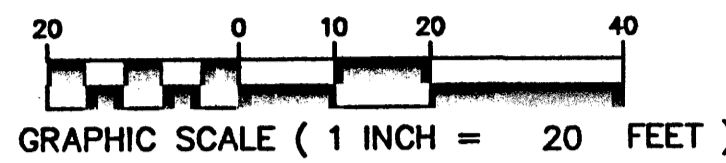


LOTS 17 AND 18, BLOCK 2, TRACT 2, UNIT 3, NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON SEPTEMBER 10, 1931, IN PLAT BOOK D1, PAGE 20.

### LEGAL DESCRIPTION



100-YEAR HYDROLOGIC CALCULATIONS											
BASIN #	AREA (acres)	LAND TREATMENT				WEIGHTED E (in)	V (6-hr) (acre-ft)	V (6-hr) (cu-ft)	V(10 day) (acre-ft)	V(10 day) (cu-ft)	Q (cfs)
		A (%)	B (%)	C (%)	D (%)						
EXISTING CONDITIONS											
BASIN #1	0.3798	100.00	0.00	0.00	0.00	0.86	0.02	910	0.02	910	0.71
BASIN #2	0.7822	100.00	0.00	0.00	0.00	0.86	0.02	910	0.02	910	1.48
BASIN #3	0.2774	100.00	0.00	0.00	0.00	0.86	0.02	865	0.02	865	0.52
TOTAL	1.4394						0.06	2,484	0.06	2,484	2.69
PROPOSED CONDITIONS											
BASIN #1	0.3798	0.00	21.03	27.88	51.11	1.75	0.06	2,425	0.09	4,046	1.55
BASIN #2	0.7822	0.00	6.21	14.49	78.30	2.12	0.14	6,007	0.26	11,196	3.63
BASIN #3	0.2774	0.00	16.80	39.44	43.65	1.69	0.04	1,706	0.06	2,718	1.11
TOTAL	1.4394						0.23	10,138	0.41	17,949	6.29
EXCESS PRECIP.		0.66	0.92	1.29	2.38	E (in)					
PEAK DISCHARGE		1.87	2.6	3.45	5.02	Qm (cfs)					
WEIGHTED E (in) = (Ea)(%A) + (Eb)(%B) + (Ec)(%C) + (Ed)(%D)							ZONE = 3				
Vmax (acre-ft) = (WEIGHTED E)(AREA)/12							Pmax (in.) = 2.60				
V10day (acre-ft) = Vmax + (Ac)(P10day - Pmax)/12							P10day (in.) = 3.10				
Q (cfs) = (Qm)(Ac) + (Qp)(Aa) + (Qc)(Ac) + (Qm)(Ab)							Pmax (in.) = 4.90				

### DRAINAGE INFORMATION

#### LOCATION & DESCRIPTION

THE PROPOSED SITE IS 2.00 ACRES LOCATED ON THE NORTH SIDE OF OAKLAND AVENUE AT THE NORTHWEST CORNER WITH WYOMING AS SEEN ON THE ATTACHED VICINITY MAP. THE SITE IS CURRENTLY UNDEVELOPED. THE LOTS TO THE NORTH AREA ALSO UNDEVELOPED. THE LOT TO THE WEST IS DEVELOPED AS A WALLED RESIDENTIAL SUBDIVISION. WYOMING BOULEVARD BORDERS THE EAST SIDE OF THE SITE AND OAKLAND AVENUE BORDERS THE SOUTH PROPERTY LINE. THE PROPOSED DEVELOPMENT WILL BE TEN (10) SINGLE FAMILY RESIDENTIAL LOTS ON CUL-DE-SACS.

#### FLOODPLAIN STATUS

THIS PROJECT, AS SHOWN ON FEMA'S FLOOD INSURANCE RATE MAP 35001C0141 F, DATED NOVEMBER 19, 2003 IS NOT WITHIN A DESIGNATED 100-YEAR FLOODPLAIN. AN EXHIBIT WITH THE SITE SHOWN ON THE FIRM PANEL IS INCLUDED ON THIS SHEET.

#### METHODOLOGY

THE HYDROLOGY FOR THIS PROJECT WAS ANALYZED USING THE QUICK CALCULATIONS OF THE JUNE 1997 RELEASE OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

#### PRECIPITATION

THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 3 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2. TABLES WITHIN THIS SECTION WAS USED TO ESTABLISH THE 6-HOUR PRECIPITATION, EXCESS PRECIPITATION, AND PEAK DISCHARGE.

#### EXISTING DRAINAGE

THIS LOT TO THE WEST IS A DEVELOPED WALLED COMMUNITY WITH THE DEVELOPED DRAINAGE CONVEYED TO OAKLAND AVENUE AND AWAY FROM THIS SITE. THE LOT TO THE NORTH IS UNDEVELOPED BUT DUE TO THE EXISTING RIDGE LINE NEAR THE NORTH PROPERTY LINE OF THIS SITE, THE RUNOFF DIRECTION IS TOWARD THE NORTHWEST AWAY FROM THIS LOT. OAKLAND AVENUE, BORDERING THE SITE ON THE SOUTH, IS A CURBED SECTION THAT WILL CONTAIN THE RUNOFF AND CONVEY IT WEST TO THE EXISTING STORM DRAIN SYSTEM IN OAKLAND TO THE WEST.

ALTHOUGH WYOMING BOULEVARD HAS TEMPORARY CURBS ON THE WEST SIDE WHERE IT BORDERS THIS SITE, IT HAS A DIP SECTION TO ALLOW THE RUNOFF IN THE LA CUEVA ARROYO TO CROSS INTO THE SOIL CEMENT LINED SWALE AT THE NORTHEAST CORNER OF THIS SITE. THE RUNOFF IN THE ARROYO IS CONTAINED IN THE CHANNEL SECTION WHICH PROTECTS THIS SITE FROM THE FLOW BY USE OF THE EXISTING SOIL CEMENT BERM.

RUNOFF FROM THIS SITE IS TOWARD THE WEST AND SOUTHWEST IN A COMBINATION OF SHALLOW SHEET FLOW WITH SOME MINOR CONCENTRATED FLOW IN THE SWALE IN THE SOUTHEAST CORNER OF THE SITE. DUE TO A MINOR RIDGE LINE THAT RUNS IN AN EAST/WEST DIRECTION THROUGH THE CENTER OF THE SITE, SOME RUNOFF, IN THE UNDEVELOPED STATE, FROM THE NORTHERN PORTION OF THE SITE FLOWS INTO THE ADJACENT LOT (LOT 19). THE RUNOFF FROM THE SOUTHERN PORTION OF THE SITE COLLECTS IN OAKLAND AVENUE.

#### DEVELOPED CONDITION

THIS SITE WILL BE DEVELOPED WITH THE LOTS NORTH OF EAST/WEST PORTION OF KUMAIL COURT (EXCEPT FROM LOT 3 ON THE WEST END) AND THE LOTS EAST OF THE STEM PORTION OF KUMAIL COURT DRAINING TO KUMAIL. KUMAIL COURT WILL CONVEY THE RUNOFF DIRECTLY TO OAKLAND AVENUE. LOTS 2 AND 3 ON THE WEST END OF THE SITE ARE PROPOSED TO DRAIN WEST INTO A 5-FOOT WIDE GRAVEL/PAVE CHANNEL (IN A DEDICATED DRAINAGE EASEMENT) ALONG THE WEST PROPERTY LINE. THE CHANNEL WILL DIRECT THE RUNOFF INTO OAKLAND THROUGH A SIDEWALK CULVERT. LOT 1 WILL DRAIN TOWARD ITS SOUTHWEST CORNER AND DISCHARGE DIRECTLY INTO OAKLAND THROUGH AN 8 X 16 OPENING IN THE SITE WALL. BECAUSE OF THE GRADING PROPOSED IN THIS GRADING PLAN, THE RUNOFF FROM THIS SITE THAT NOW FLOWS INTO LOT 19 TO THE WEST WILL BE CUT OFF AND DIRECTED AWAY FROM THAT LOT.

48-FOOT OF THE WESTERN PORTION OF THE SITE WILL BE DEDICATED TO THE CITY AS REQUIRED RIGHT-OF-WAY FOR FUTURE WIDENING OF WYOMING BOULEVARD. THIS AREA OF LAND CURRENTLY DRAINS TOWARD THE WEST AND SOUTHWEST JUST AS THE BALANCE OF THE SITE DOES. DUE TO THE PROPOSED LAYOUT OF THIS SUBDIVISION, THE EXISTING RUNOFF FROM THE 48-FOOT STRIP WOULD FLOW DIRECTLY INTO THE NEW LOTS. THIS PLAN HAS PROPOSED A RETAINING WALL ALONG THE NEW EAST PROPERTY LINE TO ISOLATE THE FLOW. TO PROTECT THE WALL FROM PONDING WATER, A 4:1 FILL SLOPE IS PROPOSED ON THE EAST SIDE OF THE WALL TO PUSH THE PONDING EAST AWAY FROM THE WALL. HOWEVER, THIS EXCESS 48-FOOT OF RIGHT-OF-WAY WILL CONTINUE TO POND UNTIL THE FUTURE WIDENING OF WYOMING IS COMPLETED.

LARRY READ & ASSOCIATES, Inc.  
Civil Engineers  
4800-C Juan Tabo Blvd. NE  
Albuquerque, New Mexico 87111  
(505) 237-8421

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP	
TITLE: KUMAIL SUBDIVISION GRADING AND DRAINAGE PLAN	
DESIGN REVIEW COMMITTEE	QTY ENGINEER APPROVAL
LAST DESIGN DATE	MO./DAY/YR.
PROJECT NO.	MAP NO. C-20
SHEET OF	

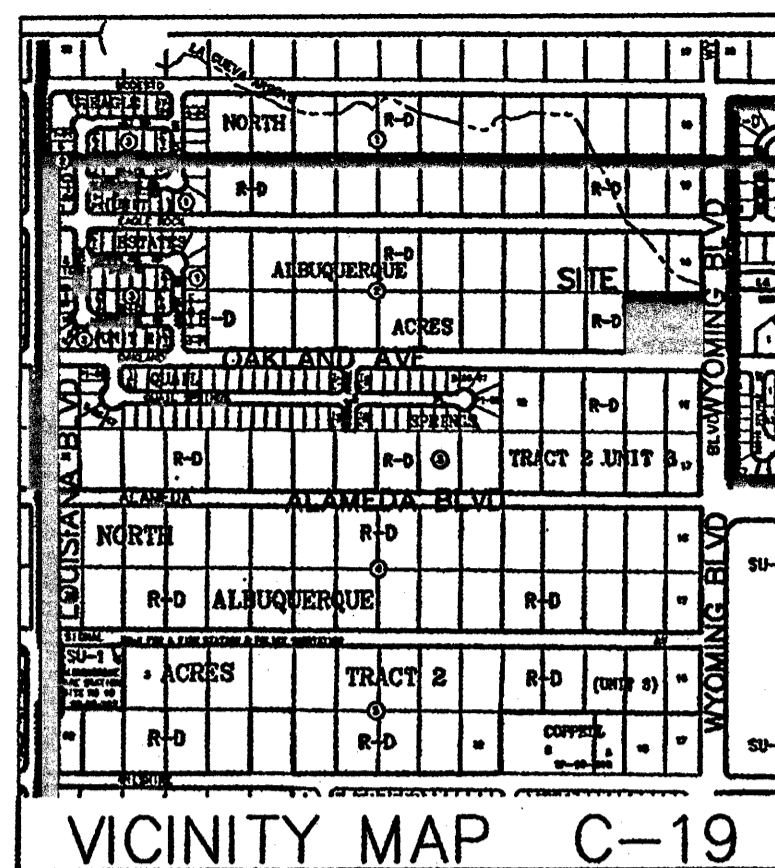
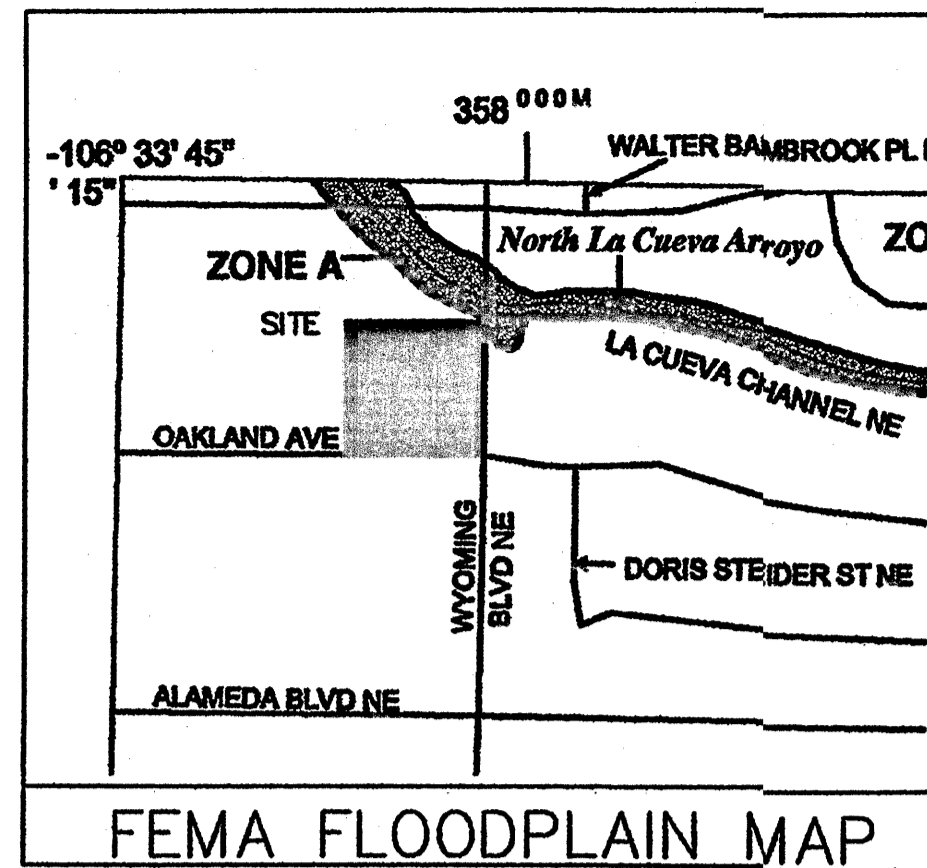
AS BUILT INFORMATION	
CONTRACTOR	DATE
WORK	DATE
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ACCEPTANCE BY	DATE
FIELD	DATE
CHECKED BY	DATE
RECORDED BY	DATE
MICROFILM INFORMATION	
DATE	DATE

BENCH MARKS	
ACS STATION 1-820	DATE
THE CONCRETE CURB, NW QUADRANT OF BARSTOW STREET AND	DATE
OF MODESTO AVENUE NE AND BARSTOW AVENUE NE	DATE
ELEVATION = 5474.533 (NGVD 29)	DATE

SURVEY INFORMATION	
FIELD NOTES	DATE
BY	DATE
NO.	DATE
1	DATE
WAYPOINT SURVEYING	DATE
333 LOUISIANA BLVD NE	DATE
RIO RANCHO, NM 87108	DATE
PHONE: (505) 255-2052	DATE
FAX: (505) 255-2887	DATE

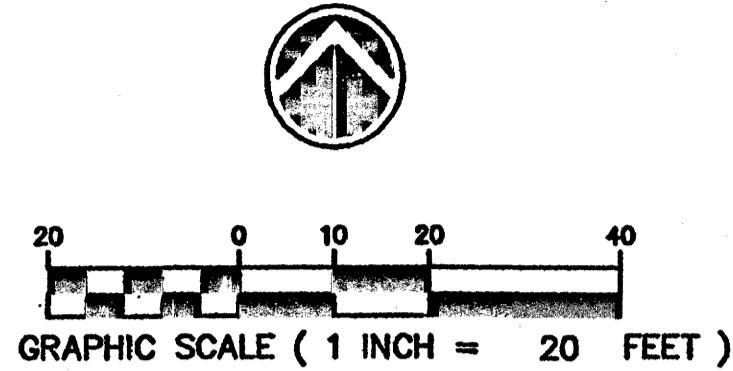
ENGINEER'S SEAL	
DATE	DATE
DESIGNED BY LRA	DATE
DRAWN BY LRA	DATE
CHECKED BY LRA	DATE

REMARKS	
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LOTS 17 AND 18, BLOCK 2, TRACT 2, UNIT 3, NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON SEPTEMBER 10, 1931, IN PLAT BOOK D1, PAGE 20.

**LEGAL DESCRIPTION**



100-YEAR HYDROLOGIC CALCULATIONS											
BASIN #	AREA (acre)	LAND TREATMENT				WEIGHTED E (in)	V (6-hr) (cu-ft)	V (6-hr) (cu-ft)	V (10 day) (cu-ft)	V (10 day) (cu-ft)	Q (cfs)
		A (%)	B (%)	C (%)	D (%)						
BASIN #1	0.3798	100.00	0.00	0.00	0.00	0.06	0.02	910	0.02	910	0.71
BASIN #2	0.7822	100.00	0.00	0.00	0.00	0.06	0.02	910	0.02	910	1.46
BASIN #3	0.2774	100.00	0.00	0.00	0.00	0.06	0.02	665	0.02	665	0.52
TOTAL	1.4394						0.06	2,484	0.06	2,484	2.69
PROPOSED CONDITIONS											
BASIN #1	0.3798	0.00	21.03	27.88	51.11	1.76	0.06	2,425	0.09	4,048	1.55
BASIN #2	0.7822	0.00	6.21	14.49	79.30	2.12	0.14	6,007	0.26	11,186	3.63
BASIN #3	0.2774	0.00	16.80	39.44	43.68	1.89	0.04	1,706	0.06	2,718	1.11
TOTAL	1.4394						0.23	10,138	0.41	17,949	6.29
EXCESS PRECIP. 0.68 0.92 1.29 2.36 E (in)											
PEAK DISCHARGE 1.87 2.6 3.45 5.02 Qn (cfs)											
WEIGHTED E (in) = (E1)(A1) + (E2)(A2) + (E3)(A3) + (E4)(A4)											
V6hr (cu-ft) = (WEIGHTED E)(AREA)(12)											
V10day (cu-ft) = V6hr + (A1)(P6hr - P10day)12											
Q (cfs) = (Qn)(A1) + (Qn)(A2) + (Qn)(A3) + (Qn)(A4)											
ZONE = 3											
P6hr (in.) = 2.60											
P10day (in.) = 3.10											
P6hr (in.) = 4.00											

## DRAINAGE INFORMATION

### LOCATION & DESCRIPTION

THE PROPOSED SITE IS 2.00 ACRES LOCATED ON THE NORTH SIDE OF OAKLAND AVENUE AT THE NORTHWEST CORNER WITH WYOMING AS SEEN ON THE ATTACHED VICINITY MAP. THE SITE IS CURRENTLY UNDEVELOPED. THE LOTS TO THE NORTH ARE ALSO UNDEVELOPED. THE LOT TO THE WEST IS DEVELOPED AS A WALLED RESIDENTIAL SUBDIVISION. WYOMING BOULEVARD BORDERS THE EAST SIDE OF THE SITE AND OAKLAND AVENUE BORDERS THE SOUTH PROPERTY LINE. THE PROPOSED DEVELOPMENT WILL BE TEN (10) SINGLE FAMILY RESIDENTIAL LOTS ON CUL-DE-SACS.

### FLOODPLAIN STATUS

THIS PROJECT, AS SHOWN ON FEMA'S FLOOD INSURANCE RATE MAP 35001C0141 F, DATED NOVEMBER 19, 2003 IS NOT WITHIN A DESIGNATED 100-YEAR FLOODPLAIN. AN EXHIBIT WITH THE SITE SHOWN ON THE FIRM PANEL IS INCLUDED ON THIS SHEET.

### METHODOLOGY

THE HYDROLOGY FOR THIS PROJECT WAS ANALYZED USING THE QUICK CALCULATIONS OF THE JUNE 1997 RELEASE OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

### PRECIPITATION

THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 3 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2. TABLES WITHIN THIS SECTION WAS USED TO ESTABLISH THE 6-HOUR PRECIPITATION, EXCESS PRECIPITATION, AND PEAK DISCHARGE.

### EXISTING DRAINAGE

THIS LOT TO THE WEST IS A DEVELOPED WALLED COMMUNITY WITH THE DEVELOPED DRAINAGE CONVEYED TO OAKLAND AVENUE AND AWAY FROM THE SITE. THE LOT TO THE NORTH IS UNDEVELOPED BUT DUE TO THE EXISTING RIDGE LINE NEAR THE NORTH PROPERTY LINE OF THIS SITE, THE RUNOFF DIRECTION IS TOWARD THE NORTHWEST AWAY FROM THIS LOT. OAKLAND AVENUE, BORDERING THE SITE ON THE SOUTH, IS A CURBED SECTION THAT WILL CONTAIN THE RUNOFF AND CONVEY IT WEST TO THE EXISTING STORM DRAIN SYSTEM IN OAKLAND TO THE WEST.

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### DEVELOPED CONDITION

THIS SITE WILL BE DEVELOPED WITH THE LOTS NORTH OF EAST/WEST PORTION OF KUMAIL COURT (EXCEPT FROM LOT 3 ON THE WEST END) AND THE LOTS EAST OF THE STEM PORTION OF KUMAIL COURT DRAINING TO KUMAIL. KUMAIL COURT WILL CONVEY THE RUNOFF DIRECTLY TO OAKLAND AVENUE. LOTS 2 AND 3 ON THE WEST END OF THE SITE ARE PROPOSED TO DRAIN WEST INTO A 5-FOOT WIDE GRAVEL/PAVE CHANNEL (IN A DEDICATED DRAINAGE EASEMENT) ALONG THE WEST PROPERTY LINE. THE CHANNEL WILL DIRECT THE RUNOFF INTO OAKLAND THROUGH A SIDEWALK CULVERT. LOT 1 WILL DRAIN TOWARD ITS SOUTHWEST CORNER AND DISCHARGE DIRECTLY INTO OAKLAND THROUGH AN 8 X 16 OPENING IN THE SITE WALL. BECAUSE OF THE GRADING PROPOSED IN THIS GRADING PLAN, THE RUNOFF FROM THIS SITE THAT NOW FLOWS INTO LOT 19 TO THE WEST WILL BE CUT OFF AND DIRECTED AWAY FROM THAT LOT.

48-FOET OF THE WESTERN PORTION OF THE SITE WILL BE DEDICATED TO THE CITY AS REQUIRED RIGHT-OF-WAY FOR FUTURE WIDENING OF WYOMING BOULEVARD. THIS AREA OF LAND CURRENTLY DRAINS TOWARD THE WEST AND SOUTHWEST JUST AS THE BALANCE OF THE SITE DOES. DUE TO THE PROPOSED LAYOUT OF THIS SUBDIVISION, THE EXISTING RUNOFF FROM THE 48-FOOT STRIP WOULD FLOW DIRECTLY INTO THE NEW LOTS. THIS PLAN HAS PROPOSED A RETAINING WALL ALONG THE NEW EAST PROPERTY LINE TO ISOLATE THE FLOW. TO PROTECT THE WALL FROM PONDING WATER, A 4:1 FILL SLOPE IS PROPOSED ON THE EAST SIDE OF THE WALL TO PUSH THE PONDING EAST AWAY FROM THE WALL. HOWEVER, THIS EXCESS 48-FOET OF RIGHT-OF-WAY WILL CONTINUE TO POND UNTIL THE FUTURE WIDENING OF WYOMING IS COMPLETED.

### DRAINAGE CERTIFICATION

I, Larry D. Read, NMPE 10998, of the firm Larry Read & Associates, Inc., hereby certify that this project has been graded and will drain in substantial compliance with and in accordance with the design intent of the approved plan dated 1-3-2005. The record information edited onto the original design document has been obtained by Thomas Johnston, NMPS 14269, of the firm Wayjohn Surveying. I further certify that I have personally visited the project site on 1/17/2007 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Release of Financial Guaranty.

Exceptions: The pad elevation on Lot 3P1 was raised to correct a typo in the original design.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the Grading and Drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.



LARRY READ & ASSOCIATES, Inc.  
Civil Engineers  
4800-C Juan Tabo Blvd. NE  
Albuquerque, New Mexico 87111  
(505) 237-8421

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP		<b>RECEIVED</b>	
TITLE: KUMAIL SUBDIVISION GRADING AND DRAINAGE PLAN		JAN 31 2008 HYDROLOGY SECTION	
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	DATE	MO./DAY/YR.
PROJECT NO.	MAP NO. C-20	SHEET	OF

LOT 14 BLOCK 2  
ACT 2 UNIT 3  
ALBUQUERQUE ACRES  
(FILED 9/10/1931 VOL D1, FOLIO 20)

LOT 15 BLOCK 2  
TRACT 2 UNIT 3  
NORTH ALBUQUERQUE ACRES  
(FILED 9/10/1931 VOL D1, FOLIO 20)

