

DRAINAGE CALCULATIONS

1. INPUT DATA

TIME=0.0

HYDROGRAPH FOR MADRID STATE FARM

ON THE SOUTHERN CORNER OF EAGLE RANCH ROAD

AND CAMINITO COORS

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.87 IN RAIN SIX=2.20 IN

RAIN DAY=2.66 IN DT=0.03333 HR

HYDROGRAPH FOR EXISTING PROPERTY

ID=1 HYD NO=101.1 AREA=0.0006719 SQ MI

PER A=100.0 PER B=0.0 PER C=0.0 PER D=0.0

TP=0.1333 HR MASS RAINFALL=-1

ID=1 CODE=1

HYDROGRAPH WITH PROPOSED IMPROVEMENTS ON PROPERTY

ID=2 HYD NO=101.2 AREA=0.0006719 SQ MI

PER A=0.0 PER B=10.0 PER C=10.0 PER D=80.0

TP=0.1333 HR MASS RAINFALL=-1

ID=2 CODE=1

FINISH

2. OUTPUT DATA

ANYMO PROGRAM (A=HYD194) - AMAFCA Hydrologic Model -

January, 1994

RUN DATE (MON/DAY/YR) = 02/28/1996

START TIME (HR:MIN:SEC) = 08:53:24 USER NO. =

M_GOODWIN.01

INPUT FILE = MAC90.DAT

START

TIME=0.0

HYDROGRAPH FOR MADRID STATE FARM

ON THE SOUTHERN CORNER OF EAGLE RANCH ROAD

AND CAMINITO COORS

RAINFALL

TYPE=1 RAIN QUARTER=0.0 IN

RAIN ONE=1.87 IN RAIN SIX=2.20 IN

RAIN DAY=2.66 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON

NOAA ATLAS 2 - PEAK AT 1.40 HR

DT = 0.03333 HOURS END TIME =

5.999400 HOURS

.0000 .0016 .0033 .0050 .0067

.0085 .0103 .0122 .0141 .0160 .0180 .0201

.0222 .0243 .0265 .0289 .0312 .0337 .0362

.0388 .0415 .0443 .0472 .0502 .0534 .0567

.0601 .0637 .0675 .0715 .0758 .0809 .0865

.0924 .1050 .1334 .1771 .2398 .3254 .4379

.9780 .11804 .12649 .13363 .13997

1.4575 1.5106

1.7646 1.7989

1.8314 1.8623 1.8915 1.9193 1.9458

1.9518 1.9576

1.9630 1.9682 1.9732 1.9780 1.9825

1.9869 1.9912

1.9953 1.9993 2.0031 2.0068 2.0104

2.0140 2.0174

2.0363 2.0392

2.0554 2.0580

2.0723 2.0746

2.0875 2.0896

2.1014 2.1033

2.1141 2.1159

2.1260 2.1276

2.1371 2.1386

2.1475 2.1489

2.1573 2.1587

2.1667 2.1680

2.1756 2.1768

2.1840 2.1852

2.1922 2.1933

2.2000

HYDROGRAPH FOR EXISTING PROPERTY

COMPUTE NM HYD

ID=1 HYD NO=101.1 AREA=0.0006719 SQ MI

PER A=100.0 PER B=0.0 PER C=0.0 PER D=0.0

TP=0.1333 HR MASS RAINFALL=-1

K = .163684HR TP = .133300HR K/TP RATIO =

1.227936 SHAPE CONSTANT, N = 2.899764

UNIT PEAK = 1.3788 CFS UNIT VOLUME = 9889

B = 2.1354 P60 = 1.8700

AREA = 0.000672 SQ MI IA = 65000 INCHES INF

= 1.67000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER

METHOD - DT = .033330

PRINT HYD

ID=1 CODE=1

PARTIAL HYDROGRAPH

101.10

RUNOFF VOLUME = 43925 INCHES = .0157

ACRE-FEET

PEAK DISCHARGE RATE = .56 CFS AT 1.533 HOURS

BASIN AREA = .0007 SQ. MI.

HYDROGRAPH WITH PROPOSED IMPROVEMENTS ON PROPERTY

COMPUTE NM HYD

ID=2 HYD NO=101.2 AREA=0.0006719 SQ MI

PER A=0.0 PER B=10.0 PER C=10.0 PER D=80.0

TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO =

.545000 SHAPE CONSTANT, N = 2.108420

UNIT PEAK = 2.1222 CFS UNIT VOLUME = 9941

B = 526.28 P60 = 1.8700

AREA = .000672 SQ MI IA = 10000 INCHES INF

= .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER

METHOD - DT = .033330

PRINT HYD

ID=2 CODE=1

PARTIAL HYDROGRAPH

101.20

RUNOFF VOLUME = 1.73552 INCHES = .0622

ACRE-FEET

PEAK DISCHARGE RATE = 1.73 CFS AT 1.500 HOURS

BASIN AREA = .0007 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) =

08:53:25

ACCORDING TO D-13/D1 LINEARBASE CAR WASH DRAINAGE STUDY HAS AN

ALLOWABLE DISCHARGE OF 1.8 cfs AND SITE GENERATES 1.73 cfs OF

DEVELOPED FLOW

THEREFORE SITE HAS FREE DISCHARGE

3. DE-SILTING CALCULATIONS

AREA = 0.43 AC

VOL = 0.0622 AC.FT./AC.

= 0.00622(0.43)(43.560)

= .1259 CU.FT.

POND = .40 CU.FT.

Q = 1.73 cfs

A = 2.375 sq ft.

V = 0.73 fps

DETENTION TIME = 96 sec.

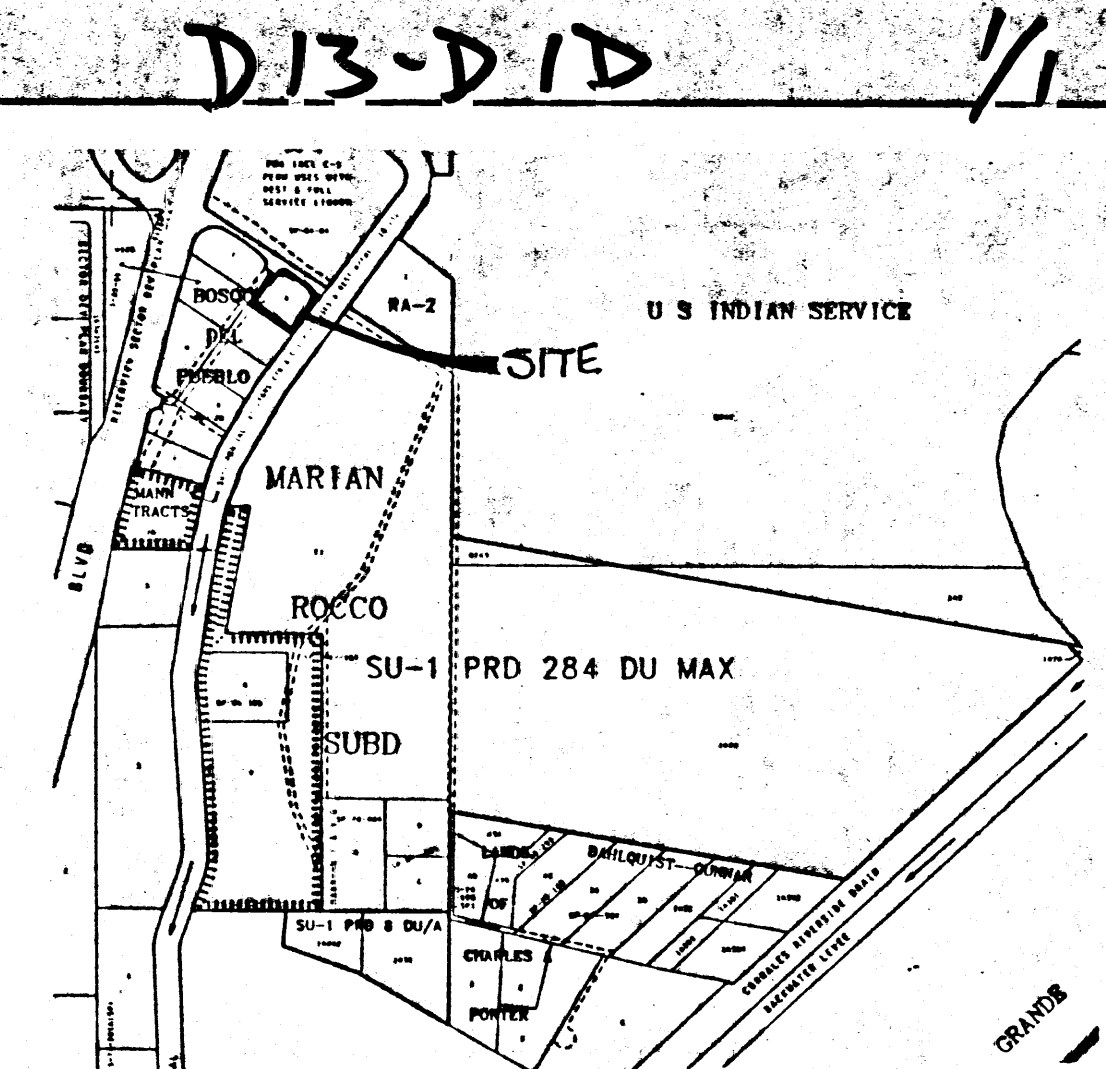
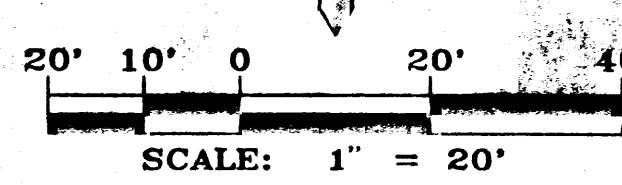
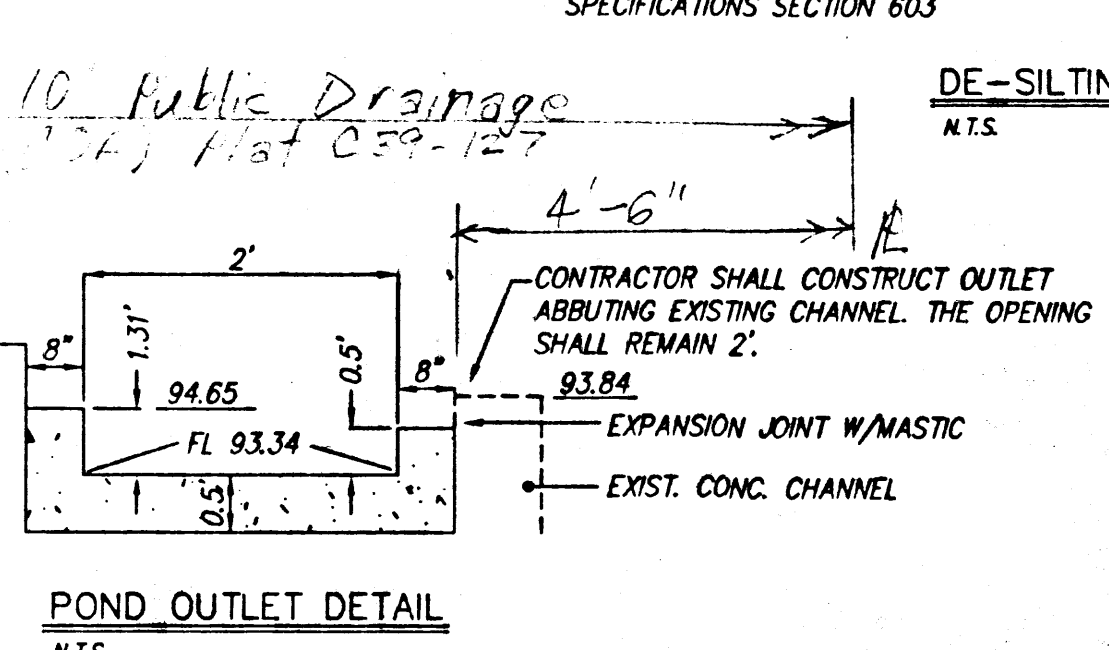
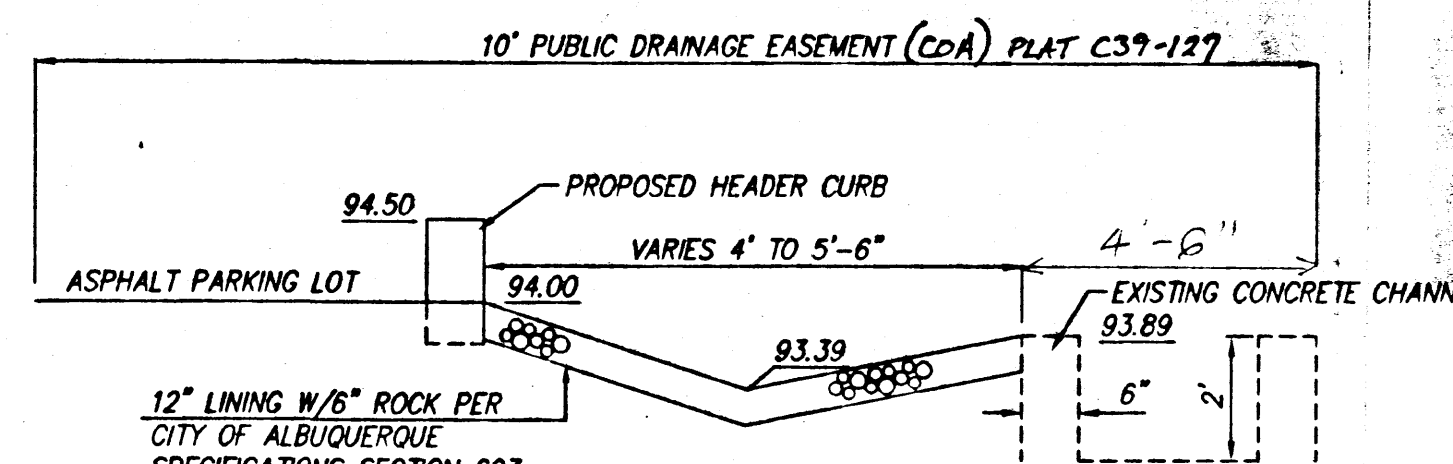
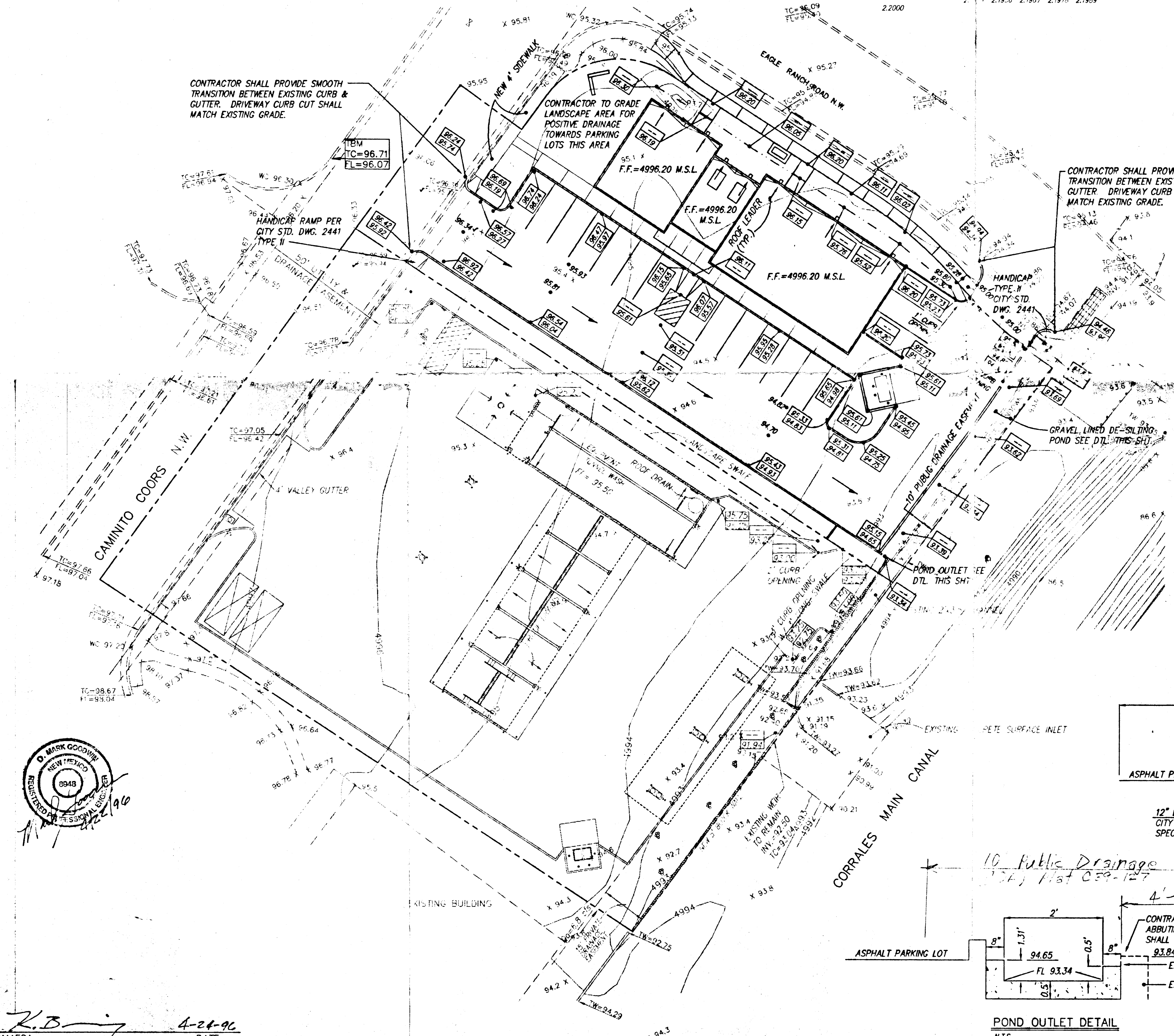
(96 sec.)(0.73 fps) = 70 ft. LENGTH OF POND

CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN EXISTING CURB & GUTTER. DRIVEWAY CURB CUT SHALL MATCH EXISTING GRADE.

CONTRACTOR TO GRADE LANDSCAPE AREA FOR POSITIVE DRAINAGE TOWARDS PARKING LOTS THIS AREA

CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN EXISTING CURB & GUTTER. DRIVEWAY CURB CUT SHALL MATCH EXISTING GRADE.

GRAVEL LINED DE-SILTING POND SEE DTL THIS SHEET

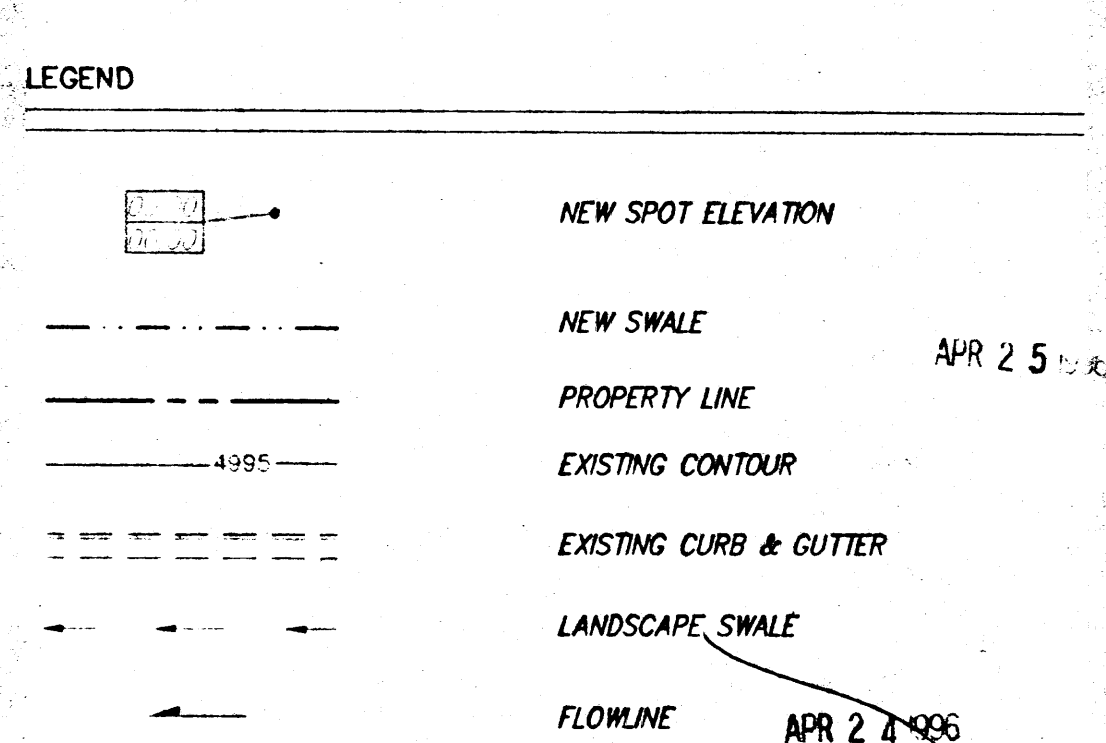


VICINITY MAP ZONE MAP: D-13-Z

ACS BENCHMARK
THE STATION MARK IS A STANDARD NMHC BRASS TABLET, STAMPED "STA NM48-NB", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. TO REACH THE STATION FROM THE INTERSECTION OF CENTRAL AVE. AND COORS ROAD N., GO NORTH ON COORS ROAD 6.20 MILES TO THE STATION ON THE RIGHT. X=372,524.25, Y=1,514,838.11, Z=5018.922

LEGAL DESCRIPTION
LOT 6, BOSQUE DEL PUEBLO

- NOTES
1. SITE DOES NOT LIE WITHIN A 100 YEAR FLOOD ZONE.
 2. NO OFF-SITE FLOWS ENTER THIS SITE.
 3. CONTRACTOR SHALL CONSTRUCT TEMPORARY EARTHEN EROSION CONTROL BERM AT EAST PROPERTY LINE TO PREVENT SEDIMENT LEAVING SITE.
 4. ALL ROOF LEADERS ARE TO BE PROVIDED WITH SPLASH BLOCKS.



MADRID STATE FARM OFFICE BUILDING
GRADING & DRAINAGE PLAN

DMG D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 345-2010
Designed: RMJ Drawn: STAFF Checked: DMG Sheet 1 of 1
Scale: 1" = 10' Date: 02/96 Job: 96024