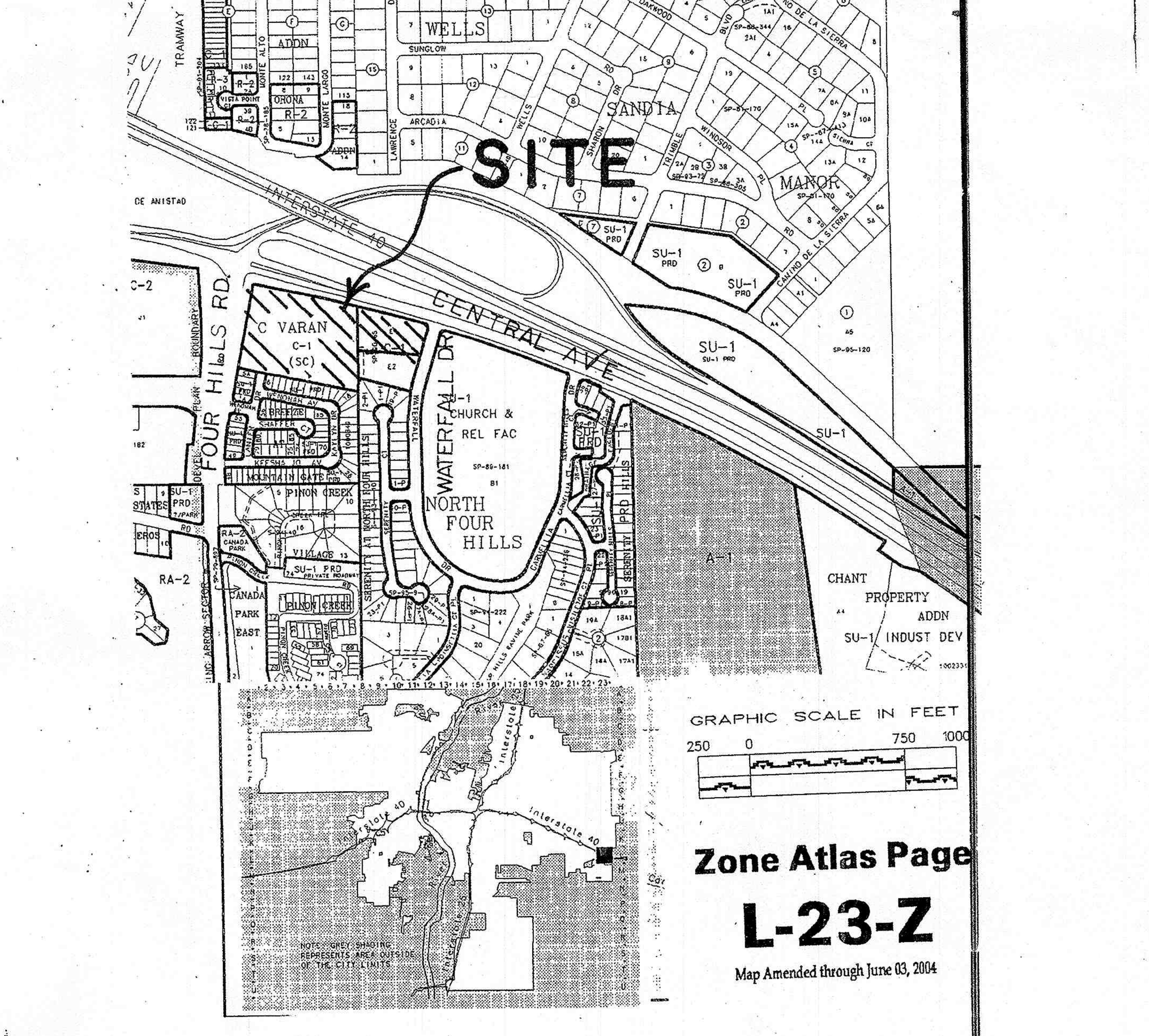
NOTES:

- A. EXISTING STANDARD CURB AND GUTTER
- B. EXISTING ASPHALT SURFACED STREET
- C. EXISTING MEDIAN CURB
- D. EXISTING WHEELCHAIR RAMP
- E. EXISTING PORTLAND CEMENT SIDEWALK
- F. EXISTING ASPHALT SURFACED BICYCLE PATH
- G. EXISTING ROLLOVER CURB
- H. EXISTING STORM DRAIN INLET
- I. EXISTING SUBSURFACE STORM DRAIN PIPE
- J. EXISTING PORTLAND CEMENT CONCRETE LINED STORM DRAIN CHANNEL
- K. EXISTING SWALE
- L. EXISTING STORM DRAIN MANHOLE
- M. EXISTING ELECTRIC POWER POLE, (WOOD)
- N. EXISTING POLE ANCHOR
- O. EXISTING STREET LIGHT POLE
- P. EXISTING STREET LIGHT JUNCTION BOX
- Q. EXISTING UNDERGROUND POWER CABLES
- R. EXISTING TRAFFIC LIGHT POLE
- S. EXISTING TRAFFIC LIGHT CONTROL BOX
- T. EXISTING COMMUNICATIONS CONTROL BOX
- U. EXISTING COMMUNICATION PEDESTAL
- V. EXISTING UNDERGROUND COMMUNICATIONS CABLES
- W. EXISTING UNDERGROUND GAS LINES
- X. EXISTING GAS LINE CONTROL
- Y. EXISTING SANITARY SEWER MAINS
- Z. EXISTING SANITARY SEWER MANHOLE
- AA. EXISTING WATER MAIN
- AB EXISTING GATE VALVE
- AC. EXISTING FIRE HYDRANT

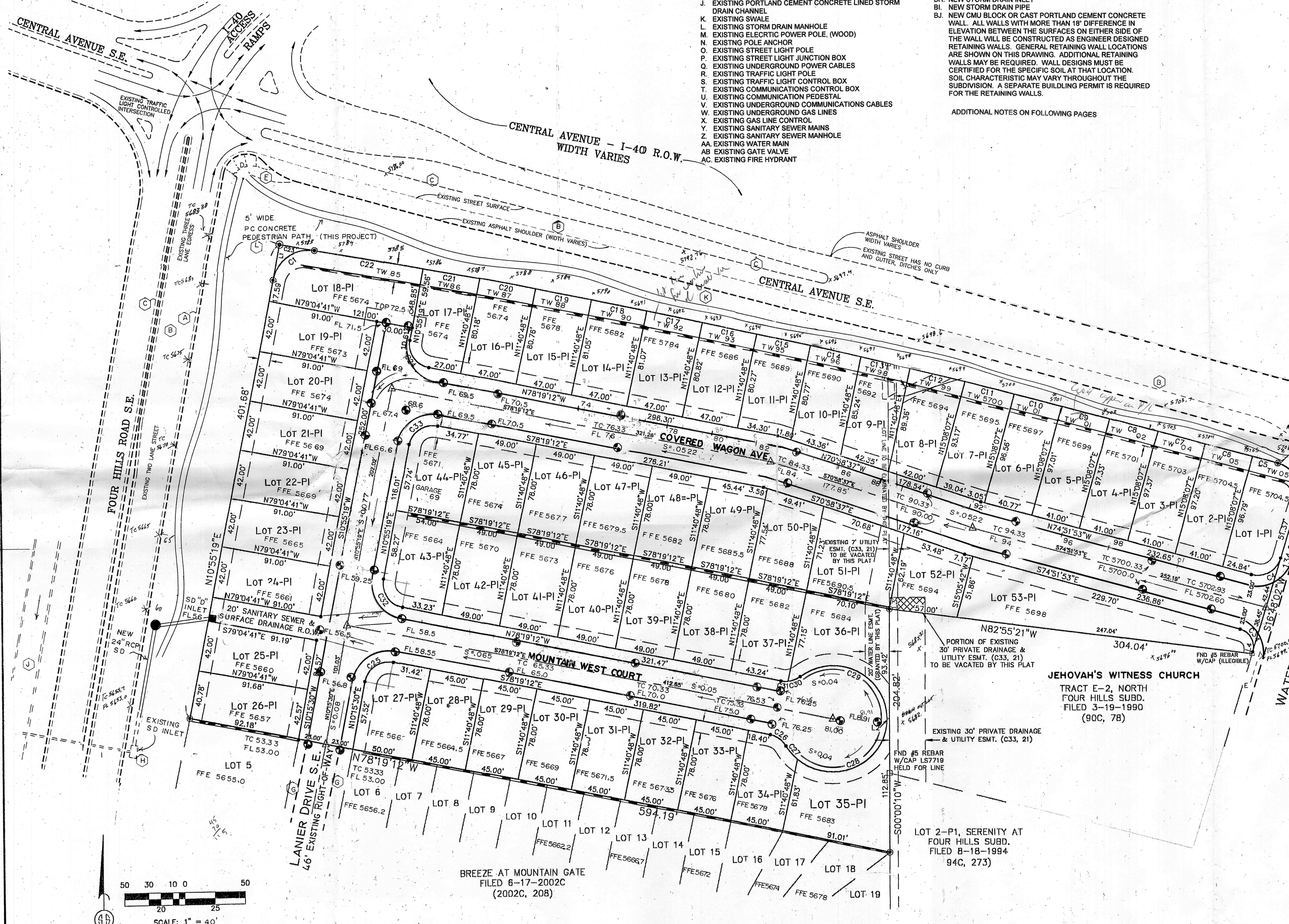
- BA. NEW STANDARD CURB AND GUTTER
- BB. NEW ROLLOVER CURB AND GUTTER
- BC. NEW TRANSITION STANDARD TO ROLLOVER CURB
- BD. NEW WHEELCHAIR RAMP
- BD. NEW VALLEY GUTTER
- BE. NEW DRIVEPAD
- BF. NEW PORTLAND CEMENT SIDEWALK
- BG. NEW ASPHALT SURFACED STREET
- BH. NEW STORM DRAIN INLET
- BI. NEW STORM DRAIN PIPE
- BJ. NEW CMU BLOCK OR CAST PORTLAND CEMENT CONCRETE WALL. ALL WALLS WITH MORE THAN 18" DIFFERENCE IN ELEVATION BETWEEN THE SURFACES ON EITHER SIDE OF THE WALL WILL BE CONSTRUCTED AS ENGINEER DESIGNED RETAINING WALLS. GENERAL RETAINING WALL LOCATIONS ARE SHOWN ON THIS DRAWING. ADDITIONAL RETAINING WALLS MAY BE REQUIRED. WALL DESIGNS MUST BE CERTIFIED FOR THE SPECIFIC SOIL AT THAT LOCATION. SOIL CHARACTERISTIC MAY VARY THROUGHOUT THE SUBDIVISION. A SEPARATE BUILDING PERMIT IS REQUIRED FOR THE RETAINING WALLS.

ADDITIONAL NOTES ON FOLLOWING PAGES



Zone Atlas Page
L-23-Z
Map Amended through June 03, 2004

BENCHMARK IS ACS MONUMENT 8-L22, ELEVATION: 5665.44, (VERTICAL DATUM 1929). STATION IS LOCATED AT THE INTERSECTION OF CENTRAL AVENUE AND TRAMWAY BOULEVARD, ON THE WEST END OF THE EAST MEDIAN ON CENTRAL AVENUE.
A TEMPORARY BENCH MARK IS A CROSS MARKED ON THE TRAFFIC ISLAND AT THE SOUTHWEST CORNER OF THE INTERSECTION OF CENTRAL AVENUE AND FOUR HILLS ROAD ELEVATION: 5682.83



GRADING DETAILS ADDED	MRK	JUNE 30, 2004
PRELIMINARY	MRK	JUNE 17, 2004
APPROVALS REVISIONS	BY	DATE

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COVERED WAGON SUBDIVISION
GRADING AND DRAINAGE PLAN
SITE LAYOUT

HYDROLOGY PROJECT NO.	MAP NO.	SHEET	OF
	L-23	1	6

WORK ORDER PROJECT NO. SHEET OF

COVERED WAGON GRADING AND DRAINAGE PLAN

PURPOSE:

THE PURPOSE OF THIS GRADING AND DRAINAGE PLAN IS TO OBTAIN APPROVAL FOR A SITE DEVELOPMENT FOR A NEW RESIDENTIAL SUBDIVISION OF 53 SINGLE FAMILY HOUSES.

DISCUSSION:

A. THE NEW SUBDIVISION IS TO BE LOCATED ON THE EAST MESA, IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF FOUR HILLS ROAD,SE WITH CENTRAL AVENUE, EXTENDING ALONG THE CENTRAL AVENUE FRONTAGE TO THE INTERSECTION WITH WATERFALL DRIVE, SE. THE SITE IS ABOUT 6.5 ACRES, AND IS PLANNED TO HAVE 53 SEPARATE HOUSES.

B. THE AREA IS PRESENTLY VACANT AND UNIMPROVED. THE SITE HAS BEEN GRADED AS A PART OF THE EARTHWORK ON THE ADJACENT BREEZE AT MOUNTAIN GATE SUBDIVISION TO PROVIDE FOR RUNOFF AND EROSION CONTROL. OTHER IMPROVEMENTS AND CHANGES TO THE ORIGINAL SURFACE OCCURRED ALONG THE NORTH PROPERTY LINE WHERE UNDERGROUND UTILITIES HAVE BEEN PLACED, AND ALONG THE SOUTHEAST EDGES OF THE PROPERTY ADJACENT TO WHERE THE JEHOVAS WITNESS CHURCH PARKING LOT HAS BEEN CONSTRUCTED.

C. THE SITE IS PRESENTLY BARE OF VEGETATIN EXCEPT FOR MINOR ANNUAL WEEDS AND GRASSES. PRIOR TO THE EARTHWORK DONE AS PART OF THE BREEZE AT MOUNTAIN GATE SUBDIVISION THE AREA HAD A SPARSE GROWTH OF SHRUBS, CACTUS AND GRASSES.

SOILS:

A. SOILS ON THE SUBDIVISION SITE ARE IDENTIFIED BY REFERENCE C AS TESAJO-MILELET STONY SANDY LOAMS (Te). THIS MAPPPING UNIT IS ABOUT 40 PERCENT A TESAJO STONY SANDY LOAM THAT HAS 3 TO 20 PERCENT SLOPES AND 40 PERCENT A MILLET STONY SANDY LOAM THAT HAS 3 TO 15 PERCENT SLOPES. THE MILLET SOIL IS ON RIDGES OF ALLUVIAL FANS. THE TESAJO SOIL IS IN SWALES ADJACENT AND PARALLEL TO THE INTERMITTENT STREAMS AND IS SUBJECT TO FLOODING. RUNOFF IS MEDIUM, AND THE HAZARD OF WATER EROSION IS MODERATE. INCLUDED IN THIS UNIT ARE ARROYO CHANNELS AND ROCK OUTCROP. THE SOILS FORMED ON GRANITE ALLUVIUM OF OLD ALLUVIAL FANS. THE MILLET SOILS HAVE MODRATE SHRINK-SWELL POTENTIAL, AND THE TESAJO SOILS HAVE SEVERE LIMITATIONS FOR BUILDINGS IS SLOPES ARE MORE THAN 15 PERCENT. THE SOILS ARE SUITED FOR RESIDENTIAL BUILDINGS AND ASSOCIATED INFRASTRUCTURE, BUT WILL REQUIRE ADEQUATE DESIGN BY A QUALIFIED GEOTECHNICAL ENGINEER, AND STRICT SUPERVISION AND INSPECTION DURING CONSTRUCTION OF FILLS. SOILS MAY BE SUSCEPTIBLE TO CONSOLIDATION, PARTICULARLY WHEN WETTED, SO CARE MUST BE TAKEN TO DIRECT RUNOFF AND LANDSCAPE WATERING AWAY FROM BUILDIG FOUNDATIONS.

B. GRANITE BEDROCK WAS UNCOVERED DURING EARTHWORK ON THE ADJACENT BREEZE AT MOUNTAIN GATE SUBDIVISION. IT IS PROBABLE THAT THE ROCK RIDGE WILL EXTEND INTO THE COVERED WAGON SUBDIVISION, PARTICULARLY ALONG THE WESTERN HALF OF THE PROPERTY.

C. EVIDIENCE UNCOVERED DURING THE ADJACENT EARTHWORK INDICATES THAT THE MATERIALS ON THE SITE WERE DEPOSITED IN PART BY A GLACIER DESCENDING THROUGH THE TIJERAS ARROYO, WITH THE PRESENT SURFACE OF THE SITE BEING THE BASE OF THE GLACIER, PRIOR TO CUTTING THE DEEPER CHANNEL TO THE SOUTH THAT NOW EXISTS. THE EVIDENCE UNCOVERED WAS A ROCK AND COBBLE DEPOSIT SIMILAR TO A TERMINAL MORRAIN, AND SEVERAL SLICKEN ROCKS THAT HAD DEEP LONGITUDINAL GOUGES ON ONE SIDE.

DRAINAGE CONSIDERATIONS:

A. THE SITE IS NOT LOCATED WITHIN THE LIMITS OF THE 100-YEAR FLLOD, SEE FLOOD INSURANCE RATE MAP, PANEL 386 OF 825, EFFECTIVE DATE, SEPTEMBER 20, 1996 (REFERENCE D).

B. AT THE PRESENT TIME THE SITE DRAINS FROM NORTH TO SOUTH, AND FROM EAST TO WEST. RUNOFF PRESENTLY FLOWS THROUGH SEVERAL CONSTRUCTED SWALES, LEADING TO THE SOUTHWEST CORNER OF THE SITE. AT THE SOUTHWEST CORNER THE RUNOFF IS CHANNEL INTO A CATCH BASIN CONSTRUCTED AS PART OF THE BREEZE AT MOUNTAIN GATE SUBDIVISION, FLOWING FROM THE CATCH BASIN THROUGH A 24" RCP CULVERT UNDER FOUR HILLS ROAD, INTO THE AMAFCA CHANNEL. ANY OVERFLOW FROM THIS CATCH BASIN IS DIRECTED ONTO FOUR HILLS ROAD, WHERE IT WILL FLOW TO THE WEST, THEN ENTERING STORM DRAIN INLETS PLACED ALONG THE STANDARD CURB AND GUTTER ON EITHER SIDE OF FOUR HILLS ROAD.

RUNOFF AFTER DEVELOPMENT:

A. THE DRAINAGE CONCEPT FOR THE COMPLETED SUBDIVISION WILL BE SIMILAR TO THE EXISTING NATURAL DRAINAGE PATTERN, WITH THE NEW STREETS REPLACING THE SWALES TO DIRECT THE RUNOFF TOWARD THE SOUTHWEST CORNER OF THE SUBDIVISION. THERE ARE TWO EAST-WEST STREETS, SLOPING FROM EAST TO WEST, WHICH INTERSECT THE ONE NORTH-SOUTH STREET WHICH IS ALONG THE WEST END OF THE SUBDIVISION. AT THE INTERSECTION OF THE SOUTH STREET (MOUNTAIN WEST COURT) WITH THE WEST STREET (LANIER DRIVE), THE RUNOFF IS DIRECTED TO THE WEST ON THE SURFACE OF THE PAVED UTILITIES AND DRAINAGE EASEMENT.

B. AT THE INTERSECTION OF MOUNTAIN WEST COURT AND LANIER DRIVE A WATER BLOCK WILL BE CONSTRUCTED TO DIVERT THE RUNOFF FROM THE STREETS INTO THE DRAINAGE EASEMENT GOING TO THE WEST. THE ESTIMATED FLOW FROM THE NORTH, COLLECTED ON COVERED WAGON AVENUE AND LANIER DRIVE, IS 16.94 CFS (TABLES A-2 AND A-3). FROM THE EAST, RUNOFF COLLECTED ON MOUNTAIN WEST COURT IS ESTIMATED TO BE 8.65 CFS (TABLE A-4). THE TOTAL ESTIMATED RUNOFF ENTERING THE DRAINAGE EASEMENT IS 25.59 CFS.

C. AT THE WEST END OF THE DRAINAGE EASEMENT (WEST ALONG THE LINE OF MOUNTAIN WEST COURT) A STORM DRAIN INLET WILL BE CONSTRUCTED. THE INLET WILL BE CONNECTED BY 24" RCP TO THE EXISTING STORM DRAIN INLET AT THE EAST END OF THE EXISTING 24" RCP WHICH CROSSES UNDER FOUR HILLS ROAD.

OFF-SITE RUNOFF:

A. SOME OFF-SITE FLOWS ORIGINATE ALONG CENTRAL AVENUE, FROM THE SOUTH HALF OF THE PAVEMENT AND THE EARTH RIGHT-OF-WAY BETWEEN THE PAVEMENT AND THE COVERED WAGON PROPERTY LINE. THESE FLOWS ARE ESTIMATED IN TABLE B-1. THESE FLOWS WILL BE CHANNELED THROUGH A NEW SWALE TO BE CONSTRUCTED BETWEEN THE PAVEMENT AND THE NORTH PROPETY LINE WALL OF THE COVERED WAGON SUBDIVION. PRESENTLY THESE FLOWS ENTER THE RIGHT-OF-WAY ALONG THE EAST SIDE OF THE CURB ON FOUR HILLS ROAD, FLOWING THEN INTO THE STORM DRAIN INLET LOCAATED ON THE EAST SIDE OF FOUR HILLS ROAD, NEAR THE SOUTHWEST CORNER OF THE COVERED WAGON SUBDIVISION. THIS DRAINAGE PLAN PROPOSES THAT THE RUNOFF FROM BASIN B-1 BE DIRECTED INTO THE EXISTING STORM DRAIN MANHOLE NEAR THE NORTHWEST CORNER OF THE SUBDIVISION. THIS MANHOLE IS IN THE CENTRAL AVENUE-FOUR HILLS ROAD RIGHT-OF-WAY, AND IS THE TURNING POINT OF THE STORM DRAIN COMING FROM NORTH OF THE CENTRAL AVENUE PAVEMENT. THIS REDIRECTION OF THE STORM RUNOFF WILL REDUCE THE QUANTITY OF OVERFLOW ALONG FOUR HILLS ROAD.

B. SOME OFF-SITE FLOWS ORIGINATE IN THE 40+ FEET WIDE RIGHT-OF-WAY ALONG THE WEST SIDE OF THE COVERED WAGON SUBDIVISION, AND EAST OF THE EAST CURB OF FOUR HILLS ROAD. PRESENTLY THE RUNOFF FROM THIS SITE FLOWS SOUTH, ENTERING THE EXISTING STORM DRAIN INLET LOCATED NEAR THE SOUTHWEST CORNER OF THE COVEED WAGON SUBDIVISION. THE RUNOFF FROM THIS AREA WILL CONTINUE THE SAME PATERN OF FLOW, WITH A NEW COBLE LINED SWALE CONSTRUCTED WITHIN THE LANDSCAPING TO REDUCE EROWION.

C. THE TOTAL PEAK RUNOFF ENTERING THE STORM DRAIN INLET PRIOR TO DEVELOPMENT IS ESTIMATED TO BE 15 CFS (12.25+1.33+0.82, TABLES A-1, C-1 AND C-2). AFTER THE PROPOSED DEVELOPMENT, TOTAL PEAK RUNOFF TO THE STORM DRAIN INLET WILL BE 27.07 CFS (25.59+1.48, TABLES A-2, A-3, A-4 AND C-2). THE CAPACITY OF THE 24" RCP UNDER FOUR HILLS ROAD IS ESTIMATED AS 30 CFS, WITH 4 FEET OF HEAD. ANY OVERFLOW AT THE INLET WILL ENTER FOUR HILLS ROAD, FLOWING SOUTH TO ENTER STORM INLETS DOWNSTREAM, OR TO ENTR DIRECTLY INTO THE TIJERAL ARROYO AT THE BRIDGE.

D. RUNOFF FROM NORTH OF THE CENTRAL AVENUE MEDIAN AND FROM THE INTERSTATE 40 (I-40) ON RAMP PRESENTLY ENTERS TWO STORM DRAIN INLETS THAT ARE LOCATED IN THE SWALE BETWEEN THE PAVEMENTS. THIS RUNOFF FLOWS THROUGH A 30" RCP TO THE SD MANHOLE, THEN UNDER FOUR HILLS ROAD TO THE AMAFCA CHANNEL. OVERFLOW FROM THIS AREA CROSSES THE INTERSECTION OF CENTRAL AVENUE AND FOUR HILLS ROAD, THEN FLOW TO THE SOUTH DOWN FOUR HILLS ROAD. THIS OVERFOW WILL NOT ENTER THE COVERED WAGON SITE.

E. THE JEHOVAHS WITNESS CHURCH PROPERTY FO THE EAST OF LOTS 35 AND 36 HAS A PARKING LOT WHICH SLOPES FROM WATERFALL DRIVE TOWARD THE COVERED WAGON SUBDIVISION.. RUNOFF FROM THE CHURCH PROPERTY IS COLLECTED AT THE SOUTWEST CORNER OF THE PARKING AREA. THERE IS A SUMP PUMP THAT THEN PUMPS THE WATER TO THE SOUTHEAST CORNER OF THE CHURCH SITE, WHERE IT FLOWS DOWN THE WATERFALL DRIVE CURB AND GUTTER. THERE IS A POSSIBILITY THAT THIS PONDING AREA WILL OVERFLOW. ALLOWANCE IS MADE TO COLLECT THIS RUNOFF WITHIN THE MOUNTAIN WEST COURT RIGHT-OF-WAY, THEN DIRECTING THE FLOW TO THE STORM DRAIN INLET NEARTHE SOUTHWEST CORNER OF THE COVERED WAGON SITE.

CONCLUSIONS:

A. THE PROPOSED CONSTRUCTION IS NOT WITHIN A DESIGNATED 100 YEAR FLOODPLAIN.

B. CONSTRUCTION AS PROPOSED WILL NOT INCREASE THE HAZARD FROM FLOODING TO DOWNSTRAM FACILITIES.

C. THE PROPOSED GRADING AND CONSTRUCTION WILL PROTECT THE PROPERTY FROM ANY OFF-SITE OR ON-SITE FLOODING.

REFERENCES:

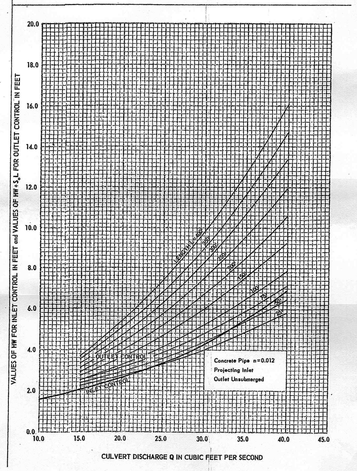
A. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF ALBUQUERQUE.

B. SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, FOR THE CITY OF ALBUQUEQUE...BERNALILLO COUNTY...AMAFCA, AS AMENDED DECEMBER, 1999.

C. SOIL SURVEY OF BERNALILLO COUNTY AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO USDA-SCS.

D. FLOOD INSURANCE RATE MAP, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, FEDERAL EMERGENCY MANAGEMENT AGENCY, PANEL 378 OF 825, EFFECTIVE DATE: SEPTEMBER 20, 1996.

FIGURE 1: 24-Inch Diameter Concrete Pipe



BK. RETAINING WALLS THAT ARE AN INTEGRAL PART OF A HOUSE OR BUILDING STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED WITH WATER PROOFING AND PROVISION FOR SEEPAGE HOUSE ESIGNS WHICH USE A RETAINING WALL AS A STRUCTURAL SUPPORT MUST BE DISIGNED TO ACCOUNT FOR LONG TERM SETTLEMENT AND WALL TILT.

BL. THE EXISTING GROUND SURFACE OF THE PUBLIC UTILITIES EASEMENT ALONG THE NORTH PART OF THE SUBDIVISION (THOSE LOTS ADJACENT TO THE CENTRAL AVENUE RIGHT-OF-WAY) SHALL NOT BE DISTURBED BELOW THE ORIGINAL SURFACE WITHOUT DIRECT OBSERVATION OR WRITTEN APPROVAL OF OWNER OFTHE RESPECTIVE UTILITIES. THE UTILITIES LOCATED WITHIN THIS EASEMENT INCLUDE A 12" WATER MAIN, A 6" HIGH PRESSURE GAS MAIN, AN 8" VERY HIGH PRESSURE GAS MAIN, AND ELECTRICAL POWER AND COMMUNICATIONS CABLES. THE EASEMENT IS 15 FEET WIDE, WITH CERRTAIN AEAS BEING WIDER DUE TO THE LOCATION OF THE 12" WATER MAIN BEING FURTHER SOUTH OF PROPERTY LINE.

BM. BACKYARDS WHICH REQUIRE CROSS LOT DRAINAGE SHALL HAVE DRAINHOLES (ABOUT 4" X 8") SET IN THE DOWNSTREAM WALL AT A LEVEL ABOVE THE 100 YEAR PONDING CAPACITY OF THE BACK YARDS.

BN. ALL BACK YARDS WHICH HAVE CROSS LOT DRAINAGE TO ADJACENT LOTS SHALL HAVE PONDING OF RUNOFF FOR THE 100 YEAR-6 HOUR STORM. ALL PONDING SHALL BE AT LEAST 5 FEET AWAY FROM ANY HOUSE FOUNDATION.

BO. THE EXISTING TOPOGRAPHY OF THE SITE IS IRREGULAR AND INCLUDES AREAS THAT HAVE PREVIOUSLY INVOLVED EARTHWORK, BOTH FILL AND CUT AREAS. SPECIAL CARE MUST BE TAKEN IN DOING THE EARTHWORK FOR THE SITE. SOME, BUT NOT NECESSARILY ALL, PRECAUTIONS ARE LISTED BELOW:

1. ALL EARTHWORK IN THIS SUBDIVISION AND ADJACENT AREAS IS TO BE STRUCTURAL FILL, PLACED UNDER THE DESIGN, INSPECTION, AND APPROVAL OF A QUALIFIED GEOTECHNICAL ENGINEER.
2. ALL VEGETATION, TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE. THERE SHALL BE NO BURIAL ON-SITE OF TRASH OR VEGETATION.
3. CUT AREAS SHALL BE UNDERCUT AND RECOMPACTED TO DEPTHS AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. MATERIAL THAT IS NOT APPROVED FOR ENGINEERED EARTHWORK FOR THE STRUCTURES TO BE PLACED ON A LOCATION SHALL BE REMOVED AND REPLACED WITH SATISFACTORY MATERIAL.
4. IMPORTED MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO BEING BROUGHT TO THE SITE.
5. ROCKS, COBBLES AND BOULDERS LARGER THAN 8" IN DIAMETER SHALL BE REMOVED FROM FILL AREAS AND STOCKPILED SO THAT SUCH MATERIAL MAY BE USED FOR EROSION CONTROL AND LANDSCAPPING. SUCH MATERIALS THAT ARE EXCESS TO THE REQUIREMENTS OF THE SITE SHALL BE REMOVED TO A N AUTHORIZED DISPOSAL AREA.
6. CARE MUST BE TAKEN IN DOING THE COMPACTION WITHIN THE SUBDIVISION TO PREVENT ANY DAMAGE OR SETTLEMENT OF STRUCTURES ON ADJACENT PROPERTIES. ANY SUCH DAMAGE SHALL BE REPAIRED AT THE EARTHORK CONTRACTOR'S EXPENSE.

BP. FINISHED FLOOR ELEVATIONS (FFE) SHOWN ARE BASED ON A 4" THICK SLAB. PAD ELEVATIONS MAY VARY DEPENDING ON THE HOUSE DESIGN. A VARIATION OF SEVERAL FEET MAY OCCUR, PARTICULARLY FOR THOSE LOTS WHICH ARE UP-HILL FROM THE STREET. THESE LOTS MAY HAVE A PAD SEVERAL FEET ABOVE THE FRONTING STREET LEVEL INORDER TO REDUCE THE HEIGHT OF THE RETAINING WALL AT THE BACK OF THE PROPERTY. IN GENERAL, THESE LOTS WILL HAVE A DIFFERENCE IN ELEVATION OF SEVERAL FEET BETWEEN THE FLOOR ELEVATION OF THE HOUSE AND THE FLOOR ELEVATION OF THE GARAGE, REQUIRING STEPS FROM THE GARAGE TO THE HOUSE. FINISHED FLOOR ELEVATIONS ARE SHOWN ON THE GRADING AND DRAINAGE PLAN WITH THREE NOTATIONS, S-FOR SINGLE STORY HOUSE, U- FOR THE UPPER STORY OF A TWO STORY HOUSE, AND L-FOR THE LOWER STORY OF THE HOUSE. THE FINISHED FLOOR ELEVATIONS AND THE NOTATIONS AS SHOWN ON THE PLANS ARE INTENDED TO SHOW TYPICAL GRADING. THE FINAL GRADING ON ANY LOT WILL BE DETERMINED WHEN A DECISION IS MADE AS TO THE TYPE OF HOUSE TO BE PLACED ON THAT LOT.

BQ.. THE FOLLOWING ITEMS MUST BE COMPLETED PRIOR TO CERTIFICATION OF THE GRADING AND DRAINAGE PLAN:

1. ALL STREETS, CURBS AND GUTTERS SHALL BE CONSTRUCTED TO THE DESIGN SPECIFIED.
2. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED, TO INCLUDE DRAIN CHANNELS AND SWALES ALONG THE ADJACENT PUBLIC PROPERTY.
3. ALL SUBDIVISION PERIMETER WALLS SHALL BE COMPLETED TO THE SPECIFIED DESIGN.
4. ALL HOUSE PADS SHALL BE BROUGHT TO THE SPECIFIED LEVEL AND COMPACTED. PARTIAL CERTIFICATION OF THE GRADING AND DRAINAGE PLAN WILL BE ACCEPTED IF PORTIONS OF THE SUBDIVISION ARE NOT COMPLETE, FOR EXAMPLE, EARTH MATERIALS MAY BE STOCKPILED ON AREAS WHILE APPROVAL IS BEING SOUGHT FOR DISPOSAL OF SUCH MATERIALS. FINAL CERTIFICATION OF THE SITE WILL REQUIRED ALL LOTS TO BE AT THE SPECIFIED LEVEL.
5. COMPACTION TEST WILL BE REQUIRED. COMPACTION TESTS SHALL BE DONE AND RECORDED FOR EACH LOT, AND FOR THE INFRASTRUCTURE. WHERE FILL IS PLACED, TESTS WILL BE DONE AND RECORDED AT NO LESS THAN EVERY TWO FEET OF ELEVATION CHANGE, AND AT LELAST ONE TEST FOR EVERY 500 SQUARE YARDS.
6. LOT WALLS THAT ARE DESIGNED TO BE GREATER THAN THREE (3) FEET IN HEIGHT SHALL BE COMPETED AND ACCEPTED PRIOR TO SUBDIVISION CERTIFICATION. LOT SIDE WALLS LESS THAN THREE (3) FEET IN HEIGHT MAY BE CONSTRUCTED AT THE SAME TIME AS HOUSES ARE CONSTRUCTED ON THE LOTS. LOT SIDE WALLS SHALL BE CONSTRUCTED PRIOR TO CERTIFICATION FOR OCCUPANC OF THE HOUSE.
7. A SEPARATE PERMIT IS REQUIRED FOR CONSTRUCTION OF ALL WALLS SPECIFIED IN THE GRADING AND DRAINAGE PLAN. SUCH PERMITS AND INSPECTIONS WILL BE AS REQUIRED BY THE CITY BUILDING CODE.

APPROVALS	REVISIONS	BY	DATE
PRELIMINARY		MRK	JUNE 17, 2004
GRADING DETAIL, NOTES ADDED		MRK	JUNE 30, 2004

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COVERED WAGON **SUBDIVISION**
GRADING AND **DRAINAGE PLAN**
NOTES

HYDROLOGY PROJECT NO.	MAP NO.	SHEET	OF
	L-23	2	6

WORK ORDER PROJECT NO.	SHEET	OF

DATE: JUNE 16, 2004
COVERED WAGON SUBDIVISION

TABLE A-1
1 RUNOFF FOR 6.5508 ACRES, ALL OF COVERED WAGON SUBDIVISION

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	285,353	100.00%	12.25	15694.41	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	107,353	37.62%	6.41	8230.39
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	178,000	62.38%	20.51	35006.67
5			2.30								
	TOTALS			285,353	100.00%	12.25	15694.41	285,353	100.00%	26.92	43237.05
				6.5508	ACRES			6.5508	ACRES		

TABLE A-2
2 RUNOFF FOR 3.1749 ACRES, LOTS AND STREET ON COVERED WAGON FROM WATERFALL DRIVE TO LANIER DRIVE

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	138,300	100.00%	5.94	7606.5	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	58,300	42.15%	3.48	4469.67
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	80,000	57.85%	9.22	15733.33
5			2.30								
	TOTALS			138,300	100.00%	5.94	7606.5	138,300	100.00%	12.70	20203.00
				3.1749	ACRES			3.1749	ACRES		

TABLE A-3
3 RUNOFF FOR 1.0331 ACRES, LOTS AND STREET ALONG LANIER DRIVE FROM COVERED WAGON AVENUE TO MOUNTAIN WEST COURT

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	45,000	100.00%	1.93	2475	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	17,000	37.78%	1.01	1303.33
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	28,000	62.22%	3.23	5506.67
5			2.30								
	TOTALS			45,000	100.00%	1.93	2475	45,000	100.00%	4.24	6810.00
				1.0331	ACRES			1.0331	ACRES		

TABLE A-4
4 RUNOFF FOR 2.0432 ACRES, LOTS ALONG MOUNTAIN WEST COURT TO LANIER DRIVE

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	89,000	100.00%	3.82	4895	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	29,000	32.58%	1.73	2223.33
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	60,000	67.42%	6.91	11800.00
5			2.30								
	TOTALS			89,000	100.00%	3.82	4895	89,000	100.00%	8.65	14023.33
				2.0432	ACRES			2.0432	ACRES		

TABLE A-5
5 RUNOFF FOR 0.2997 ACRES, 3 LOTS AND STREET ALONG LANIER DRIVE SOUTH OF MOUNTAIN WEST COURT TO BREEZE AT MOUNTAIN GATE SUBDIVISION

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	13,053	100.00%	0.56	717.9068	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	3,053	23.39%	0.18	234.05
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	10,000	76.61%	1.15	1965.67
5			2.30								
	TOTALS			13,053	100.00%	0.56	717.9068	13,053	100.00%	1.33	2200.72
				0.2997	ACRES			0.2997	ACRES		

TABLE B-1
6 OFF SITE RUNOFF FOR 1.0101 ACRES, JEHOVAH'S WITNESS CHURCH EMERGENCY FLOW TO MOUNTAIN WEST COURT (IF JEHOVAH'S WITNESS CHURCH PUMP SYSTEM FAILS)

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	44,000	100.00%	1.89	2420	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	7,000	15.91%	0.42	536.67
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	37,000	84.09%	4.26	7276.67
5			2.30								
	TOTALS			44,000	100.00%	1.89	2420	44,000	100.00%	4.68	7813.33
				1.0101	ACRES			1.0101	ACRES		

TABLE C-1
7 OFF SITE RUNOFF FOR 1.0331 ACRES, RIGHT-OF-WAY ON SOUTH SIDE OF CENTRAL AVENUE MEDIAN, PAVEMENT AND LANDSCAPED STRIP (NORTH OF COVERED WAGON SUBDIVISION)

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	45,000	100.00%	1.93	2475	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	4,000	8.89%	0.24	306.67
3	C	3.45	1.29	0	0.00%	0.00	0	4,000	8.89%	0.32	430.00
4	D	5.02	2.36	0	0.00%	0.00	0	37,000	82.22%	4.26	7276.67
5			2.30								
	TOTALS			45,000	100.00%	1.93	2475	45,000	100.00%	4.82	8013.33
				1.0331	ACRES			1.0331	ACRES		

TABLE C-2
8 OFF SITE RUNOFF FOR 2.5 ACRES, FOUR HILLS ROAD RIGHT-OF WAY WEST OF COVERED WAGON SUBDIVISION AND EAST OF EAST CURB LINE OF FOUR HILLS ROAD

		RUNOFF FACTORS	UNDEVELOPED STATE					DEVELOPED STATE				
		ZONE 3, 100- YEAR S										
	LAND USE	PEAK	TOTAL	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF	AREA	PERCENT	PEAK RUNOFF	TOTAL RUNOFF
		CFS/AC	INCHES	SF		CFS	CF	SF		CFS	CF
1	A	1.87	0.66	19,000	100.00%	0.82	1045	0	0.00%	0.00	0.00
2	B	2.6	0.92	0	0.00%	0.00	0	19,000	86.36%	1.13	1456.67
3	C	3.45	1.29	0	0.00%	0.00	0	0	0.00%	0.00	0.00
4	D	5.02	2.36	0	0.00%	0.00	0	3,000	13.64%	0.35	590.00
5			2.30								
	TOTALS			19,000	100.00%	0.82	1045	22,000	100.00%	1.48	2046.67
				0.4362	ACRES			0.5051	ACRES		

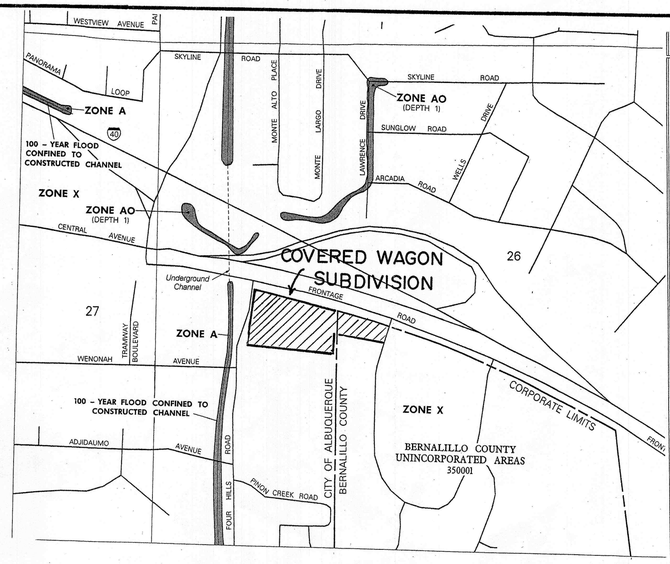
NOTES:
A. RUNOFF FACTORS FROM SECTION 22.2, DPM, DECEMBER, 1999.
B. LAND USE DESCRIPTIONS: A. UNCOMPACTED SOIL
B. LANDSCAPED
C. COMPACTED SOIL, TO INCLUDE MOST VACANT OTS
D. IMPERVIOUS AREAS, ROOFS, STREETS, PARKING
C. PEAK RUNOFF=AREA (ACRES) X FACTOR (CFS/ACRE) =CFS
D. TOTAL RUNOFF=AREA (SF) X FACTOR (INCHES)/12 (INCHES)/1 (FOOT)=CF
E. PEAK AND TOTAL RUNOFF IS BASED ON A 6 HOUR, 100 YEAR FREQUENCY STORM
F. LINE 6 ESTIMATES ADDITIONAL CONTRIBUTION FOR 10 DAY STORM, EQUATION A-9, SECTION 22.2, DPM
[V10 DAY=V360+AD*(P10 DAY-P360)/12: P10 DAY=4.90"; P360=2.60"; SO P10-P360=3.05"

DATE: JUNE 16, 2004
COVERED WAGON SUBDIVISION
DITCH RUNOFF FOR STREET FLOW

OPEN CHANNEL FLOW: Q=VA; V=1.486/n[(R)^2/3]X[(S)^1/2]

FACTOR CHANNEL DIMENSIONS

n	DEPTH FT	BOTTOM WIDTH FT	LEFT SIDE SLOPE H FT/V FT	RT SIDE SLOPE H FT/V FT	TOP WIDTH FT	CHANNEL AREA SF	WETTED PERIMETER FT	R FT	R^2/3	CHANNEL SLOPE V FT/H FT	VELOCITY FT/SEC	Q CF/SEC
NORTH VALLEY GUTTER AT THE INTERSECTION OF COVERED WAGON AVENUE WITH LANIER DRIVE												
REQUIRED Q = 6.35 CFS												
0.017	0.2	0.5	25	25	10.5	1.1	10.508	0.104682	0.222117	0.033	3.53	3.88
0.017	0.25	0.5	25	25	13	1.6875	13.010	0.129708	0.256238	0.033	4.07	6.87
0.017	0.3	0.5	25	25	15.5	2.4	15.512	0.154719	0.288201	0.033	4.58	10.98
CURB AND GUTTER FLOW ALONG COVERED WAGON AVENUE NEAR INTERSECTION WITH LANIER DRIVE												
REQUIRED Q = 6.35 CFS												
0.017	0.15	1	50	2	8.8	0.735	8.837	0.083174	0.190542	0.04568	3.56	2.62
0.017	0.2	1	50	2	11.4	1.24	11.449	0.108304	0.227212	0.04568	4.24	5.26
0.017	0.25	1	50	2	14	1.875	14.062	0.133343	0.261003	0.04568	4.88	9.14
CURB AND GUTTER FLOW ALONG LANIER DRIVE NEAR INTERSECTION WITH MOUNTAIN WEST COURT												
REQUIRED Q = 8.47 CFS												
0.017	0.15	1	50	2	8.8	0.735	8.837	0.083174	0.190542	0.077	4.62	3.40
0.017	0.2	1	50	2	11.4	1.24	11.449	0.108304	0.227212	0.077	5.51	6.83
0.017	0.25	1	50	2	14	1.875	14.062	0.133343	0.261003	0.077	6.33	11.87
CURB AND GUTTER FLOW ALONG MOUNTAIN WEST COURT NEAR INTERSECTION WITH LANIER DRIVE												
REQUIRED Q = 4.33 CFS												
0.017	0.15	1	50	2	8.8	0.735	8.837	0.083174	0.190542	0.05	3.72	2.74
0.017	0.2	1	50	2	11.4	1.24	11.449	0.108304	0.227212	0.05	4.44	5.51
0.017	0.25	1	50	2	14	1.875	14.062	0.133343	0.261003	0.05	5.10	9.57
NORTH VALLEY GUTTER AT THE INTESECTION OF LANIER WITH MOUNTAIN WEST COURT												
REQUIRED Q= 12.8 CFS												
0.017	0.25	0.5	16	25	10.75	1.40625	10.763	0.130658	0.257488	0.03	3.90	5.48
0.017	0.3	0.5	16	25	12.8	1.995	12.815	0.155673	0.289384	0.03	4.38	8.74
0.017	0.35	0.5	16	25	14.85	2.68625	14.868	0.180674	0.319593	0.03	4.84	13.00
0.017	0.4	0.5	16	25	16.9	3.48	16.920	0.205668	0.348426	0.03	5.28	18.36
SOUTH VALLEY GUTTER AT THE INTESECTION OF LANIER WITH MOUNTAIN WEST COURT												
REQUIRED Q= 4.33 CFS												
0.017	0.2	0.5	16	25	8.7	0.92	8.710	0.105623	0.223445	0.028	3.27	3.01
0.017	0.25	0.5	16	25	10.75	1.40625	10.763	0.130658	0.257488	0.028	3.77	5.30
0.017	0.3	0.5	16	25	12.8	1.995	12.815	0.155673	0.289384	0.028	4.23	8.44
FLOW IN DRAINAGE EASEMENT CHANNEL												
REQUIRED Q= 25.6 CFS												
0.017	0.1	15	0	0	15	1.5	15.200	0.098684	0.213549	0.035	3.49	5.24
0.017	0.15	15	0	0	15	2.25	15.300	0.147059	0.278608	0.035	4.56	10.25
0.017	0.2	15	0	0	15	3	15.400	0.194805	0.336047	0.035	5.50	16.49
0.017	0.25	15	0	0	15	3.75	15.500	0.241935	0.388269	0.035	6.35	23.81
0.017	0.3	15	0	0	15	4.5	15.600	0.288462	0.436575	0.035	7.14	32.13
0.017	0.35	15	0	0	15	5.25	15.700	0.334395	0.48177	0.035	7.88	41.36



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 378 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0378	D
BERNALILLO COUNTY, UNINCORPORATED AREAS	350001	0378	D

MAP NUMBER
35001C0378 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

GRADING DETAILS, NOTE ADDED	MRK	JUNE 30, 2004
PRELIMINARY	MRK	JUNE 17, 2004
APPROVALS REVISIONS	BY	DATE

MARVIN R. KORTUM, P.E.
Civil Engineering
NM PE 6519

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Albuquerque, New Mexico 87123
(505) 299-0774

COVERED WAGON SUBDIVISION
GRADING AND DRAINAGE PLAN
CALCULATION TABLES

HYDROLOGY PROJECT NO. L-23 | MAP NO. 3 | SHEET 6 | OF

WORK ORDER PROJECT NO. | SHEET | OF

CENTRAL AVENUE R. O. W.

1" = 10'

N

LEGEND	EXISTING	PROPOSED (THIS PROJECT)
SPOT ELEVATIONS	K	
TOP OF SIDEWALK	TS	TS
TOP OF WALL	TW	TW
TOP OF CURB	TC	TC
FLOW LINE INVERT	FL	FL
FINISHED FLOOR ELEVATIONS	FFE	FFE
CONTOUR LINE	5671 / 5670	70
STRUCTURE, MAJOR (HOUSE, ETC)		
STRUCTURE, MINOR (SIDEWALK, ETC)		
FENCE		
BLOCK WALL		
RETAINING WALL		
PROPERTY LINE		
LOT NUMBER		12

BENCHMARK IS ACS MONUMENT 8-L22, ELEVATION: 5665.44, (VERTICAL DATUM 1929). STATION IS LOCATED AT THE INTERSECTION OF CENTRAL AVENUE AND TRAMWAY BOULEVARD, ON THE WEST END OF THE EAST MEDIAN ON CENTRAL AVENUE.
A TEMPORARY BENCH MARK IS A CROSS MARKED ON THE TRAFFIC ISLAND AT THE SOUTHWEST CORNER OF THE INTERSECTION OF CENTRAL AVENUE AND FOUR HILLS ROAD ELEVATION: 5682.83

6 PI — FFE U 5706 L 5696 — G 95.5
5 PI — FFE U 5708 L 5798 — G 97.5
4 PI — FFE S 5700 — G 99.5
3 PI — FFE S 5702 — G 1.5
2 PI — FFE S 5704 — G 3.5
1 PI — FFE S 5705 — G 4.5
52 PI — FFE S 5700 — G 98
53 PI

ALTERNATIVE GARAGE & DRIVEWAY

COVERED WAGON AVENUE SE — 95.28 — 5700.28 — S=.0522 — S=.004 — S=.025 — S=.03 — S=.04

WATERFALL DRIVE SE

JEHOVAH'S WITNESS CHURCH

TC 93.33 FL 93 · TC 94.33 FL 94 · TC 95.3 FL 95 · TC 96.33 FL 96 · TC 97.33 FL 97 · TC 98.33 FL 98 · TC 5699.33 FL 99 · TC 5700.33 FL 5700 · TC 5701.33 FL 5701 · TC 5701.90 FL 5701.57 · TC 5702.93 FL 5702.60 · TC 5702.33 FL 5702.0 · TC 5702.08 FL 5701.75 · TC 5703.72 FL 5703.05 · TC 5700.60 FL 5699.9 · FL 5701.87 · FL 01.87 · FL 00.75

GRADING DETAILS ADDED	MRK	JUNE 30, 2004	
PRELIMINARY	MRK	JUNE 17, 2004	
APPROVALS REVISIONS	BY	DATE	

MARVIN R. KORTUM NEW MEXICO 6519 REGISTERED PROFESSIONAL ENGINEER — Jun 30, 2004

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COVERED WAGON SUBDIVISION
GRADING AND DRAINAGE PLAN
GRADING DETAILS
INTERSECTION OF: COVERED WAGON AVENUE / WATERFALL DRIVE
LOTS 1,2,3,4,5,6, & 52

HYDROLOGY PROJECT NO.	MAP NO.	SHEET	OF
	L-23	4	6
WORK ORDER PROJECT NO.		SHEET	OF

1"=10'

FOUR HILLS ROAD SE ROW

LANIER DRIVE SE

MOUNTAIN WEST COURT SE

23 Pl
FFE S 5666
G 64

24 Pl
FFE S 5661
G 60

25 Pl
FFE U 5670 L 5660
G 59

26 Pl
FFE S 5657
G 56

27 Pl
FFE S 5660
G 57

28 Pl
FFE S 5664
G 63

43 Pl
FFE S 5665
G 62

42 Pl
FFE S 5669
G 65

41 Pl
FFE S 5672
G 68

44 Pl
45 Pl
46 Pl

5' PCC SIDEWALK

SIDEWALK CULVERT

TOP OF GRATE 55

PVT STA 3+67

PVI STA 3+52 56.3 e=1

PVI STA 4+02 57.28 e=.45

STA 2+77 PVC EL 62.08

STA 3+92 PVC

PVI 59.4 e=+.26

PVI 61.35

CURB RET Δ 91° 25' 18" R 30' L 47.87' T 30.75

BREEZE AT MOUNTAIN GATE SUBDIVISION

5

6

7

BENCHMARK IS ACS MONUMENT 8-L22, ELEVATION: 5665.44, (VERTICAL DATUM 1929). STATION IS LOCATED AT THE INTERSECTION OF CENTRAL AVENUE AND TRAMWAY BOULEVARD, ON THE WEST END OF THE EAST MEDIAN ON CENTRAL AVENUE.
A TEMPORARY BENCH MARK IS A CROSS MARKED ON THE TRAFFIC ISLAND AT THE SOUTHWEST CORNER OF THE INTERSECTION OF CENTRAL AVENUE AND FOUR HILLS ROAD
ELEVATION: 5682.83

GRADING DETAILS ADDED	MRK	JUNE 30, 2004
PRELIMINARY	MRK	JUNE 17, 2004
APPROVALS REVISIONS	BY	DATE

MARVIN R. KORTUM, P.E.
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COVERED WAGON SUBDIVISION
GRADING AND DRAINAGE PLAN
GRADING DETAILS
INTERSECTION OF: LANIER DRIVE/MOUNTAIN WEST COURT
LOTS 23, 24, 25, 26, 27, 28, 41, 42, & 43

HYDROLOGY PROJECT NO.	MAP NO.	SHEET	OF
	L-23	5	6

WORK ORDER PROJECT NO.	SHEET	OF

CENTRAL AVENUE R.O.W.

FOUR HILLS ROAD SE R.O.W.

LANIER DRIVE SE

COVERED WAGON AVENUE SE

18 PI — FFE U 5684 L 5674 — G 73

17 PI — FFE U 5686 L 5674 — G 72

16 PI — FFE U 5687 L 5674 — G 72

15 PI — FFE U 5688 L 5678

14 PI

19 PI — FFL U 5683 L 5673 — G 72

20 PI — FFE S 5674 — G 72

21 PI — FFE S 5669 — G 68.5

22 PI

44 PI — FFE S 5671 — G 69

45 PI — FFE S 5674 — G 73.5

46 PI

TC 70.83 FL 70.50

TC 70.63 FL 70.33 18' FACE TO FACE

TC 70.33 FL 70.00

TC 70.34 FL 70.01

TC 70.06 FL 69.73

TC 69.77 FL 69.44

STA 2+07.87 PC

STA 2+57.87 PVI EL 70.57 e = +.38

STA 3+07.87 PVT EL 73.18

TC 69.33 FL 69.00

TC 69.49 FL 69.16

TC 69.83 FL 69.50

TC 70.27 FL 69.94

TC 70.95 FL 70.57

TC 72.30 FL 71.97

TC 73.51 FL 73.18

TC 74.33 FL 7400

S=.0215

S=.0522

TC 69.25 FL 68.92

S=.0486

TC 68.80 FL 68.47

TC 68.12 FL 67.79

TC 66.93 FL 66.60

TC 65.20 FL 64.87

S=.077

TC 5665.20 FL 5664.87

STA 1+97.82 LAN = STA 1+00 CW PVI EL 67.18 e = -.58

TS 72.2 TS 72.6 TS 72.7

TS 64.55

BENCHMARK IS ACS MONUMENT 8-L22, ELEVATION: 5665.44, (VERTICAL DATUM 1929). STATION IS LOCATED AT THE INTERSECTION OF CENTRAL AVENUE AND TRAMWAY BOULEVARD, ON THE WEST END OF THE EAST MEDIAN ON CENTRAL AVENUE.
A TEMPORARY BENCH MARK IS A CROSS MARKED ON THE TRAFFIC ISLAND AT THE SOUTHWEST CORNER OF THE INTERSECTION OF CENTRAL AVENUE AND FOUR HILLS ROAD
ELEVATION: 5682.83

LEGEND	EXISTING	PROPOSED (THIS PROJECT)
SPOT ELEVATIONS	X	
TOP OF SIDEWALK	TS	TS
TOP OF WALL	TW	TW
TOP OF CURB	TC	TC
FLOW LINE INVERT	FL	FL
FINISHED FLOOR ELEVATIONS	FFE	FFE
CONTOUR LINE	5671 / 5670	70
STRUCTURE, MAJOR (HOUSE, ETC)		
STRUCTURE, MINOR (SIDEWALK, ETC)		
FENCE		
BLOCK WALL		
RETAINING WALL		
PROPERTY LINE		
LOT NUMBER		12

GRADING DETAILS ADDED	MRK	JUNE 30, 2004
PRELIMINARY	MRK	JUNE 17, 2004
APPROVALS REVISIONS	BY	DATE

MARVIN R. KORTUM, P.E.
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Jun 30, 2004

COVERED WAGON SUBDIVISION
GRADING AND DRAINAGE PLAN
GRADING DETAILS
INTERSECTION OF: LANIER DRIVE / COVERED WAGON AVENUE
LOTS 15, 16, 17, 18, 19, 20, 21, 44, & 45

HYDROLOGY PROJECT NO.	MAP NO.	SHEET	OF
	L-23	6	6

WORK ORDER PROJECT NO.	SHEET	OF