

Trapezoidal Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Parkland Hills

Comment: Channel Adjacent to Pouls' property

Solve For Discharge

Given Input Data:

Bottom Width.....	0.67 ft
Left Side Slope..	1.00:1 (H:V)
Right Side Slope.	1.00:1 (H:V)
Manning's n.....	0.013
Channel Slope....	0.0050 ft/ft
Depth.....	0.50 ft

Computed Results:

Discharge.....	2.03 cfs
Velocity.....	3.46 fps
Flow Area.....	0.59 sf
Flow Top Width...	1.67 ft
Wetted Perimeter.	2.08 ft
Critical Depth...	0.51 ft
Critical Slope...	0.0047 ft/ft
Froude Number....	1.03 (flow is Supercritical)



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 12, 1994

Joe P. Kelley
Chavez-Grieves
5639 Jefferson St. NE
Albuquerque, NM 87107

RE: ENGINEER CERTIFICATION FOR PARKLAND HILLS INC. (K16-D9)
CERTIFICATION STATEMENT DATED 9/15/94.

Dear Mr. Kelley:

Based on the information provided on your September 29, 1994 submittal, Engineer Certification for the above referenced site is acceptable.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,


Bernie J. Montoya, CE
Engineering Associate

BJM/d1/WPHYD/8381

c: Andrew Garcia
File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 12, 1994

Joe P. Kelley
Chavez-Grieves
5639 Jefferson St. NE
Albuquerque, NM 87107


RE: ENGINEER CERTIFICATION FOR WORK DONE WITHIN MS. CONSTANCE ANN
POULS SITE (K16-D9) CERTIFICATION STATEMENT DATED 9/29/94.

Dear Mr. Kelley:

Based on the information provided on your September 29, 1994 submittal,
Engineer Certification for the above referenced site is acceptable.

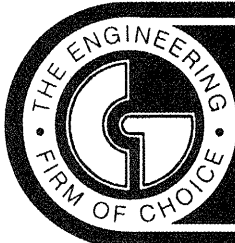
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Sincerely,


Bernie J. Montoya, CE
Engineering Associate

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c: Andrew Garcia
File



CHAVEZ · GRIEVES

CONSULTING ENGINEERS, INC.

5639 JEFFERSON STREET NE · ALBUQUERQUE, NEW MEXICO 87109 · PHONE (505) 344-4080 · FAX (505) 343-8759

September 29, 1994

Mr. Bernie Montoya, C.E.
City of Albuquerque Public Works Dept., Hydrology Division
City-County Building Room 301
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: PARKLAND HILLS DRAINAGE PLAN (K16-D9)
114 GIRARD SE DRAINAGE CHANNEL - ENGINEERS CERTIFICATION

Dear Mr. Montoya:

Transmitted herewith are:

- o Engineer's Certification of Parkland Hills
- o Engineer's Certification of 114 Girard SE
- o Copy of recorded Drainage Covenant

I spoke to Ms. Pouls and received her verbal satisfaction with the work done on her property.
You may call her at 255-4517 to verify this if you would like.

Please call if you have any questions.

Sincerely,

CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

Joe P. Kelley, P.E.
Project Engineer

JPK/cjr

Cy: Mr. Lee Gamelsky
Mr. Tony Anella
Ms. Connie Pouls

SEP 29 1994

DRAINAGE INFORMATION

PROJECT TITLE PARKLAND HILLS ZONE ATLAS/DRNG. FILE #: K-16/D9

DRB#: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Tract C, Lands of Parkland Hills, Inc. ^{Blvd}

CITY ADDRESS: Girard Boulevard, South of Central ^{106 Girard SE}

ENGINEERING FIRM: Chavez-Grieves Consulting Engineers

CONTACT: Joe Kelley

ADDRESS: 5639 Jefferson NE, Albq.NM

PHONE: 344-4080

OWNER: _____

CONTACT: _____

ADDRESS: _____

PHONE: _____

ARCHITECT: Gamelsky-Benton

CONTACT: Lee Gamelsky

ADDRESS: 622 Tijeras Avenue NW, Albq.

PHONE: 842-8865

SURVEYOR: Ron Forstbauer

CONTACT: _____

ADDRESS: 1100 Alvarado Drive NE

PHONE: 268-2112

CONTRACTOR: Bradbury and Stamm

CONTACT: _____

ADDRESS: _____

PHONE: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION
- ☐ OTHER

PRE-DESIGN MEETING:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

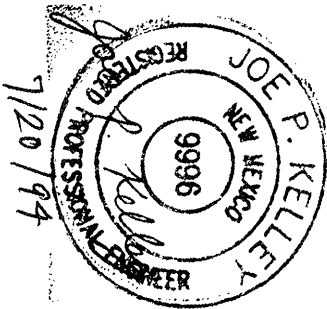
CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PRMT. APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL, FOR EARLY PARKING LOT EXPANSION
- ☐ S.A.D. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS
- ☐ OTHER _____ (SPECIFY)

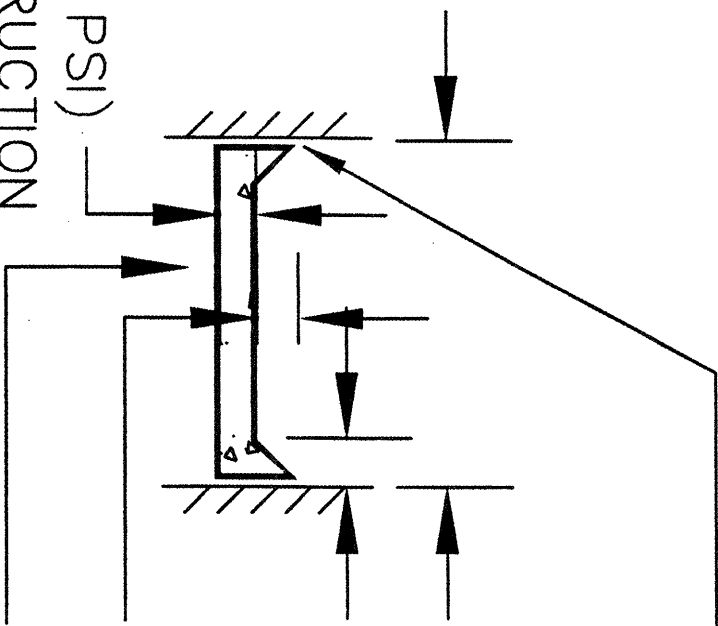
DATE SUBMITTED: September 29, 1994

BY: Joe Kelley, P.E.

SEP 29



4" CONCRETE (3000 PSI) WITH TOOLED CONSTRUCTION JOINTS AT 5' O.C.



PRE-FORMED BITUMINOUS EXPANSION MATERIAL, TYP.

VARIES FROM 1'-8" TO 4'-6" 6", TYP.

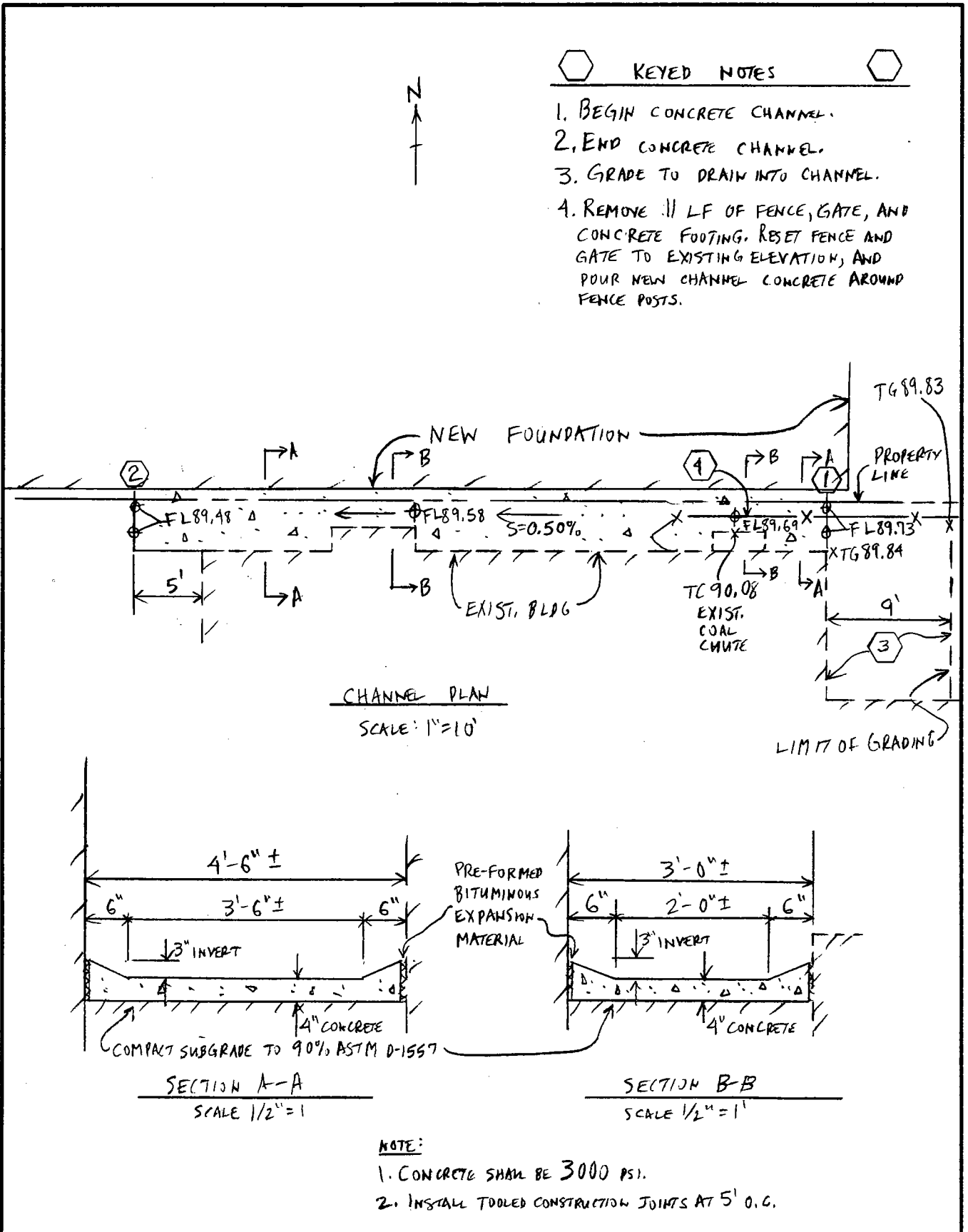
6" INVERT

COMPACT SUBGRADE TO 90% ASTM D-1557

SECTION A-A



SHEET NO. _____ OF _____
JOB PARKLAND HILLS
SUBJECT OFF-SITE CHANNEL
CLIENT _____
JOB NO. _____
BY JPK DATE 6/29/94



OWNER LOT ^{CP} 2

Constance Ann Poulis 3-AUG-94
DATE

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 3rd

day of August, 1994, by Constance Ann Poulis,
(Name of Officer)

Owner of _____.
(Title or Capacity, E.G. (Name of Corporation)
"President" or "Owner")

Debbie Brunell-Roberts
Notary Public

My Commission Expires: October 8, 1995

DRAINAGE COVENANT

THIS COVENANT made this 1ST day of SEPTEMBER, 1994, by and between

PARKLAND HILLS, INC. (name of the property owner as it appears on the title), OWNER of Tract C, Lands of Parkland Hills, Inc., in the City of Albuquerque, New Mexico, as the same is shown and designated on the plat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico, on August 3, 1983, in Book C-21, Page 177.

AND

Constance Ann Poulis (name of the property owner as it appears on the title), OWNER of Lot 2, Block 32, of the University Heights Addition to the City of Albuquerque, New Mexico, as the same is shown and designated on the plat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico, on February 7, 1916, in Book D, Page 27.

The OWNER (which term includes successors and assigns) of Tract C, grants to the Owner of Lot 2 the right to convey storm runoff across the boundary lines to the right-of-way of Girard Boulevard SE.

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.

1822

OWNER LOT ⁴ 2

Constance Ann Poulos 3-AUG-94
DATE

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 3rd

day of August, 1994, by Constance Ann Poulos,
(Name of Officer)

Owner of _____
(Title or Capacity, E.G. (Name of Corporation)
"President" or "Owner")

Debbie Buell-Roberts
Notary Public

My Commission Expires: October 8, 1995

08/04/84

07:32

2505 343 8759

PRM

008/008

182

OWNER TRACT C

[Handwritten signature]

9-1-94

Sent via Registered Mail, DATE

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this

day of September, 1994, by

Albert A. Quill


(Name of Officer)

Secretary Treasurer
(Title or Capacity, E.G.
"President" or "Owner")

○

Parkland Hills Inc

(Name of Corporation)


Notary Public

Notary Public

My Commission Expires:

1-27-98

94111497

1820

DRAINAGE COVENANT

THIS COVENANT made this 1ST day of SEPTEMBER, 1994, by and between

PARKLAND HILLS, INC. (name of the property owner as it appears on the title), OWNER of Tract C, Lands of Parkland Hills, Inc., in the City of Albuquerque, New Mexico, as the same is shown and designated on the plat thereof, filed in the office of the County Clerk of Bernalillo County, New Mexico, on August 3, 1983, in Book C-21, Page 177.

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The OWNER (which term includes successors and assigns) of Tract C, grants to the Owner of Lot 2 the right to convey storm runoff across the boundary lines to the right-of-way of Girard Boulevard SE.

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.

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1994 SEP -9 PM 2:57

94-26-1820-
JUDY D. WOODWARD
CO. CLERK & RECORDER
11/20/94

1822

Constance Ann Jones 3-AUG-94
DATE

My Commission Expires: October 8, 1995

08/04/84

07:32

2505 343 8758

PRM-

0000000000

1821

OWNER TRACT C

[Signature]

9-1-94

Sent via Registered Mail. DATE

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 1st

day of ~~September~~, 1994, by


Albert A. Quill

(Name of Officer)

Secretary Treasurer
(Title or Capacity, E.G.
"President" or "Owner")

Parlane Hills Inc.

(Name of Corporation)


Anita M. Turner
Notary Public

Notary Public

My Commission Expires: 1-27-98

94111497

1820

DRAINAGE COVENANT

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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.

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1994 SEP -9 PM 2:57

94-26-1820-
BRI
JUDY D. WOODWARD
CO. CLERK & RECORDS
10/20/94

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.1451 CFS UNIT VOLUME = .9941 B = 526.28 P60 = 2.0100
AREA = .000543 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .132088HR TP = .133300HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .84530E-01CFS UNIT VOLUME = .8709 B = 324.91 P60 = 2.0100
AREA = .000035 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 2.01665 INCHES = .0622 ACRE-FEET
PEAK DISCHARGE RATE = 1.70 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 06:42:39

AHYMO PROGRAM (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992
 RUN DATE (MON/DAY/YR) = 02/24/1994
 START TIME (HR:MIN:SEC) = 06:42:39 USER NO.= J_KELLY_.S92
 INPUT FILE = AHYMO.in

***** CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC. *****

** AHYMO RUN FOR PARKLAND HILLS, TRACT C--
 ** ALBUQUERQUE, NEW MEXICO
 ** FILENAME: C:\PARKLAND\AHYMO.IN/OUT
 ** 100-YEAR, 6-HOUR STORM
 ** DATE: FEBRUARY 24, 1994
 **

START 0.00
 RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=2.01
 RAIN SIX=2.33 RAIN DAY=2.68 DT=0.03333

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT =	.033330 HOURS			END TIME =	5.999400 HOURS		
.0000	.0014	.0029	.0044	.0059	.0075	.0091	
.0107	.0124	.0141	.0158	.0176	.0195	.0214	
.0234	.0254	.0275	.0296	.0318	.0341	.0365	
.0390	.0416	.0442	.0470	.0499	.0530	.0562	
.0596	.0631	.0669	.0724	.0783	.0847	.0983	
.1288	.1758	.2432	.3352	.4561	.6103	.8023	
1.0367	1.2542	1.3450	1.4217	1.4899	1.5520	1.6091	
1.6622	1.7117	1.7582	1.8019	1.8432	1.8821	1.9190	
1.9540	1.9871	2.0185	2.0484	2.0767	2.0831	2.0890	
2.0946	2.0999	2.1050	2.1098	2.1145	2.1190	2.1233	
2.1274	2.1314	2.1353	2.1391	2.1427	2.1463	2.1497	
2.1531	2.1564	2.1596	2.1627	2.1657	2.1687	2.1716	
2.1745	2.1773	2.1800	2.1827	2.1853	2.1879	2.1904	
2.1929	2.1954	2.1978	2.2001	2.2024	2.2047	2.2070	
2.2092	2.2114	2.2135	2.2157	2.2178	2.2198	2.2219	
2.2239	2.2258	2.2278	2.2297	2.2316	2.2335	2.2354	
2.2372	2.2390	2.2408	2.2426	2.2444	2.2461	2.2478	
2.2495	2.2512	2.2529	2.2545	2.2562	2.2578	2.2594	
2.2609	2.2625	2.2641	2.2656	2.2671	2.2686	2.2701	
2.2716	2.2731	2.2745	2.2760	2.2774	2.2788	2.2803	
2.2816	2.2830	2.2844	2.2858	2.2871	2.2885	2.2898	
2.2911	2.2924	2.2937	2.2950	2.2963	2.2976	2.2988	
2.3001	2.3013	2.3026	2.3038	2.3050	2.3062	2.3074	
2.3086	2.3098	2.3110	2.3122	2.3133	2.3145	2.3157	
2.3168	2.3179	2.3191	2.3202	2.3213	2.3224	2.3235	
2.3246	2.3257	2.3268	2.3278	2.3289	2.3300		

***** DEVELOPED BASIN *****
 COMPUTE NM HYD ID=1 HYD=101 DA=.000578 SQ MI
 %A=0.0 %B=6.0 %C=0.0 %D=94.0
 TP=0.1333 RAINFALL=-1

AHYMO
COMPUTER
CALCULATIONS

the south discharges to Girard.

Runoff from the Walgreens building on the east is discharged to the south of the Walgreens. This is in accordance with the approved drainage report, K16/D9 by Victor J. Chavez, dated July 7, 1983.

There is an existing drop inlet in the asphalt-paved alley on the east. A field visit on January 26, 1994 revealed that this drop inlet had recently been covered up with a mixture of dirt and bituminous material. However, this shouldn't have a negative impact on the drainage pattern because it appears that this drop inlet is not necessary for the discharge of runoff. It appears that very little (if any) runoff is collected by the alley. Any runoff that might be collected by the alley will be discharged to Girard Blvd via the Dailey Place drainage easement.

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

The majority of the site's runoff will discharge into the Dailey Place drainage easement, which will convey the runoff to Girard Blvd. The remainder of the site will discharge directly into Girard Blvd.

CONCLUSION

The result of this plan is that all of the runoff will ultimately discharge to Girard Blvd. This is in accordance with the drainage pattern that existed prior to the old building being razed. The previously-developed site was entirely impervious, while the new site will have some landscaped areas. Therefore, the quantity of runoff will be less under the new conditions. The continued pattern of free discharge of runoff to Girard is therefore acceptable.



Feb. 24, 1994

DRAINAGE REPORT

LOCATION

This site is located on the east side of Girard SE, 200' south of Central.

LEGAL DESCRIPTION

Tract C, Lands of Parkland Hills, Inc.

DEVELOPMENT HISTORY AND SURROUNDING DEVELOPMENT

This tract used to have a building on it that covered the entire site. So the site was entirely impervious. Six months ago (September, 1993) that building was razed in preparation for this future development.

The site fronts on a 28' wide drainage easement located on the adjoining Tract B, to the north. This easement is referred to as Dailey Place, a non-dedicated street. Dailey Place provides vehicular access to the shopping center to the east and the restaurant to the north. It will also provide vehicular access for the subject property.

East of the site is an alley that has been granted as a private easement for public access, water, sanitary sewer, and drainage. Across the alley from this site is the back of a Walgreens store.

The site abuts the Girard SE R.O.W. on the west; and it abuts a residential lot on the south.

FLOOD HAZARD ZONES

As shown by panel 3500020029 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, dated October 14, 1983, the site is not located in or near a designated flood hazard zone.

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

As stated previously, a building was recently razed on this site. Before the building was removed, the site sloped from east to west and discharged into Girard Blvd. Because of the building removal, the site is temporarily a localized low point with no vegetation.

Off-site runoff from the parking lots to the north and northwest is routed to Girard Blvd. via the paved surfaces of the drainage easement called Dailey Place. Runoff from the residential lot on

DRAINAGE REPORT

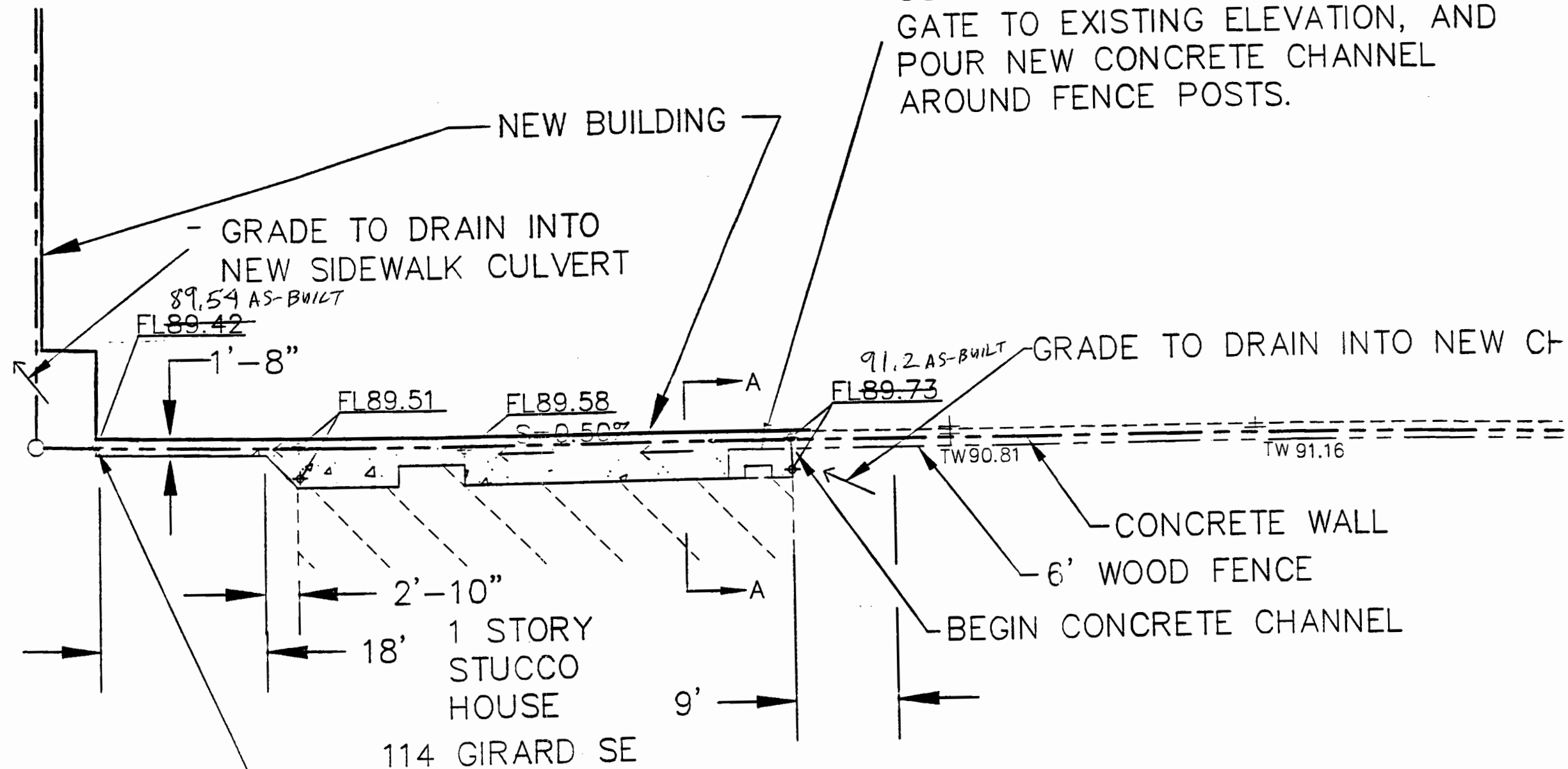
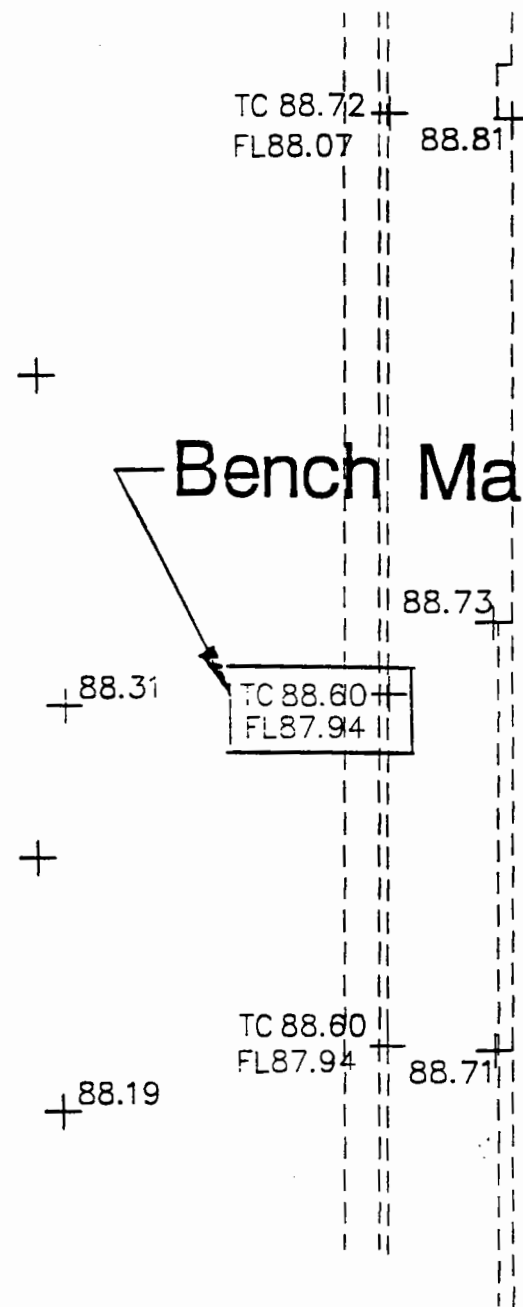
FOR

PARKLAND HILLS, TRACT C

CITY OF ALBUQUERQUE, NEW MEXICO

FEBRUARY 1994

GIRARD BOULEVARD SE



REMOVE 11 LF OF FENCE, GATE, AND CONCRETE FOOTING. RESET FENCE AT GATE TO EXISTING ELEVATION, AND POUR NEW CONCRETE CHANNEL AROUND FENCE POSTS.

END CONCRETE CHANNEL
Q ACTUAL = 0.37 CFS
Q CAPACITY = 2.03 CFS



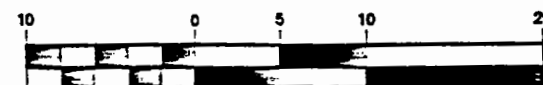
Joe P. Kelley 7/20/99
9/6/94

I HEREBY CERTIFY THIS DRAINAGE PLAN IS IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED DRAINAGE PLAN.

SIGNED: Joe P. Kelley
DATE: 9/29/94

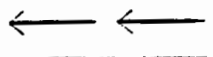


GRAPHIC SCALE



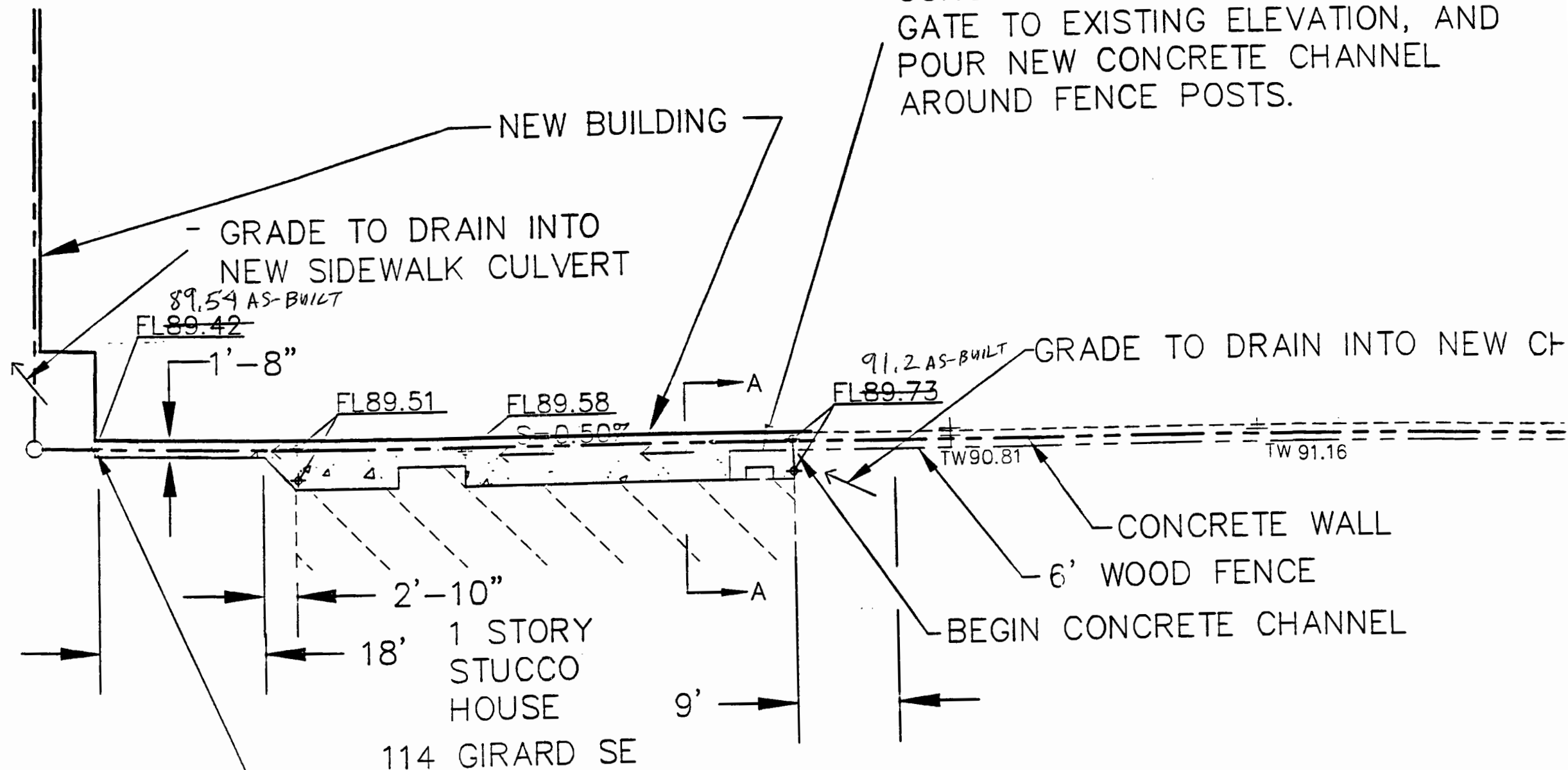
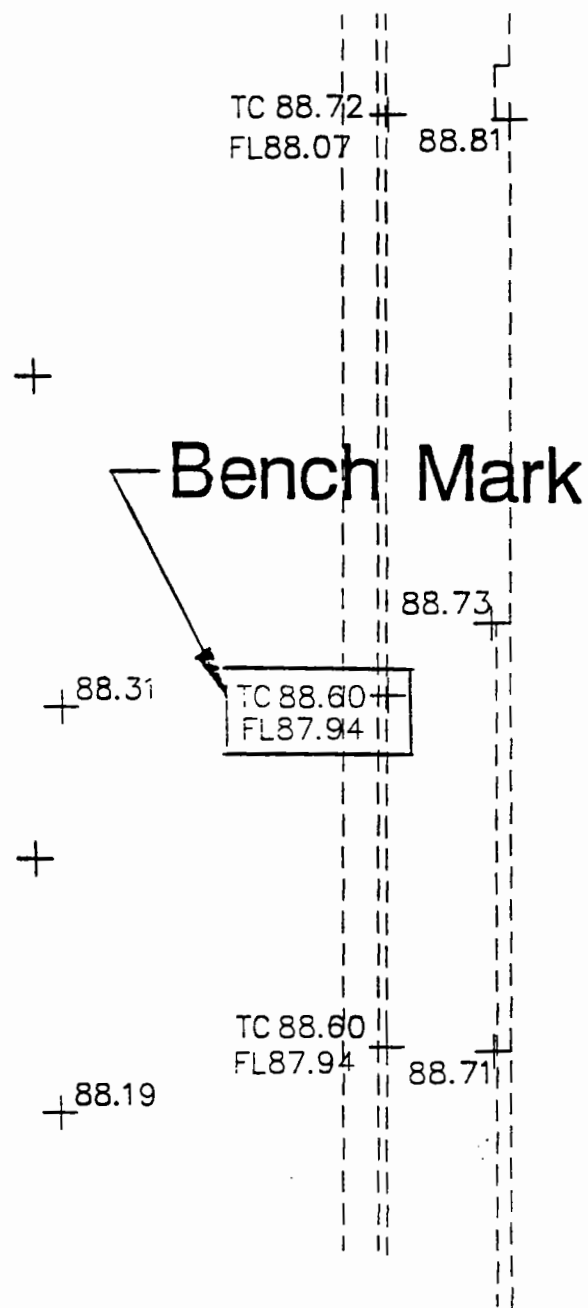
(IN FEET)
1 inch = 10 ft.

LEGEND



29

GIRARD BOULEVARD SE



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Joe P. Kelley 7/20/99
9/6/99

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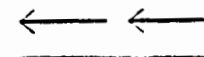
GRAPHIC SCALE

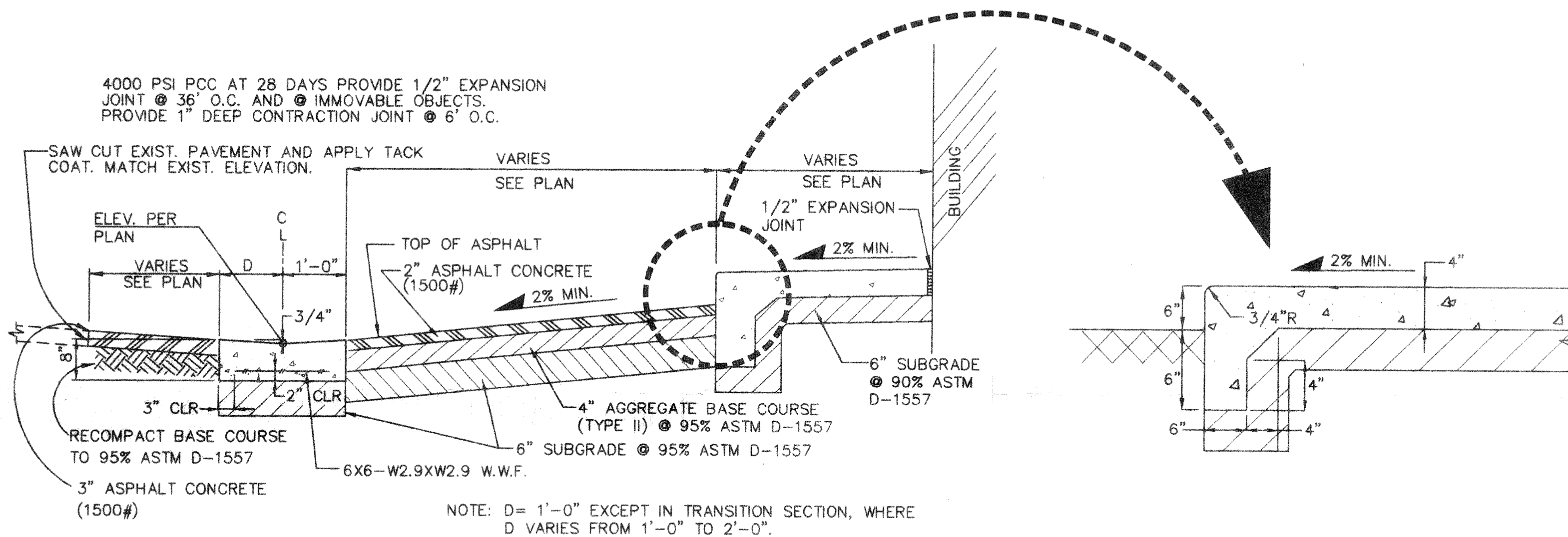


(IN FEET)

1 inch = 10 ft.

LEGEND

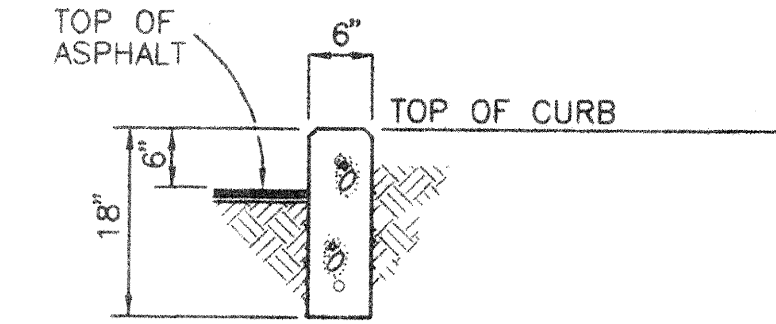




PAVEMENT SECTION

NTS

4000 PSI PCC AT 28 DAYS PROVIDE 1/2" EXPAN-
SION JOINTS @ 30' O.C., @ IMMOVABLE OBJECTS AND
@ BEGINNING AND END OF CURVES. PROVIDE 1 1/2"
DEEP CONTRACTION JOINT @ 5' O.C.



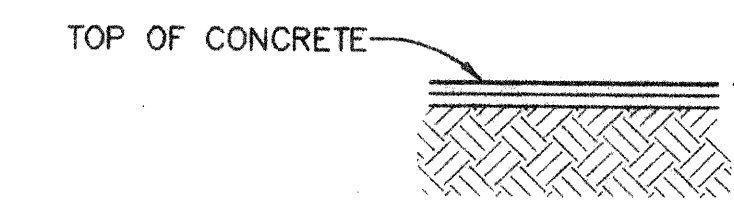
ALL EXPOSED CONCRETE CORNERS
TO HAVE 3/4" RADII

CONCRETE HEADER CURB DETAIL

3/4"=1'-0"

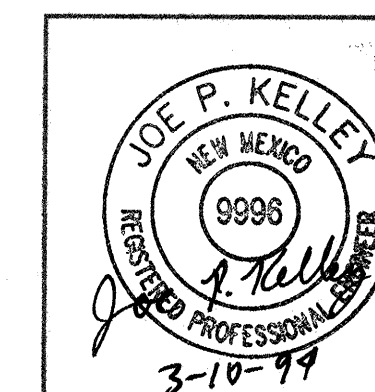
18" X 12" 20 GAGE HAND-
ICAPPED METAL SIGN. WHITE
SYMBOL ON BLUE BACKGROUND,
MOUNTED ON BUILDING.

"D"=5'-0" FOR RESERVED PARKING.
"D"=7'-0" FOR VAN PARKING.

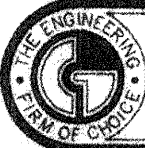


HANDICAPPED SIGNING DETAILS

3/8"=1'-0"



NO	DATE	REVISIONS

 <div>CHAVEZ • GRIEVES CONSULTING ENGINEERS, INC.</div>
3639 JEFFERSON STREET N.E. • ALBUQUERQUE, NEW MEXICO 87109 PHONE: (505) 344-4080 • FAX: (505) 343-8759

PARKLAND HILLS INC.					
DETAIL SHEET					

DESIGNED	JPK	CHECKED	SUB	DRAWN	BKB	SHEET
DATE	3-94	DATE	3-94	DATE	3-94	C2