CITY OF ALBUQUERQUE

January 20, 2006

Brian Speicher, PE
COMMUNITY SCIENCES CORPORATION
P.O. Box 1328
Corrales, NM 87048

RE: RINCONADA TRAILS (F-10/D12)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 12/25/2004
Engineers Certification dated 09/01/2005

Dear Brian:

The Grading and Drainage Plan (GDP) you submitted for "SIA/Financial Guarantee Release" appears to be the one in the work order plan set and not the GDP which was approved via correspondence, dated April 28, 2004. Although the submitted GDP is not the correct one, based upon the information provided in your Engineer's Certification Submittal received 01/18/2006, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

If you have any questions, you can contact me at 924-3982

Sincerely,

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services

C: Marilyn Maldonado, COA# 737481
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

community sciences corporation

P. O. Box 1328
Corrales, NM 87048

January 18, 2006

Mr. Brad Bingham, PE
City Hydrologist
600 2nd Street NW
Albuquerque, NM 87102

RE: Grading and Drainage for Rinconado Trails Subdivision
Project # 737481

Mr. Bingham:

Attached is the as-built grading drawing of Rinconado Trails Subdivision with certification for project acceptance and SIA release. The project has been graded, and it will drain in substantial compliance with the intent of the approved plan dated 2/25/04.

Should you have any questions, please contact me. Thank you for your review.

Sincerely,

Brian L. Speicher, PE
Senior Engineer

BRIAN L. SPEICHER NEW MEXICO 7292 LICENSED PROFESSIONAL ENGINEER 1-18-06

P.O. Box 1328
Corrales, New Mexico 87048
Tel: (505) 897-0000 Fax: (505) 898-5195

3900 East Camelback Road, Suite 403
Phoenix, Arizona 85018
Tel: (602) 955-7097 Fax: (602) 955-7169

RECEIVED
JAN 19 2006
HYDROLOGY SECTION

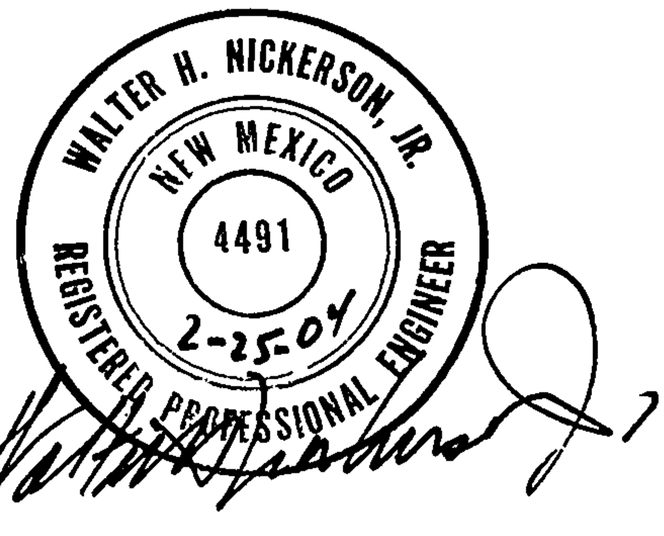
F:\N494 COLLATZ\06 W TRAILS\Drainage_Cert.doc

DEVELOPMENT CONSULTING
ENGINEERING AND SURVEYING
LOCAL GOVERNMENT SERVICES
COMPREHENSIVE LAND PLANNING
LAND DEVELOPMENT IMPLEMENTATION

F-10/012

DRAINAGE REPORT
FOR
RINCONADA TRAILS
ALBUQUERQUE, NM

TIFFANY HOMES



COMMUNITY SCIENCES CORPORATION
PO BOX 1328
CORRALES, NM 87048
BY
WALTER H. NICKERSON, JR. PE

SITE DESCRIPTION

The proposed subdivision, Rinconada Trails comprised of 10.4 acres zoned RD, is to be developed on the east side of Unser Blvd. and west of Atrisco Blvd., near the intersection of Unser and Western Trails. The site location is shown on the enclosed zone atlas map A-11 and A-12, The report represents an overall drainage management and conceptual grading plan for approval by the City of Albuquerque in order that the subsequent subdivision and development may proceed. The site is not located in a designated Flood Hazard Zone per FEMA – Firm Map 35001C0114 E. Per the USDA Soil Conservation Services (SCS), the soils type for this site is "Type A".

DESIGN-CRITERIA/LANDTREATMENT

The drainage plan presented in this report has been prepared in accordance with the City of Albuquerque Drainage Ordinances and Chapter 22 of the Development Process Manual DPM.

The hydrological analysis is based on the 100-year frequency, 6-hour duration storm, as represented in Section 22, Part A, Hydrology, of the Development Process Manual. Rainfall intensities per this report are as follows:

Zone	P60	P360	P1440
1	1.87	2.20	2.66

LAND TREATMEMNT

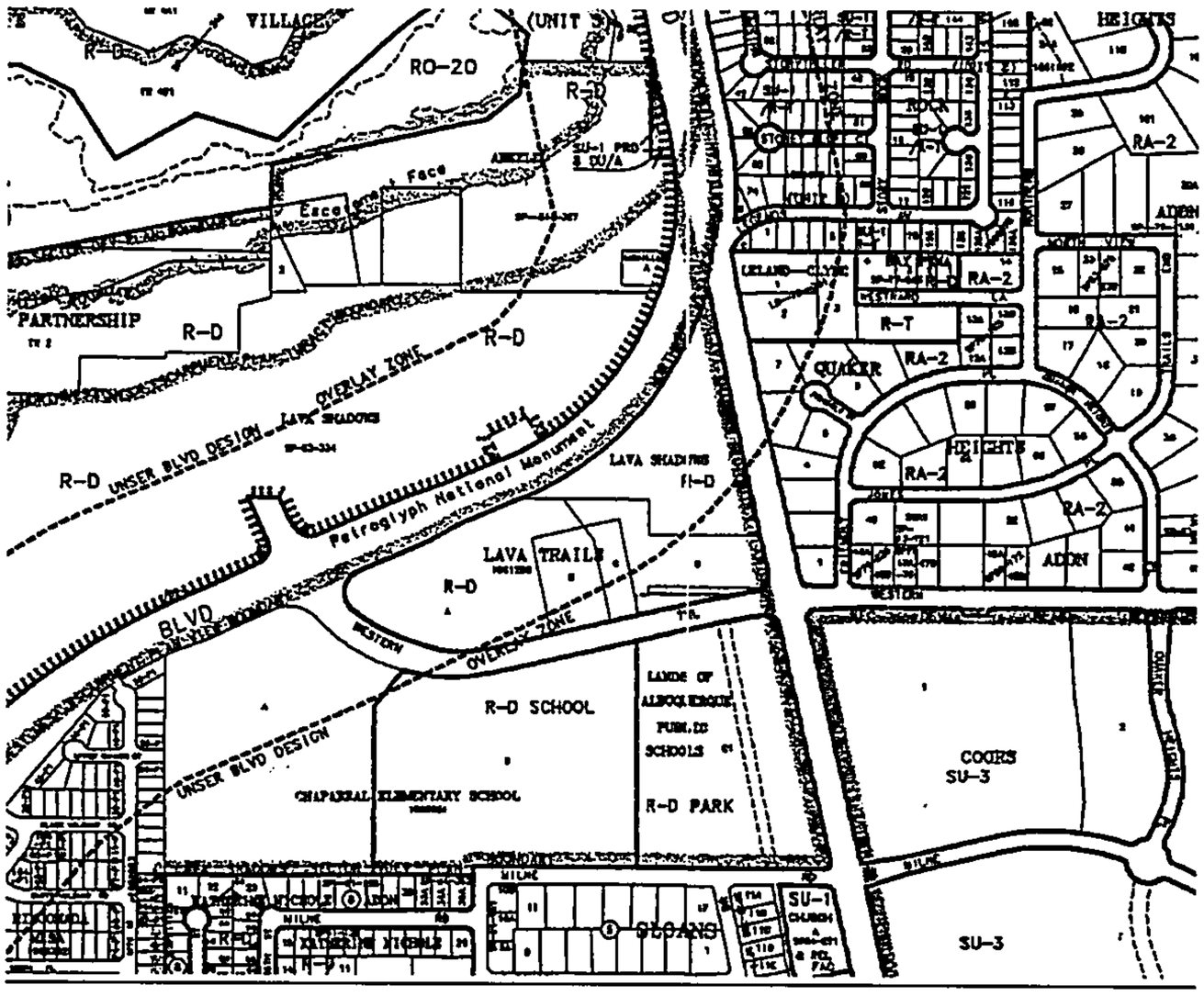
Residential DPM-Eqn a-4, Section 22

Treatment Type	A	B	C	D
	0.00%	30%	13%	57%

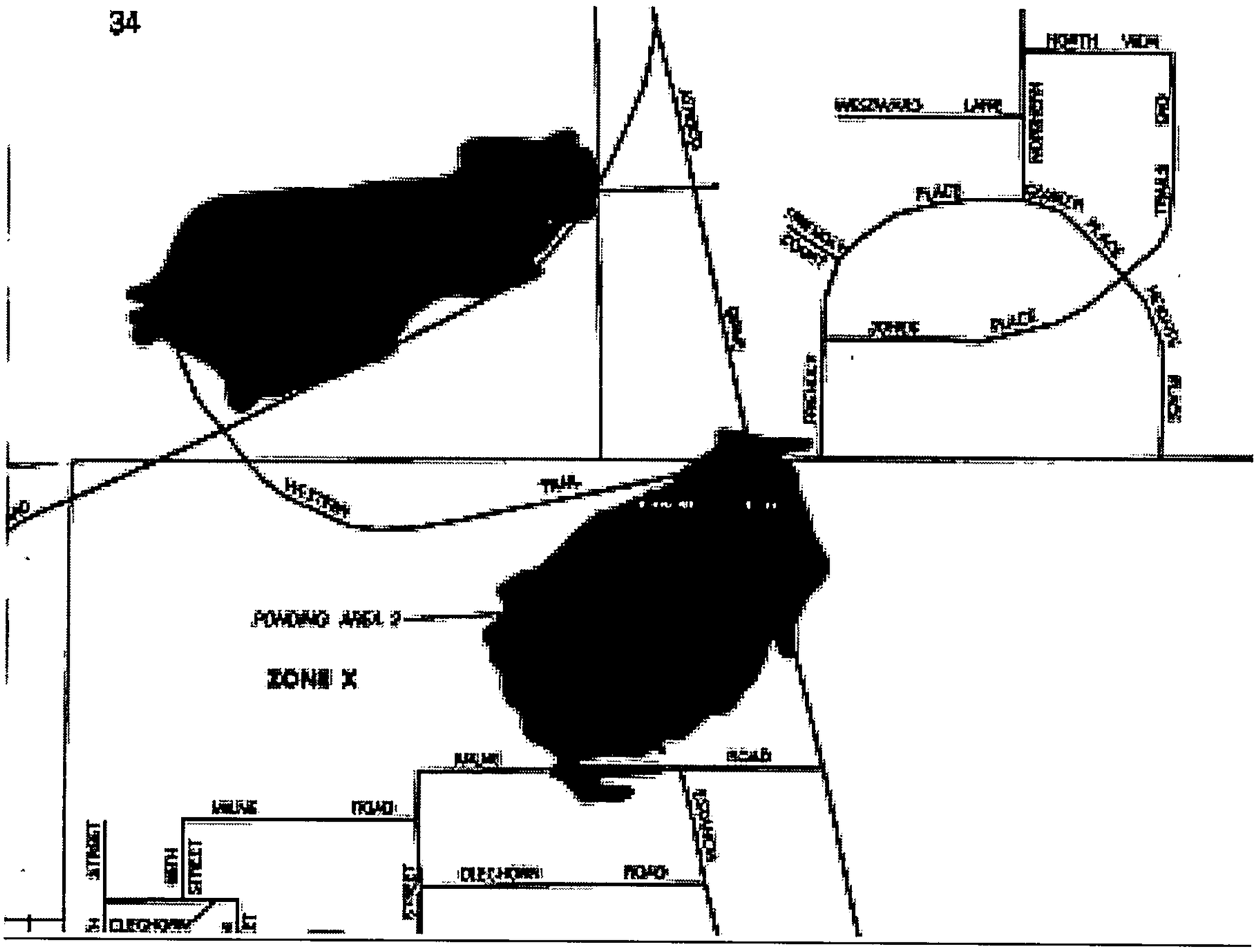
EXISTING DRAINAGE CONDITIONS

The site is currently undeveloped. Topography consists of sparse vegetation and native grasses and chamisa weeds. It has as cross-slope of approximately 3.0 to 4.5%. The site accepts no offsite flows. The existing drainage is to the south to drop inlets adjacent to Western Trails Blvd and Atrisco. The existing discharge for the site into the inlets is 21.79 cfs.

VICINITY MAP



FEMA MAP



PREVIOUS STUDIES

The allowable runoff for this site was previously determined in the "Drainage Report for Lava Trails Tract A" dated December 11, 2003 and the Unser Storm Drain by URS Greiner. In the Lava Trails report, flows from Basin Q1 drain into and inlet adjacent to Western Trail with a Q of 20.44 cfs and Basin Q2 drains to an inlet at Western Trail and Atrisco with a flow of 17 cfs.

DEVELOPED DRAINAGE CONDITIONS

It is the intent for the developed flows to be surface transported via street sections to two inlets in the end of the stub-streets within the subdivision. This flow will be routed to the proposed storm drain extension in Atrisco Blvd. The storm drain extension in Atrisco outfalls to the existing system in Western Trail. A drop inlet in Atrisco Blvd. will be designed to capture the developed street flow. The inlet in the northwest will capture 18.35 cfs. The inlet in the southeast will capture 13.71 cfs. The total flow into the existing storm drain system will be 35.1 cfs. The design capacity of the system can accommodate the proposed drainage.

Drainage area "DA3" will be captured and routed through the subdivision to the northwest inlet.

CONCLUSION

No adverse impact will result due to developed conditions. Flows will be contained within existing improvements. Existing improvements for the Unser Storm Drain system have been designed and built to accommodate the flows.

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02c RUN DATE (MON/DAY/YR) =02/20/2004
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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	NOTATION
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RAINFALL TYPE= 1										RAIN6= 2.200
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COMPUTE NM HYD	DA1	-	2	.00777	17.20	.599	1.44504	1.500	3.460	PER IMP= 57.00
ADD HYD	DA1DA3	1& 2	3	.00819	18.35	.641	1.46673	1.500	3.501	
COMPUTE NM HYD	DA4	-	4	.00112	3.04	.112	1.86941	1.500	4.235	PER IMP= 90.00
COMPUTE NM HYD	DA2	-	5	.00619	13.71	.477	1.44504	1.500	3.460	PER IMP= 57.00
FINISH										

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         INPUT FILE = RINC_FI.DAT

*                    **********************************
*                    *RINCONADA TRAIL-ALBUQUERQUE
*                    *100 YEAR DEVELOPED CONDITIONS
*                    **********************************
START                TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL             TYPE=1 RAIN QUARTER=0.0
                     RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                     RAIN DAY=2.66 IN DT=0.03 HRS

                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                  DT =     .030000 HOURS        END TIME =     6.000000 HOURS
                     .0000   .0015   .0030   .0045   .0060   .0076   .0092
                     .0109   .0125   .0143   .0160   .0178   .0196   .0215
                     .0235   .0254   .0275   .0296   .0317   .0339   .0362
                     .0385   .0409   .0434   .0460   .0487   .0515   .0543
                     .0573   .0605   .0637   .0671   .0707   .0745   .0789
                     .0837   .0888   .0943   .1098   .1372   .1773   .2328
                     .3066   .4016   .5206   .6668   .8431  1.0528  1.1993
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                    1.9925  1.9961  1.9997  2.0031  2.0065  2.0098  2.0129
                    2.0161  2.0191  2.0221  2.0250  2.0278  2.0306  2.0333
                    2.0360  2.0386  2.0412  2.0437  2.0462  2.0486  2.0510
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                    2.1889  2.1899  2.1909  2.1920  2.1930  2.1940  2.1950
                    2.1960  2.1970  2.1980  2.1990  2.2000

*                    **********************************

*
COMPUTE NM HYD       ID=1 HYD NO=DA3 DA=.00042 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=0 HR MASS RAIN=-1
```

Street Flow
Worksheet for 24' FL-FL

Project Description	
Worksheet	Irregular Channel - 2
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	0.005000	ft/ft
Discharge	32.00	cfs

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results		
Mannings Coefficient	0.015	
Water Surface Elevation	0.24	ft
Elevation Range	-0.33 to 0.50	
Flow Area	9.1	ft²
Wetted Perimeter	25.43	ft
Top Width	24.85	ft
Actual Depth	0.57	ft
Critical Elevation	0.25	ft
Critical Slope	0.004702	ft/ft
Velocity	3.53	ft/s
Velocity Head	0.19	ft
Specific Energy	0.43	ft
Froude Number	1.03	
Flow Type	Supercritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+01	0+34	0.015

Natural Channel Points

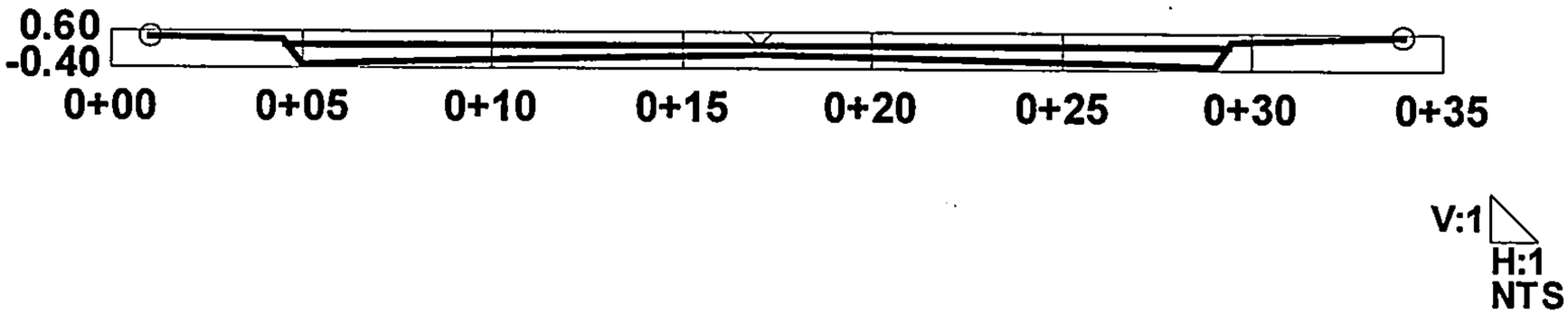
Station (ft)	Elevation (ft)
0+01	0.43
0+05	0.34
0+05	-0.33
0+07	-0.20
0+17	0.00
0+27	-0.20
0+29	-0.33
0+30	0.34
0+34	0.50

Walter Nickerson Jr.
37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

Street Flow
Worksheet for 24' FL-FL

Project Description	
Worksheet	Irregular Channel - 2
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.015	
Slope	0.005000	ft/ft
Water Surface Elevation	0.24	ft
Elevation Range	-0.33 to 0.50	
Discharge	32.00	cfs



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