



City of Albuquerque

March 10, 2000

Diane Hoelzer, P.E.
Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, NM 87199

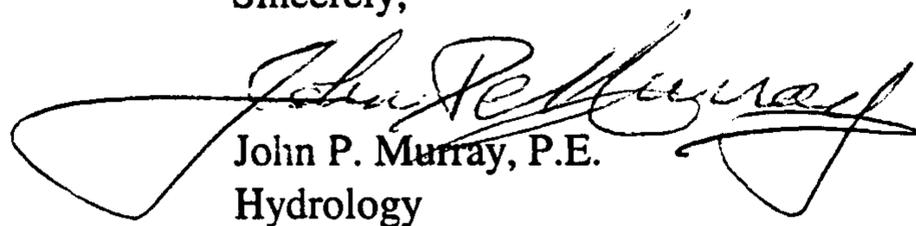
RE: COLE BUILDING, EAGLE ROCK NE (C18-D50). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S STAMP DATED FEBRUARY 21, 2000.

Dear Ms. Hoelzer:

Based on the information provided on your February 22, 2000 submittal, the above referenced project is approved for Certificate of Occupancy. A 30-day Temporary C.O. had been authorized on February 29, 2000.

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

Sincerely,


John P. Murray, P.E.
Hydrology

c: Whitney Reiersen
1 File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 28, 1999

Shahab Biazar, P.E.
Advanced Engineering & Consulting, LL
10205 Snowflake Ct. NW
Albuquerque, NM 87114

*Cola Bldg C18/D50
Desert Ways C18/D53*

RE: LOT 22, BLOCK 26, TRACT A, UNIT B, NORTH ALBUQUERQUE ACRES (C18-D53). GRADING AND DRAINAGE PLAN FOR SITE DEVELOPMENT PLAN FOR BUILDING PERMIT, BUILDING PERMIT, AND GRADING PERMIT APPROVALS. ENGINEER'S STAMP DATED MAY 2, 1999.

Dear Mr. Biazar:

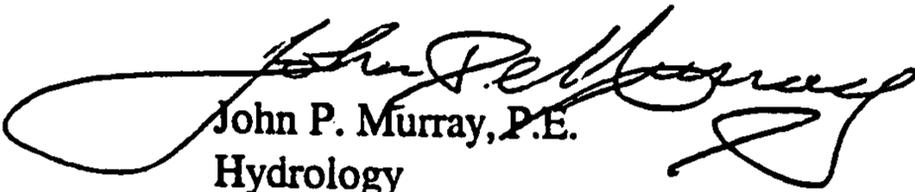
Based on the information provided on your May 3, 1999 submittal, the above referenced project is approved for Site Development Plan for Building Permit, Building Permit, and Grading Permit.

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

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

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

Sincerely,


John P. Murray, P.E.
Hydrology

✓ File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 31, 1999

Diane Hoelzer, PE
Mark Goodwin & Assoc, PA
PO Box 90606
Albuquerque, NM 87199

**RE: DRAINAGE REPORT FOR COLE BUILDING (C-18/D50)
RECEIVED MAR 19, 1999 FOR BUILDING PERMIT
ENGINEER'S STAMP DATED 3-16-99**

Dear Ms. Hoelzer:

Based on the information included in the submittal referenced above, City Hydrology accepts the Drainage Report for Grading & Building Permit.

Include a copy of the approved Grading & Drainage Plan, dated 3/16/99, in each 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 any Certificate of Occupancy will be released.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Project Manager, PWD/Hyd

c: Andrew Garcia

**DRAINAGE REPORT
FOR
COLE BUILDING**

**North Albuquerque Acres
Eagle Rock Avenue, West of Louisiana**



MARCH 1999

PROJECT DESCRIPTION

This drainage plan is for a proposed commercial office building. This site is located directly west of the Eagle Rock Estates Unit 4 subdivision which is currently under construction (Figure 1).

The project site is no longer in a floodplain. FEMA has accepted the drainage improvements associated with the diversion berm constructed at Wyoming and Eagle Rock Avenue that has diverted the La Cueva Arroyo to the north into the adjacent sub-basin (Figure 2). LOMR dated 9-11-98,

PREVIOUS REPORTS

In the approved drainage report for the Convenience Center (Mark Goodwin & Assoc., 1993) an onsite detention pond / spillway facility was sized to detain the 100-year 24-hour runoff generated from the offsite drainage basins to the east. Most of the proposed Cole building site is part of the two offsite drainage sub basins flowing toward the Convenience Center spillway and pond (Figure 3). The 1993 report calculated a peak discharge of 28.2 cfs entering through the north spillway and 66.6 cfs entering through the south spillway.

With the recent development of the Eagle Rock Estates Unit 1 - 4 most of the offsite runoff entering the Convenience Center pond from the east has been diverted to either temporary retention ponds or the Louisiana Blvd. Storm Drain. The full arterial pavement section for Louisiana Blvd. from Modesto Avenue to Oakland Avenue was built as part of Eagle Rock Unit 1. The crown section and the high point near the intersection of Eagle Rock Avenue prevents all runoff east of Louisiana Blvd. from crossing over the road. In addition, all developed flows generated within Eagle Rock Unit 3 and 4 have been diverted to onsite retention ponds until such a time that the downstream storm drain system in Eagle Rock Avenue is constructed. Based on these recent developments the original offsite sub basin boundaries have been reduced as shown in Figure 4. It is estimated that the peak discharge at the north spillway has been reduced by approximately 75 percent from 28.2 cfs to 6.88 cfs and the peak discharge at the south spillway has been reduced by approximately 62 percent from 66.6 cfs to 25.55 cfs.

A "Final Master Drainage Plan for North Albuquerque Acres" Report was prepared by Resource Technology Inc. (October 1998) for the City of Albuquerque and is currently the latest document outlining proposed master storm drain systems and guidelines for capacity calculations. The proposed Cole Building site is within sub basin 116.2 (Figure 5). As a result of recent development in the area this sub-basin boundary has been modified as will be discussed in the chapter on developed drainage conditions.

DRAINAGE COVENANT

THIS COVENANT made this 16th day of March, 1999, by and between

Scott M. Cole, OWNER OF Lot numbered 12 in Block numbered 26 of the Tract A, Unit B, North Albuquerque Acres (N.A.A.) as the same is shown and designated of the Replat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico, on 11-6-98, in Book 9818, Page 1595.

AND

Scott M. Cole, OWNER OF Lot 21, Block 26 of the Tract A, Unit B, N.A.A. as the same is shown and designated of the Plat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico, on 2-8-99, in Book 9902, Page 7179.

The Owner (which term includes successors and assigns) of Lot numbered 21 grants to the Owner of 12 the right to convey storm runoff, any drainage from watering landscaping or any other ordinary domestic use across the boundary lines to the right-of-way of Eagle Rock Avenue.

This DRAINAGE COVENANT is binding upon the Owner(s), his heirs and assigns and will continue to run with said property until an alternate drainage plan has been approved by the City Hydrology Department and this document is released by a recorded document by the Owner(s) of the above described real properties.

OWNER Lot 12 Scott M Cole 3-16-99
DATE

OWNER Lot 21 Scott M Cole 3-16-99
DATE

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledge before me this 16th day of March, 1999,
by Scott M. Cole
Name
Owner N/A
(Title) (Name of Corporation)

corporation, on behalf of said corporation.

Sheri Thacker
Notary Public

My Commission Expires:
7-2-02



OFFICIAL SEAL
SHERI THACKER
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 7-2-02

199903025
5197969
Page: 1 of 1
03/19/1999 10:45A
BX-9904 Pg-7907
R 7.00
Judy D. Woodward
Bern. Co. COV

EXISTING DRAINAGE CONDITIONS

Under existing drainage conditions, runoff from the project site flows in a general westerly direction in roughly defined arroyos until it is intercepted by one of two spillways leading into the Convenience Center east detention pond. Offsite flows from the east have been blocked as a result of the recent Eagle Rock Unit 4 development. No offsite flows from either Modesto Avenue RW to the north or Eagle Rock Avenue RW to the south enter the site. Eagle Rock Avenue is paved from Louisiana Blvd. to San Pedro Avenue with extruded curb on the north side. A storm drain has been constructed in Eagle Rock Avenue adjacent to Eagle Rock Units 3 and 4 just east of this project site. At this time the storm drain diverts developed flows to temporary retention ponds until such a time that the downstream storm drain in Eagle Rock Avenue and San Pedro Avenue is constructed.

DEVELOPED DRAINAGE CONDITIONS

A. INTERIM CONDITIONS

The 100 year peak discharge from this site (Lots 12 and 21) was calculated to be 8.0 cfs. The onsite runoff will be conveyed south to Eagle Rock Avenue through one of the two driveway entrances. It should be noted that while this drainage plan includes Lot 21 and Lot 12, at this time only Lot 21 is being developed. Since most of the existing flows that were being conveyed in Eagle Rock Avenue to the Convenience Center pond have been cut off through recent upstream improvements, the free discharge of 8.0 cfs from this site should have negligible impact. Existing curb along the north side of Eagle Rock Avenue from this site to the Convenience Center will keep the flows, 25.55 cfs, within the public right of way (Appendix C). Table 1 is a summary of the flows entering the convenience center pond prior to the 1998 improvements and after the 1998 upstream improvements. Prior to 1998, approximately 95 cfs was reaching the Convenience Center pond and after 1998 approximately 32 cfs will be reaching this pond for the 100 year 6 hour storm event, which includes the developed flows from the Cole Building site. Also refer to Figures 3 and 4.

B. FUTURE CONDITIONS

The Cole Office Building is part of the Master Drainage Plan (RTI, 1998) Sub-Basin 116.2 (Figure 5). This Sub Basin boundary was revised as shown in Figure 6. Four lots were added as part of Eagle Rock Unit 3 and 4 lots were removed which are now part of the Indian Land to the north. According to the NAA Master Drainage Plan, the allowable design discharge from this Sub Basin is 183.9 cfs. The actual design discharge for the sub basin was calculated to be 185.22 cfs. Given that no attenuation of the peak flow was accounted for and that a large portion of the area is still undeveloped the difference of 1.32 cfs is negligible. Refer to Table 2 for a hydrologic summary of future developed drainage conditions. It should be noted that while the Cole Building Site is discharging 0.92 cfs (8.01

cfs) more than the allowable discharge (7.09 cfs), Eagle Rock Unit 3 and Unit 4 combined are discharging 1.2 cfs (49.32 cfs) less than the allowable discharge (50.52 cfs) resulting in an accumulative actual discharge (57.3 cfs) from the three sites less than the allowable discharge (57.6 cfs). The existing 30" RCP storm drain in Eagle Rock will be extended from the Cole site east to west property line.

$$6' SW \% D = (6 + .6 + 40 + .6 + 6) / 60 = .89 = 89\%$$

$$4' SW \% D = (4 + .6 + 40 + .6 + 4) / 60 = .82 = 82\%$$

COLE OFFICE BUILDING

TABLE 2: HYDROLOGIC SUMMARY OF FUTURE DEVELOPED DRAINAGE CONDITIONS

LOCATION	AREA SQ.MI.	LAND TREATMENT VALUES				ALLOWABLE	Vol. (AF)	LAND TREATMENT VALUES				ACTUAL	Vol. (AF)
		A	B	C	D	PEAK Q (CFS)		A	B	C	D	PEAK Q (CFS)	
SUB-BASIN 116.2*	.0719	0	25	15	60	183.94	6.595						
COLE SITE	.00276	0	25	15	60	7.09	.254	0	10	5	85	8.01	.299
EAGLE ROCK 3	.00986	0	25	15	60	25.24	.905	0	23.4	23.4	53.2	24.64	.871
EAGLE ROCK 4	.00988	0	25	15	60	25.28	.906	0	23.4	23.4	53.2	24.68	.872
EAGLE ROCK AVE Louisiana -San Pedro	.00557	0	25	15	60	14.27	.511	0	23.4	10	53.2 90	15.83	.588
REMAIN AREA	.04382	0	25	15	60	112.06	4.019					112.06	4.019
TOTAL						183.90	6.594					185.22	6.649

* = Per N.A.A. Master Drainage Plan



D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

PROJECT Cole Building
SUBJECT Hydrology Area Calc
BY DLH DATE 3-17-99
CHECKED _____ DATE _____
SHEET _____ OF _____

Eagle Rock Avenue (Louisiana to San Pedro)

$$610 \text{ LF} + 165 \text{ LF}(12) = 2590 \text{ LF} (60' \text{ ROW}) = 155,400 \text{ SF} \\ = .005574 \text{ sq. mi}$$

Remaining Area in sub-basin 116.2 = .04382 sq. mi

$$(.0719 - .00276 - .00986 - .00988 - .005574)$$

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = CONV.DAT

RUN DATE (MON/DAY/YR) =03/18/1999
 USER NO.= M_GOODWN.I01

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									TIME=	.00
RAINFALL	TYPE= 1								RAIN6=	2.510
COMPUTE NM HYD	101.10	-	1	.02091	33.46	1.089	.97684	1.500	2.500 PER IMP=	18.00
COMPUTE NM HYD	101.20	-	2	.02434	33.12	1.014	.78115	1.500	2.126 PER IMP=	6.00
ADD HYD	101.30	1& 2	1	.04525	66.57	2.103	.87156	1.500	2.299	
COMPUTE NM HYD	101.40	-	3	.00390	6.25	.203	.97684	1.500	2.506 PER IMP=	18.00
COMPUTE NM HYD	101.50	-	4	.01611	21.92	.671	.78115	1.500	2.126 PER IMP=	6.00
ADD HYD	101.60	3& 4	2	.02001	28.18	.874	.81926	1.500	2.200	
FINISH										

Convenience Center Prior 1998

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = cole.dat

RUN DATE (MON/DAY/YR) =03/18/1999
 USER NO.= M_GOODWN.I01

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											TIME= .00
RAINFALL	TYPE= 1										RAIN6= 2.450
COMPUTE NM HYD	100.10	-	1	.00527	6.88	.208	.74162	1.500	2.041		PER IMP= 6.00
COMPUTE NM HYD	100.20	-	1	.01022	13.34	.404	.74162	1.500	2.039		PER IMP= 6.00
COMPUTE NM HYD	116.22	-	1	.00277	7.09	.254	1.71973	1.500	4.005		PER IMP= 60.00
COMPUTE NM HYD	116.22	-	1	.00277	8.01	.299	2.02863	1.500	4.523		PER IMP= 85.00
COMPUTE NM HYD	116.25	-	1	.00178	4.20	.144	1.52093	1.500	3.694		PER IMP= 42.00
COMPUTE NM HYD	116.20	-	1	.07190	183.94	6.595	1.71973	1.500	3.997		PER IMP= 60.00
COMPUTE NM HYD	116.23	-	1	.00987	25.24	.905	1.71973	1.500	3.998		PER IMP= 60.00
COMPUTE NM HYD	116.23	-	1	.00987	24.64	.871	1.65541	1.500	3.903		PER IMP= 53.20
COMPUTE NM HYD	116.24	-	1	.00988	25.28	.906	1.71973	1.500	3.998		PER IMP= 60.00
COMPUTE NM HYD	116.24	-	1	.00988	24.68	.872	1.65541	1.500	3.903		PER IMP= 53.20
COMPUTE NM HYD	116.25	-	1	.00557	15.83	.588	1.97721	1.500	4.438		PER IMP= 80.00
COMPUTE NM HYD	116.25	-	1	.00557	14.27	.511	1.71973	1.500	4.000		PER IMP= 60.00
COMPUTE NM HYD	116.21	-	1	.04382	112.06	4.019	1.71973	1.500	3.996		PER IMP= 60.00
FINISH											

After 1998 & Future Conditions
 6 hr. Storm

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = cole24.dat

RUN DATE (MON/DAY/YR) =03/18/1999
 USER NO.= M_GOODWN.I01

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											TIME= .00
RAINFALL	TYPE= 2										RAIN24= 2.850
COMPUTE NM HYD	100.10	-	1	.00527	6.88	.215	.76560	1.500	2.041		PER IMP= 6.00
COMPUTE NM HYD	100.20	-	1	.01022	13.34	.417	.76560	1.500	2.039		PER IMP= 6.00
COMPUTE NM HYD	116.22	-	1	.00277	7.09	.289	1.95951	1.500	4.005		PER IMP= 60.00
COMPUTE NM HYD	116.22	-	1	.00277	8.01	.349	2.36832	1.500	4.523		PER IMP= 85.00
COMPUTE NM HYD	116.25	-	1	.00178	4.20	.160	1.68878	1.500	3.694		PER IMP= 42.00
COMPUTE NM HYD	116.20	-	1	.07190	183.94	7.514	1.95951	1.500	3.997		PER IMP= 60.00
COMPUTE NM HYD	116.23	-	1	.00987	25.24	1.031	1.95951	1.500	3.998		PER IMP= 60.00
COMPUTE NM HYD	116.23	-	1	.00987	24.64	.983	1.86802	1.500	3.903		PER IMP= 53.20
COMPUTE NM HYD	116.24	-	1	.00988	25.28	1.033	1.95951	1.500	3.998		PER IMP= 60.00
COMPUTE NM HYD	116.24	-	1	.00988	24.68	.984	1.86802	1.500	3.903		PER IMP= 53.20
COMPUTE NM HYD	116.25	-	1	.00557	15.83	.683	2.29692	1.500	4.438		PER IMP= 80.00
COMPUTE NM HYD	116.25	-	1	.00557	14.27	.583	1.95951	1.500	4.000		PER IMP= 60.00
COMPUTE NM HYD	116.21	-	1	.04382	112.06	4.580	1.95951	1.500	3.996		PER IMP= 60.00
FINISH											

After 1998 - Future Conditions
 24 hr. Storm

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

	38	43	1	2	4	68	3	PAGE
NC	.017	.017	.017	.1	.3			
QT	2	25.55	25.55					
X1	1	5	0	34	0	0	0	0
GR	.85	0	.67	8.9	0	.125	.585	34
1	3/18/99	11:49:30						
2								

SECNO DEPTH CWSEL CRIWS QROB VROB XLOBR WSELK ALOB XNL ITRIAL EG ACH XNCH IDC HV AROB XNR ICONT HL VOL WTN CORAR OLOSS TWA ELMIN TOPWID BANK ELEV LEFT/RIGHT SSTA ENDST

*PROF 1

CCHV= .100 CEHV= .300

*SECNO 1.000

2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

1.00	.52	.52	.64	.00	.97	.45	.00	.00	.85
26.	0.	26.	0.	0.	5.	0.	0.	0.	.58
.00	.00	5.40	.00	.000	.017	.000	.000	.00	8.92
.029641	0.	0.	0.	0	20	8	.00	21.59	30.52

3/18/99 11:49:30

T1 28' FF
T2 100YR 6HR
T3 SANTA MARTHA

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
0 3 0 1 .038

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
2 0 0 -1 0 0 0 0 0 0 0 0 0 0 0

SECNO DEPTH CWSEL CRIWS QROB VROB XLOBR WSELK ALOB XNL ITRIAL EG ACH XNCH IDC HV AROB XNR ICONT HL VOL WTN CORAR OLOSS TWA ELMIN TOPWID BANK ELEV LEFT/RIGHT SSTA ENDST

3/18/99 11:49:30

*PROF 1

CCHV= .100 CEHV= .300

*SECNO 1.000

2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

1.00	.52	.52	.64	.00	.97	.45	.00	.00	.85
26.	0.	26.	0.	0.	5.	0.	0.	0.	.58
.00	.00	5.40	.00	.000	.017	.000	.000	.00	8.92
.029641	0.	0.	0.	0	20	8	.00	21.59	30.52

3/18/99 11:49:30

T1 28' FF
T2 100YR 6HR
T3 SANTA MARTHA

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
0 3 0 1 .038

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
2 0 0 -1 0 0 0 0 0 0 0 0 0 0 0

SECNO DEPTH CWSEL CRIWS QROB VROB XLOBR WSELK ALOB XNL ITRIAL EG ACH XNCH IDC HV AROB XNR ICONT HL VOL WTN CORAR OLOSS TWA ELMIN TOPWID BANK ELEV LEFT/RIGHT SSTA ENDST

*PROF 2

CCHV= .100 CEHV= .300

*SECNO 1.000

2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

1.00	.50	.50	.64	.00	1.04	.54	.00	.00	.85
26.	0.	26.	0.	0.	4.	0.	0.	0.	.58
.00	.00	5.91	.00	.000	.017	.000	.000	.00	8.93
.037770	0.	0.	0.	0	20	8	.00	20.61	29.54

THIS RUN EXECUTED 3/18/99 11:49:30

HEC2 RELEASE DATED SEP 88 UPDATED APR 1989

ERROR CORR - 01,02

MODIFICATION -

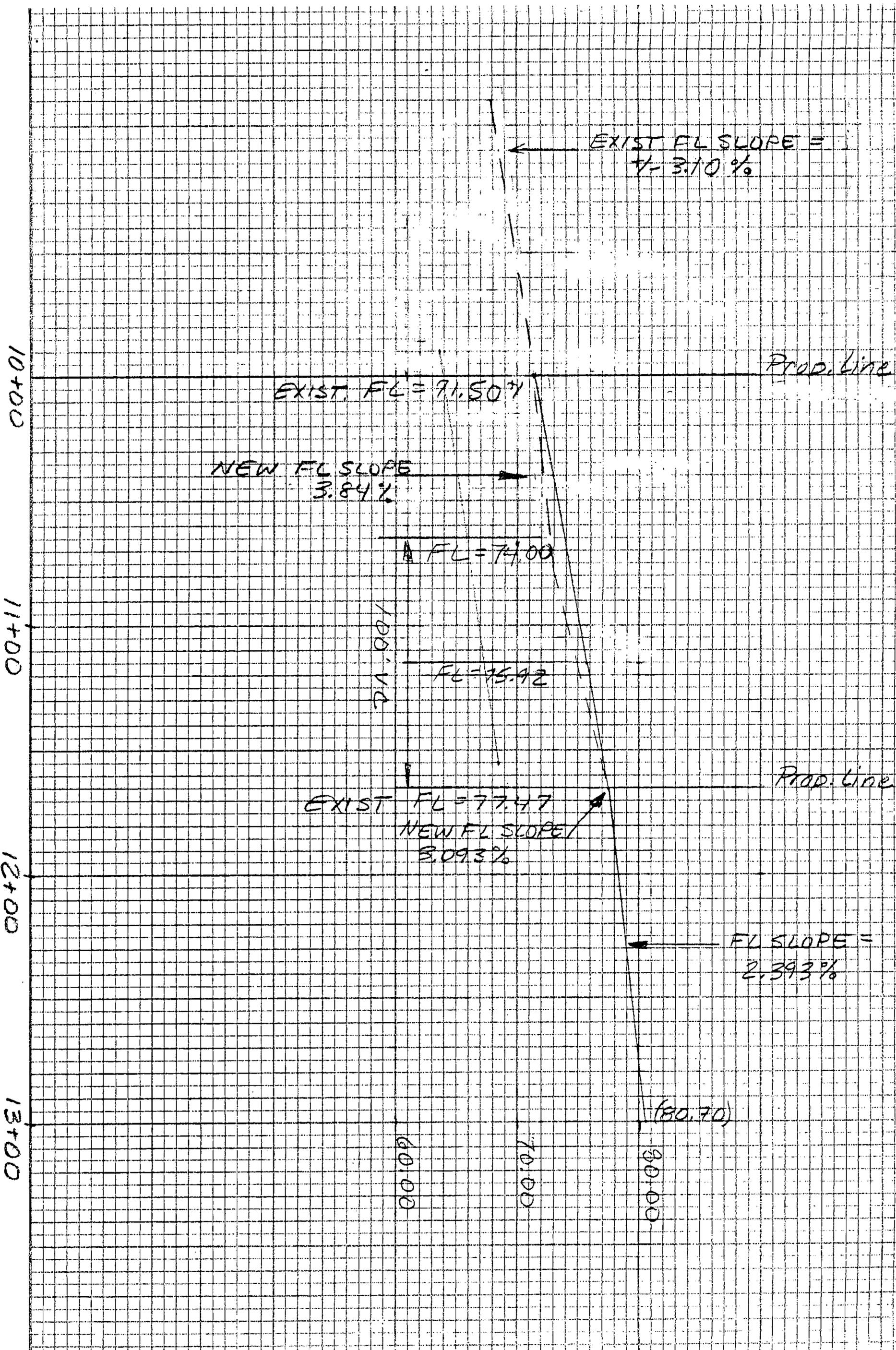
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SLOPE = APPROX 3.0%

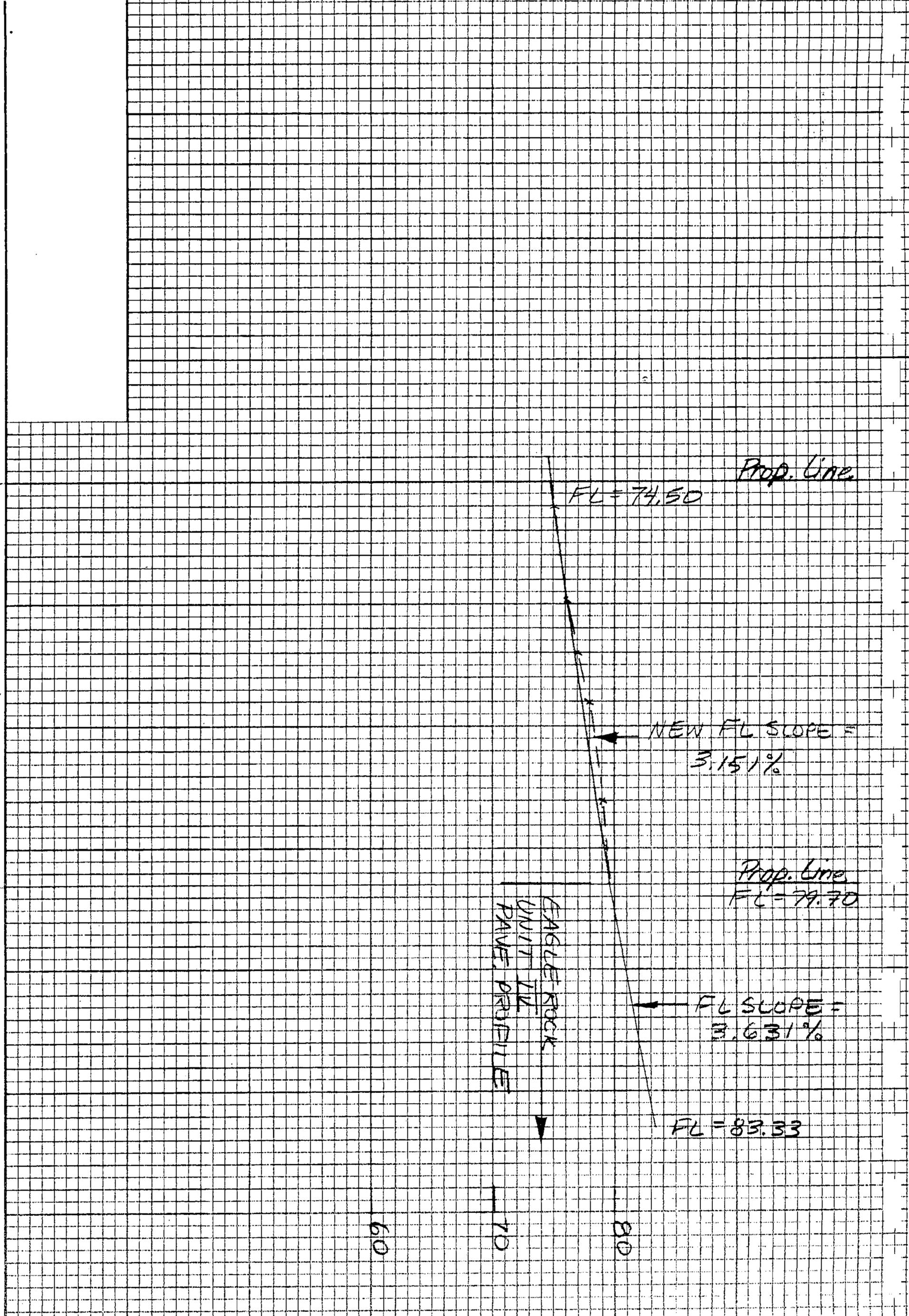
SUMMARY PRINTOUT

SECNO	Q	CWSEL	CRIWS	VCH	TOPWID	FRCH	EG
1.000	25.55	.52	.64	5.40	21.59	2.03	.97
1.000	25.55	.50	.64	5.91	20.61	2.28	1.04

EAGLE ROCK PROFILE
COLE BLDG.



MODESTO PROFILE
COLE BLDG.



Cole Building Site
PROJECT SITE

8cfs

9.72cfs 1.72cfs

New 30" SD (53.2cfs)

EXIST 8" SAS

EXIST 8" WL

EAGLE ROCK AVE. N.E.
(60' R/W)

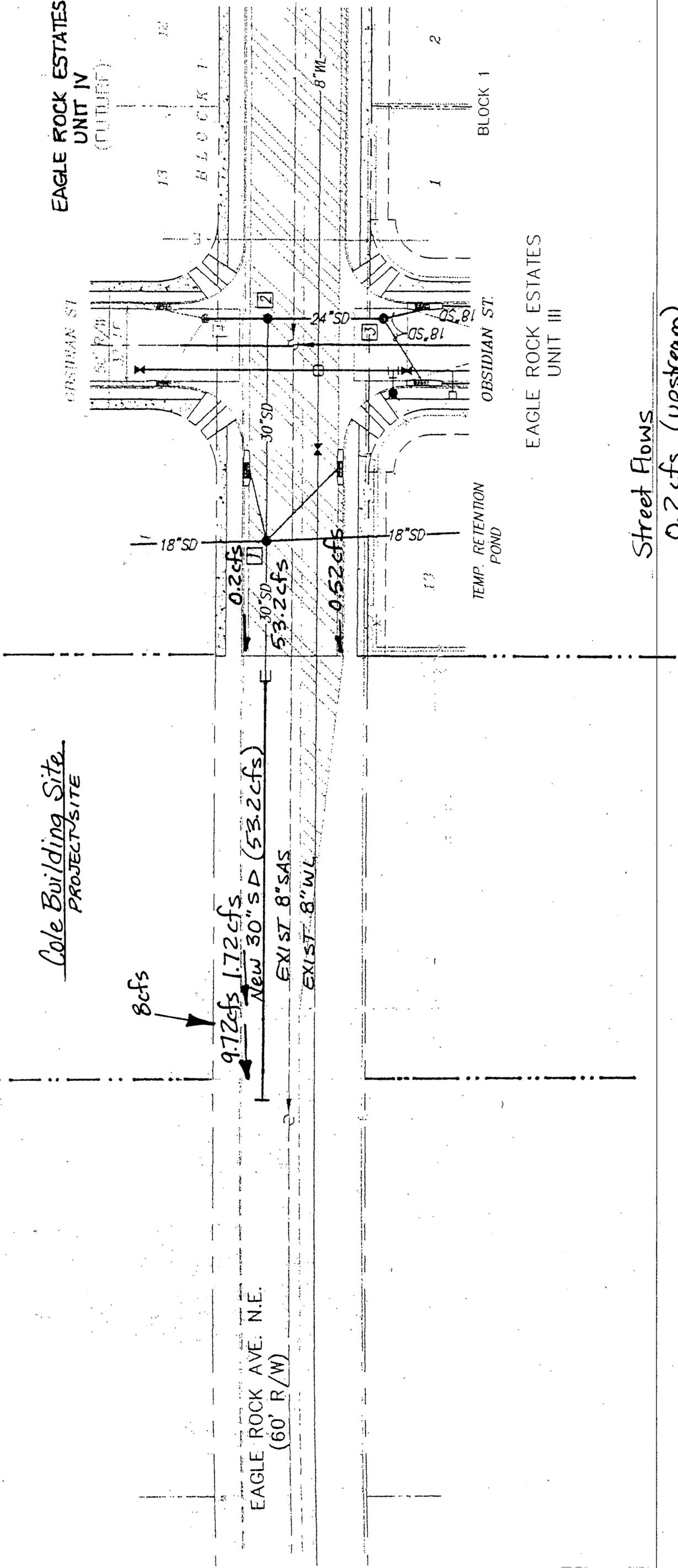
EAGLE ROCK ESTATES
UNIT IV
(OUTLET)

BLOCK 1

TEMP. RETENTION
POND

EAGLE ROCK ESTATES
UNIT III

BLOCK 1



Street Flows

0.2 cfs (upstream)
+ 0.52 cfs (upstream)
+ 1.00 cfs (adjacent Cole Site - Developed)

1.72 cfs
8.00 cfs (Cole site - Dev.)
9.72 cfs

Street Capacity > 26.0 cfs