

INFORMATION SHEET

PROJECT TITLE TAYLOR RANCH APARTMENTS TYPE OF SUBMITTAL DRAINAGE REPORT

ZONE ATLAS PAGE NO. E-11 CITY ADDRESS NONE

LEGAL DESCRIPTION TRACTS 25B, 25C, 25D and X-2-A of TAYLOR RANCH

ENGINEERING FIRM BOHANNAN-HUSTON, INC. CONTACT DAN GROCHOWSKI

ADDRESS 4125 CARLISLE BLVD. NE PHONE 881-2000
ALBUQUERQUE, NM

OWNER NATIONAL REALTY CONSULTANTS CONTACT DAVID BOLTON

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BRYAN, TX 77802

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ADDRESS SAME PHONE SAME

CONTRACTOR NONE CONTACT

ADDRESS PHONE

PRE-DESIGN MEETING:

YES

XX NO

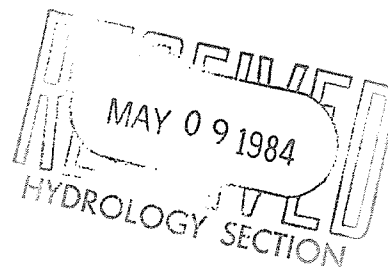
COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

- SKETCH PLAT APPROVAL
- PRELIMINARY PLAT APPROVAL
- SITE DEVELOPMENT PLAN APPROVAL
- FINAL PLAT APPROVAL
- BUILDING PERMIT APPROVAL
- CERTIFICATE OF OCCUPANCY APPROVAL
- XX ROUGH GRADING PERMIT APPROVAL
- GRADING/PAVING PERMIT APPROVAL
- OTHER (SPECIFY)

DATE SUBMITTED: May 8, 1984

BY:



**DRAINAGE REPORT
FOR
TAYLOR RANCH APARTMENTS**

May 1984

RECEIVED
MAY 09 1984
HYDROLOGY SECTION

DRAINAGE REPORT
FOR
TAYLOR RANCH APARTMENTS

May 1984

PREPARED FOR:

NATIONAL REALTY CONSULTANTS
1713 BROADMOORE, SUITE 204
BRYAN, TX 77802

PREPARED BY:

BOHANNAN-HUSTON, INC.
4125 CARLISLE BLVD. NE
ALBUQUERQUE, NM 87107


Daniel J. Grochowski
N.M.P.E. No. 8766

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APPENDIX

Sheet 1 — Undeveloped Drainage
Sheet 2 — Developed Drainage (Off-Site)
Sheet 3 — Developed Drainage (Phase 1)
Sheet 4 — Developed Drainage (Phase 2)

PLATES

1 — Vicinity Map
2 — Soils Map
3 — Flood Hazard Boundary Map
4 — Drainage and Grading Plan, Phase 1 (rear pocket)
5 — Drainage and Grading Plan, Phase 2 (rear pocket)
6 — Landscaping Plan, Phase 1 (rear pocket)
7 — Landscaping Plan, Phase 2 (rear pocket)

PURPOSE

The purpose of this report is to outline a drainage management plan for a 24.7 acre proposed apartment site. The City Drainage Ordinance and the Development Process Manual will be used to establish this plan.

SITE LOCATION AND DESCRIPTION

The site is located at the northwest corner of Montano and Taylor Ranch Roads. It is bordered on the north by Kachina Street and the Mariposa Desilting Basin, on the east by Taylor Ranch Road, on the west by Hammond Subdivision Tract 3 and the Butterfield II Subdivision, and on the south by Montano Road and the Sierra Vista West Swim and Tennis Club (see Plate 1). The site is divided into separate parcels by the Mariposa Channel, a PNM utility easement and a sanitary sewer easement. The east section (Phase 1) contains approximately 13.7 acres while the west section (Phase 2) contains approximately 11 acres.

FLOOD PLAIN INFORMATION

The FEMA Floodway maps indicate that the 100-year flood is confined to the Mariposa Channel and Desilting Basin. This map has been included in the Appendix (see Plate 3). Also, included on the floodway map is the off-site watershed which impacts the site.

EXISTING CONDITIONS

The existing conditions will be broken down into three sections: 1) Off-Site, 2) Phase 1, and 3) Phase 2.

Off-Site

At the present time, off-site basins A, B and C all discharge onto the site. (See Plate 3). Under existing conditions, the peak flow rate during the 100-year storm from these basins is equal to 67.12 cfs with a peak volume equal to 3.54 acre-feet or 154,000 ft.³

Phase 1

This section, which is east of the Mariposa Channel, drains to three areas. The north half drains into the channel through an existing concrete rundown. The south half is conveyed to an existing pond in the southwest corner of the site. This pond is a total retention facility with no outfall. There is also a small basin which drains down to the tennis courts. This basin consists of the back side of a berm and discharges approximately 1.34 cfs to the Sierra Vista West Swim and Tennis Club.

Phase 2

This section is the western part of the site and discharges into the Mariposa Channel. The slope along the existing topography directs the flows into the channel. However, because the slopes are so slight, some natural ponding may occur.

PROPOSED CONDITIONS

The proposed drainage conditions will also be broken down into three sections: 1) Off-Site, 2) Phase 1, and 3) Phase 2.

Off-Site

Under the proposed conditions, basins A and B will impact the site. Basin C will be collected in Kachina Street and conveyed to the Mariposa Channel. This will be done along with the construction of the south half of Kachina which has been required by the City Traffic Engineer.

Phase 1

In Phase 1 there will be four basins. Two of the basins, B and D, will be allowed free discharge. Basin B is a very small basin along the east boundary of the site. The flow from this basin will be 2.41 cfs, and it will discharge into Taylor Ranch Road. Basin D discharges 1.34 cfs onto the Sierra Vista West Swim and Tennis Club. *convenience required*

The other two basins will be collected by the existing arroyo and a pond. Basin A will discharge 17.55 cfs into the Mariposa Channel through an existing rundown. Basin C will discharge 14.94 cfs into an existing depression at the southwest corner of the site. Because the elevation of this depression is so low, the water will have to be pumped out and run down Montano Road into the Mariposa Channel.

Phase 2

This phase will be broken down into five basins. Basins E and I will discharge freely into Kachina and Montano. The flow in Basin E is .93 cfs with the flow in Basin I being 1.29 cfs.

Basins F and G will discharge into existing rundowns along the Mariposa Arroyo. Basin F will be collected by a swale and discharge 3.76 cfs to an existing rundown. The flow in Basin G will be conveyed through a lined channel down to the existing rundown. This basin will accept off-site Basins B and C. Because of this additional flow, the discharge from this basin will be 51.0 cfs.

Basin H will discharge by sheet flow into the arroyo. This area will be landscaped to help prevent erosion (see Plate 6). The flow from this basin will be 5.35 cfs.

EROSION CONTROL AND PHASING

The control of erosion during construction of this project will be done by placing wind rows along the areas where water will leave the site. The locations and a detail showing these wind rows are shown on Plates 4 and 5. Erosion control in the developed phase will be controlled by landscaping all areas which discharge to the street or arroyo. These areas will either be covered by native grasses or turf and groundcover (see Plates 6 and 7).



PROJECT NAME Taylor Ranch Apts.
 PROJECT NO. 41165
 SUBJECT _____

SHEET 1 OF 4
 BY KBA DATE 5/4/84
 CH'D DJG DATE 5/7/84

UNDEVELOPED DRAINAGE (E+W)																	
Basin	Area (ac.)	Length (ft.)	Top Elev. (ft.)	Bottom Elev. (ft.)	Slope (ft./ft.)	Time of Concentration	Soil Group	% Impervious	Runoff Coefficient, C	100 YEAR				10 YEAR			
										6 Hr. Rain Volume (in.)	I/6 Hr Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)	6 Hr. Rain Volume (in.)	I/6 Hr. Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)
A	4.68	900	118	109	.010	10.0	B	0	.34	2.2	4.65	7.40	.29	1.44	3.06	4.86	.19
B	20.36	2010	134	114	.010	16.1	B	0	.34	2.2	3.65	25.64	1.29	1.44	2.40	16.85	.85
C	31.52	2400	124	108	.007	21.1	B	0	.34	2.2	3.18	34.08	1.96	1.44	2.09	22.39	1.29
D	11.0	1250	110	104	.005	14.54	B	0	.34	2.2	3.84	14.36	.69	1.44	2.52	9.44	.45
E	12.7	900	115	107.3	.009	10.0	B	0	.34	2.2	4.65	20.08	.79	1.44	3.06	13.19	.52
Ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

References:

1, 2, 3, 4, 5 Basin areas, lengths, top and bottom elevations and slopes from Plate 1.

6. T_c by Kirpich formula: $T_c = .0078 \frac{\text{Length}^{0.77}}{\text{Slope}^{0.385}}$ (5/10 minutes minimum)

7. See Soils Map Plate 20 and Text.

8. By area computation.

9. DPM Plate 22.2 C-1

10, 14 DPM Plate 22.2 D-1

11, 15 DPM Plate 22.2 D-2

12, 16 Rational Formula $Q = C/A$

13, 17 Rational Formula $V = \frac{\text{Rainfall} \times C \times A}{12}$



PROJECT NAME Taylor Ranch Apts. SHEET 7 OF 4
 PROJECT NO. 41165 BY KBA DATE 5/4/84
 SUBJECT CH'D DJG DATE 5/7/84

DEVELOPED DRAINAGE

[OFFSITE]

Basin	Area (ac.)	Length (ft.)	Top Elev. (ft.)	Bottom Elev. (ft.)	Slope (ft./ft.)	Time of Concentration	Soil Group	% Impervious	Runoff Coefficient, C	100 YEAR				10 YEAR			
										6 Hr. Rain Volume (in.)	I / 6 Hr. Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)	6 Hr. Rain Volume (in.)	I / 6 Hr. Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)
A	4.68	900	118	109	.010	10.0	B	0	.34	2.2	4.65	7.40	.29	1.44	3.06	4.86	.19
B	20.66	2010	134	114	.010	16.1	B	0	.34	2.2	3.65	25.64	1.29	1.44	2.40	16.85	.85
C	31.52	2400	124	108	.007	21.1	B	0	.34	2.2	3.18	34.08	1.96	1.44	2.09	22.39	1.29
Ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

References:

1, 2, 3, 4, 5 Basin areas, lengths, top and bottom elevations and slopes from Plate 1

6. Tc by Kirpich formula: $T_c = .0078 \frac{\text{Length}^{.77}}{\text{Slope}^{.385}}$ (10 minutes minimum)

7. See Soils Map Plate 20 and Text.

8. By area computation.

9. DPM Plate 22.2 C-1

10, 14 DPM Plate 22.2 D-1

11, 15 DPM Plate 22.2 D-2

12, 16 Rational Formula $Q = C/A$

13, 17 Rational Formula $V = \frac{\text{Rainfall} \times C \times A}{12}$



DEVELOPED DRAINAGE

[ON SITE PHASE 1]

Basin	Area (ac.)	Length (ft.)	Top Elev. (ft.)	Bottom Elev. (ft.)	Slope (ft./ft.)	Time of Concentration	Soil Group	% Impervious	Runoff Coefficient, C	100 YEAR				10 YEAR			
										6 Hr. Rain Volume (in.)	I / 6 Hr. Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)	6 Hr. Rain Volume (in.)	I / 6 Hr. Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)
A	6.53	1000	14	7	.007	10.76	B	54	.6	2.2	4.48	17.55	.718	1.45	2.94	11.53	.471
B	1.44	—	—	—	—	—	—	5	.36	2.2	4.65	2.41	.095	1.45	2.30	1.58	.063
C	4.87	—	—	—	—	—	—	67	.66	2.2	4.65	14.94	.589	1.45	2.30	9.82	.387
D	.845	—	—	—	—	—	—	0	.34	2.2	4.65	1.34	.053	1.45	2.30	.88	.035
Ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

References:

1, 2, 3, 4, 5 Basin areas, lengths, top and bottom elevations and slopes, from Plate 1

6. T_c by Kirpich formula: $T_c = .0078 \frac{\text{Length}^{.07}}{\text{Slope}^{.385}}$ (10 minutes minimum)

7. See Soils Map Plate 20 and Text.

8. By area computation.

9. DPM Plate 22.2 C-1

10, 14 DPM Plate 22.2 D-1

11, 15 DPM Plate 22.2 D-2

12, 16 Rational Formula $Q = C/A$

13, 17 Rational Formula $V = \frac{\text{Rainfall} \times C \times A}{12}$



DEVELOPED DRAINAGE

[ON SITE PHASE 2]

Basin	Area (ac.)	Length (ft.)	Top Elev. (ft.)	Bottom Elev. (ft.)	Slope (ft./ft.)	Time of Concentration	Soil Group	% Impervious	Runoff Coefficient, C	100 YEAR				10 YEAR			
										6 Hr. Rain Volume (in.)	I / 6 Hr Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)	6 Hr. Rain Volume (in.)	I / 6 Hr. Rain (in./hr.)	Peak Flow Rate Q (cfs)	Runoff Volume (ac. ft.)
E	.586	—	—	—	—	10	B	0	.34	2.2	4.65	.93	.037	1.45	3.06	.61	.024
F	1.62	—	—	—	—	10	B	34	.50	2.2	4.65	3.76	.149	1.45	3.06	2.47	.098
G	6.18	1050	12	5	.007	16.17	B	65	.66	2.2	4.40	17.95	.748	1.45	2.89	11.79	.491
H	2.13	—	—	—	—	10	B	44	.54	2.2	4.65	5.35	.211	1.45	3.06	3.51	.139
I	.480	—	—	—	—	10	B	49	.58	2.2	4.65	1.29	.051	1.45	3.06	.85	.034
Ref.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

References:

- 1, 2, 3, 4, 5 Basin areas, lengths, top and bottom elevations and slopes from Plate 1
6. Tc by Kirpich formula $T_c = .0078 \frac{\text{Length}^{.77}}{\text{Slope}^{.385}}$ (2/10 minutes minimum)
7. See Soils Map Plate 20 and Text.
8. By area computation.
9. DPM Plate 22.2 C-1

10, 14	DPM Plate 22.2 D-1
11, 15	DPM Plate 22.2 D-2
12, 16	Rational Formula $Q = C/A$
13, 17	Rational Formula $V = \frac{\text{Rainfall} \times C \times A}{12}$



LEGAL DESCRIPTION
1 1/4
2 1/4
3 1/4
SEC 36

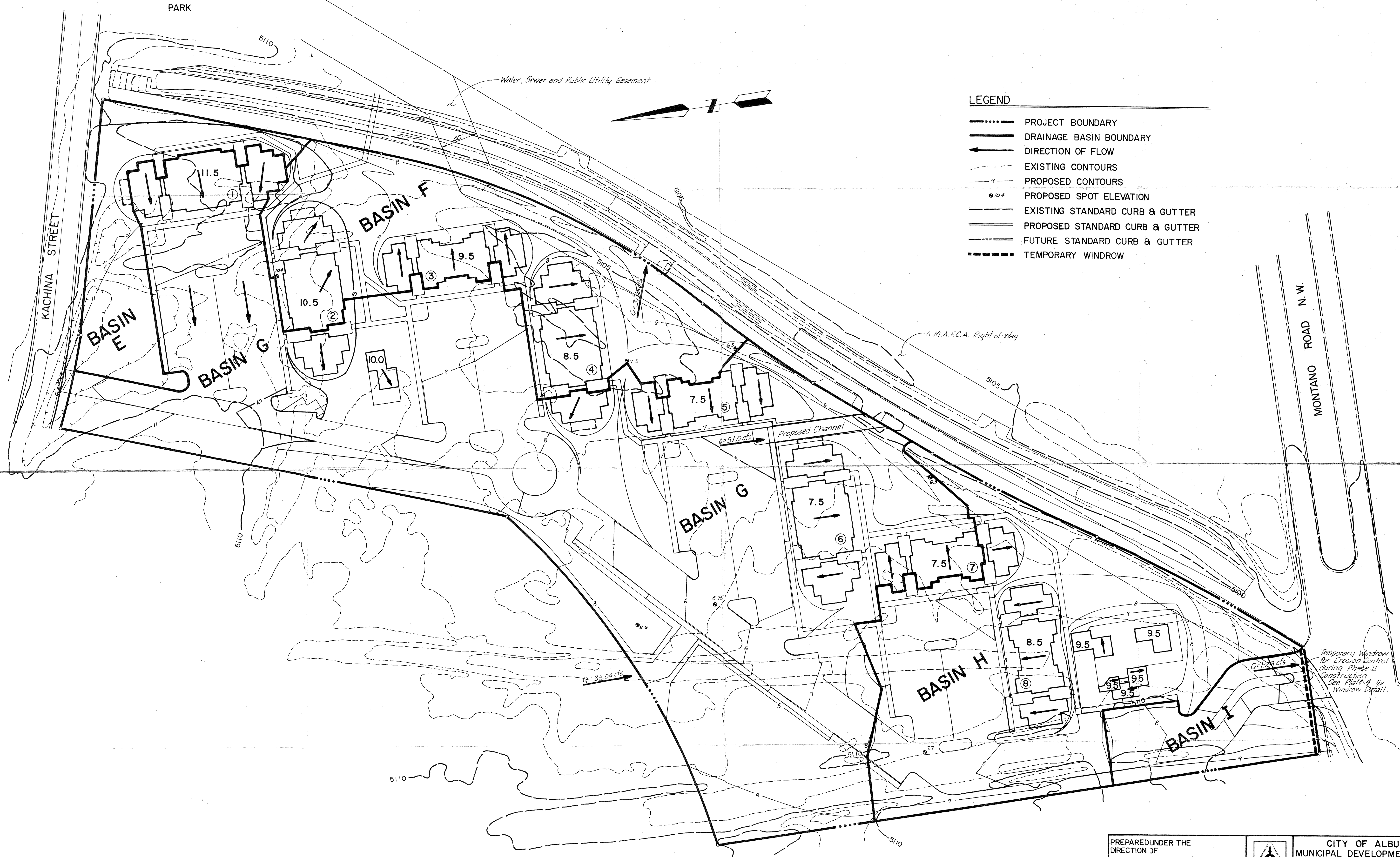
UNIFORM PRESCRIPT CODE
1-01-041

MAP AMENDED THROUGH
JUNE 1982

E-11-17
LANDSCAPE PLANNING DIVISION
MUNICIPAL DEVELOPMENT DEPARTMENT

PLATE 1

BRUNING 44-132 39563



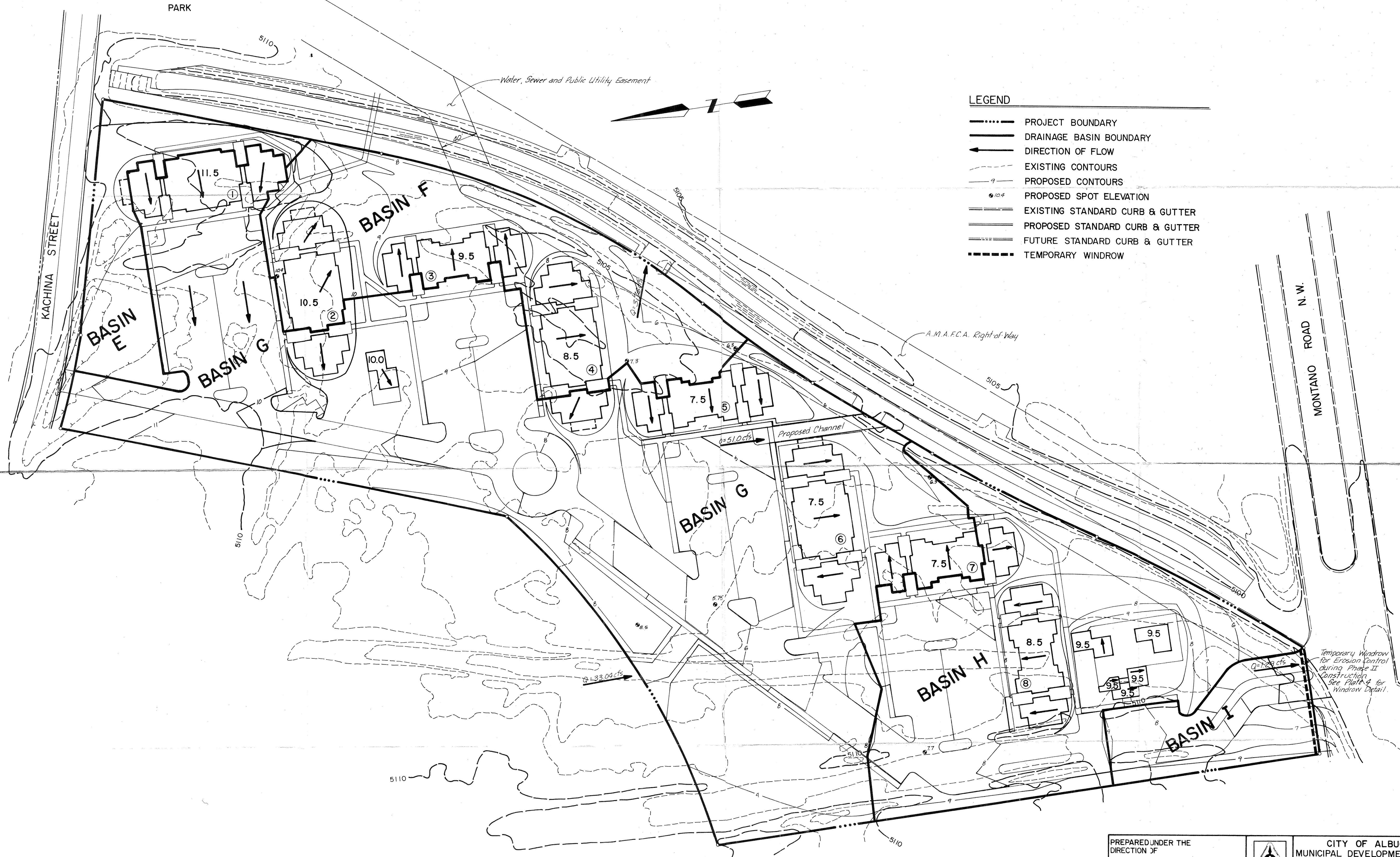
- LEGEND
- PROJECT BOUNDARY
 - DRAINAGE BASIN BOUNDARY
 - DIRECTION OF FLOW
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - PROPOSED SPOT ELEVATION
 - EXISTING STANDARD CURB & GUTTER
 - PROPOSED STANDARD CURB & GUTTER
 - FUTURE STANDARD CURB & GUTTER
 - TEMPORARY WINDROW

- NOTES
- ELEVATIONS SHOWN FOR BUILDINGS ARE PAD ELEVATIONS
 - ELEVATIONS SHOWN ARE 5100 FEET PLUS GIVEN VALUE

SCALE:
1" = 50'

PREPARED UNDER THE DIRECTION OF <i>Daniel J. Huchenski</i> 5/3/84		CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION	
TITLE: TAYLOR RANCH APARTMENTS GRADING & DRAINAGE PLAN-PHASE II			
APPROVALS	ENGINEER	DATE	APPROVALS
City Engineer			WRD
A.C.E.-Design			Traffic
A.C.E.-Hydrology			
APPROVED FOR ROUGH GRADING			
CITY ENGINEER	DATE	DRAWING NO.	PLATE 5

BRUNING 44-132 39563



- LEGEND**
- PROJECT BOUNDARY
 - DRAINAGE BASIN BOUNDARY
 - DIRECTION OF FLOW
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - PROPOSED SPOT ELEVATION
 - EXISTING STANDARD CURB & GUTTER
 - PROPOSED STANDARD CURB & GUTTER
 - FUTURE STANDARD CURB & GUTTER
 - TEMPORARY WINDROW

- NOTES**
- ELEVATIONS SHOWN FOR BUILDINGS ARE PAD ELEVATIONS
 - ELEVATIONS SHOWN ARE 5100 FEET PLUS GIVEN VALUE

SCALE:
1" = 50'

PREPARED UNDER THE DIRECTION OF <i>Daniel J. Hradewski</i> 5/3/84		CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION	
TITLE: TAYLOR RANCH APARTMENTS GRADING & DRAINAGE PLAN-PHASE II			
APPROVALS	ENGINEER	DATE	APPROVALS
City Engineer			WRD
A.C.E.-Design			Traffic
A.C.E.-Hydrology			
APPROVED FOR ROUGH GRADING			
CITY ENGINEER	DATE	DRAWING NO.	PLATE 5

REFERENCES		SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
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						ACCEPTED BY	DATE
						VERIFIED BY	DATE
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						RECORDED BY	DATE
						NO.	

