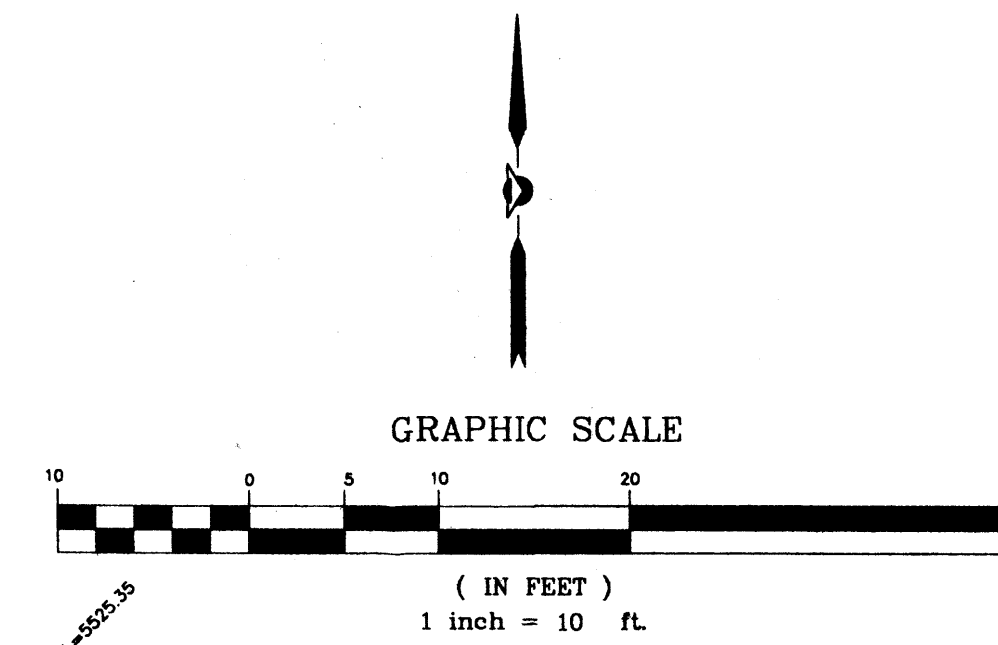
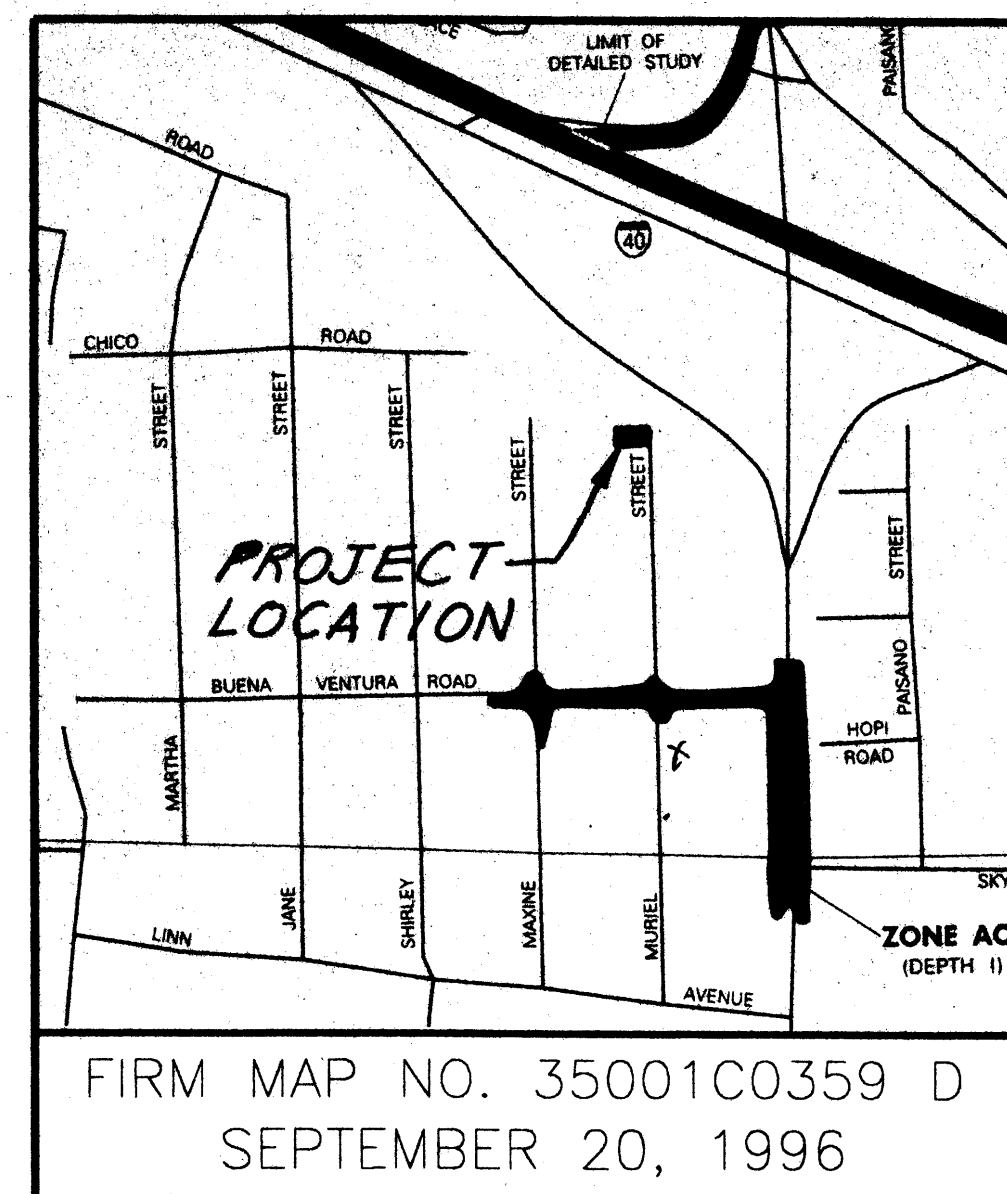


[illegible]

5. EXISTING CONDITIONS ONSITE.

TREATMENT	AREA(ACRES)
A	0.15
B	0
C	0
D	0

TYPE "A" SOILS SINCE UNDISTURBED

$Q(\text{EXISTING}) = (2.20 \times 0.15) = 0.33\text{CFS EXISTING ONSITE FLOW}$

$V(\text{EXISTING}-6\text{HR}) = ((0.80 \times 0.15) / 12) \times 43,560 = 436\text{CF}$

$= 0.01\text{AC}-\text{FT EXISTING ONSITE VOLUME}$

[illegible]

Diagram illustrating the relationship between the property line, top of wall elevation (TW), bottom of wall elevation (BW), proposed grade, existing grade, and slope.


- PROPERTY LINE (TO BE VERIFIED BY SURVEYOR)**: Indicated by a horizontal line at the top.
- TOP OF WALL ELEVATION (TW)**: Indicated by a horizontal line above the wall.
- Proposed Grade**: Indicated by a horizontal line below the TW.
- Slope**: Indicated by a line connecting the TW and the Proposed Grade.
- BOTTOM OF WALL ELEVATION (BW)**: Indicated by a horizontal line below the wall.
- Existing Grade**: Indicated by a horizontal line below the BW.
- Slope**: Indicated by a line connecting the BW and the Existing Grade.
- VARIES 1.4 feet to 3.8 feet**: Indicated by a vertical dimension line on the left side of the wall.

RETAINING WALL ALONG WEST, NORTH
AND SOUTH BOUNDARY

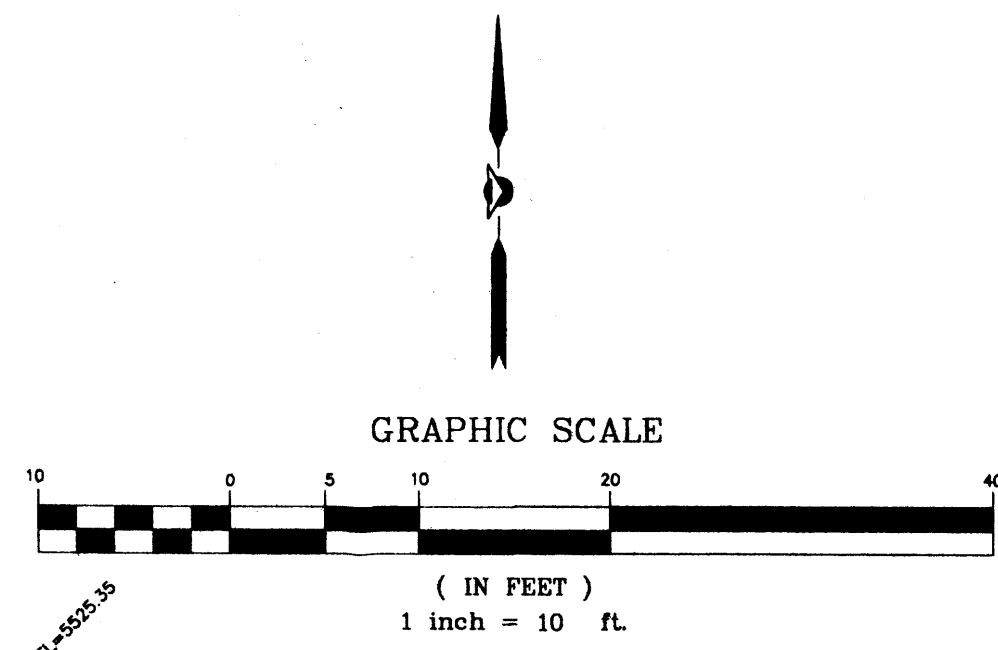
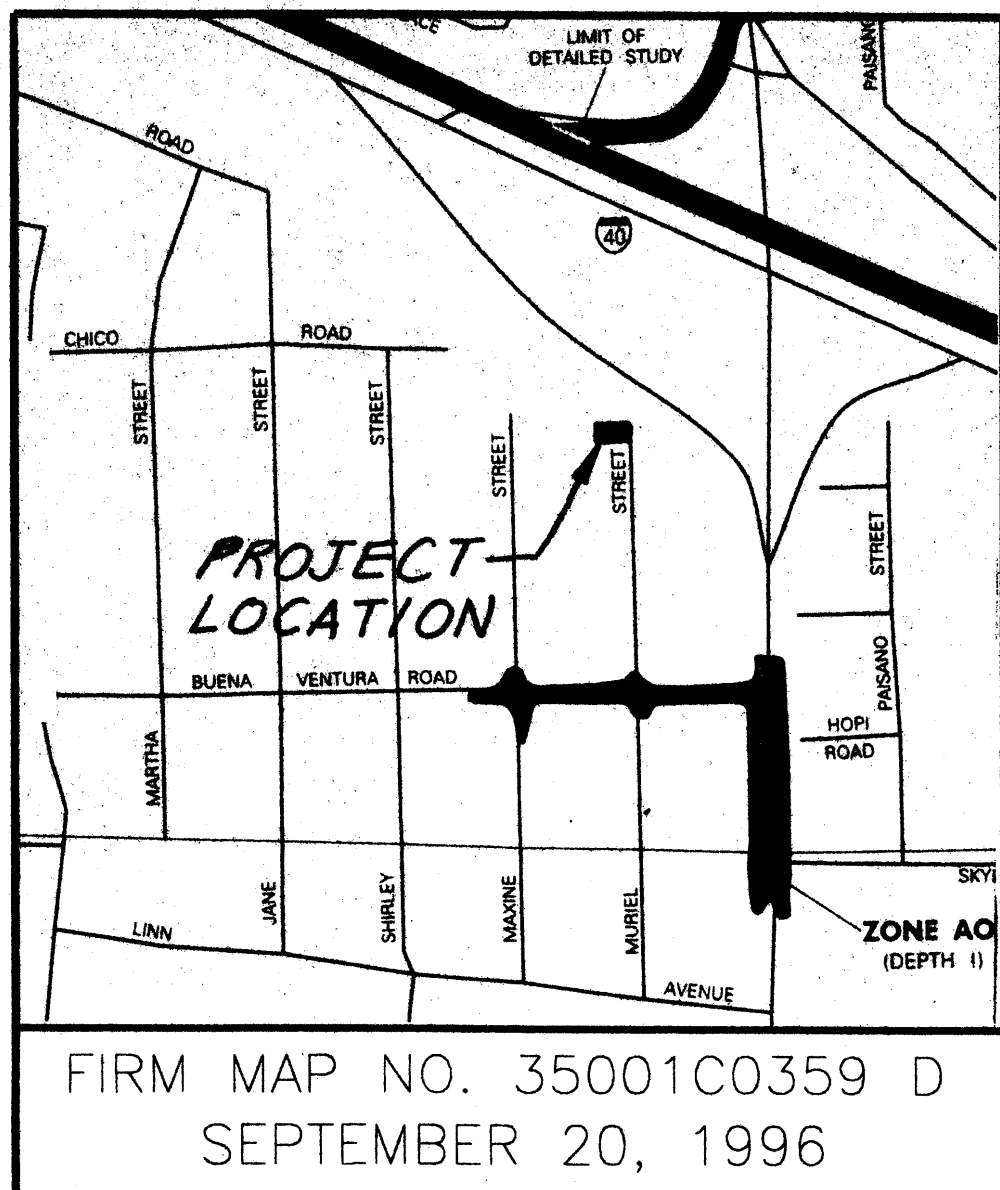
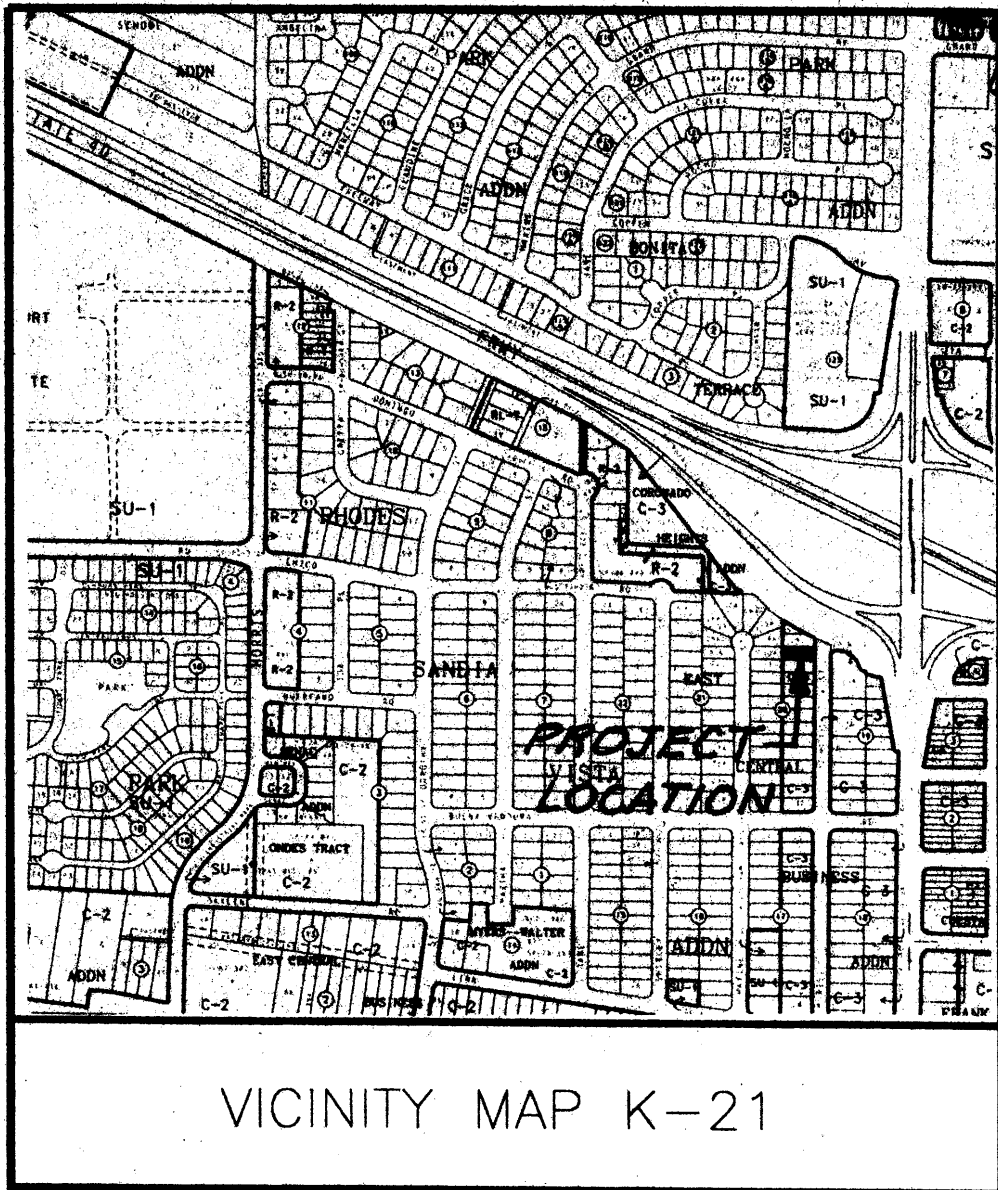
NOTE: EXISTING RAILROAD RETAINING WALL WAS RECENTLY CONSTRUCTED, DOES NOT APPEAR TO BE STRUCTURALLY SOUND, THE OWNER SHOULD CONTACT A STRUCTURAL ENGINEER TO DETERMINE HOW TO MAKE THE EXISTING WALL STRUCTURALLY SOUND.

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HYDROLOGY SECTION

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 ANY 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.

FILE 000301	<p>DRAINAGE AND GRADING PLAN FOR LOT 22, BLOCK 20 EAST CENTRAL BUSINESS</p> <p>Aldes Engineering & Surveying, Inc. 1605 BLAIR DRIVE NE ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1458</p>	DATE/REVISIONS:
		SHEET NUMBER: 1

DRAINAGE AND GRADING PLAN
FOR
LOT 22, BLOCK 20, EAST CENTRAL BUSINESS



DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING LOT 22, BLOCK 20, EAST CENTRAL BUSINESS ADDITION, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. VICINITY MAP
2. GRADING AND DRAINAGE PLAN
3. FLOODMAP
4. DRAINAGE CALCULATIONS

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS APPROXIMATELY 0.15 ACRES AND IS LOCATED ON MURIEL ROAD NE, JUST NORTH OF BUENA VENTURA. THE SITE CURRENTLY IS UNDEVELOPED. THE SITE APPEARS TO HAVE RECENT FILL WHERE THE TOPOGRAPHY DRAINS FROM THE BACK TO THE FRONT OF THE LOT INTO MURIEL STREET. THE DIRT APPEARS TO BE RECENTLY COMPACTED.

ACCORDING TO THE ALBUQUERQUE MASTER DRAINAGE STUDY (AMDS), VOLUME II, DATED JANUARY 1981, THIS SITE IS ALLOWED TO FREE DISCHARGE INTO MURIEL STREET. THE PURPOSE OF THIS PROPOSED GRADING AND DRAINAGE PLAN IS TO SHOW THAT THIS SITE WILL BE IN COMPLIANCE OF THE MASTER DRAINAGE STUDY. THIS IS AN INFILL SITE, EVERY LOT AROUND THIS AREA IS DEVELOPED.

ACCORDING TO THE FLOOD INSURANCE RATE MAP, PANEL 35001C0359 D, DATED SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE IN A DESIGNATED FLOODPLAIN.

PROPOSED CONDITIONS

AS SHOWN BY THE PLAN, THE PROJECT CONSISTS OF THE DEVELOPMENT OF A 1500SF METAL BUILDING. THE PLAN SHOWS THE PROPOSED ELEVATIONS REQUIRED TO PROPERLY GRADE THE REQUIRED PAVING AND DRAINAGE IMPROVEMENTS. ALL DRIVEWAYS AND PARKING AREAS WILL BE GRAVELLED, BUT THE CALCULATIONS REFLECT FUTURE ASPHALT PAVING. LANDSCAPING IS TO BE PROVIDED PER ZONING REQUIREMENTS.

SINCE THE LOT DRAINS EAST TO WEST, IT WILL BE NECESSARY TO REGRADE THE SITE TO DRAIN FROM WEST TO EAST TOWARDS MURIEL ROAD. THIS WILL REQUIRE THE SITE TO BE FILLED AND RETAINING WALLS TO BE CONSTRUCTED ALONG THE WEST, NORTH AND SOUTH BOUNDARIES TO REDIRECT THIS FLOW TOWARDS MURIEL ROAD.

THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6 HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

DRAINAGE CALCULATIONS

AS MENTIONED THIS LOT IS AN INFILL LOT. THE FLOW FROM THIS DEVELOPMENT WOULD NOT IMPACT DOWNSTREAM CAPACITY. AS PER VOLUME 2 OF THE ALBUQUERQUE MASTER DRAINAGE STUDY (AMDS), FREE DISCHARGE IS ACCEPTABLE.

EROSION CONTROL

TEMPORARY EROSION CONTROL WILL BE REQUIRED DURING THE CONSTRUCTION PHASE TO PROTECT DOWNSTREAM PROPERTY AND IMPROVEMENTS FROM SEDIMENT AND UNCONTROLLED RUNOFF. THE CONTRACTOR SHALL INCLUDE TEMPORARY EARTH BERMING ALONG THE WEST, NORTH AND SOUTH BOUNDARIES TO HOLD RUNOFF DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY MAINTAIN THESE FACILITIES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

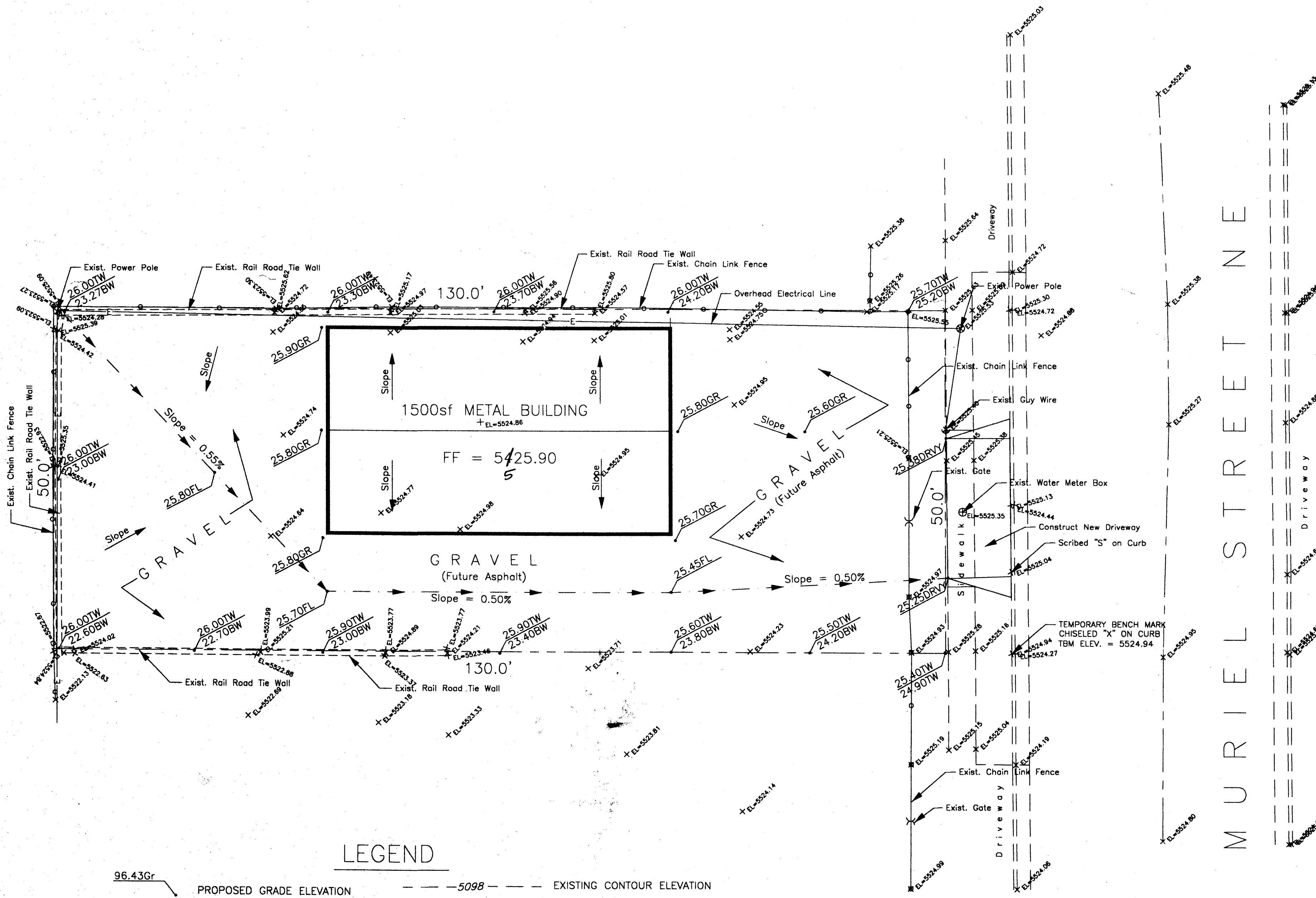
OFFSITE FLOWS

THERE IS NO OFFSITE FLOW THAT ENTERS THIS PROPERTY.

DRAINAGE CALCULATIONS

1. PRECIPITATION ZONE = 4
2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
6-HOUR = 2.90 INCHES
10 DAY = 5.95 INCHES
3. PEAK DISCHARGE (CFS/ACRE) FOR 100-YEAR, ZONE 2, TABLE A-9:
 $Q = 2.20 \text{ CFS/ACRE SOIL UNCOMPACTED "A"}$
 $Q = 2.92 \text{ CFS/ACRE LANDSCAPED "B"}$
 $Q = 3.73 \text{ CFS/ACRE COMPACTED SOIL "C"}$
 $Q = 5.25 \text{ CFS/ACRE IMPERVIOUS AREA "D"}$
FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8:
 $E = 0.80 \text{ INCHES SOIL UNCOMPACTED "A"}$
 $E = 1.08 \text{ INCHES LANDSCAPED "B"}$
 $E = 1.46 \text{ INCHES COMPACTED SOIL "C"}$
 $E = 2.64 \text{ INCHES IMPERVIOUS AREA "D"}$
5. EXISTING CONDITIONS ONSITE:
TREATMENT AREA(ACRES)
A 0.15
B 0
C 0
D 0
TYPE "A" SOILS SINCE UNDISTURBED
 $Q(\text{EXISTING}) = (2.20 \times 0.15) = 0.33 \text{ CFS EXISTING ONSITE FLOW}$
 $V(\text{EXISTING}-6\text{HR}) = ((0.80 \times 0.15) / 12) \times 43,560 = 436 \text{ CF}$
 $= 0.01 \text{ AC}-\text{FT EXISTING ONSITE VOLUME}$

6. PROPOSED CONDITIONS ONSITE
IMPERVIOUS AREA
PROPOSED BUILDING = 1500 SF = 0.03
FRONT PARKING LOT AND PORTION SOUTH OF BUILDING = 2,850sf = 0.07AC
IMPERVIOUS AREA PROPOSED:
 $= 4,510 \text{ SF} = 0.10 \text{ AC, IMP "D" (PROPOSED)}$
REMAINING GRAVEL TREATMENT "C" = 2150SF = 0.05AC
TREATMENT AREA(ACRES)
A 0
B 0
C 0.5
D 0.03 + 0.07 = 0.10
 $Q(\text{PROPOSED}) = (3.73 \times 0.05) + (5.25 \times 0.10)$
 $= 0.71 \text{ cfs PROPOSED ONSITE FLOW DIRECTED TO MURIEL STREET}$
 $Q(\text{INCREASE DUE TO THIS DEVELOPMENT}) = 0.71 \text{ cfs} - 0.33 \text{ cfs} = 0.38 \text{ cfs (NEGLIGIBLE)}$
 $V(\text{PROPOSED}) = ((1.46 \times 0.05) + (2.64 \times 0.10)) / 12 = 0.028 \text{ AC}-\text{FT} = 1,223 \text{ CF VOLUME DIRECTED TO MURIEL STREET}$
 $V(\text{INCREASE DUE TO THIS DEVELOPMENT}) = 1223 \text{ CF} - 436 \text{ CF} = 787 \text{ CF (NEGLIGIBLE)}$

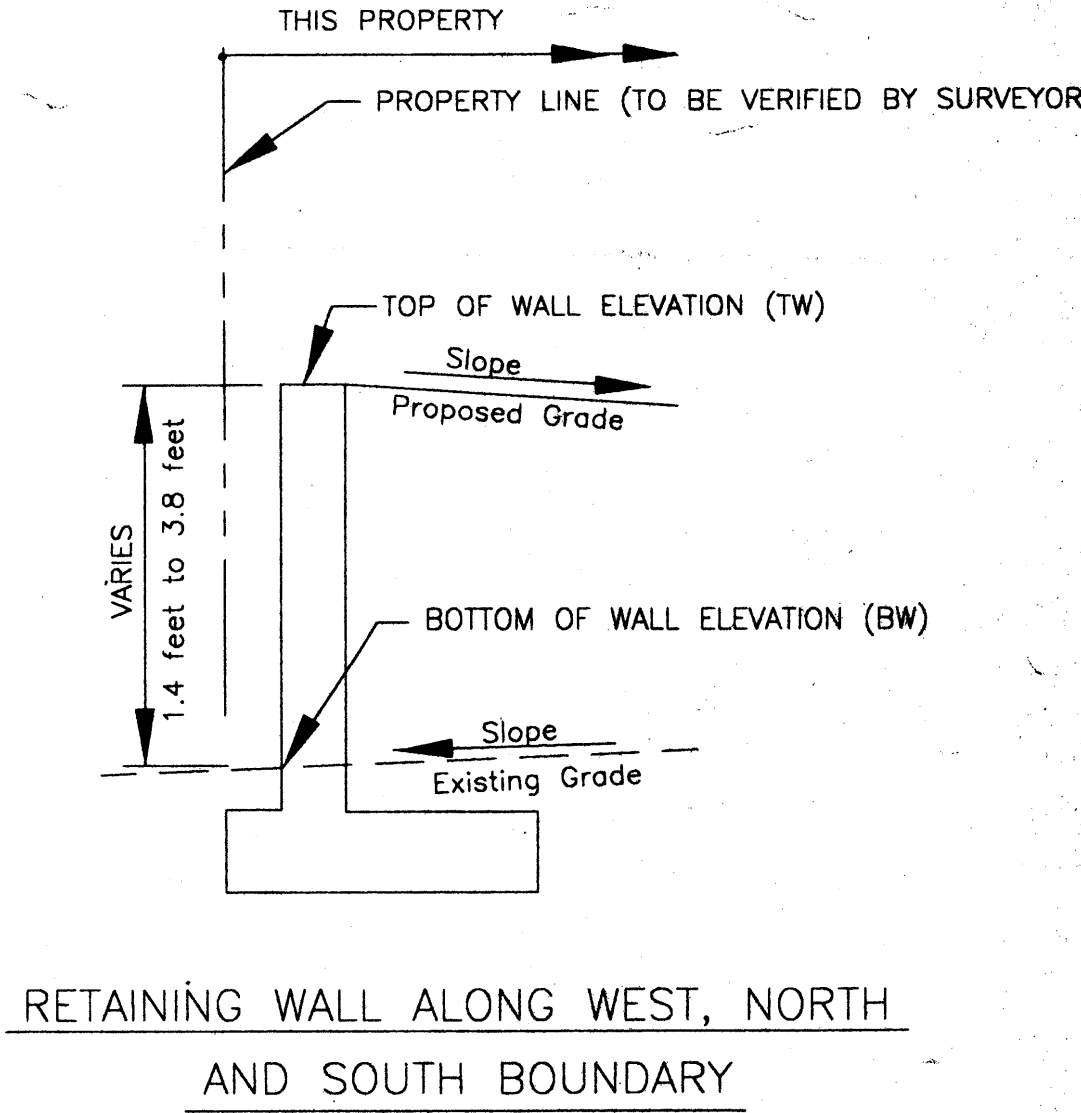


LEGEND

- 96.43Gr PROPOSED GRADE ELEVATION
- 96.43 TC PROPOSED TOP OF CURB
- 95.93 FL PROPOSED FLOWLINE OF CURB
- 98.77 TW PROPOSED TOP OF WALL
- 97.6 BW PROPOSED BOTTOM OF WALL
- 5098 EXISTING CONTOUR ELEVATION
- 5099.30 EXISTING SPOT ELEVATION
- DIRECTION OF FLOW

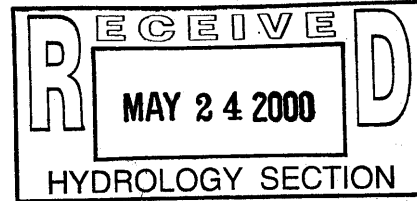
PROPERTY BENCHMARK

LOCATED AT THE INTERSECTION OF CHICO RD. NE AND JANE STREET NE, A SQUARE CHISELED IN TOP OF CONCRETE CURB AT THE WSW RETURN ELEV = 5504.690
Temporary Bench Mark (T.B.M.) - At the south end of driveway Concrete Next to Gate Post, ELEV = 5526.89

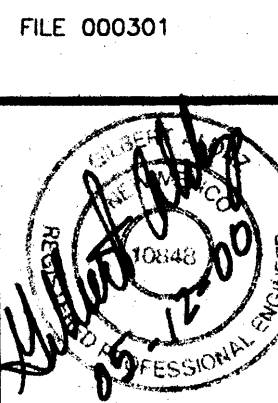


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DRAINAGE AND GRADING PLAN
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EAST CENTRAL BUSINESS

Alex Engineering & Surveying, Inc.
1605 BLAIR DRIVE NE
ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1456

DATE/REVISIONS:
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1