

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.

- A. "PLAT OF LOTS 12-A13-A14-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 PLATING ACTION.
- B. "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 ONSITE 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 FLOODS 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 CRAWLSPACES TO PREVENT THIS POSSIBILITY, IT IS RECOMMENDED HEREIN THAT THE CURBS BE EXTENDED OR RAISED.

VI. GRADING PLAN

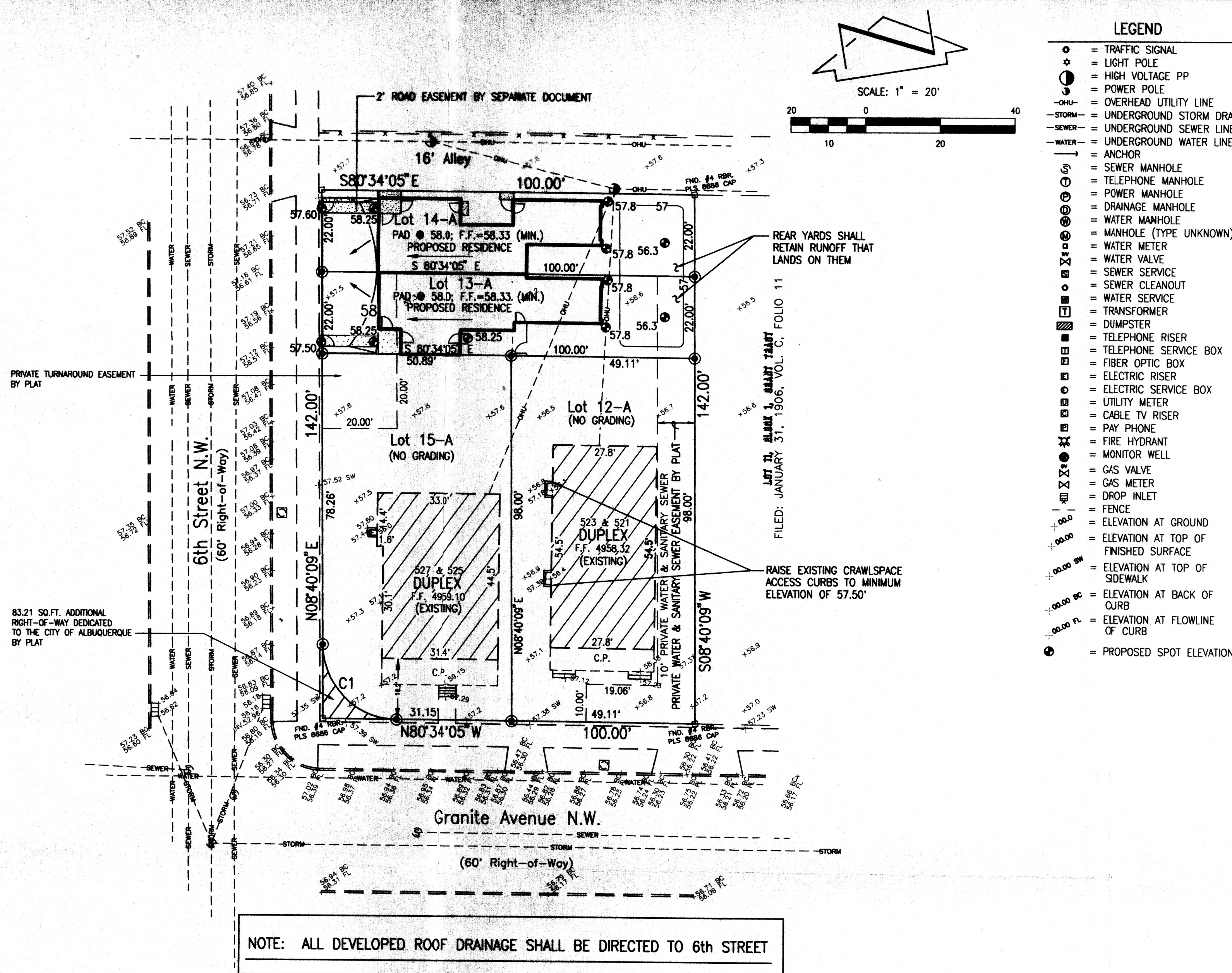
THE GRADING PLAN ON SHEET 3 OF THIS SUBMITTAL SHOWS: 1) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1 FT INTERVALS FROM THE SURVEY BY SURVEYS SOUTHWEST (REF. B) 2) PROPOSED GRADES INDICATED BY FINISHED FLOOR ELEVATIONS, SPOT ELEVATIONS, AND CONTOURS AT 1 FT INTERVALS, 3) THE LIMIT AND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



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

CALCULATIONS

III. PRECIPITATION ZONE = 2
 $P_{100} = P_{360} = 2.35$

II. 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

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

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

$$E_W = [0.238(1.13) + .088(2.12)] / 0.3260 = 1.40 \text{ IN}$$

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

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

B. PEAK DISCHARGE

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

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

$$Q_p = 1.00 = 2.28(0.032) + 3.14(0.130) + 4.70(0.164) = 1.3 \text{ cfs}$$

VII. COMPARISON

A. VOLUME

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

B. PEAK DISCHARGE

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

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. 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.
4. 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.

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HYDROLOGY SECTION

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Jma

JEFF MORTENSEN & ASSOCIATES, INC.
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☐ ENGINEERS ☐ SURVEYORS (505) 345-4254
☐ 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.				JOB NO.	2004.074.1
DRAWN BY	S.G.H.				DATE	08-2004
APPROVED BY	G.M.				SHEET	1 OF 1