



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 22, 2002

Dennis A. Lorenz, PE
Brasher & Lorenz
2201 San Pedro NE
Albuquerque, NM 87110

**Re: Tuff Shed Grading and Drainage Plan
Engineer's Stamp Dated 4-17-02, (C18/D40)**

Dear Mr. Lorenz,

Based on the information contained in your submittal dated 4-18-02, the above referenced plan is approved for Building Permit and SO-19 Permit.

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

A separate permit is required for construction within city R/W. Sign-off by the city's field inspector for the SO-19 Permit is required for Hydrology final approval.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, PWD
Development and Building Services

c: Terri Martin, Hydrology
Pam Lujan
Matt Cline w/attachment
File (2)



April 23, 1998

Dennis A. Lorenz, P.E.
Brasher & Lorenz, Inc.
2201 San Pedro NE, Building 1, Suite 210
Albuquerque, New Mexico 87110

RE: REQUEST FOR TEMPORARY CERTIFICATE OF OCCUPANCY RELEASE FOR
TUFF SHED (C-18/D40), ENGINEER CERTIFICATION STATEMENT DATED
4/13/98.

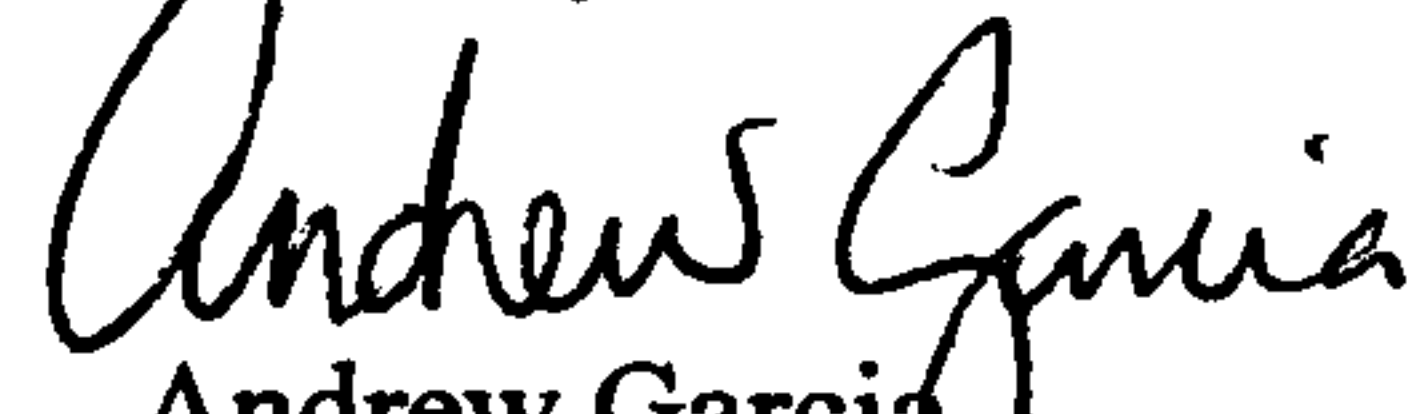
Dear Mr. Lorenz:

Based on the information provided on your April 13, 1998 submittal, the above referenced site is approved for a 30 day Temporary Certificate of Occupancy ONLY. When the three items you listed on your certification statement are addressed, please resubmit for permanent Certificate of Occupancy release.

If I could be of further assistance, please feel free to contact me 924-3330.

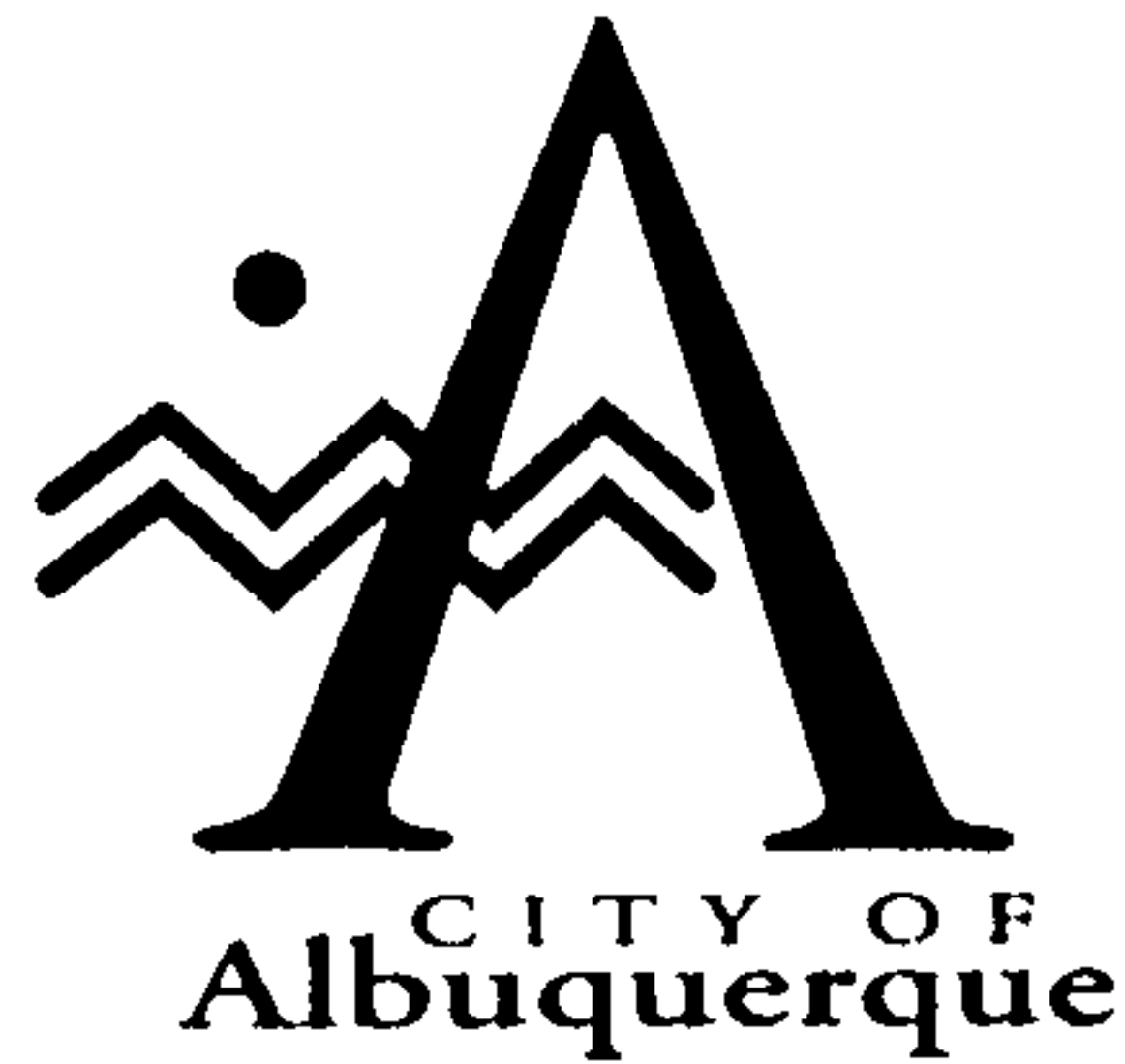
C: File

Sincerely,


Andrew Garcia
Drainage Inspector

Good for You, Albuquerque!





September 11, 1997

Martin J. Chávez, Mayor

Dennis A. Lorenz, P.E.
Brasher & Lorenz, Inc.
2201 San Pedro NE, Building 1, Suite 210
Albuquerque, New Mexico 87110

**RE: Drainage Report for Tuff Shed, Lot 9A, Block 15, Tract A, Unit B, NAA (C18/D40)
Submitted for Foundation and Building Permit Approval, Engineer's Stamp Dated
8/18/97.**

Dear Mr. Lorenz:

Based on the information provided with the submittal of August 21, 1997, the above referenced plan is approved for Foundation and Building Permit release.

As you are aware, the Engineer's Certification is required prior to release of the Certificate of Occupancy for this site. The Certification must include the private ponds and storm drains.

The property owner must be advised that he is responsible for maintaining the temporary 8" and 10" storm drain lines from the private ponds to the interim drainage channel.

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

Sincerely,

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

c: Andrew Garcia, City Hydrology
File



DRAINAGE REPORT UPDATE

FOR

TUFF SHED

Albuquerque, New Mexico

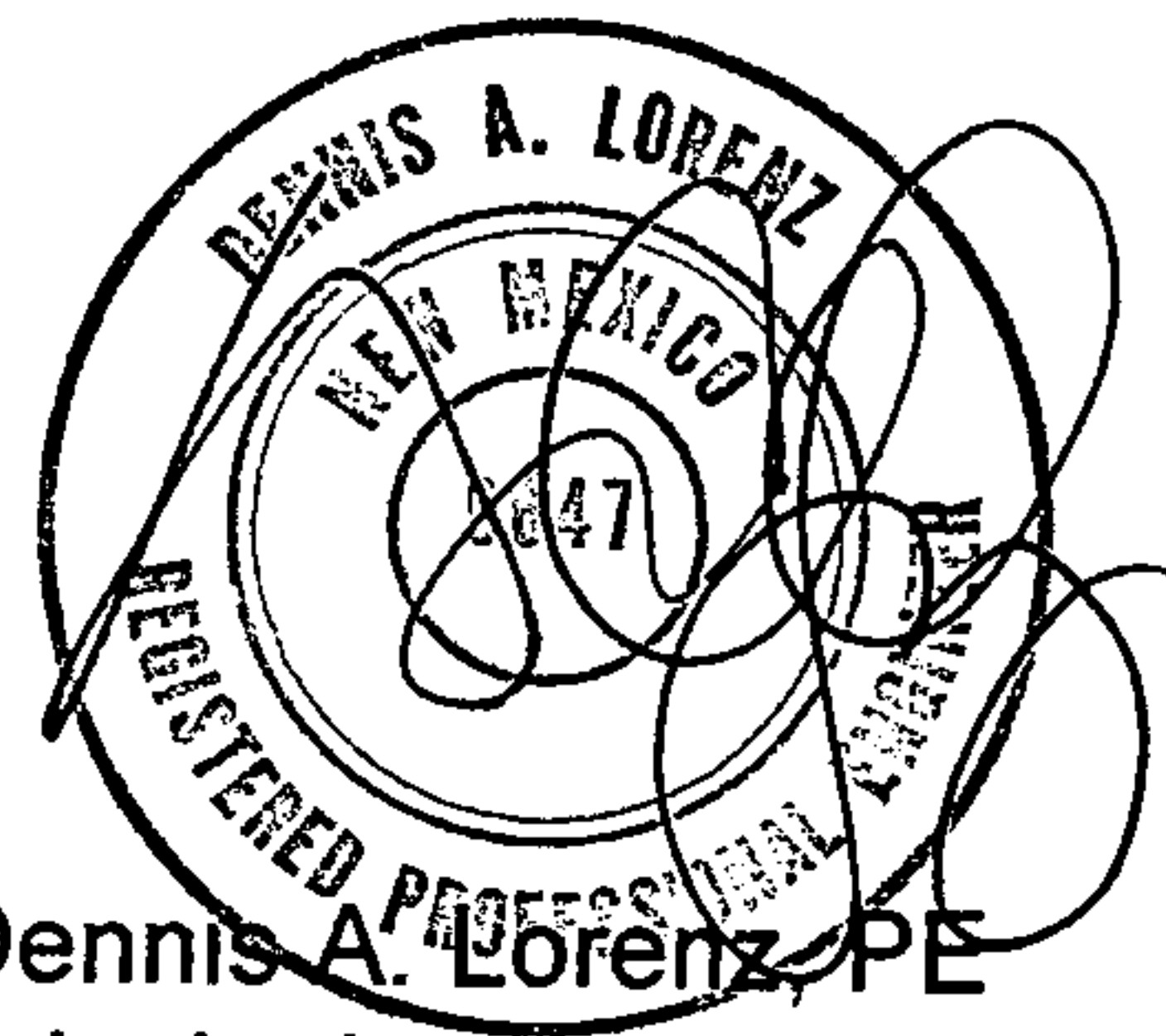
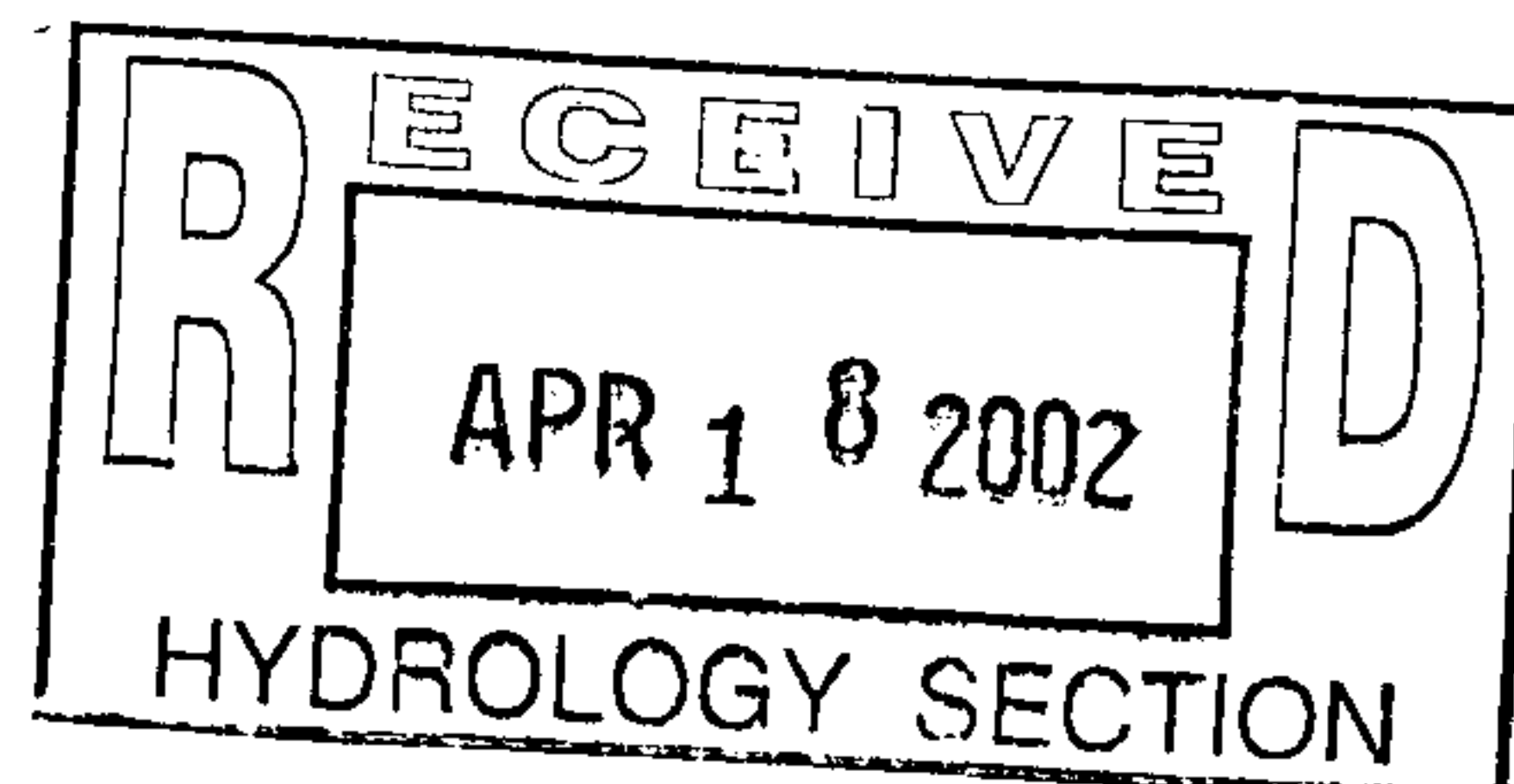
Prepared by:



BRASHER AND LORENZ, INC.

Consulting Engineers

2201 San Pedro NE, Building 1, Suite 220
Albuquerque, New Mexico 87110



Dennis A. Lorenz, PE
Principal

4-17-02

April 2002

PROJECT DESCRIPTION

Pursuant to the Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Drainage Report outlines the drainage management criteria for controlling developed runoff from the project site. The project consists of re-claiming 2 on-site detention ponds by constructing inlets and connecting to a 60-inch public storm drain, presently under construction.

SITE DESCRIPTION

The project site is approximately 2.03 acres in size and located on Pan American Freeway at Corona Ave (Figure 1). The site is presently described as Lot 9A, Tract A, Unit B, North Albuquerque Acres. The site is bounded on the north and south by developed industrial properties, on the east by residential property, and on the west by Pan American Freeway NE. The property is presently fully developed as a Tuff Shed manufacturing and retail center.

EXISTING CONDITIONS

The site is fully developed and drains to 2 interim detention ponds. The ponds presently drain at controlled rates to an existing installation of 48-inch culverts at the northwest corner of the site. The culverts drain off-site flows originating east of through Interstate 25 to the west.

Presently a 60-inch public storm drain is under construction just north of the site (City Project 674681).

As shown by FIRM panel 35001C0329D (Amended), the project site is not located within a designated 100-year flood hazard zone (Figure 3).

SUMMARY OF EXISTING DRAINAGE PLANS

The drainage criteria for the site was established by the "Drainage Report for Tuff Shed", prepared by Brasher & Lorenz, Inc, August 18, 1997. This Report established the need for interim detention ponding based on limited downstream capacity. The on-site detention ponds were designed to limit discharge from the site to undeveloped flow rates. The Report facilitated building permit approval for Tuff Shed.

PROPOSED CONDITIONS

As shown by the Plan, the project consists of the construction of 2 type "D" inlets with 18-inch RCP connector pipes to the 60-inch storm drain presently under construction.

Inlets will be constructed at each pond location; within Basin "A" at the northwest corner of the site, and within Basin "B" near the northeast building corner.

Khani Company, contractor for City Project 674681, will accomplish construction of the inlets and connection to the 60-inch storm drain.

TEMPORARY EROSION CONTROL PLAN

Since the site is fully developed, no temporary erosion control measures are necessary.

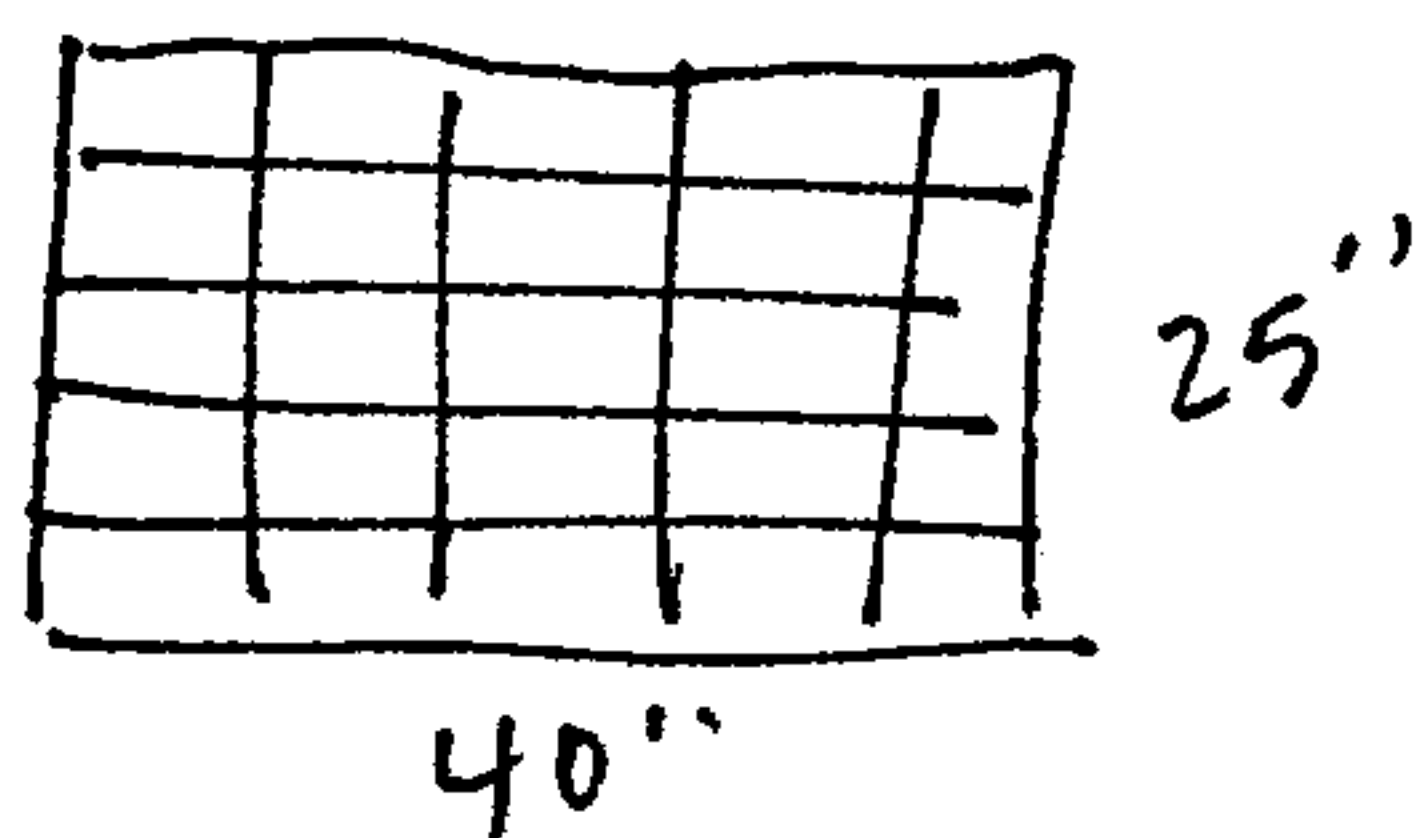
CALCULATIONS

The calculations contained herein define the 100-year/6-hour design storm falling within the project area under existing and developed conditions. The hydrology is per "Chapter 22, Development Process Manual, Vol. 2", 1997 revision. Calculations are provided to demonstrate the capacity and function of all proposed storm drainage infrastructures.



(A) CHECK INLET / SD CAPACITIES

(1) INLET GRATE



FOR SINGLE GRATE
 $P = 130'' = 10.83'$
OPEN AREA = 4.31 SF

(a) CHECK BY ORIFICE

$$Q = CA \sqrt{2gh}$$

$$h = 0.5' \text{ MAX}$$

$$A = 4.31 \text{ SF}$$

$$C = 0.6$$

$$Q_{MAX} = 0.6 (4.31) \sqrt{2g(0.5)} = 14.67 \text{ CFS}$$

APPLY CLOG FACTOR (0.75)

$$Q_{MAX} = 11.0 \text{ CFS} > Q_{100} \text{ BASIN (A) } 3.79 \text{ CFS}$$

$$\text{BASIN (B) } 15.63 \text{ CFS}$$

(b) WEIR

$$Q = CLH^{3/2}$$

$$C = 2.5$$

$$L = 10.83'$$

$$H = 0.5' \text{ MAX}$$

$$Q_{MAX} = 9.57 \text{ CFS}$$

APPLY CLOG FACTOR (0.75)

$$Q_{MAX} = 7.2 \text{ CFS} > Q_{100} \text{ BASINS (A) \& (B)}$$



(2) STORM DRAIN CONNECTOR PIPE

CONNECT 10" RCP TO 16.0" RCP

Q BASIN (A) = 3.79 CFS

(B) = 5.63 CFS

(a) PIPE FLOW

SEWER PIPES

Enter up to 10 pipes.

Enter <Return> only for flowrate and diameter to end.

FLOWRATE (CFS)	DIAMETER (IN)	FRICTION (FT ^{1/6})	SLOPE (%)	VELOCITY (FPS)
(A) 3.79	10.13	0.0130	2.80	6.78
(B) 5.63	11.39	0.0130	3.30	7.96

18" SD OK.

(b) INLET CONTROL

ORIFICES

Enter up to 10 orifices.

Enter <Return> only for flowrate and area to end.

FLOWRATE (CFS)	AREA (SF)	COEFF (-)	ELEVATIONS		
			HEADWATER (FT)	CENTER (FT)	TAILWATER (FT)
(A) 3.79	1.77	0.600	98.86	98.66	98.66
(B) 5.63	1.77	0.600	99.63	99.19	99.19

18" DIA

BELOW GRATE
EA. CASE

RUN DATE (MON/DAY/YR) =04/17/2002
USER NO.= AHYMO-I-9702C01000T35-AH

COMMAND		HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1
NOTATION											
START											
RAINFALL TYPE= 1										TIME=	.00
COMPUTE NM HYD	EXIST.SITE	-	1	.00318	3.81	.111	.65514	1.533	1.875	PER IMP=	2.600
COMPUTE NM HYD	UNDEV.A	-	2	.00125	1.51	.044	.65514	1.533	1.882	PER IMP=	.00
COMPUTE NM HYD	UNDEV.B	-	3	.00186	2.24	.065	.65514	1.533	1.878	PER IMP=	.00
COMPUTE NM HYD	DEV.A	-	4	.00125	3.79	.144	2.16371	1.500	4.737	PER IMP=	85.00
COMPUTE NM HYD	DEV.B	-	5	.00186	5.63	.215	2.16371	1.500	4.729	PER IMP=	85.00
COMPUTE NM HYD	DEV.C	-	6	.00006	.21	.008	2.35528	1.500	5.250	PER IMP=	100.00
COMPUTE NM HYD	DEV.SITE	-	7	.00318	9.60	.366	2.16371	1.500	4.722	PER IMP=	85.00
FINISH											