

LEGEND

CATVR CABLE TELEVISION RISER  
CMU CONCRETE MASONRY UNIT  
FH FIRE HYDRANT  
FL FLOWLINE  
INV. INVERT ELEVATION  
SAS SANITARY SEWER  
SAS MH SANITARY SEWER MANHOLE  
SW SIDEWALK  
TC TOP OF ASPHALT  
TCO TOP OF CURB  
TCO TOP OF CONCRETE

TR TELEPHONE RISER  
TS TRAFFIC SIGN  
TW TOP OF WALL  
WCR WHEELCHAIR RAMP  
WM WATER METER  
WVB WATER VALVE BOX  
O SMALL SHRUB  
- - - - - EXISTING SPOT ELEVATION  
- - - - - EXISTING CONTOUR

42.35 PROPOSED SPOT ELEVATION  
42 PROPOSED CONTOUR  
... DIRECTION OF FLOW  
PROPOSED ASPHALT  
PROPOSED CONCRETE

BOUNDARY TABLE

LINE	DIRECTION	DISTANCE
L1	S 89°31'26" E	135.11'
(L1)	EAST	135.00'
L2	S 00°07'34" W	234.00'
(L2)	SOUTH	
L3	N 89°31'26" W	135.11'
(L3)	WEST	135.00'
L4	N 00°07'34" E	234.00'
(L4)	NORTH	

PROJECT BENCHMARK

AN ACS 1 3/4" ALUMINUM DISK, STAMPED "ACS BM, 5-D20", EPOXYED TO TOP OF CONCRETE CURB, LOCATED AT THE SSW QUADRANT OF HOLBROOK STREET N.E. AND SAN BERNARDINO AVENUE N.E. ELEVATION = 5642.68 FEET (NGVD 29)

T.B.M.

A NAIL IN THE NORTH FACE OF THE CMU WALL APPROXIMATELY 1 FOOT ABOVE THE GROUND NEAR THE SOUTHWEST PROPERTY CORNER. ELEVATION = 5644.28 FEET (NGVD 29)

LEGAL DESCRIPTION

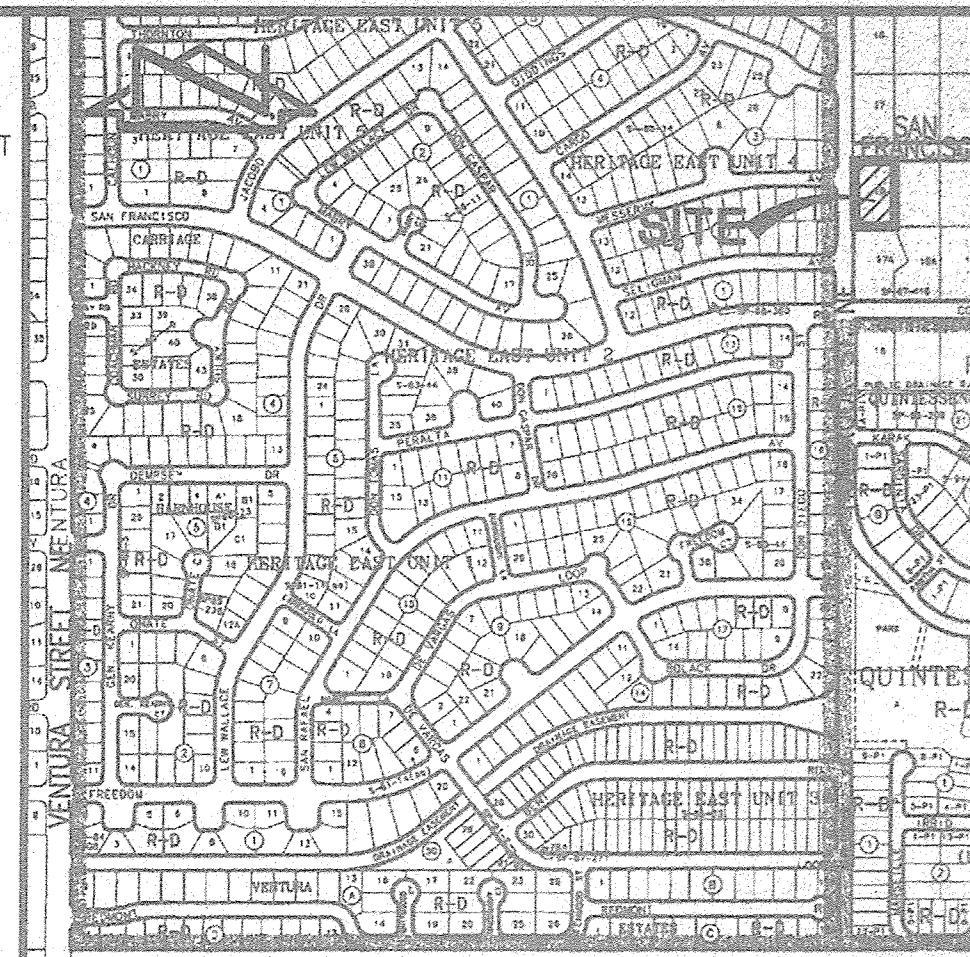
LOT 16, BLOCK 12, NORTH ALBUQUERQUE ACRES, TRACT 3, UNIT 2, BERNALILLO COUNTY, NEW MEXICO

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
4. ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

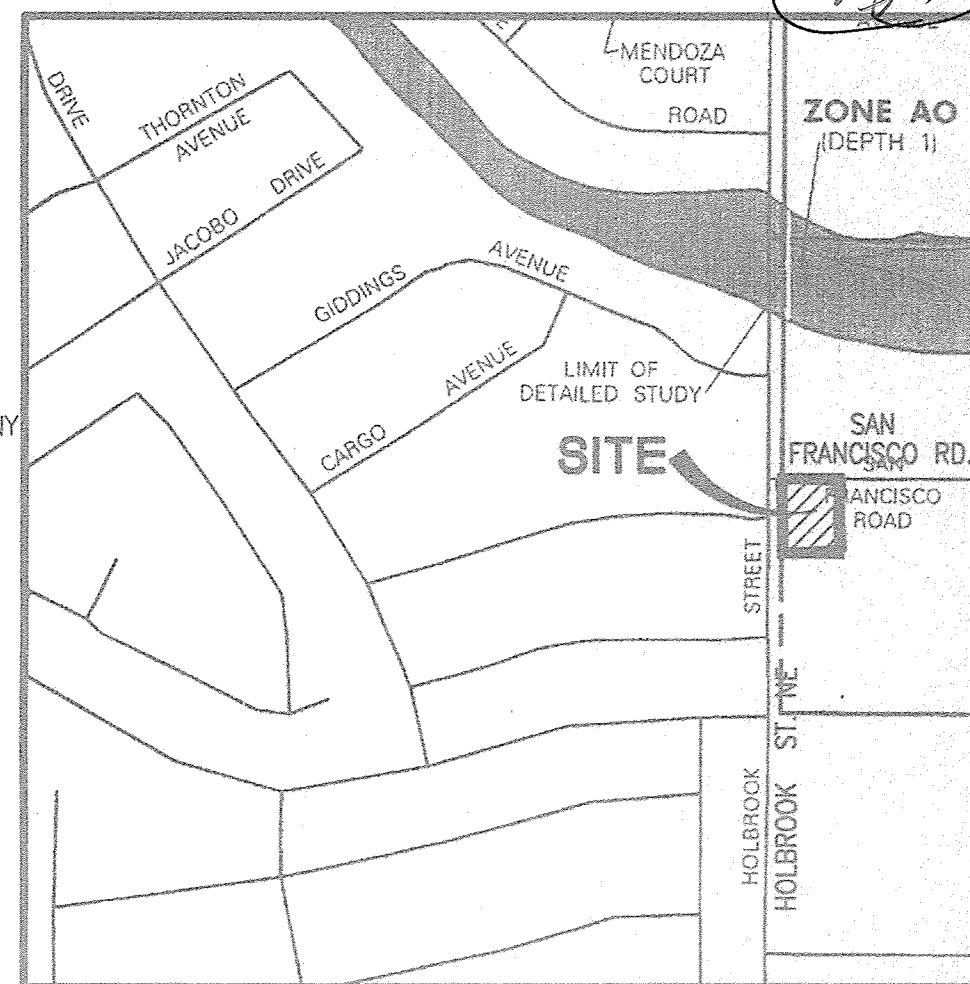
CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE BERNALILLO COUNTY STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.



VICINITY MAP

SCALE: 1" = 750'



F.I.R.M.

SCALE: 1" = 500'

PANEL 141 OF 825

INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE NORTH ALBUQUERQUE ACRES AREA OF THE NORTHEAST HEIGHTS REPRESENTS NEW CONSTRUCTION WITHIN A PREVIOUSLY PLATTED RESIDENTIAL AREA. THE DRAINAGE CONCEPT FOR THIS SPECIFIC LOT WILL BE THE FREE DISCHARGE OF RUNOFF TO THE EXISTING CITY STREET RUNNING ALONG THE WEST FRONTAGE OF THE PROPERTY. THIS SUBMITTAL IS MADE IN SUPPORT OF A RESIDENTIAL BUILDING PERMIT WITHIN THE JURISDICTION OF BERNALILLO COUNTY.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAN FRANCISCO NE AND HOLBROOK STREET NE. THE CURRENT LEGAL DESCRIPTION IS THE LOT 16, BLOCK 12, TRACT 3, UNIT 2, NORTH ALBUQUERQUE ACRES. AS SHOWN BY PANELS 141 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE WITHIN NOR UPSTREAM FROM A DESIGNATED FLOOD HAZARD ZONE (ZONE A).

III. BACKGROUND DOCUMENTS & RESEARCH

1. REVIEW AND RESEARCH OF BERNALILLO COUNTY RECORDS INDICATES THAT THIS SITE LIES JUST DOWNSTREAM OF PWD# 10065 (LOT 14) PREPARED BY DOUGLAS F. WOLF, NMPE12341, DATED 5-21-01. THAT PLAN IDENTIFIED A DISCHARGE OF 2.5 CFS FROM THE SITE TO THE WEST TOWARD LOT 16. THIS 2.5 CFS REPRESENTS AN OFFSITE FLOW.
2. PRE-DESIGN CONFERENCE WITH CITY HYDROLOGY ON JANUARY 03, 2002, ALLOWING FOR THE LOWERING AND/OR REMOVAL OF THE EXISTING BERM ALONG THE WEST PROPERTY LINE OF THE SITE TO FACILITATE THE DRAINAGE OF THE SITE INTO THE HOLBROOK STREET N.E. RIGHT-OF-WAY. THIS WILL REQUIRE A DRAINAGE SUBMITTAL TO THE CITY IN ORDER TO OBTAIN AN EXCAVATION PERMIT FROM THE CITY.

IV. EXISTING CONDITIONS

THE TOPOGRAPHIC DATA PRESENTED HERewith DEMONSTRATES THE EXISTING CONDITIONS OF THE SITE. THE MOST NOTABLE FEATURES OF THE SITE ARE A BERM PREVIOUSLY GRADED BY OTHERS AT THE WEST PROPERTY LINE AND A NATURALLY OCCURRING DIP IN THE GRADE OF THE EAST PROPERTY LINE INTRODUCING MINOR OFFSITE FLOWS. AT PRESENT, NO CONSTRUCTION HAS TAKEN PLACE. THE SITE CURRENTLY SLOPES FROM EAST TO WEST. WITH THE EXCEPTION OF THE OFFSITE FLOWS IDENTIFIED BY PWD# 10065 AND ANTICIPATED DEVELOPED FLOWS FROM LOT 15, NO OTHER OFFSITE FLOWS ARE EXPECTED TO IMPACT THIS SITE. LOT 14 CUTS-OFF ANY RUNOFF GENERATED UPSTREAM OF THAT POINT AND DIVERTS THAT RUNOFF SOUTH AWAY FROM THIS SITE. THE SITE SITS TOPOGRAPHICALLY HIGHER THAN HOLBROOK STREET NE AND AT ABOUT THE SAME GRADE AS SAN FRANCISCO NE. REVIEW OF THE SURVEY DATA REVEALS THAT CITY WATER AND SANITARY SEWER ARE AVAILABLE TO THIS SITE.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF A SINGLE FAMILY RESIDENCE AND ASSOCIATED SITE IMPROVEMENTS. OFFSITE FLOWS WILL BE ACCEPTED AT THE EAST PROPERTY LINE AND CONVEYED BY GRADED FLOWLINE TOWARD THE SOUTHWEST CORNER OF THE SITE WHERE THOSE FLOWS WILL BE INTRODUCED INTO THE EXISTING BARDICH ALONG THE EAST EDGE OF HOLBROOK STREET NE. FROM THIS POINT, THE RUNOFF WILL FLOW SOUTH WITHIN THE HOLBROOK STREET RIGHT-OF-WAY TO EVENTUALLY ENTER PUBLIC (CITY) STORM INLETS AND ASSOCIATED PUBLIC DRAINAGE FACILITY REPRESENTING THE OUTFALL FOR THIS SITE. THE COLLECTION SYSTEM WAS BUILT AS PART OF THE QUINTESSENCE DEVELOPMENT AND WAS SIZED FOR A FULLY DEVELOPED WATERSHED. CONSEQUENTLY, THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS SINGLE FAMILY RESIDENTIAL PROPERTY IS ACCEPTABLE TO THE CITY, THE RECIPIENT OF THE STORMWATER.

VI. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS, 3.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 4.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE SITE WILL BE DEVELOPED IN A MANNER CONSISTENT WITH THE GUIDELINES FOR A TYPICAL NORTH ALBUQUERQUE ACRES RESIDENTIAL LOT. IT SHOULD BE NOTED, HOWEVER, THAT BECAUSE THIS IS A CORNER LOT, IT HAS LESS AREA AVAILABLE FOR DEVELOPMENT THAN A STANDARD MID-BLOCK LOT.

VII. CALCULATIONS

THE CALCULATIONS THAT APPEAR HEREON ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS, FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THESE CALCULATIONS, THERE WILL BE A MINOR INCREASE IN RUNOFF ASSOCIATED WITH THE PROPOSED IMPROVEMENTS. THE PROPOSED DEVELOPMENT IS IN KEEPING WITH THE PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE TRADITIONAL MIX OF LAND TREATMENTS OF 17 % D, 20 % C, 20 % B, AND 43 % A FOR A STANDARD NORTH ALBUQUERQUE ACRES 1-ACRE LOT.

VIII. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

1. THE PROPOSED DEVELOPMENT DOES NOT LIE WITHIN NOR ADVERSELY IMPACT A FEMA DESIGNATED FLOOD HAZARD ZONE.
2. OFFSITE FLOWS WILL BE ACCEPTED AND CONVEYED THROUGH THE SITE.
3. THE PROPOSED DEVELOPMENT IS IN KEEPING WITH THE PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE TRADITIONAL MIX OF LAND TREATMENTS OF 17 % D, 20 % C, 20 % B, AND 43 % A FOR A STANDARD NORTH ALBUQUERQUE ACRES 1- ACRE LOT.
4. THE SITE WILL BE SERVED BY CITY WATER AND SANITARY SEWER; PRIVATE ONSITE LIQUID WASTE DISPOSAL AND DOMESTIC WATER WELL ARE NOT PROPOSED.
5. THE FREE DISCHARGE OF RUNOFF FROM THIS SITE TO THE HOLBROOK STREET IS APPROPRIATE; PONDING IS NOT WARRANTED.

IX. CERTIFICATION

I, JEFFREY G. MORTENSEN, NMPE 8547, DO HEREBY CERTIFY THAT I PERSONALLY VISITED THE SUBJECT SITE ON DECEMBER 18, 2001. AT THAT TIME THERE WAS NO EVIDENCE OF RECENT SITE GRADING OR ONSITE CONSTRUCTION ACTIVITY. THE CONTOUR OF THE LAND APPEARED CONSISTENT WITH THE OVERALL DRAINAGE PATTERN AND TOPOGRAPHY AS SHOWN HEREON.

JEFFREY G. MORTENSEN, NMPE 8547



CALCULATIONS

I. PRECIPITATION ZONE = 3

II.  $P_{360} = 2.60$  IN

III. TOTAL AREA ( $A_T$ ) = 31,620 SF/0.73 AC

IV. EXISTING LAND TREATMENT

TREATMENT AREA	(SF/AC)	%
A	29,320/0.67	93
C	2,300/0.05	07

V. DEVELOPED LAND TREATMENT

A. ONSITE TREATMENT AREA	(SF/AC)	%
A	6,500/0.15	21
B	17,100/0.39	54
C	2,000/0.05	06
D	6,020/0.14	19

B. OFFSITE (LOT 15) 38,600 SF/0.89 AC

USING TYPICAL NORTH ALBUQ. ACRES TREATMENT PERCENTAGES	(SF/AC)	%
A	16,600/0.38	43
B	7,720/0.18	20
C	7,720/0.18	20
D	6,560/0.15	17

VI. EXISTING CONDITION

1. VOLUME

$$E_w = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_w = 0.66(0.67) + 1.29(0.05)/0.73 = 0.69 \text{ IN}$$
$$V_{100,6-HR} = (E_w/12) A_T$$
$$V_{100,6-HR} = (0.69/12) 0.73 = 0.0422 \text{ AC-FT} = 1,840 \text{ CF}$$

$$V_{100,6-HR} = (0.69/12) 0.73 = 0.0422 \text{ AC-FT} = 1,840 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_p = Q_{100} = 1.87(0.67) + 3.45(0.05) = 1.4 \text{ CFS}$$

VIII. DEVELOPED CONDITION

A. ONSITE

1. VOLUME

$$E_w = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_w = 0.66(0.15) + 0.92(0.39) + 1.29(0.05) + 2.36(0.14)/0.73 = 1.17 \text{ IN}$$
$$V_{100,6-HR} = (E_w/12) A_T$$
$$V_{100,6-HR} = (1.17/12) 0.73 = 0.0711 \text{ AC-FT} = 3,100 \text{ CF}$$

$$V_{100,6-HR} = (1.17/12) 0.73 = 0.0711 \text{ AC-FT} = 3,100 \text{ CF}$$

$$V_{100,6-HR} = (1.17/12) 0.73 = 0.0711 \text{ AC-FT} = 3,100 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_p = Q_{100} = 1.87(0.15) + 2.60(0.39) + 3.45(0.05) + 5.02(0.14) = 2.2 \text{ CFS}$$

B. OFFSITE

1. VOLUME (LOT 15, TYPICAL LOT)

$$E_w = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_w = 0.66(0.38) + 0.92(0.18) + 1.29(0.18) + 2.36(0.15)/0.89 = 1.13 \text{ IN}$$
$$V_{100,6-HR} = (E_w/12) A_T$$
$$V_{100,6-HR} = (1.13/12) 0.89 = 0.0835 \text{ AC-FT} = 3,640 \text{ CF}$$

2. PEAK DISCHARGE (LOT 15, TYPICAL LOT)

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_p = Q_{100} = 1.87(0.38) + 2.60(0.18) + 3.45(0.18) + 5.02(0.15) = 2.6 \text{ CFS}$$

3. TOTAL OFFSITE FLOWRATE

$$Q_{\text{OFFSITE}} = Q_{p, \text{LOT 15}} + Q_{p, \text{LOT 14}}$$

WHERE  $Q_{\text{LOT 14}} = 2.5 \text{ CFS}$  (PER PWD# 10065)

$$Q_{\text{OFFSITE}} = 2.6 + 2.5 = 5.1 \text{ CFS}$$

IX. COMPARISON

A. ONSITE DEVELOPED VERSUS EXISTING

1. VOLUME

$$\Delta V_{100,6-HR} = 3,100 - 1,840 = 1,260 \text{ CF (INCREASE)}$$

2. PEAK DISCHARGE

$$\Delta Q_{100} = 2.2 - 1.4 = 0.8 \text{ CFS (INCREASE)}$$

B. COMPARE TO TYPICAL NORTH ALBUQ. ACRES LOT

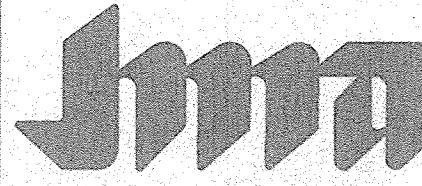
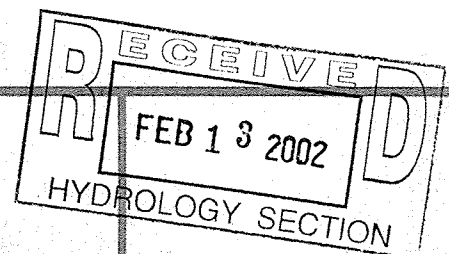
1. VOLUME

$$V_{100,6-HR} = 3,100 \text{ CF} < V_{100,6-HR, \text{LOT 15}} = 3,640 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_{100} = 2.2 \text{ CFS} < Q_{100, \text{LOT 15}} = 2.6 \text{ CFS}$$

GRADING AND DRAINAGE PLAN  
NADINE GARCIA RESIDENCE  
LOT 16, BLOCK 12, NORTH  
ALBUQUERQUE ACRES, TRACT 3, UNIT 2



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APPROVED BY					SHEET
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