

I. EXECUTIVE SUMMARY AND INTRODUCTION

THE SUBJECT SITE CONTAINS TWO EXISTING RESIDENTIAL DUPLEXES WITH PROPOSED CONSTRUCTION CONSISTING OF TWO NEW TOWNHOMES. THE NEW PLATTING WILL BE A RECONFIGURATION OF 4 EXISTING LOTS SUCH THAT EACH BUILDING IS ON ITS OWN LOT. THE PROJECT IS AN INFILL SITE LOCATED NEAR DOWNTOWN ALBUQUERQUE. THE EXISTING DRAINAGE PATTERNS WILL NOT BE ALTERED FOR THE EXISTING STRUCTURES, AND THE NEW CONSTRUCTION WILL DRAIN TO AN EXISTING PUBLIC STORM DRAIN LOCATED WITHIN CLOSE PROXIMITY. THE PURPOSE OF THIS SUBMITTAL IS TO OBTAIN PLAT APPROVAL.

II. PROJECT DESCRIPTION:

AS SHOWN BY VICINITY / FLOODPLAIN MAP J-14 LOCATED HEREON, THE SITE IS LOCATED AT THE NE CORNER OF 6TH STREET NW AND GRANITE AVE NW. THE EXISTING LEGAL DESCRIPTION FOR THE SITE IS LOTS 12-15, BLOCK 1, GRANT TRACT. A PLATTING ACTION IS CURRENTLY IN PROCESS THAT WILL DIVIDE THE SITE INTO 4 RECONFIGURED LOTS. THE PROPOSED LEGAL DESCRIPTIONS ARE LOTS 12-A, 13-A, 14-A AND 15-A, BLOCK 1, GRANT TRACT. THE SITE IS ZONED SU-2 M/R/O.

AS SHOWN BY THE COA AGIS FLOOD MAP INFORMATION SUPERIMPOSED ON THE VICINITY MAP, THE SITE DOES NOT LIE NEAR ANY DESIGNATED FLOOD HAZARD ZONES.

III. BACKGROUND DOCUMENTS AND RELATED REQUIREMENTS

THE FOLLOWING IS A LIST OF DOCUMENTS RELATED TO THE SITE AND SURROUNDING AREA. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF RELEVANT PLANS AND DOCUMENTS THAT ARE KNOWN TO THE ENGINEER AT THE TIME OF PLAN PREPARATION. THEIR RELEVANCE IS DESCRIBED HEREIN.

- "PLAT OF LOTS 12-A, 13-A, 14-A & 15-A, BLOCK 1, GRANT TRACT" BY SURVEYS SOUTHWEST DATED MAY, 2004, DRB PROJECT #1003411 RECONFIGURE THE EXISTING 4 LOTS INTO 4 NEW LOTS. THE EASEMENTS, BOUNDARY INFORMATION AND LOT LINES SHOWN ON THIS GRADING PLAN ARE TAKEN FROM THIS PLAT. THIS GRADING PLAN IS INTENDED TO SUPPORT THIS PLATTING ACTION.
- "TOPOGRAPHIC EXHIBIT, LOTS 12, 13, 14 & 15, BLOCK 1, GRANT TRACT" BY SURVEYS SOUTHWEST DATED JUNE, 2004. THIS SURVEY, TRANSMITTED TO JMA ELECTRONICALLY, WAS USED AS THE BACKGROUND EXISTING CONDITIONS INFORMATION FOR THIS GRADING PLAN.

IV. EXISTING CONDITIONS:

THE SITE IS CURRENTLY DEVELOPED WITH TWO RESIDENTIAL DUPLEX BUILDINGS. 6TH STREET TO THE WEST AND GRANITE AVE TO THE SOUTH ARE DEVELOPED PUBLIC STREETS WITH PAVEMENT AND CURB AND GUTTER. THE SITE IS RELATIVELY FLAT, AND GENERALLY SLOPES FROM WEST TO EAST. SOME EXISTING RUNOFF WILL POND IN ON-SITE DEPRESSIONS, WITH OVERFLOW DRAINING TO THE EAST. THE EXISTING FINISHED FLOOR ELEVATIONS OF THE EXISTING DUPLEXES ARE LOCATED MORE THAN 2 VERTICAL FEET ABOVE THE PROPERTY LINES AND ADJACENT STREETS, AND ARE NOT SUBJECT TO FLOODING. THE EASTERN BUILDING HAS A BELOW GRADE CRAWL SPACE WITH 2 ACCESS POINTS. THE ELEVATIONS OF WHICH ARE VERY CLOSE TO OR SLIGHTLY BELOW THE ADJACENT SIDEWALK ELEVATIONS ALONG GRANITE. ALTHOUGH FLOODING IS UNLIKELY, THE RELATIVELY LOW GRADE OF THE ACCESS POINTS COMBINED WITH POTENTIAL PROPERTY LINE OBSTRUCTIONS THAT ARE BEYOND THE SITE'S CONTROL MAY ALLOW POSSIBILITY OF PONDED ON-SITE RUNOFF ENTERING THE CRAWL SPACE.

ALTHOUGH THERE ARE NO CLEAR DRAINAGE PATTERNS WITH RESPECT TO OFFSITE FLOWS, IT APPEARS THAT RUNOFF FROM THE SITE AND THE ADJACENT ALLEY MAY "MINGLE" WITH FLOWS FROM ADJACENT RESIDENTIAL PROPERTIES. EXISTING PUBLIC STORM DRAINS ARE LOCATED IN 6TH STREET AND GRANITE, AND STORM INLETS ARE LOCATED IN 6TH STREET NEAR THE INTERSECTION WITH GRANITE. DESPITE THE PRESENCE OF ADJACENT DRAINAGE FACILITIES, THE EXISTING TOPOGRAPHY PREVENTS SITE RUNOFF FROM DRAINING DIRECTLY TO THE ADJACENT PUBLIC STREETS.

V. PROPOSED CONDITIONS

THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF 2 NEW TOWNHOMES. AS SHOWN ON THE GRADING PLAN, ALL DEVELOPED ROOF DRAINAGE SHALL BE DIRECTED TO THE FRONT (WEST) OF THE LOTS WHERE IT SHALL DRAIN DIRECTLY TO 6TH STREET NW. DEVELOPED RUNOFF SHALL NOT BE DIRECTED TO THE ADJACENT ALLEY OR TO THE ADJACENT RESIDENTIAL PROPERTIES. THE REAR YARDS/DRIVEWAYS SHALL BE GRADED WITH SMALL DEPRESSIONS TO CATCH AND RETAIN THE NUISANCE FLOWS THAT LAND ON THEM. BUILDING UP THE PAD ELEVATIONS FOR THE TOWNHOMES AND DIRECTING THE RUNOFF TO 6TH STREET WILL IMPROVE AREA DRAINAGE BY REDUCING THE VOLUME OF WATER CURRENTLY PONDING ON SITE AND DRAINING TO ADJACENT PROPERTIES. IT WILL ALSO REDUCE THE CHANCES FOR PUBLIC ALLEY RUNOFF FROM ENTERING PRIVATE PROPERTY.

BECAUSE THE FLOOR ELEVATIONS FOR THE EXISTING DUPLEXES ARE WELL ABOVE ANY POTENTIAL FLOODING HAZARD, NO SITE GRADING IS PROPOSED IN THE AREA OF THE EXISTING HOMES. IMPROVEMENTS ARE PROPOSED, HOWEVER, TO THE ACCESS POINTS FOR THE CRAWL SPACE UNDER THE EASTERN DUPLEX. THE EXISTING ACCESSES HAVE CONCRETE CURBS AROUND THEM AND THE TOP OF CURB ELEVATIONS ARE VERY CLOSE TO THE TOP OF SIDEWALK ELEVATIONS, THEREBY ALLOWING THE POSSIBILITY OF ON-SITE PONDED RUNOFF ENTERING THE CRAWL SPACES. TO PREVENT THIS POSSIBILITY, IT IS RECOMMENDED HEREIN THAT THE CURBS BE EXTENDED OR RAISED.

VI. GRADING PLAN

THE GRADING PLAN ON SHEET 3 OF THIS SUBMITTAL SHOWS: 1) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1 FT INTERVALS FROM THE SURVEY BY SURVEYS SOUTHWEST (REF. B) 2) PROPOSED GRADES INDICATED BY FINISHED FLOOR ELEVATIONS, SPOT ELEVATIONS, AND CONTOURS AT 1 FT INTERVALS. 3) THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, 4) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 5) CONTINUITY BETWEEN PROPOSED AND EXISTING GRADES.

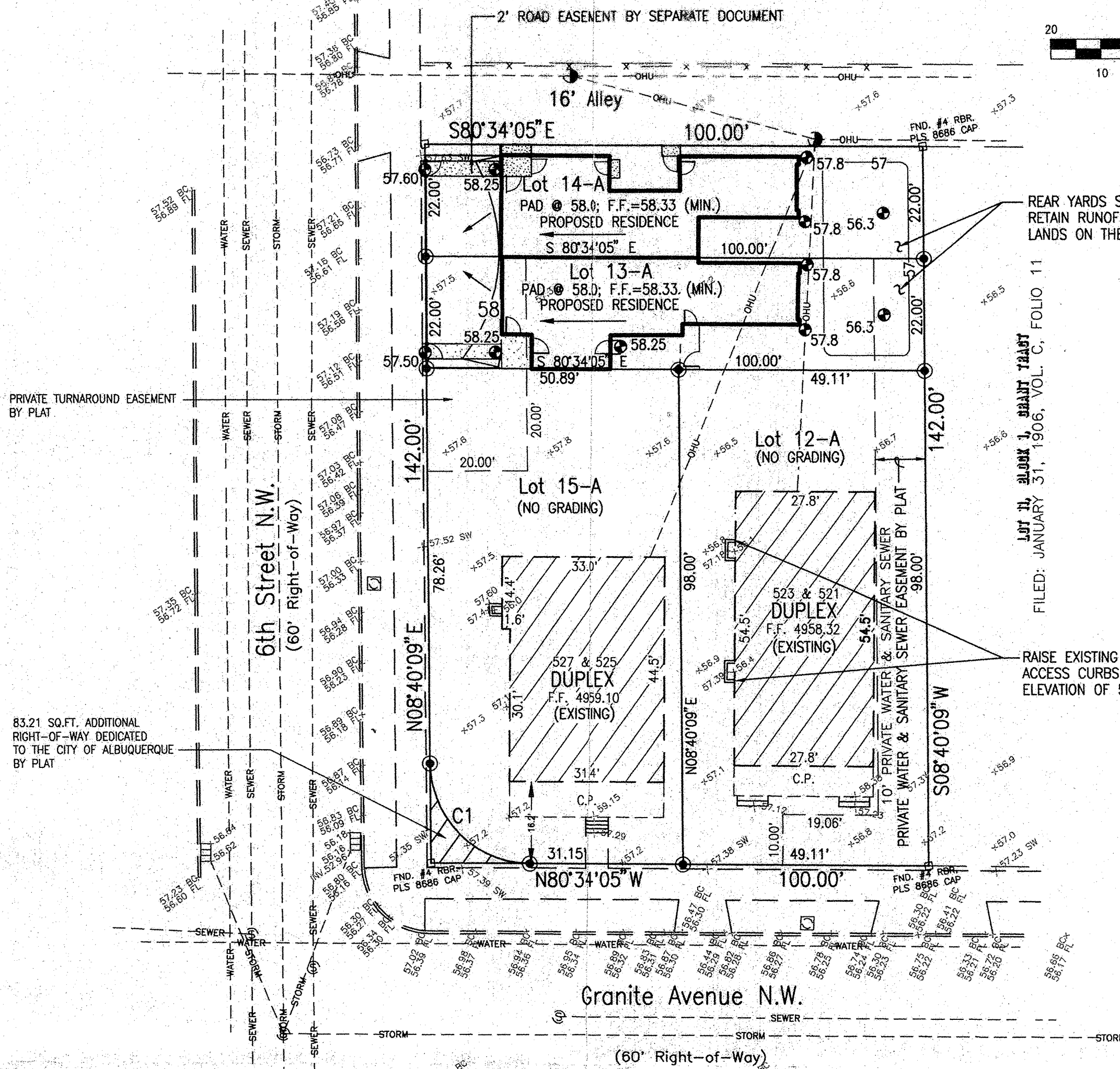
VII. CALCULATIONS

THE HYDROLOGY CALCULATIONS 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 FOR EACH BASIN. AS DEMONSTRATED BY THE CALCULATIONS, THE PROPOSED IMPROVEMENTS WILL GENERATE A MINOR (0.1 CFS) IN GROSS PEAK DISCHARGE FOR THE 100-YEAR STORM. THE EFFECTS OF THIS INCREASE WILL BE MORE THAN OFFSET BY THE FACT THAT APPROXIMATELY 30% OF THE SITE WILL NOW DRAIN TO PUBLIC STREET AND DRAINAGE FACILITIES INSTEAD OF BEING INFORMALLY RETAINED WITH OVERFLOW TO ADJACENT RESIDENTIAL PROPERTIES.

XIII. CONCLUSIONS

1) THE PROPOSED SITE IMPROVEMENTS REPRESENT A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. 2) THE NEW CONSTRUCTION WILL DRAIN TO EXISTING PUBLIC CITY STREETS WITH STORM DRAINAGE FACILITIES. 3) THE PROPOSED IMPROVEMENTS WILL RESULT IN A SLIGHT GROSS INCREASE IN SITE GENERATED VOLUME AND PEAK RATE OF DISCHARGE. 4) BY DIRECTING NEW CONSTRUCTION TO THE STREET, THERE A BENEFICIAL EFFECT OF REDUCING RUNOFF THAT WAS PREVIOUSLY RETAINED ON THE EXISTING LOT AND OVERFLOWED TO ADJACENT LOTS. 5) A PLATTING ACTION IS PENDING TO RECONFIGURE THIS SITE INTO FOUR NEW LOTS. 6) THERE ARE NO DESIGN VARIANCES, DRAINAGE EASEMENTS OR DRAINAGE COVENANTS ANTICIPATED AT THIS TIME.

DRAINAGE PLAN



NOTE: ALL DEVELOPED ROOF DRAINAGE SHALL BE DIRECTED TO 6th STREET

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C1	31.15	20.00	89°14'14"	28.10	S35°56'58" E

CALCULATIONS

I. PRECIPITATION ZONE = 2

$$II. P_{6,100} = P_{360} = 2.35$$

$$III. TOTAL AREA (A_T) = 0.326 AC$$

IV. EXISTING LAND TREATMENT

TREATMENT	AREA (AC)	%
C	0.238	73
D	0.088	27

V. DEVELOPED LAND TREATMENT

TREATMENT	AREA (AC)	%
B	0.032	10
C	0.130	40
D	0.164	50

VI. EXISTING CONDITION

A. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (E_C A_C + E_D A_D) / A_T$$

$$E_W = [0.238(1.13) + 0.088(2.12)] / 0.3260 = 1.40 IN$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.40 / 12) 0.3260 = 0.0379 ac-ft = 1650 CF$$

B. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = (3.14) 0.238 + (4.70) 0.088 = 1.2 cfs$$

VII. DEVELOPED CONDITION (PHASE 2)

A. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [0.032(0.78) + 0.130(1.13) + 0.164(2.12)] / 0.3260 = 1.6 IN$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.6 / 12) 0.3260 = 0.0433 ac-ft = 1895 CF$$

B. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$

$$Q_p = Q_{100} = 2.28(0.032) + 3.14(0.130) + 4.70(0.164) = 1.3 cfs$$

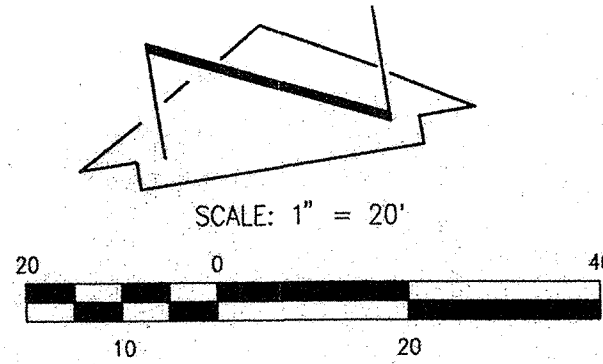
VIII. COMPARISON

A. VOLUME

$$\Delta V_{100} = 1895 - 1655 = 240 CF (INCREASE)$$

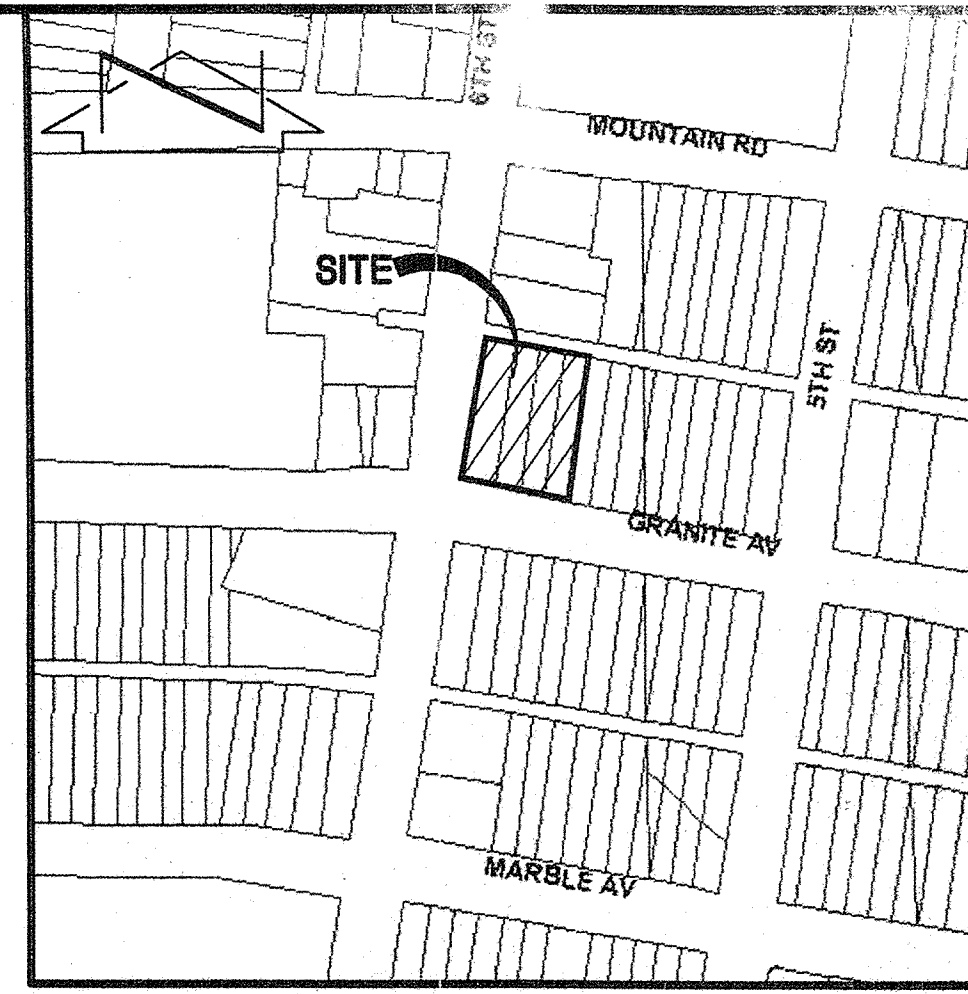
B. PEAK DISCHARGE

$$\Delta Q_{100} = 1.3 - 1.2 = 0.1 cfs (INCREASE)$$



LEGEND

- = TRAFFIC SIGNAL
- = LIGHT POLE
- = HIGH VOLTAGE PP
- = POWER POLE
- = OVERHEAD UTILITY LINE
- = UNDERGROUND STORM DRAIN LINE
- = UNDERGROUND SEWER LINE
- = UNDERGROUND WATER LINE
- = ANCHOR
- = SEWER MANHOLE
- = TELEPHONE MANHOLE
- = POWER MANHOLE
- = DRAINAGE MANHOLE
- = WATER MANHOLE
- = MANHOLE (TYPE UNKNOWN)
- = WATER METER
- = WATER VALVE
- = SEWER SERVICE
- = SEWER CLEANOUT
- = WATER SERVICE
- = TRANSFORMER
- = DUMPSTER
- = TELEPHONE RISER
- = TELEPHONE SERVICE BOX
- = FIBER OPTIC BOX
- = ELECTRIC RISER
- = ELECTRIC SERVICE BOX
- = UTILITY METER
- = CABLE TV RISER
- = PAY PHONE
- = FIRE HYDRANT
- = MONITOR WELL
- = GAS VALVE
- = GAS METER
- = DROP INLET
- = FENCE
- = ELEVATION AT GROUND
- = ELEVATION AT TOP OF FINISHED SURFACE
- = ELEVATION AT TOP OF SIDEWALK
- = ELEVATION AT BACK OF CURB
- = ELEVATION AT FLOWLINE OF CURB
- = PROPOSED SPOT ELEVATION



VICINITY AND FLOOD MAP
CITY GIS WEB PAGE

J-14
N.T.S.

LEGAL DESCRIPTION

EXISTING: LOTS 12-15, BLOCK 1, GRANT TRACT
PROPOSED: LOTS 12-A, 13-A, 14-A AND 15-A, BLOCK 1, GRANT TRACT

BENCHMARK

THE BASIS OF ELEVATIONS FOR THE SURVEY IS ACS BENCHMARK 12-J14A, THE PUBLISHED ELEVATION OF WHICH IS 54957.76. SAID BENCHMARK IS LOCATED IN THE WEST/SOUTHWEST QUADRANT OF THE INTERSECTION OF 7TH STREET NW AND MOUNTAIN ROAD NW.

NOTE:

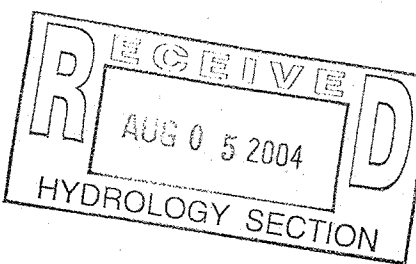
THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN HEREON FOR ORIENTATION ONLY. SURVEY INFORMATION WAS PROVIDED ELECTRONICALLY BY SURVEYS SOUTHWEST, LTD. 07/30/2004.

CONSTRUCTION NOTES:

- 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.
- 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.
- 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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- 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.
- 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.

EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- 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.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, 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.



08-04-2004



JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NM 87109
ENGINEERS & SURVEYORS (505) 345-4250
FAX: (505) 345-4254 ESTABLISHED 1977

GRADING AND DRAINAGE PLAN LOTS 12-A, 13-A, 14-A AND 15-A, BLOCK 1, GRANT TRACT

DESIGNED BY G.M.

DRAWN BY S.G.H.

APPROVED BY G.M.

NO.	DATE	BY	REVISIONS	JOB NO.
				2004.074.1
				DATE 08-2004
				SHEET 1 OF 1