CITY OF
Albuquerque

February 3, 1998

Bryan J. Bobrick
C.L. Weiss Engineering, Inc.
P.O. Box 97
Sandia Park, NM 87047

RE: JEFFERSON OFFICE (E17-D16C). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. ENGINEER'S CERTIFICATION DATED JANUARY 7, 1998.

Dear Mr. Bobrick:

Based on the information provided on your January 12, 1998 submittal, the above referenced project is approved for Certificate of Occupancy.

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

Sincerely,

Lisa Ann Manwill, P.E.
Hydrology

c: Andrew Garcia
File

CITY OF
Albuquerque
P.O. Box 1293 Albuquerque, NM 87103

May 1, 1996

Martin J. Chávez, Mayor

Bryan J. Bobrick
C.L. Weiss Engineering
P.O. Box 97
Sandia Park, NM 87047

RE: GRADING & DRAINAGE PLAN FOR JEFFERSON OFFICE (E-17/16C)
RECEIVED APRIL 5, 1996 FOR BUILDING PERMIT
ENGINEER'S STAMP DATED 4-2-96

Dear Mr. Bobrick:

Based on the information included in the submittal referenced above, City Hydrology accepts the Grading & Drainage Plan for Building Permit. Include a copy of the Grading & Drainage Plan, dated 4-2-96, in the set of construction documents that will be submitted to Code Administration for the Building Permit.

Engineer's Certification of grading & drainage per DPM checklist must be accepted by City Hydrology before the Certificate of Occupancy will be released. Include as-built elevations for the retaining wall along the west property line in the certification (note 15).

James Topmiller did not design the inlets for developed flow. It was understood that the Tract Owners would develop each tract so that the inlets would accept the developed flow. The existing inlets on Tracts C-3-C & C-3-A-2 will accept about 100 cfs, *if the grates are clean*. In HEC-12, section 8.1, the Federal Highway Administration assumes that 50% of the net area of a grate inlet in a sag location will be clogged. Analyze the impact resulting from 50% clogging of the grate area as part of the Certification.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer, Hydrology

c: Andrew Garcia
George Chant, George Chant & Assoc, P.O. Box 3529, 87190

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 20, 1996

Bryan J. Bobrick
C.L. Weiss Engineering
P.O. Box 97
Sandia Park, NM 87047

RE: GRADING & DRAINAGE PLAN FOR JEFFERSON OFFICE (E-17/16C)
RECEIVED MARCH 5, 1996 FOR BUILDING PERMIT
ENGINEER'S STAMP DATED 2-29-96

Dear Mr. Bobrick:

Based on the information included in the submittal referenced above, City Hydrology has the following comments:

The File number has been changed to E-17/D16C instead of E-17/D22. This plan appears to include Tracts C-3-A, C-3-B & C-3-C. Is a plat required? Has the northern 0.60 acres of Tract C-3-A been developed as shown in drainage file E-17/D24? What is the current platting? Tract C-3-D-1 & C-3-D-2 have already been certified. See drainage files E-17/D16B & E-17/D48 respectively. Label every tract on the Plan.

There is off-site drainage. Drainage file E-17/D24 indicates that 31.5 cfs enter the site from the north. Why are Basins 1, 2 & 3 indicated as "off-site"?

The Group Nine Industrial Park DMP was most recently revised in January, 1995. If the proposed development exceeds the allowable discharge in the revised DMP, then the entire storm drain system must be analyzed for downstream capacity. Inlet orifice equations must use the net open area of the grate. HEC 12 recommends 50% clogging of grates in sump condition.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer, Hydrology

c: Andrew Garcia
George Chant, George Chant & Assoc, P.O. Box 3529, 87190

48" STORM DRAIN EXTENSION

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-------------------- Beginning Calculation Cycle --------------------
Discharge: 28.80 cfs  at node I-1 - INLET 4
Discharge: 50.10 cfs  at node I-2 - TEE TO 24" S.D.
Discharge: 57.30 cfs  at node I-3 - EXISTING INLET 1
Discharge: 77.20 cfs  at node I-4 - EXISTING INLET 2
Discharge: 77.20 cfs  at node Outlet - SOUTH END OF SITE
Beginning iteration 1
Discharge: 28.80 cfs  at node I-1
Discharge: 50.10 cfs  at node I-2          (SEE ABOVE)
Discharge: 57.30 cfs  at node I-3
Discharge: 77.20 cfs  at node I-4
Discharge: 77.20 cfs  at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error:  0.0
Information: Outlet Known flow propogated from upstream junctions.
---------------------- Calculations Complete ----------------------

** Analysis Options **
Friction method:  Manning's Formula
HGL Convergence Test:  0.001000
Maximum Network Traversals:  5
Number of Pipe Profile Steps:  5
Discharge Convergence Test:  0.001000
Maximum Design Passes:  3

------------------ Network Quick View -----------------------
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				Hydraulic Grade	
Label	Length	Size	Discharge	Upstream	Downstream
P-1	103.00	48 inch	28.80	24.24	24.28
P-2	137.00	48 inch	50.10	24.28	24.27
P-3	37.00	48 inch	57.30	24.27	24.22
P-4	502.00	48 inch	77.20	24.22	22.72

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-1	28.80	28.50	24.24	24.24
I-2	50.10	34.00	24.28	24.28
I-3	57.30	33.00	24.27	24.27
I-4	77.20	33.00	24.22	24.22
Outlet	77.20	35.00	22.72	22.72

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Elapsed: 0 minute(s) 2 second(s)
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INTERIOR 18" / 24" ON-SITE SYSTEM

---------- Beginning Calculation Cycle ----------
Discharge: 7.1 cfs at node I-1 - INLET #1
Discharge: 14.2 cfs at node I-2 INLET #2
Discharge: 21.3 cfs at node I-3 INLET #3
Discharge: 21.3 cfs at node J-1 MH #1
Discharge: 21.3 cfs at node J-2 BEND (11%)
Discharge: 21.3 cfs at node Outlet TEE TO 48"
Beginning iteration 1
Discharge: 7.1 cfs at node I-1
Discharge: 14.2 cfs at node I-2
Discharge: 21.3 cfs at node I-3 (SEE ABOVE)
Discharge: 21.3 cfs at node J-1
Discharge: 21.3 cfs at node J-2
Discharge: 21.3 cfs at node Outlet
Discharge Convergence Achieved in 1 iterations: relative error: 0.0
** Warning: Design constraints not met.
Information: Outlet Known flow propogated from upstream junctions.
Violation: P-6 does not meet maximum slope constraint (try drop structure).
Information: J-2 Known flow propogated from upstream junctions.
Information: J-1 Known flow propogated from upstream junctions.
---------- Calculations Complete ----------

** Analysis Options **
Friction method: Manning's Formula
HGL Convergence Test: 0.001000
Maximum Network Traversals: 5
Number of Pipe Profile Steps: 5
Discharge Convergence Test: 0.001000
Maximum Design Passes: 3

---------- Network Quick View ----------

				Hydraulic Grade	
Label	Length	Size	Discharge	Upstream	Downstream
P-1	66.00	18 inch	7.1	34.53	34.20
P-2	66.00	24 inch	14.2	34.20	33.83
P-3	81.00	24 inch	21.3	33.83	33.02
P-5	345.00	24 inch	21.3	33.02	29.87
P-6	30.00	24 inch	21.3	29.87	23.28

		Elevations		
Label	Discharge	Ground	Upstream HGL	Downstream HGL
I-1	7.1	36.50	34.53	34.53
I-2	14.2	36.50	34.20	34.20
I-3	21.3	36.50	33.83	33.83
J-1	21.3	39.00	33.02	33.02
Outlet	21.3	34.00	23.10	23.10
J-2	21.3	35.50	29.87	29.87

Elapsed: 0 minute(s) 2 second(s)

DPM - Chant C-3-C - Revised

CALCULATIONS:

Calculations are based on the Drainage Design Criteria for City of Albuquerque, Section 22.2, DPM, Vol 2, dated Jan., 1993

AREA OF SITE: 492084 SF = 11.3 Ac.

ON-SITE

HISTORIC FLOWS:

On-Site Historic Land Condition

Area a	=	492084	SF
Area b	=	0	SF
Area c	=	0	SF
Area d	=	0	SF
Total Area	=	492084	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF	
Area b	=	73813	SF	= 15% Treatment "B"
Area c	=	0	SF	
Area d	=	418272	SF	= 85% Treatment "D"
Total Area	=	492084	SF	

EXCESS PRECIPITATION:

Precip. Zone 2

Using the Rational Method: Q100 = C*I*A

Developed Flows:

Q100 = (0.45 * 5.05 * 9.6) + (0.93 * 5.05 * 1.7)

Q100(onsite) = 48.9 cfs

Drainage file E-17/D24 by Easterling and Associates, Engineer stamp dated 4-11-95 indicates 31.5 cfs enter the site from the North

Q100(offsite) = 31.5 cfs

Total Flows to existing Storm Drain Inlets

Q100 (total) = 80.4 cfs

Note: As shown on the Drainage / Grading plan, the north and south existing / proposed storm drain inlets will act jointly as inlets for flows from both on-site and off-site basins.

Note: Developed flows of 80.4 cfs match the calculations provided in the Jan. 1995 revision of the Drainage Management Plan for Tracts B-1-A, C-3-A, C-3-B, C-3-C, C-3-D-1, C-3-D-2, C-3-E-1, C-3-F AND C-3-G Group Nine Industrial Park. In the DMP (by Bohannan Huston Inc), the storm drain system was analyzed and designed for free discharge with all flows transferred to the system in an unrestricted manner.

Inlets WSEL @ 29.5

$Q_N = .65(4.2)\sqrt{64.4(29.5-27.94)} = 27.4 cfs$

$Q_S = .65(4.2)\sqrt{64.4(29.5-28.32)} = 23.8 cfs$

WSEL @ 31.0

$Q_N = .65(4.2)\sqrt{64.4(3.06)} = 38.3 cfs$

$Q_S = .65(4.2)\sqrt{64.4(2.68)} = 35.9 cfs$

4-3-96 BJB

4/3/96