

**ARMSTRONG ENGINEERING, INC.**

CONSULTING ENGINEERS

2709-A PAN AMERICAN N.E.

ALBUQUERQUE, NEW MEXICO 87107

(505) 345-2133

(505) 345-8463

JOHN ARMSTRONG P.E.

September 4, 1981

Mr. Fred J. Aguirre  
City of Albuquerque  
Engineering Division  
PO Box 1293  
Albuquerque, New Mexico 87103

Re: Coronado Plaza II & III Drainage Report (File No. E-18-D13)

Dear Fred:


Following is a discussion of the checklist items that needed clarification per our discussion September 3, 1981.

2. PLANNING HISTORY: I have been to city planning and studied the file on this property and believe this site plan to be in compliance with planning actions.

10. OTHER CONDITIONS: Off-site drainage should not adversely affect this site plan in any way. We are above the 100-year flood plain and our peak discharge should reach the storm drainage system ahead of the main peak as we are so close to the North Diversion Channel.

11. EROSION CONTROL PLAN: In my opinion we will not have a problem with erosion, during construction, as there are no off-site flows across the property and the flows on the property are not concentrated in one place.

Thank You,

  
John Armstrong, PE

# Coronado Plaza II & III

Worst condition swale



$$A = \frac{(0.2)(13.3)}{2} + \left( \frac{0.2 + 0.2}{2} \right) (11) = 6.46 \text{ ft}^2$$

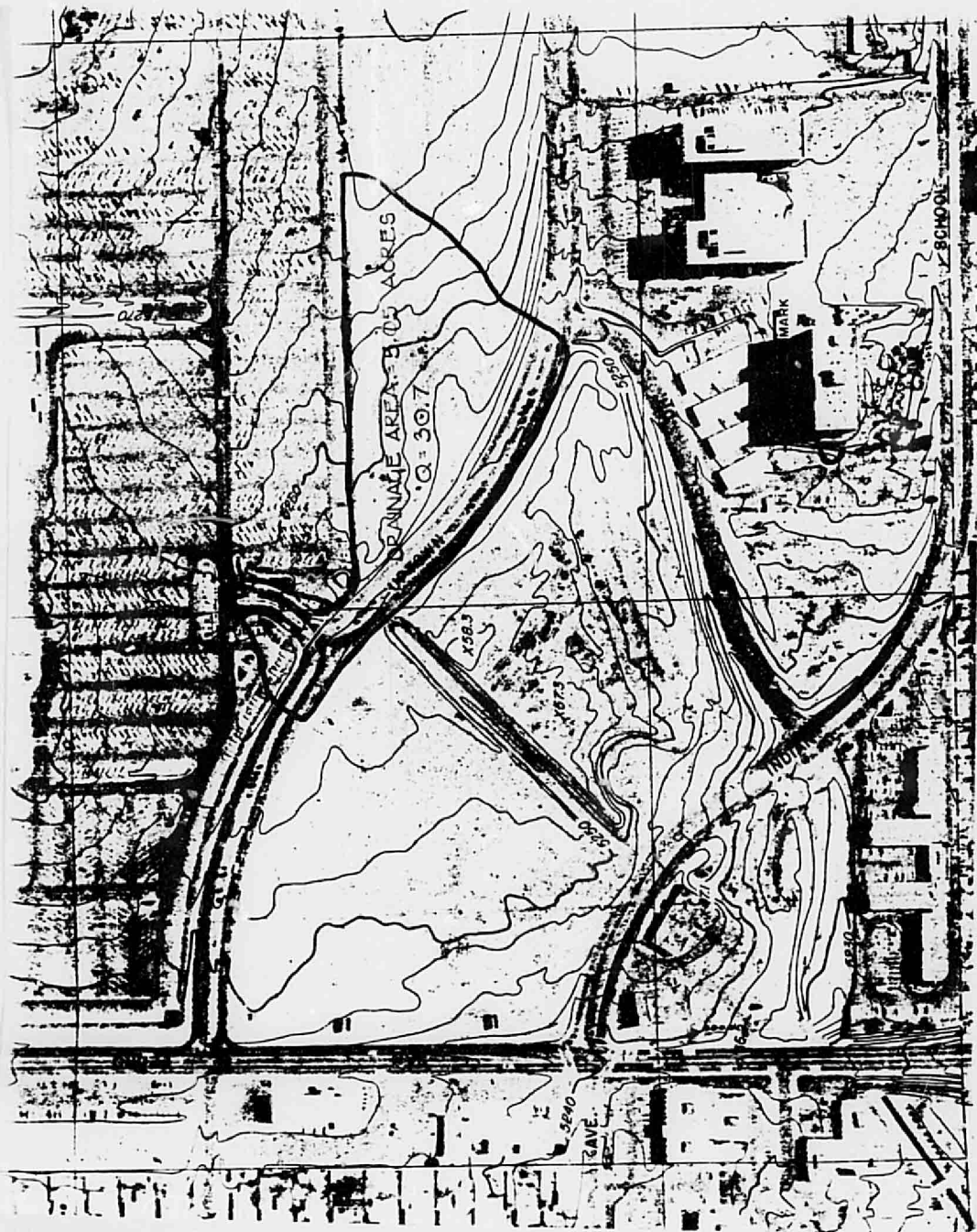
$$P = 24.63 \text{ ft}$$

$$S = 0.01 \text{ ft/ft}$$

$$R = 0.26 \text{ ft}$$

$$Q = \frac{1.49}{0.016} (6.46) (0.26)^{2/3} (0.01)^{1/2} = 24.5 \text{ cfs}$$

$$V = \frac{Q}{A} = 3.8 \text{ ft/sec}$$



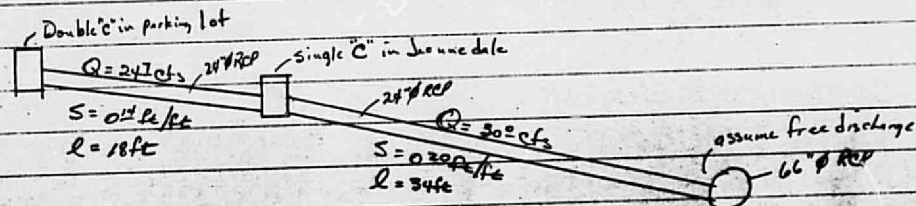
## Coronado Plaza II & III

### Double "C" Inlet

Analyze as a weir

$$Q = C_w L h^{3/2} \text{ where } C_w = 3.49; L = 17 \text{ ft}; h = 0.67 \text{ ft}$$

$$Q = 28^0 \text{ cfs} \text{ ok our max is } 24^7 \text{ cfs}$$



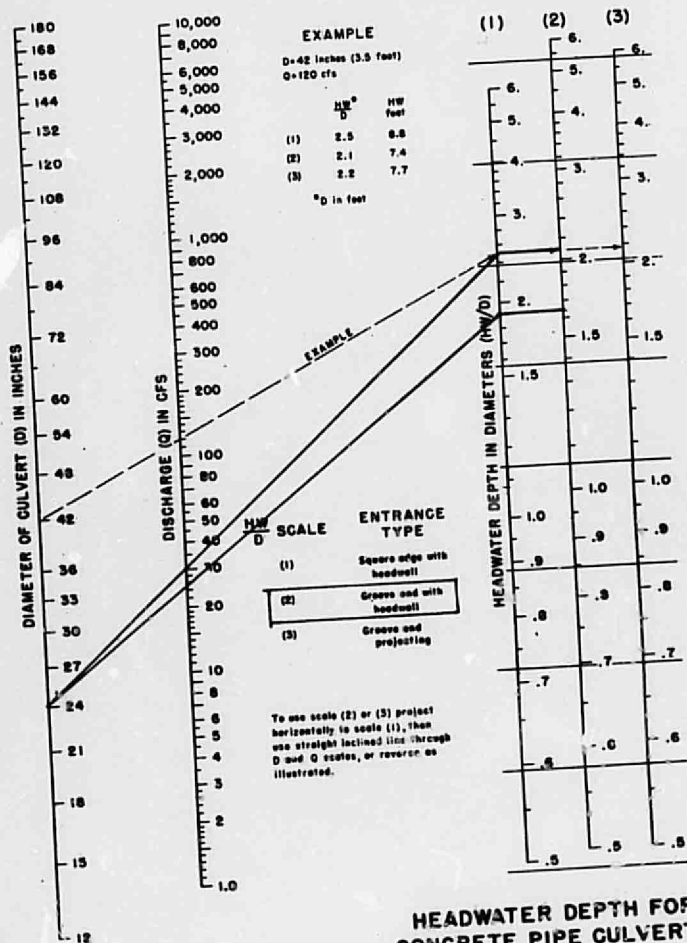
The normal depths in these 24" Ø RCP's is 8<sup>5</sup>/<sub>8</sub> inches and 8<sup>5</sup>/<sub>8</sub> inches using Manning's Equation and  $n = 0.012$ . Therefore it is obvious that these pipes will flow under inlet control. Using Chart 2:

$$HW @ \text{Double "C"} = (1.2)(2) = 3^8 \text{ ft}$$

$$HW @ \text{Single "C"} = (2.07)(2) = 4^1 \text{ ft}$$

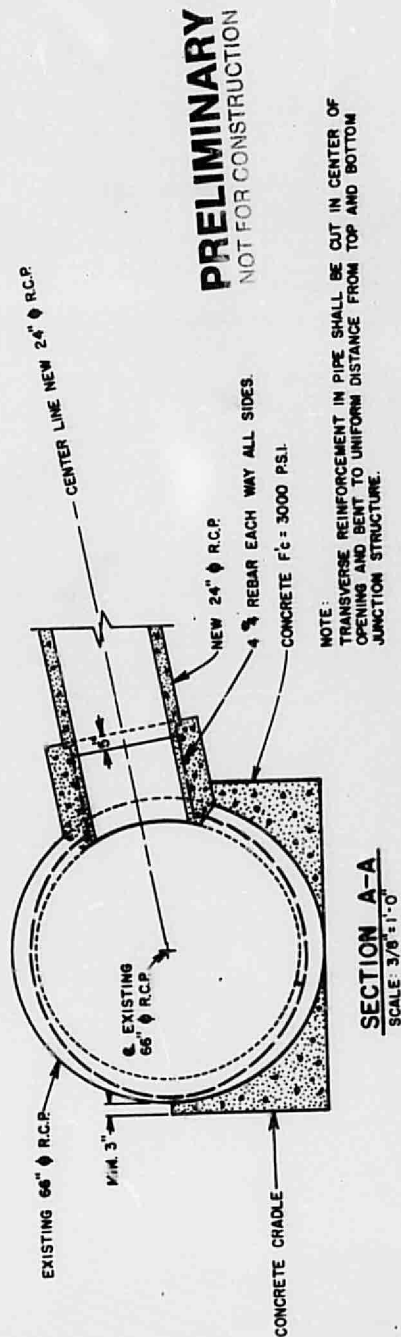
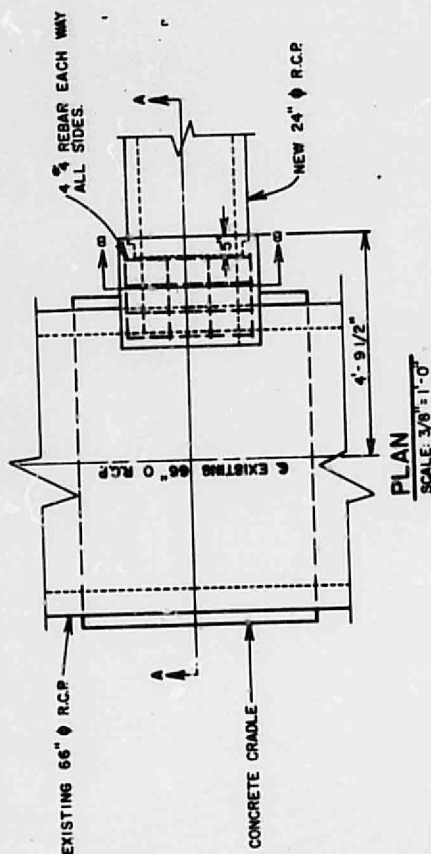
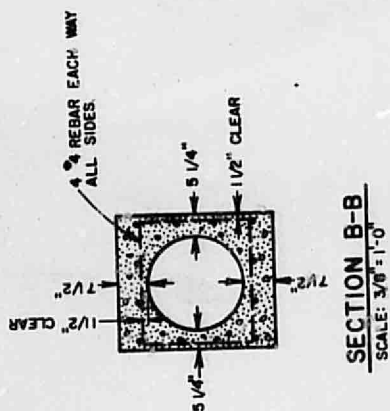
From this you can see that the max headwater will be below the top of curb in both cases.

# CHART 2



**HEADWATER DEPTH FOR  
CONCRETE PIPE CULVERTS  
WITH INLET CONTROL**

CITY OF ALBUQUERQUE		APPROVALS		ENGINEER	DATE	TITLE: DETAIL 1
		A.C.E./DESIGN		INSPECTOR		
		A.C.E./FIELD		PROJECT NO.		
				MAP NO.		



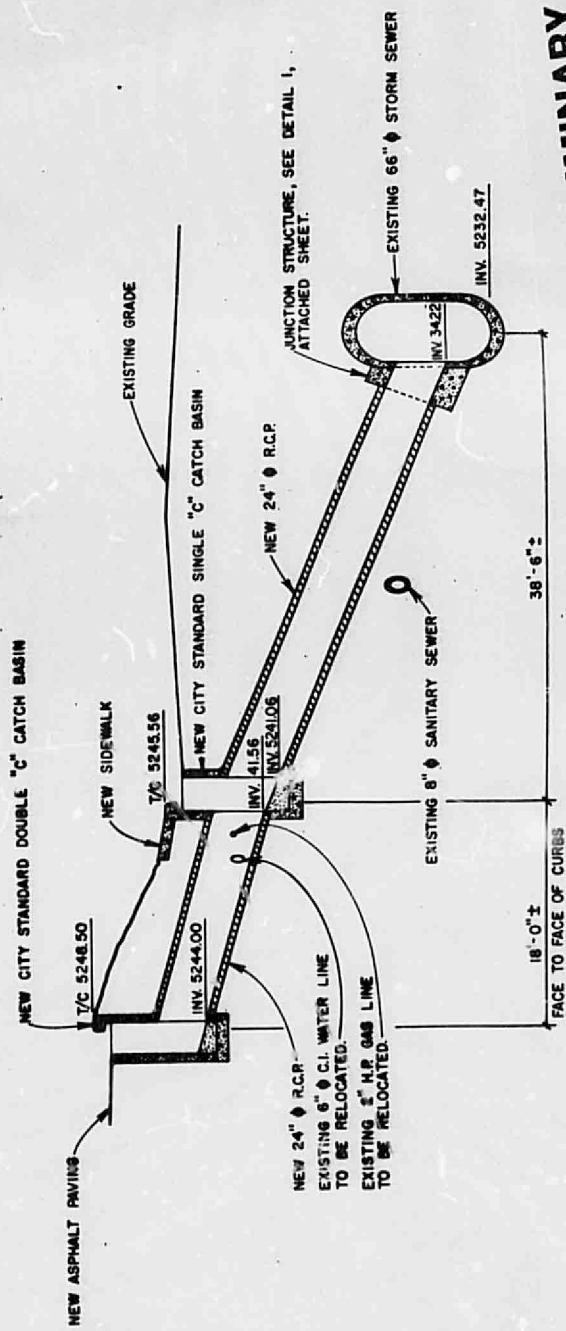
**PRELIMINARY**  
NOT FOR CONSTRUCTION

NOTE:  
TRANSVERSE REINFORCEMENT IN PIPE SHALL BE CUT IN CENTER OF  
OPENING AND BENT TO UNIFORM DISTANCE FROM TOP AND BOTTOM  
JUNCTION STRUCTURE.



APPROVALS		ENGINEER	DATE	TITLE: STORM SEWER PROFILE	
A.C.E./DESIGN				PROJECT	
INSPECTOR				MAP NO.	
A.C.E./FIELD				NO.	

# CITY OF ALBUQUERQUE



**PRELIMINARY**  
NOT FOR CONSTRUCTION

SCALES:  
1"=10'-0" HORIZONTAL  
1"=5'-0" VERTICAL

DRAINAGE CALCULATIONS FOR CORONADO PLAZA II & III  
CORNER OF UPTOWN AND JEANNEDALE DRIVES NE  
CITY ZONE ATLAS MAP H-18  
ALEBUQUERQUE, NEW MEXICO



ARMSTRONG ENGINEERING INCORPORATED  
2719 PAN AMERICAN FREEWAY NE, SUITE-A  
ALEBUQUERQUE, NEW MEXICO 87107

AUGUST 1961

RECEIVED  
AUG 1 9 1961  
ENGINEERING

Albuquerque Rainfall from NOAA Atlas 2, Vol IV.

6 hr - 100 year precipitation =  $2^4$  inches

24 hr - 100 year precipitation =  $2^8$  inches

$$1 \text{ hr} - 100 \text{ year precipitation} = \frac{0.494 + 0.755 (2^4)^2}{(2^8)} = 2^{0.5} \text{ in/hr}$$

$$30 \text{ min} - 100 \text{ year precipitation} = (0.22)(1 \text{ hr} \cdot p) = 1^{.62} \text{ in} \equiv \text{intensity of } 3^{.23} \text{ in/hr}$$

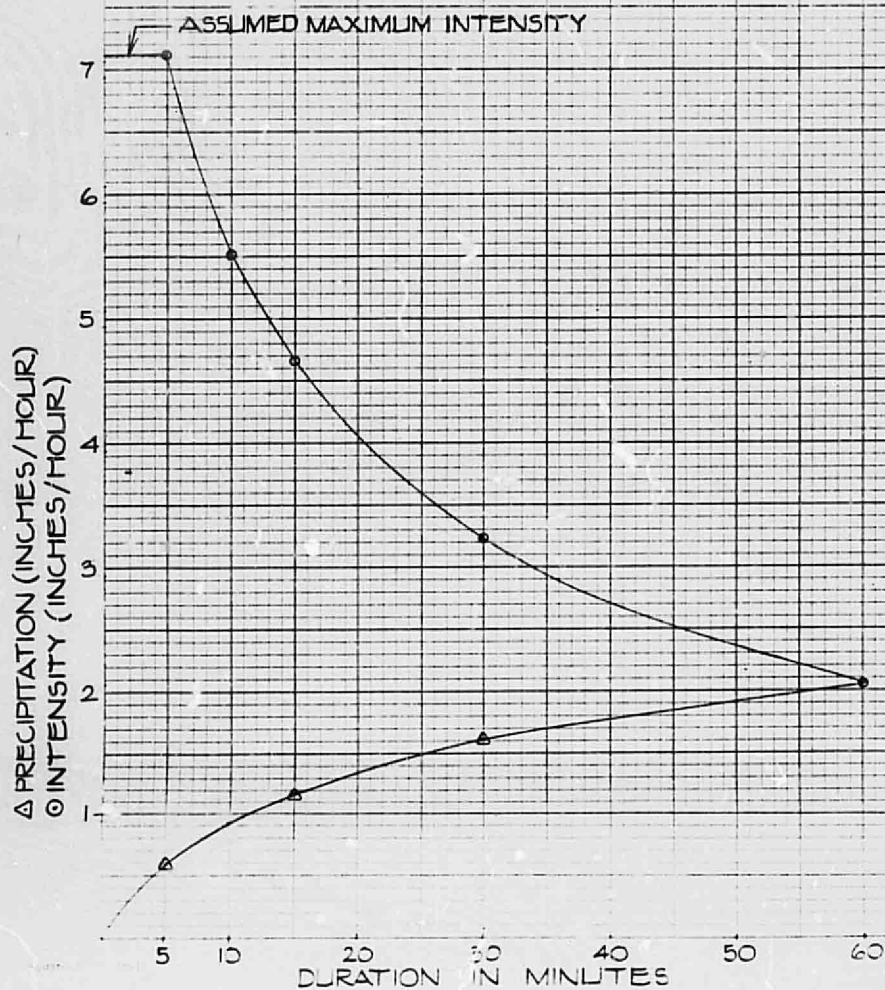
$$15 \text{ min} - 100 \text{ year precipitation} = (0.57)(1 \text{ hr} \cdot p) = 1^{.3} \text{ in} \equiv \text{intensity of } 4^{.67} \text{ in/hr}$$

$$10 \text{ min} - 100 \text{ year precipitation} = (0.45)(1 \text{ hr} \cdot p) = 0^{.92} \text{ in} \equiv \text{intensity of } 5^{.52} \text{ in/hr}$$

$$5 \text{ min} - 100 \text{ year precipitation} = (0.39)(1 \text{ hr} \cdot p) = 0^{.57} \text{ in} \equiv \text{intensity of } 7^{.12} \text{ in/hr}$$

The 5 min intensity was considered to be the maximum  
precipital intensity for the area.

ALBUQUERQUE RAINFALL  
PRECIPITATION & INTENSITY  
AT 5000 FEET ELEVATION



# HYDROLOGY, RATIONAL METHOD

PROJECT: Coronado Plaza II E III

LOCATION: In Uptown Blvd. @ intersection w/ Jeannette Drive NE.

A - DRAINAGE AREA (ACRES): 5.05 Acres

LENGTH (FT): 850 ft

DIFFERENCE IN ELEVATION (FT): 10 ft

SLOPE (%): 1.18%

APPROXIMATE VELOCITY: 2.5 ft/sec

TIME OF CONCENTRATION (MIN.): 5.67 min

PRECIPITATION (IN.): 0.63 in

i - INTENSITY (IN./HR.): 6.75 in/hr

c - COEFFICIENT OF RUNOFF: 0.90

$$Q = ciA = (0.90)(6.75)(5.05) = 30.7 \text{ C.F.S.}$$

# HYDROLOGY, RATIONAL METHOD

PROJECT: Coronado Plaza II & III

LOCATION: Flow in parking lot west through Yerov Building Site

A - DRAINAGE AREA (ACRES): 1.32 Acres

LENGTH (FT): 470 ft

DIFFERENCE IN ELEVATION (FT): —

SLOPE (%): 1% + Road Drain

APPROXIMATE VELOCITY: 2.3 ft/sec

TIME OF CONCENTRATION (MIN.): 3.4 min

PRECIPITATION (IN.): 0.45 in

i - INTENSITY (IN./HR.): 7.4 in/hr

c - COEFFICIENT OF RUNOFF: 0.8

$$Q = ciA = \underline{(0.8)(7.4)(1.32)} = \underline{7.5} \text{ C.F.S.}$$

# HYDROLOGY, RATIONAL METHOD

PROJECT: Coronado Plaza II F.I.T.

LOCATION: Flows in parking lot east from west tract to east tract.

A - DRAINAGE AREA (ACRES): 1.68 Acres

LENGTH (FT): 480 ft

DIFFERENCE IN ELEVATION (FT): —

SLOPE (%): 1% + Roof Drains

APPROXIMATE VELOCITY: 2.3 ft/sec

TIME OF CONCENTRATION (MIN.): 3.40 min

PRECIPITATION (IN.): 0.45 in

i - INTENSITY (IN./HR.): 2.1 in/hr

C - COEFFICIENT OF RUNOFF: 0.8

$$Q = C i A = (0.8)(2.1)(1.68) = 95 \text{ C.F.S.}$$

# HYDROLOGY, RATIONAL METHOD

PROJECT: Coronado Plaza II & III

LOCATION: Flow in parking lot at east tract through Double C Inlet.

A - DRAINAGE AREA (ACRES): 4.68 Acres

LENGTH (FT): 900 ft

DIFFERENCE IN ELEVATION (FT): —

SLOPE (%): 1% + Root Drains

APPROXIMATE VELOCITY: 2.4 ft/sec

TIME OF CONCENTRATION (MIN.): 6.25 min

PRECIPITATION (IN.): 0.22 in

i - INTENSITY (IN./HR.): 6.6 in/hr

C - COEFFICIENT OF RUNOFF: 0.8

$$Q = ciA = (0.8)(6.6)(4.68) = 242 \text{ C.F.S.}$$

**ARMSTRONG ENGINEERING, INC.**

CONSULTING ENGINEERS  
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JOHN ARMSTRONG P.E.

September 4, 1981

Mr. Fred J. Aguirre  
City of Albuquerque  
Engineering Division  
PO Box 1293  
Albuquerque, New Mexico 87103

Re: Coronado Plaza II & III Drainage Report (File No. H-1E-D13)

Dear Fred:

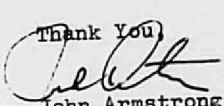
Following is a discussion of the checklist items that needed clarification per our discussion September 3, 1981.

2. PLANNING HISTORY: I have been to city planning and studied the file on this property and believe this site plan to be in compliance with planning actions.

10. OTHER CONDITIONS: Off-site drainage should not adversely affect this site plan in any way. We are above the 100-year flood plain and our peak discharge should reach the storm drainage system ahead of the main peak as we are so close to the North Diversion Channel.

11. EROSION CONTROL PLAN: In my opinion we will not have a problem with erosion, during construction, as there are no off-site flows across the property and the flows on the property are not concentrated in one place.

Thank You,

  
John Armstrong, PE

Coronado Plaza II & III

Worst condition swale



$$A = \frac{(0.4)(13.3)}{2} + \frac{(0.4 + 0.2)(11)}{2} = 6.46 \text{ ft}^2$$

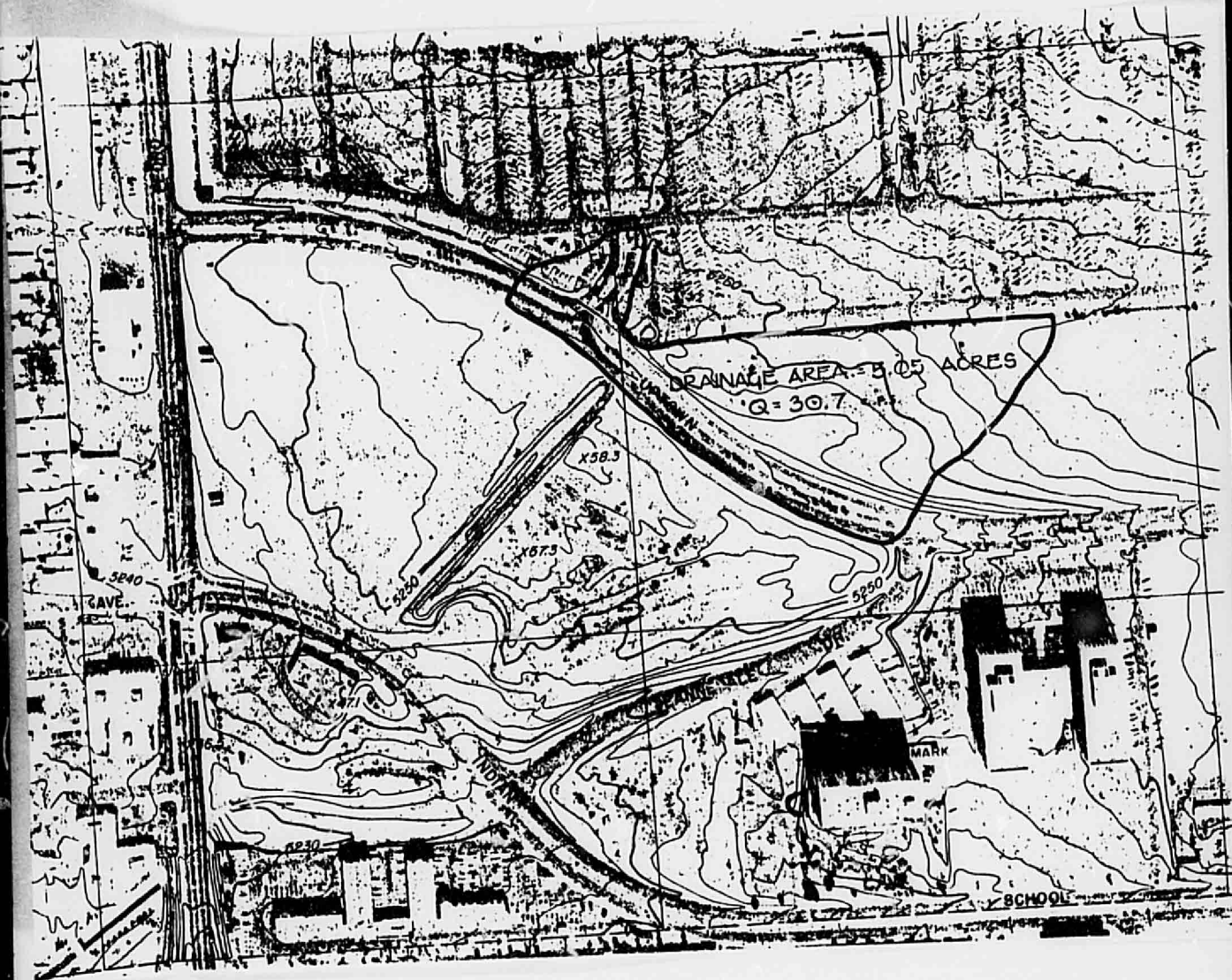
$$P = 24.63 \text{ ft}$$

$$S = 0.01 \text{ ft/ft}$$

$$R = 0.26 \text{ ft}$$

$$Q = \frac{1.49}{0.016} (6.46) (0.26)^{2/3} (0.01)^{1/2} = 24.5 \text{ cfs}$$

$$V = \frac{Q}{A} = 3.8 \text{ ft/sec}$$



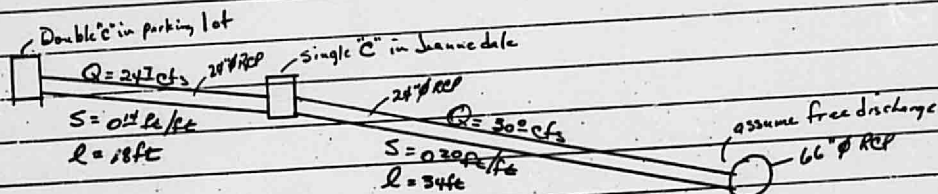
## Coronado Plaza II & III

### Double "C" Inlet

Analyze as a weir.

$$Q = C_w L h^{3/2} \text{ where } C_w = 3.49; L = 17 \text{ ft}; h = 0.67 \text{ ft}$$

$$Q = 28^2 \text{ cfs} \text{ ok max is } 24^2 \text{ cfs}$$



The normal depths in these 24"  $\phi$  RCP's is 8 $\frac{5}{8}$  inches and 8 $\frac{1}{2}$  inches using Manning's Equation and  $n = 0.012$ . Therefore it is obvious that these pipes will flow under inlet control.

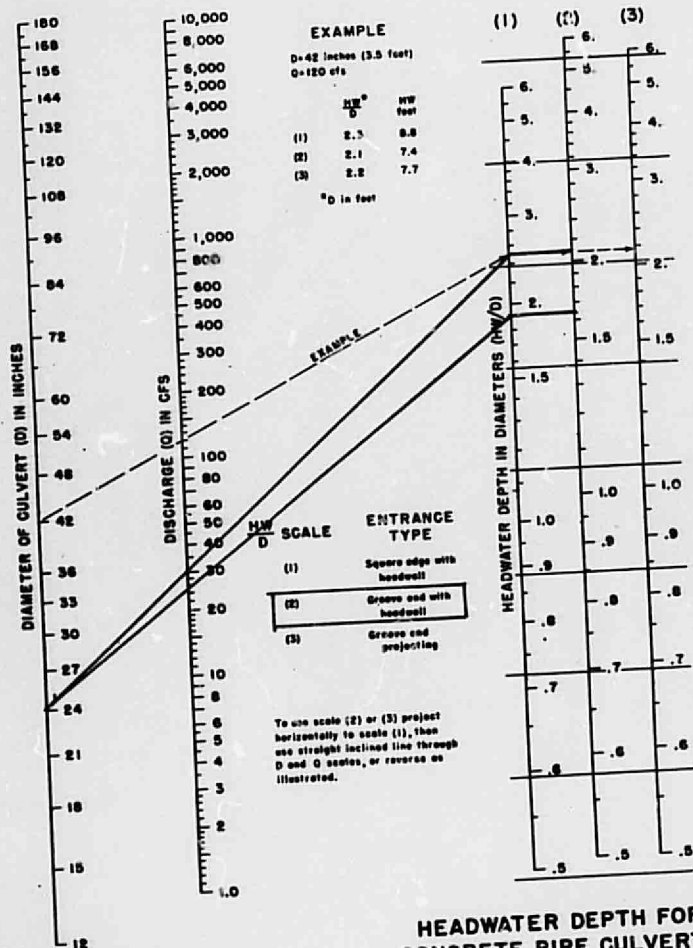
Using Chart 2:

$$HW @ \text{Double "C"} = (1.2)(2) = 3.8 \text{ ft}$$

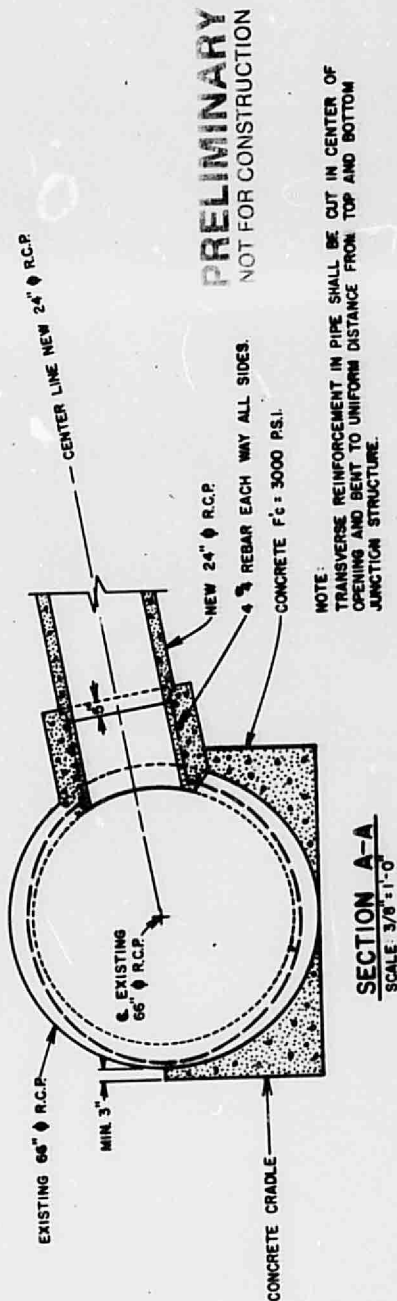
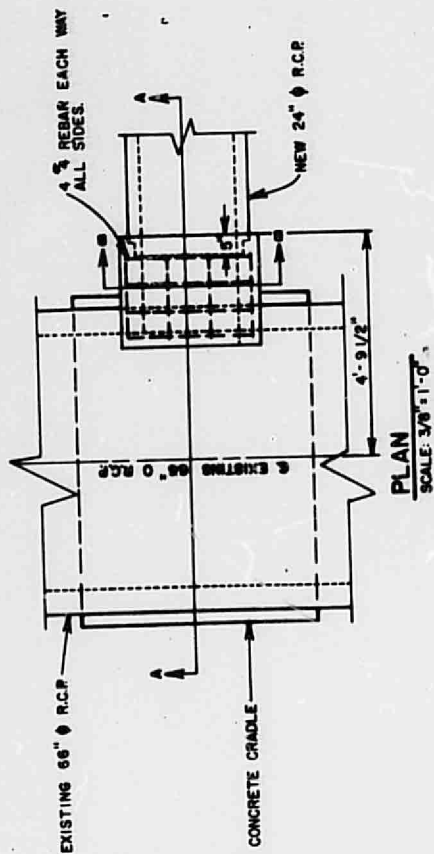
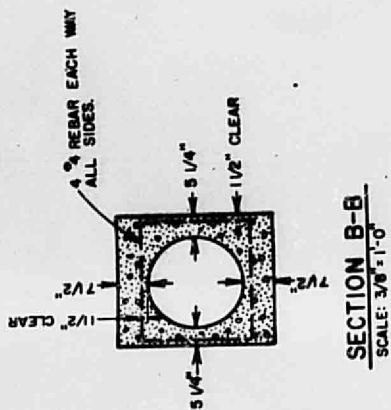
$$HW @ \text{Single "C"} = (2.07)(2) = 4.14 \text{ ft}$$

From this you can see that the max headwater will be below the top of curb in both cases.

# CHART 2



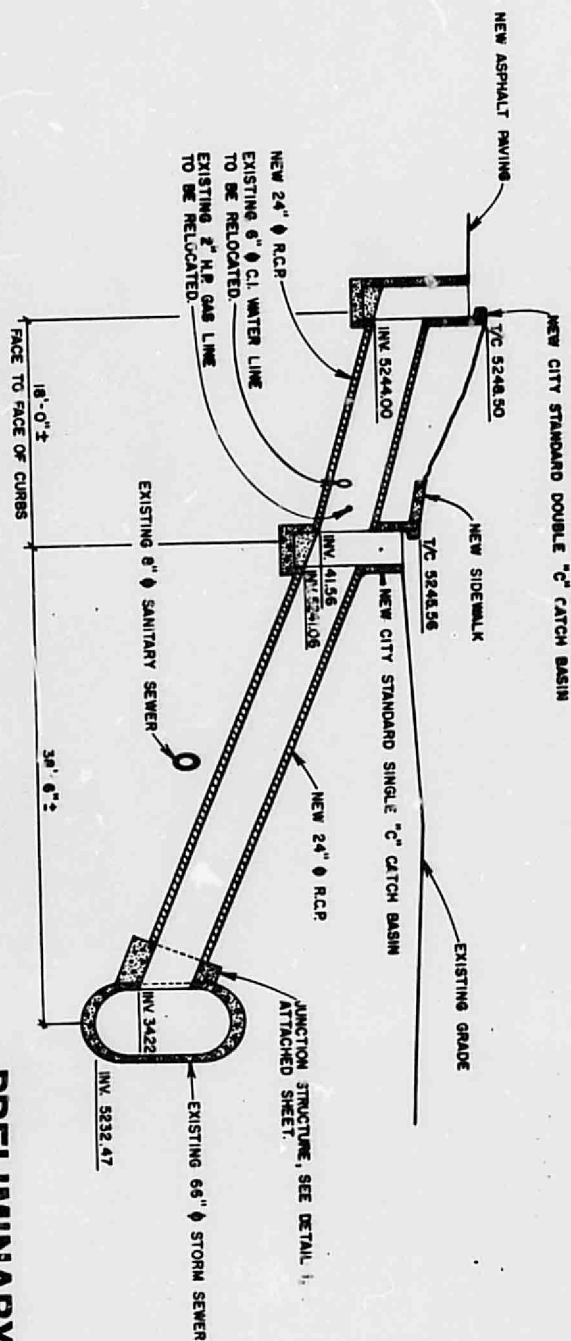
CITY OF ALBUQUERQUE		APPROVALS		A.C.E./FIELD	
TITLE: DETAIL 1		ENGINEER		A.C.E./DESIGN	
PROJECT		INSPECTOR		NO.	
MAP		DATE		NO.	



**PRELIMINARY**  
NOT FOR CONSTRUCTION

NOTE:  
TRANSVERSE REINFORCEMENT IN PIPE SHALL BE CUT IN CENTER OF  
OPENING AND BENT TO UNIFORM DISTANCE FROM TOP AND BOTTOM  
JUNCTION STRUCTURE.

SCALES:  
1"=10'-0" HORIZONTAL  
1"=5'-0" VERTICAL



**PRELIMINARY**  
NOT FOR CONSTRUCTION

## CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE: STORM SEWER PROFILE	
A.C.E./DESIGN			PROJECT NO.	MAP NO.
INSPECTOR				
A.C.E./FIELD				

EASEMENT

STATE OF NEW MEXICO       §  
                                 §       KNOW ALL MEN BY THESE PRESENTS:  
COUNTY OF BERNALILLO     §

WHEREAS, The Travelers Insurance Company ("Travelers") is the owner of that certain property described on Exhibit A attached hereto and made a part hereof (the "Travelers Property"), and William T. Criswell and Sharon L. Criswell (collectively called "Criswell") are the owners of that certain property described on Exhibit B attached hereto and made a part hereof (the "Criswell Property");

WHEREAS, Travelers desires to grant an easement across the Travelers Property permitting surface drainage from the Criswell Property to flow across certain portions of the Travelers Property as hereinafter provided;

NOW, THEREFORE, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by all parties, Travelers has Granted, Sold and Conveyed, and by these presents does Grant, Sell and Convey to the present owner and any future owner of the Criswell Property an easement across and along that certain portion of the Travelers Property which is hereinafter described ("Easement Property") for the purpose of permitting surface drainage to flow from the Criswell Property across the Easement Property to the existing drain inlet in the southwest corner of the Travelers Property. The easement hereby granted shall be an unobstructed flow easement permitting a maximum Q of 9.5 cubic feet per second to flow across the Easement Property.

The center line of the Easement Property shall be located as follows: beginning at the southeast corner of the Travelers Property, proceed north 0 degrees 55 minutes 30 seconds east

along the eastern boundary line of the Travelers Property 88 feet to a point. The center line of the Easement Property shall be a line running from said point in a southwestern direction along the traffic aisles to the drain inlet at the southwest corner of the Travelers Property. The Easement Property shall include all property within the Travelers Property located on each side of said center line which is necessary for the purposes for which this easement is granted, including all parking areas located south of the office building on the Travelers Property but excluding the existing office building, sidewalks and landscaped areas.

Travelers reserves the right to maintain the Easement Property as a paved area and to permit the parking of vehicles within any portion of the Easement Property. Travelers agrees to keep the Easement Property free of any obstructions other than vehicles which would block the flow of water from the Criswell Property across the Easement Property.

TO HAVE AND TO HOLD the above described easement, together with all and singular the rights and appurtenances thereto in anywise belonging unto the owner of the Criswell Property, its successors and assigns forever, and Travelers, its successors and assigns, shall warrant and forever, and Travelers, its successors and assigns, shall warrant and forever defend all and singular the said easement unto the owner of the Criswell Property, its successors and assigns, against any person whomsoever lawfully claiming or to claim the same, or any part thereof.

EXECUTED \_\_\_\_\_ day of \_\_\_\_\_, 1981

THE TRAVELERS INSURANCE COMPANY

By: \_\_\_\_\_

Title: \_\_\_\_\_

STATE OF NEW MEXICO       §  
                                 §  
COUNTY OF BERNALILLO   §

BEFORE ME, the under-signed authority in and for said county and state, on this day personally appeared \_\_\_\_\_, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that the same was the act of the said The Travelers Insurance Company, a corporation, and that he executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this \_\_\_\_ day of \_\_\_\_\_, 1981.

\_\_\_\_\_  
Notary Public in and for  
Bernalillo County, New Mexico

Exhibit A

LEGAL DESCRIPTION

Xerox Building

TRACT 2-A,  
BELLAMAH OFFICE ADDITION, as the same is shown and designated  
on the Summary Plat, Tract 2, Bellamah Office Addition,  
Albuquerque, New Mexico, now comprising Tracts 2-A and 2-B,  
filed in the office of the County Clerk of Bernalillo County,  
New Mexico, on the 20th day of May, 1980.

EXHIBIT B

TRACT 2-B-2, as the same is shown and designated on the plat of Tracts 2-B-1, 2-B-2 and 2-B-3, BELLAMAH OFFICE ADDITION, Albuquerque, Bernalillo County, New Mexico (being a Replat of Tract 2-B), filed in the office of the County Clerk of Bernalillo County, New Mexico, on the 20th day of May, 1981.

EASEMENT

STATE OF NEW MEXICO           §  
                                  §     KNOW ALL MEN BY THESE PRESENTS:  
COUNTY OF BERNALILLO       §

WHEREAS, William T. Criswell and Sharon L. Criswell (collectively called Criswell") are the owners of that certain property described on Exhibit A attached hereto and made a part hereof ("Tract A"), and Criswell is also the owner of that certain property described on Exhibit B attached hereto and made a part hereof ("Tract B");

WHEREAS, Criswell desires to grant an easement across Tract A permitting surface drainage from Tract B to flow across certain portions of Tract A as hereinafter provided;

NOW, THEREFORE, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Criswell has Granted, Sold and Conveyed, and by these presents does Grant, Sell and Convey to the present owner and any future owner of Tract B an easement across and along that certain portion of Tract A which is hereinafter described ("Easement Property") for the purpose of permitting surface drainage to flow from Tract B across the Easement Property to a new drain inlet to be installed in the eastern boundary line of Tract A. The easement hereby granted shall be an unobstructed flow easement permitting a maximum Q of 12.1 cubic feet per second to flow across the Easement Property.

The center line of the Easement Property shall be located as follows: beginning at the southwest corner of Tract A, proceed north 54 degrees 35 minutes 50 seconds east along the western boundary line of Tract A 32 feet to a point. The center line of the Easement Property shall be a line running from said point in an easterly direction along the traffic aisles and

ending at a drain inlet to be constructed on the eastern property line of Tract A. The Easement Property shall include all property within Tract A located on each side of said center line which is necessary for the purposes for which this easement is granted, including all parking areas located south of the office building to be constructed on Tract A but excluding said office building, sidewalks and landscaped areas.

Criswell and any future owner of Tract A shall have the right to maintain the Easement Property as a paved area and to permit the parking of vehicles within any portion of the Easement Property. Criswell and any future owner of Tract A shall keep the Easement Property free of any obstructions other than vehicles which would block the flow of water from Tract B across the Easement Property.

TO HAVE AND TO HOLD the above described easement, together with all and singular the rights and appurtenances thereto in anywise belonging unto the owner of Tract B, its successors and assigns forever, and the owner of Tract A, its successors and assigns, shall warrant and forever, defend all and singular the said easement unto the owner of Tract B, its successors and assigns, against any person whomsoever lawfully claiming or to claim the same, or any part thereof.

EXECUTED this \_\_\_\_ day of \_\_\_\_\_, 1981.

\_\_\_\_\_  
William T. Criswell

\_\_\_\_\_  
Sharon L. Criswell

STATE OF TEXAS       §  
                              §  
COUNTY OF DALLAS   §

BEFORE ME, the undersigned authority in and for said county and state, on this day personally appeared William T. Criswell and Sharon L. Criswell, known to me to be the persons

whose names are subscribed to the foregoing instrument, and  
acknowledged to me that they executed the same for the purposes  
and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this \_\_\_\_ day of  
\_\_\_\_\_, 1981.

\_\_\_\_\_  
Notary Public in and for  
the State of Texas

EXHIBIT A

LEGAL DESCRIPTION

TRACT 2-B-3, as the same is shown on the plat of Tracts  
2-B-1, 2-B-2 and 2-B-3, BELLAMAH OFFICE ADDITION, Albuquerque,  
Bernalillo County, New Mexico (being a Replat of Tract 2-B),  
filed in the office of the County Clerk of Bernalillo County,  
New Mexico, on the 20th day of May, 1981.

EXHIBIT B

TRACT 2-B-2, as the same is shown and designated on the plat of Tracts 2-B-1, 2-B-2 and 2-B-3, BELLAMAH OFFICE ADDITION, Albuquerque, Bernalillo County, New Mexico (being a Replat of Tract 2-B), filed in the office of the County Clerk of Bernalillo County, New Mexico, on the 20th day of May, 1981.



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 31, 1981

Mr. John Armstrong, P.E.  
Armstrong & Weaver  
2709 Pan American Freeway N.E., Suite A  
Albuquerque, New Mexico 87107

Re: CORONADO PLAZA II & III DRAINAGE REPORT (FILE NO. H-18-D13)

Dear John:

Attached are my comments for the referenced drainage report. Please address the items checked "No" and any comments made on the last page of each checklist.

If you have any questions concerning my comments, please feel free to call me.

Sincerely,

Fred J. Aguirre, P.E.  
Civil Engineer

FJA/fs

cc: Drainag File  
Reading File

Enclosure

MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

DRAINAGE CALCULATIONS FOR CORONADO PLAZA II & III  
CORNER OF UPTOWN AND JEANNEDALE DRIVES NE  
CITY ZONE ATLAS MAP H-18  
ALBUQUERQUE, NEW MEXICO



ARMSTRONG ENGINEERING INCORPORATED  
2719 PAN AMERICAN FREEWAY NE, SUITE-A  
ALBUQUERQUE, NEW MEXICO 87107

AUGUST 1981

RECEIVED  
AUG 18 1981  
ENGINEERING

Albuquerque Rainfall from NOAA Atlas 2, Vol IV.

6 hr - 100 year precipitation =  $2^4$  inches

24 hr - 100 year precipitation =  $2^8$  inches

1 hr - 100 year precipitation =  $0^{\frac{494}{25}} + \frac{0^{\frac{755}{25}} (2^4)^2}{(2^8)} = 2^{\frac{95}{25}}$  in/hr

30 min - 100 year precipitation =  $(0^{\frac{22}{25}})(1 \text{ hr-p}) = 1^{\frac{62}{25}}$  in = intensity of  $3^{\frac{23}{25}}$  in/hr

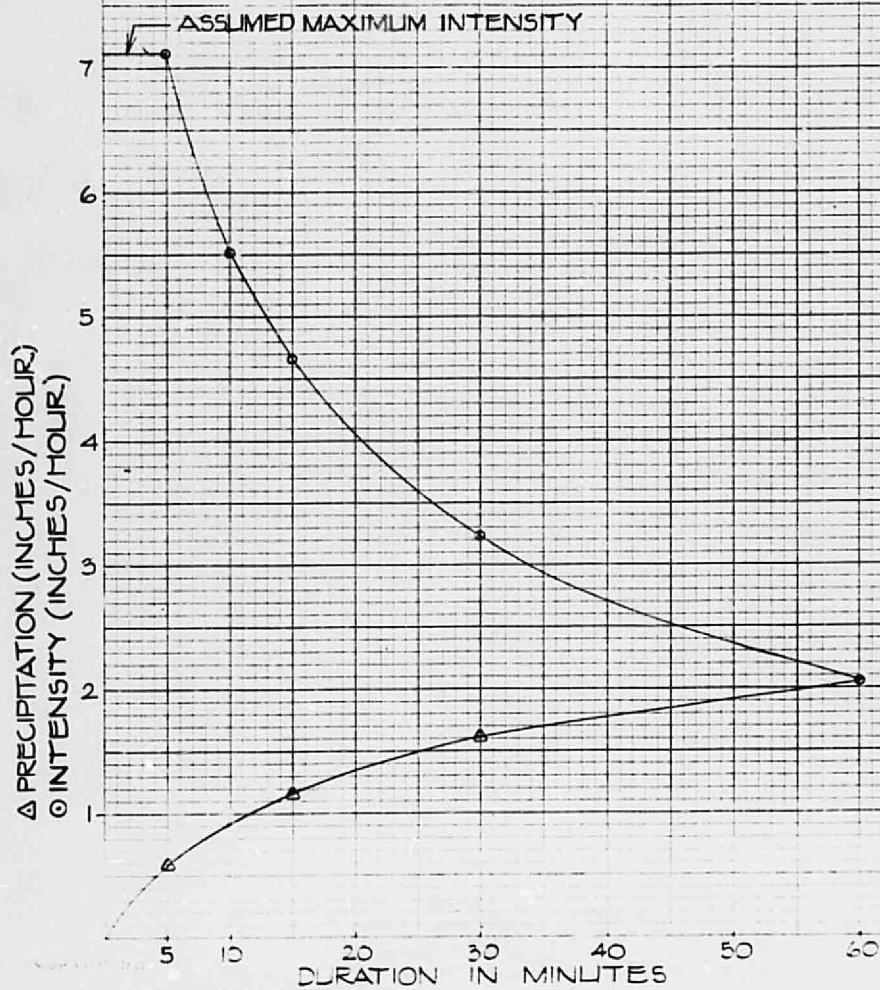
15 min - 100 year precipitation =  $(0^{\frac{57}{25}})(1 \text{ hr-p}) = 1^{\frac{12}{25}}$  in = intensity of  $4^{\frac{67}{25}}$  in/hr

10 min - 100 year precipitation =  $(0^{\frac{45}{25}})(1 \text{ hr-p}) = 0^{\frac{92}{25}}$  in = intensity of  $5^{\frac{52}{25}}$  in/hr

5 min - 100 year precipitation =  $(0^{\frac{29}{25}})(1 \text{ hr-p}) = 0^{\frac{57}{25}}$  in = intensity of  $7^{\frac{12}{25}}$  in/hr

The 5 min intensity was considered to be the maximum  
precipital intensity for the area.

ALBUQUERQUE RAINFALL  
PRECIPITATION + INTENSITY  
AT 5000 FEET ELEVATION



## HYDROLOGY, RATIONAL METHOD

PROJECT: Colorado Plaza II E

LOCATION: In Uptown Blvd. @ intersection w/ Jeannette Drive NE.

A - DRAINAGE AREA (ACRES): 5.05 Acres

LENGTH (FT): 850 ft

DIFFERENCE IN ELEVATION (FT): 10 ft

SLOPE (%): 1.2%

APPROXIMATE VELOCITY: 2.5 ft/sec

TIME OF CONCENTRATION (MIN.): 5.67 min

PRECIPITATION (IN.): 0.63 in

i - INTENSITY (IN./HR.): 6.75 in/hr

c - COEFFICIENT OF RUNOFF: 0.90

$$Q = ciA = (0.90)(6.75)(5.05) = 30.1 \text{ C.F.S.}$$

## HYDROLOGY, RATIONAL METHOD

PROJECT: Coronado Plaza II & III

LOCATION: Flow in parking lot west through Xerox Building Site

A - DRAINAGE AREA (ACRES): 1.22 Acres

LENGTH (FT): 470 ft

DIFFERENCE IN ELEVATION (FT): —

SLOPE (%): 1% + Roof Drains

APPROXIMATE VELOCITY: 2.5 ft/sec

TIME OF CONCENTRATION (MIN.): 3.4 min

PRECIPITATION (IN.): 0.45 in

i - INTENSITY (IN./HR.): 7.4 in/hr

c - COEFFICIENT OF RUNOFF: 0.8

$$Q = ciA = (0.8)(7.4)(1.22) = 7.5 \text{ C.F.S.}$$

## HYDROLOGY, RATIONAL METHOD

PROJECT: Corrado Plaza II & III

LOCATION: Flow in parking lot east from west tract to east tract.

A - DRAINAGE AREA (ACRES): 1.68 Acres

LENGTH (FT): 480 ft

DIFFERENCE IN ELEVATION (FT): —

SLOPE (%): 1% + Roof Drains

APPROXIMATE VELOCITY: 2.3 ft/sec

TIME OF CONCENTRATION (MIN.): 3.45 min

PRECIPITATION (IN.): 0.45 in

i - INTENSITY (IN./HR.): 7.4 in/hr

c - COEFFICIENT OF RUNOFF: 0.8

$$Q = c i A = (0.8)(7.4)(1.68) = 9.5 \text{ C.F.S.}$$

# HYDROLOGY, RATIONAL METHOD

PROJECT: Coronado Plaza II & III

LOCATION: Flow in parking lot at east tract through Double C Inlet

A - DRAINAGE AREA (ACRES): 4.68 Acres

LENGTH (FT): 900 ft

DIFFERENCE IN ELEVATION (FT): —

SLOPE (%): 1% + Root Drive

APPROXIMATE VELOCITY: 2.4 ft/sec

TIME OF CONCENTRATION (MIN.): 6.25 min

PRECIPITATION (IN.): 0.22 in

i - INTENSITY (IN./HR.): 6.6 in/hr

C - COEFFICIENT OF RUNOFF: 0.8

$$Q = ciA = (0.8)(6.6)(4.68) = 242 \text{ C.F.S.}$$

**ARMSTRONG ENGINEERING, INC.**

CONSULTING ENGINEERS

2709-A PAN AMERICAN N.E.

ALBUQUERQUE, NEW MEXICO 87107

(505) 345-2133  
(505) 345-8463

JOHN ARMSTRONG P.E.

September 4, 1981

Mr. Fred J. Aguirre  
City of Albuquerque  
Engineering Division  
PO Box 1293  
Albuquerque, New Mexico 87103

Re: Coronado Plaza II & III Drainage Report (File No. H-18-D13)

Dear Fred:

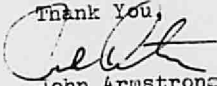
Following is a discussion of the checklist items that needed clarification per our discussion September 3, 1981.

2. PLANNING HISTORY: I have been to city planning and studied the file on this property and believe this site plan to be in compliance with planning actions.

10. OTHER CONDITIONS: Off-site drainage should not adversely affect this site plan in any way. We are above the 100-year flood plain and our peak discharge should reach the storm drainage system ahead of the main peak as we are so close to the North Diversion Channel.

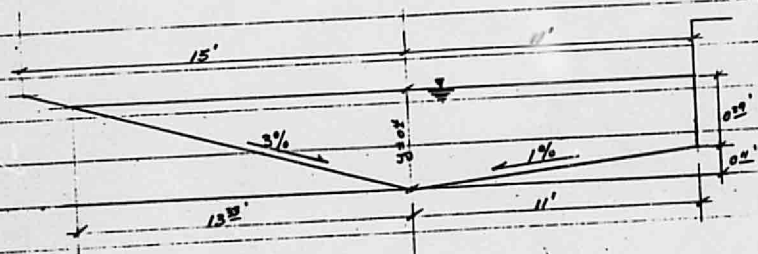
11. EROSION CONTROL PLAN: In my opinion we will not have a problem with erosion, during construction, as there are no off-site flows across the property and the flows on the property are not concentrated in one place.

Thank You,

  
John Armstrong, PE

Coronado Plaza II & III

Worst condition swale



$$A = \frac{(0.2)(13.375)}{2} + \left( \frac{0.2 + 0.25}{2} \right) (11) = 6.46 \text{ ft}^2$$

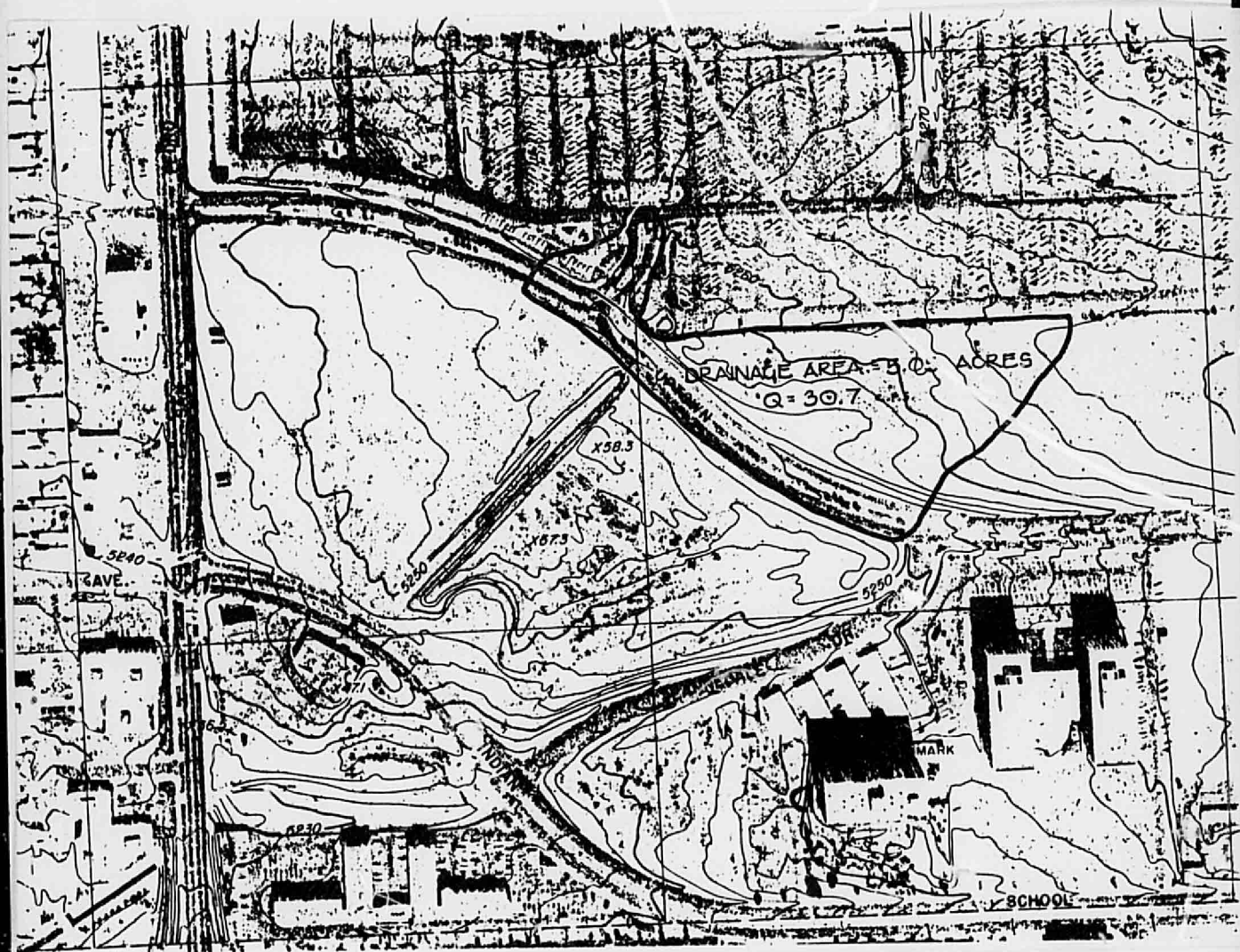
$$P = 24.63 \text{ ft}$$

$$S = 0.01 \text{ ft/ft}$$

$$R = 0.26 \text{ ft}$$

$$Q = \frac{1.49}{0.016} (6.46) (0.26)^{4/3} (0.01)^{1/2} = 24.5 \text{ cfs}$$

$$V = \frac{Q}{A} = 3.8 \text{ ft/sec}$$



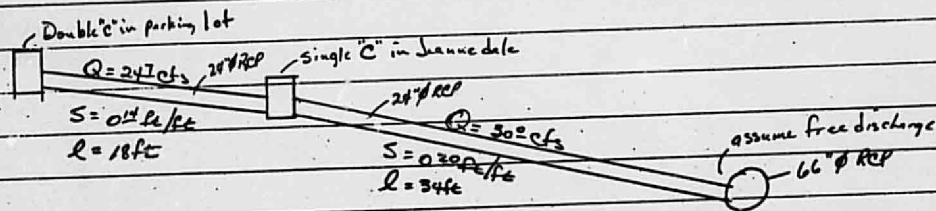
## Coronado Plaza II & III

### Double 'C' Inlet

Analyze as a weir

$$Q = C_w L h^{3/2} \text{ where } C_w = 3.49; L = 17 \text{ ft}; h = 0.67 \text{ ft}$$

$$Q = 28^0 \text{ cfs ok our max is } 24^3 \text{ cfs}$$



The normal depths in these 24"  $\phi$  RCPs is 8<sup>5</sup>/<sub>8</sub> inches and 8<sup>5</sup>/<sub>8</sub> inches using Manning's Equation and  $n = 0.012$ . Therefore it is obvious that these pipes will flow under inlet control.

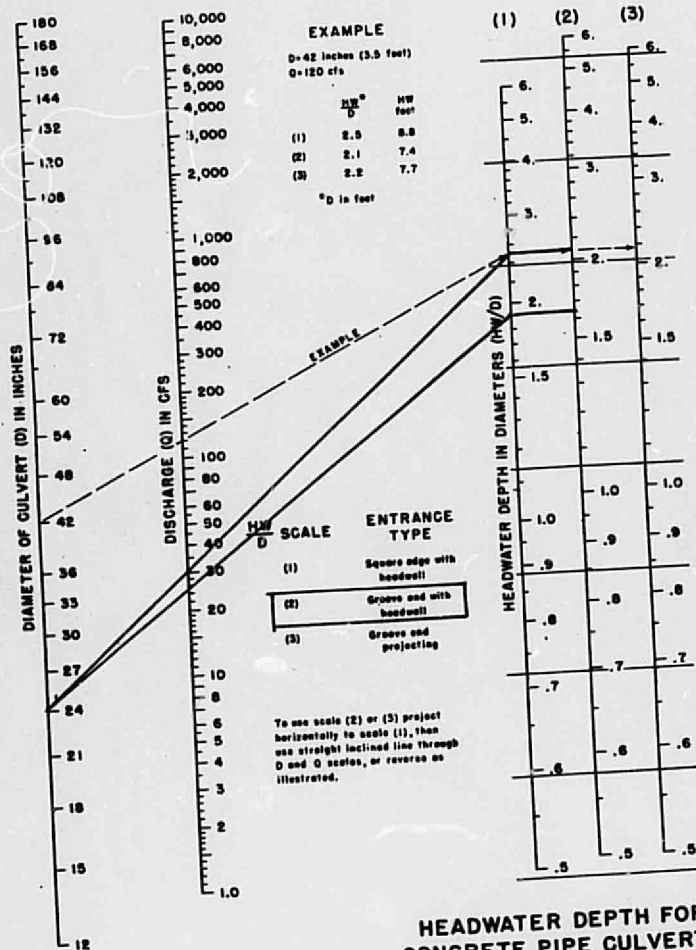
Using Chart 2:

$$HW @ \text{Double 'C'} = (1.9)(2) = 3.8 \text{ ft}$$

$$HW @ \text{Single 'C'} = (2.07)(2) = 4.14 \text{ ft}$$

From this you can see that the max headwater will be below the top of curb in both cases.

# CHART 2





# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August, 1981

RE: HYDROLOGY CHECKLISTS AND PROCEDURES

TO: ENGINEERS, ARCHITECTS, DEVELOPERS

The following enclosures are submitted to you for your use and comments. These checklists include minor revisions made to the initial forms, which were distributed on June 9, 1981. Additional modifications will be made to these forms based on our experience and your comments, which we will be soliciting for the next several months.

The enclosed packet contains the following items:

A. DRAINAGE REPORT CHECKLIST

This checklist should be used when preparing drainage reports. Only under special circumstances will the items listed be waived. For all projects, a pre-design conference is strongly suggested to discuss site conditions, alternative solutions, and recommendations by the Hydrology Section. Several important items on the checklist are discussed below:

1. Engineer Certifies - This provision allows a registered professional engineer to certify that drainage concepts and criteria approved in the drainage report have been substantially met upon completion of the construction phase. If this alternative is chosen, the City of Albuquerque will generally not inspect the site before issuing a Certificate of Occupancy.
2. Special attention should be given to Item 11 - PROPOSED TREATMENT OF OFF-SITE FLOWS. In the past, revisions to drainage concepts oftentimes is a result of inadequate identification and treatment of off-site flows.
3. Several questions have arisen concerning proposed site grading. The proposed contouring scheme should be drawn to requirements outlined in the City Subdivision Ordinance A-21A5el and AMAFCA 80-15, Sec. 7A, and should adequately support the proposed drainage plan. Spot elevations should be included as supporting information.
4. An Erosion Control Plan is required for all schemes which would result in the occurrence of wind and water erosion during the period between initial grading and final completion. Subdivisions are a good example of where an erosion plan might be implemented. Suggestions and guidelines for such plans can be obtained from this office upon request.

B. DRAINAGE REPORT INFORMATION SHEET

The sheet should be filled out and submitted with the drainage report.

C. CONSTRUCTION PLAN CHECKLIST

This checklist outlines requirements which must be satisfied for approval of the construction plans.

D. SPECIAL ORDER NO. 19

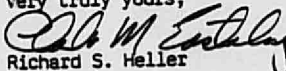
The document outlines the method of obtaining approval for construction of private storm drainage facilities within the City right-of-way.

E. DRAINAGE COVENANT

The City of Albuquerque is now requiring that the owner of a parcel be required to construct, maintain and operate storm drainage facilities substantially in compliance with the approved drainage concepts. The referenced document should be used for agreements made by the owner to the City of Albuquerque. It should be pointed out that future drainage improvements may provide a means for the property owner to revise drainage concepts and recapture land committed to drainage facilities.

Your comments on these documents will be greatly appreciated.

Very truly yours,

  
For Richard S. Heller  
City Engineer

CME/RSK/fs  
7761A



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

## DRAINAGE REPORT REQUIREMENTS CHECKLIST

PROJECT TITLE CORONADO Plaza, II + III H-18-0817  
DATE 8-31-81 ZONE ATLAS PAGE NO. H-18-2  
REVIEWER Fred J. Aguilar  
LEGAL ADDRESS TRACT 2-B-2 + 2-B-3 Bellman Office Addition  
ENGINEERING FIRM Armstrong + Weaver CONTACT John Armstrong  
ADDRESS 2700 Pan American Freeway, N.E. PHONE 345-0111  
OWNER \_\_\_\_\_ CONTACT \_\_\_\_\_  
ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_  
ARCHITECT/SURVEYOR Rumby + Associates CONTACT \_\_\_\_\_  
ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

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 identified in parenthesis after each requirement.

### GENERAL:

SEE  
YES NO NA COMMENTS

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 1. ENGINEER CERTIFIES

*drawn*

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 2. PLANNING HISTORY - Planning and zoning action history (A-21B; B-7).

PROFESSIONAL CERTIFICATION - Professional's stamp with signature and date (B-4F and B-7B):

*SATISFIED*

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- A. Engineer who prepared the Drainage Report.
- B. Engineer or Surveyor who performed the survey.
- C. Engineer, Architect, or Surveyor who prepared the grading plan.

*RELAXED*

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 4. FLOOD HAZARD - Delineation of site on pertinent Flood Hazard Boundary Map (A-21B; B-7B).

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### 5. WATERSHED SOILS - Delineation of site and contributing off-site watersheds on SCS Bernalillo County Soil Survey Maps (A-21B; B-7B).

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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#### 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:

SEE  
YES NO NA COMMENTS

	✓			2
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OK

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-6B15; B-7B).

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

		✓	
✓			

- A. 10 year frequency storm (A-6B15)  
B. 100 year frequency storm (A-6B15 B-2E).

9. FLOW DEPTH AND VELOCITY

		✓	
		✓	
		✓	

- A. Off-site flow velocities determined (A-6B15).  
B. Off-site flow depths determined (A-6B15).  
C. Locations indicated for A and B above (A-6B15).

	✓		
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discuss

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:

		✓	
--	--	---	--

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

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

		✓	
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- 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).

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

## ON-SITE CONDITIONS:

SEE  
YES NO NA COMMENTS

✓			
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SATISFIED

✓			
✓			
✓			

OK

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

14. FLOW DEPTH AND VELOCITY:

- A. On-site flow velocities determined (A-6B15).  
B. On-site flow depths determined (A-6B15).  
C. Locations indicated for A and B above (A-6B15).

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

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

✓			
---	--	--	--

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

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

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

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

SEE  
YES NO NA COMMENTS

		✓	
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		✓	
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		✓	
--	--	---	--

	OK		3
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✓			4
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COMPLY

✓			4
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NA

		✓	
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		✓	
--	--	---	--

PLAN DRAWING 3:

SEE  
YES NO NA COMMENTS

✓			
✓			

✓			
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	NA		
--	----	--	--

✓			
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✓			
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✓			
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✓			
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	✓		5
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✓			
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4. Pond fencing required for depths greater than 18" (B-7B).
5. Pond landscaping provisions and commitments (A-21B).
6. Pond maintenance provisions and commitments. SEE ATTACHED STANDARD COVENANT (A-21B).
7. Channel characteristics including flow depths and velocities (A-21B).
8. Storm sewer characteristics including capacity and hydraulic grade line calculations (A-21B).
9. Hydraulic characteristics of other storm drainage facilities listed in 80-15; Sec. 2c(A-21B).

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).

16. ROW-EASEMENTS - Delineation of R.O.W. and/or Easement configuration necessary to accommodate #13 above (A-21B).

#### 17. DRAFTING STANDARDS:

- A. North Arrow indicated (A-21A2).
- 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).
- C. Legend.

#### 18. SITE DESCRIPTION:

- A. Copy of zone atlas page with property outlined (A-21A6).
- B. Legal description (A-21A6).

#### 19. BENCH MARKS:

- A. Reference Albuquerque Control Survey Vertical Datum Location (A-21A5e; B-7A).
- 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).
- C. Temporary bench mark description (A-21A5e; B-7A).

#### 20. EXISTING SITE CONDITIONS:

- A. Existing contours per Subdivision Ordinance A-21A5el and AMAFCA 80-15 B-7A.
- B. Spot elevations adequately showing conditions on-site (A-21A5el; B-7A).

SEE  
YES NO NA COMMENTS

✓				
---	--	--	--	--

C. Contours and spot elevations extending a minimum of 15' beyond property line (A-21A5el; B-7A).

		✓		
--	--	---	--	--

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).

✓				
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E. Identification of all existing drainage facilities located on-site or on adjacent property (A-21B; B-7B).

		✓		
--	--	---	--	--

F. Pertinent elevation(s) of structures and facilities defined in D and E above with Mean Sea Level designation (A-21B; B-7A).

✓				
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G. Indication of all existing easements and right-of-ways on, or adjacent to the site with dimensions and purpose shown (A-21A5b & c).

✓				
---	--	--	--	--

H. Existing City top of curb and flow line elevations with Mean Sea Level designation (A-21B; B-7B).

## 21. PROPOSED SITE CONDITIONS:

✓				
---	--	--	--	--

A. Proposed contours (per Subdivision Ordinance A-21A5el and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).

✓				
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B. Indication of all proposed easements and right-of-ways on or adjacent to the site with dimensions and purpose shown (A-21A5G & C).

		✓		
--	--	---	--	--

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).

	✓			
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D. Internal contributory drainage areas, including roof areas, outlined on plan (A-21B; B-7B).

		✓		
--	--	---	--	--

E. Proposed (City approved) top of curb elevations with Mean Sea Level designation (A-21B; B-7B).

✓				
---	--	--	--	--

F. Flow lines defined by arrows and spot elevations with Mean Sea Level designation (A-21B; B-7B).

		✓		
--	--	---	--	--

G. 100 year pond depth determined and outlined on the plan (A-21B; B-7B).

	✓			
--	---	--	--	--

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).

✓				
---	--	--	--	--

I. Finish building floor elevation(s) with Mean Sea Level designation (A-21A11; B-7A).

		✓		
--	--	---	--	--

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).

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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SATISFIED

OTHER:

YES NO NA COMMENTS

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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K. Elevation of property 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).

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) NOT APPLICABLE THIS TIME

✓ (2) OUTLINE THE CONTRIBUTING DRAINAGE ON THE DETND-TOPD MAP ~~GENERATING THE 30.7 cfi.~~

(5) THE EXISTING CONTOURS ARE DIFFICULT TO READ

✓ (3) CALCULATE THE CAPACITY OF THE WORST SWALE ~~DESIGNATION TO ACCOMMODATE~~ THE FLOW RATES BEING GENERATED

(4) PROVIDE THE HYDRAULIC CALCULATIONS SHOWING THE CAPACITY OF THE PROPOSED STORM SYSTEM.

(5) Do you see a need for an erosion control plan during construction?

NOTE: ALSO, COMPLY WITH COMMENTS MADE <sup>IN RED</sup> BY CHUCK ESTERLING ~~ON THE ORIGINAL DRAINAGE PLAN SUBMITTED.~~

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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SATISFIED

OTHER:

YES NO NA SEE COMMENTS

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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K. Elevation of property 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).

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) NOT APPLICABLE THIS TIME

✓ (2) OUTLINE THE CONTRIBUTING DRAINAGE ON THE DETND-TOPO MAP GENERATING THE 30.7 cfi.

(5) THE EXISTING CONTOURS ARE DIFFICULT TO READ

✓ (3) CALCULATE THE CAPACITY OF THE WORST SWALE CONDITION TO ACCOMMODATE THE FLOW RATES BEING GENERATED

(4) PROVIDE THE HYDRAULIC CALCULATIONS SHOWING THE CAPACITY OF THE PROPOSED STORM SYSTEM.

discuss (5) DO YOU SEE A NEED FOR AN EROSION CONTROL PLAN DURING CONSTRUCTION?

NOTE: ALSO, COMPLY WITH COMMENTS MADE <sup>IN RED</sup> BY CHUCK ESTERLING

ON THE ORIGINAL DRAINAGE PLAN SUBMITTED.



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

## DRAINAGE REPORT INFORMATION SHEET

PROJECT  
TITLE \_\_\_\_\_

ZONE ATLAS PAGE NO. \_\_\_\_\_ CITY ADDRESS \_\_\_\_\_

LEGAL ADDRESS \_\_\_\_\_

ENGINEERING FIRM \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

OWNER \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

ARCHITECT/SURVEYOR \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

DATE SUBMITTED \_\_\_\_\_

BY \_\_\_\_\_

### MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

## CONSTRUCTION PLAN REQUIREMENTS CHECKLIST

PROJECT TITLE \_\_\_\_\_

DATE \_\_\_\_\_ ZONE ATLAS PAGE NO. \_\_\_\_\_

REVIEWER \_\_\_\_\_

LEGAL ADDRESS \_\_\_\_\_

ENGINEERING FIRM \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

OWNER \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

ARCHITECT/SURVEYOR \_\_\_\_\_ CONTACT \_\_\_\_\_

ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

### GENERAL

See  
Yes No NA Comments

✓				
✓				

- Professional's Stamp with signature and date:
  - Engineer who prepared the Drainage Report
  - Engineer or Surveyor who performed survey
  - Engineer, Architect or Surveyor who prepared the grading plan.

			✓	
✓			✓	

- North arrow with standard engineering scales used:
  - 1"=10' for sites less than one (1) acre.
  - 1"=20' for sites equal to but less than five (5) acres.
  - 1"=50' for sites greater than five (5) acres

✓				
---	--	--	--	--

	✓			
--	---	--	--	--

- Vicinity map with Zone Atlas Page No. and legal description.

✓				
---	--	--	--	--

- Location and Description of the Albuquerque Control Survey Vertical Datum.

✓				
---	--	--	--	--

- Location and Description of the Temporary Bench Mark on site.

✓				
---	--	--	--	--

- Legend indicating symbols and abbreviations used.

		✓		
--	--	---	--	--

- Certification of:
  - Finish floor elevation in the Flood Zone by Engineer or Surveyor.
  - Drainage & Grading Plan by Engineer.

	✓			
--	---	--	--	--

# TOPOGRAPHY:

See  
Yes No NA Comments

	✓			2
--	---	--	--	---

8. Existing contours (per Subdivision Ordinance A-21A5el 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.

✓				
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9. Proposed contours (per Subdivision Ordinance A-21A5el and AMAFCA 80-15 Sec. 7A) superimposed over existing contours, adequately supporting the drainage plan (A-21A11; B-7A).

✓				
---	--	--	--	--

10. Proposed and existing contours or spot elevations at the property line adequately demonstrating any changes in grade.

✓				
---	--	--	--	--

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).

✓				
---	--	--	--	--

12. Finish floor elevation(s) with mean sea level designation.

✓				
---	--	--	--	--

13. Required spot elevations for the standard City driveway.

## CONSTRUCTION DETAIL:

See  
Yes No NA Comments

	✓			
--	---	--	--	--

OK

14. Swales defined by arrows, spot elevations, and cross-sections.

✓				
---	--	--	--	--

15. Elevation at property line at least 4" above top of curb.

	✓			
--	---	--	--	--

16. Internal contributory drainage areas outlined, including roof areas,

	✓			
--	---	--	--	--

17. Location of canals, scuppers and drain pipes.

	✓			
--	---	--	--	--

18. Notes defining property line, asphalt sidewalks, planting areas, ponding areas, and all other areas where definition would increase clarity.

	✓			
--	---	--	--	--

OK

19. Erosion Control Plan (during construction and for phased construction).

	✓			3
--	---	--	--	---

discuss

20. Indication of all easements and rights-of-way on, or adjacent to, the site with dimensions and purpose shown.

✓				
---	--	--	--	--

21. Retaining wall required when a vertical grade change greater than 18" is indicated.

✓				
---	--	--	--	--

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.

	✓			
--	---	--	--	--

1  
NA

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
-------------------------------------	--------------------------	--------------------------	--------------------------	---

23. Proposed construction within City right-of-way per City Engineer's Special Order No. 19.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------	--------------------------

24. Indication of all existing structures on or adjacent (15' minimum) to the site, such as: retaining walls, buildings, pavement, ponds, etc.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------

25. Indication of street name(s) adjacent to the site.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------

26. Storm runoff routed through the drivepad or a City approved curb cut.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------

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.

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

28. Pond(s)' 100 year water surface:  
A. Elevation  
B. Outlined on the Plan

COMMENTS:

(1) OWNER'S OPTION TO HAVE ENGINEER CERTIFY

(2) THE EXISTING CONTOURS ARE DIFFICULT TO READ

(3) DO YOU SEE A NEED FOR AN EROSION CONTROL PLAN DURING CONSTRUCTION?

NA (4) ALSO, NEED AN ENCROACHMENT AGREEMENT SIGNED BY THE OWNER FOR THE PROPOSED STORM DRAIN CONNECTION. COPY OF ENCROACHMENT AGREEMENT ATTACHED

CITY OF ALBUQUERQUE, NEW MEXICO

CITY ENGINEER'S OFFICE

June 12, 1981

SPECIAL ORDER NO. 19

SUBJECT: PROCEDURES FOR CONSTRUCTION OF PRIVATE STORM DRAIN IMPROVEMENTS WITHIN CITY RIGHT-OF-WAY

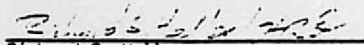
In order to expedite the Building plan approval process and to assist us in our record keeping, all Commercial Building Plans\* (includes additions) involving construction within City right-of-way must adhere to the following procedures (we strongly recommend a pre-design conference prior to any significant effort on your part being undertaken):

- A. Submit a design or reference the City standard to be used on the attached format to the A.C.E./Design Section for review and approval. The aforementioned must be prepared by a N.M. Registered Engineer. Three prints of the approved design will be provided for distribution as outlined below.
- B. Include with the design or City approved standard a scaled site plan with the zone atlas page, address and north arrow. Indicate on the site plan the location(s) of the proposed construction in City right-of-way.
- C. Attach a copy of the approved design to each set of the City Building Plans being processed. No building permit will be issued if these copies are not included with the plans.
- D. Prior to construction, contractor must obtain the necessary permits from the City Engineer's Office. A copy of the approved design must accompany the request for a permit.
- E. Upon receipt of Field Inspector's approval of the construction, the A.C.E./Field will sign the original on file with A.C.E. Design Section. A copy of the as-built will be forwarded by the A.C.E./Field to the Hydrology Section.
- F. If the construction does not pass inspection and a revised design is required, then steps A through E must be reinstated. No Certificate of Occupancy will be issued unless the Contractor passes the final inspection.

\*All multi-residential dwellings with the exception of duplexes.

NOTE: Maintenance of all the improvements described herein shall be the responsibility of the owner.

EFFECTIVE DATE: JULY 1, 1981

  
Richard S. Heller  
City Engineer

### NOTICE TO CONTRACTORS

1. New Mexico Standard Specifications for Public Works Construction-1979 Edition will be referred to hereon as the "Standard Specification".
2. All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. \_\_\_\_\_ and the Standard Specification".
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer or surveyor so that the conflict can be resolved with a minimum amount of delay.

#### THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☐ All utilities and utility service lines shall be installed prior to paving.
- ☐ Backfill compaction shall be according to specified street use.
- ☐ Tack coat requirements shall be determined by the City Engineer.
- ☐ Sidewalks and wheelchair ramps within the curb returns shall be constructed wherever a new curb return is constructed.
- ☐ If curb is depressed for a drivepad, the drivepad shall be constructed prior to acceptance of curb and gutter.
- ☐ All storm drainage facilities shall be completed prior to final acceptance.
- ☐ The requestor or developer shall be responsible for repair or replacement of all curb and gutter or sidewalk damaged after approval by the City Engineer of work completed by the Contractor.

APPROVED FOR RECORD DRAWINGS			APPROVED FOR CONSTRUCTION	
ASST. CITY ENGINEER, FIELD		DATE	CITY ENGINEER	DATE
<b>CITY OF ALBUQUERQUE</b>				
APPROVALS	ENGINEER	DATE	TITLE:	
A.C.E. DESIGN				
WATER RESOURCES				
CITY ENGINEER			PROJECT NO.	MAP NO. SHEET OF

### INSTRUCTIONS FOR DRAINAGE COVENANT

1. The proper and correct title of the Owner should be inserted such as ABC Corporation or the Ace Limited Partnership, etc.
2. It is absolutely essential that the correct legal description be inserted. If it is in metes and bounds and there is not enough room to get it in the space provided, simply type in "See Attached Legal Description" and attach it on another page.
3. A brief description of the facilities should be given or if there is some type of drainage report, it can be referred to and adopted by reference and attached in part or whole to the Covenant. If there is some type of letter conditioning or modifying the drainage report issued by the City, this should also be referred to and attached.
4. The time limit for compliance will have to be inserted and will depend, of course, on the nature of the construction or maintenance required.
5. The signing of the instrument by the correct parties is absolutely essential. If it is a corporation, the corporate acknowledgement must be used, and the signature must be by the president of the corporation. If someone else wants to sign on behalf of the corporation, we must have a copy under the seal of the corporate secretary of the minutes of the Board of Directors authorizing that person to bind the corporation. If it is a limited partnership, the general partner must sign. If it is a regular partnership, any partner can sign. If the property is owned by husband and wife, they should both sign.
6. The reason for the notarization requirement is that this document must be filed with the County Clerk and cannot be so filed unless it is so acknowledged. The only protection that the City has in the event of the transfer of ownership is if the document is filed with the County Clerk and, therefore, it puts any subsequent purchaser on notice and obligates him to the same provisions.

It is to our best interest and, therefore, our responsibility to see that this document is filed with the County Clerk. The cost of such recording should be paid by the applicant. The cost to the City of such recording is \$1.50 for the first page and \$.50 for each succeeding page. This is a discounted fee to the City, and if an individual records the document, it would cost more.

An original and at least 2 copies should be prepared and signed. The original is recorded and returned. It then should be filed with the City Clerk. One copy goes to the Owner and the other is retained in the department file. This copy should contain the County Clerk's recording information. You may wish to have other copies as may be necessary.

If you have any questions or peculiar problems, please consult the Legal Department.

## DRAINAGE COVENANT

THIS COVENANT made this \_\_\_\_\_ day of \_\_\_\_\_, 1981, by and between the City of Albuquerque, a municipal corporation, (City) and \_\_\_\_\_ (Owner, which term includes successors and assigns.)

### RECITAL

The Owner is owner of certain real property located at \_\_\_\_\_ in Albuquerque, New Mexico, (the Property) and more particularly described as follows:

That pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain drainage facilities on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

### DESCRIPTION OF FACILITIES

The following facilities are to be constructed and/or maintained by the owner:

### CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the drainage facilities in accordance with standards, plans, and specifications prescribed and approved by the City.

### MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain said drainage facility. The City shall have the right to enter periodically upon the Property to inspect the drainage facility.

### FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the drainage facility in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain said facilities, the City shall give the Owner notice in writing to construct, correct, or maintain said

facilities, and if the Owner fails to comply therewith within \_\_\_\_\_ days, the City may enter upon said property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

#### LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of said facilities.

#### NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City Hall, at 505 Marquette Street, Albuquerque, New Mexico, 87103.

#### INDEMNIFICATION AND HOLD HARMLESS

The Owner agrees to defend, indemnify, and hold harmless, the City, its officials, agents and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Owner's failure to construct, maintain, or modify the drainage facility under this Covenant.

#### COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

OWNER

By: \_\_\_\_\_

Title: \_\_\_\_\_

REVIEWED BY THE LEGAL  
DEPARTMENT:

CITY OF ALBUQUERQUE

\_\_\_\_\_  
Assistant City Attorney

\_\_\_\_\_  
Chief Administrative Officer

## ACKNOWLEDGEMENTS

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me this  
day of \_\_\_\_\_, 1981, by \_\_\_\_\_  
(Name of Officer) \_\_\_\_\_ (Title)  
\_\_\_\_\_, a \_\_\_\_\_  
(Name of Corporation) (State of Incorporation)  
corporation, on behalf of said corporation.

**Notary Public**

**My Commission Expires:**

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me this  
 \_\_\_\_ day of \_\_\_\_\_, 1981, by \_\_\_\_\_  
 \_\_\_\_\_  
 (Name of Acknowledging Partner or Partners)  
 on behalf of \_\_\_\_\_  
 \_\_\_\_\_  
 (Name of Partnership)  
 a partnership.

**Notary Public**

**My Commission Expires:**

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me by \_\_\_\_\_, on this \_\_\_\_\_ day of \_\_\_\_\_, 1981.

**Notary Public**

**My Commission Expires:**

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me this day of \_\_\_\_\_, 1981, by \_\_\_\_\_, Chief Administrative Officer of the City of Albuquerque, municipal corporation, on behalf of said corporation.

Notary Public

My Commission Expires:

### ENCROACHMENT CONTRACTS

The encroachment contract is necessary in order to allow a private citizen to build a wall or fence on City property. Since it is a contract involving real property, it requires the notarized signatures of both husband and wife and is recorded with the County Clerk. The following is a step-by-step procedure for processing the Encroachment Contract:

1. Two copies of a sketch on 8 1/2" X 14" paper are required indicating:

- a. Address and Legal Description of the property.
- b. Location of curb.
- c. Location of Property Line.
- d. Location and width of sidewalk.
- e. Location, height and width of wall or fence.
- f. Location of water meter.

2. The sketch becomes a part of the Agreement and the owner must obtain the approval from the following:

1. City Engineer (4th floor, City Hall)
2. Traffic Engineer (3rd floor, City Hall)
3. Zoning Administrator (123 Central N.W.)
4. Code Enforcement (123 Central N.W.)

This is accomplished by first getting two copies of the sketch stamped in City Engineers Office, then getting the approval of the other offices listed above.

3. Signature of owner(s) (husband and wife, when applicable) must be obtained on the contract and notarized. State Law requires BOTH husband and wife to sign in the presence of notary.

4. Upon notarization of signatures, contracts with sketches are then returned to City Engineer's Office for further processing which usually takes about three days. This further processing includes recording the completed contract with the Bernalillo County Clerk. The County charges a standard fee of \$3.00 (3 sheets) for this service which must be paid to the City Engineers Office prior to final processing. The City Engineers office will advise by phone when the processing is completed.

REAL PROPERTY ENCROACHMENT AGREEMENT

THIS AGREEMENT made this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_,  
by and between the City of Albuquerque, a New Mexico municipal  
corporation, (City) and \_\_\_\_\_ (User).

RECITAL

The User is the owner of certain real property located at \_\_\_\_\_  
in Albuquerque, New  
Mexico, and more particularly described as follows:

The City is the owner of certain real property, easement,  
or public right-of-way adjoining or abutting the above described  
property of the user. The User wishes to encroach upon the  
City's property by constructing an improvement thereon or over  
already encroached upon the City property as follows:

A sketch of the proposed or existing improvement is attached  
hereto and made a part of this Agreement.

The City is agreeable to the encroachment of said improve-  
ment provided that the User comply with the provisions and  
covenants contained herein.

NOW THEREFORE, in consideration of the mutual covenants  
contained herein, it is agreed by and between the City and User  
that the User may construct and/or maintain, at his own expense,  
the improvement described herein.

RESPONSIBILITY

The User shall be responsible for the construction and/or  
maintenance of said improvement and it shall conform to all  
laws and ordinances and administrative regulations applicable  
thereto. Said improvement shall not constitute a hazard to the  
health or safety of the general public and shall not interfere  
with the City's use of the property.

INDEMNIFICATION AND HOLD HARMLESS

The User shall agree to defend, indemnify, and hold harm-  
less, the City, its officials, agents and employees from and

against any and all claims, actions, suits or proceedings of any kind brought against said parties for or on account of any matter arising from the encroachment by the User or the User's failure to maintain, modify, or remove the encroachment under this Agreement.

#### REMOVAL

The User shall remove, modify, maintain, or cause same to be done and cause the premises to be returned to its original condition within \_\_\_\_\_ after receipt of written Notice from the City. Notice shall be considered to have been received within six days after the notice is mailed if there is no actual evidence of receipt. In the event the User shall fail to comply with the Notice after the receipt of same, the City may undertake the project, at the expense of the User, and enter upon the property of the User as may be necessary to do so. The City shall assess the charge for same and any other expenses and damages arising therefrom to the User and file a lien therefor on the real property of the User.

#### LIABILITY

The City shall not be liable for any damages to the User's property or the improvement that may result from the maintenance, removal or any modification of the improvement.

#### NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

The User may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, at 400 Marquette, N.E., Albuquerque, New Mexico 87102.

#### COVENANT RUNNING WITH THE PROPERTY

The obligation of the User set forth herein shall be binding upon the User, his heirs, and assigns, and the property of the User as described herein and will run with said property until released by the City.

USER

By: \_\_\_\_\_

Title: \_\_\_\_\_

REVIEWED BY THE LEGAL  
DEPARTMENT:

CITY OF ALBUQUERQUE

\_\_\_\_\_  
Assistant City Attorney

\_\_\_\_\_  
Chief Administrative Officer

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me this  
day of \_\_\_\_\_, 1981, by

\_\_\_\_\_, of  
(Name of Officer) (Title)  
\_\_\_\_\_, a  
(Name of Corporation) (State of Incorporation)  
corporation, on behalf of said corporation.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me this  
day of \_\_\_\_\_, 19\_\_\_\_, by

\_\_\_\_\_  
(Name Of Acknowledging Partner or Partners)  
On behalf of \_\_\_\_\_  
(Name of Partnership)  
a partnership.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me by  
\_\_\_\_\_, on this \_\_\_\_\_ day of \_\_\_\_\_, 1981.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me on this  
day of \_\_\_\_\_, by \_\_\_\_\_

Chief Administrative Officer of the City of Albuquerque, Municipal  
corporation, on behalf of said corporation.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

THIS REPRODUCTION IS THE BEST POSSIBLE  
REPRODUCTION DUE TO THE POOR QUALITY  
OF THE ORIGINAL DOCUMENT



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR  
David Rusk

May 18, 1979

Mr. Thomas Mann  
Goldberg-Mann & Associates  
911 Pennsylvania N.E.  
Albuquerque, NM 87110

Ref: Coronado Professional Plaza

Dear Mr. Mann:

I have reviewed the drainage plan for the referenced project and my comments are as follows:

existing topography indicates that the property provides a natural ponding area. This ponding area can not be obliterated without affecting adjacent properties. It is therefore requested that an equivalent ponding volume be supplied in the parking lot to compensate for the ponding volume removed by the construction of the building.

Secondly, you recommend that a curb will be constructed on the east side of the property to convey the offside runoff onto Redlands. Without concurrence of the adjacent property owner it is not allowed to divert the natural surface flow.

It is further requested that the northern half of Redlands Rd., adjacent to this parcel, be paved in accordance with the requirements of the City Engineer. You need therefore to secure from the Office of the City Engineer, Design Section, the proposed grades for Redlands Rd. and insure that the grading of the site is consistent with said grades.

In regard to the ponding provisions, Pond A and Pond B, it is unclear how the ponds are to be constructed. Please supply better details.

If you need additional information, please do not hesitate to call my office.

Very truly yours,

Bruno Conegliano  
Assistant City Engineer-Hydrology

BC/ms

cc - Richard Heller, City Engineer  
Rich Leonard, AMAFCA  
Drainage file

AN EQUAL OPPORTUNITY EMPLOYER

## DRAINAGE COVENANT

THIS COVENANT made this \_\_\_\_\_ day of \_\_\_\_\_, 1981, by and between the City of Albuquerque, a municipal corporation, (City) and William T. Criswell and Sharon L. Criswell (Owner, which term includes successors and assigns.)

### RECITAL

The Owner is owner of certain real property located at \_\_\_\_\_ 6200 Uptown N.E. \_\_\_\_\_ in Albuquerque, New Mexico, (the Property) and more particularly described as follows:

Tract 2-B-3, as the same is shown on the plat of Tracts 2-B-1, 2-B-2 and 2-B-3, BELLAMAR OFFICE ADDITION, Albuquerque, Bernalillo County, New Mexico (being a replat of Tract 2-B), filed in the office of the County Clerk of Bernalillo County, New Mexico, on the 20th day of May, 1981.

That pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain drainage facilities on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

### DESCRIPTION OF FACILITIES

The following facilities are to be constructed and/or maintained by the owner:

Drainage inlets with connection to existing storm sewer in Jeanredale Drive specifically shown on sheet A4 construction drawings dated June 5, 1981 prepared by Warden/Evans/Hill, Architects-Planners, Inc. and Rupley & Associates, Inc. attached hereto as Exhibit "A". More specifically an inlet structure on site and one off site (in curb on west side of Jeanredale Drive) all to connect to existing 72 inch storm sewer in Jeanredale Drive.

### CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the drainage facilities in accordance with standards, plans, and specifications prescribed and approved by the City.

### MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain said drainage facility. The City shall have the right to enter periodically upon the Property to inspect the drainage facility.

### FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the drainage facility in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain said facilities, the City shall give the Owner notice in writing to construct, correct, or maintain said

facilities, and if the Owner fails to comply therewith within 180 days, the City may enter upon said property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

#### LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of said facilities.

#### NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

William T. Criswell  
5501 LBJ Freeway  
Suite 900  
Dallas, Texas 75240

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City Hall, at 505 Marquette Street, Albuquerque, New Mexico, 87103.

#### INDEMNIFICATION AND HOLD HARMLESS

The Owner agrees to defend, indemnify, and hold harmless, the City, its officials, agents and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Owner's failure to construct, maintain, or modify the drainage facility under this Covenant.

#### COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

REVIEWED BY HYDROLOGY SECTION  
CITY ENGINEER'S OFFICE

by: Frank J. Grogan

OWNER

William T. Criswell  
William T. Criswell

Sharon L. Criswell  
Sharon L. Criswell

REVIEWED BY THE LEGAL  
DEPARTMENT:

Assistant City Attorney

CITY OF ALBUQUERQUE

Chief Administrative Officer

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO     )  
                                  ) ss.  
COUNTY OF BERNALILLO    )

The foregoing instrument was acknowledged before me this  
\_\_\_\_ day of \_\_\_\_\_, 1981, by \_\_\_\_\_  
\_\_\_\_ (Name of Officer) \_\_\_\_\_ (Title)  
\_\_\_\_ (Name of Corporation) \_\_\_\_\_ (State of Incorporation)  
corporation, on behalf of said corporation.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

STATE OF NEW MEXICO     )  
                                  ) ss.  
COUNTY OF BERNALILLO    )

The foregoing instrument was acknowledged before me this  
\_\_\_\_ day of \_\_\_\_\_, 1981, by \_\_\_\_\_  
\_\_\_\_ (Name of Acknowledging Partner or Partners)  
on behalf of \_\_\_\_\_  
\_\_\_\_ (Name of Partnership)  
a partnership.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

STATE OF TEXAS         )  
                                  ) ss.  
COUNTY OF DALLAS        )

The foregoing instrument was acknowledged before me by  
William T. Criswell and Sharon L. Criswell, on this 14<sup>th</sup> day of September,  
1981.

*Melli D. McHugh*  
\_\_\_\_\_  
Notary Public

My Commission Expires:  
4/22/85

STATE OF NEW MEXICO     )  
                                  ) ss.  
COUNTY OF BERNALILLO    )

The foregoing instrument was acknowledged before me this  
\_\_\_\_ day of \_\_\_\_\_, 1981, by \_\_\_\_\_  
Chief Administrative Officer of the City of Albuquerque, municipi-  
pal corporation, on behalf of said corporation.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

81 54351

23 RETURN TO KATHY  
RIO GRANDE TITLE  
# 18733

EASEMENT

STATE OF NEW MEXICO )  
 ) ss. KNOW ALL MEN BY THESE PRESENTS:  
COUNTY OF BERNALILLO )

WHEREAS, The Travelers Insurance Company, a Connecticut Corporation ("Travelers") is the owner of that certain property described on Exhibit A attached hereto and made a part hereof (the "Travelers Property"), and William T. Criswell and Sharon L. Criswell (collectively called "Criswell") are the owners of that certain property described on Exhibit B attached hereto and made a part hereof (the "Criswell Property");

WHEREAS, Travelers desires to grant an easement across the Travelers Property permitting surface drainage from the Criswell Property to flow across certain portions of the Travelers Property as hereinafter provided;

NOW, THEREFORE, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by all parties, Travelers has Granted, Sold and Conveyed, and by these presents does Grant, Sell and Convey to the present owner and any future owner of the Criswell Property an easement across and along that certain portion of the Travelers Property which is hereinafter described ("Easement Property") for the purpose of permitting natural surface drainage to flow from the Criswell Property across the Easement Property to the existing drain inlet in the southwest corner of the Travelers Property. The easement hereby granted shall be an unobstructed flow easement permitting a maximum Q of 9.5 cubic feet per second to flow across the Easement Property.

The center line of the Easement Property shall be located as follows: beginning at the southeast corner of the Travelers Property, proceed north 0 degrees 55 minutes 30 seconds east along the eastern boundary line of the Travelers Property 88 feet to a point. The center line of the Easement Property shall be a line running from said point in a southwestern direction along the traffic aisles to the drain inlet at the southwest corner of the Travelers Property. The Easement Property shall include all property within the Travelers Property located on each side of said center line which is necessary for the purposes for which this easement is granted, including all parking areas located south of the office building on the Travelers Property but excluding the existing office building, sidewalks and landscaped areas.

Travelers reserves the right to maintain the Easement Property as a paved area and to permit the parking of vehicles within any portion of the Easement Property. Travelers agrees to keep the Easement Property free of any obstructions other than vehicles which would block the flow of water from the Criswell Property across the Easement Property.

TO HAVE AND TO HOLD the above described easement, together with all and singular the rights and appurtenances thereto in anywise belonging unto the owner of the Criswell Property, its successors and assigns forever, and Travelers, its successors and assigns, shall warrant and forever, and Travelers, its successors and assigns, shall warrant and forever defend all and singular the said easement unto the owner of the Criswell Property, its successors and assigns, against any person whomsoever lawfully claiming or to claim the same, or any part thereof.

EXECUTED this 14th day of September, 1981.

THE TRAVELERS INSURANCE COMPANY, a  
Connecticut Corporation

By: J. Thomas Montgomery  
Title: Vice President (J. Thomas Montgomery)

STATE OF CONNECTICUT            )  
  ) ss.  
COUNTY OF HARTFORD            )

BEFORE ME, the undersigned authority in and for said county and state, on this day personally appeared J. Thomas Montgomery, Vice President, known to me to be the person and officer whose name is subscribed on the foregoing instrument, and acknowledged to me that the same was the act of the said The Travelers Insurance Company, a Connecticut corporation, and that he executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 14th day of September, 1981.

Patricia H. Csaszar  
Notary Public in and for Hartford  
County (Patricia H. Csaszar)  
My Commission Expires March 31st, 1984

## EXHIBIT A

LEGAL DESCRIPTION

## Xerox Building

TRACT 2-A,  
BELLAMAH OFFICE ADDITION, as the same is shown and designated  
on the Summary Plat, Tract 2, Bellamah Office Addition,  
Albuquerque, New Mexico, now comprising Tracts 2-A and 2-B,  
filed in the office of the County Clerk of Bernalillo County,  
New Mexico, on the 20th day of May, 1980.

EXHIBIT B

TRACT 2-B-2, as the same is shown and designated on the plat of Tracts 2-B-1, 2-B-2 and 2-B-3, BELLAMAH OFFICE ADDITION, Albuquerque, Bernalillo County, New Mexico (being a Replat of Tract 2-B), filed in the office of the County Clerk of Bernalillo County, New Mexico, on the 20th day of May, 1981.

STATE OF NEW MEXICO  
COUNTY OF BERNALILLO

OCT 14 9 01 AM '81  
Mex 885 23-26  
TERRY C. PULP  
CLERK & RECORDER  
DEPUTY

EASEMENT

STATE OF NEW MEXICO       §  
                                  §       KNOW ALL MEN BY THESE PRESENTS:  
COUNTY OF BERNALILLO   §

WHEREAS, William T. Criswell and Sharon L. Criswell (collectively called Criswell") are the owners of that certain property described on Exhibit A attached hereto and made a part hereof ("Tract A"), and Criswell is also the owner of that certain property described on Exhibit B attached hereto and made a part hereof ("Tract B");

WHEREAS, Criswell desires to grant an easement across Tract A permitting surface drainage from Tract B to flow across certain portions of Tract A as hereinafter provided;

NOW, THEREFORE, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Criswell has Granted, Sold and Conveyed, and by these presents does Grant, Sell and Convey to the present owner and any future owner of Tract B an easement across and along that certain portion of Tract A which is hereinafter described ("Easement Property") for the purpose of permitting surface drainage to flow from Tract B across the Easement Property to a new drain inlet to be installed in the eastern boundary line of Tract A. The easement hereby granted shall be an unobstructed flow easement permitting a maximum Q of 12.1 cubic feet per second to flow across the Easement Property.

The center line of the Easement Property shall be located as follows: beginning at the southwest corner of Tract A, proceed north 54 degrees 35 minutes 50 seconds east along the western boundary line of Tract A 32 feet to a point. The center line of the Easement Property shall be a line running from said point in an easterly direction along the traffic aisles and

ending at a drain inlet to be constructed on the eastern property line of Tract A. The Easement Property shall include all property within Tract A located on each side of said center line which is necessary for the purposes for which this easement is granted, including all parking areas located south of the office building to be constructed on Tract A but excluding said office building, sidewalks and landscaped areas.

Criswell and any future owner of Tract A shall have the right to maintain the Easement Property as a paved area and to permit the parking of vehicles within any portion of the Easement Property. Criswell and any future owner of Tract A shall keep the Easement Property free of any obstructions other than vehicles which would block the flow of water from Tract B across the Easement Property.

TO HAVE AND TO HOLD the above described easement, together with all and singular the rights and appurtenances thereto in anywise belonging unto the owner of Tract B, its successors and assigns forever, and the owner of Tract A, its successors and assigns, shall warrant and forever, defend all and singular the said easement unto the owner of Tract B, its successors and assigns, against any person whomsoever lawfully claiming or to claim the same, or any part thereof.

EXECUTED this 14<sup>th</sup> day of SEPTEMBER, 1981.

  
William T. Criswell

  
Sharon L. Criswell

STATE OF TEXAS       §  
                             §  
COUNTY OF DALLAS   §

BEFORE ME, the undersigned authority in and for said county and state, on this day personally appeared William T. Criswell and Sharon L. Criswell, known to me to be the persons

whose names are subscribed to the foregoing instrument, and  
acknowledged to me that they executed the same for the purposes  
and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 14<sup>th</sup> day of  
September, 1981.

Mollie A. McAuliffe  
Notary Public in and for  
the State of Texas

4/27/85

EXHIBIT A

## LEGAL DESCRIPTION

TRACT 2-B-3, as the same is shown on the plat of Tracts  
2-B-1, 2-B-2 and 2-B-3, BELLAMAH OFFICE ADDITION, Albuquerque,  
Bernalillo County, New Mexico (being a Replat of Tract 2-B),  
filed in the office of the County Clerk of Bernalillo County,  
New Mexico, on the 20th day of May, 1981.

EXHIBIT B

TRACT 2-B-2, as the same is shown and designated on the plat of Tracts 2-B-1, 2-B-2 and 2-B-3, BELLAMAH OFFICE ADDITION, Albuquerque, Bernalillo County, New Mexico (being a Replat of Tract 2-B), filed in the office of the County Clerk of Bernalillo County, New Mexico, on the 20th day of May, 1981.

STATE OF NEW MEXICO  
COUNTY OF BERNALILLO

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EX 885 27-31

TENNY C. CULP  
CO. CLERK & RECORDER  
DEPUTY