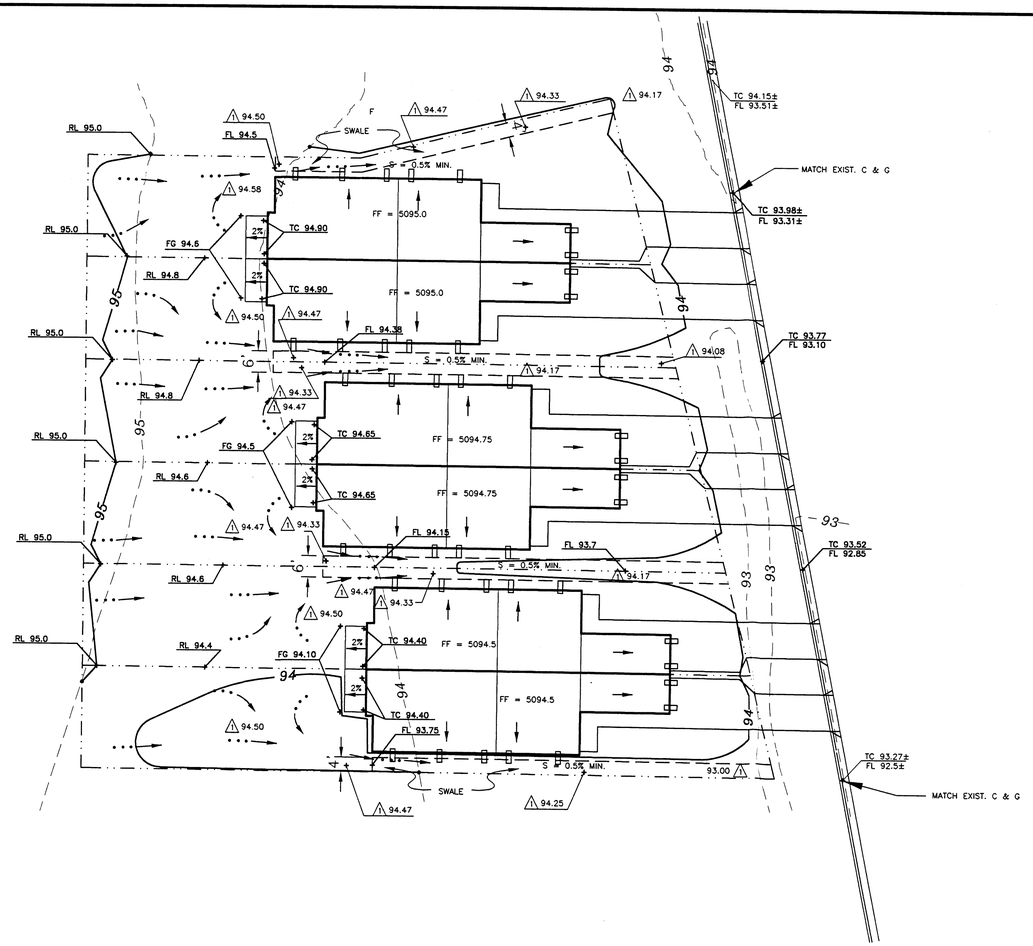
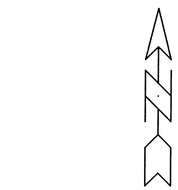


20 0 20 60

Scale 1" = 20 ft

## LEGAL DESCRIPTION:

PROJECT INFORMATION

LOTS 3 THRU 8, VISTA DEL OESTE SUBDIVISION
ALBUQUERQUE, NEW MEXICO

PROJECT BENCHMARK

TOP OF CURB AT THE PROJECTION OF SOUTHEAST PROPERTY CORNER, TC=5093.27, AS TIED FROM 1-40-18, A STANDARD NMSHC BRASS TABLET SET FLUSH IN TOP OF CONCRETE (SEE PLAN)

PROJECT ADDRESS:

ATRISCO DRIVE, NW

TOPOGRAPHIC SURVEY:

PERFORMED UNDER THE DIRECT SUPERVISION OF GARY E. GRITSKO, P.S. LICENSE #6686, MAY, 1994 GRADING & DRAINAGE PLAN

THE PROPOSED RESIDENTIAL TOWNHOME DEVELOPMENT IS LOCATED IN THE NORTHWEST PORTION OF ALBUQUERQUE COMMONLY KNOWN AS THE WEST BLUFF, APPROXIMATELY 1.5 MILES NORTHWEST OF DOWNTOWN. THE GRADING AND DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE CITY OF ALBUQUERQUE STORM DRAINAGE ORDINANCE (ART.IX, SECT. 7-9) AND FLOOD HAZARD ORD. #88-46. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR SUBDIVISIONS REPLAT APPROVAL AND SUBSEQUENT BUILDING PERMIT APPROVAL.

THE PROPOSED PLAN SHOWS:

1.) EXISTING CONTOURS WITH EXISTING AND NEW SPOT ELEVATIONS.
2.) PRIVATE AND PAVED ACCESS DRIVES, NEW STRUCTURES, CONCRETE DRIVES NEW SIDEWALKS, DRAINAGE FLOW AND NEW GRADE ELEVATIONS.
3.) CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
4.) QUANTIFICATION AND RESPECT TO HISTORICAL DRAINAGE PATTERNS, WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUN-OFF GENERATED BY THE PROPOSED IMPROVEMENTS, ESSENTIALLY ALLOWING HISTORIC DRAINAGE PATTERNS TO REMAIN UNCHANGED AFTER DEVELOPMENT. THE PLAN DETERMINES THE RUN-OFF RESULTING FROM THE 100-YEAR/6-HOUR DURATION STORMS FOR BOTH THE EXISTING AND DEVELOPED CONDITIONS.

PRESENTLY, THE SITE IS BOUNDED ON THE NORTH AND WEST BY A DEVELOPED, ESTABLISHED SUBDIVISION. PROPERTY IMMEDIATELY TO THE SOUTH IS CURRENTLY UNDEVELOPED. ATRISCO DRIVE, NW ON THE EAST IS PAVED 40' WIDE WITH CURB, GUTTER, WITHOUT SIDEWALK WITHIN A 100 FOOT RIGHT-OF-WAY. THE SITE GENERALLY DRAINS FROM THE NW TO SE AT APPROXIMATELY 1 PERCENT. NO OFF-SITE DRAINAGE FLOWS ENTER THE PROPERTY DUE TO THE EXISTING BLOCK WALL ON THE REAR BOUNDARY. THE PROJECT IS NOT ENCUMBERED BY A DESIGNATED FEMA FLOOD PLAIN. SEE MAP, THIS SHEET.

THE PROPOSED DRAINAGE SCHEME ASSOCIATED WITH THE NEW DEVELOPMENT IS TO DRAIN ALL DEVELOPED FLOWS TO EXISTING ATRISCO DRIVE CONVEYED BY EXISTING CURB AND GUTTER TO THE EXISTING STORM SEWER SYSTEM LOCATED AT THE INTERSECTION OF ILIFF AND ATRISCO DRIVE TO THE SOUTH. HYDROLOGIC PROCEDURES AND CALCULATIONS ARE IN ACCORDANCE WITH SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA REVISED JANUARY 1993.

## GENERAL NOTES

1. CONTRACTOR TO GRADE BACKYARD AREAS TO DRAIN TO EARTHEN SWALES BETWEEN BUILDINGS AS PER FLOW LINES AND SPOT ELEVATIONS.

## LEGEND

| | EXIST. | PROPOSED |
|---|---|---|
| TOP OF CURB/CONC. ELEV. | TC 94.0 | TC 94.0 |
| FLOW LINE ELEV. | FL 94.0 | FL 94.0 |
| FINISHED GRADE ELEV. | | FG 94.0 |
| RIDGE LINE ELEV. | | RL 94.0 |
| FLOW LINE | | |
| ROOF DRAINS (SCUPPERS) | | |
| DRAINAGE EASEMENT | | |
| PROPERTY LINE | | |

1

## ENGINEER'S CERTIFICATION

I HAVE INSPECTED THE SITE DURING THE WEEK OF SEPTEMBER 15, 1997. THE INSTALLATION OF THE SITE IMPROVEMENTS WERE SUBSTANTIALLY IN CONFORMANCE WITH THE DRAINAGE PLAN AND DRAINAGE REPORT.

RAYMOND HENSLEY, P.E. 9/17/97 NMPE #7873

RAYMOND HENSLEY NEW MEXICO No. 7873 REGISTERED PROFESSIONAL ENGINEER 9/17/97

## DRAINAGE NOTES & CALCULATIONS

I. DESIGN CRITERIA

PROPERTY AREA = 0.697 ACRES

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL (DPM), REVISED JANUARY 1993 FOR THE CITY OF ALBUQUERQUE

DISCHARGE RATE: Q = QPEAK x AREA..."PEAK DISCHARGE RATES FOR SMALL WATERSHEDS"
VOLUMETRIC DISCHARGE: VOLUME = Eweighted x AREA
SOIL TYPE: "B", MWA, MADUREZ-WINK ASSOC., A FINE SANDY LOAM AS CLASSIFIED BY THE SOIL CONSERVATION SERVICE.
DESIGN STORM: 100-year/6-hour WHERE [ ] = 10 YEAR VALUES

II. USING A UNIT DISCHARGE RATE OF 3.2 CFS PER ACRE.
OFF-SITE BASIN DISCHARGE FROM THE NORTH ON ATRISCO DRIVE.

UPSTREAM BASIN = 0.2 AC x 3.2 cfs/AC. = 0.64 cfs AS BEFORE
(GRADING & DRAINAGE PLAN - CLARK ENGINEERING, DATED 2/10/95)
% ADDITIONAL DUE TO INCOMPLETE DEVELOPEMENT OF PRIOR HAZELBAKER DEVELOPEMENT PLAN.
Qp = 6.8 cfs(.70/1.70) = 2.80 cfs

TOTAL UPSTREAM Qgutter = 0.64 + 2.80 = 3.24 cfs

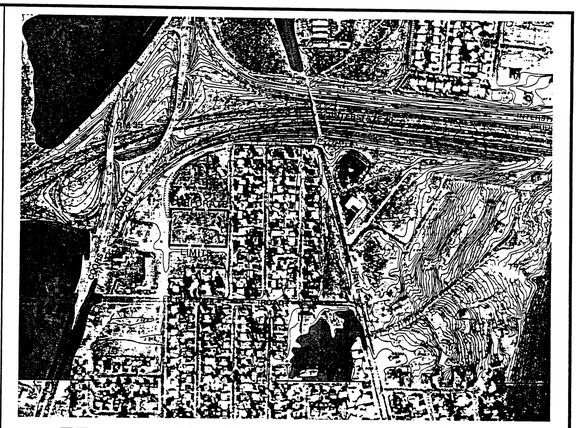
III. CHECK CAPACITY OF EXISTING STORM INLET SYSTEM LOCATED AT ILIFF/ATRISCO INTERSECTION:
REF: NOMOGRAPH, DPM,
PLATE 22.3 D-2, DEPTH = 0.5 FEET, WHERE S = 0.42%, & A 40' WIDE STREET. Q = 10.8 cfs.
PLATE 22.3 D-5, READ APPROX. 8 cfs GRATING CAPACITY OF TYPE "A" - OK.

| IV. CALCULATIONS | EXIST. | PROPOSED |
|---|---|---|
| (TABLE 4) | LAND TREATMENT "C" | LAND TREATMENT "B" & D" |
| (TABLE 8) | E = .99(.70) = 0.69 [.31] | E = (.67(.40) + 1.97(.30))/.70 = 1.23 [0.66] |
| (TABLE 9) | Qp = 2.87(.70) = 2.01 cfs [1.04] | Qp = 2.03(.40) + 4.37(.30) = 2.12 cfs [1.17] |
| (INCREASED Qp) | | Qinc = 2.12 - 2.10 = 0.02 cfs [0] |
| (TOTAL Qgutter) | Qgutter = 3.56 cfs | Qgutter = 3.56 + 2.25 = 5.81 cfs < 8.0 OK |

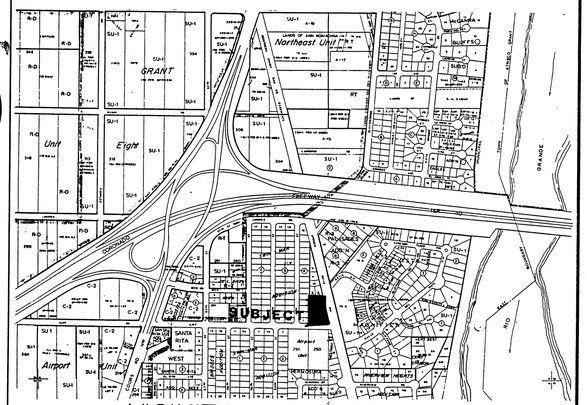
IV. PRIOR DRAINAGE APPROVAL (CLARK ENGINEERING 2/10/95) COMPARISON:

TOTAL $Q_{PRIOR}$ = 6.8 cfs (.70/1.70) = 2.80 cfs AVAILABLE FOR NEW REVISION.

TOTAL $Q_{NEW}$ = 2.12 < 2.80 OK UNDER EXISTING DRAINAGE PERMIT.



FEMA MAP, PANEL 21 AT 1"=500'




VICINITY MAP , ZONE H11

I, RAYMOND E. HENSLEY, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

RAYMOND E. HENSLEY, NMPE #7873 5/4/96

RAYMOND HENSLEY NEW MEXICO No. 7873 REGISTERED PROFESSIONAL ENGINEER

RECEIVED
SEP 17 1997
HYDROLOGY SECTION

| REV. | DATE | DESCRIPTION |
|---|---|---|
| 1. | 09/17/97 | ENG. CERT. & AS-BUILT ELEVATIONS |

PROJECT TITLE

# ATRISCO TOWNHOMES

PARADIGM CONSTRUCTION
ALBUQUERQUE, NEW MEXICO

SHEET TITLE

## GRADING/DRAINAGE


4001 JUAN TABO NE — SUITE A
ALBUQUERQUE, NEW MEXICO 87111
(505)298-3477

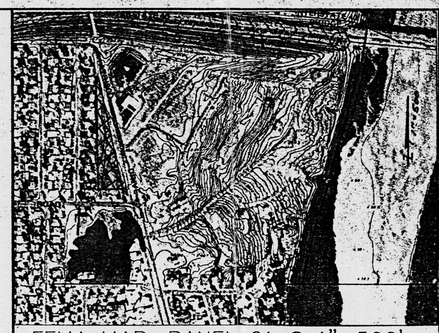
CAMI
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.


DRAWN BY L.L.& DH
CHK'D BY REH

DATE: 09/17/97

1

(SAVE) D:\HAZEL\GRADING.dwg



FEMA MAP, PANEL 21 @ 1"=500'

VICINITY MAP, ZONE H-11
SCALE: 1"=750'


## LEGEND

| | |
|---|---|
| EXIST. SPOT ELEV. | + 99.6 |
| EXIST. CONTOUR | 94 |
| NEW SPOT ELEV. | 10.10 |
| NEW CONTOUR | 10 |
| NEW STRUCTURE | |
| NEW CONCRETE | |
| FACE TO FACE OF CURB | F/F |
| TOP OF CURB | TC |

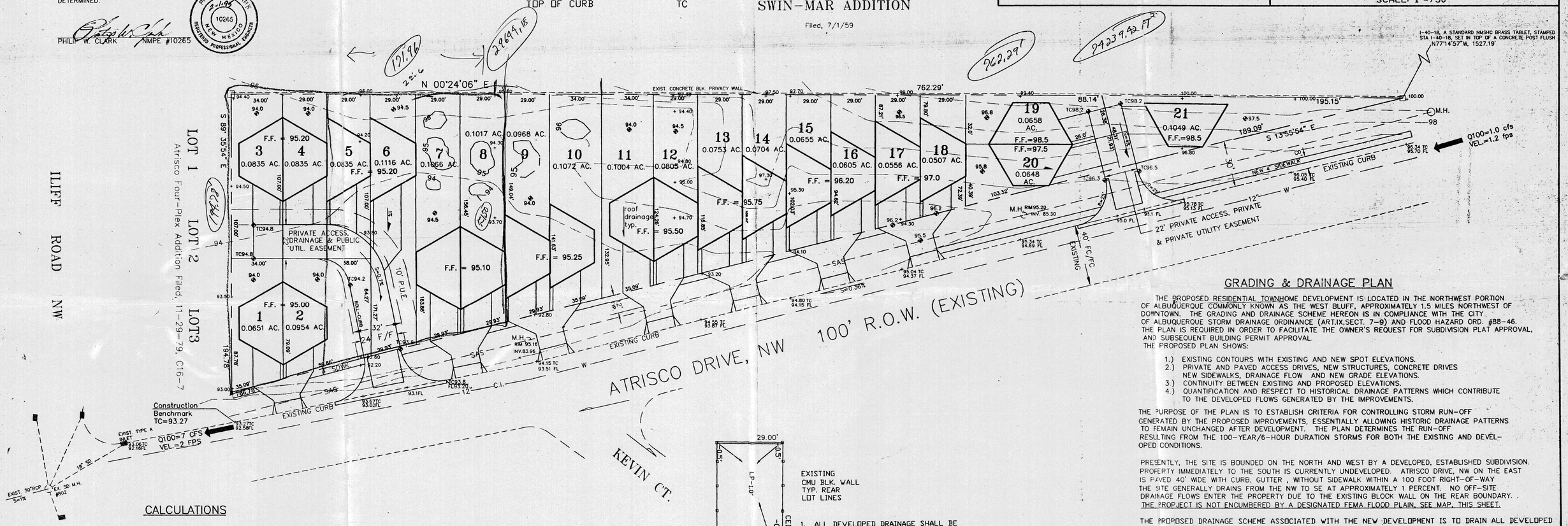
I, PHILIP W. CLARK, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS, AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

PHILIP W. CLARK NMPE #10265

PHILIP W. CLARK 10265 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 5-1-95

## SWIN-MAR ADDITION

Filed, 7/1/59




## GRADING & DRAINAGE PLAN

THE PROPOSED RESIDENTIAL TOWNHOME DEVELOPMENT IS LOCATED IN THE NORTHWEST PORTION OF ALBUQUERQUE COMMONLY KNOWN AS THE WEST BLUFF, APPROXIMATELY 1.5 MILES NORTHWEST OF DOWNTOWN. THE GRADING AND DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE CITY OF ALBUQUERQUE STORM DRAINAGE ORDINANCE (ART.IX,SECT. 7-9) AND FLOOD HAZARD ORD. #88-46. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR SUBDIVISION PLAT APPROVAL, AND SUBSEQUENT BUILDING PERMIT APPROVAL.
THE PROPOSED PLAN SHOWS:

1.) EXISTING CONTOURS WITH EXISTING AND NEW SPOT ELEVATIONS.
2.) PRIVATE AND PAVED ACCESS DRIVES, NEW STRUCTURES, CONCRETE DRIVES NEW SIDEWALKS, DRAINAGE FLOW AND NEW GRADE ELEVATIONS.
3.) CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
4.) QUANTIFICATION AND RESPECT TO HISTORICAL DRAINAGE PATTERNS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUN-OFF GENERATED BY THE PROPOSED IMPROVEMENTS, ESSENTIALLY ALLOWING HISTORIC DRAINAGE PATTERNS TO REMAIN UNCHANGED AFTER DEVELOPMENT. THE PLAN DETERMINES THE RUN-OFF RESULTING FROM THE 100-YEAR/6-HOUR DURATION STORMS FOR BOTH THE EXISTING AND DEVELOPED CONDITIONS.

PRESENTLY, THE SITE IS BOUNDED ON THE NORTH AND WEST BY A DEVELOPED, ESTABLISHED SUBDIVISION. PROPERTY IMMEDIATELY TO THE SOUTH IS CURRENTLY UNDEVELOPED. ATRISCO DRIVE, NW ON THE EAST IS PAVED 40' WIDE WITH CURB, GUTTER , WITHOUT SIDEWALK WITHIN A 100 FOOT RIGHT-OF-WAY
THE SITE GENERALLY DRAINS FROM THE NW TO SE AT APPROXIMATELY 1 PERCENT. NO OFF-SITE DRAINAGE FLOWS ENTER THE PROPERTY DUE TO THE EXISTING BLOCK WALL ON THE REAR BOUNDARY.
THE PROPJECT IS NOT ENCUMBERED BY A DESIGNATED FEMA FLOOD PLAIN, SEE MAP, THIS SHEET.

THE PROPOSED DRAINAGE SCHEME ASSOCIATED WITH THE NEW DEVELOPMENT IS TO DRAIN ALL DEVELOPED FLOWS TO EXISTING ATRISCO DRIVE CONVEYED BY EXISTING CURB AND GUTTER TO THE EXISITING STORM SEWER SYSTEM LOCATED AT THE INTERSECTION OF ILIFF AND ATRISCO DRIVE TO HE SOUTH.

HYDROLOGIC PROCEDURES AND CALCULATIONS ARE IN ACCORDANCE WITH SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, REVISED JANUARY 1993, FOR THE CITY OF ALBUQUERQUE, NEW MEXICO.

## CALCULATIONS

### I. DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL (DPM), REVISED JANUARY 1993 FOR THE CITY OF ALBUQUERQUE
DISCHARGE RATE: Q = Qpeak x AREA. "PEAK DISCHARGE RATES FOR SMALL WATERSHEDS"
VOLUMETRIC DISCHARGE: VOLUME = Eweighted x AREA
SOIL TYPE: "B"; WHA, MADUREZ-WINK ASSOC., A FINE SANDY LOAM AS CLASSIFIED BY THE SOIL CONSERVATION SERVICE
P100 = 2.2 INCHES, ZONE 1 TIME OF CONCENTRATION, TC = 10 MINUTES
DESIGN STORM: 100-year/6-hour, 10-year/6-hour WHERE [ ] = 10 year VALUES

### II. EXISTING CONDITIONS

Property area = 1.7 ac.
PROJECT AREA = 2.2 ACRES, WHERE EXCESS PRECIPITATION 'A' = 0.44 IN. [0.08] & 'D' = 1.97 IN. [1.24]
PEAK DISCHARGE, Q100 = 3.7 CFS [1.3], WHERE UNIT PEAK DISCHARGE 'A' = 1.29 CFS/ACRE [0.24] @ 87%
AND UNIT PEAK DISCHARGE 'D' = 4.37 CFS/ACRE [2.89] @ 13%

THEREFORE: VOLUME100 = 5180 C.F. [1902 C.F.]

### III. DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE & WEIGHTED EXCESS PRECIPITATION

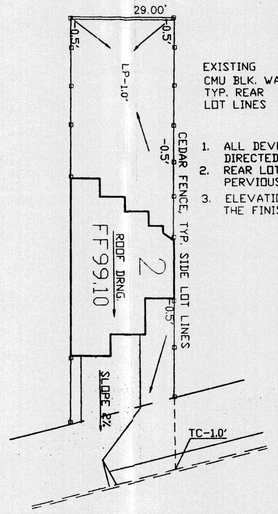
| | AREA | LAND TREATMENT | UNIT PEAK DISCHARGE | 'E' |
|---|---|---|---|---|
| UNDEVELOPED, | 0.0 AC. | A | 1.29[0.24] | 0.44[0.08] |
| LANDSCAPING, | 1.0 AC. | B | 2.03[0.76] | 0.67[0.27] |
| GRAVEL & COMPACTED SOIL | 0.3 AC. | C | 2.87[1.49] | 0.99[0.41] |
| ROOF/PAVEMENT, | 0.9 AC. | D | 4.37[2.89] | 1.97[1.24] |
| | 2.2 ACRES | | | |

Eweighted = 1.25 IN. [0.67]
Q100 = 6.8 CUBIC FEET PER SECOND (CFS) Q10 = 3.8 CFS; VOL.100 = 9983 CUBIC FEET (CF), VOL.10 = 5350 CF
TOTAL DISCHARGE RATES AND VOLUMES GENERATED BY ENTIRE DEVELOPMENT

- USING A UNIT DISCHARGE RATE OF 3.2 CFS PER ACRE, DETERMINE OFFSITE BASIN DISCHARGE FROM THE NORTH ON ATRISCO DRIVE

  BASIN = 0.2 AC x 3.2 CFS/AC. = 0.64 CFS

- CHECK CAPACITY OF EXISTING STORM INLET SYSTEM LOCATED AT ILIFF/ATRISCO INTERSECTION:
  REF: NOMOGRAPH, DPM, PLATE 22.3 D-2, DEPTH=0.5 FEET WHERE S=0.3% 40' WIDE STREET
  PLATE 22.3 D-5, READ 7 CFS GRATING CAPACITY OF TYPE A
  7=7 CFS OK




1. ALL DEVELOPED DRAINAGE SHALL BE DIRECTED TO THE STREET
2. REAR LOTS WILL BE ALLOWED TO POND PERVIOUS FLOWS.
3. ELEVATIONS SHOWN ARE RELATIVE TO THE FINISH FLOOR

## TYPICAL LOT GRADING
UNLESS NOTED OTHERWISE

## PROJECT INFORMATION

LEGAL DESCRIPTION:

LOTS 1 THRU 21, VISTA DEL OESTE SUBDIVISION
ALBUQUERQUE, NEW MEXICO

PROJECT BENCHMARK

TOP OF CURB AT THE PROJECTION OF SOUTHEAST PROPERTY CORNER, TC=5093.27, AS TIED FROM I-40-18, A STANDARD NMSHC BRASS TABLET SET FLUSH IN TOP OF CONCRETE (SEE PLAN).

PROPERTY ADDRESS:

ATRISCO DRIVE, NW

TOPOGRAPHIC SURVEY:

PERFORMED UNDER THE DIRECT SUPERVISION OF GARY E. GRITSKO, P.S. LICENSE # 6686, MAY, 1994.

PHILIP W. CLARK 10265 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 5-5-95

RECEIVED MAY 1 0 1996 HYDROLOGY


Clark Consulting Engineers
19 Ryan Road Edgewood, New Mexico 87015
(505) 281-2444 FAX (505) 281-2444


| DATE | REVISION |
|---|---|
| | |

VISTA del OESTE SUBD.

GRADING & DRAINAGE PLAN

| DESIGNED BY: PWC | DRAWN BY: CSS | JOB No: | SHEET No. |
|---|---|---|---|
| CHECKED BY: PWC | DATE: 4/1/95 | FILE No: VDOGD | 1 of 1 |