HYDROLOGY G14/D4 1 PLAN

G 14/D4

1 PLAN

City of • Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

G14-D4

October 29, 1981

Christopher L. Weiss
Consultants Tierra Sol, Inc.
P.O. Box 142
Sandia Park, New Mexico 87047

RE: NORTH VALLEY SENIOR CITIZEN CENTER

Dear Chris:

The plan for extending the parking lot to the limits of 4th Street N.W. is approved by Hydrology as shown on landscape plan and plant schedule dated April 7, 81 and received by this office on October 19, 1981. The approved drawings will be given to Fred Aguirre.

Sincerely,

Jim Fink
Civil Engineer/Hydrology

JF/tsl

Consultants terra-tol inc.
P.O. Box 142 Sandia Park, New Mexico 87047 (505) 281-4991

October 14, 1981

Mr. Chuck Easterling
Principal Assistant City Engineer/Hydrology
City of Albuquerque
400 Marquette NW
Albuquerque, New Mexico 87102

RECEIVED
OCT 19 1981
ENGINEERING

RE: North Vally Senior Citizen Center

Dear Chuck:

Several months ago, I talked with you concerning changes to the parking/landscaping areas for the above referenced site and the impact these changes would have on the drainage system of the site. The architect, F.T.L.B., Inc. and their client have reached an agreement on the extent of modifications to be accomplished with this phase of the contract. These changes include removing a portion of landscaping along the 4th Street side of the site and extending the parking to the limits of the 4th Street R/W. Following our pre-design meeting, I have recommended that the site retain the usage of the existing drainage sub-basins, which will be located under the expanded paved parking area, and that an additional sub-basin be provided along the perimeter of the parking to account for the increased volume generated by the additional asphalt. Access to the existing sub-basins will be accomodated by open grates located directly above the sub-basins. The new sub-basin will provide storage for 100% of the runoff generated by the new asphalt and will be connected to the existing sub-basins to equalize the two systems as one. We have enclosed a plan of the proposed work area for your files. Please call me if you have any questions concerning these modifications.

Thank you.

Respectfully,

Christopher L. Weiss, P.E.
President

CLW/vw

Enclosure

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

April 26, 1979

Mr. Thomas O. Isaacson
Chambers, Campbell, Isaacson, Chaplin, Inc.
3500 Indian School Road N.E.
Albuquerque, N.M. 87106

Ref: North Valley Senior Center - 4th & Aztec, NW- Drainage Plan

Dear Mr. Isaacson:

I am in concurrence with the revisions made to the drainage plan for the captioned development.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/ms

cc: Gerald Davenport, Dir. of Municipal Development
Richard Heller, City Engineer
Roberta F. Miller, Dev. Information Official
Ron Montoya, Dir, Office of Senior Affairs
Kevin Georges, Fernandez & Trujillo
Reading File

AN EQUAL OPPORTUNITY EMPLOYER

April 20, 1979

RECEIVED
APR 23 1979
CITY ENGINEERS

Mr. Bruno Conegliano
Assistant City Engineer-Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

REFERENCE: North Valley Senior Center - Fourth & Aztec, NW - Drainage Plan

Dear Mr. Conegliano:

As per the request of Mr. Gerald D. Davenport (see attached letter) we have revised the drainage plan for the referenced project. The revision involves elevating the floor level of the proposed structure to a minimum of one foot above the anticipated 100 year flood level. The anticipated 100 year flood level is 67.5 and the new floor level is 68.5. Minor transition grading from the new building floor level has also been made to blend the change into the remainder of the site grading. All drainage calculations including tributary drainage areas and drainage pond capacities remain unchanged.

We request your review and approval of these changes.

Very truly yours,

Tom Isaacson

Thomas O. Isaacson
Senior Vice President

TOI:pw

Encl.

cc: Kevin Georges - Fernandez & Trujillo

Chambers, Campbell, Isaacson, Chaplin, Inc.
architects engineers planners 3500 indian school road ne albuquerque new mexico 87106 505-266-5501

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

March 5, 1979

MAR 8 1979

Fernandez & Trujillo Architects, Inc.
2720 Carlisle Boulevard, NE
Albuquerque, NM 87110

RECEIVED
APR 23 1979
CITY ENGINEERS

RE: NORTH VALLEY SENIOR CENTER - 4TH AND AZTEC, NW

Gentlemen:

The construction plans for the above referenced project, now being reviewed, are in compliance with the approved drainage report.

However, in December of last year the City received a comprehensive study of the drainage problems in the valley area from the firm of Bohannan-Huston. This drainage study has not yet been formally accepted by the City. Nevertheless, we should utilize the information now available to provide protection for future construction.

This preliminary information shows that the ten (10) year frequency flood will result in a water surface elevation of approximately 67.0, and the 100 year flood water surface elevation will be 67.5.

It is the recommendation of my staff that a minimum of one foot of clearance above anticipated 100 year level be used for the finished floor for the proposed center. Please advise of the costs involved for upgrading the design and the construction of the referenced facility to provide the level of protection recommended.

Very truly yours,

Gerald D. Davenport
Director of Municipal Development

GDD/nar
cc: Mr. Bruno Conegliano, Assistant City Engineer--Hydrology
Mr. Richard S. Heller, City Engineer
Ms. Roberta F. Miller, Development Information Official
Mr. Ron Montoya, Director, Office of Senior Affairs

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 3, 1978

Mr. Chris Weiss
Chambers, Campbell, Isaacson,
Chaplin, Inc.
3500 Indian School Road N.E.
Albuquerque, New Mexico 87106

Dear Mr. Weiss:

I have reviewed the drainage report for the North Valley Senior Center and I am in agreement with the drainage scheme proposed. The drainage report is, therefore, hereby approved.

Very truly yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/gw

cc: Dwayne Sheppard, Acting City Engineer
Richard Leonard, AMAFCA
Drainage File

OCT 17 1978

DRAINAGE ANALYSIS

FOR THE

NORTH VALLEY SENIOR CENTER

Prepared For:

Fernandez & Trujillo Architects

2720 Carlisle N.E.

Albuquerque, New Mexico 87110

October 1978

Chambers, Campbell, Isaacson, Chaplin, Inc.
architects engineers planners 3500 indian school road ne albuquerque new mexico 87106 505-266-5521

DRAINAGE ANALYSIS

FOR THE

NORTH VALLEY SENIOR CENTER

Prepared For:

Fernandez & Trujillo Architects

2720 Carlisle N.E.

Albuquerque, New Mexico 87110

October 1978

Drainage Report and Plan

for

North Valley Senior Center

INTRODUCTION

At the request of Fernandez & Trujillo Architects, project coordinators for the North Valley Senior Center, CCIC has investigated the storm drainage for the site. This investigation follows the total ponding concept, in recognition of the general surface drainage problem of the valley area.

PROPERTY DESCRIPTION

The property on which the development is proposed is located in the NW quadrant of the city. In particular, it lies adjacent to the south side of Aztec Ave., between 4th and 5th Streets, N.W. A First National Bank Branch Office borders the south side. Presently, two vacant buildings occupy the east side of the site, but these will be removed for the proposed improvements.

The 1.81 acres which comprises the site is very flat, with a slight grade to the west toward 5th Street.

PROPOSED DEVELOPMENT

The proposed development consists of a Senior Center Building, paved parking area, recreational areas and landscaping.

Construction features which are pertinent to drainage are as follows:

a. The building will have a flat roof, with roof drains collecting the flows for discharge at 3 points on the north and south sides of the structure.

b. The east half of the site will be paved for parking, with infiltration trenches and ponds incorporated into the landscaped areas in and around the parking area.

c. The drainage off of, and around the building, will be accommodated by ponding areas located within the landscaped areas.

SOIL

A soils analysis for the site[1] indicates the following soil strata: from 0' to 5', a medium dense sand (SM-SC); from 5' to 7.5', clay (CL-CH); from 7.5' to 31', the limit of the test, sand (SP). The water table was encountered at 31'.

TOPOGRAPHIC MAP

The topographic map used as a basis for this study and for preparation of the grading-drainage plat was obtained from a field survey conducted by CCIC. This map represents the topography as it now exists.

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[1] Soils Analysis for the North Valley Senior Center - Albuquerque Testing Laboratories.

EXISTING DRAINAGE

The entire site is very flat, with a slight grade to the west toward 5th Street. There are no cross-drainage characteristics for the area because of the bordering streets and bank site to the south.

GRADING & DRAINAGE PLAN (FIG. I)

This plan (found in the back of the report) reflects the total ponding concept, which will be handled by individual infiltration trenches and ponding areas within the landscaped areas.

The spot elevations shown are suggested elevations to verify that this drainage concept will work. Vertical adjustments to the plan can certainly be made for the final grading plan, as long as individual drainage concept boundries don't change.

RECOMMENDATIONS

Area 1 - Grade this area to the landscape area along 4th Street. Provide 4" curb openings at 10' o.c. to remove runoff from the asphalt. Install gravel in the lowest part of each pond area instead of grass. Install infiltration pipes in the locations shown on Fig. I. The limits of a 100 yr.-6 hr. storm will be contained within the landscaped area if the grade differences are observed.

Area 2 & 3 - Grade these areas to drain to the infiltration trenches and landscaped areas as shown on Fig. I. Excavate the trench - landscape area to the depths shown and backfill with 3/4" to 1-1/2" dia. gravel. Install infiltration pipes in the locations shown on Fig. I. Limits of ponded waters are shown.

Area 4 - Grade this area as shown to drain to the landscaped area to the depth shown and backfill with gravel. Install an infiltration pipe as shown. The limits of the ponded waters for a 100 yr.-6 hr. storm are shown for the proposed grade differences.

Areas 5, 6, & 7 - Grade these areas to drain as shown on Fig. I. Install gravel in the lowest part of each pond area instead of grass. Install infiltration pipes in the locations shown in Fig. I. The limits of a 100 yr.-6 hr. storm will be contained within the outlined areas for ponds if the grade differences are observed. Observe the soils reports recommendations for slopes, grading, watering of landscaping and minimum distances of ponded waters relative to the structure.

Areas 8 & 9 - Grade and landscape as shown on Fig. I. These areas will be self-ponding with a minimum depression required.

CONCLUSION

The drainage concept presented here tries to obtain the dual usage of the open areas for their primary purpose plus drainage control. In particular, the parking area will always serve primarily for that purpose, with occasional inconvenience from ponded runoff. The sizes of the infiltration trenches and ponds in the parking area will accommodate the majority of the common occurance storms with no overlap onto the asphalt area. For that rarer storm with a 100 yr. magnitude, the parking areas will be covered with ponded waters for a brief time duration.

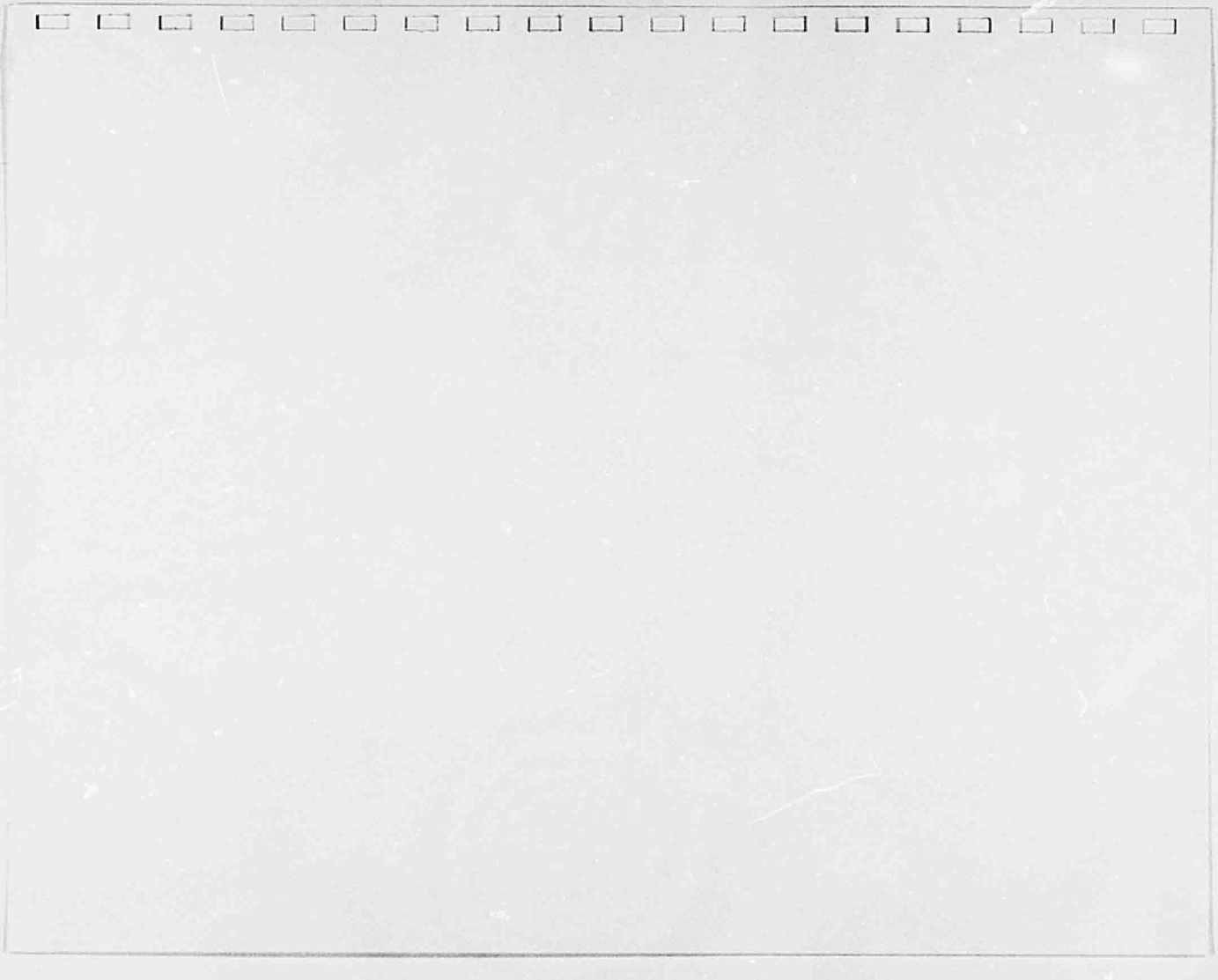
The landscaped areas will be able to function primarily for that purpose if certain allowances are made for the low areas. Grass will not survive in frequently flooded areas, so gravel will have to be incorporated into the visual realm of the landscaping. An added benefit of the position of the low

areas, with reference to the proposed trees, is that runoff can be utilized for watering. Additionally, the trees will help remove standing ponded runoff.

Infiltration pipes were recommended because of the nature of the soil strata. The underlying clay strata is a limiting factor of the water holding capacity of the upper 5' layer of sand. Therefore, the sole purpose of the infiltration pipes is to prolong the effective life of the infiltration trenches and ponds by allowing infiltration access to the lower sand strata.

TABLE I

Summary of Runoff Data

Basis of runoff is the 100 yr.-6 hr. storm. For this area, precipitation = 2.2"

Area #	Area (ft^2)	Composite "C"	Vol. Runoff ($ft.^3$)	Pond Area ($ft.^2$)	Depth @ low pt. (ft.)
1	11,740	0.69	1485	3200	0.9
2	12,960	0.90	2138	1500	1.6
3	12,720	0.90	2100	1350	1.7
4	3,440	0.90	568	340	1.7
5	6,120	0.50	561	1125	1.1
6	14,160	0.59	1532	3600	0.9
7	16,280	0.58	1731	3000	1.4
8	920	0.28	47	800	0.1
9	520	0.20	19	500	0.1
	78,860 ft^2