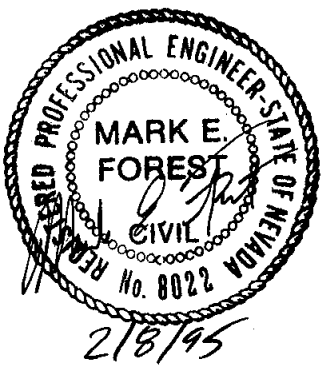
HYDRAULIC REPORT

FOR DRY CREEK

BETWEEN McCARRAN BOULEVARD AND EVANS CREEK

City of Reno, Nevada



Prepared For Submittal To:
City of Reno
Community Development Department

Prepared For:
Capurro Quilici Investments

Prepared By:
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5190 Neil Road, Suite 300
Reno, Nevada 89502

K/J 947038.00
January 1995

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CHAPTER 1

1.0 PURPOSE AND INTRODUCTION

This report was prepared for submittal to the City of Reno Community Development Department. The location of the study area, the project background and purpose of the study are described below.

1.1 Description of the Study Area

The study area is located between the east bank of Dry Creek and Longley Lane from McCarran Boulevard to a point that is approximately 4000 feet upstream (Figure 1-1). The study area is entirely within the City of Reno.

In past years, this portion of the Dry Creek floodplain has been used as pasture and has been irrigated from Dry Creek. As a result, the area is relatively flat with a slope toward the north of just under one percent. Because of the topography, flow in the east overbank of Dry Creek is wide and shallow and flows at relatively low velocities. Over the last ten years, this area has been developing with commercial uses. Approximately half of the study area is currently developed as commercial office complexes and some light industry.

1.2 Background

In the late 1970's the Federal Emergency Management Agency (FEMA) performed the first Flood Insurance Study (FIS) for Reno, Sparks and Washoe County. This original FIS included analyses for several watercourses including Dry Creek. At that time Dry Creek was analyzed using approximate methods of hydrologic and hydraulic analysis. The 100-year discharge was estimated to be 1,000 cfs in the reach adjacent to this project and the approximate hydraulic analysis indicated that the flow was contained in the channel that was constructed for Dry Creek.

In 1988, FEMA authorized a Flood Insurance Re-Study requested by the City of Reno and Washoe County that included Dry Creek. It was recognized at the time of the Re-Study that the original 100-year peak discharge estimate was too low. The Re-Study revised this flow estimate from 1,000 cfs to 4,000 cfs and produced a revised floodplain map. The revised floodplain map prepared by FEMA's study contractor (Nimbus, 1991) which showed a much wider floodplain downstream of Virginia Street than is shown on the previous Flood Insurance Rate Map (FIRM). The floodplain was shown to be contained in the constructed channel in the reach between McCarran Boulevard and Evans Creek.

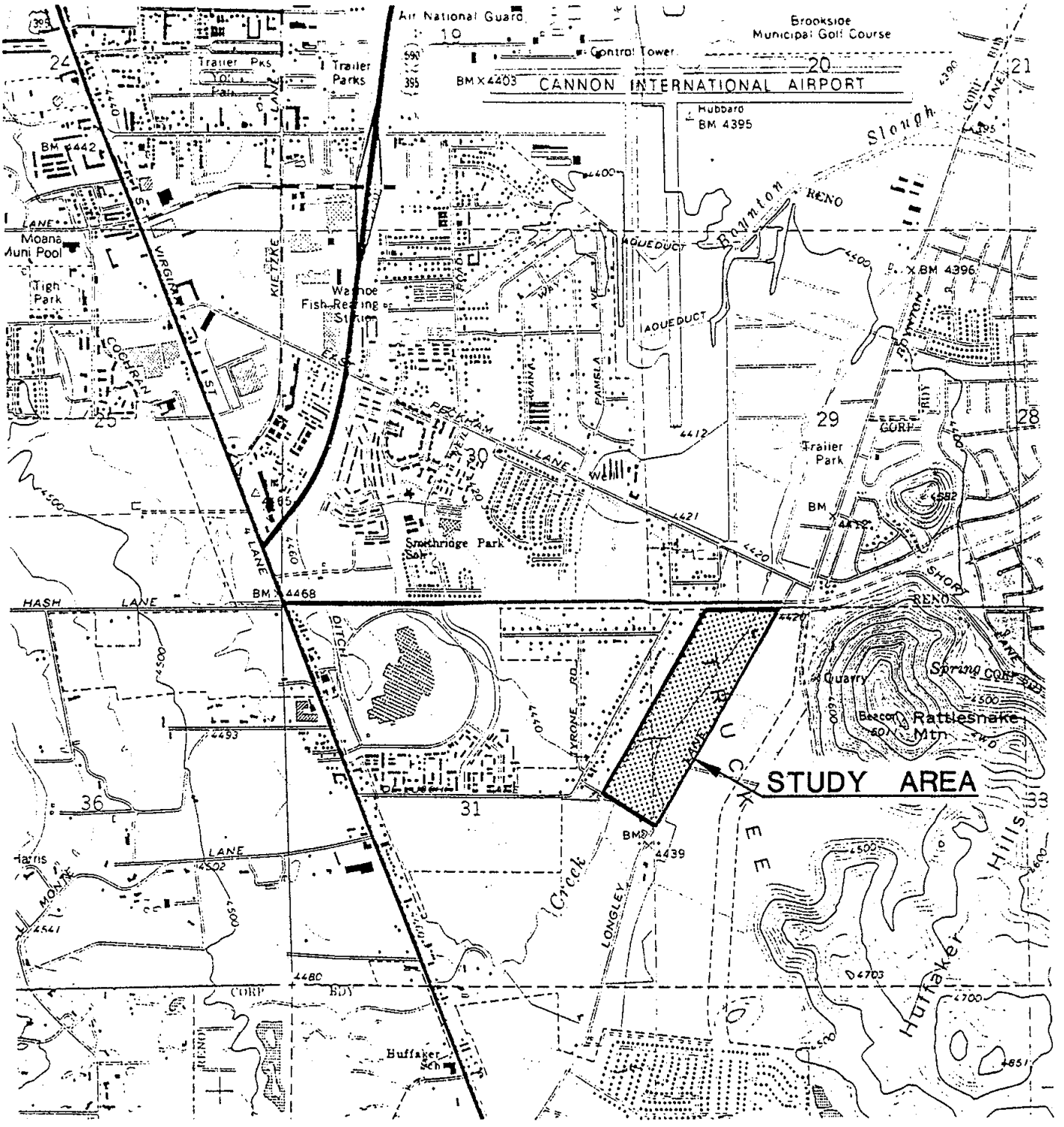
The study prepared by Nimbus was reviewed by Baker Engineers who is FEMA's Technical Evaluation Contractor. After the review by Baker Engineers, an appeal was filed on behalf of Lands of Sierra (Kennedy/Jenks Consultants, 1993). Upon review of the appeal, Baker concluded that the Nimbus floodplain map and associated analysis was in error and that there was overbank flow that was neglected in the Nimbus analysis. After technical review was completed and

appeals resolved, the final floodplain map (30 September 1994) was prepared by Baker. The Baker floodplain is an approximate 100-year floodplain for the east overbank that includes most of the area between Longley Lane and Dry Creek. The revised analysis prepared by Baker was based upon certain assumptions that have been re-evaluated as a part of this study.

1.3 Purpose

Because the September 1994 FEMA maps simply show approximate floodplain limits and no associated depths or elevations, these floodplain maps do not provide the City of Reno with sufficient data to establish finished floor elevations for this reach or to determine potential project impacts.

The purpose of this study was to develop base flood elevations for the east overbank of Dry Creek within the study area. This study evaluates the analysis performed by Baker Engineers using additional topographic data and considers the impacts of existing improvements constructed after 1988 which modify the base condition.



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0 1000 2000

SCALE: 1"=2000'

Kennedy/Jenks Consultants

City of Reno, Nevada
Dry Creek Floodplain Analysis

Location Map

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November 1994

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Figure 1-1

CHAPTER 2

2.0 EXISTING STUDIES

2.1 Hydrology

The hydrology for this reach of Dry Creek was based on the Flood Insurance Re-Study (Nimbus 1991). The FIS reports a 100-year discharge for Dry Creek at Virginia Street of 4,000 cfs and 4,600 cfs downstream of the confluence with Evans Creek. Several previous studies have been done for Dry Creek, but this study has been accepted by FEMA as the regulatory discharge for this reach of Dry Creek.

2.2 Hydraulic Analyses

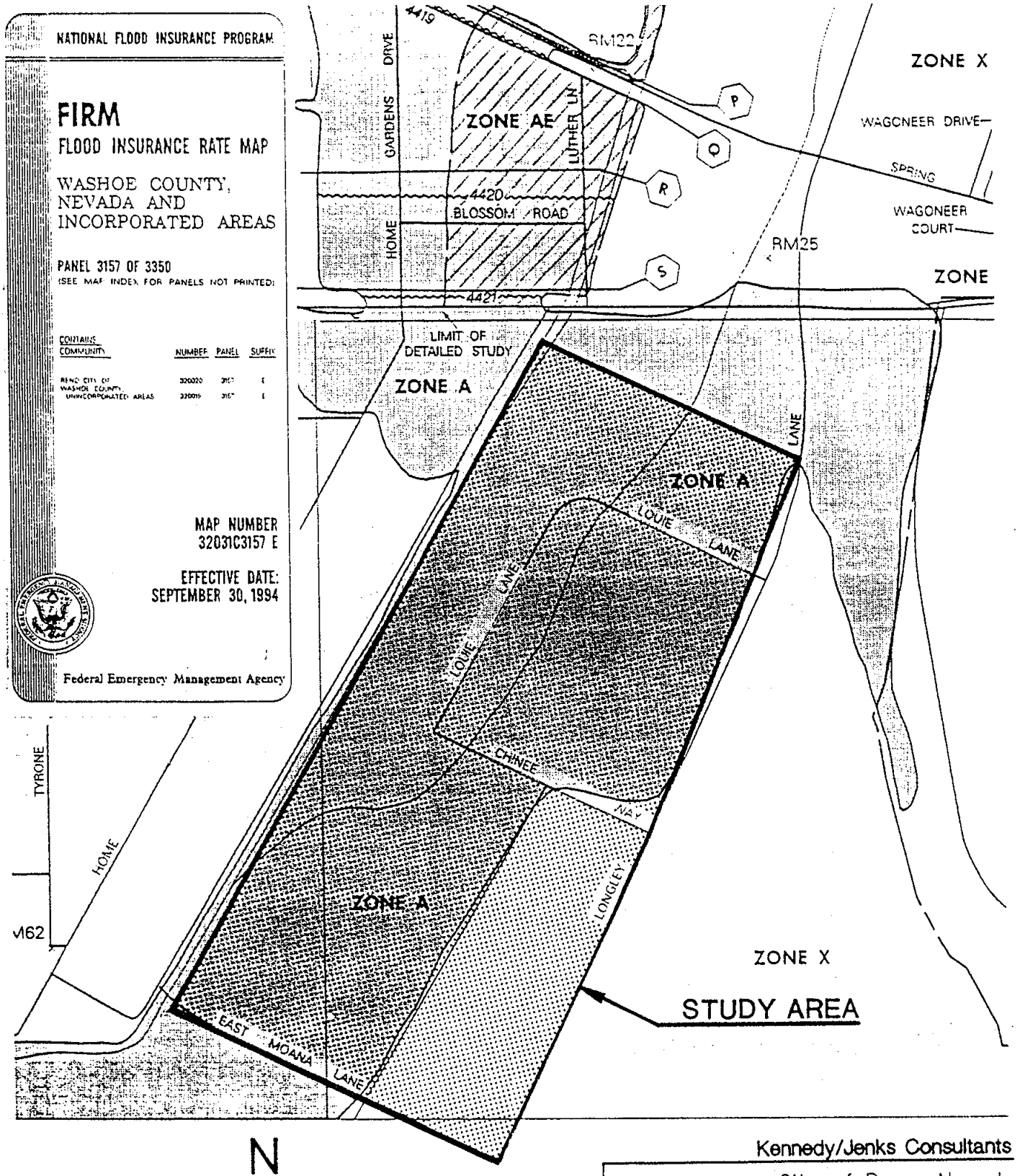
Several hydraulic studies have been performed for this reach of Dry Creek. The most recent studies are the Flood Insurance Re-Study (FIS) (Nimbus, 1991), the FIS Appeal (Kennedy/Jenks, 1993) and the FIS Appeal Resolution (Baker, 1994). The FIS was based on the assumption that the entire 4,600 cfs was confined to the Dry Creek channel between the Dry Creek and Evans Creek confluence and a point just upstream of McCarran Boulevard. The Appeal and Appeals Resolution both show that there is overflow into the right (east) overbank of Dry Creek.

The Appeal model did not attempt to quantify the amount of overbank flow in this study reach since the limit of detailed study in the Appeal was from the upstream limit of this study to Virginia Street. The Appeal Resolution does estimate the quantity of overbank flow based on the capacity of the overbank. The quantity of overbank flow estimated in the Appeal Resolution was 750 cfs in most of the study reach. This estimate was based on the assumption that the flow in the overbank is the amount of flow that would be consistently contained in the cross sections representing the overbank.

2.3 Adequacy of Existing Data

Although the Baker analysis provides an estimate of the overbank flow and approximate water surface elevations, the floodplain was mapped as an approximate 100-year floodplain without the estimated water surface elevations (Figure 2-1). This was done because the FIS cross sections did not extend into the right overbank in the reach just upstream of McCarran Boulevard. Therefore, it would have required additional topographic information to complete the floodplain mapping which was not available to Baker at the time of the Appeals resolution.

Without published water surface elevations, the City of Reno does not have adequate data for floodplain management. The City needs to have a set of base flood elevations or average depths to use for establishing finished floor elevations in the overbank area. This study is intended to provide that data for the study area.



Kennedy/Jenks Consultants

City of Reno, Nevada
Dry Creek Floodplain Analysis

FEMA Floodplain Map

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November 1994

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Figure 2-1

CHAPTER 3

3.0 HYDRAULIC ANALYSES

3.1 Base Condition Analysis

The first step in the analysis was to prepare a base condition hydraulic model. The "base condition" is the condition which existed at the time the flood insurance study (FIS) was prepared. FEMA establishes the "base condition" as a reference point. Any encroachments that occur after that point in time are considered an encroachment and FEMA requires that the City limit the impact of encroachment to a prevent more than a 1.0-inch rise in water surface elevation. In this instance, the base condition would be based upon the conditions that existed in 1988 when the FIS was initiated for this reach of Dry Creek.

Development of a base condition analysis was necessary because the Baker model was only completed to a point that was approximately 2,600 feet upstream of McCarran Boulevard. This analysis needed to be extended downstream for a distance of approximately 1,600 feet to incorporate the commercial developments in the study area. The Baker analysis is contained in Appendix B.

The analysis was extended by adding or extending five cross sections in this reach. The cross sections were extended based upon topographic mapping prepared by Summit Engineering for the channel improvements, grading plans for the commercial developments that were in existence in 1988 and a study prepared by SEA for the proposed Kristal Corporation building on Louis Lane (SEA, 1994). Aerial photographs from November 1987 were used to confirm the base condition information. This analysis is contained in Appendix C.

Baker Engineers also estimated that the amount of Dry Creek flow that would enter the east overbank during a 100-year event was 750 cfs. This estimate was based upon how much flow could stay contained in the overbank using high points in the cross sections along the east channel bank of Dry Creek. In order to confirm this condition, a field survey of the levee profile was performed by Summit Engineers in July 1994. The results of the survey show that the east bank of Dry Creek is currently lower than what is indicated in the cross sections used for the FIS. The surveyed elevations are shown on the cross sections contained in Appendices B through E.

The base condition analysis yields a water surface profile that would normally be referred to as the "base flood profile." This profile would be used for determining "base flood elevations" for proposed buildings in the floodplain. Attached as Figure 3-1 is the original Nimbus workmap with the Baker revisions and our extended cross sections shown. The base flood profile data is also shown in Table 3-1.

3.2 Existing (1994) Condition Analysis

Since 1988 several new buildings have been constructed and areas graded. These buildings and fill represent obstructions to the flow and can cause increased flooding depths. The existing condition analysis was prepared to evaluate the impact of structures constructed between 1988 and the present time. This analysis includes the impact of the State Farm, Federal Express and Reed Electric projects as well as other buildings constructed since 1988. The HEC-2 model for the existing condition is contained in Appendix D.

The results of the existing condition analysis are summarized in Table 3-2. As can be seen from the analysis, there are some significant increases in water surface elevations at some locations due to mass grading. The largest increase is within the State Farm property (Section 262.4). However, the increases within the State Farm property only impact that parcel and the finished floor elevations of the building are above the estimated water surface elevation.

Tables 3-1 and 3-2 also report average depth of flow in the cross section. This values is based on the cross section area divided by the flow top width as reported in the HEC-2 output (Appendix B and C).

TABLE 3-1
BASE FLOOD ELEVATIONS
(Based on Overbank Flow of 750 cfs)

Section #	Base Flood Elevation	Average Depth
217.7	4427.42	0.8
220.7	4428.58	0.6
223.9	4429.40	1.3
225.7	4430.03	0.8
227.0	4430.18	1.3
234.1	4431.67	0.5
240.8	4436.95	0.5
253.2	4441.99	0.8
258.2	4443.83	1.0
262.4	4445.92	0.5
267.1	4447.24	0.9
296.2	4448.14	0.4
271.3	4449.29	0.4

TABLE 3-2 EXISTING CONDITION FLOOD ELEVATIONS (Based on Overbank Flow of 750 cfs)			
Section #	100-Year Water Surface Elevation	Increase From Base Condition (ft)	Average Depth
217.7	4427.44	0.02	
220.7	4428.60	0.02	0.6
223.9	4429.50	0.35	0.9
225.7	4429.96	0.55	0.4
227.0	4430.24	0.18	1.1
234.1	4432.17	0.49	0.5
240.8	4436.67	-0.29	0.5
253.2	4442.17	0.18	0.8
258.2	4444.43	0.60	1.0
262.4	4447.38	1.46	0.5
267.1	4447.78	0.54	0.9
296.2	4447.88	-0.25	0.4
271.3	4449.57	0.29	0.4

This analysis is based on several important assumptions:

1. Flow is confined to the portion of the cross section shown - The portion of the cross section adjacent to Longley Lane that includes the channel constructed as a part of the commercial development, is not included in the analysis. It is very likely, that a portion of the flow would be forced into this portion of the cross section. Therefore, the flow may be spread over a wider portion of the overbank area than this analysis suggests.

2. The right channel bank elevations in the FEMA study are correct - As Figure 3-2 shows, the right bank elevations of Dry Creek are lower than the elevations indicated by the cross sections obtained for the FIS (Nimbus, 1991). Since Baker developed the estimate of the overbank flow based on the amount of flow the overbank could contain without overflowing back into the main channel, the overbank flow estimate by Baker is conservative.

Based on the findings of this study, it appears that the overbank flow could be as low as 350 cfs, using the same methods as Baker for estimating the overbank flow capacity. Reducing the flow from 750 cfs to 350 cfs would reduce the water surface elevations in the overbank area.

3. Recent improvements at the State Farm site do not reduce the overbank flow - The State Farm improvements are located where the overbank flow began under pre-FIRM conditions. The elevated landscaping berms and large building footprint results in an obstruction of most of the overbank at this key location. The overbank flow would be forced back into the main channel or around the eastern side of the development into the channel adjacent to Longley Lane. This will result in less overbank flow since a larger portion of the flow will be forced back into the main channel and the flow will be distributed into a larger portion of the east overbank than indicated by the analysis.

3.3 Alternative Floodplain Mapping Methods - Average Depth Calculations

A typical floodplain mapping method employed in situations like this one is to use average depths rather than water surface elevations where shallow sheet flow is encountered. This mapping method yields an AO floodzone on the FEMA maps. An AO zone is published with a depth value rounded to the nearest whole foot value. This depth would be used by the community for establishing finished floor elevations.

With an average depth of 1.0 feet (which would apply in this case), the buildings would be elevated 2.0 feet above highest adjacent grade (Reno Code Section 12.24.130). This would provide a grade separation between floor elevation and adjacent parking/access lanes or landscaping which should provide and avenue for the flood flows without causing flooding damage to the buildings. In this type of floodplain, an impact analysis would not be required for these projects. The City instead would need to verify the building is properly elevated and the project grading will allow the flow to pass through the site in a safe and efficient manner. Non-residential structures also have the option of flood proofing instead of elevating. Additional requirements are imposed when the flood proofing option is utilized (Section 12.24.130).

3.4 Main Channel Analysis

If development occurs in the overbank, any increases in water surface elevation would result in overflow west into the main channel and east into the channel adjacent to Longley Lane. The water surface in the main channel is well below the top of bank in the study area. Therefore, flow can freely re-enter the channel if forced to do so. The main channel analysis performed by Baker Engineers is contained in Appendix E.

3.5 Comparison of Results

Table 3-3 compares the computed water surface elevations for the Dry Creek main channel, and the overbank elevations for 1988 and 1994 conditions. The resulting floodplain is shown on Figure 3-1.

As can be seen from the data, with exception to the reach where the State Farm complex is located, the development that occurred between 1988 and 1994 only caused a minor rise in water surface elevations.

TABLE 3-3
COMPARISON OF RESULTS

Section #	Dry Creek Main Channel Water Surface Elevation	East Overbank Pre-FIRM (1988) Water Surface Elevation	Water Surface Elevation
217.7	4425.09	4427.42	4427.44
220.7	N/A	4428.58	4428.60 East Overbank 1994 Condition
223.9	N/A	4429.40	4429.50
225.7	4426.03	4430.03	4429.96
227.0	N/A	4430.18	4430.24
234.1	4429.99	4431.67	4432.17
240.8	4433.38	4436.95	4436.67
253.2	4439.85	4441.99	4442.17
258.2	4441.61	4443.83	4444.43
262.4	4443.11	4445.92	4447.38
267.1	4447.72	4447.24	4447.78
269.2	4448.78	4448.14	4447.88
271.3	4449.68	4449.29	4449.57

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CAPURRO/QUILLICI INVESTMENTS, RENO, NEVADA

DRY CREEK FLOOD PLAIN STUDY AND ALTERNATIVE ANALYSIS

Kennedy/Jenks Consultants
RENO, NEVADA

FIGURE 3-1
REVISED WORK MAP

Plate 2

Middle Dry Creek Workmap

Washoe County, Nevada
Contract # : EMW-89-C-2841

Job No. : 8901 Date : 5/5/91

Nimbus Engineers
3710 Grant St., Suite D, Reno, NV 89509
(702) 689-8630

DRY CREEK ELEVATION REFERENCE MARKS

RM	ELEV.	DESCRIPTION
2	4459.92	City of Reno benchmark 1-1/2" dia. steel cap in top of curb at N.E. cor. of the intersection of Huffaker Ln. and Limestone Dr. Stamped with "1346".
3	4472.65	Northwest corner of inlet wingwall of box culvert of Dry Creek at I-580, approx. 475' N. of Huffaker Ln., approx. 420' E. of Country Estates Cir. Marked with a chiseled "X".
1482	4457.783	1-1/2" dia. steel cap in top of curb on the north side of Delucchi Ln., approx. 200' E. of northerly return of Virginia St. and DeLucchi Ln., 13' W. of the easterly driveway cut of 501/508 Hemlock Ct. of the Meadowood Garden Apts. Stamped with "1482".
1484	4443.726	1-1/2" dia. steel cap in top of curb on the east side of Niel Rd., approx. 2.9' N. of the N.E. curb return at Niel Rd. and DeLucchi Ln. Stamped with "1484".
1486	4434.964	1-1/2" dia. steel cap in top of curb on the west side of Tyrone Rd., Approx. 2.8' S.W. of the S.W. corner of the int. of Tyronne Rd. and Riggins Ct. Stamped with "1486".

EXHIBIT 8

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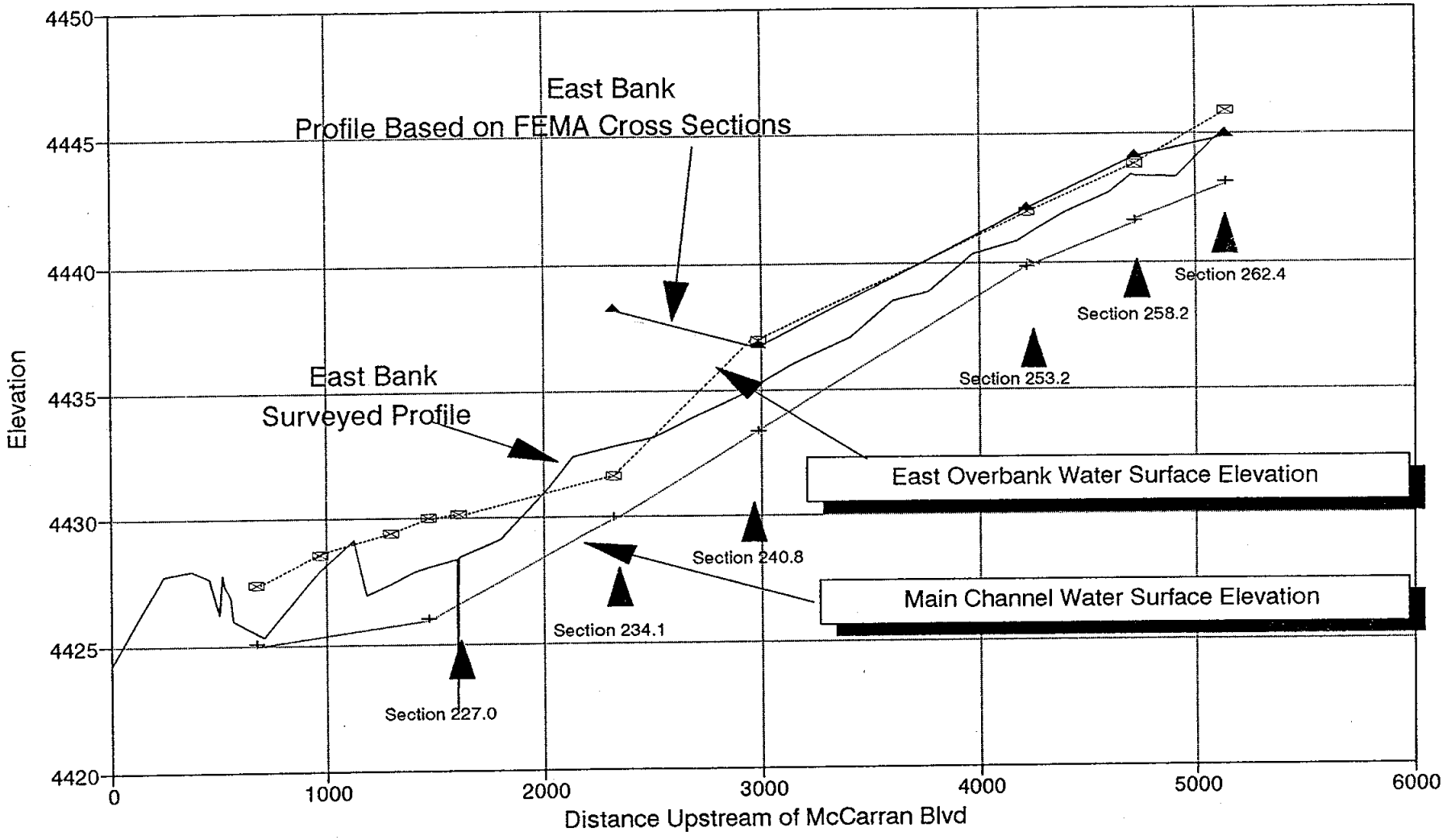

Kennedy/Jenks Consultants

City of Reno, Nevada
Dry Creek Floodplain Analysis

East Bank Profile of Dry Creek

K/J 947038.00
January 1995

Figure 3-2

CHAPTER 4

4.0 CONCLUSIONS AND RECOMMENDATIONS

When FEMA uses approximate floodplain mapping methods, the community is required to manage the floodplain by requiring appropriate engineering analyses to define the 100-year water surface elevations. This study is intended to provide this data for the east overbank of Dry Creek within the project area. A Letter of Map Revision (LOMR) could result in published water surface elevations, but those elevations are not necessary for floodplain management purposes.

This analysis was based on data provided by FEMA's Technical Evaluation Contractor, Baker Engineers. The analysis was extended downstream to McCarran Boulevard to complete the overbank analysis. The analysis shows that the water surface elevations in the east overbank are considerably higher than the water surface elevations in the main channel. As discussed in Chapter 3, the water surface elevations in the east overbank are conservative estimates since the analysis is based on conservative assumptions regarding the overbank discharge and the area of the overbank that conveys flow.

It is recommended that finished floor elevations for new construction in the area between Longley Lane and Dry Creek be based on either the base flood elevations presented in Table 3-1 or an average flow depth of one foot, which ever value produces the higher finished floor elevation.

Since any increases in water surface elevation will cause the flow to spread out into other portions of the overbank or re-enter the Dry Creek main channel, a one foot rise in water surface elevation may not be possible unless mass grading occurs over a large area and forces the flow toward Longley Lane.

In addition, it is recommended that sites be graded to assure that flow will pass through the site relatively unobstructed. As a result, walls on the property boundary should be prohibited, unless they are designed with openings up to or above the water surface elevation to allow the flow to pass through the site.

CHAPTER 4

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Appendix A

Bibliography

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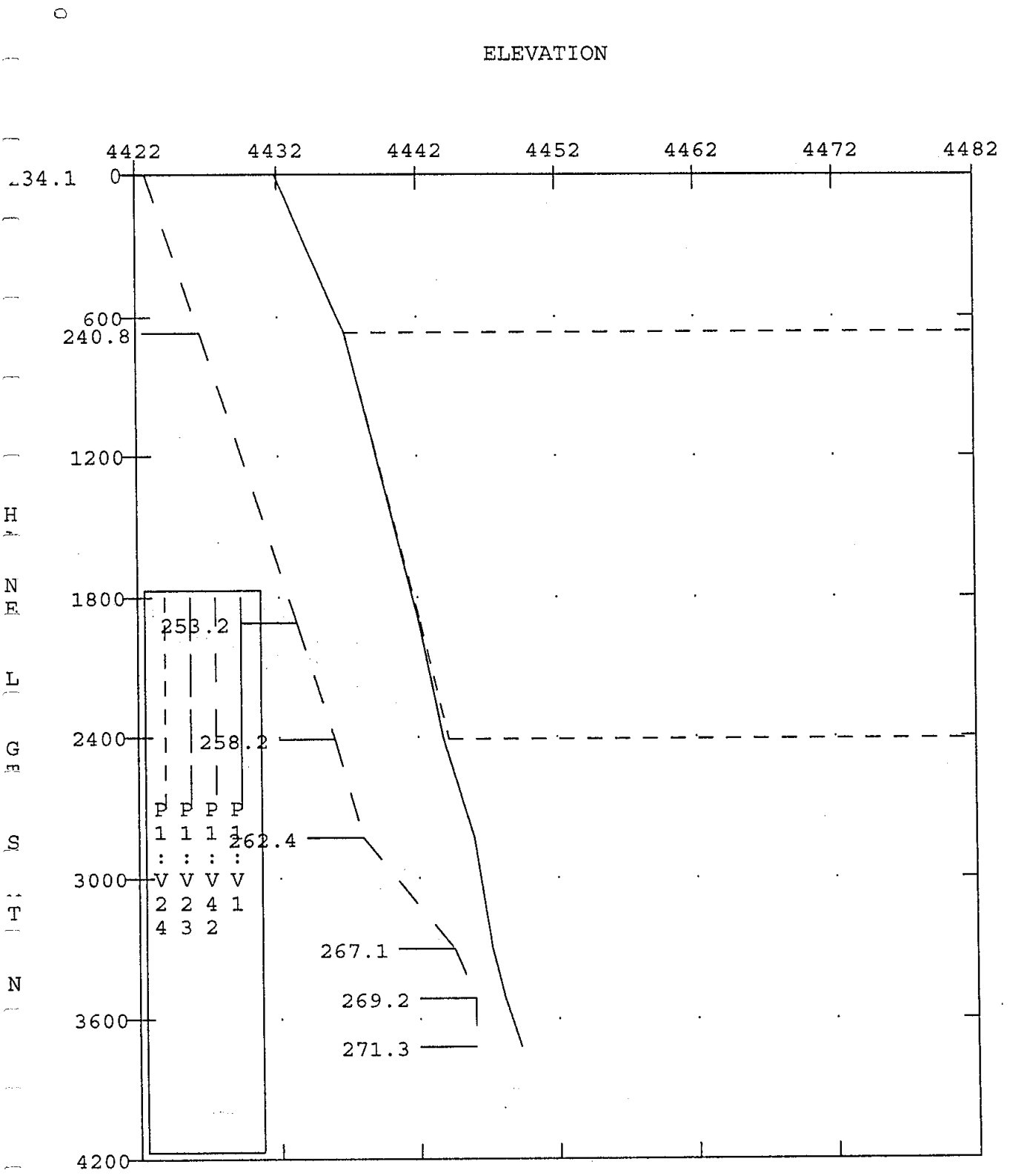
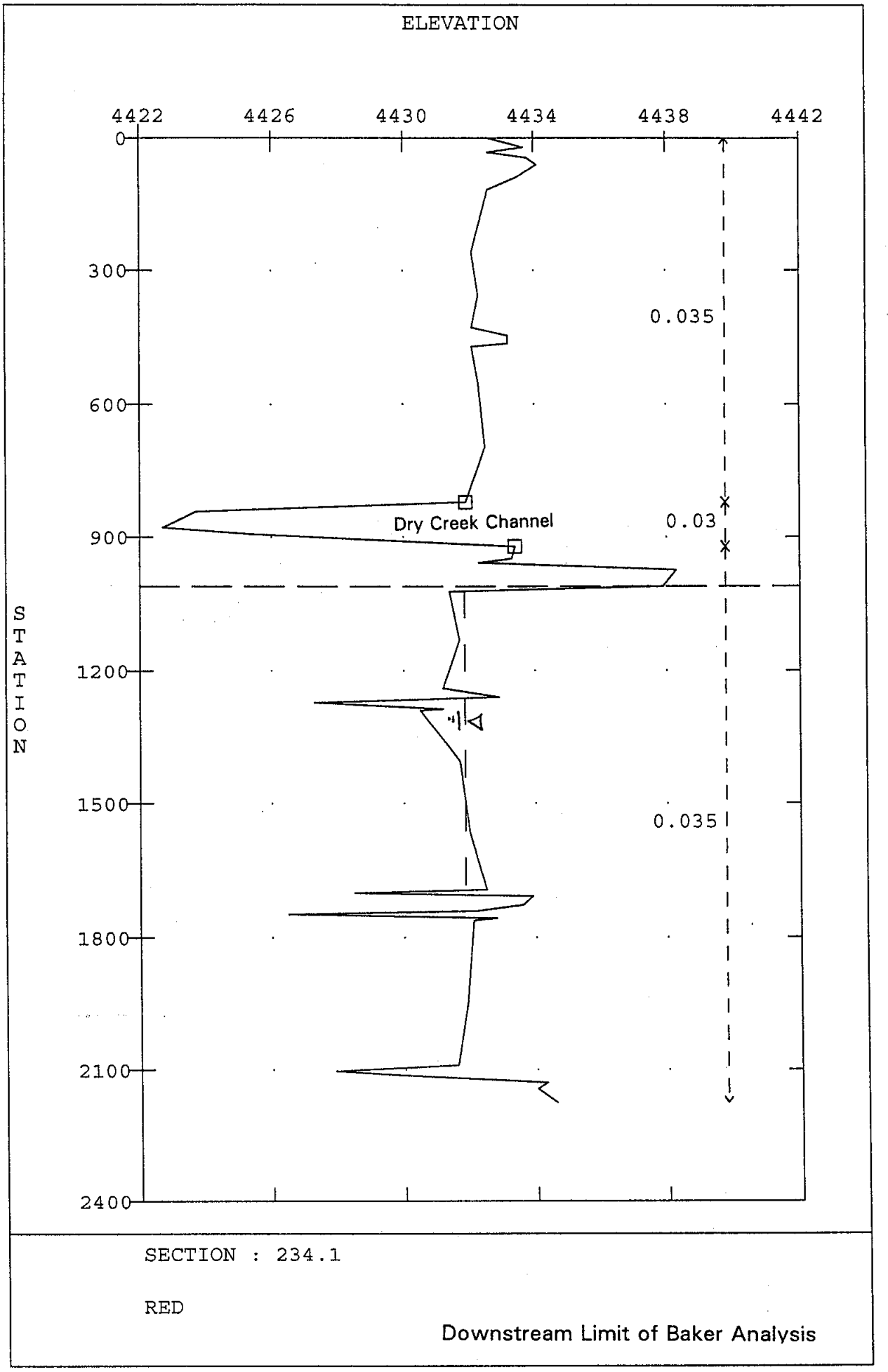
13. U.S. Department of Transportation, Federal Highway Administration, HY8 Culvert Analysis Microcomputer Program Applications Guide, May 1987.

Appendix B

Flood Insurance Study Technical Data For Right Overbank (Baker Engineers, February 1994)



Water Surface Profile
Right (East) Overbank Flow



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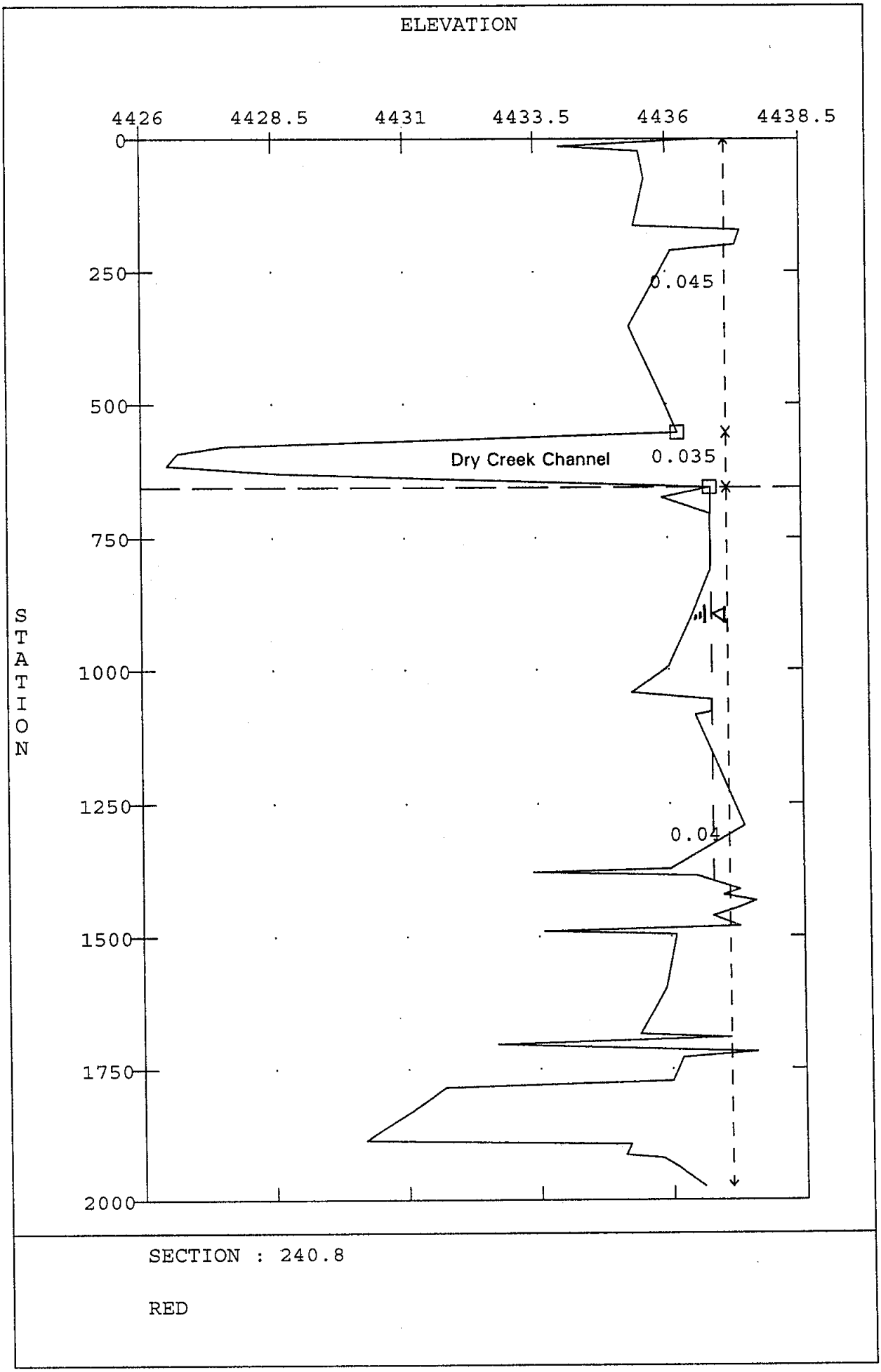

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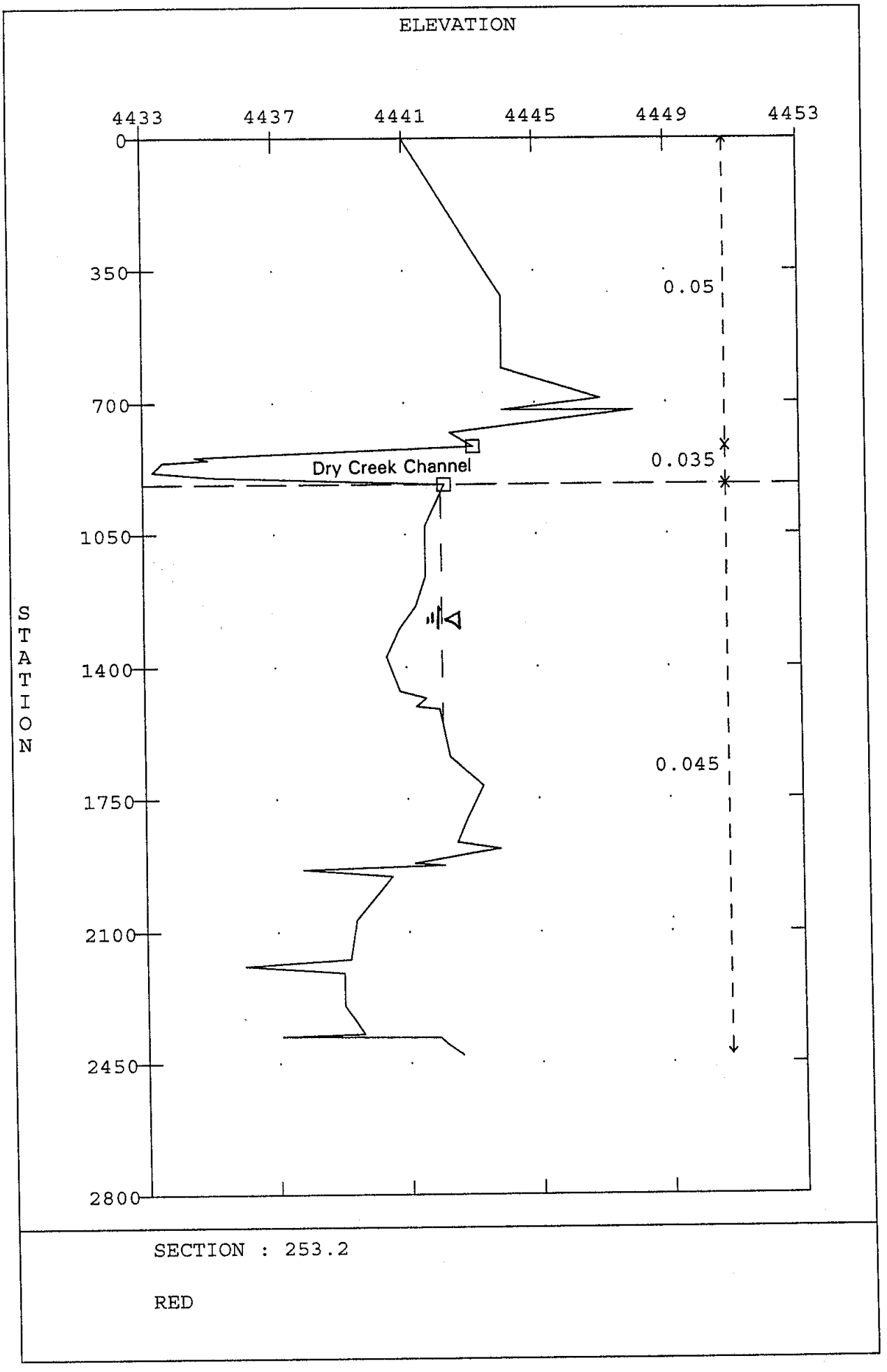

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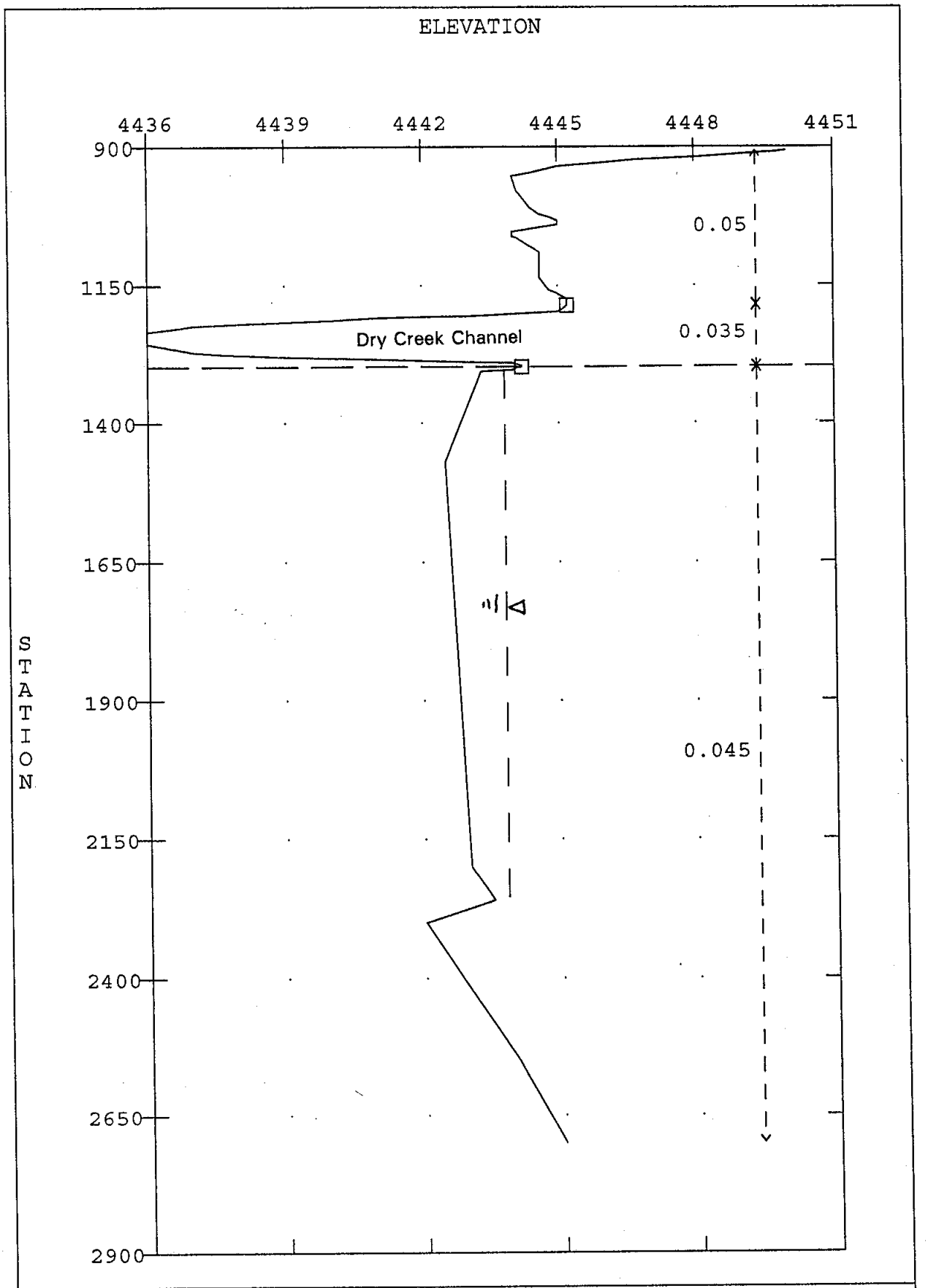

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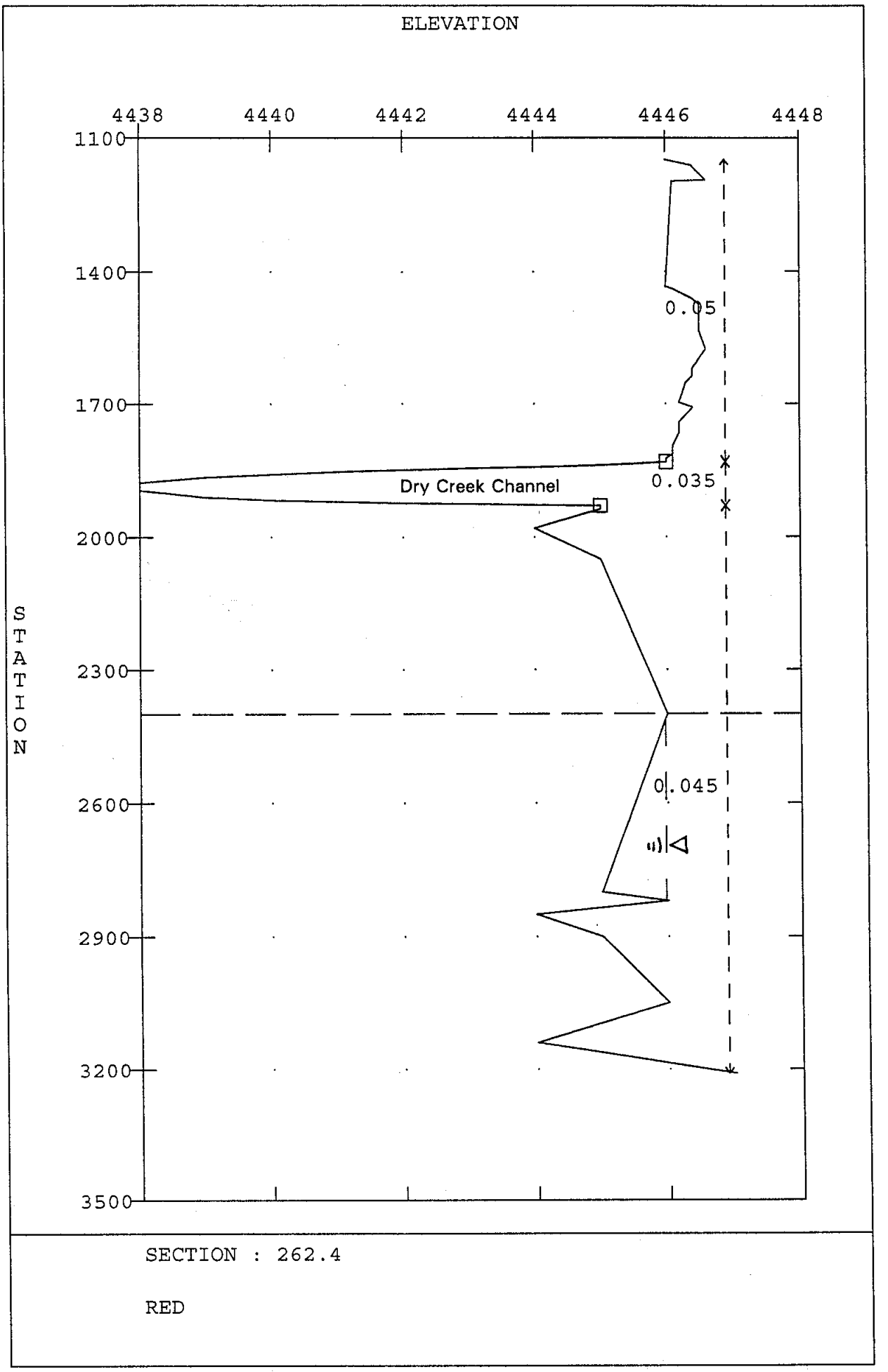

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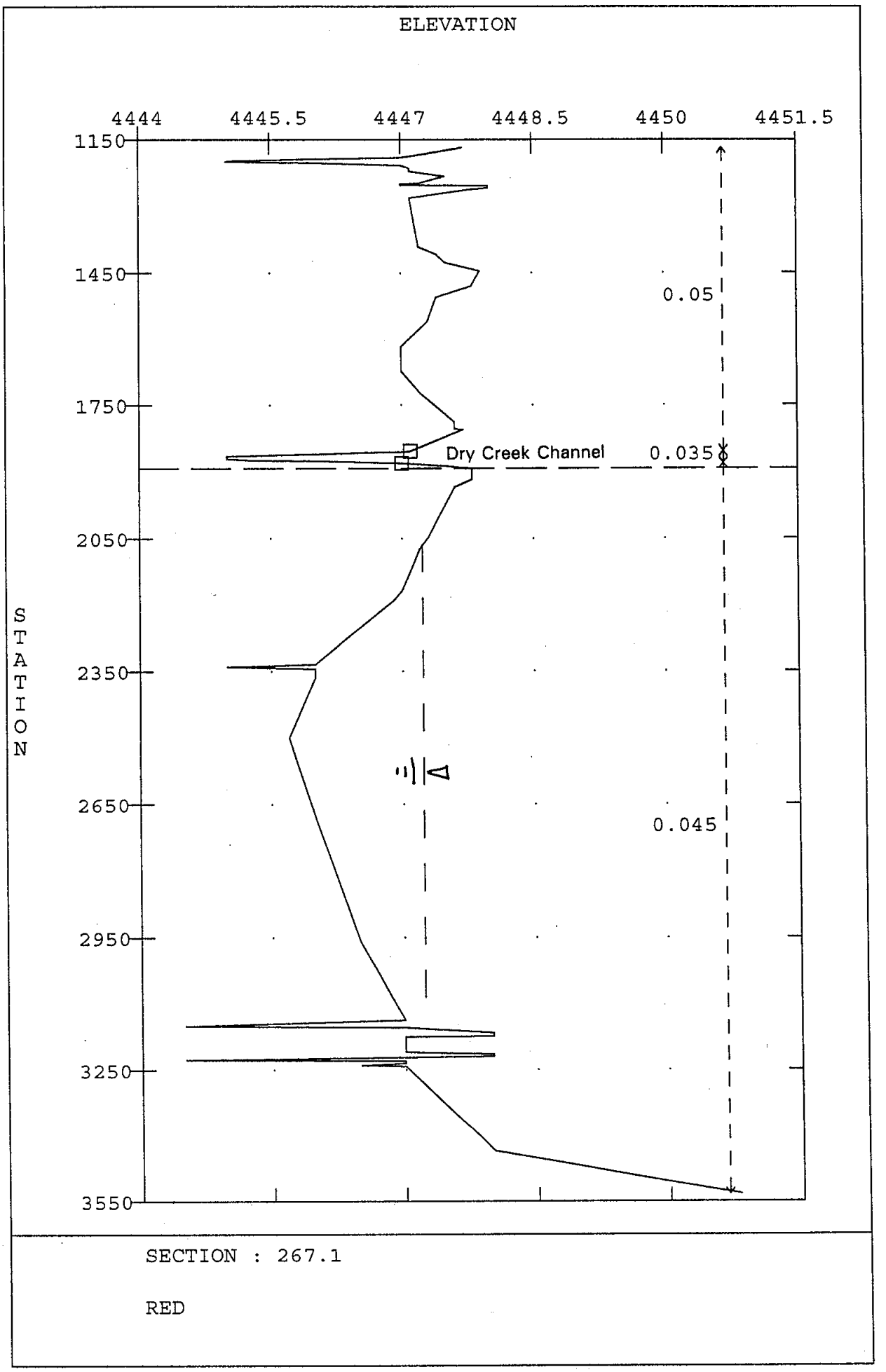

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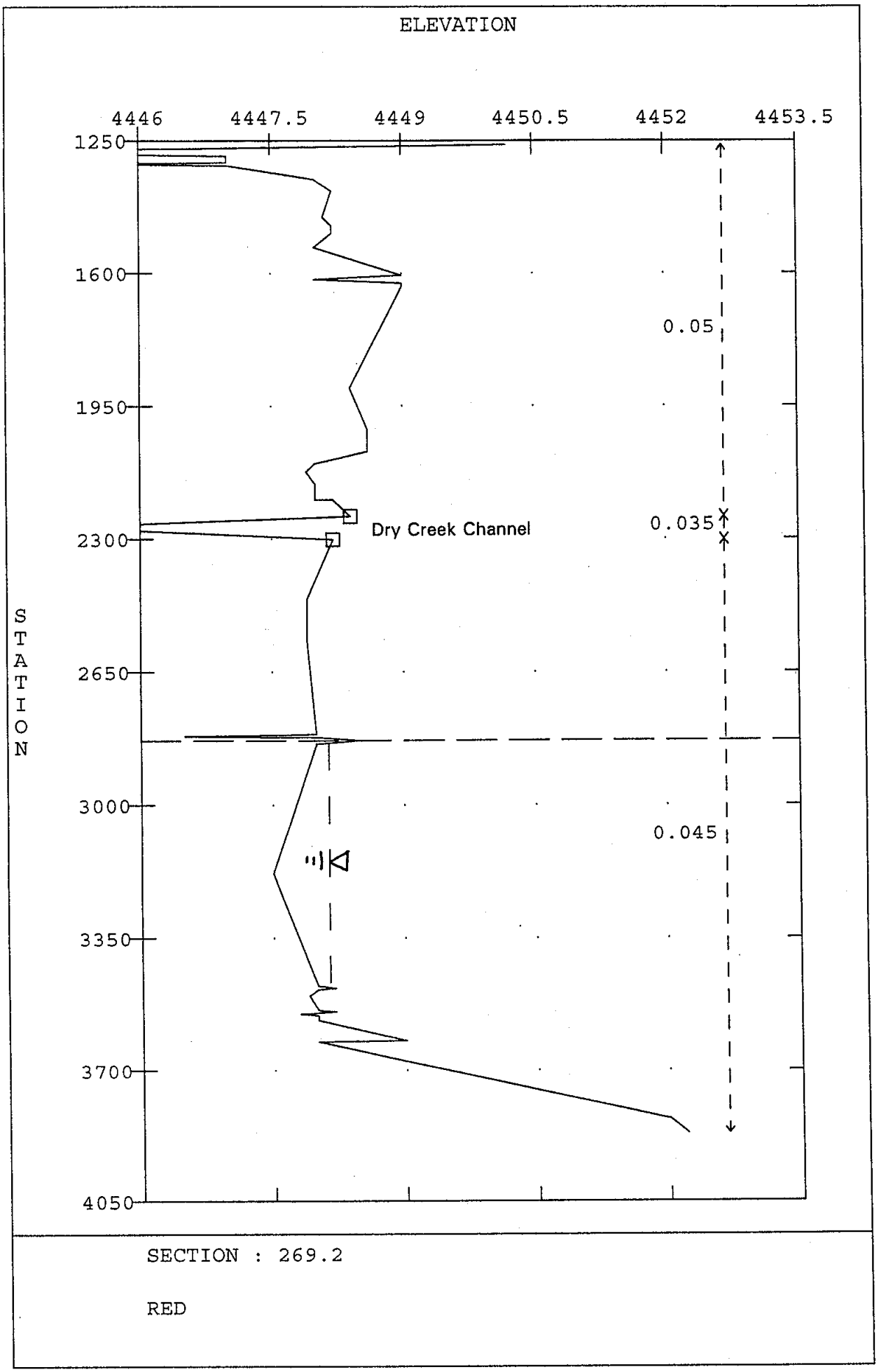
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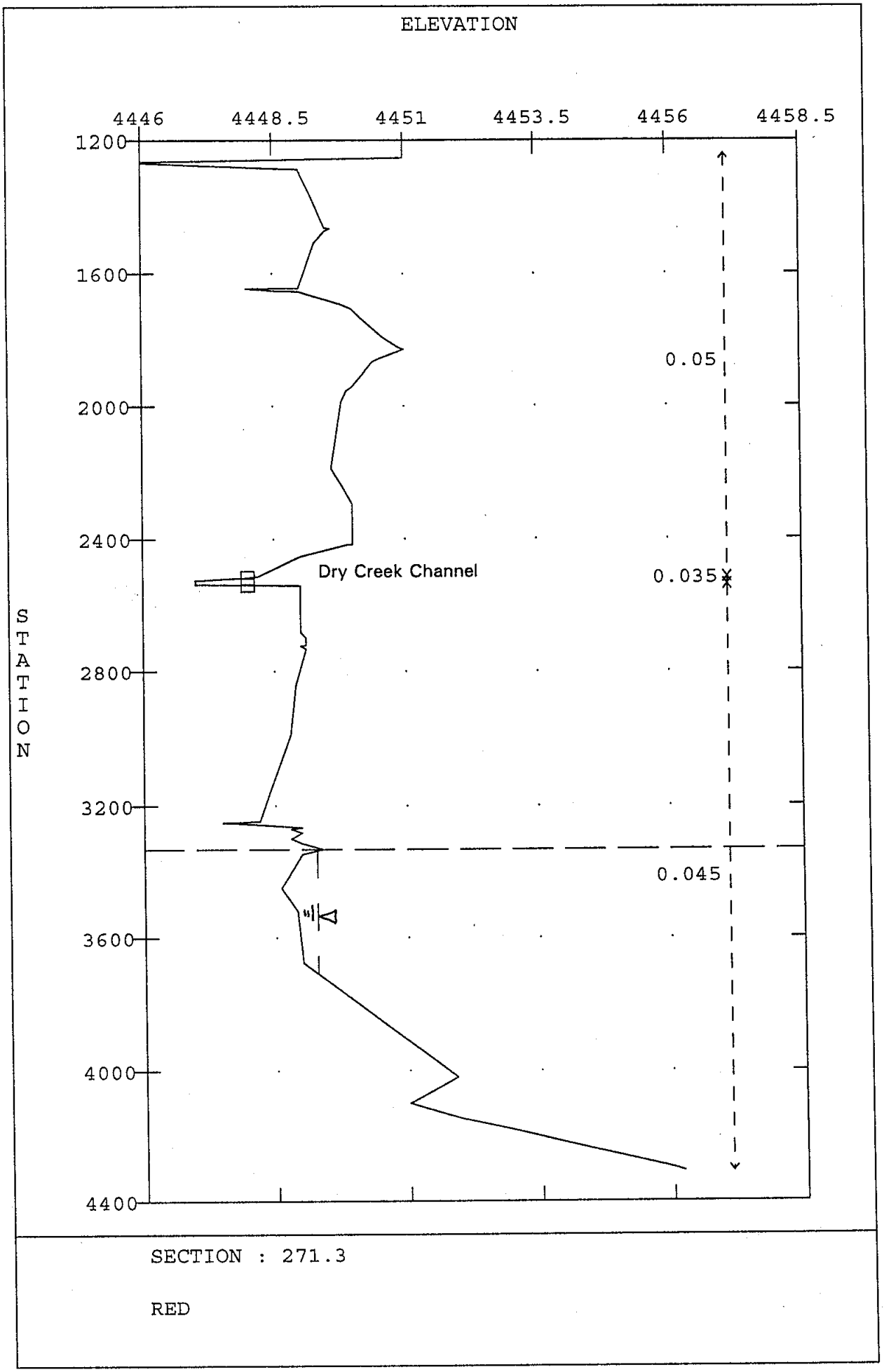
SECTION : 269.2
RED



SECTION : 271.3

RED

```
*******************************************
  HEC-2 WATER SURFACE PROFILES             *
                                           *
*  Version   4.6.2;  May 1991              *
                                           *
  RUN DATE    28JUL94     TIME   13:39:12  *
*******************************************
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****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*           (916) 756-1104             *
****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

THIS RUN EXECUTED 28JUL94 13:39:12

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**************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
**************************************

T1      DRY CREEK - APPEAL RESOLUTION
T2      RIGHT.DAT
T3      RED

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0       2         0         0      .005         0         0         0   4425.09         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       -1         0        -1

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

       38        27        43         1        28         2         3

QT       1       750
NC    .035      .035       .03

ET                 9.1                                                                  1011.6    1707.7
X1    234.1        48     822.8     922.1       840       840       840
GR   4432.6       0.0    4433.7      21.2    4432.6      32.2    4433.8      44.7    4434.1      60.3
GR   4433.5      88.7    4432.6     116.0    4432.1     259.3    4432.3     356.9    4432.1     429.2
GR   4433.2     447.5    4433.2     465.6    4432.1     472.6    4432.3     551.9    4432.5     696.3
GR   4431.9     822.8    4423.7     844.3    4422.7     878.5    4425.3     893.1    4433.4     922.1
GR   4433.3     949.7    4432.3     959.2    4438.3     975.5    4437.9    1011.6    4431.4    1022.9
GR   4431.7    1131.3    4431.2    1240.8    4432.9    1259.7    4427.3    1271.1    4431.2    1286.0
GR   4430.5    1289.2    4431.7    1405.6    4432.0    1566.9    4432.5    1692.8    4428.5    1700.3
GR   4433.9    1707.7    4433.6    1727.7    4432.2    1740.8    4426.5    1747.8    4432.8    1756.6
GR   4432.1    1761.9    4431.9    1950.9    4431.6    2090.1    4427.9    2103.3    4429.7    2111.8
GR   4434.3    2129.2    4434.0    2142.7    4434.6    2174.0

NC    .045      .040      .035        .1        .3
ET                 9.1                                                                   655.8    1433.5
X1    240.8        53       553     655.8       670       670       670
GR   4436.7       0.0    4434.0      13.6    4435.5      22.8    4435.6      75.3    4435.4     165.1
GR   4437.4     173.4    4437.3     200.1    4436.1     210.9    4435.3     354.3    4435.7     439.8
GR   4436.2     553.0    4427.6     578.1    4426.7     592.0    4426.5     614.8    4428.6     629.4
GR   4436.8     655.8    4435.9     675.2    4436.8     705.3    4436.8     811.0    4436.4     908.8
GR   4436.0     994.7    4435.3    1043.1    4436.8    1056.1    4436.8    1079.7    4436.5    1085.5
GR   4436.9    1175.4    4437.4    1291.9    4436.0    1371.9    4433.4    1378.2    4436.5    1385.2
GR   4437.3    1411.8    4437.0    1422.2    4437.6    1433.5    4437.3    1445.5    4436.8    1461.3
GR   4437.3    1481.4    4433.6    1490.1    4436.1    1496.3    4435.9    1598.0    4435.4    1684.4
GR   4437.1    1691.0    4432.7    1703.9    4437.6    1718.9    4436.2    1729.1    4436.0    1773.0
GR   4431.7    1784.9    4431.0    1832.9    4430.2    1887.2    4435.2    1894.4    4435.1    1915.0
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GR  4435.8    1921.4    4436.1    1938.6    4436.6    1974.4

       ++++++++++++++++++++++++++++++++++++++++++++++++
       + NEW CROSS SECTION DATA WAS ENTERED BELOW     +
       + NUMBERS 265.6, 273.8, AND 280.0 WERE DELETED  +
       ++++++++++++++++++++++++++++++++++++++++++++++++

      ++++++++++++++++++++++++++++++++++++++++++++++++
      + MODIFIED THE FLOWS TO REPRESENT THE          +
      + RESULTS OF THE SPLIT FLOW ANALYSIS (5-11-93) +
      +   => WEIR COEFFICIENT 3.1                    +
      +   => TRUNCATED CROSS SECTIONS                +
      ++++++++++++++++++++++++++++++++++++++++++++++++

      ********** MODIFIED SECTION 253.2************

NC    .050      .045      .035        .1        .3
QT       1       750
ET                 9.1                                                                917.8     1716.5
X1   253.2        43     817.4     917.8       450      1240      1240
GR  4441.0       0.0    4444.0     420.0    4444.0     610.0    4447.0     690.0    4444.0     720.0
GR  4448.0     721.5    4442.4     779.2    4443.1     817.4    4434.6     845.7    4435.0     852.4
GR  4433.6     858.7    4433.3     883.0    4435.1     897.2    4442.2     917.8    4441.6    1029.1
GR  4441.6    1162.0    4441.3    1240.0    4440.8    1300.0    4440.4    1373.0    4440.8    1465.0
GR  4441.6    1483.4    4441.3    1505.2    4442.0    1512.1    4442.3    1638.8    4443.3    1716.5
GR  4442.8    1803.0    4442.5    1865.6    4443.8    1882.8    4443.0    1893.2    4441.2    1919.7
GR  4442.1    1925.8    4437.8    1936.8    4440.5    1954.8    4439.4    2068.8    4439.2    2174.1
GR  4436.0    2191.4    4439.0    2209.8    4439.0    2295.9    4439.6    2372.9    4437.1    2378.8
GR  4441.9    2382.8    4442.1    2399.0    4442.6    2430.0

      **********CROSS SECTION 258.2****************

QT       1       750
ET                 9.1                                                               1298.6       2260
X1   258.2        82    1186.1    1298.6      1000      1750       500
GR  4450.0     906.6    4449.8     908.6    4449.0     912.6    4448.9     913.3    4448.0     918.2
GR  4447.5     919.7    4446.7     922.5    4446.5     924.1    4446.4     924.9    4446.0     927.9
GR  4445.1     933.7    4445.0     934.6    4444.4     946.5    4444.0     952.2    4444.1     978.4
GR  4444.4    1009.2    4444.6    1020.1    4444.8    1024.2    4445.0    1030.7    4445.0    1038.0
GR  4444.6    1042.9    4444.1    1049.7    4444.0    1050.9    4444.0    1059.7    4444.1    1062.2
GR  4444.6    1089.2    4444.6    1135.5    4444.8    1157.6    4445.0    1164.1    4445.0    1164.1
GR  4445.0    1165.1    4445.1    1169.5    4445.2    1173.7    4445.2    1186.1    4445.1    1193.3
GR  4445.0    1197.5    4443.0    1206.0    4442.7    1206.5    4442.6    1206.6    4442.3    1207.1
GR  4442.0    1207.7    4441.9    1207.9    4441.0    1209.9    4440.0    1214.5    4439.7    1215.3
GR  4439.0    1217.3    4439.0    1217.4    4438.0    1220.3    4437.1    1223.6    4437.0    1224.1
GR  4436.5    1230.1    4436.0    1235.1    4436.0    1256.7    4436.4    1262.2    4437.0    1271.4
GR  4437.7    1275.8    4438.9    1280.0    4439.0    1280.2    4440.0    1282.8    4440.4    1283.8
GR  4441.0    1285.4    4441.9    1287.4    4442.5    1288.8    4443.0    1289.9    4444.0    1291.5
GR  4444.2    1296.7    4444.2    1298.6    4444.1    1300.1    4444.0    1304.5    4444.0    1304.6
GR  4443.9    1304.7    4443.8    1305.2    4443.6    1305.5    4443.6    1305.6    4443.4    1306.6
GR  4443.3    1307.3    4442.5      1470      4443      2200    4443.5      2260      4442       2300
GR    4444      2550      4445      2700
```

**********CROSS SECTION 262.4**********

QT	1	750								
ET		9.1							2400	2820
X1	262.4	76	1831.7	1930.2	300	430	420			
GR	4446.0	1148.7	4446.0	1148.8	4446.4	1162.2	4446.4	1163.7	4446.6	1195.1
GR	4446.6	1195.9	4446.1	1198.5	4446.0	1434.6	4446.1	1439.2	4446.4	1461.8
GR	4446.5	1474.5	4446.5	1519.7	4446.5	1528.7	4446.5	1528.9	4446.5	1529.1
GR	4446.5	1530.4	4446.5	1534.7	4446.6	1578.3	4446.4	1621.1	4446.4	1631.5
GR	4446.4	1638.3	4446.3	1653.6	4446.2	1697.3	4446.4	1708.1	4446.4	1710.2
GR	4446.2	1742.5	4446.2	1752.1	4446.2	1752.6	4446.2	1755.6	4446.2	1757.3
GR	4446.2	1758.7	4446.2	1765.3	4446.1	1797.3	4446.1	1815.4	4446.0	1823.8
GR	4446.0	1831.7	4445.6	1834.5	4445.0	1838.5	4444.2	1841.5	4444.0	1842.1
GR	4443.7	1842.8	4443.0	1844.6	4442.5	1846.4	4442.0	1848.3	4441.3	1851.1
GR	4441.0	1852.4	4440.1	1858.0	4439.8	1859.8	4439.0	1864.8	4438.8	1867.1
GR	4438.0	1876.9	4438.0	1894.4	4438.4	1900.7	4439.0	1910.7	4439.3	1912.2
GR	4440.0	1917.5	4440.9	1920.5	4441.0	1920.6	4441.9	1923.6	4442.0	1923.7
GR	4442.0	1923.8	4443.0	1925.4	4443.4	1926.4	4444.0	1928.3	4445.0	1930.2
GR	4445.0	1937.9	4444.0	1980	4445	2050	4446	2400	4445	2800
GR	4446	2820	4444	2850	4445	2900	4446	3050	4444	3140
GR	4447	3210								

****
* EXTENDED THE CROSS SECTIONS 267.1, 269.2, *
* AND 271.3 TO LONGLEY LANE. DATA WAS *
* OBTAINED FROM SUMMIT ENGINEERING THRU *
* THE STATE FARMS STOCK FACILITY. *
****

QT	1	2200								
	**********CROSS SECTION 267.1**********									
ET		9.1							1891.6	3137.0
X1	267.1	86	1852.2	1879.4	260	180	470			
GR	4447.7	1166.9	4447.7	1167.6	4447.1	1186.6	4447.0	1189.1	4446.9	1189.7
GR	4446.0	1192.3	4445.1	1195.9	4445.0	1198.4	4445.3	1199.5	4446.0	1201.1
GR	4446.3	1203.0	4446.4	1203.6	4447.0	1207.0	4447.1	1213.1	4447.1	1220.1
GR	4447.5	1231.4	4447.5	1231.6	4447.2	1246.9	4447.0	1247.6	4447.0	1250.9
GR	4447.9	1252.0	4448.0	1252.1	4448.0	1257.2	4447.8	1260.7	4447.5	1268.7
GR	4447.1	1280.4	4447.2	1390.1	4447.4	1406.7	4447.5	1425.5	4447.9	1445.9
GR	4447.8	1481.0	4447.4	1506.3	4447.3	1561.8	4447.0	1618.6	4447.0	1675.1
GR	4447.2	1720.4	4447.2	1721.5	4447.6	1787.7	4447.6	1803.1	4447.7	1804.6
GR	4447.1	1852.2	4447.1	1852.5	4447.0	1854.0	4446.6	1855.6	4446.5	1856.2
GR	4446.0	1859.1	4445.7	1860.1	4445.0	1863.3	4445.0	1869.4	4445.3	1872.8
GR	4446.0	1874.3	4446.7	1878.0	4447.0	1879.4	4447.5	1885.9	4447.8	1891.6
GR	4447.8	1916.8	4447.6	1933.7	4447.4	2006.9	4447.3	2047.6	4447.2	2073.4
GR	4447.1	2121.7	4447.0	2167.3	4446.9	2191.3	4446.0	2335.0	4445.0	2340.0
GR	4446.0	2345.0	4446.0	2365.0	4445.7	2500.0	4446.0	2682.0	4446.5	2960.0
GR	4447.0	3137.0	4444.5	3150.0	4447.0	3154.0	4448.0	3166.0	4448.0	3174.0
GR	4447.0	3175.0	4447.0	3210.0	4448.0	3215.0	4448.0	3220.0	4444.5	3227.0
GR	4447.0	3230.0	4447.0	3235.0	4446.5	3240.0	4447.0	3242.0	4448.0	3435.0
GR	4450.8	3533.0								

**********CROSS SECTION 269.2**********

QT	1	350								
ET		9.1							2832.0	3483.0
X1	269.2	55	2241.8	2301.8	190	190	210			
GR	4450.2	1260.4	4446.0	1271.4	4446.0	1287.1	4447.0	1290.0	4447.0	1308.2
GR	4446.0	1310.4	4446.0	1314.1	4447.0	1316.5	4448.0	1353.3	4448.2	1383.3
GR	4448.1	1450.5	4448.2	1473.3	4448.2	1492.8	4448.0	1530.2	4449.0	1605.1
GR	4448.0	1616.2	4449.0	1626.1	4449.0	1634.8	4448.4	1902.7	4448.5	1957.5
GR	4448.6	2013.4	4448.6	2070.1	4448.0	2101.4	4447.9	2123.0	4448.0	2155.8
GR	4448.0	2187.6	4448.0	2197.9	4448.2	2198.0	4448.4	2241.8	4446.0	2260.3
GR	4446.0	2278.4	4448.2	2301.8	4447.9	2457.1	4447.9	2568.7	4448.0	2815.0
GR	4446.5	2820.0	4447.0	2822.0	4448.0	2823.0	4448.5	2832.0	4448.0	2841.0
GR	4447.5	3180.0	4448.0	3477.0	4448.2	3483.0	4448.0	3487.0	4447.9	3504.0
GR	4448.0	3542.0	4448.2	3546.0	4448.0	3549.0	4447.8	3552.0	4448.0	3556.0
GR	4448.0	3568.0	4449.0	3622.0	4448.0	3625.0	4452.0	3830.0	4452.2	3870.0

**********CROSS SECTION 271.3**********

ET		9.1							3333.0	4020.0
QT	1	175								
X1	271.3	63	2515.9	2538.3	210	200	210			
GR	4451.0	1238.9	4451.0	1251.0	4446.0	1263.3	4446.0	1266.9	4449.0	1286.7
GR	4449.5	1462.0	4449.6	1464.0	4449.5	1471.8	4449.3	1507.5	4449.0	1645.1
GR	4448.0	1647.2	4448.6	1654.3	4449.0	1655.2	4449.8	1692.5	4450.0	1705.8
GR	4450.2	1736.5	4450.6	1791.6	4450.9	1823.1	4451.0	1829.4	4450.5	1860.6
GR	4450.4	1868.6	4450.2	1907.8	4450.0	1944.1	4449.9	1955.0	4449.8	1988.2
GR	4449.6	2187.9	4449.8	2238.0	4450.0	2294.6	4450.0	2416.5	4449.9	2417.5
GR	4449.0	2453.1	4448.2	2511.8	4448.0	2515.9	4447.0	2524.5	4447.0	2536.5
GR	4448.0	2538.3	4448.1	2538.6	4449.0	2540.4	4449.0	2680.7	4449.1	2697.8
GR	4449.1	2720.1	4449.0	2723.2	4449.1	2732.4	4448.9	2843.4	4448.8	2987.9
GR	4448.2	3246.0	4447.5	3250.0	4448.0	3254.0	4449.0	3265.0	4448.8	3270.0
GR	4449.0	3281.0	4448.8	3300.0	4449.0	3315.0	4449.4	3333.0	4449.0	3348.0
GR	4448.6	3450.0	4448.9	3520.0	4449.0	3675.0	4451.9	4020.0	4451.0	4100.0
GR	4452.0	4150.0	4456.0	4300.0	4456.2	4310.0				

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

*SECNO 234.100

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 1011.6 1707.7 TYPE= 1 TARGET= 696.100

234.100	9.16	4431.86	.00	.00	4431.99	.13	.00	.00	100000.00
750.0	.0	.0	750.0	.0	.0	259.3	.0	.0	100000.00
.00	.00	.00	2.89	.000	.000	.035	.000	4422.70	1022.10
.004983	840.	840.	840.	0	0	27	.00	468.25	1704.91

CCHV= .100 CEHV= .300
*SECNO 240.800

3265 DIVIDED FLOW

3280 CROSS SECTION 240.80 EXTENDED .21 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .64

3470 ENCROACHMENT STATIONS= 655.8 1433.5 TYPE= 1 TARGET= 777.700

240.800	10.31	4436.81	4436.68	.00	4436.99	.18	4.98	.01	100000.00
750.0	.0	.0	750.0	.0	.0	221.5	3.7	8.0	4436.80
.05	.00	.00	3.39	.000	.000	.040	.000	4426.50	655.80
.012276	670.	670.	670.	16	13	0	.00	569.31	1395.51

CCHV= .100 CEHV= .300
*SECNO 253.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.45

3470 ENCROACHMENT STATIONS= 917.8 1716.5 TYPE= 1 TARGET= 798.700

253.200	8.79	4442.09	.00	.00	4442.13	.04	5.12	.01	100000.00
750.0	.0	.0	750.0	.0	.0	483.0	13.7	24.8	4442.20
.28	.00	.00	1.55	.000	.000	.045	.000	4433.30	937.54
.002050	450.	1240.	1240.	14	0	0	.00	614.18	1551.72

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 258.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

3470 ENCROACHMENT STATIONS= 1298.6 2260.0 TYPE= 1 TARGET= 961.400

258.200	7.81	4443.81	.00	.00	4443.82	.01	1.69	.00	100000.00
750.0	.0	.0	750.0	.0	.0	953.0	42.6	56.3	4444.20
.89	.00	.00	.79	.000	.000	.045	.000	4436.00	1305.17
.000558	1000.	500.	1750.	11	0	0	.00	954.83	2260.00

*SECNO 262.400
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 2400.0 2820.0 TYPE= 1 TARGET= 420.000

262.400	7.97	4445.97	4445.97	.00	4446.19	.23	.76	.06	100000.00
750.0	.0	.0	750.0	.0	.0	196.5	48.2	63.1	100000.00
.93	.00	.00	3.82	.000	.000	.045	.000	4438.00	2413.09
.035200	300.	420.	430.	20	5	0	.00	406.26	2819.34

*SECNO 267.100

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 8.43

3470 ENCROACHMENT STATIONS= 1891.6 3137.0 TYPE= 1 TARGET= 1245.400

267.100	2.73	4447.23	.00	.00	4447.31	.08	1.10	.01	100000.00
2200.0	.0	.0	2200.0	.0	.0	970.3	50.7	66.1	100000.00
.95	.00	.00	2.27	.000	.000	.045	.000	4444.50	2065.05
.004258	260.	470.	180.	8	0	0	.00	1071.95	3137.00

*SECNO 269.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .13

3470 ENCROACHMENT STATIONS= 2832.0 3483.0 TYPE= 1 TARGET= 651.000

269.200	2.14	4448.14	.00	.00	4448.17	.03	.85	.00	100000.00
350.0	.0	.0	350.0	.0	.0	246.7	53.3	69.9	100000.00
.98	.00	.00	1.42	.000	.000	.045	.000	4446.00	2838.53
.006556	190.	210.	190.	6	0	0	.00	642.58	3481.11

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 271.300

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .61

3470 ENCROACHMENT STATIONS= 3333.0 4020.0 TYPE= 1 TARGET= 687.000

271.300	3.28	4449.28	.00	.00	4449.30	.02	1.13	.00	100000.00
175.0	.0	.0	175.0	.0	.0	143.4	54.2	72.2	100000.00
1.03	.00	.00	1.22	.000	.000	.045	.000	4446.00	3337.49
.004336	210.	210.	200.	2	0	0	.00	370.86	3708.34

THIS RUN EXECUTED 28JUL94 13:39:13

```
************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
************************************
```

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

RED

SUMMARY PRINTOUT

	SECNO	STENCL	Q	CWSEL	STENCR	CRIWS	EG
	234.100	1011.60	750.00	4431.86	1707.70	.00	4431.99
*	240.800	655.80	750.00	4436.81	1433.50	4436.68	4436.99
*	253.200	917.80	750.00	4442.09	1716.50	.00	4442.13
*	258.200	1298.60	750.00	4443.81	2260.00	.00	4443.82
*	262.400	2400.00	750.00	4445.97	2820.00	4445.97	4446.19
*	267.100	1891.60	2200.00	4447.23	3137.00	.00	4447.31
*	269.200	2832.00	350.00	4448.14	3483.00	.00	4448.17
*	271.300	3333.00	175.00	4449.28	4020.00	.00	4449.30

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 240.800 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 253.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 258.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 262.400 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 262.400 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 262.400 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

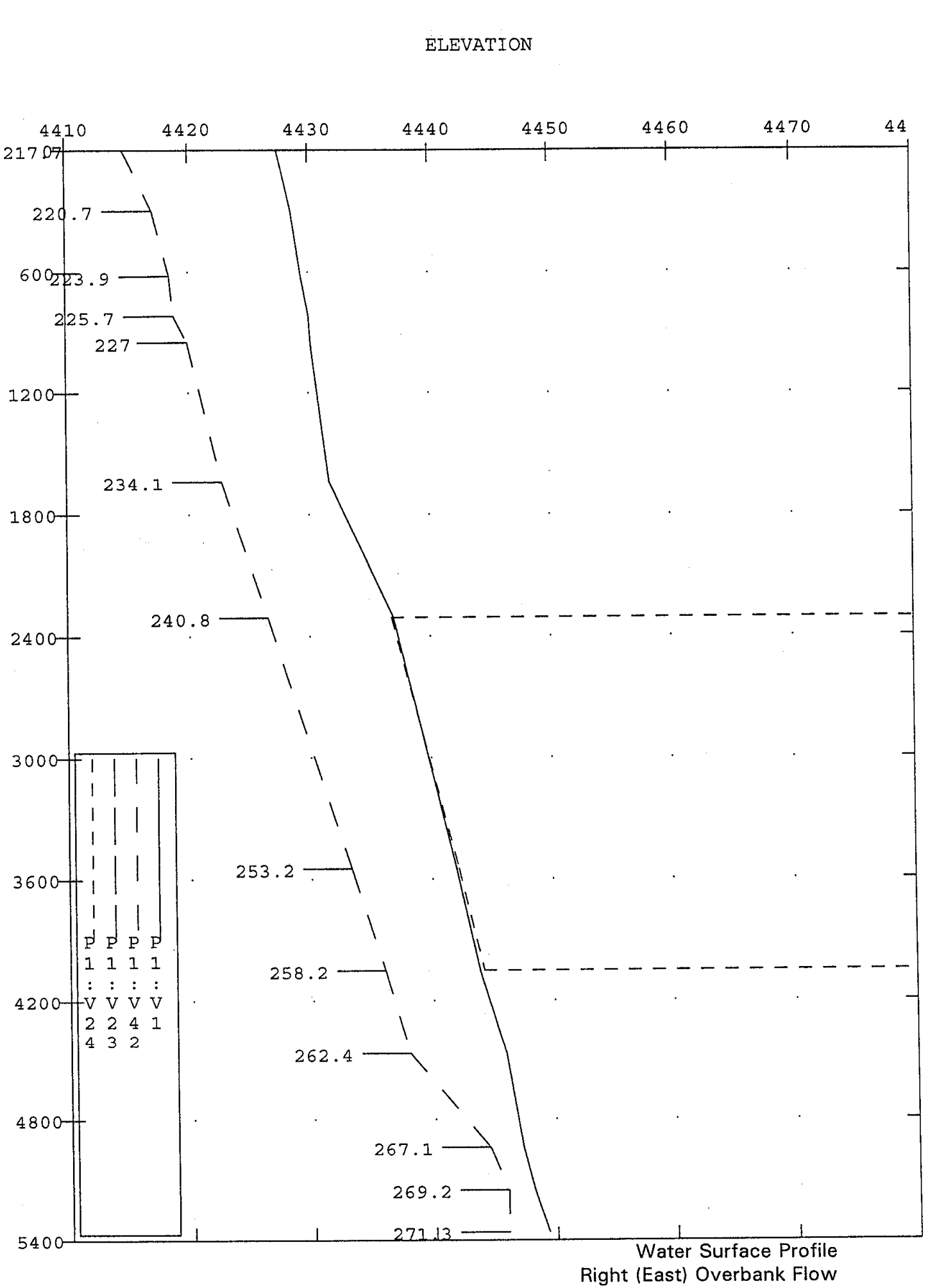
WARNING SECNO= 267.100 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 269.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

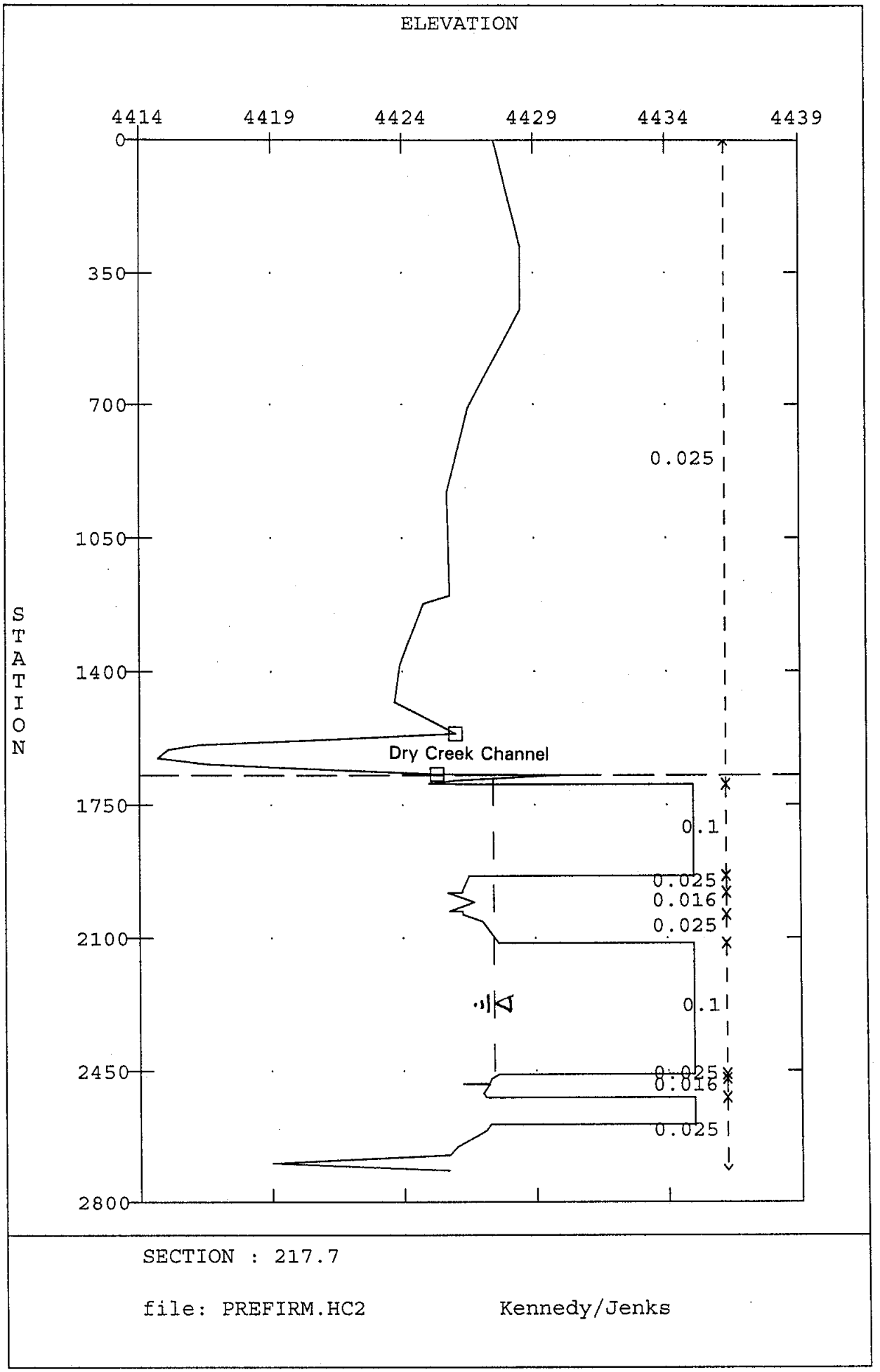
WARNING SECNO= 271.300 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

Appendix C

Modified Flood Insurance Study Technical Data Extended Downstream to Section 217.07

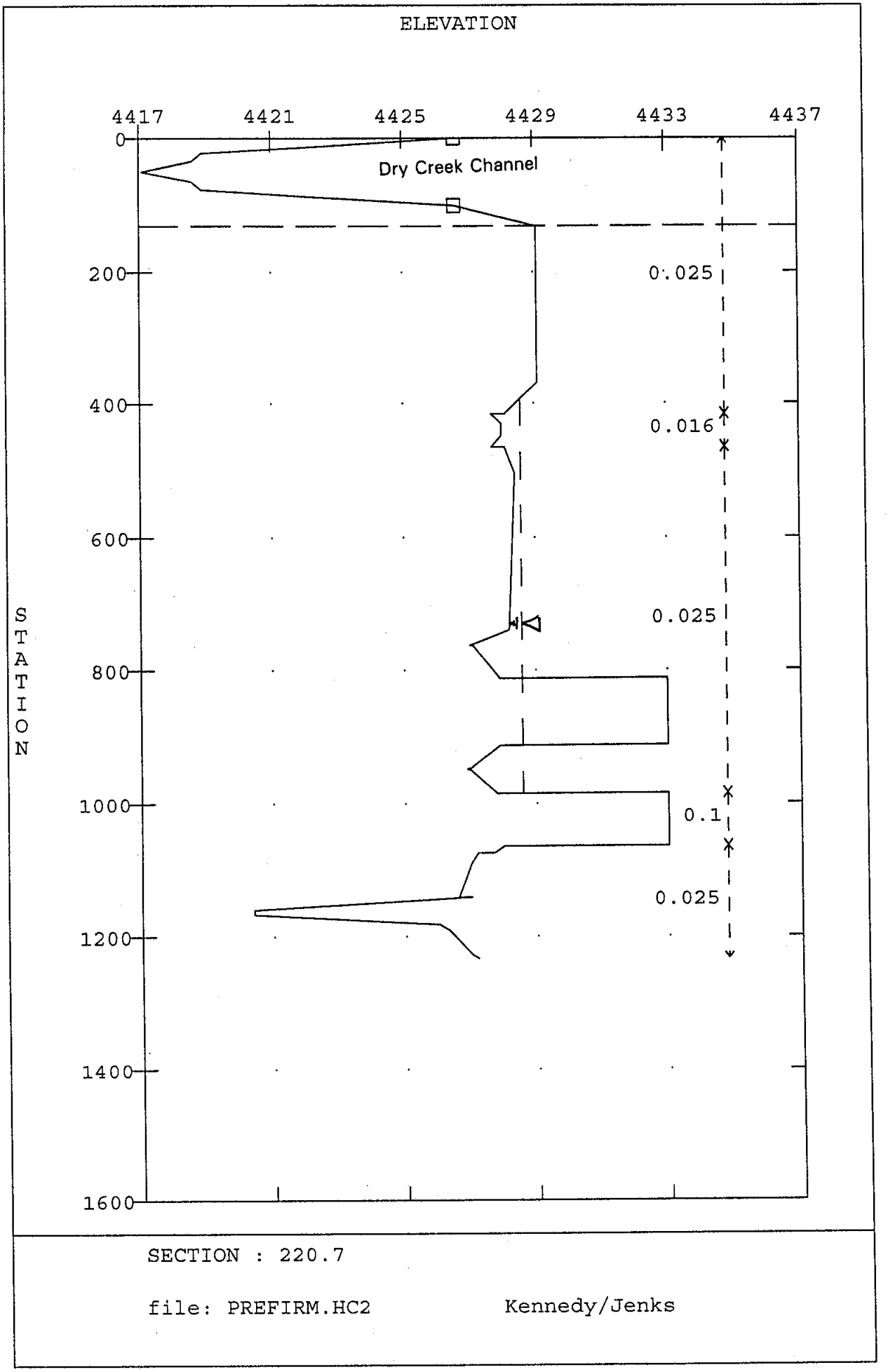


Water Surface Profile
Right (East) Overbank Flow



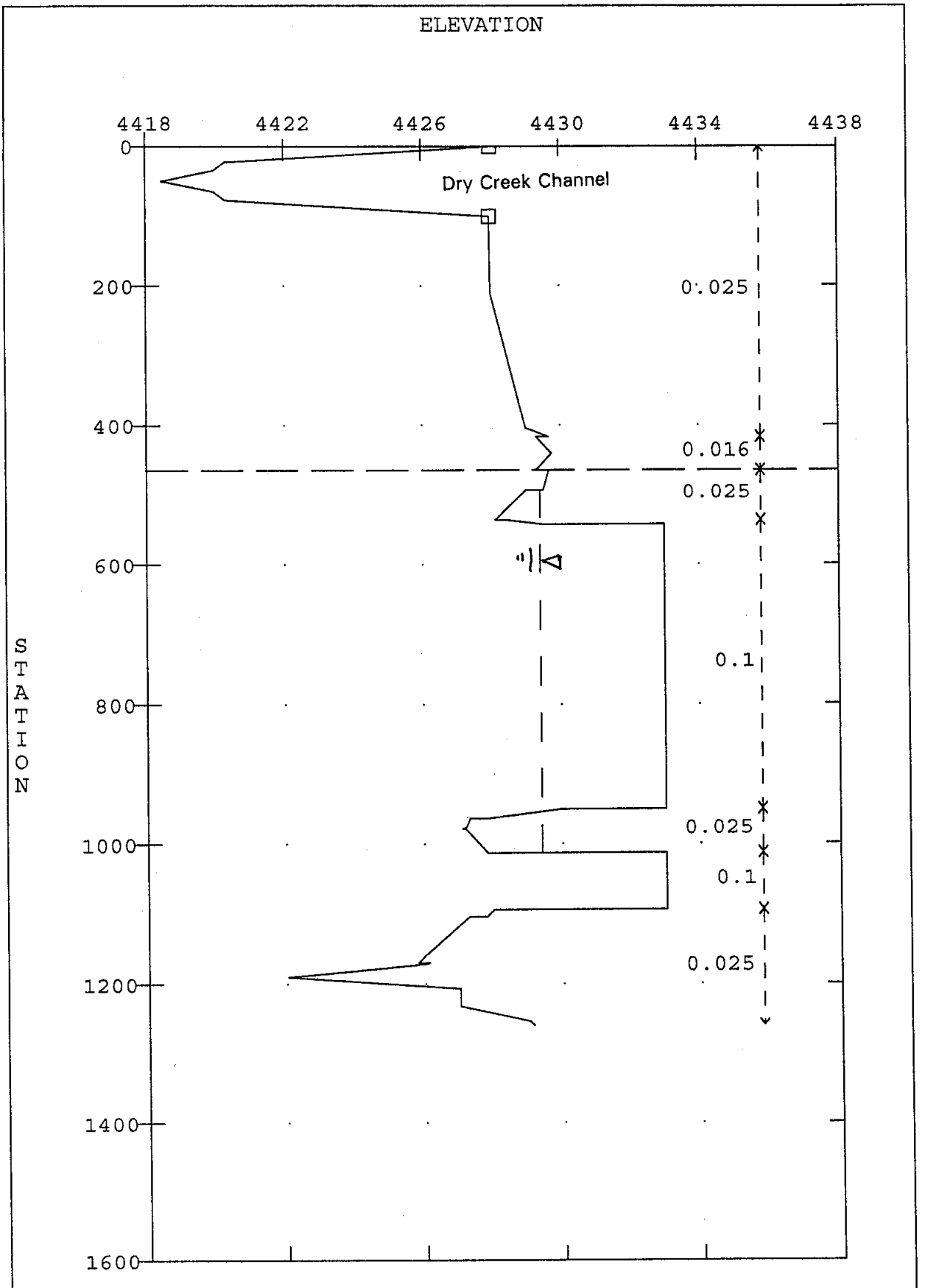
SECTION : 217.7

file: PREFIRM.HC2 Kennedy/Jenks



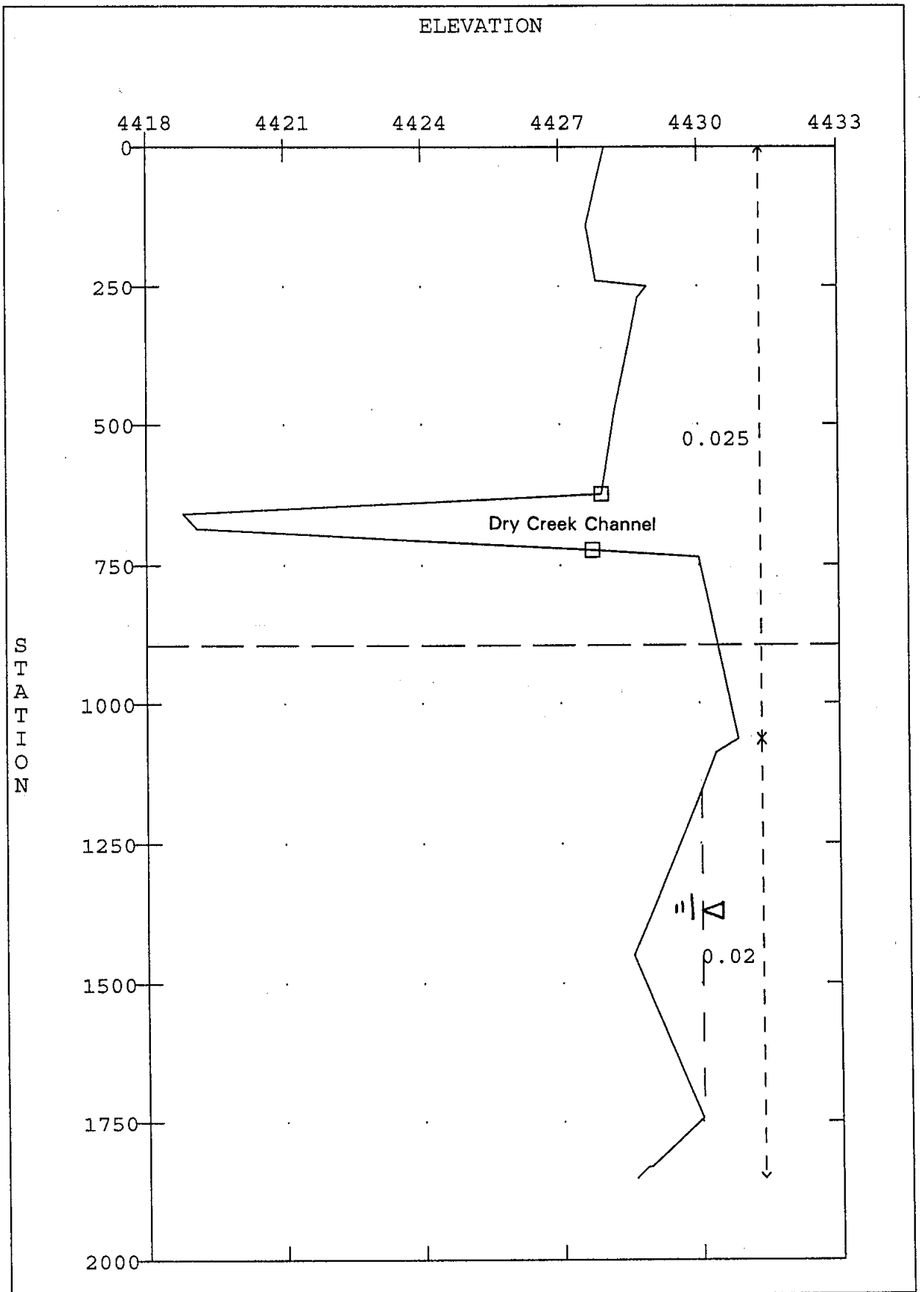
SECTION : 220.7

file: PREFIRM.HC2 Kennedy/Jenks



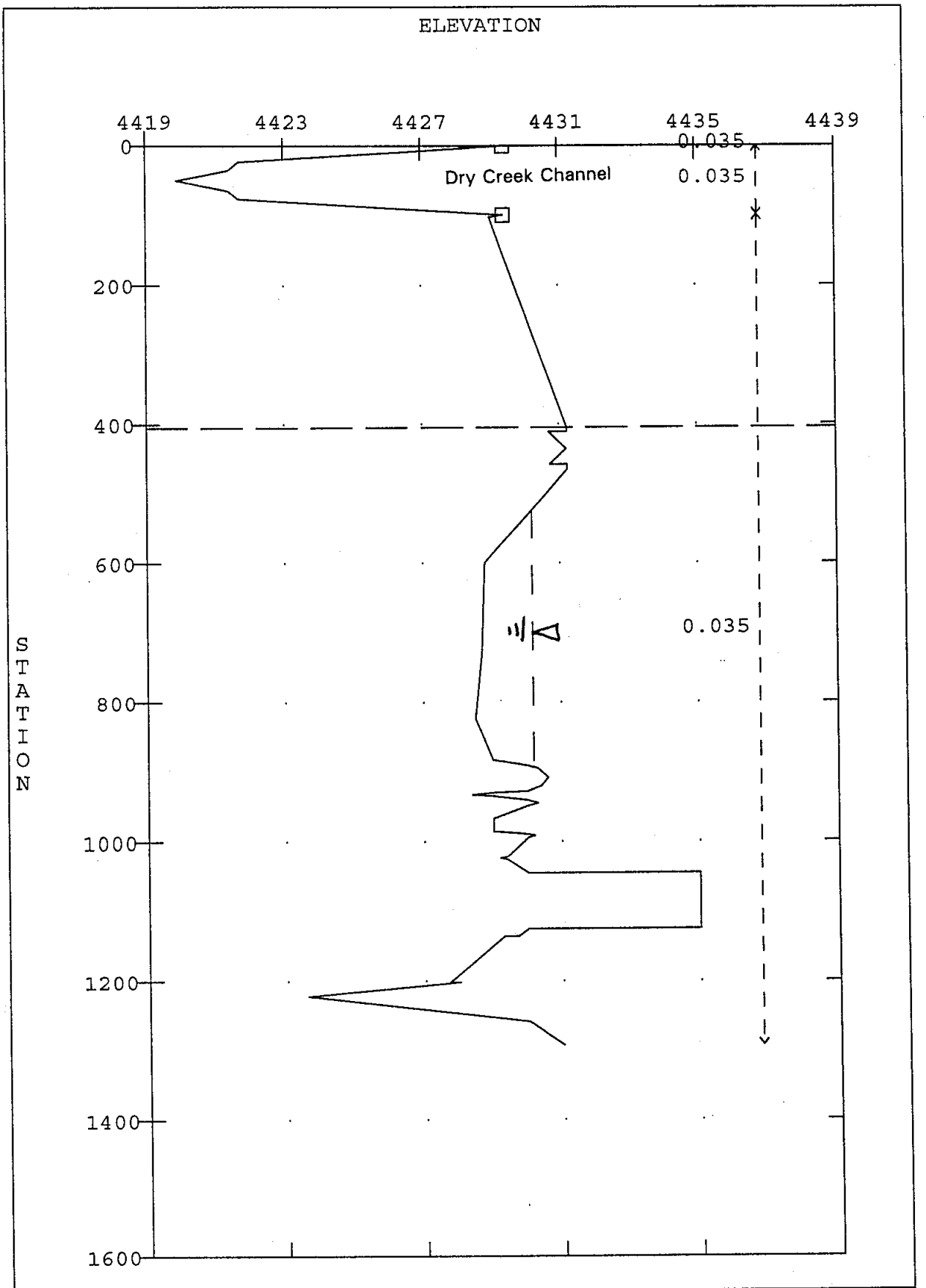
SECTION : 223.9

file: PREFIRM.HC2 Kennedy/Jenks



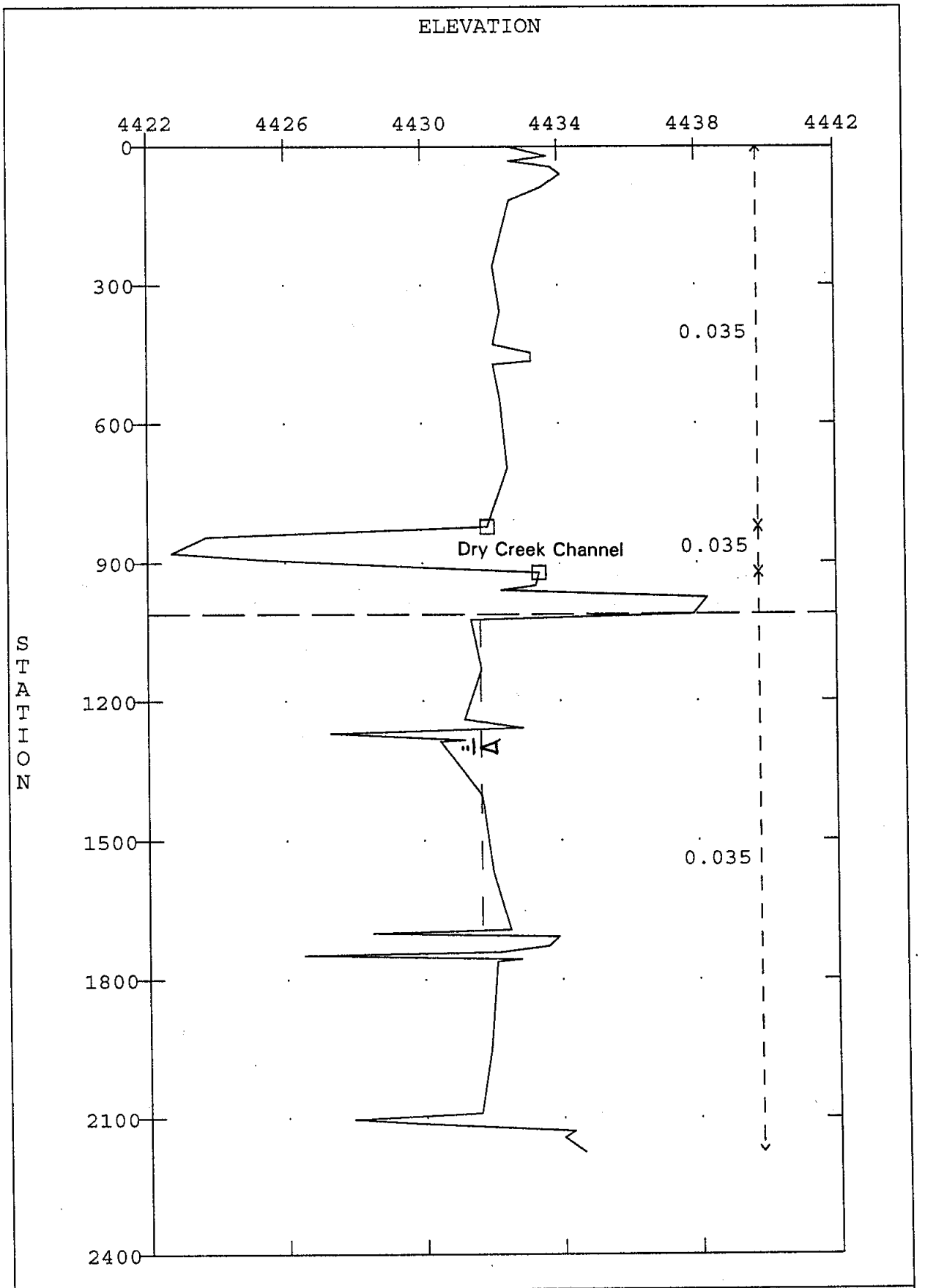
SECTION : 225.7

file: PREFIRM.HC2 Kennedy/Jenks



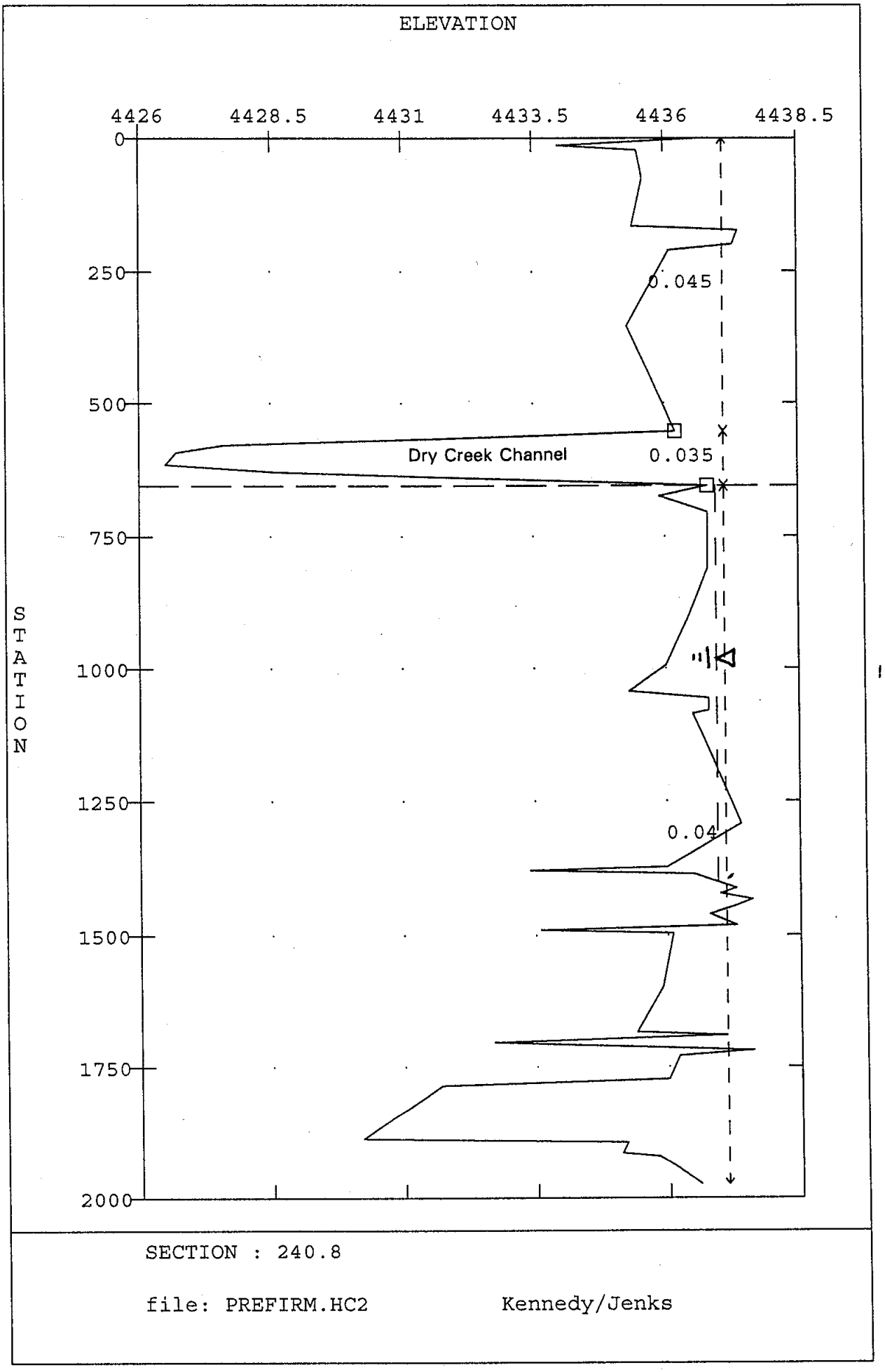
SECTION : 227.0

file: PREFIRM.HC2 Kennedy/Jenks



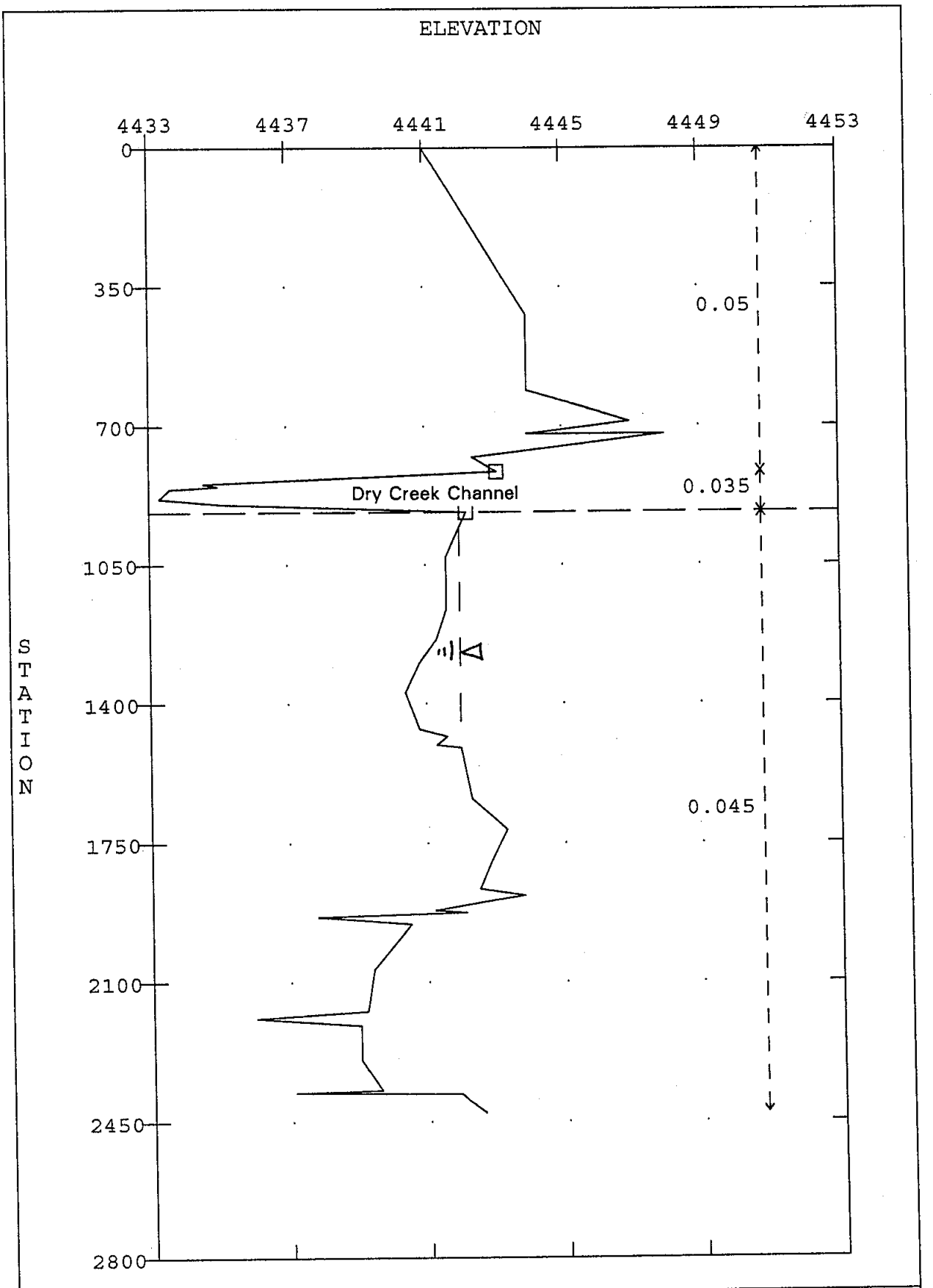
SECTION : 234.1

file: PREFIRM.HC2 Kennedy/Jenks



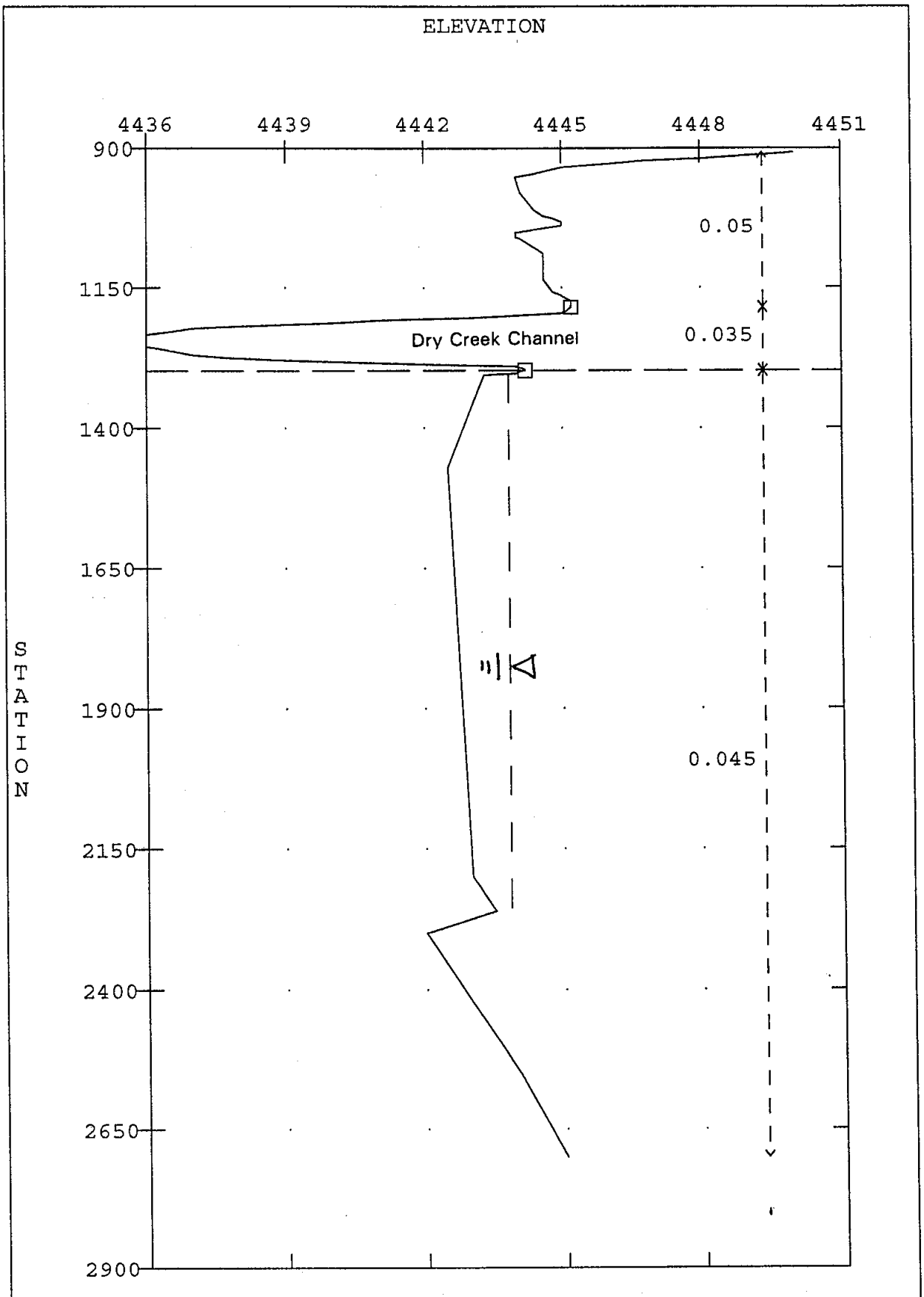
SECTION : 240.8

file: PREFIRM.HC2 Kennedy/Jenks



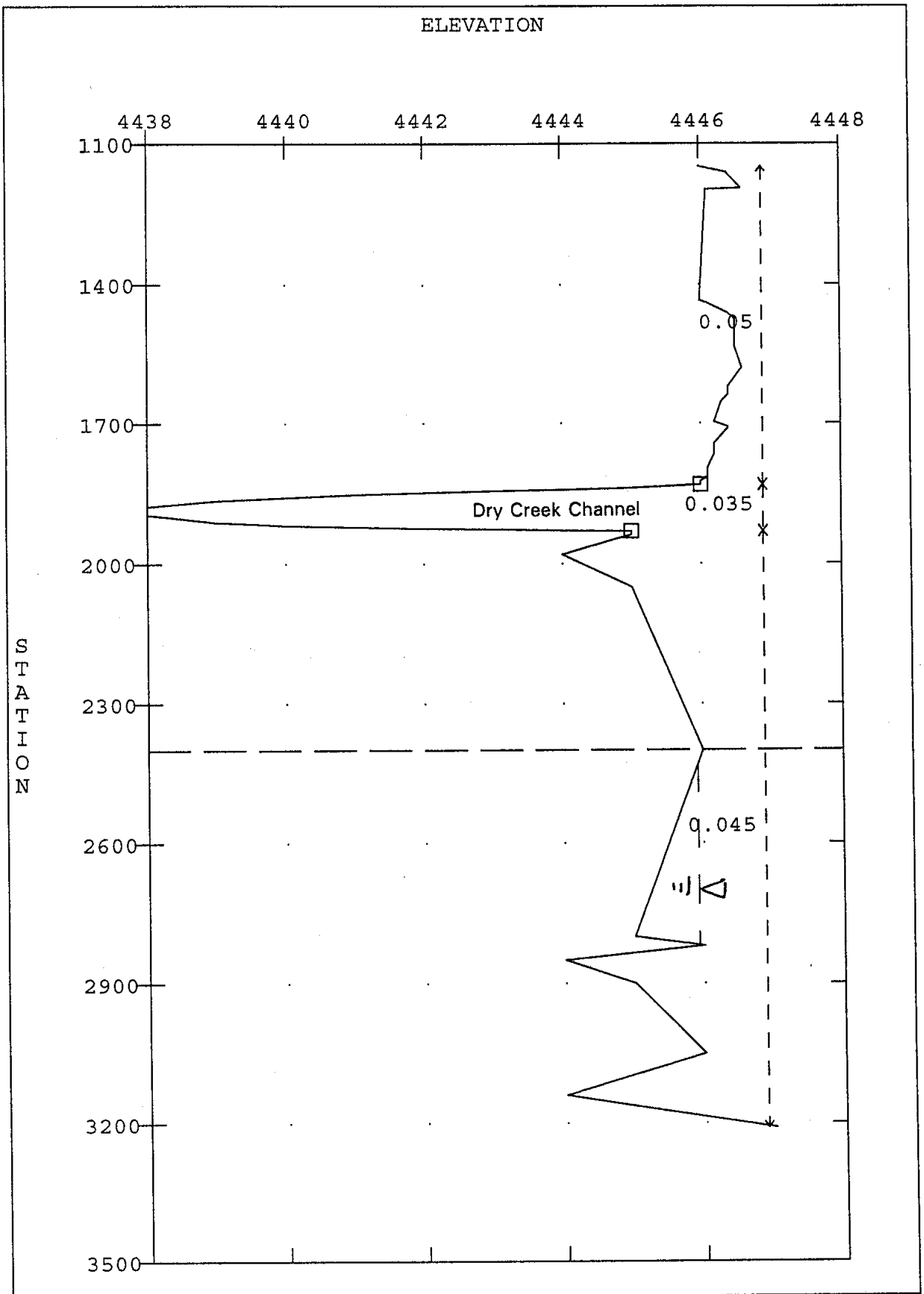
SECTION : 253.2

file: PREFIRM.HC2 Kennedy/Jenks



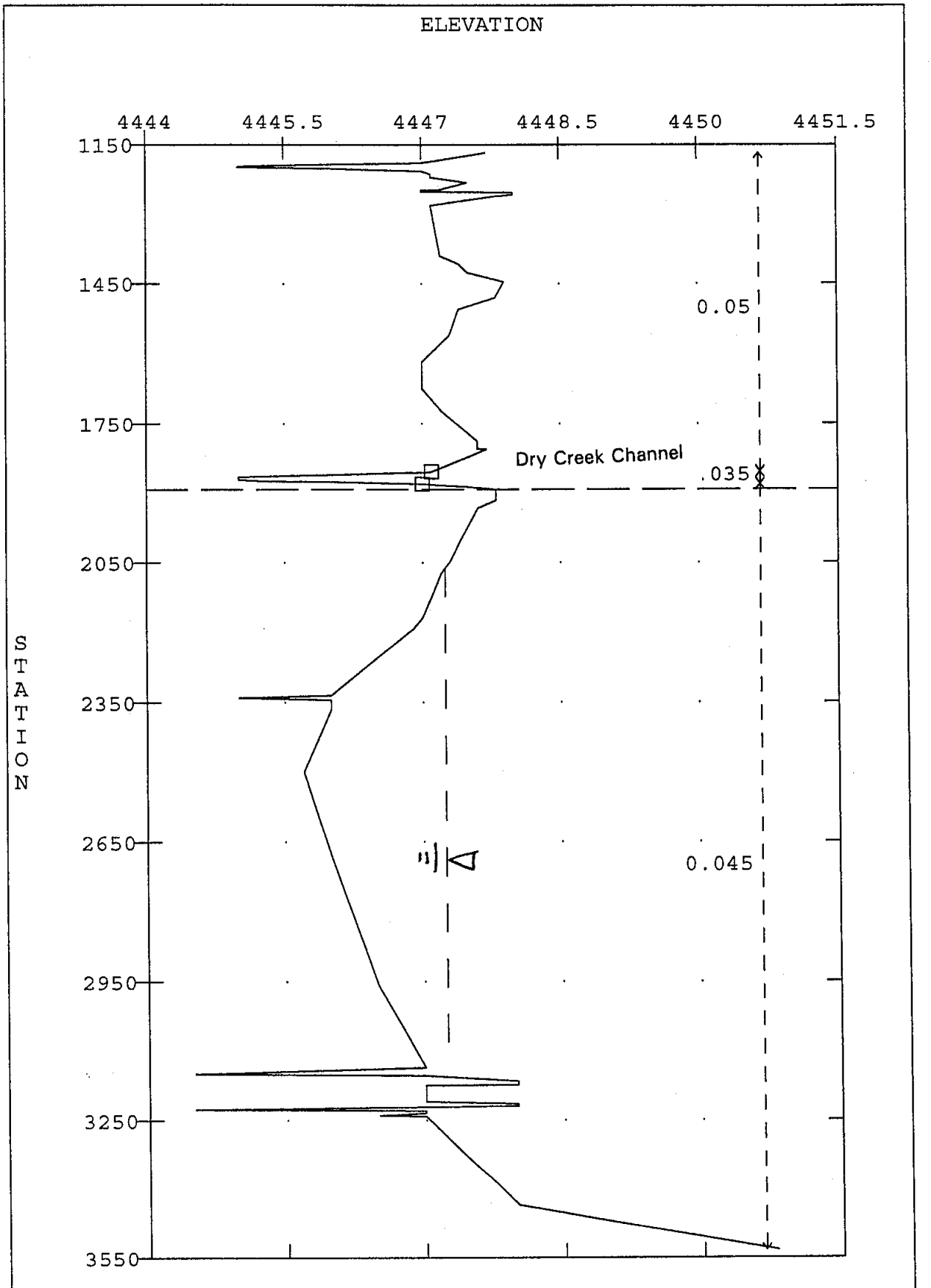
SECTION : 258.2

file: PREFIRM.HC2 Kennedy/Jenks



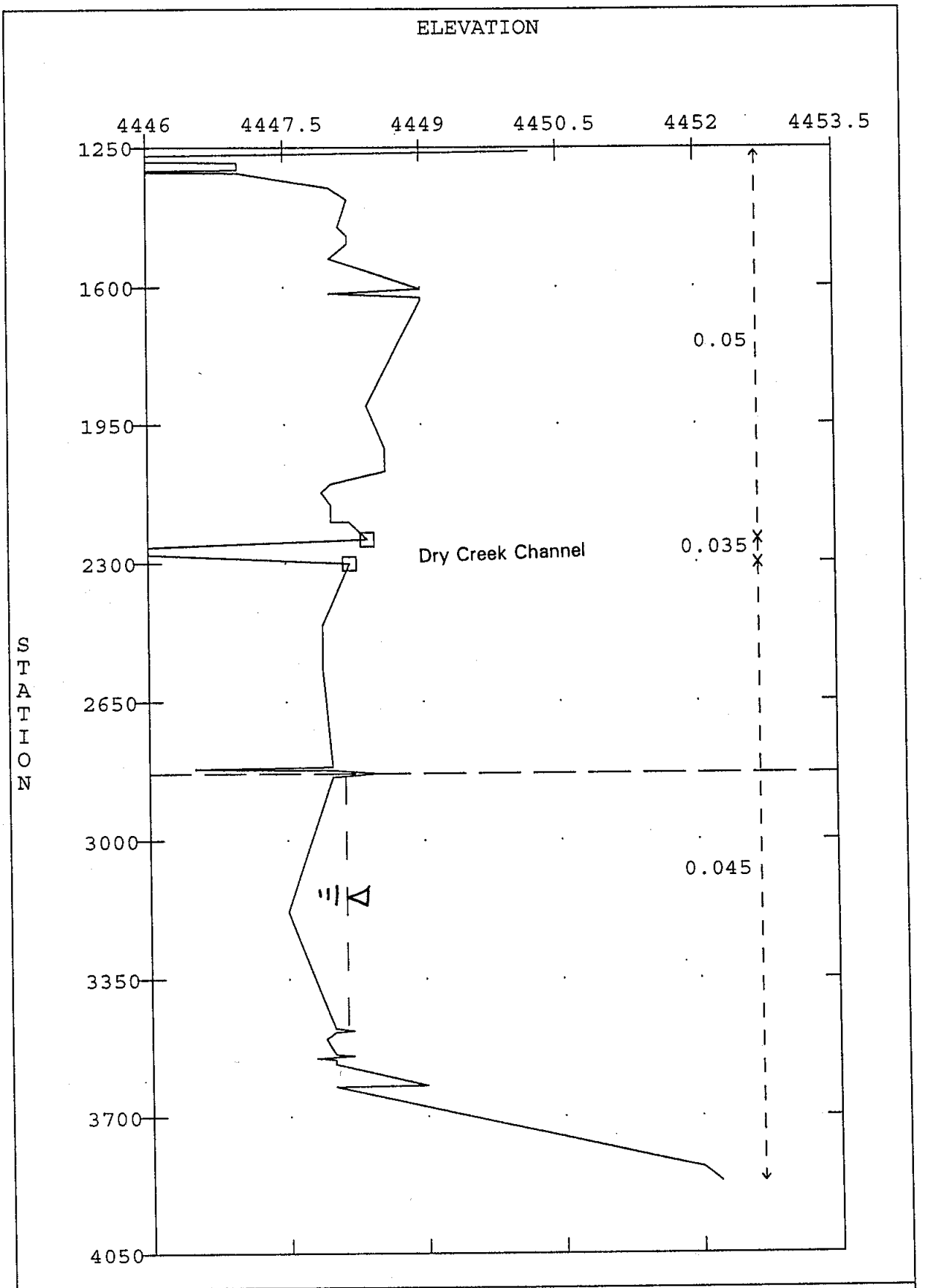
SECTION : 262.4

file: PREFIRM.HC2 Kennedy/Jenks



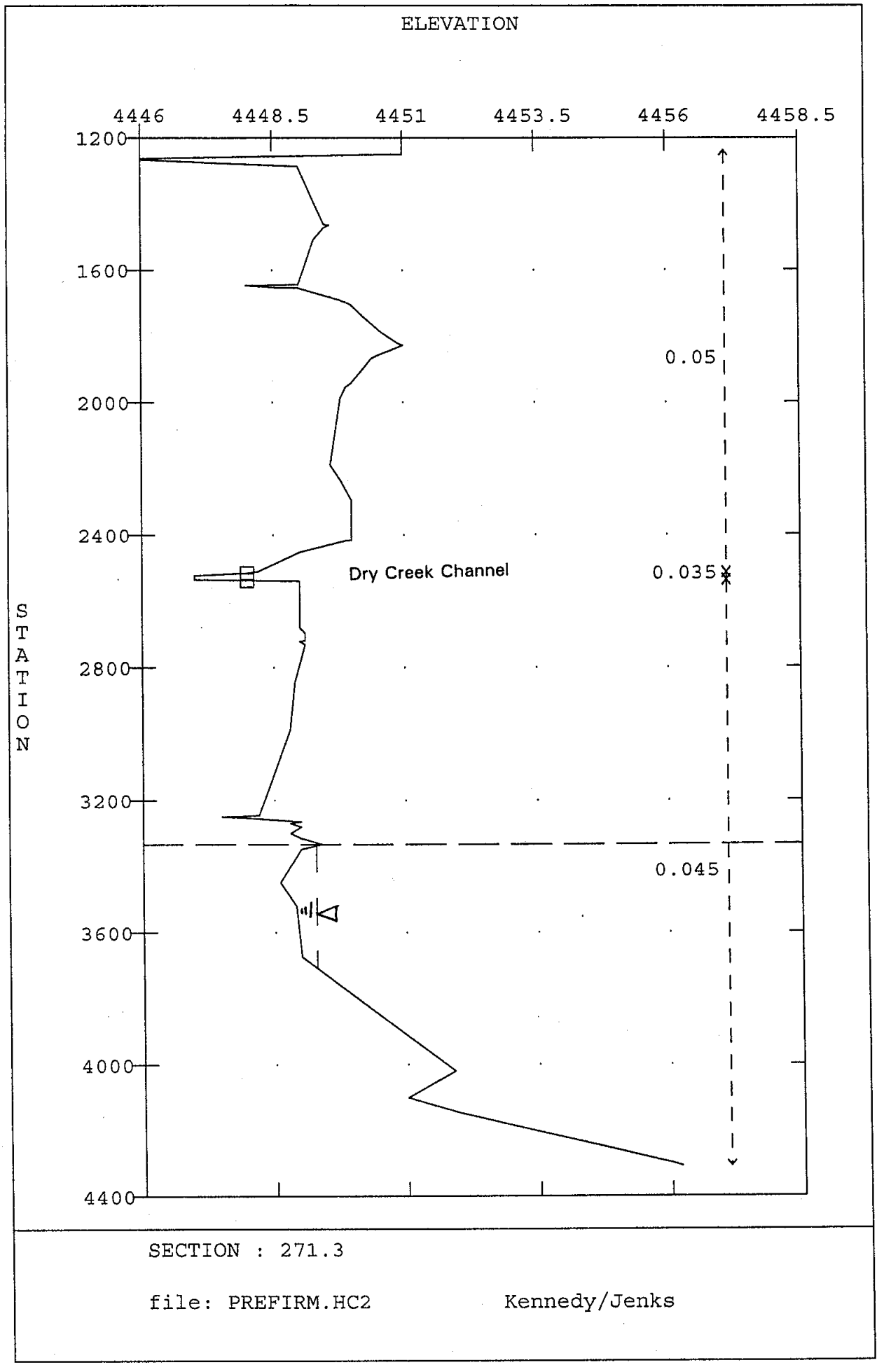
SECTION : 267.1

file: PREFIRM.HC2 Kennedy/Jenks



SECTION : 269.2

file: PREFIRM.HC2 Kennedy/Jenks


ELEVATION
4446
4448.5
4451
4453.5
4456
4458.5
1200
1600
2000
2400
2800
3200
3600
4000
4400
STATION
0.05
0.035
0.045
Dry Creek Channel
SECTION : 271.3
file: PREFIRM.HC2
Kennedy/Jenks

```
*****************************************
  HEC-2 WATER SURFACE PROFILES            *
*                                         *
*  Version   4.6.2;  May 1991             *
                                          *
  RUN DATE    02NOV94    TIME   07:54:42  *
*****************************************
```


```
*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*          (916) 756-1104               *
*****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

THIS RUN EXECUTED 02NOV94 07:54:42

```
**************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
**************************************

T1      DRY CREEK - PRE FIRM GROUND SURFACE ELEVATIONS
T2
T3      file: PREFIRM.HC2          Kennedy/Jenks Cons.              August 1994

  ================================================================================
  Dry Creek, Middle Reach - Floodplain Analysis

  This model is an attempt to simulate the extreme right overbank of the middle
  reach of Dry Creek.  The model was developed from RIGHT.DAT created by Baker
  Engineers (February 1994) from a model originally developed by KJC
  (Sept. 1993).  Cross section data developed by SEA (March 1994) as a part of
  a study for Kristal Corporation were also used or modified where applicable.

  Three cross sections were added by SEA Inc., 223.7, 226.9, and 230.2.  GR
  data was derived from topo information supplied by Summit Eng. (Park 2001,
  Industrial Site, Phase 1, Grading Plan.  March 1987.  pp G-1).

  The three section added by SEA were hand input by jbL from the Hydraulic
  Analysis for Warehouse and Distribution Facility (SEA, 1994).

  THIS MODEL REMOVES THE BUILDING FROM CROSS SECTION 223.7 THAT DID NOT EXIST
  IN 1989.  INFORMATION WAS DERIVED FROM AERIAL PHOTOS TAKEN JUNE 1989.

  File Name:  PREFIRM.HC2
  August 1994
  by: jbL/MEF
                                                    Kennedy/Jenks Consultants
                                                          Reno, Nevada
  ================================================================================

  Energy grade slope was reduced to account for shallower slope near McCarran

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0         2         0         0      .003         0         0         0    4427.5         0

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

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
       38        27        43         1        28         2         3        42         8
```

X-Sec. 231.7

QT	1	750								
NC	.045	.045	.03	.1	.3					
ET		9.1							1673	2520
NH	9	0.025	1697	.1	1937.1	0.025	1981	.016	2039	0.025
NH	2114	.1	2459.1	0.025	2471	0.016	2520	0.025	2716	
X1	217.7	49	1564.8	1670.4	0	0	0			
GR	4427.5	0.0	4428.5	280.0	4428.5	450	4426.5	710	4425.7	930
GR	4425.8	1200.0	4425.2	1212.4	4424.8	1221.4	4423.9	1383.4	4423.7	1481.8
GR	4426.0	1564.8	4416.3	1593.5	4415.1	1606.2	4414.7	1628.1	4416.6	1643.9
GR	4425.3	1670.4	4430	1673	4426	1687	4425	1695	4426.95	1697
GR	4435	1697.1	4435	1937	4426.50	1937.1	4426.25	1975	4426.25	1981
GR	4425.7	1982	4426.69	2006	4425.75	2030	4426.25	2030.1	4426.25	2039
GR	4427	2057	4427.61	2114	4435	2114.1	4435	2459	4427.61	2459.1
GR	4427.3	2471	4427.23	2483	4426.23	2484.5	4427.23	2486	4427	2509
GR	4427.1	2520	4435	2520.1	4435	2595	4427.27	2595.1	4427.1	2611
GR	4426	2654	4425.71	2676	4419	2696	4425.71	2716		
ET		9.1							130	1065
NH	5	0.025	416.1	0.016	465.1	0.025	985	.1	1065	0.025
NH	1233									
X1	220.7	43	0	100	295	350	295			
GR	4426.6	0	4418.9	23	4418.6	35	4417.1	50	4418.6	65
GR	4418.9	77	4426.6	100	4429.1	130	4429.1	369	4428.1	416
GR	4427.7	416.1	4428.	430	4428	439	4428	449	4427.7	465
GR	4428.1	465.1	4428.4	504	4428.2	739	4427.1	760	4427	761.5
GR	4427.1	763	4427.9	812	4433	812.1	4433	913	4427.9	913.1
GR	4427	947	4426.9	948.5	4427	950	4427.8	985	4433	985.1
GR	4433	1065	4428	1065.1	4427.7	1075	4427.2	1075.1	4427	1090
GR	4426.6	1141	4427	1141.1	4420.4	1160	4420.4	1167	4426	1182
GR	4426.3	1191	4427	1227	4427.2	1233				
ET		9.1							464.1	1013
NH	7	0.025	417	0.016	464.1	0.025	537	.1	950	0.025
NH	1013	.1	1094	0.025	1261					
X1	223.9	43	0	100	324	314	324			
GR	4428	0	4420.3	23	4419.97	35	4418.47	50	4419.97	65
GR	4420.3	77	4427.97	100	4428	210	4429	404	4429.67	417
GR	4429.3	417.1	4429.75	440	4429.3	464	4429.67	464.1	4429.5	493
GR	4429	493.1	4428.11	537	4428.49	537.1	4429.5	543	4433	543.1
GR	4433	950	4429.96	950.1	4427.82	963	4427.32	963.1	4427.21	976
GR	4427.1	977.5	4427.21	979	4427.83	1013	4433	1013.1	4433	1094
GR	4428	1094.1	4427.79	1104	4427.29	1104.1	4427	1116	4426	1160
GR	4425.8	1170	4426.12	1170.1	4426	1172	4422.03	1190	4427	1207
GR	4427	1233	4429	1255	4429.13	1261				

ET		9.1							895	1744
NH	2	0.025	1064	0.02	1855					
X1	225.7	22	623.1	723.3	197	160	197			
GR	4428.0	0.0	4427.6	139.6	4427.8	239.6	4428.9	250.5	4428.7	271.4
GR	4428.5	357.0	4428.2	472.5	4427.9	623.1	4418.8	658.0	4419.1	685.2
GR	4420.9	693.5	4427.7	723.3	4430	736	4430.83	1064	4430.35	1088
GR	4430	1162	4429	1361	4428.54	1450	4430.01	1744	4428.87	1832
GR	4428.8	1832	4428.55	1855						
ET		9.1							405	908
NC	.035	.035	.035							
X1	227.0	49	0	100	134	180	134			
GR	4429.4	0	4421.7	23	4421.4	35	4419.9	50	4421.4	65
GR	4421.7	77	4429.4	100	4429	103	4431.23	405	4431.23	411
GR	4430.7	411.1	4431.21	436	4430.73	459	4431.23	459.1	4431.23	467
GR	4428.8	600	4428.7	730	4428.5	824	4429	883	4430	891
GR	4430.3	895	4430.6	908	4430.4	920	4430	928	4429	930
GR	4428.4	933	4429	935	4430	941	4430.3	945	4430	949
GR	4429	967	4429	986	4430	990	4430.2	992	4430	995
GR	4429.4	1021	4429.2	1023	4429.4	1025	4430	1045	4435	1045.1
GR	4435	1125	4430	1125.1	4429.7	1136	4429.3	1136.1	4427.7	1202
GR	4428.0	1202.1	4423.6	1222	4430	1259	4431	1293		
ET		9.1							1011.6	1707.7
X1	234.1	48	822.8	922.1	690	690	690			
GR	4432.6	0.0	4433.7	21.2	4432.6	32.2	4433.8	44.7	4434.1	60.3
GR	4433.5	88.7	4432.6	116.0	4432.1	259.3	4432.3	356.9	4432.1	429.2
GR	4433.2	447.5	4433.2	465.6	4432.1	472.6	4432.3	551.9	4432.5	696.3
GR	4431.9	822.8	4423.7	844.3	4422.7	878.5	4425.3	893.1	4433.4	922.1
GR	4433.3	949.7	4432.3	959.2	4438.3	975.5	4437.9	1011.6	4431.4	1022.9
GR	4431.7	1131.3	4431.2	1240.8	4432.9	1259.7	4427.3	1271.1	4431.2	1286.0
GR	4430.5	1289.2	4431.7	1405.6	4432.0	1566.9	4432.5	1692.8	4428.5	1700.3
GR	4433.9	1707.7	4433.6	1727.7	4432.2	1740.8	4426.5	1747.8	4432.8	1756.6
GR	4432.1	1761.9	4431.9	1950.9	4431.6	2090.1	4427.9	2103.3	4429.7	2111.8
GR	4434.3	2129.2	4434.0	2142.7	4434.6	2174.0				
NC	.045	.040	.035	.1	.3					
ET		9.1							655.8	1433.5
X1	240.8	53	553	655.8	670	670	670			
GR	4436.7	0.0	4434.0	13.6	4435.5	22.8	4435.6	75.3	4435.4	165.1
GR	4437.4	173.4	4437.3	200.1	4436.1	210.9	4435.3	354.3	4435.7	439.8
GR	4436.2	553.0	4427.6	578.1	4426.7	592.0	4426.5	614.8	4428.6	629.4
GR	4436.8	655.8	4435.9	675.2	4436.8	705.3	4436.8	811.0	4436.4	908.8
GR	4436.0	994.7	4435.3	1043.1	4436.8	1056.1	4436.8	1079.7	4436.5	1085.5
GR	4436.9	1175.4	4437.4	1291.9	4436.0	1371.9	4433.4	1378.2	4436.5	1385.2
GR	4437.3	1411.8	4437.0	1422.2	4437.6	1433.5	4437.3	1445.5	4436.8	1461.3
GR	4437.3	1481.4	4433.6	1490.1	4436.1	1496.3	4435.9	1598.0	4435.4	1684.4
GR	4437.1	1691.0	4432.7	1703.9	4437.6	1718.9	4436.2	1729.1	4436.0	1773.0
GR	4431.7	1784.9	4431.0	1832.9	4430.2	1887.2	4435.2	1894.4	4435.1	1915.0
GR	4435.8	1921.4	4436.1	1938.6	4436.6	1974.4				

```
+++++++++++++++++++++++++++++++++++++++++++++++++
+ NEW CROSS SECTION DATA WAS ENTERED BELOW      +
+ NUMBERS 265.6, 273.8, AND 280.0 WERE DELETED  +
+++++++++++++++++++++++++++++++++++++++++++++++++


+++++++++++++++++++++++++++++++++++++++++++++++++
+ MODIFIED THE FLOWS TO REPRESENT THE          +
+ RESULTS OF THE SPLIT FLOW ANALYSIS (5-11-93) +
+   => WEIR COEFFICIENT 3.1                    +
+   => TRUNCATED CROSS SECTIONS                +
+++++++++++++++++++++++++++++++++++++++++++++++++

********** MODIFIED SECTION 253.2************
```

NC	.050	.045	.035	.1	.3					
QT	1	750								
ET		9.1							917.8	1716.5
X1	253.2	43	817.4	917.8	450	1240	1240			
GR	4441.0	0.0	4444.0	420.0	4444.0	610.0	4447.0	690.0	4444.0	720.0
GR	4448.0	721.5	4442.4	779.2	4443.1	817.4	4434.6	845.7	4435.0	852.4
GR	4433.6	858.7	4433.3	883.0	4435.1	897.2	4442.2	917.8	4441.6	1029.1
GR	4441.6	1162.0	4441.3	1240.0	4440.8	1300.0	4440.4	1373.0	4440.8	1465.0
GR	4441.6	1483.4	4441.3	1505.2	4442.0	1512.1	4442.3	1638.8	4443.3	1716.5
GR	4442.8	1803.0	4442.5	1865.6	4443.8	1882.8	4443.0	1893.2	4441.2	1919.7
GR	4442.1	1925.8	4437.8	1936.8	4440.5	1954.8	4439.4	2068.8	4439.2	2174.1
GR	4436.0	2191.4	4439.0	2209.8	4439.0	2295.9	4439.6	2372.9	4437.1	2378.8
GR	4441.9	2382.8	4442.1	2399.0	4442.6	2430.0				

```
**********CROSS SECTION 258.2*****************
```

QT	1	750								
ET		9.1							1298.6	2260
X1	258.2	82	1186.1	1298.6	1000	1750	500			
GR	4450.0	906.6	4449.8	908.6	4449.0	912.6	4448.9	913.3	4448.0	918.2
GR	4447.5	919.7	4446.7	922.5	4446.5	924.1	4446.4	924.9	4446.0	927.9
GR	4445.1	933.7	4445.0	934.6	4444.4	946.5	4444.0	952.2	4444.1	978.4
GR	4444.4	1009.2	4444.6	1020.1	4444.8	1024.2	4445.0	1030.7	4445.0	1038.0
GR	4444.6	1042.9	4444.1	1049.7	4444.0	1050.9	4444.0	1059.7	4444.1	1062.2
GR	4444.6	1089.2	4444.6	1135.5	4444.8	1157.6	4445.0	1164.1	4445.0	1164.1
GR	4445.0	1165.1	4445.1	1169.5	4445.2	1173.7	4445.2	1186.1	4445.1	1193.3
GR	4445.0	1197.5	4443.0	1206.0	4442.7	1206.5	4442.6	1206.6	4442.3	1207.1
GR	4442.0	1207.7	4441.9	1207.9	4441.0	1209.9	4440.0	1214.5	4439.7	1215.3
GR	4439.0	1217.3	4439.0	1217.4	4438.0	1220.3	4437.1	1223.6	4437.0	1224.1
GR	4436.5	1230.1	4436.0	1235.1	4436.0	1256.7	4436.4	1262.2	4437.0	1271.4
GR	4437.7	1275.8	4438.9	1280.0	4439.0	1280.2	4440.0	1282.8	4440.4	1283.8
GR	4441.0	1285.4	4441.9	1287.4	4442.5	1288.8	4443.0	1289.9	4444.0	1291.5
GR	4444.2	1296.7	4444.2	1298.6	4444.1	1300.1	4444.0	1304.5	4444.0	1304.6
GR	4443.9	1304.7	4443.8	1305.2	4443.6	1305.5	4443.6	1305.6	4443.4	1306.6
GR	4443.3	1307.3	4442.5	1470	4443	2200	4443.5	2260	4442	2300
GR	4444	2550	4445	2700						

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************CROSS SECTION 262.4***************
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```
QT        1      750
ET               9.1                                                              2400      2820
X1    262.4       76   1831.7   1930.2      300      430      420
GR   4446.0   1148.7   4446.0   1148.8   4446.4   1162.2   4446.4   1163.7   4446.6   1195.1
GR   4446.6   1195.9   4446.1   1198.5   4446.0   1434.6   4446.1   1439.2   4446.4   1461.8
GR   4446.5   1474.5   4446.5   1519.7   4446.5   1528.7   4446.5   1528.9   4446.5   1529.1
GR   4446.5   1530.4   4446.5   1534.7   4446.6   1578.3   4446.4   1621.1   4446.4   1631.5
GR   4446.4   1638.3   4446.3   1653.6   4446.2   1697.3   4446.4   1708.1   4446.4   1710.2
GR   4446.2   1742.5   4446.2   1752.1   4446.2   1752.6   4446.2   1755.6   4446.2   1757.3
GR   4446.2   1758.7   4446.2   1765.3   4446.1   1797.3   4446.1   1815.4   4446.0   1823.8
GR   4446.0   1831.7   4445.6   1834.5   4445.0   1838.5   4444.2   1841.5   4444.0   1842.1
GR   4443.7   1842.8   4443.0   1844.6   4442.5   1846.4   4442.0   1848.3   4441.3   1851.1
GR   4441.0   1852.4   4440.1   1858.0   4439.8   1859.8   4439.0   1864.8   4438.8   1867.1
GR   4438.0   1876.9   4438.0   1894.4   4438.4   1900.7   4439.0   1910.7   4439.3   1912.2
GR   4440.0   1917.5   4440.9   1920.5   4441.0   1920.6   4441.9   1923.6   4442.0   1923.7
GR   4442.0   1923.8   4443.0   1925.4   4443.4   1926.4   4444.0   1928.3   4445.0   1930.2
GR   4445.0   1937.9   4444.0     1980     4445     2050     4446     2400     4445     2800
GR     4446     2820     4444     2850     4445     2900     4446     3050     4444     3140
GR     4447     3210

         ***************************************************
         *    EXTENDED THE CROSS SECTIONS 267.1, 269.2, *
         *    AND 271.3 TO LONGLEY LANE. DATA WAS       *
         *    OBTAINED FROM SUMMIT ENGINEERING THRU     *
         *    THE STATE FARMS STOCK FACILITY.           *
         ***************************************************

QT        1     2200
         ***********CROSS SECTION 267.1****************
ET               9.1                                                            1891.6    3137.0
X1    267.1       86   1852.2   1879.4      260      180      470
GR   4447.7   1166.9   4447.7   1167.6   4447.1   1186.6   4447.0   1189.1   4446.9   1189.7
GR   4446.0   1192.3   4445.1   1195.9   4445.0   1198.4   4445.3   1199.5   4446.0   1201.1
GR   4446.3   1203.0   4446.4   1203.6   4447.0   1207.0   4447.1   1213.1   4447.1   1220.1
GR   4447.5   1231.4   4447.5   1231.6   4447.2   1246.9   4447.0   1247.6   4447.0   1250.9
GR   4447.9   1252.0   4448.0   1252.1   4448.0   1257.2   4447.8   1260.7   4447.5   1268.7
GR   4447.1   1280.4   4447.2   1390.1   4447.4   1406.7   4447.5   1425.5   4447.9   1445.9
GR   4447.8   1481.0   4447.4   1506.3   4447.3   1561.8   4447.0   1618.6   4447.0   1675.1
GR   4447.2   1720.4   4447.2   1721.5   4447.6   1787.7   4447.6   1803.1   4447.7   1804.6
GR   4447.1   1852.2   4447.1   1852.5   4447.0   1854.0   4446.6   1855.6   4446.5   1856.2
GR   4446.0   1859.1   4445.7   1860.1   4445.0   1863.3   4445.0   1869.4   4445.3   1872.8
GR   4446.0   1874.3   4446.7   1878.0   4447.0   1879.4   4447.5   1885.9   4447.8   1891.6
GR   4447.8   1916.8   4447.6   1933.7   4447.4   2006.9   4447.3   2047.6   4447.2   2073.4
GR   4447.1   2121.7   4447.0   2167.3   4446.9   2191.3   4446.0   2335.0   4445.0   2340.0
GR   4446.0   2345.0   4446.0   2365.0   4445.7   2500.0   4446.0   2682.0   4446.5   2960.0
GR   4447.0   3137.0   4444.5   3150.0   4447.0   3154.0   4448.0   3166.0   4448.0   3174.0
GR   4447.0   3175.0   4447.0   3210.0   4448.0   3215.0   4448.0   3220.0   4444.5   3227.0
GR   4447.0   3230.0   4447.0   3235.0   4446.5   3240.0   4447.0   3242.0   4448.0   3435.0
GR   4450.8   3533.0

          **********CROSS SECTION 269.2***************
```

QT	1	350								
ET		9.1							2832.0	3483.0
X1	269.2	55	2241.8	2301.8	190	190	210			
GR	4450.2	1260.4	4446.0	1271.4	4446.0	1287.1	4447.0	1290.0	4447.0	1308.2
GR	4446.0	1310.4	4446.0	1314.1	4447.0	1316.5	4448.0	1353.3	4448.2	1383.3
GR	4448.1	1450.5	4448.2	1473.3	4448.2	1492.8	4448.0	1530.2	4449.0	1605.1
GR	4448.0	1616.2	4449.0	1626.1	4449.0	1634.8	4448.4	1902.7	4448.5	1957.5
GR	4448.6	2013.4	4448.6	2070.1	4448.0	2101.4	4447.9	2123.0	4448.0	2155.8
GR	4448.0	2187.6	4448.0	2197.9	4448.2	2198.0	4448.4	2241.8	4446.0	2260.3
GR	4446.0	2278.4	4448.2	2301.8	4447.9	2457.1	4447.9	2568.7	4448.0	2815.0
GR	4446.5	2820.0	4447.0	2822.0	4448.0	2823.0	4448.5	2832.0	4448.0	2841.0
GR	4447.5	3180.0	4448.0	3477.0	4448.2	3483.0	4448.0	3487.0	4447.9	3504.0
GR	4448.0	3542.0	4448.2	3546.0	4448.0	3549.0	4447.8	3552.0	4448.0	3556.0
GR	4448.0	3568.0	4449.0	3622.0	4448.0	3625.0	4452.0	3830.0	4452.2	3870.0

**********CROSS SECTION 271.3**********

ET		9.1							3333.0	4020.0
QT	1	175								
X1	271.3	63	2515.9	2538.3	210	200	210			
GR	4451.0	1238.9	4451.0	1251.0	4446.0	1263.3	4446.0	1266.9	4449.0	1286.7
GR	4449.5	1462.0	4449.6	1464.0	4449.5	1471.8	4449.3	1507.5	4449.0	1645.1
GR	4448.0	1647.2	4448.6	1654.3	4449.0	1655.2	4449.8	1692.5	4450.0	1705.8
GR	4450.2	1736.5	4450.6	1791.6	4450.9	1823.1	4451.0	1829.4	4450.5	1860.6
GR	4450.4	1868.6	4450.2	1907.8	4450.0	1944.1	4449.9	1955.0	4449.8	1988.2
GR	4449.6	2187.9	4449.8	2238.0	4450.0	2294.6	4450.0	2416.5	4449.9	2417.5
GR	4449.0	2453.1	4448.2	2511.8	4448.0	2515.9	4447.0	2524.5	4447.0	2536.5
GR	4448.0	2538.3	4448.1	2538.6	4449.0	2540.4	4449.0	2680.7	4449.1	2697.8
GR	4449.1	2720.1	4449.0	2723.2	4449.1	2732.4	4448.9	2843.4	4448.8	2987.9
GR	4448.2	3246.0	4447.5	3250.0	4448.0	3254.0	4449.0	3265.0	4448.8	3270.0
GR	4449.0	3281.0	4448.8	3300.0	4449.0	3315.0	4449.4	3333.0	4449.0	3348.0
GR	4448.6	3450.0	4448.9	3520.0	4449.0	3675.0	4451.9	4020.0	4451.0	4100.0
GR	4452.0	4150.0	4456.0	4300.0	4456.2	4310.0				

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 217.700

3265 DIVIDED FLOW

3280 CROSS SECTION 217.70 EXTENDED 1.71 FEET

3470 ENCROACHMENT STATIONS= 1673.0 2520.0 TYPE= 1 TARGET= 847.000

217.700	12.72	4427.42	.00	.00	4427.70	.28	.00	.00	100000.00
750.0	.0	.0	750.0	.0	.0	177.2	.0	.0	100000.00
.00	.00	.00	4.23	.000	.000	.020	.000	4414.70	1682.02
.003041	0.	0.	0.	0	0	6	.00	228.21	2520.00

1490 NH CARD USED
*SECNO 220.700

3265 DIVIDED FLOW

3280 CROSS SECTION 220.70 EXTENDED 1.38 FEET

3470 ENCROACHMENT STATIONS= 130.0 1065.0 TYPE= 1 TARGET= 935.000

220.700	11.48	4428.58	.00	.00	4428.69	.11	.98	.02	100000.00
750.0	.0	.0	750.0	.0	.0	278.6	1.8	2.9	100000.00
.04	.00	.00	2.69	.000	.000	.024	.000	4417.10	393.44
.002566	295.	295.	350.	3	0	0	.00	490.50	985.02

1490 NH CARD USED
*SECNO 223.900

3265 DIVIDED FLOW

3280 CROSS SECTION 223.90 EXTENDED .27 FEET

3470 ENCROACHMENT STATIONS= 464.1 1013.0 TYPE= 1 TARGET= 548.900

223.900	10.93	4429.40	.00	.00	4429.81	.41	1.03	.09	100000.00
750.0	.0	.0	750.0	.0	.0	145.6	3.4	5.0	100000.00
.05	.00	.00	5.15	.000	.000	.025	.000	4418.47	493.02
.004331	324.	324.	314.	2	0	0	.00	108.92	1013.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1490 NH CARD USED
*SECNO 225.700
3280 CROSS SECTION 225.70 EXTENDED 1.48 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.51

3470 ENCROACHMENT STATIONS= 895.0 1744.0 TYPE= 1 TARGET= 849.000

225.700	11.23	4430.03	.00	.00	4430.07	.05	.23	.04	100000.00
750.0	.0	.0	750.0	.0	.0	440.4	4.4	6.3	100000.00
.08	.00	.00	1.70	.000	.000	.020	.000	4418.80	1155.39
.000688	197.	197.	160.	1	0	0	.00	588.60	1744.00

*SECNO 227.000

3470 ENCROACHMENT STATIONS= 405.0 908.0 TYPE= 1 TARGET= 503.000

227.000	10.28	4430.18	.00	.00	4430.22	.04	.14	.00	100000.00
750.0	.0	.0	750.0	.0	.0	475.2	6.3	8.3	100000.00
.11	.00	.00	1.58	.000	.000	.035	.000	4419.90	524.67
.000906	134.	134.	180.	2	0	0	.00	368.68	893.35

*SECNO 234.100

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1011.6 1707.7 TYPE= 1 TARGET= 696.100

234.100	8.97	4431.67	4431.67	.00	4431.94	.27	1.48	.07	100000.00
750.0	.0	.0	750.0	.0	.0	181.0	11.5	14.1	100000.00
.16	.00	.00	4.14	.000	.000	.035	.000	4422.70	1022.42
.009964	690.	690.	690.	7	14	0	.00	359.84	1704.65

CCHV= .100 CEHV= .300
*SECNO 240.800

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3280 CROSS SECTION 240.80 EXTENDED .36 FEET

3470 ENCROACHMENT STATIONS= 655.8 1433.5 TYPE= 1 TARGET= 777.700

240.800	10.45	4436.95	.00	.00	4437.04	.09	5.09	.02	100000.00
750.0	.0	.0	750.0	.0	.0	312.5	15.3	21.6	4436.80
.23	.00	.00	2.40	.000	.000	.040	.000	4426.50	655.80
.005974	670.	670.	670.	9	0	0	.00	618.16	1400.61

CCHV= .100 CEHV= .300
*SECNO 253.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.44

3470 ENCROACHMENT STATIONS= 917.8 1716.5 TYPE= 1 TARGET= 798.700

253.200	8.69	4441.99	.00	.00	4442.04	.05	4.99	.00	100000.00
750.0	.0	.0	750.0	.0	.0	422.9	25.8	38.3	4442.20
.43	.00	.00	1.77	.000	.000	.045	.000	4433.30	956.65
.002896	450.	1240.	1240.	10	0	0	.00	555.36	1512.01

*SECNO 258.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.36

3470 ENCROACHMENT STATIONS= 1298.6 2260.0 TYPE= 1 TARGET= 961.400

258.200	7.83	4443.83	.00	.00	4443.84	.01	1.80	.00	100000.00
750.0	.0	.0	750.0	.0	.0	973.5	53.8	68.6	4444.20
1.06	.00	.00	.77	.000	.000	.045	.000	4436.00	1305.06
.000520	1000.	500.	1750.	8	0	0	.00	954.94	2260.00

*SECNO 262.400
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 2400.0 2820.0 TYPE= 1 TARGET= 420.000

262.400	7.92	4445.92	4445.92	.00	4446.20	.27	.73	.08	100000.00
750.0	.0	.0	750.0	.0	.0	178.5	59.5	75.3	100000.00
1.09	.00	.00	4.20	.000	.000	.045	.000	4438.00	2431.25
.045490	300.	420.	430.	20	5	0	.00	387.19	2818.44

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 267.100

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 9.70

3470 ENCROACHMENT STATIONS= 1891.6 3137.0 TYPE= 1 TARGET= 1245.400

267.100	2.74	4447.24	.00	.00	4447.32	.08	1.11	.02	100000.00
2200.0	.0	.0	2200.0	.0	.0	978.2	61.9	78.3	100000.00
1.11	.00	.00	2.25	.000	.000	.045	.000	4444.50	2063.16
.004161	260.	470.	180.	9	0	0	.00	1073.84	3137.00

*SECNO 269.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .12

3470 ENCROACHMENT STATIONS= 2832.0 3483.0 TYPE= 1 TARGET= 651.000

269.200	2.14	4448.14	.00	.00	4448.17	.03	.84	.00	100000.00
350.0	.0	.0	350.0	.0	.0	242.6	64.6	82.0	100000.00
1.15	.00	.00	1.44	.000	.000	.045	.000	4446.00	2838.64
.006928	190.	210.	190.	5	0	0	.00	642.28	3480.92

*SECNO 271.300

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .65

3470 ENCROACHMENT STATIONS= 3333.0 4020.0 TYPE= 1 TARGET= 687.000

271.300	3.29	4449.29	.00	.00	4449.31	.02	1.14	.00	100000.00
175.0	.0	.0	175.0	.0	.0	146.5	65.5	84.4	100000.00
1.19	.00	.00	1.19	.000	.000	.045	.000	4446.00	3337.18
.004062	210.	210.	200.	2	0	0	.00	372.16	3709.33

THIS RUN EXECUTED 02NOV94 07:54:43

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

file: PREFIRM.HC2

SUMMARY PRINTOUT

	SECNO	STENCL	Q	CWSEL	STENCR	CRIWS	EG	ELMIN	DEPTH
	217.700	1673.00	750.00	4427.42	2520.00	.00	4427.70	4414.70	12.72
	220.700	130.00	750.00	4428.58	1065.00	.00	4428.69	4417.10	11.48
	223.900	464.10	750.00	4429.40	1013.00	.00	4429.81	4418.47	10.93
*	225.700	895.00	750.00	4430.03	1744.00	.00	4430.07	4418.80	11.23
	227.000	405.00	750.00	4430.18	908.00	.00	4430.22	4419.90	10.28
*	234.100	1011.60	750.00	4431.67	1707.70	4431.67	4431.94	4422.70	8.97
	240.800	655.80	750.00	4436.95	1433.50	.00	4437.04	4426.50	10.45
*	253.200	917.80	750.00	4441.99	1716.50	.00	4442.04	4433.30	8.69
*	258.200	1298.60	750.00	4443.83	2260.00	.00	4443.84	4436.00	7.83
*	262.400	2400.00	750.00	4445.92	2820.00	4445.92	4446.20	4438.00	7.92
*	267.100	1891.60	2200.00	4447.24	3137.00	.00	4447.32	4444.50	2.74
*	269.200	2832.00	350.00	4448.14	3483.00	.00	4448.17	4446.00	2.14
*	271.300	3333.00	175.00	4449.29	4020.00	.00	4449.31	4446.00	3.29

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 225.700 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 234.100 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 234.100 PROFILE= 1 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 253.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 258.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 262.400 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 262.400 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 262.400 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

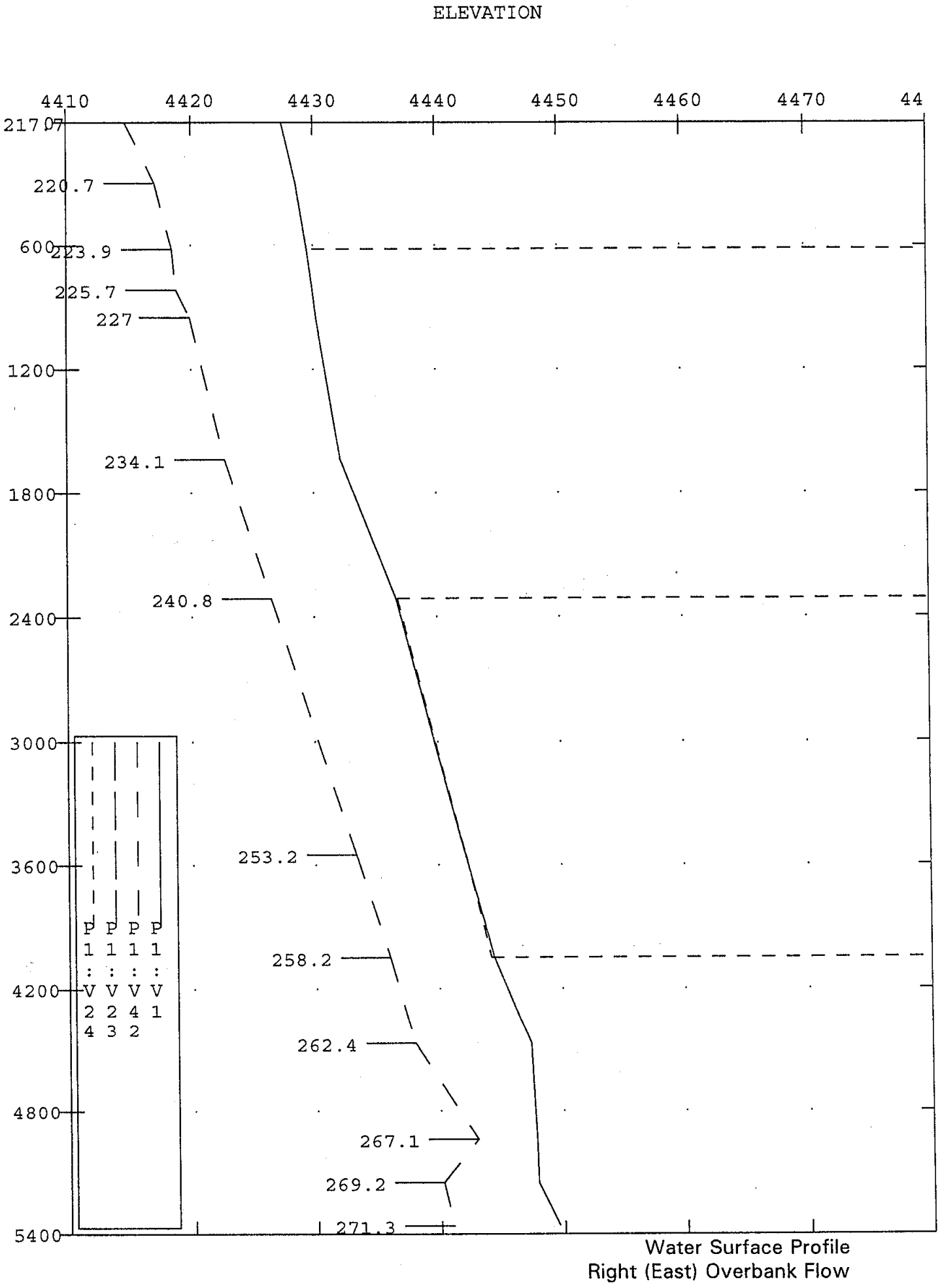
WARNING SECNO= 267.100 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 269.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

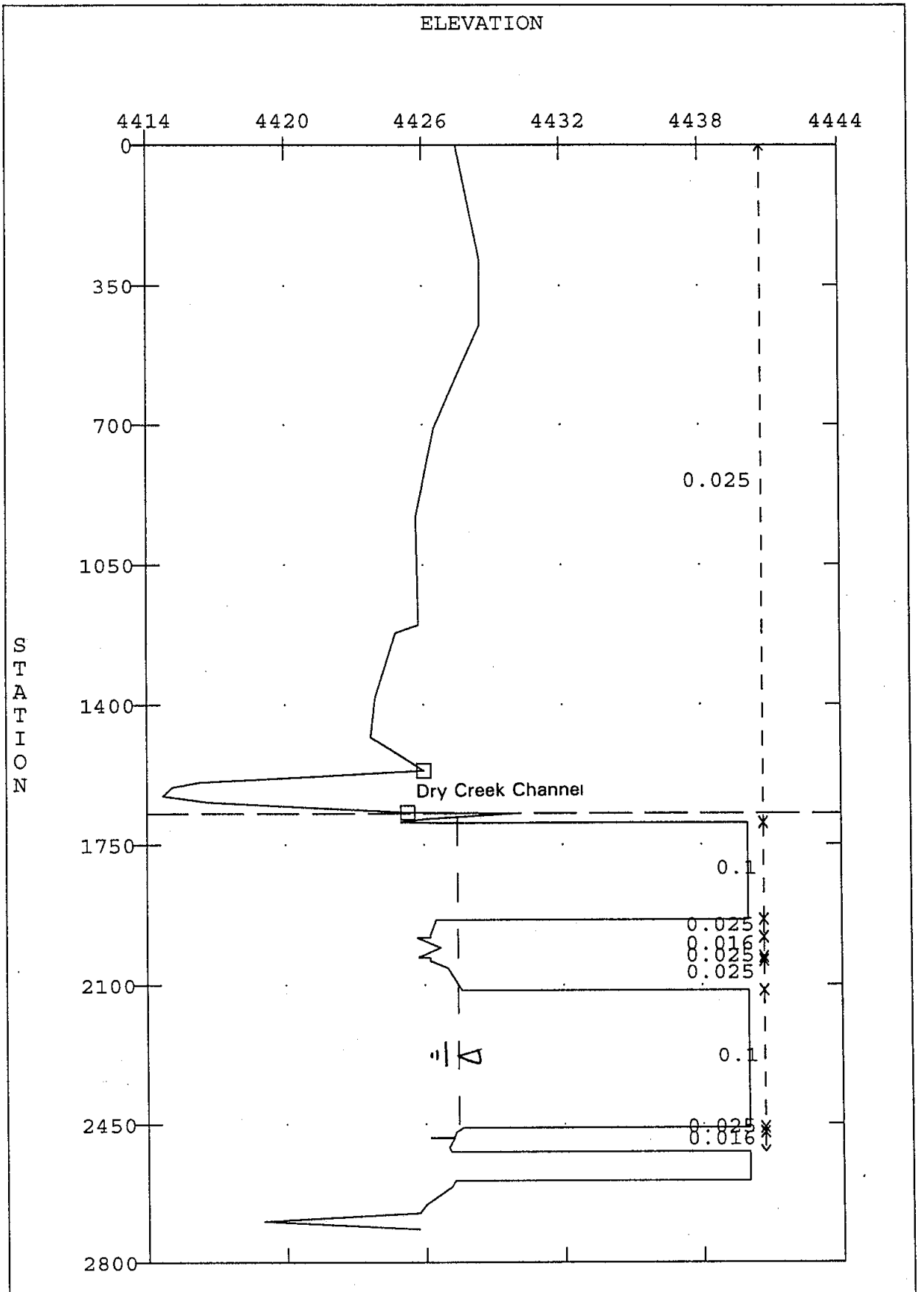
WARNING SECNO= 271.300 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

Appendix D

1994 Conditions Analysis Based on Modified Flood Insurance Study Data Incorporating Improvements Made Since 1988

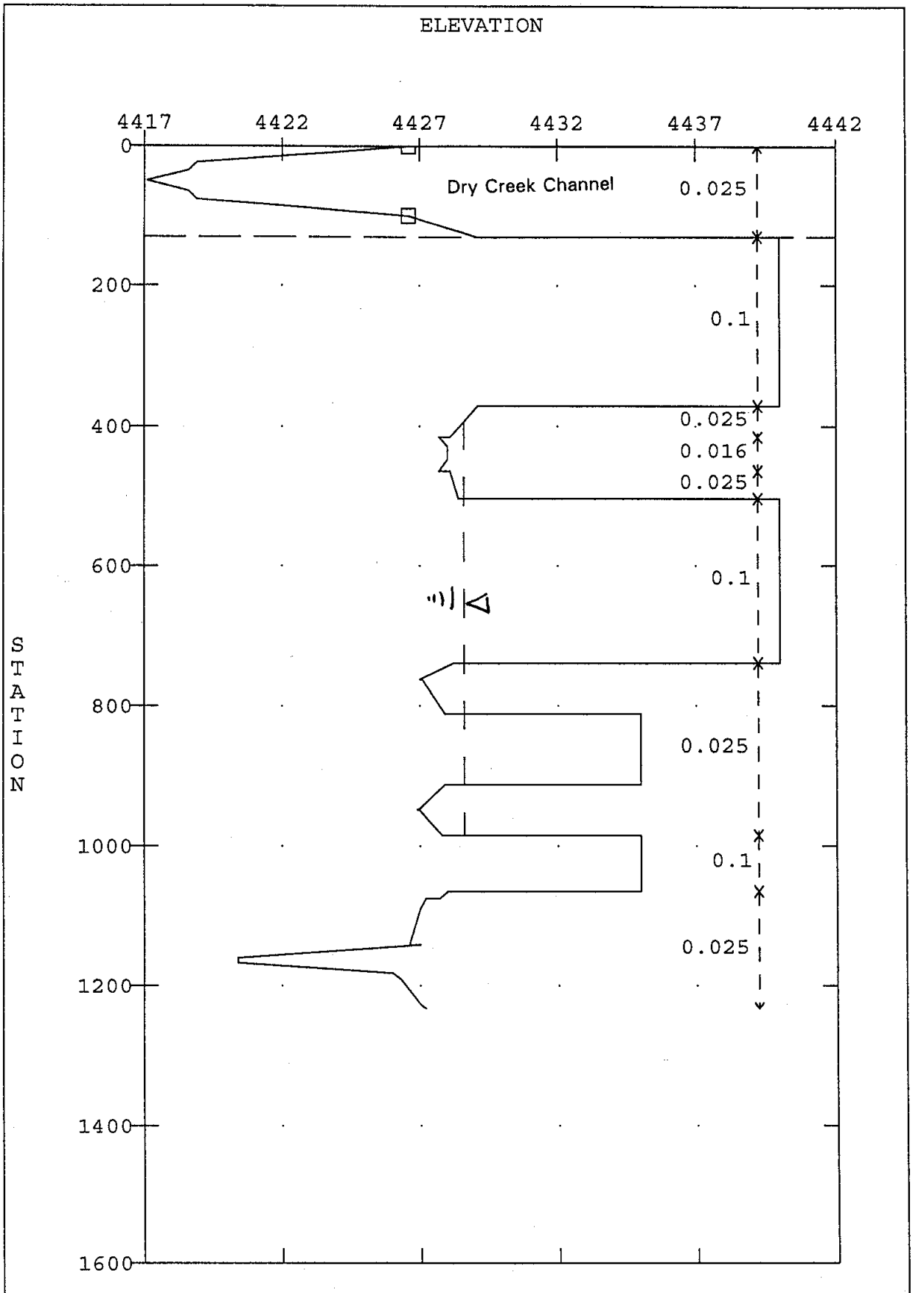


Water Surface Profile
Right (East) Overbank Flow



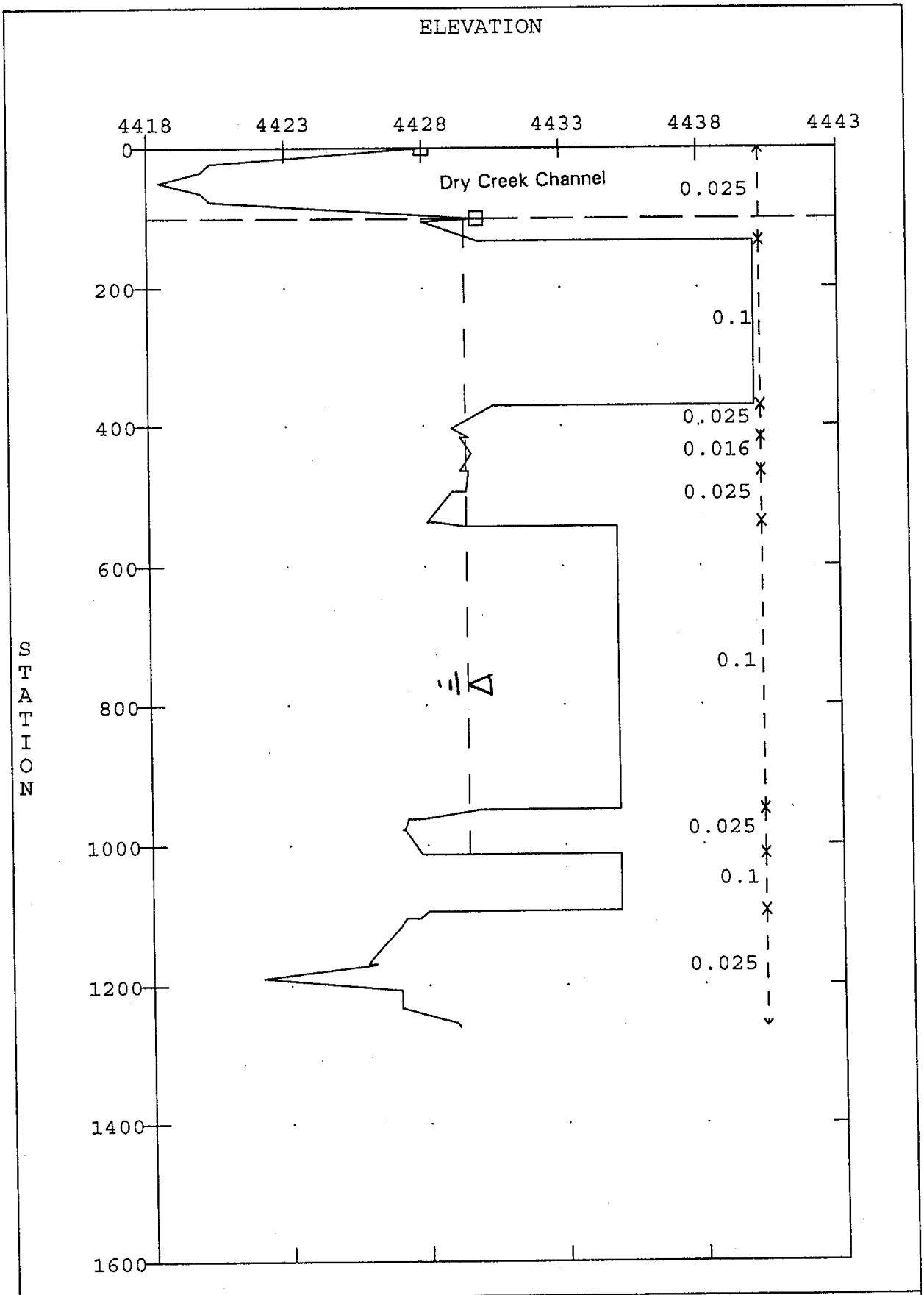
SECTION : 217.7

file: POSTFIRM.HC2 Kennedy/Jenks



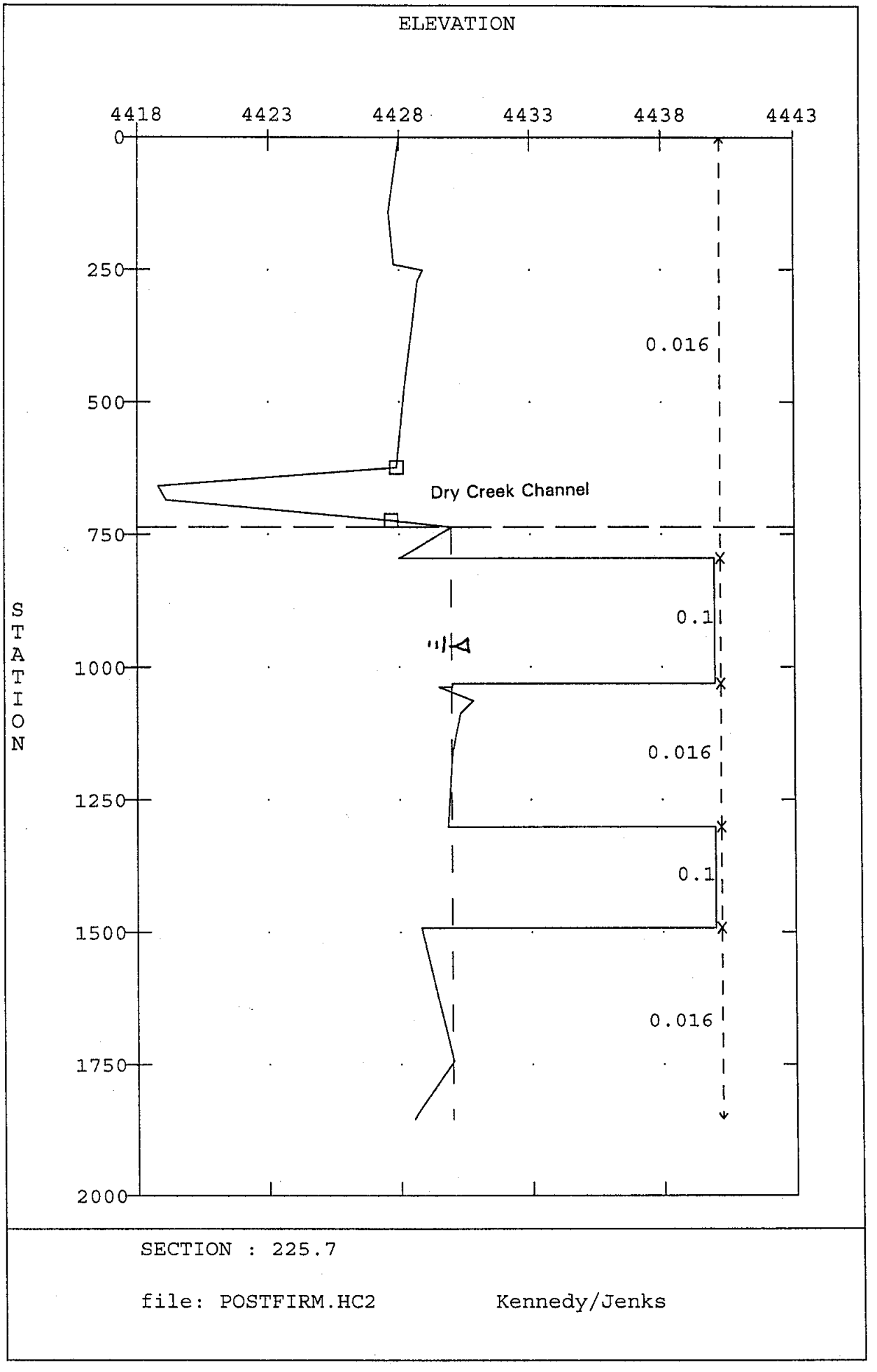
SECTION : 220.7

file: POSTFIRM.HC2 Kennedy/Jenks



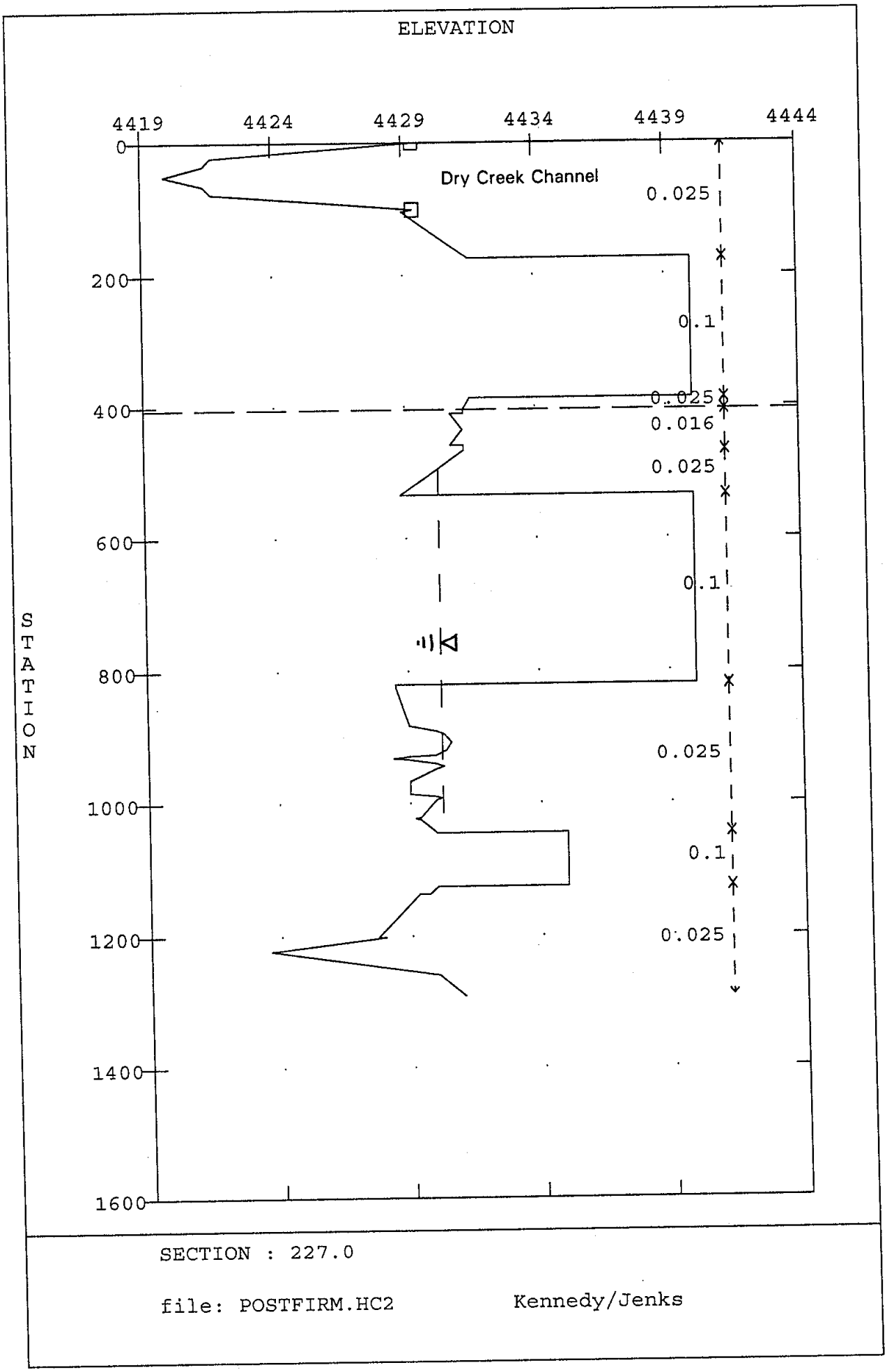
SECTION : 223.9

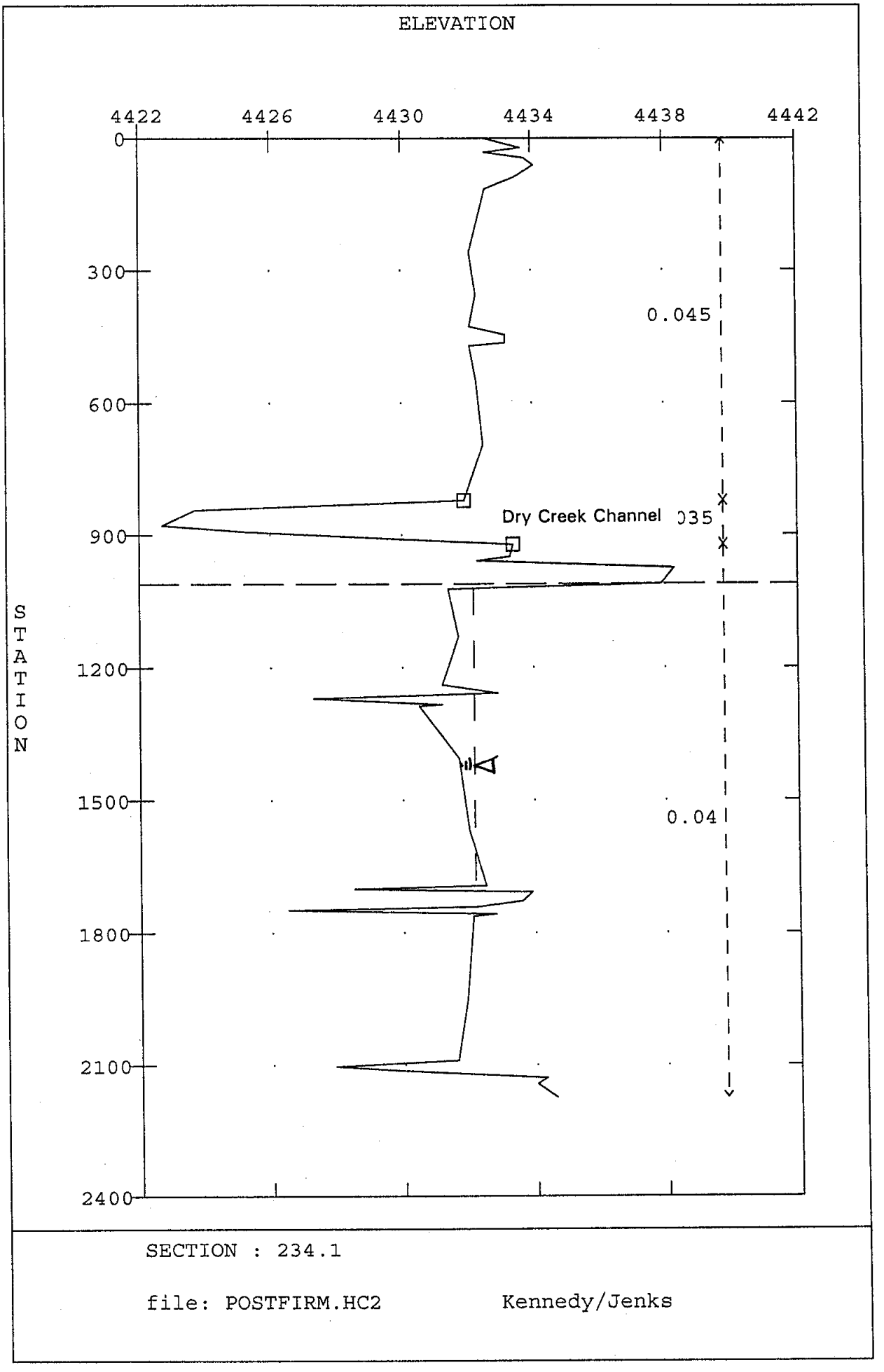
file: POSTFIRM.HC2 Kennedy/Jenks



SECTION : 225.7

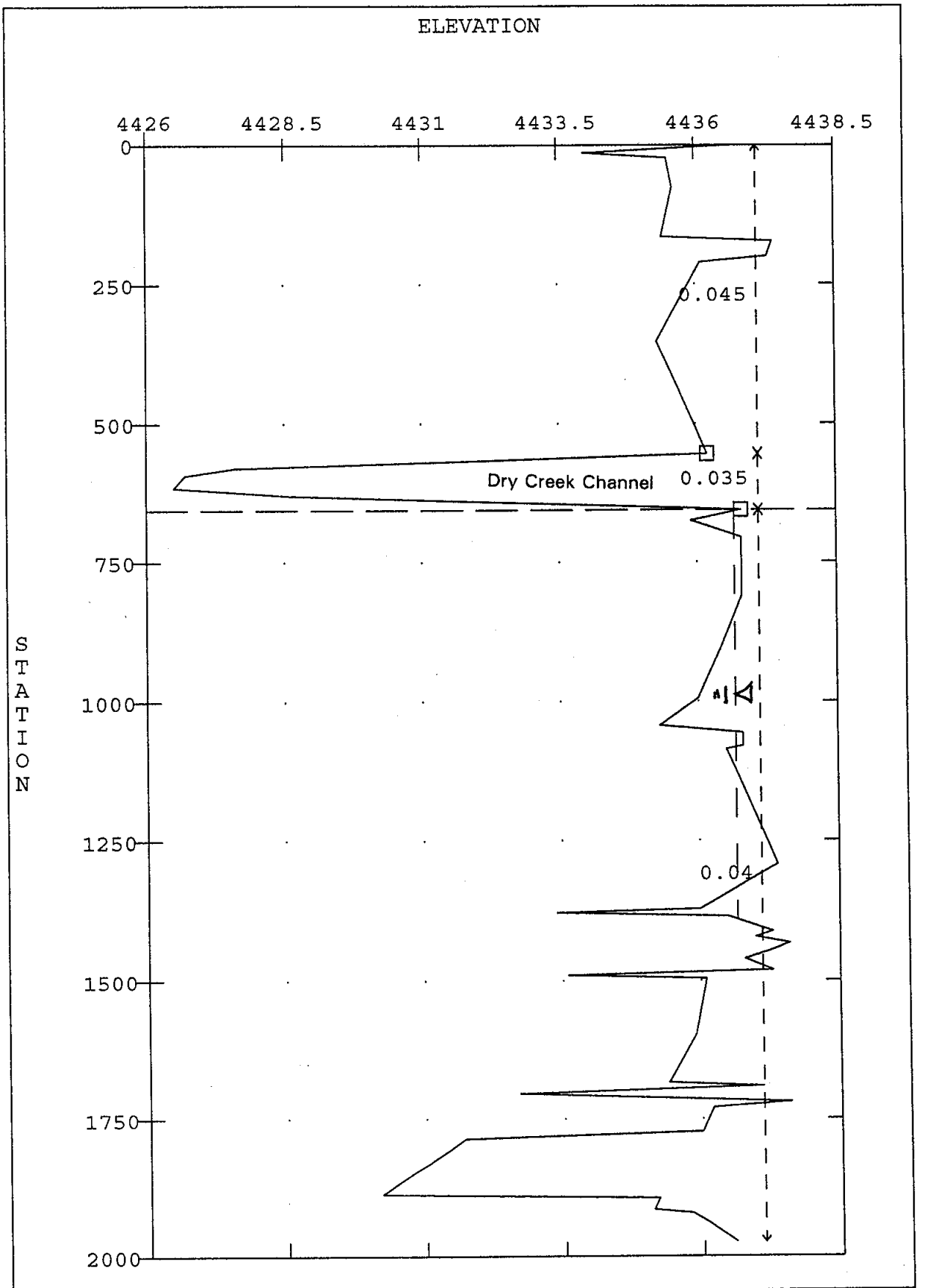
file: POSTFIRM.HC2 Kennedy/Jenks


ELEVATION
4419
4424
4429
4434
4439
4444
0
200
400
600
800
1000
1200
1400
1600
STATION
Dry Creek Channel
0.025
0.1
0.025
0.016
0.025
0.1
0.025
0.1
0.025
SECTION : 227.0
file: POSTFIRM.HC2
Kennedy/Jenks



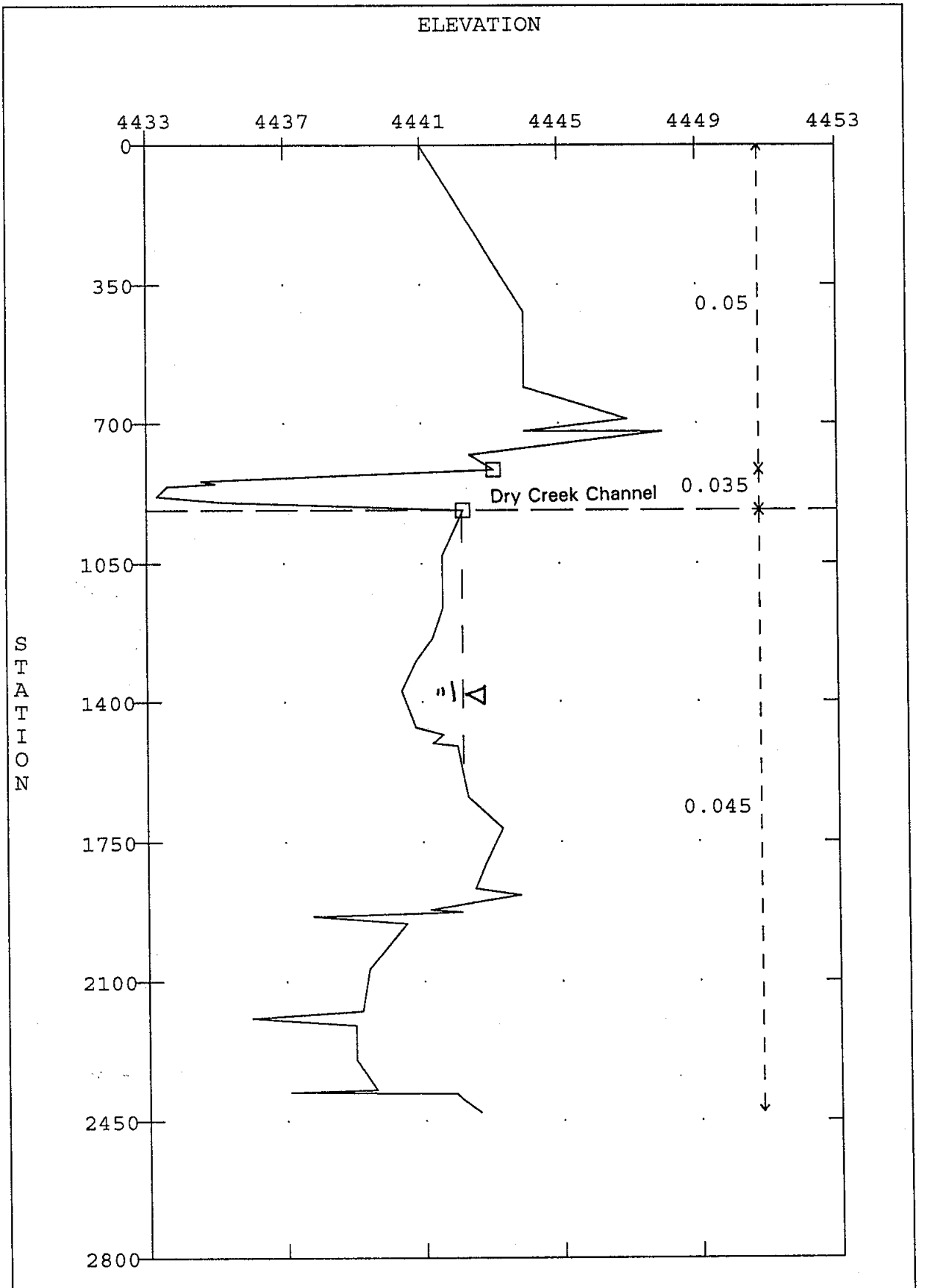
SECTION : 234.1

file: POSTFIRM.HC2 Kennedy/Jenks



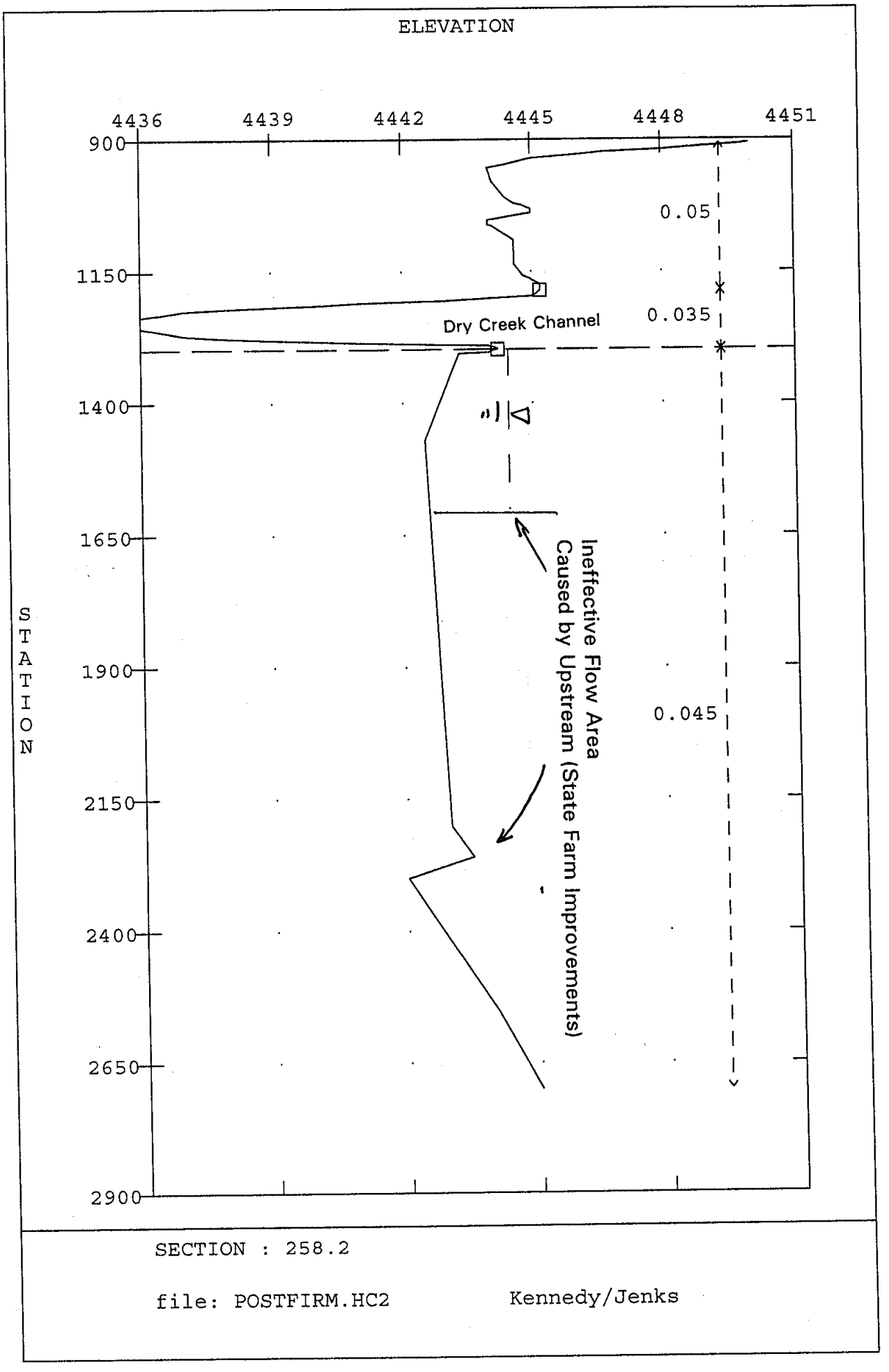
SECTION : 240.8

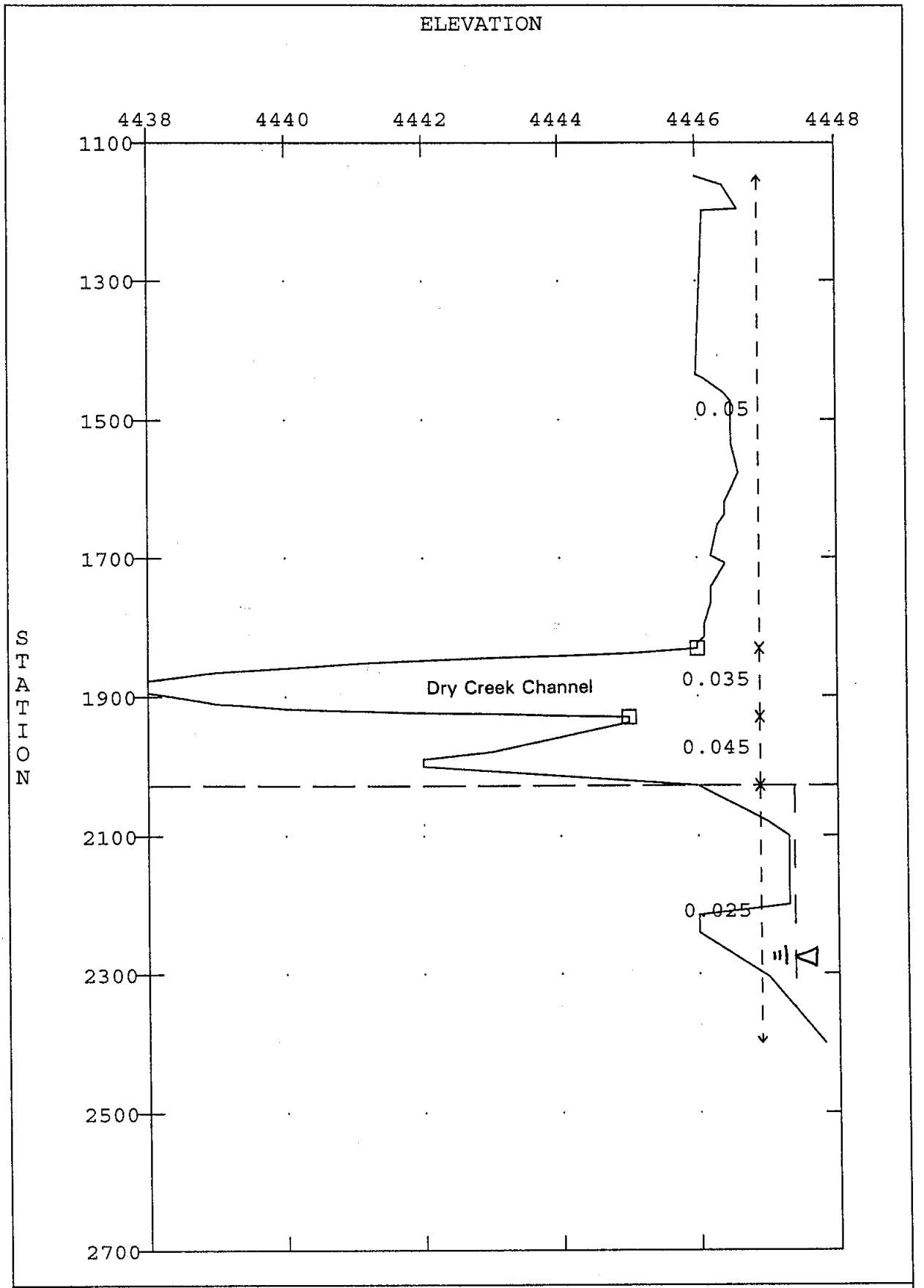
file: POSTFIRM.HC2 Kennedy/Jenks



SECTION : 253.2

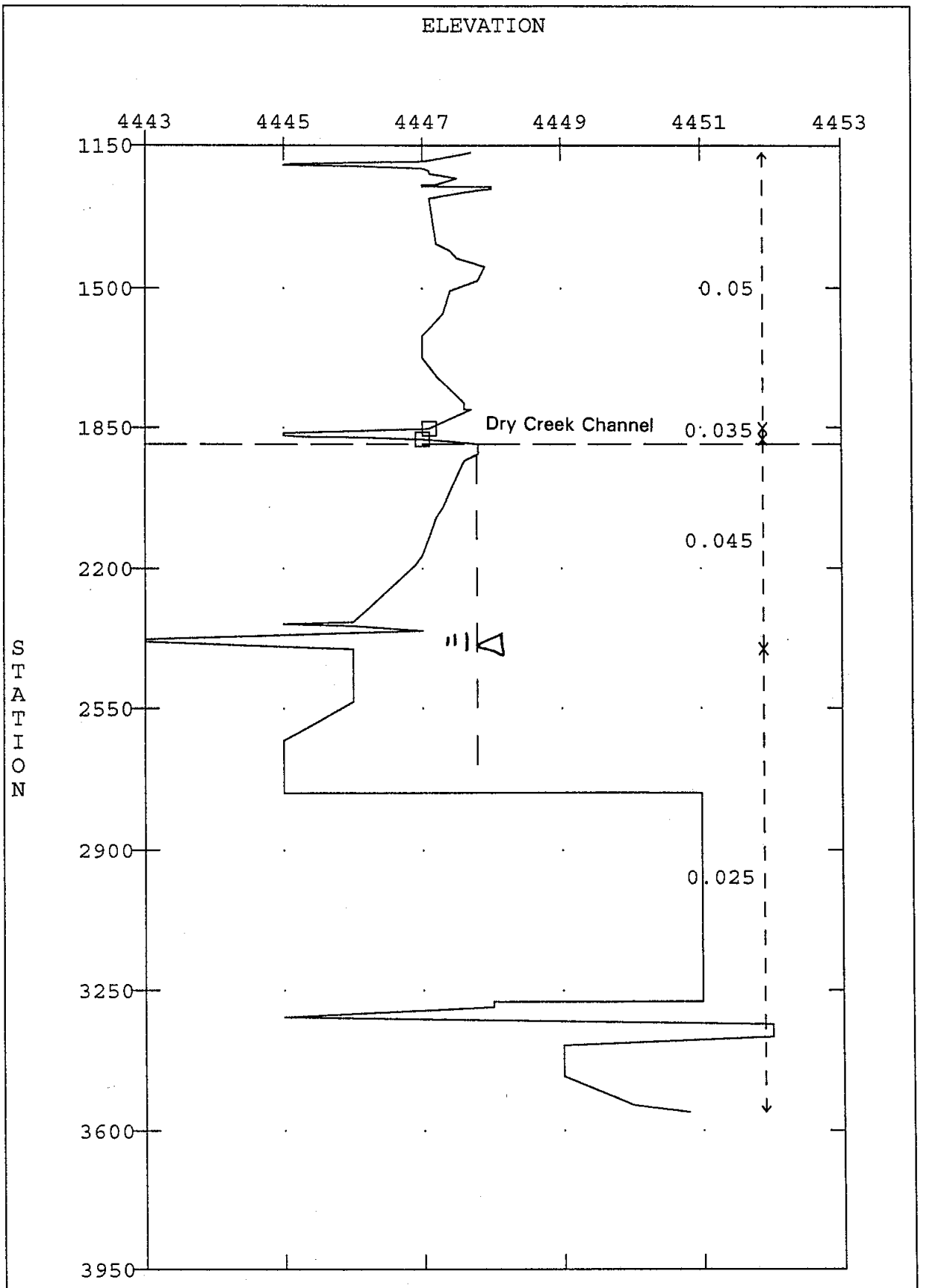
file: POSTFIRM.HC2 Kennedy/Jenks


ELEVATION
4436
4439
4442
4445
4448
4451
900
1150
1400
1650
1900
2150
2400
2650
2900
STATION
0.05
0.035
0.045
Dry Creek Channel
Ineffective Flow Area
Caused by Upstream (State Farm Improvements)
SECTION : 258.2
file: POSTFIRM.HC2
Kennedy/Jenks



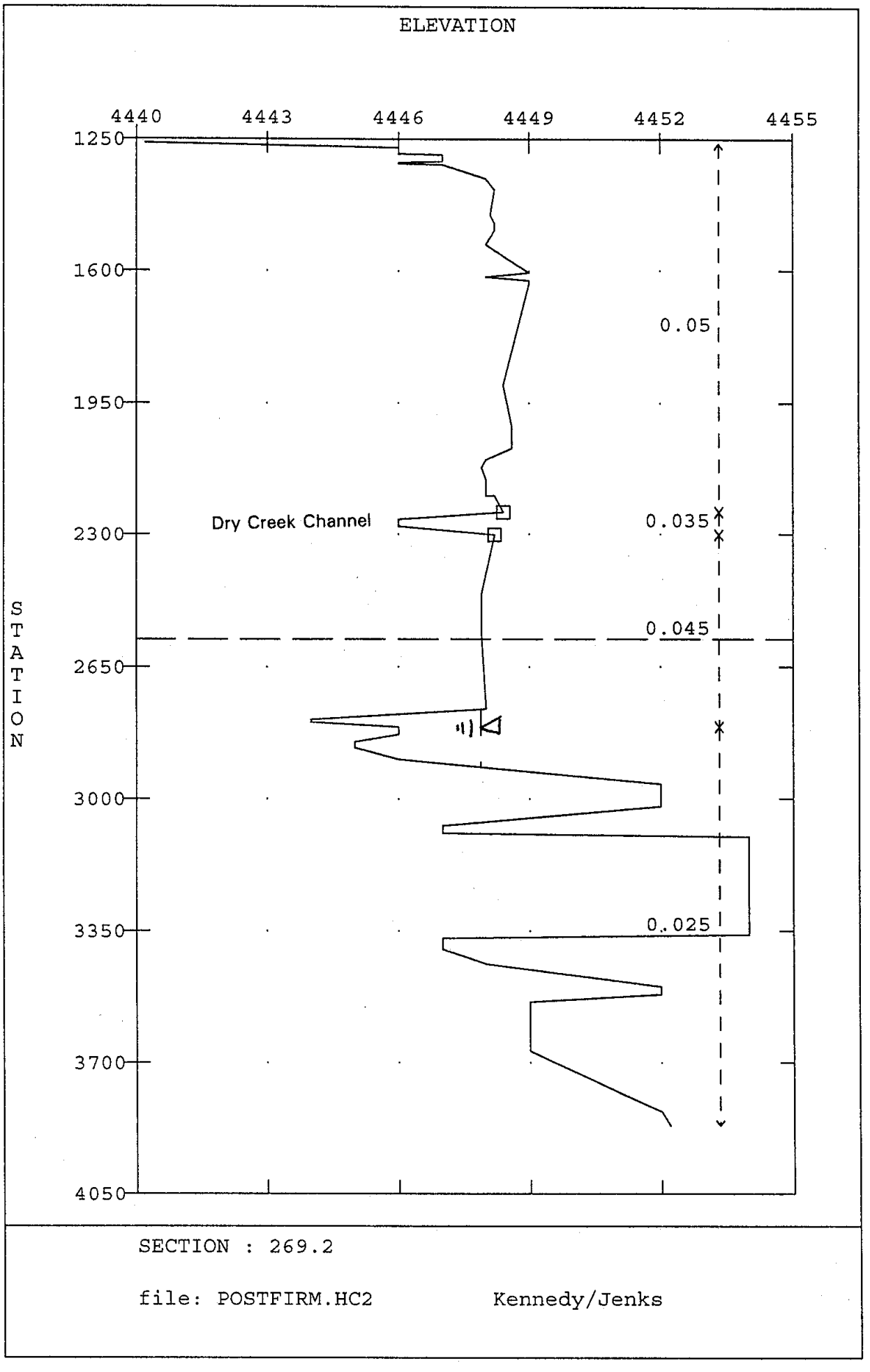
SECTION : 262.4

file: POSTFIRM.HC2 Kennedy/Jenks



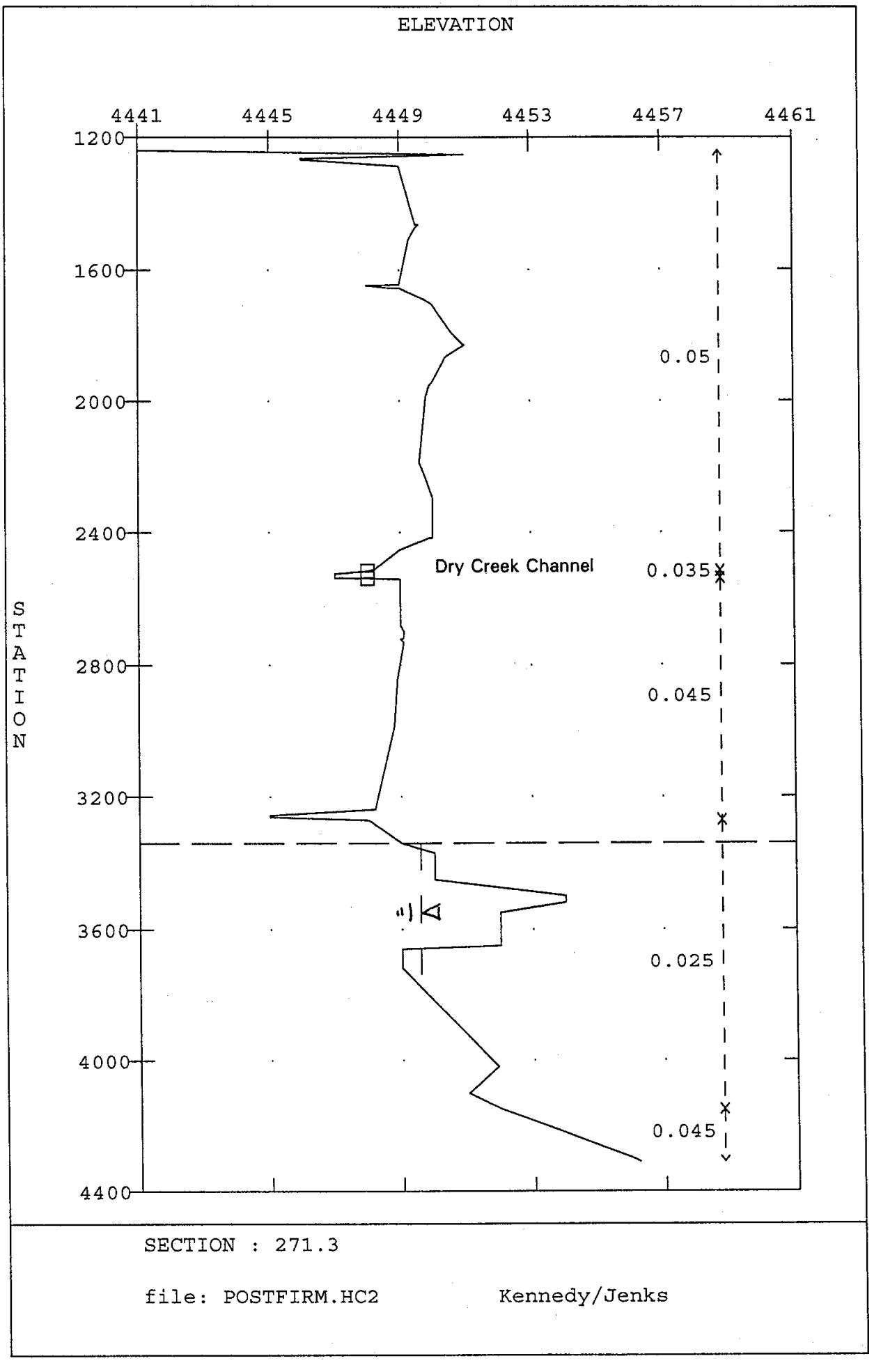
SECTION : 267.1

file: POSTFIRM.HC2 Kennedy/Jenks



SECTION : 269.2

file: POSTFIRM.HC2 Kennedy/Jenks


ELEVATION
4441
4445
4449
4453
4457
4461
1200
1600
2000
2400
2800
3200
3600
4000
4400
STATION
0.05
0.035
0.045
0.025
0.045
Dry Creek Channel
SECTION : 271.3
file: POSTFIRM.HC2
Kennedy/Jenks

```
*****************************************
HEC-2 WATER SURFACE PROFILES            *
                                        *
Version  4.6.2;  May 1991               *
                                        *
RUN DATE    01NOV94    TIME   09:07:37  *
*****************************************
```


```
*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*        (916) 756-1104                 *
*****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

THIS RUN EXECUTED 01NOV94 09:07:37

```
**************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
**************************************

T1      DRY CREEK - EXISTING GROUND SURFACE ELEVATIONS
T2
T3      file: POSTFIRM.HC2          Kennedy/Jenks Cons.              July 1994

  ================================================================================
  Dry Creek, Middle Reach - Floodplain Analysis

  This model is an attempt to simulate the extreme right overbank of the middle
  reach of Dry Creek.  The model was developed from RIGHT.DAT created by Baker
  Engineers (February 1994) from a model originally developed by KJC
  (Sept. 1993).  Cross section data developed by SEA (March 1994) as a part of
  a study for Kristal Corporation were also used or modified where applicable.

  Three cross sections were added by SEA Inc., 223.7, 226.9, and 230.2.  GR
  data was derived from topo information supplied by Summit Eng. (Park 2001,
  Industrial Site, Phase 1, Grading Plan.  March 1987.  pp G-1).

  The section 217.7 and 225.7 were added from the original FIRM model.
  Discrepancy was noticed with the reach lengths between the sections and
  the section name designations.  The reach lengths were modified to reflect the
  current alignments and to use a consistent naming method.


  File Name:  POSTFIRM.HC2
  August 1994
  by: jbL/MEF
                                                    Kennedy/Jenks Consultants
                                                                 Reno, Nevada
  ================================================================================

J1   ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0        2         0         0      .003         0         0         0    4427.0         0
J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
       -1         0        -1

J3   VARIABLE CODES FOR SUMMARY PRINTOUT
       38        27        43         1        28         2         3        42         8
```

```
QT        1       750

NC     .045      .045      .03        .1        .3
NH       11     0.025      1697        .1    1937.1     0.025      1981      .016      2030     0.025
NH     2039     0.025      2114        .1    2459.1     0.025      2471     0.016      2520        .1
NH   2595.1     0.025      2716
ET                9.1                                                                 1673      2520
X1    217.7        49    1564.8    1670.4         0         0         0
GR   4427.5       0.0    4428.5     280.0    4428.5       450    4426.5       710    4425.7       930
GR   4425.8    1200.0    4425.2    1212.4    4424.8    1221.4    4423.9    1383.4    4423.7    1481.8
GR   4426.0    1564.8    4416.3    1593.5    4415.1    1606.2    4414.7    1628.1    4416.6    1643.9
GR   4425.3    1670.4      4430      1673      4426      1687      4425      1695   4426.95      1697
GR     4440    1697.1      4440      1937   4426.50    1937.1   4426.25      1975   4426.25      1981
GR   4425.7      1982   4426.69      2006   4425.75      2030   4426.25      2031   4426.25      2039
GR     4427      2057   4427.61      2114      4440    2114.1      4440      2459   4427.61    2459.1
GR   4427.3      2471   4427.23      2483   4426.23    2484.5   4427.23      2486      4427      2509
GR   4427.1      2520      4440    2520.1      4440      2595   4427.27    2595.1    4427.1      2611
GR     4426      2654   4425.71      2676      4419      2696   4425.71      2716

        FORMERLY SECNO 223.7 FROM SEA MODEL

ET                9.1                                                                  130      1065
NH         9     0.025       130        .1    371.1     0.025     416.1     0.016     465.1     0.025
NH       504        .1       739     0.025      985        .1      1065     0.025      1233
X1     220.7        47         0       100      295       350       295
GR   4426.6         0    4418.9        23   4418.6        35   4417.1        50   4418.6        65
GR   4418.9        77    4426.6       100   4429.1       130      4440     130.1      4440       371
GR   4429.1     371.1    4428.1       416   4427.7     416.1     4428.       430      4428       439
GR     4428       449    4427.7       465   4428.1     465.1   4428.4       504      4440     504.1
GR     4440       739    4428.2     739.1   4427.1       760      4427     761.5   4427.1       763
GR   4427.9       812      4435     812.1     4435       913   4427.9     913.1      4427       947
GR   4426.9     948.5      4427       950   4427.8       985      4435     985.1      4435      1065
GR     4428    1065.1    4427.7      1075   4427.2    1075.1      4427      1090   4426.6      1141
GR     4427    1141.1    4420.4      1160   4420.4      1167      4426      1182   4426.3      1191
GR     4427      1227    4427.2      1233

        FORMERLY SECNO 226.7 FROM SEA MODEL

ET                9.1                                                                  100      1013
NH         9     0.025       132        .1    371.1     0.025       417     0.016     464.1     0.025
NH       537        .1       950     0.025     1013        .1      1094     0.025      1261
X1     223.9        47         0       100      324       314       324
GR     4428         0    4420.3        23   4419.97        35   4418.47        50   4419.97        65
GR   4420.3        77   4429.97       100      4428       104      4430       132      4440     132.1
GR     4440       371    4430.5     371.1      4429       404    4429.6       417    4429.3     417.1
GR   4429.7       440    4429.3       464   4429.6     464.1    4429.5       493      4429     493.1
GR   4428.1       537    4428.4     537.1   4429.5       543      4435     543.1      4435       950
GR   4429.9     950.1    4427.8       963   4427.3     963.1    4427.2       976    4427.1     977.5
GR   4427.2       979    4427.8      1013      4435    1013.1      4435      1094      4428    1094.1
GR   4427.7      1104    4427.2    1104.1      4427      1116      4426      1160   4425.8       1170
GR   4426.1    1170.1      4426      1172   4422.0       1190      4427      1207      4427      1233
```

GR 4429 1255 4429.1 1261

CROSS SECTION FROM ORIGINAL APPEAL MODEL EXTENDED INTO THE ROB

NC	.035	.035	.03							
ET		9.1							736	1855
NH	5	0.016	795	.1	1031.1	0.016	1302	.1	1492	.016
NH	1855									
X1	225.7	30	623.1	723.3	197	160	197			
GR	4428.0	0.0	4427.6	139.6	4427.8	239.6	4428.9	250.5	4428.7	271.4
GR	4428.5	357.0	4428.2	472.5	4427.9	623.1	4418.8	658.0	4419.1	685.2
GR	4420.9	693.5	4427.7	723.3	4430	736	4428	795	4440	795.1
GR	4440	1031	4430	1031.1	4430	1038	4429.5	1038.1	4430.8	1064
GR	4430.3	1088	4430	1162	4429.82	1302	4440	1302.1	4440	1492
GR	4428.8	1492.1	4430.0	1744	4428.8	1832	4428.8	1832	4428.5	1855

FORMERLY SECNO 230.2 FROM THE SEA MODEL

ET		9.1							405	1045
NH	9	0.025	174	.1	387.01	0.025	405	0.016	467	0.025
NH	535	.1	820	0.025	1045	.1	1125	0.025	1293	
X1	227.0	55	0	100	134	180	134			
GR	4429.4	0	4421.7	23	4421.4	35	4419.9	50	4421.4	65
GR	4421.7	77	4429.4	100	4429	103	4431.5	174	4440	174.1
GR	4440	387	4431.5	387.01	4431.23	405	4431.23	411	4430.73	411.1
GR	4431.2	436	4430.73	459	4431.23	459.1	4431.23	467	4428.8	535
GR	4440	535.1	4440	820	4428.5	820.1	4428.5	824	4429	883
GR	4430	891	4430.3	895	4430.6	908	4430.4	920	4430	928
GR	4429	930	4428.4	933	4429	935	4430	941	4430.3	945
GR	4430	949	4429	967	4429	986	4430	990	4430.2	992
GR	4430	995	4429.4	1021	4429.2	1023	4429.4	1025	4430	1045
GR	4435	1045.1	4435	1125	4430	1125.1	4429.7	1136	4429.3	1136.1
GR	4427.7	1202	4428.0	1202.1	4423.6	1222	4430	1259	4431	1293

NC	0.045	0.040	0.035	.1	.3					
ET		9.1							1011.6	1707.7
X1	234.1	48	822.8	922.1	690	690	690			
GR	4432.6	0.0	4433.7	21.2	4432.6	32.2	4433.8	44.7	4434.1	60.3
GR	4433.5	88.7	4432.6	116.0	4432.1	259.3	4432.3	356.9	4432.1	429.2
GR	4433.2	447.5	4433.2	465.6	4432.1	472.6	4432.3	551.9	4432.5	696.3
GR	4431.9	822.8	4423.7	844.3	4422.7	878.5	4425.3	893.1	4433.4	922.1
GR	4433.3	949.7	4432.3	959.2	4438.3	975.5	4437.9	1011.6	4431.4	1022.9
GR	4431.7	1131.3	4431.2	1240.8	4432.9	1259.7	4427.3	1271.1	4431.2	1286.0
GR	4430.5	1289.2	4431.7	1405.6	4432.0	1566.9	4432.5	1692.8	4428.5	1700.3
GR	4433.9	1707.7	4433.6	1727.7	4432.2	1740.8	4426.5	1747.8	4432.8	1756.6
GR	4432.1	1761.9	4431.9	1950.9	4431.6	2090.1	4427.9	2103.3	4429.7	2111.8
GR	4434.3	2129.2	4434.0	2142.7	4434.6	2174.0				

```
ET                 9.1                                                                  655.8      1433.5
X1     240.8        53       553     655.8       670       670       670
GR    4436.7       0.0    4434.0      13.6    4435.5      22.8    4435.6      75.3     4435.4      165.1
GR    4437.4     173.4    4437.3     200.1    4436.1     210.9    4435.3     354.3     4435.7      439.8
GR    4436.2     553.0    4427.6     578.1    4426.7     592.0    4426.5     614.8     4428.6      629.4
GR    4436.8     655.8    4435.9     675.2    4436.8     705.3    4436.8     811.0     4436.4      908.8
GR    4436.0     994.7    4435.3    1043.1    4436.8    1056.1    4436.8    1079.7     4436.5     1085.5
GR    4436.9    1175.4    4437.4    1291.9    4436.0    1371.9    4433.4    1378.2     4436.5     1385.2
GR    4437.3    1411.8    4437.0    1422.2    4437.6    1433.5    4437.3    1445.5     4436.8     1461.3
GR    4437.3    1481.4    4433.6    1490.1    4436.1    1496.3    4435.9    1598.0     4435.4     1684.4
GR    4437.1    1691.0    4432.7    1703.9    4437.6    1718.9    4436.2    1729.1     4436.0     1773.0
GR    4431.7    1784.9    4431.0    1832.9    4430.2    1887.2    4435.2    1894.4     4435.1     1915.0
GR    4435.8    1921.4    4436.1    1938.6    4436.6    1974.4

         +++++++++++++++++++++++++++++++++++++++++++++++++
         + NEW CROSS SECTION DATA WAS ENTERED BELOW      +
         + NUMBERS 265.6, 273.8, AND 280.0 WERE DELETED  +
         +++++++++++++++++++++++++++++++++++++++++++++++++


        +++++++++++++++++++++++++++++++++++++++++++++++
        + MODIFIED THE FLOWS TO REPRESENT THE         +
        + RESULTS OF THE SPLIT FLOW ANALYSIS (5-11-93) +
        +   => WEIR COEFFICIENT 3.1                   +
        +   => TRUNCATED CROSS SECTIONS               +
        +++++++++++++++++++++++++++++++++++++++++++++++

        ********** MODIFIED SECTION 253.2************

NC      .050      .045      .035        .1        .3
ET                 9.1                                                                  917.8      1716.5
X1     253.2        43     817.4     917.8       450      1240      1240
GR    4441.0       0.0    4444.0     420.0    4444.0     610.0    4447.0     690.0     4444.0      720.0
GR    4448.0     721.5    4442.4     779.2    4443.1     817.4    4434.6     845.7     4435.0      852.4
GR    4433.6     858.7    4433.3     883.0    4435.1     897.2    4442.2     917.8     4441.6     1029.1
GR    4441.6    1162.0    4441.3    1240.0    4440.8    1300.0    4440.4    1373.0     4440.8     1465.0
GR    4441.6    1483.4    4441.3    1505.2    4442.0    1512.1    4442.3    1638.8     4443.3     1716.5
GR    4442.8    1803.0    4442.5    1865.6    4443.8    1882.8    4443.0    1893.2     4441.2     1919.7
GR    4442.1    1925.8    4437.8    1936.8    4440.5    1954.8    4439.4    2068.8     4439.2     2174.1
GR    4436.0    2191.4    4439.0    2209.8    4439.0    2295.9    4439.6    2372.9     4437.1     2378.8
GR    4441.9    2382.8    4442.1    2399.0    4442.6    2430.0

        **********CROSS SECTION 258.2****************
       ----------------------------------------------------------------
       = SECNO 258.2            Modified May 13,1994          by: mef    =
       = reflects grading changes through the State Farms Stock Facility =
       = Area right of station 1600 is ineffective flow area             =
       = an approximate 1:1 contraction of the Stock Facility building   =
       ----------------------------------------------------------------
```

```
QT        1       750
ET                9.1                                                                    1298.6      1600
X1    258.2        82     1186.1    1298.6      1000      1750      500
GR   4450.0     906.6     4449.8     908.6    4449.0     912.6   4448.9     913.3     4448.0     918.2
GR   4447.5     919.7     4446.7     922.5    4446.5     924.1   4446.4     924.9     4446.0     927.9
GR   4445.1     933.7     4445.0     934.6    4444.4     946.5   4444.0     952.2     4444.1     978.4
GR   4444.4    1009.2     4444.6    1020.1    4444.8    1024.2   4445.0    1030.7     4445.0    1038.0
GR   4444.6    1042.9     4444.1    1049.7    4444.0    1050.9   4444.0    1059.7     4444.1    1062.2
GR   4444.6    1089.2     4444.6    1135.5    4444.8    1157.6   4445.0    1164.1     4445.0    1164.1
GR   4445.0    1165.1     4445.1    1169.5    4445.2    1173.7   4445.2    1186.1     4445.1    1193.3
GR   4445.0    1197.5     4443.0    1206.0    4442.7    1206.5   4442.6    1206.6     4442.3    1207.1
GR   4442.0    1207.7     4441.9    1207.9    4441.0    1209.9   4440.0    1214.5     4439.7    1215.3
GR   4439.0    1217.3     4439.0    1217.4    4438.0    1220.3   4437.1    1223.6     4437.0    1224.1
GR   4436.5    1230.1     4436.0    1235.1    4436.0    1256.7   4436.4    1262.2     4437.0    1271.4
GR   4437.7    1275.8     4438.9    1280.0    4439.0    1280.2   4440.0    1282.8     4440.4    1283.8
GR   4441.0    1285.4     4441.9    1287.4    4442.5    1288.8   4443.0    1289.9     4444.0    1291.5
GR   4444.2    1296.7     4444.2    1298.6    4444.1    1300.1   4444.0    1304.5     4444.0    1304.6
GR   4443.9    1304.7     4443.8    1305.2    4443.6    1305.5   4443.6    1305.6     4443.4    1306.6
GR   4443.3    1307.3     4442.5      1470      4443      2200   4443.5      2260       4442      2300
GR     4444      2550       4445      2700

      ************CROSS SECTION 262.4***************
     -------------------------------------------------------------------
     = SECNO 262.4              Modified   May 13,1994          by: mef =
     = reflects grading changes through the State Farms Stock Facility   =
     = the area from station 2400 to end of section coded out to represent =
     = the Stock Facility building                                       =
     -------------------------------------------------------------------

QT        1       750
ET                9.1                                                                      2028      2400
NH        4       .05     1831.7      .035    1930.2      .045     2028      .025          2400
X1    262.4        77     1831.7    1930.2       300       430      420
GR   4446.0    1148.7     4446.0    1148.8    4446.4    1162.2   4446.4    1163.7     4446.6    1195.1
GR   4446.6    1195.9     4446.1    1198.5    4446.0    1434.6   4446.1    1439.2     4446.4    1461.8
GR   4446.5    1474.5     4446.5    1519.7    4446.5    1528.7   4446.5    1528.9     4446.5    1529.1
GR   4446.5    1530.4     4446.5    1534.7    4446.6    1578.3   4446.4    1621.1     4446.4    1631.5
GR   4446.4    1638.3     4446.3    1653.6    4446.2    1697.3   4446.4    1708.1     4446.4    1710.2
GR   4446.2    1742.5     4446.2    1752.1    4446.2    1752.6   4446.2    1755.6     4446.2    1757.3
GR   4446.2    1758.7     4446.2    1765.3    4446.1    1797.3   4446.1    1815.4     4446.0    1823.8
GR   4446.0    1831.7     4445.6    1834.5    4445.0    1838.5   4444.2    1841.5     4444.0    1842.1
GR   4443.7    1842.8     4443.0    1844.6    4442.5    1846.4   4442.0    1848.3     4441.3    1851.1
GR   4441.0    1852.4     4440.1    1858.0    4439.8    1859.8   4439.0    1864.8     4438.8    1867.1
GR   4438.0    1876.9     4438.0    1894.4    4438.4    1900.7   4439.0    1910.7     4439.3    1912.2
GR   4440.0    1917.5     4440.9    1920.5    4441.0    1920.6   4441.9    1923.6     4442.0    1923.7
GR   4442.0    1923.8     4443.0    1925.4    4443.4    1926.4   4444.0    1928.3     4445.0    1930.2
GR   4445.0    1937.9       4443      1980      4442      1990     4442      2000       4446      2028
GR     4447      2080     4447.3      2100    4447.3      2200     4446      2215       4446      2240
GR     4447      2305     4447.8      2400

      *************************************************
      *    EXTENDED THE CROSS SECTIONS 267.1, 269.2, *
      *    AND 271.3 TO LONGLEY LANE. DATA WAS       *
```

```
*    OBTAINED FROM SUMMIT ENGINEERING THRU      *
*    THE STATE FARMS STOCK FACILITY.            *
*************************************************

---------------------------------------------------------------------
= SECNO 267.1            Modified April 15,1994            by: jbL =
= reflects grading changes through the State Farms Stock Facility  =
= Starting station 2357.0                                          =
= the area from station 2758.0 to 3277.0 was coded out to represent =
= an approximate 1:1 contraction of the Stock Facility building     =
---------------------------------------------------------------------


*************************************************
*    EXTENDED THE CROSS SECTIONS 267.1, 269.2, *
*    AND 271.3 TO LONGLEY LANE. DATA WAS        *
*    OBTAINED FROM SUMMIT ENGINEERING THRU      *
*    THE STATE FARMS STOCK FACILITY.            *
*************************************************
```

QT	1	2200								
	***********CROSS SECTION 267.1****************									
ET		9.1							1891.6	3277.5
NH	4	.05	1852.2	.035	1879.4	.045	2402	.025	3554	
X1	267.1	84	1852.2	1879.4	260	180	470			
GR	4447.7	1166.9	4447.7	1167.6	4447.1	1186.6	4447.0	1189.1	4446.9	1189.7
GR	4446.0	1192.3	4445.1	1195.9	4445.0	1198.4	4445.3	1199.5	4446.0	1201.1
GR	4446.3	1203.0	4446.4	1203.6	4447.0	1207.0	4447.1	1213.1	4447.1	1220.1
GR	4447.5	1231.4	4447.5	1231.6	4447.2	1246.9	4447.0	1247.6	4447.0	1250.9
GR	4447.9	1252.0	4448.0	1252.1	4448.0	1257.2	4447.8	1260.7	4447.5	1268.7
GR	4447.1	1280.4	4447.2	1390.1	4447.4	1406.7	4447.5	1425.5	4447.9	1445.9
GR	4447.8	1481.0	4447.4	1506.3	4447.3	1561.8	4447.0	1618.6	4447.0	1675.1
GR	4447.2	1720.4	4447.2	1721.5	4447.6	1787.7	4447.6	1803.1	4447.7	1804.6
GR	4447.1	1852.2	4447.1	1852.5	4447.0	1854.0	4446.6	1855.6	4446.5	1856.2
GR	4446.0	1859.1	4445.7	1860.1	4445.0	1863.3	4445.0	1869.4	4445.3	1872.8
GR	4446.0	1874.3	4446.7	1878.0	4447.0	1879.4	4447.5	1885.9	4447.8	1891.6
GR	4447.8	1916.8	4447.6	1933.7	4447.4	2006.9	4447.3	2047.6	4447.2	2073.4
GR	4447.1	2121.7	4447.0	2167.3	4446.9	2191.3	4446.0	2335.0	4445.0	2340.0
GR	4446.0	2345.0	4447.0	2357.0	4443.0	2378.0	4443.0	2384.0	4446.0	2402.0
GR	4446.0	2534.0	4445.0	2629.0	4445.0	2757.5	4451.0	2758.0	4451.0	3277.5
GR	4448.0	3278.0	4448.0	3291.0	4445.0	3316.0	4452.0	3334.0	4452.0	3366.0
GR	4449.0	3387.0	4449.0	3463.0	4450.0	3536.0	4450.8	3554.0		

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---------------------------------------------------------------------
= SECNO 269.2            Modified April 15,1994            by: jbL =
= reflects grading changes through the State Farms Stock Facility  =
= Starting station 2352.0                                          =
= the area from station 2652.0 to 3036.0 was coded out to represent =
= an approximate 1:1 contraction of the Stock Facility building     =
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**********CROSS SECTION 269.2***************
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QT	1	350								
ET		9.1							2577	3036
NH	4	.05	2241.8	.035	2301.8	.045	2810	.025	3870	
X1	269.2	57	2241.8	2301.8	190	190	210			
GR	4440.2	1260.4	4446.0	1271.4	4446.0	1287.1	4447.0	1290.0	4447.0	1308.2
GR	4446.0	1310.4	4446.0	1314.1	4447.0	1316.5	4448.0	1353.3	4448.2	1383.3
GR	4448.1	1450.5	4448.2	1473.3	4448.2	1492.8	4448.0	1530.2	4449.0	1605.1
GR	4448.0	1616.2	4449.0	1626.1	4449.0	1634.8	4448.4	1902.7	4448.5	1957.5
GR	4448.6	2013.4	4448.6	2070.1	4448.0	2101.4	4447.9	2123.0	4448.0	2155.8
GR	4448.0	2187.6	4448.0	2197.9	4448.2	2198.0	4448.4	2241.8	4446.0	2260.3
GR	4446.0	2278.4	4448.2	2301.8	4447.9	2457.1	4447.9	2568.7	4448.0	2762.0
GR	4444.0	2790.0	4444.0	2797.0	4446.0	2810.0	4446.0	2830.0	4445.0	2850.0
GR	4445.0	2865.0	4446.0	2895.0	4452.0	2960.0	4452.0	3020.0	4447.0	3070.0
GR	4447.0	3090.0	4454.0	3100.0	4454.0	3360.0	4447.0	3370.0	4447.0	3400.0
GR	4448.0	3440.0	4452.0	3500.0	4452.0	3520.0	4449.0	3540.0	4449.0	3670.0
GR	4452.0	3830.0	4452.2	3870.0						

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= SECNO 271.3            Modified April 14,1994            by: jbL =
= reflects grading changes through the State Farms Stock Facility  =
= Starting station 3238.0       ending station 3870.0              =
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************CROSS SECTION 271.3***************

ET		9.1							3340.0	4020.0
QT	1	175								
NH	5	.05	2515.9	.035	2538.3	.045	3270	.025	4150	.045
NH	4310									
X1	271.3	63	2515.9	2538.3	210	200	210			
GR	4441.0	1238.9	4451.0	1251.0	4446.0	1263.3	4446.0	1266.9	4449.0	1286.7
GR	4449.5	1462.0	4449.6	1464.0	4449.5	1471.8	4449.3	1507.5	4449.0	1645.1
GR	4448.0	1647.2	4448.6	1654.3	4449.0	1655.2	4449.8	1692.5	4450.0	1705.8
GR	4450.2	1736.5	4450.6	1791.6	4450.9	1823.1	4451.0	1829.4	4450.5	1860.6
GR	4450.4	1868.6	4450.2	1907.8	4450.0	1944.1	4449.9	1955.0	4449.8	1988.2
GR	4449.6	2187.9	4449.8	2238.0	4450.0	2294.6	4450.0	2416.5	4449.9	2417.5
GR	4449.0	2453.1	4448.2	2511.8	4448.0	2515.9	4447.0	2524.5	4447.0	2536.5
GR	4448.0	2538.3	4448.1	2538.6	4449.0	2540.4	4449.0	2680.7	4449.1	2697.8
GR	4449.1	2720.1	4449.0	2723.2	4449.1	2732.4	4448.9	2843.4	4448.8	2987.9
GR	4448.2	3238.0	4445	3255	4445	3260	4448	3270	4449	3340
GR	4450	3370	4450	3450	4454	3500	4454	3520	4452	3550
GR	4452	3650	4449	3660	4449	3720	4451.9	4020.0	4451.0	4100.0
GR	4452.0	4150.0	4456.0	4300.0	4456.2	4310.0				

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 217.700

3265 DIVIDED FLOW

3280 CROSS SECTION 217.70 EXTENDED 1.73 FEET

3470 ENCROACHMENT STATIONS= 1673.0 2520.0 TYPE= 1 TARGET= 847.000

217.700	12.74	4427.44	.00	.00	4427.71	.26	.00	.00	100000.00
750.0	.0	.0	750.0	.0	.0	182.0	.0	.0	100000.00
.00	.00	.00	4.12	.000	.000	.020	.000	4414.70	1681.95
.003007	0.	0.	0.	0	0	6	.00	230.91	2520.00

1490 NH CARD USED
*SECNO 220.700

3265 DIVIDED FLOW

3280 CROSS SECTION 220.70 EXTENDED 1.40 FEET

3470 ENCROACHMENT STATIONS= 130.0 1065.0 TYPE= 1 TARGET= 935.000

220.700	11.50	4428.60	.00	.00	4428.78	.19	1.07	.01	100000.00
750.0	.0	.0	750.0	.0	.0	216.4	1.6	2.0	100000.00
.03	.00	.00	3.47	.000	.000	.023	.000	4417.10	393.75
.003098	295.	295.	350.	3	0	0	.00	255.09	985.01

1490 NH CARD USED
*SECNO 223.900

3265 DIVIDED FLOW

3280 CROSS SECTION 223.90 EXTENDED .39 FEET

3470 ENCROACHMENT STATIONS= 100.0 1013.0 TYPE= 1 TARGET= 913.000

223.900	11.03	4429.50	.00	.00	4429.76	.26	.95	.02	100000.00
750.0	.0	.0	750.0	.0	.0	183.1	3.0	3.5	4429.97
.05	.00	.00	4.10	.000	.000	.025	.000	4418.47	100.97
.002961	324.	324.	314.	2	0	0	.00	178.85	1013.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1490 NH CARD USED
*SECNO 225.700

3265 DIVIDED FLOW

3280 CROSS SECTION 225.70 EXTENDED 1.47 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.53

3470 ENCROACHMENT STATIONS= 736.0 1855.0 TYPE= 1 TARGET= 1119.000

225.700	11.16	4429.96	.00	.00	4430.07	.10	.30	.02	100000.00
750.0	.0	.0	750.0	.0	.0	291.3	3.9	4.8	100000.00
.07	.00	.00	2.57	.000	.000	.016	.000	4418.80	736.95
.001264	197.	197.	160.	2	0	0	.00	536.22	1855.00

1490 NH CARD USED
*SECNO 227.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .64

3470 ENCROACHMENT STATIONS= 405.0 1045.0 TYPE= 1 TARGET= 640.000

227.000	10.34	4430.24	.00	.00	4430.43	.19	.34	.03	100000.00
750.0	.0	.0	750.0	.0	.0	214.9	5.0	6.4	100000.00
.08	.00	.00	3.49	.000	.000	.025	.000	4419.90	494.61
.003093	134.	134.	180.	2	0	0	.00	234.91	1045.00

CCHV= .100 CEHV= .300
*SECNO 234.100

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 1011.6 1707.7 TYPE= 1 TARGET= 696.100

234.100	9.47	4432.17	.00	.00	4432.22	.05	1.77	.01	100000.00
750.0	.0	.0	750.0	.0	.0	425.8	10.0	13.0	100000.00
.19	.00	.00	1.76	.000	.000	.040	.000	4422.70	1021.56
.002170	690.	690.	690.	5	0	0	.00	590.70	1705.33

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 240.800

3265 DIVIDED FLOW

3280 CROSS SECTION 240.80 EXTENDED .07 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 655.8 1433.5 TYPE= 1 TARGET= 777.700

240.800	10.17	4436.67	4436.67	.00	4436.99	.32	3.40	.08	100000.00
750.0	.0	.0	750.0	.0	.0	164.0	14.6	20.2	4436.80
.23	.00	.00	4.57	.000	.000	.040	.000	4426.50	658.62
.022991	670.	670.	670.	20	10	0	.00	352.66	1390.82

CCHV= .100 CEHV= .300
*SECNO 253.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.69

3470 ENCROACHMENT STATIONS= 917.8 1716.5 TYPE= 1 TARGET= 798.700

253.200	8.87	4442.17	.00	.00	4442.20	.03	5.17	.03	100000.00
750.0	.0	.0	750.0	.0	.0	521.9	24.3	34.5	4442.20
.47	.00	.00	1.44	.000	.000	.045	.000	4433.30	926.13
.001684	450.	1240.	1240.	12	0	0	.00	651.59	1577.72

*SECNO 258.200

3470 ENCROACHMENT STATIONS= 1298.6 1600.0 TYPE= 1 TARGET= 301.400

258.200	8.43	4444.43	.00	.00	4444.47	.03	2.27	.00	100000.00
750.0	.0	.0	750.0	.0	.0	499.9	44.9	53.7	4444.20
.79	.00	.00	1.50	.000	.000	.045	.000	4436.00	1298.60
.001031	1000.	500.	1750.	9	0	0	.00	301.40	1600.00

1490 NH CARD USED
*SECNO 262.400
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=		2028.0	2400.0	TYPE=	1	TARGET=	372.000		
262.400	9.38	4447.38	4447.38	.00	4447.68	.30	.92	.08	100000.00
750.0	.0	.0	750.0	.0	.0	169.7	48.2	56.7	100000.00
.82	.00	.00	4.42	.000	.000	.025	.000	4438.00	2028.00
.006927	300.	420.	430.	20	13	0	.00	322.18	2350.18

1490 NH CARD USED
*SECNO 267.100

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 11.97

3470 ENCROACHMENT STATIONS=		1891.6	3277.5	TYPE=	1	TARGET=	1385.900		
267.100	4.78	4447.78	.00	.00	4447.82	.04	.11	.03	100000.00
2200.0	.0	.0	2200.0	.0	.0	1323.9	51.2	59.1	100000.00
.85	.00	.00	1.66	.000	.000	.029	.000	4443.00	1918.20
.000416	260.	470.	180.	3	0	0	.00	839.53	2757.73

1490 NH CARD USED
*SECNO 269.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .27

3470 ENCROACHMENT STATIONS=		2577.0	3036.0	TYPE=	1	TARGET=	459.000		
269.200	7.68	4447.88	.00	.00	4447.89	.02	.07	.00	100000.00
350.0	.0	.0	350.0	.0	.0	336.1	54.9	61.3	100000.00
.90	.00	.00	1.04	.000	.000	.030	.000	4440.20	2762.85
.000139	190.	210.	190.	2	0	0	.00	152.51	2915.35

1490 NH CARD USED
*SECNO 271.300

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 3340.0 4020.0 TYPE= 1 TARGET= 680.000

271.300	8.57	4449.57	4449.57	.00	4449.72	.15	.06	.04	100000.00
175.0	.0	.0	175.0	.0	.0	56.7	55.8	62.0	100000.00
.92	.00	.00	3.08	.000	.000	.025	.000	4441.00	3340.00
.007799	210.	210.	200.	20	9	0	.00	138.28	3779.20

THIS RUN EXECUTED 01NOV94 09:07:38

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

file: POSTFIRM.HC2

SUMMARY PRINTOUT

	SECNO	STENCL	Q	CWSEL	STENCR	CRIWS	EG	ELMIN	DEPTH
	217.700	1673.00	750.00	4427.44	2520.00	.00	4427.71	4414.70	12.74
	220.700	130.00	750.00	4428.60	1065.00	.00	4428.78	4417.10	11.50
	223.900	100.00	750.00	4429.50	1013.00	.00	4429.76	4418.47	11.03
*	225.700	736.00	750.00	4429.96	1855.00	.00	4430.07	4418.80	11.16
*	227.000	405.00	750.00	4430.24	1045.00	.00	4430.43	4419.90	10.34
	234.100	1011.60	750.00	4432.17	1707.70	.00	4432.22	4422.70	9.47
*	240.800	655.80	750.00	4436.67	1433.50	4436.67	4436.99	4426.50	10.17
*	253.200	917.80	750.00	4442.17	1716.50	.00	4442.20	4433.30	8.87
	258.200	1298.60	750.00	4444.43	1600.00	.00	4444.47	4436.00	8.43
*	262.400	2028.00	750.00	4447.38	2400.00	4447.38	4447.68	4438.00	9.38
*	267.100	1891.60	2200.00	4447.78	3277.50	.00	4447.82	4443.00	4.78
*	269.200	2577.00	350.00	4447.88	3036.00	.00	4447.89	4440.20	7.68
*	271.300	3340.00	175.00	4449.57	4020.00	4449.57	4449.72	4441.00	8.57

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 225.700 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 227.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 240.800 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 240.800 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 240.800 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 253.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 262.400 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 262.400 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 262.400 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

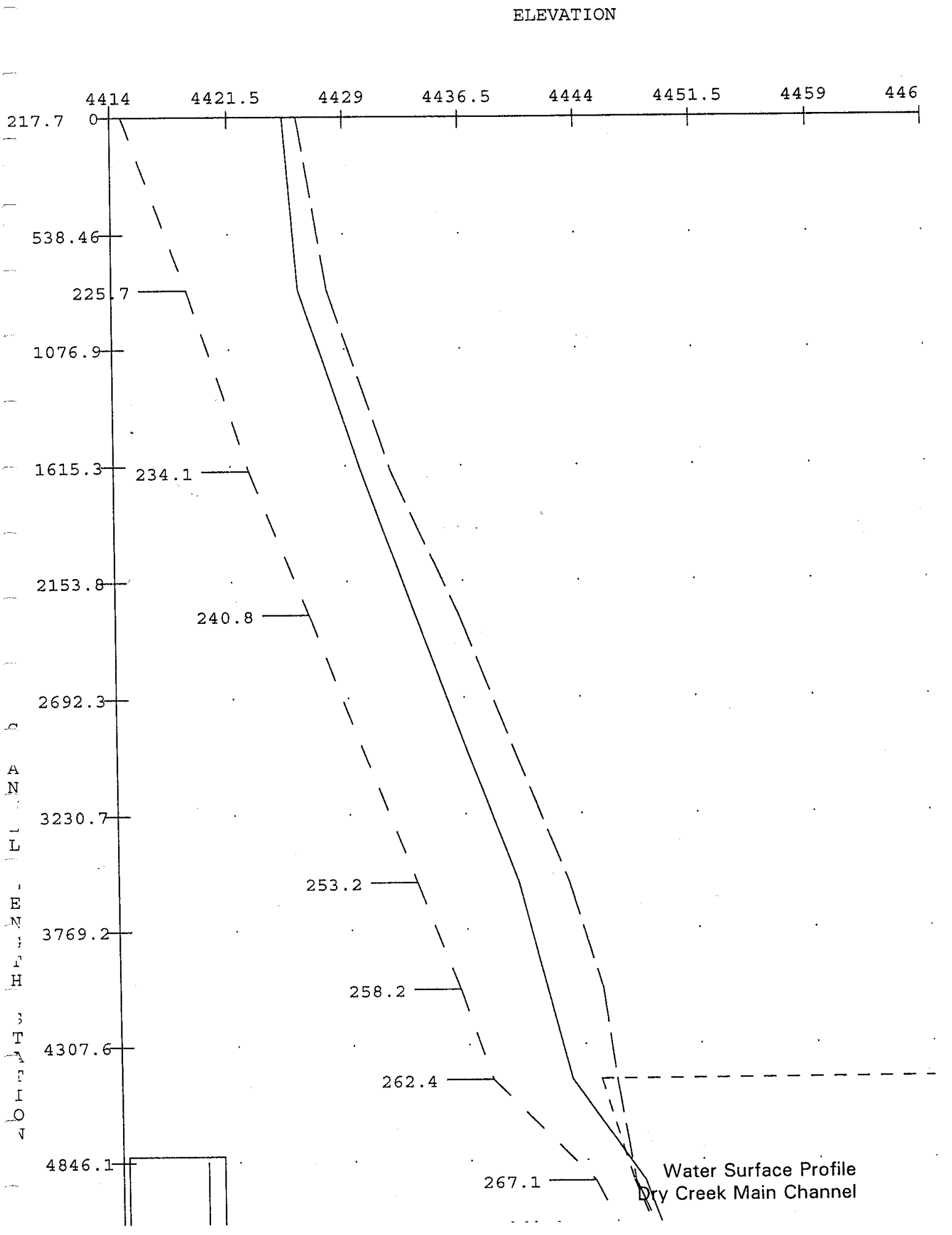
WARNING SECNO= 267.100 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

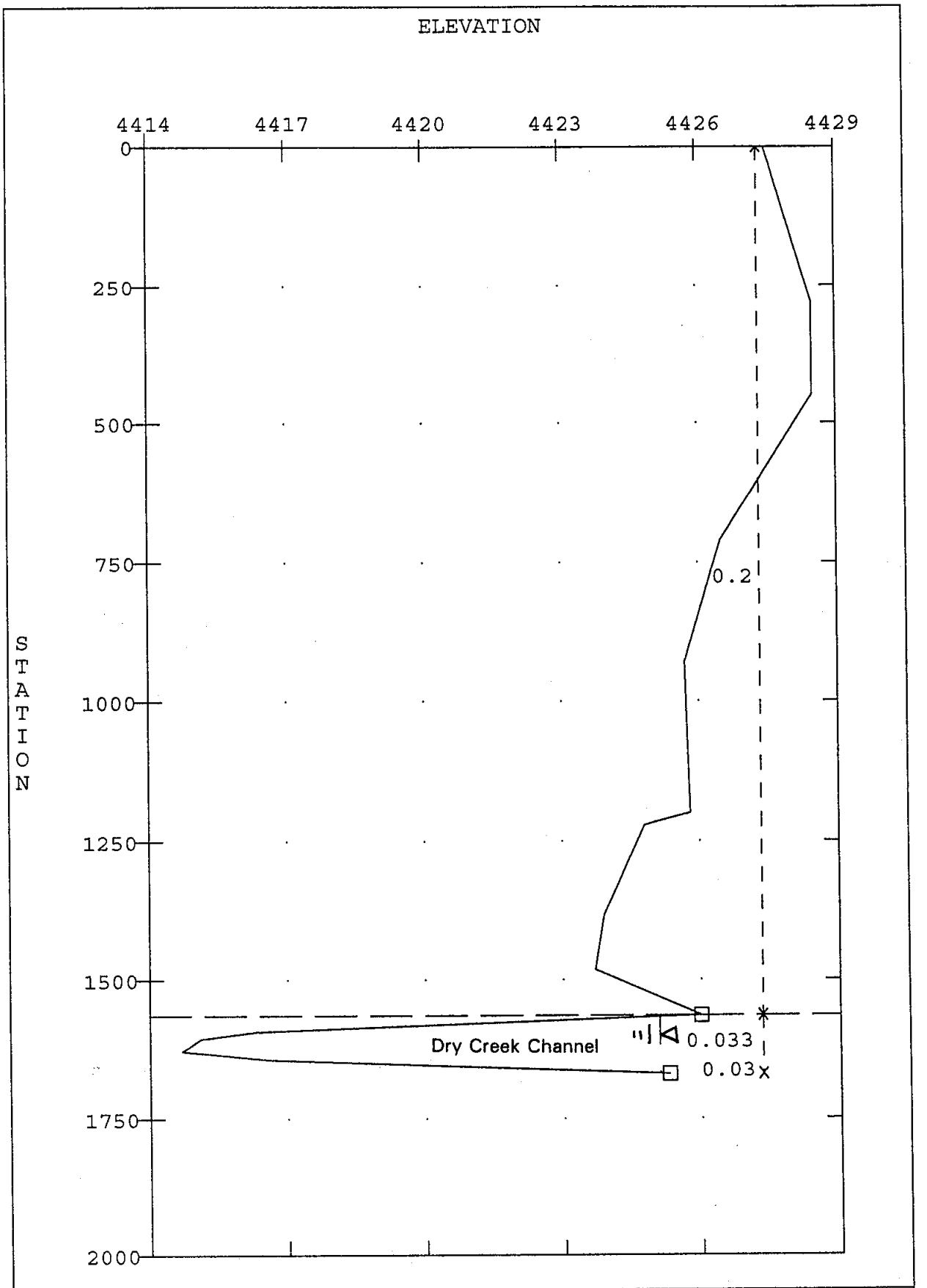
WARNING SECNO= 269.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 271.300 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 271.300 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 271.300 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

Appendix E

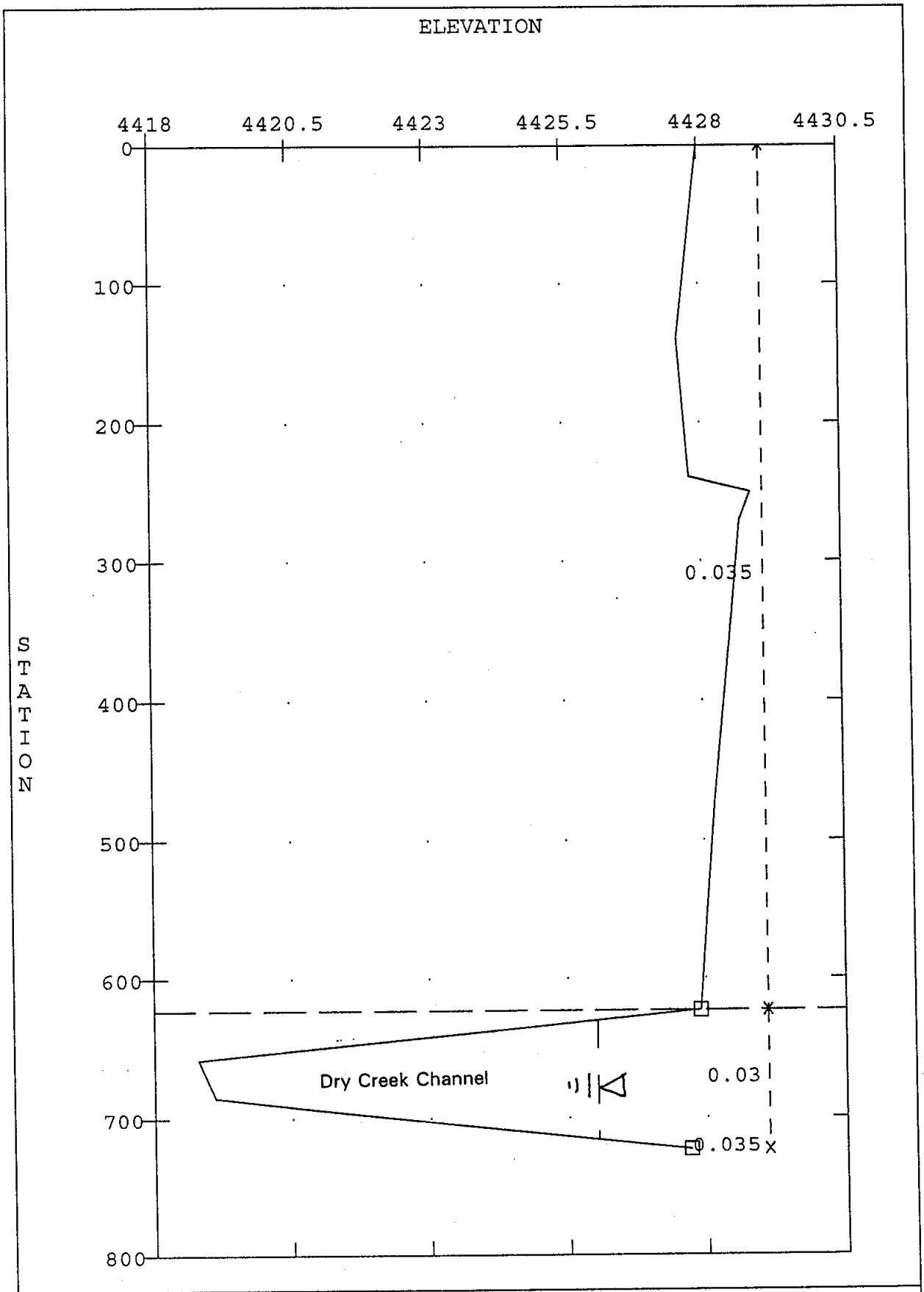
Flood Insurance Study Technical Data For Main Dry Creek Channel (Baker Engineers, February 1994)


ELEVATION
4414
4421.5
4429
4436.5
4444
4451.5
4459
446
217.7
0
538.46
225.7
1076.9
1615.3
234.1
2153.8
240.8
2692.3
3230.7
253.2
3769.2
258.2
4307.6
262.4
4846.1
267.1
CHANNEL LENGTH STATION
Water Surface Profile
Dry Creek Main Channel



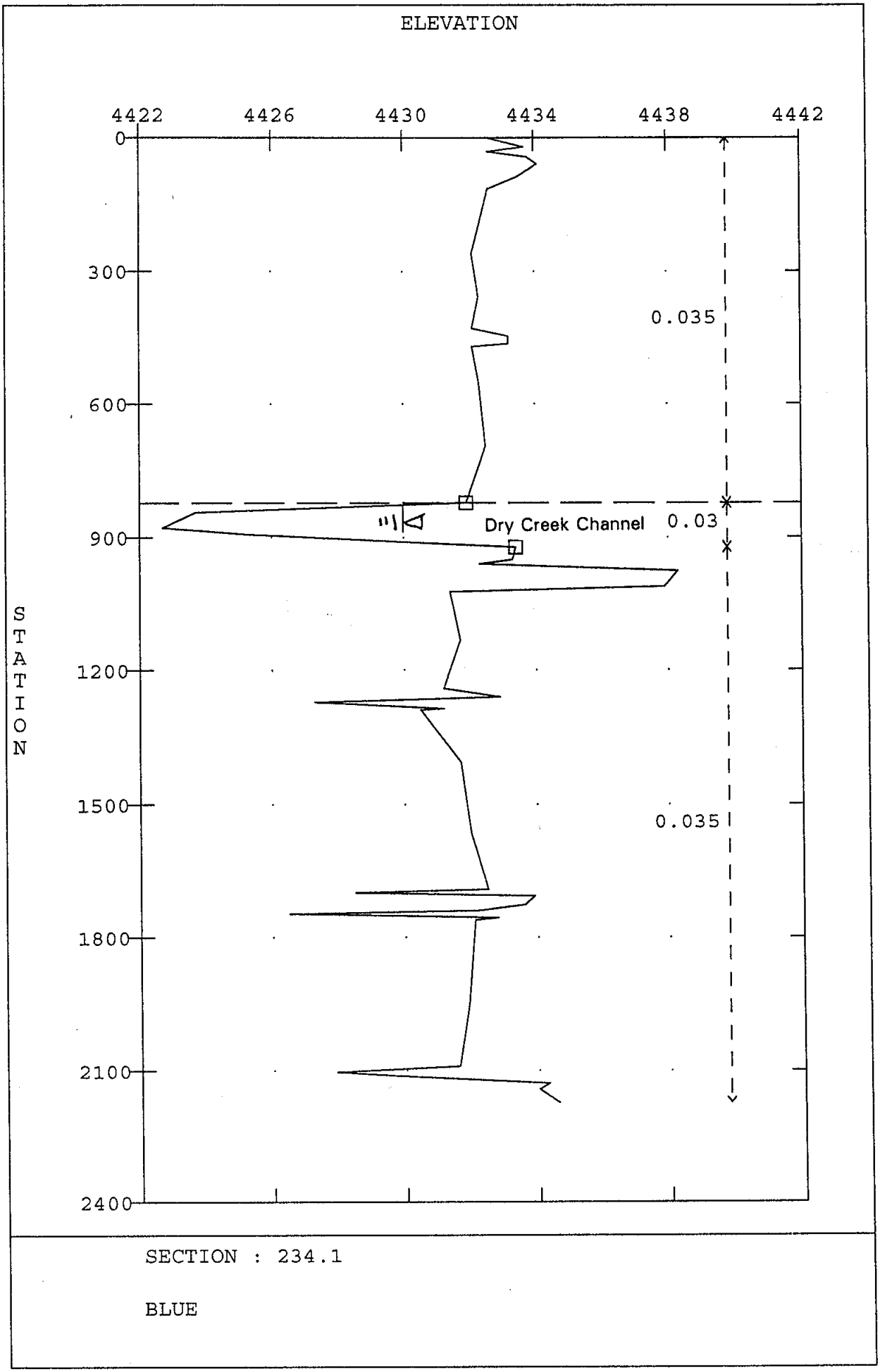
SECTION : 217.7

BLUE



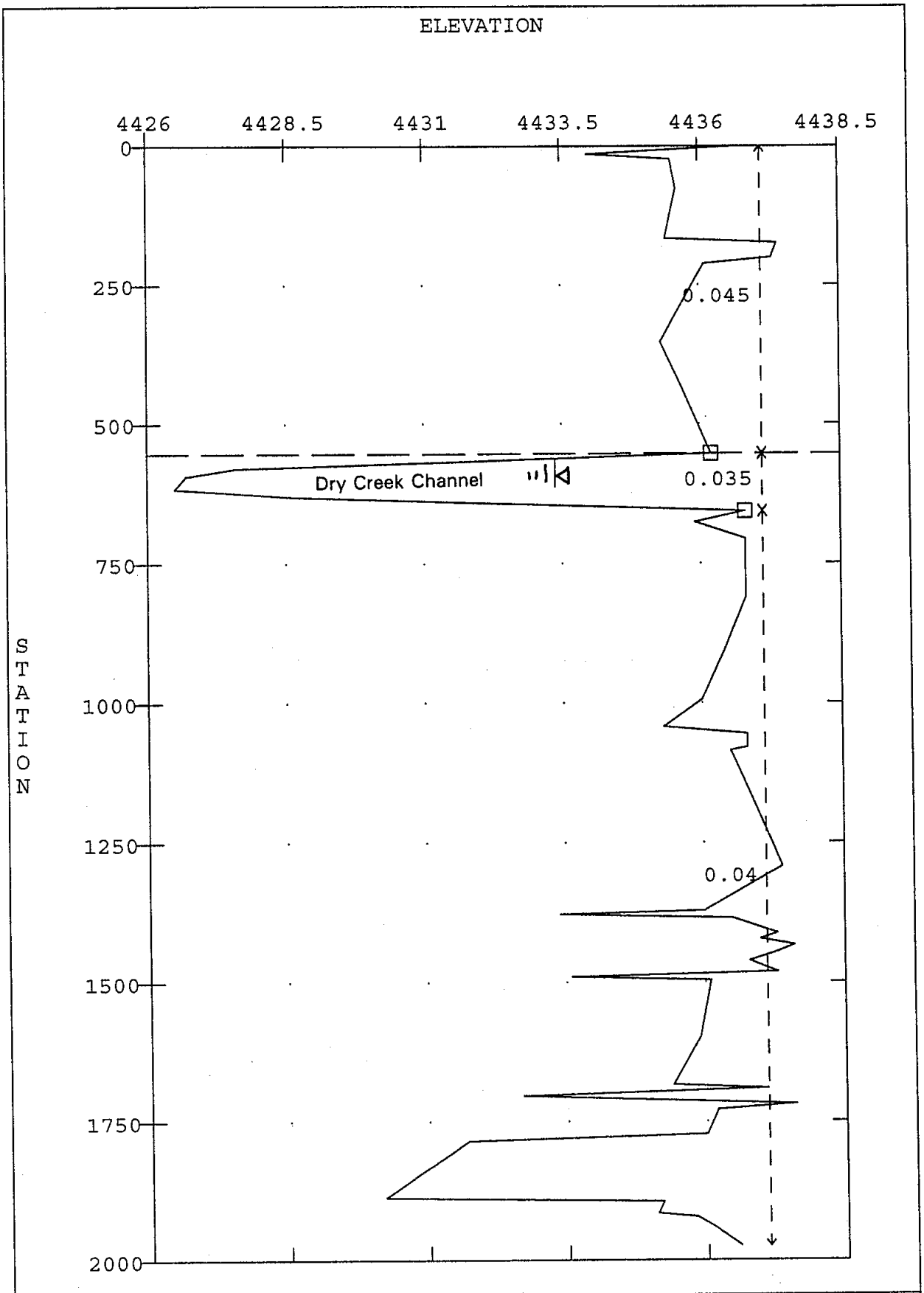
SECTION : 225.7

BLUE



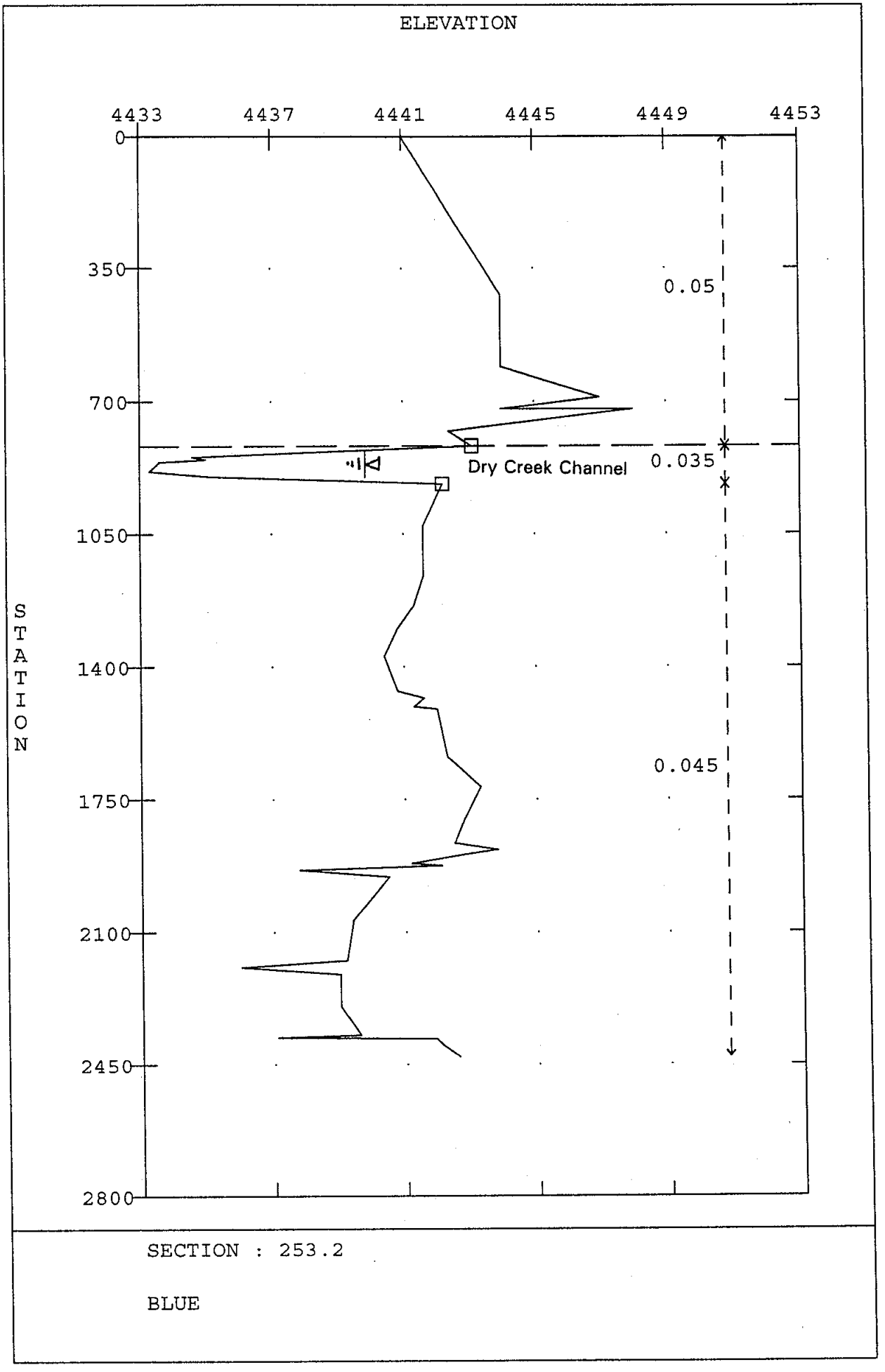
SECTION : 234.1

BLUE



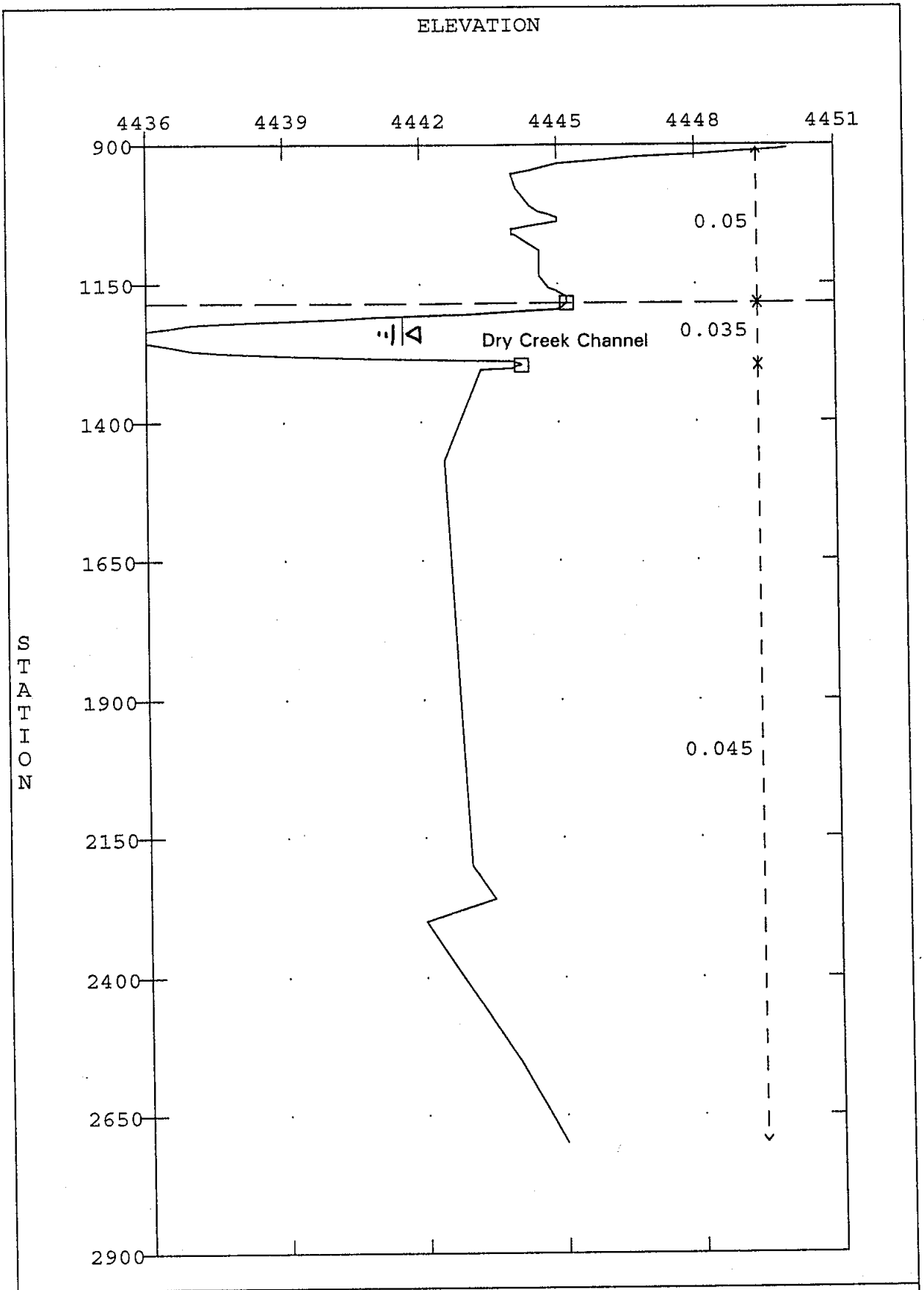
SECTION : 240.8

BLUE



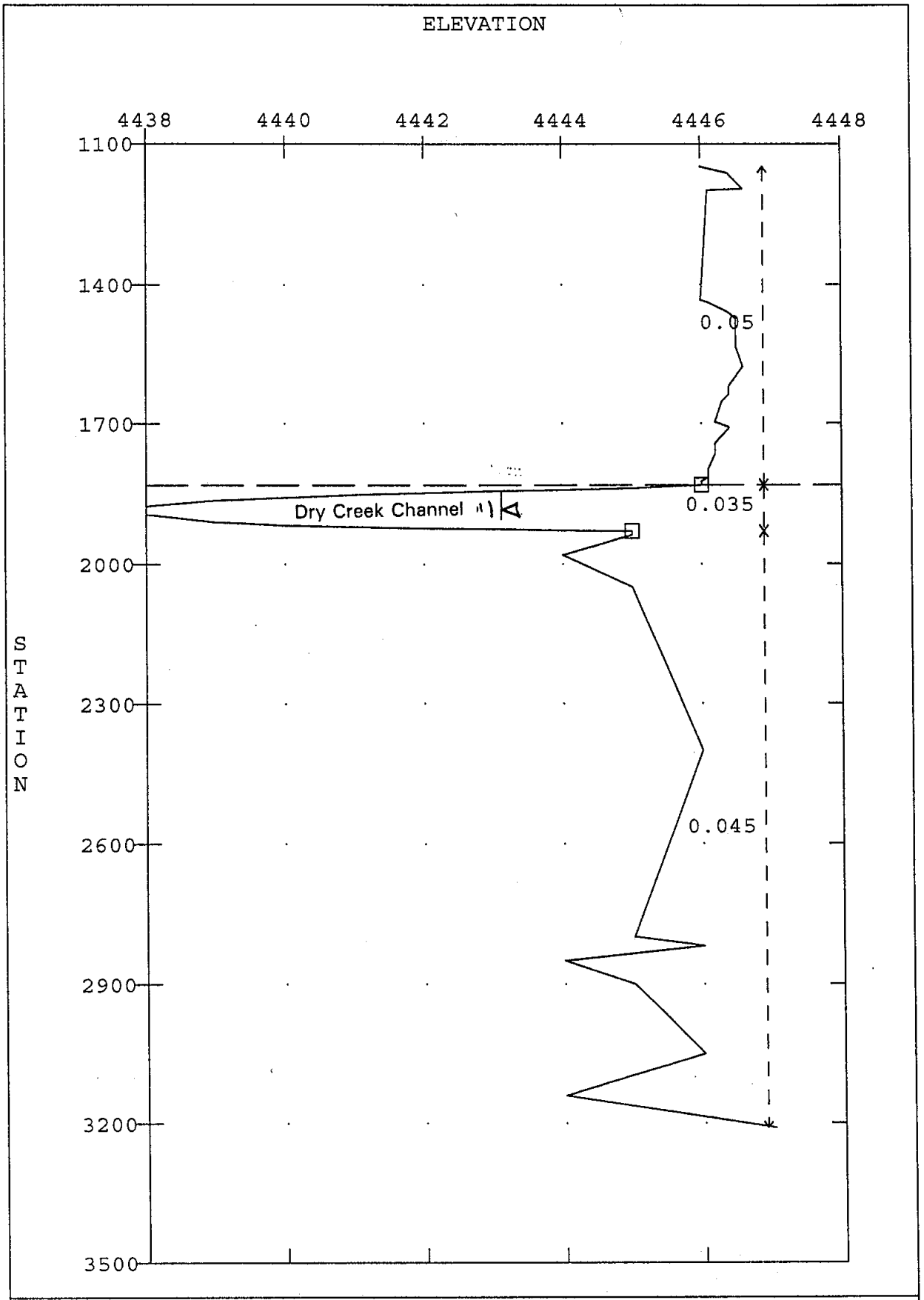
SECTION : 253.2

BLUE



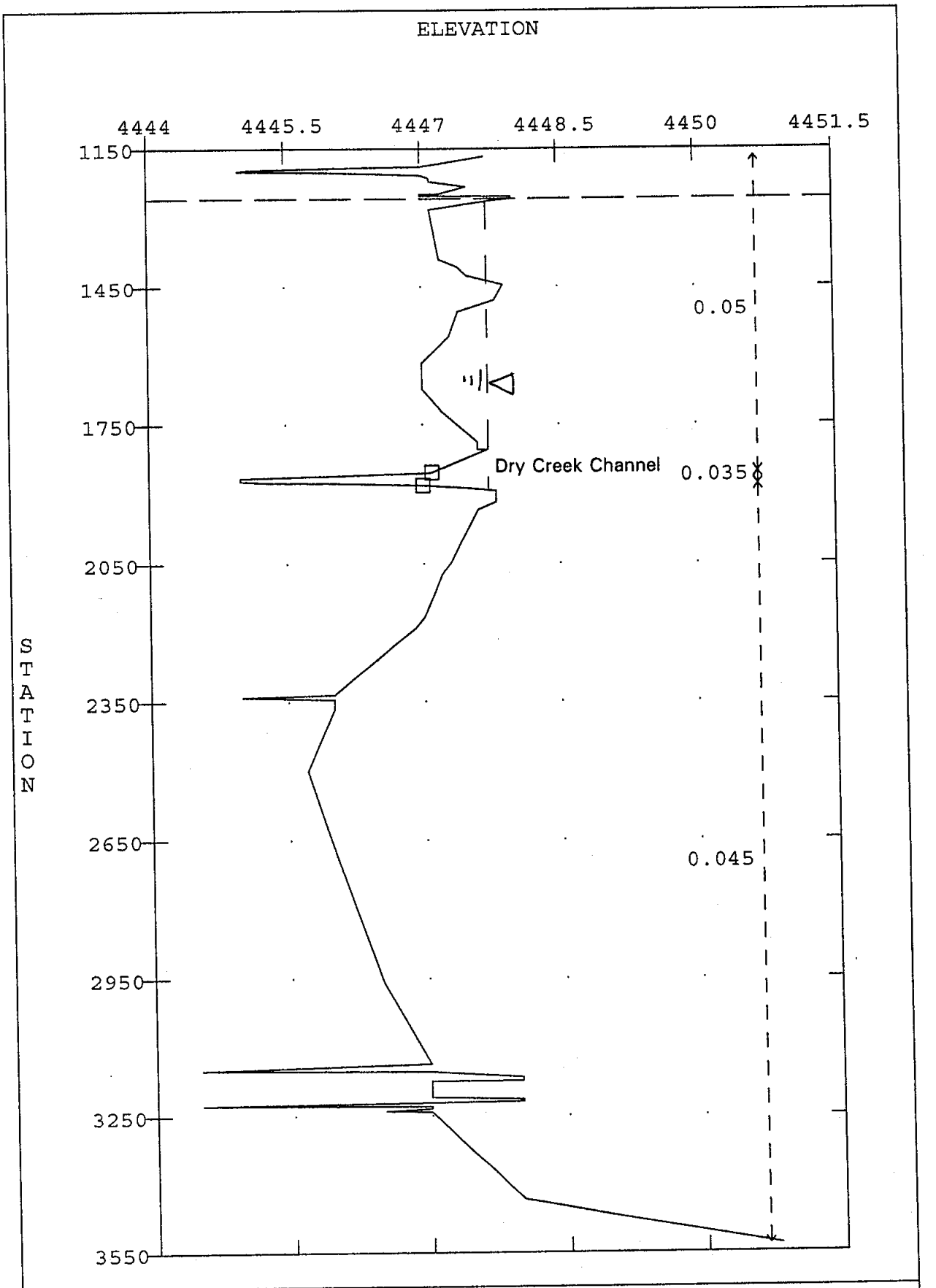
SECTION : 258.2

BLUE



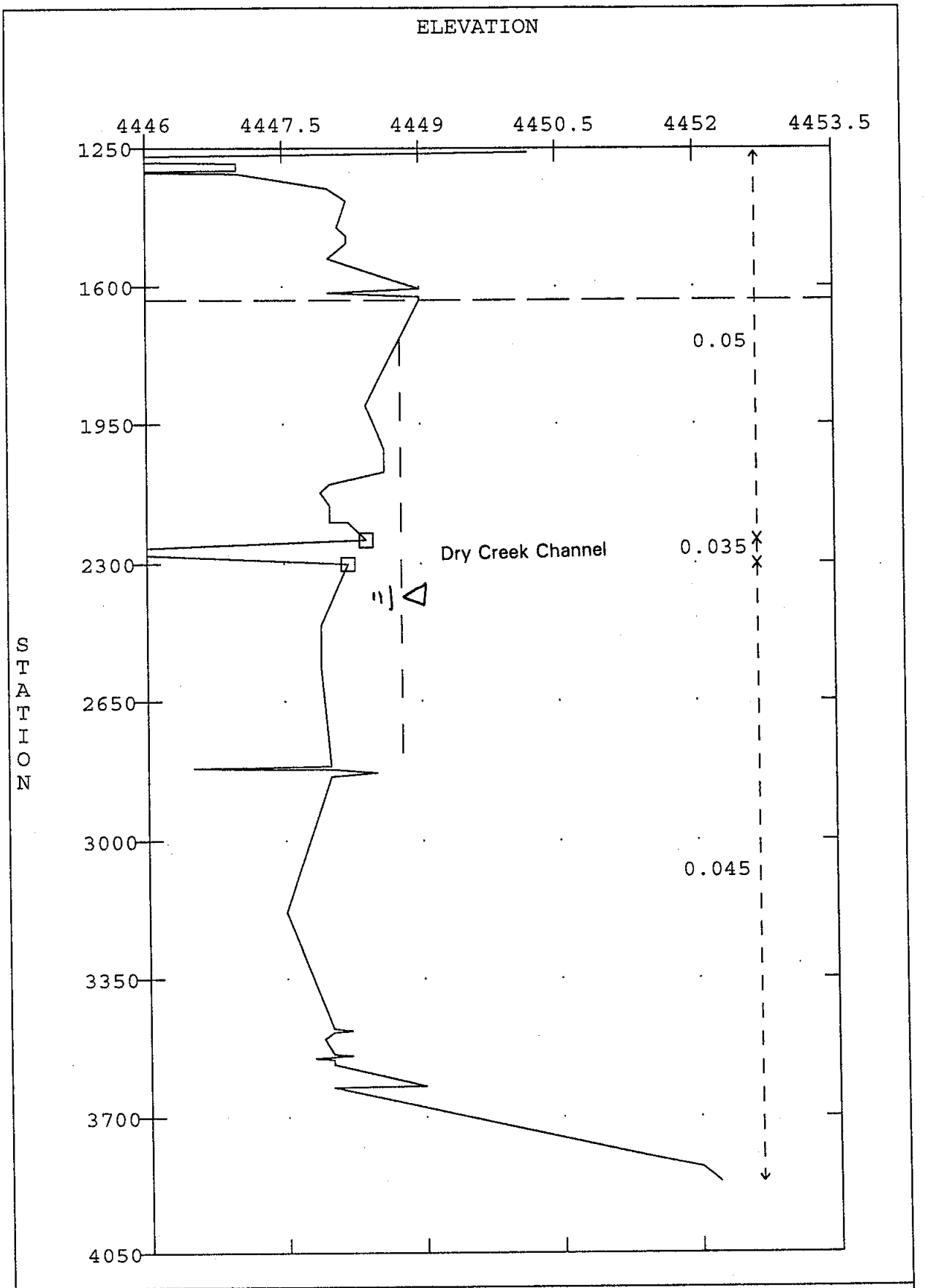
SECTION : 262.4

BLUE



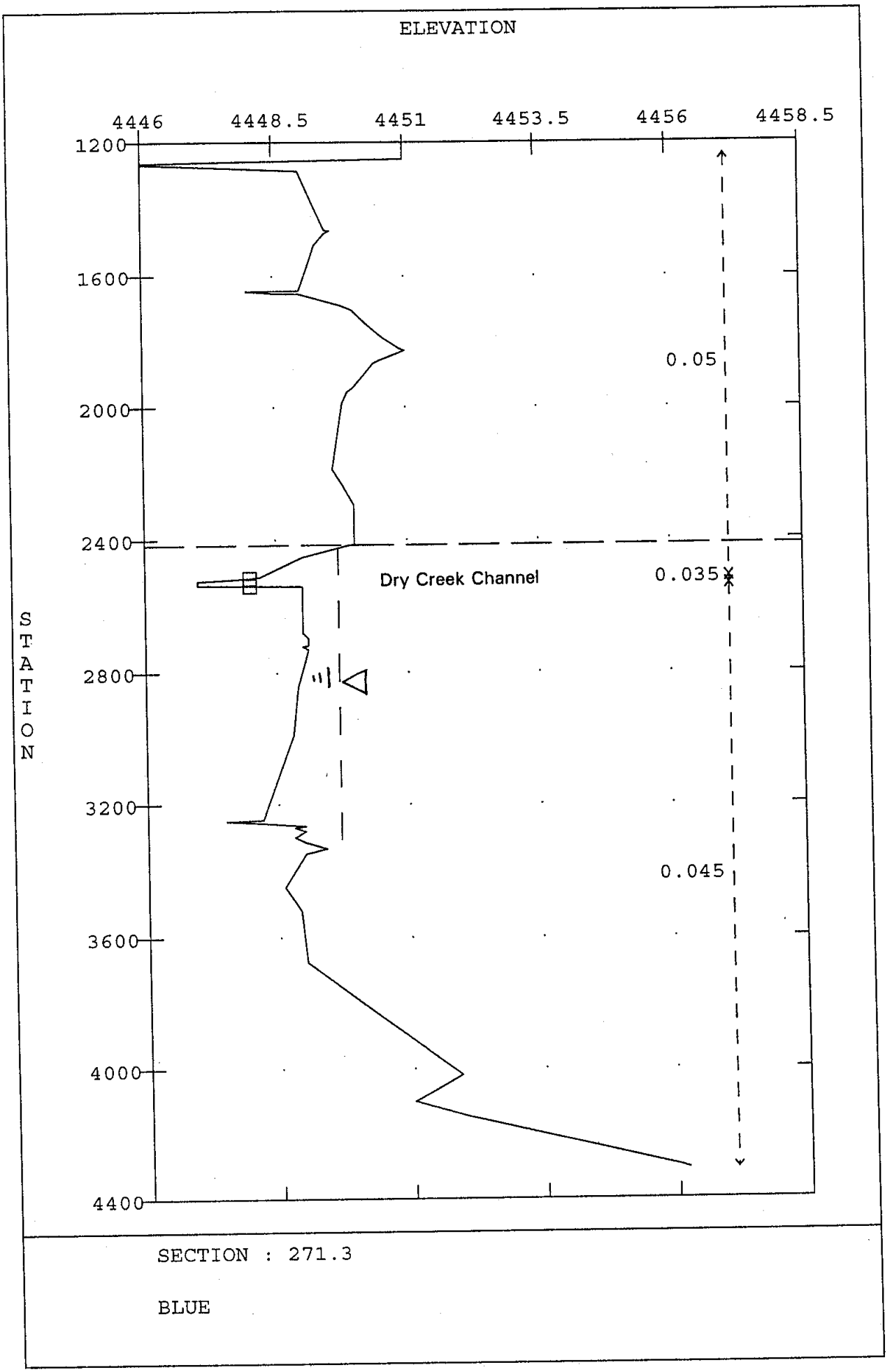
SECTION : 267.1

BLUE



SECTION : 269.2

BLUE


ELEVATION
4446
4448.5
4451
4453.5
4456
4458.5
1200
1600
2000
2400
2800
3200
3600
4000
4400
STATION
0.05
0.035
0.045
Dry Creek Channel
SECTION : 271.3
BLUE

```
*******************************************
  HEC-2 WATER SURFACE PROFILES             *
*                                          *
*  Version  4.6.2;  May 1991               *
                                           *
  RUN DATE    28JUL94    TIME   13:21:59   *
*******************************************
```


```
****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*          (916) 756-1104              *
****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

THIS RUN EXECUTED 28JUL94 13:21:59

```
**************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
**************************************

T1      DRY CREEK - APPEAL RESOLUTION
T2      MAIN.DAT
T3      BLUE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0         2         0         0         0         0         0         0   4425.09         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       -1         0        -1

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        27        43         1        28        13        14        42

NC       .2        .03       .033       .1        .3

QT        1      3850
ET                  9.1                                                            1564.8    1670.4
X1    217.7        16    1564.8    1670.4         0         0         0
GR   4427.5       0.0    4428.5     280.0    4428.5       450    4426.5       710    4425.7       930
GR   4425.8    1200.0    4425.2    1212.4    4424.8    1221.4    4423.9    1383.4    4423.7    1481.8
GR   4426.0    1564.8    4416.3    1593.5    4415.1    1606.2    4414.7    1628.1    4416.6    1643.9
GR   4425.3    1670.4

NC       .035      .035      .03
ET                  9.1                                                            623.1     723.3
X1    225.7        12     623.1     723.3       800       800       800
GR   4428.0       0.0    4427.6     139.6    4427.8     239.6    4428.9     250.5    4428.7     271.4
GR   4428.5     357.0    4428.2     472.5    4427.9     623.1    4418.8     658.0    4419.1     685.2
GR   4420.9     693.5    4427.7     723.3

ET                  9.1                                                            822.8     922.1
X1    234.1        48     822.8     922.1       840       840       840
GR   4432.6       0.0    4433.7      21.2    4432.6      32.2    4433.8      44.7    4434.1      60.3
GR   4433.5      88.7    4432.6     116.0    4432.1     259.3    4432.3     356.9    4432.1     429.2
GR   4433.2     447.5    4433.2     465.6    4432.1     472.6    4432.3     551.9    4432.5     696.3
GR   4431.9     822.8    4423.7     844.3    4422.7     878.5    4425.3     893.1    4433.4     922.1
GR   4433.3     949.7    4432.3     959.2    4438.3     975.5    4437.9    1011.6    4431.4    1022.9
GR   4431.7    1131.3    4431.2    1240.8    4432.9    1259.7    4427.3    1271.1    4431.2    1286.0
GR   4430.5    1289.2    4431.7    1405.6    4432.0    1566.9    4432.5    1692.8    4428.5    1700.3
GR   4433.9    1707.7    4433.6    1727.7    4432.2    1740.8    4426.5    1747.8    4432.8    1756.6
GR   4432.1    1761.9    4431.9    1950.9    4431.6    2090.1    4427.9    2103.3    4429.7    2111.8
GR   4434.3    2129.2    4434.0    2142.7    4434.6    2174.0
```

```
NC    .045     .040     .035       .1       .3
ET              9.1                                                                  553     655.8
X1   240.8       53      553    655.8      670      670      670
GR  4436.7      0.0   4434.0     13.6   4435.5     22.8   4435.6     75.3   4435.4     165.1
GR  4437.4    173.4   4437.3    200.1   4436.1    210.9   4435.3    354.3   4435.7     439.8
GR  4436.2    553.0   4427.6    578.1   4426.7    592.0   4426.5    614.8   4428.6     629.4
GR  4436.8    655.8   4435.9    675.2   4436.8    705.3   4436.8    811.0   4436.4     908.8
GR  4436.0    994.7   4435.3   1043.1   4436.8   1056.1   4436.8   1079.7   4436.5    1085.5
GR  4436.9   1175.4   4437.4   1291.9   4436.0   1371.9   4433.4   1378.2   4436.5    1385.2
GR  4437.3   1411.8   4437.0   1422.2   4437.6   1433.5   4437.3   1445.5   4436.8    1461.3
GR  4437.3   1481.4   4433.6   1490.1   4436.1   1496.3   4435.9   1598.0   4435.4    1684.4
GR  4437.1   1691.0   4432.7   1703.9   4437.6   1718.9   4436.2   1729.1   4436.0    1773.0
GR  4431.7   1784.9   4431.0   1832.9   4430.2   1887.2   4435.2   1894.4   4435.1    1915.0
GR  4435.8   1921.4   4436.1   1938.6   4436.6   1974.4

      +++++++++++++++++++++++++++++++++++++++++++++++++
      + NEW CROSS SECTION DATA WAS ENTERED BELOW      +
      + NUMBERS 265.6, 273.8, AND 280.0 WERE DELETED  +
      +++++++++++++++++++++++++++++++++++++++++++++++++

     +++++++++++++++++++++++++++++++++++++++++++++++
     + MODIFIED THE FLOWS TO REPRESENT THE         +
     + RESULTS OF THE SPLIT FLOW ANALYSIS (5-11-93) +
     +    => WEIR COEFFICIENT 3.1                  +
     +    => TRUNCATED CROSS SECTIONS              +
     +++++++++++++++++++++++++++++++++++++++++++++++

     ********** MODIFIED SECTION 253.2************

NC    .050     .045     .035       .1       .3
QT       1     2575
ET              9.1                                                                817.4     917.8
X1   253.2       43    817.4    917.8      450     1240     1240
GR  4441.0      0.0   4444.0    420.0   4444.0    610.0   4447.0    690.0   4444.0     720.0
GR  4448.0    721.5   4442.4    779.2   4443.1    817.4   4434.6    845.7   4435.0     852.4
GR  4433.6    858.7   4433.3    883.0   4435.1    897.2   4442.2    917.8   4441.6    1029.1
GR  4441.6   1162.0   4441.3   1240.0   4440.8   1300.0   4440.4   1373.0   4440.8    1465.0
GR  4441.6   1483.4   4441.3   1505.2   4442.0   1512.1   4442.3   1638.8   4443.3    1716.5
GR  4442.8   1803.0   4442.5   1865.6   4443.8   1882.8   4443.0   1893.2   4441.2    1919.7
GR  4442.1   1925.8   4437.8   1936.8   4440.5   1954.8   4439.4   2068.8   4439.2    2174.1
GR  4436.0   2191.4   4439.0   2209.8   4439.0   2295.9   4439.6   2372.9   4437.1    2378.8
GR  4441.9   2382.8   4442.1   2399.0   4442.6   2430.0

QT       1     2075
     **********CROSS SECTION 258.2****************
ET              9.1                                                               1186.1    1298.6
X1   258.2       82   1186.1   1298.6     1000     1750      500
GR  4450.0    906.6   4449.8    908.6   4449.0    912.6   4448.9    913.3   4448.0     918.2
GR  4447.5    919.7   4446.7    922.5   4446.5    924.1   4446.4    924.9   4446.0     927.9
GR  4445.1    933.7   4445.0    934.6   4444.4    946.5   4444.0    952.2   4444.1     978.4
GR  4444.4   1009.2   4444.6   1020.1   4444.8   1024.2   4445.0   1030.7   4445.0    1038.0
```

```
GR  4444.6   1042.9   4444.1   1049.7   4444.0   1050.9   4444.0   1059.7   4444.1   1062.2
GR  4444.6   1089.2   4444.6   1135.5   4444.8   1157.6   4445.0   1164.1   4445.0   1164.1
GR  4445.0   1165.1   4445.1   1169.5   4445.2   1173.7   4445.2   1186.1   4445.1   1193.3
GR  4445.0   1197.5   4443.0   1206.0   4442.7   1206.5   4442.6   1206.6   4442.3   1207.1
GR  4442.0   1207.7   4441.9   1207.9   4441.0   1209.9   4440.0   1214.5   4439.7   1215.3
GR  4439.0   1217.3   4439.0   1217.4   4438.0   1220.3   4437.1   1223.6   4437.0   1224.1
GR  4436.5   1230.1   4436.0   1235.1   4436.0   1256.7   4436.4   1262.2   4437.0   1271.4
GR  4437.7   1275.8   4438.9   1280.0   4439.0   1280.2   4440.0   1282.8   4440.4   1283.8
GR  4441.0   1285.4   4441.9   1287.4   4442.5   1288.8   4443.0   1289.9   4444.0   1291.5
GR  4444.2   1296.7   4444.2   1298.6   4444.1   1300.1   4444.0   1304.5   4444.0   1304.6
GR  4443.9   1304.7   4443.8   1305.2   4443.6   1305.5   4443.6   1305.6   4443.4   1306.6
GR  4443.3   1307.3   4442.5     1470     4443     2200   4443.5     2260     4442     2300
GR     4444     2550     4445     2700

        ************CROSS SECTION 262.4***************

QT         1     2000
ET             9.1                                                          1831.7   2400
X1     262.4       76   1831.7   1930.2      300      430      420
GR  4446.0   1148.7   4446.0   1148.8   4446.4   1162.2   4446.4   1163.7   4446.6   1195.1
GR  4446.6   1195.9   4446.1   1198.5   4446.0   1434.6   4446.1   1439.2   4446.4   1461.8
GR  4446.5   1474.5   4446.5   1519.7   4446.5   1528.7   4446.5   1528.9   4446.5   1529.1
GR  4446.5   1530.4   4446.5   1534.7   4446.6   1578.3   4446.4   1621.1   4446.4   1631.5
GR  4446.4   1638.3   4446.3   1653.6   4446.2   1697.3   4446.4   1708.1   4446.4   1710.2
GR  4446.2   1742.5   4446.2   1752.1   4446.2   1752.6   4446.2   1755.6   4446.2   1757.3
GR  4446.2   1758.7   4446.2   1765.3   4446.1   1797.3   4446.1   1815.4   4446.0   1823.8
GR  4446.0   1831.7   4445.6   1834.5   4445.0   1838.5   4444.2   1841.5   4444.0   1842.1
GR  4443.7   1842.8   4443.0   1844.6   4442.5   1846.4   4442.0   1848.3   4441.3   1851.1
GR  4441.0   1852.4   4440.1   1858.0   4439.8   1859.8   4439.0   1864.8   4438.8   1867.1
GR  4438.0   1876.9   4438.0   1894.4   4438.4   1900.7   4439.0   1910.7   4439.3   1912.2
GR  4440.0   1917.5   4440.9   1920.5   4441.0   1920.6   4441.9   1923.6   4442.0   1923.7
GR  4442.0   1923.8   4443.0   1925.4   4443.4   1926.4   4444.0   1928.3   4445.0   1930.2
GR  4445.0   1937.9   4444.0     1980     4445     2050     4446     2400     4445     2800
GR     4446     2820     4444     2850     4445     2900     4446     3050     4444     3140
GR     4447     3210

        ************************************************
        *    EXTENDED THE CROSS SECTIONS 267.1, 269.2, *
        *    AND 271.3 TO LONGLEY LANE. DATA WAS       *
        *    OBTAINED FROM SUMMIT ENGINEERING THRU     *
        *    THE STATE FARMS STOCK FACILITY.           *
        ************************************************


QT         1      650
        ************CROSS SECTION 267.1***************
ET             9.1                                                          1257.2   1891.6
X1     267.1       86   1852.2   1879.4      260      180      470
GR  4447.7   1166.9   4447.7   1167.6   4447.1   1186.6   4447.0   1189.1   4446.9   1189.7
GR  4446.0   1192.3   4445.1   1195.9   4445.0   1198.4   4445.3   1199.5   4446.0   1201.1
GR  4446.3   1203.0   4446.4   1203.6   4447.0   1207.0   4447.1   1213.1   4447.1   1220.1
GR  4447.5   1231.4   4447.5   1231.6   4447.2   1246.9   4447.0   1247.6   4447.0   1250.9
GR  4447.9   1252.0   4448.0   1252.1   4448.0   1257.2   4447.8   1260.7   4447.5   1268.7
GR  4447.1   1280.4   4447.2   1390.1   4447.4   1406.7   4447.5   1425.5   4447.9   1445.9
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GR	4447.8	1481.0	4447.4	1506.3	4447.3	1561.8	4447.0	1618.6	4447.0	1675.1
GR	4447.2	1720.4	4447.2	1721.5	4447.6	1787.7	4447.6	1803.1	4447.7	1804.6
GR	4447.1	1852.2	4447.1	1852.5	4447.0	1854.0	4446.6	1855.6	4446.5	1856.2
GR	4446.0	1859.1	4445.7	1860.1	4445.0	1863.3	4445.0	1869.4	4445.3	1872.8
GR	4446.0	1874.3	4446.7	1878.0	4447.0	1879.4	4447.5	1885.9	4447.8	1891.6
GR	4447.8	1916.8	4447.6	1933.7	4447.4	2006.9	4447.3	2047.6	4447.2	2073.4
GR	4447.1	2121.7	4447.0	2167.3	4446.9	2191.3	4446.0	2335.0	4445.0	2340.0
GR	4446.0	2345.0	4446.0	2365.0	4445.7	2500.0	4446.0	2682.0	4446.5	2960.0
GR	4447.0	3137.0	4444.5	3150.0	4447.0	3154.0	4448.0	3166.0	4448.0	3174.0
GR	4447.0	3175.0	4447.0	3210.0	4448.0	3215.0	4448.0	3220.0	4444.5	3227.0
GR	4447.0	3230.0	4447.0	3235.0	4446.5	3240.0	4447.0	3242.0	4448.0	3435.0
GR	4450.8	3533.0								

**********CROSS SECTION 269.2**********

QT	1	1650								
ET		9.1							1634.8	2832.0
X1	269.2	55	2241.8	2301.8	190	190	210			
GR	4450.2	1260.4	4446.0	1271.4	4446.0	1287.1	4447.0	1290.0	4447.0	1308.2
GR	4446.0	1310.4	4446.0	1314.1	4447.0	1316.5	4448.0	1353.3	4448.2	1383.3
GR	4448.1	1450.5	4448.2	1473.3	4448.2	1492.8	4448.0	1530.2	4449.0	1605.1
GR	4448.0	1616.2	4449.0	1626.1	4449.0	1634.8	4448.4	1902.7	4448.5	1957.5
GR	4448.6	2013.4	4448.6	2070.1	4448.0	2101.4	4447.9	2123.0	4448.0	2155.8
GR	4448.0	2187.6	4448.0	2197.9	4448.2	2198.0	4448.4	2241.8	4446.0	2260.3
GR	4446.0	2278.4	4448.2	2301.8	4447.9	2457.1	4447.9	2568.7	4448.0	2815.0
GR	4446.5	2820.0	4447.0	2822.0	4448.0	2823.0	4448.5	2832.0	4448.0	2841.0
GR	4447.5	3180.0	4448.0	3477.0	4448.2	3483.0	4448.0	3487.0	4447.9	3504.0
GR	4448.0	3542.0	4448.2	3546.0	4448.0	3549.0	4447.8	3552.0	4448.0	3556.0
GR	4448.0	3568.0	4449.0	3622.0	4448.0	3625.0	4452.0	3830.0	4452.2	3870.0

**********CROSS SECTION 271.3**********

ET		9.1							2416.5	3333.0
QT	1	1825								
X1	271.3	63	2515.9	2538.3	210	200	210			
GR	4451.0	1238.9	4451.0	1251.0	4446.0	1263.3	4446.0	1266.9	4449.0	1286.7
GR	4449.5	1462.0	4449.6	1464.0	4449.5	1471.8	4449.3	1507.5	4449.0	1645.1
GR	4448.0	1647.2	4448.6	1654.3	4449.0	1655.2	4449.8	1692.5	4450.0	1705.8
GR	4450.2	1736.5	4450.6	1791.6	4450.9	1823.1	4451.0	1829.4	4450.5	1860.6
GR	4450.4	1868.6	4450.2	1907.8	4450.0	1944.1	4449.9	1955.0	4449.8	1988.2
GR	4449.6	2187.9	4449.8	2238.0	4450.0	2294.6	4450.0	2416.5	4449.9	2417.5
GR	4449.0	2453.1	4448.2	2511.8	4448.0	2515.9	4447.0	2524.5	4447.0	2536.5
GR	4448.0	2538.3	4448.1	2538.6	4449.0	2540.4	4449.0	2680.7	4449.1	2697.8
GR	4449.1	2720.1	4449.0	2723.2	4449.1	2732.4	4448.9	2843.4	4448.8	2987.9
GR	4448.2	3246.0	4447.5	3250.0	4448.0	3254.0	4449.0	3265.0	4448.8	3270.0
GR	4449.0	3281.0	4448.8	3300.0	4449.0	3315.0	4449.4	3333.0	4449.0	3348.0
GR	4448.6	3450.0	4448.9	3520.0	4449.0	3675.0	4451.9	4020.0	4451.0	4100.0
GR	4452.0	4150.0	4456.0	4300.0	4456.2	4310.0				

**********CROSS SECTION 273.9**********

ET		9.1								2313.8	3005.9
QT	1	2000									
X1	273.9	53	2929.0	2985.0	210	220	260				
GR	4451.3	1198.5	4451.0	1203.4	4451.0	1216.3	4447.0	1228.1	4447.0	1240.5	
GR	4449.0	1249.6	4450.0	1303.5	4450.4	1370.5	4450.2	1395.8	4450.3	1425.7	
GR	4450.4	1442.8	4451.0	1592.7	4450.0	1598.5	4450.0	1605.7	4451.0	1608.5	
GR	4451.0	1621.6	4450.7	1625.9	4450.7	1632.2	4450.2	1650.0	4450.2	1672.7	
GR	4450.5	1695.4	4450.7	1725.4	4450.9	1778.6	4450.9	1823.1	4451.0	1841.1	
GR	4450.8	1958.4	4450.0	1964.5	4450.0	1968.6	4450.2	1981.7	4450.6	1986.4	
GR	4450.7	2009.8	4451.4	2093.4	4451.8	2128.4	4452.3	2313.8	4451.0	2785.3	
GR	4450.9	2792.7	4450.8	2805.8	4450.0	2929.0	4448.0	2962.3	4447.0	2963.6	
GR	4447.0	2972.8	4451.0	2985.0	4451.4	3005.9	4451.2	3016.4	4451.1	3025.2	
GR	4451.0	3027.7	4450.3	3174.6	4450.3	3631.0	4450.9	3690.5	4450.5	3714.6	
GR	4450.0	3800.8	4452.0	4235.0	4453.0	4450.0					

**********CROSS SECTION 278.1**********

ET		9.1								2739.3	3238.9
QT	1	2000									
NH	4	0.08	1803.2	.05	2914.3	.035	3116.5	.045	3683.6		
X1	278.1	62	2914.3	3116.5	300	310	420				
GR	4452.5	1178.8	4450.0	1213.0	4450.5	1231.4	4450.6	1268.8	4450.8	1297.0	
GR	4452.0	1360.7	4450.5	1370.3	4451.0	1519.2	4451.1	1530.0	4452.9	1764.6	
GR	4452.0	1803.2	4452.1	2013.5	4452.3	2071.9	4452.0	2119.0	4453.0	2294.8	
GR	4453.0	2349.6	4454.0	2485.5	4454.0	2570.3	4456.0	2579.3	4454.0	2598.0	
GR	4454.0	2721.2	4456.3	2739.3	4453.0	2771.5	4452.9	2793.3	4452.8	2855.8	
GR	4452.8	2861.0	4453.0	2914.3	4452.1	2917.3	4451.0	2993.8	4449.0	2995.9	
GR	4449.0	2999.2	4449.0	3007.2	4452.7	3085.8	4452.8	3093.3	4452.7	3095.3	
GR	4452.8	3099.7	4452.9	3105.7	4453.0	3116.5	4456.1	3238.9	4455.3	3298.0	
GR	4455.5	3390.0	4454.0	3536.9	4454.0	3539.3	4454.4	3541.4	4454.5	3542.1	
GR	4454.6	3542.5	4455.0	3544.2	4455.0	3553.2	4455.0	3553.7	4454.4	3557.2	
GR	4454.2	3558.1	4454.0	3559.3	4453.8	3560.6	4453.6	3561.6	4453.0	3565.1	
GR	4453.0	3593.5	4455.4	3605.8	4455.2	3607.6	4455.1	3608.5	4455.0	3609.9	
GR	4454.5	3613.1	4454.1	3683.6							

**********CROSS SECTION 282.5**********

ET		9.1								2920.9	3748.6
X1	282.5	42	3085.4	3209.2	430	520	440				
GR	4455.5	538.7	4456.0	588.7	4457.0	845.0	4456.0	936.0	4455.0	1000.0	
GR	4455.4	1100.0	4455.0	1180.0	4454.8	1190.0	4455.0	1200.0	4455.0	1670.0	
GR	4454.6	1685.0	4455.0	1705.0	4456.0	1850.0	4456.0	1900.0	4456.0	1945.8	
GR	4455.0	1947.1	4455.0	1983.8	4455.2	1989.8	4455.2	2006.0	4455.0	2014.3	
GR	4455.8	2023.0	4455.8	2187.3	4455.9	2198.4	4456.0	2200.0	4455.7	2554.1	
GR	4456.7	2920.9	4456.6	3009.3	4456.2	3053.1	4455.8	3085.4	4454.7	3127.9	
GR	4453.3	3149.5	4452.0	3161.6	4452.0	3183.7	4456.0	3209.2	4457.5	3384.2	
GR	4458.0	3402.5	4458.0	3425.0	4457.0	3431.5	4456.9	3451.6	4456.8	3459.3	
GR	4457.7	3575.2	4458.3	3748.6							

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+ END OF NEW CROSS SECTION DATA +
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NC	.050	.050	.042	.3	.5					
ET		9.1							2450	3600
X1	286.0	16	2725	2790	620	400	400			
GR	4464	1000	4460	1150	4460	1400	4459	1600	4460	1850
GR	4459.5	2000	4460	2100	4461	2450	4460	2550	4460	2725
GR	4453	2735	4453	2755	4460	2790	4460	3200	4462	3400
GR	4464	3600								
NC	.045	.045	.045	.4	.8					
ET		9.1							2050	2750
X1	288.5	23	2414	2450	220	180	250			
GR	4468	1000	4464	1030	4462	1150	4461.8	1260	4462	1400
GR	4462.7	1500	4462.7	1660	4462.0	1700	4462.0	1900	4462.7	1940
GR	4462.7	2000	4461.7	2020	4462.0	2022	4463.6	2030	4463.6	2050
GR	4461.8	2150	4462.0	2400	4453.6	2414	4453.6	2450	4462.0	2465
GR	4462	2520	4462.5	2600	4464	2750				

Virginia St. - Box to an arch

NC	.050	.045	.025							
ET		9.11							920	1240
SB	1.1	2.04	2.8	0	36	9.3	190	0	4455.0	4453.6
X1	291.6	10	940	976	420	290	310			
X2			1	4462	4465.2			2		
BT	-7	610	4464.2		700	4464.5		828	4464.9	
BT		940	4465.3		976	4465.6		1140	4466.3	
BT		1240	4466.4							
GR	4468.0	100	4464	310	4464.8	820	4464.5	920	4455	940.
GR	4455	976	4462	997	4464.3	1035	4465	1155	4466.4	1240
NC	.04	.04	.035	.1	.3					
QT	1	4000								
ET		9.1							1000	1351.6
X1	296.4	14	1260	1305	510	400	480			
GR	4473.5	1000	4468.6	1055	4465.5	1200	4464	1260	4462.5	1262
GR	4462.8	1280	4464.9	1305	4464.6	1330	4463.4	1335	4466.2	1350
GR	4472	1351	4472	1351.5	4465.2	1351.6	4468	1620		
NC	.04	.045	.035							
QT	1	3900								
ET		9.1							1	320
X1	300.4	14	71.9	173.2	380	400	400			
GR	4479.8	0.0	4473.6	23.1	4472.9	71.9	4473.2	92.8	4463.6	116.9
GR	4464.0	159.7	4470.9	173.2	4470.8	211.1	4472.8	254.6	4472.8	326.5
GR	4470.2	341.9	4476.0	376.0	4475.0	550.0	4476.0	700.0		

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1
0

CCHV= .100 CEHV= .300
*SECNO 217.700

3470 ENCROACHMENT STATIONS= 1564.8 1670.4 TYPE= 1 TARGET= 105.600

217.700	10.39	4425.09	.00	.00	4425.54	.45	.00	.00	4426.00
3850.0	.0	3850.0	.0	.0	715.6	.0	.0	.0	100000.00
.00	.00	5.38	.00	.000	.033	.000	.000	4414.70	1567.49
.001108	0.	0.	0.	0	0	0	.00	102.27	1669.76

*SECNO 225.700

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .47

3470 ENCROACHMENT STATIONS= 623.1 723.3 TYPE= 1 TARGET= 100.200

225.700	7.23	4426.03	.00	.00	4427.47	1.43	1.63	.29	4427.90
3850.0	.0	3850.0	.0	.0	400.9	.0	10.3	1.7	100000.00
.02	.00	9.60	.00	.000	.030	.000	.000	4418.80	630.26
.004935	800.	800.	800.	2	0	0	.00	85.74	716.00

*SECNO 234.100

3470 ENCROACHMENT STATIONS= 822.8 922.1 TYPE= 1 TARGET= 99.300

234.100	7.29	4429.99	.00	.00	4431.35	1.37	3.88	.01	4431.90
3850.0	.0	3850.0	.0	.0	410.4	.0	18.1	3.3	100000.00
.05	.00	9.38	.00	.000	.030	.000	.000	4422.70	827.82
.004331	840.	840.	840.	3	0	0	.00	82.05	909.87

CCHV= .100 CEHV= .300
*SECNO 240.800

3470 ENCROACHMENT STATIONS= 553.0 655.8 TYPE= 1 TARGET= 102.800

240.800	6.88	4433.38	.00	.00	4434.74	1.36	3.38	.00	4436.20
3850.0	.0	3850.0	.0	.0	411.4	.0	24.4	4.6	100000.00
.07	.00	9.36	.00	.000	.035	.000	.000	4426.50	561.25
.005970	670.	670.	670.	2	0	0	.00	83.53	644.77

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= .100 CEHV= .300
*SECNO 253.200

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 817.4 917.8 TYPE= 1 TARGET= 100.400

253.200	6.55	4439.85	.00	.00	4440.55	.70	5.75	.07	4443.10
2575.0	.0	2575.0	.0	.0	383.2	.0	35.7	7.0	100000.00
.12	.00	6.72	.00	.000	.035	.000	.000	4433.30	828.22
.003343	450.	1240.	1240.	3	0	0	.00	82.76	910.98

*SECNO 258.200

3470 ENCROACHMENT STATIONS= 1186.1 1298.6 TYPE= 1 TARGET= 112.500

258.200	5.61	4441.61	.00	.00	4442.22	.61	1.66	.01	4445.20
2075.0	.0	2075.0	.0	.0	330.3	.0	39.8	7.9	100000.00
.14	.00	6.28	.00	.000	.035	.000	.000	4436.00	1208.55
.003291	1000.	500.	1750.	3	0	0	.00	78.20	1286.75

*SECNO 262.400

3470 ENCROACHMENT STATIONS= 1831.7 2400.0 TYPE= 1 TARGET= 568.300

262.400	5.11	4443.11	.00	.00	4443.77	.66	1.54	.01	4446.00
2000.0	.0	2000.0	.0	.0	306.6	.0	42.9	8.7	4445.00
.16	.00	6.52	.00	.000	.035	.000	.000	4438.00	1844.31
.004108	300.	420.	430.	2	0	0	.00	81.36	1925.68

*SECNO 267.100

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1257.2 1891.6 TYPE= 1 TARGET= 634.400

267.100	3.22	4447.72	4447.72	.00	4447.91	.20	1.86	.05	4447.10
650.0	375.1	269.7	5.2	244.3	51.8	3.5	45.5	10.9	4447.00
.20	1.54	5.21	1.48	.050	.035	.045	.000	4444.50	1262.88
.006543	260.	470.	180.	20	17	0	.00	577.65	1890.05

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 269.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.02

3470 ENCROACHMENT STATIONS= 1634.8 2832.0 TYPE= 1 TARGET= 1197.200

269.200	2.78	4448.78	.00	.00	4448.92	.14	1.00	.01	4448.40
1650.0	240.1	542.1	867.9	189.4	119.1	435.7	47.9	14.6	4448.20
.22	1.27	4.55	1.99	.050	.035	.045	.000	4446.00	1731.37
.004635	190.	210.	190.	3	0	0	.00	1100.63	2832.00

*SECNO 271.300

3470 ENCROACHMENT STATIONS= 2416.5 3333.0 TYPE= 1 TARGET= 916.500

271.300	3.68	4449.68	.00	.00	4449.79	.10	.86	.00	4448.00
1825.0	149.6	262.7	1412.6	79.4	54.9	708.3	51.5	19.3	4448.00
.24	1.88	4.78	1.99	.050	.035	.045	.000	4446.00	2426.04
.003912	210.	210.	200.	1	0	0	.00	906.96	3333.00

*SECNO 273.900
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 2313.8 3005.9 TYPE= 1 TARGET= 692.100

273.900	4.76	4451.76	4451.76	.00	4452.34	.58	1.20	.14	4450.00
2000.0	681.5	1297.0	21.5	290.3	174.9	11.7	54.9	22.8	4451.00
.25	2.35	7.41	1.84	.050	.035	.045	.000	4447.00	2509.52
.006844	210.	260.	220.	20	11	0	.00	496.38	3005.90

1490 NH CARD USED
*SECNO 278.100

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.65

3470 ENCROACHMENT STATIONS= 2739.3 3238.9 TYPE= 1 TARGET= 499.600

278.100	4.71	4453.71	.00	.00	4453.92	.21	1.54	.04	4453.00
2000.0	159.9	1831.6	8.5	121.8	482.7	10.2	59.6	26.2	4453.00
.28	1.31	3.79	.84	.050	.035	.045	.000	4449.00	2764.50
.002520	300.	420.	310.	2	0	0	.00	380.32	3144.82

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 282.500

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 2920.9 3748.6 TYPE= 1 TARGET= 827.700

282.500	3.91	4455.91	4455.91	.00	4456.95	1.04	2.55	.25	4455.80
2000.0	.5	1999.5	.0	.5	244.0	.0	63.9	28.8	4456.00
.30	.98	8.19	.00	.035	.045	.000	.000	4452.00	3076.42
.024873	430.	440.	520.	3	8	0	.00	132.21	3208.63

CCHV= .300 CEHV= .500
*SECNO 286.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.29

3470 ENCROACHMENT STATIONS= 2450.0 3600.0 TYPE= 1 TARGET= 1150.000

286.000	7.07	4460.07	4458.11	.00	4460.74	.67	3.67	.11	4460.00
2000.0	4.0	1986.7	9.3	11.9	301.8	27.7	66.7	32.9	4460.00
.31	.33	6.58	.34	.050	.042	.050	.000	4453.00	2543.31
.004734	620.	400.	400.	9	11	0	.00	663.38	3206.69

CCHV= .400 CEHV= .800
*SECNO 288.500

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.41

3470 ENCROACHMENT STATIONS= 2050.0 2750.0 TYPE= 1 TARGET= 700.000

288.500	7.48	4461.08	.00	.00	4461.60	.52	.80	.06	4453.60
2000.0	163.4	1659.5	177.1	46.6	269.3	50.0	68.6	34.6	4453.60
.33	3.50	6.16	3.54	.045	.045	.045	.000	4453.60	2401.53
.002380	220.	250.	180.	2	0	0	.00	61.83	2463.36

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS 4456.67 , NOT 4461.08 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.10	2.04	2.80	.00	36.00	9.30	190.00	.00	4455.00	4453.60

*SECNO 291.600
BTCARD, BRIDGE STENCL= 920.00 STENCR= 1240.00

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.66

PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
4464.59	4463.81	.00	0.	2000.	190.	187.	4462.00	4465.20	0.

3470 ENCROACHMENT STATIONS= 920.0 1240.0 TYPE= 1 TARGET= 320.000

291.600	9.29	4464.29	.00	.00	4464.59	.30	2.99	.00	4455.00
2000.0	128.9	1613.0	258.1	90.8	334.3	164.7	72.1	35.2	4455.00
.35	1.42	4.82	1.57	.050	.025	.045	.000	4455.00	920.45
.000337	420.	310.	290.	2	0	0	.00	114.34	1034.79

CCHV= .100 CEHV= .300
*SECNO 296.400

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1000.0 1351.6 TYPE= 1 TARGET= 351.600

296.400	4.78	4467.28	4467.28	.00	4468.42	1.14	.77	.25	4464.00
4000.0	1307.0	1870.3	822.7	225.2	176.9	116.8	78.1	37.1	4464.90
.36	5.80	10.57	7.05	.040	.035	.040	.000	4462.50	1116.96
.010160	510.	480.	400.	20	11	0	.00	233.26	1351.60

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 300.400

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 1.0 320.0 TYPE= 1 TARGET= 319.000

300.400	6.66	4470.26	.00	.00	4471.98	1.72	3.39	.17	4472.90
3900.0	.0	3900.0	.0	.0	370.2	.0	82.1	38.5	4470.90
.37	.00	10.54	.00	.000	.035	.000	.000	4463.60	100.19
.007266	380.	400.	400.	2	0	0	.00	71.75	171.94

THIS RUN EXECUTED 28JUL94 13:22:00

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

BLUE

SUMMARY PRINTOUT

	SECNO	STENCL	Q	CWSEL	STENCR	QLOB	QCH	ELMIN
	217.700	1564.80	3850.00	4425.09	1670.40	.00	3850.00	4414.70
*	225.700	623.10	3850.00	4426.03	723.30	.00	3850.00	4418.80
	234.100	822.80	3850.00	4429.99	922.10	.00	3850.00	4422.70
	240.800	553.00	3850.00	4433.38	655.80	.00	3850.00	4426.50
	253.200	817.40	2575.00	4439.85	917.80	.00	2575.00	4433.30
	258.200	1186.10	2075.00	4441.61	1298.60	.00	2075.00	4436.00
	262.400	1831.70	2000.00	4443.11	2400.00	.00	2000.00	4438.00
*	267.100	1257.20	650.00	4447.72	1891.60	375.12	269.71	4444.50
*	269.200	1634.80	1650.00	4448.78	2832.00	240.08	542.06	4446.00
	271.300	2416.50	1825.00	4449.68	3333.00	149.61	262.75	4446.00
*	273.900	2313.80	2000.00	4451.76	3005.90	681.52	1296.98	4447.00
*	278.100	2739.30	2000.00	4453.71	3238.90	159.92	1831.58	4449.00
*	282.500	2920.90	2000.00	4455.91	3748.60	.49	1999.51	4452.00
*	286.000	2450.00	2000.00	4460.07	3600.00	3.99	1986.72	4453.00
*	288.500	2050.00	2000.00	4461.08	2750.00	163.40	1659.50	4453.60
*	291.600	920.00	2000.00	4464.29	1240.00	128.92	1613.02	4455.00
*	296.400	1000.00	4000.00	4467.28	1351.60	1306.96	1870.31	4462.50

SECNO	STENCL	Q	CWSEL	STENCR	QLOB	QCH	ELMIN
300.400	1.00	3900.00	4470.26	320.00	.00	3900.00	4463.60

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO=	225.700	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	267.100	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	267.100	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	267.100	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	269.200	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	273.900	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	273.900	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	273.900	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	278.100	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	282.500	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	282.500	PROFILE=	1	MINIMUM SPECIFIC ENERGY
WARNING SECNO=	286.000	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	288.500	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	291.600	PROFILE=	1	HYDRAULIC JUMP D.S.
WARNING SECNO=	291.600	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	296.400	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	296.400	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	296.400	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL

Appendix F

Survey Data
Dry Creek East Bank Profile
Summit Engineers (July 1994)

Dry Creek East Bank Profile
Survey Data by Summit Engineers
July 27, 1994

501	720421.47	64270.64	4447.52	PILE
502	721869.14	65538.57	0.00	STMON
503	723011.46	65834.87	4427.97	B
504	722651.86	66015.89	0.00	STMON
507	717945.14	63806.60	0.00	STMON
508	717990.54	63747.25	4450.88	FFC
509	718193.85	63768.55	4449.14	FFC
510	718457.44	63789.82	4445.88	FFC
511	718670.97	63801.01	4445.85	NG
512	718879.76	63802.54	4445.17	NG
513	719064.24	63803.44	4445.60	GB @ DITCH
514	719071.57	63803.62	4442.21	FL&CL
515	719078.15	63803.35	4445.44	TOP DITCH
516	719095.88	63855.84	4445.17	NG
517	719314.72	63868.41	4443.34	NG
518	719521.06	63875.81	4443.40	NG
519	719627.12	63880.28	4442.71	NG
520	719836.87	63886.24	4441.93	NG
521	720048.07	63892.63	4440.86	NG
522	720254.48	63899.60	4440.33	NG
523	720461.59	63905.56	4438.85	NG
524	720623.49	63921.48	4438.52	<DITCH
525	720650.35	64123.39	4437.07	NG
526	720662.36	64388.77	4435.95	NG<
527	720829.17	64507.50	4434.86	NG
528	721008.88	64616.78	4434.07	NG
529	721192.93	64730.77	4433.14	NG
530	721374.19	64839.86	4432.75	NG
531	721499.48	64913.87	4431.34	DITCH
532	721504.21	64914.75	4431.66	FL&CL
533	721507.95	64921.71	4432.38	NG
534	721606.52	64980.07	4431.21	NG
535	721788.76	65091.82	4429.30	NG
536	721788.83	65091.99	4429.17	NG
537	721947.97	65188.44	4428.49	SO.TOP
538	721954.90	65194.55	4422.24	FL
539	721962.22	65198.71	4428.39	NO.TOP
540	722139.06	65305.52	4427.85	NG
541	722316.98	65414.08	4426.98	NG
542	722371.18	65447.56	4429.18	FFC
543	722546.96	65555.03	4427.47	FFC
544	722717.65	65659.02	4425.33	FFC
545	722844.03	65736.03	4425.97	FFC@WALL
546	722860.74	65745.86	4426.91	TOP.WALL
547	722881.75	65758.57	4427.37	TOP.WALL
548	722887.36	65762.08	4427.84	TOP.WALL
549	722902.41	65766.00	4426.21	GND
550	722923.04	65776.35	4418.23	CL&FL
551	722944.46	65788.68	4427.69	NO.TOP.DITCH
552	723122.65	65897.04	4427.78	NG
553	723335.52	66026.52	4424.25	NG
554	723354.00	66029.14	4422.71	DITCH
555	723364.96	65936.58	4423.94	BM

SUMMIT ENGINEERING CORPORATION™

August 5, 1994

Mr. Mark Forest
Kennedy/Jenks Consultants
5190 Neil Road, Suite 300
Reno, Nevada 89502

Dear Mr. Forest:

The purpose of this letter is to inform you of the Basis of Elevations used for the profile survey of the East Bank of Dry creek within the boundary of the project known as Park 2001 performed by SUMMIT Engineering on July 27, 1994. The elevations for the profile are referanced to the City of Reno Vertical datum by taking a reading on Bench Mark No. 1486 located at the intersection of Tyrone and Riggins Streets. The elevation for the Bench Mark was taken to be 4434.96 feet above sea level.

If you have any questions please call.

Sincerely,

SUMMIT ENGINEERING CORPORATION

Don M. McHarg, P.L.S.
Executive Vice President

DMM:lw

Enclosures

L:\WPDATA\DMM\KJC

5405 Mae Anne Avenue • Reno, Nevada 89523 • (702) 747-8550 FAX (702) 747-8559
3684 S. Highland Drive • Las Vegas, Nevada 89103 • (702) 252-3236 FAX (702) 252-3247
607 South Fifth Street • Elko, Nevada 89801 • (702) 738-8058 FAX (702) 738-8267

City of Reno

Inter-Office Memo

Date: September 7, 1995

To: Bob Gottsacker, Principal Engineer

From: Glen Daily, Associate Civil Engineer

Via: Steve Varela, City Engineer/Maintenance Director

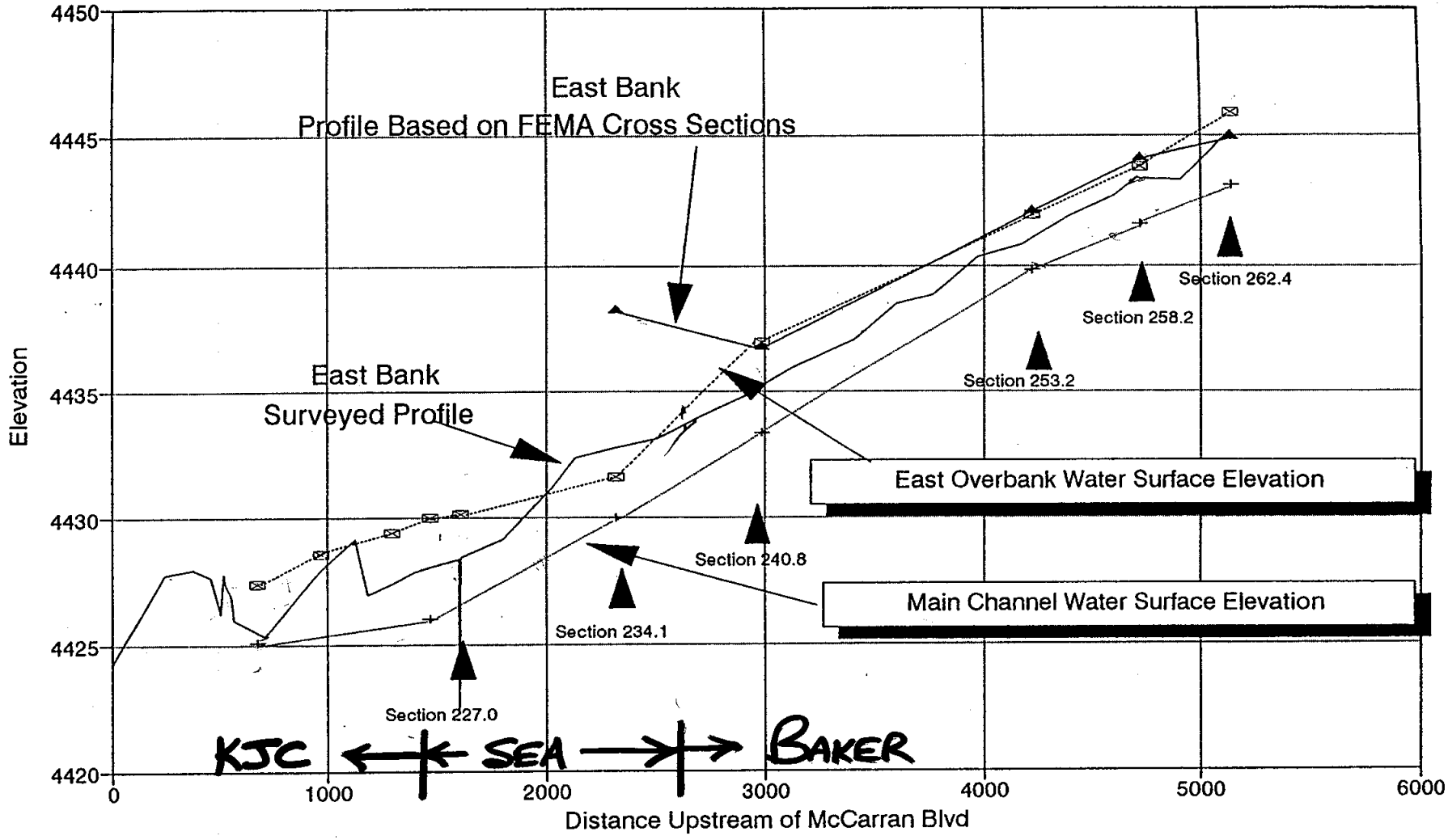
Re: **Dry Creek Floodplain Analysis**

Per your request I have reviewed the Dry Creek Floodplain Analysis performed by SEA, Inc., and Kennedy/Jenks Consultants for the section upstream of the McCarran Boulevard crossing, adjacent to the Warehouse and Distribution Facility being proposed by the Kristal Corporation. The issue at hand is differences in the computed water surface elevations for existing and proposed conditions resulting from the HEC-2 modeling from the respective studies.

Both the SEA and the KJC studies utilized information developed from a prior study performed by Baker Engineers on behalf of Lands Of Sierra, which extended from approximately the South Virginia crossing to a point just upstream of the Kristal Corporation site. The SEA study added an additional three analysis sections immediately adjacent to the Kristal Corporation site. The KJC study added an additional five analysis sections below that of SEA, extending the study section to the McCarran Boulevard crossing. The KJC study incorporated some modification to the SEA analysis sections based upon updated topo, and roughness coefficients appear in some cases to be more conservative in the KJC study to account for flood conditions.

Though the above differences in periodic elevation values and roughness coefficients between the models will result in salient output differences, it appears the water surface elevation differences are primarily due to a reduced energy grade slope in the KJC study to account for a shallower slope near McCarran (0.003 in the KJC study vs. 0.0043 in the SEA) from the job card identifying starting conditions. A reduced energy grade slope will result in decreased velocity resulting from a shallower slope and flow restrictions at the McCarran crossing, which will in turn raise the water surface elevation profile.

The KJC study appears to be a more comprehensive analysis of the Dry Creek section starting at the upstream side of the McCarran Crossing and incorporating reasonable assumptions, and should therefore be used as the basis for finished floor elevation requirements for development in the area.



Kennedy/Jenks Consultants

City of Reno, Nevada
Dry Creek Floodplain Analysis

East Bank Profile of Dry Creek

K/J 947038.00
January 1995

Figure 3-2

CITY OF RENO
Inter-Office Memo

8 March 1995

TO: Steve Varela, City Engineer

FROM: Robert M. Gottsacker, P.E., Senior Civil Engineer

SUBJECT: Dry Creek Study by KJC for Park 2001

==========

Attached for your review and approval is a new study for the portion of Dry Creek which was most recently reclassified as an undefined Zone A by Baker Associates and adopted into our Flood Ordinance. The purpose of the study was to set floor slab elevations for that portion of the flood plain within Park 2001. As you remember, SEA performed a similar study to set the slabs for two buildings, Reed Electric and Krystal Corporation, which were in process a couple of months ago. Bill Vann has the SEA Report, I do not, only the table of elevations. Enclosed are the elevations which you approved at that time for comparison purposes. It appears that the KJC study is more conservative by about a foot. In addition to the study I required submission of the data disk and that is taped inside the enclosed report.

This discrepancy needs to be resolved and the water surface elevations chosen from one study or the other. This study is of a scale and type that is not possible to review in new development so I am requesting your assistance for this review and approval of a set of elevations so we can appropriately set floor slabs. We have one building permit pending but I think there are more immanent.

If I can be of any assistance please give me a call at 2028.

Bill: Glenn Dailey reviewed the previous SEA report. This was done for another developer with different results. Please have Glenn review the assumptions and calculations of both reports and provide recommendation for changes in assumptions, calcs or which report is best analysis. Thanks

Since this is tied to pending Bldg. permits lets try to do within next 2wks. Let me know if this will be a problem.