# City of Albuquerque

September 29, 1999

Thomas T. Mann, P.E.
Engineering & Surveying Assoc., Inc.
5312 Noreen Drive NE
Albuquerque, NM 87111

***RE: PALOMAS BUSINESS PARK, TRACT X-1-A (D19-D24). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S STAMP DATED AUGUST 23, 1999.***

Dear Mr. Mann:

Based on the information provided on your September 1, the above referenced project is approved for Certificate of Occupancy.

This action was deferred until the Engineer signed his seal anew on September 21, 1999.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: WR
File

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

March 3, 1999

Tom Mann, P.E.
Engineering & Surveying Assoc.
5312 Noreen NE
Albuquerque, NM 87111

*RE: PALOMAS BUSINESS PARK, TRACT X-1-A (D19-D24). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. Churchill Heights Assisted Living, TRACT X-1-B (D19-D22) STORM DRAIN PLAN. ENGINEER'S STAMP for latter DATED MARCH 1, 1999.*

Dear Mr. Mann:

Based on the information provided on your March 2, 1999 submittal, the above referenced project is approved for Building Permit. This submittal presents the storm drain layout for the downstream outlet to the Domingo Baca Channel. Concurrence by AMAFCA has been requested.

The Churchill Heights, Tract X-1-B (D19-D22), Conceptual Drainage Plan was approved for Site Development Plan and Final Plat by C.O.A. letter dated September 24, 1998. Palomas Business Park, Tract X-1-A (D19-D24), was approved on the same date for Site Development Plan.

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

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required. The previously recommended M.H./J.B. should be part of the "as-builts".

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Andrew Garcia
File
Larry Read & Assoc.
Lisa Manwill, AMAFCA

PROPERTIES SHOWN HEREON. CONSEQUENTLY, PNM DOES NOT WAIVE NOR RELEASE ANY EASEMENT TO WHICH IT MAY BE ENTITLED.

520342

ECTION 19 (PROJECTED),

ED IN APRIL
ERS WERE FOUND

ISTANCES AND ALL
OF THE NEW MEXICO
TEM, CENTRAL ZONE.

T OF RECORD, TRACTS
1 THRU 5 AND 28 THRU 32
NORTH ALBUQUERQUE ACRES
A DEL NORTE UNIT NO. 9
21, FOLIO 149.

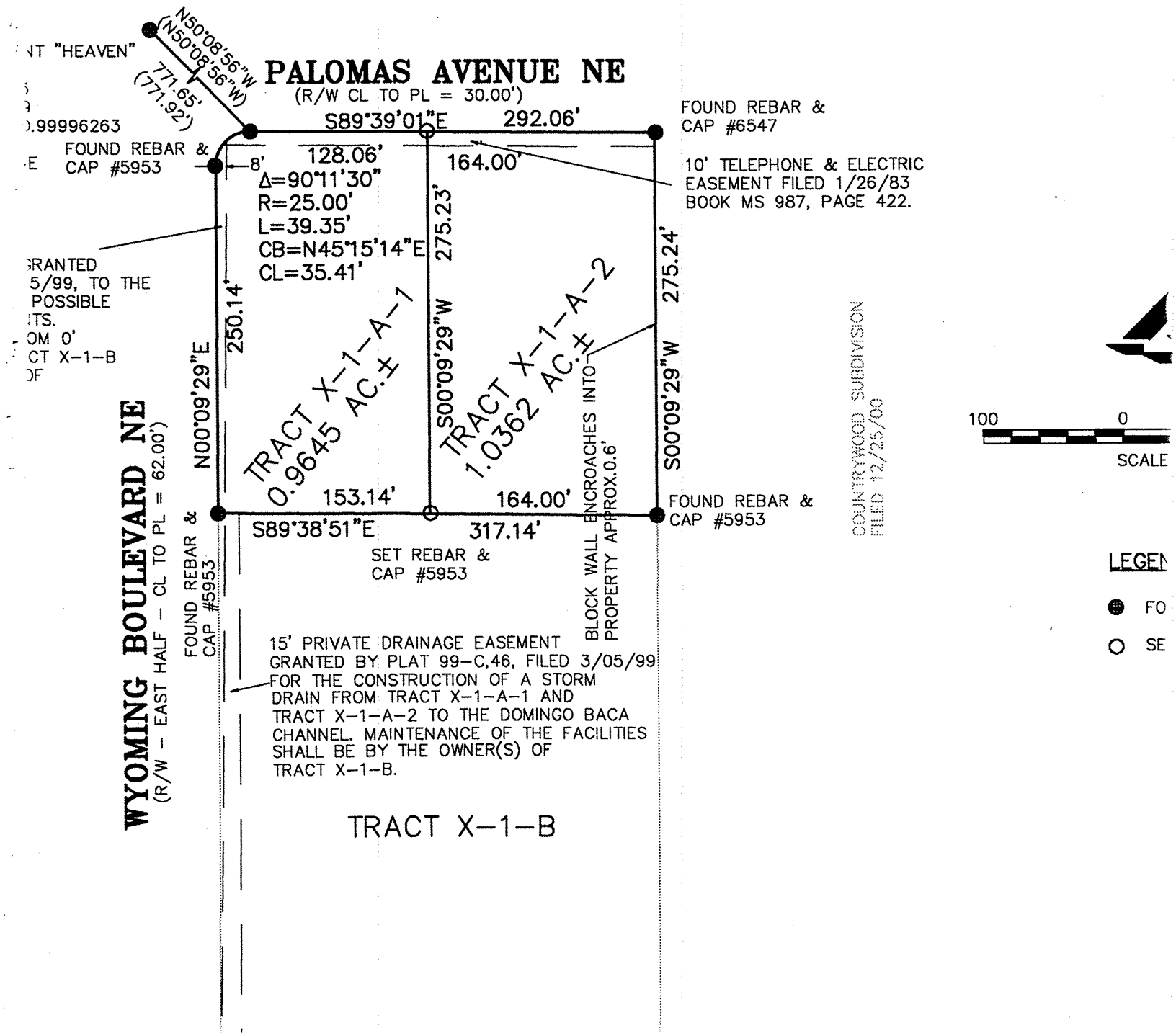
TO SPLIT ONE TRACT INTO
IVATE DRAINAGE EASEMENT.

OF RECORD.

BY THIS SUBDIVISION:

9. TRACT X-1-A-2 IS GRANTED BY THIS PLAT THE RIGHT TO DISCHARGE STORM WATER ONTO PAVED AREAS OF TRACT X-1-A-1 IN ORDER FOR THE WATER TO REACH THE STORM DRAIN LOCATED AT THE SOUTHWEST CORNER OF TRACT X-1-A-2. MAINTENANCE OF THE PAVED AREAS SHALL BE THE RESPONSIBILITY OF THE OWNER(S) OF TRACT X-1-A-2.

10. CROSS PARKING.



TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

June 23, 1999
Sandia Credit Union
Wyoming & Palomas
Rundown Flow Calculations

==========

PROGRAM INPUT DATA:

| DESCRIPTION | VALUE |
|---|---|
| Channel Bottom Slope (feet per foot)..... | 0.0800 |
| Manning`s Roughness Coefficient (n-value)..... | 0.0130 |
| Channel Side Slope - Left Side (horizontal/vertical).... | 0.01 |
| Channel Side Slope - Right Side (horizontal/vertical)... | 0.01 |
| Channel Bottom Width (feet)..... | 5.5 |

==========

PROGRAM RESULTS:

| Depth (ft) | Flow Rate (cfs) | Velocity (fps) | Froude Number | Velocity Head(ft) | Energy Head(ft) | Flow Area (sq ft) | Top Width (ft) |
|---|---|---|---|---|---|---|---|
| 0.1 | 3.7 | 6.80 | 3.791 | 0.719 | 0.819 | 0.6 | 5.5 |
| 0.2 | 11.6 | 10.55 | 4.160 | 1.730 | 1.930 | 1.1 | 5.5 |
| 0.3 | 22.3 | 13.53 | 4.354 | 2.841 | 3.141 | 1.7 | 5.5 |
| 0.4 | 35.3 | 16.04 | 4.471 | 3.995 | 4.395 | 2.2 | 5.5 |
| 0.5 | 50.2 | 18.23 | 4.546 | 5.161 | 5.661 | 2.8 | 5.5 |

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

March 3, 1999

Tom Mann, P.E.
Engineering & Surveying Assoc.
5312 Noreen NE
Albuquerque, NM 87111

***RE: PALOMAS BUSINESS PARK, TRACT X-1-A (D19-D24). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. Churchill Heights Assisted Living, TRACT X-1-B (D19-D22) STORM DRAIN PLAN. ENGINEER'S STAMP for latter DATED MARCH 1, 1999.***

Dear Mr. Mann:

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

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required. The previously recommended M.H./J.B. should be part of the "as-builts".

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Andrew Garcia
File
Larry Read & Assoc.
Lisa Manwill, AMAFCA

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

January 22, 1999

Tom Mann, P.E.
Engineering & Surveying Assoc.
5312 Noreen NE
Albuquerque, NM 87111

***RE: PALOMAS BUSINESS PARK, TRACT X-1-A (D19-D24). CONCEPTUAL GRADING AND DRAINAGE PLAN FOR SITE DEVELOPMENT PLAN FOR SUBDIVISION APPROVAL. ENGINEER'S STAMP DATED AUGUST 24, 1998. New Stamp Date Of September 2, 1998.***

Dear Mr. Mann:

This is to acknowledge that the G&D Plan stamped September 2, 1998 corrected the direction of the North arrow shown on same plan stamped August 24, 1998.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Andrew Garcia
File
~~Larry Read & Assoc.~~

**CITY OF ALBUQUERQUE**
**PLANNING DEPARTMENT**
**DEVELOPMENT SERVICE / HYDROLOGY SECTION**

**DATE:** _____
**CONFERENCE RECAP**

**ZONE ATLAS PAGE NO:** D-19 / D024
**DRAINAGE FILE:** _____
**ZONING:** _____
**DRB:**
**SUBJECT:** Sandia Area FCU
**STREET ADDRESS (IF KNOWN):** 8000 Palomas Ave NE
**SUBDIVISION NAME:** _____

**APPROVAL REQUESTED:**

**ATTENDANCE:** Curtis Cherne,

**FINDINGS:**

Since the addition is on the 2nd story there is no change to the existing drainage scheme. In addition, the small amount of flatwork does not require a Paving Permit.

A Grading Plan is not req'd for Building Permit approval.

THE UNDERSIGNED AGREES THAT THE ABOVE FINDINGS ARE SUMMARIZED ACCURATELY AND ARE SUBJECT TO CHANGE IF FURTHER INVESTIGATION REVEALS THAT THEY ARE NOT REASONABLE OR THAT THEY ARE BASED ON INACCURATE INFORMATION.

**SIGNED:** Curtis A. Cherne
**NAME (PRINT):** Curtis A. Cherne

**SIGNED:**
**NAME (PRINT):** BILL KLEINSCHMIDT
SLAGLE HERZ ARCHITECTS

**NOTE** PLEASE PROVIDE A COPY OF THIS RECAP WITH YOUR DRAINAGE SUBMITTAL.

**THE PARKING, CURBING AND DRIVE ISLES (TRAFFIC CIRCULATION LAYOUT) FOR THIS SITE ARE IN SUBSTANTIAL COMPLIANCE WITH THE SITE PLAN WITH ARCHITECTS SEAL DATED 9-20-99.**

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

January 6, 2000

Kim Kemper, P.E.
Kemper-Vaughan Consulting Engineers
3700 Coors Road NW
Albuquerque, New Mexico 87120

***RE: Engineer's Certification Plan for Sandia Credit Union (D19/D24), Submitted for Certificate of Occupancy Approval, Engineer's Certification Stamp Dated 1/3/00.***

Dear Mr. Kemper:

Based on the information provided, the above referenced plan is adequate for release of the Certificate of Occupancy for the Sandia Credit Union located at Palomas and Wyoming.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Whitney Reierson, City Hydrology
File

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

August 9, 1999

Kim Kemper, P.E.
Kemper-Vaughan Consulting Engineers
3700 Coors Road NW
Albuquerque, New Mexico 87120

***RE:*** ***Grading and Drainage Plan for Sandia Credit Union (D19/D24), Submitted for Building Permit Approval, Engineer's Stamp Dated 7/16/99.***

Dear Mr. Kemper:

Based on the information provided, the above referenced Grading and Drainage plan dated July 16, 1999 is approved for Building Permit release.

As you are aware, the Engineer's Certification is required prior to release of the Certificate of Occupancy for this site.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Whitney Reierson, City Hydrology
File

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

July 30, 1999

Kim Kemper, P.E.
Kemper-Vaughan Consulting Engineers
3700 Coors Road NW
Albuquerque, New Mexico 87120

***RE: Grading and Drainage Plan for Sandia Credit Union (D19/D24), Submitted for Final Plat Approval, and Building Permit Approval, Engineer's Stamp Dated 7/16/99.***

Dear Mr. Kemper:

My previous letter of July 2, 1999 requested that additional comments be addressed on the plan prior to Building Permit approval. Although the supplemental information provided in the submittal of July 16, 1999 may have addressed my concerns about downstream capacity, the pertinent information must appear on your grading and drainage plan, since each plan must be able to stand alone.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: File

7/14/99

Inlet @ sw corner Tract X-1-A-2

inv = 96.0

length to inlet @ sw corner Tract X-1-A-1

L = 145'

Inlet @ sw corner Tract X-1-A-1

inv = 91.74 (Read dwg.)

$\phi$ = 12" area = 0.785 n = 0.013 $R = \frac{0.785}{3.14} = 0.25$

$Q = \frac{1.49}{.013}(0.785)(0.25)^{2/3}\left(\frac{4.26}{145}\right)^{1/2} = 6.12$ cfs

Flow from Tract X-1-A-2 $(2.60 * 0.10 + 5.02 * 0.90)1.04 =$ 4.97 cfs < 6.12 cfs

18" PVC

$S = \frac{0.87}{87} = 0.01$ area = 1.77 $R = \frac{1.77}{4.71} = 0.38$

$Q = \frac{1.49}{0.013}(1.77)(0.38)^{2/3}(0.01)^{1/2} = 10.64$ cfs

24" PVC

$S = \frac{2.97}{297} = 0.01$ area = 3.14 $R = \frac{3.14}{6.28} = 0.50$

$Q = \frac{1.49}{0.013}(3.14)(0.50)^{2/3}(0.01)^{1/2} = 22.67$ cfs

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
STATE OF NEW MEXICO
THOMAS T. MANN, JR.
3792

RECEIVED
JUL 16 1999
HYDROLOGY SECTION

FLOOD PLAIN:

As shown on Panel 3501 1C0 141 D, dated September 20, 1996, no portion of this site is in a designated flood plain. The Zone A flood plain, shown on the south side of the site, is noted as confined to the constructed channel.

CALCULATIONS:

Precipitation Zone 3
Total site = 3 acres

EXISTING CONDITIONS:

Land treatment – B=100% due to prior grading.

Q100 = 2.60 CFS/ac * 3 ac = 7.50 CFS
Q10 = 7.80 CFS * 0.667 = 5.20 CFS

$$Y100 = \frac{0.92 \text{ in} * 3ac}{12} * 43560 = 10{,}019 \text{ CF}$$

Y10 = 10,019CF * 0.667 = 6683 CF

PROPOSED CONDITIONS:

Land Treatments: B (Turf) = 16% C (SW Landscape) = 16%
D = 68%

Q100 = (3.0 * .16 * 2.60) + (3.0 * 0.16 * 3.95) + (3.0 * .68 * 5.02) = 13.4 CFS

Q10 = 13.14 CFS * 0.667 = 8.77 CFS

$$V100 = (3.0 * .16 * .92) + (3.0 * .16 * 1.29) + (3.0 * .68 * 2.36) = \frac{5.87}{12} * 43560 = 21{,}327 \text{ CF}$$

V10 = 21,327 CF * 0.667 = 14,225 CF

Increased due to this project

Q100 = 5.34 CFS

Q10 = 3.57 CFS

V100 = 11,308 CF

V10 = 7,542 CF

Total discharge to the Domingo Baca Arroyo

Tract X-1-A (per T.R. Mann PCAN dated 8/24/98)

Q100 = 9.31 CFS

This Tract:

Q100 = 13.14 CFS
Q100 (Total) = 22.45 CFS

Pipe Capacity:

18" PVC @ 1% QCAP = 10.5 CFS
24" PVC @ 1% QCAP = 22.4 CFS ? Q100 (Total) = 22.45CFS

| | |
|---|---|
| EXIST ASPHALT | |
| EXIST CONCRETE SIDEWALK | S/W |
| EXIST CURB AND GUTTER | |
| EXIST CONTOURS | 5182 |
| PROPERTY BOUNDARY | |
| NEW SPOT ELEVATION | TS 98.65 |
| NEW COUNTOUR | 45 |
| NEW STORM DRAIN LINE | SD |

## ABBREVIATIONS

| | |
|---|---|
| TC/TCC | TOP OF CONCRETE/CONCRETE CURB |
| FL | FLOWLINE |
| CMU | CONCRETE MASONARY UNIT |
| INV | INVERT |
| TW | TOP OF WALL |

## TEMPORARY BENCHMARK (TBM)

TOP OF #5 REBAR, SET FOR THE S.E. CORNER OF TRACT X-1-B, LOCATED AS SHOWN ON PLAN.
ELEV.=5395.40'

## SURVEY INFO.

TOPOGRAPHIC SURVEY PERFORMED BY CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC. ALBUQUERQUE, NEW MEXICO AUGUST 1998.

## NOTES

1. THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY.
2. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROU UTILITIES SHOWN COMPRISE ALL THE UTILITIES IN THE ARE EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURT DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHO ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DO CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSI FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS PHYSICALLY LOCATED THE UNDERGROUND UTILITIES, EXCEPT NOTED.