOSED STORM DRAIN INLET
 - PROPOSED CATTLE GUARD INLET
 - WALL DRAIN
 - - - - - GRADING PHASE BOUNDARY

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		CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT	
MESA DEL SOL MONTAGE UNIT 3B GRADING AND DRAINAGE PLAN			
Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
	R-15,16 S-15,16	4	6



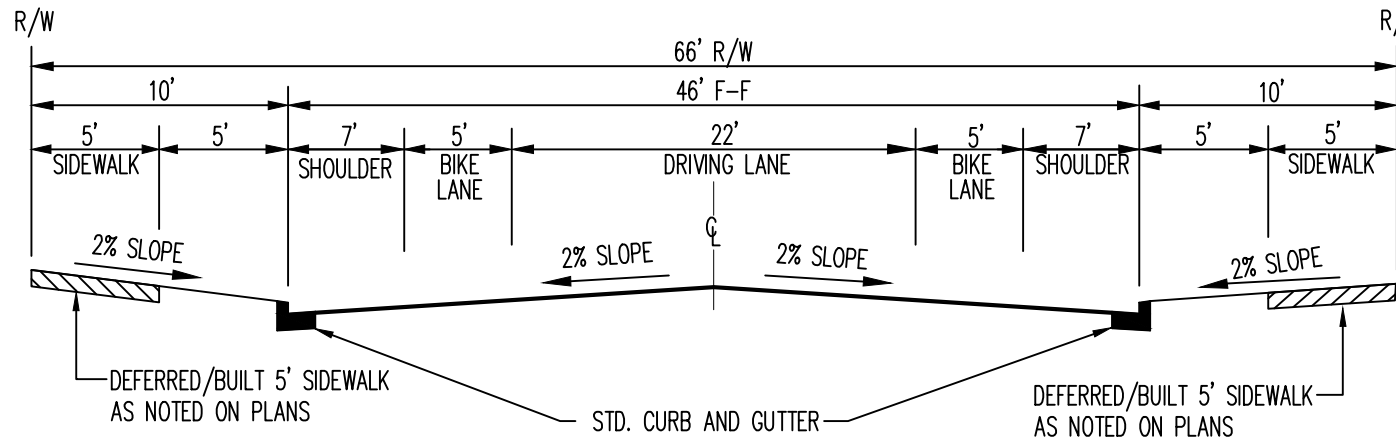
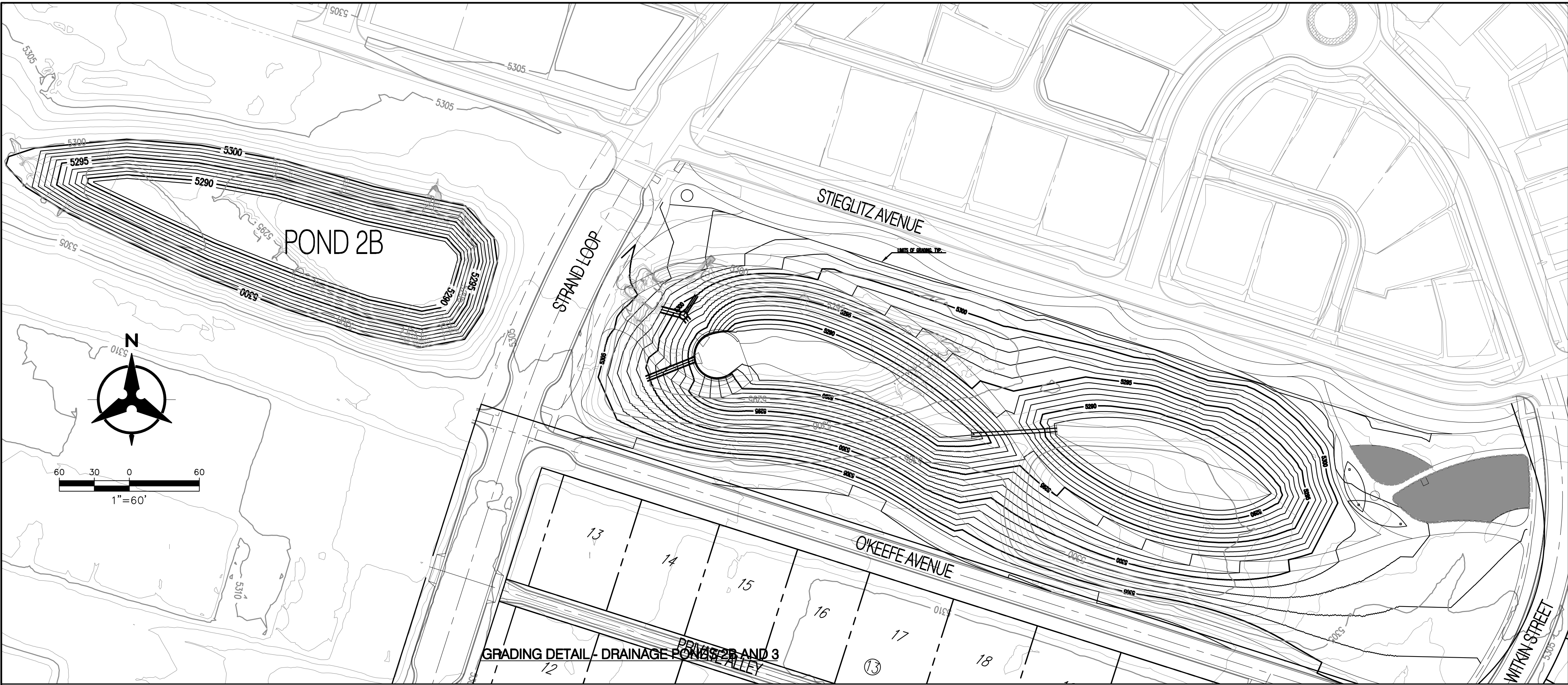
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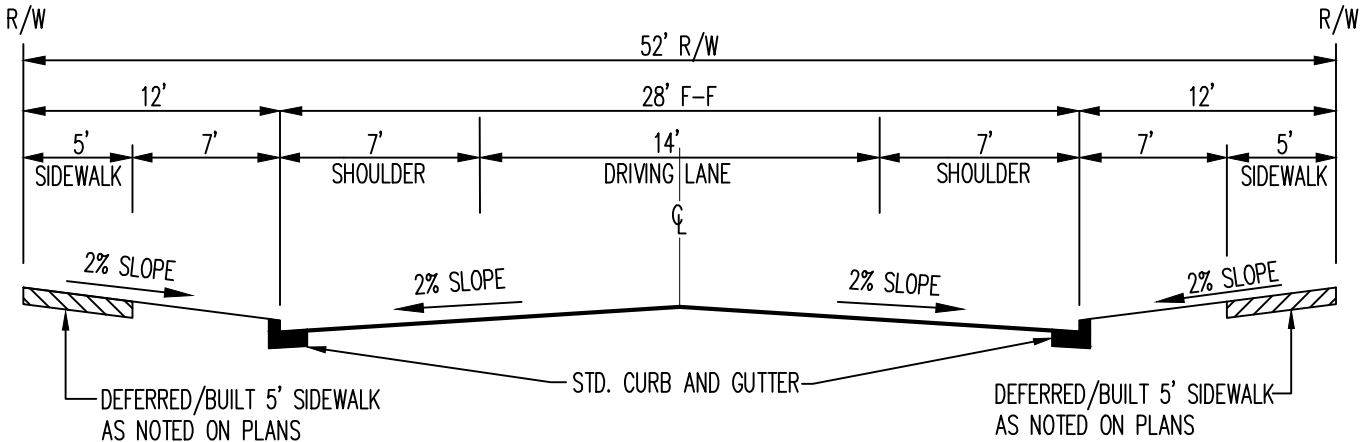
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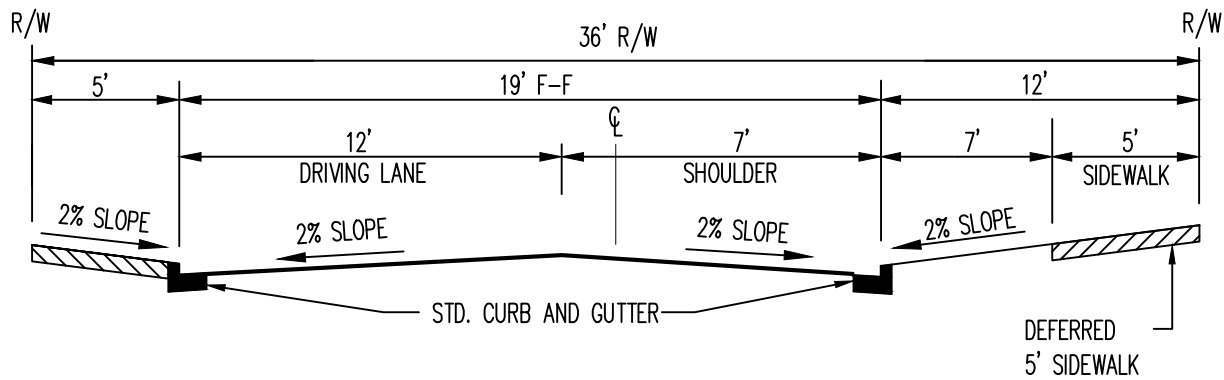
		CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT	
MESA DEL SOL MONTAGE UNIT 3B GRADING AND DRAINAGE PLAN			
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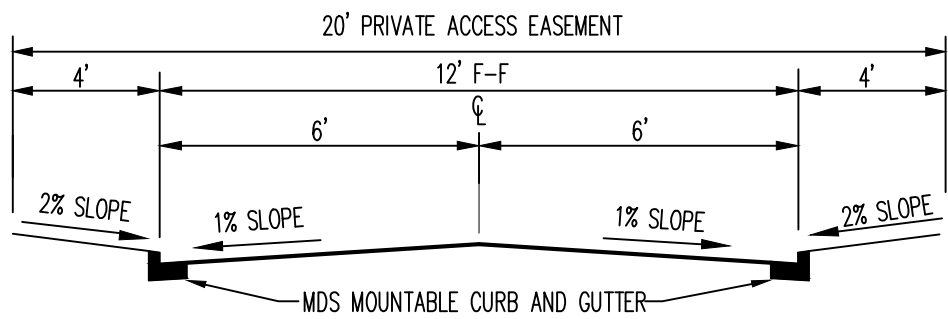
RESIDENTIAL PARKWAY CONNECTOR - 66' ROW
NOT TO SCALE
(REFERENCE STREET SECTION 2C PER LEVEL A MASTER PLAN)



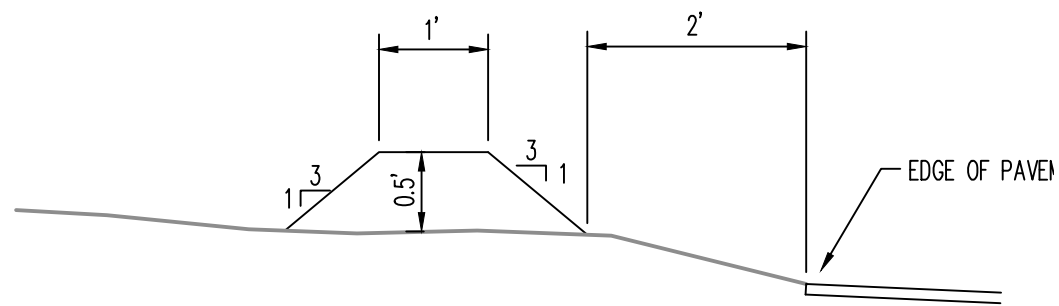
RESIDENTIAL LOCAL STREET - 52' ROW
NOT TO SCALE
(REFERENCE STREET SECTION 3C PER LEVEL A MASTER PLAN)



RESIDENTIAL LOCAL ONE-WAY
WITH PARK FRONTAGE - 36' ROW
NOT TO SCALE
(REFERENCE STREET SECTION 3E PER LEVEL A MASTER PLAN)



ALLEY TRACT - 20' PRIVATE ACCESS EASEMENT
NOT TO SCALE
(REFERENCE STREET SECTION 4A PER LEVEL A MASTER PLAN)



SECTION A-A
TYPICAL TEMPORARY BERM
NOT TO SCALE

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**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT**

MESA DEL SOL MONTAGE UNIT 3B

GRADING AND EROSION CONTROL PLAN DETAILS

Design Review Committee City Engineer Approval

City Project No. Zone Map No. Sheet Of

R-15,16 S-15,16 6 6

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		DESIGN		DATE: 4/25/2014		DATE: 4/25/2014		DATE: 4/25/2014	
CONTRACTOR	DATE	CONTRACTOR	DATE	NO.	BY	DATE	NO.	By	REMARKS	DESIGN	DESIGN	By: CJS	DATE: 4/25/2014	By: BJS	DATE: 4/25/2014	By: CJS	DATE: 4/25/2014
WORKS BY	DATE	INSPECTED BY	DATE														
ACCEPTANCE BY	DATE																
VERIFICATION BY	DATE																
DRAWINGS BY	DATE																
REVISIONS BY	DATE																
MICROFILM INFORMATION																	
RECORDED BY	DATE																
NO.																	