HYDROLOGY M12/D2 ONE PLAN

M 12/D2

1 PLAN

INFORMATION SHEET

M12/02

PROJECT TITLE PRESBYTERIAN URGENT CARE CENTER TYPE OF SUBMITTAL DRAINAGE

ZONE ATLAS PAGE NO. M-12 CITY ADDRESS 3339 ISLETA BLVD. S.W.

LEGAL DESCRIPTION TRACT 228-A-1-A OF M.R.G.C.D. MAP 43

ENGINEERING FIRM VIGIL ENGINEERING CONTACT JACOB A. VIGIL

ADDRESS 2932 ORTIZ DR. N.E. ALBUQUERQUE N.M. PHONE 881-2455

OWNER SOUTHWEST COMMUNITY HEALTH SERVICES CONTACT CECIL POPPE

ADDRESS P.O. BOX 25346 ALBUQUERQUE N.M. PHONE 848-3131

ARCHITECT DYER-McCLERNON CONTACT PAT McCLERNON

ADDRESS 1401 5TH ST. N.W. ALBUQUERQUE N.M. PHONE 242-5219

SURVEYOR SOUTHWEST SURVEYING CO. BOUNDARY & STAKING CONTACT FRANKLIN E. WILSON

ADDRESS 215 MARBLE N.W. ALBUQUERQUE N.M. PHONE 247-4444

CONTRACTOR CONSTRUCTION MANAGEMENT SERVICES CONTACT CECIL POPPE

ADDRESS 425 WELLESLEY N.E. ALBUQUERQUE N.M. PHONE 848-3131

PRE-DESIGN MEETING:

X YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

RECEIVED FEB 10 1984 HYDROLOGY SECTION

DATE SUBMITTED: 2-11-84

BY: MICHAEL J. IVANCIC
DYER/McCLERNON ARCHITECTS

READING FILE

BOARD OF COUNTY COMMISSIONERS
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DISTRICT 3
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DISTRICT 4
ALEX ABEYTA, JR., COUNTY MANAGER

County of Bernalillo

State of New Mexico

620 LOMAS, N.W.
ALBUQUERQUE, NEW MEXICO 87102

BOB V. STOVER, SHERIFF
JAMES B. LEWIS, TREASURER
DOLORES C. WALLER, COUNTY CLERK
EDWARD M. MURPHY, ASSESSOR
GERARD W. THOMSON
PROBATE JUDGE

January 30, 1984

TO: Clyde Vigil, Assistant County Building Official

FROM: Bernie J. Montoya, Hydrologic Engineering Technician C.E. BJM

SUBJECT: PRESBYTERIAN HOSPITAL CENTER URGENT CARE
DRAINAGE PLAN REVIEW

Based on the information provided on the above referenced drainage plan, listed below you will find certain concern that will need to be addressed before final approval may be granted.

1. Professional Stamp with signature and date.
   a) Engineer who prepared the drainage report or plan.
   b) Engineer or surveyor who performed the survey.

2. Flood Hazard - delineation of site on pertinent Flood Hazard Boundry map.

3. Legend showing proposed and existing spot elevations. structures, etc., to help clarify what exists and what is to be built.

4. Vicinity map showing location of the development in relation to well known landmarks county boundries and zone atlas map index number.

5. Benchmarks - location description and elevation of the:
   a) Albuquerque Control - Survey Vertical Datum.

6. Water surface in ponding area #2 cannot be within 15 feet of proposed structure without a soils report addressing proximity of water surface, or lining of the pond such that failure to the structure will not occur must be demonstrated.

7. Internal - contributing drainage areas, including roof areas should be outlined on plan.

8. Please show all pond volume calculations and balancing of Drainage Basins.

9. Outline or indicate on plan the 100 year water surface.

10. Countours and spot elevations extending a minimum of 25' beyond property line to indicate wh is existing and how it will interface with proposed development.

11. Need existing top of curb (if any), asphalt etc. elevations should be shown on the plan.

12. Pertinent elevations of structures existing within lot or adjacent to lot.

13. Detail or cross-sections of ponds, swales, and all other significant structures.

14. Notes defining property lines (with dimensions), asphalt, sidewalks, ponding areas, and all other areas where definition would increase clarity.

15. In order for all the above information to be included on the plan, plan drawing size 24X36 is recommended.

If you have any further questions, please feel free to ask.

BJM/ca

GEOTECHNICAL INVESTIGATION FOR THE
PROPOSED PRESBYTERIAN HOSPITAL CENTER
URGENT CARE AT ISLETA BLVD. AND ARENAL, S.W.
ALBUQUERQUE, NEW MEXICO
ATL ENGINEERING SERVICES LAB. NO. 2-00455-84
JANUARY 26, 1984

ATL ENGINEERING SERVICES

ATL ENGINEERING SERVICES

Albuquerque Testing Laboratory, Inc.
532 Jefferson N.E. (87108)
P. O. Box 4101 (87106)
Albuquerque, New Mexico
(505) 268-4537

January 26, 1984

Dyer/McClernon
1401 Fifth Street N.W.
Albuquerque, New Mexico 87102

Re: ATL Engineering Services Lab. No. 2-00455-84. Geotechnical Investigation for the Proposed Presbyterian Hospital Center Urgent Care at Isleta Blvd., and Arenal S.W. in Albuquerque, New Mexico.

Gentlemen:

Transmitted herewith is our GEOTECHNICAL INVESTIGATION REPORT for the referenced project. The report includes a description of the procedures utilized, "Boring Log Graphs" depicting subsurface soils encountered, results of standard field penetration testing, laboratory tests, and our conclusions and recommendations for foundation design and pertinent geotechnical considerations.

We appreciate the opportunity of working with you on this project. If any questions should arise concerning the project or if we can be of further assistance to you, please contact our office.

Respectfully submitted,

ATL ENGINEERING SERVICES

James H. Clary,
Certified Professional Geologist

Reviewed by:

Robert K. Lloyd, P.E.

JHC/lr
cc: Charles Bacchus
Cecil Poppe

PRESBYTERIAN HOSPITAL URGENT CARE

ISLETA BLVD. AND ARENAL S.W.

INTRODUCTION

The purposes of the investigation were to define and evaluate the surface and subsurface conditions at the site through field exploration (field reconnaissance and test borings); securing representative soil samples to determine through laboratory testing their engineering properties; and the engineering analysis of both field and laboratory test results to set forth recommendations relative to foundation design and other geotechnical aspects pertinent to the proposed construction.

SUBSURFACE EXPLORATION

The single test boring was drilled on January 24, 1984 using a Mobile B-61 rotary drill powered by a Ford Industrial Engine. The test boring was advanced "dry" using 6-5/8" O.D. by 3-1/4" I.D., continuous flight, 5 foot sectional hollow stem augers. Standard penetration tests (ASTM D-1586) were made at 2-1/2 to 5 foot vertical intervals in the hole and through the hollow stems of the augers at the time of drilling. The purpose of the standard penetration test is to obtain a measure of the relative density, consistency or firmness of the subsurface soils and to obtain samples of the soils for visual inspection and laboratory testing.

LABORATORY TESTING

Soil samples obtained during field exploration were sealed at the site in watertight containers to maintain field moisture and transported to the laboratory where they were visually inspected and classified according to the Unified Soils Classification System (ASTM D-2487) by either a Geologist or a Geotechnical Engineer. Selected, representative samples were tested further to aid in classification and evaluation of engineering properties. Results of these tests are tabulated on the "Boring Log Graphs" in the Appendix.

SITE CONDITIONS

The site is presently used as a construction yard and is occupied by various equipment, trucks, building materials, an abandoned house, shed, various rubbish and vegetation, and old foundations. It is not known if there is an existing septic tank on the property. The ground surface is relatively level and even, and drainage appears to be poor.

From the existing ground surface to the 3 foot depth at the test location is an overlying deposit of brown, silty, clayey sand (SM-SC) in a moderately firm to very firm state of relative firmness. Below the 3 foot depth and extending to the 7 foot depth is a deposit of tan, silty fine sand (SM) in a loose to medium dense state of relative density. Below the 7 foot depth and extending to the full 16-1/2 foot depth tested are deposits of gray, clean, slightly gravelly sand (SW-SP) in a loose to medium dense state of relative density.

The water table was encountered at the 10 foot depth at the time of drilling. This level can be expected to fluctuate approximately 2 feet seasonally.

PROPOSED CONSTRUCTION

It is our understanding that the proposed building will consist of two portable modular units which will be moved onto the site. Foundations will consist of 16" wide continuous, reinforced concrete perimeter footings and stemwalls, and interior piers. The building pad will be elevated approximately 1-1/2 feet.

SITE PREPARATION

Prior to construction the entire site should be cleared of existing equipment, materials, rubbish and vegetation. Existing foundations and septic tank (if existing) should be completely removed and all excavations backfilled with engineered fill soils compacted to a minimum of 90 percent of Modified Proctor Density (ASTM D-1557-70).

FOUNDATIONS

Due to the loose nature of subsurface soils, the possibility of a fluctuating water table, and the proximity of on-site drainage retention areas the following foundation recommendations are presented. All foundations should be based entirely on engineered, compacted fill soils at a minimum depth of 18 inches below the adjacent, exterior finished grade. Interior piers can be based at lesser depth. On-site soils removed from excavations will be suitable for use as engineered, compacted fill soils for support of foundations. Prior to placement of fill soils, the exposed subgrade soils in footing excavations should be scarified to a depth of 8 inches, mixed thoroughly with optimum moisture (±2%), and compacted to a minimum of 90 percent of Modified Proctor Density. Fill soils should be mixed with optimum moisture (±2%) outside of excavation limits, then placed in lifts not exceeding 8 inches in loose thickness, compacted to a minimum of 95 percent of Modified Proctor Density, and brought up to the desired grade. The depth of engineered, compacted fill soils beneath footings as well as the lateral extent of fill soils extending from all sides of footings should be not less than one (1) foot.

Furthermore, we recommend that all load bearing exterior wall footings consist of continuous, reinforced concrete footings with stemwall poured monolithic with the footing. Both the bottom of footing and top of stemwall should be well reinforced with longitudinal reinforcing steel equivalent to that which would be required for a simply supported span of 10 feet.

For foundations based entirely on engineered, compacted fill soils as recommended, an allowable soil bearing pressure of 2,000 lbs/sq.ft. may be used. This value is for dead load plus live load. Minimum width of continuous wall footings should be 1'-4".

BUILDING PAD

Fill soils used to elevate the building pad should consist of a silty to slightly clayey sand having 20 percent or less fines passing the No. 200 sieve and with a Plasticity Index not exceeding 8. Prior subgrade preparation, placement and compaction of fill soils to a minimum of 90 percent of Modified Proctor Density should be as recommended under FOUNDATIONS, above.

PAVEMENTS

Support for asphaltic concrete pavement may be provided by a 6 inch compacted thickness of a well graded crushed gravel and fines base course fill, placed and compacted to not less than 95% of Modified Proctor Density and on a previously prepared subgrade scarified to at least 8" in depth and compacted to a minimum of 90% of Modified Proctor Density. The following minimum pavement sections are suggested for varying traffic conditions:

Traffic Conditions	Minimum Total Pavement Thickness (inches)
Light (passenger cars, general parking areas)	2
Heavy (medium to heavy duty trucks)	3

In addition, the asphalt pavement should conform to the following specifications:

Stability (Marshall - 75 blow briquette)	1600 minimum
Flow (Marshall)	10 to 16
Percent Voids in Compacted Mix	3 to 7
Percent Voids Filled with Asphalt	75 to 85
Percent Asphalt Cement Content by Weight of Total Mix	5 to 7
Sand Equivalent	40 minimum
Compaction	96% of Laboratory Molded Specimen

Additional specifications for asphaltic concrete and select gravel base course may be taken from the "New Mexico Standard Specifications for Public Works Construction", 1979 Edition, Sections 115 and 302 respectively.

SITE DRAINAGE AND PROTECTION OF FOUNDATIONS SOILS

Subsurface loose soils may be susceptible to consolidation settlement due to post-construction moisture intrusions. As an aid to improving site drainage and to protect the foundation soils both during and after construction we recommend that the following minimum precautions be taken:

1. Site grading should provide positive surface water drainage around and away from the completed structure.

2. Keep all opened excavations dry, with concreting and backfilling operations to follow in a timely manner.

3. Properly compact all backfill soils in utility trenches and around foundations to a minimum of 90 percent of Modified Proctor Density.

4. Edges of drainage retention areas should be established at least 20 feet from the building. In order to create a well drained retention area, we recommend that the proposed area be excavated to a minimum depth of 3 feet and the excavation backfilled with clean gravel to the desired grade.

The recommendations given in this report are based on the subsurface soil conditions existing at the single test location, a visual inspection of the site, and our understanding of the proposed construction.

Any changes or deviations from the recommendations given in this report in structure loads, foundation depths or any other factors which could affect or alter the recommendations covered herein, should be brought to our attention before finalization of plans and prior to construction.

Your attention is directed to the fact that only a very small, fractional part of the proposed site area was "opened" and subsurface soils exposed and tested through the test boring. Subsurface soils and their in-situ properties which can materially affect design considerations may be different in areas not covered by the test boring. Therefore, if during construction and when excavations for footings are opened, soil foundation conditions differ from those encountered by the test boring of this report, our laboratory should be notified immediately for possible revision of our recommendations.

Professional opinions and recommendations presented in this report are based on our evaluation of the subsurface soil conditions at the site, our understanding of the proposed construction and our experience in the geotechnical field. Our only guarantee concerning the project is that our engineering and geological work and judgements given herein meet the standards of our profession at this time.

Respectfully submitted,

ATL ENGINEERING SERVICES

James H. Clary,
Certified Professional Geologist

Reviewed by:

Robert K. Lloyd, P.E.

APPENDIX

Lab. No. 2-00455-84

ALBUQUERQUE TESTING LABORATORY

TEST LOCATION

Scale: 1" = 33' approx.

ENGINEERING SERVICES

PAGE: A-2

PROJECT: Urgent Care Center

LAB NO.: 2-00455-84

Isleta and Arenal S.W.

DATE: January 26, 1984

BORING LOG GRAPH -TEST HOLE NO. 1

DEPTH - FT.	VISUAL DESCRIPTION	PENETRATION RESISTANCE Per Foot N	Per 6" or as Noted	Per Foot C	SAMPLER TYPE	MOISTURE CONTENT % M	DRY DENSITY P.C.F. D	PARTICLE SIZE DISTRIBUTION % GRAVEL	SAND	SILT & CLAY	ATTERBERG LIMITS % LIQUID LIMIT	PLASTIC LIMIT	P.I.
	SAND, brown, silty, clayey, (SM-SC) Moderately Firm to Very Firm	37	15 20 17		S	6.4		17	54	29			
2½	3'	18	7 7 11			4.6 2.6		0 0	59 82	41 18			
	SAND, tan, silty, fine (SM) Loose to Medium Dense	10	5 4 6		S	2.8		5	74	21			
	7'												
7½	SAND, gray, fine to coarse grained, clean, trace of gravel, (SW-SP) Loose to Medium Dense	13	8 7 6		S	5.4		3	95	2			
10	+1 10'	6	4 3 3		S	Saturated		3	95	2			
12½													
15		9	5 5 4		S	Saturated		3	94	3			

NOTES AND DEFINITIONS

1. PENETRATION RESISTANCE - BLOWS PER FOOT USING "A" ROD, 140 LB. HAMMER WITH 30-INCH GUIDED FREE FALL UNLESS OTHERWISE NOTED.
   - N - STANDARD PENETRATION RESISTANCE (ASTM: D-1586), 2" O.D. SPLIT BARREL SAMPLER
   - C - CONTINUOUS PENETRATION RESISTANCE, 2½" O.D., CONICAL, STEEL DRIVE POINT
   - R - PENETRATION RESISTANCE, 3" O.D. MODIFIED DAMES & MOORE SPLIT RING SAMPLER
2. SAMPLE TYPE
   - S - STANDARD SPLIT BARREL; 2" O.D. x 1-3/8" I.D.
   - C - CALIFORNIA SAMPLER; 2-3/8" O.D. EQUIPPED WITH 2" I.D. x 4" HIGH BRASS LINERS
   - R - MODIFIED DAMES & MOORE SAMPLER; 3" O.D. EQUIPPED WITH 2.42" I.D. x 1" HIGH BRASS LINERS
   - T - SHELBY TUBE
3. SOIL INDEX PROPERTIES
   - M - MOISTURE CONTENT, % OF DRY SOIL WEIGHT
   - D - DENSITY, LBS PER CUBIC FOOT COMPUTED EITHER BY VOLUMETRIC OR DISPLACEMENT METHODS. SOILS CLASSIFICATIONS ARE VISUAL UNLESS ACCOMPANIED BY GRAIN SIZE ANALYSIS AND ATTERBERG LIMITS.
4. WATER TABLE - IF ENCOUNTERED IS NOTED ON LOG GRAPHS AS ⏚ .

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM: D2487

COARSE-GRAINED SOIL

MORE THAN 50% LARGER THAN 200 SIEVE SIZE

Symbol	Letter	DESCRIPTION	MAJOR DIVISIONS
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LESS THAN 5% - 200 FINES	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size.
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LESS THAN 5% - 200 FINES	
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, MORE THAN 12% - 200 FINES	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, MORE THAN 12% - 200 FINES	
	SW	WELL-GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - 200 FINES	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.
	SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - 200 FINES	
	SM	SILTY SANDS, SAND-SILT MIXTURES MORE THAN 12% - 200 FINES	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES MORE THAN 12% - 200 FINES	

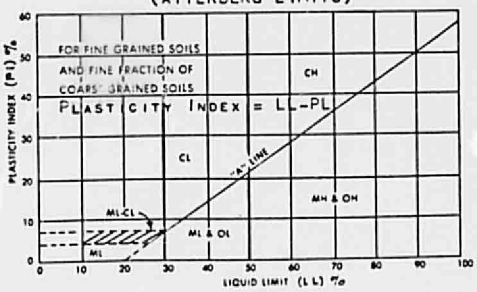
NOTE – Soils with 5 to 12 percent minus 200 fines should be classified with dual symbols.

FINE-GRAINED SOIL

MORE THAN 50% SMALLER THAN 200 SIEVE SIZE

Symbol	Letter	DESCRIPTION	MAJOR DIVISIONS
	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	SILTS AND CLAYS Liquid limit less than 50
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY	
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	SILTS AND CLAYS Liquid limit greater than 50
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

SOIL FRACTIONS

Component		Size Range
Boulders		Above 12 in.
Cobbles		3 in. to 12 in.
Gravel		3 in. to No. 4 sieve
Coarse Gravel		3 in. to ¾ in.
Fine gravel	G	¾ in. to No. 4 sieve
Sand		No. 4 to No. 200
Coarse	CS	No. 4 to No. 10
Medium	MS	No. 10 to No. 40
Fine	FS	No. 40 to No. 200
Fines (silt or clay)	S/C	Below No. 200 sieve

PLASTICITY CHART (ATTERBERG LIMITS)