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

May 11, 1982

Attn: Mr. Bill Ragsdale
HBE Corporation

Dear Bill,
Enclosed please find:
a. alley grades - original
b. Plat - sepia
c. Construction drawing - sepia.

Please return the corrected alley grades, (original) along with the marked-up prints.

If you need anything, please call.

Sincerely,
Brian Burnett
Civil Engineer/Hydrology

cc. Phil Fisher

MUNICIPAL DEVELOPMENT DEPARTMENT
Richard S. Heller, P.E., City Engineer ENGINEERING DIVISION Telephone (505) 766-7[illegible]
AN EQUAL OPPORTUNITY EMPLOYER

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Richard S. Heller, P.E., City Engineer ENGINEERING DIVISION Telephone (505) 766-7467
AN EQUAL OPPORTUNITY EMPLOYER

HBE Bank Facilities

Division of HBE Corporation, 717 Office Parkway, St. Louis, Missouri 63141, Phone (314) 567-9000

March 4, 1982

H19-D10

Mr. Brian Burnett
City of Albuquerque
P.O. Box 1293
4th Floor
Albuquerque, New Mexico 87103

Re: Albuquerque U.S. Employees
Federal Credit Union

Dear Brian;

Enclosed please find 3 originals and 7 prints each of the alley plan-profile and Sheet C1. Revisions have been made per comments received from Mr. Bob Kielich.

If you have any questions, please do not hesitate to contact me.

Sincerely,

HBE Bank Facilities

William L. Ragsdale

William L. Ragsdale

cc: Mike Eschman
Bob Keyes
Lynn Riley

Enclosure

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

H19 - D10

December 11, 1981

Mr. Frederick S. Scott
Frederick Scott Architect
717 Office Parkway
St. Louis, Missouri 63141

RE: ALBUQUERQUE U.S. EMPLOYEES FEDERAL CREDIT UNION

Dear Mr. Scott:

The above referenced drainage report was received in our office on November 23, 1981 and reviewed by our office on December 11, 1981. We are sending you copies of the City of Albuquerque Hydrology Checklist & Procedures and Interim Drainage Guidelines. All items on the checklist should be addressed and included in a report or on the drainage plan. The items that you feel do not apply should be addressed with a statement indicating why.

The "Drainage Report Information Sheet" should also be filled out and returned with the drainage report.

If I can answer any questions concerning the above, please contact me at (505) 766-7467.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

Enclosures

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

H19-D10

February 9, 1982

Mr. Bill Ragsdale
HBE Corporation
717 Office Parkway
St. Louis, Missouri 63141

Re: ALBUQUERQUE U.S. EMPLOYEES FEDERAL CREDIT UNION

Dear Bill:

To expedite construction of the referenced project, this office will grant a 30-day conditional building permit which allows the contractor to begin work. However, we request that the proposed alley grades be resubmitted at the earliest possible date so that review and approval can be accomplished during this 30-day period. We would appreciate receiving the original and 7 prints to review.

If I can be of further help, please call.

Very truly yours,

Brian G. Burnett

Brian G. Burnett
Civil Engineer/Hydrology

BGB/fs

cc: Mr. John Thompson
Mr. Bob Jenkins

Bob Jenkins
242-1707.

Richard S. Heller,

Telephone (505) 766-7467

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

H19-D10

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Brian G. Burnett

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

Enclosures

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DRAINAGE REPORT REQUIREMENTS CHECKLIST

PROJECT TITLE Albuquerque U. S. Employees Federal Credit Union

DATE January 8, 1982 ZONE ATLAS PAGE NO. H-19-Z

REVIEWER City of Albuquerque

LEGAL ADDRESS All of lots 6,7, and 19 and the south 58.50' of lot 18, in block 3 of Sombra Del Monte.

ARCHITECTURAL & ENGINEERING FIRM HBE Bank Facilities Corp. CONTACT Fred Scott

ADDRESS 717 Office Parkway, St.Louis, MO PHONE 314-567-9000

OWNER Albuquerque U.S.Empl. Fed. C.U. CONTACT John Thompson

ADDRESS 616 Gold Ave,S.W.,Albuquerque,N.M. PHONE 505-242-2821

~~ARCHITECT~~/SURVEYOR Leverton Engineering Inc. CONTACT John Leverton

ADDRESS 5629 Paradise Blvd. N.W., Albuquerque, N.M. PHONE 505-898-8021

Approval of the submitted drainage will be granted when the following items have been satisfied. Please be advised that approval of the drainage report does not constitute approval of the construction plans (See Construction Plan Requirements Checklist). The pertinent sections of the City of Albuquerque Subdivision Ordinance and/or the AMAFCA Resolution 80-15 (labelled A and B respectively) are icentified in parenthesis after each requirement.

RECEIVED
JAN 27 1982
ENGINEERING

GENERAL:

YES	NO	NA	SEE COMMENTS		
X				1.	ENGINEER CERTIFIES
		X	*	2.	PLANNING HISTORY - Planning and zoning action history (A-21B; B-7).
				3.	PROFESSIONAL CERTIFICATION - Professional's stamp with signature and date (B-4F and B-7B):
X					A. Engineer who prepared the Drainage Report.
X					B. Engineer or Surveyor who performed the survey.
X					C. Engineer, Architect, or Surveyor who prepared the grading plan.
		X	#1	4.	FLOOD HAZARD - Delineation of site on pertinent Flood Hazard Boundary Map (A-21B; B-7B).
		X	*	5.	WATERSHED SOILS - Delineation of site and contributing off-site watersheds on SCS Bernalillo County Soil Survey Maps (A-21B; B-7B).
		X		6.	SOILS - Soils investigation report for ponding within 15 ft. from planned or existing structure or closer than 15 ft. from the property line minus the required setback on adjacent property. For ponds 18" deep or less, water may be impounded adjacent to street ROW but not closer than 10' from pavement. For ponds deeper than 18", water shall not pond closer than 15' to the pavement (A-21D;B-7B).

OFF-SITE CONDITIONS:

YES	NO	NA	SEE COMMENTS
		X	*

7. WATERSHED AREA - Delineation of off-site contributing watersheds on City of Albuquerque Ortho-Topo Area Maps at scale 1" = 200' or 1" = 500' (A-6815; B-7B).

8. STORM FLOWS - Quantification of off-site rates of flow caused by contributing watersheds for the:

		X	*
		X	*

A. 10 year frequency storm (A-6815)
B. 100 year frequency storm (A-6815 B-2E).

9. FLOW DEPTH AND VELOCITY

		X	*
		X	*
		X	*

A. Off-site flow velocities determined (A-6815).
B. Off-site flow depths determined (A-6815).
C. Locations indicated for A and B above (A-6815).

		y	*

10. OTHER CONDITIONS - Discussion of any off-site conditions or drainage facilities that affect site drainage (A-21A5f; B-7B).

11. PROPOSED TREATMENT - Adequate treatment of off-site flows including:

		X	*
		X	*
		X	*

A. Definition of required drainage facilities (A-21B; B-4A).
B. Location and configuration of facilities defined in A above (A-21B; B-4A).
C. Quantification that off-site flow draining through site shall do so at a rate of flow velocity, quantity, and location which does not exceed the capacity on such site and downstream drainage facilities OR does so in a manner similar to that which existed before such alteration (B-4A).

		X	*

12. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #11 above (A-21B;B-7B).

ON-SITE CONDITIONS:

YES	NO	NA	SEE COMMENTS
X			#2

13. FLOW VOLUMES AND RATES - Calculations showing on-site undeveloped and developed flow volumes and rates (B-4F).

14. FLOW DEPTH AND VELOCITY:

X			#3
X			#3
X			

A. On-site flow depth determined (A-6815).
B. On-site flow velocities determined (A-6815).
C. Locations indicated for A and B above (A-6815).

15. PROPOSED TREATMENT - Adequate treatment of on-site flows including:

		X	

A. Definition of required drainage facilities (A-21B; B-4F).

		X	

B. Location and configuration of facilities defined in A above (A-21B; B-4F).

		X	

1. Pond volume calculations (B-4B).

		X	

2. Positive discharge of ponds with required rate and outlet calculations (B-4B).

		X	

3. Pond emergency spillway calculations (B-7B)

YES	NO	NA	SEE COMMENTS	
		X		4. Pond fencing required for depths greater than 18" (S-7B).
		X		5. Pond landscaping provisions and commitments (A-21B).
		X		6. Pond maintenance provisions and commitments. SEE ATTACHED STANDARD COVENANT (A-21B).
		X		7. Channel characteristics including flow depths and velocities (A-21B).
		X		8. Storm sewer characteristics including capacity and hydraulic grade line calculations (A-21B).
		X	*	9. Hydraulic characteristics of other storm drainage facilities listed in 80-15; Sec. 2c(A-21B).
X			#4	C. Quantification that on-site flow shall discharge at a rate of flow, velocity, quantity, and location which does not exceed the capacity of downstream drainage facilities OR does so in a manner similar to that which existed before such alteration (S-4B).
		X		16. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #13 above (A-21B).

PLAN DRAWINGS:

YES	NO	NA	SEE COMMENTS	
				17. DRAFTING STANDARDS:
X				A. North Arrow indicated (A-21A2).
	X		#5	B. Standard engineering scales used - 1" = 10' for sites less than one acre; 1" = 20' for sites less than five acres; 1" = 50' for sites greater than five acres (A-21A2).
X				C. Legend.
				18. SITE DESCRIPTION:
X				A. Copy of zone atlas page with property outlined (A-21A6).
X			#6	B. Legal description (A-21A6).
				19. BENCH MARKS:
	X		*	A. Reference Albuquerque Control Survey Vertical Datum Location (A-21A5e; B-7A).
X				B. Site ground elevation based on mean sea level datum as established by the U.S. Coast and Geodetic Survey, North American datum 1929 (A-21A5e; B-7A).
X				C. Temporary bench mark description (A-21A5e; B-7A).
				20. EXISTING SITE CONDITIONS: (SEE SHEET C1)
X				A. Existing contours per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 B-7A.
X				B. Spot elevations adequately showing conditions on-site (A-21A5e1; B-7A).

YES	NO	NA	SEE COMMENTS	
X				C. Contours and spot elevations extending a minimum of 15' beyond property line (A-21A5e1; B-7A).
X				D. Identification of all existing structures located on-site or on adjacent property (15' minimum) with particular attention to retaining and garden walls (A-21B; B-7B).
X				E. Identification of all existing drainage facilities located on-site or on adjacent property (A-21B; B-7B).
X				F. Pertinent elevation(s) of structures and facilities defined in D and E above with Mean Sea Level designation (A-21B; B-7A).
X				G. Indication of all existing easements and right-of-ways on, or adjacent to the site with dimensions and purpose shown (A-21A5b & c).
X				H. Existing City top of curb and flow line elevations with Mean Sea Level designation (A-21B; B-7B).

21. PROPOSED SITE CONDITIONS: (SEE SHEET C1)

YES	NO	NA	SEE COMMENTS	
X				A. Proposed contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).
		X		B. Indication of all proposed easements and right-of-ways on or adjacent to the site with dimensions and purpose shown (A-21A5G & C).
X				C. Proposed street and alley grades when site abuts a dedicated unpaved street or alley. These grades are available, at no charge, from the City Engineer's Office. An advance request will expedite your project. NOTE: At present there is a 3 month wait to have the City Engineer supply grades. However, to expedite the plans, the City Engineer will review grades provided by an engineer (A-21A7).
X				D. Internal contributory drainage areas, including roof areas, outlined on plan (A-21B; B-7B).
X				E. Proposed (City approved) top of curb elevations with Mean Sea Level designation (A-21B; B-7B).
X				F. Flow lines defined by arrows and spot elevations with Mean Sea Level designation (A-21B; B-7B).
		X		G. 100 year pond depth determined and outlined on the plan (A-21B;B-7B).
X				H. Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas whose definition would increase clarity (A-21A5d & g; B-7A).
X				I. Finish building floor elevation(s) with Mean Sea Level designation (A-21A11; B-7A).
X				J. Slopes (cut or fill) with height of less than 18", not steeper than 2:1. Slopes with height greater than 18", not steeper than 3:1 (A-21B; B-5).

YES	NO	NA	SEE COMMENTS
X			
		X	
X			

K. Elevation of propert, line at least 1 ft. above flowline (A-21B).

L. Retaining wall required when a vertical grade change greater than 18" is indicated (A-21B; B-7A).

M. Details of ponds, swales, rundowns, curb cuts, water blocks, and all other significant drainage structures with contours, cross-sections, and spot elevations when appropriate. NOTE: All proposed construction within the public right-of-way must follow the City Engineer's Special Order No. 19 (A-21B; B-7B).

OTHER:

YES	NO	NA	SEE COMMENTS
		X	*
Y			

22. Erosion Control Plan (A-21B; B-7B).

23. Owners commitment to construct, operate, and maintain drainage facilities in substantial compliance with drainage report and grading plan (A21B).

COMMENTS: #1. Per telephone conversation on 12/24/81, Brian Burnett indicated that we don't have to provide flood hazard information since the site is not within the flood hazard boundary.

#2 Flow Volumes and Rates

a) Areas:

Undeveloped - Pervious = 12,040 S.F.
Impervious = 20,562 S.F.
32,602. S.F.

Developed - Pervious = 3,415 S.F.
Impervious = 29,187 S.F.
32,602 S.F.

b) Rainfall Intensity - Charts = 1.2 (2 yr. 30 min.)
x 2.22
2.664
x 1.6
4.26 (10 yr. 5 min.)
- Boca - 4.5 (10 yr. 5 min.)
- Use 4.5

c) Runoff Coeficient - Pervious = 0.35
Impervious = 0.90

d) Quantities:

Undeveloped - pervious = $\frac{12,040}{43,560}$ x 4.5 x 0.35 = 0.44 cfs
- Impervious = $\frac{20,562}{43,560}$ x 4.5 x 0.90 = 1.91 cfs
TOTAL - 2.35 cfs

Developed - pervious = $\frac{3,415}{43,560}$ x 4.5 x 0.35 = 0.12 cfs
- Impervious = $\frac{29,187}{43,560}$ x 4.5 x 0.90 = 2.71 cfs
TOTAL - 2.83 cfs

e) Increased runoff = 2.83
- 2.35
0.48 cfs say 0.50 cfs

COMMENTS: #3 Flow Depth and Velocity:

Location for worst condtion on site:

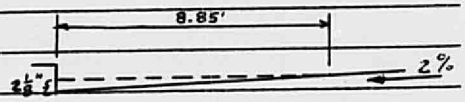
Pervious = $\frac{2895}{43560}$ x 4.5 x 0.35 = 0.105

Impervious = $\frac{12,315}{43,560}$ x 4.5 x 0.90 = 1.145

1.25 cfs

Q = 1.25 cfs
S = 1.00 % = 0.01
$S^{\frac{1}{2}}$ = 0.1000
n = 0.018 (Rough asphalt = 0.016 + 0.002 for flat slope)

TRY



D = 2 1/8"
A = 0.7840
WP = 9.0330
R = 0.0868
$R^{2/3}$ = 0.1960

$1.25 < \frac{1.486}{0.018} \times 0.7840 \times 0.1960 \times 0.1000$

$1.25 < 1.27$

$V = \frac{Q}{A} = \frac{1.27}{0.7840} = 1.62$ fps

#4 Increase rate of flow will be 0.50 cfs as shown in Comment #2. This should not overload the capacity of downstream drainage facilities.

#5 Brian Burnett indicated that 1" = 20' scale would be acceptable on this project, if the design information can be easily interpeted from the plan.

#6 The owners surveyor is presently preparing a summary plot of the property.

* Per telephone conversation on 12/30/81, Brian Burnett indicated that we don't have to provide this information for this project.

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

DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE: Albuquerque U.S. Employees Federal Credit Union

ZONE ATLAS PAGE NO.: H-19-Z CITY ADDRESS: 2608 Tennesse, N.E. Albuquerque, N.M.

LEGAL ADDRESS: All of Lots 6, 7, and 19, and the South 58.50' of lot 18 in block 3 of Sombra Del Monte

ARCHITECTUAL & ENGINEERING FIRM: HBE BANK FACILITIES CORP. CONTACT: Fred Scott

ADDRESS: 717 Office Parkway, St. Louis, MO PHONE: 314-567-9000

OWNER: Albuquerque U.S. Empl. Fed. C.U. CONTACT: John Thompson

ADDRESS: 616 Gold Ave., S.W. Albuquerque, N.M PHONE: 505-242-2821

SURVEYOR: Leverton Engineering, Inc. CONTACT: John Leverton

ADDRESS: 5629 Paradise Blvd. N.W. Albuquerque, N.M. PHONE: 505-898-8021

DATE SUBMITTED: January 11, 1982

BY: HBE BANK FACILITIES CORPORATION

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

CONSTRUCTION PLAN REQUIREMENTS CHECKLIST

PROJECT TITLE: Albuquerque U.S. Employees Federal Credit Union

DATE: January 8, 1982 ZONE ATLAS PAGE NO.: H-19-Z

REVIEWER: City of Albuquerque

LEGAL ADDRESS: All of lots 6, 7, and 19 and the South 58.50' of lot 18, in Block 3 of Sombra Del Monte

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ADDRESS: 616 Gold Ave., S.W. Albuquerque, N.M. PHONE: 505-242-2821

ARCHITECT/SURVEYOR: Leverton Engr. Inc. CONTACT: John Leverton

ADDRESS: 5629 Paradise Blvd. N.W. Albuquerque, N.M PHONE: 505-898-8021

GENERAL

Yes	No	NA	See Comments		
X				1.	Professional's Stamp with signature and date: A. Engineer who prepared the Drainage Report B. Engineer or Surveyor who performed survey C. Engineer, Architect or Surveyor who prepared the grading plan.
X					
X					
	X		#1	2.	North arrow with standard engineering scales used: A. 1"=10' for sites less than one (1) acre. B. 1"=20' for sites equal to but less than five (5) acres. C. 1"=50' for sites greater than five (5) acres
X			#1		
		X			
X			#2	3.	Vicinity map with Zone Atlas Page No. and legal description.
	X		#3	4.	Location and Description of the Albuquerque Control Survey Vertical Datum.
X				5.	Location and Description of the Temporary Bench Mark on site.
X				6.	Legend indicating symbols and abbreviations used.
		X	#4	7.	Certification of: A. Finish floor elevation in the Flood Zone by Engineer or Surveyor. B. Drainage & Grading Plan by Engineer.
	X		#5		

TOPOGRAPHY:

Yes	No	NA	See Comments		
X				8.	Existing contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A and spot elevations adequately showing conditions on-site and any other significant spot elevations off-site which would increase clarity. Note: Contours and spot elevations should be extended a minimum of 15' beyond property line. Some sites may require more off-site topographic information.
X				9.	Proposed contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).
X				10.	Proposed and existing contours or spot elevations at the property line adequately demonstrating any changes in grade.
X				11.	Existing or proposed (City approved) top-of-curb and flowline elevations along streets adjacent to the site with mean sea level designation (This also applies to alleys).
X				12.	Finish floor elevation(s) with mean sea level designation.
X				13.	Required spot elevations for the standard City drivepad.

CONSTRUCTION DETAIL:

Yes	No	NA	See Comments		
X				14.	Swales defined by arrows, spot elevations, and cross-sections.
X				15.	Elevation at property line at least 4" above top of curb.
X				16.	Internal contributory drainage areas outlined, including roof areas,
X				17.	Location of canales, scuppers and drain pipes.
X				18.	Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas where definition would increase clarity.
		X	#6	19.	Erosion Control Plan (during construction and for phased construction).
X				20.	Indication of all easements and rights-of-way on, or adjacent to, the site with dimensions and purpose shown.
		X		21.	Retaining wall required when a vertical grade change greater than 18" is indicated.
X				22.	Details of ponds, swales, rundowns, curb cuts, water blocks, emergency spillways, retaining walls, pond outlets, safety fences, slopes, and all other significant drainage structures with contours, cross-sections and spot elevations when appropriate. ALL CROSS-SECTIONS MUST BE DRAWN TO STANDARD ENGINEERING SCALE OR ADEQUATELY DIMENSIONED.

X				23.	Proposed construction within City right-of-way per City Engineer's Special Order No. 19.
X				24.	Indication of all existing structures on or adjacent (15' minimum) to the site, such as: retaining walls, buildings, pavement, ponds, etc.
X				25.	Indication of street name(s) adjacent to the site.
X				26.	Storm runoff routed through the drivepad or a City approved curb cut.
X				27.	Slopes (cut or fill) with height of less than 18", not steeper than 2:1. Slopes with height greater than 18", not steeper than 3:1.
		X		28.	Pond(s)' 100 year water surface:
		X			A. Elevation
					B. Outlined on the Plan

COMMENTS: #1: Brian Burnett indicated that 1" = 20' scale would be acceptable on this property, if the design information can be easily interpeted from the plan.

#2: The owners surveyor is presently preparing a summary plat of the property.

#3: Per telephone conversation on 12/30/81, Brian Burnett indicated that we don't have to provide this information since we provide a temporary bench mark on site which is based on local city datum.

#4: Brian Burnett indicated that the site is not within a flood hazard area.

#5: The city shall follow the standard procedure for issuing an occupancy permit.

#6: Brian Burnett indicated that we don't have to provide this information for this project.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DRAINAGE REPORT REQUIREMENTS CHECKLIST

PROJECT TITLE Albuquerque U. S. Employees Federal Credit Union

DATE January 8, 1982 ZONE ATLAS PAGE NO. H-19-Z

REVIEWER City of Albuquerque

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OWNER Albuquerque U.S.Empl. Fed. C.U. CONTACT John Thompson

ADDRESS 616 Gold Ave,S.W.,Albuquerque,N.M. PHONE 505-242-2821

~~ARCHITECT~~/SURVEYOR Leverton Engineering Inc. CONTACT John Leverton

ADDRESS 5629 Paradise Blvd. N.W., Albuquerque, N.M. PHONE 505-898-8021

Approval of the submitted drainage will be granted when the following items have been satisfied. Please be advised that approval of the drainage report does not constitute approval of the construction plans (See Construction Plan Requirements Checklist). The pertinent sections of the City of Albuquerque Subdivision Ordinance and/or the AMAFCA Resolution 80-1 (labelled A and B respectively) are identified in parenthesis after each requirement.

RECEIVED
JAN 27 1982
ENGINEERING

GENERAL:

YES	NO	NA	SEE COMMENTS	
X				1. ENGINEER CERTIFIES
		X	*	2. PLANNING HISTORY - Planning and zoning action history (A-218; B-7).
				3. PROFESSIONAL CERTIFICATION - Professional's stamp with signature and date (B-4F and B-7B):
X				A. Engineer who prepared the Drainage Report.
X				B. Engineer or Surveyor who performed the survey.
X				C. Engineer, Architect, or Surveyor who prepared the grading plan.
		X	#1	4. FLOOD HAZARD - Delineation of site on pertinent Flood Hazard Boundary Map (A-218; B-7B).
		X	*	5. WATERSHED SOILS - Delineation of site and contributing off-site watersheds on SCS Bernalillo County Soil Survey Maps (A-218; B-7B).
		X		6. SOILS - Soils investigation report for ponding within 15 ft. from planned or existing structure or closer than 15 ft. from the property line minus the required setback on adjacent property. For ponds 18" deep or less, water may be impounded adjacent to street ROW but not closer than 10' from pavement. For ponds deeper than 18", water shall not pond closer than 15' to the pavement (A-210;B-7B).

OFF-SITE CONDITIONS:

YES	NO	NA	SEE COMMENTS	
		X	*	7. WATERSHED AREA - Delineation of off-site contributing watersheds on City of Albuquerque Ortho-Topo Area Maps at scale 1" = 200' or 1" = 500' (A-6815; B-7B).
		X	*	8. STORM FLOWS - Quantification of off-site rates of flow caused by contributing watersheds for the: A. 10 year frequency storm (A-6815)
		X	*	B. 100 year frequency storm (A-6815 B-2E).
				9. FLOW DEPTH AND VELOCITY
		X	*	A. Off-site flow velocities determined (A-6815).
		X	*	B. Off-site flow depths determined (A-6815).
		X	*	C. Locations indicated for A and B above (A-6815).
		X	*	10. OTHER CONDITIONS - Discussion of any off-site conditions or drainage facilities that affect site drainage (A-21A5f; B-7B).
				11. PROPOSED TREATMENT - Adequate treatment of off-site flows including:
		X	*	A. Definition of required drainage facilities (A-21B; B-4A).
		X	*	B. Location and configuration of facilities defined in A above (A-21B; B-4A).
		X	*	C. Quantification that off-site flow draining through site shall do so at a rate of flow velocity, quantity, and location which does not exceed the capacity on such site and downstream drainage facilities OR does so in a manner similar to that which existed before such alteration (B-4A).
		X	*	12. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #11 above (A-21B;B-7B).

ON-SITE CONDITIONS:

YES	NO	NA	SEE COMMENTS	
X			#2	13. FLOW VOLUMES AND RATES - Calculations showing on-site undeveloped and developed flow volumes and rates (B-4F).
				14. FLOW DEPTH AND VELOCITY:
X			#3	A. On-site flow depth determined (A-6815).
X			#3	B. On-site flow velocities determined (A-6815).
X				C. Locations indicated for A and B above (A-6815).
				15. PROPOSED TREATMENT - Adequate treatment of on-site flows including:
		X		A. Definition of required drainage facilities (A-21B; B-4F).
		X		B. Location and configuration of facilities defined in A above (A-21B; B-4F).
		X		1. Pond volume calculations (B-4B).
		X		2. Positive discharge of ponds with required rate and outlet calculations (B-4B).
		X		3. Pond emergency spillway calculations (B-7B)

YES	NO	NA	SEE COMMENTS	
		X		4. Pond fencing required for depths greater than 18" (B-7B).
		X		5. Pond landscaping provisions and commitments (A-21B).
		X		6. Pond maintenance provisions and commitments. SEE ATTACHED STANDARD COVENANT (A-21B).
		X		7. Channel characteristics including flow depths and velocities (A-21B).
		X		8. Storm sewer characteristics including capacity and hydraulic grade line calculations (A-21B).
		X	*	9. Hydraulic characteristics of other storm drainage facilities listed in 80-15; Sec. 2c(A-21B).
X			#4	C. Quantification that on-site flow shall discharge at a rate of flow, velocity, quantity, and location which does not exceed the capacity of downstream drainage facilities OR does so in a manner similar to that which existed before such alteration (B-4B).
		X		16. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #13 above (A-21B).

PLAN DRAWINGS:

YES	NO	NA	SEE COMMENTS	
				17. DRAFTING STANDARDS:
X				A. North Arrow indicated (A-21A2).
	X		#5	B. Standard engineering scales used - 1" = 10' for sites less than one acre; 1" = 20' for sites less than five acres; 1" = 50' for sites greater than five acres (A-21A2).
X				C. Legend.
				18. SITE DESCRIPTION:
X				A. Copy of zone atlas page with property outlined (A-21A6).
X			#6	B. Legal description (A-21A6).
				19. BENCH MARKS:
	X		*	A. Reference Albuquerque Control Survey Vertical Datum Location (A-21A5e; B-7A).
X				B. Site ground elevation based on mean sea level datum as established by the U.S. Coast and Geodetic Survey, North American datum 1929 (A-21A5e; B-7A).
X				C. Temporary bench mark description (A-21A5e; B-7A).
				20. EXISTING SITE CONDITIONS: (SEE SHEET C1)
X				A. Existing contours per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 B-7A.
X				B. Spot elevations accurately showing conditions on-site (A-21A5e1; B-7A).

YES	NO	NA	SEE COMMENTS	
X				C. Contours and spot elevations extending a minimum of 15' beyond property line (A-21A5e1; B-7A).
X				D. Identification of all existing structures located on-site or on adjacent property (15' minimum) with particular attention to retaining and garden walls (A-21B; B-7B).
X				E. Identification of all existing drainage facilities located on-site or on adjacent property (A-21B; B-7B).
X				F. Pertinent elevation(s) of structures and facilities defined in D and E above with Mean Sea Level designation (A-21B; B-7A).
X				G. Indication of all existing easements and right-of-ways on, or adjacent to the site with dimensions and purpose shown (A-21A5b & c).
X				H. Existing City top of curb and flow line elevations with Mean Sea Level designation (A-21B; B-7B).

21. PROPOSED SITE CONDITIONS: (SEE SHEET C1)

X				A. Proposed contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).
		X		B. Indication of all proposed easements and right-of-ways on or adjacent to the site with dimensions and purpose shown (A-21A5G & C).
X				C. Proposed street and alley grades when site abuts a dedicated unpaved street or alley. These grades are available, at no charge, from the City Engineer's Office. An advance request will expedite your project. NOTE: At present there is a 3 month wait to have the City Engineer supply grades. However, to expedite the plans, the City Engineer will review grades provided by an engineer (A-21A7).
X				D. Internal contributory drainage areas, including roof areas, outlined on plan (A-21B; B-7B).
X				E. Proposed (City approved) top of curb elevations with Mean Sea Level designation (A-21B; B-7B).
X				F. Flow lines defined by arrows and spot elevations with Mean Sea Level designation (A-21B; B-7B).
		X		G. 100 year pond depth determined and outlined on the plan (A-21B;B-7B).
X				H. Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas whose definition would increase clarity (A-21A5d & g; B-7A).
X				I. Finish building floor elevation(s) with Mean Sea Level designation (A-21A11; B-7A).
X				J. Slopes (cut or fill) with height of less than 18", not steeper than 2:1. Slopes with height greater than 18", not steeper than 3:1 (A-21B; B-5).

X				K. Elevation of property line at least 1 ft. above flowline (A-218).
		X		L. Retaining wall required when a vertical grade change greater than 18" is indicated (A-218; B-7A).
X				M. Details of ponds, swales, rundowns, curb cuts, water blocks, and all other significant drainage structures with contours, cross-sections, and spot elevations when appropriate. NOTE: All proposed construction within the public right-of-way must follow the City Engineer's Special Order No. 10 (A-218; B-7B).

OTHER:

YES	NO	NA	SEE COMMENTS	
		X	*	22. Erosion Control Plan (A-218; B-7B).
X				23. Owners commitment to construct, operate, and maintain drainage facilities in substantial compliance with drainage report and grading plan (A218).

COMMENTS: #1. Per telephone conversation on 12/24/81, Brian Burnett indicated that we don't have to provide flood hazard information since the site is not within the flood hazard boundary.

#2 Flow Volumes and Rates

a) Areas:

Undeveloped - Pervious = 12,040 S.F.
Impervious = 20,562 S.F.
32,602. S.F

Developed - Pervious = 3,415 S.F.
Impervious = 29,187 S.F.
32,602 S.F.

b) Rainfall Intensity - Charts = 1.2 (2 yr. 30 min.)
x 2.22
2.664
x 1.6
4.26 (10 yr. 5 min.)
- Boca - 4.5 (10 yr. 5 min.)
- Use 4.5

c) Runoff Coeficient - Pervious = 0.35
Impervious = 0.90

d) Quantities:

Undeveloped - pervious = $\frac{12,040}{43,560}$ x 4.5 x 0.35 = 0.44 cfs
- Impervious = $\frac{20,562}{43,560}$ x 4.5 x 0.90 = 1.91 cfs
TOTAL - 2.35 cfs

Developed - pervious = $\frac{3,415}{43,560}$ x 4.5 x 0.35 = 0.12 cfs
- Impervious = $\frac{29,187}{43,560}$ x 4.5 x 0.90 = 2.71 cfs
TOTAL - 2.83 cfs

e) Increased runoff = 2.83
- 2.35
0.48 cfs say 0.50 cfs

COMMENTS: #3 Flow Depth and Velocity:

Location for worst condtion on site:

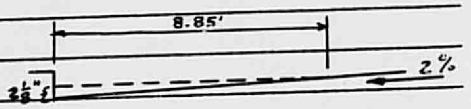
Pervious = $\frac{2895}{43560}$ x 4.5 x 0.35 = 0.105

Impervious = $\frac{12,315}{43,560}$ x 4.5 x 0.90 = 1.145

1.25 cfs

Q = 1.25 cfs
S = 1.00 % = 0.01
$S^{\frac{1}{2}}$ = 0.1000
n = 0.018 (Rough asphalt = 0.016 + 0.002 for flat slope)

TRY



D = 2 1/8"
A = 0.7840
WP = 9.0330
R = 0.0868
$R^{2/3}$ = 0.1960

$1.25 < \frac{1.486}{0.018} \times 0.7840 \times 0.1960 \times 0.1000$

$1.25 < 1.27$

$V = \frac{Q}{A} = \frac{1.27}{0.7840} = 1.62$ fps

#4 Increase rate of flow will be 0.50 cfs as shown in Comment #2. This should not overload the capacity of downstream drainage facilities.

#5 Brian Burnett indicated that 1" = 20' scale would be acceptable on this project, if the design information can be easily interpeted from the plan.

#6 The owners surveyor is presently preparing a summary plot of the property.

* Per telephone conversation on 12/30/81, Brian Burnett indicated that we don't have to provide this information for this project.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE: Albuquerque U.S. Employees Federal Credit Union

ZONE ATLAS PAGE NO.: H-19-Z CITY ADDRESS: 2608 Tennesse, N.E. Albuquerque, N.M.

LEGAL ADDRESS: All of Lots 6, 7, and 19, and the South 58.50' of lot 18 in block 3 of Sombra Del Monte

ARCHITECTUAL & ENGINEERING FIRM: HBE BANK FACILITIES CORP. CONTACT: Fred Scott

ADDRESS: 717 Office Parkway.St.Louis.MO PHONE: 314-567-9000

OWNER: Albuquerque U.S. Empl. Fed. C.U. CONTACT: John Thompson

ADDRESS: 616 Gold Ave., S.W. Albuquerque, N.M PHONE: 505-242-2821

~~ENGINEER~~/SURVEYOR: Leverton Engineering, Inc. CONTACT: John Leverton

ADDRESS: 5629 Paradise Blvd. N.W. Albuquerque, N.M. PHONE: 505-898-8021

DATE SUBMITTED: January 11, 1982

BY: HBE BANK FACILITIES CORPORATION

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

CONSTRUCTION PLAN REQUIREMENTS CHECKLIST

PROJECT TITLE: Albuquerque U.S. Employees Federal Credit Union

DATE: January 8, 1982 ZONE ATLAS PAGE NO.: H-19-Z

REVIEWER: City of Albuquerque

LEGAL ADDRESS: All of lots 6, 7, and 19 and the South 58.50' of lot 18, in Block 3 of Sombra Del Monte

ARCHITECTURAL & ENGINEERING FIRM: HBE BANK FACILITIES CORP CONTACT: Fred Scott

ADDRESS: 717 Office Parkway, St. Louis, MO PHONE: 314-567-9000

OWNER: Albuquerque U.S. Empl. Fed. C.U. CONTACT: John Thompson

ADDRESS: 616 Gold Ave., S.W. Albuquerque, N.M. PHONE: 505-242-2821

ARCHITECT/SURVEYOR: Leverton Engr. Inc. CONTACT: John Leverton

ADDRESS: 5629 Paradise Blvd. N.W. Albuquerque, N.M PHONE: 505-898-8021

GENERAL

Yes	No	NA	See Comments		
X				1.	Professional's Stamp with signature and date: A. Engineer who prepared the Drainage Report B. Engineer or Surveyor who performed survey C. Engineer, Architect or Surveyor who prepared the grading plan.
X					
X					
	X		#1	2.	North arrow with standard engineering scales used: A. 1"=10' for sites less than one (1) acre. B. 1"=20' for sites equal to but less than five (5) acres. C. 1"=50' for sites greater than five (5) acres
X			#1		
		X			
X			#2	3.	Vicinity map with Zone Atlas Page No. and legal description.
	X		#3	4.	Location and Description of the Albuquerque Control Survey Vertical Datum.
X				5.	Location and Description of the Temporary Bench Mark on site.
X				6.	Legend indicating symbols and abbreviations used.
		X	#4	7.	Certification of: A. Finish floor elevation in the Flood Zone by Engineer or Surveyor. B. Drainage & Grading Plan by Engineer.
	X		#5		

TOPOGRAPHY:

Yes	No	NA	See Comments		
X				8.	Existing contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A and spot elevations adequately showing conditions on-site and any other significant spot elevations off-site which would increase clarity. Note: Contours and spot elevations should be extended a minimum of 15' beyond property line. Some sites may require more off-site topographic information.
X				9.	Proposed contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).
X				10.	Proposed and existing contours or spot elevations at the property line adequately demonstrating any changes in grade.
X				11.	Existing or proposed (City approved) top-of-curb and flowline elevations along streets adjacent to the site with mean sea level designation (This also applies to alleys).
X				12.	Finish floor elevation(s) with mean sea level designation.
X				13.	Required spot elevations for the standard City drivepad.

CONSTRUCTION DETAIL:

Yes	No	NA	See Comments		
X				14.	Swales defined by arrows, spot elevations, and cross-sections.
X				15.	Elevation at property line at least 4" above top of curb.
X				16.	Internal contributory drainage areas outlined, including roof areas,
X				17.	Location of canales, scuppers and drain pipes.
X				18.	Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas where definition would increase clarity.
		X	#6	19.	Erosion Control Plan (during construction and for phased construction).
X				20.	Indication of all easements and rights-of-way on, or adjacent to, the site with dimensions and purpose shown.
		X		21.	Retaining wall required when a vertical grade change greater than 18" is indicated.
X				22.	Details of ponds, swales, rundowns, curb cuts, water blocks, emergency spillways, retaining walls, pond outlets, safety fences, slopes, and all other significant drainage structures with contours, cross-sections and spot elevations when appropriate. ALL CROSS-SECTIONS MUST BE DRAWN TO STANDARD ENGINEERING SCALE OR ADEQUATELY DIMENSIONED.

X				23.	Proposed construction within City right-of-way per City Engineer's Special Order No. 19.
X				24.	Indication of all existing structures on or adjacent (15' minimum) to the site, such as: retaining walls, buildings, pavement, ponds, etc.
X				25.	Indication of street name(s) adjacent to the site.
X				26.	Storm runoff routed through the drivepad or a City approved curb cut.
X				27.	Slopes (cut or fill) with height of less than 18", not steeper than 2:1. Slopes with height greater than 18", not steeper than 3:1.
		X		28.	Pond(s)' 100 year water surface: A. Elevation B. Outlined on the Plan
		X			

COMMENTS: #1: Brian Burnett indicated that 1" = 20' scale would be acceptable on this property, if the design information can be easily interpeted from the plan.

#2: The owners surveyor is presently preparing a summary plat of the property.

#3: Per telephone conversation on 12/30/81, Brian Burnett indicated that we don't have to provide this information since we provide a temporary bench mark on site which is based on local city datum.

#4: Brian Burnett indicated that the site is not within a flood hazard area.

#5: The city shall follow the standard procedure for issuing an occupancy permit.

#6: Brian Burnett indicated that we don't have to provide this information for this project.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DRAINAGE REPORT REQUIREMENTS CHECKLIST

PROJECT TITLE Albuquerque U. S. Employees Federal Credit Union

DATE January 8, 1982 ZONE ATLAS PAGE NO. H-19-Z

REVIEWER City of Albuquerque

LEGAL ADDRESS All of lots 6,7, and 19 and the south 58.50' of lot 18, in block 3 of Sombra Del Monte.

ARCHITECTURAL & ENGINEERING FIRM HBE Bank Facilities Corp. CONTACT Fred Scott

ADDRESS 717 Office Parkway, St.Louis, MO PHONE 314-567-9000

OWNER Albuquerque U.S.Empl. Fed. C.U. CONTACT John Thompson

ADDRESS 616 Gold Ave,S.W.,Albuquerque,N.M. PHONE 505-242-3821

~~ARCHITECT~~/SURVEYOR Leverton Engineering Inc. CONTACT John Leverton

ADDRESS 5629 Paradise Blvd. N.W., Albuquerque, N.M. PHONE 505-898-8021

Approval of the submitted drainage will be granted when the following items have been satisfied. Please be advised that approval of the drainage report does not constitute approval of the construction plans (See Construction Plan Requirements Checklist). The pertinent sections of the City of Albuquerque Subdivision Ordinance and/or the AMAFCA Resolution 80-15 (labeled A and B respectively) are identified in parenthesis after each requirement.

RECEIVED

JAN 27 1982

ENGINEERING

GENERAL:

YES	NO	NA	SEE COMMENTS	
X				1. ENGINEER CERTIFIES
		X	*	2. PLANNING HISTORY - Planning and zoning action history (A-21B; B-7).
				3. PROFESSIONAL CERTIFICATION - Professional's stamp with signature and date (B-4F and B-7B):
X				A. Engineer who prepared the Drainage Report.
X				B. Engineer or Surveyor who performed the survey.
X				C. Engineer, Architect, or Surveyor who prepared the grading plan.
		X	#1	4. FLOOD HAZARD - Delineation of site on pertinent Flood Hazard Boundary Map (A-21B; B-7B).
		X	*	5. WATERSHED SOILS - Delineation of site and contributing off-site watersheds on SCS Bernalillo County Soil Survey Maps (A-21B; B-7B).
		X		6. SOILS - Soils investigation report for ponding within 15 ft. from planned or existing structure or closer than 15 ft. from the property line minus the required setback on adjacent property. For ponds 18" deep or less, water may be impounded adjacent to street ROW but not closer than 10' from pavement. For ponds deeper than 18", water shall not pond closer than 15' to the pavement (A-21D;B-7B).

OFF-SITE CONDITIONS.

YES	NO	NA	SEE COMMENTS	
		X	*	7. WATERSHED AREA - Delineation of off-site contributing watersheds on City of Albuquerque Ortho-Topo Area Maps at scale 1" = 200' or 1" = 500' (A-6815; B-7B).
		X	*	8. STORM FLOWS - Quantification of off-site rates of flow caused by contributing watersheds for the:
		X	*	A. 10 year frequency storm (A-6815)
		X	*	B. 100 year frequency storm (A-6815 B-2E).
		X	*	9. FLOW DEPTH AND VELOCITY
		X	*	A. Off-site flow velocities determined (A-6815).
		X	*	B. Off-site flow depths determined (A-6815).
		X	*	C. Locations indicated for A and B above (A-6815).
		X	*	10. OTHER CONDITIONS - Discussion of any off-site conditions or drainage facilities that affect site drainage (A-21A5f; B-7B).
		X	*	11. PROPOSED TREATMENT - Adequate treatment of off-site flows including:
		X	*	A. Definition of required drainage facilities (A-21B; B-4A).
		X	*	B. Location and configuration of facilities defined in A above (A-21B; B-4A).
		X	*	C. Quantification that off-site flow draining through site shall do so at a rate of flow velocity, quantity, and location which does not exceed the capacity on such site and downstream drainage facilities OR does so in a manner similar to that which existed before such alteration (B-4A).
		X	*	12. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #11 above (A-21B;B-7B).

ON-SITE CONDITIONS:

YES	NO	NA	SEE COMMENTS	
X			#2	13. FLOW VOLUMES AND RATES - Calculations showing on-site undeveloped and developed flow volumes and rates (B-4F).
				14. FLOW DEPTH AND VELOCITY:
X			#3	A. On-site flow depth determined (A-6815).
X			#3	B. On-site flow velocities determined (A-6815).
X				C. Locations indicated for A and B above (A-6815).
		X		15. PROPOSED TREATMENT - Adequate treatment of on-site flows including:
		X		A. Definition of required drainage facilities (A-21B; B-4F).
		X		B. Location and configuration of facilities defined in A above (A-21B; B-4F).
		X		1. Pond volume calculations (B-4B).
		X		2. Positive discharge of ponds with required rate and outlet calculations (B-4B).
		X		3. Pond emergency spillway calculations (B-7B)

YES	NO	NA	SEE COMMENTS	
		X		4. Pond fencing required for depths greater than 18" (B-7B).
		X		5. Pond landscaping provisions and commitments (A-21B).
		X		6. Pond maintenance provisions and commitments. SEE ATTACHED STANDARD COVENANT (A-21B).
		X		7. Channel characteristics including flow depths and velocities (A-21B).
		X		8. Storm sewer characteristics including capacity and hydraulic grade line calculations (A-21B).
		X	*	9. Hydraulic characteristics of other storm drainage facilities listed in 80-15; Sec. 2c(A-21B).
X			#4	C. Quantification that on-site flow shall discharge at a rate of flow, velocity, quantity, and location which does not exceed the capacity of downstream drainage facilities OR does so in a manner similar to that which existed before such alteration (B-4B).
		X		16. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #13 above (A-21B).

PLAN DRAWINGS:

YES	NO	NA	SEE COMMENTS	
				17. DRAFTING STANDARDS:
X				A. North Arrow indicated (A-21A2).
	X		#5	B. Standard engineering scales used - 1" = 10' for sites less than one acre; 1" = 20' for sites less than five acres; 1" = 50' for sites greater than five acres (A-21A2).
X				C. Legend.
				18. SITE DESCRIPTION:
X				A. Copy of zone atlas page with property outlined (A-21A6).
X			#6	B. Legal description (A-21A6).
				19. BENCH MARKS:
	X		*	A. Reference Albuquerque Control Survey Vertical Datum Location (A-21A5e; B-7A).
X				B. Site ground elevation based on mean sea level datum as established by the U.S. Coast and Geodetic Survey, North American datum 1929 (A-21A5e; B-7A).
X				C. Temporary bench mark description (A-21A5e; B-7A).
				20. EXISTING SITE CONDITIONS: (SEE SHEET C1)
X				A. Existing contours per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 B-7A.
X				B. Spot elevations accurately showing conditions on-site (A-21A5e1; B-7A).

YES	NO	NA	SEE COMMENTS	
X				C. Contours and spot elevations extending a minimum of 15' beyond property line (A-21A5e1; B-7A).
X				D. Identification of all existing structures located on-site or on adjacent property (15' minimum) with particular attention to retaining and garden walls (A-21B; B-7B).
X				E. Identification of all existing drainage facilities located on-site or on adjacent property (A-21B; B-7B).
X				F. Pertinent elevation(s) of structures and facilities defined in D and E above with Mean Sea Level designation (A-21B; B-7A).
X				G. Indication of all existing easements and right-of-ways on, or adjacent to the site with dimensions and purpose shown (A-21A5b & c).
X				H. Existing City top of curb and flow line elevations with Mean Sea Level designation (A-21B; B-7B).

21. PROPOSED SITE CONDITIONS: (SEE SHEET C1)

X				A. Proposed contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).
		X		B. Indication of all proposed easements and right-of-ways on or adjacent to the site with dimensions and purpose shown (A-21A5G & C).
X				C. Proposed street and alley grades when site abuts a dedicated unpaved street or alley. These grades are available, at no charge, from the City Engineer's Office. An advance request will expedite your project. NOTE: At present there is a 3 month wait to have the City Engineer supply grades. However, to expedite the plans, the City Engineer will review grades provided by an engineer (A-21A7).
X				D. Internal contributory drainage areas, including roof areas, outlined on plan (A-21B; B-7B).
X				E. Proposed (City approved) top of curb elevations with Mean Sea Level designation (A-21B; B-7B).
X				F. Flow lines defined by arrows and spot elevations with Mean Sea Level designation (A-21B; B-7B).
		X		G. 100 year pond depth determined and outlined on the plan (A-21B;B-7B).
X				H. Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas whose definition would increase clarity (A-21A5c & g; B-7A).
X				I. Finish building floor elevation(s) with Mean Sea Level designation (A-21A11; B-7A).
X				J. Slopes (cut or fill) with height of less than 18", not steeper than 2:1. Slopes with height greater than 18", not steeper than 3:1 (A-21B; B-5).

X				K. Elevation of property line at least 1 ft. above flowline (A-21B).
		X		L. Retaining wall required when a vertical grade change greater than 18" is indicated (A-21B; B-7A).
X				M. Details of ponds, swales, rundowns, curb cuts, water blocks, and all other significant drainage structures with contours, cross-sections, and spot elevations when appropriate. NOTE: All proposed construction within the public right-of-way must follow the City Engineer's Special Order No. 19 (A-21B; B-7B).

OTHER:

YES	NO	NA	SEE COMMENTS	
		X	*	22. Erosion Control Plan (A-21B; B-7B).
X				23. Owners commitment to construct, operate, and maintain drainage facilities in substantial compliance with drainage report and grading plan (A21B).

COMMENTS: #1. Per telephone conversation on 12/24/81, Brian Burnett indicated that we don't have to provide flood hazard information since the site is not within the flood hazard boundary.

#2 Flow Volumes and Rates

a) Areas:

Undeveloped - Pervious = 12,040 S.F.
Impervious = 20,562 S.F.
32,602. S.F

Developed - Pervious = 3,415 S.F.
Impervious = 29,187 S.F.
32,602 S.F.

b) Rainfall Intensity - Charts = 1.2 (2 yr. 30 min.)
x 2.22
2.664
x 1.6
4.26 (10 yr. 5 min.)
- Boca - 4.5 (10 yr. 5 min.)
- Use 4.5

c) Runoff Coeficient - Pervious = 0.35
Impervious = 0.90

d) Quantities:

Undeveloped - pervious = $\frac{12,040}{43,560}$ x 4.5 x 0.35 = 0.44 cfs
- Impervious = $\frac{20,562}{43,560}$ x 4.5 x 0.90 = 1.91 cfs
TOTAL - 2.35 cfs

Developed - pervious = $\frac{3,415}{43,560}$ x 4.5 x 0.35 = 0.12 cfs
- Impervious = $\frac{29,187}{43,560}$ x 4.5 x 0.90 = 2.71 cfs
TOTAL - 2.83 cfs

e) Increased runoff = 2.83 - 2.35
0.48 cfs say 0.50 cfs

COMMENTS: #3 Flow Depth and Velocity:

Location for worst condtion on site:

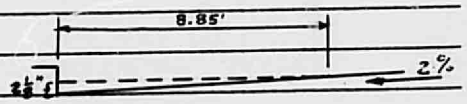
Pervious = $\frac{2895}{43560}$ x 4.5 x 0.35 = 0.105

Impervious = $\frac{12,315}{43,560}$ x 4.5 x 0.90 = 1.145

1.25 cfs

Q = 1.25 cfs
S = 1.00 % = 0.01
$S^{\frac{1}{2}}$ = 0.1000
n = 0.018 (Rough asphalt = 0.016 + 0.002 for flat slope)

TRY



D = 2 1/8"
A = 0.7840
WP = 9.0330
R = 0.0868
$R^{2/3}$ = 0.1960

$1.25 < \frac{1.486}{0.018} \times 0.7840 \times 0.1960 \times 0.1000$

$1.25 < 1.27$

$V = \frac{Q}{A} = \frac{1.27}{0.7840} = 1.62$ fps

#4 Increase rate of flow will be 0.50 cfs as shown in Comment #2. This should not overload the capacity of downstream drainage facilities.

#5 Brian Burnett indicated that 1" = 20' scale would be acceptable on this project, if the design information can be easily interpeted from the plan.

#6 The owners surveyor is presently preparing a summary plot of the property.

* Per telephone conversation on 12/30/81, Brian Burnett indicated that we don't have to provide this information for this project.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE: Albuquerque U.S. Employees Federal Credit Union

ZONE ATLAS PAGE NO.: H-19-Z CITY ADDRESS: 2608 Tennesse, N.E. Albuquerque, N.M.

LEGAL ADDRESS: All of Lots 6, 7, and 19, and the South 58.50' of lot 18 in block 3 of Sombra Del Monte

ARCHITECTURAL & ENGINEERING FIRM: HBE BANK FACILITIES CORP. CONTACT: Fred Scott

ADDRESS: 717 Office Parkway,St.Louis,MO PHONE: 314-567-9000

OWNER: Albuquerque U.S. Empl. Fed. C.U. CONTACT: John Thompson

ADDRESS: 616 Gold Ave., S.W. Albuquerque, N.M PHONE: 505-242-2821

ENGINEER/SURVEYOR: Leverton Engineering, Inc. CONTACT: John Leverton

ADDRESS: 5629 Paradise Blvd. N.W. Albuquerque, N.M. PHONE: 505-898-8021

DATE SUBMITTED: January 11, 1982

BY: HBE BANK FACILITIES CORPORATION

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

CONSTRUCTION PLAN REQUIREMENTS CHECKLIST

PROJECT TITLE: Albuquerque U.S. Employees Federal Credit Union

DATE: January 8, 1982 ZONE ATLAS PAGE NO.: H-19-Z

REVIEWER: City of Albuquerque

LEGAL ADDRESS: All of lots 6, 7, and 19 and the South 58.50' of lot 18, in Block 3 of Sombra Del Monte

ARCHITECTURAL & ENGINEERING FIRM: HBE BANK FACILITIES CORP CONTACT: Fred Scott

ADDRESS: 717 Office Parkway, St. Louis, MO PHONE: 314-567-9000

OWNER: Albuquerque U.S. Empl. Fed. C.U. CONTACT: John Thompson

ADDRESS: 616 Gold Ave., S.W. Albuquerque, N.M. PHONE: 505-242-2821

ARCHITECT/SURVEYOR: Leverton Engr. Inc. CONTACT: John Leverton

ADDRESS: 5629 Paradise Blvd. N.W. Albuquerque, N.M PHONE: 505-898-8021

GENERAL

Yes	No	NA	See Comments		
X				1.	Professional's Stamp with signature and date: A. Engineer who prepared the Drainage Report B. Engineer or Surveyor who performed survey C. Engineer, Architect or Surveyor who prepared the grading plan.
X					
X					
	X		#1	2.	North arrow with standard engineering scales used: A. 1"=10' for sites less than one (1) acre. B. 1"=20' for sites equal to but less than five (5) acres. C. 1"=50' for sites greater than five (5) acres
X			#1		
		X			
X			#2	3.	Vicinity map with Zone Atlas Page No. and legal description.
	X		#3	4.	Location and Description of the Albuquerque Control Survey Vertical Datum.
X				5.	Location and Description of the Temporary Bench Mark on site.
X				6.	Legend indicating symbols and abbreviations used.
		X	#4	7.	Certification of: A. Finish floor elevation in the Flood Zone by Engineer or Surveyor. B. Drainage & Grading Plan by Engineer.
	X		#5		

TOPOGRAPHY:

Yes	No	NA	See Comments		
X				8.	Existing contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A and spot elevations adequately showing conditions on-site and any other significant spot elevations off-site which would increase clarity. Note: Contours and spot elevations should be extended a minimum of 15' beyond property line. Some sites may require more off-site topographic information.
X				9.	Proposed contours (per Subdivision Ordinance A-21A5e1 and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; 8-7A).
X				10.	Proposed and existing contours or spot elevations at the property line adequately demonstrating any changes in grade.
X				11.	Existing or proposed (City approved) top-of-curb and flowline elevations along streets adjacent to the site with mean sea level designation (This also applies to alleys).
X				12.	Finish floor elevation(s) with mean sea level designation.
X				13.	Required spot elevations for the standard City drivepad.

CONSTRUCTION DETAIL:

Yes	No	NA	See Comments		
X				14.	Swales defined by arrows, spot elevations, and cross-sections.
X				15.	Elevation at property line at least 4" above top of curb.
X				16.	Internal contributory drainage areas outlined including roof areas,
X				17.	Location of canales, scuppers and drain pipes.
X				18.	Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas where definition would increase clarity.
		X	#6	19.	Erosion Control Plan (during construction and for phased construction).
X				20.	Indication of all easements and rights-of-way on, or adjacent to, the site with dimensions and purpose shown.
		X		21.	Retaining wall required when a vertical grade change greater than 18" is indicated.
X				22.	Details of ponds, swales, runoffs, curb cuts, water blocks, emergency spillways, retaining walls, pond outlets, safety fences, slopes, and all other significant drainage structures with contours, cross-sections and spot elevations when appropriate. ALL CROSS-SECTIONS MUST BE DRAWN TO STANDARD ENGINEERING SCALE OR ADEQUATELY DIMENSIONED.

X				23.	Proposed construction within City right-of-way per City Engineer's Special Order No. 19.
X				24.	Indication of all existing structures on or adjacent (15' minimum) to the site, such as: retaining walls, buildings, pavement, ponds, etc.
X				25.	Indication of street name(s) adjacent to the site.
X				26.	Storm runoff routed through the drivepad or a City approved curb cut.
X				27.	Slopes (cut or fill) with height of less than 18", not steeper than 2:1. Slopes with height greater than 18", not steeper than 3:1.
		X		28.	Pond(s)' 100 year water surface:
		X			A. Elevation
					B. Outlined on the Plan

COMMENTS: #1: Brian Burnett indicated that 1" = 20' scale would be acceptable on this property, if the design information can be easily interpeted from the plan.

#2: The owners surveyor is presently preparing a summary plat of the property.

#3: Per telephone conversation on 12/30/81, Brian Burnett indicated that we don't have to provide this information since we provide a temporary bench mark on site which is based on local city datum.

#4: Brian Burnett indicated that the site is not within a flood hazard area.

#5: The city shall follow the standard procedure for issuing an occupancy permit.

#6: Brian Burnett indicated that we don't have to provide this information for this project.