

Site Location: Tract 30A-1 at Arrowwood Subdivision is bounded by future Amole Mesa Avenue to the north, future 98th Street to the east, future Colobel Avenue to the south, and future Mesa Arenosa Drive to the west as shown in the Vicinity Map.

Methodology: Section 22.2 of the City of Albuquerque DPM was followed to calculate the design volume. According to the COA DPM, the design of temporary retention ponds shall be designed to accommodate the 100-year, 10 day storm. The tables and formulas in Part A were followed using the 100-year, 10day storm event frequency. The site is located in Zone 1 as designated in Table A-1. The total volumetric runoff was computed as per section A.5. The Tract 29, 30, 31 at Arrowwood Drainage Master Plan was referenced to obtain peak discharges for developed flows, while flows for undeveloped areas were computed as per section A.6.

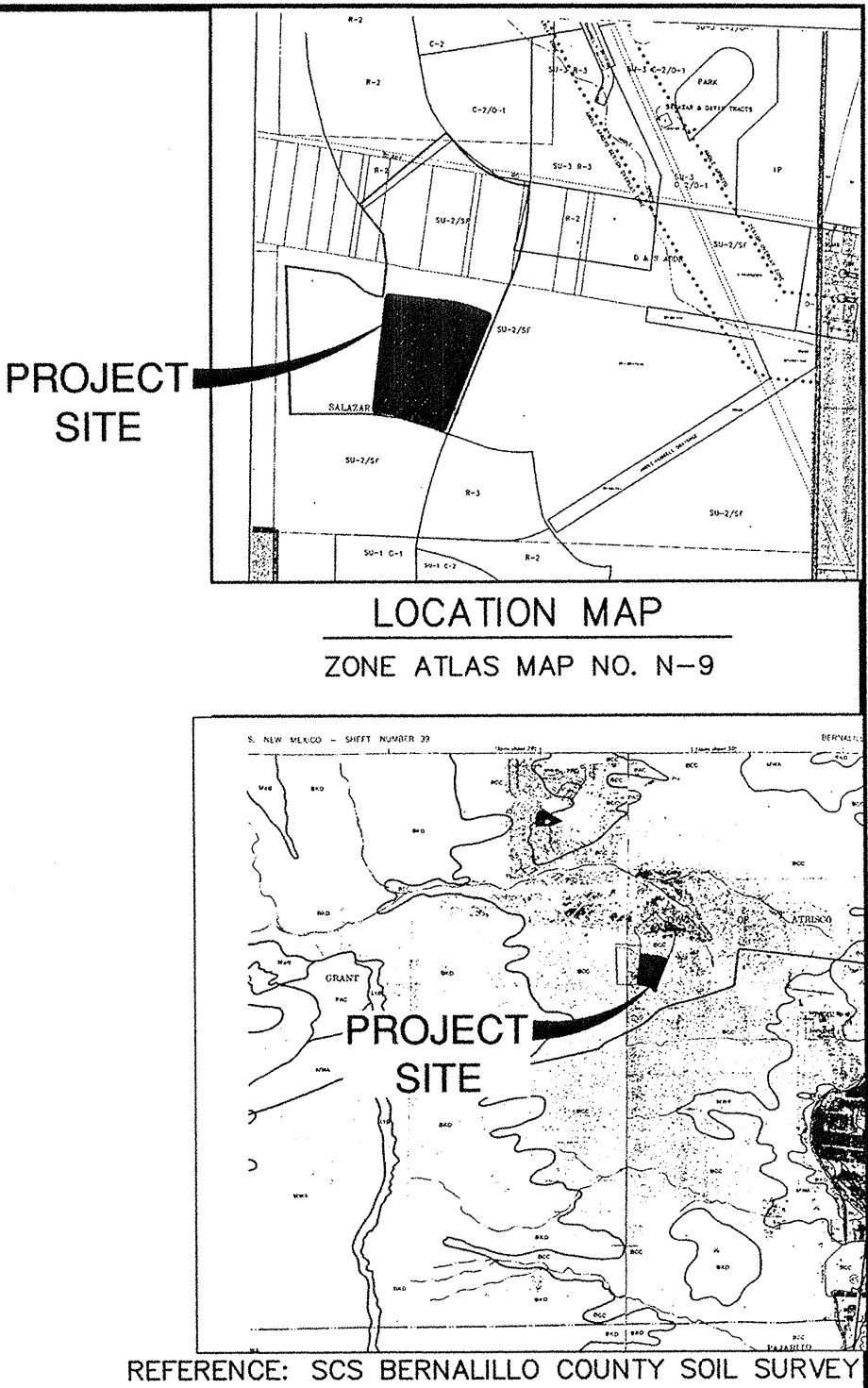
Existing Conditions: The existing topography slopes SE between 1% to 2.5%. The proposed development is found on FEMA flood insurance rate map number 3500100336 D (see Flood Map). A southern portion of Lot 30A-1 is within the flood zone A, the 100-year floodplain, as seen on the Flood Map.

Review of available soils information indicated loamy fine sand soils of the Bluepoint series. The description of this series is found in the USDA Natural Resources Conservation Service soil mapping of Bernalillo County and portions of Sandoval County (see Soils Map). The Bluepoint series is described as a deep, somewhat excessively drained soil comprised mostly of fine sand. The surface layer is pale brown loamy fine sand about 8 inches thick. The underlying layer is pale brown loamy sand to a depth of 20 inches and light yellowish brown loamy sand to a depth of 60 inches or more. Water erosion hazard is low, while wind erosion hazard is severe. These areas support range, irrigated crops, watershed, wildlife habitat, and community development uses.

These soils have been formed in sandy alluvial and eolian sediments on alluvial fans and terraces, with slopes ranging from 1 to 9 percent. The Bluepoint Series fits within Hydrologic Group "A", implying low runoff potential.

Proposed Conditions: The purpose of this Grading & Drainage Plan is to secure grading permit of temporary drainage facilities for Phase 1 of the Arrowwood Development. This Grading and Drainage Plan complies with the Tract 29, 30, 31 at Arrowwood DMP, dated October, 2004 and approved 10-19-04 (hereinafter Arrowwood DMP) in the interim condition. As the Arrowwood DMP establishes, future fully developed flows from these basins will be captured by a storm drain system that will be built as part of this Phase 1 Arrowwood Development and conveyed to the Amole Detention Basin. All hydrologic and hydraulic calculations for this grading design can be found in the Arrowwood DMP.

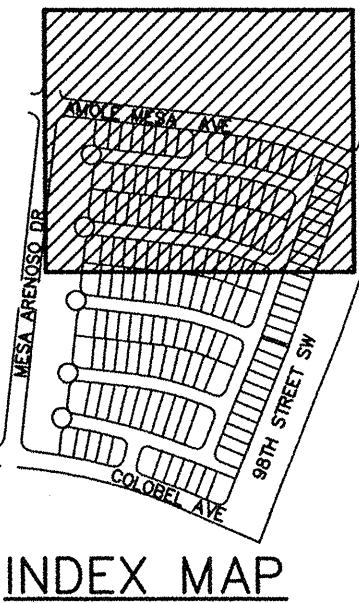
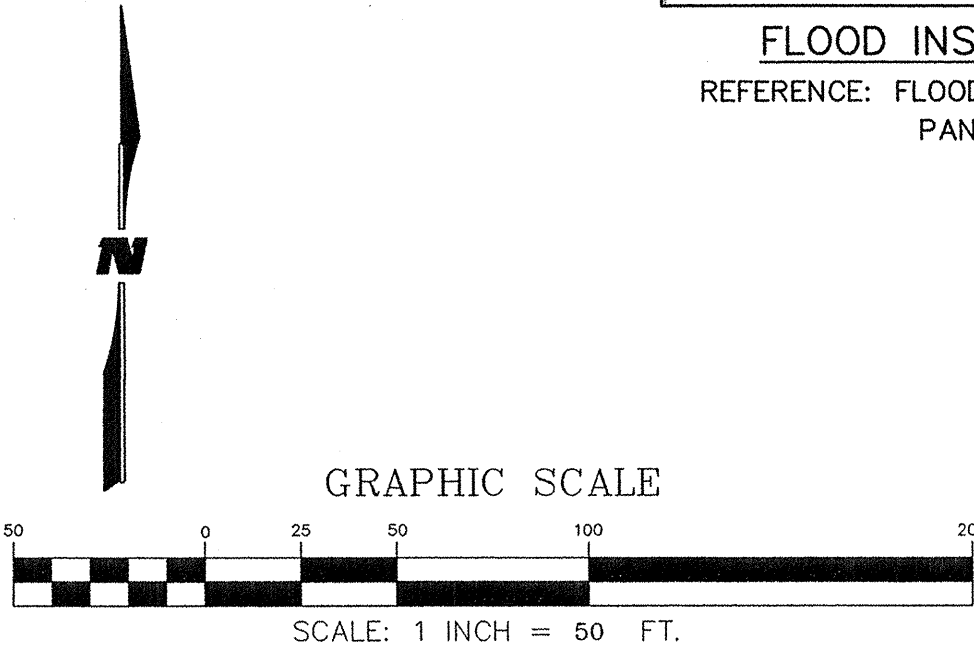
Development of Tract 30 requires attention to offsite flows from Basin 1, 10 and 00006 as defined in the Arrowwood DMP. A temporary detention pond will be built on Tract 29 as part of this development in order to accommodate flows from the west. A minimal flow of 2 c.f.s. will be released from this basin into the onsite storm drain system in order to minimize the size of the pond. A diversion swale will need to be built as shown on this plan in order to direct the flow from Basin 10 into the pond. A diversion berm will also be built on Tract 29 as shown on this plan to direct existing flows from basin 00006 (Tract 29) into the storm drain system.



LEGEND

- RETAINING WALL
- HIGH POINT
- DIRECTION OF FLOW
- LINE ELEVATION
- BASIN BOUNDARY
- TYPE DOUBLE A INLET

FLOOD INSURANCE MAP
REFERENCE: FLOOD INSURANCE STUDY
PANEL 336



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ARROWWOOD DEVELOPMENT
PHASE I

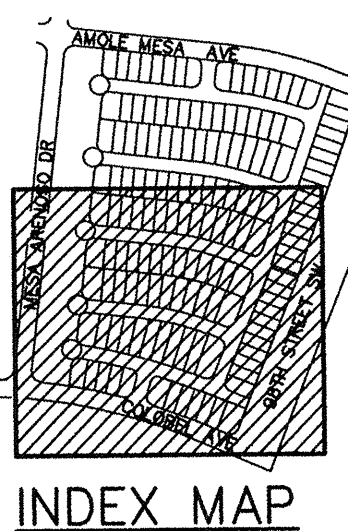
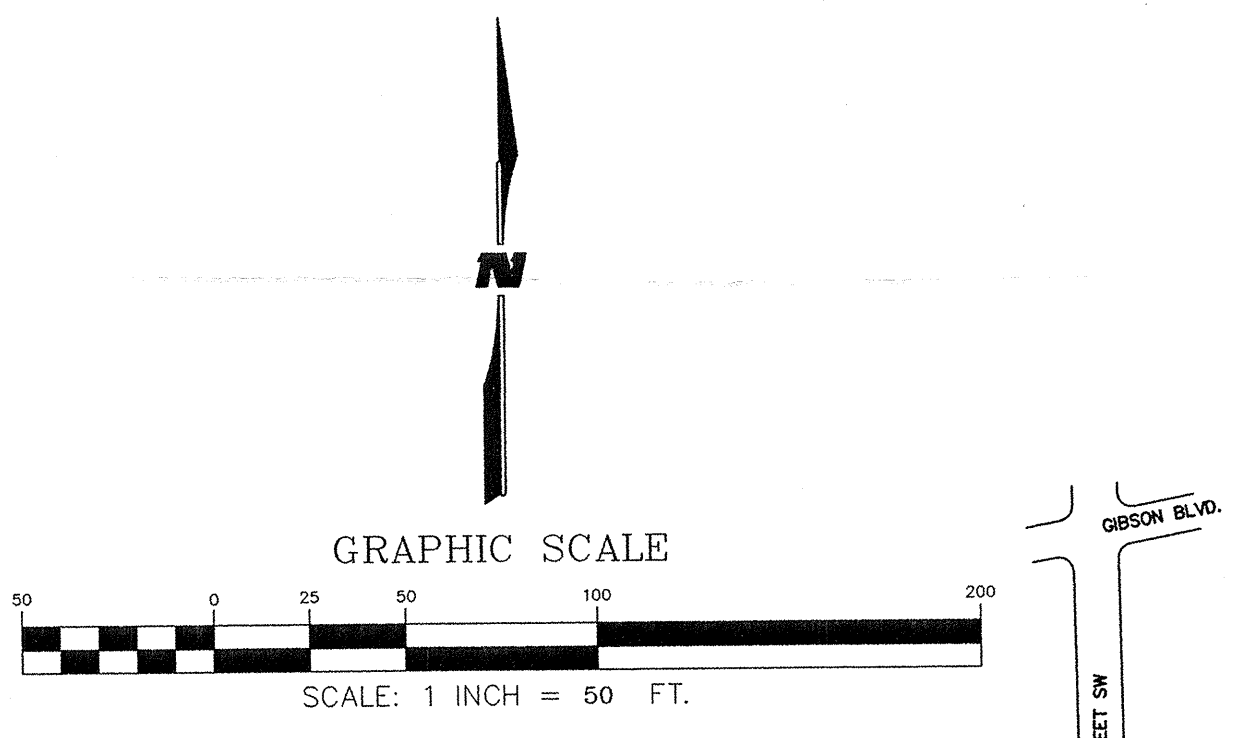
GRADING & DRAINAGE PLAN

REVISIONS	NO. DATE REMARKS BY			
DESIGN	DMD	WCEA NO. X4218001	DATE NOV. 2004	
DRAWN	JCC	PROJECT NO. 747281	SHEET NO.	
CHECK	SJS		1 OF 4	





- LEGEND
- RETAINING WALL
 - HIGH POINT
 - DIRECTION OF FLOW
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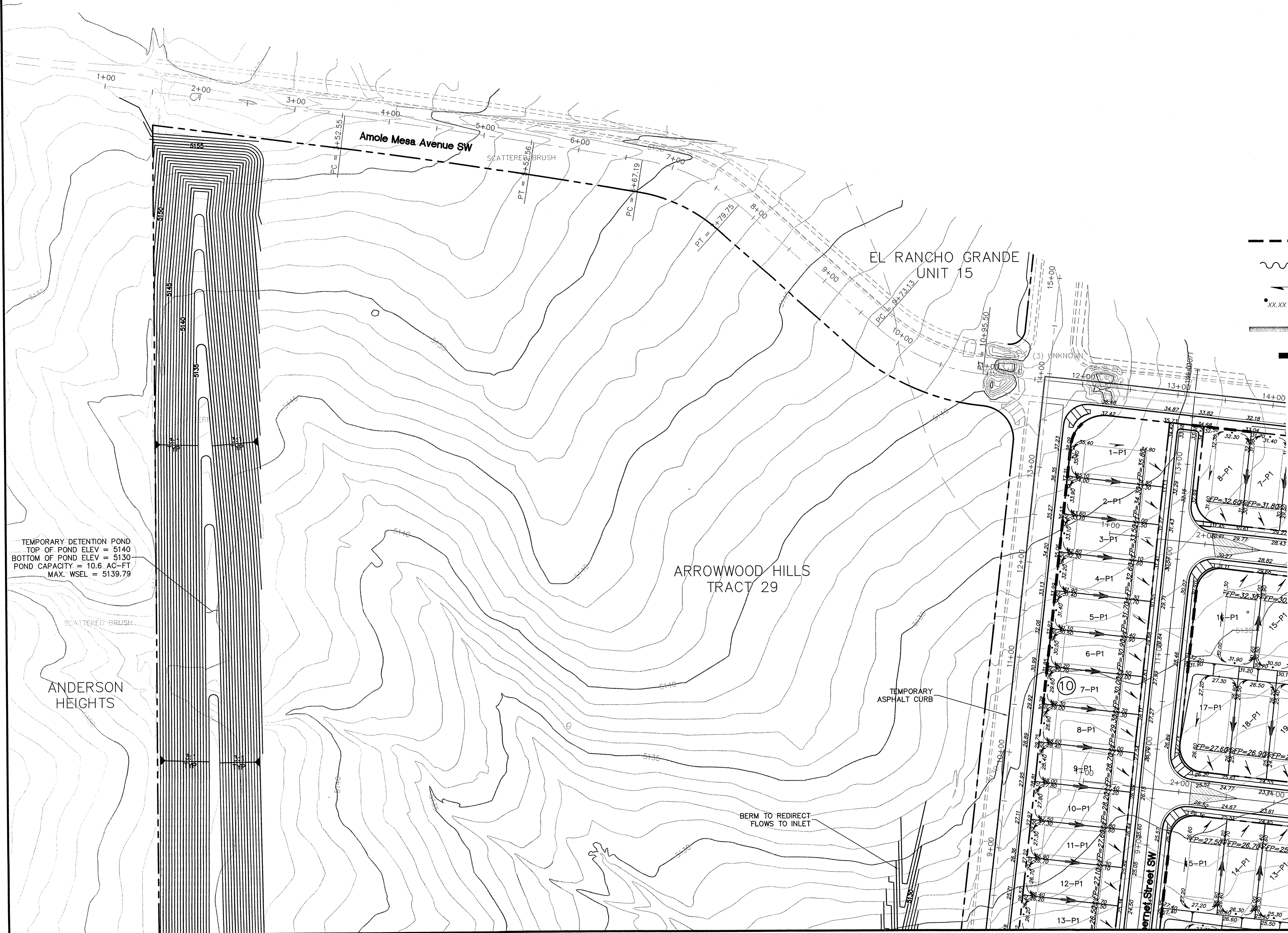


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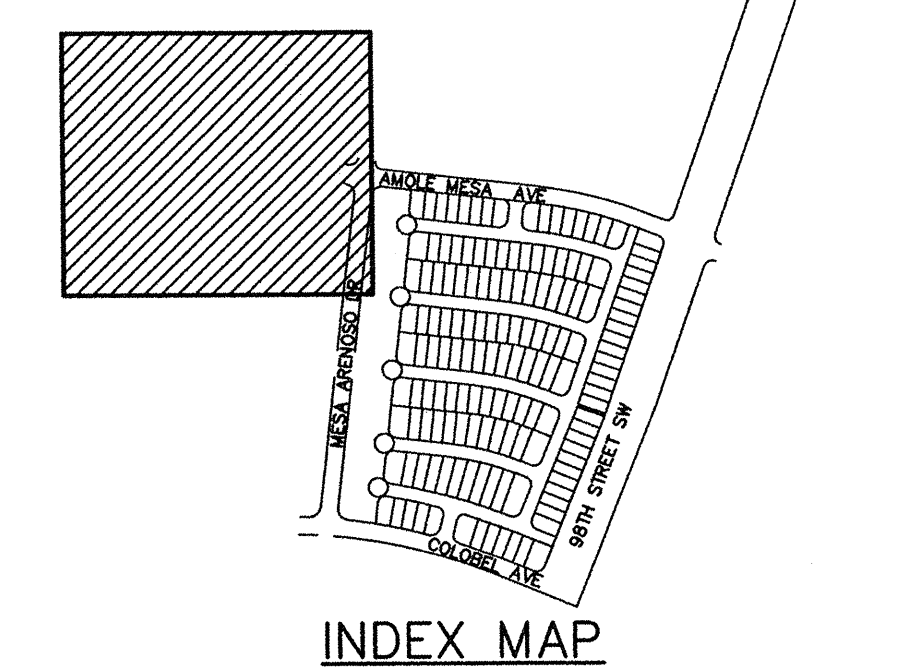
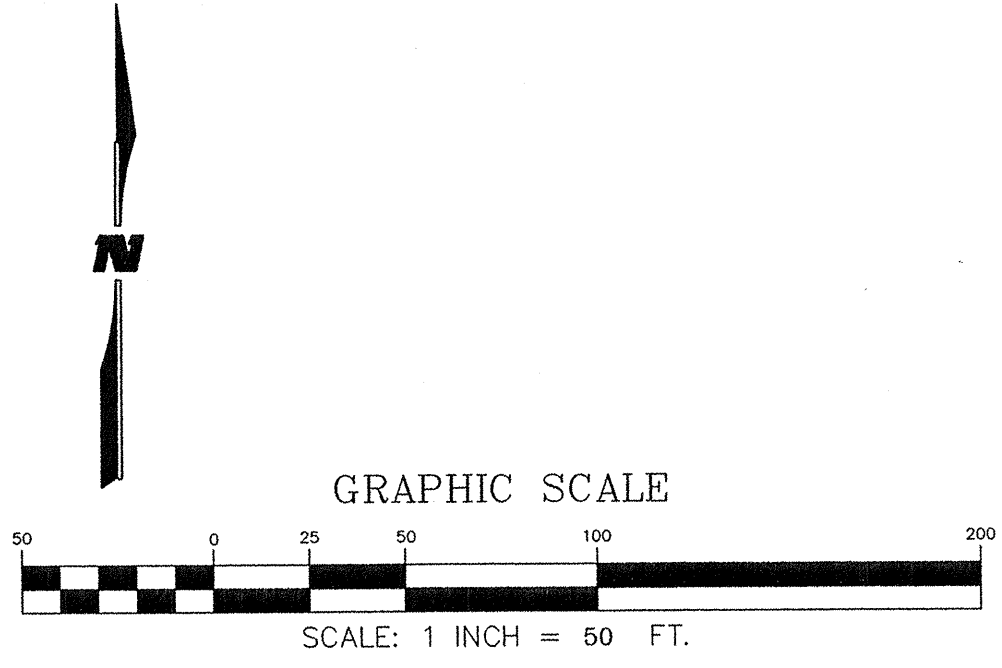
ARROWWOOD DEVELOPMENT
PHASE I

GRADING & DRAINAGE PLAN

REVISIONS	NO.	DATE	REMARKS	BY
DESIGN	DMD	WCEA NO. X4218001	DATE NOV. 2004	
DRAWN	JCC	PROJECT NO. 747281	SHEET NO. 2 OF 4	
CHECK	MJI			



- LEGEND**
- RETAINING WALL
 - ~ HIGH POINT
 - DIRECTION OF FLOW
 - +— LINE ELEVATION
 - BASIN BOUNDARY
 - TYPE DOUBLE C INLET



TEMPORARY DETENTION POND
TOP OF POND ELEV = 5140
BOTTOM OF POND ELEV = 5130
POND CAPACITY = 10.6 AC-FT
MAX. WSEL = 5139.79

ANDERSON
HEIGHTS

ARROWWOOD HILLS
TRACT 29

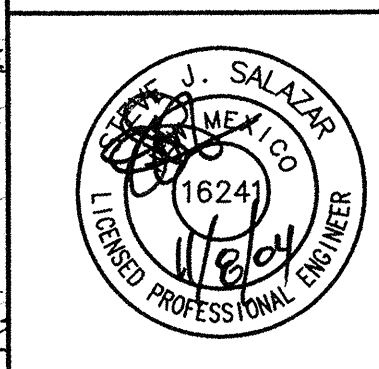
TEMPORARY
ASPHALT CURB

BERM TO REDIRECT
FLOWS TO INLET

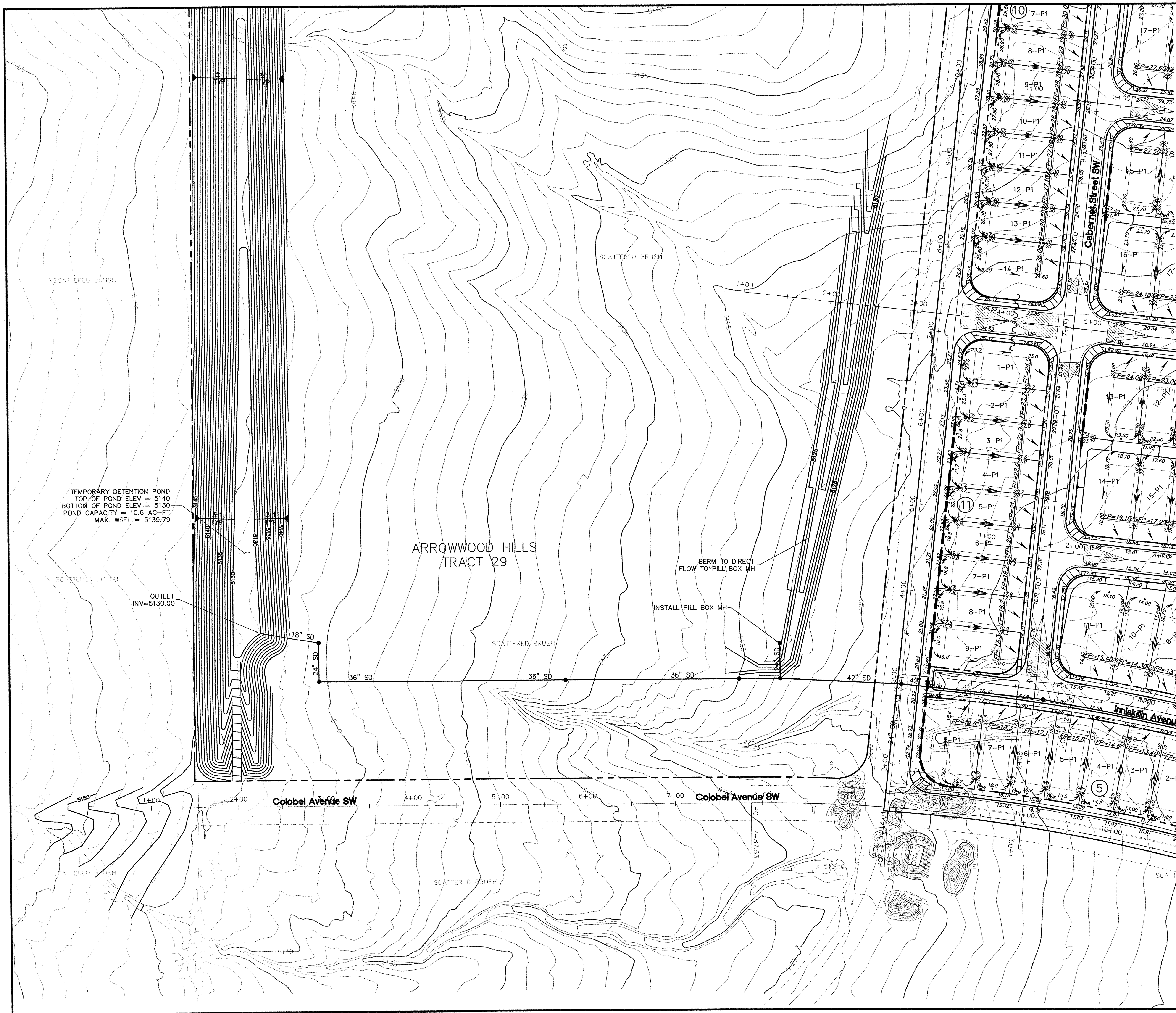
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**ARROWWOOD DEVELOPMENT
PHASE I**

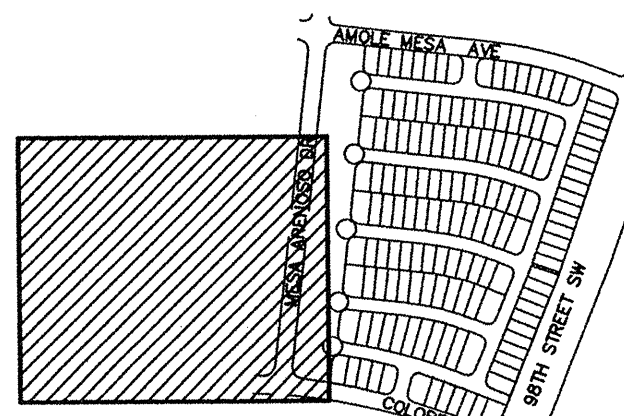
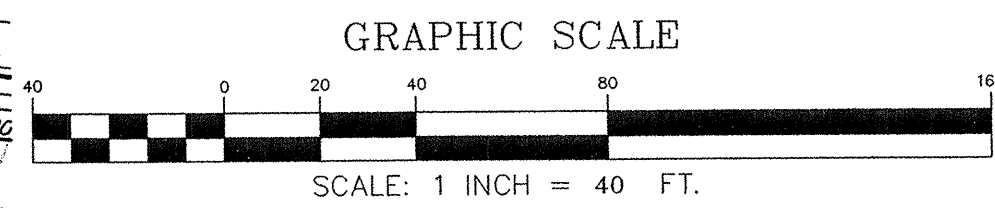
GRADING & DRAINAGE PLAN



REVISIONS	NO. DATE REMARKS BY			
	NO.	DATE	REMARKS	BY
DESIGN	DMD	WCEA NO. X4218001	DATE NOV. 2004	
DRAWN	DMD	PROJECT NO.	SHEET NO.	
CHECK	SJS	747281	3 OF 4	



- LEGEND**
- RETAINING WALL
 - ~ HIGH POINT
 - DIRECTION OF FLOW
 - LINE ELEVATION
 - BASIN BOUNDARY
 - TYPE DOUBLE C INLET



INDEX MAP

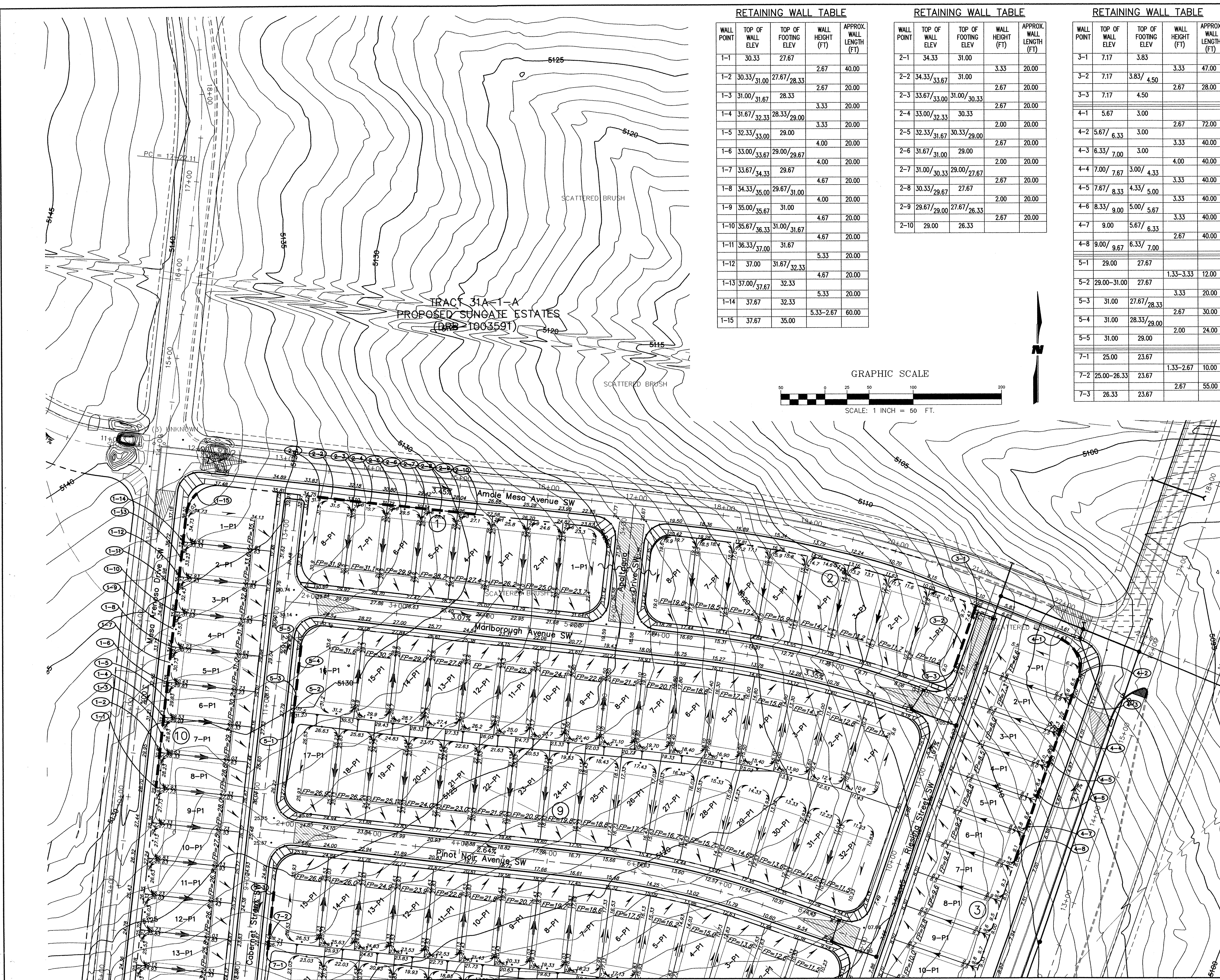
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ARROWWOOD DEVELOPMENT
PHASE I

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NO.	DATE	REMARKS	BY
DESIGN	DMD	WCEA NO. X4218001	DATE NOV. 2004
DRAWN	DMD	PROJECT NO.	SHEET NO.
CHECK	MJI	747281	4 OF 4



RETAINING WALL TABLE				
WALL POINT	TOP OF WALL ELEV	TOP OF FOOTING ELEV	WALL HEIGHT (FT)	APPROX. WALL LENGTH (FT)
1-1	30.33	27.67		
1-2	30.33/31.00	27.67/28.33	2.67	40.00
1-3	31.00/31.67	28.33	2.67	20.00
1-4	31.67/32.33	28.33/29.00	3.33	20.00
1-5	32.33/33.00	29.00	3.33	20.00
1-6	33.00/33.67	29.00/29.67	4.00	20.00
1-7	33.67/34.33	29.67	4.00	20.00
1-8	34.33/35.00	29.67/31.00	4.67	20.00
1-9	35.00/35.67	31.00	4.00	20.00
1-10	35.67/36.33	31.00/31.67	4.67	20.00
1-11	36.33/37.00	31.67	4.67	20.00
1-12	37.00	31.67/32.33	5.33	20.00
1-13	37.00/37.67	32.33	4.67	20.00
1-14	37.67	32.33	5.33	20.00
1-15	37.67	35.00	5.33-2.67	60.00

RETAINING WALL TABLE				
WALL POINT	TOP OF WALL ELEV	TOP OF FOOTING ELEV	WALL HEIGHT (FT)	APPROX. WALL LENGTH (FT)
2-1	34.33	31.00		
2-2	34.33/ <u>33.67</u>	31.00	3.33	20.00
2-3	33.67/ <u>33.00</u>	31.00/ <u>30.33</u>	2.67	20.00
2-4	33.00/ <u>32.33</u>	30.33	2.67	20.00
2-5	32.33/ <u>31.67</u>	30.33/ <u>29.00</u>	2.00	20.00
2-6	31.67/ <u>31.00</u>	29.00	2.67	20.00
2-7	31.00/ <u>30.33</u>	29.00/ <u>27.67</u>	2.00	20.00
2-8	30.33/ <u>29.67</u>	27.67	2.67	20.00
2-9	29.67/ <u>29.00</u>	27.67/ <u>26.33</u>	2.00	20.00
2-10	29.00	26.33	2.67	20.00

WALL POINT	TOP OF WALL ELEV	TOP OF FOOTING ELEV	WALL HEIGHT (FT)	APPROX. WALL LENGTH (FT)
3-1	7.17	3.83		
			3.33	47.00
3-2	7.17	3.83/ 4.50		
			2.67	28.00
3-3	7.17	4.50		
4-1	5.67	3.00		
			2.67	72.00
4-2	5.67/ 6.33	3.00		
			3.33	40.00
4-3	6.33/ 7.00	3.00		
			4.00	40.00
4-4	7.00/ 7.67	3.00/ 4.33		
			3.33	40.00
4-5	7.67/ 8.33	4.33/ 5.00		
			3.33	40.00
4-6	8.33/ 9.00	5.00/ 5.67		
			3.33	40.00
4-7	9.00	5.67/ 6.33		
			2.67	40.00
4-8	9.00/ 9.67	6.33/ 7.00		
5-1	29.00	27.67		
			1.33-3.33	12.00
5-2	29.00-31.00	27.67		
			3.33	20.00
5-3	31.00	27.67/ 28.33		
			2.67	30.00
5-4	31.00	28.33/ 29.00		
			2.00	24.00
5-5	31.00	29.00		
7-1	25.00	23.67		
			1.33-2.67	10.00
7-2	25.00-26.33	23.67		
			2.67	55.00
7-3	26.33	23.67		

LEGEND

RETAINING WALL

HIGH POINT

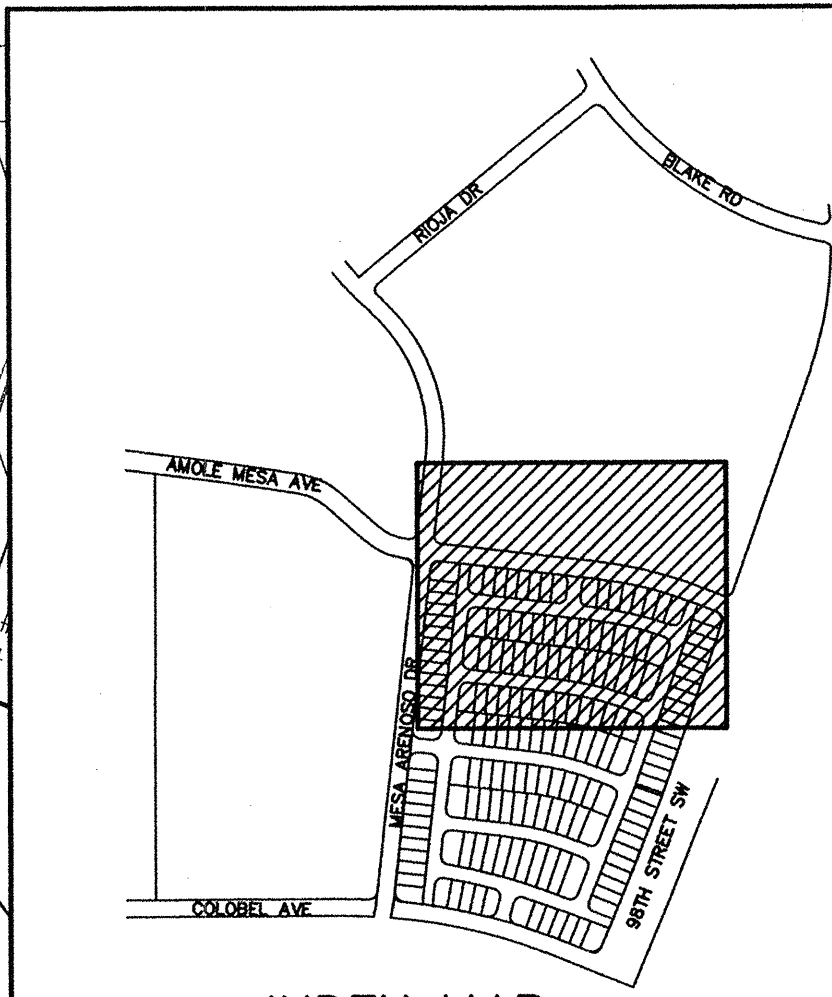
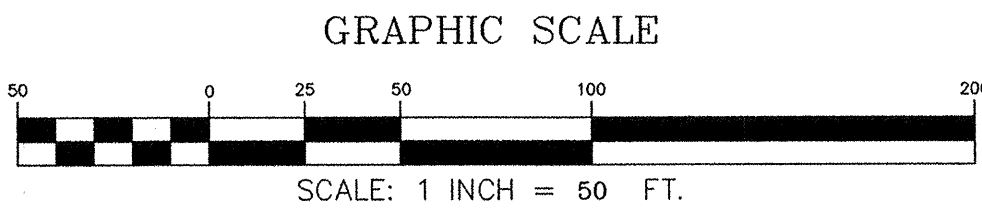
DIRECTION OF FLOW

F LINE ELEVATION

BASIN BOUNDARY

TYPE DOUBLE A INLET

LONGFORD HOMES
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INDEX MAP

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CITY OF ALBUQUERQUE
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ENGINEERING GROUP

LONGFORD AT ARROWWOOD
GRADING & DRAINAGE PLAN

Design Review Committee

City Engineer Approval

Last Design Update

Mo./Day/Yr.

Mo./Day/Yr	
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City Project No.

747281

Zone Map No.

C-9-Z

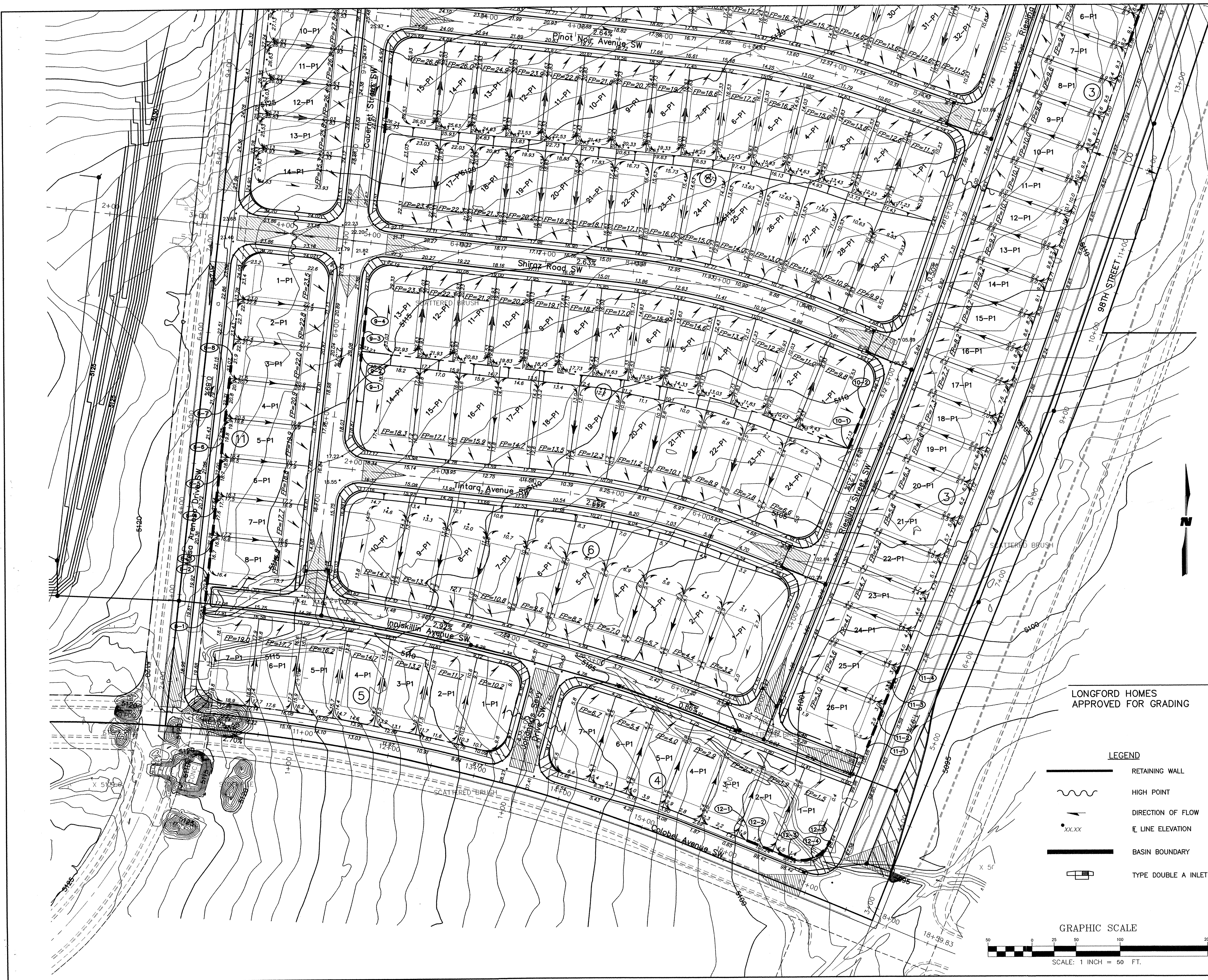
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HYDROLOGY SECTION

<i>SURVEY INFORMATION</i>			<i>BENCH MARKS</i>	<i>AS-BUILT INFORMATION</i>
	FIELD NOTES			
NO.	BY	DATE		
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			"TRANS, 1969", LOCATED 6 MILES SOUTHWEST OF DOWNTOWN ALBUQUERQUE IN THE RIGHT-OF-WAY OF A PLAINS ELECTRIC CO-OP TRANSMISSION LINE	WORK ORDER BY INSPECTORS DATE ACCEPTANCE BY DATE REVISION BY DATE DRAWINGS CHECKED BY DATE
			ELEVATION = 5118.370 FT.	<i>MICRO-FILM INFORMATION</i>
			NGVD 29 U.S. FEET	RECORDED BY DATE
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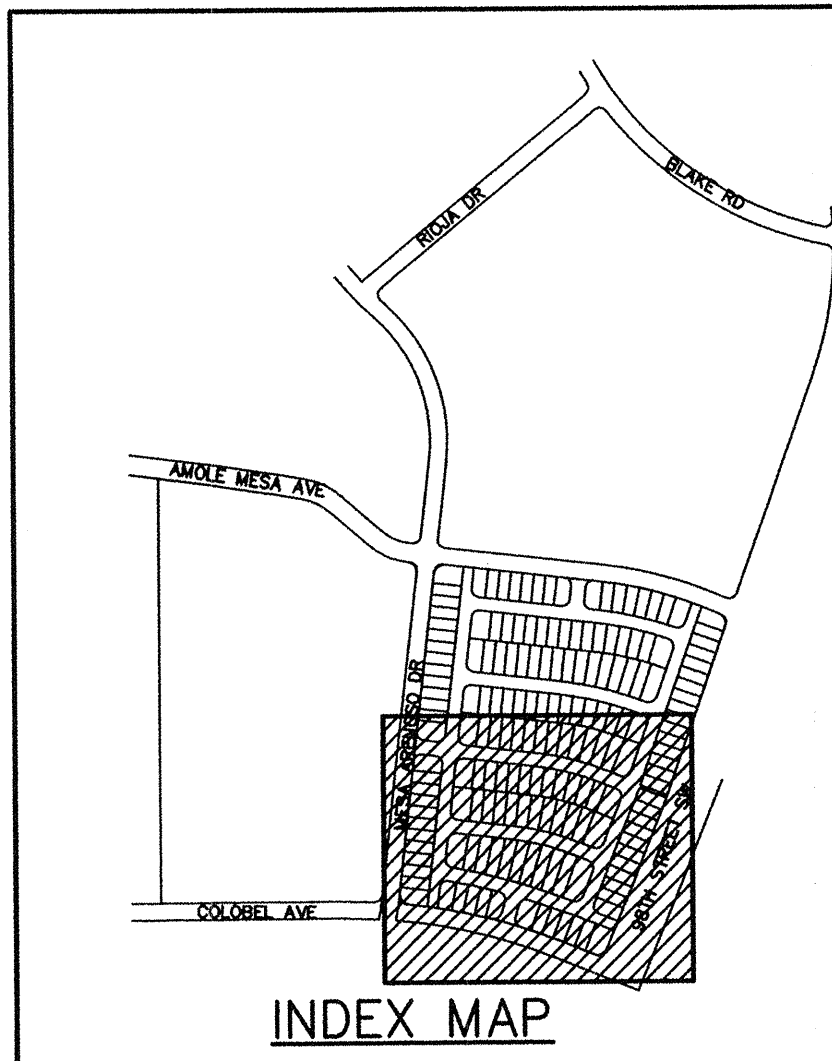
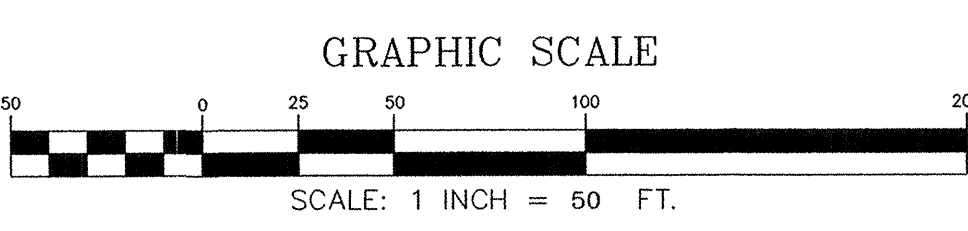
A circular professional seal for a Licensed Professional Engineer in the State of New Mexico. The seal features the text "STATE OF NEW MEXICO" around the top and "LICENSED PROFESSIONAL ENGINEER" around the bottom. In the center, the number "1621" is printed. Overlaid on the seal is a handwritten signature in black ink, which appears to be "Steve J. S.", and the license number "37216" is handwritten in blue ink.[illegible]



RETAINING WALL TABLE				
WALL POINT	TOP OF WALL ELEV	TOP OF FOOTING ELEV	WALL HEIGHT (FT)	APPROX. WALL LENGTH (FT)
8-1	20.67	17.33	3.33	35.00
8-2	20.67/21.33	17.33/16.00	5.33	50.00
8-3	21.33	16.00/16.67	4.67	40.00
8-4	21.33/22.00	16.67/17.33	4.67	40.00
8-5	22.00	17.33/18.67	3.33	40.00
8-6	22.00/22.67	18.67/19.33	3.33	40.00
8-7	22.67	19.33/20.00	3.33	40.00
8-8	22.67	20.00	2.67	40.00
9-1	21.33	20.00		
9-2	21.33-22.67	20.00	1.33-2.67	12.00
9-3	22.67	20.00/20.67	2.67	20.00
9-4	22.67	20.67	2.00	30.00
10-1	7.00	4.33		
10-2	7.00	4.33	2.67	50.00
11-1	2.67	0.00		
11-2	2.67/3.33	0.00/0.67	2.67	40.00
11-3	3.33/4.00	0.67/1.33	2.67	20.00
11-4	4.00	1.33		
12-1	2.00	98.67	3.33	20.00
12-2	2.00	98.67/98.00	4.00	27.00
12-3	2.00/1.33	98.00	3.33	28.00
12-4	1.33/0.67	98.00	2.67	35.00
12-5	0.67	98.00		

LONGFORD HOMES
APPROVED FOR GRADING

- LEGEND
- RETAINING WALL
 - HIGH POINT
 - DIRECTION OF FLOW
 - E LINE ELEVATION
 - BASIN BOUNDARY
 - TYPE DOUBLE A INLET



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PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP**

**LONGFORD AT ARROWWOOD
GRADING & DRAINAGE PLAN**

Design Review Committee

City Engineer Approval

Last Design Update

City Project No.
747281

Zone Map No.
C-9-Z

Sheet
6 of
52

NO.	DATE	REMARKS	BY
		DESIGNED BY	
		DRAWN BY	
		CHECKED BY	
		DATE	
		DATE	
		DATE	

CONTRACTOR

WORK STAGED BY

FIELD ACCEPTANCE BY

DESIGNED BY

CHECKED BY

RECORDED BY

NO.

DATE

DATE

DATE

DATE

DATE

DATE

AS-BUILT INFORMATION

BENCH MARKS

SURVEY INFORMATION

ENGINEER'S SEAL

USC&GS BRASS TABLET STAMPED

"TRANS. 1969", LOCATED 6 MILES SOUTHWEST OF DOWNTOWN ALBUQUERQUE IN THE RIGHT-OF-WAY OF A PLAINS ELECTRIC CO-OP TRANSMISSION LINE

ELEVATION = 5118.370 FT.

NGVD 29 U.S. FEET

NO.

DATE

BY

REVISIONS

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY

DRAWN BY

CHECKED BY

DATE

DATE

DATE

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REVISIONS

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY

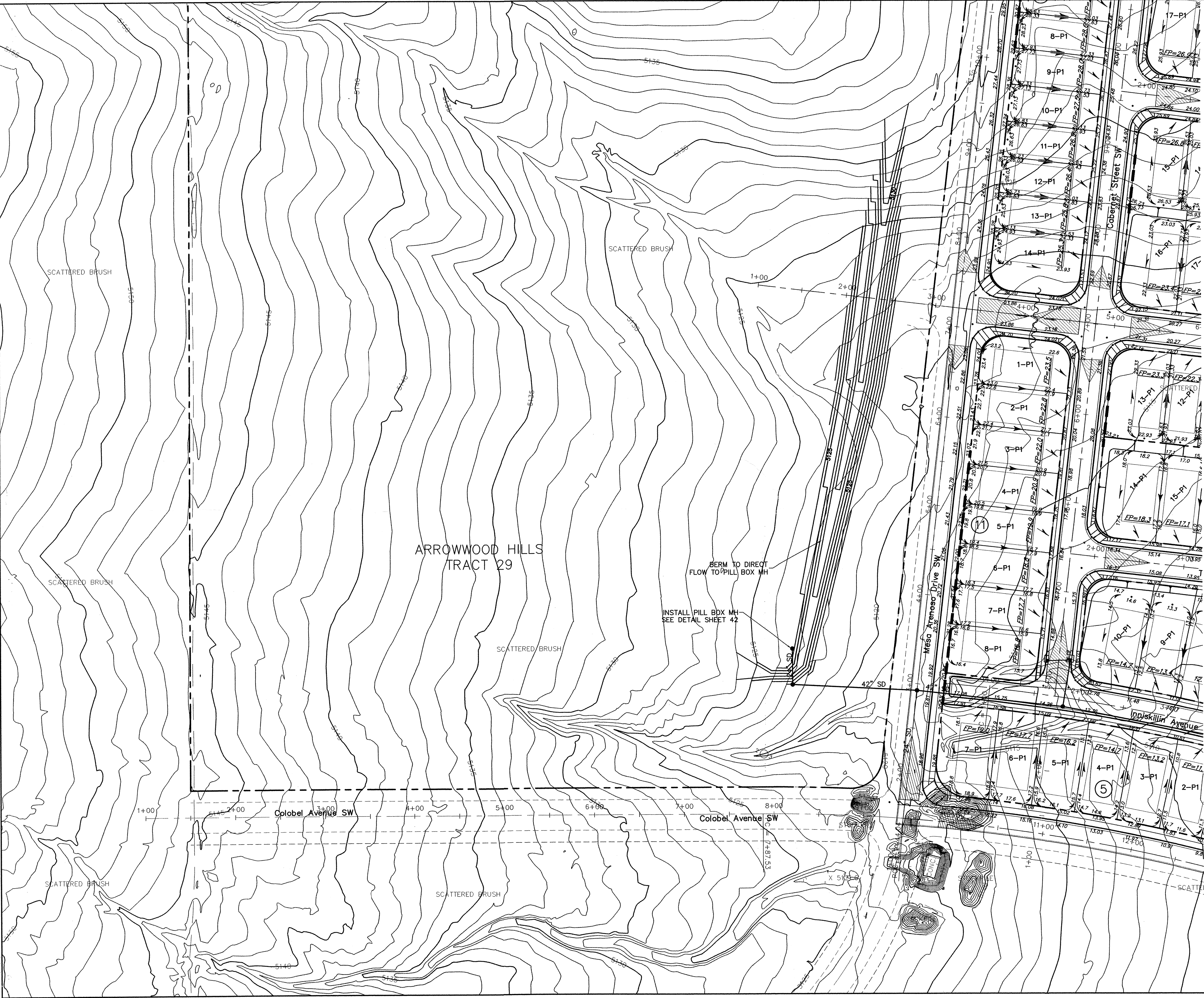
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DATE

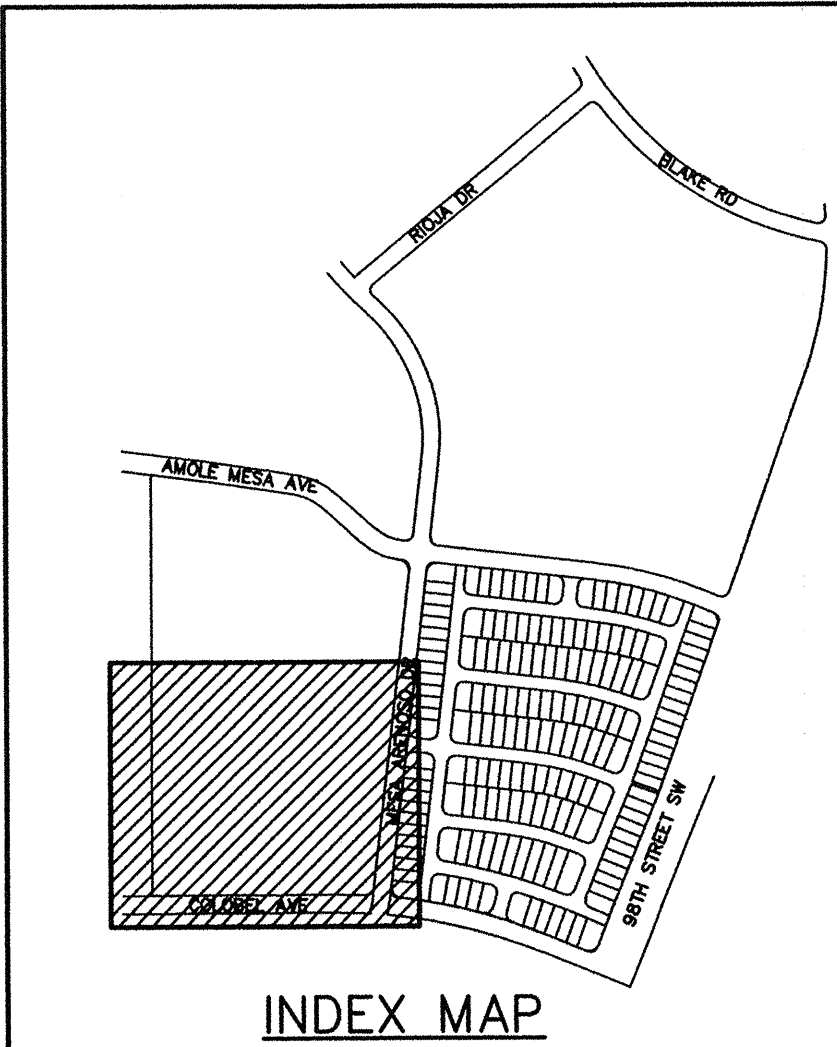
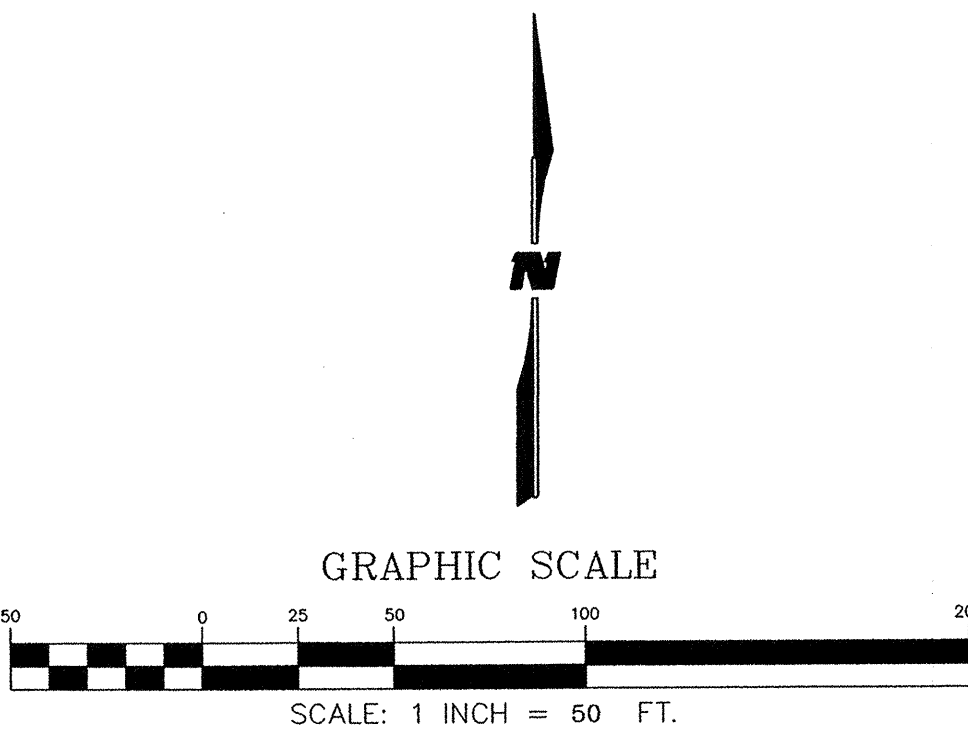
DATE

DATE



- LEGEND**
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 - ~ HIGH POINT
 - DIRECTION OF FLOW
 - XX.XX E LINE ELEVATION
 - BASIN BOUNDARY
 - ⌐ TYPE DOUBLE C INLET

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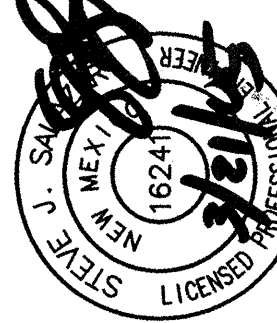
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LONGFORD AT ARROWWOOD
GRADING & DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. **747281** Zone Map No. **C-9-Z**

Sheet **7** of **52**

BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		AS-BUILT INFORMATION	
USC&GS BRASS	TABLET STAMPED	NO.	DATE			NO.	DATE	CONTRACTOR	DATE
"TRANS, 1969"	LOCATED 6 MILES SOUTHWEST OF DOWNTOWN ALBUQUERQUE IN THE RIGHT-OF-WAY OF A PLANS ELECTRIC CO-OP TRANSMISSION LINE	BY				DESIGNED BY	DATE	WORK STAGED BY	DATE
ELEVATION = 5118.370 FT.						DRAWN BY	DATE	ACCEPTANCE BY	DATE
						CHECKED BY	DATE	VERIFICATION BY	DATE
								DRAWINGS BY	DATE
								MICRO-FILM INFORMATION	DATE
								RECORDED BY	DATE