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SERGENT, HAUSKINS & BECKWITH

GEOTECHNICAL INVESTIGATION REPORT

Proposed Paint Building for Zuni Rental
Menaul East of Princeton
Albuquerque, New Mexico

SHB Job No. E88-1094

Consulting Geotechnical Engineers

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June 17, 1988

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HYDROLOGY SECTION

Zuni Rental
2705 Princeton Drive, N.E.
Albuquerque, New Mexico 87107

SHB Job No. E88-1094

Attention: Mr. Jerry Losey

Re: Proposed Paint Building for Zuni Rental
Menaul East of Princeton
Albuquerque, New Mexico

Gentlemen:

Our Geotechnical Investigation Report on the referenced project is herewith submitted. The report includes the results of test drilling, laboratory analyses and recommended criteria for foundation design and slab support.

Should any questions arise concerning this report, we would be pleased to discuss them with you.

Respectfully submitted,
Sergent, Hauskins & Beckwith Engineers

By _____
Robert D. Booth, P.E.

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SHB Job No. E88-1094

1. INTRODUCTION

This report is submitted pursuant to a geotechnical investigation made by this firm of the site of the proposed Paint Building for Zuni Rental in Albuquerque, New Mexico. The object of this investigation was to evaluate the physical properties of subsoils underlying the site to provide recommendations for foundation design and slab support.

2. PROPOSED CONSTRUCTION

It is understood that the proposed Paint Building will be a high bay, steel frame structure with metal siding and about 20 by 50 feet in plan dimensions. It is assumed that a 20 foot clear span across the bay area is proposed. It is estimated that foundation loads will not exceed about 10 kips on columns.

Should final design details vary significantly from those outlined above, this firm should be notified for review and possible modification of recommendations.

3. INVESTIGATION

3.1 Subsurface Exploration

Two exploratory borings were drilled at the site to depths of about 26 to 36 feet below existing grade utilizing a truck-mounted CME-75 rotary drill rig equipped with 6-1/2 inch O.D. hollow stem auger.

Standard penetration testing and 2.42 inch diameter open-end drive sampling was performed at selected intervals in the borings. During the field investigation, the soils encountered were continuously examined, visually classified and logged. Results of the field investigation are presented in Appendix A, which includes a brief description of drilling and sampling equipment and procedures, a site plan showing the boring locations, and logs of the test borings.

3.2 Laboratory Analysis

Moisture content determinations were made on all tube samples recovered. In addition, density determinations were made on selected relatively undisturbed samples. Results of these tests are shown on the boring logs.

Grain-size analysis and Atterberg limits tests were performed on selected samples to aid in soil classification. The results of these tests are presented in Appendix B.

4. SITE CONDITIONS & GEOTECHNICAL PROFILE

4.1 Site Conditions

The site of the proposed Paint Building is located adjacent to the west property line towards the north end of the site. It is relatively level and paved with a thin layer of asphaltic concrete.

4.2 Geotechnical Profile

As indicated by the exploratory borings, the subsoils underlying the site consist of a surface layer of man-made fill which varies in thickness from approximately 19 to 27 feet. The fill consists predominantly of low plasticity to nonplastic clayey or silty sand which contains some asphalt fragments. Other construction debris such as concrete, brick etc. are in all probability, present beneath the site. However, based upon our knowledge of the fill in the general area of the site, as well as its origin, large amounts of organic debris are not expected to underlie the site. The native soils encountered below the fill consist predominantly of silty to clean sands with occasional gravel. Based upon the Standard Penetration test data, the fill typically ranged from soft to moderately firm while the underlying native soils were firm or dense to very dense.

4.3 Soil Moisture & Groundwater Conditions

No free groundwater was encountered in the borings. Soil moisture contents were low to moderate for both the man-made fill and native soils.

5. DISCUSSION & RECOMMENDATIONS

5.1 Analysis of Results

Due to probable methods of placement (end-dumped), the man-made fill overlying the site is, in all probability,

quite variable in both consistency and composition. Although not evident by our exploratory borings experience with similar uncontrolled fill deposits indicate that the fill would be substantially weakened by moisture increases. Substantial moisture increases in these soils could result in excessive settlements of both footings and floor slabs possibly as much as several feet if complete saturations were to occur.

Due to the soil conditions mentioned above, several alternative approaches for foundation and slab design are recommended for consideration as follows:

Alternative No. 1

Overexcavate the man-made fill soils to such an extent as to provide a minimum of 3.0 feet of structural fill beneath both footings and floor slabs, flood the excavation with about 2.0 feet of water and proof roll the exposed surface with 20 passes of a heavy vibratory roller. The site should then be brought up to finished subgrade elevation with properly compacted structural fill and the structure supported on spread-type footings bearing on structural fill. A moderately reinforced "floating" concrete slab is recommended with this approach.

Alternative No. 2

Prewet the upper 5.0 feet of man-made fill overlying the site (by sprinkling and/or flooding) and subject the entire site to 20 passes of a heavy vibratory roller. Support the structure on a rigid waffle-type, post-tensioned slab foundation system.

Alternative No. 3

Perform the same site treatment as recommended in Alternative No. 1 above and support the structure on a rigid waffle-type, post-tensioned slab foundation system.

Alternative No. 4

Support the entire structure, including floor slabs, on a series of straight drilled cast-in-place piers bearing in the native soils underlying the man-made fill.

All four alternatives can provide successful designs with careful attention to details for moisture protection. Alternative No. 1 which is probably the least costly, involves the highest degree of calculated risk, as damage to the structure would be likely to occur in the event of large post-construction moisture increases in the supporting soils. Even with alternative 2, moisture protection of the foundation soils would be of prime importance since existing fill would be left in place and the site treatment recommended with this alternative would to extend to more than about 5 feet in depth. Alternatives 3 and 4 would involve the least amount of risk but would be the most costly.

5.2 Foundations

5.2.1 Spread-Type Footings - Alternative No. 1

Shallow spread-type footings bearing at uniform depths

below finished grade, in conjuction with the recommended site preparation and moisture protection provisions, are recommended for support of the structure. A safe bearing pressure of 1500 psf is recommended for footing design. This pressure applies to dead plus realistic live loads and can be increased by one-third for total loads including wind and seismic forces. Minimum depths of footings should be 2.0 feet below the lowest adjacent finished grade for perimeter footings and 1.5 feet below finished floor slab elevation for any interior footings. Two feet and 1.33 feet are the minimum recommended widths of square and continuous footings, respectively. Floor slabs should not bear directly upon stem walls or foundations and should be designed to move independent of the structure. It is recommended that the slab be moderately reinforced with this alternative. Detailed recommendations for the required site preparation for this alternative are presented in Section 5.4 and Appendix C. Settlements of foundations and slabs with this alternative are difficult to predict due to uncertainties concerning the condition of the existing man-made fill and effect of the recommended site treatment.

5.2.2 Waffle-Type Slab (Alternative No. 2)

A waffle-type, post-tensioned slab-type foundation bearing directly on the surface treated man-made fill. However, the foundation should be designed to either span or cantilever a distance of at least 10 feet when subjected to equipment loading or a distance

of 15 feet when the paint shop is not being used. Settlements of foundations with this alternative are also difficult to estimate due to reasons outlined above.

Specifications for the required site treatment are presented in Section 5.4 and Appendix C.

5.2.3 Waffle-Type Slab on Structural Fill (Alternative No.3)

Site preparation for placing a waffle-type, post-tensioned slab type foundation on structural fill should be the same as for alternative No. 1. Recommended span and cantilever distances for design purposes can be reduced to 10 feet and 5 feet for structural loads only and structural plus equipment loads, respectively.

5.2.4 Drilled Pier Foundations (Alternative No. 4)

5.2.4.1 Vertical Pier Loads

Safe soil support capacities for various diameters of straight, drilled, cast-in-place concrete piers, penetrating a depth of at least 10 feet into native soils, are presented below. The values apply to safe soil support capacity and do not consider the structural strength of the piers.

With this alternative it is recommended that, in addition to structural loads, suspended structural floor slabs be designed and supported on piers.

Pile Diameter Feet	Safe Downward Capacity (kips)	Safe Upward Capacity (kips)
1.5	12.0	7.0
2.0	26.0	10.0
[illegible].5	44.0	12.0

Due to the presence of asphalt and possible other rubble in the fill, some difficulty in pier drilling should be anticipated; however, penetration of the rubble fill was accomplished during the field investigation with only moderate difficulty. Concrete overruns should also be anticipated due to the sloughing of the rubble fill.

The capacities presented above take into consideration possible down drag forces on the piers in the event moisture increases in the fill occur. The capacities apply to full dead plus realistic live loads and can be increased by one-third total loads including wind or seismic forces.

5.2.4.2 Lateral Pier Loads

Lateral loads can be resisted by vertical piers. Methods based on the concept of a beam on an elastic half space with the stiffness increasing linearly with depth are considered sufficiently accurate for evaluation of induced moments and deflections in the piers due to lateral loading. Thus, a method of analysis, such as that presented by Broms (1964) or

Davisson (1970), is recommended for use. A coefficient of horizontal subgrade reaction (Nh) of 5 pci is recommended for use above a depth of 5 feet and 15 below 5 feet.

5.2.4.3 Drilled Pier Excavation

Straight drilled pier excavations should be advanced with a single flight auger or bucket auger to the design depth. It should be verified by observation and measurement that the excavations are open to that depth. The auger should be placed back in the holes, and two additional passes made to clean loose material from the bottom of the holes. Should hand work be required to remove oversized rubble from the excavation, provisions should be made to install temporary casing to comply with OSHA regulations.

5.2.4.4 Placement of Pier Concrete

Concrete should be placed through a hopper, or other device approved by the geotechnical engineer, so that it is channeled in such a manner to free fall and clear the walls of the excavations and reinforcing steel unitl it strikes the bottom. Adequate compaction will be achieved by free fall of the concrete up to the top 5.0 feet. The top 5.0 feet of concrete should be vibrated in order to achieve proper compaction. Concrete should be designed, from a strength standpoint, so that the slump during placement is in the range of 4 to 6 inches.

5.2.4.5 Construction Observations

Continuous observation of the construction of drilled piers should be carried out by the geotechnical engineer. Verification should be made of the proper diameter, depth and cleaning of the pier excavations as well as the nature of the subsurface materials encountered in the pier excavations. Concrete placement should be continuously observed to determine that it meets recommendations presented herein.

5.3 Lateral Loads

The passive soil resistance against edges of footings, stem walls, etc., with properly compacted backfill should be considered as being equal to forces exerted by a fluid of 300 pounds per cubic foot unit weight. A coefficient of friction of 0.35 is recommended for computing lateral resistance between the bases of footings and slabs and the soil in analyzing lateral loads.

5.4 Site Grading & Slab Support

Guide specifications relative to site grading for slab and/or foundation support are presented in Appendix C. The use of granular base for structural support of lightly loaded slabs is not considered necessary and should not be used.

A modulus of subgrade reaction (k) of 200 pci may be

used for design of floor slabs based on prepared subgrade if alternative No. 1 is used.

5.6 Site Drainage & Moisture Protection

Substantial moisture increase in the subsoils would reduce their support value and increase foundation movements. Therefore, positive site drainage should be provided during construction and maintained thereafter. Pavement or sidewalks should immediately adjoin the structure on all sides and the ground surface should be sloped away from the structure in a manner to allow flow along the drainage lines at a minimum grade of 2 percent to points at least 30.0 feet away.

Positive drainage should be provided from these points to streets or natural water courses. In no case should long-term ponding of water be allowed around the perimeter of the structure. Underground sewer and water lines should be placed in concrete lined utility trenches or pipes which are designed to drain to man-holes a minimum of 30.0 feet away from the perimeter of the building.

APPENDIX A

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TEST DRILLING EQUIPMENT & PROCEDURES

Drilling Equipment Truck-mounted CME-55 and CME-75 drill rigs powered with 6 cylinder Ford industrial engines are used in advancing test borings. The 6 cylinder engines are capable of delivering about 6,500 foot/pounds torque to the drill spindle. The spindle is advanced with twin hydraulic rams capable of exerting 12,000 pounds downward force. Drilling through soil or softer rock is performed with 6-1/2 inch O.D., 3-1/4 I.D. hollow stem auger or 4-1/2 inch continuous flight auger. Carbide insert teeth are normally used on the auger bits so they can often penetrate rock or very strongly cemented soils which require blasting or very heavy equipment for excavation. Where refusal is experienced in auger drilling, the holes are sometimes advanced with tricone gear bits and NX rods using water or air as a drilling fluid.

Sampling Procedures Dynamically driven tube samples are usually obtained at selected intervals in the borings by the ASTM D1586 procedures. In most cases, 2" O.D., 1-3/8" I.D. samplers are used to obtain the standard penetration resistance. "Undisturbed" samples of firmer soils are often obtained with 3" O.D. samplers lined with 2.42" I.D. brass rings. The driving energy is generally recorded as the number of blows of a 140 pound 30 inch free fall drop hammer required to advance the samplers in 6 inch increments. However, in stratified soils, driving resistance is sometimes recorded in 2 or 3 inch increments so that soil changes and the presence of scattered gravel or cemented layers can be readily detected and the realistic penetration values obtained for consideration in design. These values are expressed in blows per foot on the logs. "Undisturbed" sampling of softer soils is sometimes performed with thin walled Shelby tubes (ASTM D1587). Where samples of rock are required, they are obtained by NX diamond core drilling (ASTM D2113). Tube samples are labeled and placed in watertight containers to maintain field moisture contents for testing. When necessary for testing, larger bulk samples are taken from auger cuttings.

Continuous Penetration Tests Continuous penetration tests are performed by driving a 2" O.D. blunt nosed penetrometer adjacent to or in the bottom of borings. The penetrometer is attached to 1-3/8" O.D. drill rods to provide clearance to minimize side friction so that penetration values are as nearly as possible a measure of end resistance. Penetration values are recorded as the number of blows of a 140 pound 30 inch free fall drop hammer required to advance the penetrometer in one foot increments or less.

Boring Records Drilling operations are directed by our field engineer or geologist who examines soil recovery and prepares boring logs. Soils are visually classified in accordance with the Unified Soil Classification System (ASTM D2487), with appropriate group symbols being shown on the logs.

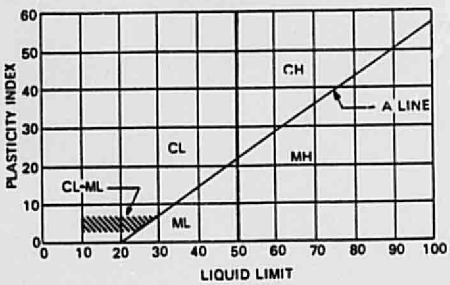
UNIFIED SOIL CLASSIFICATION SYSTEM

Soils are visually classified by the Unified Soil Classification system on the boring logs presented in this report. Grain-size analysis and Atterberg Limits Tests are often performed on selected samples to aid in classification. The classification system is briefly outlined on this chart. For a more detailed description of the system, see "The Unified Soil Classification System" Corp of Engineers, US Army Technical Memorandum No. 3-357 (Revised April 1960) or ASTM Designation: D2487-66T.

MAJOR DIVISIONS				GRAPHIC SYMBOL	GROUP SYMBOL	TYPICAL NAMES
COARSE-GRAINED SOILS (Less than 50% passes No. 200 sieve)	GRAVELS (50% or less of coarse fraction passes No. 4 sieve)	CLEAN GRAVELS (Less than 5% passes No. 200 sieve)			GW	Well graded gravels, gravel-sand mixtures, or sand-gravel-cobble mixtures.
					GP	Poorly graded gravels, gravel-sand mixtures, or sand-gravel-cobble mixtures.
		GRAVELS WITH FINES (More than 12% passes No. 200 sieve)	Limits plot below "A" line & hatched zone on plasticity chart		GM	Silty gravels, gravel-sand-silt mixtures.
			Limits plot above "A" line & hatched zone on plasticity chart		GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction passes No. 4 sieve)	CLEAN SANDS (Less than 5% passes No. 200 seive)			SW	Well graded sands, gravelly sands.
					SP	Poorly graded sands, gravelly sands.
		SANDS WITH FINES (More than 12% passes No. 200 sieve)	Limits plot below "A" line & hatched zone on plasticity chart		SM	Silty sands, sand-silt mixtures.
			Limits plot above "A" line & hatched zone on plasticity chart		SC	Clayey sands, sand-clay mixtures.
FINE-GRAINED SOILS (50% or more passes No. 200 sieve)	SILTS (Limits plot below "A" line & in hatched zone on plasticity chart)	SILTS OF LOW PLASTICITY (Liquid Limit Less Than 50)			ML	Inorganic silts, clayey silts with slight plasticity.
		SILTS OF HIGH PLASTICITY (Liquid Limit More Than 50)			MH	Inorganic silts, micaceous or diatomaceous silty soils, elastic silts.
	CLAYS (Limits plot above "A" line & in hatched zone on plasticity chart)	CLAYS OF LOW PLASTICITY (Liquid Limit Less Than 50)			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		CLAYS OF HIGH PLASTICITY (Liquid Limit More Than 50)			CH	Inorganic clays of high plasticity, fat clays, sandy clays of high plasticity.

NOTE: Coarse grained soils with between 5% & 12% passing the No. 200 sieve and fine grained soils with limits plotting in the hatched zone on the plasticity chart to have double symbol.

PLASTICITY CHART



DEFINITIONS OF SOIL FRACTIONS

SOIL COMPONENT	PARTICLE SIZE RANGE
Cobbles	Above 3 in.
Gravel	3 in. to No. 4 sieve
Coarse gravel	3 in. to ¾ in.
Fine gravel	¾ in. to No. 4 sieve
Sand	No. 4 to No. 200
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Fines (silt or clay)	Below No. 200 sieve

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TERMINOLOGY USED TO DESCRIBE THE RELATIVE DENSITY, CONSISTENCY, OR FIRMNESS, OF SOILS

The terminology used on the boring logs to describe the relative density, consistency, or firmness of soils relative to the standard penetration resistance is presented below. The standard penetration resistance (N) in blows per foot is obtained by ASTM D1586 procedure using 2" O.D., 1-3/8" I.D. samplers.

1. Relative Density. Terms for description of relative density of cohesionless, uncemented sands and sand-gravel mixtures.

N	Relative Density
0-4	Very loose
5-10	Loose
11-30	Medium dense
31-50	Dense
50+	Very dense

2. Relative Consistency. Terms for the description of clays which are saturated or near saturation.

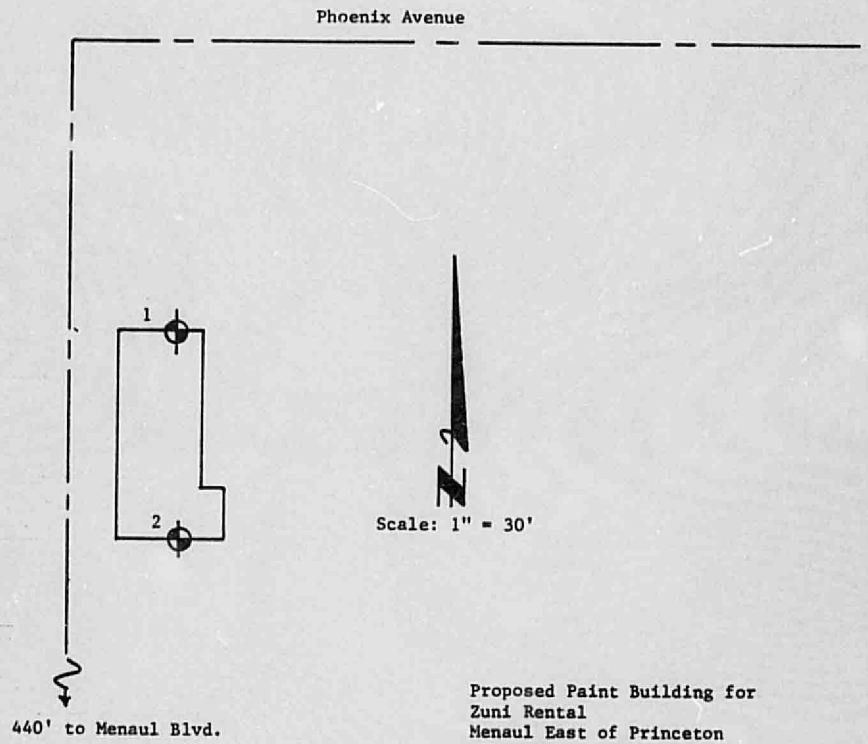
N	Relative Consistency	Remarks
0-2	Very soft	Easily penetrated several inches with fist
3-4	Soft	Easily penetrated several inches with thumb
5-8	Medium stiff	Can be penetrated several inches with thumb with moderate effort
9-15	Stiff	Readily indented with thumb, but penetrated only with great effort
16-30	Very stiff	Readily indented with thumbnail
30+	Hard	Indented only with difficulty by thumbnail

3. Relative Firmness. Terms for the description of partially saturated and/or cemented soils which commonly occur in the Southwest including clays, cemented granular materials, silts and silty and clayey granular soils:

N	Relative Density
0-4	Very soft
5-8	Soft
9-15	Moderately firm
16-30	Firm
31-50	Very firm
50+	Hard

SITE PLAN

SHOWING LOCATIONS OF TEST BORINGS



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A-4

PROJECT Proposed Paint Building
Zuni Rental, Albuquerque, New Mexico

LOG OF TEST BORING NO. 1

JOB NO. E88-1094 DATE 5/27/88

RIG TYPE CME-55
BORING TYPE 6 1/2"hollow stem auger
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/foot 140 lb. 30" free fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
0				S	4		10	SC	soft	3/4" Asphalt FILL: CLAYEY SAND, predominantly fine, low plasticity, brown
				S	13		6			
5				S	11		6			
									moderately firm	FILL: SILTY SAND, predominantly fine, occasional gravel, trace clay, non to low plasticity, brown note: asphalt fragments @ 10', moist @ 9 1/2'
10				S	16		9	SM		
15				S	18		12	SC	moderately firm to firm	CLAYEY SAND, predominantly fine to medium, some gravel, low plasticity, brown
20				S	26		4	SM	firm	SILTY SAND, predominantly fine to medium, some gravel, nonplastic, brown
25				S	138					Stopped auger @ 24' 6" Sampler refused @ 25' 8 "
30										
35										
40										
45										
50										

GROUNDWATER

DEPTH	HOUR	DATE
	none	

SAMPLE TYPE

A - Auger cuttings. B - Block sample.
S - 2" O.D. 1.38" I.D. tube sample.
U - 3" O.D. 2.42" I.D. tube sample.
T - 3" O.D. thin-walled Shelby tube.

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PROJECT Proposed Paint Building
Zuni Rental, Albuquerque, New Mexico

LOG OF TEST BORING NO. 2

JOB NO. E88-1094 DATE 5/27/88

RIG TYPE CME-55
BORING TYPE 6 1/2"hollow stem auger
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/foot 140 lb. 30" free-fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
0				S	7		10	SC	soft	3/4" Asphalt FILL: CLAYEY SAND, fine, low plasticity, brown
				S	12		7			
5				S					moderately firm to firm	FILL: SILTY SAND, predominantly fine, occasional gravel, non to low plasticity, brown note: occasional clayey sand stringers
10				S	20		9			
15				S	23		9	SM		some asphalt @ 15'
20				S	38		6			asphalt @ 20'
25				S	14		3			asphalt @ 25'
									dense to very dense	SAND, predominantly medium, occasional gravel, nonplastic, brown
30				S	31		3	SP		
35				S	77		7			
										Stopped auger @ 34' 6" Sampler refused @ 36'
40										
45										
50										

GROUNDWATER

DEPTH	HOUR	DATE
	none	

SAMPLE TYPE

A - Auger cuttings. B - Block sample.
S - 2" O.D. 1.38" I.D. tube sample.
U - 3" O.D. 2.42" I.D. tube sample.
T - 3" O.D. thin-walled Shelby tube.

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APPENDIX B

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LABORATORY TESTING PROCEDURES

Consolidation Tests Soiltest or Clockhouse apparatus of the "floating-ring" type are employed for the one-dimensional consolidation tests. They are designed to receive one inch high, 2.5 inch O.D. brass liner rings with soil specimens as secured in the field. Procedures for the tests generally are those outlined in ASTM D2435. Loads are applied in several increments to the upper surface of the test specimen and the resulting deformations are recorded at selected time intervals for each increment. For soils which are essentially saturated, each increment of load is maintained until the deformation versus log of time curve indicates completion of primary consolidation. For partially saturated soils, each increment of load is maintained until the rate of deformation is equal or less than 1/10,000 inch per hour. Applied loads are such that each new increment is equal to the total previously applied loading. Porous stones are placed in contact with the top and bottom of the specimens to permit free addition or expulsion of water. For partially saturated soils, the tests are normally performed at in situ moisture conditions until consolidation is complete under stresses approximately equal to those which will be imposed by the combined overburden and foundation loads. The samples are then submerged to show the effect of moisture increase and the tests continued under higher loadings. Generally, the tests are continued to about twice the anticipated curve due to overburden and structural loads, with a rebound curve then being established by releasing loads.

Expansion Tests The same type of consolidometer apparatus described above is used in expansion testing. Undisturbed samples contained in brass liner rings are placed in the consolidometers, subjected to appropriate surcharge loads and submerged. The loads are maintained until the expansion versus log of time curve indicates the completion of "primary swell".

TABULATION OF TEST RESULTS

Job No. E88-1094

Project Proposed Paint Building
Zuni Rental, Albuquerque, New Mexico

Material

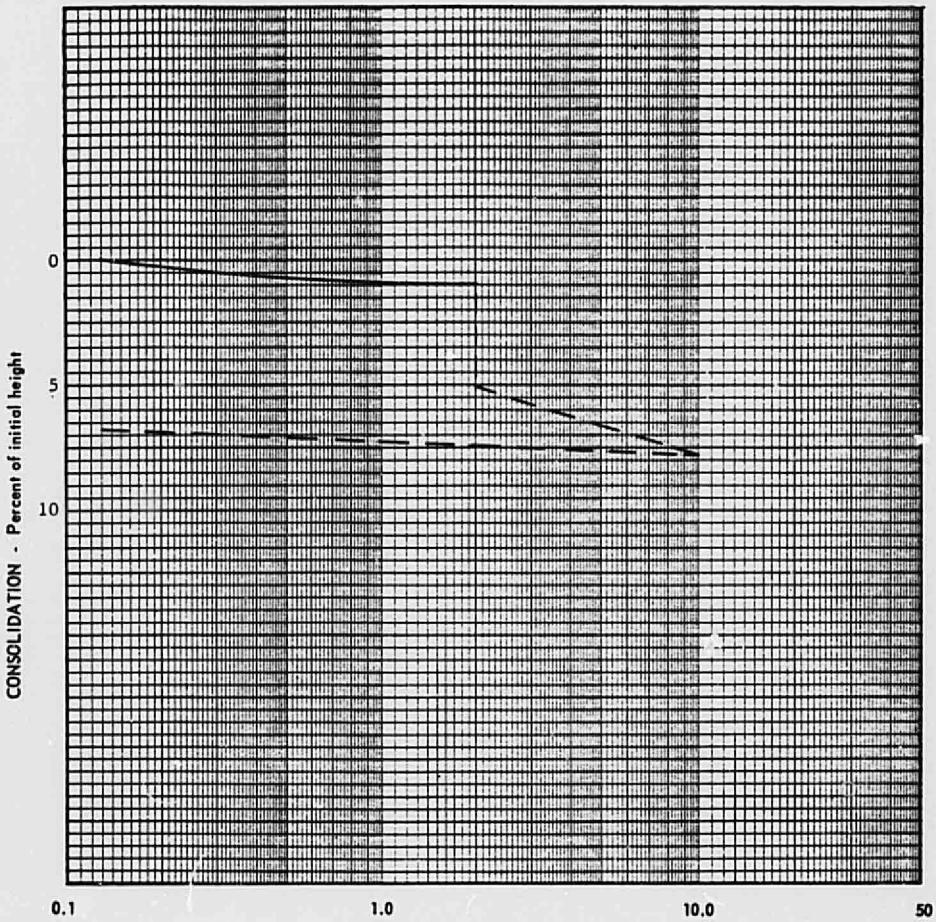
Source

HOLE NO.	LOCATION	DEPTH	UNIFIED CLASS.	LL	PI	SIEVE ANALYSIS – ACCUM. % PASSING												LAB. NO.
						200	100	40	10	4	3/8	1/2	3/4	1	1-1/2	3	MOIST.	
1		4½	SM	NV	NP	15	27	45	67	86	95	100					6%	94-1
2		9½	SM	NV	NP	19	37	60	78	90	90	97	100				9%	94-3

SERGENT, HAUSKINS & BECKWITH
CONSULTING GEOTECHNICAL ENGINEERS

SUMMARY OF CONSOLIDATION TESTS

PROJECT Proposed Pain Building, Zuni Rental **JOB NO.** E88-1094



CURVE	SAMPLE	INITIAL DRY DENSITY LBS./CU. FT.	MOISTURE CONTENT % DRY WEIGHT		UNIFIED SOIL CLASSIFICATION
			INITIAL	FINAL	
	Boring #2 @ 4½'	113.3	8.3	13.1	SM

SOIL MOISTURE CONDITION

——— INSITU
– – – – SUBMERGED

SERGENT, HAUSKINS & BECKWITH

CONSULTING GEOTECHNICAL ENGINEERS
PHOENIX • ALBUQUERQUE • SANTA FE

APPENDIX C

SERGENT, HAUSKINS & BECKWITH

CONSULTING GEOTECHNICAL ENGINEERS

PHOENIX • TUCSON • ALBUQUERQUE • SANTA FE • SALT LAKE CITY • EL PASO

Proposed Paint Building
for Zuni Rental
Menaul East of Princeton
Albuquerque, New Mexico
SHB Job No. E88-1094

SPECIFICATIONS FOR EARTHWORK

1. **SCOPE**

Includes all clearing and grubbing, removal of obstructions, general excavating, grading and filling, and any related items necessary to complete the grading for the entire project in accordance with these specifications.

2. **SUBSURFACE SOIL DATA**

Subsurface soil investigations have been made, and the results are available for examination by the contractor. The contractor is expected to examine the site and determine for himself the character of materials to be encountered.

No additional allowance will be made for rock removal, site clearing and grading, filling, compaction, disposal or removal of any unclassified materials.

3. **CLEARING & GRUBBING**

A. General: Clearing and grubbing will be required for all areas shown on the plans to be excavated or on which fill is to be constructed.

B. Clearing: Clearing shall consist of removal and disposal of existing pavement, trees and other vegetation as well as down timber, snags, brush and rubbish within the areas to be cleared.

C. Grubbing: Stumps, matted roots and roots larger than 2 inches in diameter shall be removed from within 6 inches of the surface of areas on which fills are to be constructed except in roadways. Materials as described above within 18 inches of finished subgrade of roadways in either cut or fill sections shall be removed. Areas disturbed by grubbing will be filled as specified herein for EMBANKMENT.

D. Grass & Topsoil: Grass, grass roots and incidental topsoil shall not be left beneath a fill area, nor shall this material be used as fill material. Grass,

grass roots and topsoil may be stockpiled and later used in the top 6 inches of fills outside roadways and building pads.

4. GENERAL EARTH EXCAVATION

A. Earth excavation shall consist of the excavation and removal of suitable soils for use as embankment as well as the satisfactory disposal of all vegetation, debris and deleterious materials encountered within the area to be graded and/or in a borrow area.

B. Excavated areas shall be continuously maintained such that the surface shall be smooth and have sufficient slope to allow water to drain from the surface.

5. EMBANKMENT

A. General: Embankments shall consist of a controlled fill constructed in areas indicated on the grading plans.

B. Materials:
(1) Physical Characteristics: Embankment fill material shall consist of soils that conform to the following physical characteristics:

Sieve Size (Square Openings)	Percent Passing by Weight
3 inch	100
no. 4	60-100
no. 200	15-40

The plasticity index of the material, as determined in accordance with ASTM D4318, shall not exceed 15.

The fill materials shall be free from roots, grass, other vegetable matter, clay lumps, rocks larger than 6 inches, or other deleterious materials.

(2) Site Soils: The existing site soils may be used as structural fill provided they meet the requirements presented above. The results of this investigation indicate that most of the site soils will meet these requirements, however, removal of oversized particles or organic debris, if encountered, will be necessary.

(3) Borrow: When the quantity of suitable material required for embankments is not available within the limits of the jobsite, the contractor shall provide sufficient materials to construct the embankments to the lines, elevations and cross sections as shown on the drawings from borrow areas. The contractor shall obtain from owners of said borrow areas the right to excavate material, shall pay all royalties and other charges involved, and shall pay all expenses in developing the source including the cost of right-of-way required for hauling the material.

C. Construction:

(1) Building Area Treatment

Alternative No. 1 - Prior to placement of fill or foundations, the building area shall be over excavated to such an extent as to provide for a minimum of 3.0 feet of structural fill beneath both footings and floor slabs. The excavation shall extend at least 3 feet beyond the building perimiter.

The exposed cut surface shall then be scarified to a minimum depth of 12 inches and flooded with a minimum depth of 2.0 feet of water. The entire area shall then be proofrolled with a minimum of 20 passes of a 10 ton vibratory roller. The upper 12 inches of the soils shall then be compacted and brought up with structural compacted to the density required in paragraph 5.C(2).

Alternative No. 2 - The entire building area and for a distance of 3.0 feet beyond its perimiter, shall be scarified to a depth of 12", watered as necessary to bring the upper 5.0 feet to optimum moisture content or above and subjected to the same proof rolling of compaction as recommended for Alternative No. 1.

Alternative No. 3 - Same as for Alternative No. 1.

Alternative No. 4 - Surface compaction only to the requirements of paragraph 5.C (2).

(2) Compaction: Fill shall be spread in layers not exceeding 8 inches, watered as necessary, and compacted. Moisture content at the time of compaction shall be ±2 percent of optimum moisture content. A density of not less than 95 percent of maximum dry density within the building pads and paved areas shall be obtained. Embankments outside the building pads and paved areas shall be compacted to 90 percent of maximum dry density.

Optimum moisture content and maximum dry density for each soil type used shall be determined in accordance with ASTM D1557.

(3) Weather Limitations: Controlled fill shall not be constructed when the atmospheric temperature is below 35 degrees F. When the temperature falls below 35 degrees, it shall be the responsibility of the contractor to protect all areas of completed work against any detrimental effects of ground freezing by methods approved by the geotechnical engineer. Any areas that are damaged by freezing shall be reconditioned, reshaped and compacted by the contractor in conformance with the requirements of this specification without additional cost to the owner.

D. Slope Protection & Drainage: The edges of the controlled fill embankments shall be graded to the contours shown on the drawings and compacted to the density required in paragraph 5.C(2). Slopes steeper than 1 vertical to 3 horizontal shall be protected from erosion.

6. INSPECTION & TESTS

A. Field Inspection & Testing: The owner shall employ the services of a registered, licensed geotechnical engineer to observe and test all controlled earthwork. The geotechnical engineer shall provide continuous on-site observation by experienced personnel during construction of controlled earthwork. The contractor shall notify the engineer at least two working days in advance of any field operations of controlled earthwork, or of any resumption of operations after stoppages. Tests of fill materials and embankments will be made at the following suggested minimum rates:

(1) One field density test for each 5,000 square feet of original ground surface prior to placing fill or floor slab construction.

(2) One field density test for each 150 cubic yards of fill placed or each layer of fill for each work area, whichever is the greater number of tests.

(3) One moisture-density curve for each type of material used, as indicated by sieve analysis and placticity index.

B. Report of Field Density Tests: The geotechnical engineer shall submit, daily, the results of field density tests required by these specifications.

C. Costs of Tests & Inspection: The costs of tests, inspection and engineering, as specified in this section of the specifications, shall be borne by the owner.

Van H. G..bert Architect-AIA

H-16/D92

April 28, 1988

RECEIVED
APR 29 1988
HYDROLOGY SECTION

Mr. Bernie Montoya
City of Albuquerque
Hydrology Department
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: 2401 Menaul Boulevard NE
Lots A-E, Leonard Industrial Area
An Addition to the City of Albuquerque
Bernalillo County, September 11, 1987
Map Book C34, Folio 139

Dear Mr. Montoya:

Enclosed is a Site Plan of the 2401 Menaual NE property, formerly occupied by Leonard Tire Company. We have been retained by the Owner of Zuni Rentals to develop a renovated facility for their operation. The total site area is 6.35 acres.

The following gives you an analysis of the total impervious surface area, including buildings and land:

A.	Total Building Existing to Remain Plus New Building	34,314 SF
B.	Total Building to be Removed	(13,500 SF)
C.	Total Building Area Remaining	20,814 SF
D.	Total Site Area	276,617 SF
E.	Total Site Square Feet Less Building	255,803 SF
F.	Impervious Surface Area Existing and New	255,803 SF

Architecture
Planning
319 Central Ave NW
Suite 201
Albuquerque
New Mexico 87102
Telephone: 505 247 9955

The entire site drains very well and drains to Phoenix Avenue, where there is storm drainage. The key point on this site is that a large percentage of the site is on landfill, and therefore, it has been mandatory over the years to have an impervious surface so that water drains off and does not penetrate. There is one sinkhole where water has collected, as shown on the plan, and this is a problem area that we intend to bring back up to grade and apply an impervious surface.

As you note from the outline on square footages, we have a net loss in building area. The intent of the new plan is to utilize the same drainage patterns, since the drain will be relatively unchanged in the overall site. No additional water will be placed into the system that does not already go into the system.

We request that the site be allowed to be used as is, since the drainage patterns and the total amount of drainage is unchanged. Should you have any questions, please contact me at our office.

Sincerely,

Van H. Gilbert, AIA
VHG:las

Van H. G..bert Architect-A..

April 28, 1988

Revised May 2, 1988

RECEIVED
MAY 03 1988
HYDROLOGY SECTION

Mr. Bernie Montoya
City of Albuquerque
Hydrology Department
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: 2401 Menaul Boulevard NE
Lots A-E, Leonard Industrial Area
An Addition to the City of Albuquerque
Bernalillo County, September 11, 1987
Map Book C34, Folio 139

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The following gives you an analysis of the total impervious surface area, including buildings and land:

A.	Total Building Existing to Remain Plus New Building	34,314 SF
B.	Total Building to be Removed	13,500 SF
C.	Total Site Area	276,617 SF
D.	Total Site Square Feet Less Existing Building to Remain Plus New Building	242,303 SF
E.	Impervious Surface Area Existing and New	242,303 SF

Architecture
Planning
319 Central Ave NW
Suite 201
Albuquerque
New Mexico 87102
Telephone: 505 247 9955

The entire site drains very well and drains to Phoenix Avenue, where there is storm drainage. The key point on this site is that a large percentage of the site is on landfill, and therefore, it has been mandatory over the years to have an impervious surface so that water drains off and does not penetrate. There is one sinkhole where water has collected, as shown on the plan, and this is a problem area that we intend to bring back up to grade and apply an impervious surface.

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We request that the site be allowed to be used as is, since the drainage patterns and the total amount of drainage is unchanged. Should you have any questions, please contact me at our office.

Sincerely,

Van H. Gilbert, AIA
VHG:las

Pre-Design Investigation
(Additions)

DATE 5-4-88

ADDRESS 2401 MENAUL BLVD. N.E. ZONE ATLAS # H16-D92

LEGAL DESCRIPTION LOTS A-E LEONARD IND. AREA

OWNER

ARCHITECT/ENGINEER

LOT SIZE

ZONING

PROPOSED DEVELOPMENT RENOVATION & ADDITION

	YES	NO	NA	COMMENTS
FLOOD HAZARD AREA		C		
PART OF AN APPROVED REPORT		✓		
CONSTRUCTION PLANS ON MICRO-FILM		✓		
FIELD INSPECTION	✓			

COMMENTS:

MAJORITY OF SITE IS CURRENTLY UNDEVELOPED & DRAINS TO PHOENIX ~~[illegible]~~ S/W INTO EXIST. INLET.
RECOMMEND DRAINAGE PLAN ~~[illegible]~~ REQUIRED. SITE IS OVER 6 ACRES.

DRAINAGE REQUIREMENTS:

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR	CHIEF ADMINISTRATIVE OFFICER	DEPUTY CAO PUBLIC SERVICES	DEPUTY CAO PLANNING/DEVELOPMENT
KEN SCHULTZ	GENE ROMO	FRANK MARTINEZ	BILL MUELLER

May 6, 1988

Van H. Gilbert
Architecture Planning
319 Central Avenue, NW Suite 201
Albuquerque, New Mexico 87102

RE: ZUNI RENTAL (H-16/D92)

Dear Mr. Gilbert:

Based on a field inspection conducted by our office, it has been determined that a drainage plan prepared by a New Mexico Licensed Engineer will be required. The majority of the site is currently undeveloped and drains to Phoenix over the public sidewalk.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: H16 D12 DATE: ~~5/10/88 @ 10:30~~ 5/10/88 @ 3:30

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: _____

STREET ADDRESS (IF KNOWN): 2401 Menaul Blvd

SUBDIVISION NAME: Lots A-E Leonard Industrial Area

APPROVAL REQUESTED:

____	PRELIMINARY PLAT	____	FINAL PLAT
____	SITE DEVELOPMENT PLAN	X	BUILDING PERMIT
____	OTHER	____	ROUGH GRADING

	WHO	REPRESENTING
ATTENDANCE:	John Rocha	Gardner-Mason
	Bernie Montoya	Hydrology Section

FINDINGS:

(1) An approved Grading and Drainage Plan is required prior to Building Permit signoff by Hydrology.

(2) Area is an old landfill site therefore a Soils report is required giving recommendations as to what development limitations and problems exist. This Soils report must accompany the Drainage and Grading Plan.

(3) Discharge rate to Phoenix or Menaul will be determined by downstream analysis to capacity. Both streets have storm drains as outfalls. Check with AMDS Vol III for any analysis points to use.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	Roger A Green	SIGNED:	John Rocha
TITLE:	Civil Engineer	TITLE:	DESIGN TECH
DATE:	5/10/88	DATE:	5/10/88

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: H16 DATE: 6-6-88

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: Lemond Industrial Area

STREET ADDRESS (IF KNOWN): Lots A-E Lemond Industrial

SUBDIVISION NAME: Area

APPROVAL REQUESTED:

____	PRELIMINARY PLAT	____	FINAL PLAT
____	SITE DEVELOPMENT PLAN	X	BUILDING PERMIT
____	OTHER	____	ROUGH GRADING

	WHO	REPRESENTING
ATTENDANCE:	Ray Macy	
	Carlos Martinez	

FINDINGS:

(1) Drainage plan per DPM

(2) Free discharge allowed
(A) Most of the drainage basin is developed.
(B) SAD 125 has made improvements on Pheasant Ave - storm drain and curb & gutter.
(C) Site originally had channel over the parking lot - also, two new buildings are being constructed over existing building area
(D) minimal impact on downstream facilities
(E) Small drainage basin

(3) Flows across lot line require replatting, easements, or covenants

(4) Region soils report per Drainage Ordinance
Building is over a Arch H.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	Carlos A Martinez	SIGNED:	R W Macy
TITLE:		TITLE:	Engineer
DATE:	6-6-88	DATE:	6/6/88

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

DRAINAGE INFORMATION SHE

PROJECT TITLE: Leonard Industrial Park ZONE ATLAS/DRNG. FILE #: H-16 /D92

LEGAL DESCRIPTION: Lots A thru E inclusive Leonard Industrial Area

CITY ADDRESS: 2401 Menaul Blvd., N.E.

ENGINEERING FIRM: Gardner, Mason & Associates, Inc CONTACT: John Rocha

ADDRESS: 2127 Menaul Blvd., N.E. PHONE: (505)881-3846

OWNER: CONTACT:

ADDRESS: PHONE:

ARCHITECT: Van H. Gilbert AIA CONTACT: Van H. Glilbert

ADDRESS: 319 Central Ave., N.W. PHONE: (505)247-9955

SURVEYOR: Gardner, Mason & Associates, Inc. CONTACT: John Rocha

ADDRESS: 2127 Menaul Blvd., N.E. PHONE: (505)881-3846

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

RECEIVED
JUN 10 1988
HYDROLOGY SECTION

PRE-DESIGN MEETING:

x YES

___ NO

x COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. N/A

EPC NO. N/A

PROJ. NO. N/A

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

x DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

x GRADING PLAN

x EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

x BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

x GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: June 10, 1988

BY: John Rocha

DRAINAGE INFORMATION S T

PROJECT TITLE: Leonard Industrial Park ZONE ATLAS/DRNG. FILE #: H-16/D92

LEGAL DESCRIPTION: Lots A thru E inclusive Leonard Industrial Area

CITY ADDRESS: 2401 Menaul Blvd., NE

ENGINEERING FIRM: Gardner, Mason & Associates CONTACT: John Rocha

ADDRESS: 2127 Menaul Blvd., NE PHONE: (505) 881-3846

OWNER: CONTACT:

ADDRESS: PHONE:

ARCHITECT: Van H. Gilbert AIA CONTACT: Van H. Gilbert

ADDRESS: 319 Central Ave., NW PHONE: (505) 247-9955

SURVEYOR: Gardner, Mason & Associates CONTACT: John Rocha

ADDRESS: 2127 Menaul Blvd., NE PHONE: (505) 881-3846

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

_x_ YES

___ NO

_x_ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED JUL 26 1988 HYDROLOGY SECTION

DRB NO. N/A

EPC NO. N/A

PROJ. NO. N/A

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

_x_ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

_x_ GRADING PLAN

_x_ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

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___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

_x_ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

_x_ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: July 25, 1988

BY: John Rocha

GARDNER, MASON & ASSOCIATES, INC.

ENGINEERS & PLANNERS

July 25, 1988

RECEIVED
JUL 26 1988
HYDROLOGY SECTION

City of Albuquerque
Hydrology Department
P. O. Box 1293
Albuquerque, NM 87103

Attention: Mr. Bernie Montoya

RE: Leonard Industrial Area Lots A-E
Drainage Plan

Dear Mr. Montoya:

Enclosed is a resubmittal of the referenced drainage plan.

25 In response to comments from Mr. Roger Green in his letter of July 19, 1988:

1. A copy of the soils report prepared by Sergent, Hawskins, and Beckwith is enclosed.

2. The owner/developer is in the process of replatting the five parcels (A-E) into a single parcel. The replat procedures will be complete prior to obtaining building and paving permits. This will eliminate the need for drainage easements or covenants between the respective parcels.

3. Presently all five parcels have been paved with either a 3/4" thick chipseal or thicker asphalt surface. The chipseal areas will be removed and minor regrading will be performed. New asphalt surface will be placed over the areas where chipseal is removed and a new asphalt surface course will be placed over existing asphalt pavement in Lot A. Notes are provided on the drainage plan explaining the removal and replacement of pavement surfaces.

4. The proposed buildings at the west edge of the site have been redrawn in their proper locations, showing a distance of 10 ft - 2 inches to the west property line. Presently, a concrete curb exists along the west property line, so that no roof runoff will flow westward to the adjacent property.

5. A description of the existing drainage outfall system in Phoenix Avenue has been added to the drawing. This is a storm sewer which increases in size from 30" RCP to 42" RCP from Vassar Drive to Princeton Drive. A 72" RCP continues west from the intersection of Phoenix Avenue and Princeton Drive at a slope of 0.065 ft/ft with an approximate unpressurized capacity of 1,000 cfs.

2127 MENAUL BLVD., N.E. ALBUQUERQUE, N.M. 87107 (505) 881-3846
132 W. LAS CRUCES AVE. LAS CRUCES, N.M. 88001 (505) 525-8057

We hope that this satisfies the necessary requirements for the drainage plan and that approval of the plan may be expedited so as not to delay issuance of the building and paving permits. Your efforts in this matter are greatly appreciated.

Sincerely,

GARDNER, MASON AND ASSOCIATES, INC.

Raymond W. Macy

Raymond W. Macy, P.E.
Project Manager

RWM/mb

cc: Mr. Van Gilbert

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR KEN SCHULTZ | CHIEF ADMINISTRATIVE OFFICER GENE ROMO | DEPUTY CAO DEVELOPMENT & ENTERPRISE SERVICES LARRY LARRANAGA | DEPUTY CAO PUBLIC SERVICES DAN WEAKS

July 25, 1988

John Rocha
Gardner, Mason & Associates, Inc.
2127 Menaul Boulevard, NE
Albuquerque, New Mexico 87107

RE: LEONARD INDUSTRIAL PARK, DRAINAGE PLAN SUBMITTAL OF JUNE 10, 1988 FOR BUILDING PERMIT AND PAVING PERMIT APPROVAL (H-16/D92)

Dear Mr. Rocha:

I have reviewed the above referenced submittal dated June 8, 1988 and have the following comments to be addressed:

1. No soils report has been provided as required by Ordinance. This office may consider waiving this requirement if justification is provided and a waiver is requested by the Engineer.

2. No response has been provided to the issue of cross lot drainage, which normally requires drainage easements.

3. Limits of existing pavement and proposed pavement are not clear. Is Lot D & E presently paved?

4. Adequate information is not provided for the proposed buildings on the west property line to show that roof runoff will not enter adjacent property to the west.

5. No information is provided concerning the outfall system and downstream capacity. This information is always required as part of the Drainage Plan.

If you have any questions, call me at 768-2650.

Cordially,

for Roger A. Green, P.E.
C.E./Hydrology Section

RAG/bsj

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR	CHIEF ADMINISTRATIVE OFFICER	DEPUTY CAO DEVELOPMENT & ENTERPRISE SERVICES	DEPUTY CAO PUBLIC SERVICES
KEN SCHULTZ	GENE ROMO	LARRY LARRANAGA	DAN WEAKS

August 16, 1988

Raymond W. Macy, P.E.
Gardner, Mason & Associates, Inc.
2127 Menaul Boulevard, NE
Albuquerque, New Mexico 87107

RE: REVISED DRAINAGE PLAN SUBMITTAL OF LEONARD INDUSTRIAL PARK, RECEIVED JULY 26, 1988 FOR BUILDING PERMIT AND PAVING PERMIT APPROVAL (H-16/D92)

Dear Mr. Macy:

The above referenced submittal, revised July 25, 1988, is approved for Building Permit sign-off by Hydrology and the contractor is approved to proceed with grading and paving in accordance with the approved plan. Include copies of this approved plan with the construction sets routed for Building Permit.

If you have any questions, please call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

xc: Van Gilbert, AIA
319 Central Avenue, NW

RAG/bsj

DRAINAGE INFORMATION SHE

PROJECT TITLE: Leonard Industrial Park ZONE ATLAS/DRNG. FILE #: H-16 / D92

LEGAL DESCRIPTION: Lots A thru E inlusive Leonard Industrial Area

CITY ADDRESS: 2401 Menaul Blvd., N.E.

ENGINEERING FIRM: Gardner, Mason & Associates CONTACT: Ray Macy

ADDRESS: 2127 Menaul Blvd. PHONE: (505)881-3846

OWNER: CONTACT:

ADDRESS: PHONE:

ARCHITECT: Van H. Gilbert, AIA CONTACT: Van H. Gilbert

ADDRESS: 319 Central Ave., N.W. PHONE: (505)247-9955

SURVEYOR: Gardner, Mason and Associates, Inc. CONTACT: John Rocha

ADDRESS: 2127 Menaul Blvd., N.E. PHONE: (505)881-3846

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY OF CONFERENCE RECORD SHEET PROVIDED

RECEIVED DEC 16 1988 HYDROLOGY SECTION

DRB NO. N/A

EPC NO. N/A

PROJ. NO. N/A

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

X EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

X GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 12/16/88

BY: R.W. Macy

Ray Macy

Van H. G..bert Architect-A..

December 15, 1988

Mr. Bernie Montoya, C.E.
Hydrology Section
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RECEIVED
DEC 16 1988
HYDROLOGY SECTION

Re: Zuni Rental
2401 Menaul Boulevard NE

Dear Bernie:

Attached please find two (2) copies of the drainage plan for the above referenced project showing the revisions requested by you to bring the actual site conditions into agreement with the drainage plan. The general contractor has indicated they would like to get a temporary Certificate of Occupancy on Friday December 16, 1988 with the understanding that the additional curb and sidewalk drain will be installed immediately.

Please review the attached plan. We would appreciate your consideration of the contractor's request for the temporary Certificate of Occupancy. If you need any additional information please call this office.

Thank you for your help in this matter.

Sincerely,

Ronald E. Shafer

Ronald E. Shafer

RES:sjv

Architecture
Planning
319 Central Ave NW
Suite 201
Albuquerque
New Mexico 87102
Telephone: 505 247 9955

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

January 10, 1989

Raymond W. Macy, P.E.
Gardner, Mason & Associates, Inc.
2127 Menaul Boulevard, NE
Albuquerque, New Mexico 87107

RE: REVISED DRAINAGE PLAN FOR LEONARD INDUSTRIAL PARK, RECEIVED REVISION DATED DECEMBER 15, 1988 (H-16/D92)

Dear Mr. Macy:

Based on the information provided on your resubmittal of December 16, 1988, the above referenced revised drainage plan is approved.

Please be advised that a separate permit for work order within City right-of-way is required. A copy of this approval letter will be needed when applying for the excavation permit.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

xc: Becky Sandoval

BJM/bsj
(WP+258)

FILE COPY

MEMORANDUM:

ENGINEERING GROUP

January 23, 1989

TO: Jacob Baca, Transportation System Division

FROM: Fred J. Aguirre, Hydrologist; Engineering Group/PWD

SUBJECT: PRIVATE DRAINAGE FACILITIES WITHIN PUBLIC RIGHTS-OF-WAY/EASEMENT
LEONARD INDUSTRIAL AREA LOTS A-E (D-16/D92)

Transmitted herewith, is a copy of the approved drainage plan for the referenced project incorporating the S.O. #19 design.

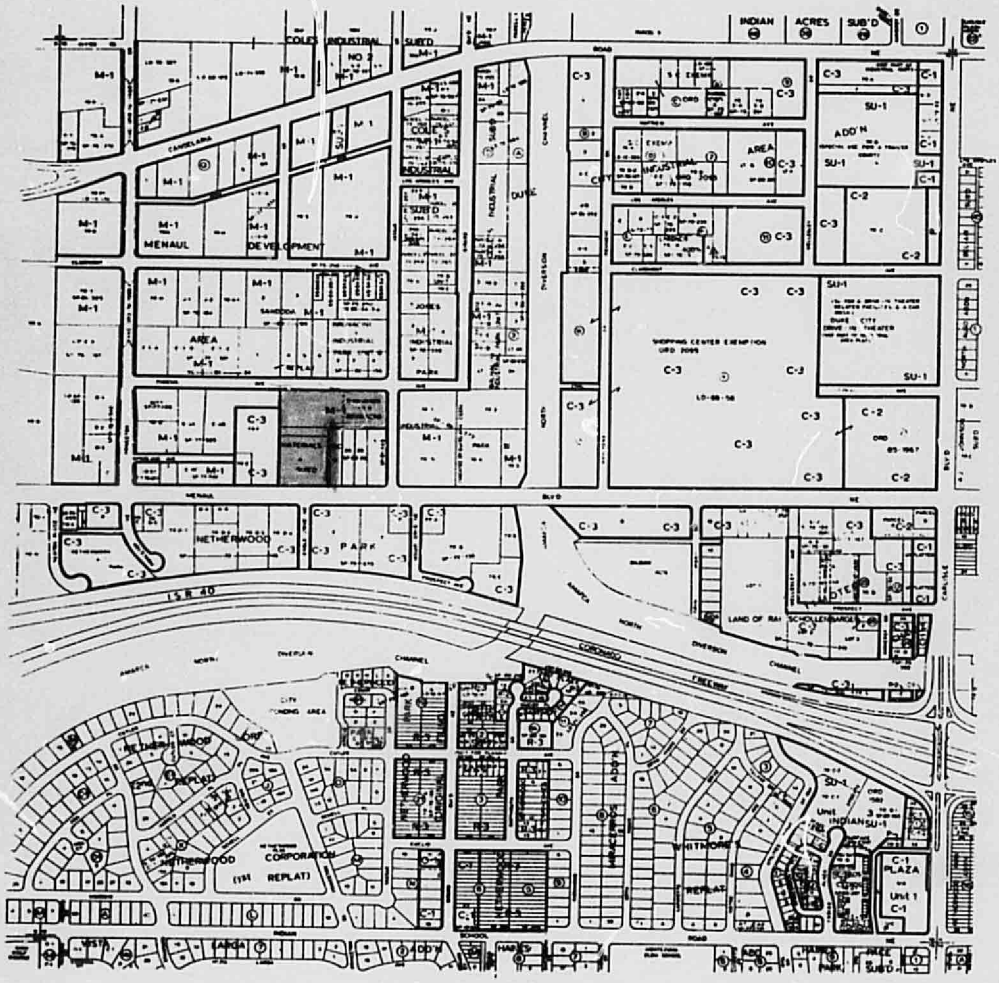
In accordance with the new process, this plan is being submitted to you for permitting and inspection. Please provide this section with a signed-off copy per the signature block upon construction and acceptance by your office.

As you are aware, the signed-off S.O. #19 is required by this office for Certificate of Occupancy release; hence your expeditious processing of this plan would be greatly appreciated and would avoid any unnecessary delay in the release of the Certificate of Occupancy.

Thank you for your cooperation, and if you should have any questions and/or comments regarding the process, please feel free to call me at 768-2650.

FJA/bsj

Attachment


INDIAN
ACRES
SUB'D
COLE'S INDUSTRIAL
SUB'D
NO 2
M-1
CANDELARIA
MENAUL
DEVELOPMENT
AREA
MILL
NORTH
DIVERSION
CHANNEL
DUKE
INDUSTRIAL
SUB'D
JONES
PARK
C-3
C-2
C-1
SU-1
ADD'N
SHOPPING CENTER EXEMPTION
LD-88-58
NETHERWOOD
PARK
I.S.R. 40
LAND OF RAY SCHOLLENBERGER
CORONADO
CREEK
CITY
ZONING AREA
REPLAT
CORPORATION
(1st REPLAT)
HACIENDA
ADDN
WHITMORE'S
REPLAT
Unit 3
INDIAN
PLAZA
Unit 1
CARLISLE
SCHOOL
ADDN
RECEIVED
APR 1988
HYDROLOGY SECTION
H-16-Z

PLAN/PLATS

ON

FILE

HYDROLOGY H16/D92 ONE PLAN

H16/D92

1 Plan

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

July 6, 1987

John Andrews, P.E.
Andrews, Asbury & Robert, Inc.
149 Jackson Street, NE
Albuquerque, New Mexico 87108

RE: DRAINAGE PLAN FOR FRANK'S SUPPLY WAREHOUSE BUILDING
(H-16/D92) ENGINEER'S STAMP DATED JULY 2, 1987

Dear John:

Based on the information provided on your submittal of July 2, 1987, the above referenced plan is approved for Building and Foundation Permit.

Please attach a copy of this plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Frank's Supply Warehouse Building ZONE ATLAS/DRNG. FILE #: H-16 / D92

LEGAL DESCRIPTION: N'ly 300 ft. of the S'ly 430 ft. of West 1/2 of Block "M", COLES INDUSTRIAL SUBDIVISION

CITY ADDRESS: 3300 Stanford Drive NE

ENGINEERING FIRM: Andrews, Asbury & Robert CONTACT: John Andrews

ADDRESS: 149 Jackson St. NE PHONE: 265-6631

OWNER: Frank's Supply Co. CONTACT: Dan Deaver

ADDRESS 3311 Stanford Dr. NE PHONE: 884-0000

ARCHITECT: K & J Drafting CONTACT:

ADDRESS: 600 Coal PHONE: 243-4589

SURVEYOR: Andrews, Asbury & Robert, Inc. CONTACT: Gayle Jewell

ADDRESS: 149 Jackson St. NE PHONE: 265-6631

CONTRACTOR: Wilger Enterprises CONTACT: J. Wilger

ADDRESS: 3515 Mateo Prado NW PHONE: 345-2854

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED JUL 02 1987 HYDROLOGY SECTION

DRB NO. N/A

EPC NO. N/A

PROJECT NO. N/A

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN. PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

X FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

OTHER _____ (SPECIFY)

DATE SUBMITTED: July 2, 1987

BY: John A. Andrews

ANDREWS, ASBURY & ROBERT, INC.
Consulting Engineers
149 Jackson, NE, Albuquerque, New Mexico 87108
(505) 265-6631

John A. Andrews, P.E.
Charles T. Asbury, P.E.
John B. Robert, P.E. & L.S. (1915 - 1984)
James E. Millington, P.E. - V.P.

July 2, 1987

Mr. Fred Aguirre
Hydrology Division
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

ATTN: ROGER GREEN

SUBJECT: FRANK'S SUPPLY WAREHOUSE
3300 STANFORD DRIVE NE

Dear Mr. Aguirre:

Transmitted herewith is the grading and drainage plan for subject project for your review and approval.

Enclosed herewith are the following:

1. Drainage Information Sheet

2. Conference Recap Sheet

3. Grading and Drainage Plan including Drainage Analysis

It is my understanding that the contractor desires to obtain a foundation permit to expedite the project; therefore, your early review and approval is requested.

Very truly yours,

JOHN A. ANDREWS, P.E.

caf-488
Enclosures
cc: Mr. Jack Wilger w/encl.

RECEIVED
JUL 02 1987
HYDROLOGY SECTION

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: G-16 DATE: 5-4-87

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: FRANKS SUPPLY BUILDING

STREET ADDRESS (IF KNOWN): STANFORD DRIVE (N. of ANDALUCIA)

SUBDIVISION NAME: Portion of Block M Cibo Industrial Subdivision

APPROVAL REQUESTED:

____	PRELIMINARY PLAT	____	FINAL PLAT
____	SITE DEVELOPMENT PLAN	X	BUILDING PERMIT
____	OTHER	____	ROUGH GRADING

	WHO	REPRESENTING
ATTENDANCE:	John Andrews	MAR
	Roger Green	City Hydrology

FINDINGS:

(1) An approved Grading & Drainage Plan is required for building permit signed by Hydrology.

(2) Free discharge is approved based on MRDS and project being an in-fill site.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	Roger Green	SIGNED:	[illegible]
TITLE:	Civil Engineer	TITLE:	[illegible]
DATE:	5-4-87	DATE:	5-4-87

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL