HYDRAULIC REPORT

ELGIN O'HARE – WEST BYPASS
P-91-443-06

INTERSTATE 294 OVER ADDISON CREEK
ISTHA STRUCTURE #T 7-9

Prepared For:

Illinois Department of Transportation
201 West Center Court
Schaumburg, IL 60196-1096

Prepared By:

Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600
Rosemont, IL 60018

CBBEL Project No. 07-0404

October 2012

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INTERSTATE 294 OVER ADDISON CREEK

Illinois Department of Transportation

HYDRAULIC REPORT OUTLINE (HRO)

In order to facilitate a more efficient and timely approval of Hydraulic Reports, a "Hydraulic Report Outline" shall be prepared and submitted with each hydraulic project. This Outline shall be submitted to the District Hydraulic Engineer along with the Hydraulic Report to aid in review of the report.

If any deviations from the procedural steps below are necessary, they must be documented in the outline. Hydraulic Reports prepared by a Qualified District Hydraulic Engineer or under his supervision, are exempt from the HRO requirement. To facilitate Pump Station Hydraulic Report reviews, the Checklist and Data Sheets from the IDOT Drainage Manual, 13-303 and 13-304, will be used. The Data Sheets must be signed by the consultant's QA/QC person or the District Hydraulic Engineer.

1. SN ___-____ (Existing); SN ___-____ (Proposed)
   Route/Stream: I-294 over Addison Creek
   County: Cook

2. Prepared By: ☒ Consultant: Christopher B. Burke Engr., Ltd.
   ☐ District ____

3. Chapter 2 of the IDOT Drainage ☒ Yes ☐ No
   If no, explain _____
   Completed checklist (2-701.02) must be attached.

4. Design Considerations:
   a. Backwater limitations due to:
      IDNR Individual or Floodway Permit ☒ Yes ☐ No
      Sensitive Flood Receptor(s) ☐ Yes ☒ No
   b. Does proposed average design velocity through the structure exceed natural channel velocities? ☒ Yes ☐ No (V_{Q100} = 2.2 fps vs. 3.3 fps)
   c. Is the clearance policy met? ☒ Yes ☐ No
   d. Is the freeboard policy met? ☒ Yes ☐ No

5. Project scope (check all that apply):
   a. ☐ Complete replacement.
   b. ☐ Superstructure replacement.
   c. ☐ Superstructure replacement and/or widening; Length of pier extension in the water, upstream ____, downstream ____
   d. ☐ Bridge ☒ Culvert
   e. ☐ New alignment
   f. Work planned below Q100 HWE: ☒ Yes ☐ No

6. Hydrology: ☐ USGS ☒ FIS ☐ Other _____
   Gage data utilized? ☐ Yes ☒ No

7. WIT: Attached copy of all completed WIT(s) ☒ Yes ☐ No _____

8. Modeling:
   a. ☐ HEC RAS ☐ WSPRO ☒ Other HEC-2
   b. N-values estimated according to Chapter 5 of Drainage Manual? ☒ Yes ☐ No
   c. Source of starting WSE FIS Flood Elevations
   d. Non-IDOT encroachments in survey? ☒ Yes ☐ No
      If yes, are they accounted for? ☒ Yes ☐ No
   e. Tail water controls(s)? ☐ Yes ☒ No
      If yes, list: _____
      Properly addressed? ☐ Yes ☐ No
   f. Expansion/Contraction cones addressed per Chapter 7 of Drainage Manual? ☒ Yes ☐ No
      If N/A, explain: _____

9. IDNR-OWR Permit: Drainage Area 6.0 sq. ☐ Rural; ☒ Urbanizing;
   Public Water or within Public Water boundaries ☐ Yes ☒ No
   Indicate Permit Type Required:
   a. Individual ☐
   b. Statewide #2 ☐
   c. Statewide #12 ☐
   d. Floodway ☒
   e. Other: _____
   f. None: ☐

10. Sensitive flood receptors ☐ Yes ☒ No
    Give type, elevations and locations: _____

    History of flooding or overtopping problems: Yes ☐ No ☒
    Sources of observed highwater: _____

11. Scour/migration problems: ☒ None/minimal ☐ Significant ☐ Severe
    Comments: _____

    Ice/Debris concerns: None/minimal ☒ Significant ☐ Severe ☐
    Comments: _____

    Countermeasures proposed: _____

12. Deviations from the general procedures presented above and in Chapters 6 and 7 of the Drainage Manual: _____
    (Attach supporting documents if necessary)

Prepared by: Emily T. Anderson Date: 05-23-2012

Signed: (QA/QC) _____ Date: 5/24/2012

Hydraulic Report Checklist

The District or Consultant should complete the following checklist before submitting the Hydraulic Report for approval.

1. ☒ Title Page
2. ☒ Table of Contents
3. ☒ Narrative - (as outlined in Section 2-601.01 Item #3)
4. ☒ Waterway Information Table (WIT) - (as outlined in Section 2-601.01 Item #4)
5. ☒ Hydraulic Report Data Sheets
6. ☒ Location Map - should show the subject structure along with nearby location defining landmarks (cities, roads, highways, etc.)
7. ☒ USGS Hydraulic Investigation Map (District 1 only)
8. ☒ Photographs - (Minimum: U/S & D/S Structure Faces, Up & Down Channel, Up & Down Roadway Across Structure)
9. ☐ Hydrology (map and calculations)
10. ☒ Streambed Profile
11. ☒ Roadway Profile (existing and proposed)
12. ☒ Cross Section Plots - with plan layout preferably overlayed upon an aerial photo with the contours
13. ☒ Bridge Opening Plots
14. ☒ Natural Condition Analysis
15. ☒ Existing Condition Analysis
16. ☒ Proposed Condition Analysis

When HEC-RAS modeling is being used, ALL Plans (Natural, Existing, & Proposed) shall be included in ONE Project File.

17. ☐ Scour Analysis – Existing and Proposed Conditions
18. ☒ Compensatory Storage Calculations (if required)
19. ☒ Survey Notes (if available, No Electronic Point Files)
20. ☒ Correspondence Notes
21. ☒ CD with Project Files (Include pdf copy of the Hydraulic Report)

SECTION 1

NARRATIVE
ELGIN O'HARE EXPRESSWAY OVER ADDISON CREEK

NARRATIVE

Project Description

The Elgin O'Hare-West Bypass (EOWB) study area encompasses nine (9) watersheds: West Branch DuPage River, Spring Brook, Meacham Creek, Salt Creek, Willow Creek, Higgins Creek, Bensenville Ditch, Silver Creek, and Addison Creek. The length of the expressway and interchanges to be improved is approximately 50 miles that includes Elgin O'Hare Expressway and Thorndale Avenue approximately from Gary Avenue to York Road, I-90 approximately from Arlington Heights Road to Wolf Road and I-294 approximately from North Avenue to Wolf Road. It is estimated that approximately 25 miles of arterials and frontage roads also will be included in the study. A general project location map is included in Section 3 of this report.

This hydraulic report is submitted for the impacted structures located within the Addison Creek watershed. Separate hydraulic reports for impacted structures within each of the other watersheds have been prepared concurrently by CBBEL.

This hydraulic report documents the hydraulic conditions for the structure on the Tri-State Tollway (I-294) and Northwest Avenue at Addison Creek in the City of Northlake, Cook County, Illinois. The USGS Hydrologic Investigations Atlas and Flood Insurance Rate Map included in Section 3 indicates the structure location.

Site Description

The Addison Creek crossing at I-294 is composed of two 10 feet (span) by 10 feet (height) reinforced concrete box culverts (RCBCs) and extends from the downstream face of Northwest Avenue to the upstream face of I-294 as one continuous 214 feet long structure. The structure is located under I-294 and Northwest Avenue, west of the Chicago and Northwest Railroad, east of County Line Road, south of Grand Avenue, and north of North Avenue. The adjacent areas are commercial and wetlands. The existing I-294 structure is one of several between the Chicago and Northwest Railroad crossing (located approximately 1,600 feet downstream) and Grand Avenue (located approximately 1,900 feet upstream). Other structures in this reach include County Line Road located 53 feet upstream of I-294, a new industrial access road (circa 2006-2008) to the International Airport Center O'Hare Distribution Center, and two cemetery road crossings (Cemetery Road #1 and further upstream Cemetery Road #2). There is a degraded concrete dam and a steel dam located approximately 58 feet downstream of the Cemetery Road #1 bridge.

Field Observations

A field visit to the project site was made by CBBEL staff on October 5, 2010. The visit was completed to photograph and observe surrounding structures within the modeling limits of the study. Photographs are included in Section 4 of this report.

Addison Creek is highly channelized in the vicinity of I-294. Downstream of the crossing, the channel travels east and northeast toward the Chicago and Northwest Railroad within a commercial and industrial area.

Upstream of the crossing, Addison Creek extends due west from I-294, and crosses under County Line Road through three 72 inch reinforced concrete pipes (RCPs) to a well vegetated area. Just upstream of County Line Road, Addison Creek turns north while the Addison Creek Tributary extends west and southwest. There is significant sedimentation at the channel confluence, and the County Line Road north culvert opening is almost entirely blocked with debris. Addison Creek extends north to a new concrete arch culvert (circa 2006-2008) at an industrial access road that is not included in the regulatory model. Approximately 220 feet upstream and north of the concrete arch, the overbank area narrows, and a degraded concrete dam and what appears to be a steel dam or closure structure span the channel. Structures are shown on the photographs included in Section 4. Several dry days preceded the field visit which exposed a majority of the degraded concrete dam. Elevation head was observed across the steel dam structure with a fall of approximately 0.5 feet, but not over the downstream concrete dam. Cemetery Road #1 is located approximately 58 feet upstream of the dam structures, and approximately 1,000 feet upstream of I-294. Cemetery Road #1 is an arch structure in good repair. There does not appear to be a sediment problem at the bridge. Upstream of the Cemetery Road #1 is a lake. It is likely that the concrete and steel dams were put into place to create the cemetery lake. There are no structures below the base flood elevation (BFE) from I-294 through the cemetery.

Stream Survey

A stream survey of Addison Creek was prepared by D.B. Sterlin Consultants, Inc. on June 8, 2010, in accordance with the stream survey requirements in Section 2-601 of the IDOT Drainage Manual. Ten cross-section locations were surveyed, ranging from 1000 feet downstream to 1000 feet upstream of I-294. Plots of the cross-sections are included in Section 6. Survey notes are included in Section 12. The stream survey was based on the IDOT datum (NAVD 1988).

Datum Correlation

A datum correlation is required between the Flood Insurance Study (FIS) datum of NGVD 1929 was used in the HEC-2 regulatory model and the IDOT datum of

NAVD 1988 was used for the survey. The DuPage County FIS and model results are each based on the NGVD 1929 datum. The Cook County FIS, IDOT datum, the stream survey and all roadway plans included in this report are based on the NAVD 1988 datum. The HEC-2 model results are presented in the NGVD 1929 datum. The report tables, Waterway Information Table, and Hydraulic Report Data Sheets, included in Section 2, are presented in the NAVD 1988 datum.

The vertical datum conversion factor at I-294 was determined to be -0.295 feet, (rounded to -0.3 feet) added to the NGVD 1929 datum in order to equate to the NAVD 1988 elevation datum. The conversion value was calculated using the National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey (NGS) VERTCON online conversion tool. This was confirmed by the Cook County FIS Table 18a – Vertical Datum Conversion Single Conversion Factor (countywide) Method Cook County, included in Section 3.

Historical Flooding Observations

According to the USGS Hydrologic Investigations Atlas HA-68 (1964) Elmhurst Quadrangle, which is included in Section 3, the flood of record for Addison Creek occurred in July 1957. According to Figure 9 of HA-68, included as Exhibit 3 in Section 3, the flood stage at I-294 was approximately at elevation 654.0 feet.

Sensitive Flood Receptors

There are no sensitive low entries upstream of the I-294 structure. There are two structures located upstream of I-294 and County Line Road. Based on DuPage County 2-foot contour topography the lowest structure is more than 3 feet above the 100-year floodplain.

Other Studies and Affected Agencies

County Line Road is the east-west boundary between DuPage County (west, upstream) and Cook County (east, downstream). The DuPage County regulatory 100-year flood profile extends from County Line Road upstream to George Street and the William Redmond Reservoir, according to Sheet 01P of the Flood Insurance Study for DuPage County, Illinois and Incorporated Areas, dated March 2007, included in Section 3 of this report. The DuPage County Flood Profiles are shown in the NGVD 1929 datum.

The Cook County regulatory 100-year flood profile extends upstream to approximately 200 feet upstream of I-294, according to Sheet 21P of the Flood Insurance Study for Cook County, Illinois and Incorporated Areas, dated August 19, 2008. The Cook County Flood Profiles are shown in the NAVD 1988 datum. The 100-year base flood elevation at the upstream face of I-294 is 656.0 feet

(NAVD 1988). The flood profile elevations shown at I-294 for the 10-year, 50-year, and 500-year storm events are 653.1 feet, 654.5 feet and 658.0 feet, respectively. The Cook County Flood Insurance Rate Map (FIRM), Map Number 17031C0366J, dated August 19, 2008, and DuPage County Flood Insurance Rate Map (FIRM), Map Number 17043C0309H, dated December 16, 2004, are included in Section 3 of this report. The FIRM reports a floodplain flood Zone AE designation upstream and downstream of the crossing.

The Cook County and DuPage County Flood Profiles correspond well with the regulatory hydraulic model described later in this report (Flood Insurance Study Information, Section 3).

The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) recently commissioned a Watershed Management Study for the Lower Des Plaines River Watershed. Addison Creek within Cook County was analyzed as part of the study using the hydrologic model, HEC-HMS, and the unsteady state hydraulic model, HEC-RAS. The model was calibrated to the September 2008 storm event, and verified with the October 2006 and June 2010 storm events. A discussion is included in the proposed conditions section of the narrative, and an additional Waterway Information Table is included in Section 2 using the study's models.

Hydraulic Analysis

A hydraulic analysis of Addison Creek was performed to develop the existing conditions and natural conditions flood elevations and to determine the effects, if any, of the proposed structure on water surface profiles. The proposed structure will be lengthened to accommodate road widening for an extra lane of traffic in both directions. Compensatory storage is required if fill is proposed within the Addison Creek floodplain or floodway. The analysis performed for this report includes several hydraulic models, which are summarized in the following sections. The flow rates included in the regulatory model were utilized in this analysis.

Regulatory Model

The basis for the hydraulic analysis was the Addison Creek June 2, 2005 FEMA Effective HEC-2 hydraulic model and support HEC-1 hydrologic model, prepared for the Federal Emergency Management Agency (FEMA) by Camp Dresser & McKee Inc., on behalf of the Illinois Department of Natural Resources (IDNR). The 100-year model results for the water surface elevation (WSEL) match reasonably well to the FIS Flood Profile, as shown in Table 1. The regulatory FEMA Effective HEC-2 hydraulic model (Addfinal.hc2) is included in Section 7.

Table 1
100-year WSEL Comparison of the FIS Flood Profiles to the Regulatory Model

HEC-2 XSEC	Description	FIS Flood Profiles	Regulatory Model	Change in Elevation
		WSEL (NAVD 88) (feet)	WSEL (NAVD 88) (feet)	(feet)
43155	Area of Interest D/S Limit	653.4	653.4	0.0
44630	Tri-State Tollway	654.8	654.8	0.0
44910	County Line Road	656.1	656.1	0.0
45396	Industrial Access Road	657.5	657.6	0.1
45755	Concrete Dam	657.5	657.6	0.1
45815	Cemetery Road #1	657.5	657.6	0.1
46610	Cemetery Road #2	657.5	657.6	0.1

Baseline Model

The regulatory model was truncated approximately 1,480 feet downstream of I-294 at cross-section station 43155, and approximately 1,770 feet upstream of I-294 at cross-section station 46140. The starting water surface elevations at 43155 were set to the regulatory model flood elevation results at that cross-section. Truncating the regulatory model did not change the 10-year, 50-year and 100-year flood elevations within the reach as shown by the Baseline Water Surface Elevation Comparison Tables 2 through 4 below. The Baseline Model (AdTrunc.hc2) is included in Section 8.

Table 2
Baseline 100-Year WSEL Comparison

HEC-2 XSEC	Description	100-Year WSEL		
		Regulatory (NAVD 88) (feet)	Baseline (NAVD 88) (feet)	Difference (feet)
43155		653.4	653.4	0.0
43305		654.4	654.4	0.0
43675		654.6	654.6	0.0
44015		654.6	654.6	0.0
44335		654.8	654.8	0.0
44530		654.8	654.8	0.0
44630	Tri-State Tollway	654.8	654.8	0.0
44830		655.7	655.7	0.0
44870		655.7	655.7	0.0
44910	County Line Road	656.1	656.1	0.0
44970		657.6	657.6	0.0
45025		657.6	657.6	0.0
45345		657.6	657.6	0.0
45650		657.6	657.6	0.0
45750		657.6	657.6	0.0
45755	Concrete Dam	657.6	657.6	0.0
45757		657.6	657.6	0.0
45760		657.6	657.6	0.0
45785		657.6	657.6	0.0
45810		657.6	657.6	0.0
45815	Cemetery Road #1	657.6	657.6	0.0
45835		657.6	657.6	0.0
45840		657.6	657.6	0.0
45870		657.6	657.6	0.0
46140		657.6	657.6	0.0
46290		657.6	657.6	0.0
46540		657.6	657.6	0.0
46610	Cemetery Road #2	657.6	657.6	0.0

Table 3
Baseline 50-Year WSEL Comparison

HEC-2 XSEC	Description	50-Year WSEL		
		Regulatory (NAVD 88) (feet)	Baseline (NAVD 88) (feet)	Difference (feet)
43155		652.8	652.8	0.0
43305		653.7	653.7	0.0
43675		653.9	653.9	0.0
44015		654.0	654.0	0.0
44335		654.1	654.1	0.0
44530		654.2	654.2	0.0
44630	Tri-State Tollway	654.2	654.2	0.0
44830		654.2	654.2	0.0
44870		654.3	654.3	0.0
44910	County Line Road	654.4	654.4	0.0
44970		656.6	656.6	0.0
45025		656.7	656.7	0.0
45345		656.7	656.7	0.0
45650		656.8	656.8	0.0
45750		656.8	656.8	0.0
45755	Concrete Dam	656.8	656.8	0.0
45757		656.8	656.8	0.0
45760		656.8	656.8	0.0
45785		656.8	656.8	0.0
45810		656.8	656.8	0.0
45815	Cemetery Road #1	656.8	656.8	0.0
45835		656.8	656.8	0.0
45840		656.8	656.8	0.0
45870		656.8	656.8	0.0
46140		656.8	656.8	0.0
46290		656.8	656.8	0.0
46540		656.8	656.8	0.0
46610	Cemetery Road #2	656.8	656.8	0.0

Table 4
Baseline 10-Year WSEL Comparison

HEC-2 XSEC	Description	10-Year WSEL		
		Regulatory (NAVD 88) (feet)	Baseline (NAVD 88) (feet)	Difference (feet)
43155		651.5	651.5	0.0
43305		652.1	652.1	0.0
43675		652.4	652.4	0.0
44015		652.5	652.5	0.0
44335		652.7	652.7	0.0
44530		652.8	652.8	0.0
44630	Tri-State Tollway	652.8	652.8	0.0
44830		652.8	652.8	0.0
44870		652.9	652.9	0.0
44910	County Line Road	653.0	653.0	0.0
44970		653.9	653.9	0.0
45025		653.9	653.9	0.0
45345		654.0	654.0	0.0
45650		654.2	654.2	0.0
45750		654.2	654.2	0.0
45755	Concrete Dam	654.2	654.2	0.0
45757		654.2	654.2	0.0
45760		654.2	654.2	0.0
45785		654.2	654.2	0.0
45810		654.2	654.2	0.0
45815	Cemetery Road #1	654.2	654.2	0.0
45835		654.2	654.2	0.0
45840		654.2	654.2	0.0
45870		654.2	654.2	0.0
46140		654.2	654.2	0.0
46290		654.2	654.2	0.0
46540		654.2	654.2	0.0
46610	Cemetery Road #2	654.2	654.2	0.0

Corrected Baseline Model

Several model errors were corrected in the baseline model. These include:

- The I-294 structure length was increased from 200 feet to 214 feet.
- The distance between the upstream face of I-294 and the downstream face of County Line Road was reduced from 80 feet to 52 feet.
- Cross-sections 44830, 44870, 44910, and 44970 were corrected with the survey to remove a 4-foot ground profile drop shown between I-294 and County Line Road, shown on the FIS profiles in Section 3. The June 8, 2010 survey, a prior 2008 survey, and field observations do not support a deeper streambed at this location.
- County Line Road bridge points (BT card) were added to complete the right bank of the bridge.
- Cemetery Road #1 bridge points (BT card) were added to complete the right bank of the bridge.
- The I-294 bridge opening was reduced from 222 square feet to 200 square feet to correctly reflect the 2 – 10 feet x 10 feet reinforced concrete box culverts.
- The Total Loss Coefficient was changed from 4.04 to 1.6 to reflect typical bridge parameters and match the rest of the Addison Creek model culverts. This is equivalent to an orifice coefficient of 0.8 (typical bridge range is 0.7 – 0.9).

Updating the special bridge with the correct opening size and bridge points decreased the 100-year water surface elevation 0.7 feet just upstream of I-294, but did not change the 10-year or 50-year profiles significantly, as shown by the Corrected Baseline Water Surface Elevation Comparison Table 5 through Table 7 below. The Corrected Baseline Model (AdCo.hc2) is included in Section 8.

Table 5
Corrected Baseline 100-Year WSEL Comparison

HEC-2 XSEC	Description	100-year WSEL (NAVD 88)			
		Regulatory	Baseline	Corrected	Difference from Reg.
		(feet)	(feet)	(feet)	(feet)
43155		653.4	653.4	653.4	0.0
43305		654.4	654.4	654.4	0.0
43675		654.6	654.6	654.6	0.0
44015		654.6	654.6	654.6	0.0
44335		654.8	654.8	654.8	0.0
44530		654.8	654.8	654.8	0.0
44630	Tri-State Tollway	654.8	654.8	654.8	0.0
44830		655.7	655.7	655.0	-0.7
44870		655.7	655.7	655.2	-0.5
44910	County Line Road	656.1	656.1	655.2	-0.9
44970		657.6	657.6	657.6	0.0
45025		657.6	657.6	657.6	0.0
45345		657.6	657.6	657.6	0.0
45650		657.6	657.6	657.6	0.0
45750		657.6	657.6	657.6	0.0
45755	Concrete Dam	657.6	657.6	657.6	0.0
45757		657.6	657.6	657.6	0.0
45760		657.6	657.6	657.6	0.0
45785		657.6	657.6	657.6	0.0
45810		657.6	657.6	657.6	0.0
45815	Cemetery Road #1	657.6	657.6	657.6	0.0
45835		657.6	657.6	657.6	0.0
45840		657.6	657.6	657.6	0.0
45870		657.6	657.6	657.6	0.0
46140		657.6	657.6	657.6	0.0
46290		657.6	657.6	657.6	0.0
46540		657.6	657.6	657.6	0.0
46610	Cemetery Road #2	657.6	657.6	657.6	0.0

Table 6
Corrected Baseline 50-Year WSEL Comparison

HEC-2 XSEC	Description	50-year WSEL (NAVD 88)			
		Regulatory (feet)	Baseline (feet)	Corrected (feet)	Difference from Reg. (feet)
43155		652.8	652.8	652.8	0.0
43305		653.7	653.7	653.7	0.0
43675		653.9	653.9	653.9	0.0
44015		654.0	654.0	654.0	0.0
44335		654.1	654.1	654.1	0.0
44530		654.2	654.2	654.2	0.0
44630	Tri-State Tollway	654.2	654.2	654.2	0.0
44830		654.2	654.2	654.2	0.0
44870		654.3	654.3	654.4	0.1
44910	County Line Road	654.4	654.4	654.4	0.0
44970		656.6	656.6	656.5	-0.1
45025		656.7	656.7	656.7	0.0
45345		656.7	656.7	656.7	0.0
45650		656.8	656.8	656.7	-0.1
45750		656.8	656.8	656.7	-0.1
45755	Concrete Dam	656.8	656.8	656.7	-0.1
45757		656.8	656.8	656.7	-0.1
45760		656.8	656.8	656.7	-0.1
45785		656.8	656.8	656.7	-0.1
45810		656.8	656.8	656.7	-0.1
45815	Cemetery Road #1	656.8	656.8	656.7	-0.1
45835		656.8	656.8	656.7	-0.1
45840		656.8	656.8	656.7	-0.1
45870		656.8	656.8	656.7	-0.1
46140		656.8	656.8	656.7	-0.1
46290		656.8	656.8	656.7	-0.1
46540		656.8	656.8	656.7	-0.1
46610	Cemetery Road #2	656.8	656.8	656.7	-0.1

Table 7
Corrected Baseline 10-Year WSEL Comparison

HEC-2 XSEC	Description	10-year WSEL (NAVD 88)			
		Regulatory (feet)	Baseline (feet)	Corrected (feet)	Difference from Reg. (feet)
43155		651.5	651.5	651.5	0.0
43305		652.1	652.1	652.1	0.0
43675		652.4	652.4	652.4	0.0
44015		652.5	652.5	652.5	0.0
44335		652.7	652.7	652.7	0.0
44530		652.8	652.8	652.8	0.0
44630	Tri-State Tollway	652.8	652.8	652.8	0.0
44830		652.8	652.8	652.8	0.0
44870		652.9	652.9	653.0	0.1
44910	County Line Road	653.0	653.0	653.0	0.0
44970		653.9	653.9	653.8	-0.1
45025		653.9	653.9	653.9	0.0
45345		654.0	654.0	654.0	0.0
45650		654.2	654.2	654.1	-0.1
45750		654.2	654.2	654.2	0.0
45755	Concrete Dam	654.2	654.2	654.2	0.0
45757		654.2	654.2	654.2	0.0
45760		654.2	654.2	654.2	0.0
45785		654.2	654.2	654.2	0.0
45810		654.2	654.2	654.2	0.0
45815	Cemetery Road #1	654.2	654.2	654.2	0.0
45835		654.2	654.2	654.2	0.0
45840		654.2	654.2	654.2	0.0
45870		654.2	654.2	654.2	0.0
46140		654.2	654.2	654.2	0.0
46290		654.2	654.2	654.2	0.0
46540		654.2	654.2	654.2	0.0
46610	Cemetery Road #2	654.2	654.2	654.2	0.0

Existing Conditions Model

The surveyed cross-sections and bridge openings were added to the Corrected Baseline Model to create an existing conditions model. Ten surveyed stream cross-sections located from approximately 1,000 feet downstream of I-294 to 1,000 feet upstream of I-294 and no further than 500 feet apart were added. FIS cross-sections that closely corresponded to the surveyed cross-sections were replaced with the surveyed cross-sections. In addition, the new Industrial Access Road and surrounding excavated area was added to the model as a normal bridge. The FIS cross-sections that did not have corresponding surveyed cross-sections were kept in the existing model. The channel Manning's "N" value was calibrated at station 43155 (from 0.05 to 0.045) and station 44530 (from 0.05 to 0.04) to match the corrected baseline model within 0.1 foot at all stations for the 10-year, 50-year, and 100-year flood profiles. The streambed plan and profile with surveyed cross-section locations is included in Section 5. The cross-section and bridge opening plots are included in Section 6. The existing conditions model (AdEx.hc2) is included in Section 9. The Existing Conditions Water Surface Elevation Comparison Table 8 through Table 10 are included below, which show no difference greater than 0.1 feet.

Table 8
Existing Conditions 100-Year WSEL Comparison

HEC-2 XSEC	Description	100-year WSEL		
		Corrected (NAVD 88) (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
43155	FIS	653.4	653.4	0.0
43305	FIS	654.4	654.3	-0.1
43659	***Surveyed H2***		654.6	
43675	FIS	654.6	654.6	0.0
43873	***Surveyed H3***		654.6	
44015	FIS	654.6	654.7	0.1
44186	***Surveyed H4***		654.7	
44335	FIS	654.8	654.8	0.0
44530	FIS	654.8	654.9	0.1
44592	***Surveyed H5***		654.8	
44630	D/S I-294, (***H5***)	654.8	654.9	0.1
44830	U/S I-294, (***H6***)	655.0	655.1	0.1
44870	FIS (***H6***)	655.2	655.3	0.1

HEC-2 XSEC	Description	100-year WSEL		
		Corrected (NAVD 88) (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
44910	D/S County Line Rd, (***H6***)	655.3	655.3	0.0
44970	U/S County Line Rd, (***H7***)	657.6	657.6	0.0
45025	FIS	657.6	657.6	0.0
45345	FIS	657.6	657.6	0.0
45356	***Surveyed***		657.6	
45395	D/S Industrial, ***surveyed***		657.6	
45435	U/S Industrial, ***surveyed***		657.6	
45501	***Surveyed H8***		657.7	
45650	FIS	657.6	657.7	0.1
45750	FIS	657.7	657.7	0.0
45755	D/S Concrete Dam, FIS	657.7	657.7	0.0
45757	U/S Concrete Dam, FIS	657.7	657.7	0.0
45760	FIS	657.7	657.7	0.0
45785	FIS	657.7	657.7	0.0
45810	FIS	657.7	657.7	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.7	657.7	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.7	657.7	0.0
45840	FIS	657.7	657.7	0.0
45870	FIS	657.7	657.7	0.0
45885	***Surveyed H11***		657.7	
46140	FIS	657.7	657.7	0.0
46290	FIS	657.7	657.7	0.0
46540	FIS	657.7	657.7	0.0
46610	D/S Cemetery Rd 2, FIS	657.7	657.7	0.0

Table 9
Existing Conditions 50-Year WSEL Comparison

HEC-2 XSEC	Description	50-year WSEL (NAVD 88)		
		Corrected (NAVD 88) (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
43155	FIS	652.8	652.8	0.0
43305	FIS	653.7	653.6	-0.1
43659	***Surveyed H2***		653.9	
43675	FIS	653.9	653.9	0.0
43873	***Surveyed H3***		653.9	
44015	FIS	654.0	654.0	0.0
44186	***Surveyed H4***		654.1	
44335	FIS	654.1	654.1	0.0
44530	FIS	654.2	654.2	0.0
44592	***Surveyed H5***		654.2	
44630	D/S I-294, (***H5***)	654.2	654.2	0.0
44830	U/S I-294, (***H6***)	654.2	654.3	0.1
44870	FIS (***H6***)	654.4	654.4	0.0
44910	D/S County Line Rd, (***H6***)	654.4	654.4	0.0
44970	U/S County Line Rd, (***H7***)	656.6	656.5	-0.1
45025	FIS	656.7	656.7	0.0
45345	FIS	656.7	656.7	0.0
45356	***Surveyed***		656.7	
45395	D/S Industrial, ***surveyed***		656.7	
45435	U/S Industrial, ***surveyed***		656.7	
45501	***Surveyed H8***		656.8	
45650	FIS	656.8	656.8	0.0
45750	FIS	656.8	656.8	0.0
45755	D/S Concrete Dam, FIS	656.8	656.8	0.0
45757	U/S Concrete Dam, FIS	656.8	656.8	0.0
45760	FIS	656.8	656.8	0.0
45785	FIS	656.8	656.8	0.0
45810	FIS	656.8	656.8	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	656.8	656.8	0.0
45835	U/S Cemetery Rd 1, FIS	656.8	656.8	0.0

HEC-2 XSEC	Description	50-year WSEL (NAVD 88)		
		Corrected (NAVD 88) (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
	(***H9***)			
45840	FIS	656.8	656.8	0.0
45870	FIS	656.8	656.8	0.0
45885	***Surveyed H11***		656.8	
46140	FIS	656.8	656.8	0.0
46290	FIS	656.8	656.8	0.0
46540	FIS	656.8	656.8	0.0
46610	D/S Cemetery Rd 2, FIS	656.8	656.8	0.0

Table 10
Existing Conditions 10-Year WSEL Comparison

HEC-2 XSEC	Description	10-year WSEL (NAVD 88)		
		Corrected (NAVD 88) (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
43155	FIS	651.5	651.5	0.0
43305	FIS	652.1	652.0	-0.1
43659	***Surveyed H2***		652.3	
43675	FIS	652.4	652.4	0.0
43873	***Surveyed H3***		652.4	
44015	FIS	652.5	652.5	0.0
44186	***Surveyed H4***		652.6	
44335	FIS	652.7	652.7	0.0
44530	FIS	652.8	652.8	0.0
44592	***Surveyed H5***		652.8	
44630	D/S I-294, (***H5***)	652.8	652.8	0.0
44830	U/S I-294, (***H6***)	652.8	652.9	0.1
44870	FIS (***H6***)	653.0	652.9	-0.1
44910	D/S County Line Rd, (***H6***)	653.0	652.9	-0.1
44970	U/S County Line Rd, (***H7***)	653.8	653.8	0.0
45025	FIS	653.9	653.9	0.0
45345	FIS	654.0	654.0	0.0
45356	***Surveyed***		654.0	
45395	D/S Industrial, ***surveyed***		654.0	
45435	U/S Industrial, ***surveyed***		654.0	
45501	***Surveyed H8***		654.1	
45650	FIS	654.2	654.1	-0.1
45750	FIS	654.2	654.1	-0.1
45755	D/S Concrete Dam, FIS	654.2	654.1	-0.1
45757	U/S Concrete Dam, FIS	654.2	654.1	-0.1
45760	FIS	654.2	654.1	-0.1
45785	FIS	654.2	654.1	-0.1
45810	FIS	654.2	654.1	-0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	654.2	654.1	-0.1
45835	U/S Cemetery Rd 1, FIS	654.2	654.1	-0.1

HEC-2 XSEC	Description	10-year WSEL (NAVD 88)		
		Corrected (NAVD 88) (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
	(***H9***)			
45840	FIS	654.2	654.1	-0.1
45870	FIS	654.2	654.1	-0.1
45885	***Surveyed H11***		654.1	
46140	FIS	654.2	654.1	-0.1
46290	FIS	654.2	654.1	-0.1
46540	FIS	654.2	654.1	-0.1
46610	D/S Cemetery Rd 2, FIS	654.2	654.1	-0.1

Natural Conditions Model

A natural conditions model was developed to determine the natural water surface elevations at the I-294 structure. The natural conditions model flood elevations was used to determine the created head of the proposed structures and compensatory storage volumes. The natural conditions model was prepared by removing the I-294 structure and ineffective flow areas from the existing conditions model. The Natural Conditions Water Surface Elevation Comparison Table 11 through Table 13 are included below. The natural conditions model (AdNat.hc2) is included in Section 10.

Table 11
Natural Conditions 100-Year WSEL Comparison

HEC-2 XSEC	Description	100-year WSEL		
		Existing (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
43155	FIS	653.4	653.4	0.0
43305	FIS	654.3	654.3	0.0
43659	***Surveyed H2***	654.6	654.6	0.0
43675	FIS	654.6	654.6	0.0
43873	***Surveyed H3***	654.6	654.6	0.0
44015	FIS	654.7	654.7	0.0
44186	***Surveyed H4***	654.7	654.7	0.0

HEC-2 XSEC	Description	100-year WSEL		
		Existing (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
44335	FIS	654.8	654.8	0.0
44530	FIS	654.9	654.9	0.0
44592	***Surveyed H5***	654.8	654.9	0.1
44630	D/S I-294, (***H5***)	654.8	654.9	0.1
44830	U/S I-294, (***H6***)	655.1	655.0	-0.1
44870	FIS (***H6***)	655.3	655.0	-0.3
44910	D/S County Line Rd, (***H6***)	655.3	654.9	-0.4
44970	U/S County Line Rd, (***H7***)	657.6	657.5	-0.1
45025	FIS	657.6	657.5	-0.1
45345	FIS	657.6	657.5	-0.1
45356	***Surveyed***	657.6	657.5	-0.1
45395	D/S Industrial, ***surveyed***	657.6	657.5	-0.1
45435	U/S Industrial, ***surveyed***	657.6	657.5	-0.1
45501	***Surveyed H8***	657.7	657.6	-0.1
45650	FIS	657.7	657.6	-0.1
45750	FIS	657.7	657.6	-0.1
45755	D/S Concrete Dam, FIS	657.7	657.6	-0.1
45757	U/S Concrete Dam, FIS	657.7	657.6	-0.1
45760	FIS	657.7	657.6	-0.1
45785	FIS	657.7	657.6	-0.1
45810	FIS	657.7	657.6	-0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.7	657.6	-0.1
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.7	657.6	-0.1
45840	FIS	657.7	657.6	-0.1
45870	FIS	657.7	657.6	-0.1
45885	***Surveyed H11***	657.7	657.6	-0.1
46140	FIS	657.7	657.6	-0.1
46290	FIS	657.7	657.6	-0.1
46540	FIS	657.7	657.6	-0.1
46610	D/S Cemetery Rd 2, FIS	657.7	657.6	-0.1

Table 12
Natural Conditions 50-Year WSEL Comparison

HEC-2 XSEC	Description	50-year WSEL		
		Existing (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
43155	FIS	652.8	652.8	0.0
43305	FIS	653.6	653.6	0.0
43659	***Surveyed H2***	653.9	653.9	0.0
43675	FIS	653.9	653.9	0.0
43873	***Surveyed H3***	653.9	653.9	0.0
44015	FIS	654.0	654.0	0.0
44186	***Surveyed H4***	654.1	654.1	0.0
44335	FIS	654.1	654.1	0.0
44530	FIS	654.2	654.2	0.0
44592	***Surveyed H5***	654.2	654.3	0.1
44630	D/S I-294, (***H5***)	654.2	654.3	0.1
44830	U/S I-294, (***H6***)	654.2	654.4	0.2
44870	FIS (***H6***)	654.4	654.4	0.0
44910	D/S County Line Rd, (***H6***)	654.4	654.3	-0.1
44970	U/S County Line Rd, (***H7***)	656.6	656.4	-0.2
45025	FIS	656.7	656.6	-0.1
45345	FIS	656.7	656.6	-0.1
45356	***Surveyed***	656.7	656.6	-0.1
45395	D/S Industrial, ***surveyed***	656.7	656.6	-0.1
45435	U/S Industrial, ***surveyed***	656.7	656.6	-0.1
45501	***Surveyed H8***	656.8	656.6	-0.2
45650	FIS	656.8	656.6	-0.2
45750	FIS	656.8	656.7	-0.1
45755	D/S Concrete Dam, FIS	656.8	656.7	-0.1
45757	U/S Concrete Dam, FIS	656.8	656.7	-0.1
45760	FIS	656.8	656.7	-0.1
45785	FIS	656.8	656.7	-0.1
45810	FIS	656.8	656.7	-0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	656.8	656.7	-0.1
45835	U/S Cemetery Rd 1, FIS (***H9***)	656.8	656.7	-0.1
45840	FIS	656.8	656.7	-0.1
45870	FIS	656.8	656.7	-0.1

HEC-2 XSEC	Description	50-year WSEL		
		Existing (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
45885	***Surveyed H11***	656.8	656.7	-0.1
46140	FIS	656.8	656.7	-0.1
46290	FIS	656.8	656.7	-0.1
46540	FIS	656.8	656.7	-0.1
46610	D/S Cemetery Rd 2, FIS	656.8	656.7	-0.1

Table 13
Natural Conditions 10-Year WSEL Comparison

HEC-2 XSEC	Description	10-year WSEL		
		Existing (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
43155	FIS	651.5	651.5	0.0
43305	FIS	652.0	652.0	0.0
43659	***Surveyed H2***	652.3	652.3	0.0
43675	FIS	652.4	652.4	0.0
43873	***Surveyed H3***	652.4	652.4	0.0
44015	FIS	652.5	652.5	0.0
44186	***Surveyed H4***	652.6	652.6	0.0
44335	FIS	652.7	652.7	0.0
44530	FIS	652.8	652.8	0.0
44592	***Surveyed H5***	652.8	652.8	0.0
44630	D/S I-294, (***H5***)	652.8	652.8	0.0
44830	U/S I-294, (***H6***)	652.8	652.9	0.1
44870	FIS (***H6***)	652.9	652.9	0.0
44910	D/S County Line Rd, (***H6***)	652.9	652.9	0.0
44970	U/S County Line Rd, (***H7***)	653.8	653.7	-0.1
45025	FIS	653.9	653.9	0.0
45345	FIS	654.0	654.0	0.0
45356	***Surveyed***	654.1	654.0	-0.1
45395	D/S Industrial, ***surveyed***	654.1	654.0	-0.1
45435	U/S Industrial, ***surveyed***	654.1	654.0	-0.1
45501	***Surveyed H8***	654.1	654.0	-0.1

HEC-2 XSEC	Description	10-year WSEL		
		Existing (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
45650	FIS	654.1	654.0	-0.1
45750	FIS	654.1	654.1	0.0
45755	D/S Concrete Dam, FIS	654.1	654.1	0.0
45757	U/S Concrete Dam, FIS	654.1	654.1	0.0
45760	FIS	654.1	654.1	0.0
45785	FIS	654.1	654.1	0.0
45810	FIS	654.1	654.1	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	654.1	654.1	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	654.1	654.1	0.0
45840	FIS	654.1	654.1	0.0
45870	FIS	654.1	654.1	0.0
45885	***Surveyed H11***	654.1	654.1	0.0
46140	FIS	654.1	654.1	0.0
46290	FIS	654.1	654.1	0.0
46540	FIS	654.1	654.1	0.0
46610	D/S Cemetery Rd 2, FIS	654.1	654.1	0.0

Proposed Conditions Model

This model reflects the proposed I-294 structure, road profile and filling due to the proposed I-294 widening. The proposed structure will be lengthened 15 feet downstream (east) and 5 feet upstream (west) for a total structure length of 234 feet. This model is used to demonstrate that the proposed structure and compensatory storage are sized properly and that there is no increase in flood stages greater than 0.1 foot for all storm events up to and including the 100-year storm event due to the proposed improvements.

The proposed conditions model (AdPr.hc2) is included in Section 11. The Proposed Conditions Water Surface Elevation Comparison Table 14 through Table 16 are included below, which show no increases greater than 0.1 foot from existing conditions to proposed conditions. Similar to existing conditions, the there is a maximum increase of 0.4 feet from natural to proposed conditions for the 100-year storm event at the downstream face of County Line Road. Since there is not a sensitive flood receptor located here, proposed conditions showing no increase in flood elevations from existing conditions meet IDNR permit requirements.

Table 14
Proposed Conditions 100-Year WSEL Comparison

HEC-2 XSEC	Description	100-year WSEL		
		Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
43155	FIS	653.4	653.4	0.0
43305	FIS	654.3	654.3	0.0
43659	***Surveyed H2***	654.6	654.6	0.0
43675	FIS	654.6	654.6	0.0
43873	***Surveyed H3***	654.6	654.6	0.0
44015	FIS	654.7	654.7	0.0
44186	***Surveyed H4***	654.7	654.7	0.0
44335	FIS	654.8	654.8	0.0
44530	FIS	654.9	654.9	0.0
44592	***Surveyed H5***	654.9	654.8	-0.1
44630	D/S I-294, (***H5***)	654.9	654.8	-0.1
44830	U/S I-294, (***H6***)	655.0	655.1	0.1
44870	FIS (***H6***)	655.0	655.2	0.2
44910	D/S County Line Rd, (***H6***)	654.9	655.3	0.4
44970	U/S County Line Rd, (***H7***)	657.5	657.6	0.1
45025	FIS	657.5	657.6	0.1
45345	FIS	657.5	657.6	0.1
45356	***Surveyed***	657.5	657.6	0.1
45395	D/S Industrial, ***surveyed***	657.5	657.6	0.1
45435	U/S Industrial, ***surveyed***	657.5	657.6	0.1
45501	***Surveyed H8***	657.6	657.7	0.1
45650	FIS	657.6	657.7	0.1
45750	FIS	657.6	657.7	0.1
45755	D/S Concrete Dam, FIS	657.6	657.7	0.1
45757	U/S Concrete Dam, FIS	657.6	657.7	0.1
45760	FIS	657.6	657.7	0.1
45785	FIS	657.6	657.7	0.1
45810	FIS	657.6	657.7	0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.6	657.7	0.1
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.6	657.7	0.1
45840	FIS	657.6	657.7	0.1
45870	FIS	657.6	657.7	0.1

HEC-2 XSEC	Description	100-year WSEL		
		Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
45885	***Surveyed H11***	657.6	657.7	0.1
46140	FIS	657.6	657.7	0.1
46290	FIS	657.6	657.7	0.1
46540	FIS	657.6	657.7	0.1
46610	D/S Cemetery Rd 2, FIS	657.6	657.7	0.1

Table 15
Proposed Conditions 50-Year WSEL Comparison

HEC-2 XSEC	Description	50-year WSEL		
		Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
43155	FIS	652.8	652.8	0.0
43305	FIS	653.6	653.6	0.0
43659	***Surveyed H2***	653.9	653.9	0.0
43675	FIS	653.9	653.9	0.0
43873	***Surveyed H3***	653.9	653.9	0.0
44015	FIS	654.0	654.0	0.0
44186	***Surveyed H4***	654.1	654.1	0.0
44335	FIS	654.1	654.1	0.0
44530	FIS	654.2	654.2	0.0
44592	***Surveyed H5***	654.3	654.2	-0.1
44630	D/S I-294, (***H5***)	654.3	654.2	-0.1
44830	U/S I-294, (***H6***)	654.4	654.3	-0.1
44870	FIS (***H6***)	654.4	654.4	0.0
44910	D/S County Line Rd, (***H6***)	654.3	654.4	0.1
44970	U/S County Line Rd, (***H7***)	656.4	656.5	0.1
45025	FIS	656.6	656.7	0.1
45345	FIS	656.6	656.7	0.1
45356	***Surveyed***	656.6	656.7	0.1
45395	D/S Industrial, ***surveyed***	656.6	656.7	0.1
45435	U/S Industrial, ***surveyed***	656.6	656.7	0.1
45501	***Surveyed H8***	656.6	656.7	0.1

HEC-2 XSEC	Description	50-year WSEL		
		Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
45650	FIS	656.6	656.7	0.1
45750	FIS	656.7	656.8	0.1
45755	D/S Concrete Dam, FIS	656.7	656.8	0.1
45757	U/S Concrete Dam, FIS	656.7	656.8	0.1
45760	FIS	656.7	656.8	0.1
45785	FIS	656.7	656.8	0.1
45810	FIS	656.7	656.8	0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	656.7	656.8	0.1
45835	U/S Cemetery Rd 1, FIS (***H9***)	656.7	656.8	0.1
45840	FIS	656.7	656.8	0.1
45870	FIS	656.7	656.8	0.1
45885	***Surveyed H11***	656.7	656.8	0.1
46140	FIS	656.7	656.8	0.1
46290	FIS	656.7	656.8	0.1
46540	FIS	656.7	656.8	0.1
46610	D/S Cemetery Rd 2, FIS	656.7	656.8	0.1

Table 16
Proposed Conditions 10-Year WSEL Comparison

HEC-2 XSEC	Description	10-year WSEL		
		Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
43155	FIS	651.5	651.5	0.0
43305	FIS	652.0	652.0	0.0
43659	***Surveyed H2***	652.3	652.3	0.0
43675	FIS	652.4	652.4	0.0
43873	***Surveyed H3***	652.4	652.4	0.0
44015	FIS	652.5	652.5	0.0
44186	***Surveyed H4***	652.6	652.6	0.0
44335	FIS	652.7	652.7	0.0
44530	FIS	652.8	652.8	0.0
44592	***Surveyed H5***	652.8	652.8	0.0

HEC-2 XSEC	Description	10-year WSEL		
		Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
44630	D/S I-294, (***H5***)	652.8	652.8	0.0
44830	U/S I-294, (***H6***)	652.9	652.8	-0.1
44870	FIS (***H6***)	652.9	652.9	0.0
44910	D/S County Line Rd, (***H6***)	652.9	652.9	0.0
44970	U/S County Line Rd, (***H7***)	653.7	653.8	0.1
45025	FIS	653.9	653.9	0.0
45345	FIS	654.0	654.0	0.0
45356	***Surveyed***	654.0	654.0	0.0
45395	D/S Industrial, ***surveyed***	654.0	654.0	0.0
45435	U/S Industrial, ***surveyed***	654.0	654.0	0.0
45501	***Surveyed H8***	654.0	654.1	0.1
45650	FIS	654.0	654.1	0.1
45750	FIS	654.1	654.1	0.0
45755	D/S Concrete Dam, FIS	654.1	654.1	0.0
45757	U/S Concrete Dam, FIS	654.1	654.1	0.0
45760	FIS	654.1	654.1	0.0
45785	FIS	654.1	654.1	0.0
45810	FIS	654.1	654.1	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	654.1	654.1	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	654.1	654.1	0.0
45840	FIS	654.1	654.1	0.0
45870	FIS	654.1	654.1	0.0
45885	***Surveyed H11***	654.1	654.1	0.0
46140	FIS	654.1	654.1	0.0
46290	FIS	654.1	654.1	0.0
46540	FIS	654.1	654.1	0.0
46610	D/S Cemetery Rd 2, FIS	654.1	654.1	0.0

The proposed culvert extension was analyzed using the regulatory FIS model as a basis, and meets the following criteria:

- The 50-year headwater elevation of 654.4 feet (NAVD 1988) is lower than the culvert crown elevation of 655.0 feet (NAVD 1988),
- The 50-year freeboard of 4.0 feet to the proposed edge of pavement (EOP) is greater than the 3.0 feet requirement,

- The 500-year freeboard of 2.6 feet to the Overtop Elevation is greater than the 0.0 foot requirement,
- The created head does not exceed the existing conditions created head.

A recent Watershed Management Study for Addison Creek was completed for the MWRDGC using HEC-HMS and HEC-RAS. An additional Waterway Information Table is included in Section 2 showing the impacts of the proposed culvert extension if the more recent MWRDGC study was used. In general, water surface elevations are higher and flow rates are lower for the design storm event. While criteria is met using the regulatory FIS models, the following criteria would not be satisfied using the MWRDGC model:

- The 50-year headwater elevation of 655.5 feet (NAVD 1988) is higher than the culvert crown elevation of 655.0 feet (NAVD 1988),
- The 50-year freeboard of 2.9 feet to the proposed edge of pavement (EOP) is less than the 3.0 feet requirement,
- The 500-year freeboard of -1.1 feet to the Overtop Elevation is less than the 0.0 foot requirement.

Based on these results, a design deviation would be required using the MWRDGC analysis. Granting a design deviation would be recommended based on the fact that no flood complaints have been recorded upstream of the crossing, and I-294 has no history of flooding. In addition, Addison Creek has a history of flooding further downstream through the residential areas of the City of Northlake. Increasing the culvert opening size would increase downstream flows and potentially exacerbate flood problems.

Compensatory Storage Requirement

Since the total area tributary to the I-294 structure is greater than 1 square mile, a permit is required from the Illinois Department of Natural Resources – Office of Water Resources for the work proposed at the I-294 crossing within the floodway and floodplain of Addison Creek. The "Permit Summary for Floodway Construction in Northeastern Illinois" is included in Section 13 of this report. Fill within the floodway will be compensated by incrementally excavation at a ratio of 1:1 to satisfy IDNR-OWR requirements. It is also recommended to compensate for fill within the floodplain by incrementally excavation at a ratio of 1.5:1 to satisfy City of Northlake requirements. A copy of the Northlake municipal code concerning compensatory storage is included in Section 12. Compliance with local ordinances is voluntary for state agencies.

Excavation is proposed upstream and downstream of I-294 on the north and south side of the creek. No grading would be allowed within the County Line Road ROW. Due to the limited ROW within the I-294 corridor, compensatory

storage mitigation is provided for fill within the floodway (state guidelines), and not fill within the floodplain (local ordinance). It is recommended to modify the I-294 west side slope to a retaining wall within the floodplain limits to reduce the amount of fill in the floodplain and satisfy the City of Northlake floodplain mitigation requirements. Under the current design, compensatory storage is provided for the floodway only. Floodway compensatory storage is provided by:

- Excavating the west side of I-294 approximately from station 2040+00 to station 2046+00 (north and south banks of Addison Creek),
- Excavating the east side of Northwest Avenue approximately from station 2044+00 to 2045+50 (north and south banks of Addison Creek),
- Providing 200 feet long and 260 feet long 48" RCP storm sewers along the west side of I-294 (north and south banks of Addison Creek, respectively) approximately from station 2041+50 to station 2046+50.

To provide compensatory storage mitigation for fill within the floodplain, a retaining wall is recommended:

- From station 2034+00 to station 2046+00 along the west side of I-294,
- From station 2044+00 to station 2045+50 along the east side of Northwest Avenue.

Conclusion and Design Recommendations

The proposed I-294 cross culvert has the following design parameters:

- The existing 214 feet long dual 10 feet (span) by 10 feet (height) RCBC structure will be extended upstream and downstream to accommodate the I-294/ Northwest Avenue road widening,
- The proposed structure is a 234 feet long dual 10 feet (span) by 10 feet (height) RCBCs
    - Extended 5 feet upstream (west)
    - Extended 15 feet downstream (east)
- To compensate for fill within the floodway, the ditch within the I-294 ROW along the north and south sides of the creek will be excavated and 460 feet of 48" RCP storm sewers will provided,
- Floodplain fill is not compensated at a 1.5:1 ratio (local ordinance). To minimize fill within the floodplain and meet the City of Northlake municipal code, it is recommended to provide retaining walls within the floodplain limits:
    - From station 2034+00 to station 2046+00 along the west side of I-294
    - From station 2044+00 to station 2045+50 along the east side of Northwest Avenue

In order to facilitate the IDOT review, a “Hydraulic Report Outline” for the I-294 structure is included at the beginning of the report.

ETA
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SECTION 2

WATERWAY INFORMATION TABLE
HYDRAULIC REPORT DATA SHEETS

Illinois Department of Transportation

Culvert Waterway Information Table
Regulatory HEC-2 Model NAVD88

Route: I-294/Northwest Avenue S.N. Exist:
Section: S.N. Prop:
County: Cook Waterway: Addison Creek
Station: 2044+30

Computed by: ETA Date: 5-09-12
Checked by: MK Date: 5-23-12

Drainage Area = 6.0 Square Miles

Existing Overtopping Elevation: 657.96 ft. @ Sta 2042+50
Proposed Overtopping Evaluation: 659.32 ft. @ Sta 2042+00

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.)		Natural H.W.E.	Head (ft.)		Headwater Elev. (ft.)	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
	10	517	158.6	158.6	652.9	0.0	0.0	652.9	652.9
Design	50	802	187.2	187.2	654.4	0.0	0.0	654.4	654.4
Base	100	951	200.0	200.0	655.0	0.3	0.2	655.3	655.2
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	1370	200.0	200.0	656.1	0.7	0.6	656.8	656.7

10-Year Outlet Velocity from Existing Structure = 3.3 fps
10-Year Outlet Velocity from Proposed Structure = 3.3 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: 654.0', July 1957

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type:	RCBC
Cell Dimensions (W x H):	10'W x 10'H
# of spans \ cells:	2
Length:	214
U/S Flowline:	645.00
D/S Flowline:	644.85
Skew:	0
Low EOP:	657.96

PROPOSED STRUCTURE

Culvert Type:	RCBC
Cell Dimensions (W x H):	10'W x 10'H
# of cells:	2
Length:	234
U/S Flowline:	645.00
D/S Flowline:	644.84
Skew:	0
Low EOP:	658.42

EXISTING DROPBOX

Dimensions:	
Drop:	
Weir Elevation:	

PROPOSED DROPBOX

Dimensions:	
Drop:	
Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.3, Discharges are taken from proposed conditions

BACK-UP CALCULATIONS FOR WIT - NAVD 1988

Route: I-294/Northwest | Computed: ETA | Date: 5/9/2012
Waterway: Addison Creek | Checked: MK | Date: 5/23/2012

Calculate Created Head

Frequency	Natural H.W.E. (ft)[1]		Exist. Headwater Elev. (ft)		Prop. Headwater Elev. (ft)		Created Head (ft)[2] @ Approach Section	
	U/S Face of Structure	Approach Sect. (35' U/S)	U/S Face of Structure	Approach Sect. (40' U/S)	U/S Face of Structure	Approach Sect. (35' U/S)	Existing	Proposed
10-year	652.93	652.94	**652.91**	652.92	**652.91**	652.92	-0.02	-0.02
50-year	654.36	654.36	**654.38**	654.38	**654.37**	654.37	0.02	0.01
100-year	655.00	655.00	**655.25**	655.25	**655.24**	655.24	0.25	0.24
500-year	656.08	656.09	**656.76**	656.77	**656.74**	656.75	0.68	0.66

(1) The natural highwater elevation is the water survface elevation at the upstream side of the crossing as modeled in the stream natural condition, without the structure.

(2) The created head is calculated at the approach cross-section, and not at the upstream face of the bridge/culvert. This difference in elevation is then added to the Natural H.W.E. at the U/S face of the structure. This method of calcuating created head is only required for bridges and some major culvert crossings. Also, the preferred created head should never be negative. headwater elevations = The natural highwater elevation + the created head

Station 44870 used for approach section, Station 44830 used for U/S Face of Structure.

CALCULATE FREEBOARD AND CLEARANCE

Low Road Elevation (ft)[3]			
Existing	Station	Proposed	Station
657.96	2042+50	658.42	2042+00
Low Beam Elevation (ft)			
Existing	Station	Proposed	Station
655.00	244+30	655.00	244+30
Proposed Freeboard (ft)			
10-year	50-year[4]	100-year	500-year
5.51	4.05	3.18	1.68
Proposed Clearance (ft)			
10-year	50-year[5]	100-year	500-year
2.07	0.64	0.00	-1.08

(3) Low road elevation is calculated at the edge of pavement, and on the low side of the roadway.

(4) Freeboard is calculated from the 50-year design headwater elevation to the proposed low road elevation in the floodplain.

(5) Vertical clearance is calculated from the 50-year natural high-water elevation to the proposed low chord (beam) bridge elevation (2 ft minimum requirement)

CALCULATE EFFECTIVE WATERWAY OPENING AREA FOR CULVERT

Structure Size (ft x ft)			
Existing Width	Existing Height	Proposed Width	Proposed Height
10.0	10.0	10.0	10.0
Structure Invert Elevation (ft)			
Existing		Proposed	
U/S	D/S	U/S	D/S
645.00	644.85	645.00	644.84

Waterway Opening Area (ft^2)			# of Culverts
Frequency	Existing	Proposed	2
10-year	158.60	158.60	
50-year	187.20	187.20	
100-year	200.00	200.00	
500-year	200.00	200.00	

BACK-UP CALCULATIONS FOR WIT - NGVD 1929

Route: I-294/Northwest
Waterway: Addison Creek
Computed: ETA
Checked: MK
Date: 5/9/2012
Date: 5/23/2012

Calculate Created Head

Frequency	Natural H.W.E. (ft)[1]		Exist. Headwater Elev. (ft)		Prop. Headwater Elev. (ft)		Created Head (ft)[2] @ Approach Section	
	U/S Face of Structure	Approach Sect. (35' U/S)	U/S Face of Structure	Approach Sect. (40' U/S)	U/S Face of Structure	Approach Sect. (35' U/S)	Existing	Proposed
10-year	653.23	653.24	**653.21**	653.22	**653.21**	653.22	-0.02	-0.02
50-year	654.66	654.66	**654.68**	654.68	**654.67**	654.67	0.02	0.01
100-year	655.30	655.30	**655.55**	655.55	**655.54**	655.54	0.25	0.24
500-year	656.38	656.39	**657.06**	657.07	**657.04**	657.05	0.68	0.66

(1) The natural highwater elevation is the water survface elevation at the upstream side of the crossing as modeled in the stream natural condition, without the structure.

(2) The created head is calculated at the approach cross-section, and not at the upstream face of the bridge/culvert. This difference in elevation is then added to the Natural H.W.E. at the U/S face of the structure. This method of calcuating created head is only required for bridges and some major culvert crossings. Also, the preferred created head should never be negative. headwater elevations = The natural highwater elevation + the created head

Station 44870 used for approach section, Station 44830 used for U/S Face of Structure.

CALCULATE FREEBOARD AND CLEARANCE

Low Road Elevation (ft)[3]			
Existing	Station	Proposed	Station
658.26	2042+50	658.72	2042+00
Low Beam Elevation (ft)			
Existing	Station	Proposed	Station
655.30	244+30	655.30	244+30
Proposed Freeboard (ft)			
10-year	50-year[4]	100-year	500-year
5.51	4.05	3.18	1.68
Proposed Clearance (ft)			
10-year	50-year[5]	100-year	500-year
2.07	0.64	0.00	-1.08

(3) Low road elevation is calculated at the edge of pavement, and on the low side of the roadway.

(4) Freeboard is calculated from the 50-year design headwater elevation to the proposed low road elevation in the floodplain.

(5) Vertical clearance is calculated from the 50-year natural high-water elevation to the proposed low chord (beam) bridge elevation (2 ft minimum requirement)

CALCULATE EFFECTIVE WATERWAY OPENING AREA FOR CULVERT

Structure Size (ft x ft)			
Existing Width	Existing Height	Proposed Width	Proposed Height
10.0	10.0	10.0	10.0
Structure Invert Elevation (ft)			
Existing		Proposed	
U/S	D/S	U/S	D/S
645.3	645.15	645.3	645.14

Waterway Opening Area (ft^2)			# of Culverts
Frequency	Existing	Proposed	2
10-year	158.60	158.60	
50-year	187.20	187.20	
100-year	200.00	200.00	
500-year	200.00	200.00	

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Existing Culvert NGVD 29

Illinois Department of Transportation

Culvert Waterway Information Table
MWRDGC HEC-RAS Model NAVD88

Route: I-294/Northwest Avenue S.N. Exist:
Section: S.N. Prop:
County: Cook Waterway: Addison Creek
Station: 2044+30

Computed by: ETA Date: 5-09-12
Checked by: MK Date: 5-23-12

Existing Overtopping Elevation: 657.96 ft. @ Sta 2042+50
Drainage Area = 6.0 Square Miles Proposed Overtopping Evaluation: 659.32 ft. @ Sta 2042+00

Flood	Frequency Year	Discharge cfs	Waterway Opening (sq. ft.)		Natural H.W.E.	Head (ft.)		Headwater Elev. (ft.)	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
	10	352	167	167	653.3	0.1	0.1	653.4	653.4
Design	50	537	200	200	655.3	0.2	0.2	655.5	655.5
Base	100	638	200	200	656.3	0.3	0.3	656.6	656.6
OVT(E)	NA								
OVT(P)	NA								
Max Calc	500	1072	200	200	659.9	0.5	0.5	660.4	660.4

10-Year Outlet Velocity from Existing Structure = 2.1 fps
10-Year Outlet Velocity from Proposed Structure = 2.1 fps

OVT = Overtopping Event
(E) Existing (P) Proposed

DATUM: NAVD88
ALL-TIME H.W.E. & DATE: 654.0', July 1957

SCOPE OF WORK:

EXISTING STRUCTURE

Bridge or Culvert Type:	RCBC
Cell Dimensions (W x H):	10'W x 10'H
# of spans \ cells:	2
Length:	214
U/S Flowline:	645.00
D/S Flowline:	644.85
Skew:	0
Low EOP:	657.96

PROPOSED STRUCTURE

Culvert Type:	RCBC
Cell Dimensions (W x H):	10'W x 10'H
# of cells:	2
Length:	234
U/S Flowline:	645.00
D/S Flowline:	644.84
Skew:	0
Low EOP:	658.42

EXISTING DROPBOX

Dimensions:	
Drop:	
Weir Elevation:	

PROPOSED DROPBOX

Dimensions:	
Drop:	
Weir Elevation:	

NOTE(S): NAVD88 = NGVD29 – 0.3, Discharges are taken from proposed conditions. MWRDGC modeled overtop elevation = 660'.
Observed Sept. 2008 HWL = 656.1 feet upstream of I-294, and 654.8 feet downstream of I-294.

BACK-UP CALCULATIONS FOR MWRD WIT - NAVD 1988

Route: I-294/Northwest | Computed: ETA | Date: 5/9/2012
Waterway: Addison Creek | Checked: MK | Date: 5/23/2012

Calculate Created Head

Frequency	Natural H.W.E. (ft)[1]		Exist. Headwater Elev. (ft)		Prop. Headwater Elev. (ft)		Created Head (ft)[2] @ Approach Section	
	U/S Face of Structure	Approach Sect. (38' U/S)	U/S Face of Structure	Approach Sect. (43' U/S)	U/S Face of Structure	Approach Sect. (38' U/S)	Existing	Proposed
10-year	653.34	653.31	**653.38**	653.35	**653.38**	653.35	0.04	0.04
50-year	655.33	655.28	**655.48**	655.43	**655.48**	655.43	0.15	0.15
100-year	656.33	656.28	**656.58**	656.53	**656.58**	656.53	0.25	0.25
500-year	659.94	659.95	**660.41**	660.42	**660.42**	660.43	0.47	0.48

(1) The natural highwater elevation is the water survface elevation at the upstream side of the crossing as modeled in the stream natural condition, without the structure.

(2) The created head is calculated at the approach cross-section, and not at the upstream face of the bridge/culvert. This difference in elevation is then added to the Natural H.W.E. at the U/S face of the structure. This method of calcuating created head is only required for bridges and some major culvert crossings. Also, the preferred created head should never be negative. headwater elevations = The natural highwater elevation + the created head

Station 45327.71 used for approach section, Station 45321.40 used for U/S Face of Structure.

CALCULATE FREEBOARD AND CLEARANCE

Low Road Elevation (ft)[3]			
Existing	Station	Proposed	Station
658.26	2042+50	658.72	2042+00
Low Beam Elevation (ft)			
Existing	Station	Proposed	Station
655.00	244+30	655.00	244+30
Proposed Freeboard (ft)			
10-year	50-year[4]	100-year	500-year
5.34	3.24	2.14	-1.70
Proposed Clearance (ft)			
10-year	50-year[5]	100-year	500-year
1.66	-0.33	-1.33	-4.94

(3) Low road elevation is calculated at the edge of pavement, and on the low side of the roadway.

(4) Freeboard is calculated from the 50-year design headwater elevation to the proposed low road elevation in the floodplain.

(5) Vertical clearance is calculated from the 50-year natural high-water elevation to the proposed low chord (beam) bridge elevation (2 ft minimum requirement)

CALCULATE EFFECTIVE WATERWAY OPENING AREA FOR CULVERT

Structure Size (ft x ft)			
Existing Width	Existing Height	Proposed Width	Proposed Height
10.0	10.0	10.0	10.0
Structure Invert Elevation (ft)			
Existing		Proposed	
U/S	D/S	U/S	D/S
645.0	644.85	645.0	644.84
Waterway Opening Area (ft^2)			# of Culverts
Frequency	Existing	Proposed	2
10-year	166.80	166.80	
50-year	200.00	200.00	
100-year	200.00	200.00	
500-year	200.00	200.00	

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Culvert (NAVD88)

HEC-RAS River: ADCR_US Reach: ADCR_US Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Flow Area
				(cfs)	(ft)	(ft)	(sq ft)
ADCR_US	45417.26	Max WS	Ex_10_24	352.93	647.32	653.83	259.19
ADCR_US	45417.26	Max WS	Nat_10_24	350.01	647.32	653.77	255.77
ADCR_US	45417.26	Max WS	Pr_10_24	352.93	647.32	653.83	259.29
ADCR_US	45412.26	Max WS	Ex_10_24	352.88	647.32	653.82	242.83
ADCR_US	45412.26	Max WS	Nat_10_24	349.95	647.32	653.76	240.00
ADCR_US	45412.26	Max WS	Pr_10_24	352.98	647.32	653.82	242.92
ADCR_US	45405.12	Max WS	Ex_10_24	352.93	646.66	653.81	222.42
ADCR_US	45405.12	Max WS	Nat_10_24	349.76	646.66	653.76	220.38
ADCR_US	45405.12	Max WS	Pr_10_24	352.93	646.66	653.82	222.48
ADCR_US	45400 County Line Road			Culvert			
ADCR_US	45327.71	Max WS	Ex_10_24	351.43	646.21	653.35	197.18
ADCR_US	45327.71	Max WS	Nat_10_24	348.00	646.21	653.31	195.97
ADCR_US	45327.71	Max WS	Pr_10_24	351.55	646.21	653.35	197.22
ADCR_US	45321.4	Max WS	Ex_10_24	351.98	645.58	653.38	341.28
ADCR_US	45321.4	Max WS	Nat_10_24	348.33	645.58	653.34	337.76
ADCR_US	45321.4	Max WS	Pr_10_24	351.92	645.58	653.38	341.40
ADCR_US	45200 I-294			Culvert			
ADCR_US	45035.2	Max WS	Ex_10_24	351.29	646.85	653.24	203.06
ADCR_US	45035.2	Max WS	Nat_10_24	356.41	646.85	653.25	203.40
ADCR_US	45035.2	Max WS	Pr_10_24	351.23	646.85	653.24	203.06
ADCR_US	44228.72	Max WS	Ex_10_24	376.69	645.61	653.13	365.29
ADCR_US	44228.72	Max WS	Nat_10_24	379.61	645.61	653.14	365.85
ADCR_US	44228.72	Max WS	Pr_10_24	376.69	645.61	653.13	365.29
ADCR_US	43669.93	Max WS	Ex_10_24	394.45	645.02	652.99	212.98
ADCR_US	43669.93	Max WS	Nat_10_24	395.88	645.02	653.00	213.22
ADCR_US	43669.93	Max WS	Pr_10_24	394.41	645.02	652.99	212.98
ADCR_US	43474.74	Max WS	Ex_10_24	400.71	644.66	652.84	150.68
ADCR_US	43474.74	Max WS	Nat_10_24	401.62	644.66	652.84	150.81
ADCR_US	43474.74	Max WS	Pr_10_24	400.70	644.66	652.84	150.68
ADCR_US	43280 CH & NW R.R.			Culvert			
ADCR_US	43216.19	Max WS	Ex_10_24	398.87	644.50	650.43	168.48
ADCR_US	43216.19	Max WS	Nat_10_24	400.20	644.50	650.42	168.23
ADCR_US	43216.19	Max WS	Pr_10_24	398.76	644.50	650.43	168.48
ADCR_US	43210			Lat Struct			
ADCR_US	42367.15	Max WS	Ex_10_24	426.10	643.01	649.98	212.44
ADCR_US	42367.15	Max WS	Nat_10_24	424.97	643.01	649.98	212.06
ADCR_US	42367.15	Max WS	Pr_10_24	426.14	643.01	649.98	212.44
ADCR_US	42342 Access Road/ Mar			Culvert			

HEC-RAS River: ADCR_US Reach: ADCR_US Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Flow Area
				(cfs)	(ft)	(ft)	(sq ft)
ADCR_US	45417.26	Max WS	Ex_50_24	540.07	647.32	656.58	424.26
ADCR_US	45417.26	Max WS	Nat_50_24	535.66	647.32	656.41	414.06
ADCR_US	45417.26	Max WS	Pr_50_24	539.99	647.32	656.58	424.47
ADCR_US	45412.26	Max WS	Ex_50_24	540.07	647.32	656.57	380.32
ADCR_US	45412.26	Max WS	Nat_50_24	535.66	647.32	656.40	371.81
ADCR_US	45412.26	Max WS	Pr_50_24	540.07	647.32	656.57	380.48
ADCR_US	45405.12	Max WS	Ex_50_24	540.07	646.66	656.56	321.20
ADCR_US	45405.12	Max WS	Nat_50_24	535.76	646.66	656.39	315.07
ADCR_US	45405.12	Max WS	Pr_50_24	539.92	646.66	656.56	321.33
ADCR_US	45400 County Line Road			Culvert			
ADCR_US	45327.71	Max WS	Ex_50_24	536.07	646.21	655.43	257.50
ADCR_US	45327.71	Max WS	Nat_50_24	528.64	646.21	655.28	253.28
ADCR_US	45327.71	Max WS	Pr_50_24	536.36	646.21	655.43	257.60
ADCR_US	45321.4	Max WS	Ex_50_24	537.08	645.58	655.47	536.47
ADCR_US	45321.4	Max WS	Nat_50_24	529.66	645.58	655.33	522.66
ADCR_US	45321.4	Max WS	Pr_50_24	536.80	645.58	655.48	536.78
ADCR_US	45200 I-294			Culvert			
ADCR_US	45035.2	Max WS	Ex_50_24	535.62	646.85	655.24	281.13
ADCR_US	45035.2	Max WS	Nat_50_24	543.23	646.85	655.25	281.28
ADCR_US	45035.2	Max WS	Pr_50_24	535.94	646.85	655.24	281.12
ADCR_US	44228.72	Max WS	Ex_50_24	578.94	645.61	655.17	550.61
ADCR_US	44228.72	Max WS	Nat_50_24	582.79	645.61	655.17	550.97
ADCR_US	44228.72	Max WS	Pr_50_24	578.99	645.61	655.17	550.61
ADCR_US	43669.93	Max WS	Ex_50_24	609.01	645.02	655.02	291.90
ADCR_US	43669.93	Max WS	Nat_50_24	610.42	645.02	655.03	292.02
ADCR_US	43669.93	Max WS	Pr_50_24	609.02	645.02	655.02	291.90
ADCR_US	43474.74	Max WS	Ex_50_24	619.62	644.66	654.82	191.47
ADCR_US	43474.74	Max WS	Nat_50_24	620.14	644.66	654.82	191.54
ADCR_US	43474.74	Max WS	Pr_50_24	619.61	644.66	654.82	191.47
ADCR_US	43280 CH & NW R.R.			Culvert			
ADCR_US	43216.19	Max WS	Ex_50_24	615.77	644.50	651.08	197.33
ADCR_US	43216.19	Max WS	Nat_50_24	617.11	644.50	651.07	197.00
ADCR_US	43216.19	Max WS	Pr_50_24	615.89	644.50	651.08	197.33
ADCR_US	43210			Lat Struct			
ADCR_US	42367.15	Max WS	Ex_50_24	659.33	643.01	650.56	465.54
ADCR_US	42367.15	Max WS	Nat_50_24	657.05	643.01	650.55	460.08
ADCR_US	42367.15	Max WS	Pr_50_24	659.40	643.01	650.56	465.54
ADCR_US	42342 Access Road/ Mar			Culvert			

HEC-RAS River: ADCR_US Reach: ADCR_US Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Flow Area
				(cfs)	(ft)	(ft)	(sq ft)
ADCR_US	45417.26	Max WS	Ex_100_24	645.26	647.32	657.60	485.38
ADCR_US	45417.26	Max WS	Nat_100_24	641.11	647.32	657.46	476.95
ADCR_US	45417.26	Max WS	Pr_100_24	645.36	647.32	657.60	485.51
ADCR_US	45412.26	Max WS	Ex_100_24	645.26	647.32	657.59	431.19
ADCR_US	45412.26	Max WS	Nat_100_24	641.11	647.32	657.45	424.16
ADCR_US	45412.26	Max WS	Pr_100_24	645.26	647.32	657.59	431.31
ADCR_US	45405.12	Max WS	Ex_100_24	645.26	646.66	657.59	453.38
ADCR_US	45405.12	Max WS	Nat_100_24	640.49	646.66	657.45	439.41
ADCR_US	45405.12	Max WS	Pr_100_24	645.26	646.66	657.59	453.64
ADCR_US	45400 County Line Road			Culvert			
ADCR_US	45327.71	Max WS	Ex_100_24	637.68	646.21	656.53	289.38
ADCR_US	45327.71	Max WS	Nat_100_24	625.55	646.21	656.28	282.21
ADCR_US	45327.71	Max WS	Pr_100_24	637.82	646.21	656.53	289.52
ADCR_US	45321.4	Max WS	Ex_100_24	638.79	645.58	656.58	641.50
ADCR_US	45321.4	Max WS	Nat_100_24	626.91	645.58	656.33	618.06
ADCR_US	45321.4	Max WS	Pr_100_24	638.38	645.58	656.58	641.96
ADCR_US	45200 I-294			Culvert			
ADCR_US	45035.2	Max WS	Ex_100_24	635.30	646.85	656.26	320.65
ADCR_US	45035.2	Max WS	Nat_100_24	643.50	646.85	656.25	320.47
ADCR_US	45035.2	Max WS	Pr_100_24	635.31	646.85	656.26	320.65
ADCR_US	44228.72	Max WS	Ex_100_24	689.27	645.61	656.20	665.86
ADCR_US	44228.72	Max WS	Nat_100_24	693.11	645.61	656.19	665.24
ADCR_US	44228.72	Max WS	Pr_100_24	689.28	645.61	656.20	665.86
ADCR_US	43669.93	Max WS	Ex_100_24	726.62	645.02	656.05	336.81
ADCR_US	43669.93	Max WS	Nat_100_24	727.29	645.02	656.05	336.55
ADCR_US	43669.93	Max WS	Pr_100_24	726.62	645.02	656.05	336.81
ADCR_US	43474.74	Max WS	Ex_100_24	739.85	644.66	655.82	213.21
ADCR_US	43474.74	Max WS	Nat_100_24	739.39	644.66	655.82	213.10
ADCR_US	43474.74	Max WS	Pr_100_24	739.84	644.66	655.82	213.21
ADCR_US	43280 CH & NW R.R.			Culvert			
ADCR_US	43216.19	Max WS	Ex_100_24	308.49	644.50	651.75	226.90
ADCR_US	43216.19	Max WS	Nat_100_24	311.24	644.50	651.75	226.72
ADCR_US	43216.19	Max WS	Pr_100_24	308.48	644.50	651.75	226.90
ADCR_US	43210			Lat Struct			
ADCR_US	42367.15	Max WS	Ex_100_24	339.09	643.01	651.70	1028.68
ADCR_US	42367.15	Max WS	Nat_100_24	338.57	643.01	651.69	1025.52
ADCR_US	42367.15	Max WS	Pr_100_24	339.25	643.01	651.70	1028.68
ADCR_US	42342 Access Road/ Mar			Culvert			

HEC-RAS River: ADCR_US Reach: ADCR_US Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Flow Area
				(cfs)	(ft)	(ft)	(sq ft)
ADCR_US	45417.26	Max WS	Ex_500_24	1072.79	647.32	660.46	1710.87
ADCR_US	45417.26	Max WS	Natural500_24	1068.21	647.32	659.99	1489.90
ADCR_US	45417.26	Max WS	Pr_500_24	1072.37	647.32	660.46	1712.92
ADCR_US	45412.26	Max WS	Ex_500_24	1072.82	647.32	660.46	1710.78
ADCR_US	45412.26	Max WS	Natural500_24	1068.18	647.32	659.99	1489.78
ADCR_US	45412.26	Max WS	Pr_500_24	1072.46	647.32	660.46	1712.83
ADCR_US	45405.12	Max WS	Ex_500_24	1072.71	646.66	660.46	1613.40
ADCR_US	45405.12	Max WS	Natural500_24	1068.15	646.66	659.99	1395.03
ADCR_US	45405.12	Max WS	Pr_500_24	1072.42	646.66	660.46	1615.41
ADCR_US	45400 County Line Road			Culvert			
ADCR_US	45327.71	Max WS	Ex_500_24	1072.79	646.21	660.42	5384.37
ADCR_US	45327.71	Max WS	Natural500_24	1068.76	646.21	659.95	3440.00
ADCR_US	45327.71	Max WS	Pr_500_24	1071.48	646.21	660.43	5388.37
ADCR_US	45321.4	Max WS	Ex_500_24	1073.18	645.58	660.42	4050.67
ADCR_US	45321.4	Max WS	Natural500_24	1069.01	645.58	659.94	960.53
ADCR_US	45321.4	Max WS	Pr_500_24	1071.75	645.58	660.43	4053.29
ADCR_US	45200 I-294			Culvert			
ADCR_US	45035.2	Max WS	Ex_500_24	1070.48	646.85	659.88	462.02
ADCR_US	45035.2	Max WS	Natural500_24	1072.11	646.85	659.85	460.80
ADCR_US	45035.2	Max WS	Pr_500_24	1071.01	646.85	659.88	462.08
ADCR_US	44228.72	Max WS	Ex_500_24	1105.49	645.61	659.86	1076.03
ADCR_US	44228.72	Max WS	Natural500_24	1115.02	645.61	659.83	1072.95
ADCR_US	44228.72	Max WS	Pr_500_24	1106.81	645.61	659.86	1076.18
ADCR_US	43669.93	Max WS	Ex_500_24	1131.66	645.02	659.75	518.82
ADCR_US	43669.93	Max WS	Natural500_24	1130.80	645.02	659.72	517.12
ADCR_US	43669.93	Max WS	Pr_500_24	1131.71	645.02	659.75	518.91
ADCR_US	43474.74	Max WS	Ex_500_24	1136.09	644.66	659.51	302.10
ADCR_US	43474.74	Max WS	Natural500_24	1137.54	644.66	659.47	301.09
ADCR_US	43474.74	Max WS	Pr_500_24	1136.23	644.66	659.51	302.13
ADCR_US	43280 CH & NW R.R.			Culvert			
ADCR_US	43216.19	Max WS	Ex_500_24	1112.88	644.50	653.25	292.90
ADCR_US	43216.19	Max WS	Natural500_24	1134.61	644.50	652.95	279.35
ADCR_US	43216.19	Max WS	Pr_500_24	1111.88	644.50	653.26	293.13
ADCR_US	43210			Lat Struct			
ADCR_US	42367.15	Max WS	Ex_500_24	-813.41	643.01	652.73	1682.87
ADCR_US	42367.15	Max WS	Natural500_24	-224.87	643.01	652.64	1626.74
ADCR_US	42367.15	Max WS	Pr_500_24	-840.94	643.01	652.73	1682.44
ADCR_US	42342 Access Road/ Mar			Culvert			

Illinois Department of Transportation

Hydraulic Report Data Sheets

Route I-294/Northwest Rd over Addison Creek
Section
County Cook
Exist SN
Prop SN

P or D #
PTB #

General Information

1. Name of the Stream: Addison Creek

2. Location of the Structure: NW ¼ of the SW ¼ of Section 30 , Township 40N, Range 12E of the 3rd P.M.

3. Hydraulic Report Prepared By: ☒ Consultant Christopher B. Burke Engineering, Ltd.
☐ District

4. Hydraulic Report Approval Authority: ☒ District – Post PDF of HR to BBS Hydraulics SharePoint Server
☐ BBS Hydraulics - Submit 2 hard copies of HR to BBS Hydraulics

Site Design Data

5. Drainage Area (sq. mi.): +/- 6.0 sq. mi.

6. Highway Classification:
☐ Rural ☒ Principal Arterial
☒ Urban ☐ Minor Arterial
☐ Other ☐ Collector
☐ Local

7. Design Frequency: ☐ 30 yr ☒ 50 Yr. ☐ Other

8. Number of Waterway Information Tables (WIT): 2
If more than one, explain:
First is based on regulatory FIS model. Second is based on recent MWRDGC Watershed Management Study for comparison purposes.

Hydrologic & Hydraulic Analysis

9. Hydrology Modeling (check all that apply): ☐ USGS/Stream Stats ☒ FIS ☐ Gage Data
☐ Other

10. Hydraulic Modeling (check all that apply):
a. Method: ☒ HEC-RAS ☐ WSPRO ☒ Other HEC2
b. Manning's "n" values determined as per IDOT DM CH.5? ☒ Yes ☐ No
If no, explain:
c. Source of Starting WSE: FIS
d. Non- IDOT encroachments in Survey? ☒ Yes ☐ No
If yes, are they accounted for? ☒ Yes ☐ No
e. Does the Tailwater Control? ☐ Yes ☒ No
If yes, list:

f. Were the Expansion/Contraction cones properly addressed? ☒ Yes ☐ No ☐ N/A
If No or N/A, explain:

g. What Expansion and Contraction Rates were used? Expansion: 4:1 (X:1)
Contraction 1:1 (X:1)

IDNR – OWR Floodway Permit

11. Is area experiencing urbanization or expected to urbanize within 10 years? ☒ Yes ☐ No

12. Are there any sensitive flood receptors located upstream within possible backwater influence? ☐ Yes ☒ No
If yes, list and describe critical upstream flood damageable properties and their elevations.

13. Is there any History of Flooding or Overtopping problems? ☐ Yes ☒ No
Sources of Observed Highwater:

14. Is the structure hydraulically connected to or within the floodway of an IDNR-OWR designated Public Body of Water? ☐ Yes ☒ No

15. Required IDNR - OWR Permit type:
☐ Individual ☐ SWP #2 ☐ SWP #12 ☒ Floodway
☐ None ☐ Other

Proposed Structure Data

16. Project Scope (check all that apply):
a. ☐ Complete Replacement
b. ☐ Superstructure Replacement
c: ☐ Superstructure Widening; Length of Pier Extension in the water:
U/S D/S
d. ☐ Bridge ☒ Culvert
e. ☐ New Alignment
f. Work Planned Below Q_{100} HWE? ☒ Yes ☐ No
g. ☐ Profile Raise

17. If a bridge is proposed, supply:
Flow line elevation (ft):
Preliminary low beam elevation (ft):
Width of deck (ft):
Total length from face to face of abutment (ft)
Abutment type:
Skew (degrees):
Number of spans:

18. If a culvert is proposed, supply:
Type and size: 2-10'Wx10'H
Upstream invert elevation (ft): 645.0'
Downstream invert elevation (ft): 644.84'
Length (ft): 234
Entrance type: Headwall
Skew (degrees): 0
Note: Upstream and downstream elevations should reflect the elevations before the 3" drop is applied

19. If a three-sided structure is proposed, supply:
Flow line elevation (ft):
Span (ft):
Height (ft):
Skew (degrees):
Length (ft):
Number of spans:

20. a. Is the IDOT Clearance Policy Met? ☐ Yes ☐ No ☒ NA Value (ft):
b. Is the IDOT Freeboard Policy Met? ☒ Yes ☐ No ☐ NA Value (ft):

21. Type of streambed soil : ☐ Clay ☐ Silt ☐ Sand ☒ Loam ☐

22. Scour/ Migration Problems: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Ice Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Debris Concerns: ☒ None/Minimal ☐ Significant ☐ Severe
Comments:

Countermeasures Proposed:

Existing Structure Data

		Structure U/S	Subject Structure	Structure D/S
23.	Distance from proposed structure: (ft.)	52'	0	1585
24.	Type of structure:	3-72" RCPs	2-10' W x 10' H RCBC	16' W x 18' H ARCH
25.	Low beam elevation:	651.41'	655.0'	658.4'
26.	Flow line elevation:	645.41'	645.0'	640.4'
27.	Maximum known high water elevation:	654.0'	656.1'	653.0'
28.	Date of maximum high water:	July 1957	Sept 2008	July 1957
29.	Cause (backwater, headwater, etc.):			
30.	Does structure carry entire design flood flow?	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	If not, state area of additional waterway opening: (ft^2)			
31.	Type and size of existing overflow structures:			
32.	Has adverse scour occurred under or adjacent to the structure?	No	No	No
33.	Classify type of scour and/or aggradation / degradation:			

Required Additional Data

34. Deviations from the General Procedures presented in IDOT DM CH. 2, CH.6, and CH.7:

35. Information regarding high water from other streams, reservoirs, flood control projects, proposed channel changes, or other controls affecting proposed waterway area:

36. Site Inspection made by: CBBEL Date: 10/5/10

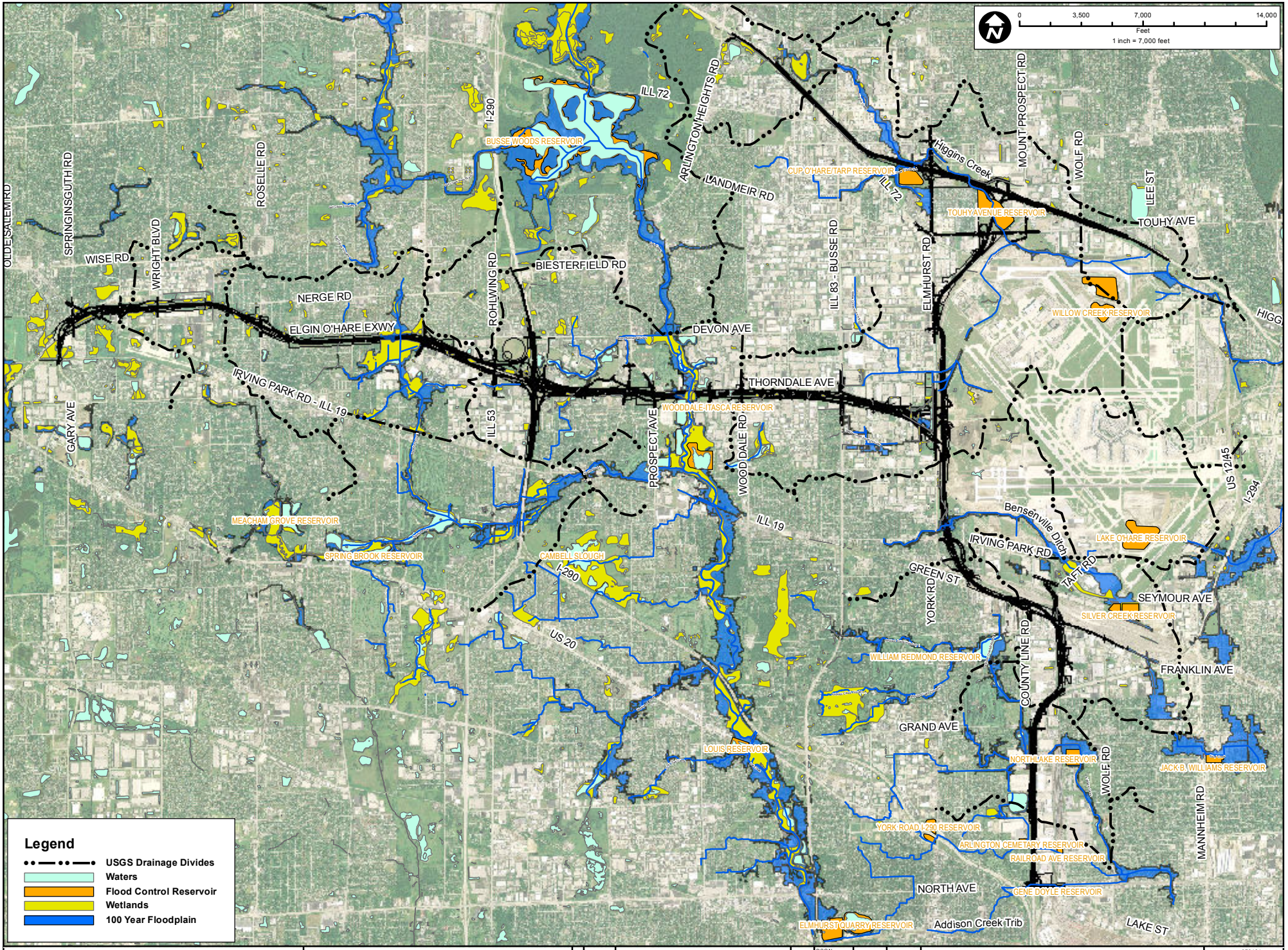
Remarks:

37. Prepared by: Emily T. Anderson Date 5-23-12

Signed (QA/QC): Date 5/24/2012

SECTION 3

GENERAL PROJECT LOCATION MAP
USGS HYDROLOGIC INVESTIGATIONS ATLAS
REGULATORY FLOOD MAP
FLOOD INSURANCE STUDY INFORMATION



CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT:
ILLINOIS DEPARTMENT OF TRANSPORTAION

NO.	DATE	NATURE OF REVISION

DSGN.	
DWN:	DWALTERS
CHKD.	
SCALE:	1:7,000'
MODEL:	ArcGIS 10
PLOT DATE	5/25/2012

FILE NAME: Drainage Exhibit Revised 8.5X11
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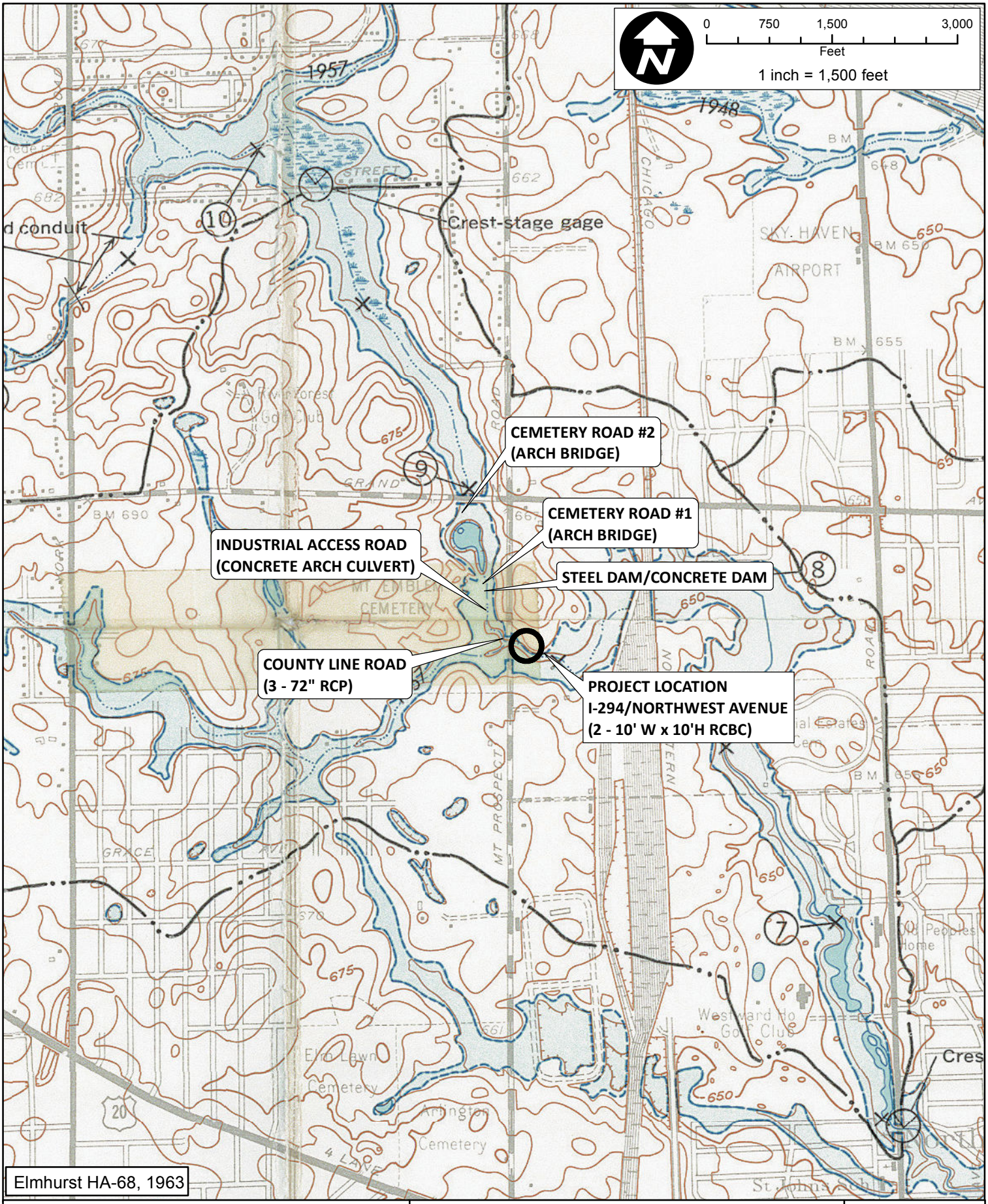
TITLE:
ELGIN O'HARE - WEST BYPASS GENERAL PROJECT LOCATION MAP

PROJ. NO. 070404
DATE:
SHEET 0 OF 0
DRAWING NO.
EXH 1



CLIENT:

ILLINOIS DEPARTMENT OF TRANSPORTATION

TITLE:

ELGIN O'HARE - WEST BYPASS
ADDISON CREEK HA MAP

PROJ. NO.	070404
DATE:	11-01-2010
SHEET	0 OF 0
DRAWING NO.	**EXH 2A**

CHRISTOPHER B. BURKE ENGINEERING, LTD.
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DWN.			GIS USER	MHAYES
CHKD.			PLOT DATE	
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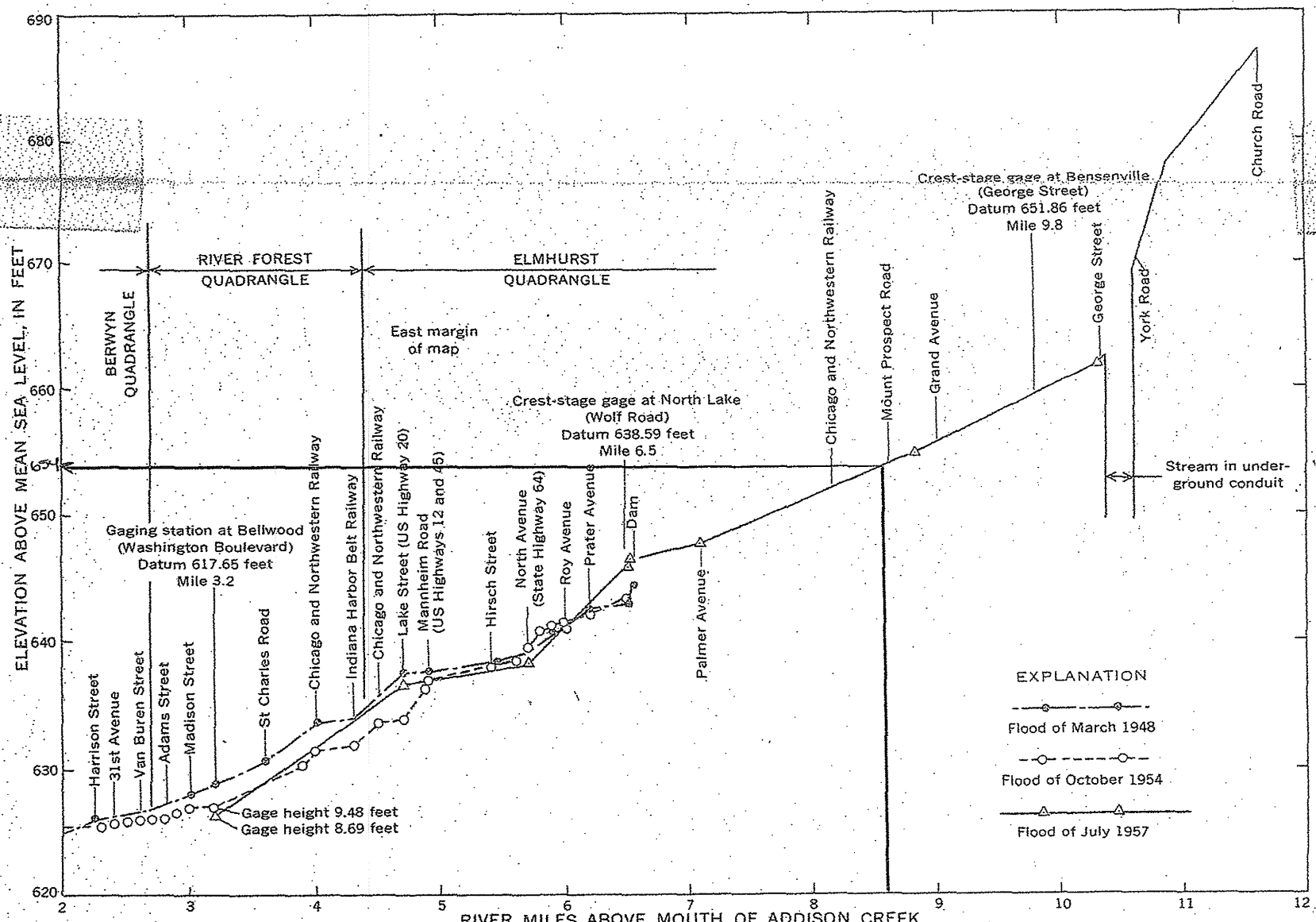
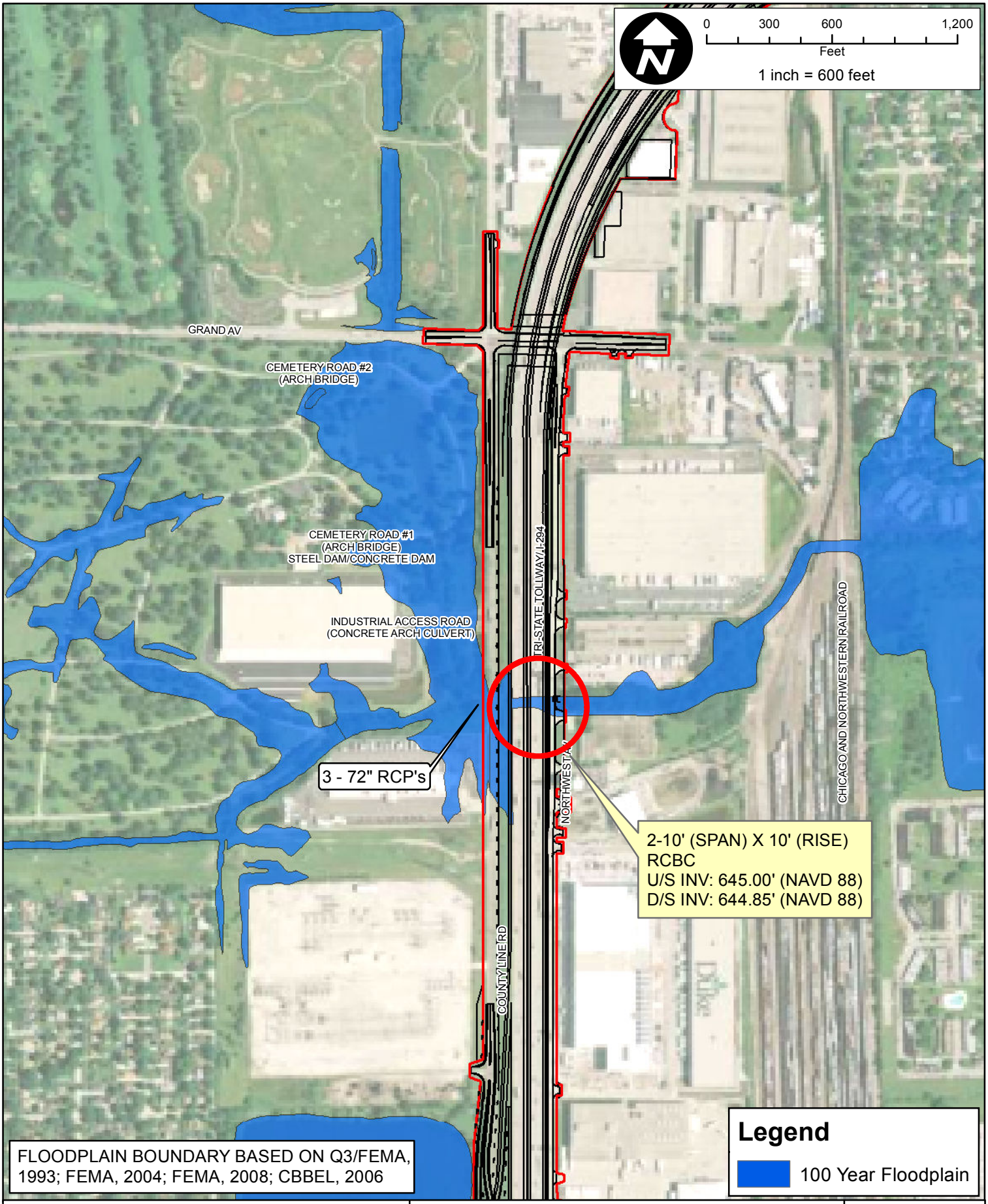


FIGURE 9.—*Profiles of floods on Addison Creek*

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—63005



CLIENT:
ILLINOIS DEPARTMENT OF TRANSPORTATION

TITLE:
ELGIN O'HARE - WEST BYPASS
ADDISON CREEK FIRM MAP

PROJ. NO.	070404
DATE:	11-01-2010
SHEET	0 OF 0
DRAWING NO.	**EXH 3**

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DSGN.			SCALE:	1"=1,500'
DWN.			GIS USER	MHAYES
CHKD.			PLOT DATE	
FILE:				

Map Document: (N:\ldot\070404\GIS\Exhibits\HA and FIRM Exhibits\FIRM Exhibits\Addison Creek.mxd)
11/1/2010 – 13:36:17

COOK COUNTY FIS

(AUGUST 2008)

December 20, 2002
Revised Countywide FIS

The FIS and FIRM were revised to designate the Cook County FIS and FIRM as the effective panels and FIS for the portion of the city of Elgin within Cook County.

February 4, 2004
Revised Countywide FIS

In the revision dated February 4, 2004, the FIRM was corrected to include the DuPage County areas of the villages of Hanover Park and Schaumburg as part of the effective Cook County FIRM and FIS. All effective dates of panels for these two communities were revised. Also, the Grey Farms Lake LOMR 02-05-1126P (4/12/2002) was incorporated.

June 2, 2005
Revised Countywide FIS

For the revision dated June 2, 2005, revised hydrologic and hydraulic analyses were prepared for FEMA by Camp Dresser & McKee, Inc., on behalf of the IDNR, for Addison Creek.

December 16, 2005
Revised Countywide FIS

For the revision dated December 16, 2005 (Reference 127), the FIS and FIRM for Cook County and incorporated areas were revised to compile LOMRs and redelineate Poplar Creek South Branch above Schaumburg Road in the vicinity of the village of Streamwood. Revisions were also made to update the effective date of all panels effective for Streamwood, including those without special flood hazard areas (SFHAs) identified.

November 16, 2006
Revised Countywide FIS

For the revision dated November 16, 2006, the FIS and FIRM for Cook County, Illinois and Incorporated Areas were revised to include the village of Barrington Hills. Additionally, this revision incorporated LOMR 05-05-0378P issued by FEMA which became effective January 12, 2006. The area of restudy included Poplar Creek, from approximately 1,400 feet downstream to approximately 340 feet downstream of Barrington Road, Poplar Creek Unnamed Tributary No. 1, Poplar Creek Unnamed Tributary No. 2, and Poplar Creek Unnamed Tributary No. 3.

April 16, 2007
Revised Countywide FIS

The revision dated April 16, 2007 includes revised analyses for the Wheeling Drainage Ditch and Buffalo Creek due to the construction of the William Rogers

Table 5 – Limits of Detailed Study for Cook County (Continued)

Flooding Source	Limits of Detailed Study
71st Street Ditch	From the mouth at Chicago Sanitary Drainage and Ship Canal to 3,910 feet above the mouth at Chicago Sanitary Drainage and Ship Canal (approximately 230 feet above 86th Avenue)
76th Avenue Ditch	From the mouth at Midlothian Creek to 8,080 above the mouth at Midlothian Creek (approximately 40 feet below 159th Street)
79th Street Ditch	From the confluence with Flag Creek Tributary C to 1,475 feet above confluence with Flag Creek Tributary C (at County Boundary)
Addison Creek	From the confluence with Salt Creek (Lower Reach) to 45,900 feet above confluence with Salt Creek (Lower Reach) (approximately 200 feet above Tri-State Tollway-Interstate Route 294)
Belaire Creek	From the mouth at Dixie Creek to 6,250 feet above the mouth at Dixie Creek (approximately 350 feet above Albany Avenue)
Boca Rio Ditch	From 8,075 feet above the mouth (147th Street) to 14,660 feet above the mouth (approximately Victoria Drive)
Buffalo Creek	From 15,180 feet above confluence with Des Plaines River (approximately Elmhurst Road) to 30,150 feet above confluence with Des Plaines River (approximately 1,350 feet above Lake-Cook Road)
Buffalo Creek Tributary A	From 3,300 feet above the confluence with Buffalo Creek (Lake-Cook Road, Lake/Cook County Boundary) to 25,200 feet above the confluence with Buffalo Creek (approximately 500 feet above Staples Road)
Butterfield Creek	From the confluence with Thorn Creek to 78,500 feet above confluence with Thorn Creek (approximately 2,400 feet above Ridgeland Avenue)

Table 14 - Summary of Discharges (Continued)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
79th Street Ditch					
At County Line Road	1.0	91	141	165	226
Addison Creek					
At the confluence with Salt Creek (Lower Reach)	21.2	1,727	2,337	2,530	3,070
Approximately 1,200 feet upstream of 21st Street	20.5	1,606	2,166	2,323	2,830
Approximately 160 feet upstream of Indiana Harbor Belt Railroad	19.8	1,511	2,045	2,173	2,670
At Eisenhower Expressway	17.6	1,359	1,717	1,796	2,210
At 31st Avenue	14.8	1,147	1,412	1,608	2,200
Approximately 50 feet upstream of Monroe Street	13.4	976	1,228	1,401	1,690
Approximately 240 feet upstream of Chicago and North Western Railway	13.2	734	1,145	1,304	1,570
Approximately 540 feet downstream of Chicago and North Western Railway	13.0	719	1,115	1,276	1,520
Approximately 520 feet upstream of Chicago and North Western Railway	12.5	594	900	1,087	1,510
Approximately 280 feet downstream of Lake Street	11.3	494	774	863	1,060
Approximately 200 feet upstream of Mannheim Road	10.9	440	720	809	1,000
Approximately 240 feet downstream of North Avenue	8.2	236	380	505	860
Approximately 280 feet upstream of Prater Avenue	8.1	215	353	481	840
Approximately 620 feet upstream of Palmer Avenue	6.8	161	374	473	780
Approximately 650 feet downstream of Tri-State Tollway	6.0	517	802	951	1,370
Belaire Creek					
At confluence with Dixie Creek	0.6	68	103	119	154
Belly Deep Slough					
Just upstream of 95th Street	0.2	*	*	429	*

* Data not available

Table 16 - Hydraulic Methodologies (Continued)

Stream	Community	Method	Starting Water-Surface Elevation
William Rogers Memorial Diversion Channel	Wheeling	HEC-RAS	

Flood elevations for areas studied by approximate methods were taken from USGS Hydrologic Atlases (Reference 176).

Roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and were based on field observations, analysis of photographs, professional experience, and previous analyses by other agencies. Roughness factor data for all streams studied by detailed methods are presented in Table 17, "Manning's 'n' Values."

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the Flood Profiles (Exhibit 1) are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Table 17 - Manning's "n" Values

Stream	Channel "n"	Overbank "n"
59th Street Ditch	0.030-0.035	0.035-0.065
63rd Street Ditch	0.025-0.060	0.017-0.040
67th Street Ditch	0.050-0.070	0.040-0.050
71st Street Ditch	0.06-0.9	0.035-0.06
76th Avenue Ditch	0.08	0.026-0.04
79th Street Ditch	0.032-0.085	0.048-0.055
Addison Creek	0.065-0.100	0.02-0.069
Belaire Creek	0.055-0.08	0.05- 0.075
Boca Rio Ditch	0.06	0.04-0.045
Buffalo Creek	0.03-0.15	0.023-0.05
Buffalo Creek Tributary A	0.025-0.055	0.038-0.070
Butterfield Creek	0.045-0.07	0.015-0.065
Butterfield Creek East Branch	0.02-0.085	0.03-0.075
Butterfield Creek East Branch Tributary	0.035-0.065	0.030-0.075
Butterfield Creek East Branch Tributary A	0.035-0.065	0.030-0.075
Butterfield Creek Tributary No. 1	0.05-0.07	0.04-0.05
Butterfield Creek Tributary No. 3	0.03-0.06	0.04-0.07

each studied stream was assigned an average conversion factor based on the conversion factors at three points along the stream. These results are shown in Table 18b, "Vertical Datum Conversions - Multiple Conversion Factors (Stream by Stream) Method."

For more information on NAVD 88, see *Guidelines and Specifications for Flood Hazard Mapping Partners Appendix B: Guidance for Converting to the North American Vertical Datum of 1988* (Reference 177) available at http://www.fema.gov/plan/prevent/fhm/dl_cgs.shtm or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

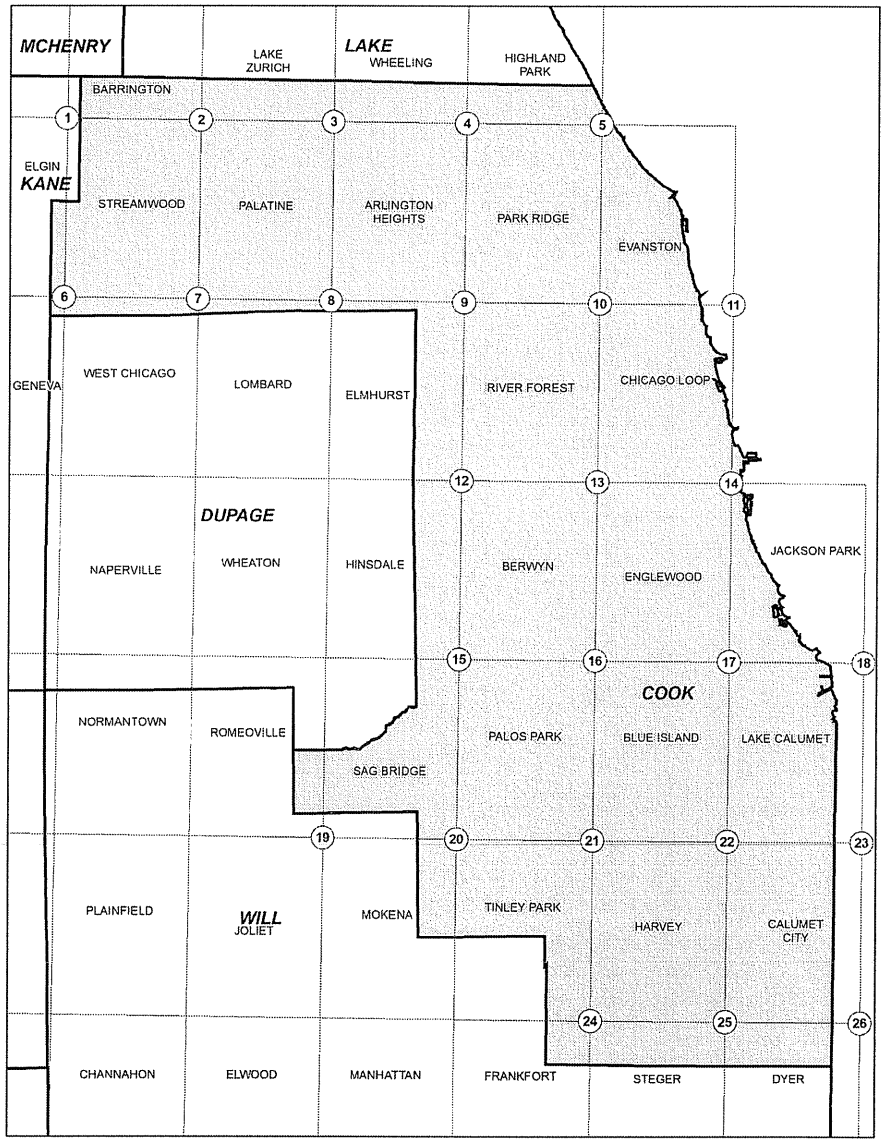


Figure 3 – Vertical Datum Conversions
USGS Quadrangle Corner Intersections

The change in elevation for each Point ID is listed in Table 18a.

Table 18a - Vertical Datum Conversions
Single Conversion Factor (countywide) Method
Cook County

Point ID #	Quadrangle Name	Corner	NAD83 Latitude (dec. deg.)	NAD83 Longitude (dec. deg.)	NGVD29 to NAVD88 Elevation Change (feet)
1	Streamwood	NW	42.125	88.250	-0.203
2	Palatine	NW	42.125	88.125	-0.226
3	Arlington Heights	NW	42.125	88.000	-0.256
4	Park Ridge	NW	42.125	87.875	-0.233
5	Evanston	NW	42.125	87.750	-0.230
6	West Chicago	NW	42.000	88.250	-0.262
7	Lombard	NW	42.000	88.125	-0.272
8	Elmhurst	NW	42.000	88.000	-0.282
9	River Forest	NW	42.000	87.875	-0.308
10	Chicago Loop	NW	42.000	87.750	-0.272
11	Chicago Loop	NE	42.000	87.625	-0.305
12	Berwyn	NW	41.875	87.875	-0.295
13	Englewood	NW	41.875	87.750	-0.272
14	Jackson Park	NW	41.875	87.625	-0.282
15	Palos Park	NW	41.750	87.875	-0.282
16	Blue Island	NW	41.750	87.750	-0.289
17	Lake Calumet	NW	41.750	87.625	-0.325
18	Lake Calumet	NE	41.750	87.500	-0.351
19	Mokena	NW	41.625	88.000	-0.279
20	Tinley Park	NW	41.625	87.875	-0.285
21	Harvey	NW	41.625	87.750	-0.302
22	Calumet City	NW	41.625	87.625	-0.325
23	Calumet City	NE	41.625	87.500	-0.348
24	Steger	NW	41.500	87.750	-0.289
25	Dyer	NW	41.500	87.625	-0.302
26	Dyer	NE	41.500	87.500	-0.308

Range of conversion values	-0.351 through -0.203
Average conversion factor	-0.284
Maximum variance from the average conversion	0.081
Maximum variance from a no-conversion value	-0.351

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE (FEET)
79th Street Ditch								
A	760[6]	26	45	3.8	679.6	679.6	679.7	0.1
B	905[6]	71	574	0.3	688.8	688.8	688.9	0.1
C	1,155[6]	81	343	0.5	688.8	688.8	688.9	0.1
D	1,400[6]	43	128	1.3	689.0	689.0	689.1	0.1
Addison Creek								
A	2,315[7]	61	465	5.4	619.8	619.5[8]	619.5	0.0
B	4,355[7]	90	796	2.9	622.9	622.9	622.9	0.0
C	5,785[7]	89	790	2.9	624.2	624.2	624.2	0.0
D	7,100[7]	260	822	2.6	625.3	625.3	625.3	0.0
E	7,725[7]	81	764	2.8	626.0	626.0	626.0	0.0
F	9,200[7]	132	806	2.7	626.9	626.9	627.0	0.1
G	10,300[7]	106	753	2.4	627.5	627.5	627.6	0.1
H	11,500[7]	100	756	2.4	627.9	627.9	628.0	0.1
I	14,075[7]	335	970	2.3	628.6	628.6	628.6	0.0
J	14,735[7]	223	866	2.6	629.3	629.3	629.3	0.0
K	15,205[7]	172	643	2.5	629.5	629.5	629.5	0.0
L	16,795[7]	275	961	2.5	630.7	630.7	630.8	0.1
M	17,455[7]	106	705	2.3	630.9	630.9	631.0	0.1
N	18,785[7]	209	760	1.8	631.9	631.9	632.0	0.1
O	20,255[7]	390	977	1.4	633.3	633.3	633.4	0.1
P	20,830[7]	48	225	5.8	633.4	633.4	633.5	0.1

[6] Feet above confluence with Flag Creek Tributary C
[7] Feet above confluence with Salt Creek
[8] Elevation computed without consideration of backwater effects from Salt Creek

TABLE 19

FEDERAL EMERGENCY MANAGEMENT AGENCY

COOK COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

79TH STREET DITCH – ADDISON CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE (FEET)
Addison Creek (Cont'd)								
Q	21,065[7]	216	837	1.6	634.1	634.1	634.2	0.1
R	22,175[7]	75	376	3.4	634.5	634.5	634.6	0.1
S	24,855[7]	200	581	1.5	636.6	636.6	636.7	0.1
T	25,605[7]	200	537	1.6	637.2	637.2	637.3	0.1
U	26,340[7]	250	631	1.3	638.1	638.1	638.2	0.1
V	28,145[7]	79	325	2.5	639.5	639.5	639.6	0.1
W	29,100[7]	124	341	2.4	639.8	639.8	639.9	0.1
X	29,800[7]	41	270	1.9	640.1	640.1	640.2	0.1
Y	30,425[7]	148	593	0.9	640.3	640.3	640.4	0.1
Z	31,135[7]	121	495	1.0	640.4	640.4	640.5	0.1
AA	32,790[7]	43	205	2.5	640.8	640.8	640.9	0.1
AB	34,115[7]	38	140	3.4	641.2	641.2	641.3	0.1
AC	34,650[7]	115	775	0.6	644.5	644.5	644.5	0.0
AD	35,800[7]	165	1,370	0.3	644.6	644.6	644.7	0.1
AE	36,585[7]	312	2,982	0.2	644.9	644.9	644.9	0.0
AF	37,695[7]	35	130	3.7	645.1	645.1	645.2	0.1
AG	38,325[7]	71	182	2.6	646.2	646.2	646.3	0.1
AH	39,865[7]	50	241	2.0	647.4	647.4	647.5	0.1
AI	40,735[7]	43	181	2.6	648.1	648.1	648.2	0.1
AJ	41,135[7]	273	653	0.7	651.6	651.6	651.7	0.1
AK	42,725[7]	520	1,990	0.6	651.8	651.8	651.9	0.1
AL	43,305[7]	64	386	3.1	654.4	654.4	654.4	0.0
AM	44,335[7]	79	403	2.4	654.7	654.7	654.7	0.0

[7] Feet above confluence with Salt Creek

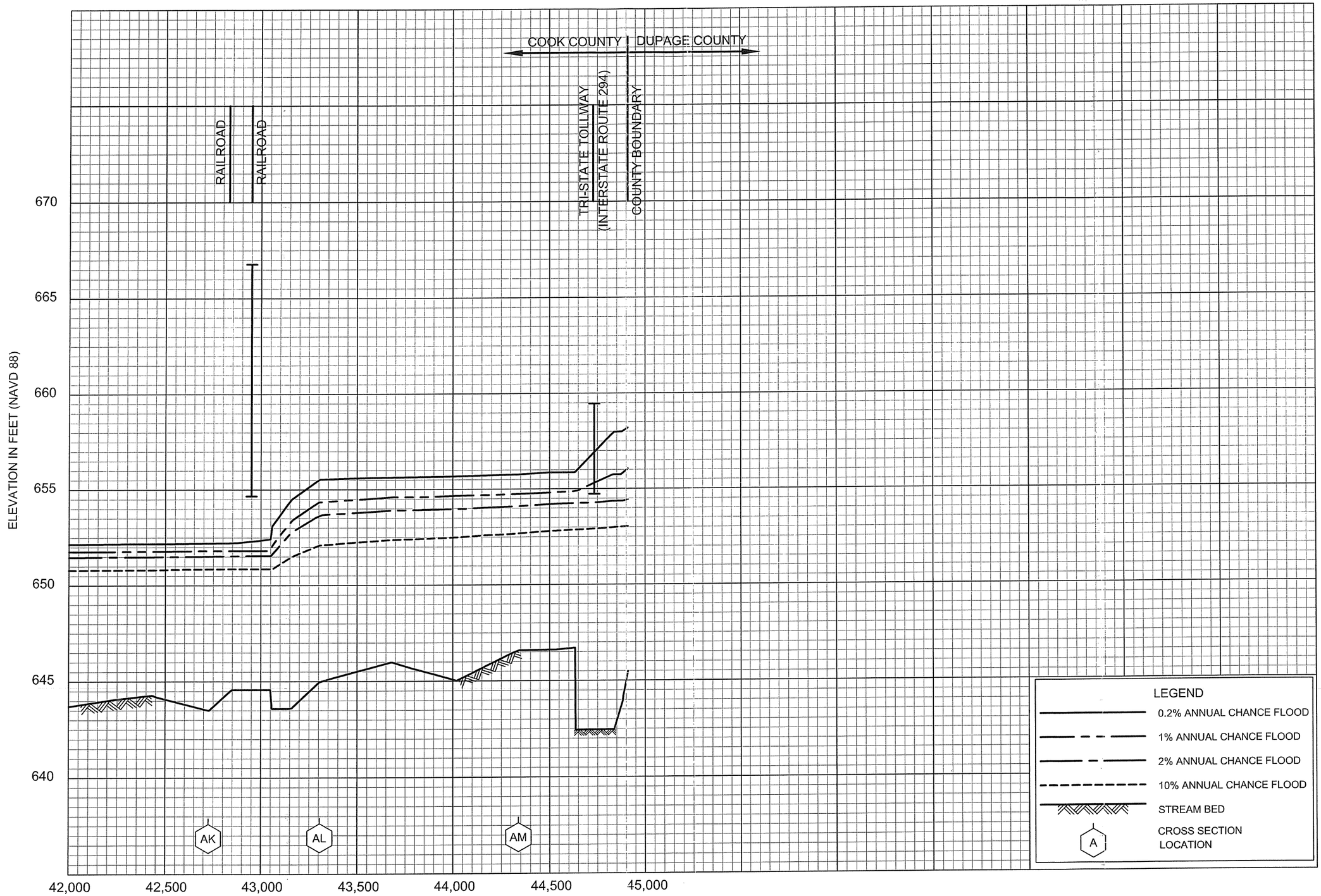
TABLE 19

FEDERAL EMERGENCY MANAGEMENT AGENCY

COOK COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

ADDISON CREEK



FLOOD PROFILES

ADDISON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

COOK COUNTY, IL

AND INCORPORATED AREAS

DUPAGE COUNTY FIS

(MARCH 2007)

The Federal Emergency Management Agency
in Cooperation with
DuPage County, Illinois Presents:

FLOOD INSURANCE STUDY

A Report of Flood Hazards in:

DUPAGE COUNTY, ILLINOIS AND INCORPORATED AREAS

Prepared, in parts, by:

FEMA
Region V
536 South Clark Street
Chicago, Illinois 60605

and

Nika Engineering
421 Mill Street
Batavia, Illiois 60510

March 2007
1 7043CV000A

analysis, a contract number and corresponding project order number were included. The listed finish date is the original date of study completion and does not reflect updates as a result of Letters of Map Revision (LOMR). Further Hydrologic and Hydraulic information for each tributary can be located in Section 3.0.

Table 1: Tributary Study Acknowledgements

Watershed	Tributary	Hydrologic and Hydraulic Analysis Performed By:	FEMA Contract Numbers	Study Completion
Des Plaines	Addison Creek	Donohue and Associates, Inc. study Addison Creek Stormwater Management System Evaluation, DuPage and Cook Counties, Illinois		Sep-88
	Bensenville Ditch	Illlinois Department of Transportation study Strategic Planning Study for Flood Control - Bensenville Ditch		Dec-87
	Black Partridge Creek	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Flagg Creek	Harza Engineering Company	Contract No. H-4562 and H-3978	Aug-78
	Willow Creek	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Main Stem	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
DuPage River	Lily Cache	Harza Engineering Company	Contract No. H-3978	Feb-79
	Spring Brook #2	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement Nos. IAA-H-16-75, P.O. No. 21 and IAA-H-7-76, P.O. No. 1	Feb-78
East Branch DuPage River	Armitage Creek	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-16-75, P.O. No 19, and Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 1	Nov-76
	Army Trail Tributary	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Crabtree Creek	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-16-75 P.O. No. 21 and Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 1	Jan-77
	Tributary #1	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Tributary #2	Camp Dresser and McKee: DEC Floodplain Mapping Report for East Branch DuPage River Tributary #2		Apr-02
	Tributary #3	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Tributary #6	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Tributary #7	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Glen Crest Creek	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79
	Glen Park	Chicago District, U.S. Army Corps of Engineers	Inter-Agency Agreement No. IAA-H-7-76, P.O. No. 19	Apr-79

3.1.2 Addison Creek (DPAC)

3.1.2.1 Tributary Description

Within the confines of DuPage County, Addison Creek has a total watershed area of 5815 acres. Situated on the northeastern edge of DuPage County, Addison Creek and its reaches flow from west to east, confluencing with the Des Plaines River in Cook County. Much of the watershed is found within the confines of the Village of Bensenville and Elmhurst, an area with older residential and commercial structures, and a good portion of the upper watershed is storm sewered.

The Main Stem of Addison Creek and its primary reach both start west of Illinois Route 83 (Kingery Highway) within residential subdivisions. The reaches travel to the east passing underneath Route 83 and eventually opening up within the White Pines Golf Course. Both reaches continue to the east passing under York Road, where they are joined at the George Street Reservoir. George Street Reservoir releases the flow to the south where it enters the River Forest Country Club, Mt. Emblem Cemetery and then a detention area. Flow then resumes to the east where it passes under I-294 and exits DuPage County.

3.1.2.2 Hydrologic Analysis

Hydrologic analyses were carried out to establish the peak discharge-frequency relationship for Addison Creek.

Peak discharges for Addison Creek and Addison Creek's South Tributary, which does not have a streamflow gage, were determined using the HEC-1 computer program (USCOE, HEC-1 Hydrograph Package 723-X6-L2010) and the SCS hydrograph feature of the HEC-1 model (SCS, National Engineering Handbook, Section 4 "Hydrology"). Peak Discharges for the Addison Creek Tributaries were computed using the TR-20 computer program (SCS, Technical Release No. 20 – Computer Program for Project Formulation, Hydrology). The 500-year peak discharge was determined using a linear extrapolation preformed on probability paper.

Peak discharge-drainage area relationships for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail are presented in Table DPAC.1.

Table DPAC.1: Addison Creek Summary of Discharges

Summary of Discharges

Flooding Source And Location	Drainage Area (mi^2)	Peak Discharges (cfs) 10-yr	50-yr	100-yr	500-yr
Addison Creek Tributary #1 – at George Street Reservoir	0.93	54	96	122	185
Addison Creek Tributary #2					
- at York Road	1.18	56	88	106	146
- at Church Road	0.33	28	44	50	68
Addison Creek Tributary #3					
- about 300 ft d/s George Street	1.20	50	62	86	115
- at Church Road	0.23	18	28	34	43
Addison Creek South Tributary					
- at York Road	1.68	426	736	915	1,421
- at Fairway Drive	1.12	202	346	429	693

Elevations for floods of the selected recurrence intervals of George Street Reservoir are presented in Table DPAC.2.

Table DPAC.2: Addison Creek Summary of Elevations (George Street Reservoir)

Summary of Elevations

Flooding Source And Location	Peak Elevation (Ft – NGVD) 10-yr	50-yr	100-yr	500-yr
George Street Reservoir	643.0	649.0	652.0	657.0

3.1.2.3 Hydraulic Analysis

Analysis of the hydraulic characteristics of flooding from the sources studied was carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Channel cross-section data were obtained from field surveys. All bridges and culverts were surveyed to obtain elevation data and structural geometry

Locations of selected cross-sections used in the hydraulic analysis are shown on the Flood Profiles and on the Flood Insurance Rate Map.

Roughness coefficients (Manning's "n") were assigned based on doled inspection, photographs, and engineering judgment (USGS, Roughness Characteristics of Natural Channels; Chow, Open Channel Hydraulics). Roughness values range from 0.030 to 0.075 for the channels and from 0.030 to 0.095 for the overbanks.

Water-surface elevations for floods of the selected recurrence intervals on Addison Creek's South Tributary were computed using the HEC-2 step-backwater computer program (USCOE, HEC-2Water Surface Profiles 723-X6-L202A). Starting water-surface elevations for Bensenville Ditch were taken from the Flood Insurance Study for the City of Chicago, Illinois (FEMA, Flood Insurance Study – City of Chicago, Cook and DuPage Counties, Nov 1983).

Starting water-surface elevations on the Addison Creek tributaries were determined using the slope-area method. Water-surface profiles for present conditions on the Addison Creek tributaries were determined for the 10-, 50-, 100-, and 500-year floods using the WSP-2 computer program (USDA – SCS, Technical Release No. 61, WSP-2 Computer Program). Water Surface Profiles for present conditions on Addison Creek were determined for the 10-, 50-, and 100-year floods using the HEC-2 step-backwater computer program (USCOE, HEC-2Water Surface Profiles 723-X6-L202A).

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 50- and 100-year flood elevations are close together, due to limitations of the profile scale, only the 100-year profile has been shown.

The hydraulic analyses for this study are based only on the effects of unobstructed flow. The flood elevation as shown on the profiles are, therefore, considered valid only if hydraulic structures, in general, remain unobstructed and if channel and overbank conditions remain essentially the same as ascertained during this study.

All elevations are referenced from National Geodetic Vertical Datum of 1929 (NGVD); elevation reference marks used in the study are shown on the maps.

3.1.2.4 Flood Boundaries

To reference the flood boundaries for Addison Creek, see Map Panels: 0305, 0306, 0308, 0309, 0603 and 0606

3.1.2.5 Floodways

Please reference attached Floodway Data Tables.

3.1.2.6 Flood Profiles

Please reference attached Flood Profile Sheets

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Addison Creek (DPAC)								
DPAC0001	61,193 [1]	280	1,416	0.7	657.8	657.8	657.8	0.0
DPAC0002	61,834 [1]	305	1,367	0.7	657.8	657.8	657.8	0.0
DPAC0003	62,384 [1]	500	2,701	0.0	657.8	657.8	657.8	0.0
DPAC0004	62,774 [1]	523	2,453	0.0	657.8	657.8	657.8	0.0
DPAC0005	63,816 [1]	72	432	0.2	657.9	657.9	657.9	0.0
DPAC0006	64,481 [1]	71	397	0.2	657.9	657.9	657.9	0.0
DPAC0007	65,006 [1]	175	1,068	0.1	657.9	657.9	657.9	0.0
DPAC0008	65,991 [1]	254	857	0.1	657.9	657.9	657.9	0.0
DPAC0009	66,171 [1]	355	1,325	0.1	657.9	657.9	657.9	0.0

[1] In feet above confluence with Des Plaines River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY

AND INCORPORATED AREAS

FLOODWAY DATA

ADDISON CREEK (DPAC)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Addison Creek Tributary No. 1 (DPAC) DPAC0010	71,096[1]	121[2]	271	0.4	656.5	656.5	656.6	0.1

[1] In feet above confluence with Des Plaines River

[2] Actual floodway width cannot be shown on FIRM due to redelineation of floodplain

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

ADDISON CREEK TRIBUTARY NO. 1 (DPAC)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Addison Creek Tributary No. 2 (DPAC)								
DPAC0011	69,441 [1]	21	38	2.9	662.6	662.6	662.7	0.1
DPAC0012	70,242 [1]	65	115	0.0	662.8	662.8	662.9	0.1
DPAC0013	73,465 [1]	54	47	1.5	672.3	672.3	672.4	0.1

[1] In feet above confluence with Des Plaines River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY

AND INCORPORATED AREAS

FLOODWAY DATA

ADDISON CREEK TRIBUTARY NO. 2 (DPAC)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Addison Creek Tributary No. 3 (DPAC)								
DPAC0014	70,149[1]	60	182	0.5	662.6	662.5[2]	662.6	0.1
DPAC0015	70,640[1]	50	193	0.4	663.1	663.1	663.2	0.1
DPAC0016	73,887[1]	16	18	3.5	676.1	676.1	676.2	0.1
DPAC0017	75,994[1]	249	1,265	0.0	682.5	682.5	682.5	0.0

[1] In feet above confluence with Des Plaines River

[2] Elevation computed without consideration of backwater effects from Addison Creek Tributary No. 2

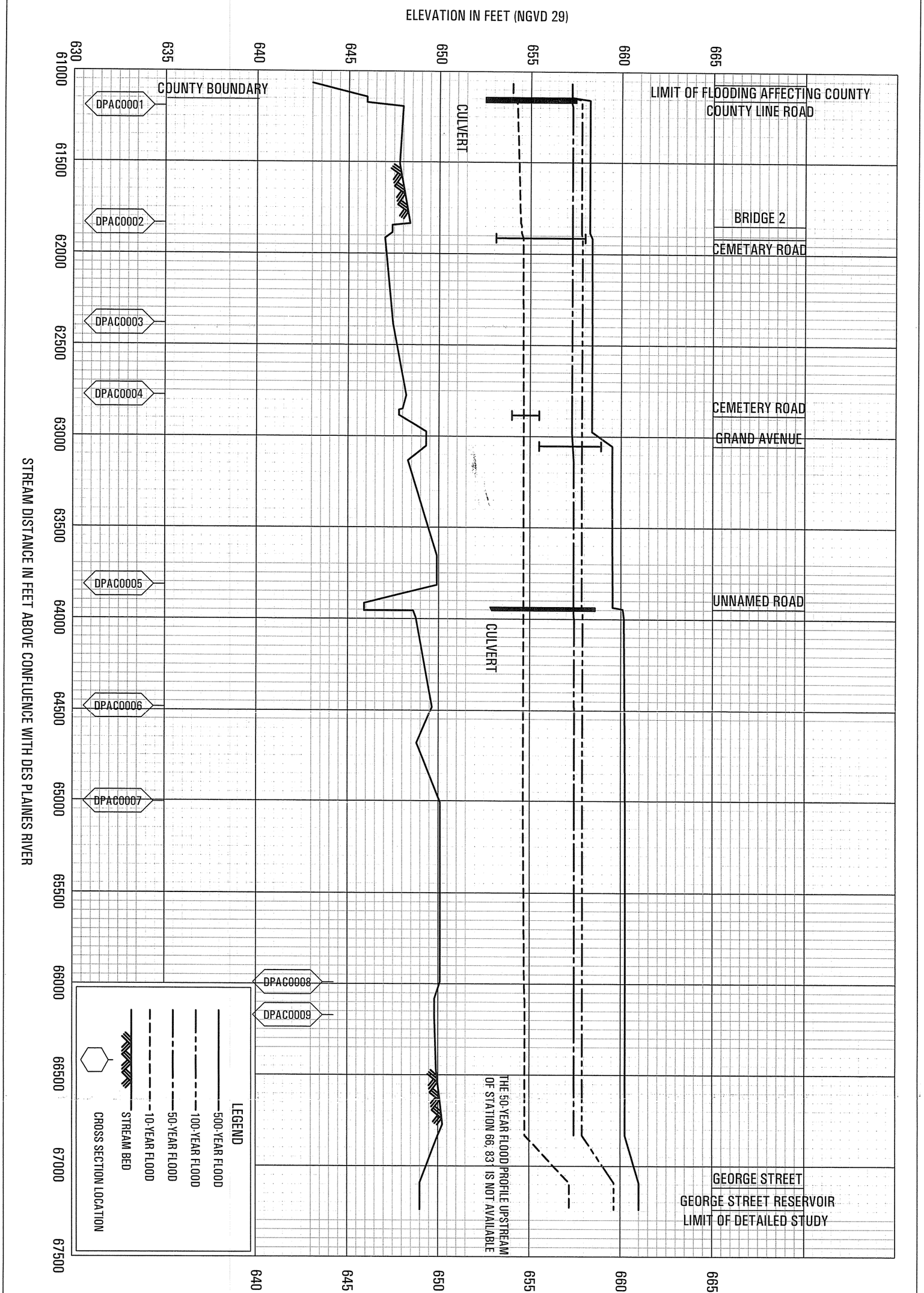
TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY
AND INCORPORATED AREAS

FLOODWAY DATA

ADDISON CREEK TRIBUTARY NO. 3 (DPAC)



01P

FEDERAL EMERGENCY MANAGEMENT AGENCY

DUPAGE COUNTY, IL

AND INCORPORATED AREAS

FLOOD PROFILES

ADDISON CREEK (DPAC)

SECTION 4

SITE PHOTOGRAPHS

Downstream face of Cemetery Road #1 bridge

Upstream face of Cemetery Road #1 bridge

Dams from west bank

Dams from east bank

Upstream face of Industrial Access Road from west bank

Downstream face of Industrial Access Road from west bank

Industrial Access Road looking west at industrial building


Downstream face of County Line Road from north bank

Looking upstream (west) from County Line Road at confluence of Addison Creek (from north) and Addison Creek Tributary (from west)

Looking at north bank of County Line Road from headwall

Upstream face of I-294

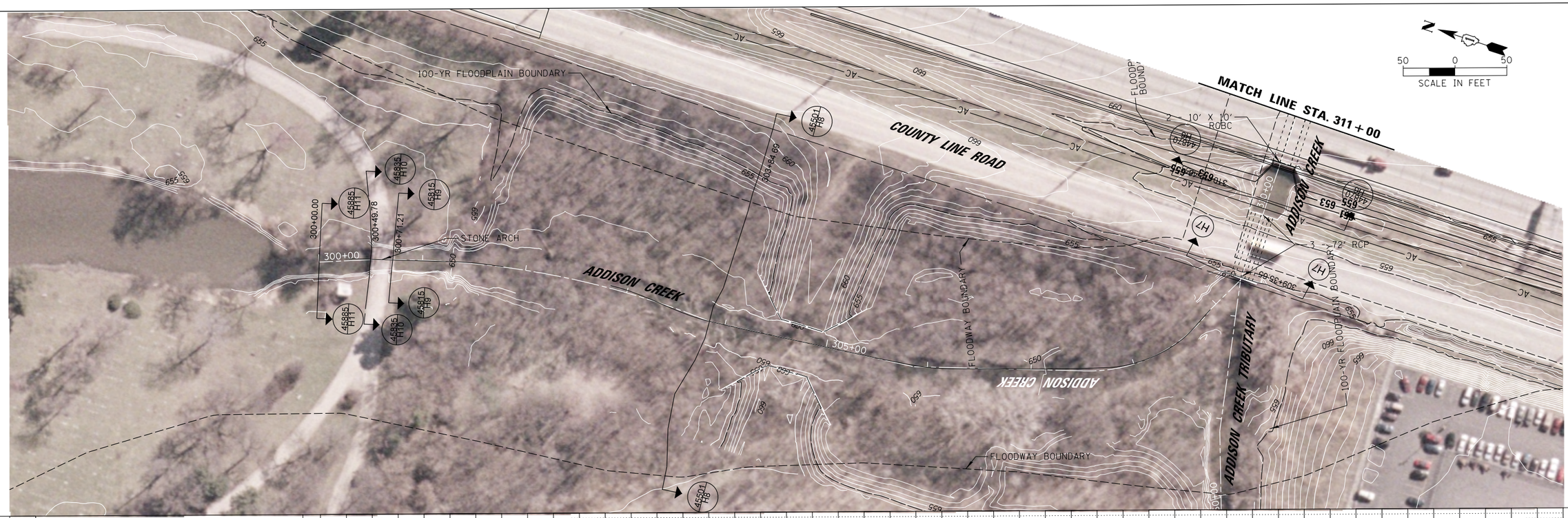
Downstream face of I-294

SECTION 5

STREAMBED PLAN AND PROFILE
ROADWAY PLAN AND PROFILE

PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
ALIGNMENT CHECKED
GRADES CHECKED
B.M. NOTED
CADD FILE NAME
BY
DATE

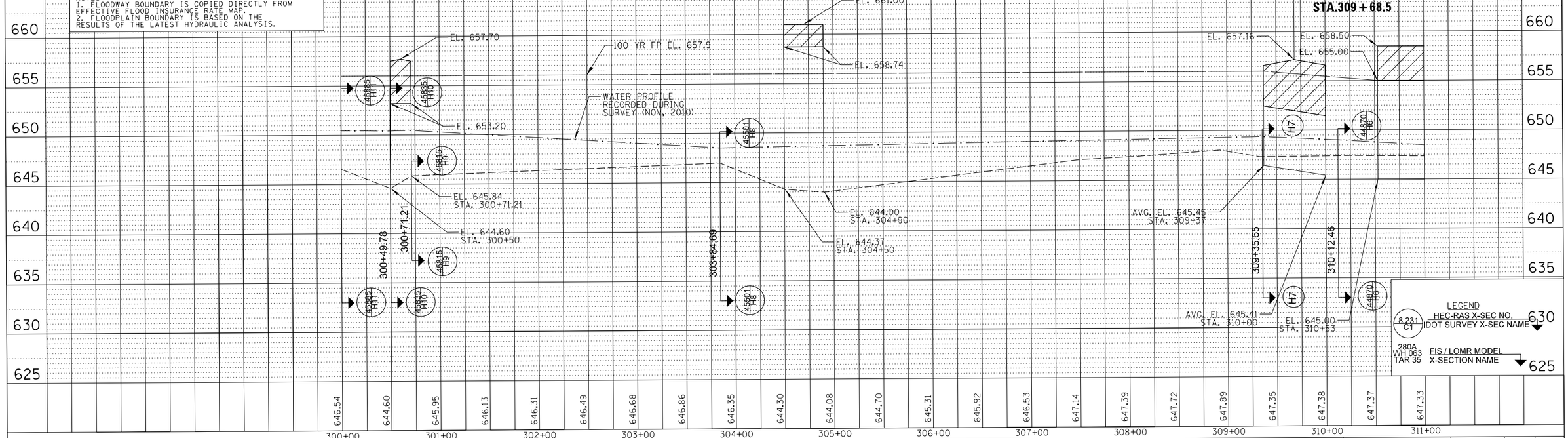
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE



NO.	ELEVATION BENCHMARKS (DATUM: NAVD 1988) DESCRIPTION	ELEV.
C.P. 400	SURVEY CONTROL POINT	672.58

NOTES:
1. FLOODWAY BOUNDARY IS COPIED DIRECTLY FROM EFFECTIVE FLOOD INSURANCE RATE MAP.
2. FLOODPLAIN BOUNDARY IS BASED ON THE RESULTS OF THE LATEST HYDRAULIC ANALYSIS.

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE



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		DRAWN -	REVISED -
	PLOT SCALE = 101'	CHECKED -	REVISED -
	PLOT DATE = 10/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELGIN O'HARE WEST BYPASS
ADDISON CREEK
EXISTING CHANNEL PLAN AND PROFILE

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

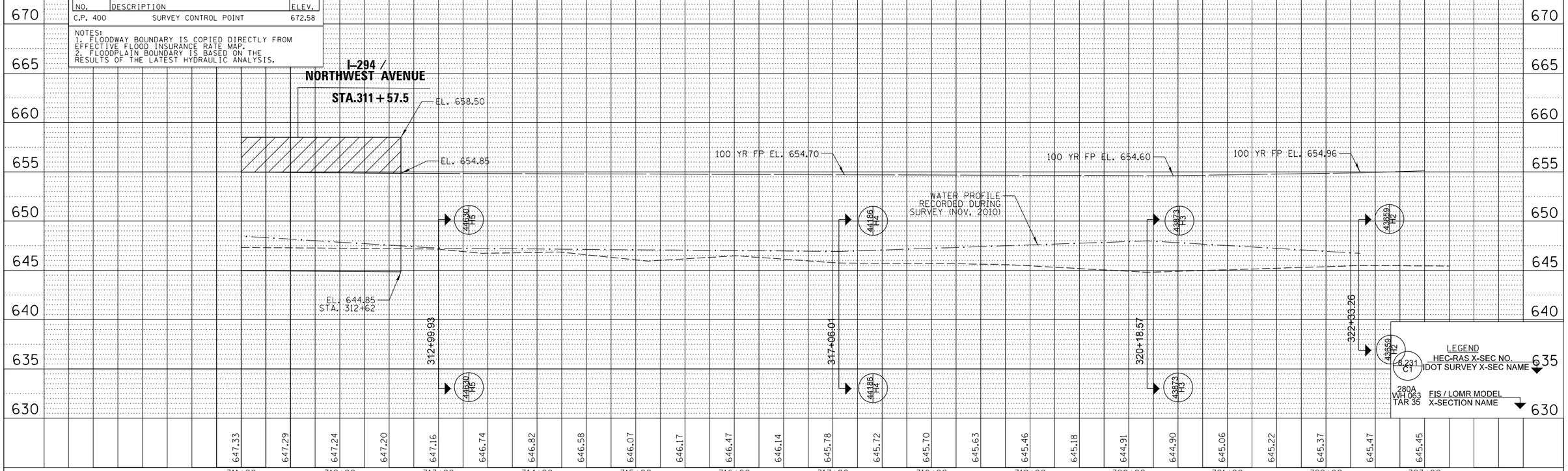
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				1
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

NO.	ELEVATION BENCHMARKS DATUM: DESCRIPTION	ELEV.
C.P. 400	SURVEY CONTROL POINT	672.58

NOTES:
1. FLOODWAY BOUNDARY IS COPIED DIRECTLY FROM EFFECTIVE FLOOD INSURANCE RATE MAP.
2. FLOODPLAIN BOUNDARY IS BASED ON THE RESULTS OF THE LATEST HYDRAULIC ANALYSIS.

PROFILE
SURVEYED
PLOTTED
ALIGNMENT CHECKED
BLM. NOTED
STRUCTURE NO'S/ITHS CHKD
NOTE BOOK
NO.
BY
DATE



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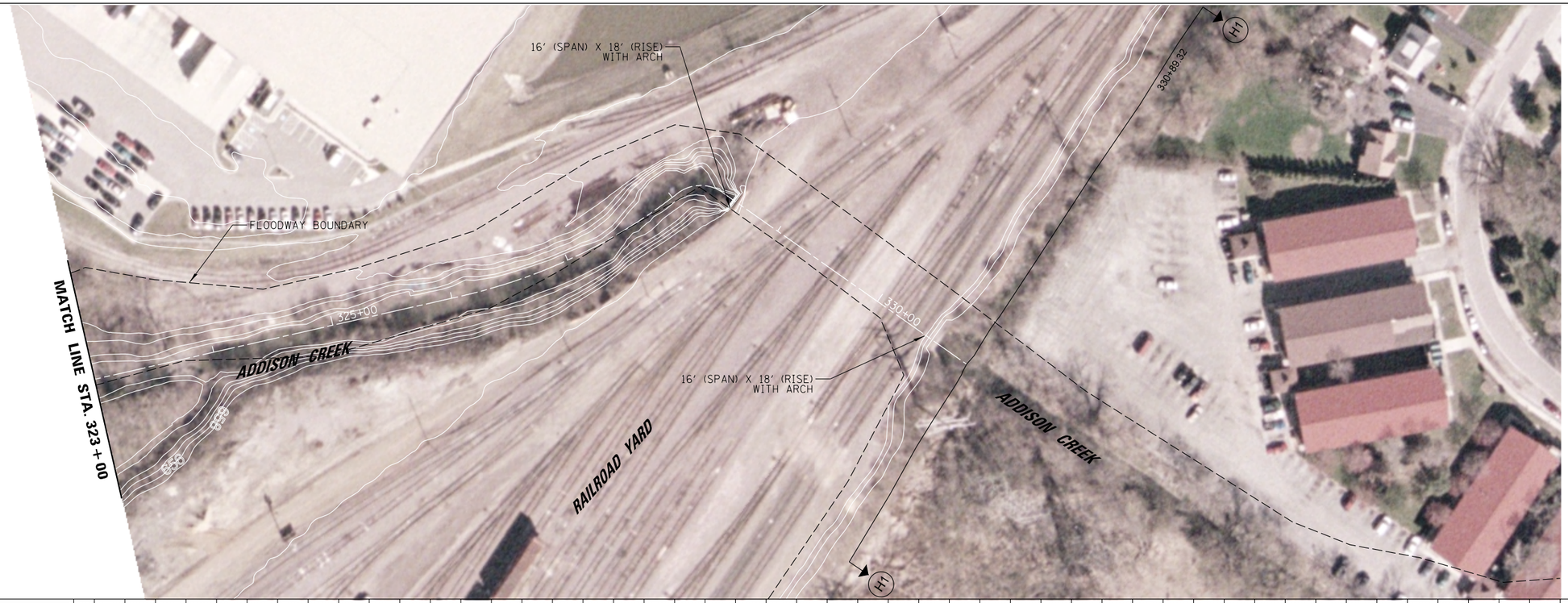
	PLOT DATE = 10/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELGIN O'HARE WEST BYPASS
ADDISON CREEK
EXISTING CHANNEL PLAN AND PROFILE

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



50 0 50
SCALE IN FEET

PLAN
SURVEYED
PLOTTED
ROAD RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
R.T. OF WAY CHECKED
STRUCTURE NO(S) CHKD
NOTE BOOK
NO.
BY
DATE

ELEVATION BENCHMARKS
DATUM:

NO.	DESCRIPTION	ELEV.
C.P. 400	SURVEY CONTROL POINT	672.58

NOTES:
1. FLOODWAY BOUNDARY IS COPIED DIRECTLY FROM EFFECTIVE FLOOD INSURANCE RATE MAP.
2. FLOODPLAIN BOUNDARY IS BASED ON THE RESULTS OF THE LATEST HYDRAULIC ANALYSIS.

670
665
660
655
650
645
640
635
630

645.45 645.43 645.41 645.38 645.36 645.34 645.32 645.30 645.28 645.26 645.24 645.21 645.19 645.17 645.15 645.13

323+00 324+00 325+00 326+00 327+00 328+00 329+00 330+00

330+89.32

LEGEND
8.231 C1 — HEC-RAS X-SEC NO. / IDOT SURVEY X-SEC NAME
280A WH 063 TAR 35 — FIS / LOMR MODEL X-SECTION NAME

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	PLOT DATE = 10/1/2012	DATE -	REVISED -

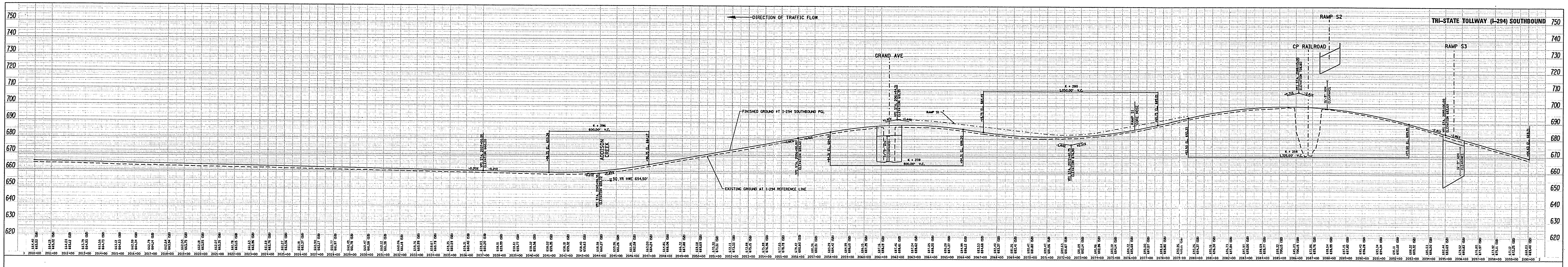
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

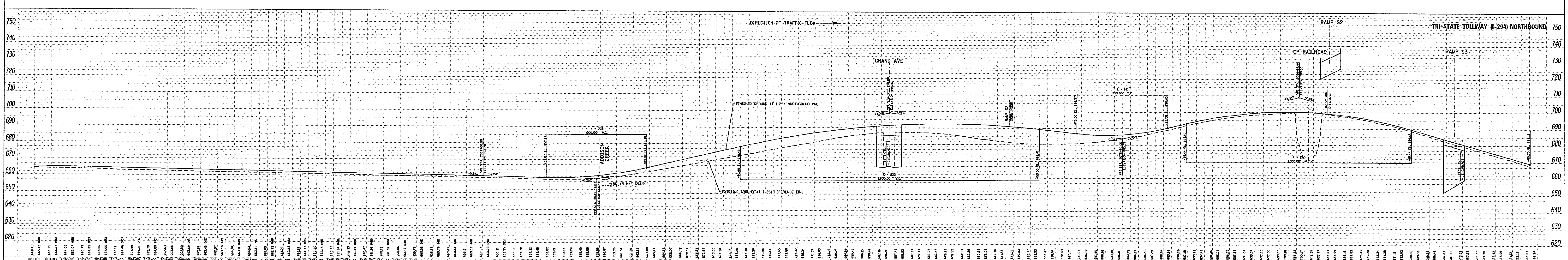
ELGIN O'HARE WEST BYPASS
ADDISON CREEK
EXISTING CHANNEL PLAN AND PROFILE

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.
ILLINOIS FED. AID PROJECT





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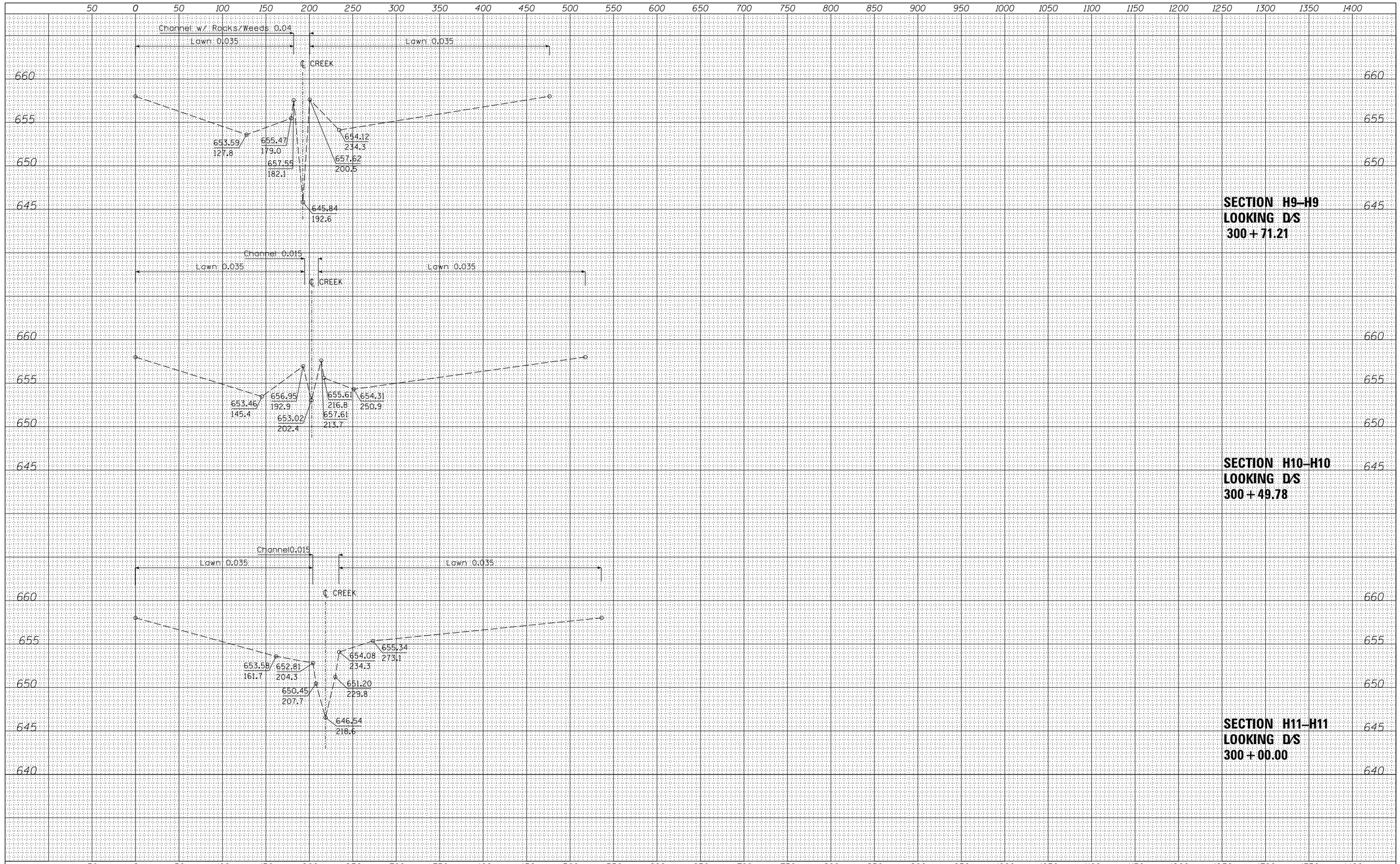
	PLOT SCALE = 200.0000 ' / IN.	CHECKED - CH2M HILL	REVISED -		
	PLOT DATE = 12/30/2010	DATE -	REVISED -		SCALE: SHEET NO. 70 OF 92 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DU PAGE	92	70
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

SOUTH SECTION

SECTION 6

CROSS-SECTION PLOTS
STRUCTURE OPENING PLOTS



SECTION H9–H9
LOOKING D/S
300 + 71.21

SECTION H10–H10
LOOKING D/S
300 + 49.78

SECTION H11–H11
LOOKING D/S
300 + 00.00

FINAL SURVEY

NOTE BOOK	BY	DATE
NO.		

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

ORIGINAL SURVEY

NOTE BOOK	BY	DATE
NO.		

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

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		DRAWN - MYG	REVISED -
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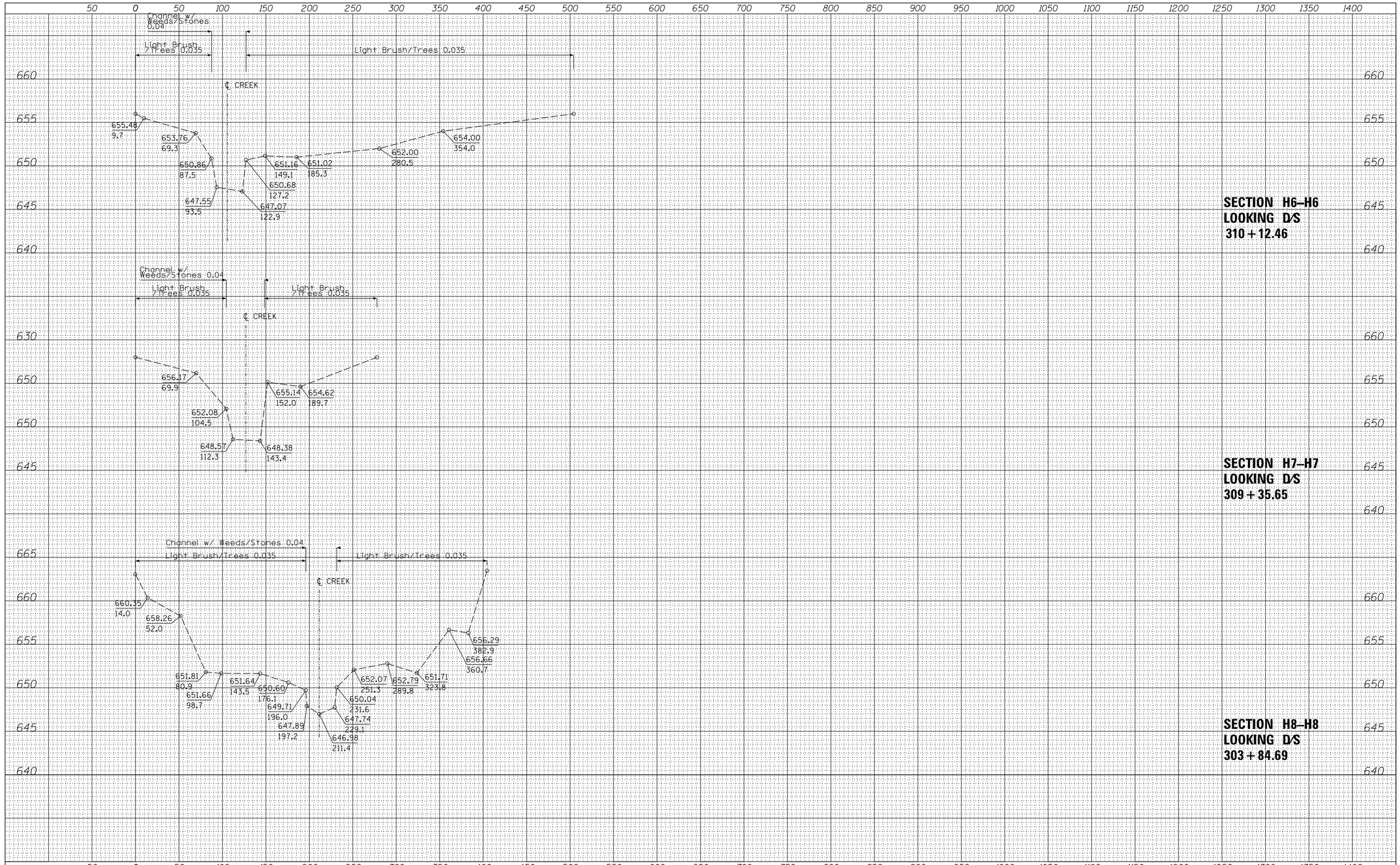
	PLOT DATE = 10/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELGIN OHARE WEST BYPASS
ADDISON CREEK

SCALE: 50H 5V | SHEET NO. OF SHEETS | STA. 300+00.00 TO STA. 300+71.21

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY

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ORIGINAL SURVEY

NO.	NOTE BOOK	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE

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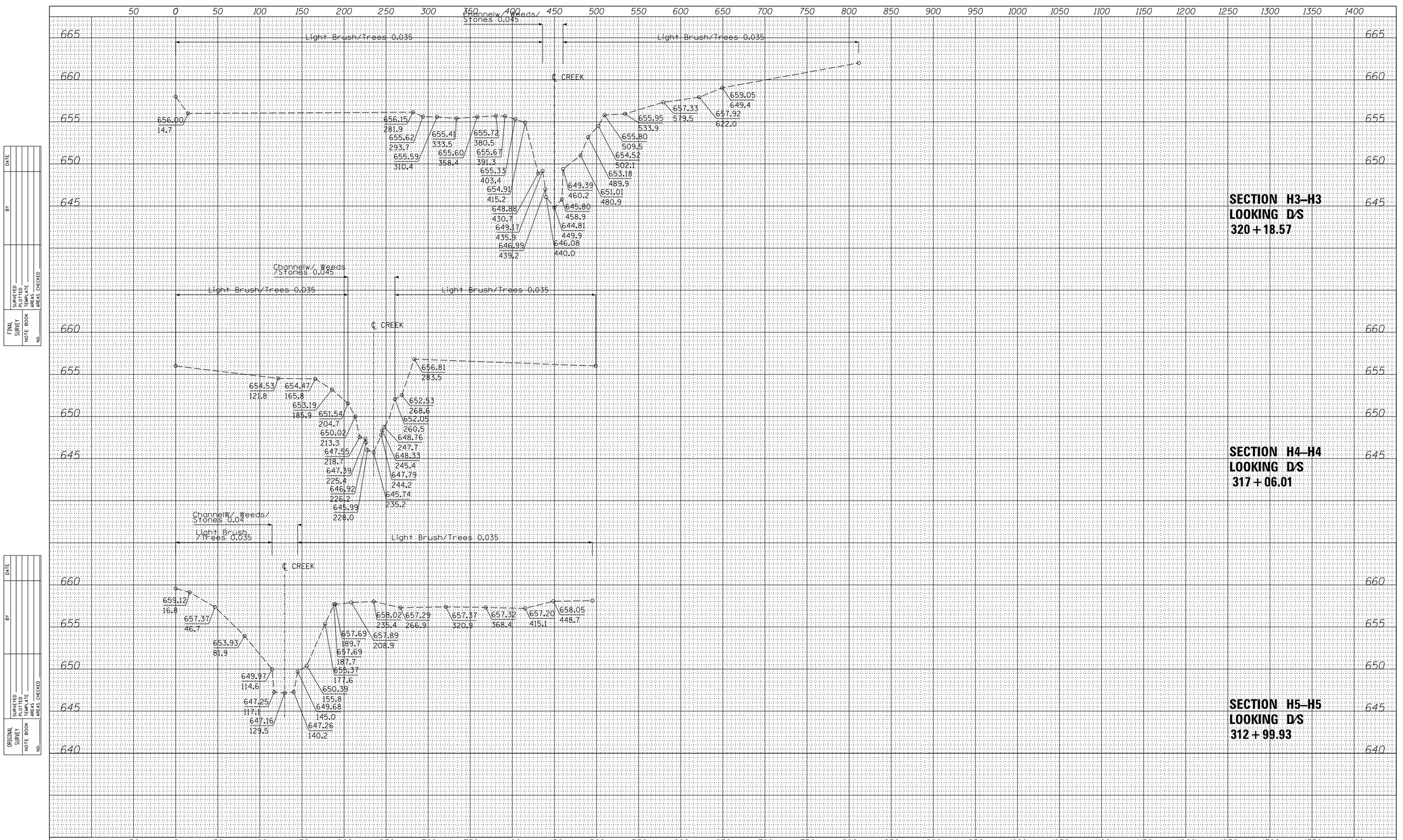
	PLOT SCALE = 100'	CHECKED - CW	REVISED -
	PLOT DATE = 10/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELGIN OHARE WEST BYPASS
ADDISON CREEK

SCALE: 50H 5V | SHEET NO. OF SHEETS | STA. 303+84.69 TO STA. 310+12.46

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



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ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

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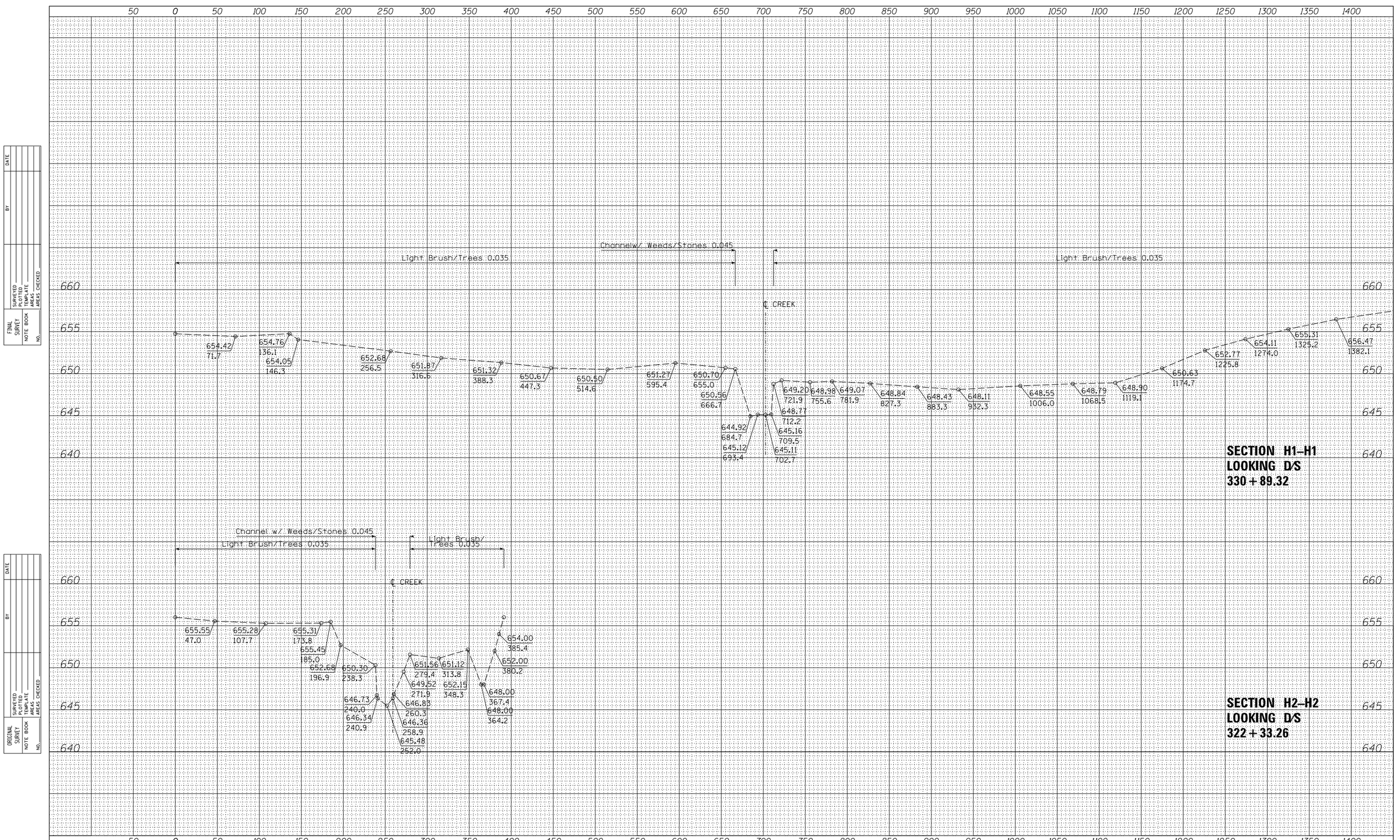
	PLOT DATE = 10/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELGIN OHARE WEST BYPASS
ADDISON CREEK

SCALE: 50H 5V | SHEET NO. OF SHEETS | STA. 312+99.93 TO STA. 320+18.57

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



FINAL SURVEY

NO.	NOTE BOOK	BY	DATE
	AREAS CHECKED		
	AREAS		
	TEMPLATE		
	PLOTTED		
	SURVEYED		

ORIGINAL SURVEY

NO.	NOTE BOOK	BY	DATE
	AREAS CHECKED		
	AREAS		
	TEMPLATE		
	PLOTTED		
	SURVEYED		

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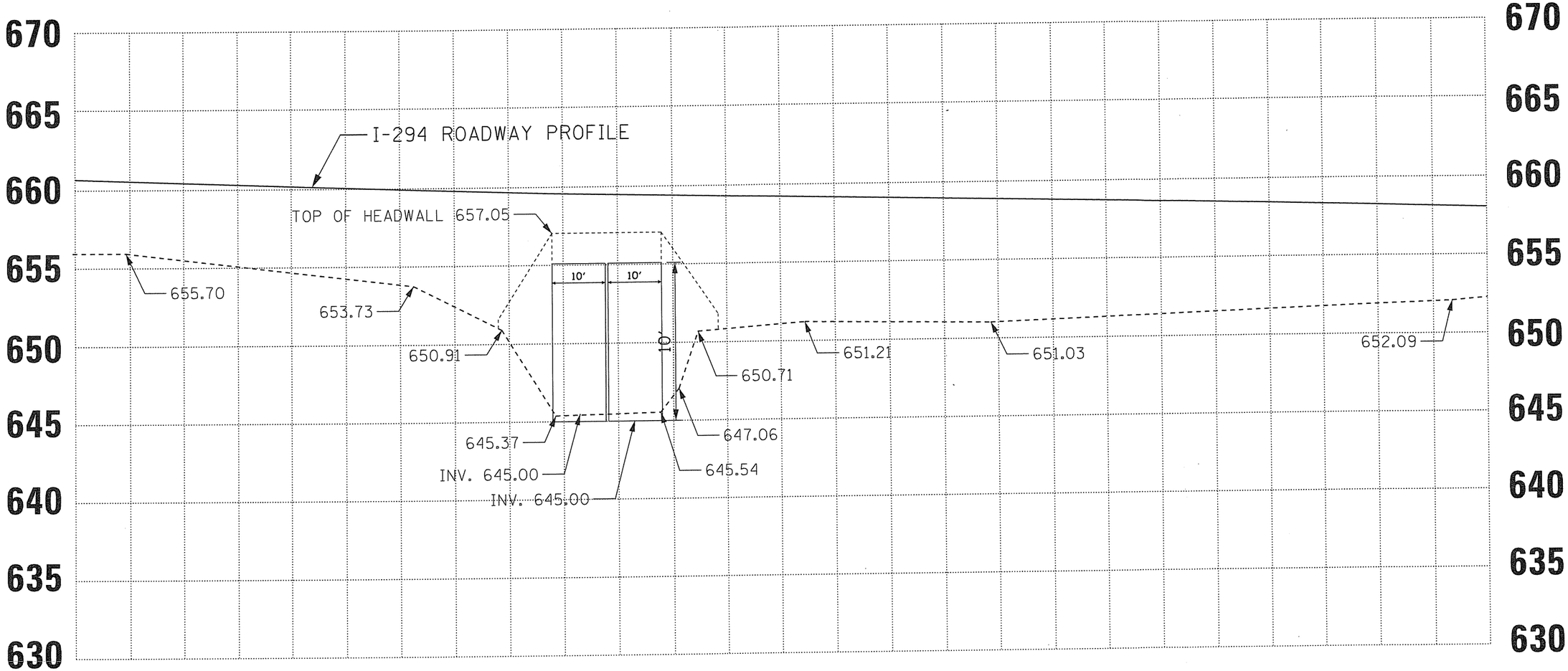
	PLOT DATE = 10/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELGIN OHARE WEST BYPASS
ADDISON CREEK

SCALE: 50H 5V | SHEET NO. OF SHEETS | STA. 322+33.26 TO STA. 330+89.32

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



UPSTREAM FACE
(LOOKING DOWNSTREAM)

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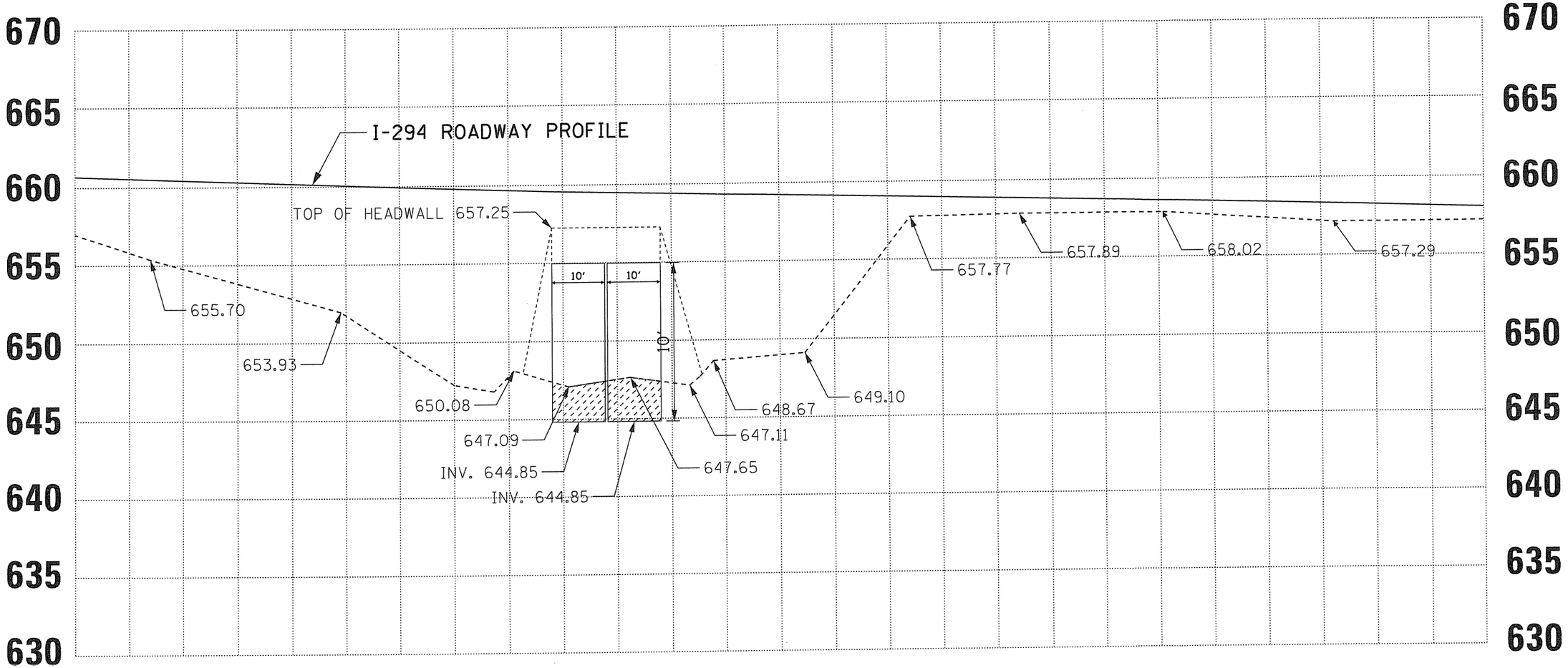
	PLOT SCALE = 20'	DRAWN - MG	REVISED -						1	1
	PLOT DATE = 5/23/2012	CHECKED - CW	REVISED -					CONTRACT NO. 070404		
		DATE - 5/23/2012	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		



DOWNSTREAM FACE
(LOOKING DOWNSTREAM)

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		DRAWN - MG	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

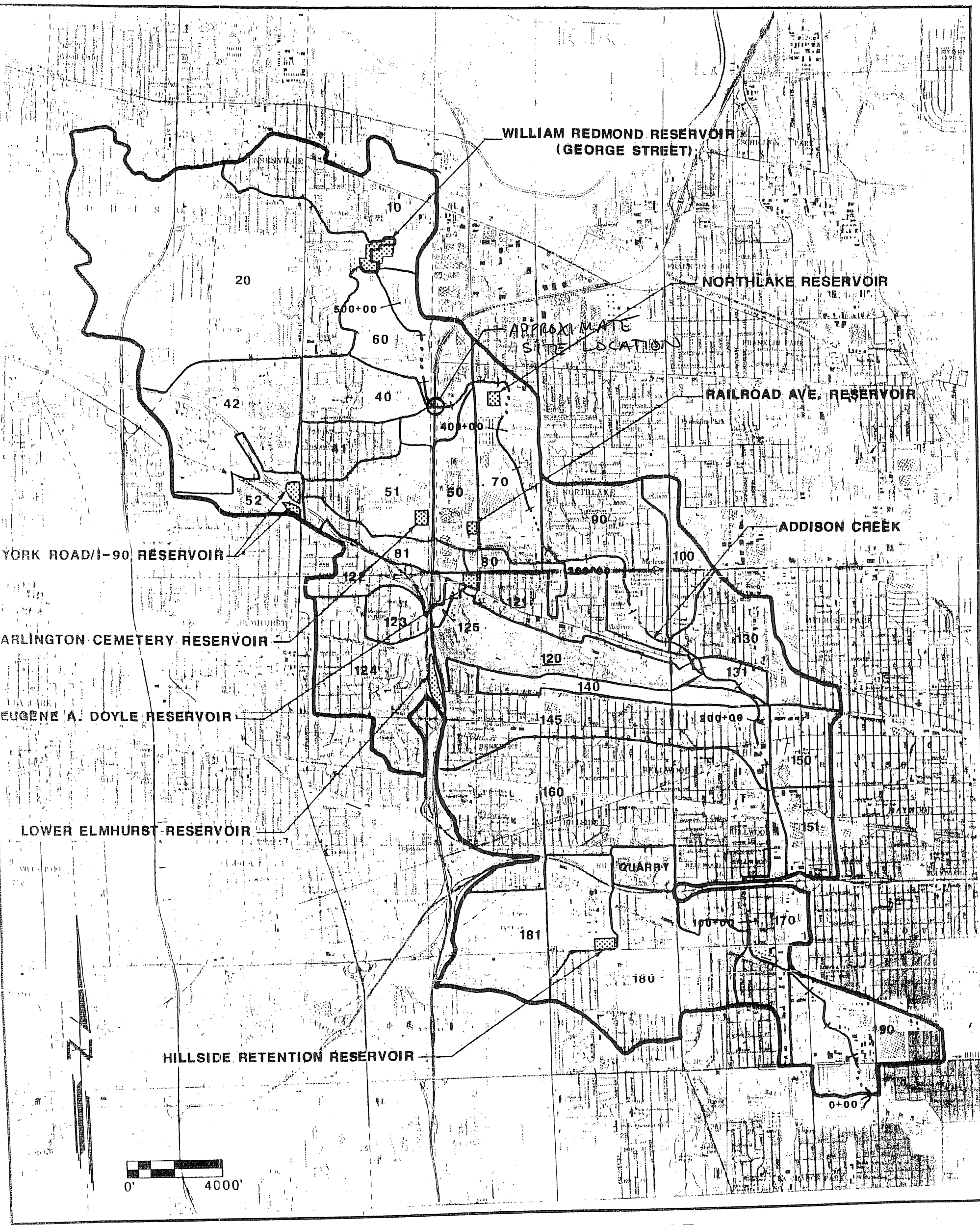
ELGIN O'HARE – WEST BYPASS
I-294 OVER ADDISON CREEK

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			1	1
		CONTRACT NO. 070404		
	ILLINOIS FED. AID PROJECT			

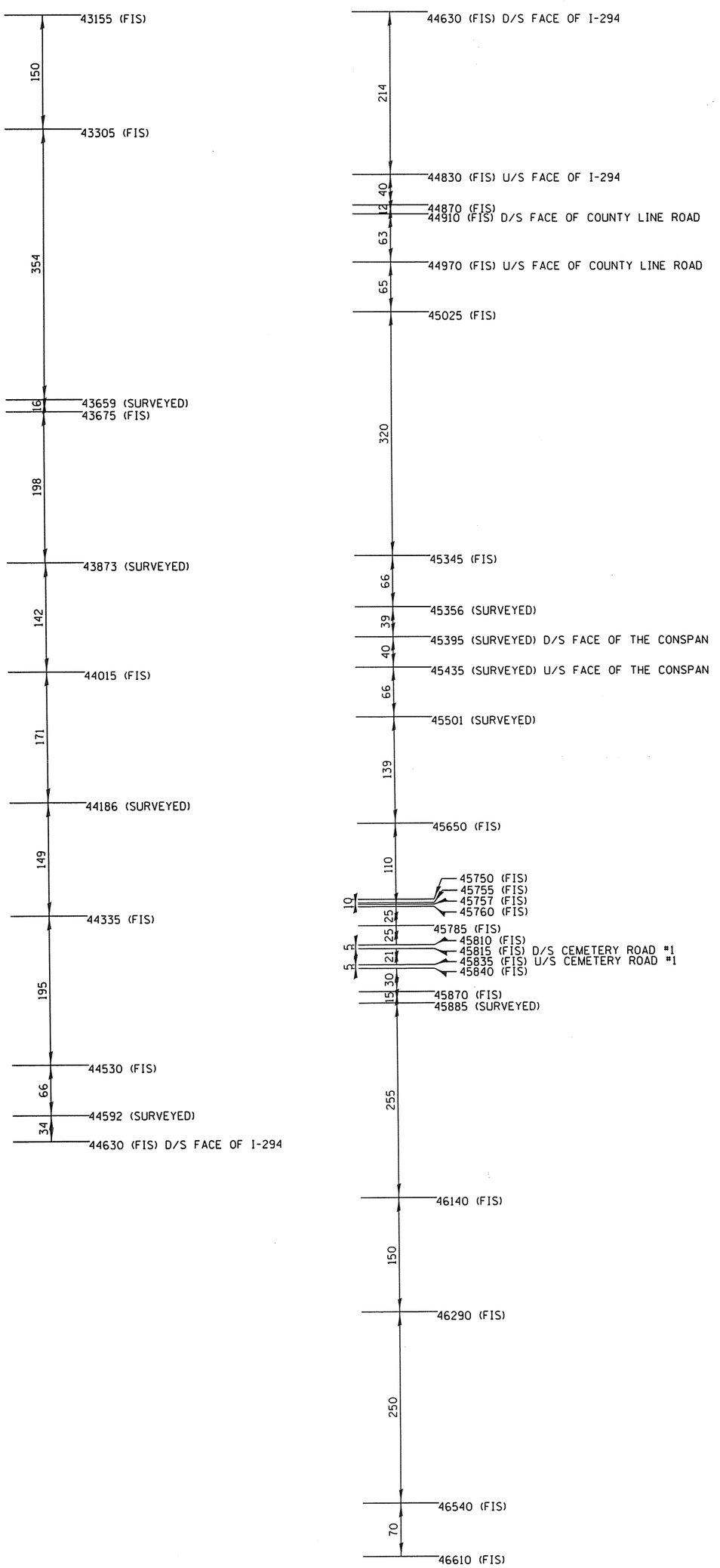
SECTION 7

REGULATORY HYDROLOGIC AND HYDRAULIC MODELING



ADDISON CREEK SUBBASIN MAP

CROSS-SECTION LOCATION SCHEMATIC



HEC-2 XSEC	Description	FIS	Addfinal.hc2	Change in Elevation
		WSEL (NGVD 29) (feet)	WSEL (NGVD 29) (feet)	(feet)
43155	Area of Interest D/S Limit	653.7	653.7	0.0
44630	Tri-State Tollway	655.1	655.1	0.0
44910	County Line Road	656.4	656.4	0.0
45396	CONSPAN	657.8	657.9	0.1
45755	Concrete Dam	657.8	657.9	0.1
45815	Cemetery Road #1	657.8	657.9	0.1
46610	Cemetery Road #2	657.8	657.9	0.1

HEC-2 XSEC	Description	FIS	Addfinal.hc2	Change in Elevation
		WSEL (NAVD 88) (feet)	WSEL (NAVD 88) (feet)	(feet)
43155	Area of Interest D/S Limit	653.4	653.4	0.0
44630	Tri-State Tollway	654.8	654.78	0.0
44910	County Line Road	656.1	656.08	0.0
45396	CONSPAN	657.5	657.6	0.1
45755	Concrete Dam	657.5	657.6	0.1
45815	Cemetery Road #1	657.5	657.6	0.1
46610	Cemetery Road #2	657.5	657.6	0.1

```
*   Cross-Section Extensions by Camp Dresser & McKee Inc. 3-23-99
*   Flow diverted into Eisenhower viaducts at 25th Ave and Mannheim
*
*   Cross-Sections in DuPage County (44970 and up) imported from
*       model updated by Burke Engineering Ltd. for the City of Bensenville
*
C
C 70.
C    0. MEMBER NAME = (ADD-HC2.DAT) CHANNEL "N-VALUES" CHANGED
C    0. REVISED 1/4/95 - UPDATED MODEL TO REFLECT ADDITIONAL CONSTRUCTION
C    0. WORK WITH HEC-1 MODEL (ADDFIS)
C    0. EXISTING CONDITIONS, RAILROAD AVENUE RESERVOIR BYPASS GATE OPEN
C    0. MODIFICATIONS TO THE STORAGE AT THE REDMOND RESERVOIR (1993)
C    0. CONCRETE CULVERTS AT COUNTY LINE ROAD (1993)
C    0. STRUCTURE 86 & LOWER ELMHURST RESERVOIRS IN PLACE AS-DESIGNED (1994)
C 1500. S-5**CERMAK ROAD**SS 83+70.91 - 200 FT. RDLEN DUMMY INPUT
C 2215. S-10**21ST STREET**SS 71+35.57 - 200 FT. RDLEN DUMMY INPUT
C 5565. S-15**25TH AVENUE**SS 37+10.24 - 200 FT. RDLEN DUMMY INPUT
C 5565. REVISED TO PERPENDICULAR SECTION
C 6865. S-20**INDIANA HARBOR BELT RAILROAD**SS 24+42.20
C 7320. S-25**GARDNER ROAD**SS 16+28.32
C 9000. S-30**ROOSEVELT ROAD**SS 2+74.70
C 10400.S-35**GLADSTONE STREET**SS 143+21.0
C 11600.S-40**WEDGEWOOD STREET**SS 131+35.70
C 11680.S-45**EISENHOWER EXPWY,I-290 (FROM BRIDGE PLANS)
C 11875.S-50**HARRISON STREET**SS 126+59.30
C 12080.S-55**32ND AVENUE**SS 126+59.30
C 12420.S-60**31ST AVENUE**SS 122+48.00
C 12700.S-65**30TH AVENUE**SS 127+80.79
C 13120.  GABION IMPROVEMENTS IN PLACE TO 15355
C 13120.  SEDIMENTATION INCLUDED ON X3 RECORD
C 13315.S-70**VAN BUREN STREET**SS 111+73.18
C 13975.S-75**JACKSON STREET**SS 105+31.70
C 14305.S-80**ADAMS STREET**SS 101+69.30
C 14635.S-85**WILCOX AVENUE**SS 98+35.40
C 14970.S-90**MONROE STREET**SS 93+16.55
C 15305.S-95**MADISON STREET**SS 90+38.42
C 15420.S-100**"ABANDONED BRIDGE"**SS 89+22.30
C 15530.S-110**CHICAGO AND NORTHWESTERN R.R.**SS 88+33.90
C 16655.S-115**WASHINGTON BLVD.**SS 76+87.99
C 18685.S-120**ST. CHARLES ROAD**SS 57+18.33
C 20355.S-125**CHICAGO AND NORTHWESTERN R.R.**SS 41+82.50-200FT RDLEN DUMMY INPT
C 20595.S-130**CHICAGO AND NORTHWESTERN R.R.**SS 39+81.00
C 22095.S-135**CHICAGO AND NORTHWESTERN R.R.**SS 25+53.70-200FT RDLEN DUMMY INPT
C 24420.S-140**LAKE STREET**SS 132+82.77
C 25705.S-160**MANNHEIM ROAD**SS 120+23.12
C 28290.S-170**HIRSCH STREET**SS 91+40.11
C 29200.S-175**LEMOYNE STREET**SS 82+33.11
C 29900.S-185**NORTH AVENUE**SS 74+19.42
C 30325.S-190**PARKVIEW AVENUE**SS 71+15.97
C 31035.S-195**ROBERTA AVENUE**SS 63+73.54
C 31715.S-200**ROY AVENUE**SS 55+57.46
C 32690.S-205**PRATER AVENUE**SS 46+19.78
C 34215.S-210**WOLF ROAD**SS 30+29.27 - 200 FT. RDLEN DUMMY INPUT
C 34390.S-215**CONCRETE DAM**SS 28+07.00
C 34900.S-220**WHITEHALL AVENUE**SS 22+46.30
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C 35720.S-225**INDUSTRIAL ACCESS ROAD**SS 15+03.28
C 36315.S-226**CONCRETE DAM:CONSTRUCTED FROM TOPO**
C 37345.S-230**PALMER AVENUE**SS 0+00
C 39715.S-235**FULLERTON AVENUE**SS 22+73.56
C 39715.       EXISTING BRIDGE MODIFICATION IN PLACE
C 40935. STRUCTURE 86 BYPASS PIPE (42"), OVERLAND FLOW COMPUTED SEPARATELY
C 41135. APPROXIMATE LOCATION OF THE DESIGN SPILLWAY AT STRUCTURE 86
C 41890.S-240**CULVERT**SS 43+09.30
C 41895. DUMMY ELLC PUT ON X2 CARD TO EASE CWSEL CALCULATION DIFFICULTIES
C 42845.S-245**CHICAGO AND NORTHWESTERN R.R.**SS 51+88.30
C 44630.S-250**TRI-STATE TOLLWAY**SS 17+07.41
C 44910.S-255**COUNTY LINE ROAD**SS 20+55.24
C 45750.S-   **CONCRETE DAM**
C 45810.S-260**CEMETARY ROAD**SS 28+61.36
C 46610.S-265**CEMETARY ROAD**SS 35+67.96
C 46720.S-270**GRAND AVENUE**SS 38+27.79
C 47725.S-272**DIRT ROAD**SS 47+79.42
C 49980. CHANGE POINTS FROM 646.7,902.1&647.3,974.8 TO 653.7,902.1&653.5,974.8
C 49980. TO ELIMINATE IMPACTS OF OFF CHANNEL POND AS LOW POINT ON CROSS SECTION
C 50685.S-290**DIANA COURT**SS 79+07.28
C 51425.  ADD GEORGE ST. CULVERT FROM THE FIS MODEL
C 51455.  30 FEET NORTH OF GEORGE ST./ REDMOND RESERVOIR PUMP STATION DISCHARGE
T1  ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2  500, 100, 50, 25, 10, 5, & 2-YEAR FREQUENCIES - DESIGN CONDITIONS
T3  500-YEAR
J1            2                    .0005       0       0
J2     1             -1
J3    38       1      43      21      22      53      54       4       7
QT     7    3070    2530    2337    2032    1727    1470    1127
NC  0.06    0.06   0.055     0.1     0.3
NH     4      10  930.00   0.060 1005.80   0.055  1102.9   0.060 1780.70
X1     0    29.0  1005.8  1102.9     0.0     0.0     0.0
X4     1  621.25  930.00
GR623.30   887.1  622.80   899.0  621.20   928.9  620.00   967.4  620.20  1000.3
GR619.70  1002.6  619.10  1005.8  611.60  1024.8  611.70  1032.9  608.90  1039.0
GR608.20  1041.1  607.20  1049.8  607.70  1059.1  607.80  1069.9  607.90  1080.9
GR608.90  1083.8  611.90  1086.1  612.50  1093.1  615.30  1102.9  614.80  1127.9
GR613.00  1150.0  612.60  1170.8  612.80  1193.0  613.50  1212.6  614.00  1230.7
GR610.00  1365.7  616.00  1695.7  616.40  1780.7  620.00  1780.7
NH     4      10  930.00   0.060 1005.80   0.055 1102.90   0.060 1780.70
X1200.00      0.      0.      0.  200.00  200.00  200.00      0.      0.      0.
X4     1  621.25  930.00
NC 0.060   0.060   0.055
X1   440      31 1006.00 1102.00     225     245     240             .00
GR621.20   835.0  621.20   881.0  621.00   904.0  618.80   933.0  617.20   942.0
GR616.00   964.0  614.90  1000.0  614.50  1006.0  611.10  1021.0  612.20  1047.0
GR609.00  1051.0  607.90  1054.0  607.30  1063.0  607.40  1073.0  607.50  1085.0
GR607.70  1090.0  609.00  1092.0  615.50  1102.0  616.50  1124.0  615.40  1149.0
GR615.50  1170.0  615.60  1194.0  615.80  1216.0  615.80  1240.0  616.20  1264.0
GR616.40  1289.0  616.60  1314.0  617.10  1319.0  616.90  1369.0   618.0  1700.0
GR 620.0  1720.0
NC.035  .04     .055
NH     4      10   889.1   0.035  995.20   0.055 1067.70   0.040    1345
X1   755      24  995.20 1067.70     270     360     315             .00
X4     1  621.55  850.00
GR621.90   824.0  620.70   889.1  620.40   957.9  618.50   995.2  616.80   999.7
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GR612.30  1009.4  611.70  1022.9  608.90  1029.3  607.70  1033.5  607.10  1041.3
GR606.90  1044.7  608.00  1058.7  608.90  1059.6  616.20  1067.7  613.40  1086.9
GR614.40  1105.0  614.70  1124.2  614.80  1146.9  615.00  1168.9  615.50  1192.0
GR616.30  1241.7  616.10  1294.4  619.00  1342.1   620.0    1345
NH     4      10 1005.90   0.035 1020.00   0.055 1090.80    0.04  1355.7
X1  1165      25 1020.00 1090.80     375     450     410             .00
GR623.20   934.9  620.50   967.9  619.00   986.9  619.10   999.8  619.40  1005.9
GR619.80  1020.0  609.30  1031.7  608.80  1035.4  608.60  1048.7  608.70  1060.8
GR608.50  1064.7  609.20  1066.5  612.60  1071.0  613.90  1079.6  617.10  1090.8
GR617.40  1110.9  614.20  1131.9  613.80  1155.9  614.10  1175.0  614.80  1186.8
GR614.50  1210.0  615.00  1233.0  616.20  1292.2  618.20  1305.7  620.00  1355.7
NC                        0.3     0.5
NH     5      10  1005.9    .035    1020    .055  1090.8    .040  1186.8      10
NH1355.7
X1  1400                          235     240     235             .00
X3    10
NC  .035     .05   0.045
X1  1500      29 1038.90 1136.60     100     100     100             .00
X3    10                                                  623.70  623.70
GR621.70   849.9  621.90   893.8  622.70   939.9  623.50   984.2  624.00   999.9
GR624.50  1029.8  622.10  1030.6  621.50  1036.5  621.60  1038.9  620.20  1041.0
GR612.40  1059.9  611.10  1061.7  610.70  1065.1  609.70  1067.0  609.30  1075.8
GR609.80  1088.0  609.30  1103.0  610.50  1111.8  610.70  1113.0  611.90  1115.9
GR620.30  1134.6  621.70  1136.6  621.70  1138.8  622.00  1143.6  623.30  1145.9
GR622.20  1199.7  621.80  1257.0  621.60  1313.9  621.60  1370.5
SB  1.35    1.6     2.6     200    43.5    2.00   955.0    2.25
X1  1550      29 1038.90 1136.60      50      50      50             .00
X2                    1  622.70  624.60                   0
X3    10                                                  624.60  624.60
GR621.70   849.9  621.90   893.8  622.70   939.9  623.50   984.2  624.00   999.9
GR624.50  1029.8  622.10  1030.6  621.50  1036.5  621.60  1038.9  620.20  1041.0
GR612.40  1059.9  611.10  1061.7  610.70  1065.1  609.70  1067.0  609.30  1075.8
GR609.80  1088.0  609.30  1103.0  610.50  1111.8  610.70  1113.0  611.90  1115.9
GR620.30  1134.6  621.70  1136.6  621.70  1138.8  622.00  1143.6  623.30  1145.9
GR622.20  1199.7  621.80  1257.0  621.60  1313.9  621.60  1370.5
NC.03   .03     .055
NH     4   0.030  726.00   0.055  796.50   0.030  870.00      10 1081.00
X1  1600      17  726.00  796.50      50      50      50             .00
X4     1   621.2  870.00
GR621.30   721.3  620.10   726.0  614.50   738.5  613.80   741.5  610.70   744.2
GR609.70   745.2  608.40   766.0  609.30   782.1  610.60   784.9  619.50   796.5
GR621.10   860.1  621.40   947.1  621.00   999.9  620.50  1016.2  620.50  1048.9
GR621.50  1067.9  622.80  1081.0
NH     4   0.030  726.00   0.055  796.50   0.030  870.00      10 1081.00
X1  1985                          385     385     385             .00
X4     1   621.2  870.00
NH     4     .03     726    .055   796.5     .03     870      10    1081
X1  2115                          125     130     130             .20
X4     1   621.2  870.00
NC   .09    .045   0.035
NH     5      10   820.3     .09   878.4    .035     958    .045  1000.3      10
NH1130.4
X1  2215      25  878.40  958.00     100     100     100             .00
X3    10                                                  621.50  621.50
GR621.70   609.2  621.80   719.5  622.40   771.3  622.90   820.3  623.10   873.1
GR623.40   873.2  623.40   878.1  621.00   878.4  619.50   879.1  612.00   898.9
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GR611.10    900.2  609.60   905.3  609.40   923.3  610.00   939.0  611.10   941.9
GR616.70    948.0  618.70   956.8  620.70   958.0  623.20   958.3  623.00   963.2
GR622.10    963.3  622.50  1000.3  622.40  1036.5  622.10  1084.3  622.50  1130.4
SB  1.35      1.6     2.6     200    36.0     2.50   622.0    1.76
X1  2265                             50       50      50             .00
X2                    1  621.00  622.00                0
X3    10                                                  622.00  622.00
NC.03   .03      .050
NH     4      10   895.2    0.03   911.1    0.05   976.1    0.03  1007.5
X1  2315      13  911.10  976.10     50      50      50             -.40
GR624.00    -340  622.00    -235  620.60   895.2  620.30   911.1  610.60   929.3
GR610.10    931.1 609.90   937.2  609.40   948.9  610.20   956.9  610.60   960.0
GR623.20    976.1 623.90  1000.1  624.40  1007.5
NC                           0.1     0.3
X1  2590      13   911.1   976.1     270     275     275             .40
GR624.00    -340  622.00    -235  620.60   895.2  620.30   911.1  610.60   929.3
GR610.10    931.1 609.90   937.2  609.40   948.9  610.20   956.9  610.60   960.0
GR623.20    976.1 623.90  1000.1  624.40  1007.5
NC.03   .03      .055
NH     5      10  860.00   0.030  913.10   0.055  989.90   0.030 1000.00      10
NH1288.6
X1  3065      25  913.10  989.90     550     410     475             .00
X4     2   621.6  860.00   621.0 1000.00
GR623.10    636.2 621.80   731.8  621.20   775.4  621.20   824.4  621.60   861.6
GR622.30    913.1 615.20   927.6  614.10   935.4  610.70   938.1  609.80   940.1
GR609.50    955.0 610.10   968.0  610.80   970.0  621.60   989.9  620.90  1000.3
GR620.30   1002.4 616.30  1009.1  616.20  1014.3  621.80  1022.3  624.00  1030.6
GR623.60   1076.4 623.40  1129.3  623.60  1185.5  624.00  1238.1  623.70  1288.6
NC 0.030   0.030  0.055
QT     7    2830    2323    2166    1880    1606    1375    1051
X1  3360      18  892.20  973.80     295     295     295             .00
GR624.10    875.7 622.50   892.2  615.30   906.5  614.00   915.0  611.00   916.7
GR609.70    918.6 609.20   928.5  609.90   939.8  610.30   948.5  611.00   949.6
GR614.00    951.7 614.70   955.6  623.20   973.8  625.00   999.8  625.60  1008.9
GR627.30   1023.5 629.40  1029.9  627.70  1058.1
NH     4   0.030  894.10   0.055  972.80   0.030 1020.00      10 1047.90
X1  3660     15.  894.10  972.80     300     310     300             .00
X4     1   625.5 1020.00
GR623.90    846.9 623.60   881.4  622.50   894.1  615.40   910.1  614.80   917.9
GR611.10    922.9 610.00   925.1  609.80   933.0  609.80   946.7  610.10   953.1
GR611.20    955.0 625.10   972.8  625.10   978.7  625.20   999.8  626.00  1047.9
NH     5      10   737.8   0.030  761.90   0.055  838.00   0.030  930.00      10
NH1275.50
X1  3905      17  761.90  838.00     220     280     245             .00
X4     1   626.2  930.00
GR625.00  -1122.2 623.30   737.8  622.40   761.9  614.70   779.2  614.50   785.1
GR611.00    788.1 609.70   789.0  609.40   793.1  608.70   809.6  609.50   816.0
GR611.00    817.1 623.30   838.0  626.00   911.1  626.70  1000.0  626.50  1093.3
GR626.50   1192.0 625.90  1275.5
NC 0.030   0.030  0.055
NH     4      10   833.1    0.03   866.0   0.055   961.0    0.03  1025.3
X1  4115      15  866.00  961.00     200     230     210             .00
GR625.00   -766.9 623.70   833.1  622.40   866.0  615.20   881.9  614.70   886.7
GR611.00    892.1 610.40   893.1  609.40   916.0  610.10   924.1  611.00   926.1
GR614.80    926.2 615.20   938.0  625.20   961.0  626.60   999.9  626.80  1025.3
NH     5      10   879.3   0.030  894.20   0.055  984.90   0.030 1035.00      10
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NH1191.00
X1  4355      18  894.20  984.90     230     250     240             .00
X4     1  626.21 1035.00
GR   625    -105  624.10   879.3  622.30   894.2  615.20   911.2  614.40   915.9
GR612.30   919.0  610.70   920.6  609.90   947.8  610.60   953.9  612.30   956.2
GR615.00   957.9  614.80   968.0  623.40   984.9  625.20  1000.1  626.20  1034.0
GR626.60  1087.0  627.00  1137.5  627.10  1191.0
NH     4   0.030  906.00   0.055  993.90   0.030 1010.00      10 1114.30
X1  4590      16  906.00  993.90     250     225     235             .00
X4     1   626.5 1010.00
GR624.90   889.2  623.80   906.0  616.70   919.2  615.70   924.2  612.80   929.2
GR611.00   932.9  610.00   959.2  611.10   963.9  612.90   965.2  614.60   968.4
GR614.70   975.2  626.00   993.9  626.30  1000.3  626.90  1025.0  627.70  1068.1
GR627.80  1114.3
NH     5      10  780.00   0.030  855.70   0.055  941.80   0.030 1035.00      10
NH1175.2
X1  4945      17  855.70  941.80     360     325     355             .00
X4     2   625.9  780.00  626.60 1035.00
GR627.80   713.0  625.70   783.8  623.70   855.7  616.40   872.6  615.30   882.8
GR612.70   885.7  610.60   890.9  610.30   901.6  612.00   914.5  612.70   920.8
GR614.80   922.5  615.30   925.5  626.30   941.8  626.10  1000.1  627.20  1066.9
GR628.00  1119.2  628.20  1175.2
NH     4   0.030  862.80   0.055  971.00   0.030 1010.00      10 1023.00
X1  5230      15  862.80  971.00     300     285     285             .00
X4     1  628.05 1010.00
GR628.10   788.1  627.10   825.9  626.20   862.8  615.20   889.3  615.30   894.9
GR612.70   899.2  611.30   901.9  611.10   915.1  611.00   929.9  612.80   933.9
GR615.10   938.0  615.80   945.9  627.10   971.0  627.80   999.9  628.40  1023.0
NC                         0.3     0.5
NH     5      10   825.9     .03   862.8    .055   971.0     .03    1010      10
NH  1023
X1  5465                             290     180     235             .00
NH     5      10   819.5     .03   910.1    .055     961     .03    1073      10
NH1293.0
X1  5565      26  910.10  961.00     125      75     100             .00
X3    10                                                  625.20  625.20
GR626.10   587.2  626.10   711.6  626.10   752.0  626.10   819.5  626.10   874.2
GR624.70   882.0  614.20   907.3  612.70   910.1  611.80   910.1  611.80   914.5
GR611.80   919.4  611.80   926.0  611.80   934.0  611.70   936.0  611.70   941.7
GR611.80   948.0  611.60   956.0  612.70   959.7  613.00   961.0  616.90   964.0
GR626.60   979.0  627.80  1000.0  627.50  1073.0  627.60  1146.0  627.30  1217.0
GR627.30  1293.0
NH     5      10   819.5     .03   910.1    .055     961     .03    1073      10
NH1293.0
SB   .90     1.6     2.6     200    53.0    3.00   600.0     .00
X1  5675                             135      85     110             .00
X2                     1  624.00  626.50                 0
X3    10                                                  626.50  626.50
NH     5      10  775.00   0.030  805.40   0.055  904.50   0.030  995.00      10
NH1105.2
X1  5785      20  805.40  904.50     110     110     110             .00
X4     2   625.3  775.00  628.75  995.00
GR627.00   395.1  625.00   395.1  623.90   650.1  626.00   738.1  624.70   805.4
GR614.10   825.4  612.60   826.2  611.90   826.3  611.50   833.3  611.20   843.9
GR611.00   857.0  611.30   861.3  612.80   865.5  615.50   869.0  618.00   878.1
GR628.50   904.5  629.50   958.1  628.60  1000.0  628.90  1041.4  629.20  1105.2
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NC                                0.1     0.3
NH     5      10  775.00   0.030  805.40   0.055  904.50   0.030  995.00      10
NH1105.2
X1  5905                          110     140     120             .00
X4     2   625.3  775.00  628.75  995.00
NH     4   0.030  881.80   0.055  975.70   0.030 1020.00      10 1217.20
X1  6240      16  881.80  975.70     345     325     335             .00
X4     1   627.6 1020.00
GR626.90   863.1  625.90   881.8  614.90   904.1  612.80   907.5  611.40   911.0
GR611.40   925.4  611.20   937.0  612.70   942.1  615.20   950.1  626.40   975.7
GR628.20  1000.0  626.70  1054.5  626.10  1065.9  627.00  1092.9  627.40  1173.1
GR629.00  1217.2
NH     4   0.030  935.00   0.055  977.10   0.030 1000.00      10 1140.90
X1  6730      16  935.00  977.10     505     475     490             .00
GR646.30   877.5  643.00   889.6  617.00   935.0  613.20   940.9  612.20   945.0
GR611.60   955.9  612.30   971.1  613.20   973.8  614.80   977.1  626.20   995.8
GR627.00  1000.0  628.80  1021.1  629.20  1083.0  625.80  1111.1  625.80  1119.7
GR626.60  1140.9
NC.06   .05     .055          0.3     0.5
NH     4     .06     935    .055   977.1     .05    1000      10  1140.9
X1  6765                          35      35      35              .00
NH     5      10     833     .06     928    .040   986.1     .05    1000      10
NH1545.8
X1  6865      20  928.00  986.10     100     100     100             .00
X3    10                                                  624.00  624.00
GR627.5    -13.0  624.80   727.0  624.40   833.0  624.50   925.6  622.30   928.0
GR618.80   931.7  614.10   943.3  613.60   945.9  613.40   957.8  613.50   964.0
GR614.20   970.9  618.70   981.9  622.30   986.1  623.20   989.0  623.70  1000.0
GR624.40  1036.9  625.20  1154.9  625.80  1296.9  626.70  1429.9  626.90  1545.8
NH     5      10     833     .06     928    .055   986.1     .05    1000      10
NH1545.8
SB   .90     1.6     2.6      .0    30.0     .01   392.0    1.54
X1  6895                          30      30      30              .00
X2                     1  622.40  624.40                  0
X3    10                                                  624.40  624.40
BT-11.  -13.    627.5          727.    624.8          925.6   624.5
BT      928.    625.1          989.    625.2          989.1   624.6
BT      1087.   625.3          1283.   627.           1362.   628.
BT      1429.9  628.           1545.8  628.
NC.06   .05     .055
NH     4   0.060  948.10   0.055 1000.00   0.050 1028.00      10 1974.05
X1  6925      21  948.10 1000.00      30      30      30             -.20
X4     1   624.2 1015.00
GR646.50   883.0  644.50   892.0  621.20   930.9  617.40   948.1  614.10   951.1
GR613.10   951.3  612.60   953.8  611.90   963.8  611.80   971.4  612.50   979.8
GR614.20   982.0  616.50   983.8  626.30  1000.0  624.40  1007.9  624.30  1028.0
GR624.80  1102.0  625.00  1171.8  625.90  1244.0  626.70  1249.9  626.50  1261.4
GR   628 1974.05
NC 0.060   0.050   0.055
QT     7    2670    2173    2045    1791    1511    1278     979
X1  7100      13     150     200     175     175     175            -0.2
GR   630     130  625.62     140  624.97     150  614.32     162  613.20     165
GR612.34     180  613.10     195  617.33     200  623.43     210  629.15     220
GR624.30     240  625.00     388     628    1295
NC   .06     .07    .035
X1  7320      15     122     171     220     220     220
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X3    10                                                    622.3   622.3
GR   630      100  623.10     110  616.48     122  614.18    130   612.9     131
GR 612.7      145  612.86     160  614.57     161  618.91    171  623.46     180
GR   630      190   624.3     215   625.0     363   626.0    435   628.0    1295
SB  1.05      1.6     2.6      60      30     5.0     407    2.0
X1  7520                              200     200     200
X2                     1  622.25   625.5
X3    10                                                    625.5   625.5
NC   .06      .07   0.055      .1      .3
NH      4       10    1145   0.060 1155.00   0.055 1225.00   0.070 1260.00
X1  7580       12    1155    1225      60      60      60
X4      2   624.38    1145     626     790
GR   628       90  626.00     250  622.08    1155  615.80    1170  613.54    1185
GR613.07     1200  612.29    1215  614.71    1218  621.60    1225  622.30    1230
GR626.26     1240  641.50    1260
NC.06    .07      .055
NH      4       10 1090.00   0.060 1097.90   0.055 1166.00   0.070 1220.00
X1  7725       17 1097.90 1166.00     145     145     145             .00
X4      3    624.4   939.8   626.0     580   623.8 1090.00
GR628.50       75  628.00     150     626     320  623.10    984.0  623.10  1000.0
GR623.10   1016.0  624.10  1061.2  623.60  1097.9  613.90  1117.2  613.10  1121.9
GR612.30   1127.2  612.00  1138.8  612.70  1144.0  613.90  1149.2  622.40  1166.0
GR624.40   1179.9  639.60  1220.0
NH      4       10 1095.00   0.060 1098.10   0.055 1177.00   0.070 1218.30
X1  8245       16 1098.10 1177.00     520     520     520             .00
X4      3    625.1   768.0     625   935.7  623.55 1095.00
GR630.00    767.6  624.10   958.0  623.10   984.0  623.80   999.8  623.00  1015.6
GR623.80   1057.0  623.40  1098.1  613.90  1114.1  612.70  1117.4  612.80  1120.9
GR612.70   1137.2  613.20  1141.1  613.90  1143.3  629.80  1177.0  628.90  1197.0
GR639.60   1218.3
NH      5       10 1015.00   0.060 1100.50   0.055 1154.30   0.070 1180.00      10
NH1223.0
X1  8640       16 1100.50 1154.30     395     395     395             .00
X4      4    623.9   908.0  623.80   963.8   623.2 1015.00  624.75 1180.00
GR630.00    907.4  623.50   981.9  624.20   999.7  623.10  1015.8  623.40  1052.8
GR623.70   1100.5  622.40  1103.2  614.70  1116.7  614.10  1123.0  613.90  1128.5
GR614.00   1132.9  614.60  1138.6  623.10  1154.3  623.70  1157.9  625.10  1193.0
GR639.60   1223.0
NC.03    .03      .06
NH      5       10    1000   0.030 1037.40   0.060 1086.30   0.030 1140.00      10
NH  1600
X1  8850       14 1037.40 1086.30     130     285     210             .00
X4      3  623.90    1000   624.0 1140.00     626    1530
GR635.00     -540     624     840  622.50  1037.4  614.90  1046.8  614.40  1051.9
GR613.60   1056.1  612.70  1064.2  613.70  1072.3  614.90  1075.2  623.30  1086.3
GR624.20   1155.0  624.10  1255.0  624.20  1296.3     639    1600
NC                         0.3     0.5
NH      5       10    1000   0.030 1037.40   0.060 1086.30   0.030 1140.00      10
NH  1720
X1  8900       14 1037.40 1086.30      50      50      50             .10
X4      3    623.9    1000   624.0 1140.00     626    1650
GR635.00     -510   625.4     790  622.50  1037.4  614.90  1046.8  614.40  1051.9
GR613.60   1056.1  612.70  1064.2  613.70  1072.3  614.90  1075.2  623.30  1086.3
GR624.20   1155.0  624.10  1255.0  624.20  1296.3     639    1720
NC.03    .03      .03         0.3     0.5
X1  9000       21 2019.00 2055.00     100     100     100             .00
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X3    10                                                    625.10  625.10
X4     2  626.50  1581.8     628     580
GR   641     510  626.50  1581.9  626.50  1582.0  626.00  1999.8  626.00  1999.9
GR626.00  2000.0  625.90  2018.0  625.10  2019.0  624.10  2019.0  618.60  2019.0
GR614.80  2028.0  614.30  2033.0  614.10  2038.0  614.20  2046.0  614.90  2054.8
GR624.10  2055.0  625.20  2055.0  625.00  2056.0  625.70  2077.0     626    2930
GR   642    3030
SB   .90     1.6     2.6      .0    36.0     .01   338.4     .00
X1  9100                          100     100     100             .00
X2                     1  624.10  626.00                   0
X3    10                                                    626.00  626.00
BT   -12     510     670             890     650             1270     627
BT        1581.8  626.50     .00  1582.0  626.50     .00  2000.0  626.00     .00
BT        2018.0  625.9     0.00  2077.0  625.70     .00    2220     625
BT          2460     625          3050     625             3100     641
NC.09   .03     .055
NH     5      10 1680.00   0.090 1734.80   0.055 1814.00   0.030 1835.00      10
NH  3060
X1  9200      19 1734.80 1814.00     100     100     100            -.20
X4     6   625.4  1662.9     628     280     628    1370     626    1580  625.35
X41680.0   626.0 1835.00
GR   641     200  626.20  1700.9  625.50  1734.8  617.60  1759.8  615.00  1763.2
GR612.30  1767.9  612.20  1775.8  613.30  1783.7  615.10  1788.6  618.30  1794.9
GR626.20  1814.0  626.10  1816.8  626.80  1917.5  625.00  1984.9  625.50  1999.7
GR624.90  2016.5  626.50  2055.8   626.0    3000   641.0    3060
NC.035  .035    .055          0.1     0.3
NH     5      10 1680.00   0.035 1734.80   0.055 1814.00   0.035 1835.00      10
NH  3800
QT     7    2210    1796    1717    1555    1359    1124     869
X1  9415      19  1734.8    1814     215     215     215             .20
X4     6   625.4  1662.9     628     280     628    1370     626    1580  625.55
X41680.0   626.2 1835.00
GR   641     200  626.20  1700.9  625.50  1734.8  617.60  1759.8  615.00  1763.2
GR612.30  1767.9  612.20  1775.8  613.30  1783.7  615.10  1788.6  618.30  1794.9
GR626.20  1814.0  626.10  1816.8  626.80  1917.5  625.00  1984.9  625.50  1999.7
GR624.90  2016.5  626.50  2055.8   626.0    3400   641.0    3800
NH     5      10    1580   0.035 1772.80   0.055 1858.90   0.035 1860.00      10
NH4550.0
X1  9930      20 1772.80 1858.90     510     515     515             .00
X4     4   627.7  1751.8     628     225     628    1580   628.1 1860.00
GR   641     200  627.80  1772.8  616.90  1799.9  614.70  1806.8  614.30  1812.4
GR612.80  1820.0  613.20  1825.1  614.80  1833.1  617.00  1834.1  628.10  1858.9
GR628.30  1914.0  626.40  1985.0  627.30  1999.9  626.50  2017.3  628.00  2059.9
GR 627.4    2300   627.4    3700     628    3800  630.00  4430.0  630.30  4550.0
NC.035     .035    .055
NH     5      10  1738.3   0.035 1789.70   0.055 1868.10   0.035 1880.00      10
NH  4430
X1 10220      17 1789.70 1868.10     300     275     290             .00
X4     4   626.5  1738.3     628     280   626.5     700  627.75 1880.00
GR   641     250  626.10  1789.7  615.20  1813.3  613.10  1818.5  612.90  1827.6
GR613.20  1838.2  615.20  1840.2  617.40  1842.2  627.60  1868.1  628.90  1936.1
GR627.30  1985.2  628.10  2000.2  627.40  2017.3  627.40    3700     628    3800
GR   630    4250  630.50    4430
NC                          0.3     0.5
NH     5      10  1738.3   0.035 1789.70   0.055 1868.10   0.035 1880.00      10
NH  4430
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X1 10300      17  1789.7  1868.1      80      80      80              .20
X4     4     628     280   626.5     700   626.5  1738.3   627.75 1880.00
GR   641     250  626.10  1789.7  615.20  1813.3  613.10   1818.5  612.90  1827.6
GR613.20  1838.2  615.20  1840.2  617.40  1842.2  627.60   1868.1  628.90  1936.1
GR627.30  1985.2  628.10  2000.2  627.40  2017.3  627.40     3700     628    3800
GR   630    4250  630.50    4430
NH     5      10  1771.1   0.035  1810.7    0.03  1850.3    0.035  1923.0      10
NH  5290
NC                          0.3     0.5
X1 10400      30 1810.70 1850.30     100     100     100              .00
X3    10                                                624.20  624.20
GR   641     230     628     280     627     550     626      940     625    1000
GR624.60  1661.2  624.80  1771.1  624.80  1810.7  624.40   1812.1  623.70  1813.0
GR615.90  1813.0  615.20  1814.9  614.40  1821.1  614.50   1828.1  614.50  1836.0
GR614.40  1844.1  614.80  1847.9  615.10  1850.2  624.70   1850.3  624.80  1923.0
GR623.90  1984.0  624.80  1999.8  624.00  2016.9  625.00   2110.8  624.70  2206.8
GR624.20  2332.4     626    2700     628    3800     630     4290     640    5290
SB   .90     1.6     2.6      .0    39.0     .01   336.7      .00
X1 10440                          40      40      40              .00
X2                     1  623.80  624.50                      0
X3    10                                                624.50  624.50
BT   -15     280     628             550     627              1000     625
BT        1661.2  624.60     .00  1771.1  624.80     .00   1810.7  624.80     .00
BT        1850.0  624.70     .00  1923.0  624.80     .00   1999.8  624.80     .00
BT        2110.8  625.00     .00  2206.8  624.70     .00     2700  626.       .00
BT          3800     628     .00  4290.   630.       .00     5290  640.       .00
NH     5      10  1818.9   0.035 1857.10   0.055 1938.70    0.035  1938.7      10
NH  4650
X1 10480      25 1857.10 1938.70      40      40      40             -.90
X4     5     628     340     626     860     625  1641.4   625.75 1795.00  624.80
X4  1940
GR   641     290  624.70  1677.4  626.00  1764.4  625.50   1818.9  625.10  1857.1
GR617.50  1877.3  617.70  1887.1  615.20  1892.1  614.10   1898.9  614.40  1906.1
GR614.20  1915.1  615.30  1919.9  625.70  1938.7  624.80   1986.0  625.40  2000.3
GR624.90  2016.9  627.00  2057.1  625.70  2106.4  625.70   2128.0  625.80  2151.1
GR625.70  2180.0     626    2760     628    3100     628     4300     630    4650
NC                          0.1     0.3
NH     5      10  1818.9   0.035 1857.10   0.055 1938.70    0.035  1938.7      10
NH  4650
X1 10750      25  1857.1  1938.7     270     270     270              .90
X4     5     628     340     626     860     625  1641.4   625.75 1795.00  624.80
X4  1940
GR   641     290  624.70  1677.4  626.00  1764.4  625.50   1818.9  625.10  1857.1
GR617.50  1877.3  617.70  1887.1  615.20  1892.1  614.10   1898.9  614.40  1906.1
GR614.20  1915.1  615.30  1919.9  625.70  1938.7  624.80   1986.0  625.40  2000.3
GR624.90  2016.9  627.00  2057.1  625.70  2106.4  625.70   2128.0  625.80  2151.1
GR625.70  2180.0     626    2760     628    3100     628     4300     630    4650
NH     5      10    1820   0.035 1869.30   0.055 1955.40    0.035  1986.3      10
NH  4470
X1 11060      23 1869.30 1955.40     310     310     310              .00
X4     5   625.9  1457.1     628     270     627     690    626.0 1820.00  626.30
X4  1980
GR   641     230  625.40  1551.4  625.80  1661.3  625.70   1752.4     626    1820
GR626.30  1869.3  617.20  1897.2  615.30  1900.3  614.80   1905.2  614.90  1914.3
GR614.80  1922.2  615.30  1930.2  616.60  1931.0  626.20   1955.4  626.40  1986.3
GR627.10  2000.4  626.60  2017.2  627.70  2112.0  628.10   2210.0  628.20  2334.0
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GR628.50  2432.0     629    3320     630    4470
NH     5      10  1814.7   0.035 1836.80   0.055 1914.60   0.035    1951      10
NH  4020
X1 11350      18 1836.80 1914.60     290     295     290             .00
X3    10
X4     5     628     270     627     660     627  1757.6   626.8 1810.00  626.75
X4  1935
GR   641     230  626.80  1814.7  626.80  1836.8  618.40  1857.1  615.30  1863.7
GR613.90  1866.8  613.50  1878.8  614.40  1885.1  615.30  1892.1  617.90  1894.8
GR626.10  1914.6  627.20  1951.0  625.70  1986.6  626.70  1999.7  625.80  2016.5
GR627.50  2051.9  629.00    3320   630.0    4020
NC                         0.3     0.5
X1 11500      18  1836.8  1914.6     150     150     150             .40
X3    10
X4     5     628     270     627     640     627  1757.6   626.8 1810.00  626.75
X4  1935
GR   641     230  626.80  1814.7  626.80  1836.8  618.40  1857.1  615.30  1863.7
GR613.90  1866.8  613.50  1878.8  614.40  1885.1  615.30  1892.1  617.90  1894.8
GR626.10  1914.6  627.20  1951.0  625.70  1986.6  626.70  1999.7  625.80  2016.5
GR627.50  2051.9  629.00    3320   630.0    4020
NC.03    .03      .02
NH     5      10   644.5   0.030  774.50   0.020  848.40   0.030  863.40      10
NH  1297
X1 11600      23  774.50  848.40     100     100     100             -.10
X3    10                                                  625.80  625.80
GR626.80   444.8  626.60   544.6  626.90   644.5  624.70   759.7  623.70   774.5
GR617.00   789.3  616.50   792.3  617.20   795.3  615.70   796.6  615.20   800.4
GR615.30   805.3  615.50   811.5  615.00   823.5  614.30   830.2  615.20   833.7
GR615.80   835.8  624.00   848.4  624.60   863.4  627.70   929.4  627.20   999.9
GR627.20  1093.6  627.60  1199.0  628.10  1297.0
SB  1.00     1.6     2.6      .0    39.5    4.00   590.0    1.90   614.2   614.2
X1 11650                            50      50      50             .00
X2                     1  625.50  626.60                  0
X3    10                                                  626.60  627.20
BT   -10   444.8   626.8          544.6   626.6           644.5   626.9
BT          747.   626.8          878.    627.5           929.4   627.7
BT         999.9   627.2         1093.6   627.2           1199.   627.6
BT         1297.   628.1
X1 11680                                    30      30      30
X3    10                                                  626.60  627.20
X1 11700                                    20      20      20
X3    10                                                  626.40  626.40
SB   1.0     1.6     2.6     140    37.0     5.2    620.     1.5   614.2   614.2
X1 11820                                   120.    120.    120.
X2                     1  626.50  631.90
X3    10                                                  631.90  631.90
QT     7    2210    1796    1717    1555    1359    1125     869
NC   .03     .03     .02
NH     5      10   750.0   0.030  774.50   0.020  848.40   0.030  870.00      10
NH  1297
X1 11850                                    30      30      30             .00
X3    10                                                  626.60  627.20
X4     2  624.75  750.00  624.80  870.00
NC 0.030   0.030   0.020
X1 11875      26 1145.60 1219.60      25      25      25             .00
X3    10                                                  626.10  626.10
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GR   632     0.0      629      50      628      75  627.10   999.9  627.00  1064.9
GR625.40  1127.5  623.90  1131.6  623.50  1145.6  620.10  1151.7  619.20  1160.9
GR618.10  1164.0  615.90  1173.6  613.80  1183.7  614.40  1192.7  612.00  1202.6
GR614.70  1204.7  615.90  1207.3  624.20  1219.6  624.20  1234.6  625.10  1238.9
GR627.60  1296.5  626.90  1341.6  626.90  1366.7  626.90  1392.7     629    3120
GR   632    3120
SB   .90     1.6     2.6      0.0    10.0     2.0  595.00    2.67     .00
X1 11925                             50       50      50              .00
X2                     1  625.50  626.60                0
X3    10                                                  626.60  626.60
BT   -11      0.  632.        .00     50.  629.        .00  75.     628.        .00
BT         999.9  627.10      .00  1064.9  627.00      .00  1296.5  627.60      .00
BT        1341.6  626.90      .00  1366.7  626.90      .00  1392.7  626.90      .00
BT        3120.   629.        .00  3120.   632.
NH     5      10 1110.00   0.030 1145.60   0.020 1219.60   0.030 1250.00      10
NH  3120
X1 11975                             50       50      50              .00
X4     2   625.8 1110.00  625.50 1250.00
X1 12002                             27       27      27              .00
NC.06   .06      .02
NH     5      10   994.1   0.060 1021.90   0.020 1051.20   0.060  1074.1      10
NH1512.9
X1 12080      31 1021.90 1051.20       58       98      78              .00
X3    10                                                  625.30  625.30
GR   632   962.3  627.50   962.3  626.70   970.2  626.80   982.0  626.60   994.1
GR627.10  1000.1  626.90  1002.1  626.90  1007.2  624.30  1014.0  624.30  1014.1
GR615.90  1021.8  615.90  1021.9  614.40  1021.9  614.10  1027.2  614.20  1031.9
GR614.30  1035.1  614.40  1037.5  614.50  1042.3  614.70  1047.0  614.40  1051.2
GR615.80  1051.2  623.70  1058.8  623.70  1058.9  626.90  1074.1  627.30  1169.8
GR626.70  1279.0  627.00  1368.0  626.10  1485.7  627.10  1499.5  627.20  1512.9
GR   632  1512.9
SB  1.25     1.6     2.6      .0    30.0     3.00   253.8     .00
X1 12130                             50       50      50              .00
X2                     1  623.90  626.60                0
X3    10                                                  626.60  626.60
BT   -14   962.3  627.50      .00   970.2  626.70      .00   982.0  626.80      .00
BT         994.1  626.60      .00  1000.1  627.10      .00  1002.1  626.90      .00
BT        1007.2  626.90      .00  1074.1  626.90      .00  1169.8  627.30      .00
BT        1279.0  626.70      .00  1368.0  627.00      .00  1485.7  626.10      .00
BT        1499.5  627.10      .00  1512.9  627.20      .00
X1 12180                             50       50      50              .00
X4     2   626.7  990.00  626.70 1080.00
NC.025  .035     .02
X1 12320                            140      140     140              .00
NH     5      10   999.8   0.025 1024.00   0.020 1054.10   0.035  1077.6      10
NH1513.8
X1 12420      30 1024.00 1054.10      100      100     100              .00
X3    10                                                  624.80  624.80
GR   632   965.1  626.60   965.1  625.90   973.2  626.10   985.3  626.00   996.9
GR626.30   999.8  625.90  1003.8  624.40  1016.1  624.40  1016.2  615.90  1023.9
GR615.90  1024.0  614.70  1024.2  614.50  1028.2  614.30  1033.9  614.80  1038.0
GR614.60  1039.0  614.50  1040.0  614.50  1044.0  614.20  1048.7  614.50  1054.0
GR615.90  1054.1  623.80  1063.6  623.80  1063.7  628.90  1077.6  626.70  1209.0
GR626.70  1340.1  626.10  1488.6  626.70  1502.0  626.00  1513.8     632  1513.8
SB  1.25     1.6     2.6      .0    30.0     2.00   260.0     .00
QT     7    2740    2255    2005    1663    1361    1125     869
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X1 12470                                    50      50      50            .00
X2                    1  623.50  626.10                   0
X3    10                                                      626.10  626.10
BT   -12   965.1  626.60     .00   973.2  625.90     .00   985.3  626.10     .00
BT         996.9  626.00     .00   999.8  626.30     .00  1003.8  625.90     .00
BT        1077.6  626.40     .00  1209.0  626.70     .00  1340.1  626.70     .00
BT        1488.6  626.10     .00  1502.0  626.70     .00  1513.8  626.00     .00
X1 12520                                    50      50      50            .00
X4     2   626.3 1000.00  628.80 1085.00
NH     5      10   999.8   0.025 1024.00   0.020 1054.10   0.035  1077.6      10
NH1513.8
X1 12600      30  1024.0  1054.1      80      80      80            .20
GR   632   965.1  626.60   965.1  625.90   973.2  626.10   985.3  626.00   996.9
GR626.30   999.8  625.90  1003.8  624.40  1016.1  624.40  1016.2  615.90  1023.9
GR615.90  1024.0  614.70  1024.2  614.50  1028.2  614.30  1033.9  614.80  1038.0
GR614.60  1039.0  614.50  1040.0  614.50  1044.0  614.20  1048.7  614.50  1054.0
GR615.90  1054.1  623.80  1063.6  623.80  1063.7  628.90  1077.6  626.70  1209.0
GR626.70  1340.1  626.10  1488.6  626.70  1502.0  626.00  1513.8     632  1513.8
NC.025  .035    .02
NH     5      10  1000.1   0.025 1028.90   0.020 1056.90   0.035 1090.00      10
NH1251.1
X1 12700      19 1028.90 1056.90     100      10     100            .00
X3    10                                                      624.90  624.90
GR   632   967.7  627.20   967.7  626.60   975.9  626.80   987.2  627.20  1000.1
GR627.00  1014.0  624.40  1020.9  613.90  1028.9  614.20  1031.8  613.70  1042.1
GR613.60  1043.0  614.60  1047.9  615.40  1053.1  616.60  1056.9  626.40  1064.4
GR 626.5    1090  626.80  1155.0  626.40  1251.1     632  1251.1
SB  1.25     1.6     2.6      .0    30.0    2.00   249.0     .00614.5   614.5
X1 12750                                    50      50      50            .00
X2                    1  623.40  626.40                   0
X3    10                                                      626.40  626.40
BT    -8   967.7  627.20     .00   975.9  626.60     .00   987.2  626.80     .00
BT        1000.1  627.20     .00  1014.0  627.00     .00  1064.4  626.40     .00
BT        1155.0  626.80     .00  1251.1  626.40     .00
NH     5      10  1000.1   0.025 1028.90   0.020 1056.90   0.035 1090.00      10
NH1251.1
X1 12800      19  1028.9  1056.9      50      50      50           -.10
X4     2   627.1 1000.00  626.40 1090.00
GR   632   967.7  627.20   967.7  626.60   975.9  626.80   987.2  627.20  1000.1
GR627.00  1014.0  624.40  1020.9  613.90  1028.9  614.20  1031.8  613.70  1042.1
GR613.60  1043.0  614.60  1047.9  615.40  1053.1  616.60  1056.9  626.40  1064.4
GR 626.5    1090  626.80  1155.0  626.40  1251.1     632  1251.1
NC                          0.1     0.3
NH     5      10  985.00   0.025 1004.10   0.020 1070.00   0.035 1100.00      10
NH1277.9
X1 12845      21 1004.10 1070.00      45      45      45            .00
X4     2   627.2  985.00   627.6 1100.00
GR   632   887.1  625.40   887.1  626.50   905.2  627.70   919.0  627.40   926.6
GR627.20   945.7  627.20   964.9  627.30   977.0  627.20   989.1  627.90  1000.0
GR627.60  1004.1  622.50  1017.9  616.10  1027.1  614.10  1034.0  614.10  1039.2
GR614.20  1044.0  616.00  1046.1  626.50  1070.0  627.60  1102.9  626.40  1277.9
GR   632  1277.9
NH     5      10 1097.00   0.035 1111.30   0.030 1179.20   0.035 1181.00      10
NH1299.3
X1 13120      20 1111.30 1179.20     310     215     275            .00
X3         614.3
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X4      2   628.3 1097.00   625.7 1181.00
GR    641   550.4  630.20   820.4  630.00   869.2  628.70   945.3  628.20   963.6
GR627.70    981.4  628.20  1000.2  628.40  1052.5  628.30  1098.9  622.74  1108.3
GR622.74   1111.3  615.40  1132.3  614.00  1146.3  615.10  1157.3  625.20  1179.2
GR625.20   1180.3  627.12  1184.3  627.60  1211.3  626.10  1299.3     632  1299.3
NH      5      10  1098.9   0.035  1111.3    0.03    1180   0.035  1184.3      10
NH1299.3
NC                              0.3     0.5
X1 13215       20 1111.30 1180.00      95      95      95
X3          614.35
GR    641   555.4  630.20   820.4  630.00   869.2  628.70   945.3  628.20   963.6
GR627.70    981.4  628.20  1000.2  628.40  1052.5  628.30  1098.9  624.00  1108.3
GR624.00   1111.3  615.40  1132.3  614.00  1146.3  615.00  1157.3  624.02  1180.0
GR624.02   1180.3  624.02  1184.3  627.60  1211.3  626.10  1299.3     632  1299.3
NC.035   .035     .030
NH      5      10  1075.8   0.035  1110.0   0.030  1165.0   0.035  1225.9      10
NH5175.0
X1 13315       30 1110.00 1165.00     100     100     100             .00
X3     10                                                 625.10  625.10
GR    641   529.8     630   599.8  628.10   629.8  628.10   745.4  627.80   807.0
GR629.00    888.7  626.70   945.8  626.90   961.8  626.40   982.0  627.00  1000.1
GR627.20   1075.8  626.20  1100.0  624.30  1107.0  624.30  1110.0  623.00  1115.0
GR614.00   1122.0  614.00  1152.0  622.90  1157.0  624.30  1165.0  624.30  1168.0
GR625.70   1176.0  626.60  1225.9  625.90  1298.0  626.80  1393.0  627.30  1493.0
GR    628   2130     628    4340     630    4600     630  5175.0     632  5175.0
NC                              0.3     0.5
SB   1.25    1.6     2.6      .0    30.0    1.50   270.0     .00
X1 13365                               50      50      50             .00
X2                     1  623.90  625.90                   0
X3     10                                                 626.60  625.90
BT    -21   529.8  641.00     .00   599.8  630.00     .00   629.8  628.10     .00
BT          745.4  628.10     .00   807.0  627.80     .00   888.7  629.00     .00
BT          945.8  626.70     .00   961.8  626.90     .00   982.0  626.40     .00
BT         1000.1  627.00     .00  1075.8  627.20     .00  1104.8  627.00     .00
BT         1162.8  626.60     .00  1225.9  626.60     .00  1298.0  625.90     .00
BT         1393.0  626.80     .00  1493.0  627.30     .00    2130     628
BT           4340     628     .00    4600     630     .00    5175     630
NH      5      10 1090.60   0.035 1118.40   0.030  1171.5   0.035 1191.00      10
NH5175.0
X113415.       29 1118.40 1171.50      50      50      50
X3          614.4
X4      2   627.1 1090.60   625.80 1191.00
GR    641   529.8     630   599.8  628.10   629.8  628.10   745.4  627.80   807.0
GR629.00    888.7  626.70   945.8  626.90   961.8  626.40   982.0  627.00  1000.1
GR627.20   1075.8  627.00  1104.8  625.40  1114.8  625.10  1115.4  625.10  1118.4
GR615.10   1134.9  614.10  1145.9  615.10  1156.5  625.40  1171.5  625.40  1174.5
GR626.60   1225.9  625.90  1298.0  626.80  1393.0  627.30  1493.0     628    2130
GR    628   4340     630    4600     630  5175.0     632  5175.0
NH      5      10 1072.10   0.035 1109.40   0.030 1162.40   0.035 1170.00      10
NH  5020
X1 13725       23 1109.40 1162.40     310     310     310             .00
X3          614.5
X4      2   628.8   916.3   627.30 1170.00
GR    641     540     630      600  627.00   945.4  627.10   962.2  626.60   980.2
GR627.40   1000.1  628.30  1029.3  628.40  1072.1  626.00  1105.6  625.40  1106.4
GR625.40   1109.4  615.40  1125.9  614.40  1136.9  615.40  1147.9  622.40  1162.4
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GR622.40  1165.4  627.40  1188.4  628.00  1207.6     628    2380     630    2860
GR   630    4420     630    5020     632    5020
NH     5      10 1072.10   0.035 1109.40   0.030 1162.40   0.035 1170.00      10
NH  5020
X1 13875      23 1109.40 1162.40     150     150     150             .30
X3         614.56
X4     2   628.8   916.3  627.30 1170.00
GR   632     540     630     600  627.00   945.4  627.10   962.2  626.60   980.2
GR627.40  1000.1  628.30  1029.3  628.40  1072.1  626.00  1105.6  624.40  1106.4
GR624.40  1109.4  615.20  1125.9  614.20  1136.9  615.20  1147.9  622.90  1162.4
GR622.90  1165.4  627.40  1188.4  628.00  1207.6     628    2380     630    2860
GR   630    4420     630    5020     632    5020
NC.035  .035    .030
NH     5      10    1113   0.035    1119    0.03    1168   0.035    1210      10
NH  4970
X1 13975      20 1119.00 1168.00     100     100     100             .00
X3    10                                             626.00  626.00
X4     2   626.9  1000.2     628     930
GR   641     550     630     620  627.90  1113.0  625.50  1116.0  625.50  1119.0
GR622.70  1123.0  614.60  1130.0  614.60  1160.0  622.90  1168.0  626.90  1172.0
GR628.00  1180.4   628.1    1210  628.40  1266.3  629.60  1372.0  629.30  1474.0
GR628.70  1637.1     630    2850     630    4450     630    4970     632    4970
SB  1.25    1.6     2.6      .0    30.0    1.25   280.0     .00
X1 14025                              50      50      50             .00
X2                     1  625.00  627.10                      0
X3    10                                             627.10  627.10
BT   -14     550  641.00     .00     620     630     .00     930     628
BT        1000.2  626.90     .00  1073.1  627.70     .00  1168.0  627.10
BT        1170.4  628.00     .00  1266.3  628.40     .00  1372.0  629.60
BT        1474.0  629.30     .00  1637.1  628.70     .00    2850     630
BT          4450     630     .00   4970.   630.
NH     5      10 1053.50   0.035 1078.10   0.030 1138.80   0.035 1165.00      10
NH  5110
X1 14075      21 1078.10 1138.80      50      50      50             .00
X3         614.6
X4     4   626.9  1000.2     628     930  627.80 1165.00   627.7  1053.5
GR   641     555     630     620  627.90  1073.1  625.60  1078.1  625.60  1081.1
GR615.50  1100.3  614.40  1111.3  615.50  1122.3  625.60  1138.8  625.60  1141.8
GR626.90  1142.8  626.90  1146.3  628.00  1170.4  628.40  1266.3  629.60  1372.0
GR629.30  1474.0  628.70  1637.1     630    2850     630    4450     630    5110
GR   632    5110
NH     5      10 1053.50   0.035 1078.10   0.030 1138.80   0.035    1185      10
NH  5110
X1 14205      22 1078.10 1138.80     130     130     130             .00
X3        614.66
X4     3   626.9  1000.2     628     930  627.80 1185.00
GR   641     555     630     620   627.7  1053.5  627.30  1073.1  625.80  1078.1
GR625.80  1081.1  615.20  1100.3  614.20  1111.3  615.20  1122.3  625.80  1138.8
GR625.80  1141.8  627.10  1142.8  627.10  1146.3  628.00  1170.4  628.40  1266.3
GR629.60  1372.0  629.30  1474.0   628.7  1637.1     630    2850     630    3750
GR   630    5110     632    5110
NC 0.035  0.035   0.030
NH     5      10    1054   0.035   1129.5    0.03   1186.4   0.035   1200.9      10
NH  5110
X1 14305      25 1129.50 1186.40     100     100     100             .00
X3    10                                             625.60  625.60
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X4      1   627.8      923
GR    641     575      630      600   627.20   969.9  627.50   999.8  627.80  1054.0
GR627.30  1120.0  625.80  1126.5  625.80  1129.5  622.70  1143.5  614.00  1147.9
GR614.00  1177.4  622.90  1181.4  625.80  1186.4  625.80  1189.4  627.10  1189.5
GR627.10  1192.9  628.10  1200.9  628.10  1288.8  628.50  1397.6     629     3000
GR    629    3660      630     3850     630    4400     630    5110     632     5110
SB   1.25     1.6      2.6       .0    30.0    1.25   272.0     .00
X1 14355                            50      50      50             .00
X2                     1  623.80  627.50                 0
X3     10                                                627.50  627.50
BT    -16     575      641             600     630            923.0  627.80
BT          969.9  627.20           999.8  627.50           1054.0  627.80
BT         1105.0  627.50          1169.0  627.50           1170.9  628.10
BT         1288.8  628.10          1397.6  628.5              3000     629
BT           3660     629            3850     630            4400     630
BT           5110     630
NH      5      10 1085.00   0.035 1128.20   0.030 1188.10   0.035 1210.00      10
NH   5235
X1 14405      21 1128.20 1188.10      50      50      50             .00
X3         614.72
X4      3   627.8      923   627.2 1085.00  628.20 1210.00
GR    642     525      630     600   627.20   969.9  627.50   999.8  627.80  1054.0
GR626.10  1126.7  625.60  1126.7  625.60  1128.2  615.10  1149.2  614.10  1160.2
GR615.50  1174.2  625.80  1188.1  626.20  1194.6  628.10  1288.8  628.50  1397.6
GR628.60  1401.5     629    3000     629    3660     630    3850     630    4400
GR    635    5235
NC 0.035   0.035   0.030
NH      5      10  1126.7   0.035  1129.5    0.03  1201.5   0.035  1204.5      10
NH   5180
X1 14535      21 1129.50 1201.50     130     130     130             .00
X3         614.78
X4      3   627.8      923   627.2 1085.00  628.20 1180.00
GR    642     500      630     600   627.20   969.9  627.50   999.8  627.80  1054.0
GR626.10  1126.7  625.40  1126.7  625.40  1129.5  615.20  1150.5  614.20  1161.5
GR615.80  1178.5  624.50  1201.5  624.50  1204.5  628.10  1288.8  628.50  1397.6
GR628.60  1401.5     629    3000     629    3660     630    3850     630    4400
GR    635    5180
NC 0.035   0.035   0.030
NH      5      10  1100.0   0.035    1116    0.03    1167   0.035  1179.9      10
NH   5010
X1 14635      26 1116.00 1167.00     100     100     100             .00
X3     10                                                626.30  626.30
X4      1     629    920.1
GR    642     620      630      680   628.30   969.8  628.70   999.7  628.90  1048.8
GR629.20  1100.0  629.20  1101.0  626.10  1113.0  626.10  1116.0  624.40  1123.0
GR614.40  1128.0  614.40  1158.0  624.70  1162.5  626.10  1167.0  626.10  1170.0
GR629.00  1178.0  629.00  1179.0  629.01  1179.9  629.30  1273.0  629.50  1371.8
GR629.80  1470.2  629.70  1570.0  629.90  1639.6     630    2440     630    4650
GR    635    5010
SB   1.25     1.6      2.6       .0    30.0    1.25   272.0     .00
X1 14685                            50      50      50             .00
X2                     1  624.20  628.40                 0
X3     10                                                628.40  628.40
BT    -16     620      640             680     630            920.1  629.00
BT          969.8  628.30           999.7  628.7            1048.8  628.90
BT         1099.9  629.30          1176.8  628.90           1273.0  629.30
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BT          1371.8   629.50            1470.2   629.80            1570.0   629.70
BT          1639.6   629.90              2440     630               4650     630
BT          5010.    635.00
NH      5       10 1099.90    0.035 1118.10    0.030 1183.10    0.035 1210.00       10
NH   5360
X1  14735       21 1118.10 1183.10       50       50       50              .00
X3          614.85
X4      3      629    920.1    629.1 1082.00   629.90 1210.00
GR    643      635      630      680   628.30    969.8   628.70    999.7   628.90   1048.8
GR629.30    1099.9   626.60   1114.1   626.20   1115.1   626.20   1118.1   615.50   1141.1
GR614.40    1152.1   615.80   1166.1   626.20   1183.1   626.20   1186.1   629.90   1189.1
GR629.90    1193.1   629.70   1570.0   629.90   1639.6      630     2440      630     4650
GR    635     5360
NC 0.035    0.035    0.030
NH      5       10   1099.9    0.035     1120     0.03     1175    0.035     1210       10
NH   5330
X1  14870       22 1120.00 1175.00      135      135      135              .51
X3          614.9
X4      3      629    920.1    629.2 1090.00   628.80 1185.00
GR    643      630      630      680   628.30    969.8   628.70    999.7   628.90   1048.8
GR629.30    1099.9   628.80   1111.0   625.70   1117.0   625.70   1120.0   614.90   1138.0
GR613.90    1149.0   615.30   1163.0   625.70   1175.0   625.70   1178.0   629.10   1181.0
GR629.10    1183.6    629.2     1210   629.70   1570.0   629.90   1639.6      630     2440
GR    630     4650      635     5330
NC 0.035    0.035    0.030
NH      5       10      925    0.035      940     0.03     989.6    0.035     992.6       10
NH   5120
X1  14970       26   940.00   989.60      100      100      100              .00
X3     10                                                      626.60   626.60
X4      1    628.8    792.6
GR    643      430      630      500   629.70    872.0   629.00    925.0   629.00    926.0
GR626.40    937.0   626.40    940.0   624.40    949.6   614.40    952.6   614.40    982.6
GR624.70    986.6   626.70    989.6   626.70    992.6   629.30    995.1   629.30    997.6
GR629.30    997.7   629.30    999.8   629.40   1034.8   629.60   1112.7   629.20   1209.2
GR629.00   1305.8   629.00   1395.1   628.80   1462.4      630     2600      630     4300
GR    635     5120
SB   1.25      1.6      2.6       .0     30.0     1.25    272.0      .00
X1  15020                                  50       50       50              .00
X2                        1   624.50   628.80                 0
X3     10                                                      628.80   628.80
BT    -17      430      643              500      630              792.6   628.80
BT            872.0   629.70            929.9   628.80            989.2   628.90
BT            994.1   629.30            999.8   629.30           1034.8   629.40
BT           1112.7   629.60           1209.2   629.20           1305.8   629.00
BT           1395.1   629.00           1462.4   628.80             2600      630
BT             4300      630           5120.    635.
NH      5       10    922.9    0.035   931.50    0.030   986.50    0.035    992.80       10
NH   4880
QT      7     2200     1608     1412     1147      942      782      568
X1  15070       18   931.50   986.50       50       50       50              .00
X3          614.97
X4      2    629.3    739.7    629.5   891.00
GR    643      440      630      500   629.00    791.9   629.50    872.9   629.90    922.9
GR629.30    923.5   626.30    928.5   626.30    931.5   615.60    947.5   614.50    958.5
GR615.90    972.5   626.30    986.5   626.30    989.5   628.70    991.5   628.70    992.8
GR630.30   1187.5      630     4100      635     4880
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NH     5      10  891.00   0.035  931.20   0.030  987.20   0.035  1000.5      10
NH  4880
X1 15160      18  931.20  987.20      90      90      90             .30
X3         615.0
X4     2  629.3   739.7   629.5  891.00
GR   643    440     630     500  629.00   791.9  629.50   872.9  629.90   922.9
GR629.30  923.5  629.30   926.2  626.10   931.2  626.10   934.2  615.40   950.2
GR614.30  961.2  615.80   975.2  626.10   987.2  626.10   990.2  629.50   997.5
GR629.50 1000.5     630    4100     635    4880
X1 15205                              45      45      45             .00
X3         615.1
X4     2  629.3   739.7   629.5  900.00
NC 0.035  0.035   0.030
NH     4      10     922    0.03   978.1   0.035     992      10    4750
X1 15305      12  922.00  978.10     100     100     100             .00
X3    10                                                  627.00  627.00
X4     2     630     780   630.2   928.9
GR   643     550  630.50   922.0  614.70   947.0  614.70   977.0  614.90   978.0
GR625.70  978.1  627.00   984.0  630.30   992.0  630.30   996.5  630.30  1000.0
GR   630    3350     635    4750
SB  1.25     1.6     2.6      .0    30.0    1.25   272.0     .00
X1 15355                              50      50      50             .00
X2                     1  624.40  629.70                0
X3    10                                                  629.70  629.70
BT    -8     550     643             780     630             928.9  630.20
BT        942.0  629.50           994.1  630.10            1000.0  630.30
BT        3350.    630.           4750.    635.
X1 15390                              35      35      35             .00
X4     2  630.2   928.9     630     780
NC.035  .035     .05
NH     5      10   922.7   0.035   925.6    0.05     980   0.035   995.5      10
NH  4880
X1 15420      27  925.60  980.00      30      30      30             .00
X3    10                                                  629.40  629.40
GR   643     517  629.50   557.1  629.00   672.8  627.50   758.9  629.60   826.7
GR629.80  922.7  629.20   923.0  629.20   925.6  623.50   925.9  622.80   927.5
GR619.00  936.9  617.30   939.9  615.70   940.0  615.10   944.0  616.40   950.3
GR619.60  952.8  617.50   963.1  617.50   967.0  623.10   975.7  627.70   980.0
GR629.80  980.1  630.40   995.5  630.90   999.8  631.80  1085.5  631.20  1217.9
GR   630    3200     635    4880
SB  1.25     1.6     2.6      .0    22.0    9.40   400.0    1.14
X1 15460                              40      40      40             .00
X2                     1  629.10  629.70                0
X3    10                                                  629.70  629.70
BT-12.  517.     643.            557.1     629.5         672.8     629.
BT       758.9   627.5           826.7     629.6         922.7     629.8
BT       980.1   629.8           999.8     630.9         1085.5    631.8
BT       1217.9  631.2            3200     630           4880.     635.
X1 15495                              35      35      35             .00
NC.09   .09      .02
X1 15530      34  938.00  984.20      35      35      35             .30
X3    10                                                  629.10  629.10
GR635.00  117.0  630.00   117.0  629.60   220.0  629.40   321.0  629.30   427.0
GR629.50  530.0  629.50   636.1  629.60   737.2  629.70   841.2  629.40   936.8
GR630.00  936.9  630.00   938.0  628.60   938.0  618.00   939.0  617.80   946.0
GR617.50  948.9  616.00   950.2  615.70   953.1  618.00   961.5  617.30   966.3
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GR617.10   973.4  617.60   974.4  628.50   984.2  630.40   984.3  630.50   985.3
GR629.60   985.4  630.40  1000.0  630.60  1148.8  631.50  1319.0  632.60  1504.0
GR633.50  1669.0  633.90  1811.0  635.00  2073.0  635.10  2089.0
SB  1.05    1.6     2.6      .0    27.0     4.50   395.4     .79
X1 15610                          80       80      80              .00
X2                    1  628.60  629.50                0
X3    10                                                629.50  630.40
BT   -17   117.0  630.00     .00   220.0  629.60     .00   321.0  629.40     .00
BT         427.0  629.30     .00   530.0  629.50     .00   636.1  629.50     .00
BT         737.2  629.60     .00   841.2  629.70     .00   938.0  629.50     .00
BT        1000.0  630.40     .00  1148.8  630.60     .00  1319.0  631.50     .00
BT        1504.0  632.60     .00  1669.0  633.50     .00  1811.0  633.90     .00
BT        2073.0  635.00     .00  2089.0  635.10     .00
NC.06   .06     .055
NH     5      10  640.00   0.060  893.30   0.055  959.10   0.060 1010.00      10
NH4520.0
X1 15650      21  893.30  959.10      40      40      40              .00
X4     2   632.7  640.00   630.7 1010.00
GR651.70   584.9  651.30   595.9  633.00   630.9  627.90   763.3  629.30   815.2
GR627.50   893.3  619.50   918.9  617.80   922.2  617.20   927.8  617.00   934.9
GR616.50   938.9  617.80   944.0  627.60   959.1  629.20   994.2  630.10  1000.1
GR630.40  1000.2  631.00  1020.7  631.10  1114.0  631.30  1208.1     630     3720
GR635.00  4520.0
NC                           0.1     0.3
NH     4    0.06     866   0.055   915.1    0.06    1031      10    4980
X1 16105      17  866.00  915.10     445     465     455              .00
GR650.60   753.9  650.60   762.9  628.10   803.1  627.00   844.1  620.60   866.0
GR618.50   869.1  617.70   871.9  617.50   880.1  617.30   888.2  618.50   895.1
GR629.40   915.1  629.50   927.2  630.50   932.1  629.70   977.2  631.50  1031.0
GR   630    3720     635    4980
NH     4    0.06   916.3   0.055   965.3    0.06  1054.6      10    4780
X1 16390      19  916.30  965.30     295     280     285              .00
GR649.50   824.4  630.70   857.5  627.50   884.0  620.40   916.3  618.60   919.4
GR617.80   923.2  616.90   929.6  617.50   937.5  618.50   940.4  620.40   942.4
GR628.60   965.3  629.10   973.3  630.30   974.4  630.00  1000.3  630.20  1025.4
GR630.90  1054.6     630    3450     631    3810     635    4780
NC                           0.3     0.5
NH     4    0.06   916.3   0.055   965.3    0.06    2050      10    4780
X1 16555      19   916.3   965.3     165     165     165              .41
X4     1     630    2050
GR649.50   824.4  630.70   857.5  627.50   884.0  620.40   916.3  618.60   919.4
GR617.80   923.2  616.90   929.6  617.50   937.5  618.50   940.4  620.40   942.4
GR628.60   965.3  629.10   973.3  630.30   974.4  630.00  1000.3  630.20  1025.4
GR630.90  1054.6     630    3450     631    3810     635    4780
NC.04   .03     .030
X1 16655      26  951.90  978.00     100     100     100              .00
X3    10                                                628.90  628.90
GR 649.6   871.7  630.50   915.9  630.20   951.8  630.60   951.9  630.70   952.6
GR627.60   952.7  619.20   952.7  618.70   952.7  618.70   958.9  618.90   964.6
GR619.00   970.4  618.20   976.4  619.20   976.4  627.80   976.4  630.50   976.5
GR630.60   978.0  629.90   978.0  630.30   999.8  629.90  1015.5  629.80  1118.1
GR630.20  1218.8  630.20  1323.8  630.20  1425.6     630    3400     631    3850
GR   635    5285
SB   .90     1.6     2.6  2450.0    23.0     .01   207.0     .00
X1 16725                          70      70      70              .00
X2                    1  627.70  630.00                0
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X3    10                                                    630.00  630.00
NC.04   .035    .055
NH     4   0.040  955.20   0.055  999.80   0.035 2230.00      10    4840
X1 16795      20  955.20  999.80      70      70      70            -.29
X4     1  628.91 1070.00
GR649.60   875.7  649.00   884.5  631.70   932.0  621.70   955.2  619.30   960.9
GR618.50   966.9  618.20   971.9  618.50   978.9  619.20   984.0  629.10   999.8
GR629.00  1003.9  629.70  1163.9  630.30  1196.0  630.50  1294.9  630.40  1395.7
GR   630    2230     630    3250     631    3850     631    4400     635    4840
NC                          0.1     0.3
NH     4   0.040  955.20   0.055  999.80   0.035 2230.00      10    4840
X1 16910      20   955.2   999.8     115     115     115            .29
X4     1   629.2 1070.00
GR649.60   875.7  649.00   884.5  631.70   932.0  621.70   955.2  619.30   960.9
GR618.50   966.9  618.20   971.9  618.50   978.9  619.20   984.0  629.10   999.8
GR629.00  1003.9  629.70  1163.9  630.30  1196.0  630.50  1294.9  630.40  1395.7
GR   630    2230     630    3250     631    3850     631    4400     635    4840
NH     4   0.040  924.00   0.055 1000.00   0.035 2144.00      10    4180
X1 17205      26  924.00 1000.00     285     300     295            .00
X4     1   629.5 1045.00
GR649.10   847.8  648.10   857.9  647.80   862.8  629.70   924.0  620.20   945.7
GR619.20   950.6  619.10   958.2  619.20   974.8  620.10   979.8  629.20  1000.0
GR629.90  1073.2  630.40  1156.2  630.60  1244.2  630.60  1321.1  630.40  1469.2
GR630.40  1556.0  630.40  1634.0  630.20  1722.0  630.10  1811.0  629.70  1898.0
GR629.40  1977.0  629.60  2060.0  630.30  2144.0     630    3200     632    3870
GR   635    4180
NC 0.040  0.035   0.055
NH     4    0.04   917.9   0.055   982.1   0.035  1034.8      10    4570
X1 17455      16  917.90  982.10     275     245     250            .00
GR648.80   827.1  648.60   847.9  632.30   882.2  627.20   917.9  620.00   936.3
GR619.00   943.1  619.20   950.4  619.30   957.8  620.00   966.1  628.40   982.1
GR630.00  1000.2  630.10  1012.9  630.90  1034.8     630    3500     632    3820
GR   635    4570
NH     4   0.040  895.00   0.055  960.20   0.035 1100.00      10    5870
X1 17705      21  895.00  960.20     240     255     250            .00
X4     1   631.1 1100.00
GR643.50   810.7  643.00   832.1  632.90   859.8  629.10   895.0  619.90   911.2
GR619.50   917.1  619.40   922.2  619.10   924.9  619.90   930.0  622.30   945.2
GR628.40   960.2  631.00  1000.0  631.50  1049.3  631.10  1097.0  629.50  1408.0
GR630.20  1636.0     630    2240     630    3490     632    3830     632    4170
GR   635    5870
NC.04   .06     .055
NH     4   0.040  906.40   0.055  996.40   0.060 1095.00      10 1849.00
X1 18020      22  906.40  996.40     315     310     315            .00
X4     1   631.2 1095.00
GR648.40   736.4  634.10   792.6  632.90   847.8  632.00   906.4  623.20   947.4
GR620.40   951.3  619.80   954.3  619.80   962.1  619.90   970.5  620.40   978.2
GR623.30   984.1  628.30   996.4  628.10  1000.2  629.80  1012.4  631.20  1093.2
GR631.00  1217.3  631.10  1334.6  632.40  1445.0  632.20  1551.0  632.50  1644.0
GR633.30  1748.0  633.70  1849.0
NH     5      10     900    .040  1048.1    .055  1091.6    .060  1118.8      10
NH  5170
QT     7    1690    1401    1228     976     781     671     510
X1 18355      17 1048.10 1091.60     345     320     335            .00
X4     1   633.1   900.0
GR632.95   679.8  633.80   711.0  633.60   736.5  633.00   836.7  633.20   945.8
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GR633.00   985.7  632.70   999.7  632.70  1023.6  622.80  1048.1  621.20  1052.9
GR620.00  1056.8  620.10  1061.8  620.40  1067.2  621.20  1071.8  631.30  1091.6
GR634.20  1118.8     635    5170
NC                                 0.5
X1 18585      17  1048.1  1091.6     230     230     230            .50
GR632.95   679.8  633.80   711.0  633.60   736.5  633.00   836.7  633.20   945.8
GR633.00   985.7  632.70   999.7  632.70  1023.6  622.80  1048.1  621.20  1052.9
GR620.00  1056.8  620.10  1061.8  620.40  1067.2  621.20  1071.8  631.30  1091.6
GR634.20  1118.8     635    5170
NC.03   .03      .035
NH     5      10     925    0.03  1015.2   0.035  1057.6    0.03  1112.2      10
NH  3020
X1 18685      37 1015.20 1057.60     100     100     100            .00
X3    10                                                 631.20  631.20
GR   636     534     634     534  631.70   584.0  630.90   754.0  631.20   770.0
GR630.90   785.0  631.50   834.0  634.45     925  631.40  1000.0  630.90  1015.2
GR626.00  1020.0  623.60  1023.9  623.50  1026.2  623.60  1028.2  623.10  1028.3
GR620.50  1029.2  620.90  1031.8  620.70  1034.1  620.90  1039.1  621.80  1041.9
GR623.20  1042.0  623.90  1042.1  623.90  1043.9  624.00  1046.2  631.50  1057.6
GR631.90  1112.2  632.30  1223.2  632.60  1336.2  632.30  1459.4  632.50  1478.2
GR632.50  1491.3     632    1530     632    2080     630    2530     632    2780
GR   632    2970     634    3020
SB   .90     1.6     2.6      .0    18.0     2.7   170.0
X1 18735                            50      50      50            .00
X2                    1  630.80  631.50                  0
X3    10                                                 631.50  631.50
BT   -15   534.0  634.00     .00   584.0  631.70     .00   754.0  630.90     .00
BT         770.0  631.20     .00   785.0  630.90     .00   834.0  631.50     .00
BT         921.0  631.50     .00  1022.0  631.80     .00  1060.0  631.80     .00
BT        1190.0  632.20     .00  1223.2  632.30     .00  1336.2  632.60     .00
BT        1508.0  632.80     .00  1556.3   632.8     .00  3596.3   635.0     .00
NC.035  .035    .055
NH     5      10  925.00   0.035 1015.20   0.055 1057.60   0.035 1140.00      10
NH  3020
X1 18785      37  1015.2  1057.6      50      50      50           -1.20
X4     2   630.4  925.00  630.70 1140.00
GR   636     534     634     534  631.70   584.0  630.90   754.0  631.20   770.0
GR630.90   785.0  631.50   834.0  634.45     925  631.40  1000.0  630.90  1015.2
GR626.00  1020.0  623.60  1023.9  623.50  1026.2  623.60  1028.2  623.10  1028.3
GR620.50  1029.2  620.90  1031.8  620.70  1034.1  620.90  1039.1  621.80  1041.9
GR623.20  1042.0  623.90  1042.1  623.90  1043.9  624.00  1046.2  631.50  1057.6
GR631.90  1112.2  632.30  1223.2  632.60  1336.2  632.30  1459.4  632.50  1478.2
GR632.50  1491.3     632    1530     632    2080     630    2530     632    2780
GR   632    2970     634    3020
NC                                 0.1     0.3
NH     5      10   940.0    .035  1088.1   0.055  1177.9   0.035    1195      10
NH  4080
X1 19000      29 1088.10 1177.90     215     210     215            .00
X4     1   631.0   940.0
GR   649   557.6  633.30   602.6  632.60   732.4  631.90   751.3  632.10   765.2
GR631.90   779.3  632.30   813.4  632.20   892.8  631.50   955.1  632.00  1000.3
GR632.20  1045.1  632.70  1088.1  625.70  1107.8  624.50  1134.9  622.60  1138.6
GR621.00  1144.1  620.60  1147.9  621.00  1153.0  622.70  1157.8  633.40  1177.9
GR 633.1    1195     632    2060     630    2560     632    2750     634    2800
GR   632    2870     632    2920     634    2940     635    4080
NH     5      10   960.0    .035  1093.0    .055  1168.0    .035  1185.0      10
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NH  2740
X1 19335      32 1093.00 1168.00     335     335     335             .00
X4     2   632.7  960.00 633.750  1185.0
GR634.00   711.1  632.80   739.0  633.10   751.0  632.90   766.1  633.80   781.3
GR633.70   833.0  632.70   922.2  632.60  1000.0  632.40  1016.3  632.80  1093.0
GR632.80  1093.1  626.10  1111.1  625.90  1121.0  623.20  1124.1  622.80  1128.1
GR622.30  1130.3  622.20  1135.4  622.80  1141.3  623.20  1145.2  633.60  1168.0
GR634.30  1219.8  632.70  1280.8  632.90  1295.0  632.60  1307.8  634.00  1338.1
GR634.20  1377.9     632    1480     632    1780     630    1850     630    2200
GR   632    2700     634    2740
NH     5      10    1000  .03500  1123.0   0.055  1164.9   0.035  1240.0      10
NH  2800
X1 19625      22 1123.00 1164.90     295     290     290             .00
X4     2  634.40  1000.0  633.30  1240.0
GR634.60   985.8  634.40   999.9  634.40  1042.8  633.70  1091.7  626.10  1123.0
GR624.50  1130.7  623.30  1135.7  622.90  1137.9  622.50  1144.1  622.60  1147.0
GR622.80  1150.0  624.40  1152.0  632.00  1164.9  633.00  1192.2  633.80  1252.1
GR633.10  1327.1  634.20  1385.6  632.80  1482.0     633    1900     632    1950
GR   632    2720     635    2800
NC.035  .035    .055
NH     3      10  741.10   0.055  879.90      10    3220
X1 20145      23  741.10  841.20     545     480     520             .00
GR639.70     660  634.40   666.3  633.60   741.1  623.70   768.2  623.20   771.8
GR623.20   779.8  623.10   785.8  623.60   790.9  625.90   805.7  628.60   829.2
GR632.80   841.2  632.80   860.3  635.60   879.9  631.90   906.1  632.80   996.1
GR635.90   999.7  631.00  1015.9  630.50  1103.0  630.60  1192.3  630.70  1283.2
GR631.00  1375.3     632    1820     635    3220
NH     3      10  805.20   0.055  943.30      10    3220
X1 20146      23  805.20  868.80       1       1       1             .00
GR639.70   705.0  637.70   721.2  636.30   767.2  636.50   805.2  626.70   821.0
GR626.10   826.1  626.60   830.9  626.30   836.2  626.50   844.7  626.10   849.0
GR626.60   853.1  632.10   868.8  632.70   904.8  636.90   943.3  632.20   982.1
GR635.90  1000.3  631.00  1015.9  630.50  1103.0  630.60  1192.3  630.70  1283.2
GR631.00  1375.3     632    1820     635    3220
NC                          0.3     0.5
X1 20255                             89     129     109             .00
X310.
NC.06   .06     .045
X1 20355      30 1036.90 1150.70      80     120     100             .00
X3    10                                                635.50  635.50
GR635.00   741.0  635.00   741.1  635.00   741.2  635.40   824.9  635.40   825.0
GR634.80   999.9  634.50  1036.9  632.00  1042.2  627.00  1051.9  625.80  1054.6
GR623.90  1058.8  623.50  1066.0  623.00  1070.7  622.50  1076.6  622.10  1083.7
GR622.40  1088.8  622.30  1095.5  623.00  1101.7  622.70  1106.6  623.80  1112.0
GR625.20  1115.9  626.90  1117.8  630.30  1128.6  631.80  1150.1  633.40  1150.7
GR634.40  1183.7  635.00  1258.9  634.30  1340.8  635.30  1427.0  635.80  1515.9
SB  1.05    1.6     2.6     200    46.0   10.00   840.0    2.60
X1 20435                             80      80      80             .00
X2                    1  634.50  636.50                0
X3    10                                                636.50  636.50
NC.035  .035    .040
X1 20515      30  1036.9  1150.7      60     100      80             .40
GR635.00   741.0  635.00   741.1  635.00   741.2  635.40   824.9  635.40   825.0
GR634.80   999.9  634.50  1036.9  632.00  1042.2  627.00  1051.9  625.80  1054.6
GR623.90  1058.8  623.50  1066.0  623.00  1070.7  622.50  1076.6  622.10  1083.7
GR622.40  1088.8  622.30  1095.5  623.00  1101.7  622.70  1106.6  623.80  1112.0
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GR625.20  1115.9  626.90  1117.8  630.30  1128.6  631.80  1150.1  633.40  1150.7
GR634.40  1183.7  635.00  1258.9  634.30  1340.8  635.30  1427.0  635.80  1515.9
X1 20595      37 1074.40 1158.70      60     100      80             .00
X3    10                                                633.40  633.40
GR 636.0     322  634.30   722.0  634.30   722.1  634.60   825.8  634.60   825.9
GR634.60   826.0  635.20   922.8  635.50  1000.0  636.10  1069.7  636.70  1070.5
GR636.70  1072.2  633.40  1072.2  633.00  1074.4  630.30  1090.5  627.10  1098.0
GR626.90  1098.1  626.80  1098.7  625.90  1100.7  625.00  1103.7  624.40  1106.9
GR624.30  1109.6  625.40  1114.0  624.80  1120.7  625.20  1125.0  626.90  1126.1
GR628.40  1135.8  628.40  1142.6  631.80  1158.7  633.50  1159.1  633.50  1160.9
GR637.30  1161.4  637.30  1163.1  637.30  1201.1  638.30  1276.9  637.90  1364.0
GR637.90  1448.6  638.20  1581.7
SB  1.25     1.6     2.6      .0    14.0    11.70   360.0    4.00
X1 20645                            50      50      50             .00
X2                    1  633.50  635.20                0
X310.                                                 635.20  637.30
BT-13.  402.     637.2           722.     634.3           826.     634.6
BT      922.8    635.2           1000.    635.5           1069.7   636.7
BT      1070.5   636.7           1161.4   637.3           1201.1   637.3
BT      1276.9   638.3           1364.    637.9           1448.6   637.9
BT      1581.7   638.2
NH     5      10  890.00   0.035 1074.40   0.055 1158.70   0.035 1300.00      10
NH1581.7
X1 20695      37  1074.4  1158.7     100       5      50            -1.80
X4     2   633.2  890.00  636.40 1300.00
GR 636.0     322  634.30   722.0  634.30   722.1  634.60   825.8  634.60   825.9
GR634.60   826.0  635.20   922.8  635.50  1000.0  636.10  1069.7  636.70  1070.5
GR636.70  1072.2  633.40  1072.2  633.00  1074.4  630.30  1090.5  627.10  1098.0
GR626.90  1098.1  626.80  1098.7  625.90  1100.7  625.00  1103.7  624.40  1106.9
GR624.30  1109.6  625.40  1114.0  624.80  1120.7  625.20  1125.0  626.90  1126.1
GR628.40  1135.8  628.40  1142.6  631.80  1158.7  633.50  1159.1  633.50  1160.9
GR637.30  1161.4  637.30  1163.1  637.30  1201.1  638.30  1276.9  637.90  1364.0
GR637.90  1448.6  638.20  1581.7
NC  0.07   0.045   0.055     0.1     0.3
QT     7    1570    1304    1145     912     734     636     486
X1 20830      22 1037.50 1103.40     220      55     135            1.80
GR648.90   832.9  641.00   869.1  641.10   949.0  640.30   975.0  639.00  1000.2
GR637.10  1037.5  628.20  1056.1  627.10  1065.0  625.80  1068.9  625.20  1074.1
GR625.30  1077.1  625.40  1085.1  627.10  1089.9  637.60  1103.4  636.30  1148.6
GR636.30  1168.5  638.10  1196.4  637.90  1205.9  637.70  1216.1  638.00  1262.2
GR637.60  1279.3  636.30  1341.0
NC 0.035   0.035   0.055
X1 21065      21 1177.80 1231.20     250     220     235             .00
GR646.00   842.7  644.70   889.6  643.10   955.8  641.50   999.7  630.90  1025.9
GR631.20  1087.8  633.10  1137.8  631.40  1177.8  629.10  1187.0  627.30  1196.2
GR626.20  1203.0  626.10  1209.3  626.20  1217.2  627.40  1221.3  629.40  1231.2
GR630.30  1247.9  634.30  1265.2  633.80  1310.1  634.40  1371.9  635.60  1419.0
GR636.50  1419.0
QT     7    1520    1276    1115     887     719     625     481
X1 21580      21 1178.30 1231.00     475     545     515             .00
GR649.30   855.0  647.10   908.2  643.80   963.1  641.80   999.9  630.90  1025.8
GR631.00  1088.1  633.00  1137.9  631.20  1178.3  629.00  1187.0  627.30  1196.2
GR626.00  1203.0  626.00  1209.2  626.10  1217.0  627.30  1221.0  629.40  1231.0
GR630.40  1248.1  634.30  1265.2  633.80  1310.1  634.40  1372.0  635.30  1419.1
GR637.00  1690.0
X1 21885      23 1087.80 1131.70     310     305     305             .00
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GR652.60   954.5  651.50   976.5  650.50   991.6  649.50  1000.0  648.40  1007.1
GR632.20  1041.4  631.20  1067.7  631.20  1087.8  629.20  1096.3  627.20  1105.1
GR625.70  1112.2  625.50  1115.3  625.60  1120.8  627.20  1125.9  631.30  1131.7
GR634.10  1151.8  636.20  1189.6  636.10  1229.7  634.60  1281.9  634.60  1325.9
GR634.80  1368.7  635.10  1439.9  636.20  1544.6
NC                .040     0.3     0.5
X1 21995     23  1087.8  1131.7      60     160     110             .10
GR652.60   954.5  651.50   976.5  650.50   991.6  649.50  1000.0  648.40  1007.1
GR632.20  1041.4  631.20  1067.7  631.20  1087.8  629.20  1096.3  627.20  1105.1
GR625.70  1112.2  625.50  1115.3  625.60  1120.8  627.20  1125.9  631.30  1131.7
GR634.10  1151.8  636.20  1189.6  636.10  1229.7  634.60  1281.9  634.60  1325.9
GR634.80  1368.7  635.10  1439.9  636.20  1544.6
X1 22095     21 1009.30 1135.00      50     150     100             .00
X3    10                                                 648.40  648.40
GR653.10   607.0  653.10   607.1  652.80   673.0  653.00   763.0  653.40   860.0
GR652.90   943.0  652.80  1000.1  650.10  1009.3  627.00  1055.2  626.20  1059.1
GR625.40  1063.1  625.70  1066.2  627.00  1069.2  632.30  1078.3  630.50  1085.1
GR631.00  1105.5  645.00  1135.0  652.90  1141.2  652.30  1219.3  651.50  1316.7
GR655.10  1398.5
SB  1.05    1.6     2.6     200    50.0    9.00  1540.0    2.00
X1 22135                             40      40      40             .00
X2                    1  645.00  651.70                   0
X3    10                                                 651.70  651.70
NC.03   .035    .060
X1 22175     21  1009.3  1135.0      40      40      40             -.20
GR653.10   607.0  653.10   607.1  652.80   673.0  653.00   763.0  653.40   860.0
GR652.90   943.0  652.80  1000.1  650.10  1009.3  627.00  1055.2  626.20  1059.1
GR625.40  1063.1  625.70  1066.2  627.00  1069.2  632.30  1078.3  630.50  1085.1
GR631.00  1105.5  645.00  1135.0  652.90  1141.2  652.30  1219.3  651.50  1316.7
GR655.10  1398.5
NC                          0.1     0.3
NH     4     10  806.40   0.060   859.5    0.03   933.5    0.06  1010.3
X1 22385     20  859.50  933.50     290     130     210             .20
GR638.30   680.3  637.90   734.3  637.20   806.4  637.40   851.8  636.00   859.5
GR631.30   869.4  627.40   875.4  626.30   882.6  626.00   887.6  625.80   893.4
GR626.30   897.7  627.40   905.4  627.80   906.5  633.90   918.1  642.80   933.5
GR642.50   937.3  639.50   947.5  640.00   969.5  651.80  1000.4  652.30  1010.3
NH     4     10  768.90   0.060   891.9    0.03   977.8    0.06  1088.4
QT     7   1510    1087     900     733     594     517     423
X1 22715     15  891.90  977.80     335     325     330             .00
GR637.70   768.9  638.00   882.0  637.60   891.9  633.40   903.9  627.70   913.2
GR626.80   917.9  626.30   931.2  626.80   945.0  627.60   948.0  633.90   957.3
GR645.20   977.8  646.30  1000.1  646.10  1005.7  647.60  1047.7  650.80  1088.4
NH     4     10  794.80   0.040   925.10   0.030   991.5    0.06  1101.8
X1 23105     21  925.10  991.50     400     370     390             .00
GR638.70   663.3  637.70   729.2  637.70   794.8  637.60   836.5  636.70   870.0
GR635.90   892.0  636.20   907.4  636.40   912.4  636.20   925.1  634.10   931.3
GR627.90   940.4  627.00   948.3  626.80   954.4  627.10   961.1  627.90   969.4
GR634.30   980.4  642.40   991.5  643.50  1000.3  644.20  1029.1  646.90  1092.0
GR649.00  1101.8
NH     3   0.040  905.00   0.030 1000.20    0.06  1069.8
X1 23360     21  905.00 1000.20     250     255     255             .00
GR637.90   691.8  636.70   704.1  636.50   728.0  636.40   782.0  636.30   840.1
GR636.00   867.0  636.20   879.8  636.20   905.0  633.60   910.1  629.90   917.2
GR628.60   947.9  627.80   951.0  627.20   955.6  626.20   965.3  627.30   972.3
GR627.80   977.0  634.10   985.9  641.70  1000.2  641.90  1003.9  645.10  1056.6
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GR647.10  1069.8
NH     3      10 1000.30   0.060 1139.20      10 1269.90
X1 23660      18 1030.00 1116.40     180     375     300            .00
GR637.70   800.4  637.60   901.3  637.40   948.2  637.90  1000.3  636.10  1026.1
GR635.60  1030.0  627.90  1056.2  627.60  1058.9  627.80  1073.3  627.30  1085.9
GR627.90  1091.4  629.90  1095.1  638.10  1116.4  635.20  1126.2  635.50  1127.4
GR638.30  1139.2  637.80  1206.1  638.40  1269.9
NH     3      10 1000.20   0.060 1131.70      10 1236.00
X1 23995      21 1040.30 1116.20     325     345     335            .00
GR638.70   867.4  638.70   915.4  637.60   990.0  637.70  1000.2  636.60  1029.8
GR636.80  1035.2  636.50  1040.3  628.00  1049.3  626.80  1053.2  625.80  1060.2
GR626.00  1063.3  628.10  1070.2  630.10  1074.1  630.10  1097.2  636.20  1116.2
GR632.30  1127.1  631.90  1131.7  636.70  1141.2  636.90  1178.1  637.80  1212.1
GR637.90  1236.0
NC  0.03   0.035    0.06
QT     7    1060     863     774     634     494     406     324
X1 24185      18 6061.40 6118.40     245     130     190            .00
GR636.50  5912.1  635.40  5947.6  635.80  5955.9  637.90  5970.4  635.10  5982.3
GR635.20  6000.3  635.00  6030.3  634.40  6061.4  631.10  6075.3  628.30  6078.4
GR627.60  6083.2  627.00  6089.5  627.40  6096.4  628.30  6099.4  629.80  6101.5
GR635.70  6118.4  637.70  6149.6  638.40  6199.7
NC                          0.3     0.5
X1 24320      18  6061.4  6118.4      95     175     135            .20
GR636.50  5912.1  635.40  5947.6  635.80  5955.9  637.90  5970.4  635.10  5982.3
GR635.20  6000.3  635.00  6030.3  634.40  6061.4  631.10  6075.3  628.30  6078.4
GR627.60  6083.2  627.00  6089.5  627.40  6096.4  628.30  6099.4  629.80  6101.5
GR635.70  6118.4  637.70  6149.6  638.40  6199.7
NC.03   .03     .030
X1 24420      31  937.80  991.80      20     180     100            .00
X3    10                                                  636.90  636.90
GR 638.0   509.0  635.90   509.1  635.90   509.2  635.40   583.1  635.30   583.2
GR635.30   583.3  636.80   704.1  637.00   803.9  636.90   910.0  636.80   931.9
GR636.60   935.2  631.30   937.8  629.60   947.1  628.90   954.5  628.00   957.2
GR628.20   960.1  627.90   965.7  628.10   969.1  627.90   972.9  627.70   975.1
GR628.00   978.8  628.80   981.2  629.80   982.8  631.70   986.9  632.10   991.8
GR636.30   998.0  636.20  1000.0  636.60  1046.2  636.30  1098.9  637.30  1273.5
GR638.00    1400
SB  1.25    1.6     2.6      .0    30.0    2.00   284.0    1.70
X1 24550                            150     100     130            .00
X2                    1  634.80  637.50               0
X3    10                                                  636.80  637.50
BT   -14   509.0  635.90     .00   509.1  635.90     .00   509.2  635.90     .00
BT         583.1  635.40     .00   583.2  635.30     .00   583.3  635.30     .00
BT         704.1  636.80     .00   932.0  637.50     .00   932.0  638.60     .00
BT         998.0  638.60     .00   998.0  637.50     .00  1170.0  637.50     .00
BT        1273.5  637.50     .00    1400  638.00     .00
NH     5      10 1940.00  0.0300 1964.20   0.055  2000.0   0.050  2060.2      10
NH2290.2
X1 24685      26 1964.20 2000.00     425      65     135            .00
GR   645   -1200     636   -1100     634    -920     633    -750     632    -580
GR   632    -190     633     -20     632     110     632     150     633     700
GR   634     920     636    1520     636    1700   636.4    1940  636.40  1946.1
GR636.20  1964.2  629.30  1975.5  628.30  1977.5  627.90  1980.2  628.00  1982.3
GR628.40  1984.2  628.60  1987.9  629.30  1989.9  635.90  2000.0  636.20  2060.2
GR638.00  2290.2
NC                          0.1     0.3
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NH      5      10  5890.0   0.030  5910.1   0.055  5947.4   0.050  6000.2      10
NH   6645
X1  24855      31  5910.1  5947.4     850     110     170             .00
X4      1  635.25  5890.0
GR    645    2250     636    2300     634    2320     632    2600     632    2960
GR    634    3450     634    3900     636    4100     636    5400  634.00  5758.3
GR634.90  5856.2  635.50  5909.3  634.60  5910.1  634.80  5911.5  629.40  5922.0
GR627.90  5925.3  627.80  5928.1  628.20  5931.1  629.30  5934.0  634.90  5947.4
GR634.80  5948.8  634.70  5950.0  634.80  5975.2  634.60  6000.2  634.50  6005.3
GR634.40  6070.5  636.00  6148.1  636.00  6164.5  637.00  6465.5     638    6500
GR    639    6645
NH      5      10  5915.0   0.045  5967.0   0.040  5997.5   0.045  6020.0      10
NH7232.0
X1  25095      31  5967.0  5997.5     850     240     240             .00
X4      2  635.25  5915.0  633.90  6020.0
GR    645    1600     634    1640     634    1650     633    2550     634    3260
GR    636    3550  636.00  4564.0  634.80  5354.0  634.80  5354.1  634.80  5354.2
GR634.10  5459.0  634.10  5459.1  633.90  5564.4  634.20  5673.6  634.80  5785.0
GR635.20  5883.1  635.20  5958.2  635.20  5967.0  629.90  5974.9  628.80  5978.6
GR628.70  5985.8  628.90  5989.7  629.90  5992.7  633.70  5997.5  634.00  5999.8
GR633.90  6013.6  634.10  6099.6  634.40  6191.6  636.00  6531.6  638.00  6801.6
GR    640    7232
NH      5      10  5925.2   0.045  5940.3   0.040  5975.2   0.045  6035.0      10
NH   6930
X1  25315      27  5940.3  5975.2     850     225     220             .00
X4      2  634.60  5925.2  634.25  6035.0
GR    645     850     636     880     636    3030     634    3280     634    3500
GR    636    3630     636    5080  635.10  5421.5  634.80  5519.9  634.40  5621.2
GR634.60  5731.1  634.10  5833.4  634.30  5902.9  634.70  5940.3  630.00  5945.8
GR628.60  5951.2  628.10  5955.9  628.40  5963.9  629.90  5967.0  634.10  5975.2
GR634.20  6000.1  634.10   6117.  634.20   6223.  634.10   6307.  635.50   6433.
GR636.00  6883.0  640.00  6930.0
NH      5      10  5950.0   0.045  5968.2   0.040  5998.0   0.045  6015.0      10
NH   6240
X1  25545      23  5968.2  5998.0     200     290     230             .00
X4      2  635.60  5950.0  637.25  6015.0
GR    640    3981     639    3981  638.00  4381.5  636.00  4991.5  636.00  4991.6
GR636.00  4991.7  636.00  4991.8  634.80  5891.5  634.80  5936.1  635.80  5953.2
GR635.90  5968.2  630.10  5976.4  628.90  5978.9  628.10  5982.4  628.20  5985.0
GR630.20  5987.4  631.00  5987.4  636.80  5998.0  636.70  6000.1  637.40  6019.0
GR637.00  6081.9  638.50    6240     640    6240
NC                          0.3     0.5
X1  25605      23  5968.2  5998.0      60      60      60              .20
GR    640    3981     639    3981  638.00  4381.5  636.00  4991.5  636.00  4991.6
GR636.00  4991.7  636.00  4991.8  634.80  5891.5  634.80  5936.1  635.80  5953.2
GR635.90  5968.2  630.10  5976.4  628.90  5978.9  628.10  5982.4  628.20  5985.0
GR630.20  5987.4  631.00  5987.4  636.80  5998.0  636.70  6000.1  637.40  6019.0
GR637.00  6081.9  638.50    6240     640    6240
NC 0.035    0.03    0.03
X1  25705      37 2011.10 2043.00     120      80     100             .00
X3     10                                                 635.20  635.20
X4      1   635.5    1547
GR    640     430     638     800  635.50  1547.1  635.70  1563.0  635.60  1578.0
GR636.10  1631.0  635.90  1734.8  636.30  1841.2  636.30  1943.9  636.20  1999.8
GR636.50  2003.8  636.50  2010.0  633.90  2011.1  630.90  2012.0  630.20  2015.1
GR629.80  2015.1  629.60  2015.2  629.30  2018.3  628.50  2020.9  627.20  2023.0
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GR627.10  2025.2  626.80  2028.0  627.20  2030.0  627.50  2032.0  628.00  2033.1
GR628.60  2038.0  629.20  2042.0  629.80  2043.0  634.00  2043.0  635.50  2050.6
GR635.60  2050.7  636.00  2050.8  636.40  2176.9  636.90  2281.9  637.40  2396.9
GR   638    2607     639    2827
SB  1.25     1.6     2.6      .0    16.0    2.00   164.0    1.00
X1 25785                            90      70      80             .00
X2                    1  633.90  636.40                  0
X3    10                                                636.40  636.40
BT   -18  430.     640.            800.    638.            1547.0  635.50
BT        1547.1  635.50          1563.0  635.70          1578.0  635.60
BT        1631.0  636.10          1734.8  635.90          1841.2  636.30
BT        2003.8  636.50          2003.8  637.00          2051.0  637.00
BT        2051.0  636.50          2176.9  636.40          2281.9  636.90
BT        2396.9  637.40          2607.   638.            2827.   639.
NH     5      10  6060.3   0.040  6084.7   0.050  6114.8   0.045  6120.0      10
NH6618.9
X1 25865      37 6084.70 6114.80      80      80      80            -.10
X4     1  638.00  6120.0
GR   640    3741  638.00  3851.0  636.00  4561.0  636.00  4621.0  636.00  4621.1
GR636.00  4621.2  636.10  5021.0  635.90  5114.0  636.20  5212.0  636.00  5294.0
GR636.00  5294.1  636.20  5374.0  635.50  5466.0  635.60  5552.0  635.90  5567.0
GR635.60  5581.0  636.00  5604.0  636.40  5683.0  636.40  5759.0  636.60  5837.0
GR636.60  5916.0  636.90  6000.0  637.10  6030.9  636.80  6060.3  635.80  6084.7
GR632.10  6085.5  630.10  6090.8  629.30  6093.7  629.40  6096.9  629.30  6099.9
GR638.00  6114.8  637.70  6161.1  638.10  6232.8  638.30  6328.0  638.50  6440.9
GR639.80  6547.9  638.80  6618.9
NC                          0.1     0.3
QT     7    1000     809     720     580     440     352     270
X1 25910      37  6084.7  6114.8      45      45      45             .10
GR   640    3741  638.00  3851.0  636.00  4561.0  636.00  4621.0  636.00  4621.1
GR636.00  4621.2  636.10  5021.0  635.90  5114.0  636.20  5212.0  636.00  5294.0
GR636.00  5294.1  636.20  5374.0  635.50  5466.0  635.60  5552.0  635.90  5567.0
GR635.60  5581.0  636.00  5604.0  636.40  5683.0  636.40  5759.0  636.60  5837.0
GR636.60  5916.0  636.90  6000.0  637.10  6030.9  636.80  6060.3  635.80  6084.7
GR632.10  6085.5  630.10  6090.8  629.30  6093.7  629.40  6096.9  629.30  6099.9
GR638.00  6114.8  637.70  6161.1  638.10  6232.8  638.30  6328.0  638.50  6440.9
GR639.80  6547.9  638.80  6618.9
NH     5      10  6135.0   0.040  6140.4   0.045  6173.5   0.045  6200.0      10
NH  6700
X1 26130      36 6140.40 6173.50     220     225     220             .00
X4     2  635.25  6135.0  637.75  6200.0
GR   640    3523  638.00  3823.0  636.00  4623.0  635.70  4733.0  635.70  4733.1
GR635.70  4733.2  636.40  5013.0  636.40  5262.0  636.40  5347.0  636.60  5432.0
GR636.30  5515.0  636.00  5597.0  636.00  5674.0  635.60  5742.0  635.50  5821.0
GR635.70  5902.0  635.90  5984.7  635.80  6000.7  635.60  6031.2  635.50  6092.5
GR634.80  6127.1  634.80  6140.4  630.20  6148.0  629.30  6150.0  629.10  6153.9
GR629.60  6158.9  630.40  6162.0  630.80  6164.1  637.20  6173.5  637.50  6255.4
GR637.50  6346.2  637.30  6422.4  637.30  6505.3  637.60  6585.4  637.70  6648.0
GR   639    6700
NH     5      10  6020.0   0.040  6021.0   0.045  6060.0   0.045    6079      10
NH  6540
X1 26340      26 6021.00 6060.00     195     235     210             .00
X4     1  636.00  6020.0
GR   640    3775  638.00  4630.0  636.00  5570.0  636.00  5730.0  636.00  5730.1
GR636.00  5730.2  636.30  5870.0  636.50  5889.0  636.50  5950.0  636.90  5986.0
GR636.90  6000.0  636.20  6017.0  636.10  6018.0  635.80  6021.0  631.80  6026.0
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GR631.20  6028.0  629.20  6030.0  629.90  6035.0  629.50  6041.0  630.10  6043.0
GR631.20  6045.0  633.00  6046.0  637.50  6060.0  638.00  6067.0  638.40  6079.0
GR   639    6540
NH     5      10  6005.0   0.035  6033.9   0.045  6065.9   0.045  6082.7      10
NH  6700
X1 26430      40 6033.90 6065.90      90      90      90             .00
X4     1  636.10  6005.0
GR   640    3508  638.00  4288.1  638.00  4288.2  638.00  4288.3  638.00  4288.4
GR638.00  4288.5  636.70  5428.1  636.70  5517.4  636.70  5604.0  636.00  5693.1
GR635.10  5785.8  635.20  5798.8  635.10  5812.8  634.70  5913.1  635.90  5923.1
GR635.60  5971.9  635.80  5999.8  636.80  6032.2  637.80  6033.9  637.90  6035.0
GR635.90  6035.0  633.90  6043.1  632.20  6043.1  631.80  6047.1  631.40  6050.8
GR631.80  6057.1  631.90  6061.0  632.20  6061.1  637.40  6064.8  637.70  6065.9
GR637.80  6066.8  637.90  6066.9  637.90  6068.0  637.80  6068.9  637.80  6082.7
GR637.40  6082.9  637.10  6104.6  637.40  6106.0  638.00  6356.0     639    6700
NH     5      10  1005.0   0.040  1015.1   0.045  1054.0   0.045  1080.0      10
NH  1680
X1 26550      23 1015.10 1054.00     140     110     120             .00
X4     2  635.60  1005.0  637.90  1080.0
GR   640   -1262  637.80  187.90  637.80  188.00  637.80  188.10  637.80  188.20
GR637.80  188.30  636.40   897.9  636.70   918.6  636.30   950.1  636.10   978.9
GR636.20  1000.1  635.80  1015.1  635.40  1016.1  631.60  1023.7  630.50  1026.2
GR628.80  1033.1  630.40  1040.0  631.50  1044.0  637.60  1054.0  637.60  1055.1
GR637.60  1060.0  638.00  1210.0     639    1680
NH     5      10  6000.2   0.035  6061.4   0.045  6082.0   0.045  6100.1      10
NH  7170
X1 26685      27 6061.40 6082.00     135     135     135             .00
X4     1   638.0  6100.1
GR   640    3745  638.00  4574.8  636.00  5574.8  636.00  5644.8  636.00  5644.9
GR636.00  5645.0  635.10  5874.8  635.90  5936.8  635.90  5988.8  635.80  6000.2
GR635.90  6028.9  635.80  6059.2  638.00  6061.4  635.20  6062.2  632.00  6067.3
GR631.40  6068.1  630.60  6073.0  630.60  6077.2  632.00  6078.1  637.60  6082.0
GR637.80  6084.2  638.20  6114.2  637.70  6158.0  638.20  6199.9     639    6750
GR   640    7110  640.50    7170
NH     5      10  1065.0  0.0350  1074.0   0.050  1111.0   0.035  1165.0      10
NH2477.0
X1 26935      18 1074.00 1111.00     160     320     250             .00
X4     2  635.30  1065.0  637.15  1165.0
GR641.00     940  634.50     940  635.20   999.9  635.00  1049.9  635.40  1069.1
GR637.20  1074.0  631.80  1086.2  631.00  1090.4  630.20  1094.2  630.20  1100.1
GR631.80  1102.0  636.20  1111.0  637.10  1115.2  637.00  1130.6  637.00  1148.8
GR637.40  1209.0  637.20  1277.0  640.00  2477.0
NH     5      10  6030.0   0.035  6054.7   0.050  6088.7   0.035  6130.0      10
NH7288.7
X1 27105      16 6054.70 6088.70     220     125     170             .00
X4     2  636.40  6030.0  638.00  6130.0
GR640.00  5912.0  636.00  5912.0  636.00  5929.2  635.80  5961.7  635.80  5999.9
GR636.70  6041.1  637.70  6054.7  632.10  6063.7  630.80  6067.1  628.90  6075.0
GR629.10  6078.9  632.10  6082.0  637.20  6088.7  637.70  6091.0  638.00  6118.7
GR640.00  7288.7
NH     5      10  6010.0   0.035  6041.6   0.050  6077.0   0.035  6110.0      10
NH6863.6
X1 27215      23 6041.60 6077.00     140      85     110             .00
X4     2  637.00  6010.0  637.50  6110.0
GR640.00  4478.0  640.00  4478.1  640.00  4478.2  640.00  4478.3  640.00  4478.4
GR636.20  5858.0  637.20  5924.6  637.20  5984.4  637.10  5999.9  636.90  6032.7
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GR636.60  6041.6  633.60  6047.8  632.10  6049.7  631.20  6053.6  630.00  6058.6
GR630.30  6065.9  632.10  6069.7  634.40  6073.7  637.20  6077.0  637.00  6080.8
GR637.70  6114.7  637.40  6163.6  640.00  6863.6
NH     5      10  6010.0   0.035  6041.2   0.050  6092.4   0.035  6140.0      10
NH6870.0
X1 27380      22 6041.20 6092.40     180     160     165             .00
X4     2  636.00  6010.0  637.30  6140.0
GR641.00  5491.9  636.80  5723.2  636.30  5784.0  635.70  5884.1  635.30  5989.2
GR635.50  6000.3  637.80  6041.2  634.20  6057.4  632.30  6063.1  631.40  6065.3
GR630.30  6067.3  629.80  6074.2  630.80  6077.3  631.60  6082.1  632.10  6085.3
GR636.90  6092.4  637.20  6110.4  637.30  6165.3  637.50  6261.4  638.30  6359.9
GR640.00  6560.0  641.00  6870.0
NH     5      10  5999.8   0.035  6045.9   0.050  6089.2   0.035  6110.0      10
NH6925.0
X1 27455      18 6045.90 6089.20      10     160      75             .00
X4     1  637.40  6110.0
GR641.00  5507.6  635.30  5999.8  635.80  6013.6  637.70  6045.9  632.10  6059.1
GR631.30  6060.2  630.80  6064.2  630.40  6068.0  630.60  6073.4  630.80  6075.1
GR632.10  6077.1  637.20  6089.2  637.30  6108.1  637.10  6143.1  637.30  6150.1
GR638.00  6340.1  640.00  6710.1  641.00  6925.0
NH     5      10  1662.3   0.035 1684.90   0.050 1722.20   0.035 1750.00      10
NH  2750
X1 27695      17 1684.90 1722.20     240     240     240             .00
X4     2   638.6  1662.3  638.00 1750.00
GR   642  1063.6  638.50  1675.9  637.30  1684.9  631.80  1695.3  630.40  1697.0
GR629.90  1703.4  630.90  1709.4  631.80  1712.1  637.60  1722.2  638.10  1761.1
GR637.90  1833.0  638.20  1852.9  638.30  1869.1  638.30  1924.9  638.80  1999.9
GR   640    2190     640    2750
NH     5      10  5940.0   0.035  5944.9   0.050  5976.1   0.035  6020.0      10
NH6960.5
X1 28145      19 5944.90 5976.10     450     455     450             .00
X4     2  637.50  5940.0  637.80  6020.0
GR641.00    5091  637.50    5091  637.80  5743.2  637.70  5814.7  637.70  5888.1
GR637.50  5944.9  631.80  5951.8  631.30  5955.1  630.70  5958.9  630.90  5962.8
GR631.80  5967.8  637.10  5976.1  638.00  6000.0  637.50  6040.7  637.80  6070.8
GR638.00  6100.9  638.00  6157.6     640  6577.6  640.50  6960.5
NC                        0.3     0.5
X1 28190      19  5944.9  5976.1      45      45      45             .20
GR641.00    5091  637.50    5091  637.80  5743.2  637.70  5814.7  637.70  5888.1
GR637.50  5944.9  631.80  5951.8  631.30  5955.1  630.70  5958.9  630.90  5962.8
GR631.80  5967.8  637.10  5976.1  638.00  6000.0  637.50  6040.7  637.80  6070.8
GR638.00  6100.9  638.00  6157.6     640  6577.6  640.50  6960.5
NC.04   .04     .030
NH     5      10     925    0.04     934    0.03   991.9    0.04    1027      10
NH  3463
X1 28290      30  934.00  991.90     100     100     100             .00
X3    10                                                  637.00  637.00
X4     1   637.9   697.5
GR   642     115     638     115  637.20   781.9  638.00   884.1   638.5     925
GR638.60   934.0  639.40   934.0  639.30   935.9  636.00   936.2  633.70   936.3
GR632.00   943.8  631.40   947.1  630.20   952.1  629.90   957.9  631.00   965.2
GR632.10   970.3  633.90   977.1  634.70   988.1  636.00   988.2  639.30   989.0
GR639.50   991.9  638.70   992.0  638.70  1000.2  638.10  1027.0  638.10  1098.1
GR638.10  1174.0  638.60  1249.0     640    1450     640    2040     645    3463
SB   .90     1.6     2.6      .0    12.0     .01   197.0    3.33
X1 28340                            50      50      50             .00
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X2                    1  636.00  637.90                0                637.90  637.90
X3    10
BT   -11   115.   638.             697.5  637.90          800.8  637.90
BT         928.0  638.90           985.0  639.10         1055.0  638.60
BT        1158.0  638.30            1279  639.2          1450.0  640.00
BT          2040     640            3463    645
NH     5      10     926    0.04     938   0.03     975   0.04    1025      10
NH  3457
X1 28390      18  938.00  975.00      50     50      50           -.90
X310.
X4     1   635.8     834
GR   642     660     640     660  635.20   882.0  637.50   926.0  636.50   938.0
GR632.00   949.0  630.80   952.0  629.40   956.0  629.20   963.0  630.80   967.0
GR632.00   970.0  635.80   975.0  635.90  1000.0  636.40  1025.0  636.70  1042.0
GR   640    1240   640.0    2500     645    3457
NC                          0.1     0.3
X1 28585      18   938.0   975.0     195     195     195           .90
X310.
X4     2   635.8     834   640.0 2500.00
GR   642     660     640     660  635.20   882.0  637.50   926.0  636.50   938.0
GR632.00   949.0  630.80   952.0  629.40   956.0  629.20   963.0  630.80   967.0
GR632.00   970.0  635.80   975.0  635.90  1000.0  636.40  1025.0  636.70  1042.0
GR   640    1240   640.0    2500     645    3457
NH     5      10 1900.00   0.040 1923.00   0.050 1963.30   0.040  2050.0      10
NH  2710
X1 28825      22 1923.00 1963.30     240     240     240           .00
X4     3   639.6  1716.1  638.60 1900.00  638.25  2050.0
GR641.00    988  639.50     988  638.70  1805.8  638.60  1909.0  638.20  1918.9
GR637.70  1923.0  637.30  1924.3  632.10  1933.5  631.60  1937.2  631.40  1942.4
GR631.40  1947.2  632.10  1950.3  634.60  1954.3  637.90  1963.3  638.30  1970.3
GR638.40  1981.4  638.50  2000.0  638.20  2052.0  638.20  2158.2  639.50  2318.4
GR   640    2400  640.50    2710
NC                          0.3     0.5
NH     5      10 1900.00   0.040 1923.00   0.050 1963.30   0.040  2050.0      10
NH  2710
X1 29100      22  1923.0  1963.3     275     275     275           .60
X4     3   639.6  1716.1  638.60 1900.00  638.25  2050.0
GR641.00    988  639.50     988  638.70  1805.8  638.60  1909.0  638.20  1918.9
GR637.70  1923.0  637.30  1924.3  632.10  1933.5  631.60  1937.2  631.40  1942.4
GR631.40  1947.2  632.10  1950.3  634.60  1954.3  637.90  1963.3  638.30  1970.3
GR638.40  1981.4  638.50  2000.0  638.20  2052.0  638.20  2158.2  639.50  2318.4
GR   640    2400  640.50    2710
NC.04    .04      .03
NH     5      10   815.2    0.04   885.3    0.03   945.2    0.04     968      10
NH  4270
X1 29200      31  885.30  945.20     100     100     100           .00
X3    10                                                637.50  637.50
X4     1   638.6   648.9
GR   642     400     640     400  637.80   732.9  638.40   815.2  638.80   885.3
GR639.50   885.4  639.50   886.2  636.70   886.6  636.60   887.9  635.40   889.0
GR635.40   897.1  632.10   906.1  631.60   913.2  631.30   919.1  631.50   926.0
GR632.20   929.0  634.40   933.0  634.90   942.0  636.60   942.1  636.60   944.1
GR639.00   944.2  639.00   945.2  638.80   945.3  638.30   968.0  638.20   999.9
GR638.70  1083.0  639.50  1189.0  639.40  1286.1     640    1460     640    1770
GR   645    4270
SB   .90     1.6     2.6      .0    18.0     .01   187.0    3.40
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X1 29250                                    50      50      50              .00
X2                    1  636.60  638.40                  0
X3    10                                                      638.40  638.40
BT   -13     400     640          648.9  638.60     .00   732.0  638.50     .00
BT         812.0  638.60          877.0  639.50     .00   934.0  639.40     .00
BT        1022.0  638.40         1088.0  639.00     .00  1163.0  639.50     .00
BT        1286.1  639.40           1460     640          1770     640
BT          4270     645
NH     5      10  930.00   0.040  945.30  0.0500  985.30  0.0400  1020.0      10
NH  2356
X1 29300      29  945.30  985.30      50      50      50              -.50
X4     2  639.20  930.00  638.00  1020.0
GR   642    -411  640.20   169.0  640.20   169.1  640.20   169.2  640.20   169.3
GR640.20   169.4  639.60   794.3  639.30   843.4  639.20   888.2  639.20   931.3
GR638.40   942.4  638.10   945.3  633.80   956.3  633.10   956.4  632.10   956.5
GR632.20   961.4  632.30   965.2  632.20   969.3  632.40   974.8  632.30   977.3
GR638.20   985.3  638.10   991.3  638.10  1000.1  638.10  1004.1  638.00  1052.4
GR638.10  1139.2  638.00  1236.4  640.20  1966.4     644    2356
NC.04    .04      .04          0.1     0.3
NH     5      10   931.3   0.040  945.30  0.0400  985.30  0.0400  1052.4      10
NH  2356
X1 29550      29   945.3   985.3     250     250     250              .50
GR   642    -411  640.20   169.0  640.20   169.1  640.20   169.2  640.20   169.3
GR640.20   169.4  639.60   794.3  639.30   843.4  639.20   888.2  639.20   931.3
GR638.40   942.4  638.10   945.3  633.80   956.3  633.10   956.4  632.10   956.5
GR632.20   961.4  632.30   965.2  632.20   969.3  632.40   974.8  632.30   977.3
GR638.20   985.3  638.10   991.3  638.10  1000.1  638.10  1004.1  638.00  1052.4
GR638.10  1139.2  638.00  1236.4  640.20  1966.4     644    2356
NH     5      10   931.1   0.040   945.0   0.040   985.2   0.040  1052.0      10
NH  2636
X1 29555      29  945.00  985.20       5       5       5              .00
X4     2  639.20  930.00   638.0  1020.0
GR   642    -411  640.00   169.0  640.00   169.1  640.00   169.2  640.00   169.3
GR640.00   169.4  639.60   794.2  639.30   843.0  639.20   888.1  639.20   931.1
GR638.40   942.1  638.10   945.0  633.90   955.9  632.70   955.9  632.80   960.8
GR632.70   964.8  633.00   968.9  632.70   974.4  632.70   976.0  633.10   977.2
GR638.20   985.2  638.20   991.0  638.10   999.9  638.10  1004.1  638.00  1052.0
GR638.10  1138.6  638.10  1236.4  640.00  1966.4     644    2636
NC.04    .04      .015
QT     7     860     505     380     308     236     189     148
X1 29760      23  950.10  992.40     185     215     205              .00
X310.
X4     1   642.9   931.1
GR   642     250  641.80   949.9  642.20   950.1  642.20   951.1  638.10   952.4
GR633.70   962.1  633.50   962.1  631.50   962.2  631.50   967.3  631.80   972.2
GR631.70   977.2  632.00   982.2  633.40   982.2  633.60   982.3  637.90   992.3
GR642.00   992.4  642.00   993.6  639.70   993.7  639.70  1000.2  639.80  1010.3
GR639.80  1036.3  640.30  1069.3     644    2440
NC                          0.3     0.5
X1 29800                               40      40      40              .00
X310.
X4     1   642.9   931.1
NC.03    .03      .015
X1 29900      23  952.10  984.00      80      80     100              .00
X3    10                                                    639.00  639.00
X4     1   640.4   763.3
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GR   642     250  640.30   829.9  641.00   896.3  640.40   943.0  639.60   945.7
GR634.10   952.1  633.30   954.0  632.80   955.1  632.20   957.8  632.00   961.8
GR631.50   963.0  630.60   968.0  630.90   973.2  630.90   974.0  632.90   984.0
GR633.40   986.9  639.70   987.1  640.20   988.0  640.60  1000.0  640.60  1015.1
GR640.60  1044.0  640.50  1073.9     642    1720
SB  1.25     1.6     2.6      .0    23.0    2.00   160.0    1.00631.8   631.8
X1 30060                           200     200     160             .00
X2                    1  637.80  640.20                0
X3    10                                                 640.20  640.20
BT   -12     250     642           763.3  640.40     .00   829.9  640.30     .00
BT         896.3  640.60           943.0  640.40     .00   988.0  640.20     .00
BT        1000.0  640.60          1015.1  640.60     .00  1044.0  640.60     .00
BT        1073.9  640.50          1195.0  640.20     .00    1720     642
NC.03   .03     .05
X1 30225      23   952.1   984.0     145     145     165             .20
X4     1   640.4   763.3
GR   642     250  640.30   829.9  641.00   896.3  640.40   943.0  639.60   945.7
GR634.10   952.1  633.30   954.0  632.80   955.1  632.20   957.8  632.00   961.8
GR631.50   963.0  630.60   968.0  630.90   973.2  630.90   974.0  632.90   984.0
GR633.40   986.9  639.70   987.1  640.20   988.0  640.60  1000.0  640.60  1015.1
GR640.60  1044.0  640.50  1073.9     642    1720
NC.035  .035     .03
X1 30325      28  944.00   993.90     100     100     100
X3    10                                                 638.30  638.30
X4     1   639.8   763.1
GR   642     320  639.80   784.1  639.70   841.1  641.50   934.7  641.50   936.6
GR641.50   936.8  641.50   938.2  640.10   938.3  638.90   943.8  638.00   944.0
GR634.20   952.9  633.20   958.3  632.90   963.2  633.20   967.8  633.60   974.9
GR634.20   983.7  636.10   987.3  636.70   993.8  638.20   993.9  638.20   994.9
GR641.50   995.0  641.50   996.4  641.50   996.9  640.60  1000.2  640.90  1088.0
GR640.40  1172.3  640.30  1269.0     642    1720
SB   .90     1.6     2.6      .0    22.0     .01   190.0    2.64
X1 30375                           50      50      50             .00
X2                    1  638.20  639.60                0
X3    10                                                 639.70  639.70
BT   -29     320     642     642   763.1   639.8   639.8   784.1   639.8   639.8
BT         841.1   639.6   639.6   934.7   641.5   641.5   936.6   641.5   641.5
BT         936.8   641.5   641.5   938.2   641.5   641.5   938.3   641.5   640.1
BT         943.8   641.5   638.9   944.0   641.5   638.0   952.9   641.5   638.0
BT         958.3   641.5   638.0   963.2   641.5   638.0   967.8   641.5   638.1
BT         974.9   641.5   638.1   983.7   641.5   638.1   987.3   641.5   638.1
BT         993.8   641.5   638.2   993.9   641.5   638.2   994.9   641.5   638.2
BT         995.0   641.5   641.5   996.4   641.5   641.5   996.9   641.5   641.5
BT        1000.2   640.8   640.6  1088.0   640.9   640.9  1172.3   640.4   640.4
BT        1269.0   640.3   640.3    1720     642     642
NH     5      10   900.0   0.035   965.8   0.030  1008.1   0.035  1060.0      10
NH1134.0
X1 30425      22  965.80 1008.10      50      50      50             -.20
X4     2   638.0   900.00   638.9  1060.0
GR642.00   152.1  642.00   152.2  642.00   152.3  642.00   152.4  642.00   152.5
GR638.20   792.1  638.10   807.2  638.90   832.0  638.00   909.0  636.80   965.8
GR633.40   977.0  632.10   981.0  631.10   985.8  632.20   991.8  633.20   994.4
GR635.80   996.1  636.10   999.7  638.10  1008.1  638.70  1027.0  638.70  1051.8
GR640.40  1134.0     642    1134
NC                          0.1     0.3
X1 30595      22   965.8  1008.1     190     150     170             .20
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X4      2   638.0  900.00   638.9  1060.0
GR642.00   152.1  642.00   152.2  642.00   152.3  642.00   152.4  642.00   152.5
GR638.20   792.1  638.10   807.2  638.90   832.0  638.00   909.0  636.80   965.8
GR633.40   977.0  632.10   981.0  631.10   985.8  632.20   991.8  633.20   994.4
GR635.80   996.1  636.10   999.7  638.10  1008.1  638.70  1027.0  638.70  1051.8
GR640.40  1134.0     642    1134
NH      5     10   916.1   0.035   945.8   0.030   992.1   0.035  1050.0      10
NH   1518
X1 30775      22  945.80  992.10     185     170     180             .00
X4      1  639.75  1050.0
GR642.00   624.3  642.00   624.4  642.00   624.5  642.00   624.6  642.00   624.7
GR639.60   844.3  639.30   888.1  639.00   916.1  638.10   945.8  637.00   956.0
GR633.30   960.3  632.40   965.3  631.70   972.0  632.30   977.2  633.30   979.0
GR635.10   979.8  637.80   992.1  638.10  1000.1  639.00  1010.0  639.60  1045.2
GR640.10  1083.2     642    1518
NC                          0.3     0.5
X1 30935      22   945.8   992.1     160     160     160             .10
X4      1  639.75  1050.0
GR642.00   624.3  642.00   624.4  642.00   624.5  642.00   624.6  642.00   624.7
GR639.60   844.3  639.30   888.1  639.00   916.1  638.10   945.8  637.00   956.0
GR633.30   960.3  632.40   965.3  631.70   972.0  632.30   977.2  633.30   979.0
GR635.10   979.8  637.80   992.1  638.10  1000.1  639.00  1010.0  639.60  1045.2
GR640.10  1083.2     642    1518
NC.035  .035     .03
X1 31035      32  955.80  994.90     100     100     100             .00
X3     10                                                 641.00  641.00
GR    642   432.0  640.20   781.8  641.20   846.7  640.80   891.9  641.20   932.7
GR640.90   954.6  641.80   955.8  641.80   956.9  640.10   957.0  636.00   957.1
GR634.50   962.0  634.00   962.8  633.20   967.8  633.30   971.0  634.50   974.5
GR634.50   976.0  633.10   979.7  633.00   983.2  633.30   987.0  634.50   989.0
GR635.70   992.9  640.10   993.7  641.80   993.7  641.90   994.9  641.40   995.7
GR640.00  1000.0  641.10  1035.6  640.80  1087.6  640.80  1135.8  640.40  1202.7
GR640.70  1222.6     642    1272
SB  1.25    1.6     2.6      .0    36.0    1.00   210.0     .00   634.2   634.2
X1 31085                             50      50      50             .00
X2                     1  640.20  641.00                  0
X3     10                                                 641.90  641.00
BT    -14     432     642     .00   781.8  641.60     .00   825.0  641.60     .00
BT          872.0  641.80     .00   917.0  641.90     .00   955.8  641.80     .00
BT          956.9  641.80     .00   993.7  641.80     .00   994.9  641.90     .00
BT         1036.0  641.80     .00  1088.0  641.50     .00  1148.0  641.00     .00
BT         1220.0  641.00     .00  1272.0  642.00     .00
NH      5     10   939.0   0.035   959.8   0.030   992.2   0.035  1070.0      10
NH1642.8
X1 31135      23  959.80  992.20      50      50      50             -.10
X4      1  638.25  1070.0
GR642.00   609.0  642.00   609.1  642.00   609.2  642.00   609.3  642.00   609.4
GR638.80   939.0  638.80   953.8  638.30   959.8  637.10   965.0  633.50   969.0
GR632.20   973.1  632.20   978.1  632.20   982.6  633.40   988.0  635.90   992.2
GR637.80  1000.2  637.70  1015.8  638.10  1062.2  638.40  1108.9  638.80  1144.1
GR639.20  1188.0  639.30  1222.8  642.00  1642.8
NH      5     10   939.0   0.035   959.8   0.030   992.2   0.035  1070.0      10
NH1642.8
X1 31345      24   959.8   992.2     210     210     210             .10
GR642.00   609.0  642.00   609.1  642.00   609.2  642.00   609.3  642.00   609.4
GR638.80   939.0  638.80   953.8  638.30   959.8  637.10   965.0  633.50   969.0
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GR632.20   973.1  632.20   978.1  632.20   982.6  633.40   988.0  635.90   992.2
GR637.80  1000.2  637.70  1015.8  638.10  1062.2  638.25  1070.0  638.40  1108.9
GR638.80  1144.1  639.20  1188.0  639.30  1222.8  642.00  1642.8
NH     5      10   939.0   0.035   959.8   0.030   992.2   0.035  1070.0      10
NH1642.8
X1 31615      24   959.8   992.2     270     270     270             .10
GR642.00   609.0  642.00   609.1  642.00   609.2  642.00   609.3  642.00   609.4
GR638.80   939.0  638.80   953.8  638.30   959.8  637.10   965.0  633.50   969.0
GR632.20   973.1  632.20   978.1  632.20   982.6  633.40   988.0  635.90   992.2
GR637.80  1000.2  637.70  1015.8  638.10  1062.2  638.25  1070.0  638.40  1108.9
GR638.80  1144.1  639.20  1188.0  639.30  1222.8  642.00  1642.8
NC.035  .035     .03
X1 31715      23  940.90  990.60     100     100     100             .00
X3    10                                                  640.20  640.20
X4     1  640.5   803.8
GR   642     450  641.80   874.5  641.90   937.5  639.60   938.6  639.70   940.9
GR636.90   941.7  635.50   950.6  633.70   952.8  633.10   955.6  633.00   959.6
GR632.50   966.7  632.50   971.6  633.60   975.7  637.30   981.6  639.60   990.6
GR639.60   992.5  642.20   992.6  642.20   993.5  642.50   993.5  642.60   999.7
GR641.80  1033.6  641.00  1087.4     642    1310
SB   .90     1.6     2.6      .0    20.0     .01   248.0    2.30
X1 31765                           50      50      50             .00
X2                    1  639.80  640.50                  0
X3    10                                                  641.20  640.50
BT    -9     450     642           769.0  641.20     .00   851.0  641.80     .00
BT         936.0  642.40           979.0  642.30     .00  1057.0  641.80     .00
BT        1146.0  641.00          1236.0  640.50     .00    1310     642
NH     5      10  735.90   0.035   780.6   0.030   828.7   0.035   878.7      10
NH1244.7
X1 31815      25  780.60  828.70      50      50      50            -.10
GR642.00   225.9  642.00   226.0  642.00   226.1  642.00   226.2  642.00   226.3
GR639.50   735.9  638.40   780.6  635.80   791.8  633.60   793.0  633.10   794.7
GR632.20   797.0  632.20   804.0  632.60   809.8  633.70   812.7  637.10   816.9
GR640.20   828.7  640.30   834.0  640.50   878.7  641.10   935.6  641.20  1000.2
GR641.40  1003.2  640.80  1014.8  640.80  1043.8  639.30  1094.7  642.00  1244.7
NC                           0.1     0.3
X1 31985      25   780.6   828.7     170     170     170             .10
GR642.00   225.9  642.00   226.0  642.00   226.1  642.00   226.2  642.00   226.3
GR639.50   735.9  638.40   780.6  635.80   791.8  633.60   793.0  633.10   794.7
GR632.20   797.0  632.20   804.0  632.60   809.8  633.70   812.7  637.10   816.9
GR640.20   828.7  640.30   834.0  640.50   878.7  641.10   935.6  641.20  1000.2
GR641.40  1003.2  640.80  1014.8  640.80  1043.8  639.30  1094.7  642.00  1244.7
NC.035  .035     .03
NH     5      10  804.3   0.035   844.8   0.030   883.9   0.035   944.8      10
NH  1150
X1 32300      19  844.80  883.90     315     315     315             .00
X4     2  641.1   804.3     642     600
GR   644     400  639.20   844.8  637.30   856.8  634.60   859.6  633.80   863.1
GR633.30   869.6  633.60   873.9  634.70   877.6  634.90   877.6  639.40   883.9
GR640.80   887.1  642.20   887.2  643.60   944.8  642.70  1000.0  643.20  1014.1
GR642.80  1022.8  642.70  1051.9  643.70  1089.8     644    1150
NC                           0.3     0.5
NH     5      10  804.3   0.035   844.8   0.030   883.9   0.035   944.8      10
NH  1150
X1 32590      19   844.8   883.9     290     290     290             .20
X4     2  641.1   804.3     642     600
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GR   644      400  639.20   844.8  637.30   856.8  634.60   859.6  633.80   863.1
GR633.30    869.6  633.60   873.9  634.70   877.6  634.90   877.6  639.40   883.9
GR640.80    887.1  642.20   887.2  643.60   944.8  642.70  1000.0  643.20  1014.1
GR642.80   1022.8  642.70  1051.9  643.70  1089.8     644    1150
NC 0.035    0.035   0.030     0.3     0.5
X1 32690       31  930.90  981.60     100     100     100             .00
X3    10                                                641.50  641.50
X4     1   642.1   885.9
GR   644      500  643.20   920.9  643.60   927.8  643.80   928.9  643.80   929.7
GR640.80    929.8  640.80   930.9  638.70   932.2  637.60   938.0  634.80   944.2
GR634.30    946.2  634.60   951.9  634.00   959.1  634.40   966.2  634.90   971.1
GR636.80    975.9  637.20   981.4  640.40   981.6  640.90   981.6  640.90   982.9
GR643.30    983.0  643.30   983.7  643.30   984.7  643.00   999.5  642.60  1015.6
GR642.20   1016.9  641.80  1048.9  641.50  1070.7  641.90  1070.8  643.20  1137.7
GR   644     1420
SB   .90      1.6     2.6      .0    31.5     .01   288.0     1.60
X1 32740                             50      50      50             .00
X2                      1  640.80  642.20                 0
X3    10                                                642.20  642.20
BT    -9      500     644          761.0  642.20     .00   852.0  642.20     .00
BT          929.0  643.80          973.0  643.80     .00  1023.0  643.10     .00
BT         1054.0  642.20         1137.7  643.20     .00    1420     644
NH     4       10   888.1   0.035   959.9   0.030  1003.5   0.035    1230
X1 32790       20  959.90 1003.50      50      50      50             -.10
X4     1   642.1   888.1
GR   644      520  641.20   929.0  640.80   955.0  640.30   959.9  637.70   966.2
GR634.40    969.9  633.60   971.0  633.00   978.4  633.10   983.2  633.80   987.1
GR634.40    987.2  636.30   988.2  640.90  1000.0  641.30  1003.5  641.50  1009.1
GR641.50   1032.9  641.90  1034.4  642.10  1041.2  642.70  1071.0     644    1230
NC 0.035    0.035   0.030     0.1     0.3
QT     7      840     481     353     277     215     173     139
NH     4       10   888.1   0.035   959.9   0.030  1003.5   0.035    1230
X1 33000       20   959.9  1003.5     210     210     210             .10
X4     1   642.1   888.1
GR   644      520  641.20   929.0  640.80   955.0  640.30   959.9  637.70   966.2
GR634.40    969.9  633.60   971.0  633.00   978.4  633.10   983.2  633.80   987.1
GR634.40    987.2  636.30   988.2  640.90  1000.0  641.30  1003.5  641.50  1009.1
GR641.50   1032.9  641.90  1034.4  642.10  1041.2  642.70  1071.0     644    1230
NC 0.035    0.035   0.030     0.1     0.3
X1 33170       25  864.80  926.60     135     195     170             .00
GR644.00    243.3  641.90   743.3  641.60   780.0  640.80   812.9  641.10   829.8
GR641.10    846.0  641.00   864.8  635.00   894.8  634.30   895.8  634.00   895.8
GR633.60    898.0  632.70   902.9  632.30   904.6  632.30   907.7  634.30   907.7
GR635.80    908.7  641.10   926.6  641.60   938.0  641.50   954.6  641.80   973.0
GR641.20    988.8  641.80   988.8  641.70   999.8  641.80  1035.0  642.40  1090.0
NH     5       10   871.1   0.035   956.1   0.030  997.80   0.035  1072.9      10
NH1413.0
X1 33410       24  956.10  997.80     200     265     240             .00
GR644.00    621.1  642.00   621.1  642.00   621.2  642.00   621.3  642.00   621.4
GR642.00    621.5  640.90   871.1  641.20   912.0  641.20   939.0  640.30   956.1
GR634.60    963.4  633.60   967.3  633.40   970.1  633.40   976.0  634.60   979.0
GR635.30    980.3  639.70   996.6  640.20   997.8  640.40  1000.1  641.00  1014.0
GR640.80   1041.6  641.00  1072.9  642.00  1322.9  644.00  1413.0
NC.035   .035     .03
X1 33710       19  937.80  983.10     335     265     300             .00
X4     1   642.1   850.9
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GR   644     700  641.00   908.1  641.00   933.9  641.00   937.8  636.60   951.9
GR634.50   954.1  634.00   955.3  633.50   958.0  633.40   961.9  633.20   967.3
GR634.00   972.1  634.50   973.0  637.20   974.0  640.40   983.1  641.50   999.9
GR641.90  1003.3  641.90  1029.0  642.80  1074.0     644    1290
X1 33875      17  949.50  997.20     120     220     165             .00
X4     1  643.4   919.3
GR   644     650  643.30   944.4  642.80   949.5  637.70   963.3  635.60   964.1
GR635.20   964.4  634.30   967.2  634.10   971.1  634.40   975.1  635.20   980.0
GR635.60   980.2  636.40   981.2  641.90   997.2  641.90  1000.0  643.20  1008.3
GR644.60  1114.0  644.50  1138.0
NC.035  .035    .025          0.3     0.5
X1 34115      17   949.5   997.2     240     240     240             .96
X4     1  643.4   919.3
GR   644     650  643.30   944.4  642.80   949.5  637.70   963.3  635.60   964.1
GR635.20   964.4  634.30   967.2  634.10   971.1  634.40   975.1  635.20   980.0
GR635.60   980.2  636.40   981.2  641.90   997.2  641.90  1000.0  643.20  1008.3
GR644.60  1114.0  644.50  1138.0
X1 34215      16  934.20  978.10     100     100     100             .00
X3    10                                                645.75  645.75
GR646.50   884.0  646.10   914.0  644.60   934.2  636.80   934.3  636.50   934.4
GR636.50   948.0  636.50   950.0  636.50   963.2  636.60   966.3  636.60   977.9
GR636.80   978.0  644.50   978.1  646.00   991.9  646.50  1000.0  646.80  1046.9
GR646.80  1046.9
SB  1.25     1.6     2.6     200    44.0    2.50   332.0     .00
X1 34265                             50      50      50             .00
X2                    1  644.50  647.00                0
X3    10                                                647.00  647.00
NC.03   .03     .03
X1 3439014.     855.    934.         125     125     125
GR646.  815.    646.6   837.1   646.    855.    644.5   864.9   636.9   879.
GR636.3 910.    636.2   924.    636.9   927.    643.5   934.    645.5   938.
GR645.4 946.9   646.6   959.    649.6   1000.   650.    1035.9
X1 34400      19  865.90  946.90      10      10      10
GR646.00   815.0  646.60   837.1  646.00   855.0  644.50   864.9  645.20   865.9
GR645.20   896.9  643.30   899.0  643.30   903.2  640.10   907.0  641.20   910.1
GR641.20   924.0  640.10   926.1  643.40   929.2  643.50   933.9  645.50   938.2
GR645.40   946.9  646.60   959.0  649.60  1000.0  650.00  1035.9
X1 34410      17  810.10  929.20      10      10      10            -.20
GR648.00   784.1  645.70   784.1  646.10   799.2  645.40   810.1  641.40   818.8
GR640.60   820.1  639.70   821.2  636.20   842.3  635.90   865.0  636.30   890.2
GR637.40   908.1  640.70   917.9  645.80   929.2  646.80   955.2  647.70   999.8
GR648.00  1047.0  648.00  1096.7
X1 34650      17   810.1   929.2     240     240     240             .20
GR648.00   784.1  645.70   784.1  646.10   799.2  645.40   810.1  641.40   818.8
GR640.60   820.1  639.70   821.2  636.20   842.3  635.90   865.0  636.30   890.2
GR637.40   908.1  640.70   917.9  645.80   929.2  646.80   955.2  647.70   999.8
GR648.00  1047.0  648.00  1096.7
NC                          0.3     0.5
X1 34800      17   810.1   929.2     150     150     150             .30
GR648.00   784.1  645.70   784.1  646.10   799.2  645.40   810.1  641.40   818.8
GR640.60   820.1  639.70   821.2  636.20   842.3  635.90   865.0  636.30   890.2
GR637.40   908.1  640.70   917.9  645.80   929.2  646.80   955.2  647.70   999.8
GR648.00  1047.0  648.00  1096.7
X1 34900      21  798.40  827.70     100     100     100             .00
X3    10                                                645.70  645.70
GR646.40   734.6  646.80   770.3  646.70   795.4  648.50   795.6  648.50   797.2
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GR644.80   797.5  640.80   798.3  635.30   798.4  634.60   806.3  634.50   813.3
GR634.70   821.5  635.40   827.5  640.80   827.6  644.80   827.7  648.40   827.8
GR648.40   829.3  647.00   830.2  647.60   873.5  647.80   917.4  648.00   958.1
GR648.80  1000.1
SB   .90     1.6     2.6      .0    29.0     .01   290.0     .00
X1 34950                          50      50      50             .00
X2                    1  645.00  646.40                0
X3    10                                                646.40  648.00
BT-7.   734.6   646.4           794.    648.           828.    648.
BT      881.    648.6           932.    648.9          1040.   649.5
BT      1136.   649.8
X1 35000      24  843.90  939.10      50      50      50             -.30
GR647.00   684.2  647.10   714.3  648.00   745.2  640.90   758.1  638.10   766.7
GR636.40   775.1  636.80   786.3  637.20   800.1  640.80   807.3  645.40   816.3
GR644.80   831.2  643.80   843.9  640.80   850.1  639.00   855.3  636.10   879.1
GR635.20   894.0  635.60   909.8  638.90   929.0  640.90   932.9  646.20   939.1
GR646.60   969.1  646.90  1000.1  647.50  1041.0  648.00  1093.0
X1 35140      24   843.9   939.1     140     140     140             .30
GR647.00   684.2  647.10   714.3  648.00   745.2  640.90   758.1  638.10   766.7
GR636.40   775.1  636.80   786.3  637.20   800.1  640.80   807.3  645.40   816.3
GR644.80   831.2  643.80   843.9  640.80   850.1  639.00   855.3  636.10   879.1
GR635.20   894.0  635.60   909.8  638.90   929.0  640.90   932.9  646.20   939.1
GR646.60   969.1  646.90  1000.1  647.50  1041.0  648.00  1093.0
X1 35510      20  822.00  907.00     380     360     370             .00
GR648.00   728.0  646.20   753.4  645.60   785.5  644.50   822.0  640.80   843.0
GR639.40   848.3  638.30   854.2  637.30   865.2  637.40   883.8  637.40   883.8
GR640.10   900.7  640.80   903.1  643.60   907.0  643.80   932.1  644.10   967.3
GR644.60   999.8  645.50  1041.9  645.80  1091.7  646.10  1142.3  648.00  1167.0
X1 35620      20   822.0   907.0     110     110     110             .40
X3    10
GR648.00   728.0  646.20   753.4  645.60   785.5  644.50   822.0  640.80   843.0
GR639.40   848.3  638.30   854.2  637.30   865.2  637.40   883.8  637.40   883.8
GR640.10   900.7  640.80   903.1  643.60   907.0  643.80   932.1  644.10   967.3
GR644.60   999.8  645.50  1041.9  645.80  1091.7  646.10  1142.3  648.00  1167.0
NC.03   .03     .030
X1 35720      18  930.90  959.90     100     100     100             .00
X3    10                                                647.00  647.00
GR648.80   863.9  648.40   900.9  647.90   928.0  648.90   928.8  648.90   930.0
GR645.30   930.9  640.70   931.1  636.80   931.2  636.10   935.9  636.10   944.0
GR636.10   952.9  636.90   959.8  640.80   959.9  645.30   959.9  649.00   960.7
GR649.00   962.9  648.00   962.9  648.50   999.8
SB   .90     1.6     2.6      .0    29.0     .01   264.0     .00
X1 35760                          40      40      40             .00
X2                    1  645.40  648.50                0
X3    10                                                648.50  648.50
BT-4.   863.9   649.4           927.    648.5          960.    648.5
BT      999.8   648.8
X1 35800      19  826.60  998.00      40      40      40            -1.10
X310.
GR   649   755.2  646.90   755.2  646.70   799.4  648.80   810.7  648.60   826.6
GR640.80   844.9  638.70   847.0  637.20   861.2  637.40   882.0  636.90   907.1
GR636.10   925.7  636.20   943.9  635.10   961.1  636.10   976.6  640.80   989.2
GR646.20   998.0  646.20   999.6  648.20  1048.1  649.10  1094.5
NC                          0.1     0.3
X1 36100      19   826.6   998.0     300     300     300            1.10
X310.
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GR   649   755.2  646.90   755.2  646.70   799.4  648.80   810.7  648.60   826.6
GR640.80   844.9  638.70   847.0  637.20   861.2  637.40   882.0  636.90   907.1
GR636.10   925.7  636.20   943.9  635.10   961.1  636.10   976.6  640.80   989.2
GR646.20   998.0  646.20   999.6  648.20  1048.1  649.10  1094.5
X1 36250      27  713.00  937.00     150     150     150             .00
X310.
GR649.10   538.0  650.70   589.0  650.80   657.0  646.20   670.0  645.20   686.0
GR649.20   701.0  649.70   713.0  640.30   724.0  637.80   729.0  636.50   744.0
GR636.80   758.0  636.30   773.0  636.80   788.0  637.50   823.0  637.00   852.0
GR635.80   875.0  637.20   899.0  640.80   918.0  642.50   920.0  644.50   926.0
GR647.90   937.0  649.40   961.0  650.20   972.0  651.40  1000.0  652.40  1012.0
GR652.40  1022.0  652.40  1033.0
X1 36315      9  687.90  760.40      65      65      65             .00
GR647.40   687.9  644.40   696.9  640.50   704.3  638.10   735.1  638.10   747.9
GR640.60   754.3  644.10   760.4  646.20   770.0  650.20   784.1
X1 36316     15  687.80  758.10       1       1       1             .00
GR647.50   687.8  644.40   696.9  644.90   696.9  644.90   722.2  643.00   727.1
GR643.00   734.2  640.80   735.0  640.80   742.1  641.10   749.1  642.90   749.9
GR645.00   753.0  645.00   758.1  644.10   760.0  646.20   770.1  650.20   784.0
X1 36585     29  607.10  929.20     269     269     269             .00
X310.
GR648.00   415.4  645.80   515.4  646.20   550.2  646.20   587.1  646.20   601.2
GR648.20   605.1  648.60   607.1  645.40   613.3  645.00   615.1  641.40   622.0
GR638.00   633.1  637.40   651.4  636.10   673.2  635.50   715.0  634.10   756.2
GR633.00   804.2  633.00   837.3  633.60   865.3  636.90   898.3  640.20   912.4
GR641.50   917.1  646.30   929.2  648.70   970.0  649.80   999.9  649.60  1028.0
GR650.60  1044.1  651.70  1068.0  651.70  1079.3  651.70  1088.7
X1 36895     24  577.60  742.10     310     310     310             .00
X310.
GR   648    391  646.10   505.9  646.00   524.8  646.50   552.0  646.80   561.6
GR648.30   564.9  648.80   577.6  644.60   594.0  643.30   602.6  641.50   607.0
GR640.10   623.0  639.50   636.8  639.20   653.9  640.00   679.1  640.30   702.0
GR640.10   717.0  640.50   731.0  641.40   741.1  642.50   742.1  647.20   777.2
GR648.90   832.2  649.80   887.9  650.20   946.1  649.80   999.8
X1 37205     17  787.30  912.00     330     290     310             .00
X310.
GR646.90   687.7  647.50   706.1  647.70   723.1  647.80   735.0  651.80   756.0
GR651.50   787.3  643.20   822.0  641.90   828.3  641.50   833.2  640.80   836.1
GR639.10   843.1  639.60   854.1  641.00   864.2  641.50   867.1  644.30   872.2
GR648.60   912.0  649.80   999.9
NC                          0.3     0.5
X1 37245                             20      60      40             .00
X1 37345     27  927.20  957.20     100     100     100             .00
X3    10                                                 645.70  645.70
GR   648    421  645.80   741.0  646.10   772.0  646.90   828.1  647.90   893.1
GR647.90   910.2  647.40   925.0  648.90   925.1  648.80   927.2  645.40   927.3
GR641.60   927.4  637.60   927.8  636.30   937.9  636.30   944.7  639.00   954.7
GR641.50   956.1  645.40   957.0  647.40   957.2  648.00   957.2  648.00   959.3
GR648.00   959.4  647.80   974.9  648.00  1000.5  648.60  1037.0  648.80  1129.0
GR648.70  1226.1  649.00  1313.1
SB   .90     1.6     2.6      .0    29.0     .01   246.0     .00
X1 37385                             40      40      40             .00
X2                    1  645.50  645.80                0
X3    10                                                 645.80  648.70
BT    -8   421.0  648.00     .00   741.0  645.80     .00   893.0  647.90     .00
BT         922.5  648.20     .00   955.0  648.20     .00  1037.0  648.70     .00
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BT        1129.0  649.00     .00  1313.0  649.40     .00
X1 37425      17  917.90  953.00      40      40      40          -.30
GR   648   552.8  646.10   822.8  646.00   872.9  645.50   914.7  644.80   917.9
GR641.80   925.9  640.40   927.0  639.80   934.0  639.60   942.0  641.80   947.1
GR645.10   953.0  646.60   975.0  646.90  1000.4  647.40  1027.2  647.90  1050.0
GR648.00  1097.9  648.10  1137.8
NC                          0.1     0.3
X1 37695      17   917.9   953.0     270     270     270          .30
GR   648   552.8  646.10   822.8  646.00   872.9  645.50   914.7  644.80   917.9
GR641.80   925.9  640.40   927.0  639.80   934.0  639.60   942.0  641.80   947.1
GR645.10   953.0  646.60   975.0  646.90  1000.4  647.40  1027.2  647.90  1050.0
GR648.00  1097.9  648.10  1137.8
NC.035  .035    .05
NH     4      10   892.6   0.035   932.6   0.050   969.7   0.035  1219.8
QT     7     780     473     374     249     161     119     104
X1 38025      23  932.60  969.70     345     300     330          .00
GR649.00   743.0  648.50   752.9  647.40   793.8  646.70   829.8  646.10   854.7
GR646.00   871.8  645.80   892.6  645.90   912.5  645.30   932.6  641.50   938.6
GR640.50   939.9  639.50   945.9  640.30   954.6  641.50   956.8  649.30   969.7
GR650.30   980.0  650.70   999.7  651.80  1041.7  652.50  1071.8  652.40  1107.6
GR651.80  1146.3  650.80  1184.3  650.10  1219.8
NH     4      10   872.9   0.035     944   0.050   986.2   0.035    1097
X1 38325      22  944.00  986.20     300     300     300          .00
X310.
GR650.00   613.0  646.40   773.0  646.40   783.2  645.90   800.2  646.30   841.1
GR646.00   872.9  645.80   908.3  645.60   934.9  645.10   944.0  641.50   950.7
GR641.10   952.8  640.70   958.9  641.00   967.8  641.50   968.8  648.10   980.1
GR650.00   986.2  650.80  1000.1  651.10  1016.1  650.40  1030.3  649.60  1042.0
GR646.80  1047.0  650.00    1097
NH     4      10   922.2   0.035   968.9   0.050   998.2   0.035  1112.1
X1 38625      20  968.90  998.20     270     320     300          .00
GR   650     577  647.00   862.2  646.60   892.9  646.20   922.2  645.90   958.0
GR645.20   968.9  641.50   972.8  640.70   974.9  640.10   982.9  640.70   990.1
GR641.50   992.1  645.10   998.2  645.00  1000.2  645.90  1009.0  647.50  1013.2
GR647.40  1015.9  647.80  1028.1  648.80  1046.0  649.20  1078.3  649.50  1112.1
NC 0.035  0.035   0.050     0.1     0.3
X1 38935      19 1008.10 1045.10     335     265     310          .00
GR648.80   870.1  648.00   900.2  648.20   938.3  649.00   951.2  648.80   976.9
GR648.90   988.0  648.60   998.0  648.60  1000.1  648.90  1008.1  642.70  1019.1
GR641.90  1022.2  641.10  1023.1  641.40  1029.9  641.50  1036.2  641.90  1037.2
GR645.80  1045.1  645.50  1080.1  646.90  1102.9  649.00  1126.3
X1 39235      19 1006.10 1048.10     300     300     300          .00
GR650.30   892.9  649.40   925.1  648.90   955.1  649.00   974.2  648.70   985.1
GR648.50   995.1  648.80  1000.3  648.80  1006.1  646.10  1014.1  642.10  1023.0
GR641.10  1024.9  640.90  1036.9  641.20  1040.9  642.20  1042.1  645.50  1048.1
GR646.70  1075.2  647.50  1103.1  650.10  1126.0  650.20  1143.9
X1 39565      23 1041.90 1116.80     285     360     330          .00
GR649.20   858.3  649.00   900.1  649.00   926.9  648.40   956.9  648.50   968.1
GR648.40   980.0  647.80   990.0  647.50   999.9  647.10  1019.9  646.50  1041.9
GR644.40  1048.0  643.80  1057.6  643.00  1059.7  642.30  1076.8  641.90  1078.8
GR641.60  1083.8  641.90  1089.9  642.30  1091.8  642.80  1094.7  643.10  1106.0
GR647.10  1116.8  647.90  1124.8  650.70  1148.3
NC.03   .035    .04         0.1     0.3
X1 39595                            30      30      30          .00
X1 39615      10    78.1   141.9      20      20      20
X3    10
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X4      3   648.9    76.5   647.9    64.5   647.8    76.4
GR    650    -115   647.9     0.0   647.5    78.1   641.5      90   641.5     130
GR  647.5   141.9   649.0   147.2   648.0   148.1   648.7   176.1   649.0   373.0
NC              .030
X1  39715       8    66.1   133.9     100     100     100
X3     10                                           647.9   647.9
GR  649.4      26   649.8      66   646.9    66.1   641.5      77   641.5     123
GR  646.9   133.9   649.8     134   649.5     174
SB     .9     1.6     2.7              44     2.5     337       2   641.5   641.5
X1  39765       8    66.1   133.9      50      50      50
X2                     1  647.88   649.9
X3     10                                           647.9   647.9
BT     -5      66   649.8             66.1   649.9             100   649.9
BT            133.9   649.9              134   649.8
GR  649.4      26   649.8      66   646.9    66.1   641.5      77   641.5     123
GR  646.9   133.9   649.8     134   649.5     174
NC              .04
X1  39790      13    60.1   131.9      25      25      25
X3     10
X4      1   647.8      60
GR    650    -130   647.9       0   647.5    60.1   646.8      69   641.5      80
GR  641.5     109   641.1     114   641.5     118   641.5     120   647.5   131.9
GR  648.0     133   648.7     161     650     186
NC                      .1      .3
X1  39865      19 1037.10 1087.30      90      90      75             .00
GR650.00   850.2  649.20   880.3  649.00   915.0  649.00   948.2  648.80   975.2
GR648.60  1000.2  648.40  1023.4  647.80  1037.1  643.00  1047.2  642.60  1054.4
GR641.80  1055.2  641.00  1063.3  641.70  1078.3  642.60  1079.3  647.20  1087.3
GR649.00  1095.0  650.00  1130.1  650.20  1154.3  650.20  1158.4
X1  40185      20 1004.30 1041.40     300     350     320             .00
GR650.80   828.2  649.50   882.3  649.00   895.0  649.00   928.4  648.90   963.0
GR648.70  1000.4  648.00  1004.3  642.70  1012.1  641.80  1015.1  641.80  1024.2
GR642.10  1032.2  642.70  1034.2  646.40  1041.4  648.20  1075.2  648.40  1125.2
GR650.10  1133.2  649.90  1163.2  648.60  1170.2  648.80  1206.1  649.10  1240.1
X1  40395      21  936.30  989.10     210     210     210             .00
GR652.90   720.4  653.10   752.6  651.70   780.3  650.60   808.4  649.80   837.2
GR649.30   870.4  649.30   907.4  648.50   936.3  642.90   947.1  642.40   949.2
GR642.00   952.2  641.80   955.1  642.00   960.0  642.80   962.9  644.40   965.1
GR645.00   977.0  647.50   989.1  648.40  1000.0  649.30  1023.3  649.00  1053.1
GR    650   1113
X1  40525      23  929.00  978.00     170      90     130             .00
GR649.90   802.0  649.90   853.0  650.00   886.0  650.00   929.0  643.80   947.0
GR643.50   948.0  643.10   953.0  643.20   959.0  643.80   963.0  646.00   978.0
GR647.80   990.0  648.10  1000.0  648.10  1022.0  648.90  1120.0  649.20  1215.0
GR649.50  1305.0  649.70  1400.0  650.10  1490.0  650.80  1580.0  651.40  1675.0
GR652.20  1762.0  653.30  1862.0  654.70  1953.0
NC.03    .035     .05
X1  40735      13  918.10  956.00     210     210     210             .00
GR650.90   895.9  650.60   918.1  643.20   933.1  642.80   935.0  642.10   944.8
GR642.20   952.2  643.20   953.1  645.60   956.0  647.00   963.8  647.20   971.2
GR648.90   977.8  649.40   990.0  652.00  1000.0
X1  40900       9     890   953.5     165     165     165
GR651.30   740.2  650.90   778.0  650.40   813.3  650.50   847.1  649.80     890
GR642.00   913.5  642.00   923.5  652.00   953.5   652.5   965.0
NC  0.03   0.035   0.030
X1  40930      15  916.75  920.25      30      30      30
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X3    10                                                    649.8   649.8
GR651.30   740.2  650.90   778.0  650.40   813.3  650.50   847.1  649.80    890
GR644.50   913.5  643.75  916.75  643.00   916.9  642.30   917.5  642.00  918.5
GR642.30   919.5  643.00   920.1  643.75  920.25  652.00   953.5  652.50  965.0
NC  0.03   0.035   0.012
NH     4    0.06   813.3    0.03  916.75   0.012  920.25   0.035     965
X1 40935      16  916.75  920.25       5       5       5
X2
BT   -11   847.1   650.5   650.5   890.0   649.8   649.8   913.5   652.0   644.5
BT        916.75  652.0   643.75  916.9   652.0   644.5   917.5   652.0   645.2
BT         918.5   652.0   645.5   919.5   652.0   645.2   920.1   652.0   644.5
BT        920.25   652.0  643.75   953.5   652.0   652.0
GR   652     -15  651.30   740.2  650.90   778.0  650.40   813.3  650.50   847.1
GR649.80     890  644.50   913.5  643.75  916.75  643.00   916.9  642.30   917.5
GR642.00   918.5  642.30   919.5  643.00   920.1  643.75  920.25  652.00   953.5
GR652.50   965.0
NH     5      10     320    0.06   813.3    0.03  916.75   0.012  920.25   0.035
NH   965
X1 41062      18  916.75  920.25     127     127     127
X2
BT   -11   847.1   650.5   650.5   893.0   649.8   649.8   913.5   652.0   645.4
BT        916.75  652.0   644.75  916.9   652.0   645.5   917.5   652.0   646.2
BT         918.5   652.0   646.5   919.5   652.0   646.2   920.1   652.0   645.5
BT        920.25   652.0  644.75   950.5   652.0   652.0
GR654.00    -100  652.00    -100   651.6     320  651.30   740.2  650.90   778.0
GR650.40   813.3  650.50   847.1  649.80     893  645.40   913.5  644.75  916.75
GR644.00   916.9  643.30   917.5  643.00   918.5  643.30   919.5  644.00   920.1
GR644.75  920.25  652.00   950.5  652.50   965.0
NH     5      10     320    0.06   813.3    0.03  916.75   0.035  920.25    0.03
NH   965
X1 41070      18  916.75  920.25       8       8       8
X3    10                                                    649.8   649.8
X5     7   652.3   651.9   651.6   651.2   650.9   650.4   650.0
GR654.00    -100  652.00    -100   651.6     320  651.30   740.2  650.90   778.0
GR650.40   813.3  650.50   847.1  649.80     893  645.40   913.5  644.75  916.75
GR644.00   916.9  643.30   917.5  643.00   918.5  643.30   919.5  644.00   920.1
GR644.75  920.25  652.00   950.5  652.50   965.0
NH     4    0.06   847.1    0.03     893   0.012   950.5   0.035     965
X1 41100      11     893   950.5      30      30      30
GR654.00     -68  652.00     -68  651.30   740.2  650.90   778.0  650.40   813.3
GR650.50   847.1  649.80     893  643.00   913.5  643.00   923.5  652.00   950.5
GR652.50   965.0
NH     4    0.06   827.1    0.03     883   0.012     940   0.035     950
X1 41135      10  883.00  940.00      35      35      35             .00
GR654.00     -10  652.00     -10  650.80   720.2  650.30   827.1  650.20   871.1
GR649.70   883.0  643.00   903.0  643.00   913.0  652.00   940.0  652.50   950.0
QT     7    1480    1189    1021     812     645     538     406
NH     3      10     350    0.03   886.9    0.05     916
X1 41330      18  886.90  916.00     195     195     195             .00
X3 10.
GR654.00    -430  652.00    -430   650.8     350  650.40   640.0  650.20   738.0
GR650.30   791.0  650.20   854.9  650.50   867.1  644.20   876.9  643.80   877.1
GR643.10   882.0  642.80   886.9  643.10   892.4  643.80   897.0  644.20   897.0
GR646.60   898.2  650.70   910.3  652.00   916.0
NC  0.03   0.035   0.050
X1 41530      18  869.40  918.10     200     200     200             .00
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X3 10.
GR654.00     411  652.00     411  650.30   666.0  649.80   770.4  650.00   856.8
GR651.40   869.4  644.20   883.1  644.00   883.2  642.60   888.5  643.00   892.9
GR643.30   898.0  643.90   902.9  644.20   902.9  647.00   918.1  647.50   955.0
GR647.80   980.0  652.00  1000.0  654.00  1000.0
NH     4      10     750    0.03   934.9    0.05     980   0.035  1367.6
X1 41710      20  934.90  980.00     230     135     180             .00
GR   655     365     652     529   650.6     750     650     849  648.50   884.2
GR649.10   934.9  644.20   944.0  643.90   944.1  643.80   951.1  643.50   958.3
GR643.60   967.0  644.10   973.0  644.40   973.0  647.00   980.0  647.80  1000.2
GR646.50  1055.0  647.50  1135.9  649.90  1224.1  655.00  1313.2  656.60  1367.6
NC                        0.3     0.5
X1 41790      20   934.9   980.0     100      60      80             .10
GR   655     365     652     529   650.6     750     650     849  648.50   884.2
GR649.10   934.9  644.20   944.0  643.90   944.1  643.80   951.1  643.50   958.3
GR643.60   967.0  644.10   973.0  644.40   973.0  647.00   980.0  647.80  1000.2
GR646.50  1055.0  647.50  1135.9  649.90  1224.1  655.00  1313.2  656.60  1367.6
NC  .035    .035     .05
X1 41890      30 1510.00 1530.50     120      80     100             .00
X3    10                                                649.90  649.90
GR   655    1380  652.00  1450.0  650.80  1500.0  644.50  1510.0  644.00  1510.2
GR644.00  1511.0  644.00  1512.1  643.90  1513.5  643.90  1515.0  643.90  1516.5
GR643.90  1517.9  643.90  1519.0  643.90  1519.8  643.90  1520.0  643.90  1520.7
GR643.90  1521.5  643.90  1522.6  643.90  1524.0  643.90  1525.5  643.90  1527.0
GR644.00  1528.4  644.00  1529.5  644.00  1530.3  644.50  1530.5  650.80  1540.5
GR652.00  1590.3     648    1650     648    1720     652    1820   656.6    1950
NC                  .027
X1 41895                                5       5       5             .00
X2                        650.80  650.80
BT   -25  1450.0  652.00  652.00  1500.0  650.80  650.80  1510.0  650.80  644.50
BT        1510.2  650.80  646.10  1511.0  650.80  647.44  1512.1  650.80  648.60
BT        1513.5  650.80  649.30  1515.0  650.80  649.50  1516.5  650.80  649.30
BT        1517.9  650.80  648.60  1519.0  650.80  647.44  1519.8  650.80  646.10
BT        1520.0  650.80  644.50  1520.7  650.80  646.10  1521.5  650.80  647.40
BT        1522.6  650.80  648.60  1524.0  650.80  649.30  1525.5  650.80  649.50
BT        1527.0  650.80  649.30  1528.4  650.80  648.60  1529.5  650.80  647.40
BT        1530.3  650.80  646.10  1530.5  650.80  644.50  1540.5  650.80  650.80
BT        1590.3  652.00  652.00
X1 41925                               30      30      30             .00
X2                      0  649.50  650.80               1
NC                  .05
X1 41930                                5       5       5             .00
X3    10                                                650.80  650.80
NC                              .1      .3
NH     4      10   682.3   0.035   889.2    0.05   906.1   0.035    1280
X1 41960      22  889.20  906.10      30      30      30             .00
GR   655     416     652     606  649.00   666.6  651.00   682.3  651.50   733.3
GR651.40   796.1  650.10   840.2  646.50   852.9  646.50   869.4  645.30   884.1
GR645.00   884.1  644.70   889.2  644.00   893.1  643.90   896.9  644.80   902.1
GR645.30   902.2  648.60   906.1  649.00   931.9  648.00  1000.0  648.00  1075.1
GR650.00  1143.9  655.70  1280.0
NH     4      10   700.6   0.035   891.4    0.05   920.5   0.035  1294.8
X1 42155      23  891.40  920.50     195     195     195             .00
X310.
GR   655     310     652     530     650     600     648     675  646.90   700.6
GR646.60   759.3  647.10   821.5  647.90   891.4  645.30   899.1  645.10   899.2
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GR644.20   904.3  644.60   908.5  644.50   912.3  645.10   917.3  645.30   917.4
GR648.00   920.5  648.80   960.4  648.10  1000.3  648.50  1050.3  649.90  1112.1
GR649.90  1112.1  651.00  1205.1     655  1294.8
NH     4      10     750   0.035   912.7    0.05   944.6   0.035    1798
X1 42420      24  912.70  944.60     265     265     265             .00
GR   655    -135   653.1     750  653.00   800.4  652.80   846.6  652.00   870.6
GR650.40   899.5  648.80   912.7  648.30   912.7  645.30   920.4  645.10   920.4
GR644.70   925.2  644.60   930.5  644.50   935.2  645.10   940.5  645.30   940.5
GR648.60   944.6  648.20   967.6  647.70  1000.5  648.40  1093.7  649.70  1184.4
GR651.70  1272.4  651.90  1333.3     653    1798     655    1798
NC                          0.3     0.5
NH     4      10   750.4   0.035   934.3    0.05   964.3   0.035    1750
X1 42725      25  934.30  964.30     305     305     305             .00
GR   655    -450  653.10   750.4  653.80   833.9  650.80   924.2  650.50   934.3
GR650.10   934.3  645.20   943.0  644.60   943.0  644.00   945.0  644.10   950.2
GR644.20   955.0  643.70   958.1  644.10   960.1  645.20   960.3  648.50   964.3
GR648.70   980.4  648.80  1000.2  648.60  1033.2  648.60  1068.4  651.70  1086.3
GR649.20  1109.4  647.90  1212.3  647.70  1300.2     653    1750     655    1750
NC.04   .035    .05
X1 42845      19 1247.00 1265.60     120     120     120             .00
X3    10                                                  663.00  663.00
GR668.70  1000.0  667.50  1202.0  663.00  1221.0  648.80  1247.0  647.00  1247.4
GR645.00  1248.0  645.00  1248.3  644.90  1250.1  644.80  1252.8  644.80  1256.3
GR644.80  1259.0  644.80  1262.5  644.90  1264.3  645.00  1265.2  645.00  1265.3
GR648.80  1265.6  663.00  1285.0  667.00  1301.0  666.50  1500.0
NC              .015
X1 42855                                10      10      10              .00
X2
BT   -19  1000.0  668.75  668.75  1202.0  667.50  667.50  1221.0  667.40  663.00
BT        1247.0  667.30  648.80  1247.4  667.30  650.70  1248.0  667.30  652.50
BT        1248.3  667.30  652.70  1250.1  667.30  655.00  1252.8  667.30  656.90
BT        1256.3  667.30  658.70  1259.0  667.20  656.90  1262.5  667.20  655.00
BT        1264.3  667.20  652.70  1265.2  667.20  650.70  1265.3  667.10  650.50
BT        1265.6  667.10  648.80  1285.0  667.10  663.00  1301.0  667.00  667.00
BT        1500.0  667.10  666.50
X1 43045                                190     190     190             .00
X2                      0     .00     .00                1
NC.035  .035    .05
X1 43055      28 1002.30 1065.20      10      10      10              .00
X3    10                                                  666.50  666.50
GR660.80   774.2  661.00   805.4  661.30   857.1  661.00   874.2  660.60   913.2
GR663.50   946.1  664.90   973.1  666.90  1000.0  667.30  1002.3  661.50  1025.1
GR650.50  1025.8  650.50  1028.1  645.80  1028.2  644.60  1028.3  643.80  1032.9
GR643.80  1036.2  644.20  1040.3  644.80  1044.2  645.70  1044.3  650.30  1044.4
GR650.50  1047.4  661.60  1048.3  666.70  1065.2  666.60  1093.5  666.80  1121.4
GR667.00  1151.6  667.20  1180.2  666.70  1229.1
NC                      .1      .3
X1 43155                                120      80     100             .00
X1 43305      22 1085.10 1159.90     170     130     150             .00
X310.
GR662.20   582.0  659.20   639.1  654.80   730.1  654.20   825.0  658.20   888.9
GR653.20   966.1  652.90   999.9  653.50  1007.8  657.70  1040.8  656.80  1066.1
GR655.00  1085.1  649.20  1095.1  646.80  1097.2  645.40  1104.0  645.50  1109.1
GR645.20  1114.1  646.80  1118.9  648.80  1120.2  648.60  1138.9  661.00  1159.9
GR664.70  1185.8  666.20  1209.5
X1 43675      24 1128.50 1175.80     335     385     370             .00
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X310.
GR661.20   716.3  660.20   752.2  658.40   812.3  655.80   897.1  656.40   971.2
GR653.50   984.8  655.80   992.1  655.70  1000.0  654.10  1015.0  653.30  1094.9
GR653.00  1128.5  648.40  1142.1  647.10  1144.1  646.20  1147.1  646.20  1153.2
GR646.30  1159.2  647.10  1163.2  648.80  1165.9  651.50  1175.8  650.80  1265.4
GR650.10  1305.0  648.50  1323.9  650.50  1347.2  658.90  1363.9
QT     7    1370     951     802     641     517     437     332
X1 44015      20 1086.20 1163.20     320     370     340             .00
GR   665     923  654.70   923.0  654.50   966.0  653.80  1000.1  653.10  1023.9
GR653.20  1056.8  652.30  1086.2  648.70  1097.0  648.50  1103.4  647.20  1105.2
GR645.50  1109.1  645.20  1114.2  645.30  1120.0  647.10  1123.9  649.20  1126.1
GR649.20  1134.1  656.60  1163.2  657.90  1230.0  658.50  1284.0  658.40  1335.9
X1 44335      17 1131.10 1165.00     315     335     320             .00
GR   665   920.2  656.10   920.2  655.80   963.2  655.20   999.8  655.10  1035.1
GR654.70  1073.9  654.00  1104.0  649.30  1122.9  648.90  1131.1  647.30  1132.9
GR646.90  1135.9  646.90  1143.0  646.80  1151.1  647.40  1153.0  651.30  1165.0
GR652.70  1177.0  657.40  1196.0
NC.035  .035    .05          0.3     0.5
X1 44530                              195     195     195             .00
X1 44630      27 1123.90 1150.20     100     100     100             .00
X3    10                                                  657.50  657.50
GR666.90   665.0  666.90   665.1  664.80   741.0  664.80   741.1  663.10   799.0
GR661.90   849.3  661.40   869.3  660.80   961.5  660.80   987.1  660.80  1009.2
GR659.00  1019.0  656.10  1084.8  655.30  1123.9  648.00  1125.0  647.40  1125.0
GR646.90  1131.2  646.90  1138.3  647.90  1141.4  648.90  1143.3  648.80  1150.2
GR654.90  1150.3  655.00  1175.7  659.10  1192.1  659.20  1241.3  658.00  1333.2
GR658.40  1453.9  658.40  1479.9
SB  1.25    4.04     2.6      .0    20.0    1.50   222.0     .00642.6   642.6
X1 44830      26 1124.00 1144.80     200     200     200             .00
X2                     1  655.00  658.50
X3    10                                                  661.10  658.50
BT-9.   596.     667.1          708.1   665.1          870.    663.
BT      1000.   661.1          1135.   659.8          1225.   659.
BT      1320.   658.6          1420.   658.5          1519.   658.5
GR667.10   596.0  667.10   596.1  665.10   708.0  665.10   708.1  662.80   807.0
GR662.00   850.0  660.90   906.0  659.20   999.9  658.30  1075.9  656.30  1121.8
GR656.80  1122.8  656.70  1124.0  644.70  1124.0  643.50  1126.1  642.60  1128.1
GR643.60  1134.2  644.30  1140.0  644.00  1144.1  644.80  1144.2  656.70  1144.3
GR656.80  1144.8  656.30  1146.0  655.90  1201.1  656.30  1300.0  656.50  1417.0
GR657.00  1516.6
NC.03   .03     .04
X1 44870      26  1124.0  1144.8      40      40      40            1.30
GR667.10   596.0  667.10   596.1  665.10   708.0  665.10   708.1  662.80   807.0
GR662.00   850.0  660.90   906.0  659.20   999.9  658.30  1075.9  656.30  1121.8
GR656.80  1122.8  656.70  1124.0  644.70  1124.0  643.50  1126.1  642.60  1128.1
GR643.60  1134.2  644.30  1140.0  644.00  1144.1  644.80  1144.2  656.70  1144.3
GR656.80  1144.8  656.30  1146.0  655.90  1201.1  656.30  1300.0  656.50  1417.0
GR657.00  1516.6
X1 44910      23 1363.00 1388.00      40      40      40             .00
X3    10                                                  655.50  655.50
GR660.50  1000.0  655.15  1180.0  654.50  1325.0  650.00  1363.0  648.70  1363.5
GR648.30  1364.0  647.72  1364.5  647.40  1365.0  647.20  1365.5  647.05  1365.8
GR646.00  1366.0  646.00  1385.0  647.05  1385.5  647.20  1386.0  647.40  1386.5
GR647.72  1387.0  648.30  1387.5  648.70  1387.8  650.00  1388.0  653.80  1394.0
GR655.00  1487.0  657.50  1494.0  657.50  1594.0
SC 3.012     0.5     2.7       0       6              63     1.1  646.85  646.25
```

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NC   .03     .03     .05
X1 44970      35 1030.10 1080.10      63      63      63
X2                   2          657.5
X3    10                                                 657.5   657.5
BT    -7   683.4  663.00           892.0  659.50          1000.0  658.00
BT       1009.1  657.80          1030.1  657.50          1558.0  657.50
BT       1600.   660.00
GR660.50  683.4  658.70   723.4  656.40   810.1  654.80   892.0  653.80   903.1
GR655.40  903.1  655.80   903.3  656.40   903.9  655.70   952.0  654.70  1000.0
GR654.60 1009.1  653.70  1030.1  649.80  1045.2  648.10  1047.1  647.70  1049.1
GR646.60 1052.1  647.10  1052.3  647.40  1062.2  647.00  1071.0  646.70  1072.3
GR647.20 1074.0  648.00  1074.2  653.70  1080.1  654.00  1088.1  654.50  1128.3
GR654.90 1172.8  656.50  1179.9  656.10  1209.8  653.90  1227.1  651.90  1227.2
GR651.50 1227.3  653.90  1378.0  654.50  1470.0  655.60  1558.0  658.20  1778.0
* INSERT GR POINTS TO 658+
NC   .03     .03     .05      .1      .3
X1 45025      21 1043.30 1086.30       5     130      65              .00
GR660.00   900.   657.90   955.9  657.50   971.1  657.30   974.8  654.60   981.2
GR655.1    987.8  655.10  1000.1  654.30  1005.9  651.70  1024.1  651.00  1043.3
GR648.20  1047.2  648.10  1053.2  648.00  1061.2  648.10  1070.2  648.30  1074.2
GR648.80  1080.3  653.20  1086.3  654.40  1138.3  652.80  1203.2  654.10  1266.3
GR659.10  1350.1
X1 45345      20 1101.10 1134.20     310     330     320              .00
GR662.90   898.8  662.40   913.9  661.90   917.2  659.60   923.0  661.10   929.9
GR659.20   948.9  655.30  1000.1  653.10  1059.0  652.40  1101.1  649.60  1107.5
GR648.80  1111.1  648.20  1114.0  647.80  1122.2  648.10  1124.0  648.80  1130.1
GR649.60  1132.8  651.60  1134.2  658.70  1252.9  660.50  1327.9  660.50  1395.9
NC                       0.3     0.5
X1 45650      18 1046.80 1082.80     295     310     305              .00
GR661.00   868.7  656.40   940.7  651.90   999.6  652.10  1046.8  649.70  1049.9
GR648.60  1054.9  648.40  1057.9  648.90  1064.8  648.80  1070.7  649.20  1077.1
GR649.80  1079.9  652.10  1082.8  652.30  1099.7  655.30  1109.9  653.70  1116.8
GR655.00  1173.6  654.90  1267.7  661.40  1351.5
QT     7     820      96      91      83      76      70      62
X1 45750      23 1107.00 1136.00     100     100     100              .00
X3    10                                                 648.00  648.00
GR661.00   869.0  654.20  1000.0  654.20  1107.0  652.75  1109.0  651.00  1110.0
GR649.50  1112.0  648.90  1118.5  647.95  1118.8  647.80  1119.0  647.50  1119.5
GR647.40  1120.0  647.50  1120.5  647.80  1121.0  647.95  1121.3  648.90  1121.5
GR650.20  1129.0  651.00  1130.0  653.00  1134.0  654.50  1136.0  655.30  1146.0
GR655.60  1177.0  659.80  1268.0  662.00  1352.0
NC             .015
X1 45755                              5       5       5              .00
BT   -23   869.0  661.00  661.00 1000.0  654.20  654.20  1107.0  654.20  654.20
BT       1109.0  652.75  652.75 1110.0  651.00  651.00  1112.0  651.00  649.50
BT       1118.5  651.00  648.90 1118.8  651.00  649.85  1119.0  651.00  650.00
BT       1119.5  651.00  650.30 1120.0  651.00  650.40  1120.5  651.00  650.30
BT       1121.0  651.00  650.00 1121.3  651.00  649.85  1121.5  651.00  648.90
BT       1129.0  651.00  650.20 1130.0  651.00  651.00  1134.0  653.00  653.00
BT       1136.0  654.50  654.50 1146.0  655.30  655.30  1177.0  655.60  655.60
BT       1268.0  659.80  659.80 1352.0  662.00  662.00
X1 45757                              2       2       2              .00
X2                   0     .00     .00                1
NC             .05
X1 45760                              3       3       3              .00
X3    10                                                 651.00  651.00
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X1 45785                                    25      25      25            .00
NC                      .3      .5
X1 45810      24 1089.00 1103.00            25      25      25            .00
X3    10                                                        653.90  653.90
GR660.70   866.0  656.20   929.0  654.80   976.0  654.20  1000.0  654.20  1045.0
GR654.20  1082.0  654.10  1082.1  651.00  1085.0  648.00  1089.0  647.90  1089.0
GR647.50  1090.0  647.00  1092.0  647.00  1094.0  647.00  1096.0  647.00  1098.0
GR647.00  1100.0  647.50  1103.0  648.00  1104.0  649.00  1106.0  651.00  1116.0
GR654.20  1116.2  665.50  1244.2  666.00  1337.2  669.30  1480.2
NC              .015
X1 45815                                     5       5       5            .00
X2
BT   -24   866.0  660.70  660.70   929.0  656.20  656.20   976.0  654.80  654.80
BT        1000.0  654.20  654.20  1045.0  654.20  654.20  1082.0  655.00  654.20
BT        1082.1  658.00  654.10  1085.0  658.00  651.00  1089.0  658.00  651.00
BT        1089.0  658.00  651.80  1090.0  658.00  652.50  1092.0  658.00  653.10
BT        1094.0  658.00  653.50  1096.0  658.00  653.10  1098.0  658.00  652.50
BT        1100.0  658.00  651.80  1103.0  658.00  651.00  1104.0  658.00  651.00
BT        1106.0  658.00  651.00  1116.0  658.00  654.10  1116.2  654.20  654.20
BT        1244.2  665.50  665.50  1337.2  666.00  666.00  1480.2  669.30  669.30
X1 45835                                    20      20      20            .00
X2                                                          1
NC.035  .035    .05
X1 45840      25 1081.90 1115.80             5       5       5            .00
X3    10                                                        654.20  654.20
GR659.90   851.7  660.80   865.8  656.00   929.1  654.70   975.8  654.00  1000.1
GR654.10  1010.9  654.00  1059.9  654.10  1081.9  651.00  1084.8  648.40  1087.8
GR647.70  1089.0  647.10  1091.9  646.90  1095.9  646.90  1100.0  647.30  1101.9
GR648.00  1103.7  649.10  1105.9  651.00  1105.9  654.80  1115.8  654.60  1143.0
GR655.20  1222.8  655.50  1242.5  655.90  1336.5  656.50  1376.6  659.20  1478.8
NC.03   .03     .04     .1      .3
X1 45870                                    30      30      30            .00
X1 46140      28 1089.70 1191.70            270     270     270           .00
* INSERT POINTS TO 658+
GR660.00   741.0  660.00   742.0  660.00   743.0  660.00   744.0  660.00   745.0
GR655.90   845.8  653.90   898.7  652.40   950.9  652.20   967.6  653.00  1000.0
GR653.90  1034.8  652.30  1089.7  650.20  1091.8  649.20  1091.9  648.20  1101.9
GR647.90  1113.9  648.00  1121.9  647.80  1132.9  647.50  1146.7  647.60  1153.9
GR648.00  1169.7  648.10  1178.7  649.40  1188.7  650.10  1191.0  652.40  1191.7
GR654.30  1286.4  654.90  1387.7  659.00  1492.4
X1 46290      24 1135.20 1467.80            150     150     150           .00
GR659.00   839.0  653.90   995.3  653.80  1000.0  653.70  1014.4  654.70  1042.5
GR654.00  1088.4  655.80  1126.4  652.50  1135.2  650.80  1136.9  649.90  1138.5
GR648.60  1164.3  648.90  1199.5  648.70  1232.5  648.70  1267.5  648.30  1296.2
GR648.00  1332.3  647.70  1371.4  647.80  1404.3  647.90  1427.2  648.50  1454.6
GR650.90  1466.5  652.30  1467.8  656.70  1532.5  660.10  1582.1
NC                          0.3     0.5
X1 46540      23 1163.30 1359.10            250     250     250           .00
* INSERT POINTS TO 660
GR660.00   741.0  660.00   742.0  660.00   743.0  660.00   744.0  660.00   745.0
GR654.90  1000.0  654.90  1163.3  650.80  1173.3  650.00  1174.3  648.20  1190.4
GR648.50  1202.2  648.90  1220.3  648.70  1245.2  648.70  1275.2  648.60  1305.3
GR648.80  1325.3  649.40  1340.1  650.00  1350.2  650.90  1355.3  656.10  1359.1
GR656.80  1410.7  657.30  1496.1  660.00  1618.0
NC.03   .03     .04
X1 46610      23 1204.00 1235.80             70      70      70           .00
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X310.                                                          654.8   654.8
GR660.00   801.0  660.00   802.0  660.00   803.0  660.00   804.0  660.00   805.0
GR654.90  1000.0  654.20  1062.1  654.70  1141.8  654.60  1204.0  653.10  1208.0
GR651.30  1209.1  649.60  1209.2  649.00  1211.1  648.60  1215.0  648.40  1219.0
GR648.20  1223.0  648.00  1226.9  648.80  1229.0  651.10  1229.8  652.70  1231.0
GR655.60  1235.8  655.90  1305.0  659.40  1440.4
NC              .015
X146620.28.     1212.   1226.   10.     10.     10.
X2
* INSERT BT POINTS TO 658+
BT-26.   803.   660.0   660.0    804.   660.0   660.0    805.0  660.0   660.0
BT      1000.   654.9   654.9   1062.1  655.    654.2   1141.8  654.8   654.7
BT      1204.   655.5   654.6   1208.   655.5   653.1   1209.1  655.5   651.3
BT      1209.2  655.5   649.6   1211.1  655.5   649.    1212.   655.5   648.7
BT      1212.1  655.5   652.    1213.   655.5   652.8   1215.   655.5   653.5
BT      1219.   655.5   654.    1223.   655.5   653.5   1225.   655.5   652.8
BT      1225.9  655.5   651.5   1226.   655.5   647.8   1229.   655.5   648.8
BT      1229.8  655.5   651.1   1231.   655.5   652.7   1235.8  655.6   655.6
BT      1305.   655.9   655.9   1440.4  659.4   659.4
* INSERT GR POINTS TO 658+
GR660.0  801.0  660.00   802.0  660.00   803.0  660.00   804.0  660.00   805.0
GR654.9 1000.   654.2   1062.1  654.7   1141.8  654.6   1204.   653.1   1208.
GR651.3 1209.1  649.6   1209.2  649.    1211.1  648.7   1212.   648.7   1212.1
GR648.6 1213.   648.4   1215.   648.3   1219.   648.    1223.   647.9   1225.
GR647.8 1225.9  647.8   1226.   648.8   1229.   651.1   1229.8  652.7   1231.
GR655.6 1235.8  655.9   1305.   659.4   1440.4
X146650.                        30.     30.     30.
X2                                              1.
NC              .04
X146660.                        10.     10.     10.
X310.                                                          654.9   655.5
NC                      .1      .3
X1 46720      24 1094.70 1108.00      60      60      60             .00
X3    10                                                      656.20  656.20
GR664.80   685.0  664.80   685.1  664.70   685.2  662.60   786.9  662.60   787.0
GR662.10   809.0  660.90   862.2  659.70   933.9  663.60  1000.0  658.70  1038.2
GR656.90  1081.8  651.60  1094.7  651.20  1096.9  651.10  1098.0  650.60  1103.0
GR649.30  1108.0  650.30  1110.9  651.30  1114.0  655.50  1120.2  657.40  1127.9
GR658.30  1185.0  659.70  1280.8  664.50  1377.7  665.60  1473.9
SB   .90     1.6     2.6      .0    13.0     .01    84.5     .00
X1 46800                                80      80      80             .00
X2                      1  655.50  656.80                  0
X3    10                                                      658.80  659.40
BT    -9   875.0  661.00     .00   933.9  659.70     .00   970.0  659.50     .00
BT        1065.0  658.80     .00  1110.0  658.90     .00  1210.0  659.40     .00
BT        1305.0  660.90     .00  1377.7  664.50     .00  1473.9  665.60     .00
X1 46880      23 1033.10 1069.90      80      80      80            -.70
GR669.40   968.2  666.90   977.0  662.10   999.8  652.30  1033.1  651.40  1035.9
GR650.40  1038.8  649.40  1042.2  649.00  1044.2  649.80  1049.1  649.30  1054.9
GR649.70  1059.9  650.20  1062.0  653.50  1069.9  656.10  1089.8  660.70  1109.7
GR661.10  1117.8  658.70  1128.9  658.70  1140.1  655.90  1150.8  656.00  1217.9
GR657.10  1311.9  663.10  1508.6  669.30  1560.0
X1 47100                                220     220     220            .70
X1 47400      21 1018.90 1097.90     300     300     300             .00
GR673.60   978.8  665.80  1000.1  660.40  1018.9  651.90  1043.9  651.20  1044.9
GR650.20  1053.3  649.90  1057.9  649.90  1064.2  650.00  1075.1  650.00  1084.8
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GR650.30  1085.8  651.20  1088.0  656.30  1097.9  658.60  1111.1  667.30  1126.8
GR667.00  1139.9  662.00  1159.0  661.80  1180.6  667.50  1198.0  668.10  1209.8
GR668.60  1250.9
NC                          0.3     0.5
X1 47625                            225     225     225             .00
X1 47725      48 1349.00 1364.00     100     100     100             .00
GR667.30  1000.0  666.80  1217.0  664.30  1270.0  660.20  1284.0  659.00  1310.0
GR658.20  1330.0  651.50  1347.0  649.40  1349.0  648.10  1349.3  647.60  1349.5
GR647.00  1350.0  646.50  1350.5  646.20  1351.0  646.00  1351.5  645.90  1352.0
GR645.90  1352.5  645.90  1353.0  646.00  1353.5  646.20  1354.0  646.50  1354.5
GR647.00  1355.0  647.60  1355.5  648.10  1355.8  649.40  1356.0  649.40  1357.0
GR648.10  1357.3  647.60  1357.5  647.00  1358.0  646.50  1358.5  646.20  1359.0
GR646.00  1359.5  645.90  1360.0  645.90  1360.5  645.90  1361.0  646.00  1361.5
GR646.20  1362.0  646.50  1362.5  647.00  1363.0  647.60  1363.5  648.10  1363.8
GR649.40  1364.0  649.50  1366.0  651.50  1367.0  654.50  1372.0  657.70  1389.0
GR659.20  1418.0  667.50  1554.0  671.20  1616.0
X1 47730                            5       5       5
X3    10                                                655.75  655.75
SC 2.024      .5     2.6             7               30     2.1   645.9   645.8
X1 47760                            30      30      30
X2                    2   652.9   658.6
X3    10                                                658.6   658.6
BT   -11  1000.0   667.3          1217.0   666.0          1270.0   664.3
BT        1284.0   660.2          1310.0   659.0          1330.0   658.7
BT        1347.0   658.6          1362.0   658.6          1389.0   659.0
BT        1418.0   659.2          1554.0   667.5
X1 47765      16 1042.10 1103.20       5       5       5
GR666.90   928.0  664.30   981.0  660.10   996.0  658.10  1042.1  651.50  1059.2
GR649.80  1061.2  649.10  1065.2  648.60  1068.0  648.90  1071.8  649.50  1078.0
GR651.50  1079.9  654.50  1085.3  657.60  1103.2  660.40  1184.3  667.40  1268.2
GR670.00  1339.8
NC                      .1      .3
X1 47805                            40      40      40              .00
X1 48100      17 1040.90 1108.90     295     295     295             .00
GR671.50   974.8  666.10  1000.1  658.50  1031.0  654.50  1040.9  651.40  1048.8
GR650.40  1051.8  649.60  1060.1  649.60  1071.1  648.80  1077.8  648.90  1088.0
GR649.20  1096.7  651.50  1104.9  656.90  1108.9  661.70  1121.8  662.20  1128.1
GR672.20  1169.9  673.80  1211.5
X1 48290      18 1035.10 1120.10     210     170     190             .00
GR674.90   945.2  663.70   974.1  663.10  1000.2  663.20  1035.1  659.80  1045.1
GR658.90  1056.9  652.00  1082.8  651.50  1085.0  650.50  1087.3  649.70  1090.3
GR649.80  1105.5  650.20  1110.5  650.50  1117.1  651.50  1119.1  652.60  1120.1
GR657.80  1140.9  659.40  1167.9  693.10  1230.3
NC.03   .03     .05
X1 48510      17 1007.90 1069.70     250     190     220             .00
GR668.50   970.1  659.10   991.7  659.00   999.9  659.00  1007.9  652.80  1018.9
GR651.60  1021.0  650.50  1022.8  650.20  1031.8  650.20  1037.9  648.80  1042.8
GR649.60  1047.9  651.60  1051.0  653.20  1051.9  657.80  1069.7  659.10  1083.6
GR670.20  1109.6  682.20  1158.6
X1 48815      20 1031.90 1066.30     295     315     305             .00
GR658.70   760.0  657.40   819.8  655.40   870.2  654.50   895.0  653.10   910.3
GR652.80   930.1  654.20   969.1  654.00  1000.1  653.60  1015.0  652.30  1031.9
GR651.70  1035.2  650.70  1038.1  650.10  1043.8  650.10  1052.2  650.70  1056.2
GR650.80  1061.1  651.80  1064.0  652.60  1066.3  655.90  1090.9  673.00  1267.4
X1 49080      21 1009.90 1078.10     265     265     265             .00
GR660.10   728.0  660.80   754.8  659.10   839.9  657.70   860.0  657.20   967.9
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GR656.90  1000.0  656.10  1009.9  652.60  1019.1  651.70  1020.9  650.90  1026.0
GR650.20  1032.0  650.10  1040.0  650.60  1049.0  650.80  1049.9  651.70  1052.2
GR654.00  1078.1  654.40  1089.1  653.20  1100.0  653.70  1162.1  656.90  1210.0
GR673.70  1308.8
NC.03   .03     .035
X1 49300      30 1005.60 1053.10     220     220     220            .00
GR660.50   725.0  660.50   725.1  660.50   725.2  658.60   740.9  658.60   741.0
GR659.10   815.9  659.40   855.0  658.10   918.8  655.80   967.7  655.20   999.9
GR655.00  1005.6  652.80  1011.8  651.80  1014.9  650.80  1019.9  650.30  1024.7
GR650.10  1034.8  650.30  1041.9  650.90  1048.8  651.80  1051.6  652.50  1053.1
GR653.60  1070.0  653.60  1076.7  656.60  1084.6  656.30  1140.7  654.00  1147.9
GR655.00  1187.6  659.80  1297.9  657.90  1319.9  659.40  1379.9  661.00  1478.8
X1 49680      18 1017.40 1045.30     380     380     380            .00
GR659.10   867.4  657.50   902.2  655.20   932.2  655.30   965.3  654.70  1000.3
GR653.80  1017.4  651.80  1021.4  650.80  1024.2  649.80  1029.2  649.90  1035.0
GR650.70  1039.2  651.80  1042.2  652.90  1045.3  654.20  1055.4  655.70  1151.2
GR656.70  1252.1  658.80  1355.1  660.20  1459.9
X1 49980      21  999.90 1033.30     300     300     300            .00
X3    10
GR659.30   808.1  658.70   820.1  655.70   834.9  653.70   881.9  653.70   902.1
GR653.50   974.8  653.50   994.6  653.50   999.9  653.10  1004.8  651.10  1008.7
GR650.00  1013.8  649.80  1017.7  650.20  1022.0  651.90  1026.9  653.10  1029.9
GR653.90  1033.3  656.00  1180.0  657.70  1219.8  658.80  1309.9  661.00  1410.0
GR662.60  1504.3
NC0.03  0.03    0.04
X1 50320      21 1021.00 1050.30     340     340     340            .00
X310.
GR661.60   822.0  655.30   884.9  656.60   950.8  656.50   999.8  655.60  1017.8
GR654.90  1021.0  654.60  1021.0  653.20  1023.0  651.10  1025.9  649.90  1032.2
GR650.10  1036.0  650.60  1042.0  652.00  1045.0  653.10  1050.1  655.00  1050.2
GR655.70  1050.3  653.10  1076.1  653.40  1112.1  655.40  1220.0  658.90  1290.0
GR661.00  1334.6
X1 50560      22 1030.20 1096.50     260     220     240            .00
GR660.00   720.2  659.70   870.1  659.60   894.3  659.60   908.0  658.10   960.1
GR660.30   977.2  656.80  1000.2  655.80  1030.2  653.10  1042.5  651.10  1045.2
GR650.80  1050.1  650.30  1057.3  650.20  1062.1  651.20  1075.1  653.00  1085.1
GR655.10  1096.5  655.20  1191.2  654.70  1219.0  656.20  1270.2  659.10  1325.2
GR661.90  1419.6  661.90  1419.6
NC                          0.3     0.5
X1 50585                             25      25      25            .00
X1 50685      46 1372.00 1392.00     100     100     100            .00
GR660.20  1000.0  660.10  1080.0  659.20  1190.0  659.00  1221.0  656.80  1255.0
GR656.70  1290.0  656.20  1365.0  651.00  1372.0  650.00  1372.3  649.70  1372.5
GR649.30  1373.0  649.10  1373.5  649.00  1374.0  649.10  1374.5  649.30  1375.0
GR649.70  1375.5  650.00  1375.8  651.00  1376.0  651.00  1380.0  650.00  1380.3
GR649.70  1380.5  649.30  1381.0  649.10  1381.5  649.00  1382.0  649.10  1382.5
GR649.30  1383.0  649.70  1383.5  650.00  1383.8  651.00  1384.0  651.00  1388.0
GR650.00  1388.3  649.70  1388.5  649.30  1389.0  649.10  1389.5  649.00  1390.0
GR649.10  1390.5  649.30  1391.0  649.70  1391.5  650.00  1391.8  651.00  1392.0
GR656.20  1395.0  657.10  1398.0  658.60  1443.0  659.00  1478.0  659.30  1510.0
GR659.60  1610.0
X1 50690                             5       5       5             .00
X2
X3    10                                                    655.8   655.8
SC 3.024      .5     2.6              4              40     2.1   649.1   649.0
X1 50730                            40      40      40            .00
```

```
X2                    2   653.1   658.5
X3    10                                                  658.5   658.5
BT   -13  1000.0  660.20          1080.0  660.10          1190.0  659.20
BT        1221.0  659.00          1255.0  658.80          1290.0  658.80
BT        1365.0  658.60          1372.0  658.50          1398.0  658.50
BT        1443.0  658.60          1478.0  659.00          1510.0  659.30
BT        1610.0  659.60
X1 50735      19 1110.00 1142.90       5       5       5             .00
GR660.50   944.3  658.40   973.2  656.80  1000.4  656.70  1035.1  656.10  1110.0
GR658.80  1114.1  658.90  1115.2  653.10  1115.3  649.20  1115.4  649.30  1124.6
GR649.40  1129.9  649.50  1138.9  653.10  1139.1  659.00  1139.2  658.90  1139.9
GR656.10  1140.0  657.00  1142.9  658.50  1187.7  659.00  1222.9
NC                    .1      .3
X1 50785                              50      50      50            .00
NC.035  .035    .05
X1 51040      18 1042.80 1105.20     255     255     255            .00
GR660.10   964.1  658.30   986.1  657.20  1000.3  657.10  1006.8  656.00  1042.8
GR653.20  1051.9  651.30  1052.8  650.70  1057.0  650.20  1061.9  650.30  1069.9
GR651.20  1079.1  653.20  1082.0  654.40  1105.2  656.20  1194.8  657.20  1249.9
GR658.10  1309.1  659.70  1411.8  663.00  1519.8
X1 51365      23  945.00  999.80     325     325     325
X3    10                                                  655.4   655.4
GR658.70   745.1  657.80   839.9  657.20   933.0  656.60   945.0  655.90   964.4
GR656.20   964.5  656.20   965.9  653.30   965.9  648.90   966.0  649.10   969.9
GR649.00   974.0  649.00   975.0  649.10   978.9  649.20   983.1  653.20   983.1
GR656.20   983.2  656.20   984.4  656.00   984.4  656.60   999.8  656.30  1082.7
GR656.10  1129.9  658.00  1150.0  660.00  1550.0
SC 2.015      .5     2.6               6     8.5      60     8.1   649.5   649.1
X1 51425                              60      60      60
X2                    2   655.5   655.8

X3    10                                                  655.8   655.8
BT    -7      155     660             290     658             575     656
BT            620   655.8             640     656            1068     658
BT           1448     660
X1 51455       10     290     310      30      30      30
GR   660       40     658     157     656     215     656     241     656     290
GR   650      296     650     304     656     310     658     340   659.3     565
EJ
T1  ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3  HEC-1 100-YEAR 12-HOUR DURATION FLOWS USED
J1             3                   .0005       0       0       0
J2     2              -1
T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3      HEC-1 FLOWS USED: 50-YEAR 12-HOUR DURATION
J1             4       0       0   .0005       0       0       0
J2     3              -1
T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3      HEC-1 FLOWS USED: 25-YEAR 12-HOUR DURATION
J1             5                   .0005
J2     4              -1
T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
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T3       HEC-1 FLOWS USED: 10-YEAR 12-HOUR DURATION
J1              6                    .0005
J2      5               -1
T1       ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3       HEC-1 FLOWS USED:  5-YEAR 12-HOUR DURATION
J1              7                    .0005
J2      6               -1
T1       ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3       HEC-1 FLOWS USED:  2-YEAR 12-HOUR DURATION
J1              8                    .0005
J2      7               -1
ER
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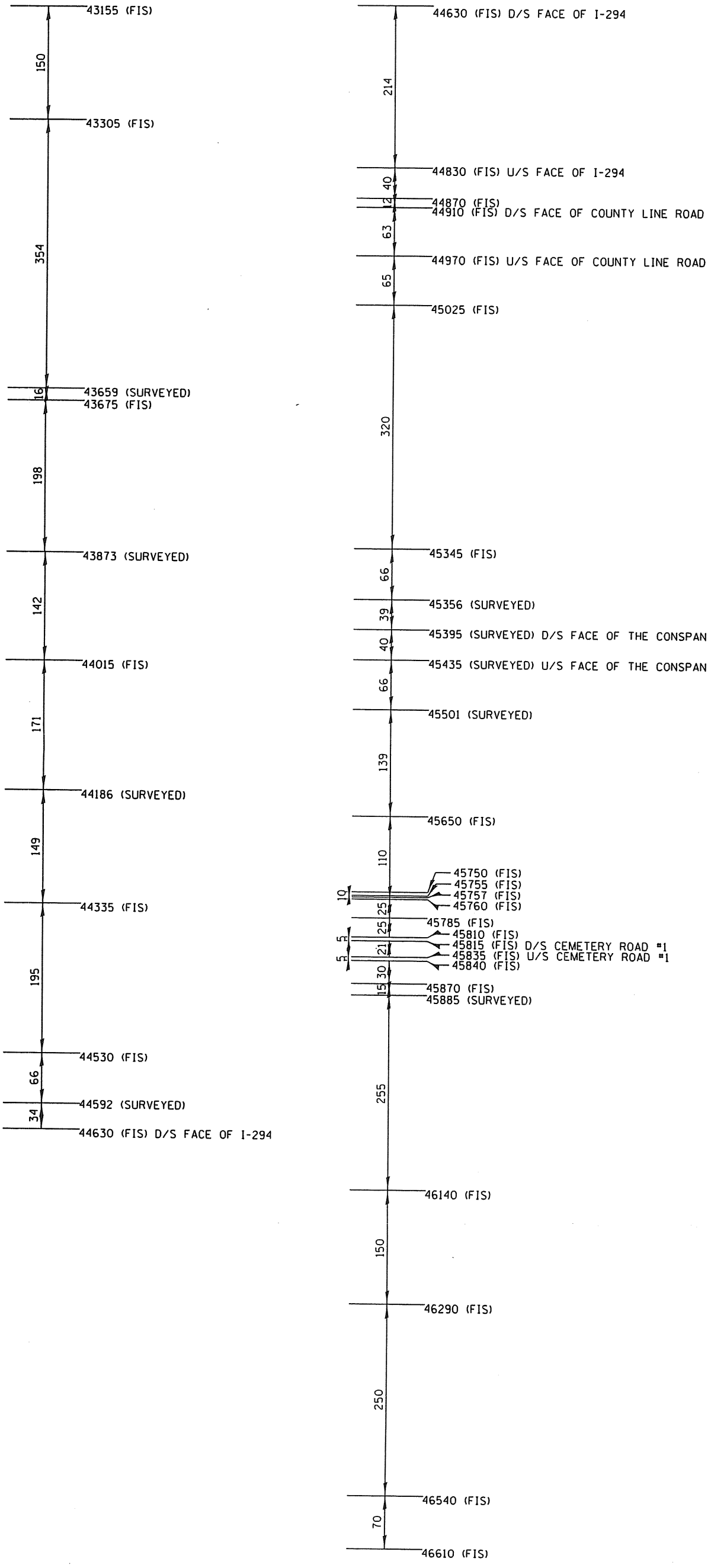
SECTION 8

BASELINE CONDITIONS ANALYSIS
CORRECTED BASELINE ANALYSIS

CROSS-SECTION LOCATION SCHEMATIC



SECTION 9

EXISTING CONDITIONS ANALYSIS

ELGIN O'HARE WEST BYPASS I-294 OVER ADDISON CREEK EXISTING VS CORRECTED

HEC-2 XSEC	Description	100-year WSEL (NAVD 88)					50-year WSEL (NAVD 88)					10-year WSEL (NAVD 88)				
		Regulatory (NAVD 88) (feet)	Corrected (NAVD 88) (feet)	Corrected - Regulatory (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)	Regulatory (NAVD 88) (feet)	Corrected (NAVD 88) (feet)	Corrected - Regulatory (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)	Regulatory (NAVD 88) (feet)	Corrected (NAVD 88) (feet)	Corrected - Regulatory (feet)	Existing (NAVD 88) (feet)	Existing - Corrected (feet)
43155	FIS	653.4	653.4	0.0	653.4	0.0	652.8	652.8	-0.3	652.8	0.0	651.5	651.5	0.0	651.5	0.0
43305	FIS	654.4	654.4	0.0	654.3	-0.1	653.7	653.7	0.0	653.6	-0.1	652.1	652.1	0.0	652.0	-0.1
43659	***Surveyed H2***				654.6					653.9					652.3	
43675	FIS	654.6	654.6	0.0	654.6	0.0	653.9	653.9	0.0	653.9	0.0	652.4	652.4	0.0	652.4	0.0
43873	***Surveyed H3***				654.6					653.9					652.4	
44015	FIS	654.6	654.6	0.0	654.7	0.1	654.0	654.0	0.0	654.0	0.0	652.5	652.5	0.0	652.5	0.0
44186	***Surveyed H4***				654.7					654.1					652.6	
44335	FIS	654.8	654.8	0.0	654.8	0.0	654.1	654.1	0.0	654.1	0.0	652.7	652.7	0.0	652.7	0.0
44530	FIS	654.8	654.8	0.0	654.9	0.1	654.2	654.2	0.0	654.2	0.0	652.8	652.8	0.0	652.8	0.0
44592	***Surveyed H5***				654.8					654.2					652.8	
44630	D/S I-294, (***H5***)	654.8	654.8	0.0	654.9	0.1	654.2	654.2	0.0	654.2	0.0	652.8	652.8	0.0	652.8	0.0
44830	U/S I-294, (***H6***)[3]	655.7	655.1	-0.6	655.1	0.0	654.2	654.2	0.0	654.3	0.0	652.8	652.8	0.0	652.9	0.0
44870	FIS (***H6***)[3]	655.7	655.3	-0.4	655.3	0.0	654.3	654.4	0.1	654.4	0.0	652.9	653.0	0.1	652.9	-0.1
44910	D/S County Line Rd, (***H6***)[3]	656.1	655.3	-0.8	655.3	0.0	654.4	654.4	0.0	654.4	0.0	653.0	653.0	0.0	652.9	-0.1
44970	U/S County Line Rd, (***H7***)[3]	657.6	657.6	0.0	657.6	0.0	656.6	656.6	0.0	656.5	0.0	653.9	653.8	-0.1	653.8	0.0
45025	FIS	657.6	657.6	0.0	657.6	0.0	656.7	656.7	0.0	656.7	0.0	653.9	653.9	0.0	653.9	0.0
45345	FIS	657.6	657.6	0.0	657.6	0.0	656.7	656.7	0.0	656.7	0.0	654.0	654.0	0.0	654.0	0.0
45356	***Surveyed***				657.6					656.7					654.0	
45395	D/S Industrial, ***surveyed***				657.6					656.7					654.0	
45435	U/S Industrial, ***surveyed***				657.6					656.7					654.0	
45501	***Surveyed H8***				657.7					656.8					654.1	
45650	FIS	657.6	657.6	0.0	657.7	0.1	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45750	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45755	D/S Concrete Dam, FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45757	U/S Concrete Dam, FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45760	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45785	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45810	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45840	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45870	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
45885	***Surveyed H11***				657.7					656.8					654.1	
46140	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
46290	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
46540	FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1
46610	D/S Cemetery Rd 2, FIS	657.6	657.7	0.1	657.7	0.0	656.8	656.8	0.0	656.8	0.0	654.2	654.2	0.0	654.1	-0.1

Updates to Corrected Baseline Model:

1. I-294 bridge length increased from 200 to 214 ft, opening decreased from 222 sf to 200 sf
2. Distance between I-294 and County Line Road reduced from 80 to 52 ft
3. Cross section 44830, 44870, 44910, and 44970 corrected with survey to remove 4 ft profile drop
4. County Line Road bridge points added on right bank to complete bridge
5. Cemetery Road bridge points added on right bank to complete bridge

Updates to Existing Conditions Model:

6. Survey cross-sections added
7. Surveyed bridges modified
8. Concrete Arch at Industrial Access Road added

ELGIN O'HARE WEST BYPASS I-294 OVER ADDISON CREEK EXISTING VS CORRECTED

HEC-2 XSEC	Description	100-year WSEL					50-year WSEL (NGVD 29)					10-year WSEL (NGVD 29)				
		Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Corrected - Regulatory (feet)	Existing (NGVD 29) (feet)	Existing - Corrected (feet)	Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Corrected - Regulatory (feet)	Existing (NGVD 29) (feet)	Existing - Corrected (feet)	Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Corrected - Regulatory (feet)	Existing (NGVD 29) (feet)	Existing - Corrected (feet)
43155	FIS	653.7	653.7	0.0	653.7	0.0	653.1	653.1	0.0	653.1	0.0	651.8	651.8	0.0	651.8	0.0
43305	FIS	654.7	654.7	0.0	654.6	-0.1	654.0	654.0	0.0	653.9	-0.1	652.4	652.4	0.0	652.3	-0.1
43659	***Surveyed H2***				654.9					654.2					652.6	
43675	FIS	654.9	654.9	0.0	654.9	0.0	654.2	654.2	0.0	654.2	0.0	652.7	652.7	0.0	652.7	0.0
43873	***Surveyed H3***				654.9					654.2					652.7	
44015	FIS	654.9	654.9	0.0	655.0	0.1	654.3	654.3	0.0	654.3	0.0	652.8	652.8	0.0	652.8	0.0
44186	***Surveyed H4***				655.0					654.4					652.9	
44335	FIS	655.1	655.1	0.0	655.1	0.0	654.4	654.4	0.0	654.4	0.0	653.0	653.0	0.0	653.0	0.0
44530	FIS	655.1	655.1	0.0	655.2	0.1	654.5	654.5	0.0	654.5	0.0	653.1	653.1	0.0	653.1	0.0
44592	***Surveyed H5***				655.1					654.5					653.1	
44630	D/S I-294, (***H5***)	655.1	655.1	0.0	655.2	0.1	654.5	654.5	0.0	654.5	0.0	653.1	653.1	0.0	653.1	0.0
44830	U/S I-294, (***H6***)[3]	656.0	655.4	-0.6	655.4	0.0	654.5	654.5	0.0	654.6	0.0	653.1	653.1	0.0	653.2	0.0
44870	FIS (***H6***)[3]	656.0	655.6	-0.4	655.6	0.0	654.6	654.7	0.1	654.7	0.0	653.2	653.3	0.1	653.2	-0.1
44910	D/S County Line Rd, (***H6***)[3]	656.4	655.6	-0.8	655.6	0.0	654.7	654.7	0.0	654.7	0.0	653.3	653.3	0.0	653.2	-0.1
44970	U/S County Line Rd, (***H7***)[3]	657.9	657.9	0.0	657.9	0.0	656.9	656.9	0.0	656.8	0.0	654.2	654.1	-0.1	654.1	0.0
45025	FIS	657.9	657.9	0.0	657.9	0.0	657.0	657.0	0.0	657.0	0.0	654.2	654.2	0.0	654.2	0.0
45345	FIS	657.9	657.9	0.0	657.9	0.0	657.0	657.0	0.0	657.0	0.0	654.3	654.3	0.0	654.3	0.0
45356	***Surveyed***				657.9					657.0					654.3	
45395	D/S Industrial, ***surveyed***				657.9					657.0					654.3	
45435	U/S Industrial, ***surveyed***				657.9					657.0					654.3	
45501	***Surveyed H8***				658.0					657.1					654.4	
45650	FIS	657.9	657.9	0.0	658.0	0.1	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45750	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45755	D/S Concrete Dam, FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45757	U/S Concrete Dam, FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45760	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45785	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45810	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45840	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45870	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
45885	***Surveyed H11***				658.0					657.1					654.4	
46140	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
46290	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
46540	FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1
46610	D/S Cemetery Rd 2, FIS	657.9	658.0	0.1	658.0	0.0	657.1	657.1	0.0	657.1	0.0	654.5	654.5	0.0	654.4	-0.1

Updates to Corrected Baseline Model:

1. I-294 bridge length increased from 200 to 214 ft, opening decreased from 222 sf to 200 sf
2. Distance between I-294 and County Line Road reduced from 80 to 52 ft
3. Cross section 44830, 44870, 44910, and 44970 corrected with survey to remove 4 ft profile drop
4. County Line Road bridge points added on right bank to complete bridge
5. Cemetery Road bridge points added on right bank to complete bridge

Updates to Existing Conditions Model:

6. Survey cross-sections added
7. Surveyed bridges modified
8. Concrete Arch at Industrial Access Road added

Elgin O'Hare West Bypass - Addison Creek

Existing Conditions Water Surface Elevation Comparison between Special Bridge (SB Card) and Special Culvert (SC Card)

HEC-2 XSEC	100-year WSEL		
	SPECIAL BRIDGE (SB) (feet)	SPECIAL CULVERT (SC) (feet)	Difference (feet)
43155	653.68	653.68	0.00
43305	654.61	654.61	0.00
43659	654.87	654.87	0.00
43675	654.90	654.90	0.00
43873	654.88	654.88	0.00
44015	654.98	654.98	0.00
44186	655.02	655.02	0.00
44335	655.08	655.08	0.00
44530	655.17	655.17	0.00
44592	655.09	655.09	0.00
44630	655.16	655.16	0.00
44830	655.40	655.47	0.07
44870	655.55	655.61	0.06
44910	655.56	655.62	0.06
44970	657.90	657.91	0.01
45025	657.92	657.94	0.02
45345	657.92	657.94	0.02
45356	657.93	657.95	0.02
45395	657.92	657.93	0.01
45435	657.93	657.94	0.01
45501	657.97	657.99	0.02
45650	657.97	657.99	0.02
45750	657.98	658.00	0.02
45755	657.98	658.00	0.02
45757	657.98	658.00	0.02
45760	657.98	658.00	0.02
45785	657.98	658.00	0.02
45810	657.98	658.00	0.02
45815	657.98	658.00	0.02
45835	657.98	658.00	0.02
45840	657.98	658.00	0.02
45870	657.98	658.00	0.02
45885	657.98	658.00	0.02
46140	657.98	658.00	0.02
46290	657.98	658.00	0.02
46540	657.98	658.00	0.02
46610	657.98	658.00	0.02

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1*****************************************                 **********************************
*****
 *  HEC-2 WATER SURFACE PROFILES            *             *  U.S. ARMY CORPS OF ENGINEERS
   *
 *                                          *             *  HYDROLOGIC ENGINEERING CENTER
   *
 *  Version   4.6.2;  May 1991              *             *  609 SECOND STREET, SUITE D
   *
 *                                          *             *  DAVIS, CALIFORNIA 95616-4687
   *
 *  RUN DATE    21MAY12    TIME   10:19:01  *             *          (916) 756-1104
   *
 *****************************************                 **********************************
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                                        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
1
    21MAY12      10:19:01                                                              PAGE    1


                                                                  THIS RUN EXECUTED 21MAY12    10:19:01
 ************************************
  HEC-2 WATER SURFACE PROFILES

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


     Existing Conditions model AdEx.HC2 for I-294 Analysis
     FIS XSEC at US face of County Line Road
 T1  ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2  500, 100, 50, 25, 10, 5, & 2-YEAR FREQUENCIES - DESIGN CONDITIONS
 T3  500-YEAR

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0         0         0         0         0    654.79

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       1                  -1


 J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38         1         43         21         22         53         54         4          7

 QT        7       1480       1189       1021        812        645        538        406
 NC     .035       .035      0.045         .1         .3
 X1    43155         28    1002.30    1065.20          0          0          0                  .00
 GR   660.80      774.2     661.00      805.4     661.30      857.1     661.00      874.2     660.60      913.2
 GR   663.50      946.1     664.90      973.1     666.90     1000.0     667.30     1002.3     661.50     1025.1
 GR   650.50     1025.8     650.50     1028.1     645.80     1028.2     644.60     1028.3     643.80     1032.9
 GR   643.80     1036.2     644.20     1040.3     644.80     1044.2     645.70     1044.3     650.30     1044.4
 GR   650.50     1047.4     661.60     1048.3     666.70     1065.2     666.60     1093.5     666.80     1121.4
 GR   667.00     1151.6     667.20     1180.2     666.70     1229.1

 X1    43305         22    1085.10    1159.90        170        130        150                  .00
 X3   10.
 GR   662.20       582.0     659.20      639.1     654.80      730.1     654.20      825.0     658.20      888.9
 GR   653.20      966.1     652.90      999.9     653.50     1007.8     657.70     1040.8     656.80     1066.1
 GR   655.00     1085.1     649.20     1095.1     646.80     1097.2     645.40     1104.0     645.50     1109.1
 GR   645.20     1114.1     646.80     1118.9     648.80     1120.2     648.60     1138.9     661.00     1159.9
 GR   664.70     1185.8     666.20     1209.5
   H2

 X1    43659         21    1238.30    1279.40        319        369        354                  .00
 X3   10.
 GR   656.30     1000.0     655.85     1047.0     655.58     1107.7     655.61     1173.8     655.75     1185.0
 GR   652.98     1196.9     650.60     1238.3     647.03     1240.0     646.64     1240.9     645.78     1252.0
 GR   646.66     1258.9     647.13     1260.3     649.82     1271.9     651.86     1279.4     651.42     1313.8
 GR   652.45     1348.3     648.30     1364.2     648.30     1367.4     652.30     1380.2     654.30     1385.4
 GR   656.30     1392.0
1
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X1    43675        24    1128.50    1175.80         16         16         16                .00
X3    10.
GR    661.20      716.3    660.20      752.2     658.40      812.3     655.80      897.1     656.40      971.2
GR    653.50      984.8    655.80      992.1     655.70     1000.0     654.10     1015.0     653.30     1094.9
GR    653.00     1128.5    648.40     1142.1     647.10     1144.1     646.20     1147.1     646.20     1153.2
GR    646.30     1159.2    647.10     1163.2     648.80     1165.9     651.50     1175.8     650.80     1265.4
GR    650.10     1305.0    648.50     1323.9     650.50     1347.2     658.90     1363.9

QT         7       1370       951        802        641        517        437        332
  H3
X1    43873        27    1435.90    1460.20        186        215        198                .00
X3    10.
GR    658.30       1000    656.30     1014.7     656.45     1281.9     655.92     1293.7     655.89     1310.4
GR    655.71     1333.5    655.90     1358.4     656.02     1380.5     655.97     1391.3     655.63     1403.4
GR    655.21     1415.2    649.18     1430.7     649.47     1435.9     647.29     1439.2     646.38     1440.0
GR    645.11     1449.9    646.10     1458.9     649.69     1460.2     651.31     1480.9     653.48     1489.9
GR    654.92     1502.1    656.10     1509.5     656.25     1533.9     657.63     1579.5     658.22     1622.0
GR    659.35     1649.7    662.30     1811.0

X1    44015        20    1086.20    1163.20        134        155        142                .00
GR      665       923     654.70      923.0     654.50      966.0     653.80     1000.1     653.10     1023.9
GR    653.20     1056.8    652.30     1086.2     648.70     1097.0     648.50     1103.4     647.20     1105.2
GR    645.50     1109.1    645.20     1114.2     645.30     1120.0     647.10     1123.9     649.20     1126.1
GR    649.20     1134.1    656.60     1163.2     657.90     1230.0     658.50     1284.0     658.40     1335.9
  H4

X1    44186        19    1204.70    1260.50        168        199        171                .00
GR      665      920.2    656.30     1000.0     654.83     1121.8     654.77     1165.8     653.49     1185.9
GR    651.84     1204.7    650.32     1213.3     647.85     1218.7     647.69     1225.4     647.22     1226.2
GR    646.29     1228.0    646.04     1235.2     648.09     1244.2     648.63     1245.4     649.06     1247.7
GR    652.35     1260.5    652.83     1268.6     657.11     1283.5     656.30     1500.0

X1    44335        17    1131.10    1165.00        147        156        149                .00
GR      665      920.2    656.10      920.2     655.80      963.2     655.20      999.8     655.10     1035.1
GR    654.70     1073.9    654.00     1104.0     649.30     1122.9     648.90     1131.1     647.30     1132.9
GR    646.90     1135.9    646.90     1143.0     646.80     1151.1     647.40     1153.0     651.30     1165.0
GR    652.70     1177.0    657.40     1196.0

X1    44530                                        195        195        195                .00

NC      .035       .035       .04        0.3        0.5
  H5
X1    44592        23    1117.10    1140.20         66         66         66                .00
X3       10                                                                      657.50     657.50
GR    666.90      665.0    659.80     1000.0     659.42     1016.8     657.67     1046.7     654.23     1081.9
GR    650.27     1114.6    647.55     1117.1     645.65     1118.2     645.65     1139.2     647.56     1140.2
GR    649.98     1145.0    650.69     1155.8     655.67     1177.6     657.99     1187.7     657.99     1189.7
GR    658.19     1208.9    658.32     1235.4     657.59     1266.9     657.67     1320.9     657.62     1368.4
GR    657.50     1415.1    658.35     1448.7     658.40     1550.0
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        **TRI-STATE TOLLWAY** survey sta 312+66, U/S H5 (ss. 312+99.93)
X1    44630        23    1117.10    1140.20         34         34         34                .00
X3       10                                                                      660.00     658.50
GR    666.90      665.0    659.80     1000.0     659.42     1016.8     657.67     1046.7     654.23     1081.9
GR    650.27     1114.6    647.55     1117.1     645.15     1118.2     645.15     1139.2     647.56     1140.2
GR    649.98     1145.0    650.69     1155.8     655.67     1177.6     657.99     1187.7     657.99     1189.7
GR    658.19     1208.9    658.32     1235.4     657.59     1266.9     657.67     1320.9     657.62     1368.4
GR    657.50     1415.1    658.35     1448.7     658.40     1550.0

SB      1.25        1.6        2.6         .0       21.0       1.00      200.0        .00      645.3     645.15
X1    44830        16    1097.7     1118.7        214        214        214                .00
X2                            1     655.30     658.50
X3       10                                                                      660.00     658.50
X4        2     660.30      807.4     658.30      918.2
BT      -11.       596.      667.1                 708.1      665.1                870.       663.
BT              1000.      661.1                1135.      659.8               1225.      659.
BT              1320.      658.6                1420.      658.5               1519.      658.5
BT              1641.2     658.5                1693.2     660.3
GR    656.30     1000.0    655.78     1009.7     654.06     1069.3     651.16     1087.5     647.85     1093.5
GR    645.30     1097.7    645.30     1118.7     647.37     1122.9     650.98     1127.2     651.46     1149.1
GR    651.32     1185.3    652.30     1280.5     654.30     1354.0     656.30     1504.0     658.30     1641.2
GR    660.30     1693.2

NC      .03        .03        .04
  H6
X1    44870        16     1095.0     1121.0         40         40         40                .00
X3       10                                                                      657.53     657.46
X4        2     660.30      807.4     658.30      918.2
GR    656.30     1000.0    655.78     1009.7     654.06     1069.3     651.16     1087.5     647.85     1093.5
GR    645.71     1095.0    645.71     1121.0     647.37     1122.9     650.98     1127.2     651.46     1149.1
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 GR   651.32     1185.3     652.30     1280.5     654.30     1354.0     656.30     1504.0     658.30     1641.2
 GR   660.30     1693.2

        **COUNTY LINE ROAD** survey sta 310+00, U/S H6 (ss. 310+12.46)
 X1    44910                                      12         12         12                    .00
 X3       10                                                                  657.53     657.46

 SC    3.012        0.5        2.7          0          6                    63        1.1   646.75     645.71
 NC      .03        .03        .05
 X1    44970         20    1115.00    1141.00         63         63         63
 X2                             2                 657.50
 X3       10                                                                  657.53     657.46
 BT      -11      807.4     660.30                  840.0     660.30                    1013.0     658.50
 BT               1062.0     657.97                 1112.3     657.53                    1133.0     657.46
 BT               1152.0     657.49                 1200.0     657.54                    1250.0     657.54
 BT               1560.0     658.30                 1693.2     658.30
 GR   660.30      807.4     659.71      840.0      658.30      918.2     658.30     1000.0     657.96     1013.0
 GR   656.68     1062.0     656.47     1069.9      652.38     1104.5     648.87     1112.3     646.75     1115.0
 GR   646.75     1133.0     646.75     1141.0      648.68     1143.4     655.44     1152.0     654.92     1189.7
 GR   655.32     1200.0     657.26     1250.0      658.30     1277.0     659.66     1560.0     660.30     1693.2
1
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 NC      .03        .03        .05         .1          .3
 X1    45025         21    1043.30    1086.30          5         130         65                    .00
 GR   660.00       900.     657.90      955.9      657.50      971.1     657.30      974.8     654.60      981.2
 GR   655.1        987.8     655.10     1000.1      654.30     1005.9     651.70     1024.1     651.00     1043.3
 GR   648.20      1047.2     648.10     1053.2      648.00     1061.2     648.10     1070.2     648.30     1074.2
 GR   648.80      1080.3     653.20     1086.3      654.40     1138.3     652.80     1203.2     654.10     1266.3
 GR   659.10      1350.1

 X1    45345         20    1101.10    1134.20         310         330         320                    .00
 GR   662.90       898.8     662.40      913.9      661.90      917.2     659.60      923.0     661.10      929.9
 GR   659.20       948.9     655.30     1000.1      653.10     1059.0     652.40     1101.1     649.60     1107.5
 GR   648.80      1111.1     648.20     1114.0      647.80     1122.2     648.10     1124.0     648.80     1130.1
 GR   649.60      1132.8     651.60     1134.2      658.70     1252.9     660.50     1327.9     660.50     1395.9

 NC                                       0.3         0.5
 *H   7.5
 X1    45356         21    1152.50    1270.30          21          21         66                    .00
 GR   663.30      1000.0     660.65     1014.0      659.40     1029.8     654.29     1061.5     652.79     1107.7
 GR   651.73      1152.5     650.30     1174.5      649.15     1178.0     646.11     1189.5     644.27     1204.1
 GR   644.87      1211.4     645.85     1225.5      646.76     1237.7     649.14     1239.9     650.41     1247.7
 GR   651.45      1270.3     654.63     1301.9      657.79     1319.5     659.60     1327.8     661.06     1331.2
 GR   663.80      1404.0
   D/S CONSPAN H7.6

 X1    45395         28    1187.40    1235.40          39          39         39                    .00
 X2
 X3       10                                                                  661.00     661.00
 BT      -28     1000.0     663.30     663.30      1014.0     662.00     660.65     1052.0     662.00     655.77
 BT              1080.9     662.00     653.66      1098.7     662.00     653.08     1143.5     662.53     651.94
 BT              1176.1     662.20     649.77      1180.0     662.14     648.62     1187.0     662.03     646.67
 BT              1187.4     662.03     646.67     1187.42     662.03     654.11     1188.36    662.02     655.74
 BT             1190.94     661.99     656.85      1196.0     661.94     657.68     1197.2     661.93     657.88
 BT             1200.94     661.89     658.49      1211.4     661.79     659.04     1221.86    661.74     658.49
 BT              1229.1     661.70     657.30      1231.6     661.69     656.89     1231.86    661.69     656.85
 BT             1234.44     661.67     655.74     1235.38     661.64     654.11     1235.4     661.64     646.52
 BT              1251.3     661.23     650.58      1289.9     660.72     653.41     1323.8     660.87     658.73
 BT              1404.0     663.80     663.80
 GR   663.30     1000.0     660.65     1014.0      655.77     1052.0     653.66     1080.9     653.08     1098.7
 GR   651.94     1143.5     649.77     1176.1      648.62     1180.0     646.77     1187.0     646.67     1187.4
 GR   646.66    1187.42     646.41    1188.36      645.93    1190.94     645.29     1196.0     645.14     1197.2
 GR   644.67    1200.94     644.87     1211.4      645.60    1221.86     646.12     1229.1     646.31     1231.6
 GR   646.32    1231.86     646.52    1234.44      646.52    1235.38     646.52     1235.4     650.58     1251.3
 GR   653.41     1289.9     658.73     1323.8      663.80     1404.0
   U/S CONSPAN H7.7

 X1    45435                                      40          40         40                    .00
 X2                                                                          1
 X3       10                                                                  661.00     661.00
1
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 NC                                     .04         0.1         0.3
   H8
 X1    45501         18    1196.00    1231.60          66          66         66                    .00
 GR   663.30      1000.0     660.65     1014.0      658.56     1052.0     652.11     1080.9     651.96     1098.7
 GR   651.94      1143.5     650.90     1176.1      650.01     1196.0     648.19     1197.2     647.28     1211.4
 GR   648.04      1229.1     650.34     1231.6      652.37     1251.3     653.09     1289.8     652.01     1323.8
 GR   656.96      1360.7     656.59     1382.9      663.80     1404.0

 X1    45650         18    1046.80    1082.80         129         144        139                    .00
 GR   661.00       868.7     656.40      940.7      651.90      999.6     652.10     1046.8     649.70     1049.9
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 GR   648.60     1054.9     648.40     1057.9     648.90     1064.8     648.80     1070.7     649.20     1077.1
 GR   649.80     1079.9     652.10     1082.8     652.30     1099.7     655.30     1109.9     653.70     1116.8
 GR   655.00     1173.6     654.90     1267.7     661.40     1351.5

 QT        7        820         96         91         83         76         70         62
 NC                                      0.3        0.5
 X1    45750         23    1107.00    1136.00        100        100        100                   .00
 X3       10                                                                        648.00     648.00
 GR   661.00      869.0     654.20     1000.0     654.20     1107.0     652.75     1109.0     651.00     1110.0
 GR   649.50     1112.0     648.90     1118.5     647.95     1118.8     647.80     1119.0     647.50     1119.5
 GR   647.40     1120.0     647.50     1120.5     647.80     1121.0     647.95     1121.3     648.90     1121.5
 GR   650.20     1129.0     651.00     1130.0     653.00     1134.0     654.50     1136.0     655.30     1146.0
 GR   655.60     1177.0     659.80     1268.0     662.00     1352.0

 NC                         .015
 X1    45755                                          5          5          5                   .00
 BT      -23      869.0     661.00     661.00     1000.0     654.20     654.20     1107.0     654.20     654.20
 BT              1109.0     652.75     652.75     1110.0     651.00     651.00     1112.0     651.00     649.50
 BT              1118.5     651.00     648.90     1118.8     651.00     649.85     1119.0     651.00     650.00
 BT              1119.5     651.00     650.30     1120.0     651.00     650.40     1120.5     651.00     650.30
 BT              1121.0     651.00     650.00     1121.3     651.00     649.85     1121.5     651.00     648.90
 BT              1129.0     651.00     650.20     1130.0     651.00     651.00     1134.0     653.00     653.00
 BT              1136.0     654.50     654.50     1146.0     655.30     655.30     1177.0     655.60     655.60
 BT              1268.0     659.80     659.80     1352.0     662.00     662.00

 X1    45757                                          2          2          2                   .00
 X2                               0        .00        .00                   1

 NC                         .05
 X1    45760                                          3          3          3                   .00
 X3       10                                                                        651.00     651.00

 X1    45785                                         25         25         25                   .00

 NC                                      .3         .5
   use H9
 X1    45810         24     1089.0     1103.0         25         25         25                   .00
 X3       10                                                                        653.90     653.90
 GR   660.70      866.0     658.30      903.4     653.89     1031.2     655.76     1082.0     655.77     1082.4
 GR   657.85     1085.5     646.14     1088.99     646.14     1089.0     646.14     1089.1     646.14     1090.0
 GR   646.14     1092.0     646.14     1096.0     646.14     1100.0     646.14     1102.0     646.14     1102.9
 GR   646.14     1103.0     646.14     1103.01     657.92     1103.9     657.70     1106.0     656.67     1116.0
 GR   656.65     1116.2     654.42     1137.7     658.30     1379.4     669.30     1480.2
1
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 NC                         .015
   H9
 X1    45815                                          5          5          5                   .00
 X2
 X3       10                                                                        653.90     653.90
 BT      -24      866.0     660.70     660.70      903.4     658.30     658.30     1031.2     653.89     653.89
 BT              1082.0     655.76     655.76     1082.4     658.00     655.77     1085.5     658.00     657.85
 BT             1088.99     658.00     646.14     1089.0     658.00     651.00     1089.1     658.00     651.50
 BT              1090.0     658.00     652.30     1092.0     658.00     653.00     1096.0     658.00     653.50
 BT              1100.0     658.00     653.00     1102.0     658.00     652.30     1102.9     658.00     651.50
 BT              1103.0     658.00     651.00     1103.01    658.00     646.14     1103.9     658.00     657.92
 BT              1106.0     658.00     647.50     1116.0     658.00     647.50     1116.2     654.20     654.20
 BT              1137.7     654.42     654.42     1379.4     658.30     658.30     1480.2     669.30     669.30
   H10 (use H9 for bridge calcs)

 X1    45835                                         21         21         21                   .00
 X2                                                                        1
 X3       10                                                                        653.90     653.90

 NC     .035       .035       .05
 X1    45840         25     1081.90     1115.80          5          5          5                   .00
 X3       10                                                                        654.20     654.20
 GR   659.90      851.7     660.80      865.8     656.00      929.1     654.70      975.8     654.00     1000.1
 GR   654.10     1010.9     654.00     1059.9     654.10     1081.9     651.00     1084.8     648.40     1087.8
 GR   647.70     1089.0     647.10     1091.9     646.90     1095.9     646.90     1100.0     647.30     1101.9
 GR   648.00     1103.7     649.10     1105.9     651.00     1105.9     654.80     1115.8     654.60     1143.0
 GR   655.20     1222.8     655.50     1242.5     655.90     1336.5     656.50     1376.6     659.20     1478.8

 NC      .03        .03        .04         .1         .3
 X1    45870                                         30         30         30                   .00
   H11

 X1    45885         10     1204.30     1234.30         15         15         15                   .00
 GR   658.30     1000.0     653.88     1161.7     653.11     1204.3     650.75     1207.7     646.84     1211.6
 GR   646.84     1225.6     651.50     1229.8     654.38     1234.3     655.64     1273.1     658.30     1546.0

 X1    46140         28     1089.70     1191.70        255        255        255                   .00
 GR   660.00      741.0     660.00      742.0     660.00      743.0     660.00      744.0     660.00      745.0
 GR   655.90      845.8     653.90      898.7     652.40      950.9     652.20      967.6     653.00     1000.0
 GR   653.90     1034.8     652.30     1089.7     650.20     1091.8     649.20     1091.9     648.20     1101.9
```

```
 GR   647.90     1113.9     648.00     1121.9     647.80     1132.9     647.50     1146.7     647.60     1153.9
 GR   648.00     1169.7     648.10     1178.7     649.40     1188.7     650.10     1191.0     652.40     1191.7
 GR   654.30     1286.4     654.90     1387.7     659.00     1492.4

 X1    46290         24    1135.20    1467.80        150        150        150                   .00
 GR   659.00      839.0     653.90      995.3     653.80     1000.0     653.70     1014.4     654.70     1042.5
 GR   654.00     1088.4     655.80     1126.4     652.50     1135.2     650.80     1136.9     649.90     1138.5
 GR   648.60     1164.3     648.90     1199.5     648.70     1232.5     648.70     1267.5     648.30     1296.2
 GR   648.00     1332.3     647.70     1371.4     647.80     1404.3     647.90     1427.2     648.50     1454.6
 GR   650.90     1466.5     652.30     1467.8     656.70     1532.5     660.10     1582.1
1
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 NC                                                0.3        0.5
 X1    46540         23    1163.30    1359.10        250        250        250                   .00
 GR   660.00      741.0     660.00      742.0     660.00      743.0     660.00      744.0     660.00      745.0
 GR   654.90     1000.0     654.90     1163.3     650.80     1173.3     650.00     1174.3     648.20     1190.4
 GR   648.50     1202.2     648.90     1220.3     648.70     1245.2     648.70     1275.2     648.60     1305.3
 GR   648.80     1325.3     649.40     1340.1     650.00     1350.2     650.90     1355.3     656.10     1359.1
 GR   656.80     1410.7     657.30     1496.1     660.00     1618.0

 NC      .03        .03        .04
 X1    46610         23    1204.00    1235.80         70         70         70                   .00
 X3    10.                                                                  654.8      654.8
 GR   660.00      801.0     660.00      802.0     660.00      803.0     660.00      804.0     660.00      805.0
 GR   654.90     1000.0     654.20     1062.1     654.70     1141.8     654.60     1204.0     653.10     1208.0
 GR   651.30     1209.1     649.60     1209.2     649.00     1211.1     648.60     1215.0     648.40     1219.0
 GR   648.20     1223.0     648.00     1226.9     648.80     1229.0     651.10     1229.8     652.70     1231.0
 GR   655.60     1235.8     655.90     1305.0     659.40     1440.4
1
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     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 43155.000
  43155.000     10.99     654.79        .00     654.79     655.67        .88        .00        .00     667.30
     1480.0        .0     1480.0         .0         .0      197.0         .0         .0         .0     666.70
        .00        .00       7.51        .00        .000       .045       .000       .000     643.80    1025.53
    .006460         0.         0.         0.          0          0          0        .00      22.22    1047.75


 *SECNO 43305.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.00


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000     10.64     655.84        .00        .00     655.91        .06        .16        .08     655.00
     1480.0     425.6     1054.4         .0      354.5      461.2         .0        1.8         .6     661.00
        .02       1.20       2.29        .00        .035       .045       .000       .000     645.20     708.55
    .000404       170.       150.       130.          2          0          0        .00     318.51    1151.16


 *SECNO 43659.000

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

  43659.000     10.18     655.96        .00        .00     655.99        .03        .08        .00     650.60
     1480.0     254.6      517.7      707.7      233.9      333.6      491.4        9.3        3.2     651.86
        .09       1.09       1.55       1.44        .035       .045       .035       .000     645.78    1035.74
    .000149       319.       354.       369.          2          0          0        .00     355.13    1390.87


 *SECNO 43675.000
1
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     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

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

43675.000	9.78	655.98	.00	.00	655.99	.01	.00	.00	653.00
1480.0	180.6	331.1	968.2	320.3	350.4	957.2	9.8	3.4	651.50
.09	.56	.95	1.01	.035	.045	.035	.000	646.20	891.53
.000060	16.	16.	16.	1	0	0	.00	411.53	1358.08

*SECNO 43873.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .33

43873.000	10.82	655.93	.00	.00	656.05	.12	.03	.03	649.47
1370.0	241.7	708.4	419.9	106.9	236.5	168.7	14.8	4.7	649.69
.12	2.26	3.00	2.49	.035	.045	.035	.000	645.11	1293.39
.000479	186.	198.	215.	2	0	0	.00	187.12	1508.46

*SECNO 44015.000

44015.000	10.86	656.06	.00	.00	656.11	.04	.05	.01	652.30
1370.0	495.0	875.0	.0	383.8	481.4	.0	17.0	5.4	656.60
.14	1.29	1.82	.00	.035	.045	.000	.000	645.20	923.00
.000269	134.	142.	155.	2	0	0	.00	238.09	1161.09

*SECNO 44186.000

44186.000	10.06	656.10	.00	.00	656.17	.08	.06	.01	651.84
1370.0	280.6	1011.2	78.2	227.5	408.3	47.0	20.1	6.4	652.35
.16	1.23	2.48	1.66	.035	.045	.035	.000	646.04	1016.89
.000413	168.	171.	199.	2	0	0	.00	263.08	1279.97

*SECNO 44335.000

44335.000	9.36	656.16	.00	.00	656.23	.07	.06	.00	648.90
1370.0	519.4	717.6	133.0	313.9	281.5	73.9	22.4	7.3	651.30
.18	1.65	2.55	1.80	.035	.045	.035	.000	646.80	920.20
.000373	147.	149.	156.	1	0	0	.00	270.76	1190.96

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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 44530.000

44530.000	9.43	656.23	.00	.00	656.30	.07	.07	.00	648.90
1370.0	530.3	705.9	133.8	331.2	284.3	76.1	25.4	8.5	651.30
.21	1.60	2.48	1.76	.035	.045	.035	.000	646.80	920.20
.000349	195.	195.	195.	0	0	0	.00	271.09	1191.29

CCHV= .300 CEHV= .500
*SECNO 44592.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

44592.000	10.40	656.05	.00	.00	656.56	.51	.04	.22	647.55
1370.0	.0	1370.0	.0	.0	238.3	.0	26.1	8.7	647.56
.21	.00	5.75	.00	.000	.040	.000	.000	645.65	1117.10
.001208	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	10.45	656.10	.00	.00	656.61	.51	.04	.00	647.55
1370.0	.0	1370.0	.0	.0	239.1	.0	26.3	8.7	647.56

.21	.00	5.73	.00	.000	.040	.000	.000	645.65	1117.10
.001194	34.	34.	34.	1	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
PRESSURE FLOW

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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

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
657.26	656.78	.07	0.	1370.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	10.91	656.71	.00	.00	657.26	.56	.66	.00	645.80
1370.0	.0	1370.0	.0	.0	229.1	.0	27.5	8.8	645.80
.22	.00	5.98	.00	.000	.040	.000	.000	645.80	1097.70
.001071	214.	214.	214.	2	0	0	.00	21.00	1118.70

*SECNO 44870.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	11.31	657.02	.00	.00	657.36	.34	.03	.07	645.71
1370.0	.0	1370.0	.0	.0	294.1	.0	27.7	8.9	645.71
.22	.00	4.66	.00	.000	.040	.000	.000	645.71	1095.00
.000619	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	11.32	657.03	.00	.00	657.37	.34	.01	.00	645.71
1370.0	.0	1370.0	.0	.0	294.4	.0	27.8	8.9	645.71
.23	.00	4.65	.00	.000	.040	.000	.000	645.71	1095.00
.000617	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 658.43

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.23

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
661.10	663.73	1.06	733.	626.	1.700	84.8	657.50	674.

```
 44970.000     11.65    658.40       .00       .00    658.43       .03      1.06       .00    646.75
    1370.0     421.1     514.7     434.3     305.1     302.8     357.9      28.7       9.2    646.75
       .24      1.38      1.70      1.21      .030      .050      .030      .000    646.75    912.91
   .000124       63.       63.       63.         2         0         0       .00    383.94   1296.85


CCHV=     .100 CEHV=     .300
*SECNO 45025.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.96

 45025.000     10.43    658.43       .00       .00    658.44       .01       .00       .00    651.00
    1370.0     292.5     309.6     767.9     354.5     417.9    1023.1      31.3       9.8    653.20
       .27       .83       .74       .75      .030      .050      .030      .000    648.00    942.06
   .000032        5.       65.      130.         0         0         0       .00    396.65   1338.71


*SECNO 45345.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .66

 45345.000     10.63    658.43       .00       .00    658.45       .02       .02       .00    652.40
    1370.0     646.0     343.2     380.8     554.4     311.2     391.4      42.6      12.4    651.60
       .35      1.17      1.10       .97      .030      .050      .030      .000    647.80    958.84
   .000075       310.      320.      330.         1         0         0       .00    289.76   1248.60


CCHV=     .300 CEHV=     .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H     7.5000      .0000      .0000      .0000      .0000      .0000      .0000      .0000      .0000      .0000
*SECNO 45356.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.77

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    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


 45356.000     14.18    658.45       .00       .00    658.46       .01       .00       .00    651.73
    1370.0     406.5     819.9     143.6     557.1    1206.2     211.1      44.2      12.6    651.45
       .36       .73       .68       .68      .030      .050      .030      .000    644.27   1035.73
   .000024        21.       66.       21.         1         0         0       .00    286.77   1322.50


*SECNO 45395.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .22


3370 NORMAL BRIDGE, NRD=  28 MIN ELTRD=   660.72 MAX ELLC=   659.04


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       661.00 ELREA=       661.00

 45395.000     13.75    658.42       .00       .00    658.50       .08       .00       .04    646.67
    1370.0        .0    1370.0        .0        .0     588.9        .0      45.3      12.8    646.52
       .37       .00      2.33       .00      .000      .050      .000      .000    644.67   1187.40
   .000515        39.       39.       39.         2         0         0   -189.62     48.00   1235.40


*SECNO 45435.000

3370 NORMAL BRIDGE, NRD=  28 MIN ELTRD=   660.72 MAX ELLC=   659.04


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       661.00 ELREA=       661.00

 45435.000     13.77    658.44       .00       .00    658.52       .08       .02       .00    646.67
    1370.0        .0    1370.0        .0        .0     589.1        .0      45.9      12.8    646.52
       .37       .00      2.33       .00      .000      .050      .000      .000    644.67   1187.40
   .000516        40.       40.       40.         0         0         0   -190.08     48.00   1235.40


CCHV=     .100 CEHV=     .300
*SECNO 45501.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.60

 45501.000     11.24    658.52       .00       .00    658.53       .01       .00       .01    650.01
    1370.0     629.8     268.3     472.0     894.3     380.1     760.7      47.8      13.1    650.34
```

.40	.70	.71	.62	.030	.040	.030	.000	647.28	1052.16
.000016	66.	66.	66.	2	0	0	.00	336.39	1388.56

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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 45650.000

45650.000	10.12	658.52	.00	.00	658.53	.01	.00	.00	652.10
1370.0	496.9	295.3	577.8	601.0	334.0	841.1	53.8	14.3	652.10
.45	.83	.88	.69	.030	.040	.030	.000	648.40	907.44
.000031	129.	139.	144.	2	0	0	.00	406.99	1314.43

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .52

45750.000	11.13	658.53	.00	.00	658.54	.01	.00	.00	654.20
820.0	485.5	205.5	129.0	643.4	237.2	224.5	57.1	15.1	654.50
.48	.75	.87	.57	.030	.040	.030	.000	647.40	916.64
.000041	100.	100.	100.	0	0	0	.00	323.78	1240.42

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	11.12	658.52	.00	.00	658.54	.02	.00	.00	654.20
820.0	394.1	321.1	104.8	643.7	209.9	224.7	57.3	15.1	654.50
.49	.61	1.53	.47	.030	.015	.030	.000	647.40	916.60
.000027	5.	5.	5.	0	0	0	-27.32	323.86	1240.46

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	11.12	658.52	.00	.00	658.54	.02	.00	.00	654.20
820.0	394.0	321.3	104.7	642.9	209.8	224.3	57.3	15.2	654.50
.49	.61	1.53	.47	.030	.015	.030	.000	647.40	916.68
.000027	2.	2.	2.	0	0	0	-27.32	323.69	1240.37

*SECNO 45760.000

45760.000	11.14	658.54	.00	.00	658.55	.01	.00	.00	654.20
820.0	511.1	172.9	135.9	644.0	237.3	224.8	57.4	15.2	654.50
.49	.79	.73	.60	.030	.050	.030	.000	647.40	916.57
.000045	3.	3.	3.	1	0	0	.00	323.92	1240.50

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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 45785.000

45785.000	11.14	658.54	.00	.00	658.55	.01	.00	.00	654.20
820.0	511.2	172.7	136.1	645.3	237.5	225.5	58.0	15.4	654.50
.50	.79	.73	.60	.030	.050	.030	.000	647.40	916.44
.000045	25.	25.	25.	0	0	0	.00	324.20	1240.64

CCHV= .300 CEHV= .500
*SECNO 45810.000

45810.000	12.40	658.54	.00	.00	658.55	.01	.00	.00	646.14
820.0	327.5	171.9	320.6	530.8	173.6	612.8	58.7	15.6	646.14
.51	.62	.99	.52	.030	.050	.030	.000	646.14	899.68
.000039	25.	25.	25.	0	0	0	.00	481.91	1381.59

*SECNO 45815.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	12.40	658.54	.00	.00	658.55	.01	.00	.00	646.14
820.0	348.5	122.0	349.6	506.1	101.9	599.5	58.9	15.6	646.14
.51	.69	1.20	.58	.030	.015	.030	.000	646.14	899.65
.000047	5.	5.	5.	0	0	0	-110.68	481.96	1381.61

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	12.40	658.54	.00	.00	658.55	.01	.00	.00	646.14
820.0	348.5	121.9	349.6	506.2	101.9	599.6	59.5	15.9	646.14
.52	.69	1.20	.58	.030	.015	.030	.000	646.14	899.64
.000047	21.	21.	21.	0	0	0	-110.68	481.96	1381.61

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

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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
45840.000	11.65	658.55	.00	.00	658.55	.00	.00	.00	654.10
820.0	310.9	155.6	353.4	660.9	301.9	897.8	59.6	15.9	654.80
.52	.47	.52	.39	.035	.050	.035	.000	646.90	895.59
.000020	5.	5.	5.	0	0	0	.00	558.28	1453.87

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	11.65	658.55	.00	.00	658.55	.00	.00	.00	654.10
820.0	306.7	164.2	349.1	662.4	302.1	900.5	60.9	16.3	654.80
.54	.46	.54	.39	.030	.040	.030	.000	646.90	895.48
.000014	30.	30.	30.	0	0	0	.00	558.70	1454.18

*SECNO 45885.000
3280 CROSS SECTION 45885.00 EXTENDED .25 FEET

45885.000	11.71	658.55	.00	.00	658.55	.01	.00	.00	653.11
820.0	354.3	230.0	235.6	612.9	289.1	568.3	61.5	16.5	654.38
.55	.58	.80	.41	.030	.040	.030	.000	646.84	1000.00
.000028	15.	15.	15.	0	0	0	.00	546.00	1546.00

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.28

46140.000	11.05	658.55	.00	.00	658.56	.00	.00	.00	652.30
820.0	308.1	294.3	217.6	1336.0	1060.3	1063.5	75.9	20.2	652.40
.84	.23	.28	.20	.030	.040	.030	.000	647.50	780.58
.000003	255.	255.	255.	0	0	0	.00	700.40	1480.98

*SECNO 46290.000

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

46290.000	10.85	658.55	.00	.00	658.56	.00	.00	.00	652.50
820.0	118.7	662.3	39.0	916.8	3359.0	287.6	89.7	22.6	652.30
1.07	.13	.20	.14	.030	.040	.030	.000	647.70	852.59
.000001	150.	150.	150.	0	0	0	.00	706.99	1559.58

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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= .300 CEHV= .500

*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .58

46540.000	10.36	658.56	.00	.00	658.56	.00	.00	.00	654.90
820.0	188.1	595.3	36.7	931.0	1840.0	272.8	111.6	26.7	656.10
1.31	.20	.32	.13	.030	.040	.030	.000	648.20	817.23
.000004	250.	250.	250.	0	0	0	.00	735.55	1552.78

*SECNO 46610.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .44

46610.000	10.55	658.55	.00	.00	658.56	.00	.00	.00	654.60
820.0	541.8	156.4	121.8	1074.2	261.6	330.5	115.3	27.8	655.60
1.35	.50	.60	.37	.030	.040	.030	.000	648.00	860.24
.000020	70.	70.	70.	0	0	0	.00	547.48	1407.72

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T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3 HEC-1 100-YEAR 12-HOUR DURATION FLOWS USED

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3			0	0	0	0	653.68	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2		-1							

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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 2
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	9.88	653.68	.00	653.68	654.42	.74	.00	.00	667.30
1189.0	.0	1189.0	.0	.0	172.4	.0	.0	.0	666.70
.00	.00	6.90	.00	.000	.045	.000	.000	643.80	1025.60
.006038	0.	0.	0.	0	0	0	.00	22.06	1047.66

*SECNO 43305.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.57

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	9.41	654.61	.00	.00	654.76	.15	.28	.06	655.00
1189.0	.0	1189.0	.0	.0	381.3	.0	1.0	.1	661.00
.01	.00	3.12	.00	.000	.045	.000	.000	645.20	1085.77
.000912	170.	150.	130.	2	0	0	.00	63.31	1149.08

*SECNO 43659.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.09

43659.000	9.09	654.87	.00	.00	654.91	.04	.14	.01	650.60
1189.0	169.3	480.8	539.0	135.1	288.8	371.8	5.7	1.2	651.86
.08	1.25	1.66	1.45	.035	.045	.035	.000	645.78	1188.79
.000208	319.	354.	369.	2	0	0	.00	198.48	1387.27

*SECNO 43675.000

3265 DIVIDED FLOW

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

43675.000	8.70	654.90	.00	.00	654.91	.02	.00	.00	653.00
1189.0	78.7	306.1	804.2	163.9	299.2	761.1	6.1	1.3	651.50
.08	.48	1.02	1.06	.035	.045	.035	.000	646.20	978.29
.000087	16.	16.	16.	1	0	0	.00	359.24	1355.92

*SECNO 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

43873.000	9.77	654.88	.00	.00	654.97	.09	.03	.02	649.47
951.0	148.9	550.1	252.1	70.6	210.8	121.1	10.0	2.3	649.69
.11	2.11	2.61	2.08	.035	.045	.035	.000	645.11	1416.06
.000424	186.	198.	215.	2	0	0	.00	85.66	1501.72

*SECNO 44015.000

44015.000	9.78	654.98	.00	.00	655.02	.04	.05	.00	652.30
951.0	215.3	735.7	.0	206.5	402.3	.0	11.6	2.9	656.60
.13	1.04	1.83	.00	.035	.045	.000	.000	645.20	923.00
.000321	134.	142.	155.	2	0	0	.00	233.82	1156.82

*SECNO 44186.000

44186.000	8.98	655.02	.00	.00	655.10	.08	.07	.01	651.84
951.0	90.0	820.7	40.3	73.3	348.2	28.0	13.7	3.6	652.35
.15	1.23	2.36	1.44	.035	.045	.035	.000	646.04	1106.10
.000463	168.	171.	199.	2	0	0	.00	170.12	1276.22

*SECNO 44335.000

44335.000	8.28	655.08	.00	.00	655.16	.08	.06	.00	648.90
951.0	278.9	594.7	77.4	142.7	245.1	48.4	15.2	4.2	651.30
.17	1.95	2.43	1.60	.035	.045	.035	.000	646.80	1037.18
.000407	147.	149.	156.	0	0	0	.00	149.44	1186.62

*SECNO 44530.000

44530.000	8.37	655.17	.00	.00	655.24	.07	.08	.00	648.90
951.0	283.8	588.0	79.2	152.2	248.2	50.4	17.2	4.9	651.30
.20	1.86	2.37	1.57	.035	.045	.035	.000	646.80	1010.68
.000381	195.	195.	195.	0	0	0	.00	176.31	1186.98

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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= .300 CEHV= .500
*SECNO 44592.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

44592.000	9.44	655.09	.00	.00	655.39	.30	.04	.11	647.55
951.0	.0	951.0	.0	.0	216.0	.0	17.7	5.1	647.56
.20	.00	4.40	.00	.000	.040	.000	.000	645.65	1117.10
.000807	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	9.47	655.12	.00	.00	655.42	.30	.03	.00	647.55
951.0	.0	951.0	.0	.0	216.5	.0	17.8	5.1	647.56
.20	.00	4.39	.00	.000	.040	.000	.000	645.65	1117.10

.000801	34.	34.	34.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
655.68	655.51	.03	0.	951.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	9.53	655.33	.00	.00	655.68	.35	.26	.00	645.80
951.0	.0	951.0	.0	.0	200.1	.0	18.9	5.2	645.80
.21	.00	4.75	.00	.000	.040	.000	.000	645.80	1097.70
.000810	214.	214.	214.	2	0	0	.00	21.00	1118.70

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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 44870.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	9.82	655.53	.00	.00	655.74	.22	.02	.04	645.71
951.0	.0	951.0	.0	.0	255.3	.0	19.1	5.2	645.71
.22	.00	3.73	.00	.000	.040	.000	.000	645.71	1095.00
.000478	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	9.82	655.53	.00	.00	655.75	.22	.01	.00	645.71
951.0	.0	951.0	.0	.0	255.5	.0	19.1	5.2	645.71
.22	.00	3.72	.00	.000	.040	.000	.000	645.71	1095.00
.000477	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 657.91

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.37

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
655.72	658.76	2.16	134.	816.	1.368	84.8	657.50	332.

44970.000	11.14	657.89	.00	.00	657.91	.02	2.16	.00	646.75
951.0	280.2	396.1	274.7	241.9	289.6	290.0	19.9	5.4	646.75
.23	1.16	1.37	.95	.030	.050	.030	.000	646.75	1015.80
.000085	63.	63.	63.	2	0	0	.00	250.47	1266.27

CCHV= .100 CEHV= .300

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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 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.98

45025.000	9.91	657.91	.00	.00	657.91	.01	.00	.00	651.00
951.0	201.1	232.9	517.0	305.9	395.8	895.4	22.2	6.0	653.20
.27	.66	.59	.58	.030	.050	.030	.000	648.00	955.76
.000022	5.	65.	130.	0	0	0	.00	374.32	1330.08

*SECNO 45345.000

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

45345.000	10.11	657.91	.00	.00	657.93	.01	.01	.00	652.40
951.0	437.3	258.5	255.2	481.8	293.8	333.9	32.2	8.4	651.60
.37	.91	.88	.76	.030	.050	.030	.000	647.80	965.71
.000051	310.	320.	330.	1	0	0	.00	274.15	1239.85

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.86

45356.000	13.65	657.92	.00	.00	657.93	.00	.00	.00	651.73
951.0	268.4	590.2	92.4	496.3	1143.9	184.1	33.7	8.6	651.45
.39	.54	.52	.50	.030	.050	.030	.000	644.27	1039.01
.000015	21.	66.	21.	0	0	0	.00	281.07	1320.08

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .25

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

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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

45395.000	13.24	657.91	.00	.00	657.95	.04	.00	.02	646.67
951.0	.0	951.0	.0	.0	576.5	.0	34.8	8.8	646.52
.40	.00	1.65	.00	.000	.050	.000	.000	644.67	1187.40
.000243	39.	39.	39.	1	0	0	-170.17	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	13.25	657.92	.00	.00	657.96	.04	.01	.00	646.67
951.0	.0	951.0	.0	.0	576.4	.0	35.3	8.8	646.52
.41	.00	1.65	.00	.000	.050	.000	.000	644.67	1187.40
.000243	40.	40.	40.	0	0	0	-170.02	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.77

45501.000	10.68	657.96	.00	.00	657.96	.00	.00	.00	650.01
951.0	437.8	197.2	316.0	814.0	360.1	672.8	37.1	9.1	650.34
.44	.54	.55	.47	.030	.040	.030	.000	647.28	1054.69

```
    .000011       66.       66.       66.         2         0         0       .00    332.23   1386.91


 *SECNO 45650.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .70

  45650.000      9.56    657.96       .00       .00    657.97       .01       .00       .00    652.10
      951.0     346.9     224.4     379.7     526.0     314.0     714.5      42.5      10.3    652.10
        .50       .66       .71       .53      .030      .040      .030      .000    648.40    916.13
    .000022       129.      139.      144.         1         0         0       .00    391.15   1307.28


 CCHV=     .300 CEHV=     .500
 *SECNO 45750.000
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    21MAY12      10:19:01                                                                          PAGE   25

     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


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .50

  45750.000     10.57    657.97       .00       .00    657.97       .00       .00       .00    654.20
       96.0      55.8      27.2      13.0     539.0     220.8     169.0      45.3      11.1    654.50
        .77       .10       .12       .08      .030      .040      .030      .000    647.40    927.51
    .000001       100.      100.      100.         0         0         0       .00    300.69   1228.20


 *SECNO 45755.000

 3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

  45755.000     10.57    657.97       .00       .00    657.97       .00       .00       .00    654.20
       96.0      44.6      41.0      10.4     540.4     193.7     169.7      45.4      11.1    654.50
        .78       .08       .21       .06      .030      .015      .030      .000    647.40    927.36
    .000001         5.        5.        5.         0         0         0    -27.32    300.99   1228.36


 *SECNO 45757.000

 3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

  45757.000     10.57    657.97       .00       .00    657.97       .00       .00       .00    654.20
       96.0      44.6      41.0      10.4     540.3     193.7     169.7      45.5      11.1    654.50
        .78       .08       .21       .06      .030      .015      .030      .000    647.40    927.37
    .000001         2.        2.        2.         0         0         0    -27.32    300.99   1228.36


 *SECNO 45760.000
  45760.000     10.57    657.97       .00       .00    657.97       .00       .00       .00    654.20
       96.0      59.2      23.0      13.8     540.3     221.0     169.7      45.5      11.1    654.50
        .79       .11       .10       .08      .030      .050      .030      .000    647.40    927.37
    .000001         3.        3.        3.         0         0         0       .00    300.99   1228.36


 *SECNO 45785.000
  45785.000     10.57    657.97       .00       .00    657.97       .00       .00       .00    654.20
       96.0      59.2      23.0      13.8     540.4     221.0     169.7      46.1      11.3    654.50
        .86       .11       .10       .08      .030      .050      .030      .000    647.40    927.36
    .000001        25.       25.       25.         0         0         0       .00    301.00   1228.36


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     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=     .300 CEHV=     .500
 *SECNO 45810.000
  45810.000     11.83    657.97       .00       .00    657.97       .00       .00       .00    646.14
       96.0      37.5      25.2      33.3     426.5     165.6     458.9      46.6      11.5    646.14
        .93       .09       .15       .07      .030      .050      .030      .000    646.14    912.95
    .000001        25.       25.       25.         0         0         0       .00    445.93   1358.88


 *SECNO 45815.000
```

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	11.83	657.97	.00	.00	657.97	.00	.00	.00	646.14
96.0	38.8	21.6	35.6	401.6	94.3	445.4	46.8	11.6	646.14
.94	.10	.23	.08	.030	.015	.030	.000	646.14	912.95
.000001	5.	5.	5.	0	0	0	-109.69	445.93	1358.88

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	11.83	657.97	.00	.00	657.97	.00	.00	.00	646.14
96.0	38.8	21.6	35.6	401.6	94.3	445.4	47.2	11.8	646.14
.99	.10	.23	.08	.030	.015	.030	.000	646.14	912.95
.000001	21.	21.	21.	0	0	0	-109.69	445.92	1358.87

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

45840.000	11.07	657.97	.00	.00	657.97	.00	.00	.00	654.10
96.0	36.6	21.3	38.2	556.6	282.5	710.9	47.3	11.8	654.80
1.01	.07	.08	.05	.035	.050	.035	.000	646.90	903.11
.000000	5.	5.	5.	0	0	0	.00	529.14	1432.26

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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 45870.000

45870.000	11.07	657.97	.00	.00	657.97	.00	.00	.00	654.10
96.0	36.0	22.4	37.6	556.7	282.5	711.0	48.4	12.2	654.80
1.14	.06	.08	.05	.030	.040	.030	.000	646.90	903.11
.000000	30.	30.	30.	0	0	0	.00	529.16	1432.27

*SECNO 45885.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .70

45885.000	11.13	657.97	.00	.00	657.97	.00	.00	.00	653.11
96.0	41.3	32.5	22.3	496.8	271.8	393.5	48.9	12.4	654.38
1.19	.08	.12	.06	.030	.040	.030	.000	646.84	1012.04
.000001	15.	15.	15.	0	0	0	.00	500.18	1512.22

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.68

46140.000	10.47	657.97	.00	.00	657.97	.00	.00	.00	652.30
96.0	34.9	37.3	23.8	1160.3	1000.9	899.5	61.2	15.8	652.40
3.40	.03	.04	.03	.030	.040	.030	.000	647.50	794.89
.000000	255.	255.	255.	0	0	0	.00	671.23	1466.12

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.47

46290.000	10.27	657.97	.00	.00	657.97	.00	.00	.00	652.50
96.0	12.0	80.1	3.9	756.6	3164.2	236.4	73.7	18.1	652.30
5.16	.02	.03	.02	.030	.040	.030	.000	647.70	870.54
.000000	150.	150.	150.	0	0	0	.00	680.50	1551.04

CCHV= .300 CEHV= .500
*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .55

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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
46540.000	9.77	657.97	.00	.00	657.97	.00	.00	.00	654.90
96.0	18.8	74.7	2.5	737.2	1725.6	167.3	93.1	22.0	656.10
6.93	.03	.04	.02	.030	.040	.030	.000	648.20	846.46
.000000	250.	250.	250.	0	0	0	.00	679.93	1526.39

*SECNO 46610.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

46610.000	9.97	657.97	.00	.00	657.97	.00	.00	.00	654.60
96.0	62.7	21.4	11.9	879.9	243.0	236.6	96.4	23.0	655.60
7.20	.07	.09	.05	.030	.040	.030	.000	648.00	882.58
.000000	70.	70.	70.	0	0	0	.00	502.53	1385.11

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T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3 HEC-1 FLOWS USED: 50-YEAR 12-HOUR DURATION

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		4	0	0	0	0	0	0	653.08	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3		-1							

1

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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 3
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	9.28	653.08	.00	653.08	653.72	.64	.00	.00	667.30
1021.0	.0	1021.0	.0	.0	159.2	.0	.0	.0	666.70
.00	.00	6.41	.00	.000	.045	.000	.000	643.80	1025.64
.005571	0.	0.	0.	0	0	0	.00	21.97	1047.61

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.42

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	8.71	653.91	.00	.00	654.05	.14	.29	.05	655.00
1021.0	.0	1021.0	.0	.0	338.1	.0	.9	.1	661.00
.01	.00	3.02	.00	.000	.045	.000	.000	645.20	1086.97
.000951	170.	150.	130.	0	0	0	.00	60.93	1147.90

*SECNO 43659.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.88

43659.000	8.41	654.19	.00	.00	654.23	.04	.16	.01	650.60
1021.0	124.8	461.0	435.2	102.2	260.7	298.7	4.9	1.2	651.86
.08	1.22	1.77	1.46	.035	.045	.035	.000	645.78	1191.73
.000269	319.	354.	369.	2	0	0	.00	193.36	1385.10

*SECNO 43675.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

43675.000	8.01	654.21	.00	.00	654.23	.02	.00	.00	653.00
1021.0	29.0	292.1	699.9	77.9	266.9	638.6	5.2	1.3	651.50
.08	.37	1.09	1.10	.035	.045	.035	.000	646.20	981.49
.000116	16.	16.	16.	1	0	0	.00	346.11	1354.57

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

43873.000	9.09	654.20	.00	.00	654.29	.09	.04	.02	649.47
802.0	117.5	496.7	187.8	57.8	194.5	95.2	8.4	2.3	649.69
.11	2.03	2.55	1.97	.035	.045	.035	.000	645.11	1417.78
.000452	186.	198.	215.	2	0	0	.00	78.26	1496.04

*SECNO 44015.000

44015.000	9.10	654.30	.00	.00	654.36	.05	.06	.00	652.30
802.0	106.4	695.6	.0	110.0	355.5	.0	9.7	2.7	656.60
.13	.97	1.96	.00	.035	.045	.000	.000	645.20	975.63
.000412	134.	142.	155.	2	0	0	.00	178.54	1154.16

*SECNO 44186.000

44186.000	8.32	654.36	.00	.00	654.44	.08	.08	.01	651.84
802.0	48.0	730.0	24.0	38.2	312.0	18.6	11.3	3.2	652.35
.15	1.26	2.34	1.29	.035	.045	.035	.000	646.04	1172.05
.000528	168.	171.	199.	1	0	0	.00	101.91	1273.97

*SECNO 44335.000

44335.000	7.64	654.44	.00	.00	654.52	.08	.07	.00	648.90
802.0	213.6	536.0	52.3	100.4	223.3	35.3	12.6	3.6	651.30
.17	2.13	2.40	1.48	.035	.045	.035	.000	646.80	1085.33
.000451	147.	149.	156.	0	0	0	.00	98.68	1184.01

*SECNO 44530.000

44530.000	7.72	654.52	.00	.00	654.60	.08	.09	.00	648.90
802.0	216.3	531.3	54.4	105.0	226.5	37.1	14.2	4.0	651.30
.19	2.06	2.35	1.47	.035	.045	.035	.000	646.80	1081.18
.000422	195.	195.	195.	0	0	0	.00	103.22	1184.40

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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

44592.000	8.83	654.48	.00	.00	654.72	.25	.04	.08	647.55
802.0	.0	802.0	.0	.0	201.9	.0	14.6	4.1	647.56
.20	.00	3.97	.00	.000	.040	.000	.000	645.65	1117.10
.000719	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	8.85	654.50	.00	.00	654.75	.24	.02	.00	647.55
802.0	.0	802.0	.0	.0	202.3	.0	14.8	4.1	647.56
.20	.00	3.96	.00	.000	.040	.000	.000	645.65	1117.10
.000714	34.	34.	34.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 654.55 BRIDGE VELOCITY= 4.30 CALCULATED CHANNEL AREA= 185.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	654.83	.03	0.	802.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	8.73	654.53	.00	.00	654.83	.30	.08	.00	645.80
802.0	.0	802.0	.0	.0	183.3	.0	15.8	4.2	645.80
.21	.00	4.38	.00	.000	.040	.000	.000	645.80	1097.70
.000772	214.	214.	214.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	8.99	654.70	.00	.00	654.88	.18	.02	.03	645.71
802.0	.0	802.0	.0	.0	233.8	.0	15.9	4.3	645.71
.21	.00	3.43	.00	.000	.040	.000	.000	645.71	1095.00
.000456	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	9.00	654.71	.00	.00	654.89	.18	.01	.00	645.71
802.0	.0	802.0	.0	.0	234.0	.0	16.0	4.3	645.71
.22	.00	3.43	.00	.000	.040	.000	.000	645.71	1095.00
.000455	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 654.408 EGOC = 657.003 PCWSE= 654.707 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
654.41	657.00	2.11	0.	802.	3.052	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	10.11	656.86	.00	.00	657.00	.14	2.11	.00	646.75
802.0	.0	802.0	.0	.0	262.8	.0	16.4	4.3	646.75
.22	.00	3.05	.00	.000	.050	.000	.000	646.75	1115.00
.000482	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.01

45025.000	9.02	657.02	.00	.00	657.02	.01	.01	.01	651.00
802.0	168.4	230.7	402.9	240.1	357.6	685.3	17.9	4.7	653.20
.25	.70	.65	.59	.030	.050	.030	.000	648.00	975.47
.000030	5.	65.	130.	2	0	0	.00	339.71	1315.18

*SECNO 45345.000

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

45345.000	9.23	657.03	.00	.00	657.04	.01	.01	.00	652.40
802.0	345.8	255.7	200.5	366.0	264.2	246.1	25.8	6.9	651.60
.35	.94	.97	.82	.030	.050	.030	.000	647.80	977.45
.000072	310.	320.	330.	2	0	0	.00	247.45	1224.90

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.08

45356.000	12.77	657.04	.00	.00	657.04	.00	.00	.00	651.73
802.0	202.9	531.6	67.5	398.5	1040.0	142.3	27.1	7.1	651.45
.37	.51	.51	.47	.030	.050	.030	.000	644.27	1044.48
.000017	21.	66.	21.	1	0	0	.00	270.80	1315.28

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .31

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	12.36	657.03	.00	.00	657.06	.03	.00	.01	646.67
802.0	.0	802.0	.0	.0	547.1	.0	28.1	7.2	646.52
.38	.00	1.47	.00	.000	.050	.000	.000	644.67	1187.40
.000172	39.	39.	39.	1	0	0	-143.12	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	12.36	657.03	.00	.00	657.07	.03	.01	.00	646.67
802.0	.0	802.0	.0	.0	546.9	.0	28.6	7.3	646.52
.39	.00	1.47	.00	.000	.050	.000	.000	644.67	1187.40
.000172	40.	40.	40.	0	0	0	-143.03	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.67

45501.000	9.79	657.07	.00	.00	657.07	.00	.00	.00	650.01
802.0	369.3	184.7	247.9	689.5	328.3	535.1	30.1	7.5	650.34
.43	.54	.56	.46	.030	.040	.030	.000	647.28	1058.69

.000013	66.	66.	66.	2	0	0	.00	325.60	1384.29

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .63

45650.000	8.67	657.07	.00	.00	657.07	.01	.00	.00	652.10
802.0	296.2	225.1	280.7	415.2	281.7	518.4	34.5	8.6	652.10
.48	.71	.80	.54	.030	.040	.030	.000	648.40	930.16
.000032	129.	139.	144.	1	0	0	.00	365.55	1295.72

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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= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .46

45750.000	9.68	657.08	.00	.00	657.08	.00	.00	.00	654.20
91.0	50.0	32.4	8.6	386.3	194.9	95.3	36.7	9.4	654.50
.68	.13	.17	.09	.030	.040	.030	.000	647.40	944.73
.000002	100.	100.	100.	0	0	0	.00	264.11	1208.83

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	9.68	657.08	.00	.00	657.08	.00	.00	.00	654.20
91.0	38.6	45.8	6.7	387.7	167.8	95.9	36.7	9.4	654.50
.69	.10	.27	.07	.030	.015	.030	.000	647.40	944.56
.000001	5.	5.	5.	0	0	0	-27.32	264.47	1209.03

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	9.68	657.08	.00	.00	657.08	.00	.00	.00	654.20
91.0	38.6	45.8	6.7	387.7	167.8	95.9	36.8	9.4	654.50
.69	.10	.27	.07	.030	.015	.030	.000	647.40	944.56
.000001	2.	2.	2.	0	0	0	-27.32	264.46	1209.02

*SECNO 45760.000

45760.000	9.68	657.08	.00	.00	657.08	.00	.00	.00	654.20
91.0	53.8	27.8	9.3	387.7	195.2	95.9	36.8	9.4	654.50
.70	.14	.14	.10	.030	.050	.030	.000	647.40	944.56
.000002	3.	3.	3.	0	0	0	.00	264.46	1209.02

*SECNO 45785.000

45785.000	9.68	657.08	.00	.00	657.08	.00	.00	.00	654.20
91.0	53.8	27.8	9.3	387.8	195.2	95.9	37.2	9.6	654.50
.75	.14	.14	.10	.030	.050	.030	.000	647.40	944.55
.000002	25.	25.	25.	0	0	0	.00	264.48	1209.03

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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= .300 CEHV= .500
*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	10.94	657.08	.00	.00	657.08	.00	.00	.00	646.14
91.0	32.4	34.6	23.9	281.5	153.1	258.8	37.6	9.8	646.14
.79	.12	.23	.09	.030	.050	.030	.000	646.14	938.80
.000002	25.	25.	25.	0	0	0	.00	354.93	1303.30

*SECNO 45815.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	10.94	657.08	.00	.00	657.08	.00	.00	.00	646.14
91.0	32.5	33.2	25.3	262.0	94.3	253.5	37.7	9.8	646.14
.80	.12	.35	.10	.030	.015	.030	.000	646.14	938.80
.000003	5.	5.	5.	0	0	0	-83.63	354.92	1303.30

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	10.94	657.08	.00	.00	657.08	.00	.00	.00	646.14
91.0	32.5	33.2	25.3	262.0	94.3	253.5	38.0	10.0	646.14
.83	.12	.35	.10	.030	.015	.030	.000	646.14	938.81
.000003	21.	21.	21.	0	0	0	-83.63	354.91	1303.29

*SECNO 45840.000

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.56

45840.000	10.18	657.08	.00	.00	657.08	.00	.00	.00	654.10
91.0	34.5	27.3	29.2	402.4	252.3	443.7	38.1	10.0	654.80
.85	.09	.11	.07	.035	.050	.035	.000	646.90	914.88
.000001	5.	5.	5.	0	0	0	.00	483.61	1398.49

CCHV= .100 CEHV= .300

*SECNO 45870.000

45870.000	10.18	657.08	.00	.00	657.08	.00	.00	.00	654.10
91.0	33.8	28.6	28.6	402.6	252.3	444.0	38.8	10.3	654.80
.94	.08	.11	.06	.030	.040	.030	.000	646.90	914.87
.000001	30.	30.	30.	0	0	0	.00	483.66	1398.53

*SECNO 45885.000

45885.000	10.24	657.08	.00	.00	657.08	.00	.00	.00	653.11
91.0	37.3	40.6	13.1	339.9	245.0	186.5	39.2	10.5	654.38
.98	.11	.17	.07	.030	.040	.030	.000	646.84	1044.66
.000002	15.	15.	15.	0	0	0	.00	376.10	1420.76

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.29

46140.000	9.58	657.08	.00	.00	657.08	.00	.00	.00	652.30
91.0	30.9	40.6	19.5	907.2	910.0	665.0	48.7	13.4	652.40
2.85	.03	.04	.03	.030	.040	.030	.000	647.50	816.80
.000000	255.	255.	255.	0	0	0	.00	626.55	1443.35

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.60

46290.000	9.38	657.08	.00	.00	657.08	.00	.00	.00	652.50
91.0	8.4	79.8	2.8	532.9	2867.7	168.0	59.1	15.6	652.30
4.43	.02	.03	.02	.030	.040	.030	.000	647.70	897.86
.000000	150.	150.	150.	0	0	0	.00	640.18	1538.04

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     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=      .300 CEHV=      .500
 *SECNO 46540.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

  46540.000       8.88     657.08       .00        .00     657.08        .00        .00        .00     654.90
       91.0       12.4       78.2        .4      474.7     1551.0       39.2       75.3       19.1     656.10
       5.91        .03        .05        .01       .030       .040       .030       .000     648.20     891.03
    .000000       250.       250.       250.          0          0          0        .00     567.41    1458.44


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .32

  46610.000       9.08     657.08       .00        .00     657.08        .00        .00        .00     654.60
       91.0       56.8       27.3       7.0      608.6      214.7      118.9       77.7       19.9     655.60
       6.10        .09        .13        .06       .030       .040       .030       .000     648.00     916.67
    .000001         70.        70.        70.          0          0          0        .00     433.95    1350.63


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED: 25-YEAR 12-HOUR DURATION

 J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                  5                                0                                    652.36

 J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

       4                   -1

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     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 4
0

 CCHV=      .100 CEHV=      .300
 *SECNO 43155.000
  43155.000       8.56     652.36       .00     652.36     652.86        .50        .00        .00     667.30
      812.0         .0      812.0        .0         .0      143.4         .0         .0         .0     666.70
        .00        .00       5.66        .00       .000       .045       .000       .000     643.80    1025.68
    .004739         0.         0.         0.          0          0          0        .00      21.87    1047.55


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.21


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000       7.85     653.05       .00        .00     653.17        .12        .28        .04     655.00
      812.0         .0      812.0        .0         .0      286.5         .0         .7         .1     661.00
        .01        .00       2.83        .00       .000       .045       .000       .000     645.20    1088.47
    .000973       170.       150.       130.          2          0          0        .00      57.96    1146.43


 *SECNO 43659.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.59

  43659.000       7.56     653.34       .00        .00     653.39        .04        .21        .01     650.60
      812.0       71.5       435.2     305.3       64.3      225.9      210.2        3.9        1.1     651.86
        .07       1.11       1.93      1.45       .035       .045       .035       .000     645.78    1195.37
    .000387       319.       354.       369.          2          0          0        .00     187.53    1382.89
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*SECNO 43675.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

43675.000	7.17	653.37	.00	.00	653.39	.02	.00	.00	653.00
812.0	1.5	265.6	544.9	7.8	227.5	490.3	4.2	1.2	651.50
.08	.19	1.17	1.11	.035	.045	.035	.000	646.20	1087.62
.000164	16.	16.	16.	2	0	0	.00	265.30	1352.91

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

43873.000	8.27	653.38	.00	.00	653.46	.08	.05	.02	649.47
641.0	84.2	434.4	122.4	43.8	174.4	68.5	6.6	2.0	649.69
.10	1.93	2.49	1.79	.035	.045	.035	.000	645.11	1419.90
.000497	186.	198.	215.	2	0	0	.00	69.58	1489.49

*SECNO 44015.000

44015.000	8.27	653.47	.00	.00	653.54	.06	.07	.00	652.30
641.0	22.5	618.5	.0	34.3	300.5	.0	7.6	2.3	656.60
.12	.66	2.06	.00	.035	.045	.000	.000	645.20	1011.19
.000534	134.	142.	155.	2	0	0	.00	139.72	1150.91

*SECNO 44186.000

44186.000	7.52	653.56	.00	.00	653.64	.08	.10	.00	651.84
641.0	16.8	615.4	8.8	17.0	267.1	8.9	8.8	2.8	652.35
.14	.99	2.30	.99	.035	.045	.035	.000	646.04	1184.70
.000630	168.	171.	199.	0	0	0	.00	86.46	1271.16

*SECNO 44335.000

44335.000	6.85	653.65	.00	.00	653.72	.08	.08	.00	648.90
641.0	156.7	457.2	27.2	75.3	196.7	21.6	9.8	3.1	651.30
.16	2.08	2.32	1.26	.035	.045	.035	.000	646.80	1105.41
.000501	147.	149.	156.	0	0	0	.00	75.43	1180.84

*SECNO 44530.000

44530.000	6.95	653.75	.00	.00	653.82	.07	.09	.00	648.90
641.0	158.2	453.6	29.2	78.0	200.1	23.3	11.2	3.4	651.30
.19	2.03	2.27	1.25	.035	.045	.035	.000	646.80	1105.00
.000465	195.	195.	195.	1	0	0	.00	76.26	1181.25

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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

44592.000	8.07	653.72	.00	.00	653.91	.19	.04	.06	647.55
641.0	.0	641.0	.0	.0	184.5	.0	11.5	3.5	647.56
.19	.00	3.47	.00	.000	.040	.000	.000	645.65	1117.10
.000620	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	8.10	653.75	.00	.00	653.93	.19	.02	.00	647.55
641.0	.0	641.0	.0	.0	184.9	.0	11.7	3.5	647.56
.19	.00	3.47	.00	.000	.040	.000	.000	645.65	1117.10

.000615	34.	34.	34.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 653.80 BRIDGE VELOCITY= 3.74 CALCULATED CHANNEL AREA= 170.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	653.99	.02	0.	641.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	7.97	653.77	.00	.00	653.99	.23	.06	.00	645.80
641.0	.0	641.0	.0	.0	167.3	.0	12.5	3.6	645.80
.21	.00	3.83	.00	.000	.040	.000	.000	645.80	1097.70
.000669	214.	214.	214.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000
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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	8.19	653.90	.00	.00	654.04	.14	.02	.03	645.71
641.0	.0	641.0	.0	.0	212.9	.0	12.7	3.6	645.71
.21	.00	3.01	.00	.000	.040	.000	.000	645.71	1095.00
.000398	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	8.19	653.90	.00	.00	654.04	.14	.00	.00	645.71
641.0	.0	641.0	.0	.0	213.1	.0	12.8	3.6	645.71
.22	.00	3.01	.00	.000	.040	.000	.000	645.71	1095.00
.000397	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 653.028 EGOC = 655.371 PCWSE= 653.904 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
653.03	655.37	1.33	0.	641.	2.904	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	8.49	655.24	.00	.00	655.37	.13	1.33	.00	646.75
641.0	.0	641.0	.0	.0	220.8	.0	13.1	3.7	646.75
.22	.00	2.90	.00	.000	.050	.000	.000	646.75	1115.00
.000551	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

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

45025.000	7.38	655.38	.00	.00	655.40	.01	.01	.01	651.00
641.0	132.9	279.8	228.4	132.6	287.4	334.0	14.0	4.0	653.20
.24	1.00	.97	.68	.030	.050	.030	.000	648.00	979.34
.000092	5.	65.	130.	2	0	0	.00	308.48	1287.82

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .67

45345.000	7.62	655.42	.00	.00	655.44	.02	.04	.00	652.40
641.0	211.1	297.1	132.8	184.1	211.0	121.8	18.7	5.9	651.60
.31	1.15	1.41	1.09	.030	.050	.030	.000	647.80	998.56
.000205	310.	320.	330.	2	0	0	.00	199.46	1198.02

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.74

45356.000	11.18	655.45	.00	.00	655.45	.00	.00	.01	651.73
641.0	115.6	489.9	35.4	234.9	853.0	77.9	19.6	6.1	651.45
.34	.49	.57	.46	.030	.050	.030	.000	644.27	1054.33
.000027	21.	66.	21.	2	0	0	.00	252.12	1306.44

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .43

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	10.77	655.44	.00	.00	655.46	.03	.00	.01	646.67
641.0	.0	641.0	.0	.0	477.8	.0	20.3	6.2	646.52
.35	.00	1.34	.00	.000	.050	.000	.000	644.67	1187.40
.000146	39.	39.	39.	1	0	0	-110.84	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	10.77	655.44	.00	.00	655.47	.03	.01	.00	646.67
641.0	.0	641.0	.0	.0	477.6	.0	20.8	6.3	646.52
.36	.00	1.34	.00	.000	.050	.000	.000	644.67	1187.40
.000147	40.	40.	40.	0	0	0	-110.78	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.43

45501.000	8.19	655.47	.00	.00	655.48	.01	.00	.00	650.01
641.0	286.6	187.4	167.0	474.8	271.1	329.4	22.0	6.5	650.34
.39	.60	.69	.51	.030	.040	.030	.000	647.28	1065.88
.000025	66.	66.	66.	1	0	0	.00	283.64	1349.53

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .50

45650.000	7.07	655.47	.00	.00	655.49	.02	.01	.00	652.10
641.0	245.4	270.6	125.0	247.7	224.2	194.6	24.7	7.5	652.10
.42	.99	1.21	.64	.030	.040	.030	.000	648.40	952.80
.000098	129.	139.	144.	1	0	0	.00	322.31	1275.12

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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= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .37

45750.000	8.09	655.49	.00	.00	655.50	.00	.01	.00	654.20
83.0	30.5	51.7	.8	154.7	149.3	7.9	25.8	8.1	654.50
.52	.20	.35	.10	.030	.040	.030	.000	647.40	975.05
.000012	100.	100.	100.	2	0	0	.00	191.09	1166.15

*SECNO 45755.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.43

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	8.09	655.49	.00	.00	655.50	.00	.00	.00	654.20
83.0	21.4	61.1	.6	154.8	121.9	7.9	25.8	8.1	654.50
.52	.14	.50	.07	.030	.015	.030	.000	647.40	975.05
.000006	5.	5.	5.	0	0	0	-27.32	191.14	1166.18

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	8.09	655.49	.00	.00	655.50	.00	.00	.00	654.20
83.0	21.4	61.1	.6	154.6	121.9	7.9	25.9	8.1	654.50
.52	.14	.50	.07	.030	.015	.030	.000	647.40	975.07
.000006	2.	2.	2.	0	0	0	-27.32	191.01	1166.08

*SECNO 45760.000

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

45760.000	8.10	655.50	.00	.00	655.50	.00	.00	.00	654.20
83.0	34.8	47.3	.9	154.6	149.2	7.9	25.9	8.1	654.50
.53	.23	.32	.12	.030	.050	.030	.000	647.40	975.07
.000016	3.	3.	3.	0	0	0	.00	191.01	1166.08

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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 45785.000

45785.000	8.10	655.50	.00	.00	655.50	.00	.00	.00	654.20
83.0	34.9	47.2	.9	155.0	149.3	8.0	26.1	8.2	654.50
.55	.23	.32	.11	.030	.050	.030	.000	647.40	975.02
.000016	25.	25.	25.	0	0	0	.00	191.32	1166.33

CCHV= .300 CEHV= .500

*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	9.36	655.50	.00	.00	655.50	.00	.00	.00	646.14
83.0	14.3	63.4	5.3	85.7	131.0	45.1	26.2	8.3	646.14
.57	.17	.48	.12	.030	.050	.030	.000	646.14	984.62
.000013	25.	25.	25.	0	0	0	.00	185.26	1204.81

*SECNO 45815.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45815.000	9.35	655.49	.00	.00	655.50	.01	.00	.00	646.14
83.0	10.4	68.0	4.6	72.6	94.3	41.8	26.2	8.4	646.14
.57	.14	.72	.11	.030	.015	.030	.000	646.14	984.64
.000011	5.	5.	5.	0	0	0	-53.04	185.16	1204.77

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45835.000	9.35	655.49	.00	.00	655.50	.01	.00	.00	646.14
83.0	10.4	68.0	4.6	72.4	94.3	41.7	26.3	8.4	646.14
.58	.14	.72	.11	.030	.015	.030	.000	646.14	984.69
.000011	21.	21.	21.	0	0	0	-53.01	184.95	1204.66

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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 45840.000

45840.000	8.60	655.50	.00	.00	655.50	.00	.00	.00	654.10
83.0	24.0	52.2	6.8	157.4	198.6	72.0	26.4	8.5	654.80
.59	.15	.26	.09	.035	.050	.035	.000	646.90	947.24
.000009	5.	5.	5.	0	0	0	.00	294.93	1242.17

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	8.60	655.50	.00	.00	655.50	.00	.00	.00	654.10
83.0	23.1	53.3	6.6	158.4	198.9	73.0	26.7	8.7	654.80
.62	.15	.27	.09	.030	.040	.030	.000	646.90	946.96
.000006	30.	30.	30.	0	0	0	.00	296.23	1243.19

*SECNO 45885.000

45885.000	8.66	655.50	.00	.00	655.50	.00	.00	.00	653.11
83.0	22.4	58.9	1.7	133.7	197.7	19.4	26.8	8.8	654.38
.64	.17	.30	.09	.030	.040	.030	.000	646.84	1102.32
.000006	15.	15.	15.	0	0	0	.00	166.56	1268.88

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.17

46140.000	8.00	655.50	.00	.00	655.50	.00	.00	.00	652.30
83.0	22.1	50.5	10.4	508.0	749.3	300.3	32.4	10.8	652.40
1.89	.04	.07	.03	.030	.040	.030	.000	647.50	856.27
.000000	255.	255.	255.	0	0	0	.00	546.87	1403.13

*SECNO 46290.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.98

46290.000	7.80	655.50	.00	.00	655.50	.00	.00	.00	652.50
83.0	2.7	79.0	1.3	198.1	2343.9	75.5	39.6	12.8	652.30
3.16	.01	.03	.02	.030	.040	.030	.000	647.70	946.12

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    .000000      150.      150.      150.         0         0         0       .00    561.77   1514.92


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     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=     .300 CEHV=     .500
 *SECNO 46540.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .48

  46540.000      7.30     655.50       .00        .00     655.50        .00        .00        .00     654.90
       83.0       1.9       81.1        .0      107.8     1242.7         .0       51.0       15.5     656.10
       4.24       .02        .07       .00       .030       .040       .000       .000     648.20     969.79
    .000000      250.      250.      250.         0         0         0       .00    388.87   1358.66


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .16

  46610.000      7.50     655.50       .00        .00     655.50        .00        .00        .00     654.60
       83.0       31.0       52.0        .0      203.4      164.6         .0       52.4       16.0     655.60
       4.31        .15        .32       .00       .030       .040       .000       .000     648.00     976.90
    .000010       70.       70.       70.         0         0         0       .00    258.74   1235.64


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED: 10-YEAR 12-HOUR DURATION

 J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                  6                                0                                        651.78

 J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

       5                   -1

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     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 5
0

 CCHV=     .100 CEHV=     .300
 *SECNO 43155.000
  43155.000      7.98     651.78       .00     651.78     652.16        .38        .00        .00     667.30
       645.0        .0      645.0        .0         .0      130.7         .0         .0         .0     666.70
         .00       .00       4.93       .00       .000       .045       .000       .000     643.80    1025.72
    .003897         0.        0.        0.         0         0         0       .00     21.79   1047.50


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.02


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000      7.14     652.34       .00        .00     652.44        .11        .26        .03     655.00
       645.0        .0      645.0        .0         .0      246.1         .0         .6         .1     661.00
         .02       .00       2.62       .00       .000       .045       .000       .000     645.20    1089.69
    .000959      170.      150.      130.         2         0         0       .00     55.53   1145.23


 *SECNO 43659.000
  43659.000      6.86     652.64       .00        .00     652.70        .05        .25        .01     650.60
       645.0      36.1      409.4     199.5       36.2      197.3      138.9        3.2        1.1     651.86
         .07      1.00       2.07      1.44       .035       .045       .035       .000     645.78    1202.79
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    .000537      319.      354.      369.         2         0         0       .00    178.30   1381.09

 *SECNO 43675.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.57

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.00 ELREA=       651.50

  43675.000      6.48    652.68       .00       .00    652.71       .02       .01       .00    653.00
      645.0        .0     241.0     404.0        .0     195.1     369.0       3.3       1.2    651.50
        .07       .00      1.24      1.09      .000      .045      .035      .000    646.20   1129.43
    .000219       16.       16.       16.         2         0         0       .00    222.11   1351.54


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     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 43873.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

  43873.000      7.60    652.71       .00       .00    652.79       .08       .06       .02    649.47
      517.0      60.1     378.7      78.2      33.6     158.1      49.8       5.3       1.9    649.69
        .10      1.79      2.39      1.57      .035      .045      .035      .000    645.11   1421.63
    .000524       186.      198.      215.         2         0         0       .00     65.07   1486.70


 *SECNO 44015.000
  44015.000      7.60    652.80       .00       .00    652.87       .06       .08       .00    652.30
      517.0       1.7     515.3        .0       4.1     258.0        .0       6.1       2.1    656.60
        .12       .41      2.00       .00      .035      .045      .000      .000    645.20   1069.75
    .000583       134.      142.      155.         2         0         0       .00     78.52   1148.27


 *SECNO 44186.000
  44186.000      6.86    652.90       .00       .00    652.98       .08       .11       .00    651.84
      517.0       4.8     510.9       1.3       6.4     230.1       2.5       7.1       2.4    652.35
        .14       .74      2.22       .52      .035      .045      .035      .000    646.04   1192.59
    .000714       168.      171.      199.         0         0         0       .00     76.26   1268.85


 *SECNO 44335.000
  44335.000      6.20    653.00       .00       .00    653.07       .07       .09       .00    648.90
      517.0     117.7     387.5      11.8      59.5     174.7      12.2       7.9       2.6    651.30
        .16      1.98      2.22       .97      .035      .045      .035      .000    646.80   1108.01
    .000534       147.      149.      156.         0         0         0       .00     70.20   1178.22


 *SECNO 44530.000
  44530.000      6.30    653.10       .00       .00    653.17       .07       .10       .00    648.90
      517.0     119.3     384.2      13.5      62.1     178.5      13.7       9.0       3.0    651.30
        .19      1.92      2.15       .99      .035      .045      .035      .000    646.80   1107.57
    .000489       195.      195.      195.         1         0         0       .00     71.10   1178.67


 CCHV=     .300 CEHV=     .500
 *SECNO 44592.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       657.50 ELREA=       657.50

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     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


  44592.000      7.45    653.10       .00       .00    653.24       .14       .03       .04    647.55
      517.0        .0     517.0        .0        .0     170.1        .0       9.3       3.0    647.56
        .19       .00      3.04       .00      .000      .040      .000      .000    645.65   1117.10
    .000529        66.       66.       66.         2         0         0       .00     23.10   1140.20


 *SECNO 44630.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       660.00 ELREA=       658.50
```

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	7.47	653.12	.00	.00	653.26	.14	.02	.00	647.55
517.0	.0	517.0	.0	.0	170.5	.0	9.5	3.0	647.56
.20	.00	3.03	.00	.000	.040	.000	.000	645.65	1117.10
.000525	34.	34.	34.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 653.18 BRIDGE VELOCITY= 3.25 CALCULATED CHANNEL AREA= 158.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	653.31	.01	0.	517.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	7.33	653.13	.00	.00	653.31	.18	.05	.00	645.80
517.0	.0	517.0	.0	.0	154.0	.0	10.3	3.2	645.80
.21	.00	3.36	.00	.000	.040	.000	.000	645.80	1097.70
.000573	214.	214.	214.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000
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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	7.53	653.24	.00	.00	653.35	.11	.02	.02	645.71
517.0	.0	517.0	.0	.0	195.7	.0	10.4	3.2	645.71
.22	.00	2.64	.00	.000	.040	.000	.000	645.71	1095.00
.000343	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	7.53	653.24	.00	.00	653.35	.11	.00	.00	645.71
517.0	.0	517.0	.0	.0	195.8	.0	10.5	3.2	645.71
.22	.00	2.64	.00	.000	.040	.000	.000	645.71	1095.00
.000342	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 652.134 EGOC = 654.195 PCWSE= 653.241 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
652.13	654.20	.85	0.	517.	2.712	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	7.33	654.08	.00	.00	654.20	.11	.85	.00	646.75

```
      517.0        .0      517.0        .0        .0      190.6        .0       10.8        3.2    646.75
        .23        .00       2.71       .00      .000       .050      .000       .000     646.75   1115.00
    .000585       63.        63.        63.         2          0         0        .00      26.00   1141.00


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     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 45025.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.49

  45025.000      6.20     654.20        .00        .00     654.23        .03        .02        .01     651.00
      517.0     108.2      341.6       67.2       76.6      236.4      108.6       11.2        3.5     653.20
        .24      1.41       1.45        .62        .030       .050       .030       .000     648.00   1006.61
    .000262        5.         65.        130.         2          0         0        .00      244.47   1267.96


 *SECNO 45345.000
  45345.000      6.50     654.30        .00        .00     654.34        .04        .11        .00     652.40
      517.0     108.9      327.9       80.1       84.4      174.0       60.8       14.0        5.0     651.60
        .29      1.29       1.89       1.32        .030       .050       .030       .000     647.80   1026.93
    .000476       310.       320.       330.         2          0         0        .00      152.37   1179.30


 CCHV=      .300 CEHV=      .500
 1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
 *H      7.5000       .0000       .0000       .0000       .0000       .0000       .0000       .0000       .0000       .0000
 *SECNO 45356.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.52

  45356.000     10.08     654.35        .00        .00     654.36        .01        .01        .01     651.73
      517.0      57.2      443.3       16.5      131.4      724.4       41.9       14.7        5.2     651.45
        .32        .44        .61        .39        .030       .050       .030       .000     644.27   1061.10
    .000038       21.        66.        21.         2          0         0        .00      238.05   1299.15


 *SECNO 45395.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .54


 3370 NORMAL BRIDGE, NRD=  28 MIN ELTRD=   660.72 MAX ELLC=   659.04

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     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


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       661.00 ELREA=       661.00

  45395.000      9.68     654.35        .00        .00     654.37        .02        .00        .01     646.67
      517.0        .0      517.0        .0         .0      426.6         .0       15.3        5.3     646.52
        .33        .00       1.21       .00        .000       .050       .000       .000     644.67   1187.40
    .000132       39.        39.        39.         1          0         0     -92.51      48.00   1235.40


 *SECNO 45435.000

 3370 NORMAL BRIDGE, NRD=  28 MIN ELTRD=   660.72 MAX ELLC=   659.04


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       661.00 ELREA=       661.00

  45435.000      9.68     654.35        .00        .00     654.38        .02        .01        .00     646.67
      517.0        .0      517.0        .0         .0      426.4         .0       15.7        5.3     646.52
        .34        .00       1.21       .00        .000       .050       .000       .000     644.67   1187.40
    .000132       40.        40.        40.         0          0         0     -92.43      48.00   1235.40
```

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.75

45501.000	7.09	654.37	.00	.00	654.38	.01	.00	.00	650.01
517.0	219.0	191.6	106.4	335.2	232.2	204.9	16.6	5.6	650.34
.36	.65	.83	.52	.030	.040	.030	.000	647.28	1070.78
.000043	66.	66.	66.	1	0	0	.00	270.59	1341.38

*SECNO 45650.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

45650.000	5.97	654.37	.00	.00	654.40	.03	.01	.01	652.10
517.0	177.0	286.5	53.6	152.5	184.7	55.2	18.4	6.3	652.10
.39	1.16	1.55	.97	.030	.040	.030	.000	648.40	967.16
.000210	129.	139.	144.	1	0	0	.00	172.17	1146.44

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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= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .29

45750.000	7.02	654.42	.00	.00	654.42	.01	.02	.01	654.20
76.0	3.1	72.9	.0	23.7	118.0	.0	19.0	6.6	654.50
.44	.13	.62	.00	.030	.040	.000	.000	647.40	995.81
.000053	100.	100.	100.	2	0	0	.00	140.08	1135.89

*SECNO 45755.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.50

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	7.02	654.42	.00	.00	654.43	.01	.00	.00	654.20
76.0	2.0	74.0	.0	23.8	90.7	.0	19.1	6.6	654.50
.44	.09	.82	.00	.030	.015	.000	.000	647.40	995.80
.000023	5.	5.	5.	0	0	0	-27.32	140.09	1135.89

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	7.02	654.42	.00	.00	654.43	.01	.00	.00	654.20
76.0	2.0	74.0	.0	23.5	90.6	.0	19.1	6.7	654.50
.44	.09	.82	.00	.030	.015	.000	.000	647.40	995.85
.000023	2.	2.	2.	0	0	0	-27.32	140.04	1135.89

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

45760.000	7.02	654.42	.00	.00	654.43	.01	.00	.00	654.20
76.0	3.7	72.3	.0	23.5	118.0	.0	19.1	6.7	654.50
.44	.16	.61	.00	.030	.050	.000	.000	647.40	995.85
.000081	3.	3.	3.	0	0	0	.00	140.04	1135.89

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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 45785.000
 45785.000      7.02    654.42       .00       .00    654.43       .01       .00       .00    654.20
      76.0       3.9      72.1        .0      24.3     118.2        .0      19.2       6.7    654.50
       .45       .16       .61       .00       .030      .050      .000      .000    647.40    995.71
   .000080       25.       25.       25.         0         0         0       .00    140.19   1135.90


CCHV=     .300 CEHV=     .500
*SECNO 45810.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.75

 45810.000      8.28    654.42       .00       .00    654.43       .01       .00       .00    646.14
      76.0       3.7      72.0        .3      18.4     116.0       2.7      19.2       6.8    646.14
       .46       .20       .62       .11       .030      .050      .030      .000    646.14   1015.68
   .000026       25.       25.       25.         0         0         0       .00     47.58   1138.05


*SECNO 45815.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

 45815.000      8.28    654.42       .00       .00    654.43       .01       .00       .00    646.14
      76.0        .6      75.4        .0       8.1      94.3        .1      19.2       6.8    646.14
       .47       .08       .80       .00       .030      .015      .030      .000    646.14   1015.70
   .000014        5.        5.        5.         0         0         0    -34.50     47.48   1138.00


*SECNO 45835.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

 45835.000      8.28    654.42       .00       .00    654.43       .01       .00       .00    646.14
      76.0        .6      75.4        .0       8.1      94.3        .1      19.3       6.8    646.14
       .47       .08       .80       .00       .030      .015      .030      .000    646.14   1015.75
   .000014       21.       21.       21.         0         0         0    -34.47     47.25   1137.89


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    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 45840.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .66

 45840.000      7.53    654.43       .00       .00    654.43       .00       .00       .00    654.10
      76.0       4.1      71.9        .0      33.6     162.4        .0      19.3       6.8    654.80
       .48       .12       .44       .00       .035      .050      .000      .000    646.90    985.42
   .000032        5.        5.        5.         0         0         0       .00    129.40   1114.82


CCHV=     .100 CEHV=     .300
*SECNO 45870.000
 45870.000      7.53    654.43       .00       .00    654.44       .00       .00       .00    654.10
      76.0       4.0      72.0        .0      34.6     162.8        .0      19.5       6.9    654.80
       .50       .12       .44       .00       .030      .040      .000      .000    646.90    985.08
   .000021       30.       30.       30.         0         0         0       .00    129.76   1114.84


*SECNO 45885.000
 45885.000      7.59    654.43       .00       .00    654.44       .00       .00       .00    653.11
      76.0       7.9      68.1        .0      45.6     165.6        .0      19.5       7.0    654.38
       .51       .17       .41       .00       .030      .040      .000      .000    646.84   1141.46
   .000016       15.       15.       15.         0         0         0       .00     94.48   1235.94


*SECNO 46140.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.29

 46140.000      6.94    654.44       .00       .00    654.44       .00       .00       .00    652.30
      76.0       13.0      58.9        4.0     274.2     640.6     104.7      23.1       8.5    652.40
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      1.38       .05       .09       .04      .030      .040      .030      .000    647.50    884.46
    .000001      255.      255.      255.         0         0         0       .00    425.27   1309.74


 *SECNO 46290.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.41

  46290.000      6.74    654.44       .00       .00    654.44       .00       .00       .00    652.50
      76.0        .4      75.1        .5      38.0    1989.0      33.6      28.4      10.0    652.30
       2.49       .01       .04       .02      .030      .040      .030      .000    647.70    978.82
    .000000      150.      150.      150.         0         0         0       .00    463.45   1499.23


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     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=      .300 CEHV=      .500
 *SECNO 46540.000

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

  46540.000      6.24    654.44       .00       .00    654.44       .00       .00       .00    654.90
      76.0        .0      76.0        .0        .0    1034.8        .0      37.3      11.9    656.10
       3.43       .00       .07       .00      .000      .040      .000      .000    648.20   1164.43
    .000000      250.      250.      250.         0         0         0       .00    193.45   1357.88


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .10


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

  46610.000      6.43    654.43       .00       .00    654.44       .01       .00       .00    654.60
      76.0        .0      76.0        .0        .0    131.8         .0      38.2      12.1    655.60
       3.47       .00       .58       .00      .000      .040      .000      .000    648.00   1204.44
    .000042       70.       70.       70.         0         0         0       .00     29.44   1233.87


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED:  5-YEAR 12-HOUR DURATION

 J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                  7                             0                                     651.30

 J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       6                  -1

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     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 6
0

 CCHV=      .100 CEHV=      .300
 *SECNO 43155.000
  43155.000      7.50    651.30       .00    651.30    651.61       .31       .00       .00    667.30
      538.0       .0      538.0        .0        .0    120.3         .0        .0        .0    666.70
        .00       .00       4.47       .00      .000      .045      .000      .000    643.80   1025.75
    .003449        0.        0.        0.         0         0         0       .00     21.72   1047.46
```

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.88

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	6.59	651.79	.00	.00	651.88	.10	.25	.02	655.00
538.0	.0	538.0	.0	.0	216.1	.0	.6	.1	661.00
.02	.00	2.49	.00	.000	.045	.000	.000	645.20	1090.64
.000979	170.	150.	130.	2	0	0	.00	53.65	1144.30

*SECNO 43659.000

3265 DIVIDED FLOW

43659.000	6.33	652.11	.00	.00	652.18	.06	.29	.00	650.60
538.0	18.6	384.5	134.9	19.9	175.6	87.7	2.6	1.0	651.86
.07	.93	2.19	1.54	.035	.045	.035	.000	645.78	1211.96
.000698	319.	354.	369.	2	0	0	.00	155.10	1379.60

*SECNO 43675.000

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	5.96	652.16	.00	.00	652.19	.02	.01	.00	653.00
538.0	.0	231.3	306.7	.0	171.4	277.8	2.8	1.1	651.50
.07	.00	1.35	1.10	.000	.045	.035	.000	646.20	1130.97
.000297	16.	16.	16.	2	0	0	.00	219.54	1350.51

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .59

43873.000	7.10	652.21	.00	.00	652.28	.07	.08	.02	649.47
437.0	45.1	340.6	51.3	26.8	145.9	37.0	4.3	1.7	649.69
.10	1.68	2.33	1.39	.035	.045	.035	.000	645.11	1422.92
.000554	186.	198.	215.	2	0	0	.00	61.70	1484.62

*SECNO 44015.000

44015.000	7.11	652.31	.00	.00	652.37	.06	.08	.00	652.30
437.0	.0	437.0	.0	.0	227.8	.0	5.0	1.9	656.60
.12	.01	1.92	.00	.000	.045	.000	.000	645.20	1085.93
.000610	134.	142.	155.	2	0	0	.00	60.40	1146.32

*SECNO 44186.000

44186.000	6.38	652.42	.00	.00	652.49	.07	.12	.00	651.84
437.0	1.0	436.0	.0	1.9	202.7	.0	5.9	2.2	652.35
.14	.52	2.15	.01	.035	.045	.035	.000	646.04	1198.18
.000793	168.	171.	199.	0	0	0	.00	63.38	1261.56

*SECNO 44335.000

44335.000	5.72	652.52	.00	.00	652.59	.07	.10	.00	648.90
437.0	92.8	339.5	4.6	48.9	158.5	6.4	6.6	2.4	651.30
.16	1.90	2.14	.72	.035	.045	.035	.000	646.80	1109.94
.000567	147.	149.	156.	0	0	0	.00	65.53	1175.47

*SECNO 44530.000

44530.000	5.83	652.63	.00	.00	652.69	.06	.11	.00	648.90
437.0	94.5	337.0	5.6	51.3	162.1	7.6	7.6	2.7	651.30
.19	1.84	2.08	.73	.035	.045	.035	.000	646.80	1109.51
.000518	195.	195.	195.	2	0	0	.00	66.90	1176.41

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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
44592.000	6.99	652.64	.00	.00	652.75	.12	.03	.03	647.55
437.0	.0	437.0	.0	.0	159.4	.0	7.8	2.8	647.56
.19	.00	2.74	.00	.000	.040	.000	.000	645.65	1117.10
.000469	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	7.00	652.65	.00	.00	652.77	.12	.02	.00	647.55
437.0	.0	437.0	.0	.0	159.8	.0	8.0	2.8	647.56
.20	.00	2.74	.00	.000	.040	.000	.000	645.65	1117.10
.000466	34.	34.	34.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 652.72 BRIDGE VELOCITY= 2.92 CALCULATED CHANNEL AREA= 148.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	652.81	.01	0.	437.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	6.86	652.66	.00	.00	652.81	.14	.04	.00	645.80
437.0	.0	437.0	.0	.0	144.1	.0	8.7	2.9	645.80
.22	.00	3.03	.00	.000	.040	.000	.000	645.80	1097.70
.000510	214.	214.	214.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	7.04	652.75	.00	.00	652.84	.09	.02	.02	645.71
437.0	.0	437.0	.0	.0	183.0	.0	8.9	2.9	645.71
.22	.00	2.39	.00	.000	.040	.000	.000	645.71	1095.00
.000306	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	7.04	652.75	.00	.00	652.84	.09	.00	.00	645.71
437.0	.0	437.0	.0	.0	183.2	.0	8.9	2.9	645.71
.22	.00	2.39	.00	.000	.040	.000	.000	645.71	1095.00
.000305	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD

```
     3          .012       .50       2.70        .00       6.00        .00      63.00       1         1        646.75    645.71

 CHART  1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
 SCALE  1 - SQUARE EDGE ENTRANCE WITH HEADWALL

 *SECNO 44970.000

 SPECIAL CULVERT OUTLET CONTROL
 EGIC =    651.558  EGOC =    653.436  PCWSE=    652.754  ELTRD=    657.500

 SPECIAL CULVERT

      EGIC      EGOC        H4      QWEIR      QCULV       VCH      ACULV      ELTRD     WEIRLN
    651.56    653.44       .59         0.        437.     2.553       84.8     657.50         0.


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       657.53 ELREA=       657.46

  44970.000      6.58    653.33       .00        .00    653.44       .10        .59        .00    646.75
      437.0        .0     437.0        .0         .0     171.2        .0        9.2        3.0    646.75
        .23       .00      2.55       .00       .000      .050       .000       .000     646.75   1115.00
    .000598        63.       63.       63.          2         0          0        .00      26.00   1141.00


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     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 45025.000

 3265 DIVIDED FLOW

  45025.000      5.43    653.43       .00        .00    653.47       .04        .03        .01    651.00
      437.0      78.5     349.6       8.9       50.4     203.3       18.8        9.5        3.1    653.20
        .24      1.56      1.72       .47       .030      .050       .030       .000     648.00   1012.00
    .000453         5.       65.      130.          2         0          0        .00     140.26   1233.73


 *SECNO 45345.000
  45345.000      5.80    653.60       .00        .00    653.67       .07        .19        .01    652.40
      437.0      47.5     341.9      47.6       39.0     150.8       33.3       11.3        4.1    651.60
        .28      1.22      2.27      1.43       .030      .050       .030       .000     647.80   1045.69
    .000833       310.      320.      330.          0         0          0        .00     121.90   1167.59


 CCHV=      .300 CEHV=      .500
 1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
 *H      7.5000       .0000       .0000       .0000       .0000       .0000       .0000       .0000       .0000       .0000
 *SECNO 45356.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.28

  45356.000      9.42    653.69       .00        .00    653.70       .01        .01        .02    651.73
      437.0      29.7     398.4       9.0       76.7     646.4       25.0       11.9        4.2    651.45
        .31       .39       .62       .36       .030      .050       .030       .000     644.27   1079.92
    .000045        21.       66.       21.          2         0          0        .00     212.66   1292.58


 *SECNO 45395.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .62


 3370 NORMAL BRIDGE, NRD=  28 MIN ELTRD=   660.72 MAX ELLC=   659.04


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       661.00 ELREA=       661.00

  45395.000      9.02    653.69       .00        .00    653.71       .02        .00        .01    646.67
      437.0        .0     437.0        .0         .0     394.6        .0       12.5        4.3    646.52
        .32       .00      1.11       .00       .000      .050       .000       .000     644.67   1187.40
    .000119        39.       39.       39.          2         0          0     -81.83      48.00   1235.40


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

 *SECNO 45435.000

 3370 NORMAL BRIDGE, NRD=  28 MIN ELTRD=   660.72 MAX ELLC=   659.04


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       661.00 ELREA=       661.00

  45435.000      9.02    653.69       .00       .00    653.71       .02       .00       .00    646.67
      437.0        .0     437.0        .0        .0     394.8        .0      12.8       4.4    646.52
        .33       .00      1.11       .00      .000      .050      .000      .000    644.67   1187.40
    .000119       40.       40.       40.         0         0         0    -81.88     48.00   1235.40


 CCHV=     .100 CEHV=     .300
 *SECNO 45501.000
  45501.000      6.43    653.71       .00       .00    653.72       .01       .01       .00    650.01
      437.0     172.4     196.3      68.2     252.7     208.4     133.4      13.6       4.6    650.34
        .35       .68       .94       .51      .030      .040      .030      .000    647.28   1073.77
    .000065       66.       66.       66.         0         0         0       .00    262.63   1336.40


 *SECNO 45650.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .45

  45650.000      5.31    653.71       .00       .00    653.74       .04       .02       .01    652.10
      437.0     121.6     282.9      32.5     102.4     160.8      29.0      15.0       5.2    652.10
        .38       1.19      1.76      1.12      .030      .040      .030      .000    648.40    975.86
    .000326       129.      139.      144.         1         0         0       .00    129.29   1117.39


 CCHV=     .300 CEHV=     .500
 *SECNO 45750.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .33

  45750.000      6.37    653.77       .00       .00    653.78       .01       .02       .01    654.20
       70.0        .0      70.0        .0        .0      99.7        .0      15.4       5.4    654.50
        .42       .00       .70       .00      .000      .040      .000      .000    647.40   1107.59
    .000079       100.      100.      100.         2         0         0       .00     27.44   1135.03


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     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 45755.000

 3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

  45755.000      6.37    653.77       .00       .00    653.78       .01       .00       .00    654.20
       70.0        .0      70.0        .0        .0      72.4        .0      15.4       5.4    654.50
        .42       .00       .97       .00      .000      .015      .000      .000    647.40   1107.59
    .000042         5.        5.        5.         0         0         0    -27.32     27.44   1135.03


 *SECNO 45757.000

 3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

  45757.000      6.37    653.77       .00       .00    653.78       .01       .00       .00    654.20
       70.0        .0      70.0        .0        .0      72.3        .0      15.4       5.4    654.50
        .42       .00       .97       .00      .000      .015      .000      .000    647.40   1107.60
    .000042         2.        2.        2.         0         0         0    -27.32     27.43   1135.02


 *SECNO 45760.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .58

  45760.000      6.38    653.78       .00       .00    653.78       .01       .00       .00    654.20
       70.0        .0      70.0        .0        .0      99.7        .0      15.4       5.4    654.50
        .42       .00       .70       .00      .000      .050      .000      .000    647.40   1107.60
    .000124         3.        3.        3.         0         0         0       .00     27.43   1135.02
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*SECNO 45785.000
 45785.000      6.38    653.78       .00       .00    653.79       .01       .00       .00    654.20
      70.0        .0      70.0        .0        .0     100.0        .0      15.5       5.4    654.50
       .43       .00       .70       .00      .000      .050      .000      .000    647.40   1107.58
   .000123       25.       25.       25.         0         0         0       .00     27.46   1135.04


CCHV=     .300 CEHV=     .500
*SECNO 45810.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.95

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    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


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.90 ELREA=       653.90

 45810.000      7.64    653.78       .00       .00    653.79       .01       .00       .00    646.14
      70.0        .0      70.0        .0        .0     107.0        .0      15.5       5.4    646.14
       .44       .00       .65       .00      .000      .050      .000      .000    646.14   1089.00
   .000032       25.       25.       25.         0         0         0       .00     14.00   1103.00


*SECNO 45815.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.63

3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.90 ELREA=       653.90

 45815.000      7.64    653.78       .00       .00    653.79       .01       .00       .00    646.14
      70.0        .0      70.0        .0        .0      94.3        .0      15.6       5.4    646.14
       .44       .00       .74       .00      .000      .015      .000      .000    646.14   1089.00
   .000012        5.        5.        5.         0         0         0    -12.69     14.00   1103.00


*SECNO 45835.000

3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.90 ELREA=       653.90

 45835.000      7.64    653.78       .00       .00    653.79       .01       .00       .00    646.14
      70.0        .0      70.0        .0        .0      94.3        .0      15.6       5.5    646.14
       .45       .00       .74       .00      .000      .015      .000      .000    646.14   1089.00
   .000012       21.       21.       21.         0         0         0    -12.68     14.00   1103.00


*SECNO 45840.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

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    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


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.20 ELREA=       654.20

 45840.000      6.89    653.79       .00       .00    653.79       .00       .00       .00    654.10
      70.0        .0      70.0        .0        .0     141.9        .0      15.6       5.5    654.80
       .45       .00       .49       .00      .000      .050      .000      .000    646.90   1082.20
   .000045        5.        5.        5.         0         0         0       .00     30.95   1113.15


CCHV=     .100 CEHV=     .300
*SECNO 45870.000
 45870.000      6.89    653.79       .00       .00    653.79       .00       .00       .00    654.10
      70.0        .0      70.0        .0        .0     142.1        .0      15.7       5.5    654.80
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       .47       .00       .49       .00      .000      .040      .000      .000    646.90   1082.19
   .000028       30.       30.       30.         0         0         0       .00     30.98   1113.17


 *SECNO 45885.000
  45885.000      6.95    653.79       .00       .00    653.79       .00       .00       .00    653.11
      70.0       1.5      68.5        .0      12.8      146.6        .0      15.8       5.5    654.38
       .48       .11       .47       .00      .030      .040      .000      .000    646.84   1166.68
   .000023       15.       15.       15.         0         0         0       .00     66.70   1233.38


 *SECNO 46140.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.11

  46140.000      6.29    653.79       .00       .00    653.79       .00       .00       .00    652.30
      70.0       6.5      61.7       1.8     148.4      575.2      48.6      18.5       6.7    652.40
       1.19      .04        .11       .04      .030      .040      .030      .000    647.50    902.29
   .000001       255.      255.      255.         0         0         0       .00    351.51   1261.32


 *SECNO 46290.000

 3265 DIVIDED FLOW

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    21MAY12      10:19:01                                                                          PAGE   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


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.69

  46290.000      6.09    653.79       .00       .00    653.79       .00       .00       .00    652.50
      70.0         .0      69.7        .2       3.0     1775.7      16.5      22.9       8.0    652.30
       2.25      .01       .04       .01      .030      .040      .030      .000    647.70   1000.55
   .000000       150.      150.      150.         0         0         0       .00    374.60   1489.80


 CCHV=     .300 CEHV=     .500
 *SECNO 46540.000

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

  46540.000      5.59    653.79       .00       .00    653.79       .00       .00       .00    654.90
      70.0         .0      70.0        .0        .0     911.3        .0      30.7       9.6    656.10
       3.16      .00       .08       .00      .000      .040      .000      .000    648.20   1166.00
   .000001       250.      250.      250.         0         0         0       .00    191.42   1357.42


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .10


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

  46610.000      5.79    653.79       .00       .00    653.80       .01       .00       .00    654.60
      70.0         .0      70.0        .0        .0     113.8        .0      31.5       9.8    655.60
       3.19      .00       .62       .00      .000      .040      .000      .000    648.00   1206.15
   .000051       70.       70.       70.         0         0         0       .00     26.66   1232.81


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED:  2-YEAR 12-HOUR DURATION

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                 8                             0                                   650.63

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       7                 -1

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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 7
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	6.83	650.63	.00	650.63	650.86	.23	.00	.00	667.30
406.0	.0	406.0	.0	.0	105.8	.0	.0	.0	666.70
.00	.00	3.84	.00	.000	.045	.000	.000	643.80	1025.79
.002859	0.	0.	0.	0	0	0	.00	21.62	1047.41

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.68

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	5.83	651.03	.00	.00	651.11	.08	.24	.01	655.00
406.0	.0	406.0	.0	.0	176.6	.0	.5	.1	661.00
.02	.00	2.30	.00	.000	.045	.000	.000	645.20	1091.94
.001019	170.	150.	130.	2	0	0	.00	51.07	1143.02

*SECNO 43659.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 650.60 ELREA= 651.86

43659.000	5.63	651.41	.00	.00	651.53	.11	.41	.01	650.60
406.0	4.8	401.2	.0	5.8	147.2	.0	1.8	.5	651.86
.05	.84	2.72	.00	.035	.045	.000	.000	645.78	1224.15
.001298	319.	354.	369.	2	0	0	.00	53.61	1277.76

*SECNO 43675.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	5.23	651.43	.00	.00	651.56	.13	.02	.01	653.00
406.0	.0	406.0	.0	.0	139.4	.0	1.9	.6	651.50
.06	.00	2.91	.00	.000	.045	.000	.000	646.20	1133.13
.001691	16.	16.	16.	0	0	0	.00	42.42	1175.55

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.51

43873.000	6.57	651.68	.00	.00	651.74	.06	.18	.01	649.47
332.0	28.9	277.2	25.9	20.3	133.1	24.7	2.6	.8	649.69
.08	1.43	2.08	1.05	.035	.045	.035	.000	645.11	1424.27
.000498	186.	198.	215.	2	0	0	.00	58.16	1482.43

*SECNO 44015.000

44015.000	6.57	651.77	.00	.00	651.81	.04	.07	.00	652.30
332.0	.0	332.0	.0	.0	196.4	.0	3.2	1.0	656.60
.11	.00	1.69	.00	.000	.045	.000	.000	645.20	1087.79
.000530	134.	142.	155.	2	0	0	.00	56.42	1144.21

*SECNO 44186.000

44186.000	5.83	651.87	.00	.00	651.93	.06	.11	.00	651.84
332.0	.0	332.0	.0	.0	172.5	.0	3.9	1.2	652.35
.13	.01	1.92	.00	.000	.045	.000	.000	646.04	1204.44
.000752	168.	171.	199.	0	0	0	.00	54.16	1258.60

*SECNO 44335.000

44335.000	5.17	651.97	.00	.00	652.02	.05	.09	.00	648.90
332.0	63.4	267.7	.9	37.8	139.6	1.9	4.5	1.4	651.30
.15	1.68	1.92	.47	.035	.045	.035	.000	646.80	1112.18
.000539	147.	149.	156.	0	0	0	.00	58.52	1170.70

*SECNO 44530.000

44530.000	5.27	652.07	.00	.00	652.12	.05	.10	.00	648.90
332.0	64.8	265.9	1.3	39.8	143.1	2.5	5.4	1.7	651.30
.18	1.63	1.86	.49	.035	.045	.035	.000	646.80	1111.76
.000489	195.	195.	195.	2	0	0	.00	59.83	1171.60

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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
44592.000	6.43	652.08	.00	.00	652.16	.08	.03	.01	647.55
332.0	.0	332.0	.0	.0	146.6	.0	5.6	1.7	647.56
.19	.00	2.26	.00	.000	.040	.000	.000	645.65	1117.10
.000358	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	6.45	652.10	.00	.00	652.17	.08	.01	.00	647.55
332.0	.0	332.0	.0	.0	146.9	.0	5.7	1.7	647.56
.20	.00	2.26	.00	.000	.040	.000	.000	645.65	1117.10
.000355	34.	34.	34.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	200.00	.00	645.30	645.15

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 652.16 BRIDGE VELOCITY= 2.39 CALCULATED CHANNEL AREA= 137.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	652.20	.01	0.	332.	200.	200.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	6.30	652.10	.00	.00	652.20	.10	.03	.00	645.80
332.0	.0	332.0	.0	.0	132.4	.0	6.4	1.8	645.80
.22	.00	2.51	.00	.000	.040	.000	.000	645.80	1097.70
.000392	214.	214.	214.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000
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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	6.45	652.16	.00	.00	652.22	.06	.01	.01	645.71
332.0	.0	332.0	.0	.0	167.8	.0	6.5	1.9	645.71
.23	.00	1.98	.00	.000	.040	.000	.000	645.71	1095.00
.000236	40.	40.	40.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	6.46	652.17	.00	.00	652.23	.06	.00	.00	645.71
332.0	.0	332.0	.0	.0	167.9	.0	6.6	1.9	645.71
.23	.00	1.98	.00	.000	.040	.000	.000	645.71	1095.00
.000236	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 650.786 EGOC = 652.559 PCWSE= 652.165 ELTRD= 657.500

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .66

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
650.79	652.56	.33	0.	332.	2.228	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	5.73	652.48	.00	.00	652.56	.08	.33	.00	646.75
332.0	.0	332.0	.0	.0	149.0	.0	6.8	1.9	646.75
.24	.00	2.23	.00	.000	.050	.000	.000	646.75	1115.00
.000548	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

45025.000	4.55	652.55	.00	.00	652.60	.05	.04	.00	651.00
332.0	34.1	297.9	.0	25.6	165.8	.0	7.1	2.0	653.20
.25	1.33	1.80	.00	.030	.050	.000	.000	648.00	1018.15
.000628	5.	65.	130.	2	0	0	.00	67.27	1085.41

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45345.000	5.00	652.80	.00	.00	652.89	.09	.28	.01	652.40
332.0	3.0	313.6	15.5	4.8	124.4	12.0	8.3	2.5	651.60
.28	.62	2.52	1.28	.030	.050	.030	.000	647.80	1077.05
.001330	310.	320.	330.	2	0	0	.00	77.21	1154.26

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.22

45356.000	8.65	652.92	.00	.00	652.93	.01	.01	.03	651.73
332.0	7.9	321.1	3.0	30.1	556.1	10.8	8.8	2.6	651.45
.31	.26	.58	.28	.030	.050	.030	.000	644.27	1103.54
.000049	21.	66.	21.	2	0	0	.00	181.41	1284.96

*SECNO 45395.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	8.25	652.92	.00	.00	652.94	.01	.00	.00	646.67
332.0	.0	332.0	.0	.0	357.9	.0	9.2	2.7	646.52
.32	.00	.93	.00	.000	.050	.000	.000	644.67	1187.40
.000092	39.	39.	39.	2	0	0	-69.64	48.00	1235.40

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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 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	8.26	652.93	.00	.00	652.94	.01	.00	.00	646.67
332.0	.0	332.0	.0	.0	358.1	.0	9.6	2.8	646.52
.34	.00	.93	.00	.000	.050	.000	.000	644.67	1187.40
.000092	40.	40.	40.	0	0	0	-69.69	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3265 DIVIDED FLOW

45501.000	5.65	652.93	.00	.00	652.95	.01	.01	.00	650.01
332.0	108.2	195.8	28.0	160.2	181.1	56.1	10.1	3.0	650.34
.36	.68	1.08	.50	.030	.040	.030	.000	647.28	1077.21
.000104	66.	66.	66.	0	0	0	.00	240.13	1330.68

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .44

45650.000	4.53	652.93	.00	.00	652.99	.05	.03	.01	652.10
332.0	54.3	265.5	12.2	51.5	133.0	13.2	11.1	3.6	652.10
.38	1.06	2.00	.92	.030	.040	.030	.000	648.40	985.99
.000541	129.	139.	144.	1	0	0	.00	115.89	1101.88

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

45750.000	5.63	653.03	.00	.00	653.04	.01	.04	.01	654.20
62.0	.0	62.0	.0	.0	80.1	.0	11.4	3.7	654.50
.41	.00	.77	.00	.000	.040	.000	.000	647.40	1108.62
.000115	100.	100.	100.	2	0	0	.00	25.42	1134.04

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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 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	5.62	653.02	.00	.00	653.04	.02	.00	.01	654.20
62.0	.0	62.0	.0	.0	52.8	.0	11.4	3.7	654.50
.42	.00	1.17	.00	.000	.015	.000	.000	647.40	1108.61
.000086	5.	5.	5.	0	0	0	-27.32	25.43	1134.04

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	5.62	653.02	.00	.00	653.04	.02	.00	.00	654.20
62.0	.0	62.0	.0	.0	52.7	.0	11.4	3.7	654.50
.42	.00	1.18	.00	.000	.015	.000	.000	647.40	1108.62
.000087	2.	2.	2.	0	0	0	-27.32	25.41	1134.03

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45760.000	5.64	653.04	.00	.00	653.05	.01	.00	.00	654.20
62.0	.0	62.0	.0	.0	80.2	.0	11.4	3.7	654.50
.42	.00	.77	.00	.000	.050	.000	.000	647.40	1108.61
.000180	3.	3.	3.	1	0	0	.00	25.43	1134.04

*SECNO 45785.000

45785.000	5.64	653.04	.00	.00	653.05	.01	.00	.00	654.20
62.0	.0	62.0	.0	.0	80.5	.0	11.4	3.7	654.50
.43	.00	.77	.00	.000	.050	.000	.000	647.40	1108.60
.000178	25.	25.	25.	0	0	0	.00	25.46	1134.06

CCHV= .300 CEHV= .500
*SECNO 45810.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.24

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45810.000	6.91	653.05	.00	.00	653.06	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	96.7	.0	11.5	3.7	646.14
.44	.00	.64	.00	.000	.050	.000	.000	646.14	1089.00
.000035	25.	25.	25.	0	0	0	.00	14.00	1103.00

*SECNO 45815.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.27

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45815.000	6.91	653.05	.00	.00	653.06	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	92.7	.0	11.5	3.7	646.14
.44	.00	.67	.00	.000	.015	.000	.000	646.14	1089.00
.000007	5.	5.	5.	0	0	0	-4.05	14.00	1103.00

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45835.000	6.91	653.05	.00	.00	653.06	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	92.7	.0	11.5	3.8	646.14
.45	.00	.67	.00	.000	.015	.000	.000	646.14	1089.00
.000007	21.	21.	21.	0	0	0	-4.05	14.00	1103.00

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 654.20 ELREA= 654.20

45840.000	6.15	653.05	.00	.00	653.06	.00	.00	.00	654.10
62.0	.0	62.0	.0	.0	120.2	.0	11.6	3.8	654.80
.45	.00	.52	.00	.000	.050	.000	.000	646.90	1082.88
.000054	5.	5.	5.	0	0	0	.00	28.36	1111.24

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	6.15	653.05	.00	.00	653.06	.00	.00	.00	654.10
62.0	.0	62.0	.0	.0	120.3	.0	11.6	3.8	654.80
.47	.00	.52	.00	.000	.040	.000	.000	646.90	1082.88
.000035	30.	30.	30.	0	0	0	.00	28.37	1111.25

*SECNO 45885.000

45885.000	6.22	653.06	.00	.00	653.06	.00	.00	.00	653.11
62.0	.0	62.0	.0	.0	125.7	.0	11.7	3.8	654.38
.47	.00	.49	.00	.000	.040	.000	.000	646.84	1204.38
.000029	15.	15.	15.	0	0	0	.00	27.85	1232.23

*SECNO 46140.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.72

46140.000	5.56	653.06	.00	.00	653.06	.00	.00	.00	652.30
62.0	1.6	60.1	.3	45.5	500.3	11.0	13.7	4.6	652.40
1.08	.04	.12	.03	.030	.040	.030	.000	647.50	927.82
.000001	255.	255.	255.	0	0	0	.00	235.86	1224.75

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.90

46290.000	5.36	653.06	.00	.00	653.06	.00	.00	.00	652.50
62.0	.0	62.0	.0	.4	1531.5	4.3	17.3	5.6	652.30
2.11	.01	.04	.01	.030	.040	.030	.000	647.70	1133.70
.000000	150.	150.	150.	0	0	0	.00	345.31	1479.01

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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= .300 CEHV= .500
*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .46

46540.000	4.86	653.06	.00	.00	653.06	.00	.00	.00	654.90
62.0	.0	62.0	.0	.0	771.6	.0	23.9	7.1	656.10
2.97	.00	.08	.00	.000	.040	.000	.000	648.20	1167.79
.000001	250.	250.	250.	0	0	0	.00	189.09	1356.88

*SECNO 46610.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .11

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 654.80 ELREA= 654.80

46610.000	5.06	653.06	.00	.00	653.06	.01	.00	.00	654.60
62.0	.0	62.0	.0	.0	95.4	.0	24.6	7.3	655.60
3.00	.00	.65	.00	.000	.040	.000	.000	648.00	1208.02
.000063	70.	70.	70.	0	0	0	.00	23.57	1231.60

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THIS RUN EXECUTED 21MAY12 13:32:54

****
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

YEAR

SUMMARY PRINTOUT

	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
	43155.000	654.79	1480.00	1002.30	1065.20	1025.53	1047.75	22.22	.00
	43155.000	653.68	1189.00	1002.30	1065.20	1025.60	1047.66	22.06	.00
	43155.000	653.08	1021.00	1002.30	1065.20	1025.64	1047.61	21.97	.00
	43155.000	652.36	812.00	1002.30	1065.20	1025.68	1047.55	21.87	.00
	43155.000	651.78	645.00	1002.30	1065.20	1025.72	1047.50	21.79	.00
	43155.000	651.30	538.00	1002.30	1065.20	1025.75	1047.46	21.72	.00
	43155.000	650.63	406.00	1002.30	1065.20	1025.79	1047.41	21.62	.00
*	43305.000	655.84	1480.00	1085.10	1159.90	708.55	1151.16	318.51	1.82
*	43305.000	654.61	1189.00	1085.10	1159.90	1085.77	1149.08	63.31	.95
*	43305.000	653.91	1021.00	1085.10	1159.90	1086.97	1147.90	60.93	.86
*	43305.000	653.05	812.00	1085.10	1159.90	1088.47	1146.43	57.96	.74
*	43305.000	652.34	645.00	1085.10	1159.90	1089.69	1145.23	55.53	.65
*	43305.000	651.79	538.00	1085.10	1159.90	1090.64	1144.30	53.65	.58
*	43305.000	651.03	406.00	1085.10	1159.90	1091.94	1143.02	51.07	.49
*	43659.000	655.96	1480.00	1238.30	1279.40	1035.74	1390.87	355.13	9.29
*	43659.000	654.87	1189.00	1238.30	1279.40	1188.79	1387.27	198.48	5.75
*	43659.000	654.19	1021.00	1238.30	1279.40	1191.73	1385.10	193.36	4.93
*	43659.000	653.34	812.00	1238.30	1279.40	1195.37	1382.89	187.53	3.95
	43659.000	652.64	645.00	1238.30	1279.40	1202.79	1381.09	178.30	3.17
	43659.000	652.11	538.00	1238.30	1279.40	1211.96	1379.60	155.10	2.62
	43659.000	651.41	406.00	1238.30	1279.40	1224.15	1277.76	53.61	1.82
*	43675.000	655.98	1480.00	1128.50	1175.80	891.53	1358.08	411.53	9.78
*	43675.000	654.90	1189.00	1128.50	1175.80	978.29	1355.92	359.24	6.12
*	43675.000	654.21	1021.00	1128.50	1175.80	981.49	1354.57	346.11	5.23
*	43675.000	653.37	812.00	1128.50	1175.80	1087.62	1352.91	265.30	4.17
*	43675.000	652.68	645.00	1128.50	1175.80	1129.43	1351.54	222.11	3.34
*	43675.000	652.16	538.00	1128.50	1175.80	1130.97	1350.51	219.54	2.75
	43675.000	651.43	406.00	1128.50	1175.80	1133.13	1175.55	42.42	1.88

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	43873.000	655.93	1370.00	1435.90	1460.20	1293.39	1508.46	187.12	14.81
*	43873.000	654.88	951.00	1435.90	1460.20	1416.06	1501.72	85.66	9.95
*	43873.000	654.20	802.00	1435.90	1460.20	1417.78	1496.04	78.26	8.38
*	43873.000	653.38	641.00	1435.90	1460.20	1419.90	1489.49	69.58	6.58
*	43873.000	652.71	517.00	1435.90	1460.20	1421.63	1486.70	65.07	5.25
*	43873.000	652.21	437.00	1435.90	1460.20	1422.92	1484.62	61.70	4.31
*	43873.000	651.68	332.00	1435.90	1460.20	1424.27	1482.43	58.16	2.60
	44015.000	656.06	1370.00	1086.20	1163.20	923.00	1161.09	238.09	17.03
	44015.000	654.98	951.00	1086.20	1163.20	923.00	1156.82	233.82	11.59
	44015.000	654.30	802.00	1086.20	1163.20	975.63	1154.16	178.54	9.70
	44015.000	653.47	641.00	1086.20	1163.20	1011.19	1150.91	139.72	7.59
	44015.000	652.80	517.00	1086.20	1163.20	1069.75	1148.27	78.52	6.08
	44015.000	652.31	437.00	1086.20	1163.20	1085.93	1146.32	60.40	5.02
	44015.000	651.77	332.00	1086.20	1163.20	1087.79	1144.21	56.42	3.21
	44186.000	656.10	1370.00	1204.70	1260.50	1016.89	1279.97	263.08	20.07
	44186.000	655.02	951.00	1204.70	1260.50	1106.10	1276.22	170.12	13.67
	44186.000	654.36	802.00	1204.70	1260.50	1172.05	1273.97	101.91	11.34
	44186.000	653.56	641.00	1204.70	1260.50	1184.70	1271.16	86.46	8.82
	44186.000	652.90	517.00	1204.70	1260.50	1192.59	1268.85	76.26	7.06
	44186.000	652.42	437.00	1204.70	1260.50	1198.18	1261.56	63.38	5.87
	44186.000	651.87	332.00	1204.70	1260.50	1204.44	1258.60	54.16	3.94
	44335.000	656.16	1370.00	1131.10	1165.00	920.20	1190.96	270.76	22.38
	44335.000	655.08	951.00	1131.10	1165.00	1037.18	1186.62	149.44	15.19
	44335.000	654.44	802.00	1131.10	1165.00	1085.33	1184.01	98.68	12.59
	44335.000	653.65	641.00	1131.10	1165.00	1105.41	1180.84	75.43	9.83
	44335.000	653.00	517.00	1131.10	1165.00	1108.01	1178.22	70.20	7.89

	44335.000	652.52	437.00	1131.10	1165.00	1109.94	1175.47	65.53	6.59
	44335.000	651.97	332.00	1131.10	1165.00	1112.18	1170.70	58.52	4.54
	44530.000	656.23	1370.00	1131.10	1165.00	920.20	1191.29	271.09	25.42
	44530.000	655.17	951.00	1131.10	1165.00	1010.68	1186.98	176.31	17.17
	44530.000	654.52	802.00	1131.10	1165.00	1081.18	1184.40	103.22	14.22
	44530.000	653.75	641.00	1131.10	1165.00	1105.00	1181.25	76.26	11.16
	44530.000	653.10	517.00	1131.10	1165.00	1107.57	1178.67	71.10	9.01
	44530.000	652.63	437.00	1131.10	1165.00	1109.51	1176.41	66.90	7.56
	44530.000	652.07	332.00	1131.10	1165.00	1111.76	1171.60	59.83	5.35
*	44592.000	656.05	1370.00	1117.10	1140.20	1117.10	1140.20	23.10	26.13
*	44592.000	655.09	951.00	1117.10	1140.20	1117.10	1140.20	23.10	17.68
	44592.000	654.48	802.00	1117.10	1140.20	1117.10	1140.20	23.10	14.65
	44592.000	653.72	641.00	1117.10	1140.20	1117.10	1140.20	23.10	11.53
	44592.000	653.10	517.00	1117.10	1140.20	1117.10	1140.20	23.10	9.33
	44592.000	652.64	437.00	1117.10	1140.20	1117.10	1140.20	23.10	7.85
	44592.000	652.08	332.00	1117.10	1140.20	1117.10	1140.20	23.10	5.61

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
	44630.000	656.16	1370.00	1117.10	1140.20	1117.10	1140.20	23.10	26.32
	44630.000	655.16	951.00	1117.10	1140.20	1117.10	1140.20	23.10	17.85
	44630.000	654.53	802.00	1117.10	1140.20	1117.10	1140.20	23.10	14.81
	44630.000	653.77	641.00	1117.10	1140.20	1117.10	1140.20	23.10	11.68
	44630.000	653.14	517.00	1117.10	1140.20	1117.10	1140.20	23.10	9.47
	44630.000	652.67	437.00	1117.10	1140.20	1117.10	1140.20	23.10	7.98
	44630.000	652.11	332.00	1117.10	1140.20	1117.10	1140.20	23.10	5.72
	44830.000	656.83	1370.00	1097.70	1118.70	1097.70	1118.70	21.00	27.53
	44830.000	655.40	951.00	1097.70	1118.70	1097.70	1118.70	21.00	18.93
	44830.000	654.56	802.00	1097.70	1118.70	1097.70	1118.70	21.00	15.82
	44830.000	653.79	641.00	1097.70	1118.70	1097.70	1118.70	21.00	12.60
	44830.000	653.15	517.00	1097.70	1118.70	1097.70	1118.70	21.00	10.32
	44830.000	652.68	437.00	1097.70	1118.70	1097.70	1118.70	21.00	8.78
	44830.000	652.11	332.00	1097.70	1118.70	1097.70	1118.70	21.00	6.46
	44870.000	657.07	1370.00	1095.00	1121.00	1095.00	1121.00	26.00	27.78
	44870.000	655.55	951.00	1095.00	1121.00	1095.00	1121.00	26.00	19.15
	44870.000	654.68	802.00	1095.00	1121.00	1095.00	1121.00	26.00	16.01
	44870.000	653.89	641.00	1095.00	1121.00	1095.00	1121.00	26.00	12.78
	44870.000	653.22	517.00	1095.00	1121.00	1095.00	1121.00	26.00	10.49
	44870.000	652.74	437.00	1095.00	1121.00	1095.00	1121.00	26.00	8.93
	44870.000	652.15	332.00	1095.00	1121.00	1095.00	1121.00	26.00	6.61
	44910.000	657.08	1370.00	1095.00	1121.00	1095.00	1121.00	26.00	27.86
	44910.000	655.56	951.00	1095.00	1121.00	1095.00	1121.00	26.00	19.22
	44910.000	654.69	802.00	1095.00	1121.00	1095.00	1121.00	26.00	16.08
	44910.000	653.89	641.00	1095.00	1121.00	1095.00	1121.00	26.00	12.84
	44910.000	653.23	517.00	1095.00	1121.00	1095.00	1121.00	26.00	10.54
	44910.000	652.74	437.00	1095.00	1121.00	1095.00	1121.00	26.00	8.98
	44910.000	652.16	332.00	1095.00	1121.00	1095.00	1121.00	26.00	6.65
*	44970.000	658.40	1370.00	1115.00	1141.00	912.39	1298.81	386.42	28.77
*	44970.000	657.90	951.00	1115.00	1141.00	1015.48	1266.49	251.01	20.00
	44970.000	656.84	802.00	1115.00	1141.00	1115.00	1141.00	26.00	16.44
	44970.000	655.23	641.00	1115.00	1141.00	1115.00	1141.00	26.00	13.15
	44970.000	654.07	517.00	1115.00	1141.00	1115.00	1141.00	26.00	10.82
	44970.000	653.32	437.00	1115.00	1141.00	1115.00	1141.00	26.00	9.24
*	44970.000	652.47	332.00	1115.00	1141.00	1115.00	1141.00	26.00	6.88
*	45025.000	658.44	1370.00	1043.30	1086.30	941.81	1338.86	397.04	31.42
*	45025.000	657.92	951.00	1043.30	1086.30	955.54	1330.22	374.68	22.32
*	45025.000	657.00	802.00	1043.30	1086.30	975.51	1314.90	339.39	17.93
*	45025.000	655.37	641.00	1043.30	1086.30	979.38	1287.58	308.21	14.03
*	45025.000	654.19	517.00	1043.30	1086.30	1006.69	1267.75	243.16	11.30
	45025.000	653.42	437.00	1043.30	1086.30	1012.07	1233.20	138.76	9.55
	45025.000	652.54	332.00	1043.30	1086.30	1018.21	1085.40	67.20	7.12

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45345.000	658.44	1370.00	1101.10	1134.20	958.72	1248.75	290.03	42.71
*	45345.000	657.92	951.00	1101.10	1134.20	965.60	1239.99	274.39	32.33
*	45345.000	657.01	802.00	1101.10	1134.20	977.66	1224.63	246.97	25.86
*	45345.000	655.40	641.00	1101.10	1134.20	998.74	1197.79	199.05	18.69
	45345.000	654.29	517.00	1101.10	1134.20	1027.22	1179.12	151.91	14.01
	45345.000	653.59	437.00	1101.10	1134.20	1045.95	1167.43	121.48	11.35
*	45345.000	652.79	332.00	1101.10	1134.20	1077.42	1154.16	76.74	8.33
*	45356.000	658.46	1370.00	1152.50	1270.30	1035.68	1322.54	286.86	44.27

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*	45356.000	657.93	951.00	1152.50	1270.30	1038.96	1320.11	281.15	33.78
*	45356.000	657.02	802.00	1152.50	1270.30	1044.58	1315.19	270.61	27.12
*	45356.000	655.43	641.00	1152.50	1270.30	1054.41	1306.37	251.96	19.64
*	45356.000	654.34	517.00	1152.50	1270.30	1061.17	1299.06	237.89	14.76
*	45356.000	653.68	437.00	1152.50	1270.30	1080.16	1292.50	212.34	12.00
*	45356.000	652.92	332.00	1152.50	1270.30	1103.71	1284.90	181.19	8.86
*	45395.000	658.42	1370.00	1187.40	1235.40	1187.40	1235.40	48.00	45.42
*	45395.000	657.92	951.00	1187.40	1235.40	1187.40	1235.40	48.00	34.86
*	45395.000	657.01	802.00	1187.40	1235.40	1187.40	1235.40	48.00	28.07
*	45395.000	655.42	641.00	1187.40	1235.40	1187.40	1235.40	48.00	20.37
*	45395.000	654.34	517.00	1187.40	1235.40	1187.40	1235.40	48.00	15.35
*	45395.000	653.68	437.00	1187.40	1235.40	1187.40	1235.40	48.00	12.51
	45395.000	652.92	332.00	1187.40	1235.40	1187.40	1235.40	48.00	9.29
	45435.000	658.44	1370.00	1187.40	1235.40	1187.40	1235.40	48.00	45.96
	45435.000	657.93	951.00	1187.40	1235.40	1187.40	1235.40	48.00	35.38
	45435.000	657.02	802.00	1187.40	1235.40	1187.40	1235.40	48.00	28.57
	45435.000	655.43	641.00	1187.40	1235.40	1187.40	1235.40	48.00	20.81
	45435.000	654.34	517.00	1187.40	1235.40	1187.40	1235.40	48.00	15.75
	45435.000	653.68	437.00	1187.40	1235.40	1187.40	1235.40	48.00	12.87
	45435.000	652.92	332.00	1187.40	1235.40	1187.40	1235.40	48.00	9.62
*	45501.000	658.53	1370.00	1196.00	1231.60	1052.12	1388.58	336.46	47.95
*	45501.000	657.97	951.00	1196.00	1231.60	1054.65	1386.94	332.29	37.22
*	45501.000	657.05	802.00	1196.00	1231.60	1058.76	1384.25	325.48	30.16
*	45501.000	655.46	641.00	1196.00	1231.60	1065.94	1349.43	283.49	21.99
*	45501.000	654.36	517.00	1196.00	1231.60	1070.83	1341.30	270.48	16.65
	45501.000	653.70	437.00	1196.00	1231.60	1073.81	1336.34	262.54	13.62
	45501.000	652.93	332.00	1196.00	1231.60	1077.24	1330.64	239.61	10.19
	45650.000	658.53	1370.00	1046.80	1082.80	907.30	1314.55	407.24	53.97
*	45650.000	657.97	951.00	1046.80	1082.80	916.00	1307.38	391.38	42.59
*	45650.000	657.05	802.00	1046.80	1082.80	930.42	1295.51	365.09	34.49
*	45650.000	655.46	641.00	1046.80	1082.80	952.97	1274.95	321.97	24.70
*	45650.000	654.36	517.00	1046.80	1082.80	967.29	1146.00	171.53	18.46
*	45650.000	653.70	437.00	1046.80	1082.80	975.97	1117.05	128.78	15.00
*	45650.000	652.93	332.00	1046.80	1082.80	986.06	1101.86	115.80	11.11

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45750.000	658.54	820.00	1107.00	1136.00	916.47	1240.62	324.15	57.28
*	45750.000	657.98	96.00	1107.00	1136.00	927.35	1228.38	301.03	45.44
*	45750.000	657.06	91.00	1107.00	1136.00	945.04	1208.48	263.45	36.65
*	45750.000	655.48	83.00	1107.00	1136.00	975.30	1164.85	189.55	25.81
*	45750.000	654.41	76.00	1107.00	1136.00	995.99	1135.88	139.88	19.07
*	45750.000	653.76	70.00	1107.00	1136.00	1107.60	1135.02	27.42	15.44
*	45750.000	653.02	62.00	1107.00	1136.00	1108.62	1134.03	25.41	11.43
	45755.000	658.53	820.00	1107.00	1136.00	916.43	1240.66	324.23	57.41
	45755.000	657.98	96.00	1107.00	1136.00	927.21	1228.53	301.32	45.55
	45755.000	657.06	91.00	1107.00	1136.00	944.86	1208.68	263.81	36.73
*	45755.000	655.48	83.00	1107.00	1136.00	975.29	1164.86	189.57	25.85
*	45755.000	654.41	76.00	1107.00	1136.00	995.98	1135.88	139.90	19.09
	45755.000	653.76	70.00	1107.00	1136.00	1107.60	1135.02	27.42	15.45
	45755.000	653.02	62.00	1107.00	1136.00	1108.62	1134.03	25.41	11.44
	45757.000	658.53	820.00	1107.00	1136.00	916.51	1240.57	324.06	57.46
	45757.000	657.98	96.00	1107.00	1136.00	927.21	1228.53	301.32	45.59
	45757.000	657.06	91.00	1107.00	1136.00	944.87	1208.67	263.80	36.76
	45757.000	655.48	83.00	1107.00	1136.00	975.31	1164.76	189.45	25.86
	45757.000	654.41	76.00	1107.00	1136.00	996.03	1135.87	139.84	19.09
	45757.000	653.76	70.00	1107.00	1136.00	1107.61	1135.01	27.41	15.46
	45757.000	653.02	62.00	1107.00	1136.00	1108.63	1134.02	25.39	11.44
	45760.000	658.55	820.00	1107.00	1136.00	916.40	1240.69	324.29	57.53
	45760.000	657.98	96.00	1107.00	1136.00	927.21	1228.53	301.32	45.65
	45760.000	657.06	91.00	1107.00	1136.00	944.87	1208.67	263.80	36.80
*	45760.000	655.48	83.00	1107.00	1136.00	975.31	1164.76	189.45	25.88
*	45760.000	654.41	76.00	1107.00	1136.00	996.03	1135.87	139.84	19.10
*	45760.000	653.77	70.00	1107.00	1136.00	1107.61	1135.01	27.41	15.46
*	45760.000	653.03	62.00	1107.00	1136.00	1108.62	1134.04	25.42	11.45
	45785.000	658.55	820.00	1107.00	1136.00	916.27	1240.83	324.56	58.17
	45785.000	657.98	96.00	1107.00	1136.00	927.21	1228.53	301.33	46.19
	45785.000	657.06	91.00	1107.00	1136.00	944.86	1208.68	263.83	37.19
	45785.000	655.48	83.00	1107.00	1136.00	975.26	1165.03	189.77	26.06
	45785.000	654.41	76.00	1107.00	1136.00	995.89	1135.88	140.00	19.18
	45785.000	653.77	70.00	1107.00	1136.00	1107.59	1135.03	27.44	15.52
	45785.000	653.04	62.00	1107.00	1136.00	1108.60	1134.05	25.45	11.49
	45810.000	658.55	820.00	1089.00	1103.00	899.54	1381.67	482.13	58.87
	45810.000	657.98	96.00	1089.00	1103.00	912.72	1359.37	446.66	46.76
	45810.000	657.06	91.00	1089.00	1103.00	939.27	1302.30	353.28	37.58

	45810.000	655.48	83.00	1089.00	1103.00	984.99	1204.02	183.63	26.22
*	45810.000	654.42	76.00	1089.00	1103.00	1015.95	1103.64	46.65	19.26
*	45810.000	653.78	70.00	1089.00	1103.00	1089.00	1103.00	14.00	15.58
*	45810.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	11.54

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45815.000	658.55	820.00	1089.00	1103.00	899.51	1381.69	482.18	59.01
*	45815.000	657.98	96.00	1089.00	1103.00	912.72	1359.37	446.66	46.87
*	45815.000	657.06	91.00	1089.00	1103.00	939.27	1302.30	353.27	37.66
	45815.000	655.48	83.00	1089.00	1103.00	985.01	1203.97	183.52	26.25
	45815.000	654.41	76.00	1089.00	1103.00	1015.97	1103.64	46.61	19.27
*	45815.000	653.77	70.00	1089.00	1103.00	1089.00	1103.00	14.00	15.59
*	45815.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	11.55
*	45835.000	658.55	820.00	1089.00	1103.00	899.51	1381.69	482.19	59.60
*	45835.000	657.98	96.00	1089.00	1103.00	912.72	1359.37	446.65	47.33
*	45835.000	657.06	91.00	1089.00	1103.00	939.27	1302.29	353.26	37.95
	45835.000	655.48	83.00	1089.00	1103.00	985.06	1203.87	183.31	26.35
	45835.000	654.41	76.00	1089.00	1103.00	1016.03	1103.64	46.51	19.32
	45835.000	653.77	70.00	1089.00	1103.00	1089.00	1103.00	14.00	15.64
	45835.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	11.60
*	45840.000	658.56	820.00	1081.90	1115.80	895.47	1454.20	558.74	59.77
*	45840.000	657.98	96.00	1081.90	1115.80	903.01	1432.56	529.55	47.47
*	45840.000	657.06	91.00	1081.90	1115.80	915.09	1397.88	482.79	38.05
	45840.000	655.49	83.00	1081.90	1115.80	947.70	1241.33	293.63	26.39
*	45840.000	654.42	76.00	1081.90	1115.80	985.74	1114.79	129.05	19.34
*	45840.000	653.78	70.00	1081.90	1115.80	1082.20	1113.13	30.93	15.65
*	45840.000	653.05	62.00	1081.90	1115.80	1082.89	1111.23	28.34	11.61
	45870.000	658.56	820.00	1081.90	1115.80	895.36	1454.51	559.14	61.06
	45870.000	657.98	96.00	1081.90	1115.80	903.01	1432.57	529.57	48.54
	45870.000	657.06	91.00	1081.90	1115.80	915.08	1397.92	482.84	38.80
	45870.000	655.49	83.00	1081.90	1115.80	947.41	1241.86	294.45	26.68
	45870.000	654.42	76.00	1081.90	1115.80	985.41	1114.82	129.41	19.47
	45870.000	653.78	70.00	1081.90	1115.80	1082.20	1113.15	30.95	15.75
	45870.000	653.05	62.00	1081.90	1115.80	1082.88	1111.24	28.36	11.69
	45885.000	658.56	820.00	1204.30	1234.30	1000.00	1546.00	546.00	61.63
*	45885.000	657.98	96.00	1204.30	1234.30	1011.75	1513.04	501.29	49.01
	45885.000	657.06	91.00	1204.30	1234.30	1045.25	1419.11	373.86	39.12
	45885.000	655.49	83.00	1204.30	1234.30	1102.79	1268.49	165.70	26.81
	45885.000	654.42	76.00	1204.30	1234.30	1141.80	1235.65	93.84	19.54
	45885.000	653.78	70.00	1204.30	1234.30	1167.08	1233.37	66.28	15.80
	45885.000	653.05	62.00	1204.30	1234.30	1204.39	1232.22	27.84	11.74
*	46140.000	658.56	820.00	1089.70	1191.70	780.37	1481.20	700.83	76.10
*	46140.000	657.98	96.00	1089.70	1191.70	794.69	1466.32	671.63	61.40
*	46140.000	657.06	91.00	1089.70	1191.70	817.20	1442.94	625.75	48.59
*	46140.000	655.49	83.00	1089.70	1191.70	856.60	1402.81	546.21	32.37
*	46140.000	654.43	76.00	1089.70	1191.70	884.71	1308.16	423.45	23.13
*	46140.000	653.79	70.00	1089.70	1191.70	902.54	1260.96	350.35	18.52
*	46140.000	653.06	62.00	1089.70	1191.70	927.98	1224.53	235.15	13.73

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	46290.000	658.56	820.00	1135.20	1467.80	852.32	1559.71	707.39	89.93
*	46290.000	657.98	96.00	1135.20	1467.80	870.29	1551.16	680.87	73.84
*	46290.000	657.06	91.00	1135.20	1467.80	898.35	1537.80	639.46	58.98
*	46290.000	655.49	83.00	1135.20	1467.80	946.51	1514.74	560.89	39.54
*	46290.000	654.43	76.00	1135.20	1467.80	979.11	1499.10	461.93	28.42
*	46290.000	653.79	70.00	1135.20	1467.80	1001.60	1489.69	373.23	22.93
*	46290.000	653.06	62.00	1135.20	1467.80	1133.71	1478.94	345.23	17.33
*	46540.000	658.56	820.00	1163.30	1359.10	816.79	1553.17	736.38	111.80
*	46540.000	657.98	96.00	1163.30	1359.10	846.06	1526.75	680.69	93.35
*	46540.000	657.06	91.00	1163.30	1359.10	891.83	1455.69	563.86	75.09
*	46540.000	655.49	83.00	1163.30	1359.10	970.43	1358.66	388.23	50.89
*	46540.000	654.43	76.00	1163.30	1359.10	1164.45	1357.88	193.42	37.29
*	46540.000	653.79	70.00	1163.30	1359.10	1166.01	1357.41	191.40	30.68
*	46540.000	653.06	62.00	1163.30	1359.10	1167.80	1356.88	189.08	23.95
*	46610.000	658.56	820.00	1204.00	1235.80	859.91	1408.06	548.15	115.59
*	46610.000	657.98	96.00	1204.00	1235.80	882.28	1385.42	503.14	96.57
*	46610.000	657.06	91.00	1204.00	1235.80	917.28	1350.00	432.72	77.49
*	46610.000	655.49	83.00	1204.00	1235.80	977.39	1235.62	258.23	52.26
*	46610.000	654.42	76.00	1204.00	1235.80	1204.46	1233.86	29.40	38.22
*	46610.000	653.78	70.00	1204.00	1235.80	1206.17	1232.80	26.63	31.51
*	46610.000	653.05	62.00	1204.00	1235.80	1208.03	1231.59	23.56	24.64

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SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 43305.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 3 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 4 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 5 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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WARNING SECNO= 43305.000 PROFILE= 7 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 43659.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43659.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43659.000 PROFILE= 3 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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WARNING SECNO= 43675.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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WARNING SECNO= 45356.000 PROFILE= 4 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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WARNING SECNO= 45356.000 PROFILE= 7 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=  45810.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 CAUTION SECNO=  45815.000  PROFILE=  2  BRIDGE DECK DEFINITION ERROR
 CAUTION SECNO=  45815.000  PROFILE=  3  BRIDGE DECK DEFINITION ERROR
 WARNING SECNO=  45815.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45815.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=  45835.000  PROFILE=  1  BRIDGE DECK DEFINITION ERROR
 CAUTION SECNO=  45835.000  PROFILE=  2  BRIDGE DECK DEFINITION ERROR
 CAUTION SECNO=  45835.000  PROFILE=  3  BRIDGE DECK DEFINITION ERROR
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 WARNING SECNO=  45840.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=  45840.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45840.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45840.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45885.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  46140.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46140.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46140.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46140.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46140.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46140.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46140.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  46290.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  46540.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  46610.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

SECTION 10

NATURAL CONDITIONS ANALYSIS

ELGIN O'HARE WEST BYPASS I-294 OVER ADDISON CREEK NATURAL VS EXISTING

HEC-2 XSEC	Description	100-year WSEL					50-year WSEL					10-year WSEL				
		Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Existing (NGVD 29) (feet)	Natural (NGVD 29) (feet)	Natural - Existing (feet)	Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Existing (NGVD 29) (feet)	Natural (NGVD 29) (feet)	Natural - Existing (feet)	Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Existing (NGVD 29) (feet)	Natural (NGVD 29) (feet)	Natural - Existing (feet)
43155	FIS	653.7	653.7	653.7	653.7	0.0	653.1	653.1	653.1	653.1	0.0	651.8	651.8	651.8	651.8	0.0
43305	FIS	654.7	654.7	654.6	654.6	0.0	654.0	654.0	653.9	653.9	0.0	652.4	652.4	652.3	652.3	0.0
43659	***Surveyed H2***			654.9	654.9	0.0			654.2	654.2	0.0			652.6	652.6	0.0
43675	FIS	654.9	654.9	654.9	654.9	0.0	654.2	654.2	654.2	654.2	0.0	652.7	652.7	652.7	652.7	0.0
43873	***Surveyed H3***			654.9	654.9	0.0			654.2	654.2	0.0			652.7	652.7	0.0
44015	FIS	654.9	654.9	655.0	655.0	0.0	654.3	654.3	654.3	654.3	0.0	652.8	652.8	652.8	652.8	0.0
44186	***Surveyed H4***			655.0	655.0	0.0			654.4	654.4	0.0			652.9	652.9	0.0
44335	FIS	655.1	655.1	655.1	655.1	0.0	654.4	654.4	654.4	654.4	0.0	653.0	653.0	653.0	653.0	0.0
44530	FIS	655.1	655.1	655.2	655.2	0.0	654.5	654.5	654.5	654.5	0.0	653.1	653.1	653.1	653.1	0.0
44592	***Surveyed H5***			655.1	655.2	0.1			654.5	654.6	0.1			653.1	653.1	0.0
44630	D/S I-294, (***H5***)	655.1	655.1	655.2	655.2	0.0	654.5	654.5	654.5	654.6	0.0	653.1	653.1	653.1	653.1	0.0
44830	U/S I-294, (***H6***)	656.0	655.4	655.4	655.3	-0.1	654.5	654.5	654.6	654.7	0.2	653.1	653.1	653.2	653.2	0.1
44870	FIS (***H6***)	656.0	655.6	655.6	655.3	-0.3	654.6	654.7	654.7	654.7	0.0	653.2	653.3	653.2	653.2	0.0
44910	D/S County Line Rd, (***H6***)	656.4	655.6	655.6	655.2	-0.4	654.7	654.7	654.7	654.6	-0.1	653.3	653.3	653.2	653.2	0.0
44970	U/S County Line Rd, (***H7***)	657.9	657.9	657.9	657.8	-0.1	656.9	656.9	656.8	656.7	-0.2	654.2	654.1	654.1	654.0	-0.1
45025	FIS	657.9	657.9	657.9	657.8	-0.1	657.0	657.0	657.0	656.9	-0.1	654.2	654.2	654.2	654.2	0.0
45345	FIS	657.9	657.9	657.9	657.8	-0.1	657.0	657.0	657.0	656.9	-0.1	654.3	654.3	654.3	654.3	0.0
45356	***Surveyed***			657.9	657.8	-0.1			657.0	656.9	-0.1			654.3	654.3	-0.1
45395	D/S Industrial, ***surveyed***			657.9	657.8	-0.1			657.0	656.9	-0.1			654.3	654.3	-0.1
45435	U/S Industrial, ***surveyed***			657.9	657.8	-0.1			657.0	656.9	-0.1			654.3	654.3	-0.1
45501	***Surveyed H8***			658.0	657.9	-0.1			657.1	656.9	-0.1			654.4	654.3	-0.1
45650	FIS	657.9	657.9	658.0	657.9	-0.1	657.1	657.1	657.1	656.9	-0.1	654.5	654.5	654.4	654.3	-0.1
45750	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45755	D/S Concrete Dam, FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45757	U/S Concrete Dam, FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45760	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45785	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45810	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45840	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45870	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
45885	***Surveyed H11***			658.0	657.9	-0.1			657.1	657.0	-0.1			654.4	654.4	0.0
46140	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
46290	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
46540	FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0
46610	D/S Cemetery Rd 2, FIS	657.9	658.0	658.0	657.9	-0.1	657.1	657.1	657.1	657.0	-0.1	654.5	654.5	654.4	654.4	0.0

Updates to Corrected Baseline Model:

1. I-294 bridge length increased from 200 to 214 ft, opening decreased from 222 sf to 200 sf
2. Distance between I-294 and County Line Road reduced from 80 to 52 ft
3. Cross section 44830, 44870, 44910, and 44970 corrected with survey to remove 4 ft profile drop
4. County Line Road bridge points added on right bank to complete bridge
5. Cemetery Road bridge points added on right bank to complete bridge

Updates to Existing Conditions Model:

6. Survey cross-sections added
7. Surveyed bridges modified
8. Concrete Arch at Industrial Access Road added

ELGIN O'HARE WEST BYPASS I-294 OVER ADD

HEC-2 XSEC	Description		-year WSEL		
		Regulator (NAVD 88) (feet)	Existing NAVD 88) (feet)	Natural (NAVD 88) (feet)	Natural - Existing (feet)
43155	FIS	653.4	651.5	651.5	0.0
43305	FIS	654.4	652.0	652.0	0.0
43659	***Surveyed H2***		652.3	652.3	0.0
43675	FIS	654.6	652.4	652.4	0.0
43873	***Surveyed H3***		652.4	652.4	0.0
44015	FIS	654.6	652.5	652.5	0.0
44186	***Surveyed H4***		652.6	652.6	0.0
44335	FIS	654.8	652.7	652.7	0.0
44530	FIS	654.8	652.8	652.8	0.0
44592	***Surveyed H5***		652.8	652.8	0.0
44630	D/S I-294, (***H5***)	654.8	652.8	652.8	0.0
44830	U/S I-294, (***H6***)	655.7	652.9	652.9	0.1
44870	FIS (***H6***)	655.7	652.9	652.9	0.0
44910	D/S County Line Rd, (***H6***)	656.1	652.9	652.9	0.0
44970	U/S County Line Rd, (***H7***)	657.6	653.8	653.7	-0.1
45025	FIS	657.6	653.9	653.9	0.0
45345	FIS	657.6	654.0	654.0	0.0
45356	***Surveyed***		654.0	654.0	-0.1
45395	D/S Industrial, ***surveyed***		654.0	654.0	-0.1
45435	U/S Industrial, ***surveyed***		654.0	654.0	-0.1
45501	***Surveyed H8***		654.1	654.0	-0.1
45650	FIS	657.6	654.1	654.0	-0.1
45750	FIS	657.6	654.1	654.1	0.0
45755	D/S Concrete Dam, FIS	657.6	654.1	654.1	0.0
45757	U/S Concrete Dam, FIS	657.6	654.1	654.1	0.0
45760	FIS	657.6	654.1	654.1	0.0
45785	FIS	657.6	654.1	654.1	0.0
45810	FIS	657.6	654.1	654.1	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.6	654.1	654.1	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.6	654.1	654.1	0.0
45840	FIS	657.6	654.1	654.1	0.0
45870	FIS	657.6	654.1	654.1	0.0
45885	***Surveyed H11***		654.1	654.1	0.0
46140	FIS	657.6	654.1	654.1	0.0
46290	FIS	657.6	654.1	654.1	0.0
46540	FIS	657.6	654.1	654.1	0.0
46610	D/S Cemetery Rd 2, FIS	657.6	654.1	654.1	0.0

Updates to Corrected Baseline Model:

1. I-294 bridg
2. Distance b
3. Cross secti
4. County Lin
5. Cemetery

Updates to Existing Conditions Model:

6. Survey cro
7. Surveyed b
8. Concrete A

N:\Idot\070404\Water\Addison Creek\spreadsheets\Results.x
Natural Conditions (NAVD88)

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1*****************************************
*****
 *  HEC-2 WATER SURFACE PROFILES           *
   *
 *                                         *
   *
 *  Version   4.6.2;  May 1991             *
   *
 *                                         *
   *
 *  RUN DATE    18NOV11    TIME   10:50:38  *
   *
 *****************************************
*****
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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
**********************************
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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
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THIS RUN EXECUTED 18NOV11 10:50:38

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

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


    Natural Conditions model AdNat.HC2 for I-294 Analysis
    FIS XSEC at US face of County Line Road
T1  ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2  500, 100, 50, 25, 10, 5, & 2-YEAR FREQUENCIES - DESIGN CONDITIONS
T3  500-YEAR

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0         0         0         0         0    654.79

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1                 -1


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38         1         43        21        22        53        54        4         7

QT        7      1480      1189      1021       812       645       538       406
NC     .035      .035     0.045        .1        .3
X1    43155        28   1002.30   1065.20         0         0         0                 .00
GR   660.80     774.2    661.00     805.4    661.30     857.1    661.00     874.2    660.60     913.2
GR   663.50     946.1    664.90     973.1    666.90    1000.0    667.30    1002.3    661.50    1025.1
GR   650.50    1025.8    650.50    1028.1    645.80    1028.2    644.60    1028.3    643.80    1032.9
GR   643.80    1036.2    644.20    1040.3    644.80    1044.2    645.70    1044.3    650.30    1044.4
GR   650.50    1047.4    661.60    1048.3    666.70    1065.2    666.60    1093.5    666.80    1121.4
GR   667.00    1151.6    667.20    1180.2    666.70    1229.1

X1    43305        22   1085.10   1159.90       170       130       150                 .00
X3    10.
GR   662.20     582.0    659.20     639.1    654.80     730.1    654.20     825.0    658.20     888.9
GR   653.20     966.1    652.90     999.9    653.50    1007.8    657.70    1040.8    656.80    1066.1
GR   655.00    1085.1    649.20    1095.1    646.80    1097.2    645.40    1104.0    645.50    1109.1
GR   645.20    1114.1    646.80    1118.9    648.80    1120.2    648.60    1138.9    661.00    1159.9
GR   664.70    1185.8    666.20    1209.5
  H2

X1    43659        21   1238.30   1279.40       319       369       354                 .00
X3    10.
GR   656.30    1000.0    655.85    1047.0    655.58    1107.7    655.61    1173.8    655.75    1185.0
GR   652.98    1196.9    650.60    1238.3    647.03    1240.0    646.64    1240.9    645.78    1252.0
GR   646.66    1258.9    647.13    1260.3    649.82    1271.9    651.86    1279.4    651.42    1313.8
GR   652.45    1348.3    648.30    1364.2    648.30    1367.4    652.30    1380.2    654.30    1385.4
GR   656.30    1392.0
1
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X1    43675        24    1128.50    1175.80         16         16         16                .00
X3    10.
GR    661.20     716.3     660.20      752.2     658.40      812.3     655.80      897.1     656.40      971.2
GR    653.50     984.8     655.80      992.1     655.70     1000.0     654.10     1015.0     653.30     1094.9
GR    653.00    1128.5     648.40     1142.1     647.10     1144.1     646.20     1147.1     646.20     1153.2
GR    646.30    1159.2     647.10     1163.2     648.80     1165.9     651.50     1175.8     650.80     1265.4
GR    650.10    1305.0     648.50     1323.9     650.50     1347.2     658.90     1363.9

QT         7      1370        951        802        641        517        437        332
  H3
X1    43873        27    1435.90    1460.20         186        215        198                .00
X3    10.
GR    658.30      1000     656.30     1014.7     656.45     1281.9     655.92     1293.7     655.89     1310.4
GR    655.71     1333.5     655.90     1358.4     656.02     1380.5     655.97     1391.3     655.63     1403.4
GR    655.21     1415.2     649.18     1430.7     649.47     1435.9     647.29     1439.2     646.38     1440.0
GR    645.11     1449.9     646.10     1458.9     649.69     1460.2     651.31     1480.9     653.48     1489.9
GR    654.92     1502.1     656.10     1509.5     656.25     1533.9     657.63     1579.5     658.22     1622.0
GR    659.35     1649.7     662.30     1811.0

X1    44015        20    1086.20    1163.20         134        155        142                .00
GR      665       923      654.70      923.0     654.50      966.0     653.80     1000.1     653.10     1023.9
GR    653.20     1056.8     652.30     1086.2     648.70     1097.0     648.50     1103.4     647.20     1105.2
GR    645.50     1109.1     645.20     1114.2     645.30     1120.0     647.10     1123.9     649.20     1126.1
GR    649.20     1134.1     656.60     1163.2     657.90     1230.0     658.50     1284.0     658.40     1335.9
  H4

X1    44186        19    1204.70    1260.50         168        199        171                .00
GR      665       920.2     656.30     1000.0     654.83     1121.8     654.77     1165.8     653.49     1185.9
GR    651.84     1204.7     650.32     1213.3     647.85     1218.7     647.69     1225.4     647.22     1226.2
GR    646.29     1228.0     646.04     1235.2     648.09     1244.2     648.63     1245.4     649.06     1247.7
GR    652.35     1260.5     652.83     1268.6     657.11     1283.5     656.30     1500.0

X1    44335        17    1131.10    1165.00         147        156        149                .00
GR      665       920.2     656.10      920.2     655.80      963.2     655.20      999.8     655.10     1035.1
GR    654.70     1073.9     654.00     1104.0     649.30     1122.9     648.90     1131.1     647.30     1132.9
GR    646.90     1135.9     646.90     1143.0     646.80     1151.1     647.40     1153.0     651.30     1165.0
GR    652.70     1177.0     657.40     1196.0

X1    44530                                          195        195        195                .00

NC     .035       .035       .04        0.3        0.5
  H5
X1    44592        23    1117.10    1140.20          66         66         66                .00
GR    666.90     665.0     659.80     1000.0     659.42     1016.8     657.67     1046.7     654.23     1081.9
GR    650.27    1114.6     647.55     1117.1     645.65     1118.2     645.65     1139.2     647.56     1140.2
GR    649.98    1145.0     650.69     1155.8     655.67     1177.6     657.99     1187.7     657.99     1189.7
GR    658.19    1208.9     658.32     1235.4     657.59     1266.9     657.67     1320.9     657.62     1368.4
GR    657.50    1415.1     658.35     1448.7     658.40     1550.0
1
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        **TRI-STATE TOLLWAY** survey sta 312+66, U/S H5 (ss. 312+99.93)
X1    44630                                          19         19         19                .00

X1    44830        16    1097.7     1118.7         234        234        234                .00
X3       10
X4        2    660.30     807.4     658.30      918.2
GR    656.30    1000.0     655.78     1009.7     654.06     1069.3     651.16     1087.5     647.85     1093.5
GR    645.30    1097.7     645.30     1118.7     647.37     1122.9     650.98     1127.2     651.46     1149.1
GR    651.32    1185.3     652.30     1280.5     654.30     1354.0     656.30     1504.0     658.30     1641.2
GR    660.30    1693.2

NC      .03        .03        .04
  H6
X1    44870        16    1095.0     1121.0          35         35         35                .00
X3       10
X4        2    660.30     807.4     658.30      918.2
GR    656.30    1000.0     655.78     1009.7     654.06     1069.3     651.16     1087.5     647.85     1093.5
GR    645.71    1095.0     645.71     1121.0     647.37     1122.9     650.98     1127.2     651.46     1149.1
GR    651.32    1185.3     652.30     1280.5     654.30     1354.0     656.30     1504.0     658.30     1641.2
GR    660.30    1693.2

        **COUNTY LINE ROAD** survey sta 310+00, U/S H6 (ss. 310+12.46)
X1    44910                                          12         12         12                .00
X3       10                                                                  657.53     657.46

SC    3.012        0.5        2.7          0          6                    63        1.1     646.75     645.71
NC      .03        .03        .05
X1    44970         20    1115.00    1141.00         63         63         63
X2                              2                 657.50
X3       10                                                                  657.53     657.46
BT      -11      807.4     660.30                 840.0      660.30                1013.0     658.50
```

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BT              1062.0    657.97              1112.3    657.53              1133.0    657.46
BT              1152.0    657.49              1200.0    657.54              1250.0    657.54
BT              1560.0    658.30              1693.2    658.30
GR   660.30     807.4     659.71    840.0     658.30    918.2     658.30    1000.0    657.96    1013.0
GR   656.68    1062.0     656.47   1069.9     652.38   1104.5     648.87    1112.3    646.75    1115.0
GR   646.75    1133.0     646.75   1141.0     648.68   1143.4     655.44    1152.0    654.92    1189.7
GR   655.32    1200.0     657.26   1250.0     658.30   1277.0     659.66    1560.0    660.30    1693.2

NC      .03       .03       .05       .1        .3
X1    45025        21   1043.30   1086.30         5       130         65                  .00
GR   660.00      900.    657.90    955.9     657.50    971.1     657.30     974.8    654.60     981.2
GR   655.1       987.8   655.10   1000.1     654.30   1005.9     651.70    1024.1    651.00    1043.3
GR   648.20     1047.2   648.10   1053.2     648.00   1061.2     648.10    1070.2    648.30    1074.2
GR   648.80     1080.3   653.20   1086.3     654.40   1138.3     652.80    1203.2    654.10    1266.3
GR   659.10     1350.1

X1    45345        20   1101.10   1134.20        310       330        320                  .00
GR   662.90      898.8   662.40    913.9     661.90    917.2     659.60     923.0    661.10     929.9
GR   659.20      948.9   655.30   1000.1     653.10   1059.0     652.40    1101.1    649.60    1107.5
GR   648.80     1111.1   648.20   1114.0     647.80   1122.2     648.10    1124.0    648.80    1130.1
GR   649.60     1132.8   651.60   1134.2     658.70   1252.9     660.50    1327.9    660.50    1395.9
1
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NC                                    0.3       0.5
*H   7.5
X1    45356        21   1152.50   1270.30        21        21         66                  .00
GR   663.30     1000.0   660.65   1014.0     659.40   1029.8     654.29    1061.5    652.79    1107.7
GR   651.73     1152.5   650.30   1174.5     649.15   1178.0     646.11    1189.5    644.27    1204.1
GR   644.87     1211.4   645.85   1225.5     646.76   1237.7     649.14    1239.9    650.41    1247.7
GR   651.45     1270.3   654.63   1301.9     657.79   1319.5     659.60    1327.8    661.06    1331.2
GR   663.80     1404.0
  D/S CONSPAN H7.6

X1    45395        28   1187.40   1235.40        39        39         39                  .00
X2
X3       10                                                                 661.00    661.00
BT      -28     1000.0   663.30    663.30    1014.0    662.00     660.65    1052.0    662.00    655.77
BT              1080.9   662.00    653.66    1098.7    662.00     653.08    1143.5    662.53    651.94
BT              1176.1   662.20    649.77    1180.0    662.14     648.62    1187.0    662.03    646.67
BT              1187.4   662.03    646.67   1187.42    662.03     654.11   1188.36    662.02    655.74
BT              1190.94  661.99    656.85    1196.0    661.94     657.68    1197.2    661.93    657.88
BT              1200.94  661.89    658.49    1211.4    661.79     659.04   1221.86    661.74    658.49
BT              1229.1   661.70    657.30    1231.6    661.69     656.89   1231.86    661.69    656.85
BT              1234.44  661.67    655.74   1235.38    661.64     654.11    1235.4    661.64    646.52
BT              1251.3   661.23    650.58    1289.9    660.72     653.41    1323.8    660.87    658.73
BT              1404.0   663.80    663.80
GR   663.30     1000.0   660.65   1014.0     655.77   1052.0     653.66    1080.9    653.08    1098.7
GR   651.94     1143.5   649.77   1176.1     648.62   1180.0     646.77    1187.0    646.67    1187.4
GR   646.66     1187.42  646.41   1188.36    645.93   1190.94    645.29    1196.0    645.14    1197.2
GR   644.67     1200.94  644.87   1211.4     645.60   1221.86    646.12    1229.1    646.31    1231.6
GR   646.32     1231.86  646.52   1234.44    646.52   1235.38    646.52    1235.4    650.58    1251.3
GR   653.41     1289.9   658.73   1323.8     663.80   1404.0
  U/S CONSPAN H7.7

X1    45435                                     40        40         40                  .00
X2                                                                    1
X3       10                                                                 661.00    661.00

NC                                    .04       0.1       0.3
  H8
X1    45501        18   1196.00   1231.60        66        66         66                  .00
GR   663.30     1000.0   660.65   1014.0     658.56   1052.0     652.11    1080.9    651.96    1098.7
GR   651.94     1143.5   650.90   1176.1     650.01   1196.0     648.19    1197.2    647.28    1211.4
GR   648.04     1229.1   650.34   1231.6     652.37   1251.3     653.09    1289.8    652.01    1323.8
GR   656.96     1360.7   656.59   1382.9     663.80   1404.0

X1    45650        18   1046.80   1082.80       129       144        139                  .00
GR   661.00      868.7   656.40    940.7     651.90    999.6     652.10    1046.8    649.70    1049.9
GR   648.60     1054.9   648.40   1057.9     648.90   1064.8     648.80    1070.7    649.20    1077.1
GR   649.80     1079.9   652.10   1082.8     652.30   1099.7     655.30    1109.9    653.70    1116.8
GR   655.00     1173.6   654.90   1267.7     661.40   1351.5
1
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QT        7       820        96        91        83        76         70         62
NC                                    0.3       0.5
X1    45750        23   1107.00   1136.00       100       100        100                  .00
X3       10                                                                 648.00    648.00
GR   661.00      869.0   654.20   1000.0     654.20   1107.0     652.75    1109.0    651.00    1110.0
GR   649.50     1112.0   648.90   1118.5     647.95   1118.8     647.80    1119.0    647.50    1119.5
GR   647.40     1120.0   647.50   1120.5     647.80   1121.0     647.95    1121.3    648.90    1121.5
GR   650.20     1129.0   651.00   1130.0     653.00   1134.0     654.50    1136.0    655.30    1146.0
GR   655.60     1177.0   659.80   1268.0     662.00   1352.0
```

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NC                          .015
X1    45755                                    5         5         5                  .00
BT      -23      869.0     661.00    661.00    1000.0    654.20    654.20    1107.0    654.20    654.20
BT              1109.0     652.75    652.75    1110.0    651.00    651.00    1112.0    651.00    649.50
BT              1118.5     651.00    648.90    1118.8    651.00    649.85    1119.0    651.00    650.00
BT              1119.5     651.00    650.30    1120.0    651.00    650.40    1120.5    651.00    650.30
BT              1121.0     651.00    650.00    1121.3    651.00    649.85    1121.5    651.00    648.90
BT              1129.0     651.00    650.20    1130.0    651.00    651.00    1134.0    653.00    653.00
BT              1136.0     654.50    654.50    1146.0    655.30    655.30    1177.0    655.60    655.60
BT              1268.0     659.80    659.80    1352.0    662.00    662.00

X1    45757                                    2         2         2                  .00
X2                              0       .00       .00                 1

NC                          .05
X1    45760                                    3         3         3                  .00
X3       10                                                                 651.00    651.00

X1    45785                                   25        25        25                  .00

NC                                       .3        .5
  use H9
X1    45810        24     1089.0    1103.0      25        25        25                  .00
X3       10                                                                 653.90    653.90
GR   660.70     866.0     658.30     903.4    653.89    1031.2    655.76    1082.0    655.77    1082.4
GR   657.85    1085.5     646.14    1088.99    646.14    1089.0    646.14    1089.1    646.14    1090.0
GR   646.14    1092.0     646.14    1096.0     646.14    1100.0    646.14    1102.0    646.14    1102.9
GR   646.14    1103.0     646.14    1103.01    657.92    1103.9    657.70    1106.0    656.67    1116.0
GR   656.65    1116.2     654.42    1137.7     658.30    1379.4    669.30    1480.2

NC                          .015
  H9
X1    45815                                    5         5         5                  .00
X2
X3       10                                                                 653.90    653.90
BT      -24      866.0     660.70    660.70     903.4    658.30    658.30    1031.2    653.89    653.89
BT              1082.0     655.76    655.76    1082.4    658.00    655.77    1085.5    658.00    657.85
BT              1088.99    658.00    646.14    1089.0    658.00    651.00    1089.1    658.00    651.50
BT              1090.0     658.00    652.30    1092.0    658.00    653.00    1096.0    658.00    653.50
BT              1100.0     658.00    653.00    1102.0    658.00    652.30    1102.9    658.00    651.50
BT              1103.0     658.00    651.00    1103.01   658.00    646.14    1103.9    658.00    657.92
BT              1106.0     658.00    647.50    1116.0    658.00    647.50    1116.2    654.20    654.20
BT              1137.7     654.42    654.42    1379.4    658.30    658.30    1480.2    669.30    669.30
1
    18NOV11      10:50:38                                                                          PAGE     6


  H10 (use H9 for bridge calcs)

X1    45835                                   21        21        21                  .00
X2                                                                    1
X3       10                                                                 653.90    653.90

NC      .035       .035       .05
X1    45840         25     1081.90    1115.80      5         5         5                  .00
X3       10                                                                 654.20    654.20
GR   659.90     851.7     660.80     865.8    656.00     929.1    654.70     975.8    654.00    1000.1
GR   654.10    1010.9     654.00    1059.9    654.10    1081.9    651.00    1084.8    648.40    1087.8
GR   647.70    1089.0     647.10    1091.9    646.90    1095.9    646.90    1100.0    647.30    1101.9
GR   648.00    1103.7     649.10    1105.9    651.00    1105.9    654.80    1115.8    654.60    1143.0
GR   655.20    1222.8     655.50    1242.5    655.90    1336.5    656.50    1376.6    659.20    1478.8

NC       .03        .03        .04        .1        .3
X1    45870                                   30        30        30                  .00
  H11

X1    45885         10     1204.30    1234.30     15        15        15                  .00
GR   658.30    1000.0     653.88    1161.7    653.11    1204.3    650.75    1207.7    646.84    1211.6
GR   646.84    1225.6     651.50    1229.8    654.38    1234.3    655.64    1273.1    658.30    1546.0

X1    46140         28     1089.70    1191.70    255       255       255                  .00
GR   660.00     741.0     660.00     742.0     660.00    743.0     660.00     744.0    660.00     745.0
GR   655.90     845.8     653.90     898.7     652.40    950.9     652.20     967.6    653.00    1000.0
GR   653.90    1034.8     652.30    1089.7     650.20    1091.8    649.20    1091.9    648.20    1101.9
GR   647.90    1113.9     648.00    1121.9     647.80    1132.9    647.50    1146.7    647.60    1153.9
GR   648.00    1169.7     648.10    1178.7     649.40    1188.7    650.10    1191.0    652.40    1191.7
GR   654.30    1286.4     654.90    1387.7     659.00    1492.4

X1    46290         24     1135.20    1467.80    150       150       150                  .00
GR   659.00     839.0     653.90     995.3     653.80    1000.0    653.70    1014.4    654.70    1042.5
GR   654.00    1088.4     655.80    1126.4     652.50    1135.2    650.80    1136.9    649.90    1138.5
GR   648.60    1164.3     648.90    1199.5     648.70    1232.5    648.70    1267.5    648.30    1296.2
GR   648.00    1332.3     647.70    1371.4     647.80    1404.3    647.90    1427.2    648.50    1454.6
GR   650.90    1466.5     652.30    1467.8     656.70    1532.5    660.10    1582.1

NC                                       .3        .5
X1    46540         23     1163.30    1359.10    250       250       250                  .00
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 GR   660.00     741.0     660.00     742.0     660.00     743.0     660.00     744.0     660.00     745.0
 GR   654.90    1000.0     654.90    1163.3     650.80    1173.3     650.00    1174.3     648.20    1190.4
 GR   648.50    1202.2     648.90    1220.3     648.70    1245.2     648.70    1275.2     648.60    1305.3
 GR   648.80    1325.3     649.40    1340.1     650.00    1350.2     650.90    1355.3     656.10    1359.1
 GR   656.80    1410.7     657.30    1496.1     660.00    1618.0

 NC      .03       .03        .04
 X1    46610        23    1204.00    1235.80         70         70         70                  .00
 X3   10.                                                                654.8      654.8
 GR   660.00     801.0     660.00     802.0     660.00     803.0     660.00     804.0     660.00     805.0
 GR   654.90    1000.0     654.20    1062.1     654.70    1141.8     654.60    1204.0     653.10    1208.0
 GR   651.30    1209.1     649.60    1209.2     649.00    1211.1     648.60    1215.0     648.40    1219.0
 GR   648.20    1223.0     648.00    1226.9     648.80    1229.0     651.10    1229.8     652.70    1231.0
 GR   655.60    1235.8     655.90    1305.0     659.40    1440.4
1
    18NOV11      10:50:38                                                                          PAGE     7

     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 43155.000
  43155.000     10.99     654.79       .00     654.79     655.67       .88       .00       .00     667.30
     1480.0        .0     1480.0        .0        .0      197.0        .0        .0        .0     666.70
        .00       .00       7.51       .00       .000       .045       .000       .000     643.80    1025.53
    .006460        0.         0.        0.          0          0          0       .00      22.22    1047.75


 *SECNO 43305.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.00


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000     10.64     655.84       .00       .00     655.91       .06       .16       .08     655.00
     1480.0     425.6     1054.4        .0     354.5      461.2        .0       1.8        .6     661.00
        .02      1.20       2.29       .00       .035       .045       .000       .000     645.20     708.55
    .000404       170.       150.      130.          2          0          0       .00     318.51    1151.16


 *SECNO 43659.000

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

  43659.000     10.18     655.96       .00       .00     655.99       .03       .08       .00     650.60
     1480.0     254.6      517.7     707.7     233.9      333.6     491.4       9.3       3.2     651.86
        .09      1.09       1.55      1.44       .035       .045       .035       .000     645.78    1035.74
    .000149       319.       354.      369.          2          0          0       .00     355.13    1390.87


 *SECNO 43675.000
1
    18NOV11      10:50:38                                                                          PAGE     8

     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


 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.57

  43675.000      9.78     655.98       .00       .00     655.99       .01       .00       .00     653.00
     1480.0     180.6      331.1     968.2     320.3      350.4     957.2       9.8       3.4     651.50
        .09       .56        .95      1.01       .035       .045       .035       .000     646.20     891.53
    .000060        16.        16.       16.          1          0          0       .00     411.53    1358.08


 *SECNO 43873.000
```

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .33

43873.000	10.82	655.93	.00	.00	656.05	.12	.03	.03	649.47
1370.0	241.7	708.4	419.9	106.9	236.5	168.7	14.8	4.7	649.69
.12	2.26	3.00	2.49	.035	.045	.035	.000	645.11	1293.39
.000479	186.	198.	215.	2	0	0	.00	187.12	1508.46

*SECNO 44015.000

44015.000	10.86	656.06	.00	.00	656.11	.04	.05	.01	652.30
1370.0	495.0	875.0	.0	383.8	481.4	.0	17.0	5.4	656.60
.14	1.29	1.82	.00	.035	.045	.000	.000	645.20	923.00
.000269	134.	142.	155.	2	0	0	.00	238.09	1161.09

*SECNO 44186.000

44186.000	10.06	656.10	.00	.00	656.17	.08	.06	.01	651.84
1370.0	280.6	1011.2	78.2	227.5	408.3	47.0	20.1	6.4	652.35
.16	1.23	2.48	1.66	.035	.045	.035	.000	646.04	1016.89
.000413	168.	171.	199.	2	0	0	.00	263.08	1279.97

*SECNO 44335.000

44335.000	9.36	656.16	.00	.00	656.23	.07	.06	.00	648.90
1370.0	519.4	717.6	133.0	313.9	281.5	73.9	22.4	7.3	651.30
.18	1.65	2.55	1.80	.035	.045	.035	.000	646.80	920.20
.000373	147.	149.	156.	1	0	0	.00	270.76	1190.96

1

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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 44530.000

44530.000	9.43	656.23	.00	.00	656.30	.07	.07	.00	648.90
1370.0	530.3	705.9	133.8	331.2	284.3	76.1	25.4	8.5	651.30
.21	1.60	2.48	1.76	.035	.045	.035	.000	646.80	920.20
.000349	195.	195.	195.	0	0	0	.00	271.09	1191.29

CCHV= .300 CEHV= .500

*SECNO 44592.000

44592.000	10.59	656.24	.00	.00	656.34	.10	.02	.01	647.55
1370.0	300.2	715.2	354.6	170.0	242.8	167.4	26.4	8.8	647.56
.21	1.77	2.95	2.12	.035	.040	.035	.000	645.65	1061.24
.000309	66.	66.	66.	1	0	0	.00	118.89	1180.12

*SECNO 44630.000

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	10.60	656.25	.00	.00	656.35	.10	.01	.00	647.55
1370.0	300.3	715.0	354.7	170.1	242.9	167.5	26.8	8.9	647.56
.22	1.77	2.94	2.12	.035	.040	.035	.000	645.65	1061.21
.000308	34.	34.	34.	0	0	0	.00	118.92	1180.13

*SECNO 44830.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.46

44830.000	10.59	656.39	.00	.00	656.40	.01	.02	.03	645.80
1370.0	177.2	284.3	908.5	240.9	222.3	1191.8	32.3	10.4	645.80
.29	.74	1.28	.76	.035	.040	.035	.000	645.80	1000.00
.000051	214.	214.	214.	2	0	0	.00	509.90	1509.90

*SECNO 44870.000

44870.000	10.68	656.39	.00	.00	656.40	.01	.00	.00	645.71
1370.0	145.1	316.7	908.1	215.8	277.8	1172.1	33.9	10.9	645.71
.30	.67	1.14	.77	.030	.040	.030	.000	645.71	1000.00
.000040	40.	40.	40.	0	0	0	.00	510.39	1510.39

*SECNO 44910.000

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .22

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	10.49	656.20	.00	.00	656.59	.39	.00	.19	645.71
1370.0	.0	1370.0	.0	.0	272.7	.0	34.1	11.0	645.71
.30	.00	5.02	.00	.000	.040	.000	.000	645.71	1095.00
.000796	12.	12.	12.	2	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 658.35

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.46

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
661.10	662.90	1.75	588.	775.	1.743	84.8	657.50	666.

44970.000	11.56	658.31	.00	.00	658.35	.04	1.75	.00	646.75
1370.0	417.6	524.0	428.3	288.2	300.6	345.4	35.0	11.3	646.75
.31	1.45	1.74	1.24	.030	.050	.030	.000	646.75	917.62
.000132	63.	63.	63.	2	0	0	.00	361.55	1279.17

CCHV= .100 CEHV= .300
*SECNO 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.97

45025.000	10.34	658.34	.00	.00	658.35	.01	.00	.00	651.00
1370.0	292.0	313.3	764.8	346.6	414.5	1003.3	37.6	11.9	653.20
.34	.84	.76	.76	.030	.050	.030	.000	648.00	944.15
.000034	5.	65.	130.	0	0	0	.00	393.23	1337.39

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 45345.000

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

45345.000	10.55	658.35	.00	.00	658.37	.02	.02	.00	652.40
1370.0	643.8	347.4	378.8	542.9	308.5	382.2	48.6	14.4	651.60
.42	1.19	1.13	.99	.030	.050	.030	.000	647.80	959.91
.000079	310.	320.	330.	1	0	0	.00	287.33	1247.24

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.78

45356.000	14.10	658.37	.00	.00	658.38	.01	.00	.00	651.73
1370.0	403.6	824.4	142.0	547.6	1196.6	206.8	50.2	14.6	651.45
.44	.74	.69	.69	.030	.050	.030	.000	644.27	1036.24
.000025	21.	66.	21.	1	0	0	.00	285.88	1322.12

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .22

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	13.66	658.33	.00	.00	658.42	.08	.00	.04	646.67
1370.0	.0	1370.0	.0	.0	587.1	.0	51.3	14.8	646.52
.44	.00	2.33	.00	.000	.050	.000	.000	644.67	1187.40
.000513	39.	39.	39.	2	0	0	-186.24	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	13.68	658.35	.00	.00	658.44	.08	.02	.00	646.67
1370.0	.0	1370.0	.0	.0	587.3	.0	51.9	14.8	646.52
.45	.00	2.33	.00	.000	.050	.000	.000	644.67	1187.40
.000513	40.	40.	40.	0	0	0	-186.68	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.47

45501.000	11.16	658.44	.00	.00	658.45	.01	.00	.01	650.01
1370.0	629.9	270.4	469.7	882.6	377.2	748.0	53.8	15.1	650.34
.47	.71	.72	.63	.030	.040	.030	.000	647.28	1052.53
.000017	66.	66.	66.	2	0	0	.00	335.79	1388.32

*SECNO 45650.000

45650.000	10.04	658.44	.00	.00	658.45	.01	.00	.00	652.10
1370.0	497.2	299.0	573.8	589.7	331.1	822.4	59.7	16.3	652.10
.52	.84	.90	.70	.030	.040	.030	.000	648.40	908.71
.000033	129.	139.	144.	2	0	0	.00	404.68	1313.39

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .52

45750.000	11.05	658.45	.00	.00	658.46	.01	.00	.00	654.20
820.0	484.5	208.9	126.6	628.0	234.8	216.1	63.0	17.1	654.50
.56	.77	.89	.59	.030	.040	.030	.000	647.40	918.20
.000044	100.	100.	100.	0	0	0	.00	320.47	1238.67

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	11.04	658.44	.00	.00	658.46	.02	.00	.00	654.20
820.0	392.4	325.0	102.6	628.4	207.6	216.3	63.1	17.2	654.50
.56	.62	1.57	.47	.030	.015	.030	.000	647.40	918.16
.000029	5.	5.	5.	0	0	0	-27.32	320.56	1238.71

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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 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	11.04	658.44	.00	.00	658.46	.02	.00	.00	654.20
820.0	392.3	325.2	102.5	627.6	207.4	215.9	63.1	17.2	654.50
.56	.63	1.57	.47	.030	.015	.030	.000	647.40	918.24
.000029	2.	2.	2.	0	0	0	-27.32	320.37	1238.62

*SECNO 45760.000

45760.000	11.06	658.46	.00	.00	658.47	.01	.00	.00	654.20
820.0	510.5	176.0	133.5	628.7	234.9	216.5	63.2	17.2	654.50
.56	.81	.75	.62	.030	.050	.030	.000	647.40	918.13
.000048	3.	3.	3.	1	0	0	.00	320.62	1238.75

*SECNO 45785.000

45785.000	11.06	658.46	.00	.00	658.47	.01	.00	.00	654.20
820.0	510.6	175.7	133.7	630.0	235.2	217.2	63.8	17.4	654.50
.57	.81	.75	.62	.030	.050	.030	.000	647.40	917.99
.000048	25.	25.	25.	0	0	0	.00	320.91	1238.90

CCHV= .300 CEHV= .500

*SECNO 45810.000

45810.000	12.32	658.46	.00	.00	658.47	.01	.00	.00	646.14
820.0	326.8	177.8	315.4	515.7	172.5	590.5	64.5	17.6	646.14
.58	.63	1.03	.53	.030	.050	.030	.000	646.14	900.93
.000042	25.	25.	25.	0	0	0	.00	479.92	1380.85

*SECNO 45815.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	12.32	658.46	.00	.00	658.47	.01	.00	.00	646.14
820.0	349.0	125.7	345.3	491.0	100.8	577.1	64.7	17.7	646.14
.58	.71	1.25	.60	.030	.015	.030	.000	646.14	900.90
.000052	5.	5.	5.	0	0	0	-110.68	479.97	1380.87

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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 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	12.32	658.46	.00	.00	658.47	.01	.00	.00	646.14
820.0	348.9	125.7	345.3	491.0	100.8	577.2	65.2	17.9	646.14
.59	.71	1.25	.60	.030	.015	.030	.000	646.14	900.90
.000052	21.	21.	21.	0	0	0	-110.68	479.97	1380.87

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.56

45840.000	11.57	658.47	.00	.00	658.47	.00	.00	.00	654.10
820.0	311.2	158.8	350.0	645.9	299.1	870.7	65.4	18.0	654.80
.59	.48	.53	.40	.035	.050	.035	.000	646.90	896.65
.000021	5.	5.	5.	0	0	0	.00	554.18	1450.82

CCHV= .100 CEHV= .300

*SECNO 45870.000

45870.000	11.57	658.47	.00	.00	658.47	.00	.00	.00	654.10
820.0	306.9	167.5	345.6	647.6	299.4	873.7	66.6	18.3	654.80
.61	.47	.56	.40	.030	.040	.030	.000	646.90	896.53
.000015	30.	30.	30.	0	0	0	.00	554.63	1451.16

*SECNO 45885.000

3280 CROSS SECTION 45885.00 EXTENDED .17 FEET

45885.000	11.63	658.47	.00	.00	658.47	.01	.00	.00	653.11
820.0	354.3	236.4	229.2	596.7	286.7	543.5	67.2	18.5	654.38
.62	.59	.82	.42	.030	.040	.030	.000	646.84	1000.00
.000030	15.	15.	15.	0	0	0	.00	546.00	1546.00

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.34

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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
46140.000	10.97	658.47	.00	.00	658.48	.00	.00	.00	652.30
820.0	306.9	297.3	215.8	1311.5	1052.2	1040.6	81.3	22.2	652.40
.91	.23	.28	.21	.030	.040	.030	.000	647.50	782.53
.000003	255.	255.	255.	0	0	0	.00	696.42	1478.95

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.42

46290.000	10.78	658.48	.00	.00	658.48	.00	.00	.00	652.50
820.0	116.5	665.2	38.3	894.6	3332.6	280.4	95.0	24.6	652.30
1.13	.13	.20	.14	.030	.040	.030	.000	647.70	855.02
.000001	150.	150.	150.	0	0	0	.00	703.41	1558.43

CCHV= .300 CEHV= .500
*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .57

46540.000	10.28	658.48	.00	.00	658.48	.00	.00	.00	654.90
820.0	184.6	600.9	34.5	903.7	1824.5	257.6	116.5	28.7	656.10
1.37	.20	.33	.13	.030	.040	.030	.000	648.20	821.19
.000004	250.	250.	250.	0	0	0	.00	728.01	1549.20

*SECNO 46610.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .44

46610.000	10.47	658.47	.00	.00	658.48	.00	.00	.00	654.60
820.0	541.2	159.6	119.2	1047.1	259.1	317.0	120.2	29.7	655.60
1.40	.52	.62	.38	.030	.040	.030	.000	648.00	863.27
.000021	70.	70.	70.	0	0	0	.00	541.38	1404.65

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T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3 HEC-1 100-YEAR 12-HOUR DURATION FLOWS USED

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3			0	0	0	0	653.68	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2		-1							

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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 2
0

CCHV= .100 CEHV= .300

*SECNO 43155.000

43155.000	9.88	653.68	.00	653.68	654.42	.74	.00	.00	667.30
1189.0	.0	1189.0	.0	.0	172.4	.0	.0	.0	666.70
.00	.00	6.90	.00	.000	.045	.000	.000	643.80	1025.60
.006038	0.	0.	0.	0	0	0	.00	22.06	1047.66

*SECNO 43305.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.57

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	9.41	654.61	.00	.00	654.76	.15	.28	.06	655.00
1189.0	.0	1189.0	.0	.0	381.3	.0	1.0	.1	661.00
.01	.00	3.12	.00	.000	.045	.000	.000	645.20	1085.77
.000912	170.	150.	130.	2	0	0	.00	63.31	1149.08

*SECNO 43659.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.09

43659.000	9.09	654.87	.00	.00	654.91	.04	.14	.01	650.60
1189.0	169.3	480.8	539.0	135.1	288.8	371.8	5.7	1.2	651.86
.08	1.25	1.66	1.45	.035	.045	.035	.000	645.78	1188.79
.000208	319.	354.	369.	2	0	0	.00	198.48	1387.27

*SECNO 43675.000

3265 DIVIDED FLOW

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

43675.000	8.70	654.90	.00	.00	654.91	.02	.00	.00	653.00
1189.0	78.7	306.1	804.2	163.9	299.2	761.1	6.1	1.3	651.50
.08	.48	1.02	1.06	.035	.045	.035	.000	646.20	978.29
.000087	16.	16.	16.	1	0	0	.00	359.24	1355.92

*SECNO 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

43873.000	9.77	654.88	.00	.00	654.97	.09	.03	.02	649.47
951.0	148.9	550.1	252.1	70.6	210.8	121.1	10.0	2.3	649.69
.11	2.11	2.61	2.08	.035	.045	.035	.000	645.11	1416.06
.000424	186.	198.	215.	2	0	0	.00	85.66	1501.72

*SECNO 44015.000

44015.000	9.78	654.98	.00	.00	655.02	.04	.05	.00	652.30
951.0	215.3	735.7	.0	206.5	402.3	.0	11.6	2.9	656.60
.13	1.04	1.83	.00	.035	.045	.000	.000	645.20	923.00
.000321	134.	142.	155.	2	0	0	.00	233.82	1156.82

*SECNO 44186.000

44186.000	8.98	655.02	.00	.00	655.10	.08	.07	.01	651.84
951.0	90.0	820.7	40.3	73.3	348.2	28.0	13.7	3.6	652.35
.15	1.23	2.36	1.44	.035	.045	.035	.000	646.04	1106.10
.000463	168.	171.	199.	2	0	0	.00	170.12	1276.22

*SECNO 44335.000

44335.000	8.28	655.08	.00	.00	655.16	.08	.06	.00	648.90
951.0	278.9	594.7	77.4	142.7	245.1	48.4	15.2	4.2	651.30
.17	1.95	2.43	1.60	.035	.045	.035	.000	646.80	1037.18
.000407	147.	149.	156.	0	0	0	.00	149.44	1186.62

*SECNO 44530.000

44530.000	8.37	655.17	.00	.00	655.24	.07	.08	.00	648.90
951.0	283.8	588.0	79.2	152.2	248.2	50.4	17.2	4.9	651.30
.20	1.86	2.37	1.57	.035	.045	.035	.000	646.80	1010.68
.000381	195.	195.	195.	0	0	0	.00	176.31	1186.98

1

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= .300 CEHV= .500

*SECNO 44592.000

44592.000	9.54	655.19	.00	.00	655.26	.08	.02	.00	647.55
951.0	167.3	558.5	225.2	116.7	218.4	127.7	17.9	5.1	647.56
.20	1.43	2.56	1.76	.035	.040	.035	.000	645.65	1072.05
.000268	66.	66.	66.	0	0	0	.00	103.45	1175.51

*SECNO 44630.000

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	9.54	655.19	.00	.00	655.27	.08	.01	.00	647.55
951.0	167.5	558.2	225.3	116.8	218.5	127.8	18.2	5.2	647.56
.21	1.43	2.55	1.76	.035	.040	.035	.000	645.65	1072.01
.000267	34.	34.	34.	0	0	0	.00	103.52	1175.53

*SECNO 44830.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.16

44830.000	9.50	655.30	.00	.00	655.31	.01	.02	.02	645.80
951.0	113.7	251.6	585.8	146.0	199.5	810.8	22.2	6.5	645.80
.28	.78	1.26	.72	.035	.040	.035	.000	645.80	1026.31
.000057	214.	214.	214.	2	0	0	.00	402.74	1429.05

*SECNO 44870.000

44870.000	9.59	655.30	.00	.00	655.32	.01	.00	.00	645.71
951.0	85.0	283.2	582.8	123.6	249.5	792.8	23.3	6.8	645.71
.29	.69	1.13	.74	.030	.040	.030	.000	645.71	1026.09
.000046	40.	40.	40.	0	0	0	.00	403.45	1429.54

*SECNO 44910.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .29

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	9.49	655.20	.00	.00	655.43	.23	.00	.11	645.71
951.0	.0	951.0	.0	.0	246.6	.0	23.5	6.9	645.71
.29	.00	3.86	.00	.000	.040	.000	.000	645.71	1095.00
.000536	12.	12.	12.	2	0	0	.00	26.00	1121.00

1

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 CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 657.83

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.44

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN	
655.72	658.42	2.40	87.	858.	1.401	84.8	657.50	288.	
44970.000	11.05	657.80	.00	.00	657.83	.02	2.40	.00	646.75
951.0	278.6	402.6	269.8	233.7	287.4	279.6	24.2	7.1	646.75
.31	1.19	1.40	.96	.030	.050	.030	.000	646.75	1019.01
.000090	63.	63.	63.	2	0	0	.00	245.08	1264.09

CCHV= .100 CEHV= .300
*SECNO 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.98

45025.000	9.83	657.83	.00	.00	657.83	.01	.00	.00	651.00
951.0	200.9	236.1	514.1	298.9	392.3	875.6	26.5	7.7	653.20
.34	.67	.60	.59	.030	.050	.030	.000	648.00	958.80
.000023	5.	65.	130.	0	0	0	.00	369.91	1328.71

*SECNO 45345.000

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

45345.000	10.03	657.83	.00	.00	657.84	.01	.01	.00	652.40
951.0	435.2	262.0	253.7	470.7	291.1	325.3	36.3	10.1	651.60
.44	.92	.90	.78	.030	.050	.030	.000	647.80	966.78
.000055	310.	320.	330.	1	0	0	.00	271.70	1238.49

CCHV= .300 CEHV= .500

1

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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

1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER

*H	7.5000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.88

45356.000	13.57	657.84	.00	.00	657.85	.00	.00	.00	651.73
951.0	266.1	593.7	91.3	487.0	1134.3	180.0	37.7	10.3	651.45
.46	.55	.52	.51	.030	.050	.030	.000	644.27	1039.52
.000015	21.	66.	21.	0	0	0	.00	280.18	1319.70

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .25

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	13.16	657.83	.00	.00	657.87	.04	.00	.02	646.67
951.0	.0	951.0	.0	.0	574.2	.0	38.8	10.4	646.52
.47	.00	1.66	.00	.000	.050	.000	.000	644.67	1187.40
.000242	39.	39.	39.	1	0	0	-167.28	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	13.17	657.84	.00	.00	657.88	.04	.01	.00	646.67
951.0	.0	951.0	.0	.0	574.0	.0	39.3	10.5	646.52
.48	.00	1.66	.00	.000	.050	.000	.000	644.67	1187.40
.000242	40.	40.	40.	0	0	0	-167.13	48.00	1235.40

CCHV= .100 CEHV= .300

1

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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 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.66

45501.000	10.60	657.88	.00	.00	657.88	.00	.00	.00	650.01
951.0	437.9	199.0	314.2	802.6	357.2	660.2	41.1	10.7	650.34
.51	.55	.56	.48	.030	.040	.030	.000	647.28	1055.05
.000011	66.	66.	66.	2	0	0	.00	331.62	1386.67

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45650.000	9.48	657.88	.00	.00	657.89	.01	.00	.00	652.10
951.0	347.2	227.6	376.2	515.5	311.1	696.3	46.4	11.9	652.10
.57	.67	.73	.54	.030	.040	.030	.000	648.40	917.40
.000023	129.	139.	144.	1	0	0	.00	388.82	1306.23

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .49

45750.000	10.49	657.89	.00	.00	657.89	.00	.00	.00	654.20
96.0	55.6	27.7	12.7	524.5	218.5	161.6	49.2	12.7	654.50
.83	.11	.13	.08	.030	.040	.030	.000	647.40	929.07
.000001	100.	100.	100.	0	0	0	.00	297.37	1226.44

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	10.49	657.89	.00	.00	657.89	.00	.00	.00	654.20
96.0	44.3	41.6	10.1	525.9	191.4	162.3	49.3	12.7	654.50
.84	.08	.22	.06	.030	.015	.030	.000	647.40	928.92
.000001	5.	5.	5.	0	0	0	-27.32	297.68	1226.60

*SECNO 45757.000
1
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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

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	10.49	657.89	.00	.00	657.89	.00	.00	.00	654.20
96.0	44.3	41.6	10.1	525.9	191.4	162.3	49.3	12.7	654.50
.84	.08	.22	.06	.030	.015	.030	.000	647.40	928.93
.000001	2.	2.	2.	0	0	0	-27.32	297.67	1226.60

*SECNO 45760.000

45760.000	10.49	657.89	.00	.00	657.89	.00	.00	.00	654.20
96.0	59.0	23.5	13.5	525.9	218.7	162.3	49.4	12.7	654.50
.85	.11	.11	.08	.030	.050	.030	.000	647.40	928.93
.000001	3.	3.	3.	0	0	0	.00	297.67	1226.60

*SECNO 45785.000

45785.000	10.49	657.89	.00	.00	657.89	.00	.00	.00	654.20
96.0	59.0	23.5	13.5	525.9	218.7	162.3	49.9	12.9	654.50
.91	.11	.11	.08	.030	.050	.030	.000	647.40	928.92
.000001	25.	25.	25.	0	0	0	.00	297.68	1226.61

CCHV= .300 CEHV= .500
*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	11.75	657.89	.00	.00	657.89	.00	.00	.00	646.14
96.0	37.3	26.1	32.7	412.3	164.5	438.4	50.4	13.1	646.14
.98	.09	.16	.07	.030	.050	.030	.000	646.14	915.30
.000001	25.	25.	25.	0	0	0	.00	438.24	1353.83

*SECNO 45815.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

1

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
45815.000	11.75	657.89	.00	.00	657.89	.00	.00	.00	646.14
96.0	38.5	22.5	34.9	388.0	94.3	425.9	50.5	13.2	646.14
.99	.10	.24	.08	.030	.015	.030	.000	646.14	915.30
.000001	5.	5.	5.	0	0	0	-106.98	438.24	1353.83

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	11.75	657.89	.00	.00	657.89	.00	.00	.00	646.14
96.0	38.5	22.5	34.9	388.0	94.3	425.9	51.0	13.4	646.14
1.04	.10	.24	.08	.030	.015	.030	.000	646.14	915.30
.000001	21.	21.	21.	0	0	0	-106.98	438.24	1353.83

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

45840.000	10.99	657.89	.00	.00	657.89	.00	.00	.00	654.10
96.0	36.6	21.8	37.6	542.2	279.8	685.4	51.1	13.4	654.80
1.06	.07	.08	.05	.035	.050	.035	.000	646.90	904.18
.000001	5.	5.	5.	0	0	0	.00	525.01	1429.19

CCHV= .100 CEHV= .300

*SECNO 45870.000

45870.000	10.99	657.89	.00	.00	657.89	.00	.00	.00	654.10
96.0	36.0	23.0	37.0	542.3	279.8	685.5	52.2	13.8	654.80
1.19	.07	.08	.05	.030	.040	.030	.000	646.90	904.18
.000000	30.	30.	30.	0	0	0	.00	525.03	1429.21

*SECNO 45885.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .70

1

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
45885.000	11.05	657.89	.00	.00	657.89	.00	.00	.00	653.11
96.0	41.2	33.3	21.5	481.3	269.3	371.4	52.6	14.0	654.38
1.23	.09	.12	.06	.030	.040	.030	.000	646.84	1015.01
.000001	15.	15.	15.	0	0	0	.00	488.91	1503.91

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.73

46140.000	10.39	657.89	.00	.00	657.89	.00	.00	.00	652.30
96.0	34.8	37.7	23.5	1136.5	992.6	877.3	64.7	17.4	652.40
3.41	.03	.04	.03	.030	.040	.030	.000	647.50	796.88
.000000	255.	255.	255.	0	0	0	.00	667.17	1464.05

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.48

46290.000	10.19	657.89	.00	.00	657.89	.00	.00	.00	652.50
96.0	11.7	80.4	3.9	735.2	3137.3	229.7	76.9	19.7	652.30
5.14	.02	.03	.02	.030	.040	.030	.000	647.70	873.02
.000000	150.	150.	150.	0	0	0	.00	676.84	1549.86

CCHV= .300 CEHV= .500
*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .55

46540.000	9.69	657.89	.00	.00	657.89	.00	.00	.00	654.90
96.0	18.3	75.4	2.3	711.7	1709.7	153.9	96.1	23.5	656.10
6.88	.03	.04	.01	.030	.040	.030	.000	648.20	850.51
.000000	250.	250.	250.	0	0	0	.00	672.23	1522.73

*SECNO 46610.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .39

46610.000	9.89	657.89	.00	.00	657.89	.00	.00	.00	654.60
96.0	62.6	21.9	11.5	854.0	240.5	224.7	99.2	24.5	655.60
7.14	.07	.09	.05	.030	.040	.030	.000	648.00	885.68
.000001	70.	70.	70.	0	0	0	.00	496.30	1381.98

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T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3 HEC-1 FLOWS USED: 50-YEAR 12-HOUR DURATION

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		4	0	0	0	0	0	0	653.08	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3		-1							

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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 3
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	9.28	653.08	.00	653.08	653.72	.64	.00	.00	667.30
1021.0	.0	1021.0	.0	.0	159.2	.0	.0	.0	666.70
.00	.00	6.41	.00	.000	.045	.000	.000	643.80	1025.64
.005571	0.	0.	0.	0	0	0	.00	21.97	1047.61

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.42

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	8.71	653.91	.00	.00	654.05	.14	.29	.05	655.00
1021.0	.0	1021.0	.0	.0	338.1	.0	.9	.1	661.00
.01	.00	3.02	.00	.000	.045	.000	.000	645.20	1086.97
.000951	170.	150.	130.	0	0	0	.00	60.93	1147.90

*SECNO 43659.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.88

43659.000	8.41	654.19	.00	.00	654.23	.04	.16	.01	650.60
1021.0	124.8	461.0	435.2	102.2	260.7	298.7	4.9	1.2	651.86
.08	1.22	1.77	1.46	.035	.045	.035	.000	645.78	1191.73
.000269	319.	354.	369.	2	0	0	.00	193.36	1385.10

*SECNO 43675.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

43675.000	8.01	654.21	.00	.00	654.23	.02	.00	.00	653.00
1021.0	29.0	292.1	699.9	77.9	266.9	638.6	5.2	1.3	651.50
.08	.37	1.09	1.10	.035	.045	.035	.000	646.20	981.49
.000116	16.	16.	16.	1	0	0	.00	346.11	1354.57

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

43873.000	9.09	654.20	.00	.00	654.29	.09	.04	.02	649.47
802.0	117.5	496.7	187.8	57.8	194.5	95.2	8.4	2.3	649.69
.11	2.03	2.55	1.97	.035	.045	.035	.000	645.11	1417.78
.000452	186.	198.	215.	2	0	0	.00	78.26	1496.04

*SECNO 44015.000

44015.000	9.10	654.30	.00	.00	654.36	.05	.06	.00	652.30
802.0	106.4	695.6	.0	110.0	355.5	.0	9.7	2.7	656.60
.13	.97	1.96	.00	.035	.045	.000	.000	645.20	975.63
.000412	134.	142.	155.	2	0	0	.00	178.54	1154.16

*SECNO 44186.000

44186.000	8.32	654.36	.00	.00	654.44	.08	.08	.01	651.84
802.0	48.0	730.0	24.0	38.2	312.0	18.6	11.3	3.2	652.35
.15	1.26	2.34	1.29	.035	.045	.035	.000	646.04	1172.05
.000528	168.	171.	199.	1	0	0	.00	101.91	1273.97

*SECNO 44335.000

44335.000	7.64	654.44	.00	.00	654.52	.08	.07	.00	648.90
802.0	213.6	536.0	52.3	100.4	223.3	35.3	12.6	3.6	651.30
.17	2.13	2.40	1.48	.035	.045	.035	.000	646.80	1085.33
.000451	147.	149.	156.	0	0	0	.00	98.68	1184.01

*SECNO 44530.000

44530.000	7.72	654.52	.00	.00	654.60	.08	.09	.00	648.90
802.0	216.3	531.3	54.4	105.0	226.5	37.1	14.2	4.0	651.30
.19	2.06	2.35	1.47	.035	.045	.035	.000	646.80	1081.18
.000422	195.	195.	195.	0	0	0	.00	103.22	1184.40

CCHV= .300 CEHV= .500

*SECNO 44592.000

44592.000	8.90	654.55	.00	.00	654.62	.07	.02	.00	647.55
802.0	117.2	506.6	178.3	90.0	203.7	106.0	14.8	4.2	647.56
.20	1.30	2.49	1.68	.035	.040	.035	.000	645.65	1078.59
.000278	66.	66.	66.	0	0	0	.00	94.13	1172.71

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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 44630.000
        **TRI-STATE TOLLWAY** survey sta 312+66, U/S H5 (ss. 312+99.93)
 44630.000      8.91    654.56       .00       .00    654.63       .07       .01       .00    647.55
    802.0      117.5     506.1     178.4      90.3     203.9     106.3      15.1       4.2    647.56
      .20       1.30      2.48      1.68      .035      .040      .035      .000    645.65   1078.50
  .000277        34.       34.       34.         0         0         0       .00     94.25   1172.75


*SECNO 44830.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.99

 44830.000      8.86    654.66       .00       .00    654.68       .01       .03       .02    645.80
    802.0       95.1     247.3     459.7     107.6     186.1     628.3      18.4       5.3    645.80
      .27        .88      1.33       .73      .035      .040      .035      .000    645.80   1048.38
  .000070        214.      214.      214.         2         0         0       .00    332.90   1381.28


*SECNO 44870.000
 44870.000      8.96    654.67       .00       .00    654.68       .01       .00       .00    645.71
    802.0       67.0     280.3     454.7      86.8     233.0     611.6      19.2       5.6    645.71
      .28        .77      1.20       .74      .030      .040      .030      .000    645.71   1048.14
  .000056        40.       40.       40.         0         0         0       .00    333.66   1381.80


*SECNO 44910.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .34

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       657.53 ELREA=       657.46

        **COUNTY LINE ROAD** survey sta 310+00, U/S H6 (ss. 310+12.46)
 44910.000      8.87    654.58       .00       .00    654.77       .19       .00       .09    645.71
    802.0         .0     802.0        .0        .0     230.7        .0      19.4       5.6    645.71
      .28        .00      3.48       .00      .000      .040      .000      .000    645.71   1095.00
  .000477        12.       12.       12.         2         0         0       .00     26.00   1121.00


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     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 CULVERT

 SC  CUNO      CUNV      ENTLC     COFQ      RDLEN     RISE      SPAN      CULVLN    CHRT      SCL       ELCHU     ELCHD
      3          .012      .50      2.70       .00      6.00       .00     63.00       1         1      646.75    645.71

 CHART  1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
 SCALE  1 - SQUARE EDGE ENTRANCE WITH HEADWALL

 *SECNO 44970.000

 SPECIAL CULVERT OUTLET CONTROL
 EGIC =    654.408  EGOC =    656.878  PCWSE=    654.582  ELTRD=    657.500

 SPECIAL CULVERT

      EGIC      EGOC       H4      QWEIR     QCULV       VCH      ACULV     ELTRD     WEIRLN
     654.41    656.88     2.11        0.      802.     3.091       84.8    657.50         0.


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       657.53 ELREA=       657.46

 44970.000      9.98    656.73       .00       .00    656.88       .15      2.11       .00    646.75
    802.0         .0     802.0        .0        .0     259.5        .0      19.7       5.7    646.75
      .29        .00      3.09       .00      .000      .050      .000      .000    646.75   1115.00
  .000503        63.       63.       63.         2         0         0       .00     26.00   1141.00


 CCHV=     .100 CEHV=     .300
 *SECNO 45025.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.89

 45025.000      8.89    656.89       .00       .00    656.90       .01       .01       .01    651.00
    802.0      168.3     236.6     397.1     231.7     352.2     657.0      21.2       6.1    653.20
      .32        .73       .67       .60      .030      .050      .030      .000    648.00   975.77
  .000033          5.       65.      130.         2         0         0       .00    337.33   1313.10
```

*SECNO 45345.000

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

45345.000	9.10	656.90	.00	.00	656.92	.01	.02	.00	652.40
802.0	341.7	261.9	198.3	350.9	260.2	235.0	28.9	8.2	651.60
.41	.97	1.01	.84	.030	.050	.030	.000	647.80	979.06
.000079	310.	320.	330.	2	0	0	.00	243.79	1222.85

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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= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.12

45356.000	12.65	656.92	.00	.00	656.92	.00	.00	.00	651.73
802.0	199.2	536.9	65.9	385.4	1025.6	136.8	30.1	8.4	651.45
.44	.52	.52	.48	.030	.050	.030	.000	644.27	1045.24
.000018	21.	66.	21.	1	0	0	.00	269.36	1314.60

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .32

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	12.23	656.90	.00	.00	656.94	.03	.00	.01	646.67
802.0	.0	802.0	.0	.0	542.3	.0	31.1	8.6	646.52
.44	.00	1.48	.00	.000	.050	.000	.000	644.67	1187.40
.000172	39.	39.	39.	1	0	0	-140.14	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	12.24	656.91	.00	.00	656.94	.03	.01	.00	646.67
802.0	.0	802.0	.0	.0	542.1	.0	31.6	8.6	646.52
.45	.00	1.48	.00	.000	.050	.000	.000	644.67	1187.40
.000172	40.	40.	40.	0	0	0	-140.05	48.00	1235.40

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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 45501.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.54

45501.000	9.67	656.95	.00	.00	656.95	.00	.00	.00	650.01
802.0	369.1	187.7	245.2	672.8	323.9	516.6	33.1	8.9	650.34
.48	.55	.58	.47	.030	.040	.030	.000	647.28	1059.24
.000014	66.	66.	66.	2	0	0	.00	323.70	1383.94

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .62

45650.000	8.55	656.95	.00	.00	656.95	.01	.00	.00	652.10
802.0	296.7	231.2	274.1	401.1	277.4	492.7	37.3	10.0	652.10
.54	.74	.83	.56	.030	.040	.030	.000	648.40	932.06
.000035	129.	139.	144.	1	0	0	.00	362.09	1294.15

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

45750.000	9.56	656.96	.00	.00	656.96	.00	.00	.00	654.20
91.0	49.4	33.6	8.1	366.8	191.4	86.6	39.4	10.7	654.50
.73	.13	.18	.09	.030	.040	.030	.000	647.40	947.06
.000002	100.	100.	100.	0	0	0	.00	259.15	1206.21

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	9.56	656.96	.00	.00	656.96	.00	.00	.00	654.20
91.0	37.9	46.9	6.2	368.3	164.3	87.3	39.5	10.7	654.50
.74	.10	.29	.07	.030	.015	.030	.000	647.40	946.88
.000001	5.	5.	5.	0	0	0	-27.32	259.54	1206.42

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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 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	9.56	656.96	.00	.00	656.96	.00	.00	.00	654.20
91.0	37.9	46.9	6.2	368.3	164.3	87.3	39.5	10.7	654.50
.74	.10	.29	.07	.030	.015	.030	.000	647.40	946.88
.000001	2.	2.	2.	0	0	0	-27.32	259.53	1206.41

*SECNO 45760.000

45760.000	9.56	656.96	.00	.00	656.96	.00	.00	.00	654.20
91.0	53.3	28.9	8.8	368.3	191.7	87.3	39.6	10.8	654.50
.74	.14	.15	.10	.030	.050	.030	.000	647.40	946.88
.000003	3.	3.	3.	0	0	0	.00	259.53	1206.41

*SECNO 45785.000

45785.000	9.56	656.96	.00	.00	656.96	.00	.00	.00	654.20
91.0	53.3	28.9	8.8	368.4	191.7	87.3	39.9	10.9	654.50
.79	.14	.15	.10	.030	.050	.030	.000	647.40	946.87
.000003	25.	25.	25.	0	0	0	.00	259.55	1206.42

CCHV= .300 CEHV= .500
*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	10.82	656.96	.00	.00	656.96	.00	.00	.00	646.14
91.0	31.7	36.6	22.7	263.8	151.5	236.2	40.3	11.1	646.14
.84	.12	.24	.10	.030	.050	.030	.000	646.14	942.29
.000003	25.	25.	25.	0	0	0	.00	342.54	1295.80

*SECNO 45815.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

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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

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	10.82	656.96	.00	.00	656.96	.00	.00	.00	646.14
91.0	31.5	35.5	23.9	245.0	94.3	231.4	40.4	11.1	646.14
.84	.13	.38	.10	.030	.015	.030	.000	646.14	942.29
.000003	5.	5.	5.	0	0	0	-80.80	342.53	1295.80

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	10.82	656.96	.00	.00	656.96	.00	.00	.00	646.14
91.0	31.5	35.5	23.9	244.9	94.3	231.3	40.6	11.3	646.14
.87	.13	.38	.10	.030	.015	.030	.000	646.14	942.30
.000003	21.	21.	21.	0	0	0	-80.80	342.51	1295.78

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.55

45840.000	10.06	656.96	.00	.00	656.96	.00	.00	.00	654.10
91.0	34.4	28.6	28.0	382.3	248.2	409.9	40.7	11.3	654.80
.88	.09	.12	.07	.035	.050	.035	.000	646.90	916.47
.000001	5.	5.	5.	0	0	0	.00	477.45	1393.92

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	10.06	656.96	.00	.00	656.96	.00	.00	.00	654.10
91.0	33.6	30.0	27.4	382.5	248.2	410.2	41.5	11.7	654.80
.97	.09	.12	.07	.030	.040	.030	.000	646.90	916.45
.000001	30.	30.	30.	0	0	0	.00	477.51	1393.97

*SECNO 45885.000

45885.000	10.12	656.96	.00	.00	656.96	.00	.00	.00	653.11
91.0	36.8	42.2	12.0	321.0	241.4	164.8	41.8	11.8	654.38
1.00	.11	.17	.07	.030	.040	.030	.000	646.84	1049.06
.000002	15.	15.	15.	0	0	0	.00	359.34	1408.41

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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 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.37

46140.000	9.46	656.96	.00	.00	656.96	.00	.00	.00	652.30
91.0	30.6	41.5	19.0	874.6	897.7	634.9	50.9	14.7	652.40
2.82	.03	.05	.03	.030	.040	.030	.000	647.50	819.76
.000000	255.	255.	255.	0	0	0	.00	620.52	1440.28

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.62

46290.000	9.26	656.96	.00	.00	656.96	.00	.00	.00	652.50
91.0	8.0	80.4	2.6	504.5	2827.7	159.6	61.1	16.8	652.30
4.37	.02	.03	.02	.030	.040	.030	.000	647.70	901.54
.000000	150.	150.	150.	0	0	0	.00	634.74	1536.28

CCHV= .300 CEHV= .500
*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .51

46540.000	8.76	656.96	.00	.00	656.96	.00	.00	.00	654.90

```
      91.0      11.6      79.1        .3     442.2    1527.5      28.4      76.8      20.2    656.10
      5.80       .03       .05       .01      .030      .040      .030      .000    648.20    897.05
   .000000      250.      250.      250.         0         0         0       .00    540.83   1437.88


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .31

 46610.000      8.96    656.96       .00       .00    656.96       .00       .00       .00    654.60
      91.0      56.1      28.5       6.3     574.2     210.9     105.4      79.2      21.0    655.60
      5.98       .10       .14       .06      .030      .040      .030      .000    648.00    921.27
   .000001       70.       70.       70.         0         0         0       .00    424.70   1345.97


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED: 25-YEAR 12-HOUR DURATION

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                 5                             0                                   652.36

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       4                  -1


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      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 4
0

 CCHV=     .100 CEHV=     .300
 *SECNO 43155.000
  43155.000      8.56    652.36       .00    652.36    652.86       .50       .00       .00    667.30
      812.0        .0     812.0        .0        .0     143.4        .0        .0        .0    666.70
        .00       .00      5.66       .00      .000      .045      .000      .000    643.80   1025.68
    .004739        0.        0.        0.         0         0         0       .00     21.87   1047.55


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.21


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000      7.85    653.05       .00       .00    653.17       .12       .28       .04    655.00
      812.0        .0     812.0        .0        .0     286.5        .0        .7        .1    661.00
        .01       .00      2.83       .00      .000      .045      .000      .000    645.20   1088.47
    .000973      170.      150.      130.         2         0         0       .00     57.96   1146.43


 *SECNO 43659.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.59

  43659.000      7.56    653.34       .00       .00    653.39       .04       .21       .01    650.60
      812.0      71.5     435.2     305.3      64.3     225.9     210.2       3.9       1.1    651.86
        .07      1.11      1.93      1.45      .035      .045      .035      .000    645.78   1195.37
    .000387      319.      354.      369.         2         0         0       .00    187.53   1382.89


 *SECNO 43675.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.54

  43675.000      7.17    653.37       .00       .00    653.39       .02       .00       .00    653.00
      812.0       1.5     265.6     544.9       7.8     227.5     490.3       4.2       1.2    651.50
        .08       .19      1.17      1.11      .035      .045      .035      .000    646.20   1087.62
    .000164       16.       16.       16.         2         0         0       .00    265.30   1352.91


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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

43873.000	8.27	653.38	.00	.00	653.46	.08	.05	.02	649.47
641.0	84.2	434.4	122.4	43.8	174.4	68.5	6.6	2.0	649.69
.10	1.93	2.49	1.79	.035	.045	.035	.000	645.11	1419.90
.000497	186.	198.	215.	2	0	0	.00	69.58	1489.49

*SECNO 44015.000

44015.000	8.27	653.47	.00	.00	653.54	.06	.07	.00	652.30
641.0	22.5	618.5	.0	34.3	300.5	.0	7.6	2.3	656.60
.12	.66	2.06	.00	.035	.045	.000	.000	645.20	1011.19
.000534	134.	142.	155.	2	0	0	.00	139.72	1150.91

*SECNO 44186.000

44186.000	7.52	653.56	.00	.00	653.64	.08	.10	.00	651.84
641.0	16.8	615.4	8.8	17.0	267.1	8.9	8.8	2.8	652.35
.14	.99	2.30	.99	.035	.045	.035	.000	646.04	1184.70
.000630	168.	171.	199.	0	0	0	.00	86.46	1271.16

*SECNO 44335.000

44335.000	6.85	653.65	.00	.00	653.72	.08	.08	.00	648.90
641.0	156.7	457.2	27.2	75.3	196.7	21.6	9.8	3.1	651.30
.16	2.08	2.32	1.26	.035	.045	.035	.000	646.80	1105.41
.000501	147.	149.	156.	0	0	0	.00	75.43	1180.84

*SECNO 44530.000

44530.000	6.95	653.75	.00	.00	653.82	.07	.09	.00	648.90
641.0	158.2	453.6	29.2	78.0	200.1	23.3	11.2	3.4	651.30
.19	2.03	2.27	1.25	.035	.045	.035	.000	646.80	1105.00
.000465	195.	195.	195.	1	0	0	.00	76.26	1181.25

CCHV= .300 CEHV= .500

*SECNO 44592.000

44592.000	8.12	653.77	.00	.00	653.84	.07	.02	.00	647.55
641.0	72.3	441.1	127.6	63.0	185.8	82.1	11.6	3.5	647.56
.20	1.15	2.37	1.55	.035	.040	.035	.000	645.65	1085.63
.000287	66.	66.	66.	0	0	0	.00	83.68	1169.32

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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 44630.000

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	8.13	653.78	.00	.00	653.85	.07	.01	.00	647.55
641.0	72.5	440.7	127.8	63.3	186.0	82.4	11.9	3.6	647.56
.20	1.15	2.37	1.55	.035	.040	.035	.000	645.65	1085.56
.000286	34.	34.	34.	0	0	0	.00	83.80	1169.36

*SECNO 44830.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.78

44830.000	8.08	653.88	.00	.00	653.90	.02	.03	.02	645.80
641.0	78.4	241.3	321.3	79.2	169.8	443.0	14.4	4.5	645.80
.26	.99	1.42	.73	.035	.040	.035	.000	645.80	1070.41
.000090	214.	214.	214.	2	0	0	.00	268.29	1338.70

*SECNO 44870.000

44870.000	8.18	653.89	.00	.00	653.90	.02	.00	.00	645.71
641.0	51.4	276.5	313.2	60.4	212.7	427.9	15.1	4.7	645.71
.27	.85	1.30	.73	.030	.040	.030	.000	645.71	1070.36
.000074	40.	40.	40.	0	0	0	.00	268.61	1338.97

*SECNO 44910.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .43

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	8.12	653.83	.00	.00	653.97	.14	.00	.06	645.71
641.0	.0	641.0	.0	.0	211.0	.0	15.2	4.7	645.71
.27	.00	3.04	.00	.000	.040	.000	.000	645.71	1095.00
.000410	12.	12.	12.	2	0	0	.00	26.00	1121.00

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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 CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 653.028 EGOC = 655.294 PCWSE= 653.827 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
653.03	655.29	1.32	0.	641.	2.931	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	8.41	655.16	.00	.00	655.29	.13	1.32	.00	646.75
641.0	.0	641.0	.0	.0	218.7	.0	15.5	4.8	646.75
.28	.00	2.93	.00	.000	.050	.000	.000	646.75	1115.00
.000569	63.	63.	63.	2	0	0	.00	26.00	1141.00

CCHV= .100 CEHV= .300
*SECNO 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.38

45025.000	7.31	655.31	.00	.00	655.32	.01	.01	.01	651.00
641.0	132.9	286.8	221.3	127.6	284.0	318.4	16.3	5.1	653.20
.30	1.04	1.01	.69	.030	.050	.030	.000	648.00	979.53
.000100	5.	65.	130.	2	0	0	.00	307.00	1286.52

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .67

45345.000	7.54	655.34	.00	.00	655.37	.03	.05	.00	652.40
641.0	206.5	303.3	131.2	176.5	208.6	117.1	20.9	7.0	651.60
.37	1.17	1.45	1.12	.030	.050	.030	.000	647.80	999.53
.000222	310.	320.	330.	2	0	0	.00	197.25	1196.78

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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= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.79

45356.000	11.10	655.37	.00	.00	655.38	.00	.00	.01	651.73
641.0	113.0	493.5	34.5	227.9	844.6	75.3	21.8	7.2	651.45
.39	.50	.58	.46	.030	.050	.030	.000	644.27	1054.77
.000029	21.	66.	21.	2	0	0	.00	251.27	1306.04

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .44

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	10.69	655.36	.00	.00	655.39	.03	.00	.01	646.67
641.0	.0	641.0	.0	.0	474.5	.0	22.6	7.3	646.52
.40	.00	1.35	.00	.000	.050	.000	.000	644.67	1187.40
.000149	39.	39.	39.	1	0	0	-109.59	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	10.70	655.37	.00	.00	655.40	.03	.01	.00	646.67
641.0	.0	641.0	.0	.0	474.3	.0	23.0	7.4	646.52
.41	.00	1.35	.00	.000	.050	.000	.000	644.67	1187.40
.000150	40.	40.	40.	0	0	0	-109.52	48.00	1235.40

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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 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.39

45501.000	8.12	655.40	.00	.00	655.40	.01	.00	.00	650.01
641.0	286.0	189.9	165.2	465.5	268.6	321.0	24.1	7.6	650.34
.44	.61	.71	.51	.030	.040	.030	.000	647.28	1066.21
.000026	66.	66.	66.	1	0	0	.00	282.79	1348.99

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .50

45650.000	7.00	655.40	.00	.00	655.41	.02	.01	.00	652.10
641.0	245.5	276.3	119.2	241.0	221.6	180.9	26.8	8.6	652.10
.47	1.02	1.25	.66	.030	.040	.030	.000	648.40	953.74
.000107	129.	139.	144.	1	0	0	.00	320.45	1274.19

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

45750.000	8.03	655.43	.00	.00	655.43	.00	.01	.00	654.20
83.0	29.2	53.2	.6	145.6	147.2	6.1	27.9	9.2	654.50
.56	.20	.36	.11	.030	.040	.030	.000	647.40	976.40
.000013	100.	100.	100.	2	0	0	.00	182.54	1158.94

*SECNO 45755.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.43

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	8.02	655.42	.00	.00	655.43	.00	.00	.00	654.20

83.0	20.3	62.2	.4	145.6	119.9	6.1	27.9	9.2	654.50
.57	.14	.52	.07	.030	.015	.030	.000	647.40	976.39
.000007	5.	5.	5.	0	0	0	-27.32	182.58	1158.97

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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 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	8.02	655.42	.00	.00	655.43	.00	.00	.00	654.20
83.0	20.3	62.2	.4	145.4	119.9	6.0	27.9	9.2	654.50
.57	.14	.52	.07	.030	.015	.030	.000	647.40	976.41
.000007	2.	2.	2.	0	0	0	-27.32	182.44	1158.85

*SECNO 45760.000

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

45760.000	8.03	655.43	.00	.00	655.43	.00	.00	.00	654.20
83.0	33.4	48.8	.7	145.4	147.2	6.0	28.0	9.2	654.50
.57	.23	.33	.12	.030	.050	.030	.000	647.40	976.41
.000018	3.	3.	3.	0	0	0	.00	182.44	1158.85

*SECNO 45785.000

45785.000	8.03	655.43	.00	.00	655.43	.00	.00	.00	654.20
83.0	33.5	48.8	.7	145.8	147.3	6.1	28.1	9.3	654.50
.60	.23	.33	.12	.030	.050	.030	.000	647.40	976.36
.000018	25.	25.	25.	0	0	0	.00	182.79	1159.14

CCHV= .300 CEHV= .500
*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	9.29	655.43	.00	.00	655.43	.00	.00	.00	646.14
83.0	13.4	64.9	4.7	79.3	130.0	39.9	28.3	9.4	646.14
.61	.17	.50	.12	.030	.050	.030	.000	646.14	986.64
.000014	25.	25.	25.	0	0	0	.00	176.32	1200.48

*SECNO 45815.000

3265 DIVIDED FLOW

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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

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45815.000	9.28	655.42	.00	.00	655.43	.01	.00	.00	646.14
83.0	9.5	69.6	3.9	66.4	94.3	36.6	28.3	9.4	646.14
.62	.14	.74	.11	.030	.015	.030	.000	646.14	986.66
.000012	5.	5.	5.	0	0	0	-51.82	176.21	1200.42

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45835.000	9.29	655.43	.00	.00	655.43	.01	.00	.00	646.14
83.0	9.5	69.6	3.9	66.3	94.3	36.4	28.4	9.5	646.14
.62	.14	.74	.11	.030	.015	.030	.000	646.14	986.71
.000012	21.	21.	21.	0	0	0	-51.79	175.99	1200.32

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*SECNO 45840.000
 45840.000      8.53    655.43       .00       .00    655.43       .00       .00       .00    654.10
      83.0      23.1      54.0       5.9     148.1     196.2      63.3      28.4       9.5    654.80
       .63       .16       .28       .09       .035      .050      .035      .000    646.90    949.75
   .000010        5.        5.        5.         0         0         0       .00    287.84   1237.59


CCHV=      .100 CEHV=      .300
*SECNO 45870.000
 45870.000      8.53    655.43       .00       .00    655.43       .00       .00       .00    654.10
      83.0      22.2      55.1       5.7     149.2     196.5      64.3      28.7       9.7    654.80
       .67       .15       .28       .09       .030      .040      .030      .000    646.90    949.45
   .000007       30.       30.       30.         0         0         0       .00    288.70   1238.14


*SECNO 45885.000
 45885.000      8.59    655.43       .00       .00    655.43       .00       .00       .00    653.11
      83.0      21.6      59.9       1.5     126.7     195.6      17.1      28.8       9.8    654.38
       .68       .17       .31       .09       .030      .040      .030      .000    646.84   1104.86
   .000007       15.       15.       15.         0         0         0       .00    161.88   1266.75
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    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 46140.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.19

 46140.000      7.93    655.43       .00       .00    655.43       .00       .00       .00    652.30
      83.0      21.7      51.3      10.0     492.0     742.3     285.7      34.3      11.9    652.40
       1.89       .04       .07       .04       .030      .040      .030      .000    647.50    858.10
   .000000       255.      255.      255.         0         0         0       .00    543.27   1401.37


*SECNO 46290.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.01

 46290.000      7.73    655.43       .00       .00    655.43       .00       .00       .00    652.50
      83.0       2.5      79.3       1.2     185.6    2320.9      72.3      41.3      13.8    652.30
       3.15       .01       .03       .02       .030      .040      .030      .000    647.70    948.24
   .000000       150.      150.      150.         0         0         0       .00    556.99   1513.90


CCHV=      .300 CEHV=      .500
*SECNO 46540.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .48

 46540.000      7.23    655.43       .00       .00    655.43       .00       .00       .00    654.90
      83.0       1.6      81.4        .0      94.5    1229.2        .0      52.5      16.5    656.10
       4.21       .02       .07       .00       .030      .040      .000      .000    648.20    973.25
   .000000       250.      250.      250.         0         0         0       .00    385.36   1358.61


*SECNO 46610.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .16

 46610.000      7.43    655.43       .00       .00    655.44       .00       .00       .00    654.60
      83.0      28.9      54.1        .0     187.7     162.4        .0      53.9      17.0    655.60
       4.28       .15       .33       .00       .030      .040      .000      .000    648.00    979.55
   .000012       70.       70.       70.         0         0         0       .00    255.98   1235.53
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T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3      HEC-1 FLOWS USED: 10-YEAR 12-HOUR DURATION

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                6                             0                                   651.78
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 J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

       5                    -1

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     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 5
0

 CCHV=      .100 CEHV=      .300
 *SECNO 43155.000
  43155.000       7.98     651.78        .00     651.78     652.16        .38        .00        .00     667.30
      645.0         .0      645.0         .0         .0      130.7         .0         .0         .0     666.70
        .00         .00       4.93        .00       .000       .045       .000       .000     643.80    1025.72
    .003897          0.         0.         0.          0          0          0        .00      21.79    1047.50


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.02


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000       7.14     652.34        .00        .00     652.44        .11        .26        .03     655.00
      645.0         .0      645.0         .0         .0      246.1         .0         .6         .1     661.00
        .02         .00       2.62        .00       .000       .045       .000       .000     645.20    1089.69
    .000959        170.       150.       130.          2          0          0        .00      55.53    1145.23


 *SECNO 43659.000
  43659.000       6.86     652.64        .00        .00     652.70        .05        .25        .01     650.60
      645.0       36.1      409.4       199.5       36.2      197.3      138.9        3.2        1.1     651.86
        .07       1.00       2.07       1.44       .035       .045       .035       .000     645.78    1202.79
    .000537        319.       354.       369.          2          0          0        .00     178.30    1381.09


 *SECNO 43675.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.57


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.00 ELREA=       651.50

  43675.000       6.48     652.68        .00        .00     652.71        .02        .01        .00     653.00
      645.0         .0      241.0       404.0         .0      195.1      369.0        3.3        1.2     651.50
        .07        .00       1.24       1.09       .000       .045       .035       .000     646.20    1129.43
    .000219         16.        16.        16.          2          0          0        .00     222.11    1351.54

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     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 43873.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52


  43873.000       7.60     652.71        .00        .00     652.79        .08        .06        .02     649.47
      517.0       60.1      378.7       78.2       33.6      158.1       49.8        5.3        1.9     649.69
         .10       1.79       2.39       1.57       .035       .045       .035       .000     645.11    1421.63
    .000524        186.       198.       215.          2          0          0        .00      65.07    1486.70


 *SECNO 44015.000
  44015.000       7.60     652.80        .00        .00     652.87        .06        .08        .00     652.30
      517.0        1.7      515.3         .0        4.1      258.0         .0        6.1        2.1     656.60
         .12        .41       2.00        .00       .035       .045       .000       .000     645.20    1069.75
    .000583        134.       142.       155.          2          0          0        .00      78.52    1148.27


 *SECNO 44186.000
  44186.000       6.86     652.90        .00        .00     652.98        .08        .11        .00     651.84
```

517.0	4.8	510.9	1.3	6.4	230.1	2.5	7.1	2.4	652.35
.14	.74	2.22	.52	.035	.045	.035	.000	646.04	1192.59
.000714	168.	171.	199.	0	0	0	.00	76.26	1268.85

*SECNO 44335.000

44335.000	6.20	653.00	.00	.00	653.07	.07	.09	.00	648.90
517.0	117.7	387.5	11.8	59.5	174.7	12.2	7.9	2.6	651.30
.16	1.98	2.22	.97	.035	.045	.035	.000	646.80	1108.01
.000534	147.	149.	156.	0	0	0	.00	70.20	1178.22

*SECNO 44530.000

44530.000	6.30	653.10	.00	.00	653.17	.07	.10	.00	648.90
517.0	119.3	384.2	13.5	62.1	178.5	13.7	9.0	3.0	651.30
.19	1.92	2.15	.99	.035	.045	.035	.000	646.80	1107.57
.000489	195.	195.	195.	1	0	0	.00	71.10	1178.67

CCHV= .300 CEHV= .500

*SECNO 44592.000

44592.000	7.48	653.13	.00	.00	653.20	.06	.02	.00	647.55
517.0	45.8	380.8	90.4	44.5	171.0	64.4	9.4	3.1	647.56
.20	1.03	2.23	1.40	.035	.040	.035	.000	645.65	1090.92
.000282	66.	66.	66.	0	0	0	.00	75.60	1166.52

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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 44630.000

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	7.49	653.14	.00	.00	653.21	.06	.01	.00	647.55
517.0	46.0	380.4	90.6	44.7	171.2	64.6	9.6	3.1	647.56
.20	1.03	2.22	1.40	.035	.040	.035	.000	645.65	1090.85
.000280	34.	34.	34.	0	0	0	.00	75.70	1166.55

*SECNO 44830.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.59

44830.000	7.43	653.23	.00	.00	653.25	.02	.04	.01	645.80
517.0	67.0	233.3	216.7	62.8	156.1	307.7	11.6	3.9	645.80
.25	1.07	1.49	.70	.035	.040	.035	.000	645.80	1074.49
.000112	214.	214.	214.	2	0	0	.00	240.32	1314.81

*SECNO 44870.000

44870.000	7.53	653.24	.00	.00	653.26	.02	.00	.00	645.71
517.0	41.4	270.1	205.5	45.7	195.8	294.0	12.1	4.1	645.71
.26	.91	1.38	.70	.030	.040	.030	.000	645.71	1074.44
.000093	40.	40.	40.	0	0	0	.00	240.66	1315.09

*SECNO 44910.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .52

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	7.49	653.20	.00	.00	653.31	.11	.00	.05	645.71
517.0	.0	517.0	.0	.0	194.7	.0	12.2	4.2	645.71
.27	.00	2.66	.00	.000	.040	.000	.000	645.71	1095.00
.000349	12.	12.	12.	2	0	0	.00	26.00	1121.00

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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 CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 652.134 EGOC = 654.151 PCWSE= 653.197 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
652.13	654.15	.84	0.	517.	2.729	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	7.29	654.04	.00	.00	654.15	.12	.84	.00	646.75
517.0	.0	517.0	.0	.0	189.4	.0	12.5	4.2	646.75
.27	.00	2.73	.00	.000	.050	.000	.000	646.75	1115.00
.000597	63.	63.	63.	2	0	0	.00	26.00	1141.00

CCHV= .100 CEHV= .300
*SECNO 45025.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.47

45025.000	6.15	654.15	.00	.00	654.18	.03	.02	.01	651.00
517.0	107.9	346.6	62.5	74.9	234.5	101.3	13.0	4.5	653.20
.29	1.44	1.48	.62	.030	.050	.030	.000	648.00	1006.92
.000277	5.	65.	130.	2	0	0	.00	239.63	1267.20

*SECNO 45345.000

45345.000	6.46	654.26	.00	.00	654.30	.05	.12	.00	652.40
517.0	106.2	331.8	79.0	81.5	172.7	59.1	15.6	5.9	651.60
.34	1.30	1.92	1.34	.030	.050	.030	.000	647.80	1027.98
.000499	310.	320.	330.	2	0	0	.00	150.66	1178.65

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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= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER

*H	7.5000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.55

45356.000	10.05	654.32	.00	.00	654.32	.01	.01	.01	651.73
517.0	55.9	445.0	16.1	128.1	720.1	40.8	16.4	6.1	651.45
.36	.44	.62	.39	.030	.050	.030	.000	644.27	1061.33
.000040	21.	66.	21.	2	0	0	.00	237.46	1298.79

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	9.64	654.31	.00	.00	654.33	.02	.00	.01	646.67
517.0	.0	517.0	.0	.0	424.9	.0	17.0	6.2	646.52
.37	.00	1.22	.00	.000	.050	.000	.000	644.67	1187.40
.000134	39.	39.	39.	1	0	0	-91.91	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	9.65	654.32	.00	.00	654.34	.02	.01	.00	646.67
517.0	.0	517.0	.0	.0	424.6	.0	17.3	6.3	646.52
.38	.00	1.22	.00	.000	.050	.000	.000	644.67	1187.40
.000134	40.	40.	40.	0	0	0	-91.84	48.00	1235.40

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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 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.72

45501.000	7.06	654.34	.00	.00	654.35	.01	.00	.00	650.01
517.0	218.4	193.4	105.2	330.7	230.9	200.9	18.2	6.5	650.34
.41	.66	.84	.52	.030	.040	.030	.000	647.28	1070.95
.000045	66.	66.	66.	1	0	0	.00	270.16	1341.10

*SECNO 45650.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

45650.000	5.93	654.33	.00	.00	654.36	.03	.01	.01	652.10
517.0	175.5	288.8	52.6	149.6	183.4	53.2	20.0	7.2	652.10
.43	1.17	1.57	.99	.030	.040	.030	.000	648.40	967.64
.000219	129.	139.	144.	1	0	0	.00	169.82	1144.85

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .29

45750.000	6.98	654.38	.00	.00	654.39	.01	.02	.01	654.20
76.0	2.3	73.7	.0	19.8	117.0	.0	20.6	7.6	654.50
.48	.12	.63	.00	.030	.040	.000	.000	647.40	996.48
.000055	100.	100.	100.	2	0	0	.00	139.36	1135.84

*SECNO 45755.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.50

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	6.98	654.38	.00	.00	654.39	.01	.00	.00	654.20
76.0	1.6	74.4	.0	19.9	89.7	.0	20.6	7.6	654.50
.48	.08	.83	.00	.030	.015	.000	.000	647.40	996.47
.000024	5.	5.	5.	0	0	0	-27.32	139.37	1135.84

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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 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	6.98	654.38	.00	.00	654.39	.01	.00	.00	654.20
76.0	1.5	74.5	.0	19.6	89.6	.0	20.7	7.6	654.50
.48	.08	.83	.00	.030	.015	.000	.000	647.40	996.52
.000025	2.	2.	2.	0	0	0	-27.32	139.32	1135.84

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

45760.000	6.99	654.39	.00	.00	654.39	.01	.00	.00	654.20
76.0	2.8	73.2	.0	19.6	116.9	.0	20.7	7.6	654.50
.48	.15	.63	.00	.030	.050	.000	.000	647.40	996.52
.000085	3.	3.	3.	0	0	0	.00	139.32	1135.84

*SECNO 45785.000

45785.000	6.99	654.39	.00	.00	654.39	.01	.00	.00	654.20
76.0	3.0	73.0	.0	20.5	117.2	.0	20.7	7.7	654.50
.50	.15	.62	.00	.030	.050	.000	.000	647.40	996.38
.000084	25.	25.	25.	0	0	0	.00	139.47	1135.85

CCHV= .300 CEHV= .500
*SECNO 45810.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.78

45810.000	8.25	654.39	.00	.00	654.40	.01	.00	.00	646.14
76.0	3.6	72.1	.3	17.3	115.5	2.7	20.8	7.7	646.14
.51	.21	.62	.11	.030	.050	.030	.000	646.14	1016.68
.000026	25.	25.	25.	0	0	0	.00	45.23	1103.63

*SECNO 45815.000

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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

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45815.000	8.25	654.39	.00	.00	654.40	.01	.00	.00	646.14
76.0	.5	75.5	.0	7.1	94.3	.1	20.8	7.7	646.14
.51	.07	.80	.00	.030	.015	.030	.000	646.14	1016.70
.000014	5.	5.	5.	0	0	0	-33.91	45.19	1103.63

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45835.000	8.25	654.39	.00	.00	654.40	.01	.00	.00	646.14
76.0	.5	75.5	.0	7.1	94.3	.1	20.9	7.8	646.14
.52	.07	.80	.00	.030	.015	.030	.000	646.14	1016.76
.000014	21.	21.	21.	0	0	0	-33.88	45.09	1103.63

*SECNO 45840.000

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

45840.000	7.50	654.40	.00	.00	654.40	.00	.00	.00	654.10
76.0	3.5	72.5	.0	30.3	161.3	.0	20.9	7.8	654.80
.52	.12	.45	.00	.035	.050	.000	.000	646.90	986.62
.000034	5.	5.	5.	0	0	0	.00	128.11	1114.73

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	7.50	654.40	.00	.00	654.40	.00	.00	.00	654.10
76.0	3.4	72.5	.0	31.2	161.6	.0	21.0	7.9	654.80
.54	.11	.45	.00	.030	.040	.000	.000	646.90	986.28
.000021	30.	30.	30.	0	0	0	.00	128.47	1114.75

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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 45885.000

45885.000	7.56	654.40	.00	.00	654.40	.00	.00	.00	653.11
76.0	7.5	68.5	.0	43.4	164.6	.0	21.1	7.9	654.38
.55	.17	.42	.00	.030	.040	.000	.000	646.84	1142.73
.000016	15.	15.	15.	0	0	0	.00	92.15	1234.87

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.29

46140.000	6.90	654.40	.00	.00	654.40	.00	.00	.00	652.30
76.0	12.7	59.4	3.9	267.2	637.1	100.7	24.7	9.4	652.40
1.40	.05	.09	.04	.030	.040	.030	.000	647.50	885.37
.000001	255.	255.	255.	0	0	0	.00	418.55	1303.93

*SECNO 46290.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.42

46290.000	6.70	654.40	.00	.00	654.40	.00	.00	.00	652.50
76.0	.3	75.2	.5	34.7	1977.6	32.5	29.9	10.9	652.30
2.51	.01	.04	.02	.030	.040	.030	.000	647.70	979.88
.000000	150.	150.	150.	0	0	0	.00	457.84	1498.73

CCHV= .300 CEHV= .500
*SECNO 46540.000

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

46540.000	6.20	654.40	.00	.00	654.40	.00	.00	.00	654.90
76.0	.0	76.0	.0	.0	1028.2	.0	38.7	12.8	656.10
3.45	.00	.07	.00	.000	.040	.000	.000	648.20	1164.51
.000000	250.	250.	250.	0	0	0	.00	193.35	1357.86

*SECNO 46610.000

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .10

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 654.80 ELREA= 654.80

46610.000	6.40	654.40	.00	.00	654.40	.01	.00	.00	654.60
76.0	.0	76.0	.0	.0	130.8	.0	39.7	12.9	655.60
3.48	.00	.58	.00	.000	.040	.000	.000	648.00	1204.53
.000043	70.	70.	70.	0	0	0	.00	29.29	1233.82

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T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3 HEC-1 FLOWS USED: 5-YEAR 12-HOUR DURATION

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		7			0				651.30	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	6		-1							

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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 6
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	7.50	651.30	.00	651.30	651.61	.31	.00	.00	667.30
538.0	.0	538.0	.0	.0	120.3	.0	.0	.0	666.70
.00	.00	4.47	.00	.000	.045	.000	.000	643.80	1025.75
.003449	0.	0.	0.	0	0	0	.00	21.72	1047.46

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.88

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	6.59	651.79	.00	.00	651.88	.10	.25	.02	655.00
538.0	.0	538.0	.0	.0	216.1	.0	.6	.1	661.00
.02	.00	2.49	.00	.000	.045	.000	.000	645.20	1090.64
.000979	170.	150.	130.	2	0	0	.00	53.65	1144.30

*SECNO 43659.000

3265 DIVIDED FLOW

43659.000	6.33	652.11	.00	.00	652.18	.06	.29	.00	650.60
538.0	18.6	384.5	134.9	19.9	175.6	87.7	2.6	1.0	651.86
.07	.93	2.19	1.54	.035	.045	.035	.000	645.78	1211.96
.000698	319.	354.	369.	2	0	0	.00	155.10	1379.60

*SECNO 43675.000

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	5.96	652.16	.00	.00	652.19	.02	.01	.00	653.00
538.0	.0	231.3	306.7	.0	171.4	277.8	2.8	1.1	651.50
.07	.00	1.35	1.10	.000	.045	.035	.000	646.20	1130.97
.000297	16.	16.	16.	2	0	0	.00	219.54	1350.51

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .59

43873.000	7.10	652.21	.00	.00	652.28	.07	.08	.02	649.47
437.0	45.1	340.6	51.3	26.8	145.9	37.0	4.3	1.7	649.69
.10	1.68	2.33	1.39	.035	.045	.035	.000	645.11	1422.92
.000554	186.	198.	215.	2	0	0	.00	61.70	1484.62

*SECNO 44015.000

44015.000	7.11	652.31	.00	.00	652.37	.06	.08	.00	652.30
437.0	.0	437.0	.0	.0	227.8	.0	5.0	1.9	656.60
.12	.01	1.92	.00	.000	.045	.000	.000	645.20	1085.93
.000610	134.	142.	155.	2	0	0	.00	60.40	1146.32

*SECNO 44186.000

44186.000	6.38	652.42	.00	.00	652.49	.07	.12	.00	651.84
437.0	1.0	436.0	.0	1.9	202.7	.0	5.9	2.2	652.35

.14	.52	2.15	.01	.035	.045	.035	.000	646.04	1198.18
.000793	168.	171.	199.	0	0	0	.00	63.38	1261.56

*SECNO 44335.000

44335.000	5.72	652.52	.00	.00	652.59	.07	.10	.00	648.90
437.0	92.8	339.5	4.6	48.9	158.5	6.4	6.6	2.4	651.30
.16	1.90	2.14	.72	.035	.045	.035	.000	646.80	1109.94
.000567	147.	149.	156.	0	0	0	.00	65.53	1175.47

*SECNO 44530.000

44530.000	5.83	652.63	.00	.00	652.69	.06	.11	.00	648.90
437.0	94.5	337.0	5.6	51.3	162.1	7.6	7.6	2.7	651.30
.19	1.84	2.08	.73	.035	.045	.035	.000	646.80	1109.51
.000518	195.	195.	195.	2	0	0	.00	66.90	1176.41

CCHV= .300 CEHV= .500

*SECNO 44592.000

44592.000	7.01	652.66	.00	.00	652.72	.06	.02	.00	647.55
437.0	31.2	338.3	67.5	33.1	160.1	52.4	7.9	2.8	647.56
.20	.94	2.11	1.29	.035	.040	.035	.000	645.65	1094.81
.000277	66.	66.	66.	0	0	0	.00	69.64	1164.45

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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 44630.000

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	7.02	652.67	.00	.00	652.73	.06	.01	.00	647.55
437.0	31.3	338.0	67.7	33.3	160.3	52.6	8.1	2.8	647.56
.20	.94	2.11	1.29	.035	.040	.035	.000	645.65	1094.75
.000276	34.	34.	34.	0	0	0	.00	69.74	1164.49

*SECNO 44830.000

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

44830.000	6.95	652.75	.00	.00	652.78	.02	.04	.01	645.80
437.0	59.6	227.5	149.9	52.4	146.0	217.9	9.7	3.6	645.80
.25	1.14	1.56	.69	.035	.040	.035	.000	645.80	1077.50
.000133	214.	214.	214.	2	0	0	.00	219.67	1297.17

*SECNO 44870.000

44870.000	7.05	652.76	.00	.00	652.78	.02	.00	.00	645.71
437.0	35.0	265.9	136.1	36.6	183.3	205.2	10.1	3.8	645.71
.26	.96	1.45	.66	.030	.040	.030	.000	645.71	1077.45
.000113	40.	40.	40.	0	0	0	.00	220.03	1297.47

*SECNO 44910.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	7.02	652.73	.00	.00	652.82	.09	.00	.03	645.71
437.0	.0	437.0	.0	.0	182.5	.0	10.2	3.8	645.71
.26	.00	2.39	.00	.000	.040	.000	.000	645.71	1095.00
.000309	12.	12.	12.	2	0	0	.00	26.00	1121.00

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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 CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 651.558 EGOC = 653.412 PCWSE= 652.730 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
651.56	653.41	.59	0.	437.	2.562	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	6.56	653.31	.00	.00	653.41	.10	.59	.00	646.75
437.0	.0	437.0	.0	.0	170.6	.0	10.5	3.8	646.75
.27	.00	2.56	.00	.000	.050	.000	.000	646.75	1115.00
.000605	63.	63.	63.	2	0	0	.00	26.00	1141.00

CCHV= .100 CEHV= .300
*SECNO 45025.000

3265 DIVIDED FLOW

45025.000	5.40	653.40	.00	.00	653.45	.04	.03	.01	651.00
437.0	77.8	351.2	8.1	49.6	202.3	17.2	10.8	4.0	653.20
.28	1.57	1.74	.47	.030	.050	.030	.000	648.00	1012.17
.000465	5.	65.	130.	2	0	0	.00	136.91	1232.56

*SECNO 45345.000

45345.000	5.78	653.58	.00	.00	653.65	.07	.20	.01	652.40
437.0	46.1	344.0	46.9	37.8	150.1	32.6	12.6	4.9	651.60
.32	1.22	2.29	1.44	.030	.050	.030	.000	647.80	1046.25
.000856	310.	320.	330.	0	0	0	.00	120.98	1167.24

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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= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.31

45356.000	9.40	653.67	.00	.00	653.68	.01	.01	.02	651.73
437.0	29.2	399.0	8.8	75.4	644.4	24.6	13.2	5.1	651.45
.35	.39	.62	.36	.030	.050	.030	.000	644.27	1080.45
.000046	21.	66.	21.	2	0	0	.00	211.96	1292.41

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .62

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	9.00	653.67	.00	.00	653.69	.02	.00	.01	646.67
437.0	.0	437.0	.0	.0	393.8	.0	13.7	5.2	646.52
.36	.00	1.11	.00	.000	.050	.000	.000	644.67	1187.40
.000119	39.	39.	39.	2	0	0	-81.56	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	9.01	653.68	.00	.00	653.69	.02	.00	.00	646.67
437.0	.0	437.0	.0	.0	394.0	.0	14.1	5.2	646.52
.37	.00	1.11	.00	.000	.050	.000	.000	644.67	1187.40
.000119	40.	40.	40.	0	0	0	-81.61	48.00	1235.40

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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 45501.000

45501.000	6.41	653.69	.00	.00	653.70	.01	.01	.00	650.01
437.0	172.0	197.4	67.6	250.6	207.8	131.5	14.8	5.5	650.34
.39	.69	.95	.51	.030	.040	.030	.000	647.28	1073.85
.000067	66.	66.	66.	0	0	0	.00	262.42	1336.27

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

45650.000	5.29	653.69	.00	.00	653.73	.04	.02	.01	652.10
437.0	120.7	284.1	32.2	101.2	160.2	28.6	16.2	6.1	652.10
.42	1.19	1.77	1.13	.030	.040	.030	.000	648.40	976.09
.000333	129.	139.	144.	1	0	0	.00	128.36	1104.45

CCHV= .300 CEHV= .500

*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .33

45750.000	6.35	653.75	.00	.00	653.76	.01	.03	.01	654.20
70.0	.0	70.0	.0	.0	99.3	.0	16.6	6.3	654.50
.45	.00	.70	.00	.000	.040	.000	.000	647.40	1107.61
.000080	100.	100.	100.	2	0	0	.00	27.39	1135.01

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	6.35	653.75	.00	.00	653.77	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	72.0	.0	16.6	6.3	654.50
.46	.00	.97	.00	.000	.015	.000	.000	647.40	1107.61
.000042	5.	5.	5.	0	0	0	-27.32	27.40	1135.01

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

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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

45757.000	6.35	653.75	.00	.00	653.77	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	71.9	.0	16.6	6.3	654.50
.46	.00	.97	.00	.000	.015	.000	.000	647.40	1107.62
.000043	2.	2.	2.	0	0	0	-27.32	27.38	1135.00

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .58

45760.000	6.36	653.76	.00	.00	653.77	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	99.2	.0	16.7	6.3	654.50
.46	.00	.71	.00	.000	.050	.000	.000	647.40	1107.62
.000125	3.	3.	3.	0	0	0	.00	27.38	1135.00

*SECNO 45785.000

45785.000	6.36	653.76	.00	.00	653.77	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	99.5	.0	16.7	6.3	654.50
.47	.00	.70	.00	.000	.050	.000	.000	647.40	1107.60
.000124	25.	25.	25.	0	0	0	.00	27.41	1135.02

CCHV= .300 CEHV= .500
*SECNO 45810.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.96

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45810.000	7.63	653.77	.00	.00	653.77	.01	.00	.00	646.14
70.0	.0	70.0	.0	.0	106.8	.0	16.8	6.3	646.14
.48	.00	.66	.00	.000	.050	.000	.000	646.14	1089.00
.000032	25.	25.	25.	0	0	0	.00	14.00	1103.00

*SECNO 45815.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.64

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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

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45815.000	7.63	653.77	.00	.00	653.77	.01	.00	.00	646.14
70.0	.0	70.0	.0	.0	94.3	.0	16.8	6.3	646.14
.48	.00	.74	.00	.000	.015	.000	.000	646.14	1089.00
.000012	5.	5.	5.	0	0	0	-12.47	14.00	1103.00

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45835.000	7.63	653.77	.00	.00	653.77	.01	.00	.00	646.14
70.0	.0	70.0	.0	.0	94.3	.0	16.8	6.3	646.14
.49	.00	.74	.00	.000	.015	.000	.000	646.14	1089.00
.000012	21.	21.	21.	0	0	0	-12.46	14.00	1103.00

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .52

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 654.20 ELREA= 654.20

45840.000	6.87	653.77	.00	.00	653.78	.00	.00	.00	654.10
70.0	.0	70.0	.0	.0	141.4	.0	16.8	6.3	654.80
.49	.00	.49	.00	.000	.050	.000	.000	646.90	1082.21
.000045	5.	5.	5.	0	0	0	.00	30.89	1113.11

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	6.87	653.77	.00	.00	653.78	.00	.00	.00	654.10
70.0	.0	70.0	.0	.0	141.7	.0	16.9	6.3	654.80
.51	.00	.49	.00	.000	.040	.000	.000	646.90	1082.21
.000029	30.	30.	30.	0	0	0	.00	30.92	1113.13

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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

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*SECNO 45885.000
 45885.000      6.93    653.77       .00       .00    653.78       .00       .00       .00    653.11
     70.0       1.4      68.6        .0      12.2      146.1        .0      17.0       6.4    654.38
      .52       .11       .47       .00      .030       .040      .000      .000    646.84   1167.56
  .000023       15.       15.       15.         0          0         0       .00     65.79   1233.35


*SECNO 46140.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.10

 46140.000      6.28    653.78       .00       .00    653.78       .00       .00       .00    652.30
     70.0        6.4      61.8       1.7     145.6      573.5      47.5      19.7       7.6    652.40
      1.22       .04       .11       .04      .030       .040      .030      .000    647.50    902.84
  .000001       255.      255.      255.         0          0         0       .00    349.00   1260.53


*SECNO 46290.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.69

 46290.000      6.08    653.78       .00       .00    653.78       .00       .00       .00    652.50
     70.0         .0      69.7        .2       2.7     1770.4      16.1      24.1       8.8    652.30
      2.28       .01       .04       .01      .030       .040      .030      .000    647.70   1002.83
  .000000       150.      150.      150.         0          0         0       .00    371.61   1489.57


CCHV=     .300 CEHV=     .500
*SECNO 46540.000

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

 46540.000      5.58    653.78       .00       .00    653.78       .00       .00       .00    654.90
     70.0         .0      70.0        .0        .0     908.3        .0      31.8      10.4    656.10
      3.18       .00       .08       .00      .000       .040      .000      .000    648.20   1166.03
  .000001       250.      250.      250.         0          0         0       .00    191.37   1357.40


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    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 46610.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .10


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

 46610.000      5.78    653.78       .00       .00    653.78       .01       .00       .00    654.60
     70.0         .0      70.0        .0        .0     113.4        .0      32.7      10.6    655.60
      3.22       .00       .62       .00      .000       .040      .000      .000    648.00   1206.19
  .000052       70.       70.       70.         0          0         0       .00     26.60   1232.79


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T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3      HEC-1 FLOWS USED:  2-YEAR 12-HOUR DURATION

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                8                             0                                   650.63

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      7                 -1

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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 7
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	6.83	650.63	.00	650.63	650.86	.23	.00	.00	667.30
406.0	.0	406.0	.0	.0	105.8	.0	.0	.0	666.70
.00	.00	3.84	.00	.000	.045	.000	.000	643.80	1025.79
.002859	0.	0.	0.	0	0	0	.00	21.62	1047.41

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.68

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	5.83	651.03	.00	.00	651.11	.08	.24	.01	655.00
406.0	.0	406.0	.0	.0	176.6	.0	.5	.1	661.00
.02	.00	2.30	.00	.000	.045	.000	.000	645.20	1091.94
.001019	170.	150.	130.	2	0	0	.00	51.07	1143.02

*SECNO 43659.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 650.60 ELREA= 651.86

43659.000	5.63	651.41	.00	.00	651.53	.11	.41	.01	650.60
406.0	4.8	401.2	.0	5.8	147.2	.0	1.8	.5	651.86
.05	.84	2.72	.00	.035	.045	.000	.000	645.78	1224.15
.001298	319.	354.	369.	2	0	0	.00	53.61	1277.76

*SECNO 43675.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	5.23	651.43	.00	.00	651.56	.13	.02	.01	653.00
406.0	.0	406.0	.0	.0	139.4	.0	1.9	.6	651.50
.06	.00	2.91	.00	.000	.045	.000	.000	646.20	1133.13
.001691	16.	16.	16.	0	0	0	.00	42.42	1175.55

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.51

43873.000	6.57	651.68	.00	.00	651.74	.06	.18	.01	649.47
332.0	28.9	277.2	25.9	20.3	133.1	24.7	2.6	.8	649.69
.08	1.43	2.08	1.05	.035	.045	.035	.000	645.11	1424.27
.000498	186.	198.	215.	2	0	0	.00	58.16	1482.43

*SECNO 44015.000

44015.000	6.57	651.77	.00	.00	651.81	.04	.07	.00	652.30
332.0	.0	332.0	.0	.0	196.4	.0	3.2	1.0	656.60
.11	.00	1.69	.00	.000	.045	.000	.000	645.20	1087.79
.000530	134.	142.	155.	2	0	0	.00	56.42	1144.21

*SECNO 44186.000

44186.000	5.83	651.87	.00	.00	651.93	.06	.11	.00	651.84
332.0	.0	332.0	.0	.0	172.5	.0	3.9	1.2	652.35
.13	.01	1.92	.00	.000	.045	.000	.000	646.04	1204.44
.000752	168.	171.	199.	0	0	0	.00	54.16	1258.60

*SECNO 44335.000

44335.000	5.17	651.97	.00	.00	652.02	.05	.09	.00	648.90
332.0	63.4	267.7	.9	37.8	139.6	1.9	4.5	1.4	651.30

```
      .15      1.68      1.92       .47      .035      .045      .035      .000    646.80   1112.18
   .000539      147.      149.      156.         0         0         0       .00     58.52   1170.70


*SECNO 44530.000
 44530.000      5.27    652.07       .00       .00    652.12       .05       .10       .00    648.90
     332.0      64.8     265.9       1.3      39.8     143.1       2.5       5.4       1.7    651.30
       .18      1.63      1.86       .49      .035      .045      .035      .000    646.80   1111.76
   .000489      195.      195.      195.         2         0         0       .00     59.83   1171.60


CCHV=     .300 CEHV=     .500
*SECNO 44592.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.43

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    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


 44592.000      6.45    652.10       .00       .00    652.14       .05       .02       .00    647.55
     332.0      17.3     272.5      42.2      21.9     147.1      39.5       5.7       1.8    647.56
       .20       .79      1.85      1.07      .035      .040      .035      .000    645.65   1099.46
   .000239       66.       66.       66.         0         0         0       .00     62.53   1161.99


*SECNO 44630.000
       **TRI-STATE TOLLWAY** survey sta 312+66, U/S H5 (ss. 312+99.93)
 44630.000      6.46    652.11       .00       .00    652.15       .05       .01       .00    647.55
     332.0      17.4     272.3      42.3      22.0     147.2      39.6       5.8       1.8    647.56
       .20       .79      1.85      1.07      .035      .040      .035      .000    645.65   1099.41
   .000237       34.       34.       34.         0         0         0       .00     62.61   1162.01


*SECNO 44830.000
 44830.000      6.37    652.17       .00       .00    652.20       .03       .04       .01    645.80
     332.0      47.8     204.8      79.4      41.5     133.6     119.4       7.1       2.4    645.80
       .25      1.15      1.53       .66      .035      .040      .035      .000    645.80   1081.21
   .000144       214.      214.      214.         1         0         0       .00    185.98   1267.19


*SECNO 44870.000
 44870.000      6.47    652.18       .00       .00    652.20       .03       .01       .00    645.71
     332.0      26.3     241.9      63.8      27.4     168.1     108.8       7.3       2.6    645.71
       .26       .96      1.44       .59      .030      .040      .030      .000    645.71   1081.12
   .000124       40.       40.       40.         0         0         0       .00    187.46   1268.58


*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       657.53 ELREA=       657.46

       **COUNTY LINE ROAD** survey sta 310+00, U/S H6 (ss. 310+12.46)
 44910.000      6.45    652.16       .00       .00    652.22       .06       .00       .02    645.71
     332.0        .0     332.0        .0        .0     168.0        .0       7.4       2.6    645.71
       .26       .00      1.98       .00      .000      .040      .000      .000    645.71   1095.00
   .000235       12.       12.       12.         1         0         0       .00     26.00   1121.00


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    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 CULVERT

 SC  CUNO       CUNV       ENTLC      COFQ       RDLEN      RISE       SPAN       CULVLN     CHRT       SCL        ELCHU      ELCHD
      3          .012        .50       2.70         .00       6.00        .00      63.00        1         1       646.75     645.71

 CHART  1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
 SCALE  1 - SQUARE EDGE ENTRANCE WITH HEADWALL

 *SECNO 44970.000

 SPECIAL CULVERT OUTLET CONTROL
 EGIC =     650.786  EGOC =     652.555  PCWSE=     652.161  ELTRD=     657.500
```

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

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
650.79	652.55	.33	0.	332.	2.229	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	5.73	652.48	.00	.00	652.55	.08	.33	.00	646.75
332.0	.0	332.0	.0	.0	148.9	.0	7.6	2.6	646.75
.27	.00	2.23	.00	.000	.050	.000	.000	646.75	1115.00
.000549	63.	63.	63.	2	0	0	.00	26.00	1141.00

CCHV= .100 CEHV= .300
*SECNO 45025.000

45025.000	4.55	652.55	.00	.00	652.59	.05	.04	.00	651.00
332.0	33.9	298.1	.0	25.5	165.6	.0	7.9	2.7	653.20
.28	1.33	1.80	.00	.030	.050	.000	.000	648.00	1018.18
.000631	5.	65.	130.	2	0	0	.00	67.23	1085.41

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45345.000	5.00	652.80	.00	.00	652.89	.09	.28	.01	652.40
332.0	2.9	313.7	15.4	4.7	124.3	12.0	9.1	3.2	651.60
.31	.62	2.52	1.28	.030	.050	.030	.000	647.80	1077.23
.001335	310.	320.	330.	2	0	0	.00	76.97	1154.21

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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= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER

*H 7.5000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.23

45356.000	8.65	652.92	.00	.00	652.93	.01	.01	.03	651.73
332.0	7.8	321.2	3.0	29.9	555.7	10.8	9.6	3.4	651.45
.34	.26	.58	.28	.030	.050	.030	.000	644.27	1103.63
.000049	21.	66.	21.	2	0	0	.00	181.30	1284.93

*SECNO 45395.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	8.25	652.92	.00	.00	652.93	.01	.00	.00	646.67
332.0	.0	332.0	.0	.0	357.8	.0	10.0	3.5	646.52
.36	.00	.93	.00	.000	.050	.000	.000	644.67	1187.40
.000092	39.	39.	39.	2	0	0	-69.60	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	8.25	652.92	.00	.00	652.94	.01	.00	.00	646.67
332.0	.0	332.0	.0	.0	358.0	.0	10.4	3.5	646.52
.37	.00	.93	.00	.000	.050	.000	.000	644.67	1187.40
.000092	40.	40.	40.	0	0	0	-69.64	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

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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

3265 DIVIDED FLOW

45501.000	5.65	652.93	.00	.00	652.94	.01	.01	.00	650.01
332.0	108.1	195.9	27.9	159.9	181.0	55.9	10.9	3.7	650.34
.39	.68	1.08	.50	.030	.040	.030	.000	647.28	1077.22
.000104	66.	66.	66.	0	0	0	.00	239.87	1330.66

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .44

45650.000	4.53	652.93	.00	.00	652.98	.05	.03	.01	652.10
332.0	54.2	265.7	12.1	51.3	132.9	13.2	11.9	4.3	652.10
.41	1.06	2.00	.92	.030	.040	.030	.000	648.40	986.02
.000543	129.	139.	144.	1	0	0	.00	115.85	1101.87

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

45750.000	5.63	653.03	.00	.00	653.04	.01	.04	.01	654.20
62.0	.0	62.0	.0	.0	80.1	.0	12.2	4.4	654.50
.44	.00	.77	.00	.000	.040	.000	.000	647.40	1108.62
.000116	100.	100.	100.	2	0	0	.00	25.42	1134.03

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	5.62	653.02	.00	.00	653.04	.02	.00	.01	654.20
62.0	.0	62.0	.0	.0	52.8	.0	12.2	4.4	654.50
.45	.00	1.17	.00	.000	.015	.000	.000	647.40	1108.62
.000086	5.	5.	5.	0	0	0	-27.32	25.42	1134.04

*SECNO 45757.000
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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

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	5.62	653.02	.00	.00	653.04	.02	.00	.00	654.20
62.0	.0	62.0	.0	.0	52.6	.0	12.2	4.5	654.50
.45	.00	1.18	.00	.000	.015	.000	.000	647.40	1108.63
.000087	2.	2.	2.	0	0	0	-27.32	25.40	1134.03

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45760.000	5.64	653.04	.00	.00	653.05	.01	.00	.00	654.20
62.0	.0	62.0	.0	.0	80.1	.0	12.2	4.5	654.50
.45	.00	.77	.00	.000	.050	.000	.000	647.40	1108.62
.000180	3.	3.	3.	1	0	0	.00	25.42	1134.04

*SECNO 45785.000

45785.000	5.64	653.04	.00	.00	653.05	.01	.00	.00	654.20
62.0	.0	62.0	.0	.0	80.4	.0	12.2	4.5	654.50
.46	.00	.77	.00	.000	.050	.000	.000	647.40	1108.60
.000178	25.	25.	25.	0	0	0	.00	25.45	1134.05

CCHV= .300 CEHV= .500

*SECNO 45810.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.24

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45810.000	6.91	653.05	.00	.00	653.05	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	96.7	.0	12.3	4.5	646.14
.47	.00	.64	.00	.000	.050	.000	.000	646.14	1089.00
.000035	25.	25.	25.	0	0	0	.00	14.00	1103.00

*SECNO 45815.000

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.27

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45815.000	6.91	653.05	.00	.00	653.05	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	92.7	.0	12.3	4.5	646.14
.47	.00	.67	.00	.000	.015	.000	.000	646.14	1089.00
.000007	5.	5.	5.	0	0	0	-4.03	14.00	1103.00

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45835.000	6.91	653.05	.00	.00	653.05	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	92.7	.0	12.3	4.5	646.14
.48	.00	.67	.00	.000	.015	.000	.000	646.14	1089.00
.000007	21.	21.	21.	0	0	0	-4.03	14.00	1103.00

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 654.20 ELREA= 654.20

45840.000	6.15	653.05	.00	.00	653.05	.00	.00	.00	654.10
62.0	.0	62.0	.0	.0	120.1	.0	12.4	4.5	654.80
.48	.00	.52	.00	.000	.050	.000	.000	646.90	1082.89
.000054	5.	5.	5.	0	0	0	.00	28.35	1111.23

CCHV= .100 CEHV= .300

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18NOV11 10:50:38 PAGE 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

*SECNO 45870.000

45870.000	6.15	653.05	.00	.00	653.06	.00	.00	.00	654.10
62.0	.0	62.0	.0	.0	120.3	.0	12.4	4.5	654.80
.50	.00	.52	.00	.000	.040	.000	.000	646.90	1082.88
.000035	30.	30.	30.	0	0	0	.00	28.36	1111.24

*SECNO 45885.000

45885.000	6.21	653.05	.00	.00	653.06	.00	.00	.00	653.11
62.0	.0	62.0	.0	.0	125.6	.0	12.5	4.5	654.38
.51	.00	.49	.00	.000	.040	.000	.000	646.84	1204.38
.000029	15.	15.	15.	0	0	0	.00	27.84	1232.23

```
      62.0        .0       62.0        .0        .0     125.5        .0      12.5       4.5    654.38
       .51        .00       .49        .00      .000      .040      .000      .000    646.84   1204.39
   .000029       15.       15.        15.         0         0         0       .00     27.84   1232.22


*SECNO 46140.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.72

 46140.000      5.55    653.05       .00       .00    653.06       .00       .00       .00    652.30
      62.0       1.6      60.1        .3      45.0     499.8      10.8      14.5       5.3    652.40
      1.11       .04       .12       .03      .030      .040      .030      .000    647.50    927.99
   .000001       255.      255.      255.         0         0         0       .00    235.09   1224.51


*SECNO 46290.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.91

 46290.000      5.36    653.06       .00       .00    653.06       .00       .00       .00    652.50
      62.0        .0      62.0        .0        .4    1529.9       4.2      18.1       6.3    652.30
      2.14       .01       .04       .01      .030      .040      .030      .000    647.70   1133.71
   .000000       150.      150.      150.         0         0         0       .00    345.22   1478.94


CCHV=     .300 CEHV=     .500
*SECNO 46540.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .46

 46540.000      4.86    653.06       .00       .00    653.06       .00       .00       .00    654.90
      62.0        .0      62.0        .0        .0     770.6        .0      24.7       7.8    656.10
      3.00       .00       .08       .00      .000      .040      .000      .000    648.20   1167.80
   .000001       250.      250.      250.         0         0         0       .00    189.08   1356.88


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   21MAY12      13:47:28                                                                          PAGE   78

    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 46610.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .11


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

 46610.000      5.05    653.05       .00       .00    653.06       .01       .00       .00    654.60
      62.0        .0      62.0        .0        .0      95.3        .0      25.4       8.0    655.60
      3.03       .00       .65       .00      .000      .040      .000      .000    648.00   1208.03
   .000063       70.       70.       70.         0         0         0       .00     23.56   1231.59


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   21MAY12      13:47:28                                                                          PAGE   79



                                                                        THIS RUN EXECUTED 21MAY12    13:47:28

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 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


YEAR

SUMMARY PRINTOUT


      SECNO      CWSEL       Q        STCHL     STCHR     SSTA      ENDST     TOPWID      VOL

   43155.000     654.79   1480.00    1002.30   1065.20   1025.53   1047.75     22.22       .00
   43155.000     653.68   1189.00    1002.30   1065.20   1025.60   1047.66     22.06       .00
```

	43155.000	653.08	1021.00	1002.30	1065.20	1025.64	1047.61	21.97	.00
	43155.000	652.36	812.00	1002.30	1065.20	1025.68	1047.55	21.87	.00
	43155.000	651.78	645.00	1002.30	1065.20	1025.72	1047.50	21.79	.00
	43155.000	651.30	538.00	1002.30	1065.20	1025.75	1047.46	21.72	.00
	43155.000	650.63	406.00	1002.30	1065.20	1025.79	1047.41	21.62	.00
*	43305.000	655.84	1480.00	1085.10	1159.90	708.55	1151.16	318.51	1.82
*	43305.000	654.61	1189.00	1085.10	1159.90	1085.77	1149.08	63.31	.95
*	43305.000	653.91	1021.00	1085.10	1159.90	1086.97	1147.90	60.93	.86
*	43305.000	653.05	812.00	1085.10	1159.90	1088.47	1146.43	57.96	.74
*	43305.000	652.34	645.00	1085.10	1159.90	1089.69	1145.23	55.53	.65
*	43305.000	651.79	538.00	1085.10	1159.90	1090.64	1144.30	53.65	.58
*	43305.000	651.03	406.00	1085.10	1159.90	1091.94	1143.02	51.07	.49
*	43659.000	655.96	1480.00	1238.30	1279.40	1035.74	1390.87	355.13	9.29
*	43659.000	654.87	1189.00	1238.30	1279.40	1188.79	1387.27	198.48	5.75
*	43659.000	654.19	1021.00	1238.30	1279.40	1191.73	1385.10	193.36	4.93
*	43659.000	653.34	812.00	1238.30	1279.40	1195.37	1382.89	187.53	3.95
	43659.000	652.64	645.00	1238.30	1279.40	1202.79	1381.09	178.30	3.17
	43659.000	652.11	538.00	1238.30	1279.40	1211.96	1379.60	155.10	2.62
	43659.000	651.41	406.00	1238.30	1279.40	1224.15	1277.76	53.61	1.82
*	43675.000	655.98	1480.00	1128.50	1175.80	891.53	1358.08	411.53	9.78
*	43675.000	654.90	1189.00	1128.50	1175.80	978.29	1355.92	359.24	6.12
*	43675.000	654.21	1021.00	1128.50	1175.80	981.49	1354.57	346.11	5.23
*	43675.000	653.37	812.00	1128.50	1175.80	1087.62	1352.91	265.30	4.17
*	43675.000	652.68	645.00	1128.50	1175.80	1129.43	1351.54	222.11	3.34
*	43675.000	652.16	538.00	1128.50	1175.80	1130.97	1350.51	219.54	2.75
	43675.000	651.43	406.00	1128.50	1175.80	1133.13	1175.55	42.42	1.88

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	43873.000	655.93	1370.00	1435.90	1460.20	1293.39	1508.46	187.12	14.81
*	43873.000	654.88	951.00	1435.90	1460.20	1416.06	1501.72	85.66	9.95
*	43873.000	654.20	802.00	1435.90	1460.20	1417.78	1496.04	78.26	8.38
*	43873.000	653.38	641.00	1435.90	1460.20	1419.90	1489.49	69.58	6.58
*	43873.000	652.71	517.00	1435.90	1460.20	1421.63	1486.70	65.07	5.25
*	43873.000	652.21	437.00	1435.90	1460.20	1422.92	1484.62	61.70	4.31
*	43873.000	651.68	332.00	1435.90	1460.20	1424.27	1482.43	58.16	2.60
	44015.000	656.06	1370.00	1086.20	1163.20	923.00	1161.09	238.09	17.03
	44015.000	654.98	951.00	1086.20	1163.20	923.00	1156.82	233.82	11.59
	44015.000	654.30	802.00	1086.20	1163.20	975.63	1154.16	178.54	9.70
	44015.000	653.47	641.00	1086.20	1163.20	1011.19	1150.91	139.72	7.59
	44015.000	652.80	517.00	1086.20	1163.20	1069.75	1148.27	78.52	6.08
	44015.000	652.31	437.00	1086.20	1163.20	1085.93	1146.32	60.40	5.02
	44015.000	651.77	332.00	1086.20	1163.20	1087.79	1144.21	56.42	3.21
	44186.000	656.10	1370.00	1204.70	1260.50	1016.89	1279.97	263.08	20.07
	44186.000	655.02	951.00	1204.70	1260.50	1106.10	1276.22	170.12	13.67
	44186.000	654.36	802.00	1204.70	1260.50	1172.05	1273.97	101.91	11.34
	44186.000	653.56	641.00	1204.70	1260.50	1184.70	1271.16	86.46	8.82
	44186.000	652.90	517.00	1204.70	1260.50	1192.59	1268.85	76.26	7.06
	44186.000	652.42	437.00	1204.70	1260.50	1198.18	1261.56	63.38	5.87
	44186.000	651.87	332.00	1204.70	1260.50	1204.44	1258.60	54.16	3.94
	44335.000	656.16	1370.00	1131.10	1165.00	920.20	1190.96	270.76	22.38
	44335.000	655.08	951.00	1131.10	1165.00	1037.18	1186.62	149.44	15.19
	44335.000	654.44	802.00	1131.10	1165.00	1085.33	1184.01	98.68	12.59
	44335.000	653.65	641.00	1131.10	1165.00	1105.41	1180.84	75.43	9.83
	44335.000	653.00	517.00	1131.10	1165.00	1108.01	1178.22	70.20	7.89
	44335.000	652.52	437.00	1131.10	1165.00	1109.94	1175.47	65.53	6.59
	44335.000	651.97	332.00	1131.10	1165.00	1112.18	1170.70	58.52	4.54
	44530.000	656.23	1370.00	1131.10	1165.00	920.20	1191.29	271.09	25.42
	44530.000	655.17	951.00	1131.10	1165.00	1010.68	1186.98	176.31	17.17
	44530.000	654.52	802.00	1131.10	1165.00	1081.18	1184.40	103.22	14.22
	44530.000	653.75	641.00	1131.10	1165.00	1105.00	1181.25	76.26	11.16
	44530.000	653.10	517.00	1131.10	1165.00	1107.57	1178.67	71.10	9.01
	44530.000	652.63	437.00	1131.10	1165.00	1109.51	1176.41	66.90	7.56
	44530.000	652.07	332.00	1131.10	1165.00	1111.76	1171.60	59.83	5.35
	44592.000	656.24	1370.00	1117.10	1140.20	1061.24	1180.12	118.89	26.39
	44592.000	655.19	951.00	1117.10	1140.20	1072.05	1175.51	103.45	17.86
	44592.000	654.55	802.00	1117.10	1140.20	1078.59	1172.71	94.13	14.80
	44592.000	653.77	641.00	1117.10	1140.20	1085.63	1169.32	83.68	11.64
	44592.000	653.13	517.00	1117.10	1140.20	1090.92	1166.52	75.60	9.42
	44592.000	652.66	437.00	1117.10	1140.20	1094.81	1164.45	69.64	7.91
*	44592.000	652.10	332.00	1117.10	1140.20	1099.46	1161.99	62.53	5.65

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
	44630.000	656.25	1370.00	1117.10	1140.20	1061.26	1180.11	118.85	26.64
	44630.000	655.19	951.00	1117.10	1140.20	1072.06	1175.51	103.45	18.07
	44630.000	654.56	802.00	1117.10	1140.20	1078.55	1172.73	94.17	14.97
	44630.000	653.78	641.00	1117.10	1140.20	1085.61	1169.33	83.73	11.78
	44630.000	653.14	517.00	1117.10	1140.20	1090.90	1166.53	75.63	9.54
	44630.000	652.67	437.00	1117.10	1140.20	1094.80	1164.46	69.67	8.02
	44630.000	652.10	332.00	1117.10	1140.20	1099.45	1161.99	62.54	5.74
*	44830.000	656.38	1370.00	1097.70	1118.70	1000.00	1509.67	509.67	32.67
*	44830.000	655.30	951.00	1097.70	1118.70	1026.41	1428.84	402.43	22.44
*	44830.000	654.66	802.00	1097.70	1118.70	1048.48	1381.06	332.58	18.56
*	44830.000	653.88	641.00	1097.70	1118.70	1070.43	1338.58	268.15	14.56
*	44830.000	653.23	517.00	1097.70	1118.70	1074.51	1314.70	240.19	11.74
*	44830.000	652.75	437.00	1097.70	1118.70	1077.58	1296.70	219.13	9.82
*	44830.000	652.17	332.00	1097.70	1118.70	1081.21	1267.17	185.96	7.13
	44870.000	656.39	1370.00	1095.00	1121.00	1000.00	1510.11	510.11	34.01
	44870.000	655.30	951.00	1095.00	1121.00	1026.21	1429.27	403.06	23.38
	44870.000	654.66	802.00	1095.00	1121.00	1048.28	1381.51	333.23	19.30
	44870.000	653.89	641.00	1095.00	1121.00	1070.39	1338.82	268.43	15.13
	44870.000	653.24	517.00	1095.00	1121.00	1074.46	1314.94	240.48	12.17
	44870.000	652.76	437.00	1095.00	1121.00	1077.47	1297.32	219.85	10.17
	44870.000	652.17	332.00	1095.00	1121.00	1081.13	1268.29	187.15	7.37
*	44910.000	656.20	1370.00	1095.00	1121.00	1095.00	1121.00	26.00	34.27
*	44910.000	655.19	951.00	1095.00	1121.00	1095.00	1121.00	26.00	23.58
*	44910.000	654.58	802.00	1095.00	1121.00	1095.00	1121.00	26.00	19.46
*	44910.000	653.82	641.00	1095.00	1121.00	1095.00	1121.00	26.00	15.25
*	44910.000	653.19	517.00	1095.00	1121.00	1095.00	1121.00	26.00	12.27
*	44910.000	652.73	437.00	1095.00	1121.00	1095.00	1121.00	26.00	10.25
	44910.000	652.16	332.00	1095.00	1121.00	1095.00	1121.00	26.00	7.44
*	44970.000	658.31	1370.00	1115.00	1141.00	917.62	1279.16	361.53	35.15
*	44970.000	657.80	951.00	1115.00	1141.00	1019.06	1264.07	245.01	24.33
	44970.000	656.73	802.00	1115.00	1141.00	1115.00	1141.00	26.00	19.82
	44970.000	655.16	641.00	1115.00	1141.00	1115.00	1141.00	26.00	15.56
	44970.000	654.03	517.00	1115.00	1141.00	1115.00	1141.00	26.00	12.55
	44970.000	653.31	437.00	1115.00	1141.00	1115.00	1141.00	26.00	10.50
*	44970.000	652.47	332.00	1115.00	1141.00	1115.00	1141.00	26.00	7.67
*	45025.000	658.34	1370.00	1043.30	1086.30	944.15	1337.38	393.23	37.73
*	45025.000	657.82	951.00	1043.30	1086.30	958.84	1328.69	369.86	26.59
*	45025.000	656.89	802.00	1043.30	1086.30	975.77	1313.04	337.27	21.27
*	45025.000	655.30	641.00	1043.30	1086.30	979.53	1286.46	306.93	16.42
*	45025.000	654.15	517.00	1043.30	1086.30	1006.95	1267.13	239.16	13.02
	45025.000	653.40	437.00	1043.30	1086.30	1012.20	1232.34	136.26	10.81
	45025.000	652.54	332.00	1043.30	1086.30	1018.21	1085.40	67.19	7.90

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21MAY12 13:47:28 PAGE 82

	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45345.000	658.35	1370.00	1101.10	1134.20	959.91	1247.24	287.33	48.80
*	45345.000	657.83	951.00	1101.10	1134.20	966.80	1238.47	271.67	36.39
*	45345.000	656.90	802.00	1101.10	1134.20	979.10	1222.80	243.69	28.96
*	45345.000	655.34	641.00	1101.10	1134.20	999.58	1196.72	197.14	20.95
	45345.000	654.25	517.00	1101.10	1134.20	1028.08	1178.59	150.51	15.67
	45345.000	653.58	437.00	1101.10	1134.20	1046.36	1167.17	120.81	12.60
*	45345.000	652.79	332.00	1101.10	1134.20	1077.44	1154.15	76.71	9.12
*	45356.000	658.37	1370.00	1152.50	1270.30	1036.24	1322.12	285.88	50.34
*	45356.000	657.84	951.00	1152.50	1270.30	1039.53	1319.69	280.17	37.82
*	45356.000	656.91	802.00	1152.50	1270.30	1045.26	1314.59	269.32	30.20
*	45356.000	655.37	641.00	1152.50	1270.30	1054.80	1306.03	251.23	21.89
*	45356.000	654.31	517.00	1152.50	1270.30	1061.35	1298.76	237.41	16.42
*	45356.000	653.67	437.00	1152.50	1270.30	1080.55	1292.38	211.83	13.24
*	45356.000	652.92	332.00	1152.50	1270.30	1103.73	1284.90	181.17	9.65
*	45395.000	658.33	1370.00	1187.40	1235.40	1187.40	1235.40	48.00	51.48
*	45395.000	657.82	951.00	1187.40	1235.40	1187.40	1235.40	48.00	38.88
*	45395.000	656.90	802.00	1187.40	1235.40	1187.40	1235.40	48.00	31.14
*	45395.000	655.36	641.00	1187.40	1235.40	1187.40	1235.40	48.00	22.62
*	45395.000	654.31	517.00	1187.40	1235.40	1187.40	1235.40	48.00	17.01
*	45395.000	653.67	437.00	1187.40	1235.40	1187.40	1235.40	48.00	13.75
	45395.000	652.92	332.00	1187.40	1235.40	1187.40	1235.40	48.00	10.07
	45435.000	658.35	1370.00	1187.40	1235.40	1187.40	1235.40	48.00	52.02
	45435.000	657.83	951.00	1187.40	1235.40	1187.40	1235.40	48.00	39.41
	45435.000	656.91	802.00	1187.40	1235.40	1187.40	1235.40	48.00	31.64
	45435.000	655.37	641.00	1187.40	1235.40	1187.40	1235.40	48.00	23.06
	45435.000	654.31	517.00	1187.40	1235.40	1187.40	1235.40	48.00	17.40
	45435.000	653.67	437.00	1187.40	1235.40	1187.40	1235.40	48.00	14.11
	45435.000	652.92	332.00	1187.40	1235.40	1187.40	1235.40	48.00	10.40

*	45501.000	658.44	1370.00	1196.00	1231.60	1052.53	1388.32	335.79	53.98
*	45501.000	657.88	951.00	1196.00	1231.60	1055.05	1386.67	331.62	41.22
*	45501.000	656.94	802.00	1196.00	1231.60	1059.25	1383.93	323.47	33.19
*	45501.000	655.40	641.00	1196.00	1231.60	1066.22	1348.97	282.75	24.21
*	45501.000	654.33	517.00	1196.00	1231.60	1070.96	1341.08	270.12	18.30
	45501.000	653.69	437.00	1196.00	1231.60	1073.86	1336.25	262.39	14.86
	45501.000	652.93	332.00	1196.00	1231.60	1077.24	1330.64	239.56	10.97
	45650.000	658.44	1370.00	1046.80	1082.80	908.71	1313.39	404.68	59.89
*	45650.000	657.88	951.00	1046.80	1082.80	917.42	1306.21	388.79	46.48
*	45650.000	656.94	802.00	1046.80	1082.80	932.11	1294.11	362.00	37.41
*	45650.000	655.39	641.00	1046.80	1082.80	953.79	1274.15	320.36	26.87
*	45650.000	654.33	517.00	1046.80	1082.80	967.68	1144.70	169.60	20.09
*	45650.000	653.69	437.00	1046.80	1082.80	976.13	1104.44	128.31	16.23
*	45650.000	652.93	332.00	1046.80	1082.80	986.06	1101.86	115.79	11.90

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45750.000	658.45	820.00	1107.00	1136.00	918.20	1238.67	320.47	63.13
*	45750.000	657.89	96.00	1107.00	1136.00	929.09	1226.42	297.32	49.27
*	45750.000	656.95	91.00	1107.00	1136.00	947.12	1206.14	259.02	39.49
*	45750.000	655.42	83.00	1107.00	1136.00	976.46	1158.60	182.14	27.95
*	45750.000	654.38	76.00	1107.00	1136.00	996.55	1135.84	139.29	20.69
*	45750.000	653.75	70.00	1107.00	1136.00	1107.62	1135.00	27.38	16.67
*	45750.000	653.02	62.00	1107.00	1136.00	1108.62	1134.03	25.41	12.22
	45755.000	658.44	820.00	1107.00	1136.00	918.16	1238.71	320.56	63.25
	45755.000	657.89	96.00	1107.00	1136.00	928.95	1226.58	297.63	49.37
	45755.000	656.95	91.00	1107.00	1136.00	946.94	1206.35	259.41	39.56
*	45755.000	655.42	83.00	1107.00	1136.00	976.46	1158.63	182.17	27.98
*	45755.000	654.38	76.00	1107.00	1136.00	996.53	1135.84	139.31	20.70
	45755.000	653.75	70.00	1107.00	1136.00	1107.62	1135.00	27.39	16.68
	45755.000	653.02	62.00	1107.00	1136.00	1108.62	1134.03	25.41	12.22
	45757.000	658.44	820.00	1107.00	1136.00	918.24	1238.62	320.37	63.30
	45757.000	657.89	96.00	1107.00	1136.00	928.95	1226.58	297.63	49.41
	45757.000	656.95	91.00	1107.00	1136.00	946.94	1206.34	259.40	39.59
	45757.000	655.42	83.00	1107.00	1136.00	976.48	1158.51	182.04	27.99
	45757.000	654.38	76.00	1107.00	1136.00	996.58	1135.84	139.25	20.70
	45757.000	653.75	70.00	1107.00	1136.00	1107.62	1135.00	27.38	16.69
	45757.000	653.02	62.00	1107.00	1136.00	1108.63	1134.02	25.39	12.23
	45760.000	658.46	820.00	1107.00	1136.00	918.13	1238.75	320.62	63.37
	45760.000	657.89	96.00	1107.00	1136.00	928.95	1226.58	297.63	49.47
	45760.000	656.95	91.00	1107.00	1136.00	946.94	1206.34	259.40	39.63
*	45760.000	655.42	83.00	1107.00	1136.00	976.48	1158.51	182.04	28.01
*	45760.000	654.38	76.00	1107.00	1136.00	996.58	1135.84	139.25	20.71
*	45760.000	653.76	70.00	1107.00	1136.00	1107.62	1135.00	27.38	16.69
*	45760.000	653.03	62.00	1107.00	1136.00	1108.62	1134.04	25.42	12.23
	45785.000	658.46	820.00	1107.00	1136.00	917.99	1238.90	320.91	63.99
	45785.000	657.89	96.00	1107.00	1136.00	928.94	1226.58	297.64	49.99
	45785.000	656.95	91.00	1107.00	1136.00	946.93	1206.35	259.42	40.00
	45785.000	655.42	83.00	1107.00	1136.00	976.42	1158.80	182.38	28.18
	45785.000	654.39	76.00	1107.00	1136.00	996.44	1135.85	139.41	20.79
	45785.000	653.76	70.00	1107.00	1136.00	1107.61	1135.01	27.41	16.75
	45785.000	653.04	62.00	1107.00	1136.00	1108.60	1134.05	25.45	12.28
	45810.000	658.46	820.00	1089.00	1103.00	900.93	1380.85	479.92	64.67
	45810.000	657.89	96.00	1089.00	1103.00	915.33	1353.76	438.13	50.54
	45810.000	656.95	91.00	1089.00	1103.00	942.38	1295.61	342.21	40.38
	45810.000	655.42	83.00	1089.00	1103.00	986.73	1200.27	175.90	28.34
*	45810.000	654.39	76.00	1089.00	1103.00	1016.77	1103.63	45.05	20.87
*	45810.000	653.76	70.00	1089.00	1103.00	1089.00	1103.00	14.00	16.81
*	45810.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	12.33

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45815.000	658.46	820.00	1089.00	1103.00	900.90	1380.87	479.97	64.81
*	45815.000	657.89	96.00	1089.00	1103.00	915.33	1353.76	438.13	50.66
*	45815.000	656.95	91.00	1089.00	1103.00	942.39	1295.60	342.20	40.45
	45815.000	655.42	83.00	1089.00	1103.00	986.76	1200.22	175.79	28.37
	45815.000	654.38	76.00	1089.00	1103.00	1016.79	1103.63	45.01	20.88
*	45815.000	653.76	70.00	1089.00	1103.00	1089.00	1103.00	14.00	16.82
*	45815.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	12.34
*	45835.000	658.46	820.00	1089.00	1103.00	900.90	1380.87	479.97	65.38
*	45835.000	657.89	96.00	1089.00	1103.00	915.33	1353.76	438.13	51.09
*	45835.000	656.95	91.00	1089.00	1103.00	942.39	1295.59	342.18	40.72
	45835.000	655.42	83.00	1089.00	1103.00	986.81	1200.11	175.57	28.46

	45835.000	654.39	76.00	1089.00	1103.00	1016.85	1103.63	44.91	20.93
	45835.000	653.76	70.00	1089.00	1103.00	1089.00	1103.00	14.00	16.87
	45835.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	12.38
*	45840.000	658.47	820.00	1081.90	1115.80	896.65	1450.82	554.18	65.55
*	45840.000	657.89	96.00	1081.90	1115.80	904.20	1429.15	524.95	51.23
*	45840.000	656.96	91.00	1081.90	1115.80	916.51	1393.80	477.29	40.81
	45840.000	655.43	83.00	1081.90	1115.80	949.87	1237.37	287.50	28.50
*	45840.000	654.39	76.00	1081.90	1115.80	986.73	1114.72	127.99	20.95
*	45840.000	653.77	70.00	1081.90	1115.80	1082.21	1113.10	30.88	16.88
*	45840.000	653.05	62.00	1081.90	1115.80	1082.89	1111.23	28.34	12.40
	45870.000	658.47	820.00	1081.90	1115.80	896.53	1451.16	554.63	66.80
	45870.000	657.89	96.00	1081.90	1115.80	904.19	1429.16	524.97	52.27
	45870.000	656.96	91.00	1081.90	1115.80	916.50	1393.85	477.35	41.53
	45870.000	655.43	83.00	1081.90	1115.80	949.56	1237.93	288.36	28.78
	45870.000	654.39	76.00	1081.90	1115.80	986.39	1114.74	128.35	21.08
	45870.000	653.77	70.00	1081.90	1115.80	1082.21	1113.12	30.91	16.98
	45870.000	653.05	62.00	1081.90	1115.80	1082.88	1111.24	28.35	12.48
	45885.000	658.47	820.00	1204.30	1234.30	1000.00	1546.00	546.00	67.36
*	45885.000	657.89	96.00	1204.30	1234.30	1015.05	1503.80	488.75	52.72
	45885.000	656.96	91.00	1204.30	1234.30	1049.18	1408.08	358.90	41.83
	45885.000	655.43	83.00	1204.30	1234.30	1104.98	1266.64	161.66	28.91
	45885.000	654.40	76.00	1204.30	1234.30	1142.85	1234.77	91.93	21.15
	45885.000	653.77	70.00	1204.30	1234.30	1167.72	1233.35	65.63	17.03
	45885.000	653.05	62.00	1204.30	1234.30	1204.39	1232.22	27.84	12.52
*	46140.000	658.47	820.00	1089.70	1191.70	782.53	1478.95	696.42	81.50
*	46140.000	657.89	96.00	1089.70	1191.70	796.91	1464.02	667.12	64.80
*	46140.000	656.96	91.00	1089.70	1191.70	819.84	1440.20	620.36	51.00
*	46140.000	655.43	83.00	1089.70	1191.70	858.18	1401.28	543.10	34.34
*	46140.000	654.40	76.00	1089.70	1191.70	885.46	1303.38	417.92	24.70
*	46140.000	653.78	70.00	1089.70	1191.70	902.94	1260.39	348.54	19.73
*	46140.000	653.05	62.00	1089.70	1191.70	927.99	1224.51	235.09	14.52

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	46290.000	658.48	820.00	1135.20	1467.80	855.02	1558.43	703.41	95.12
*	46290.000	657.89	96.00	1135.20	1467.80	873.05	1549.84	676.79	77.04
*	46290.000	656.96	91.00	1135.20	1467.80	901.64	1536.24	634.59	61.15
*	46290.000	655.43	83.00	1135.20	1467.80	948.35	1513.86	556.76	41.39
*	46290.000	654.40	76.00	1135.20	1467.80	979.97	1498.68	457.33	29.94
*	46290.000	653.78	70.00	1135.20	1467.80	1003.25	1489.52	371.05	24.13
*	46290.000	653.06	62.00	1135.20	1467.80	1133.71	1478.94	345.22	18.11
*	46540.000	658.48	820.00	1163.30	1359.10	821.19	1549.20	728.01	116.62
*	46540.000	657.89	96.00	1163.30	1359.10	850.56	1522.68	672.12	96.20
*	46540.000	656.96	91.00	1163.30	1359.10	897.20	1437.34	540.13	76.89
*	46540.000	655.43	83.00	1163.30	1359.10	973.42	1358.61	385.20	52.58
*	46540.000	654.40	76.00	1163.30	1359.10	1164.52	1357.86	193.34	38.75
*	46540.000	653.78	70.00	1163.30	1359.10	1166.04	1357.40	191.36	31.87
*	46540.000	653.06	62.00	1163.30	1359.10	1167.80	1356.88	189.08	24.73
*	46610.000	658.47	820.00	1204.00	1235.80	863.27	1404.65	541.38	120.33
*	46610.000	657.89	96.00	1204.00	1235.80	885.72	1381.94	496.21	99.32
*	46610.000	656.96	91.00	1204.00	1235.80	921.39	1345.85	424.45	79.21
*	46610.000	655.43	83.00	1204.00	1235.80	979.67	1235.52	255.85	53.93
*	46610.000	654.40	76.00	1204.00	1235.80	1204.54	1233.81	29.28	39.68
*	46610.000	653.77	70.00	1204.00	1235.80	1206.20	1232.78	26.58	32.69
*	46610.000	653.05	62.00	1204.00	1235.80	1208.03	1231.59	23.56	25.42

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SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 43305.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 3 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 4 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 5 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 6 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43305.000 PROFILE= 7 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 43659.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43659.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43659.000 PROFILE= 3 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 43659.000 PROFILE= 4 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=  43675.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43675.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43675.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43675.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43675.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43675.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  43873.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43873.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43873.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43873.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43873.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43873.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43873.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  44592.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  44830.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44830.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44830.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44830.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44830.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44830.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44830.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  44910.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44910.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44910.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44910.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44910.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44910.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  44970.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44970.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  44970.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45025.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45025.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=  45025.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45025.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45025.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45345.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45345.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45345.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45345.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45345.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45356.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45356.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45356.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45356.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45356.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45356.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45356.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45395.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45395.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45395.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45395.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45395.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45395.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45501.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45501.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45501.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45501.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45501.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  45650.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=  45750.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=  45750.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  45750.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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    21MAY12      13:47:28                                                  PAGE   89
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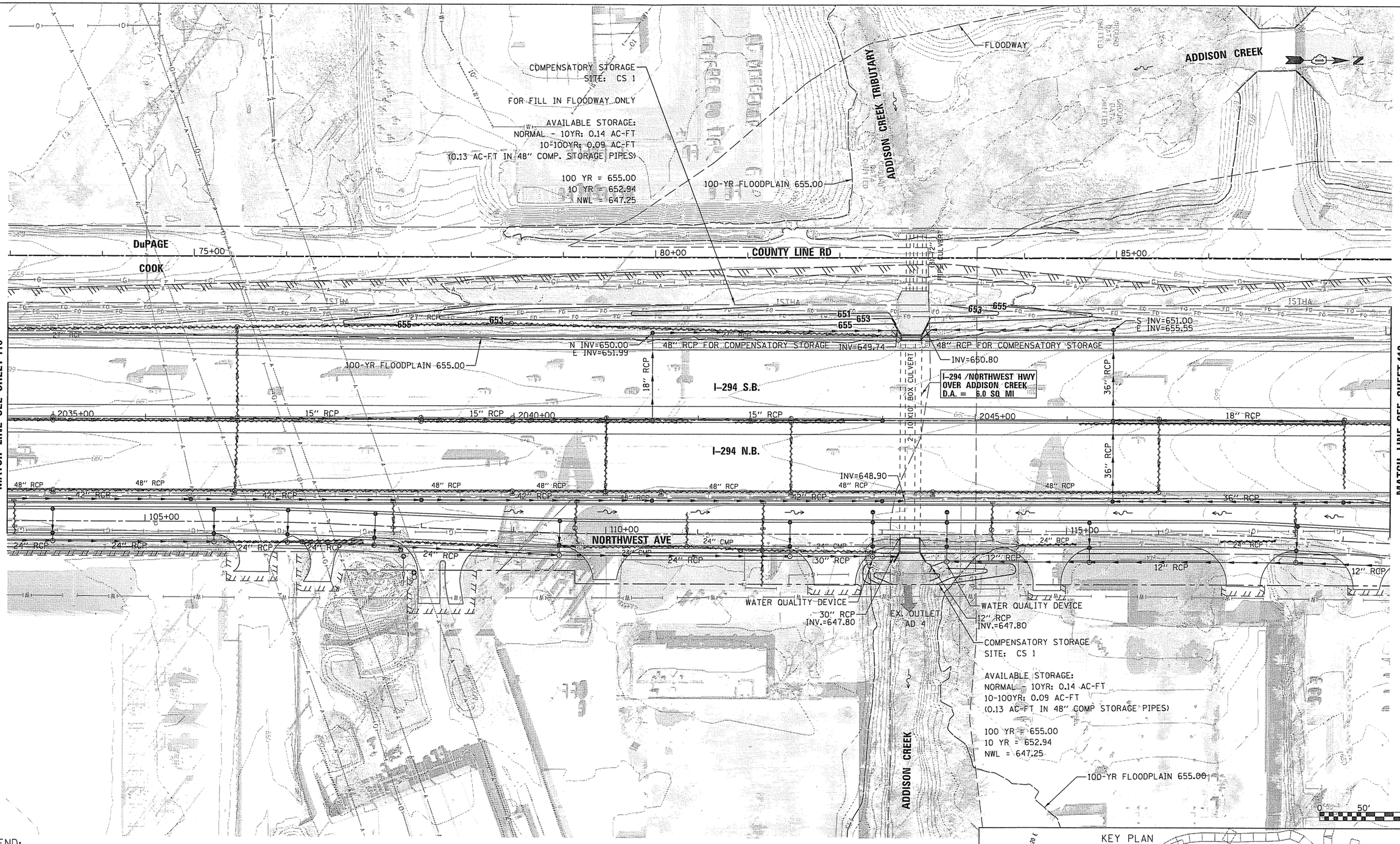
SECTION 11

PROPOSED CONDITIONS ANALYSIS



LEGEND:

BOUNDARY LINES/SYMBOLS	EXISTING	PROPOSED
REFERENCE LINE/CENTERLINE AND STATIONING	1+30+00	1+15+00
RIGHT OF WAY LINE		
COUNTY LINE		
DRAINAGE DIVIDE (HYDROLOGIC ATLAS)		
TEMPORARY EASEMENT		
PERMANENT EASEMENT		
STORM SEWER REMOVAL		

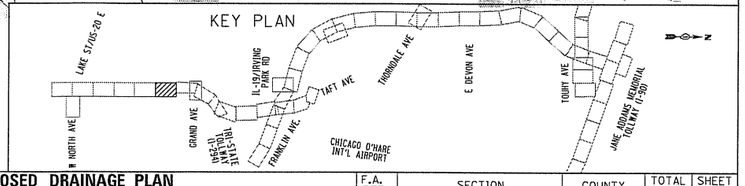
	EXISTING	PROPOSED
SWALE		
DITCH		
DITCH SUMMIT		
CULVERT SIZE/TYPE	2 X 2 BOX	2 X 2 BOX
HEADWALL		
CATCH BASIN		
INLET/SCUPPER		
MANHOLE		
INVERT	(XXX.XX)	XXX.XX
STORM SEWER		

	EXISTING	PROPOSED
OVERFLOW		
OUTLET		
SHEET FLOW		
DITCH CHECK		
DRAINAGE BOUNDARY		

DRAINAGE PROPOSAL

- CONSTRUCT COMPENSATORY STORAGE BASIN(S).
- CONSTRUCT PROPOSED DRAINAGE SYSTEM INCLUDING STORM SEWERS, DITCHES AND PIPE CULVERTS. INLET LOCATIONS ARE FOR ILLUSTRATION PURPOSE ONLY

KEY PLAN



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		DRAWN MYG	REVISED -
	PLOT SCALE = 100'	CHECKED CW	REVISED -
	PLOT DATE = 8/28/2012	DATE -	REVISED -

ELGIN O'HARE WEST BYPASS
communities. opportunities. solutions.

Illinois Department of Transportation

CHRISTOPHER B. BURKE ENGINEERING, LTD

PROPOSED DRAINAGE PLAN
ADDISON CREEK WATERSHED
I-294

SCALE: 1"=50' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK,DuPAGE	231	117
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

Y:\36180 - Elgin O'Hare - West Bypass\TIER_TWO\MYV\CAD\Models Geometric Full Build\sheets\DIEOWB-sht-pr-drain-TRI7_FullBuild.dgn
12:48:8 PM

ELGIN O'HARE WEST BYPASS I-294 OVER ADDISON CREEK PROPOSED VS NATURAL

HEC-2 XSEC	Description	100-year WSEL					50-year WSEL					10-year WSEL				
		Regulatory (NAVD 88) (feet)	Corrected (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)	Regulatory (NAVD 88) (feet)	Corrected (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)	Regulatory (NAVD 88) (feet)	Corrected (NAVD 88) (feet)	Natural (NAVD 88) (feet)	Proposed (NAVD 88) (feet)	Proposed - Natural (feet)
43155	FIS	653.4	653.4	653.4	653.4	0.0	652.8	652.8	652.8	652.8	0.0	651.5	651.5	651.5	651.5	0.0
43305	FIS	654.4	654.4	654.3	654.3	0.0	653.7	653.7	653.6	653.6	0.0	652.1	652.1	652.0	652.0	0.0
43659	***Surveyed H2***			654.6	654.6	0.0			653.9	653.9	0.0			652.3	652.3	0.0
43675	FIS	654.6	654.6	654.6	654.6	0.0	653.9	653.9	653.9	653.9	0.0	652.4	652.4	652.4	652.4	0.0
43873	***Surveyed H3***			654.6	654.6	0.0			653.9	653.9	0.0			652.4	652.4	0.0
44015	FIS	654.6	654.6	654.7	654.7	0.0	654.0	654.0	654.0	654.0	0.0	652.5	652.5	652.5	652.5	0.0
44186	***Surveyed H4***			654.7	654.7	0.0			654.1	654.1	0.0			652.6	652.6	0.0
44335	FIS	654.8	654.8	654.8	654.8	0.0	654.1	654.1	654.1	654.1	0.0	652.7	652.7	652.7	652.7	0.0
44530	FIS	654.8	654.8	654.9	654.9	0.0	654.2	654.2	654.2	654.2	0.0	652.8	652.8	652.8	652.8	0.0
44592	***Surveyed H5***			654.9	654.8	-0.1			654.3	654.2	-0.1			652.8	652.8	0.0
44630	D/S I-294, (***H5***)	654.8	654.8	654.9	654.8	-0.1	654.2	654.2	654.3	654.2	0.0	652.8	652.8	652.8	652.8	0.0
44830	U/S I-294, (***H6***)	655.7	655.1	655.0	655.1	0.1	654.2	654.2	654.4	654.3	-0.1	652.8	652.8	652.9	652.8	-0.1
44870	FIS (***H6***)	655.7	655.3	655.0	655.2	0.2	654.3	654.4	654.4	654.4	0.0	652.9	653.0	652.9	652.9	0.0
44910	D/S County Line Rd, (***H6***)	656.1	655.3	654.9	655.3	0.4	654.4	654.4	654.3	654.4	0.1	653.0	653.0	652.9	652.9	0.0
44970	U/S County Line Rd, (***H7***)	657.6	657.6	657.5	657.6	0.1	656.6	656.6	656.4	656.5	0.1	653.9	653.8	653.7	653.8	0.0
45025	FIS	657.6	657.6	657.5	657.6	0.1	656.7	656.7	656.6	656.7	0.1	653.9	653.9	653.9	653.9	0.0
45345	FIS	657.6	657.6	657.5	657.6	0.1	656.7	656.7	656.6	656.7	0.1	654.0	654.0	654.0	654.0	0.0
45356	***Surveyed***			657.5	657.6	0.1			656.6	656.7	0.1			654.0	654.0	0.0
45395	D/S Industrial, ***surveyed***			657.5	657.6	0.1			656.6	656.7	0.1			654.0	654.0	-0.1
45435	U/S Industrial, ***surveyed***			657.5	657.6	0.1			656.6	656.7	0.1			654.0	654.0	-0.1
45501	***Surveyed H8***			657.6	657.7	0.1			656.6	656.7	0.1			654.0	654.1	0.0
45650	FIS	657.6	657.6	657.6	657.7	0.1	656.8	656.8	656.6	656.7	0.1	654.2	654.2	654.0	654.1	0.0
45750	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45755	D/S Concrete Dam, FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45757	U/S Concrete Dam, FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45760	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45785	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45810	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45840	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45870	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
45885	***Surveyed H11***			657.6	657.7	0.1			656.7	656.8	0.1			654.1	654.1	0.0
46140	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
46290	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
46540	FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0
46610	D/S Cemetery Rd 2, FIS	657.6	657.7	657.6	657.7	0.1	656.8	656.8	656.7	656.8	0.1	654.2	654.2	654.1	654.1	0.0

Updates to Corrected Baseline Model:	1. I-294 bridge length increased from 200 to 214 ft, opening decreased from 222 sf to 200 sf
	2. Distance between I-294 and County Line Road reduced from 80 to 52 ft
	3. Cross section 44830, 44870, 44910, and 44970 corrected with survey to remove 4 ft profile drop
	4. County Line Road bridge points added on right bank to complete bridge
	5. Cemetery Road bridge points added on right bank to complete bridge
Updates to Existing Conditions Model:	6. Survey cross-sections added
	7. Surveyed bridges modified
	8. Concrete Arch at Industrial Access Road added

N:\Idot\070404\Water\Addison Creek\spreadsheets\Results.xlsx
Proposed Conditions (NAVD88)

ELGIN O'HARE WEST BYPASS I-294 OVER ADDISON CREEK PROPOSED VS NATURAL

HEC-2 XSEC	Description	100-year WSEL					50-year WSEL					10-year WSEL				
		Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Natural (NGVD 29) (feet)	Proposed (NGVD 29) (feet)	Proposed - Natural (feet)	Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Natural (NGVD 29) (feet)	Proposed (NGVD 29) (feet)	Proposed - Natural (feet)	Regulatory (NGVD 29) (feet)	Corrected (NGVD 29) (feet)	Natural (NGVD 29) (feet)	Proposed (NGVD 29) (feet)	Proposed - Natural (feet)
43155	FIS	653.7	653.7	653.7	653.7	0.0	653.1	653.1	653.1	653.1	0.0	651.8	651.8	651.8	651.8	0.0
43305	FIS	654.7	654.7	654.6	654.6	0.0	654.0	654.0	653.9	653.9	0.0	652.4	652.4	652.3	652.3	0.0
43659	***Surveyed H2***			654.9	654.9	0.0			654.2	654.2	0.0			652.6	652.6	0.0
43675	FIS	654.9	654.9	654.9	654.9	0.0	654.2	654.2	654.2	654.2	0.0	652.7	652.7	652.7	652.7	0.0
43873	***Surveyed H3***			654.9	654.9	0.0			654.2	654.2	0.0			652.7	652.7	0.0
44015	FIS	654.9	654.9	655.0	655.0	0.0	654.3	654.3	654.3	654.3	0.0	652.8	652.8	652.8	652.8	0.0
44186	***Surveyed H4***			655.0	655.0	0.0			654.4	654.4	0.0			652.9	652.9	0.0
44335	FIS	655.1	655.1	655.1	655.1	0.0	654.4	654.4	654.4	654.4	0.0	653.0	653.0	653.0	653.0	0.0
44530	FIS	655.1	655.1	655.2	655.2	0.0	654.5	654.5	654.5	654.5	0.0	653.1	653.1	653.1	653.1	0.0
44592	***Surveyed H5***			655.2	655.1	-0.1			654.6	654.5	-0.1			653.1	653.1	0.0
44630	D/S I-294, (***H5***)	655.1	655.1	655.2	655.1	-0.1	654.5	654.5	654.6	654.5	0.0	653.1	653.1	653.1	653.1	0.0
44830	U/S I-294, (***H6***)	656.0	655.4	655.3	655.4	0.1	654.5	654.5	654.7	654.6	-0.1	653.1	653.1	653.2	653.1	-0.1
44870	FIS (***H6***)	656.0	655.6	655.3	655.5	0.2	654.6	654.7	654.7	654.7	0.0	653.2	653.3	653.2	653.2	0.0
44910	D/S County Line Rd, (***H6***)	656.4	655.6	655.2	655.6	0.4	654.7	654.7	654.6	654.7	0.1	653.3	653.3	653.2	653.2	0.0
44970	U/S County Line Rd, (***H7***)	657.9	657.9	657.8	657.9	0.1	656.9	656.9	656.7	656.8	0.1	654.2	654.1	654.0	654.1	0.0
45025	FIS	657.9	657.9	657.8	657.9	0.1	657.0	657.0	656.9	657.0	0.1	654.2	654.2	654.2	654.2	0.0
45345	FIS	657.9	657.9	657.8	657.9	0.1	657.0	657.0	656.9	657.0	0.1	654.3	654.3	654.3	654.3	0.0
45356	***Surveyed***			657.8	657.9	0.1			656.9	657.0	0.1			654.3	654.3	0.0
45395	D/S Industrial, ***surveyed***			657.8	657.9	0.1			656.9	657.0	0.1			654.3	654.3	-0.1
45435	U/S Industrial, ***surveyed***			657.8	657.9	0.1			656.9	657.0	0.1			654.3	654.3	-0.1
45501	***Surveyed H8***			657.9	658.0	0.1			656.9	657.0	0.1			654.3	654.4	0.0
45650	FIS	657.9	657.9	657.9	658.0	0.1	657.1	657.1	656.9	657.0	0.1	654.5	654.5	654.3	654.4	0.0
45750	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45755	D/S Concrete Dam, FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45757	U/S Concrete Dam, FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45760	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45785	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45810	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45815	D/S Cemetery Rd 1, FIS (***H9***)	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45835	U/S Cemetery Rd 1, FIS (***H9***)	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45840	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45870	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
45885	***Surveyed H11***			657.9	658.0	0.1			657.0	657.1	0.1			654.4	654.4	0.0
46140	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
46290	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
46540	FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0
46610	D/S Cemetery Rd 2, FIS	657.9	658.0	657.9	658.0	0.1	657.1	657.1	657.0	657.1	0.1	654.5	654.5	654.4	654.4	0.0

Updates to Corrected Baseline Model:

1. I-294 bridge length increased from 200 to 214 ft, opening decreased from 222 sf to 200 sf
2. Distance between I-294 and County Line Road reduced from 80 to 52 ft
3. Cross section 44830, 44870, 44910, and 44970 corrected with survey to remove 4 ft profile drop
4. County Line Road bridge points added on right bank to complete bridge
5. Cemetery Road bridge points added on right bank to complete bridge

Updates to Existing Conditions Model:

6. Survey cross-sections added
7. Surveyed bridges modified
8. Concrete Arch at Industrial Access Road added

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1*****************************************                    ***********************************
*****
 *  HEC-2 WATER SURFACE PROFILES           *                   *  U.S. ARMY CORPS OF ENGINEERS
   *
 *                                         *                   *  HYDROLOGIC ENGINEERING CENTER
   *
 *  Version   4.6.2;  May 1991             *                   *  609 SECOND STREET, SUITE D
   *
 *                                         *                   *  DAVIS, CALIFORNIA 95616-4687
   *
 *  RUN DATE    21MAY12    TIME   10:31:27  *                   *          (916) 756-1104
   *
 *****************************************                    ***********************************
*****
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```
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
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THIS RUN EXECUTED 21MAY12 10:31:27

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

 Version   4.6.2;  May 1991
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Proposed Conditions model AdPr.HC2 for I-294 Analysis
FIS XSEC at US face of County Line Road
T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2 500, 100, 50, 25, 10, 5, & 2-YEAR FREQUENCIES - DESIGN CONDITIONS
T3 500-YEAR

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	0	0	0	0	0	654.79	

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

	38	1	43	21	22	53	54	4	7		
QT	7	1480	1189	1021	812	645	538	406			
NC	.035	.035	0.045	.1	.3						
X1	43155	28	1002.30	1065.20	0	0	0		.00		
GR	660.80	774.2	661.00	805.4	661.30	857.1	661.00	874.2	660.60	913.2	
GR	663.50	946.1	664.90	973.1	666.90	1000.0	667.30	1002.3	661.50	1025.1	
GR	650.50	1025.8	650.50	1028.1	645.80	1028.2	644.60	1028.3	643.80	1032.9	
GR	643.80	1036.2	644.20	1040.3	644.80	1044.2	645.70	1044.3	650.30	1044.4	
GR	650.50	1047.4	661.60	1048.3	666.70	1065.2	666.60	1093.5	666.80	1121.4	
GR	667.00	1151.6	667.20	1180.2	666.70	1229.1					
X1	43305	22	1085.10	1159.90	170	130	150		.00		
X3	10.										
GR	662.20	582.0	659.20	639.1	654.80	730.1	654.20	825.0	658.20	888.9	
GR	653.20	966.1	652.90	999.9	653.50	1007.8	657.70	1040.8	656.80	1066.1	
GR	655.00	1085.1	649.20	1095.1	646.80	1097.2	645.40	1104.0	645.50	1109.1	
GR	645.20	1114.1	646.80	1118.9	648.80	1120.2	648.60	1138.9	661.00	1159.9	
GR	664.70	1185.8	666.20	1209.5							
H2											
X1	43659	21	1238.30	1279.40	319	369	354		.00		
X3	10.										
GR	656.30	1000.0	655.85	1047.0	655.58	1107.7	655.61	1173.8	655.75	1185.0	
GR	652.98	1196.9	650.60	1238.3	647.03	1240.0	646.64	1240.9	645.78	1252.0	
GR	646.66	1258.9	647.13	1260.3	649.82	1271.9	651.86	1279.4	651.42	1313.8	
GR	652.45	1348.3	648.30	1364.2	648.30	1367.4	652.30	1380.2	654.30	1385.4	
GR	656.30	1392.0									

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X1    43675        24    1128.50    1175.80         16         16         16                .00
X3    10.
GR    661.20     716.3     660.20      752.2     658.40      812.3     655.80      897.1     656.40      971.2
GR    653.50     984.8     655.80      992.1     655.70     1000.0     654.10     1015.0     653.30     1094.9
GR    653.00    1128.5     648.40     1142.1     647.10     1144.1     646.20     1147.1     646.20     1153.2
GR    646.30    1159.2     647.10     1163.2     648.80     1165.9     651.50     1175.8     650.80     1265.4
GR    650.10    1305.0     648.50     1323.9     650.50     1347.2     658.90     1363.9

QT         7      1370        951        802        641        517        437        332
  H3
X1    43873        27    1435.90    1460.20        186        215        198                .00
X3    10.
GR    658.30      1000     656.30     1014.7     656.45     1281.9     655.92     1293.7     655.89     1310.4
GR    655.71    1333.5     655.90     1358.4     656.02     1380.5     655.97     1391.3     655.63     1403.4
GR    655.21    1415.2     649.18     1430.7     649.47     1435.9     647.29     1439.2     646.38     1440.0
GR    645.11    1449.9     646.10     1458.9     649.69     1460.2     651.31     1480.9     653.48     1489.9
GR    654.92    1502.1     656.10     1509.5     656.25     1533.9     657.63     1579.5     658.22     1622.0
GR    659.35    1649.7     662.30     1811.0

X1    44015        20    1086.20    1163.20        134        155        142                .00
GR      665       923     654.70      923.0     654.50      966.0     653.80     1000.1     653.10     1023.9
GR    653.20    1056.8     652.30     1086.2     648.70     1097.0     648.50     1103.4     647.20     1105.2
GR    645.50    1109.1     645.20     1114.2     645.30     1120.0     647.10     1123.9     649.20     1126.1
GR    649.20    1134.1     656.60     1163.2     657.90     1230.0     658.50     1284.0     658.40     1335.9
  H4

X1    44186        19    1204.70    1260.50        168        199        171                .00
GR      665     920.2     656.30     1000.0     654.83     1121.8     654.77     1165.8     653.49     1185.9
GR    651.84    1204.7     650.32     1213.3     647.85     1218.7     647.69     1225.4     647.22     1226.2
GR    646.29    1228.0     646.04     1235.2     648.09     1244.2     648.63     1245.4     649.06     1247.7
GR    652.35    1260.5     652.83     1268.6     657.11     1283.5     656.30     1500.0

X1    44335        17    1131.10    1165.00        147        156        149                .00
GR      665     920.2     656.10      920.2     655.80      963.2     655.20      999.8     655.10     1035.1
GR    654.70    1073.9     654.00     1104.0     649.30     1122.9     648.90     1131.1     647.30     1132.9
GR    646.90    1135.9     646.90     1143.0     646.80     1151.1     647.40     1153.0     651.30     1165.0
GR    652.70    1177.0     657.40     1196.0

X1    44530                                       195        195        195                .00

NC     .035       .035       .04        0.3        0.5
  H5
X1    44592        23    1117.10    1140.20         66         66         66                .00
X3       10                                                                    657.50     657.50
GR    666.90     665.0     659.80     1000.0     659.42     1016.8     657.67     1046.7     654.23     1081.9
GR    650.27    1114.6     647.55     1117.1     645.65     1118.2     645.65     1139.2     647.56     1140.2
GR    649.98    1145.0     650.69     1155.8     655.67     1177.6     657.99     1187.7     657.99     1189.7
GR    658.19    1208.9     658.32     1235.4     657.59     1266.9     657.67     1320.9     657.62     1368.4
GR    657.50    1415.1     658.35     1448.7     658.40     1550.0
1
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TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

```
X1    44630        23    1117.10    1140.20         19         19         19                .00
X3       10                                                                    660.00     658.50
GR    666.90     665.0     659.80     1000.0     659.42     1016.8     657.67     1046.7     654.23     1081.9
GR    650.27    1114.6     647.55     1117.1     645.14     1118.2     645.14     1139.2     647.56     1140.2
GR    649.98    1145.0     650.69     1155.8     655.67     1177.6     657.99     1187.7     657.99     1189.7
GR    658.19    1208.9     658.32     1235.4     657.59     1266.9     657.67     1320.9     657.62     1368.4
GR    657.50    1415.1     658.35     1448.7     658.40     1550.0

SB      1.25       1.6        2.6         .0       21.0       1.00      200.0        .00      645.3      645.14
X1    44830        16    1097.7     1118.7        234        234        234                .00
X2                            1     655.30     658.50
X3       10                                                                    660.00     658.50
X4        2    660.30      807.4     658.30      918.2
BT    -11.       596.      667.1                 708.1      665.1                870.       663.
BT             1000.      661.1                1135.       659.8               1225.       659.
BT             1320.      658.6                1420.       658.5               1519.       658.5
BT             1641.2     658.5                1693.2      660.3
GR    656.30    1000.0     655.78     1009.7     654.06     1069.3     651.16     1087.5     647.85     1093.5
GR    645.30    1097.7     645.30     1118.7     647.37     1122.9     650.98     1127.2     651.46     1149.1
GR    651.32    1185.3     652.30     1280.5     654.30     1354.0     656.30     1504.0     658.30     1641.2
GR    660.30    1693.2

NC      .03        .03        .04
  H6
X1    44870        16     1095.0     1121.0         35         35         35                .00
X3       10                                                                    657.53     657.46
X4        2    660.30      807.4     658.30      918.2
GR    656.30    1000.0     655.78     1009.7     654.06     1069.3     651.16     1087.5     647.85     1093.5
GR    645.71    1095.0     645.71     1121.0     647.37     1122.9     650.98     1127.2     651.46     1149.1
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 GR   651.32     1185.3     652.30     1280.5     654.30     1354.0     656.30     1504.0     658.30     1641.2
 GR   660.30     1693.2

         **COUNTY LINE ROAD** survey sta 310+00, U/S H6 (ss. 310+12.46)
 X1    44910                                      12         12         12                    .00
 X3       10                                                                  657.53     657.46

 SC    3.012        0.5        2.7          0          6                    63        1.1     646.75     645.71
 NC      .03        .03        .05
 X1    44970         20    1115.00    1141.00         63         63         63
 X2                             2                 657.50
 X3       10                                                                  657.53     657.46
 BT      -11      807.4     660.30                  840.0     660.30                1013.0     658.50
 BT             1062.0     657.97                 1112.3     657.53                1133.0     657.46
 BT             1152.0     657.49                 1200.0     657.54                1250.0     657.54
 BT             1560.0     658.30                 1693.2     658.30
 GR   660.30      807.4     659.71      840.0      658.30      918.2     658.30     1000.0     657.96     1013.0
 GR   656.68     1062.0     656.47     1069.9      652.38     1104.5     648.87     1112.3     646.75     1115.0
 GR   646.75     1133.0     646.75     1141.0      648.68     1143.4     655.44     1152.0     654.92     1189.7
 GR   655.32     1200.0     657.26     1250.0      658.30     1277.0     659.66     1560.0     660.30     1693.2
1
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 NC      .03        .03        .05         .1          .3
 X1    45025         21    1043.30    1086.30          5         130         65                    .00
 GR   660.00        900.     657.90      955.9      657.50      971.1     657.30      974.8     654.60      981.2
 GR   655.1        987.8     655.10     1000.1      654.30     1005.9     651.70     1024.1     651.00     1043.3
 GR   648.20     1047.2     648.10     1053.2      648.00     1061.2     648.10     1070.2     648.30     1074.2
 GR   648.80     1080.3     653.20     1086.3      654.40     1138.3     652.80     1203.2     654.10     1266.3
 GR   659.10     1350.1

 X1    45345         20    1101.10    1134.20         310         330         320                    .00
 GR   662.90      898.8     662.40      913.9      661.90      917.2     659.60      923.0     661.10      929.9
 GR   659.20      948.9     655.30     1000.1      653.10     1059.0     652.40     1101.1     649.60     1107.5
 GR   648.80     1111.1     648.20     1114.0      647.80     1122.2     648.10     1124.0     648.80     1130.1
 GR   649.60     1132.8     651.60     1134.2      658.70     1252.9     660.50     1327.9     660.50     1395.9

 NC                                       0.3         0.5
 *H   7.5
 X1    45356         21    1152.50    1270.30          21          21         66                    .00
 GR   663.30     1000.0     660.65     1014.0      659.40     1029.8     654.29     1061.5     652.79     1107.7
 GR   651.73     1152.5     650.30     1174.5      649.15     1178.0     646.11     1189.5     644.27     1204.1
 GR   644.87     1211.4     645.85     1225.5      646.76     1237.7     649.14     1239.9     650.41     1247.7
 GR   651.45     1270.3     654.63     1301.9      657.79     1319.5     659.60     1327.8     661.06     1331.2
 GR   663.80     1404.0
   D/S CONSPAN H7.6

 X1    45395         28    1187.40    1235.40          39          39         39                    .00
 X2
 X3       10                                                                  661.00     661.00
 BT      -28     1000.0     663.30     663.30      1014.0     662.00     660.65     1052.0     662.00     655.77
 BT             1080.9     662.00     653.66      1098.7     662.00     653.08     1143.5     662.53     651.94
 BT             1176.1     662.20     649.77      1180.0     662.14     648.62     1187.0     662.03     646.67
 BT             1187.4     662.03     646.67     1187.42     662.03     654.11     1188.36    662.02     655.74
 BT            1190.94     661.99     656.85      1196.0     661.94     657.68     1197.2     661.93     657.88
 BT            1200.94     661.89     658.49      1211.4     661.79     659.04     1221.86    661.74     658.49
 BT             1229.1     661.70     657.30      1231.6     661.69     656.89     1231.86    661.69     656.85
 BT            1234.44     661.67     655.74     1235.38     661.64     654.11     1235.4     661.64     646.52
 BT             1251.3     661.23     650.58      1289.9     660.72     653.41     1323.8     660.87     658.73
 BT             1404.0     663.80     663.80
 GR   663.30     1000.0     660.65     1014.0      655.77     1052.0     653.66     1080.9     653.08     1098.7
 GR   651.94     1143.5     649.77     1176.1      648.62     1180.0     646.77     1187.0     646.67     1187.4
 GR   646.66     1187.42    646.41     1188.36     645.93     1190.94    645.29     1196.0     645.14     1197.2
 GR   644.67     1200.94    644.87     1211.4      645.60     1221.86    646.12     1229.1     646.31     1231.6
 GR   646.32     1231.86    646.52     1234.44     646.52     1235.38    646.52     1235.4     650.58     1251.3
 GR   653.41     1289.9     658.73     1323.8      663.80     1404.0
   U/S CONSPAN H7.7

 X1    45435                                      40          40         40                    .00
 X2                                                                          1
 X3       10                                                                  661.00     661.00
1
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 NC                             .04         0.1         0.3
   H8
 X1    45501         18    1196.00    1231.60          66          66         66                    .00
 GR   663.30     1000.0     660.65     1014.0      658.56     1052.0     652.11     1080.9     651.96     1098.7
 GR   651.94     1143.5     650.90     1176.1      650.01     1196.0     648.19     1197.2     647.28     1211.4
 GR   648.04     1229.1     650.34     1231.6      652.37     1251.3     653.09     1289.8     652.01     1323.8
 GR   656.96     1360.7     656.59     1382.9      663.80     1404.0

 X1    45650         18    1046.80    1082.80          129         144         139                   .00
 GR   661.00      868.7     656.40      940.7      651.90      999.6     652.10     1046.8     649.70     1049.9
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 GR   648.60    1054.9    648.40    1057.9    648.90    1064.8    648.80    1070.7    649.20    1077.1
 GR   649.80    1079.9    652.10    1082.8    652.30    1099.7    655.30    1109.9    653.70    1116.8
 GR   655.00    1173.6    654.90    1267.7    661.40    1351.5

 QT        7       820        96        91        83        76        70        62
 NC                                    0.3       0.5
 X1    45750        23   1107.00   1136.00       100       100       100              .00
 X3       10                                                                 648.00    648.00
 GR   661.00     869.0    654.20    1000.0    654.20    1107.0    652.75    1109.0    651.00    1110.0
 GR   649.50    1112.0    648.90    1118.5    647.95    1118.8    647.80    1119.0    647.50    1119.5
 GR   647.40    1120.0    647.50    1120.5    647.80    1121.0    647.95    1121.3    648.90    1121.5
 GR   650.20    1129.0    651.00    1130.0    653.00    1134.0    654.50    1136.0    655.30    1146.0
 GR   655.60    1177.0    659.80    1268.0    662.00    1352.0

 NC                       .015
 X1    45755                                       5         5         5              .00
 BT      -23     869.0    661.00    661.00    1000.0    654.20    654.20    1107.0    654.20    654.20
 BT             1109.0    652.75    652.75    1110.0    651.00    651.00    1112.0    651.00    649.50
 BT             1118.5    651.00    648.90    1118.8    651.00    649.85    1119.0    651.00    650.00
 BT             1119.5    651.00    650.30    1120.0    651.00    650.40    1120.5    651.00    650.30
 BT             1121.0    651.00    650.00    1121.3    651.00    649.85    1121.5    651.00    648.90
 BT             1129.0    651.00    650.20    1130.0    651.00    651.00    1134.0    653.00    653.00
 BT             1136.0    654.50    654.50    1146.0    655.30    655.30    1177.0    655.60    655.60
 BT             1268.0    659.80    659.80    1352.0    662.00    662.00

 X1    45757                                       2         2         2              .00
 X2                             0       .00       .00                   1

 NC                       .05
 X1    45760                                       3         3         3              .00
 X3       10                                                                 651.00    651.00

 X1    45785                                      25        25        25              .00

 NC                                        .3        .5
   use H9
 X1    45810        24    1089.0    1103.0        25        25        25              .00
 X3       10                                                                 653.90    653.90
 GR   660.70     866.0    658.30     903.4    653.89    1031.2    655.76    1082.0    655.77    1082.4
 GR   657.85    1085.5    646.14    1088.99    646.14    1089.0    646.14    1089.1    646.14    1090.0
 GR   646.14    1092.0    646.14    1096.0     646.14    1100.0    646.14    1102.0    646.14    1102.9
 GR   646.14    1103.0    646.14    1103.01    657.92    1103.9    657.70    1106.0    656.67    1116.0
 GR   656.65    1116.2    654.42    1137.7     658.30    1379.4    669.30    1480.2
1
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 NC                       .015
   H9
 X1    45815                                       5         5         5              .00
 X2
 X3       10                                                                 653.90    653.90
 BT      -24     866.0    660.70    660.70     903.4    658.30    658.30    1031.2    653.89    653.89
 BT             1082.0    655.76    655.76    1082.4    658.00    655.77    1085.5    658.00    657.85
 BT            1088.99    658.00    646.14    1089.0    658.00    651.00    1089.1    658.00    651.50
 BT             1090.0    658.00    652.30    1092.0    658.00    653.00    1096.0    658.00    653.50
 BT             1100.0    658.00    653.00    1102.0    658.00    652.30    1102.9    658.00    651.50
 BT             1103.0    658.00    651.00    1103.01   658.00    646.14    1103.9    658.00    657.92
 BT             1106.0    658.00    647.50    1116.0    658.00    647.50    1116.2    654.20    654.20
 BT             1137.7    654.42    654.42    1379.4    658.30    658.30    1480.2    669.30    669.30
   H10 (use H9 for bridge calcs)

 X1    45835                                      21        21        21              .00
 X2                                                                     1
 X3       10                                                                 653.90    653.90

 NC      .035      .035       .05
 X1    45840        25    1081.90   1115.80         5         5         5              .00
 X3       10                                                                 654.20    654.20
 GR   659.90     851.7    660.80     865.8    656.00     929.1    654.70     975.8    654.00    1000.1
 GR   654.10    1010.9    654.00    1059.9    654.10    1081.9    651.00    1084.8    648.40    1087.8
 GR   647.70    1089.0    647.10    1091.9    646.90    1095.9    646.90    1100.0    647.30    1101.9
 GR   648.00    1103.7    649.10    1105.9    651.00    1105.9    654.80    1115.8    654.60    1143.0
 GR   655.20    1222.8    655.50    1242.5    655.90    1336.5    656.50    1376.6    659.20    1478.8

 NC      .03       .03        .04       .1        .3
 X1    45870                                      30        30        30              .00
   H11

 X1    45885        10    1204.30   1234.30        15        15        15              .00
 GR   658.30    1000.0    653.88    1161.7    653.11    1204.3    650.75    1207.7    646.84    1211.6
 GR   646.84    1225.6    651.50    1229.8    654.38    1234.3    655.64    1273.1    658.30    1546.0

 X1    46140        28    1089.70   1191.70       255       255       255              .00
 GR   660.00     741.0    660.00     742.0    660.00     743.0    660.00     744.0    660.00     745.0
 GR   655.90     845.8    653.90     898.7    652.40     950.9    652.20     967.6    653.00    1000.0
 GR   653.90    1034.8    652.30    1089.7    650.20    1091.8    649.20    1091.9    648.20    1101.9
```

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 GR   647.90     1113.9     648.00     1121.9     647.80     1132.9     647.50     1146.7     647.60     1153.9
 GR   648.00     1169.7     648.10     1178.7     649.40     1188.7     650.10     1191.0     652.40     1191.7
 GR   654.30     1286.4     654.90     1387.7     659.00     1492.4

 X1    46290         24    1135.20    1467.80        150        150        150                   .00
 GR   659.00      839.0     653.90      995.3     653.80     1000.0     653.70     1014.4     654.70     1042.5
 GR   654.00     1088.4     655.80     1126.4     652.50     1135.2     650.80     1136.9     649.90     1138.5
 GR   648.60     1164.3     648.90     1199.5     648.70     1232.5     648.70     1267.5     648.30     1296.2
 GR   648.00     1332.3     647.70     1371.4     647.80     1404.3     647.90     1427.2     648.50     1454.6
 GR   650.90     1466.5     652.30     1467.8     656.70     1532.5     660.10     1582.1
1
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 NC                                     0.3        0.5
 X1    46540         23    1163.30    1359.10        250        250        250                   .00
 GR   660.00      741.0     660.00      742.0     660.00      743.0     660.00      744.0     660.00      745.0
 GR   654.90     1000.0     654.90     1163.3     650.80     1173.3     650.00     1174.3     648.20     1190.4
 GR   648.50     1202.2     648.90     1220.3     648.70     1245.2     648.70     1275.2     648.60     1305.3
 GR   648.80     1325.3     649.40     1340.1     650.00     1350.2     650.90     1355.3     656.10     1359.1
 GR   656.80     1410.7     657.30     1496.1     660.00     1618.0

 NC      .03        .03        .04
 X1    46610         23    1204.00    1235.80         70         70         70                   .00
 X3   10.                                                                  654.8      654.8
 GR   660.00      801.0     660.00      802.0     660.00      803.0     660.00      804.0     660.00      805.0
 GR   654.90     1000.0     654.20     1062.1     654.70     1141.8     654.60     1204.0     653.10     1208.0
 GR   651.30     1209.1     649.60     1209.2     649.00     1211.1     648.60     1215.0     648.40     1219.0
 GR   648.20     1223.0     648.00     1226.9     648.80     1229.0     651.10     1229.8     652.70     1231.0
 GR   655.60     1235.8     655.90     1305.0     659.40     1440.4
1
    21MAY12      10:31:27                                                                          PAGE    8

     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 43155.000
  43155.000     10.99    654.79       .00    654.79    655.67       .88       .00       .00    667.30
     1480.0        .0    1480.0        .0        .0     197.0        .0        .0        .0    666.70
        .00       .00      7.51       .00      .000      .045      .000      .000    643.80   1025.53
    .006460        0.        0.        0.         0         0         0       .00     22.22   1047.75


 *SECNO 43305.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.00


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000     10.64    655.84       .00       .00    655.91       .06       .16       .08    655.00
     1480.0     425.6     1054.4        .0     354.5     461.2        .0       1.8        .6    661.00
        .02      1.20       2.29       .00      .035      .045      .000      .000    645.20    708.55
    .000404      170.      150.       130.         2         0         0       .00     318.51   1151.16


 *SECNO 43659.000

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

  43659.000     10.18    655.96       .00       .00    655.99       .03       .08       .00    650.60
     1480.0     254.6      517.7     707.7     233.9     333.6     491.4       9.3       3.2    651.86
        .09      1.09       1.55      1.44      .035      .045      .035      .000    645.78   1035.74
    .000149      319.      354.       369.         2         0         0       .00     355.13   1390.87


 *SECNO 43675.000
1
    21MAY12      10:31:27                                                                          PAGE    9

     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

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

43675.000	9.78	655.98	.00	.00	655.99	.01	.00	.00	653.00
1480.0	180.6	331.1	968.2	320.3	350.4	957.2	9.8	3.4	651.50
.09	.56	.95	1.01	.035	.045	.035	.000	646.20	891.53
.000060	16.	16.	16.	1	0	0	.00	411.53	1358.08

*SECNO 43873.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .33

43873.000	10.82	655.93	.00	.00	656.05	.12	.03	.03	649.47
1370.0	241.7	708.4	419.9	106.9	236.5	168.7	14.8	4.7	649.69
.12	2.26	3.00	2.49	.035	.045	.035	.000	645.11	1293.39
.000479	186.	198.	215.	2	0	0	.00	187.12	1508.46

*SECNO 44015.000

44015.000	10.86	656.06	.00	.00	656.11	.04	.05	.01	652.30
1370.0	495.0	875.0	.0	383.8	481.4	.0	17.0	5.4	656.60
.14	1.29	1.82	.00	.035	.045	.000	.000	645.20	923.00
.000269	134.	142.	155.	2	0	0	.00	238.09	1161.09

*SECNO 44186.000

44186.000	10.06	656.10	.00	.00	656.17	.08	.06	.01	651.84
1370.0	280.6	1011.2	78.2	227.5	408.3	47.0	20.1	6.4	652.35
.16	1.23	2.48	1.66	.035	.045	.035	.000	646.04	1016.89
.000413	168.	171.	199.	2	0	0	.00	263.08	1279.97

*SECNO 44335.000

44335.000	9.36	656.16	.00	.00	656.23	.07	.06	.00	648.90
1370.0	519.4	717.6	133.0	313.9	281.5	73.9	22.4	7.3	651.30
.18	1.65	2.55	1.80	.035	.045	.035	.000	646.80	920.20
.000373	147.	149.	156.	1	0	0	.00	270.76	1190.96

1

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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 44530.000

44530.000	9.43	656.23	.00	.00	656.30	.07	.07	.00	648.90
1370.0	530.3	705.9	133.8	331.2	284.3	76.1	25.4	8.5	651.30
.21	1.60	2.48	1.76	.035	.045	.035	.000	646.80	920.20
.000349	195.	195.	195.	0	0	0	.00	271.09	1191.29

CCHV= .300 CEHV= .500
*SECNO 44592.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

44592.000	10.40	656.05	.00	.00	656.56	.51	.04	.22	647.55
1370.0	.0	1370.0	.0	.0	238.3	.0	26.1	8.7	647.56
.21	.00	5.75	.00	.000	.040	.000	.000	645.65	1117.10
.001208	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	10.44	656.08	.00	.00	656.59	.51	.02	.00	647.55
1370.0	.0	1370.0	.0	.0	239.0	.0	26.2	8.7	647.56

.21	.00	5.73	.00	.000	.040	.000	.000	645.64	1117.10
.001197	19.	19.	19.	1	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
PRESSURE FLOW

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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

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
657.37	656.76	.07	0.	1370.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	11.03	656.83	.00	.00	657.37	.54	.78	.00	645.80
1370.0	.0	1370.0	.0	.0	231.6	.0	27.5	8.8	645.80
.22	.00	5.92	.00	.000	.040	.000	.000	645.80	1097.70
.001033	234.	234.	234.	2	0	0	.00	21.00	1118.70

*SECNO 44870.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	11.42	657.13	.00	.00	657.46	.33	.03	.06	645.71
1370.0	.0	1370.0	.0	.0	296.9	.0	27.7	8.9	645.71
.22	.00	4.61	.00	.000	.040	.000	.000	645.71	1095.00
.000600	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	11.43	657.14	.00	.00	657.47	.33	.01	.00	645.71
1370.0	.0	1370.0	.0	.0	297.2	.0	27.8	8.9	645.71
.23	.00	4.61	.00	.000	.040	.000	.000	645.71	1095.00
.000598	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 658.45

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.21

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
661.10	663.84	.98	768.	606.	1.690	84.8	657.50	675.

44970.000	11.66	658.41	.00	.00	658.45	.03	.98	.00	646.75
1370.0	421.9	512.5	435.5	309.0	303.3	360.9	28.7	9.2	646.75
.24	1.37	1.69	1.21	.030	.050	.030	.000	646.75	911.86
.000122	63.	63.	63.	2	0	0	.00	388.93	1300.79

CCHV= .100 CEHV= .300
*SECNO 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.96

45025.000	10.44	658.44	.00	.00	658.45	.01	.00	.00	651.00
1370.0	292.6	308.8	768.6	356.3	418.7	1027.7	31.4	9.9	653.20
.27	.82	.74	.75	.030	.050	.030	.000	648.00	941.57
.000032	5.	65.	130.	0	0	0	.00	397.44	1339.01

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .66

45345.000	10.65	658.45	.00	.00	658.47	.02	.01	.00	652.40
1370.0	646.5	342.3	381.2	557.0	311.8	393.5	42.7	12.4	651.60
.35	1.16	1.10	.97	.030	.050	.030	.000	647.80	958.60
.000074	310.	320.	330.	1	0	0	.00	290.31	1248.91

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.76

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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
45356.000	14.20	658.47	.00	.00	658.48	.01	.00	.00	651.73
1370.0	407.2	818.9	143.9	559.2	1208.3	212.0	44.2	12.6	651.45
.36	.73	.68	.68	.030	.050	.030	.000	644.27	1035.62
.000024	21.	66.	21.	1	0	0	.00	286.96	1322.58

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .22

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	13.76	658.43	.00	.00	658.52	.08	.00	.04	646.67
1370.0	.0	1370.0	.0	.0	589.3	.0	45.4	12.8	646.52
.37	.00	2.32	.00	.000	.050	.000	.000	644.67	1187.40
.000516	39.	39.	39.	2	0	0	-190.39	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	13.78	658.45	.00	.00	658.54	.08	.02	.00	646.67
1370.0	.0	1370.0	.0	.0	589.5	.0	45.9	12.8	646.52
.37	.00	2.32	.00	.000	.050	.000	.000	644.67	1187.40
.000516	40.	40.	40.	0	0	0	-190.85	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.62

45501.000	11.26	658.54	.00	.00	658.55	.01	.00	.01	650.01
1370.0	629.7	267.8	472.5	896.9	380.8	763.5	47.9	13.1	650.34

```
       .40       .70       .70       .62      .030      .040      .030      .000    647.28   1052.08
   .000016       66.       66.       66.         2         0         0       .00    336.53   1388.61


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    21MAY12      10:31:27                                                                          PAGE   14

     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 45650.000
 45650.000     10.14    658.54       .00       .00    658.55       .01       .00       .00    652.10
    1370.0     496.8     294.5     578.7     603.5     334.6     845.2      53.9      14.3    652.10
       .45       .82       .88       .68      .030      .040      .030      .000    648.40   907.16
   .000031       129.      139.      144.         2         0         0       .00    407.50   1314.66


CCHV=     .300 CEHV=     .500
*SECNO 45750.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

 45750.000     11.15    658.55       .00       .00    658.56       .01       .00       .00    654.20
    820.0      485.7     204.8     129.5     646.8     237.7     226.4      57.3      15.1    654.50
       .49       .75       .86       .57      .030      .040      .030      .000    647.40   916.29
   .000040       100.      100.      100.         0         0         0       .00    324.52   1240.81


*SECNO 45755.000

3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

 45755.000     11.14    658.54       .00       .00    658.56       .02       .00       .00    654.20
    820.0      394.5     320.3     105.2     647.2     210.4     226.6      57.4      15.2    654.50
       .49       .61      1.52       .46      .030      .015      .030      .000    647.40   916.25
   .000027         5.        5.        5.         0         0         0    -27.32    324.60   1240.86


*SECNO 45757.000

3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

 45757.000     11.14    658.54       .00       .00    658.56       .02       .00       .00    654.20
    820.0      394.4     320.5     105.1     646.4     210.3     226.1      57.4      15.2    654.50
       .49       .61      1.52       .46      .030      .015      .030      .000    647.40   916.33
   .000027         2.        2.        2.         0         0         0    -27.32    324.43   1240.76


*SECNO 45760.000
 45760.000     11.15    658.55       .00       .00    658.56       .01       .00       .00    654.20
    820.0      511.3     172.3     136.4     647.4     237.8     226.7      57.5      15.2    654.50
       .49       .79       .72       .60      .030      .050      .030      .000    647.40   916.23
   .000045         3.        3.        3.         1         0         0       .00    324.66   1240.89


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     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 45785.000
 45785.000     11.16    658.56       .00       .00    658.56       .01       .00       .00    654.20
    820.0      511.3     172.0     136.6     648.7     238.0     227.4      58.2      15.4    654.50
       .50       .79       .72       .60      .030      .050      .030      .000    647.40   916.10
   .000044       25.       25.       25.         0         0         0       .00    324.93   1241.03


CCHV=     .300 CEHV=     .500
*SECNO 45810.000
 45810.000     12.42    658.56       .00       .00    658.57       .01       .00       .00    646.14
    820.0      327.6     170.6     321.8     534.2     173.8     617.7      58.9      15.6    646.14
       .51       .61       .98       .52      .030      .050      .030      .000    646.14   899.40
   .000038       25.       25.       25.         0         0         0       .00    482.35   1381.75


*SECNO 45815.000

3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50
```

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	12.42	658.56	.00	.00	658.57	.01	.00	.00	646.14
820.0	348.4	121.2	350.5	509.5	102.1	604.5	59.0	15.7	646.14
.51	.68	1.19	.58	.030	.015	.030	.000	646.14	899.37
.000046	5.	5.	5.	0	0	0	-110.68	482.40	1381.77

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	12.42	658.56	.00	.00	658.57	.01	.00	.00	646.14
820.0	348.4	121.1	350.5	509.5	102.1	604.5	59.6	15.9	646.14
.52	.68	1.19	.58	.030	.015	.030	.000	646.14	899.37
.000046	21.	21.	21.	0	0	0	-110.68	482.40	1381.77

*SECNO 45840.000

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

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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
45840.000	11.67	658.57	.00	.00	658.57	.00	.00	.00	654.10
820.0	310.9	155.0	354.2	664.2	302.5	903.8	59.8	16.0	654.80
.52	.47	.51	.39	.035	.050	.035	.000	646.90	895.35
.000020	5.	5.	5.	0	0	0	.00	559.19	1454.54

CCHV= .100 CEHV= .300
*SECNO 45870.000

45870.000	11.67	658.57	.00	.00	658.57	.00	.00	.00	654.10
820.0	306.7	163.5	349.8	665.7	302.7	906.5	61.1	16.3	654.80
.54	.46	.54	.39	.030	.040	.030	.000	646.90	895.25
.000014	30.	30.	30.	0	0	0	.00	559.59	1454.84

*SECNO 45885.000
3280 CROSS SECTION 45885.00 EXTENDED .27 FEET

45885.000	11.72	658.57	.00	.00	658.57	.01	.00	.00	653.11
820.0	354.3	228.7	237.0	616.6	289.6	573.8	61.6	16.5	654.38
.55	.57	.79	.41	.030	.040	.030	.000	646.84	1000.00
.000027	15.	15.	15.	0	0	0	.00	546.00	1546.00

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.27

46140.000	11.07	658.57	.00	.00	658.57	.00	.00	.00	652.30
820.0	308.4	293.6	218.0	1341.4	1062.1	1068.5	76.1	20.2	652.40
.84	.23	.28	.20	.030	.040	.030	.000	647.50	780.15
.000003	255.	255.	255.	0	0	0	.00	701.27	1481.43

*SECNO 46290.000

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

46290.000	10.87	658.57	.00	.00	658.57	.00	.00	.00	652.50
820.0	119.2	661.7	39.1	921.8	3364.8	289.2	90.0	22.6	652.30
1.07	.13	.20	.14	.030	.040	.030	.000	647.70	852.05
.000001	150.	150.	150.	0	0	0	.00	707.78	1559.84

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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= .300 CEHV= .500

*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .58

46540.000	10.37	658.57	.00	.00	658.57	.00	.00	.00	654.90
820.0	188.8	594.1	37.1	937.0	1843.4	276.2	111.9	26.8	656.10
1.31	.20	.32	.13	.030	.040	.030	.000	648.20	816.35
.000004	250.	250.	250.	0	0	0	.00	737.22	1553.57

*SECNO 46610.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

46610.000	10.57	658.57	.00	.00	658.58	.00	.00	.00	654.60
820.0	541.9	155.8	122.4	1080.3	262.2	333.5	115.7	27.8	655.60
1.35	.50	.59	.37	.030	.040	.030	.000	648.00	859.57
.000020	70.	70.	70.	0	0	0	.00	548.83	1408.40

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T1 ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3 HEC-1 100-YEAR 12-HOUR DURATION FLOWS USED

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3			0	0	0	0	653.68	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2		-1							

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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 2
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	9.88	653.68	.00	653.68	654.42	.74	.00	.00	667.30
1189.0	.0	1189.0	.0	.0	172.4	.0	.0	.0	666.70
.00	.00	6.90	.00	.000	.045	.000	.000	643.80	1025.60
.006038	0.	0.	0.	0	0	0	.00	22.06	1047.66

*SECNO 43305.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.57

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	9.41	654.61	.00	.00	654.76	.15	.28	.06	655.00
1189.0	.0	1189.0	.0	.0	381.3	.0	1.0	.1	661.00
.01	.00	3.12	.00	.000	.045	.000	.000	645.20	1085.77
.000912	170.	150.	130.	2	0	0	.00	63.31	1149.08

*SECNO 43659.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.09

43659.000	9.09	654.87	.00	.00	654.91	.04	.14	.01	650.60
1189.0	169.3	480.8	539.0	135.1	288.8	371.8	5.7	1.2	651.86
.08	1.25	1.66	1.45	.035	.045	.035	.000	645.78	1188.79
.000208	319.	354.	369.	2	0	0	.00	198.48	1387.27

*SECNO 43675.000

3265 DIVIDED FLOW

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

43675.000	8.70	654.90	.00	.00	654.91	.02	.00	.00	653.00
1189.0	78.7	306.1	804.2	163.9	299.2	761.1	6.1	1.3	651.50
.08	.48	1.02	1.06	.035	.045	.035	.000	646.20	978.29
.000087	16.	16.	16.	1	0	0	.00	359.24	1355.92

*SECNO 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

43873.000	9.77	654.88	.00	.00	654.97	.09	.03	.02	649.47
951.0	148.9	550.1	252.1	70.6	210.8	121.1	10.0	2.3	649.69
.11	2.11	2.61	2.08	.035	.045	.035	.000	645.11	1416.06
.000424	186.	198.	215.	2	0	0	.00	85.66	1501.72

*SECNO 44015.000

44015.000	9.78	654.98	.00	.00	655.02	.04	.05	.00	652.30
951.0	215.3	735.7	.0	206.5	402.3	.0	11.6	2.9	656.60
.13	1.04	1.83	.00	.035	.045	.000	.000	645.20	923.00
.000321	134.	142.	155.	2	0	0	.00	233.82	1156.82

*SECNO 44186.000

44186.000	8.98	655.02	.00	.00	655.10	.08	.07	.01	651.84
951.0	90.0	820.7	40.3	73.3	348.2	28.0	13.7	3.6	652.35
.15	1.23	2.36	1.44	.035	.045	.035	.000	646.04	1106.10
.000463	168.	171.	199.	2	0	0	.00	170.12	1276.22

*SECNO 44335.000

44335.000	8.28	655.08	.00	.00	655.16	.08	.06	.00	648.90
951.0	278.9	594.7	77.4	142.7	245.1	48.4	15.2	4.2	651.30
.17	1.95	2.43	1.60	.035	.045	.035	.000	646.80	1037.18
.000407	147.	149.	156.	0	0	0	.00	149.44	1186.62

*SECNO 44530.000

44530.000	8.37	655.17	.00	.00	655.24	.07	.08	.00	648.90
951.0	283.8	588.0	79.2	152.2	248.2	50.4	17.2	4.9	651.30
.20	1.86	2.37	1.57	.035	.045	.035	.000	646.80	1010.68
.000381	195.	195.	195.	0	0	0	.00	176.31	1186.98

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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= .300 CEHV= .500
*SECNO 44592.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

44592.000	9.44	655.09	.00	.00	655.39	.30	.04	.11	647.55
951.0	.0	951.0	.0	.0	216.0	.0	17.7	5.1	647.56
.20	.00	4.40	.00	.000	.040	.000	.000	645.65	1117.10
.000807	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	9.46	655.10	.00	.00	655.40	.30	.02	.00	647.55
951.0	.0	951.0	.0	.0	216.5	.0	17.8	5.1	647.56
.20	.00	4.39	.00	.000	.040	.000	.000	645.64	1117.10

.000802	19.	19.	19.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
655.73	655.50	.03	0.	951.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	9.58	655.38	.00	.00	655.73	.35	.32	.00	645.80
951.0	.0	951.0	.0	.0	201.2	.0	18.9	5.2	645.80
.22	.00	4.73	.00	.000	.040	.000	.000	645.80	1097.70
.000795	234.	234.	234.	2	0	0	.00	21.00	1118.70

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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 44870.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	9.86	655.57	.00	.00	655.79	.21	.02	.04	645.71
951.0	.0	951.0	.0	.0	256.5	.0	19.1	5.2	645.71
.22	.00	3.71	.00	.000	.040	.000	.000	645.71	1095.00
.000471	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	9.87	655.58	.00	.00	655.79	.21	.01	.00	645.71
951.0	.0	951.0	.0	.0	256.7	.0	19.1	5.2	645.71
.22	.00	3.71	.00	.000	.040	.000	.000	645.71	1095.00
.000470	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG = 657.92

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

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
655.72	658.81	2.13	143.	810.	1.362	84.8	657.50	339.

44970.000	11.15	657.90	.00	.00	657.92	.02	2.13	.00	646.75
951.0	280.5	394.9	275.6	243.4	289.9	291.9	19.9	5.4	646.75
.23	1.15	1.36	.94	.030	.050	.030	.000	646.75	1015.23
.000084	63.	63.	63.	2	0	0	.00	251.43	1266.66

CCHV= .100 CEHV= .300

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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 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.97

45025.000	9.92	657.92	.00	.00	657.93	.01	.00	.00	651.00
951.0	201.1	232.4	517.5	307.2	396.4	899.0	22.3	6.0	653.20
.27	.65	.59	.58	.030	.050	.030	.000	648.00	955.36
.000022	5.	65.	130.	0	0	0	.00	374.97	1330.33

*SECNO 45345.000

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

45345.000	10.13	657.93	.00	.00	657.94	.01	.01	.00	652.40
951.0	437.6	257.9	255.5	483.8	294.3	335.4	32.3	8.4	651.60
.37	.90	.88	.76	.030	.050	.030	.000	647.80	965.52
.000051	310.	320.	330.	1	0	0	.00	274.58	1240.10

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.86

45356.000	13.67	657.94	.00	.00	657.94	.00	.00	.00	651.73
951.0	268.8	589.6	92.7	498.0	1145.7	184.8	33.7	8.7	651.45
.40	.54	.51	.50	.030	.050	.030	.000	644.27	1038.92
.000015	21.	66.	21.	0	0	0	.00	281.22	1320.14

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .25

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

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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

45395.000	13.25	657.92	.00	.00	657.96	.04	.00	.02	646.67
951.0	.0	951.0	.0	.0	576.9	.0	34.8	8.8	646.52
.40	.00	1.65	.00	.000	.050	.000	.000	644.67	1187.40
.000243	39.	39.	39.	1	0	0	-170.70	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	13.26	657.93	.00	.00	657.97	.04	.01	.00	646.67
951.0	.0	951.0	.0	.0	576.8	.0	35.3	8.8	646.52
.41	.00	1.65	.00	.000	.050	.000	.000	644.67	1187.40
.000243	40.	40.	40.	0	0	0	-170.55	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.80

45501.000	10.70	657.98	.00	.00	657.98	.00	.00	.00	650.01
951.0	437.8	196.9	316.3	816.1	360.6	675.1	37.2	9.1	650.34
.44	.54	.55	.47	.030	.040	.030	.000	647.28	1054.62

```
    .000011       66.       66.       66.         2         0         0       .00    332.33   1386.95


 *SECNO 45650.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .70

  45650.000      9.58    657.98       .00       .00    657.98       .01       .00       .00    652.10
      951.0     346.8     223.8     380.4     528.0     314.5     717.8      42.5      10.3    652.10
        .51       .66       .71       .53      .030      .040      .030      .000    648.40    915.90
    .000022       129.      139.      144.         1         0         0       .00    391.56   1307.46


 CCHV=     .300 CEHV=     .500
 *SECNO 45750.000
1
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     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


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .50

  45750.000     10.58    657.98       .00       .00    657.98       .00       .00       .00    654.20
       96.0      55.8      27.1      13.1     541.7     221.3     170.4      45.4      11.1    654.50
        .77       .10       .12       .08      .030      .040      .030      .000    647.40    927.22
    .000001       100.      100.      100.         0         0         0       .00    301.29   1228.52


 *SECNO 45755.000

 3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

  45755.000     10.58    657.98       .00       .00    657.99       .00       .00       .00    654.20
       96.0      44.6      40.9      10.5     543.0     194.1     171.0      45.5      11.1    654.50
        .78       .08       .21       .06      .030      .015      .030      .000    647.40    927.09
    .000001         5.        5.        5.         0         0         0    -27.32    301.59   1228.67


 *SECNO 45757.000

 3370 NORMAL BRIDGE, NRD=  23 MIN ELTRD=   651.00 MAX ELLC=   654.50

  45757.000     10.58    657.98       .00       .00    657.99       .00       .00       .00    654.20
       96.0      44.6      40.9      10.5     542.9     194.1     171.0      45.6      11.1    654.50
        .78       .08       .21       .06      .030      .015      .030      .000    647.40    927.09
    .000001         2.        2.        2.         0         0         0    -27.32    301.58   1228.67


 *SECNO 45760.000
  45760.000     10.58    657.98       .00       .00    657.99       .00       .00       .00    654.20
       96.0      59.2      22.9      13.9     542.9     221.5     171.0      45.6      11.1    654.50
        .79       .11       .10       .08      .030      .050      .030      .000    647.40    927.09
    .000001         3.        3.        3.         0         0         0       .00    301.58   1228.67


 *SECNO 45785.000
  45785.000     10.58    657.98       .00       .00    657.99       .00       .00       .00    654.20
       96.0      59.2      22.9      13.9     543.0     221.5     171.1      46.2      11.3    654.50
        .86       .11       .10       .08      .030      .050      .030      .000    647.40    927.08
    .000001        25.       25.       25.         0         0         0       .00    301.59   1228.67


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     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=     .300 CEHV=     .500
 *SECNO 45810.000
  45810.000     11.84    657.98       .00       .00    657.99       .00       .00       .00    646.14
       96.0      37.5      25.1      33.4     429.0     165.8     462.6      46.7      11.5    646.14
        .93       .09       .15       .07      .030      .050      .030      .000    646.14    912.53
    .000001        25.       25.       25.         0         0         0       .00    447.24   1359.77


 *SECNO 45815.000
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3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	11.84	657.98	.00	.00	657.99	.00	.00	.00	646.14
96.0	38.9	21.4	35.7	404.1	94.3	448.9	46.8	11.6	646.14
.94	.10	.23	.08	.030	.015	.030	.000	646.14	912.53
.000001	5.	5.	5.	0	0	0	-110.18	447.24	1359.77

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	11.84	657.98	.00	.00	657.99	.00	.00	.00	646.14
96.0	38.9	21.4	35.7	404.1	94.3	448.9	47.3	11.8	646.14
.99	.10	.23	.08	.030	.015	.030	.000	646.14	912.53
.000001	21.	21.	21.	0	0	0	-110.18	447.24	1359.77

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

45840.000	11.09	657.99	.00	.00	657.99	.00	.00	.00	654.10
96.0	36.6	21.2	38.3	559.2	283.0	715.5	47.4	11.9	654.80
1.01	.07	.07	.05	.035	.050	.035	.000	646.90	902.92
.000000	5.	5.	5.	0	0	0	.00	529.88	1432.81

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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 45870.000

45870.000	11.09	657.99	.00	.00	657.99	.00	.00	.00	654.10
96.0	36.0	22.3	37.7	559.3	283.0	715.6	48.5	12.2	654.80
1.14	.06	.08	.05	.030	.040	.030	.000	646.90	902.92
.000000	30.	30.	30.	0	0	0	.00	529.90	1432.82

*SECNO 45885.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .70

45885.000	11.15	657.99	.00	.00	657.99	.00	.00	.00	653.11
96.0	41.3	32.3	22.4	499.5	272.2	397.6	49.0	12.4	654.38
1.19	.08	.12	.06	.030	.040	.030	.000	646.84	1011.52
.000001	15.	15.	15.	0	0	0	.00	502.18	1513.70

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.67

46140.000	10.49	657.99	.00	.00	657.99	.00	.00	.00	652.30
96.0	35.0	37.2	23.8	1164.5	1002.4	903.4	61.4	15.8	652.40
3.41	.03	.04	.03	.030	.040	.030	.000	647.50	794.53
.000000	255.	255.	255.	0	0	0	.00	671.95	1466.49

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.47

46290.000	10.29	657.99	.00	.00	657.99	.00	.00	.00	652.50
96.0	12.0	80.0	4.0	760.4	3169.0	237.6	73.9	18.2	652.30
5.17	.02	.03	.02	.030	.040	.030	.000	647.70	870.10
.000000	150.	150.	150.	0	0	0	.00	681.15	1551.25

CCHV= .300 CEHV= .500
*SECNO 46540.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .55

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     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

  46540.000       9.79     657.99        .00        .00     657.99        .00        .00        .00     654.90
       96.0       18.9       74.5        2.6      741.8     1728.4      169.7       93.4       22.1     656.10
       6.96        .03        .04        .02       .030       .040       .030       .000     648.20     845.74
    .000000      250.       250.       250.          0          0          0        .00     681.30    1527.04


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .40

  46610.000       9.99     657.99        .00        .00     657.99        .00        .00        .00     654.60
       96.0       62.7       21.3       11.9      884.5      243.5      238.8       96.6       23.0     655.60
       7.23        .07        .09        .05       .030       .040       .030       .000     648.00     882.03
    .000000       70.        70.        70.          0          0          0        .00     503.64    1385.67


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED: 50-YEAR 12-HOUR DURATION

 J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                  4          0          0          0          0          0          0     653.08

 J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

       3                    -1

1
    21MAY12      10:31:27                                                                                PAGE   30

     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 3
0

 CCHV=      .100 CEHV=      .300
 *SECNO 43155.000
  43155.000       9.28     653.08        .00     653.08     653.72        .64        .00        .00     667.30
     1021.0         .0     1021.0         .0         .0      159.2         .0         .0         .0     666.70
        .00        .00       6.41        .00       .000       .045       .000       .000     643.80    1025.64
    .005571         0.         0.         0.          0          0          0        .00      21.97    1047.61


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.42


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000       8.71     653.91        .00        .00     654.05        .14        .29        .05     655.00
     1021.0         .0     1021.0         .0         .0      338.1         .0         .9         .1     661.00
        .01        .00       3.02        .00       .000       .045       .000       .000     645.20    1086.97
    .000951       170.       150.       130.          0          0          0        .00      60.93    1147.90


 *SECNO 43659.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.88

  43659.000       8.41     654.19        .00        .00     654.23        .04        .16        .01     650.60
     1021.0      124.8       461.0      435.2      102.2      260.7      298.7        4.9        1.2     651.86
        .08       1.22       1.77       1.46       .035       .045       .035       .000     645.78    1191.73
    .000269       319.       354.       369.          2          0          0        .00     193.36    1385.10


 *SECNO 43675.000

 3265 DIVIDED FLOW
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3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

43675.000	8.01	654.21	.00	.00	654.23	.02	.00	.00	653.00
1021.0	29.0	292.1	699.9	77.9	266.9	638.6	5.2	1.3	651.50
.08	.37	1.09	1.10	.035	.045	.035	.000	646.20	981.49
.000116	16.	16.	16.	1	0	0	.00	346.11	1354.57

1

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

43873.000	9.09	654.20	.00	.00	654.29	.09	.04	.02	649.47
802.0	117.5	496.7	187.8	57.8	194.5	95.2	8.4	2.3	649.69
.11	2.03	2.55	1.97	.035	.045	.035	.000	645.11	1417.78
.000452	186.	198.	215.	2	0	0	.00	78.26	1496.04

*SECNO 44015.000

44015.000	9.10	654.30	.00	.00	654.36	.05	.06	.00	652.30
802.0	106.4	695.6	.0	110.0	355.5	.0	9.7	2.7	656.60
.13	.97	1.96	.00	.035	.045	.000	.000	645.20	975.63
.000412	134.	142.	155.	2	0	0	.00	178.54	1154.16

*SECNO 44186.000

44186.000	8.32	654.36	.00	.00	654.44	.08	.08	.01	651.84
802.0	48.0	730.0	24.0	38.2	312.0	18.6	11.3	3.2	652.35
.15	1.26	2.34	1.29	.035	.045	.035	.000	646.04	1172.05
.000528	168.	171.	199.	1	0	0	.00	101.91	1273.97

*SECNO 44335.000

44335.000	7.64	654.44	.00	.00	654.52	.08	.07	.00	648.90
802.0	213.6	536.0	52.3	100.4	223.3	35.3	12.6	3.6	651.30
.17	2.13	2.40	1.48	.035	.045	.035	.000	646.80	1085.33
.000451	147.	149.	156.	0	0	0	.00	98.68	1184.01

*SECNO 44530.000

44530.000	7.72	654.52	.00	.00	654.60	.08	.09	.00	648.90
802.0	216.3	531.3	54.4	105.0	226.5	37.1	14.2	4.0	651.30
.19	2.06	2.35	1.47	.035	.045	.035	.000	646.80	1081.18
.000422	195.	195.	195.	0	0	0	.00	103.22	1184.40

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

1

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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

44592.000	8.83	654.48	.00	.00	654.72	.25	.04	.08	647.55
802.0	.0	802.0	.0	.0	201.9	.0	14.6	4.1	647.56
.20	.00	3.97	.00	.000	.040	.000	.000	645.65	1117.10
.000719	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	8.85	654.49	.00	.00	654.74	.24	.01	.00	647.55
802.0	.0	802.0	.0	.0	202.4	.0	14.7	4.1	647.56
.20	.00	3.96	.00	.000	.040	.000	.000	645.64	1117.10
.000714	19.	19.	19.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 654.54 BRIDGE VELOCITY= 4.55 CALCULATED CHANNEL AREA= 175.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	654.82	.03	0.	802.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	8.72	654.52	.00	.00	654.82	.30	.08	.00	645.80
802.0	.0	802.0	.0	.0	183.1	.0	15.8	4.2	645.80
.21	.00	4.38	.00	.000	.040	.000	.000	645.80	1097.70
.000775	234.	234.	234.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	8.98	654.69	.00	.00	654.87	.18	.02	.03	645.71
802.0	.0	802.0	.0	.0	233.4	.0	15.9	4.3	645.71
.21	.00	3.44	.00	.000	.040	.000	.000	645.71	1095.00
.000458	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	8.98	654.69	.00	.00	654.88	.18	.01	.00	645.71
802.0	.0	802.0	.0	.0	233.6	.0	16.0	4.3	645.71
.22	.00	3.43	.00	.000	.040	.000	.000	645.71	1095.00
.000457	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 654.408 EGOC = 656.990 PCWSE= 654.694 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
654.41	656.99	2.11	0.	802.	3.056	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	10.10	656.85	.00	.00	656.99	.14	2.11	.00	646.75
802.0	.0	802.0	.0	.0	262.5	.0	16.4	4.3	646.75
.22	.00	3.06	.00	.000	.050	.000	.000	646.75	1115.00
.000484	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.99

45025.000	9.00	657.00	.00	.00	657.01	.01	.01	.01	651.00
802.0	168.4	231.3	402.3	239.2	357.0	682.3	17.9	4.7	653.20
.25	.70	.65	.59	.030	.050	.030	.000	648.00	975.50
.000030	5.	65.	130.	2	0	0	.00	339.46	1314.96

*SECNO 45345.000

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

45345.000	9.21	657.01	.00	.00	657.03	.01	.01	.00	652.40
802.0	345.4	256.3	200.3	364.4	263.8	244.9	25.8	6.9	651.60
.35	.95	.97	.82	.030	.050	.030	.000	647.80	977.61
.000072	310.	320.	330.	2	0	0	.00	247.08	1224.70

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.08

45356.000	12.76	657.03	.00	.00	657.03	.00	.00	.00	651.73
802.0	202.5	532.2	67.3	397.2	1038.5	141.7	27.1	7.1	651.45
.37	.51	.51	.48	.030	.050	.030	.000	644.27	1044.56
.000017	21.	66.	21.	1	0	0	.00	270.65	1315.21

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .31

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	12.34	657.01	.00	.00	657.05	.03	.00	.01	646.67
802.0	.0	802.0	.0	.0	546.6	.0	28.0	7.2	646.52
.38	.00	1.47	.00	.000	.050	.000	.000	644.67	1187.40
.000172	39.	39.	39.	1	0	0	-142.81	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	12.35	657.02	.00	.00	657.05	.03	.01	.00	646.67
802.0	.0	802.0	.0	.0	546.4	.0	28.5	7.3	646.52
.39	.00	1.47	.00	.000	.050	.000	.000	644.67	1187.40
.000172	40.	40.	40.	0	0	0	-142.72	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.66

45501.000	9.77	657.05	.00	.00	657.06	.00	.00	.00	650.01
802.0	369.3	185.0	247.7	687.8	327.8	533.2	30.1	7.5	650.34
.42	.54	.56	.46	.030	.040	.030	.000	647.28	1058.75

.000013	66.	66.	66.	2	0	0	.00	325.51	1384.26

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .63

45650.000	8.65	657.05	.00	.00	657.06	.01	.00	.00	652.10
802.0	296.2	225.7	280.1	413.7	281.3	515.8	34.4	8.6	652.10
.48	.72	.80	.54	.030	.040	.030	.000	648.40	930.36
.000032	129.	139.	144.	1	0	0	.00	365.20	1295.56

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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= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .46

45750.000	9.67	657.07	.00	.00	657.07	.00	.00	.00	654.20
91.0	49.9	32.5	8.6	384.3	194.5	94.4	36.6	9.4	654.50
.68	.13	.17	.09	.030	.040	.030	.000	647.40	944.96
.000002	100.	100.	100.	0	0	0	.00	263.60	1208.57

*SECNO 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	9.67	657.07	.00	.00	657.07	.00	.00	.00	654.20
91.0	38.5	45.9	6.6	385.7	167.5	95.0	36.7	9.4	654.50
.69	.10	.27	.07	.030	.015	.030	.000	647.40	944.79
.000001	5.	5.	5.	0	0	0	-27.32	263.96	1208.76

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	9.67	657.07	.00	.00	657.07	.00	.00	.00	654.20
91.0	38.5	45.9	6.6	385.7	167.5	95.0	36.7	9.4	654.50
.69	.10	.27	.07	.030	.015	.030	.000	647.40	944.80
.000001	2.	2.	2.	0	0	0	-27.32	263.95	1208.75

*SECNO 45760.000

45760.000	9.67	657.07	.00	.00	657.07	.00	.00	.00	654.20
91.0	53.8	27.9	9.3	385.7	194.8	95.0	36.8	9.4	654.50
.70	.14	.14	.10	.030	.050	.030	.000	647.40	944.80
.000002	3.	3.	3.	0	0	0	.00	263.95	1208.75

*SECNO 45785.000

45785.000	9.67	657.07	.00	.00	657.07	.00	.00	.00	654.20
91.0	53.8	27.9	9.3	385.8	194.8	95.0	37.1	9.6	654.50
.75	.14	.14	.10	.030	.050	.030	.000	647.40	944.79
.000002	25.	25.	25.	0	0	0	.00	263.98	1208.76

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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= .300 CEHV= .500
*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	10.93	657.07	.00	.00	657.07	.00	.00	.00	646.14
91.0	32.3	34.8	23.8	279.7	153.0	256.5	37.5	9.8	646.14
.79	.12	.23	.09	.030	.050	.030	.000	646.14	939.16
.000002	25.	25.	25.	0	0	0	.00	353.65	1302.53

*SECNO 45815.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45815.000	10.93	657.07	.00	.00	657.07	.00	.00	.00	646.14
91.0	32.4	33.4	25.2	260.3	94.3	251.2	37.6	9.8	646.14
.80	.12	.35	.10	.030	.015	.030	.000	646.14	939.16
.000003	5.	5.	5.	0	0	0	-83.33	353.65	1302.53

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS 1116.00 1116.20

45835.000	10.93	657.07	.00	.00	657.07	.00	.00	.00	646.14
91.0	32.4	33.4	25.2	260.2	94.3	251.2	37.9	10.0	646.14
.83	.12	.35	.10	.030	.015	.030	.000	646.14	939.16
.000003	21.	21.	21.	0	0	0	-83.33	353.63	1302.52

*SECNO 45840.000

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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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.56

45840.000	10.17	657.07	.00	.00	657.07	.00	.00	.00	654.10
91.0	34.5	27.4	29.1	400.3	251.8	440.2	38.0	10.0	654.80
.84	.09	.11	.07	.035	.050	.035	.000	646.90	915.04
.000001	5.	5.	5.	0	0	0	.00	482.97	1398.02

CCHV= .100 CEHV= .300

*SECNO 45870.000

45870.000	10.17	657.07	.00	.00	657.07	.00	.00	.00	654.10
91.0	33.8	28.7	28.5	400.5	251.9	440.5	38.7	10.3	654.80
.94	.08	.11	.06	.030	.040	.030	.000	646.90	915.03
.000001	30.	30.	30.	0	0	0	.00	483.03	1398.06

*SECNO 45885.000

45885.000	10.23	657.07	.00	.00	657.07	.00	.00	.00	653.11
91.0	37.2	40.8	13.0	337.9	244.6	184.2	39.1	10.5	654.38
.97	.11	.17	.07	.030	.040	.030	.000	646.84	1045.11
.000002	15.	15.	15.	0	0	0	.00	374.37	1419.48

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.30

46140.000	9.57	657.07	.00	.00	657.07	.00	.00	.00	652.30
91.0	30.9	40.7	19.4	903.8	908.7	661.9	48.6	13.4	652.40
2.84	.03	.04	.03	.030	.040	.030	.000	647.50	817.11
.000000	255.	255.	255.	0	0	0	.00	625.93	1443.04

*SECNO 46290.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.60

46290.000	9.37	657.07	.00	.00	657.07	.00	.00	.00	652.50
91.0	8.4	79.9	2.8	529.9	2863.6	167.1	58.9	15.6	652.30
4.42	.02	.03	.02	.030	.040	.030	.000	647.70	898.23
.000000	150.	150.	150.	0	0	0	.00	639.62	1537.86

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     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=      .300 CEHV=      .500
 *SECNO 46540.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

  46540.000       8.87     657.07       .00        .00     657.07        .00        .00        .00     654.90
       91.0       12.3       78.3        .4      471.3     1548.6       37.9       75.1       19.1     656.10
       5.89        .03        .05        .01       .030       .040       .030       .000     648.20     891.65
    .000000       250.       250.       250.          0          0          0        .00     564.67    1456.32


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .32

  46610.000       9.07     657.07       .00        .00     657.07        .00        .00        .00     654.60
       91.0       56.7       27.4        6.9      605.0      214.3      117.5       77.5       19.9     655.60
       6.09        .09        .13        .06       .030       .040       .030       .000     648.00     917.14
    .000001         70.        70.        70.          0          0          0        .00     433.00    1350.15


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED: 25-YEAR 12-HOUR DURATION

 J1  ICHECK    INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                 5                                0                                        652.36

 J2  NPROF     IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

       4                  -1

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     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 4
0

 CCHV=      .100 CEHV=      .300
 *SECNO 43155.000
  43155.000       8.56     652.36       .00     652.36     652.86        .50        .00        .00     667.30
       812.0         .0      812.0         .0         .0      143.4         .0         .0         .0     666.70
         .00        .00       5.66        .00       .000       .045       .000       .000     643.80    1025.68
    .004739         0.         0.         0.          0          0          0        .00      21.87    1047.55


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.21


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000       7.85     653.05       .00        .00     653.17        .12        .28        .04     655.00
       812.0         .0      812.0         .0         .0      286.5         .0         .7         .1     661.00
         .01        .00       2.83        .00       .000       .045       .000       .000     645.20    1088.47
    .000973       170.       150.       130.          2          0          0        .00      57.96    1146.43


 *SECNO 43659.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.59

  43659.000       7.56     653.34       .00        .00     653.39        .04        .21        .01     650.60
       812.0       71.5      435.2     305.3       64.3      225.9      210.2        3.9        1.1     651.86
         .07       1.11       1.93       1.45       .035       .045       .035       .000     645.78    1195.37
    .000387       319.       354.       369.          2          0          0        .00     187.53    1382.89
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*SECNO 43675.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

43675.000	7.17	653.37	.00	.00	653.39	.02	.00	.00	653.00
812.0	1.5	265.6	544.9	7.8	227.5	490.3	4.2	1.2	651.50
.08	.19	1.17	1.11	.035	.045	.035	.000	646.20	1087.62
.000164	16.	16.	16.	2	0	0	.00	265.30	1352.91

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

43873.000	8.27	653.38	.00	.00	653.46	.08	.05	.02	649.47
641.0	84.2	434.4	122.4	43.8	174.4	68.5	6.6	2.0	649.69
.10	1.93	2.49	1.79	.035	.045	.035	.000	645.11	1419.90
.000497	186.	198.	215.	2	0	0	.00	69.58	1489.49

*SECNO 44015.000

44015.000	8.27	653.47	.00	.00	653.54	.06	.07	.00	652.30
641.0	22.5	618.5	.0	34.3	300.5	.0	7.6	2.3	656.60
.12	.66	2.06	.00	.035	.045	.000	.000	645.20	1011.19
.000534	134.	142.	155.	2	0	0	.00	139.72	1150.91

*SECNO 44186.000

44186.000	7.52	653.56	.00	.00	653.64	.08	.10	.00	651.84
641.0	16.8	615.4	8.8	17.0	267.1	8.9	8.8	2.8	652.35
.14	.99	2.30	.99	.035	.045	.035	.000	646.04	1184.70
.000630	168.	171.	199.	0	0	0	.00	86.46	1271.16

*SECNO 44335.000

44335.000	6.85	653.65	.00	.00	653.72	.08	.08	.00	648.90
641.0	156.7	457.2	27.2	75.3	196.7	21.6	9.8	3.1	651.30
.16	2.08	2.32	1.26	.035	.045	.035	.000	646.80	1105.41
.000501	147.	149.	156.	0	0	0	.00	75.43	1180.84

*SECNO 44530.000

44530.000	6.95	653.75	.00	.00	653.82	.07	.09	.00	648.90
641.0	158.2	453.6	29.2	78.0	200.1	23.3	11.2	3.4	651.30
.19	2.03	2.27	1.25	.035	.045	.035	.000	646.80	1105.00
.000465	195.	195.	195.	1	0	0	.00	76.26	1181.25

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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

44592.000	8.07	653.72	.00	.00	653.91	.19	.04	.06	647.55
641.0	.0	641.0	.0	.0	184.5	.0	11.5	3.5	647.56
.19	.00	3.47	.00	.000	.040	.000	.000	645.65	1117.10
.000620	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	8.10	653.74	.00	.00	653.92	.19	.01	.00	647.55
641.0	.0	641.0	.0	.0	185.0	.0	11.6	3.5	647.56
.19	.00	3.47	.00	.000	.040	.000	.000	645.64	1117.10

.000615	19.	19.	19.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 653.79 BRIDGE VELOCITY= 3.97 CALCULATED CHANNEL AREA= 160.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	653.99	.02	0.	641.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	7.96	653.76	.00	.00	653.99	.23	.06	.00	645.80
641.0	.0	641.0	.0	.0	167.1	.0	12.6	3.6	645.80
.21	.00	3.84	.00	.000	.040	.000	.000	645.80	1097.70
.000671	234.	234.	234.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	8.18	653.89	.00	.00	654.03	.14	.02	.03	645.71
641.0	.0	641.0	.0	.0	212.6	.0	12.7	3.6	645.71
.21	.00	3.01	.00	.000	.040	.000	.000	645.71	1095.00
.000400	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	8.18	653.89	.00	.00	654.03	.14	.00	.00	645.71
641.0	.0	641.0	.0	.0	212.8	.0	12.8	3.6	645.71
.21	.00	3.01	.00	.000	.040	.000	.000	645.71	1095.00
.000399	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 653.028 EGOC = 655.360 PCWSE= 653.893 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
653.03	655.36	1.33	0.	641.	2.908	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	8.48	655.23	.00	.00	655.36	.13	1.33	.00	646.75
641.0	.0	641.0	.0	.0	220.5	.0	13.1	3.7	646.75
.22	.00	2.91	.00	.000	.050	.000	.000	646.75	1115.00
.000554	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.44

45025.000	7.37	655.37	.00	.00	655.39	.01	.01	.01	651.00
641.0	132.9	280.8	227.4	131.8	286.9	331.8	14.0	4.0	653.20
.24	1.01	.98	.69	.030	.050	.030	.000	648.00	979.37
.000093	5.	65.	130.	2	0	0	.00	308.27	1287.63

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .67

45345.000	7.61	655.41	.00	.00	655.43	.03	.04	.00	652.40
641.0	210.5	298.0	132.6	183.0	210.7	121.1	18.6	5.9	651.60
.31	1.15	1.41	1.09	.030	.050	.030	.000	647.80	998.70
.000207	310.	320.	330.	2	0	0	.00	199.14	1197.84

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.75

45356.000	11.17	655.44	.00	.00	655.44	.00	.00	.01	651.73
641.0	115.3	490.4	35.3	233.9	851.8	77.5	19.6	6.1	651.45
.34	.49	.58	.46	.030	.050	.030	.000	644.27	1054.39
.000027	21.	66.	21.	2	0	0	.00	252.00	1306.39

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .43

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	10.76	655.43	.00	.00	655.45	.03	.00	.01	646.67
641.0	.0	641.0	.0	.0	477.3	.0	20.3	6.2	646.52
.35	.00	1.34	.00	.000	.050	.000	.000	644.67	1187.40
.000147	39.	39.	39.	1	0	0	-110.66	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	10.76	655.43	.00	.00	655.46	.03	.01	.00	646.67
641.0	.0	641.0	.0	.0	477.2	.0	20.7	6.3	646.52
.35	.00	1.34	.00	.000	.050	.000	.000	644.67	1187.40
.000147	40.	40.	40.	0	0	0	-110.60	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.43

45501.000	8.18	655.46	.00	.00	655.47	.01	.00	.00	650.01
641.0	286.5	187.7	166.8	473.5	270.7	328.2	21.9	6.5	650.34
.38	.61	.69	.51	.030	.040	.030	.000	647.28	1065.93
.000025	66.	66.	66.	1	0	0	.00	283.52	1349.45

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .50

45650.000	7.06	655.46	.00	.00	655.48	.02	.01	.00	652.10
641.0	245.4	271.4	124.1	246.7	223.8	192.7	24.6	7.5	652.10
.42	.99	1.21	.64	.030	.040	.030	.000	648.40	952.94
.000100	129.	139.	144.	1	0	0	.00	322.05	1274.98

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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= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .37

45750.000	8.09	655.49	.00	.00	655.49	.00	.01	.00	654.20
83.0	30.3	51.9	.8	153.4	149.0	7.6	25.8	8.1	654.50
.52	.20	.35	.10	.030	.040	.030	.000	647.40	975.24
.000012	100.	100.	100.	2	0	0	.00	189.89	1165.13

*SECNO 45755.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.43

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	8.08	655.48	.00	.00	655.49	.00	.00	.00	654.20
83.0	21.2	61.2	.5	153.5	121.7	7.6	25.8	8.1	654.50
.52	.14	.50	.07	.030	.015	.030	.000	647.40	975.24
.000006	5.	5.	5.	0	0	0	-27.32	189.92	1165.16

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	8.08	655.48	.00	.00	655.49	.00	.00	.00	654.20
83.0	21.2	61.2	.5	153.3	121.6	7.6	25.8	8.1	654.50
.52	.14	.50	.07	.030	.015	.030	.000	647.40	975.26
.000006	2.	2.	2.	0	0	0	-27.32	189.80	1165.05

*SECNO 45760.000

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

45760.000	8.09	655.49	.00	.00	655.49	.00	.00	.00	654.20
83.0	34.6	47.5	.9	153.3	148.9	7.6	25.8	8.1	654.50
.52	.23	.32	.12	.030	.050	.030	.000	647.40	975.26
.000016	3.	3.	3.	0	0	0	.00	189.80	1165.05

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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 45785.000

45785.000	8.09	655.49	.00	.00	655.49	.00	.00	.00	654.20
83.0	34.7	47.4	.9	153.7	149.0	7.7	26.0	8.2	654.50
.55	.23	.32	.12	.030	.050	.030	.000	647.40	975.21
.000016	25.	25.	25.	0	0	0	.00	190.12	1165.33

CCHV= .300 CEHV= .500

*SECNO 45810.000

3265 DIVIDED FLOW

45810.000	9.35	655.49	.00	.00	655.49	.00	.00	.00	646.14
83.0	14.1	63.6	5.2	84.8	130.9	44.4	26.2	8.3	646.14
.57	.17	.49	.12	.030	.050	.030	.000	646.14	984.90
.000014	25.	25.	25.	0	0	0	.00	184.00	1204.20

*SECNO 45815.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45815.000	9.34	655.48	.00	.00	655.49	.01	.00	.00	646.14
83.0	10.3	68.2	4.5	71.7	94.3	41.0	26.2	8.4	646.14
.57	.14	.72	.11	.030	.015	.030	.000	646.14	984.93
.000011	5.	5.	5.	0	0	0	-52.86	183.89	1204.15

*SECNO 45835.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

45835.000	9.35	655.49	.00	.00	655.49	.01	.00	.00	646.14
83.0	10.3	68.2	4.5	71.5	94.3	40.9	26.3	8.4	646.14
.58	.14	.72	.11	.030	.015	.030	.000	646.14	984.98
.000011	21.	21.	21.	0	0	0	-52.83	183.68	1204.05

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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 45840.000

45840.000	8.59	655.49	.00	.00	655.49	.00	.00	.00	654.10
83.0	23.9	52.5	6.6	156.0	198.3	70.7	26.3	8.5	654.80
.59	.15	.26	.09	.035	.050	.035	.000	646.90	947.60
.000009	5.	5.	5.	0	0	0	.00	293.93	1241.52

CCHV= .100 CEHV= .300

*SECNO 45870.000

45870.000	8.59	655.49	.00	.00	655.49	.00	.00	.00	654.10
83.0	23.0	53.6	6.5	157.1	198.5	71.7	26.6	8.7	654.80
.62	.15	.27	.09	.030	.040	.030	.000	646.90	947.31
.000006	30.	30.	30.	0	0	0	.00	294.74	1242.05

*SECNO 45885.000

45885.000	8.65	655.49	.00	.00	655.49	.00	.00	.00	653.11
83.0	22.3	59.1	1.6	132.7	197.4	19.1	26.8	8.8	654.38
.64	.17	.30	.09	.030	.040	.030	.000	646.84	1102.69
.000007	15.	15.	15.	0	0	0	.00	165.89	1268.58

*SECNO 46140.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.17

46140.000	7.99	655.49	.00	.00	655.49	.00	.00	.00	652.30
83.0	22.0	50.6	10.4	505.7	748.3	298.2	32.3	10.8	652.40
1.88	.04	.07	.03	.030	.040	.030	.000	647.50	856.53
.000000	255.	255.	255.	0	0	0	.00	546.36	1402.88

*SECNO 46290.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.99

46290.000	7.79	655.49	.00	.00	655.49	.00	.00	.00	652.50
83.0	2.7	79.1	1.3	196.3	2340.6	75.0	39.5	12.7	652.30
3.15	.01	.03	.02	.030	.040	.030	.000	647.70	946.43

```
    .000000      150.      150.      150.         0         0         0       .00    561.09   1514.78


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     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=     .300 CEHV=     .500
 *SECNO 46540.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .48

  46540.000      7.29    655.49       .00       .00    655.49       .00       .00       .00    654.90
       83.0       1.9      81.1        .0     105.9    1240.8        .0      50.9      15.5    656.10
       4.23       .02       .07       .00      .030      .040      .000      .000    648.20    970.28
    .000000      250.      250.      250.         0         0         0       .00    388.38   1358.66


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .16

  46610.000      7.49    655.49       .00       .00    655.49       .00       .00       .00    654.60
       83.0      30.7      52.3        .0     201.1     164.3        .0      52.2      16.0    655.60
       4.30       .15       .32       .00      .030      .040      .000      .000    648.00    977.28
    .000010       70.       70.       70.         0         0         0       .00    258.35   1235.63


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED: 10-YEAR 12-HOUR DURATION

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                 6                             0                                   651.78

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       5                 -1

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     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 5
0

 CCHV=     .100 CEHV=     .300
 *SECNO 43155.000
  43155.000      7.98    651.78       .00    651.78    652.16       .38       .00       .00    667.30
       645.0        .0     645.0        .0        .0     130.7        .0        .0        .0    666.70
         .00       .00      4.93       .00      .000      .045      .000      .000    643.80   1025.72
    .003897        0.        0.        0.         0         0         0       .00     21.79   1047.50


 *SECNO 43305.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.02


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       655.00 ELREA=       661.00

  43305.000      7.14    652.34       .00       .00    652.44       .11       .26       .03    655.00
       645.0        .0     645.0        .0        .0     246.1        .0        .6        .1    661.00
         .02       .00      2.62       .00      .000      .045      .000      .000    645.20   1089.69
    .000959      170.      150.      130.         2         0         0       .00     55.53   1145.23


 *SECNO 43659.000
  43659.000      6.86    652.64       .00       .00    652.70       .05       .25       .01    650.60
       645.0      36.1     409.4     199.5      36.2     197.3     138.9       3.2       1.1    651.86
         .07      1.00      2.07      1.44      .035      .045      .035      .000    645.78   1202.79
```

.000537	319.	354.	369.	2	0	0	.00	178.30	1381.09

*SECNO 43675.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	6.48	652.68	.00	.00	652.71	.02	.01	.00	653.00
645.0	.0	241.0	404.0	.0	195.1	369.0	3.3	1.2	651.50
.07	.00	1.24	1.09	.000	.045	.035	.000	646.20	1129.43
.000219	16.	16.	16.	2	0	0	.00	222.11	1351.54

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .52

43873.000	7.60	652.71	.00	.00	652.79	.08	.06	.02	649.47
517.0	60.1	378.7	78.2	33.6	158.1	49.8	5.3	1.9	649.69
.10	1.79	2.39	1.57	.035	.045	.035	.000	645.11	1421.63
.000524	186.	198.	215.	2	0	0	.00	65.07	1486.70

*SECNO 44015.000

44015.000	7.60	652.80	.00	.00	652.87	.06	.08	.00	652.30
517.0	1.7	515.3	.0	4.1	258.0	.0	6.1	2.1	656.60
.12	.41	2.00	.00	.035	.045	.000	.000	645.20	1069.75
.000583	134.	142.	155.	2	0	0	.00	78.52	1148.27

*SECNO 44186.000

44186.000	6.86	652.90	.00	.00	652.98	.08	.11	.00	651.84
517.0	4.8	510.9	1.3	6.4	230.1	2.5	7.1	2.4	652.35
.14	.74	2.22	.52	.035	.045	.035	.000	646.04	1192.59
.000714	168.	171.	199.	0	0	0	.00	76.26	1268.85

*SECNO 44335.000

44335.000	6.20	653.00	.00	.00	653.07	.07	.09	.00	648.90
517.0	117.7	387.5	11.8	59.5	174.7	12.2	7.9	2.6	651.30
.16	1.98	2.22	.97	.035	.045	.035	.000	646.80	1108.01
.000534	147.	149.	156.	0	0	0	.00	70.20	1178.22

*SECNO 44530.000

44530.000	6.30	653.10	.00	.00	653.17	.07	.10	.00	648.90
517.0	119.3	384.2	13.5	62.1	178.5	13.7	9.0	3.0	651.30
.19	1.92	2.15	.99	.035	.045	.035	.000	646.80	1107.57
.000489	195.	195.	195.	1	0	0	.00	71.10	1178.67

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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

44592.000	7.45	653.10	.00	.00	653.24	.14	.03	.04	647.55
517.0	.0	517.0	.0	.0	170.1	.0	9.3	3.0	647.56
.19	.00	3.04	.00	.000	.040	.000	.000	645.65	1117.10
.000529	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	7.47	653.11	.00	.00	653.25	.14	.01	.00	647.55
517.0	.0	517.0	.0	.0	170.5	.0	9.4	3.0	647.56
.19	.00	3.03	.00	.000	.040	.000	.000	645.64	1117.10
.000525	19.	19.	19.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 653.17 BRIDGE VELOCITY= 3.47 CALCULATED CHANNEL AREA= 147.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	653.30	.01	0.	517.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	7.33	653.13	.00	.00	653.30	.18	.05	.00	645.80
517.0	.0	517.0	.0	.0	153.8	.0	10.3	3.2	645.80
.21	.00	3.36	.00	.000	.040	.000	.000	645.80	1097.70
.000575	234.	234.	234.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	7.52	653.23	.00	.00	653.34	.11	.02	.02	645.71
517.0	.0	517.0	.0	.0	195.4	.0	10.4	3.2	645.71
.22	.00	2.65	.00	.000	.040	.000	.000	645.71	1095.00
.000344	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	7.52	653.23	.00	.00	653.34	.11	.00	.00	645.71
517.0	.0	517.0	.0	.0	195.6	.0	10.5	3.2	645.71
.22	.00	2.64	.00	.000	.040	.000	.000	645.71	1095.00
.000343	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 652.134 EGOC = 654.186 PCWSE= 653.231 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
652.13	654.19	.85	0.	517.	2.716	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	7.32	654.07	.00	.00	654.19	.11	.85	.00	646.75

517.0	.0	517.0	.0	.0	190.3	.0	10.8	3.2	646.75
.23	.00	2.72	.00	.000	.050	.000	.000	646.75	1115.00
.000587	63.	63.	63.	2	0	0	.00	26.00	1141.00

1

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 45025.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.49

45025.000	6.19	654.19	.00	.00	654.22	.03	.02	.01	651.00
517.0	108.2	342.7	66.2	76.2	236.0	107.0	11.2	3.5	653.20
.24	1.42	1.45	.62	.030	.050	.030	.000	648.00	1006.68
.000265	5.	65.	130.	2	0	0	.00	243.42	1267.79

*SECNO 45345.000

45345.000	6.49	654.29	.00	.00	654.33	.05	.11	.00	652.40
517.0	108.3	328.8	79.9	83.7	173.7	60.5	13.9	5.0	651.60
.29	1.29	1.89	1.32	.030	.050	.030	.000	647.80	1027.16
.000481	310.	320.	330.	2	0	0	.00	152.00	1179.16

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.52

45356.000	10.08	654.35	.00	.00	654.35	.01	.01	.01	651.73
517.0	56.9	443.7	16.4	130.7	723.5	41.7	14.7	5.2	651.45
.32	.44	.61	.39	.030	.050	.030	.000	644.27	1061.15
.000039	21.	66.	21.	2	0	0	.00	237.92	1299.08

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	9.67	654.34	.00	.00	654.36	.02	.00	.01	646.67
517.0	.0	517.0	.0	.0	426.2	.0	15.3	5.3	646.52
.33	.00	1.21	.00	.000	.050	.000	.000	644.67	1187.40
.000132	39.	39.	39.	1	0	0	-92.38	48.00	1235.40

*SECNO 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	9.67	654.34	.00	.00	654.37	.02	.01	.00	646.67
517.0	.0	517.0	.0	.0	426.0	.0	15.7	5.3	646.52
.34	.00	1.21	.00	.000	.050	.000	.000	644.67	1187.40
.000133	40.	40.	40.	0	0	0	-92.30	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.74

45501.000	7.09	654.37	.00	.00	654.37	.01	.00	.00	650.01
517.0	218.9	192.0	106.1	334.3	231.9	204.1	16.6	5.6	650.34
.36	.65	.83	.52	.030	.040	.030	.000	647.28	1070.82
.000044	66.	66.	66.	1	0	0	.00	270.50	1341.32

*SECNO 45650.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

45650.000	5.96	654.36	.00	.00	654.39	.03	.01	.01	652.10
517.0	176.7	287.0	53.4	151.8	184.4	54.8	18.4	6.3	652.10
.39	1.16	1.56	.97	.030	.040	.030	.000	648.40	967.26
.000212	129.	139.	144.	1	0	0	.00	171.66	1146.09

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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= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .29

45750.000	7.01	654.41	.00	.00	654.42	.01	.02	.01	654.20
76.0	2.9	73.1	.0	22.9	117.8	.0	19.0	6.6	654.50
.44	.13	.62	.00	.030	.040	.000	.000	647.40	995.96
.000053	100.	100.	100.	2	0	0	.00	139.92	1135.88

*SECNO 45755.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.50

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	7.01	654.41	.00	.00	654.42	.01	.00	.00	654.20
76.0	1.9	74.1	.0	23.0	90.5	.0	19.0	6.6	654.50
.44	.08	.82	.00	.030	.015	.000	.000	647.40	995.94
.000024	5.	5.	5.	0	0	0	-27.32	139.94	1135.88

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	7.01	654.41	.00	.00	654.42	.01	.00	.00	654.20
76.0	1.9	74.1	.0	22.7	90.4	.0	19.0	6.6	654.50
.44	.08	.82	.00	.030	.015	.000	.000	647.40	995.99
.000024	2.	2.	2.	0	0	0	-27.32	139.88	1135.88

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .54

45760.000	7.01	654.41	.00	.00	654.42	.01	.00	.00	654.20
76.0	3.5	72.5	.0	22.7	117.7	.0	19.0	6.7	654.50
.44	.16	.62	.00	.030	.050	.000	.000	647.40	995.99
.000082	3.	3.	3.	0	0	0	.00	139.88	1135.88

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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

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*SECNO 45785.000
 45785.000      7.02    654.42      .00      .00    654.42      .01      .00      .00    654.20
      76.0       3.7      72.3       .0     23.5     117.9       .0     19.1      6.7    654.50
       .45       .16       .61      .00     .030      .050     .000     .000   647.40    995.85
   .000081       25.       25.      25.        0         0        0      .00   140.03   1135.89


CCHV=     .300 CEHV=     .500
*SECNO 45810.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.76

 45810.000      8.28    654.42      .00      .00    654.42      .01      .00      .00    646.14
      76.0       3.7      72.0       .3     18.1     115.9      2.7     19.2      6.8    646.14
       .46       .20       .62      .11     .030      .050     .030     .000   646.14   1015.90
   .000026       25.       25.      25.        0         0        0      .00    46.76   1103.64


*SECNO 45815.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

 45815.000      8.28    654.42      .00      .00    654.42      .01      .00      .00    646.14
      76.0        .6      75.4       .0      7.9      94.3       .1     19.2      6.8    646.14
       .46       .08       .80      .00     .030      .015     .030     .000   646.14   1015.92
   .000014        5.        5.       5.        0         0        0   -34.37    46.72   1103.64


*SECNO 45835.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

 45835.000      8.28    654.42      .00      .00    654.43      .01      .00      .00    646.14
      76.0        .6      75.4       .0      7.8      94.3       .1     19.3      6.8    646.14
       .47       .08       .80      .00     .030      .015     .030     .000   646.14   1015.97
   .000014       21.       21.      21.        0         0        0   -34.34    46.62   1103.64


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    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 45840.000

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

 45840.000      7.52    654.42      .00      .00    654.43      .00      .00      .00    654.10
      76.0       4.0      72.0       .0     32.9     162.2       .0     19.3      6.8    654.80
       .48       .12       .44      .00     .035      .050     .000     .000   646.90    985.68
   .000033        5.        5.       5.        0         0        0      .00   129.12   1114.80


CCHV=     .100 CEHV=     .300
*SECNO 45870.000
 45870.000      7.53    654.43      .00      .00    654.43      .00      .00      .00    654.10
      76.0       3.9      72.1       .0     33.8     162.5       .0     19.4      6.9    654.80
       .49       .11       .44      .00     .030      .040     .000     .000   646.90    985.34
   .000021       30.       30.      30.        0         0        0      .00   129.48   1114.82


*SECNO 45885.000
 45885.000      7.59    654.43      .00      .00    654.43      .00      .00      .00    653.11
      76.0       7.9      68.1       .0     45.1     165.4       .0     19.5      6.9    654.38
       .51       .17       .41      .00     .030      .040     .000     .000   646.84   1141.74
   .000016       15.       15.      15.        0         0        0      .00    93.97   1235.71


*SECNO 46140.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.29

 46140.000      6.93    654.43      .00      .00    654.43      .00      .00      .00    652.30
      76.0       13.0      59.0      4.0    272.7     639.8    103.8     23.1      8.5    652.40
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      1.37       .05       .09       .04       .030       .040       .030       .000    647.50    884.66
   .000001      255.      255.      255.          0          0          0        .00    423.81   1308.47


*SECNO 46290.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.41

 46290.000       6.73    654.43       .00        .00    654.43        .00        .00       .00    652.50
      76.0         .3      75.1        .5       37.3    1986.6       33.4       28.4      10.0    652.30
      2.48        .01       .04       .02       .030       .040       .030       .000    647.70    979.05
   .000000      150.      150.      150.          0          0          0        .00    462.23   1499.12


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     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=      .300 CEHV=      .500
*SECNO 46540.000

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

 46540.000       6.23    654.43       .00        .00    654.43        .00        .00       .00    654.90
      76.0         .0      76.0        .0         .0    1033.4         .0       37.2      11.9    656.10
      3.43        .00       .07       .00       .000       .040       .000       .000    648.20   1164.45
   .000000      250.      250.      250.          0          0          0        .00    193.43   1357.88


*SECNO 46610.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .10


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

 46610.000       6.43    654.43       .00        .00    654.43        .01        .00       .00    654.60
      76.0         .0      76.0        .0         .0     131.6         .0       38.2      12.1    655.60
      3.46        .00       .58       .00       .000       .040       .000       .000    648.00   1204.46
   .000042       70.       70.       70.          0          0          0        .00     29.41   1233.86


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T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
T2
T3      HEC-1 FLOWS USED:  5-YEAR 12-HOUR DURATION

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                 7                                0                                        651.30

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

      6                    -1


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     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 6
0

CCHV=      .100 CEHV=      .300
*SECNO 43155.000
 43155.000       7.50    651.30       .00     651.30    651.61        .31        .00       .00    667.30
      538.0         .0     538.0        .0         .0    120.3         .0         .0        .0    666.70
        .00        .00      4.47       .00       .000       .045       .000       .000    643.80   1025.75
   .003449          0.        0.        0.          0          0          0        .00     21.72   1047.46
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*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.88

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	6.59	651.79	.00	.00	651.88	.10	.25	.02	655.00
538.0	.0	538.0	.0	.0	216.1	.0	.6	.1	661.00
.02	.00	2.49	.00	.000	.045	.000	.000	645.20	1090.64
.000979	170.	150.	130.	2	0	0	.00	53.65	1144.30

*SECNO 43659.000

3265 DIVIDED FLOW

43659.000	6.33	652.11	.00	.00	652.18	.06	.29	.00	650.60
538.0	18.6	384.5	134.9	19.9	175.6	87.7	2.6	1.0	651.86
.07	.93	2.19	1.54	.035	.045	.035	.000	645.78	1211.96
.000698	319.	354.	369.	2	0	0	.00	155.10	1379.60

*SECNO 43675.000

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	5.96	652.16	.00	.00	652.19	.02	.01	.00	653.00
538.0	.0	231.3	306.7	.0	171.4	277.8	2.8	1.1	651.50
.07	.00	1.35	1.10	.000	.045	.035	.000	646.20	1130.97
.000297	16.	16.	16.	2	0	0	.00	219.54	1350.51

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .59

43873.000	7.10	652.21	.00	.00	652.28	.07	.08	.02	649.47
437.0	45.1	340.6	51.3	26.8	145.9	37.0	4.3	1.7	649.69
.10	1.68	2.33	1.39	.035	.045	.035	.000	645.11	1422.92
.000554	186.	198.	215.	2	0	0	.00	61.70	1484.62

*SECNO 44015.000

44015.000	7.11	652.31	.00	.00	652.37	.06	.08	.00	652.30
437.0	.0	437.0	.0	.0	227.8	.0	5.0	1.9	656.60
.12	.01	1.92	.00	.000	.045	.000	.000	645.20	1085.93
.000610	134.	142.	155.	2	0	0	.00	60.40	1146.32

*SECNO 44186.000

44186.000	6.38	652.42	.00	.00	652.49	.07	.12	.00	651.84
437.0	1.0	436.0	.0	1.9	202.7	.0	5.9	2.2	652.35
.14	.52	2.15	.01	.035	.045	.035	.000	646.04	1198.18
.000793	168.	171.	199.	0	0	0	.00	63.38	1261.56

*SECNO 44335.000

44335.000	5.72	652.52	.00	.00	652.59	.07	.10	.00	648.90
437.0	92.8	339.5	4.6	48.9	158.5	6.4	6.6	2.4	651.30
.16	1.90	2.14	.72	.035	.045	.035	.000	646.80	1109.94
.000567	147.	149.	156.	0	0	0	.00	65.53	1175.47

*SECNO 44530.000

44530.000	5.83	652.63	.00	.00	652.69	.06	.11	.00	648.90
437.0	94.5	337.0	5.6	51.3	162.1	7.6	7.6	2.7	651.30
.19	1.84	2.08	.73	.035	.045	.035	.000	646.80	1109.51
.000518	195.	195.	195.	2	0	0	.00	66.90	1176.41

CCHV= .300 CEHV= .500

*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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
44592.000	6.99	652.64	.00	.00	652.75	.12	.03	.03	647.55
437.0	.0	437.0	.0	.0	159.4	.0	7.8	2.8	647.56
.19	.00	2.74	.00	.000	.040	.000	.000	645.65	1117.10
.000469	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	7.01	652.65	.00	.00	652.76	.12	.01	.00	647.55
437.0	.0	437.0	.0	.0	159.8	.0	7.9	2.8	647.56
.19	.00	2.73	.00	.000	.040	.000	.000	645.64	1117.10
.000466	19.	19.	19.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 652.71 BRIDGE VELOCITY= 3.13 CALCULATED CHANNEL AREA= 138.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	652.80	.01	0.	437.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	6.86	652.66	.00	.00	652.80	.14	.04	.00	645.80
437.0	.0	437.0	.0	.0	144.0	.0	8.7	2.9	645.80
.22	.00	3.03	.00	.000	.040	.000	.000	645.80	1097.70
.000512	234.	234.	234.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	7.03	652.74	.00	.00	652.83	.09	.01	.02	645.71
437.0	.0	437.0	.0	.0	182.8	.0	8.9	2.9	645.71
.22	.00	2.39	.00	.000	.040	.000	.000	645.71	1095.00
.000307	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	7.04	652.75	.00	.00	652.83	.09	.00	.00	645.71
437.0	.0	437.0	.0	.0	182.9	.0	8.9	2.9	645.71
.22	.00	2.39	.00	.000	.040	.000	.000	645.71	1095.00
.000307	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD

3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 651.558 EGOC = 653.427 PCWSE= 652.745 ELTRD= 657.500

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
651.56	653.43	.59	0.	437.	2.556	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	6.58	653.33	.00	.00	653.43	.10	.59	.00	646.75
437.0	.0	437.0	.0	.0	171.0	.0	9.2	2.9	646.75
.23	.00	2.56	.00	.000	.050	.000	.000	646.75	1115.00
.000600	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

3265 DIVIDED FLOW

45025.000	5.42	653.42	.00	.00	653.46	.04	.03	.01	651.00
437.0	78.2	350.2	8.6	50.1	202.9	18.2	9.5	3.1	653.20
.24	1.56	1.73	.47	.030	.050	.030	.000	648.00	1012.06
.000457	5.	65.	130.	2	0	0	.00	139.07	1233.31

*SECNO 45345.000

45345.000	5.80	653.60	.00	.00	653.67	.07	.19	.01	652.40
437.0	47.0	342.7	47.3	38.6	150.5	33.1	11.3	4.1	651.60
.28	1.22	2.28	1.43	.030	.050	.030	.000	647.80	1045.89
.000841	310.	320.	330.	0	0	0	.00	121.57	1167.46

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.29

45356.000	9.42	653.69	.00	.00	653.69	.01	.01	.02	651.73
437.0	29.5	398.6	8.9	76.2	645.7	24.8	11.9	4.2	651.45
.31	.39	.62	.36	.030	.050	.030	.000	644.27	1080.11
.000046	21.	66.	21.	2	0	0	.00	212.41	1292.52

*SECNO 45395.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .62

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	9.01	653.68	.00	.00	653.70	.02	.00	.01	646.67
437.0	.0	437.0	.0	.0	394.3	.0	12.4	4.3	646.52
.32	.00	1.11	.00	.000	.050	.000	.000	644.67	1187.40
.000119	39.	39.	39.	2	0	0	-81.73	48.00	1235.40

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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 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	9.02	653.69	.00	.00	653.71	.02	.00	.00	646.67
437.0	.0	437.0	.0	.0	394.5	.0	12.8	4.4	646.52
.33	.00	1.11	.00	.000	.050	.000	.000	644.67	1187.40
.000119	40.	40.	40.	0	0	0	-81.78	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

45501.000	6.42	653.70	.00	.00	653.71	.01	.01	.00	650.01
437.0	172.3	196.7	68.0	251.9	208.2	132.7	13.6	4.6	650.34
.35	.68	.94	.51	.030	.040	.030	.000	647.28	1073.80
.000066	66.	66.	66.	0	0	0	.00	262.56	1336.36

*SECNO 45650.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

45650.000	5.30	653.70	.00	.00	653.74	.04	.02	.01	652.10
437.0	121.2	283.4	32.4	102.0	160.6	28.8	14.9	5.2	652.10
.38	1.19	1.76	1.12	.030	.040	.030	.000	648.40	975.95
.000328	129.	139.	144.	1	0	0	.00	128.89	1117.12

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .33

45750.000	6.36	653.77	.00	.00	653.77	.01	.03	.01	654.20
70.0	.0	70.0	.0	.0	99.6	.0	15.4	5.4	654.50
.42	.00	.70	.00	.000	.040	.000	.000	647.40	1107.60
.000079	100.	100.	100.	2	0	0	.00	27.42	1135.02

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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 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	6.36	653.76	.00	.00	653.78	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	72.3	.0	15.4	5.4	654.50
.42	.00	.97	.00	.000	.015	.000	.000	647.40	1107.60
.000042	5.	5.	5.	0	0	0	-27.32	27.42	1135.02

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	6.36	653.76	.00	.00	653.78	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	72.2	.0	15.4	5.4	654.50
.42	.00	.97	.00	.000	.015	.000	.000	647.40	1107.60
.000042	2.	2.	2.	0	0	0	-27.32	27.41	1135.02

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .58

45760.000	6.37	653.77	.00	.00	653.78	.01	.00	.00	654.20
70.0	.0	70.0	.0	.0	99.5	.0	15.4	5.4	654.50
.42	.00	.70	.00	.000	.050	.000	.000	647.40	1107.60
.000124	3.	3.	3.	0	0	0	.00	27.41	1135.02

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*SECNO 45785.000
 45785.000      6.37    653.77       .00       .00    653.78       .01       .00       .00    654.20
      70.0        .0      70.0        .0        .0      99.8        .0      15.5       5.4    654.50
       .43       .00       .70       .00      .000      .050      .000      .000    647.40   1107.59
   .000123       25.       25.       25.         0         0         0       .00     27.44   1135.03


CCHV=     .300 CEHV=     .500
*SECNO 45810.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.95

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    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


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.90 ELREA=       653.90

 45810.000      7.64    653.78       .00       .00    653.78       .01       .00       .00    646.14
      70.0        .0      70.0        .0        .0      106.9        .0      15.5       5.4    646.14
       .44       .00       .65       .00      .000      .050      .000      .000    646.14   1089.00
   .000032       25.       25.       25.         0         0         0       .00     14.00   1103.00


*SECNO 45815.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.64

3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.90 ELREA=       653.90

 45815.000      7.64    653.78       .00       .00    653.78       .01       .00       .00    646.14
      70.0        .0      70.0        .0        .0      94.3        .0      15.5       5.4    646.14
       .44       .00       .74       .00      .000      .015      .000      .000    646.14   1089.00
   .000012        5.        5.        5.         0         0         0    -12.61     14.00   1103.00


*SECNO 45835.000

3370 NORMAL BRIDGE, NRD=  24 MIN ELTRD=   653.89 MAX ELLC=   653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       653.90 ELREA=       653.90

 45835.000      7.64    653.78       .00       .00    653.78       .01       .00       .00    646.14
      70.0        .0      70.0        .0        .0      94.3        .0      15.6       5.4    646.14
       .45       .00       .74       .00      .000      .015      .000      .000    646.14   1089.00
   .000012       21.       21.       21.         0         0         0    -12.60     14.00   1103.00


*SECNO 45840.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

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    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


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.20 ELREA=       654.20

 45840.000      6.88    653.78       .00       .00    653.79       .00       .00       .00    654.10
      70.0        .0      70.0        .0        .0      141.7        .0      15.6       5.4    654.80
       .45       .00       .49       .00      .000      .050      .000      .000    646.90   1082.20
   .000045        5.        5.        5.         0         0         0       .00     30.93   1113.13


CCHV=     .100 CEHV=     .300
*SECNO 45870.000
 45870.000      6.88    653.78       .00       .00    653.79       .00       .00       .00    654.10
      70.0        .0      70.0        .0        .0      142.0        .0      15.7       5.5    654.80
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       .47       .00       .49       .00      .000      .040      .000      .000    646.90   1082.20
   .000029       30.       30.       30.         0         0         0       .00     30.96   1113.15


 *SECNO 45885.000
  45885.000      6.94    653.78       .00       .00    653.79       .00       .00       .00    653.11
      70.0       1.4      68.6        .0      12.6     146.4        .0      15.7       5.5    654.38
       .48       .11       .47       .00      .030      .040      .000      .000    646.84   1167.00
   .000023       15.       15.       15.         0         0         0       .00     66.37   1233.37


 *SECNO 46140.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.10

  46140.000      6.29    653.79       .00       .00    653.79       .00       .00       .00    652.30
      70.0       6.5      61.7       1.8     147.4     574.6      48.2      18.5       6.7    652.40
      1.19       .04       .11       .04      .030      .040      .030      .000    647.50    902.49
   .000001       255.      255.      255.         0         0         0       .00    350.59   1261.03


 *SECNO 46290.000

 3265 DIVIDED FLOW

1
    21MAY12      10:31:27                                                                          PAGE   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


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.69

  46290.000      6.09    653.79       .00       .00    653.79       .00       .00       .00    652.50
      70.0         .0      69.7        .2       2.9    1773.7      16.3      22.9       8.0    652.30
      2.25       .01       .04       .01      .030      .040      .030      .000    647.70   1001.38
   .000000       150.      150.      150.         0         0         0       .00    373.52   1489.72


 CCHV=      .300 CEHV=      .500
 *SECNO 46540.000

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

  46540.000      5.59    653.79       .00       .00    653.79       .00       .00       .00    654.90
      70.0         .0      70.0        .0        .0    910.2         .0      30.6       9.6    656.10
      3.15       .00       .08       .00      .000      .040      .000      .000    648.20   1166.01
   .000001       250.      250.      250.         0         0         0       .00    191.40   1357.41


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .10


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

  46610.000      5.79    653.79       .00       .00    653.79       .01       .00       .00    654.60
      70.0         .0      70.0        .0        .0    113.6         .0      31.4       9.7    655.60
      3.18       .00       .62       .00      .000      .040      .000      .000    648.00   1206.16
   .000052       70.       70.       70.         0         0         0       .00     26.64   1232.80


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 T1      ADDISON CREEK STORMWATER MANAGEMENT SYSTEM-HYDRAULIC ANALYSIS
 T2
 T3      HEC-1 FLOWS USED:  2-YEAR 12-HOUR DURATION

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                 8                             0                                   650.63

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       7                 -1

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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 7
0

CCHV= .100 CEHV= .300
*SECNO 43155.000

43155.000	6.83	650.63	.00	650.63	650.86	.23	.00	.00	667.30
406.0	.0	406.0	.0	.0	105.8	.0	.0	.0	666.70
.00	.00	3.84	.00	.000	.045	.000	.000	643.80	1025.79
.002859	0.	0.	0.	0	0	0	.00	21.62	1047.41

*SECNO 43305.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.68

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 655.00 ELREA= 661.00

43305.000	5.83	651.03	.00	.00	651.11	.08	.24	.01	655.00
406.0	.0	406.0	.0	.0	176.6	.0	.5	.1	661.00
.02	.00	2.30	.00	.000	.045	.000	.000	645.20	1091.94
.001019	170.	150.	130.	2	0	0	.00	51.07	1143.02

*SECNO 43659.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 650.60 ELREA= 651.86

43659.000	5.63	651.41	.00	.00	651.53	.11	.41	.01	650.60
406.0	4.8	401.2	.0	5.8	147.2	.0	1.8	.5	651.86
.05	.84	2.72	.00	.035	.045	.000	.000	645.78	1224.15
.001298	319.	354.	369.	2	0	0	.00	53.61	1277.76

*SECNO 43675.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.00 ELREA= 651.50

43675.000	5.23	651.43	.00	.00	651.56	.13	.02	.01	653.00
406.0	.0	406.0	.0	.0	139.4	.0	1.9	.6	651.50
.06	.00	2.91	.00	.000	.045	.000	.000	646.20	1133.13
.001691	16.	16.	16.	0	0	0	.00	42.42	1175.55

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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 43873.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.51

43873.000	6.57	651.68	.00	.00	651.74	.06	.18	.01	649.47
332.0	28.9	277.2	25.9	20.3	133.1	24.7	2.6	.8	649.69
.08	1.43	2.08	1.05	.035	.045	.035	.000	645.11	1424.27
.000498	186.	198.	215.	2	0	0	.00	58.16	1482.43

*SECNO 44015.000

44015.000	6.57	651.77	.00	.00	651.81	.04	.07	.00	652.30
332.0	.0	332.0	.0	.0	196.4	.0	3.2	1.0	656.60
.11	.00	1.69	.00	.000	.045	.000	.000	645.20	1087.79
.000530	134.	142.	155.	2	0	0	.00	56.42	1144.21

*SECNO 44186.000

44186.000	5.83	651.87	.00	.00	651.93	.06	.11	.00	651.84
332.0	.0	332.0	.0	.0	172.5	.0	3.9	1.2	652.35
.13	.01	1.92	.00	.000	.045	.000	.000	646.04	1204.44
.000752	168.	171.	199.	0	0	0	.00	54.16	1258.60

*SECNO 44335.000

44335.000	5.17	651.97	.00	.00	652.02	.05	.09	.00	648.90
332.0	63.4	267.7	.9	37.8	139.6	1.9	4.5	1.4	651.30
.15	1.68	1.92	.47	.035	.045	.035	.000	646.80	1112.18
.000539	147.	149.	156.	0	0	0	.00	58.52	1170.70

*SECNO 44530.000

44530.000	5.27	652.07	.00	.00	652.12	.05	.10	.00	648.90
332.0	64.8	265.9	1.3	39.8	143.1	2.5	5.4	1.7	651.30
.18	1.63	1.86	.49	.035	.045	.035	.000	646.80	1111.76
.000489	195.	195.	195.	2	0	0	.00	59.83	1171.60

CCHV= .300 CEHV= .500
*SECNO 44592.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.50 ELREA= 657.50

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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
44592.000	6.43	652.08	.00	.00	652.16	.08	.03	.01	647.55
332.0	.0	332.0	.0	.0	146.6	.0	5.6	1.7	647.56
.19	.00	2.26	.00	.000	.040	.000	.000	645.65	1117.10
.000358	66.	66.	66.	2	0	0	.00	23.10	1140.20

*SECNO 44630.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

TRI-STATE TOLLWAY survey sta 312+66, U/S H5 (ss. 312+99.93)

44630.000	6.45	652.09	.00	.00	652.17	.08	.01	.00	647.55
332.0	.0	332.0	.0	.0	147.0	.0	5.7	1.7	647.56
.19	.00	2.26	.00	.000	.040	.000	.000	645.64	1117.10
.000355	19.	19.	19.	0	0	0	.00	23.10	1140.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	2.60	.00	21.00	1.00	190.00	.00	645.80	645.64

*SECNO 44830.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 652.16 BRIDGE VELOCITY= 2.58 CALCULATED CHANNEL AREA= 127.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	652.20	.01	0.	332.	190.	190.	655.30	658.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 660.00 ELREA= 658.50

44830.000	6.30	652.10	.00	.00	652.20	.10	.03	.00	645.80
332.0	.0	332.0	.0	.0	132.2	.0	6.4	1.8	645.80
.22	.00	2.51	.00	.000	.040	.000	.000	645.80	1097.70
.000393	234.	234.	234.	0	0	0	.00	21.00	1118.70

*SECNO 44870.000
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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44870.000	6.45	652.16	.00	.00	652.22	.06	.01	.01	645.71
332.0	.0	332.0	.0	.0	167.6	.0	6.5	1.9	645.71
.23	.00	1.98	.00	.000	.040	.000	.000	645.71	1095.00
.000237	35.	35.	35.	2	0	0	.00	26.00	1121.00

*SECNO 44910.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

COUNTY LINE ROAD survey sta 310+00, U/S H6 (ss. 310+12.46)

44910.000	6.45	652.16	.00	.00	652.22	.06	.00	.00	645.71
332.0	.0	332.0	.0	.0	167.7	.0	6.6	1.9	645.71
.23	.00	1.98	.00	.000	.040	.000	.000	645.71	1095.00
.000237	12.	12.	12.	0	0	0	.00	26.00	1121.00

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.012	.50	2.70	.00	6.00	.00	63.00	1	1	646.75	645.71

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 44970.000

SPECIAL CULVERT OUTLET CONTROL
EGIC = 650.786 EGOC = 652.552 PCWSE= 652.159 ELTRD= 657.500

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .66

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
650.79	652.55	.33	0.	332.	2.230	84.8	657.50	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 657.53 ELREA= 657.46

44970.000	5.73	652.48	.00	.00	652.55	.08	.33	.00	646.75
332.0	.0	332.0	.0	.0	148.9	.0	6.8	1.9	646.75
.24	.00	2.23	.00	.000	.050	.000	.000	646.75	1115.00
.000550	63.	63.	63.	2	0	0	.00	26.00	1141.00

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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 45025.000

45025.000	4.54	652.54	.00	.00	652.59	.05	.04	.00	651.00
332.0	33.8	298.2	.0	25.4	165.5	.0	7.1	2.0	653.20
.25	1.33	1.80	.00	.030	.050	.000	.000	648.00	1018.19
.000633	5.	65.	130.	2	0	0	.00	67.21	1085.40

*SECNO 45345.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45345.000	4.99	652.79	.00	.00	652.89	.09	.28	.01	652.40
332.0	2.9	313.8	15.3	4.7	124.2	11.9	8.3	2.5	651.60
.28	.61	2.53	1.28	.030	.050	.030	.000	647.80	1077.34
.001338	310.	320.	330.	2	0	0	.00	76.83	1154.18

CCHV= .300 CEHV= .500
1340 CARD NOT RECOGNIZED OR CARD OUT OF ORDER
*H 7.5000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000
*SECNO 45356.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 5.23

45356.000	8.65	652.92	.00	.00	652.93	.01	.01	.03	651.73
332.0	7.8	321.2	3.0	29.9	555.5	10.7	8.8	2.6	651.45
.31	.26	.58	.28	.030	.050	.030	.000	644.27	1103.68
.000049	21.	66.	21.	2	0	0	.00	181.23	1284.91

*SECNO 45395.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45395.000	8.25	652.92	.00	.00	652.93	.01	.00	.00	646.67
332.0	.0	332.0	.0	.0	357.7	.0	9.2	2.7	646.52
.32	.00	.93	.00	.000	.050	.000	.000	644.67	1187.40
.000092	39.	39.	39.	2	0	0	-69.57	48.00	1235.40

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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 45435.000

3370 NORMAL BRIDGE, NRD= 28 MIN ELTRD= 660.72 MAX ELLC= 659.04

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 661.00 ELREA= 661.00

45435.000	8.25	652.92	.00	.00	652.94	.01	.00	.00	646.67
332.0	.0	332.0	.0	.0	357.9	.0	9.6	2.8	646.52
.34	.00	.93	.00	.000	.050	.000	.000	644.67	1187.40
.000092	40.	40.	40.	0	0	0	-69.62	48.00	1235.40

CCHV= .100 CEHV= .300
*SECNO 45501.000

3265 DIVIDED FLOW

45501.000	5.65	652.93	.00	.00	652.94	.01	.01	.00	650.01
332.0	108.0	196.1	27.9	159.7	180.9	55.8	10.1	3.0	650.34
.36	.68	1.08	.50	.030	.040	.030	.000	647.28	1077.23
.000104	66.	66.	66.	0	0	0	.00	239.71	1330.65

*SECNO 45650.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .44

45650.000	4.53	652.93	.00	.00	652.98	.05	.03	.01	652.10
332.0	54.1	265.9	12.1	51.2	132.8	13.1	11.0	3.5	652.10
.38	1.06	2.00	.92	.030	.040	.030	.000	648.40	986.04
.000545	129.	139.	144.	1	0	0	.00	115.82	1101.86

CCHV= .300 CEHV= .500
*SECNO 45750.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .40

45750.000	5.62	653.02	.00	.00	653.03	.01	.04	.01	654.20
62.0	.0	62.0	.0	.0	80.0	.0	11.4	3.7	654.50
.41	.00	.77	.00	.000	.040	.000	.000	647.40	1108.62
.000116	100.	100.	100.	2	0	0	.00	25.41	1134.03

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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 45755.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45755.000	5.62	653.02	.00	.00	653.04	.02	.00	.01	654.20
62.0	.0	62.0	.0	.0	52.7	.0	11.4	3.7	654.50
.41	.00	1.18	.00	.000	.015	.000	.000	647.40	1108.62
.000086	5.	5.	5.	0	0	0	-27.32	25.42	1134.04

*SECNO 45757.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 651.00 MAX ELLC= 654.50

45757.000	5.62	653.02	.00	.00	653.04	.02	.00	.00	654.20
62.0	.0	62.0	.0	.0	52.6	.0	11.4	3.7	654.50
.42	.00	1.18	.00	.000	.015	.000	.000	647.40	1108.63
.000087	2.	2.	2.	0	0	0	-27.32	25.40	1134.03

*SECNO 45760.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

45760.000	5.64	653.04	.00	.00	653.04	.01	.00	.00	654.20
62.0	.0	62.0	.0	.0	80.1	.0	11.4	3.7	654.50
.42	.00	.77	.00	.000	.050	.000	.000	647.40	1108.62
.000180	3.	3.	3.	1	0	0	.00	25.42	1134.04

*SECNO 45785.000

45785.000	5.64	653.04	.00	.00	653.05	.01	.00	.00	654.20
62.0	.0	62.0	.0	.0	80.4	.0	11.4	3.7	654.50
.43	.00	.77	.00	.000	.050	.000	.000	647.40	1108.60
.000179	25.	25.	25.	0	0	0	.00	25.45	1134.05

CCHV= .300 CEHV= .500
*SECNO 45810.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.25

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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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45810.000	6.91	653.05	.00	.00	653.05	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	96.7	.0	11.5	3.7	646.14
.44	.00	.64	.00	.000	.050	.000	.000	646.14	1089.00
.000035	25.	25.	25.	0	0	0	.00	14.00	1103.00

*SECNO 45815.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.27

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45815.000	6.91	653.05	.00	.00	653.05	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	92.7	.0	11.5	3.7	646.14
.44	.00	.67	.00	.000	.015	.000	.000	646.14	1089.00
.000007	5.	5.	5.	0	0	0	-4.02	14.00	1103.00

*SECNO 45835.000

3370 NORMAL BRIDGE, NRD= 24 MIN ELTRD= 653.89 MAX ELLC= 653.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 653.90 ELREA= 653.90

45835.000	6.91	653.05	.00	.00	653.05	.01	.00	.00	646.14
62.0	.0	62.0	.0	.0	92.7	.0	11.5	3.8	646.14
.45	.00	.67	.00	.000	.015	.000	.000	646.14	1089.00
.000007	21.	21.	21.	0	0	0	-4.02	14.00	1103.00

*SECNO 45840.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

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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


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.20 ELREA=       654.20

  45840.000      6.15    653.05       .00       .00    653.05       .00       .00       .00    654.10
       62.0        .0      62.0        .0        .0    120.1        .0      11.5       3.8    654.80
        .45       .00       .52       .00      .000     .050      .000      .000    646.90   1082.89
    .000054        5.        5.        5.         0        0         0       .00     28.34   1111.23


 CCHV=     .100 CEHV=     .300
 *SECNO 45870.000
  45870.000      6.15    653.05       .00       .00    653.05       .00       .00       .00    654.10
       62.0        .0      62.0        .0        .0    120.2        .0      11.6       3.8    654.80
        .47       .00       .52       .00      .000     .040      .000      .000    646.90   1082.88
    .000035       30.       30.       30.         0        0         0       .00     28.36   1111.24


 *SECNO 45885.000
  45885.000      6.21    653.05       .00       .00    653.06       .00       .00       .00    653.11
       62.0        .0      62.0        .0        .0    125.5        .0      11.7       3.8    654.38
        .47       .00       .49       .00      .000     .040      .000      .000    646.84   1204.38
    .000029       15.       15.       15.         0        0         0       .00     27.84   1232.22


 *SECNO 46140.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.72

  46140.000      5.56    653.06       .00       .00    653.06       .00       .00       .00    652.30
       62.0        1.6     60.1        .3      45.1     500.0      10.8      13.7       4.6    652.40
       1.08        .04       .12       .03      .030     .040      .030      .000    647.50    927.95
    .000001       255.      255.      255.         0        0         0       .00    235.28   1224.57


 *SECNO 46290.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.91

  46290.000      5.36    653.06       .00       .00    653.06       .00       .00       .00    652.50
       62.0        .0      62.0        .0        .4    1530.3       4.2      17.3       5.6    652.30
       2.11        .01       .04       .01      .030     .040      .030      .000    647.70   1133.71
    .000000       150.      150.      150.         0        0         0       .00    345.24   1478.95


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    21MAY12      10:31:27                                                                                PAGE   83

     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=     .300 CEHV=     .500
 *SECNO 46540.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .46

  46540.000      4.86    653.06       .00       .00    653.06       .00       .00       .00    654.90
       62.0        .0      62.0        .0        .0    770.9        .0      23.9       7.1    656.10
       2.97       .00       .08       .00      .000     .040      .000      .000    648.20   1167.80
    .000001       250.      250.      250.         0        0         0       .00    189.08   1356.88


 *SECNO 46610.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .11


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       654.80 ELREA=       654.80

  46610.000      5.05    653.05       .00       .00    653.06       .01       .00       .00    654.60
       62.0        .0      62.0        .0        .0     95.3        .0      24.6       7.3    655.60
       3.00       .00       .65       .00      .000     .040      .000      .000    648.00   1208.03
    .000063       70.       70.       70.         0        0         0       .00     23.56   1231.59


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    21MAY12      10:31:27                                                                                PAGE   84
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THIS RUN EXECUTED 21MAY12 13:47:39

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

 Version   4.6.2;  May 1991
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

YEAR

SUMMARY PRINTOUT
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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
	43155.000	654.79	1480.00	1002.30	1065.20	1025.53	1047.75	22.22	.00
	43155.000	653.68	1189.00	1002.30	1065.20	1025.60	1047.66	22.06	.00
	43155.000	653.08	1021.00	1002.30	1065.20	1025.64	1047.61	21.97	.00
	43155.000	652.36	812.00	1002.30	1065.20	1025.68	1047.55	21.87	.00
	43155.000	651.78	645.00	1002.30	1065.20	1025.72	1047.50	21.79	.00
	43155.000	651.30	538.00	1002.30	1065.20	1025.75	1047.46	21.72	.00
	43155.000	650.63	406.00	1002.30	1065.20	1025.79	1047.41	21.62	.00
*	43305.000	655.84	1480.00	1085.10	1159.90	708.55	1151.16	318.51	1.82
*	43305.000	654.61	1189.00	1085.10	1159.90	1085.77	1149.08	63.31	.95
*	43305.000	653.91	1021.00	1085.10	1159.90	1086.97	1147.90	60.93	.86
*	43305.000	653.05	812.00	1085.10	1159.90	1088.47	1146.43	57.96	.74
*	43305.000	652.34	645.00	1085.10	1159.90	1089.69	1145.23	55.53	.65
*	43305.000	651.79	538.00	1085.10	1159.90	1090.64	1144.30	53.65	.58
*	43305.000	651.03	406.00	1085.10	1159.90	1091.94	1143.02	51.07	.49
*	43659.000	655.96	1480.00	1238.30	1279.40	1035.74	1390.87	355.13	9.29
*	43659.000	654.87	1189.00	1238.30	1279.40	1188.79	1387.27	198.48	5.75
*	43659.000	654.19	1021.00	1238.30	1279.40	1191.73	1385.10	193.36	4.93
*	43659.000	653.34	812.00	1238.30	1279.40	1195.37	1382.89	187.53	3.95
	43659.000	652.64	645.00	1238.30	1279.40	1202.79	1381.09	178.30	3.17
	43659.000	652.11	538.00	1238.30	1279.40	1211.96	1379.60	155.10	2.62
	43659.000	651.41	406.00	1238.30	1279.40	1224.15	1277.76	53.61	1.82
*	43675.000	655.98	1480.00	1128.50	1175.80	891.53	1358.08	411.53	9.78
*	43675.000	654.90	1189.00	1128.50	1175.80	978.29	1355.92	359.24	6.12
*	43675.000	654.21	1021.00	1128.50	1175.80	981.49	1354.57	346.11	5.23
*	43675.000	653.37	812.00	1128.50	1175.80	1087.62	1352.91	265.30	4.17
*	43675.000	652.68	645.00	1128.50	1175.80	1129.43	1351.54	222.11	3.34
*	43675.000	652.16	538.00	1128.50	1175.80	1130.97	1350.51	219.54	2.75
	43675.000	651.43	406.00	1128.50	1175.80	1133.13	1175.55	42.42	1.88

	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	43873.000	655.93	1370.00	1435.90	1460.20	1293.39	1508.46	187.12	14.81
*	43873.000	654.88	951.00	1435.90	1460.20	1416.06	1501.72	85.66	9.95
*	43873.000	654.20	802.00	1435.90	1460.20	1417.78	1496.04	78.26	8.38
*	43873.000	653.38	641.00	1435.90	1460.20	1419.90	1489.49	69.58	6.58
*	43873.000	652.71	517.00	1435.90	1460.20	1421.63	1486.70	65.07	5.25
*	43873.000	652.21	437.00	1435.90	1460.20	1422.92	1484.62	61.70	4.31
*	43873.000	651.68	332.00	1435.90	1460.20	1424.27	1482.43	58.16	2.60
	44015.000	656.06	1370.00	1086.20	1163.20	923.00	1161.09	238.09	17.03
	44015.000	654.98	951.00	1086.20	1163.20	923.00	1156.82	233.82	11.59
	44015.000	654.30	802.00	1086.20	1163.20	975.63	1154.16	178.54	9.70
	44015.000	653.47	641.00	1086.20	1163.20	1011.19	1150.91	139.72	7.59
	44015.000	652.80	517.00	1086.20	1163.20	1069.75	1148.27	78.52	6.08
	44015.000	652.31	437.00	1086.20	1163.20	1085.93	1146.32	60.40	5.02
	44015.000	651.77	332.00	1086.20	1163.20	1087.79	1144.21	56.42	3.21
	44186.000	656.10	1370.00	1204.70	1260.50	1016.89	1279.97	263.08	20.07
	44186.000	655.02	951.00	1204.70	1260.50	1106.10	1276.22	170.12	13.67
	44186.000	654.36	802.00	1204.70	1260.50	1172.05	1273.97	101.91	11.34
	44186.000	653.56	641.00	1204.70	1260.50	1184.70	1271.16	86.46	8.82
	44186.000	652.90	517.00	1204.70	1260.50	1192.59	1268.85	76.26	7.06
	44186.000	652.42	437.00	1204.70	1260.50	1198.18	1261.56	63.38	5.87
	44186.000	651.87	332.00	1204.70	1260.50	1204.44	1258.60	54.16	3.94
	44335.000	656.16	1370.00	1131.10	1165.00	920.20	1190.96	270.76	22.38
	44335.000	655.08	951.00	1131.10	1165.00	1037.18	1186.62	149.44	15.19
	44335.000	654.44	802.00	1131.10	1165.00	1085.33	1184.01	98.68	12.59
	44335.000	653.65	641.00	1131.10	1165.00	1105.41	1180.84	75.43	9.83
	44335.000	653.00	517.00	1131.10	1165.00	1108.01	1178.22	70.20	7.89
	44335.000	652.52	437.00	1131.10	1165.00	1109.94	1175.47	65.53	6.59
	44335.000	651.97	332.00	1131.10	1165.00	1112.18	1170.70	58.52	4.54

	44530.000	656.23	1370.00	1131.10	1165.00	920.20	1191.29	271.09	25.42
	44530.000	655.17	951.00	1131.10	1165.00	1010.68	1186.98	176.31	17.17
	44530.000	654.52	802.00	1131.10	1165.00	1081.18	1184.40	103.22	14.22
	44530.000	653.75	641.00	1131.10	1165.00	1105.00	1181.25	76.26	11.16
	44530.000	653.10	517.00	1131.10	1165.00	1107.57	1178.67	71.10	9.01
	44530.000	652.63	437.00	1131.10	1165.00	1109.51	1176.41	66.90	7.56
	44530.000	652.07	332.00	1131.10	1165.00	1111.76	1171.60	59.83	5.35
*	44592.000	656.05	1370.00	1117.10	1140.20	1117.10	1140.20	23.10	26.13
*	44592.000	655.09	951.00	1117.10	1140.20	1117.10	1140.20	23.10	17.68
	44592.000	654.48	802.00	1117.10	1140.20	1117.10	1140.20	23.10	14.65
	44592.000	653.72	641.00	1117.10	1140.20	1117.10	1140.20	23.10	11.53
	44592.000	653.10	517.00	1117.10	1140.20	1117.10	1140.20	23.10	9.33
	44592.000	652.64	437.00	1117.10	1140.20	1117.10	1140.20	23.10	7.85
	44592.000	652.08	332.00	1117.10	1140.20	1117.10	1140.20	23.10	5.61

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
	44630.000	656.14	1370.00	1117.10	1140.20	1117.10	1140.20	23.10	26.23
	44630.000	655.14	951.00	1117.10	1140.20	1117.10	1140.20	23.10	17.77
	44630.000	654.52	802.00	1117.10	1140.20	1117.10	1140.20	23.10	14.74
	44630.000	653.76	641.00	1117.10	1140.20	1117.10	1140.20	23.10	11.61
	44630.000	653.13	517.00	1117.10	1140.20	1117.10	1140.20	23.10	9.41
	44630.000	652.66	437.00	1117.10	1140.20	1117.10	1140.20	23.10	7.92
	44630.000	652.10	332.00	1117.10	1140.20	1117.10	1140.20	23.10	5.67
	44830.000	656.81	1370.00	1097.70	1118.70	1097.70	1118.70	21.00	27.56
	44830.000	655.39	951.00	1097.70	1118.70	1097.70	1118.70	21.00	18.96
	44830.000	654.55	802.00	1097.70	1118.70	1097.70	1118.70	21.00	15.84
	44830.000	653.78	641.00	1097.70	1118.70	1097.70	1118.70	21.00	12.62
	44830.000	653.14	517.00	1097.70	1118.70	1097.70	1118.70	21.00	10.34
	44830.000	652.67	437.00	1097.70	1118.70	1097.70	1118.70	21.00	8.79
	44830.000	652.11	332.00	1097.70	1118.70	1097.70	1118.70	21.00	6.48
	44870.000	657.05	1370.00	1095.00	1121.00	1095.00	1121.00	26.00	27.77
	44870.000	655.54	951.00	1095.00	1121.00	1095.00	1121.00	26.00	19.14
	44870.000	654.67	802.00	1095.00	1121.00	1095.00	1121.00	26.00	16.01
	44870.000	653.87	641.00	1095.00	1121.00	1095.00	1121.00	26.00	12.77
	44870.000	653.22	517.00	1095.00	1121.00	1095.00	1121.00	26.00	10.49
	44870.000	652.73	437.00	1095.00	1121.00	1095.00	1121.00	26.00	8.93
	44870.000	652.15	332.00	1095.00	1121.00	1095.00	1121.00	26.00	6.61
	44910.000	657.05	1370.00	1095.00	1121.00	1095.00	1121.00	26.00	27.85
	44910.000	655.55	951.00	1095.00	1121.00	1095.00	1121.00	26.00	19.22
	44910.000	654.68	802.00	1095.00	1121.00	1095.00	1121.00	26.00	16.07
	44910.000	653.88	641.00	1095.00	1121.00	1095.00	1121.00	26.00	12.83
	44910.000	653.22	517.00	1095.00	1121.00	1095.00	1121.00	26.00	10.54
	44910.000	652.74	437.00	1095.00	1121.00	1095.00	1121.00	26.00	8.98
	44910.000	652.15	332.00	1095.00	1121.00	1095.00	1121.00	26.00	6.65
*	44970.000	658.40	1370.00	1115.00	1141.00	912.40	1298.77	386.37	28.77
*	44970.000	657.89	951.00	1115.00	1141.00	1015.66	1266.37	250.70	19.99
	44970.000	656.83	802.00	1115.00	1141.00	1115.00	1141.00	26.00	16.43
	44970.000	655.21	641.00	1115.00	1141.00	1115.00	1141.00	26.00	13.15
	44970.000	654.06	517.00	1115.00	1141.00	1115.00	1141.00	26.00	10.82
	44970.000	653.31	437.00	1115.00	1141.00	1115.00	1141.00	26.00	9.24
*	44970.000	652.47	332.00	1115.00	1141.00	1115.00	1141.00	26.00	6.88
*	45025.000	658.44	1370.00	1043.30	1086.30	941.82	1338.86	397.04	31.41
*	45025.000	657.91	951.00	1043.30	1086.30	955.66	1330.14	374.48	22.31
*	45025.000	656.99	802.00	1043.30	1086.30	975.54	1314.69	339.15	17.92
*	45025.000	655.36	641.00	1043.30	1086.30	979.40	1287.40	308.00	14.02
*	45025.000	654.18	517.00	1043.30	1086.30	1006.76	1267.60	242.19	11.30
	45025.000	653.41	437.00	1043.30	1086.30	1012.13	1232.80	137.60	9.54
	45025.000	652.54	332.00	1043.30	1086.30	1018.25	1085.39	67.15	7.12

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45345.000	658.44	1370.00	1101.10	1134.20	958.72	1248.75	290.03	42.70
*	45345.000	657.92	951.00	1101.10	1134.20	965.66	1239.91	274.25	32.31
*	45345.000	657.00	802.00	1101.10	1134.20	977.83	1224.42	246.60	25.82
*	45345.000	655.39	641.00	1101.10	1134.20	998.87	1197.62	198.75	18.66
	45345.000	654.28	517.00	1101.10	1134.20	1027.43	1178.99	151.56	13.99
	45345.000	653.59	437.00	1101.10	1134.20	1046.13	1167.31	121.18	11.34
*	45345.000	652.79	332.00	1101.10	1134.20	1077.69	1154.08	76.39	8.33
*	45356.000	658.46	1370.00	1152.50	1270.30	1035.68	1322.54	286.86	44.27
*	45356.000	657.93	951.00	1152.50	1270.30	1038.99	1320.09	281.10	33.76
*	45356.000	657.01	802.00	1152.50	1270.30	1044.66	1315.12	270.46	27.08
*	45356.000	655.42	641.00	1152.50	1270.30	1054.47	1306.32	251.85	19.61

*	45356.000	654.34	517.00	1152.50	1270.30	1061.21	1298.98	237.77	14.74
*	45356.000	653.68	437.00	1152.50	1270.30	1080.34	1292.44	212.11	11.99
*	45356.000	652.92	332.00	1152.50	1270.30	1103.83	1284.86	181.03	8.86
*	45395.000	658.42	1370.00	1187.40	1235.40	1187.40	1235.40	48.00	45.42
*	45395.000	657.91	951.00	1187.40	1235.40	1187.40	1235.40	48.00	34.84
*	45395.000	657.00	802.00	1187.40	1235.40	1187.40	1235.40	48.00	28.03
*	45395.000	655.41	641.00	1187.40	1235.40	1187.40	1235.40	48.00	20.34
*	45395.000	654.33	517.00	1187.40	1235.40	1187.40	1235.40	48.00	15.33
*	45395.000	653.67	437.00	1187.40	1235.40	1187.40	1235.40	48.00	12.49
	45395.000	652.91	332.00	1187.40	1235.40	1187.40	1235.40	48.00	9.28
	45435.000	658.44	1370.00	1187.40	1235.40	1187.40	1235.40	48.00	45.96
	45435.000	657.92	951.00	1187.40	1235.40	1187.40	1235.40	48.00	35.36
	45435.000	657.00	802.00	1187.40	1235.40	1187.40	1235.40	48.00	28.53
	45435.000	655.42	641.00	1187.40	1235.40	1187.40	1235.40	48.00	20.78
	45435.000	654.34	517.00	1187.40	1235.40	1187.40	1235.40	48.00	15.73
	45435.000	653.68	437.00	1187.40	1235.40	1187.40	1235.40	48.00	12.86
	45435.000	652.92	332.00	1187.40	1235.40	1187.40	1235.40	48.00	9.61
*	45501.000	658.53	1370.00	1196.00	1231.60	1052.12	1388.58	336.46	47.95
*	45501.000	657.96	951.00	1196.00	1231.60	1054.67	1386.92	332.25	37.20
*	45501.000	657.04	802.00	1196.00	1231.60	1058.82	1384.21	325.39	30.12
*	45501.000	655.45	641.00	1196.00	1231.60	1065.99	1349.35	283.37	21.95
*	45501.000	654.36	517.00	1196.00	1231.60	1070.86	1341.25	270.39	16.63
	45501.000	653.70	437.00	1196.00	1231.60	1073.83	1336.30	262.47	13.60
	45501.000	652.92	332.00	1196.00	1231.60	1077.25	1330.61	239.22	10.18
	45650.000	658.53	1370.00	1046.80	1082.80	907.31	1314.54	407.24	53.96
*	45650.000	657.96	951.00	1046.80	1082.80	916.07	1307.32	391.25	42.56
*	45650.000	657.04	802.00	1046.80	1082.80	930.61	1295.35	364.74	34.44
*	45650.000	655.45	641.00	1046.80	1082.80	953.11	1274.82	321.71	24.66
*	45650.000	654.35	517.00	1046.80	1082.80	967.39	1145.68	171.06	18.43
*	45650.000	653.69	437.00	1046.80	1082.80	976.04	1104.46	128.42	14.98
*	45650.000	652.92	332.00	1046.80	1082.80	986.11	1101.84	115.74	11.11

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45750.000	658.54	820.00	1107.00	1136.00	916.47	1240.61	324.14	57.27
*	45750.000	657.97	96.00	1107.00	1136.00	927.44	1228.28	300.84	45.41
*	45750.000	657.05	91.00	1107.00	1136.00	945.27	1208.22	262.94	36.59
*	45750.000	655.47	83.00	1107.00	1136.00	975.48	1163.84	188.35	25.77
*	45750.000	654.40	76.00	1107.00	1136.00	996.13	1135.87	139.74	19.04
*	45750.000	653.76	70.00	1107.00	1136.00	1107.61	1135.01	27.40	15.43
*	45750.000	653.02	62.00	1107.00	1136.00	1108.63	1134.03	25.40	11.42
	45755.000	658.53	820.00	1107.00	1136.00	916.43	1240.66	324.23	57.40
	45755.000	657.97	96.00	1107.00	1136.00	927.30	1228.43	301.14	45.52
	45755.000	657.05	91.00	1107.00	1136.00	945.10	1208.41	263.31	36.66
*	45755.000	655.47	83.00	1107.00	1136.00	975.48	1163.87	188.40	25.80
*	45755.000	654.40	76.00	1107.00	1136.00	996.12	1135.87	139.75	19.06
	45755.000	653.75	70.00	1107.00	1136.00	1107.61	1135.01	27.40	15.44
	45755.000	653.01	62.00	1107.00	1136.00	1108.62	1134.03	25.40	11.43
	45757.000	658.53	820.00	1107.00	1136.00	916.51	1240.57	324.06	57.45
	45757.000	657.97	96.00	1107.00	1136.00	927.30	1228.43	301.13	45.56
	45757.000	657.05	91.00	1107.00	1136.00	945.11	1208.41	263.30	36.69
	45757.000	655.47	83.00	1107.00	1136.00	975.50	1163.76	188.26	25.81
	45757.000	654.40	76.00	1107.00	1136.00	996.17	1135.87	139.70	19.06
	45757.000	653.75	70.00	1107.00	1136.00	1107.61	1135.01	27.39	15.44
	45757.000	653.01	62.00	1107.00	1136.00	1108.63	1134.02	25.39	11.43
	45760.000	658.55	820.00	1107.00	1136.00	916.40	1240.69	324.29	57.53
	45760.000	657.97	96.00	1107.00	1136.00	927.30	1228.43	301.13	45.62
	45760.000	657.05	91.00	1107.00	1136.00	945.11	1208.41	263.30	36.74
*	45760.000	655.47	83.00	1107.00	1136.00	975.50	1163.76	188.26	25.83
*	45760.000	654.40	76.00	1107.00	1136.00	996.17	1135.87	139.70	19.07
*	45760.000	653.76	70.00	1107.00	1136.00	1107.61	1135.01	27.39	15.44
*	45760.000	653.03	62.00	1107.00	1136.00	1108.62	1134.03	25.41	11.44
	45785.000	658.55	820.00	1107.00	1136.00	916.28	1240.83	324.56	58.16
	45785.000	657.97	96.00	1107.00	1136.00	927.30	1228.44	301.14	46.16
	45785.000	657.05	91.00	1107.00	1136.00	945.09	1208.42	263.32	37.12
	45785.000	655.47	83.00	1107.00	1136.00	975.45	1164.03	188.58	26.01
	45785.000	654.41	76.00	1107.00	1136.00	996.03	1135.88	139.85	19.15
	45785.000	653.77	70.00	1107.00	1136.00	1107.60	1135.02	27.42	15.50
	45785.000	653.04	62.00	1107.00	1136.00	1108.61	1134.05	25.44	11.48
	45810.000	658.55	820.00	1089.00	1103.00	899.55	1381.67	482.12	58.86
	45810.000	657.97	96.00	1089.00	1103.00	912.85	1359.09	446.25	46.73
	45810.000	657.05	91.00	1089.00	1103.00	939.62	1301.54	352.01	37.51
	45810.000	655.47	83.00	1089.00	1103.00	985.27	1203.42	182.39	26.17
*	45810.000	654.41	76.00	1089.00	1103.00	1016.15	1103.63	46.26	19.23
*	45810.000	653.77	70.00	1089.00	1103.00	1089.00	1103.00	14.00	15.56

*	45810.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	11.53

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	45815.000	658.55	820.00	1089.00	1103.00	899.51	1381.69	482.18	59.01
*	45815.000	657.97	96.00	1089.00	1103.00	912.85	1359.09	446.25	46.84
*	45815.000	657.05	91.00	1089.00	1103.00	939.62	1301.54	352.01	37.59
	45815.000	655.47	83.00	1089.00	1103.00	985.29	1203.37	182.29	26.20
	45815.000	654.41	76.00	1089.00	1103.00	1016.18	1103.63	46.21	19.24
*	45815.000	653.77	70.00	1089.00	1103.00	1089.00	1103.00	14.00	15.57
*	45815.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	11.55
*	45835.000	658.55	820.00	1089.00	1103.00	899.51	1381.69	482.18	59.59
*	45835.000	657.97	96.00	1089.00	1103.00	912.85	1359.09	446.24	47.30
*	45835.000	657.05	91.00	1089.00	1103.00	939.63	1301.53	351.99	37.87
	45835.000	655.47	83.00	1089.00	1103.00	985.34	1203.27	182.08	26.30
	45835.000	654.41	76.00	1089.00	1103.00	1016.23	1103.63	46.11	19.29
	45835.000	653.77	70.00	1089.00	1103.00	1089.00	1103.00	14.00	15.62
	45835.000	653.04	62.00	1089.00	1103.00	1089.00	1103.00	14.00	11.59
*	45840.000	658.56	820.00	1081.90	1115.80	895.47	1454.20	558.73	59.77
*	45840.000	657.97	96.00	1081.90	1115.80	903.07	1432.39	529.32	47.44
*	45840.000	657.05	91.00	1081.90	1115.80	915.25	1397.42	482.16	37.97
	45840.000	655.48	83.00	1081.90	1115.80	948.05	1240.70	292.65	26.33
*	45840.000	654.42	76.00	1081.90	1115.80	985.99	1114.77	128.78	19.31
*	45840.000	653.78	70.00	1081.90	1115.80	1082.21	1113.12	30.91	15.63
*	45840.000	653.04	62.00	1081.90	1115.80	1082.89	1111.22	28.33	11.60
	45870.000	658.56	820.00	1081.90	1115.80	895.37	1454.50	559.13	61.05
	45870.000	657.97	96.00	1081.90	1115.80	903.06	1432.40	529.34	48.51
	45870.000	657.05	91.00	1081.90	1115.80	915.24	1397.45	482.21	38.72
	45870.000	655.48	83.00	1081.90	1115.80	947.75	1241.23	293.48	26.62
	45870.000	654.42	76.00	1081.90	1115.80	985.65	1114.80	129.15	19.44
	45870.000	653.78	70.00	1081.90	1115.80	1082.20	1113.13	30.93	15.73
	45870.000	653.05	62.00	1081.90	1115.80	1082.89	1111.23	28.34	11.68
	45885.000	658.56	820.00	1204.30	1234.30	1000.00	1546.00	546.00	61.63
*	45885.000	657.97	96.00	1204.30	1234.30	1011.92	1512.58	500.66	48.98
	45885.000	657.05	91.00	1204.30	1234.30	1045.70	1417.85	372.15	39.04
	45885.000	655.48	83.00	1204.30	1234.30	1103.14	1268.19	165.05	26.76
	45885.000	654.42	76.00	1204.30	1234.30	1142.06	1235.43	93.37	19.51
	45885.000	653.78	70.00	1204.30	1234.30	1167.38	1233.36	65.98	15.78
	45885.000	653.05	62.00	1204.30	1234.30	1204.39	1232.22	27.83	11.73
*	46140.000	658.56	820.00	1089.70	1191.70	780.37	1481.20	700.82	76.09
*	46140.000	657.97	96.00	1089.70	1191.70	794.80	1466.21	671.40	61.35
*	46140.000	657.05	91.00	1089.70	1191.70	817.50	1442.63	625.13	48.48
*	46140.000	655.48	83.00	1089.70	1191.70	856.85	1402.57	545.71	32.30
*	46140.000	654.42	76.00	1089.70	1191.70	884.90	1306.97	422.07	23.09
*	46140.000	653.78	70.00	1089.70	1191.70	902.73	1260.69	349.51	18.49
*	46140.000	653.05	62.00	1089.70	1191.70	928.10	1224.36	234.61	13.72

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	SECNO	CWSEL	Q	STCHL	STCHR	SSTA	ENDST	TOPWID	VOL
*	46290.000	658.56	820.00	1135.20	1467.80	852.33	1559.71	707.38	89.92
*	46290.000	657.97	96.00	1135.20	1467.80	870.43	1551.09	680.66	73.78
*	46290.000	657.05	91.00	1135.20	1467.80	898.72	1537.62	638.90	58.83
*	46290.000	655.48	83.00	1135.20	1467.80	946.81	1514.60	560.24	39.44
*	46290.000	654.42	76.00	1135.20	1467.80	979.33	1498.99	460.77	28.37
*	46290.000	653.78	70.00	1135.20	1467.80	1002.36	1489.62	372.22	22.90
*	46290.000	653.05	62.00	1135.20	1467.80	1133.72	1478.89	345.17	17.31
*	46540.000	658.56	820.00	1163.30	1359.10	816.80	1553.17	736.36	111.79
*	46540.000	657.97	96.00	1163.30	1359.10	846.28	1526.55	680.26	93.27
*	46540.000	657.05	91.00	1163.30	1359.10	892.44	1453.60	561.15	74.90
*	46540.000	655.48	83.00	1163.30	1359.10	970.90	1358.65	387.75	50.77
*	46540.000	654.42	76.00	1163.30	1359.10	1164.47	1357.87	193.40	37.22
*	46540.000	653.78	70.00	1163.30	1359.10	1166.03	1357.41	191.38	30.64
*	46540.000	653.05	62.00	1163.30	1359.10	1167.81	1356.87	189.07	23.92
*	46610.000	658.56	820.00	1204.00	1235.80	859.91	1408.05	548.13	115.58
*	46610.000	657.97	96.00	1204.00	1235.80	882.45	1385.25	502.80	96.48
*	46610.000	657.05	91.00	1204.00	1235.80	917.75	1349.53	431.78	77.29
*	46610.000	655.48	83.00	1204.00	1235.80	977.75	1235.60	257.85	52.14
*	46610.000	654.42	76.00	1204.00	1235.80	1204.48	1233.85	29.37	38.15
*	46610.000	653.78	70.00	1204.00	1235.80	1206.18	1232.79	26.61	31.46
*	46610.000	653.05	62.00	1204.00	1235.80	1208.03	1231.58	23.55	24.62

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SUMMARY OF ERRORS AND SPECIAL NOTES

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 WARNING SECNO=  43305.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  43305.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=  46290.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46290.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=  46540.000  PROFILE=  3  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  4  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46540.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=  46610.000  PROFILE=  5  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  6  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  46610.000  PROFILE=  7  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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SECTION 12

IDNR-OWR FLOODWAY PERMIT SUMMARY
COMPENSATORY STORAGE SUMMARY

Illinois Department of Transportation

Permit Summary for Floodway Construction in Northeast Illinois

Applicant Agency:	Illinois Department of Transportation	County:	Cook
Route:	Interstate 294	Stream:	Addison Creek
Section:		SN:	

General Description (bridge length, bridge width, number of spans, abutment type, proposed scope of work within floodway, etc.):
Existing Facility: 214 ft, two 10' W x 10' H reinforced concrete box culverts
Proposed Improvement:

1. Is the proposed work classified as repairs such as deck replacement, pavement resurfacing, or the armoring or filling of a scour hole? ☐ Yes ☒ No

2. Does the proposed work only consist of modifications to the existing structure which will occur above the regulatory 100-year flood profile? ☐ Yes ☒ No

Note: If the answer to question 1 or 2 is yes, no permit is required and questions 3 through 12 may be omitted.

3. Does the proposed work below the regulatory 100-year flood profile consist of widening of the existing structure by 12 feet or less? ☐ Yes ☒ No

Note: If yes, Regional Permit No. 2 applies and questions 4 through 9 may be omitted.

4. Is the proposed improvement, including the approach roadway, more restrictive to normal and flood flows than the existing structure? ☐ Yes ☒ No

5. Is a Channel Modification proposed? ☐ Yes ☒ No

6. Are there any buildings or structures located upstream in the 100-year floodplain within the influence of the structure backwater? ☐ Yes ☒ No

   6a. If no, does the backwater of the proposed improvement exceed the backwater of the existing structure by more than 0.1 foot? ☐ Yes ☒ No

   6b. If yes, does the proposed backwater exceed the natural high water elevation by more than 0.1 foot? ☐ Yes ☐ No

7. Are transitions required for this project? ☐ Yes ☒ No

8. Is the flood profile at the project site impacted by backwater from a downstream receiving stream? ☐ Yes ☒ No

   If yes, list frequency of starting elevation for analysis:

9. Is backwater from a downstream structure affecting the flood profile at the project site? ☐ Yes ☒ No

9a. Was the existing downstream structure used in the analysis for determining flood profile at the project site? years? (Attach documentation) ☐ Yes ☐ No

9b. Is the downstream structure scheduled for improvement in the next 5 ☐ Yes ☐ No

9c. Was the proposed downstream improvement used in the analysis? ☐ Yes ☐ No

10. Is a floodway map change required due to the proposed project? ☐ Yes ☒ No

11. Will fill or material be placed in the floodway due to the proposed work? ☒ Yes ☐ No

11a. If yes, is compensatory storage provided at the project location? (Attach a copy of completed Attachment A) ☒ Yes ☐ No

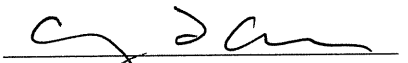
11b. If the answer to 11a is no, is compensatory storage provided at another location? If yes, give location and attach a copy of completed Attachment A. ☐ Yes ☐ No

11c. Has compensatory storage relief been granted? (Attach Documentation) ☐ Yes ☐ No

12. Coordination based on Memorandum of Agreement has occurred with Agency(ies) (Attach documentation):. ☐ Yes ☐ No

---

All engineering analysis has been performed by me or under my direct supervision.

Signature: 

IL/P.E. #: 062063534

Date: 8/24/2012

P.E. Expiration Date: 11-30-2013

FOR DEPARTMENTAL USE ONLY

Is a permit required for this project? ☐ Yes ☐ No

If yes, specify type of permit: ☐ Floodway, ☐ Regional 1, ☐ Regional 2

Permit Summary
(Attachment A - Compensatory Storage)

Part of Permit Summary for Floodway Construction in Northeast Illinois:

☒ Phase I (Preliminary) ☐ Phase II (Final)

Applicant Agency:	IDOT	County:	Cook
Route:	I-294	Stream:	Addison Creek
Section:		SN:	

Provide the following information for Item 11:

a. Flood Water Elevations (Natural): 100-year 655.0 ft. Normal 648.21 ft. 10-year 652.9 ft.

b. Determine the amount of fill or material being placed in the floodway:

1. Between the 100-year and 10-year flood elevation 0.11 ac-ft.
2. Between the 10-year and normal water elevation 0.07 ac-ft.

c. Determine the volume being provided to compensate for above item b:
(i.e. from structures removal, excavation, etc.)

1. Between the 100-year and 10-year flood elevation 0.14 ac-ft.
2. Between the 10-year and normal water elevation 0.09 ac-ft.

d. Mark on the exhibits the location and amount of compensatory storage to be excavated. Also show the location of floodway and floodplain boundaries. (Include a set of plans and cross sections)

Attach copy of calculations and Exhibit(s) reflecting the above finding.

All engineering analysis has been performed by me or under my direct supervision.

Signature:		IL/P.E. #:	062063534
Date:	8/24/2012	P.E. Expiration Date:	11-20-2013

N:\Idot\070404\Water\Addison Creek\docs\Report Forms\D1 PD0024.docx

ORDINANCE O-20-2008

AN ORDINANCE REGULATING DEVELOPMENT IN SPECIAL FLOOD HAZARD AREAS AND AMENDING TITLE 12, CHAPTER 1 OF THE CITY CODE OF THE CITY OF NORTHLAKE, ILLINOIS

Be it ordained by the Mayor and City Council of the City of Northlake, Illinois as follows:

SECTION 1: Title 12, Chapter 1 of the Northlake City Code is hereby amended by deleting the existing test and substituting the following in lieu thereof:

12-1-1: **AUTHORITY:**

This Chapter is enacted pursuant to the police powers granted by 65 ILCS 5/1-2-1, 5/11-12-12, 5/11-30-2, 5/11-30-8, and 5/11-31-2 as well as the City's home rule powers.

12-1-2: **PURPOSE:**

The purpose of this Chapter is to maintain this City's eligibility in the National Flood Insurance Program; to minimize potential losses due to periodic flooding including loss of life, loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare; and to preserve and enhance the quality of surface waters, conserve economic and natural values and provide for the wise utilization of water and related land resources. This Chapter is adopted in order to accomplish the following specific purposes:

A. To meet the requirements of 615 ILCS 5/18g Rivers, Lakes and Streams Act.

B. To assure that new development does not increase the flood or drainage hazards to others, or creating unstable conditions susceptible to erosion;

C. To protect new buildings and major improvements to buildings from flood damage;

D. To protect human life and health from the hazards of flooding;

grade shall be shown on the submitted plans and the development will be subject to the requirements of Section 12-1-8 of this Chapter.

b. A soil erosion and sediment control plan for disturbed areas shall be submitted. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure post-construction maintenance.

c. The City shall be responsible for obtaining from the applicant copies of all other federal, state, and local permits, approvals or permit-not-required letters that may be required for this type of activity. The City shall not issue a permit unless all other federal, state, and local permits have been obtained.

3. Upon receipt of a development permit application, the City shall compare the elevation of the site to the base flood or 100-year frequency flood elevation.

a. Any development located on land that can be shown to be higher than the base flood elevation of the current Flood Insurance Rate Map and which has not been filled after the date of the site's first Flood Insurance Rate Map without a permit as required by this Chapter is not in the SFHA and, therefore, not subject to the requirements of this Chapter. Conversely, any development located on land shown to be below the base flood elevation and hydraulically connected, but shown on the current Flood Insurance Rate Map is subject to the provisions of this Chapter. The City shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first Flood Insurance Rate Map identification.

C. Preventing Increased Damages: No development in the flood fringe shall create a threat to public health and safety.

1. If fill is being used to elevate the site above the base flood or 100-year frequency flood elevation, the applicant shall submit sufficient data and obtain a letter of map revision (LOMR) from FEMA for the purpose of removing the site from the floodplain.

D. Compensatory Storage:

1. Whenever any portion of a floodplain is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the base flood or 100-year frequency flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood or 100-year frequency flood elevation.

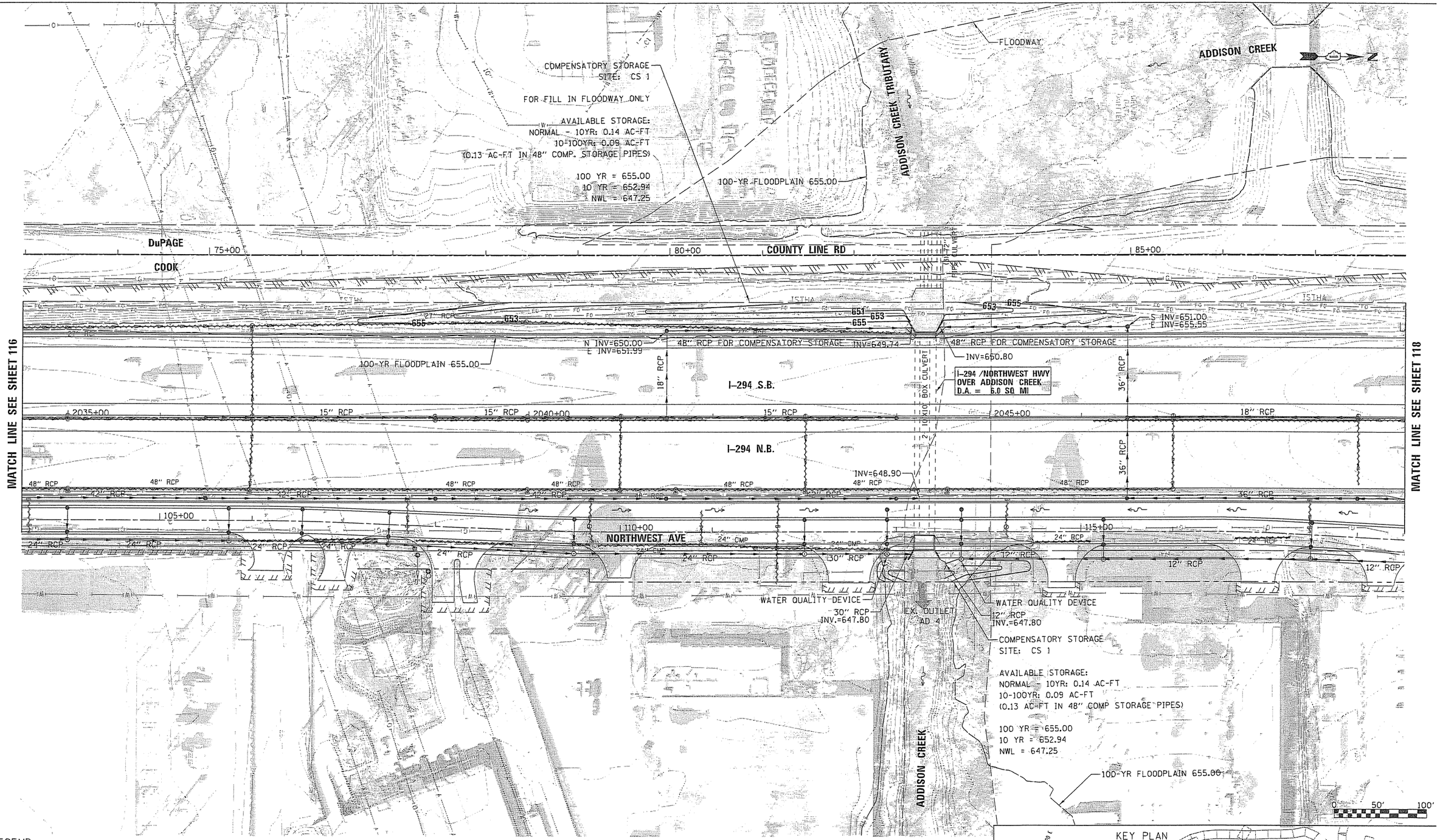
2. The excavation volume shall be at least equal to 1.5 times the volume of storage lost due to the fill or structure.

3. In the case of streams and watercourses, such excavation shall be made opposite or adjacent to the areas so filled or occupied.

4. All floodplain storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All floodplain storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation.

5. All such excavations shall be constructed to drain freely and openly to the watercourse.

E. Construction of the Lowest Floor Below The Base Flood Elevation (BFE):



LEGEND:

BOUNDARY LINES/SYMBOLS	EXISTING	PROPOSED
REFERENCE LINE/CENTERLINE AND STATIONING	1430+00	1715+00
RIGHT OF WAY LINE		
COUNTY LINE		
DRAINAGE DIVIDE (HYDROLOGIC ATLAS)		
TEMPORARY EASEMENT		77 77 77 7
PERMANENT EASEMENT		
STORM SEWER REMOVAL		

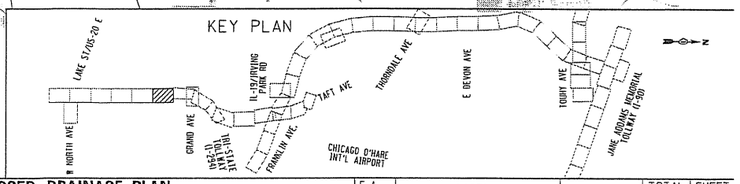
	EXISTING	PROPOSED
SWALE		
DITCH		
DITCH SUMMIT		
CULVERT SIZE/TYPE	2 X 2 BOX	2 X 2 BOX
HEADWALL		
CATCH BASIN		
INLET/SCUPPER		
MANHOLE		
INVERT	(XXX.XX)	XXX.XX
STORM SEWER		

	EXISTING	PROPOSED
OVERFLOW		
OUTLET		
SHEET FLOW		
DITCH CHECK		
DRAINAGE BOUNDARY		

DRAINAGE PROPOSAL

- CONSTRUCT COMPENSATORY STORAGE BASIN(S).
- CONSTRUCT PROPOSED DRAINAGE SYSTEM INCLUDING STORM SEWERS, DITCHES AND PIPE CULVERTS. INLET LOCATIONS ARE FOR ILLUSTRATION PURPOSE ONLY

KEY PLAN



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		DRAWN MYG	REVISED -				
	PLOT SCALE = 100'	CHECKED CW	REVISED -			SCALE: 1"=50' SHEET NO. OF SHEETS STA. TO STA.	
	PLOT DATE = 8/26/2012	DATE -	REVISED -				

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK,DuPAGE	231	117
		CONTRACT NO.		
		ILLINOIS TOLL HWY AUTHORITY PROJECT		

I-294 over Addison Creek Compensatory Storage Volume Summary			
		NWL to 10-yr WSE (acre-feet)	10- to 100-yr WSE (acre-feet)
Floodplain	Fill	0.60	0.66
	Required Comp. Storage	0.90	0.99
	Provided Ditch Storage	0.06	0.05
	Provided Pipe Storage	0.09	0.04
	Excess Storage Volume	**-0.75**	**-0.90**
Floodway	Fill	0.11	0.07
	Required Comp. Storage	0.11	0.07
	Provided Ditch Storage	0.05	0.05
	Provided Pipe Storage	0.09	0.04
	Excess Storage Volume	**0.03**	**0.02**

Compensatory Storage Volume for Addison Creek

10-year WSE = 652.9 ft
100-year WSE = 655 ft

Pipe	Length (ft)	Diameter (inches)	Area (ft^2)	Volume (ft^3)	Invert (ft)	10-yr d/Diam	10-yr a/D^2	10-yr Volume	100-yr Volume
Northwest	200	48	12.57	2513	649.74	0.79	0.6655	2130	384
Southwest	260	48	12.57	3267	650.80	0.525	0.4167	1733	1534

Compensatory Storage Volume

NWL -10yr: 3,863 cubic feet
143 CY
0.09 AC-FT

10yr - 100yr: 1,917 cubic feet
71 CY
0.04 AC-FT

TRI-STATE TOLLWAY (I-294) (STA. 2036+00 TO STA. 2046+00)
Normal Elevation 647.25 ft
10-Year Elevation 652.90 ft
100-Year Elevation 655.00 ft
(3:1 side slopes outside railing)

	Normal - 10 YR (SF)	10 YR -100 YR (SF)	Normal - 10 YR (AC-FT)	10 YR - 100 YR (AC-FT)
2036+00	0	0		
			0.00	0.00
2036+50	0	1		
			0.00	0.00
2037+00	0	2.7		
			0.00	0.00
2037+50	0	2.1		
			0.00	0.00
2038+00	0	3.3		
			0.00	0.01
2038+50	0	11.8		
			0.00	0.02
2039+00	0	22.3		
			0.00	0.03
2039+50	1.2	26.4		
			0.00	0.04
2040+00	4.5	41		
			0.01	0.04
2040+50	6.4	27.4		
			0.01	0.03
2041+00	11.5	26.7		
			0.01	0.03
2041+50	12.9	25.6		
			0.02	0.03
2042+00	14.9	21.6		
			0.02	0.03
2042+50	25.2	28.2		
			0.03	0.04
2043+00	33	44.4		
			0.05	0.05
2043+50	54.6	42.8		
			0.12	0.08
2044+00	155.5	100.2		
			0.21	0.12
2044+50	203.8	104.4		
			0.12	0.08
2045+00	1.1	41		
			0.00	0.03
2045+50	0	3.6		
			0.00	0.00
2046+00	0	0		
		TOTAL:	**0.60**	**0.66**

TRI-STATE TOLLWAY (I-294) (STA. 2036+00 TO STA. 2046+00)
Normal Elevation 647.25 ft
10-Year Elevation 652.94 ft
100-Year Elevation 655.00 ft
(3:1 side slopes outside railing)

	Normal - 10 YR (SF)	10 YR -100 YR (SF)	Normal - 10 YR (AC-FT)	10 YR - 100 YR (AC-FT)
2034+50	0	0		
			0.00	0.00
2035+00	0	0		
			0.00	0.00
2035+50	0	0		
			0.00	0.00
2036+00	0	0		
			0.00	0.00
2036+50	0	0		
			0.00	0.00
2037+00	0	0		
			0.00	0.00
2037+50	0	0		
			0.00	0.00
2038+00	0	0		
			0.00	0.00
2038+50	0	0		
			0.00	0.00
2039+00	0	0.0		
			0.00	0.00
2039+50	0	0		
			0.00	0.00
2040+00	4.2	5.1		
			0.01	0.00
2040+50	6.1	1.5		
			0.01	0.00
2041+00	7	1.3		
			0.01	0.00
2041+50	6.3	0.6		
			0.01	0.00
2042+00	4.6	0		
			0.01	0.00
2042+50	4.5	0		
			0.00	0.00
2043+00	1.8	0		
			0.00	0.00
2043+50	0	0		
			0.01	0.00
2044+00	15.4	0		
			0.01	0.00
2044+50	0	0		
			0.00	0.02
2045+00	3.1	32.5		
			0.00	0.02
2045+50	0	3		
			0.00	0.00
2046+00	0	0		
			0.00	0.00
2046+50	0	0.0		
			0.00	0.00
2047+00	0	0		
			0.00	0.00
2047+50	0	0		
			0.00	0.00
2048+00	0	0		
			0.00	0.00
2048+50	0	0		
			0.00	0.00
2049+00	0	0		
			0.00	0.00
2049+50	0	0		
		TOTAL:	**0.06**	**0.05**

TRI-STATE TOLLWAY (I-294) (STA. 2043+50 TO STA. 2045+00)

Normal Elevation 647.25 ft
10-Year Elevation 652.94 ft
100-Year Elevation 655.00 ft
(3:1 side slopes outside railing)

D/S I-294 (79' Wide)	Normal - 10 YR (SF)	10 YR -100 YR (SF)	Normal - 10 YR (AC-FT)	10 YR - 100 YR (AC-FT)	
2043+50	0	0			
2043+91	71.20	42.85			existing floodway
			0.02	0.01	
2044+00	87.9	52.9			
			0.03	0.02	
2044+19	30.90	24.20			headwall (area included @ xsec 2044+00 plot)
					(no fill in culvert)
2044+42	26.80	23.70			headwall (area included @ xsec 2044+50 plot)
			0.01	0.01	
2044+50	81.7	53.9			
			0.03	0.02	
2044+70	50.27	40.76			existing floodway
2045+00	1.1	20.2			
U/S I-294 (42' Wide)					
2043+50					
2044+00	67.6	47.3			
2044+09	77.41	47.88			existing floodway
			0.01	0.01	
2044+19	0.00	5.20			headwall (area included @ xsec 2044+00 plot)
					(no fill in culvert)
2044+42	0.50	5.60			headwall (area included @ xsec 2044+50 plot)
			0.01	0.01	
2044+50	122.1	50.5			
			0.00	0.00	
2044+51	119.66	49.91			existing floodway
2045+00	0	20.8			
		TOTAL:	**0.11**	**0.07**	

Elgin O'Hare West Bypass
Calculations of Cut in Floodway
Addison Creek

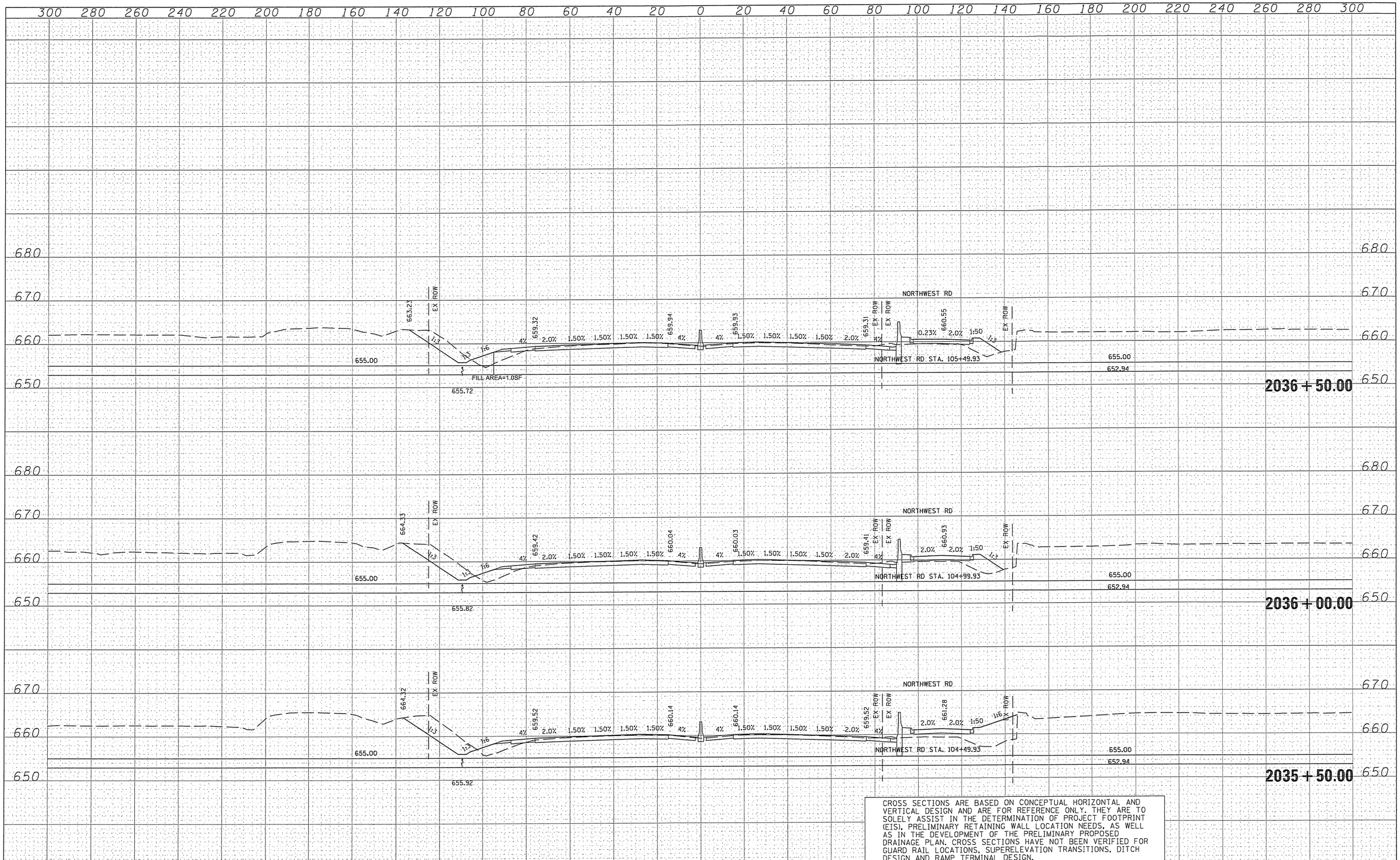
TRI-STATE TOLLWAY (I-294) (STA. 2043+50 TO STA. 2045+00)

Normal Elevation 647.25 ft
10-Year Elevation 652.94 ft
100-Year Elevation 655.00 ft
(3:1 side slopes outside railing)

D/S I-294 (79' Wide)	Normal - 10 YR (SF)	10 YR -100 YR (SF)	Normal - 10 YR (AC-FT)	10 YR - 100 YR (AC-FT)	
2043+50	0	0			
2043+91	12.47	0.00			existing/proposed floodway
			0.003	0.000	
2044+00	15.4	0			
			0.005	0.000	
2044+19	9.55	0.00			headwall (area included @ xsec 2044+00 plot)
					(no cut in culvert)
2044+42	2.46	0.00			headwall (area included @ xsec 2044+50 plot)
			0.000	0.000	
2044+50	0	0			
			0.000	0.002	
2044+70	1.21	9.87			existing floodway
			0.002	0.012	
2045+00	3.1	25.3			
			0.002	0.015	
2045+50	0	0			proposed floodway
U/S I-294 (42' Wide)					
2040+00	4.2	5.1			proposed floodway
			0.006	0.004	
2040+50	6.1	1.5			
			0.008	0.002	
2041+00	7	1.3			
			0.008	0.001	
2041+50	6.3	0.6			
			0.006	0.000	
2042+00	4.6	0			
			0.005	0.000	
2042+50	4.5	0			
			0.004	0.000	
2043+00	1.8	0			
			0.001	0.000	
2043+50	0	0			
			0.000	0.000	
2044+00	0	0			
			0.000	0.000	
2044+09	0.00	0.00			existing floodway
			0.000	0.000	
2044+19	0.00	0.00			headwall (area included @ xsec 2044+00 plot)
					(no cut in culvert)
2044+42	0.00	0.00			headwall (area included @ xsec 2044+50 plot)
			0.000	0.000	
2044+50	0	0			
			0.000	0.000	
2044+51	0.00	0.14			existing floodway
			0.000	0.004	
2045+00	0	7.2			
			0.000	0.006	
2045+50	0	3.0			proposed floodway
2046+00	0	0.0			
		TOTAL:	**0.05**	**0.05**	

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

CROSS SECTIONS ARE BASED ON CONCEPTUAL HORIZONTAL AND VERTICAL DESIGN AND ARE FOR REFERENCE ONLY. THEY ARE TO SOLELY ASSIST IN THE DETERMINATION OF PROJECT FOOTPRINT (EIS), PRELIMINARY RETAINING WALL LOCATION NEEDS, AS WELL AS IN THE DEVELOPMENT OF THE PRELIMINARY PROPOSED DRAINAGE PLAN. CROSS SECTIONS HAVE NOT BEEN VERIFIED FOR GUARD RAIL LOCATIONS, SUPERELEVATION TRANSITIONS, DITCH DESIGN AND RAMP TERMINAL DESIGN.

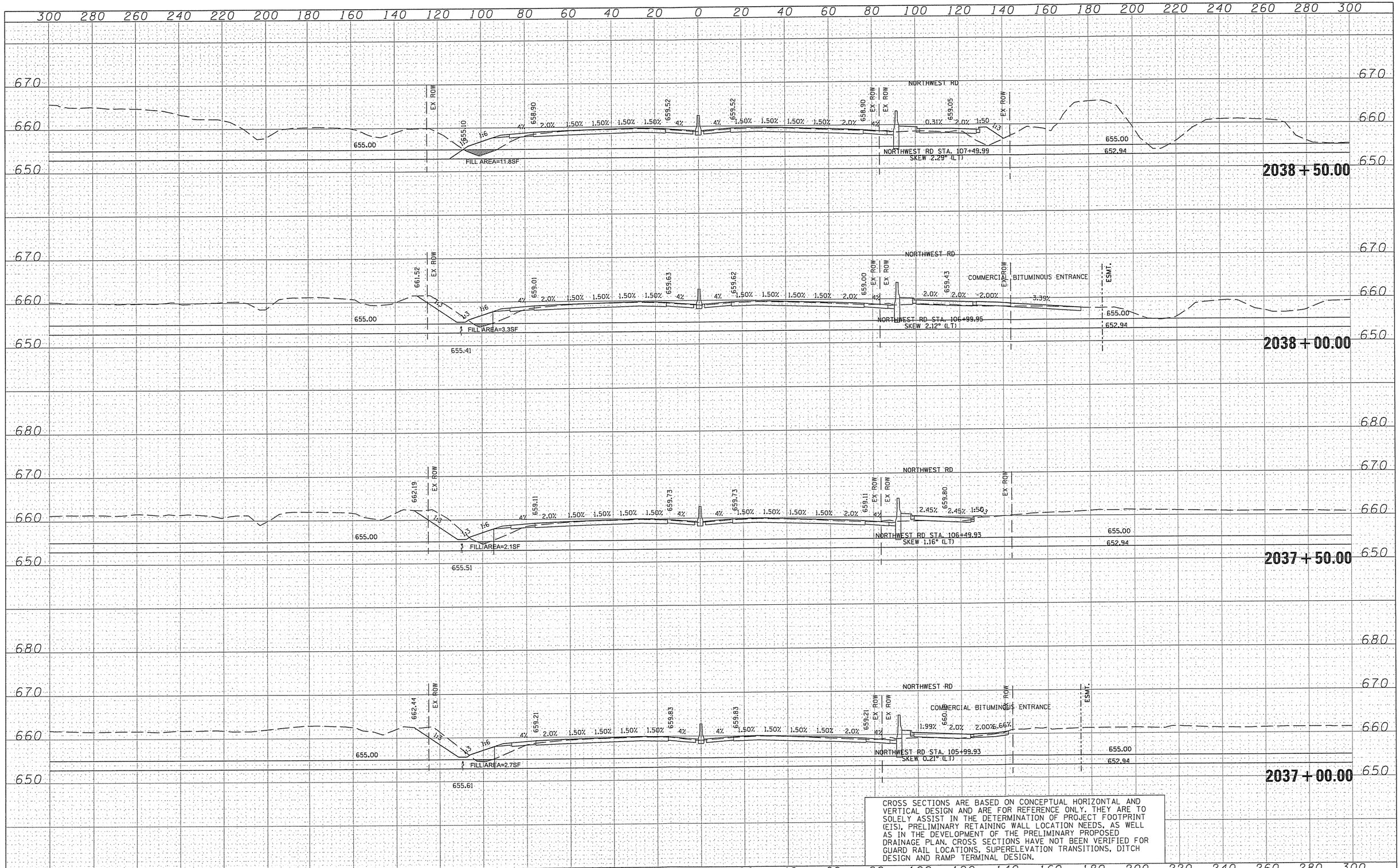
FILE NAME =	USER NAME = eanderson	DESIGNED -	REVISED -
Y:\361180 - Elgin O'Hare - West Bypass\TIER_TWO\HY\CAD\Models Geometric Full Build\Drainage Calculations\Comp Storage Calculations\DIEHY2550d-xssht-ML-294-HY-Drainage.dgn	DRAWN -	CHECKED -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
	PLOT DATE = 8/28/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERSTATE 294 – SOUTH SECTION
FLOODPLAIN/FLOODWAY FILL CROSS-SECTION

SCALE: | SHEET NO. 1 OF 231 SHEETS | STA. 2035+50.00 TO STA. 2036+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			231	1
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



FINAL SURVEY	NOTE BOOK	NO.	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE

CROSS SECTIONS ARE BASED ON CONCEPTUAL HORIZONTAL AND VERTICAL DESIGN AND ARE FOR REFERENCE ONLY. THEY ARE TO SOLELY ASSIST IN THE DETERMINATION OF PROJECT FOOTPRINT (EIS), PRELIMINARY RETAINING WALL LOCATION NEEDS, AS WELL AS IN THE DEVELOPMENT OF THE PRELIMINARY PROPOSED DRAINAGE PLAN. CROSS SECTIONS HAVE NOT BEEN VERIFIED FOR GUARD RAIL LOCATIONS, SUPERELEVATION TRANSITIONS, DITCH DESIGN AND RAMP TERMINAL DESIGN.

FILE NAME = Y:\3611B0 - Elgin O'Hare - West Bypass\TIER_TWO\HY\CAD\Models Geometric Full Build\Drainage Calculations\Comp Storage Calculations\DIEGHY35D-xssht-ML-294-HY-Drainage.dgn	USER NAME = eanderson	DESIGNED -
		DRAWN -
	PLOT SCALE = 40'	CHECKED -
	PLOT DATE = 8/28/2012	DATE -

REVISED -	REVISED -	REVISED -

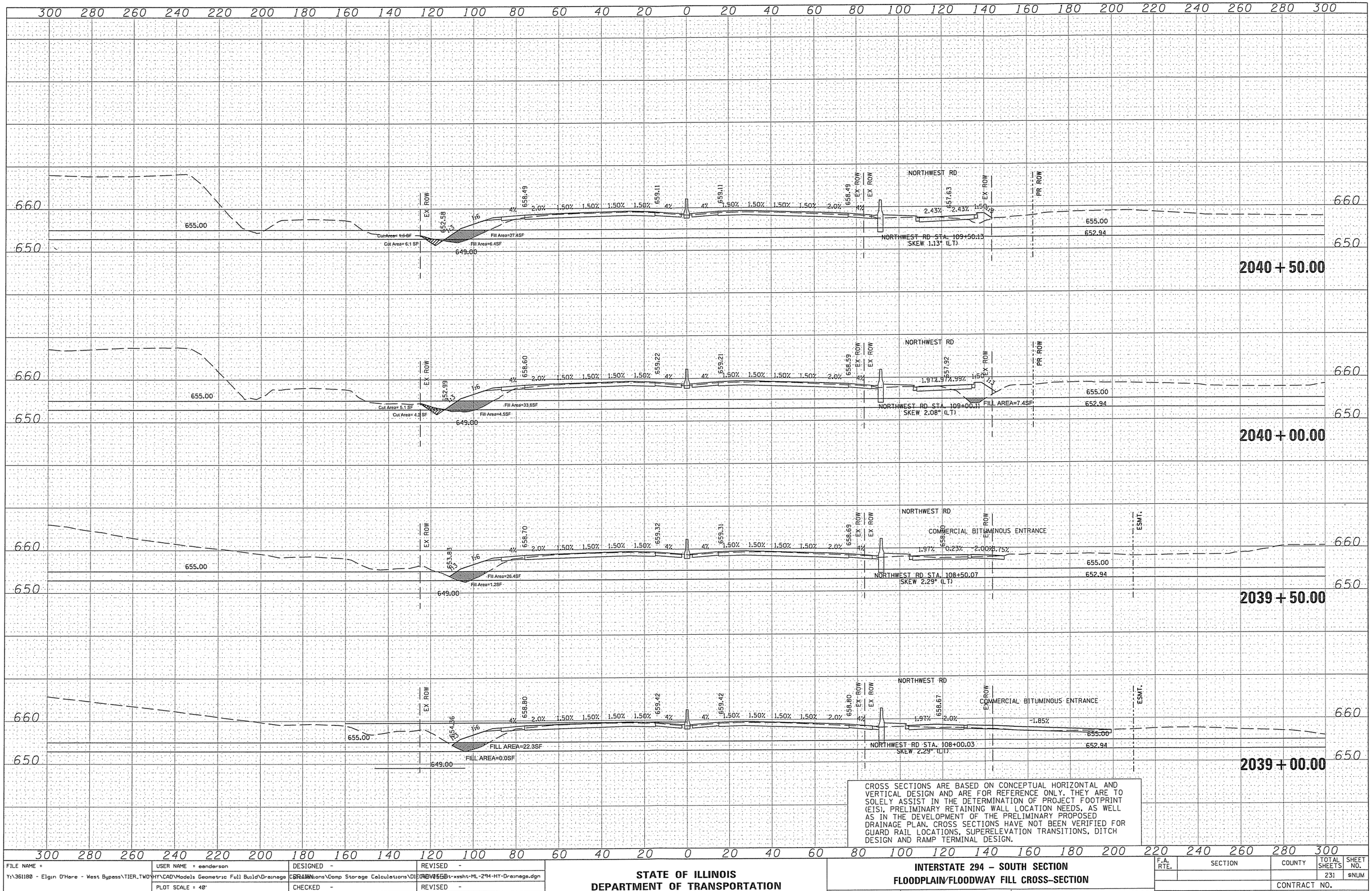
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERSTATE 294 – SOUTH SECTION
FLOODPLAIN/FLOODWAY FILL CROSS-SECTION

SCALE: | SHEET NO. $NUM OF 231 SHEETS | STA. 2037+00.00 TO STA. 2038+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			231	$NUM
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	



ORIGINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

CROSS SECTIONS ARE BASED ON CONCEPTUAL HORIZONTAL AND VERTICAL DESIGN AND ARE FOR REFERENCE ONLY. THEY ARE TO SOLELY ASSIST IN THE DETERMINATION OF PROJECT FOOTPRINT (EIS), PRELIMINARY RETAINING WALL LOCATION NEEDS, AS WELL AS IN THE DEVELOPMENT OF THE PRELIMINARY PROPOSED DRAINAGE PLAN. CROSS SECTIONS HAVE NOT BEEN VERIFIED FOR GUARD RAIL LOCATIONS, SUPERELEVATION TRANSITIONS, DITCH DESIGN AND RAMP TERMINAL DESIGN.

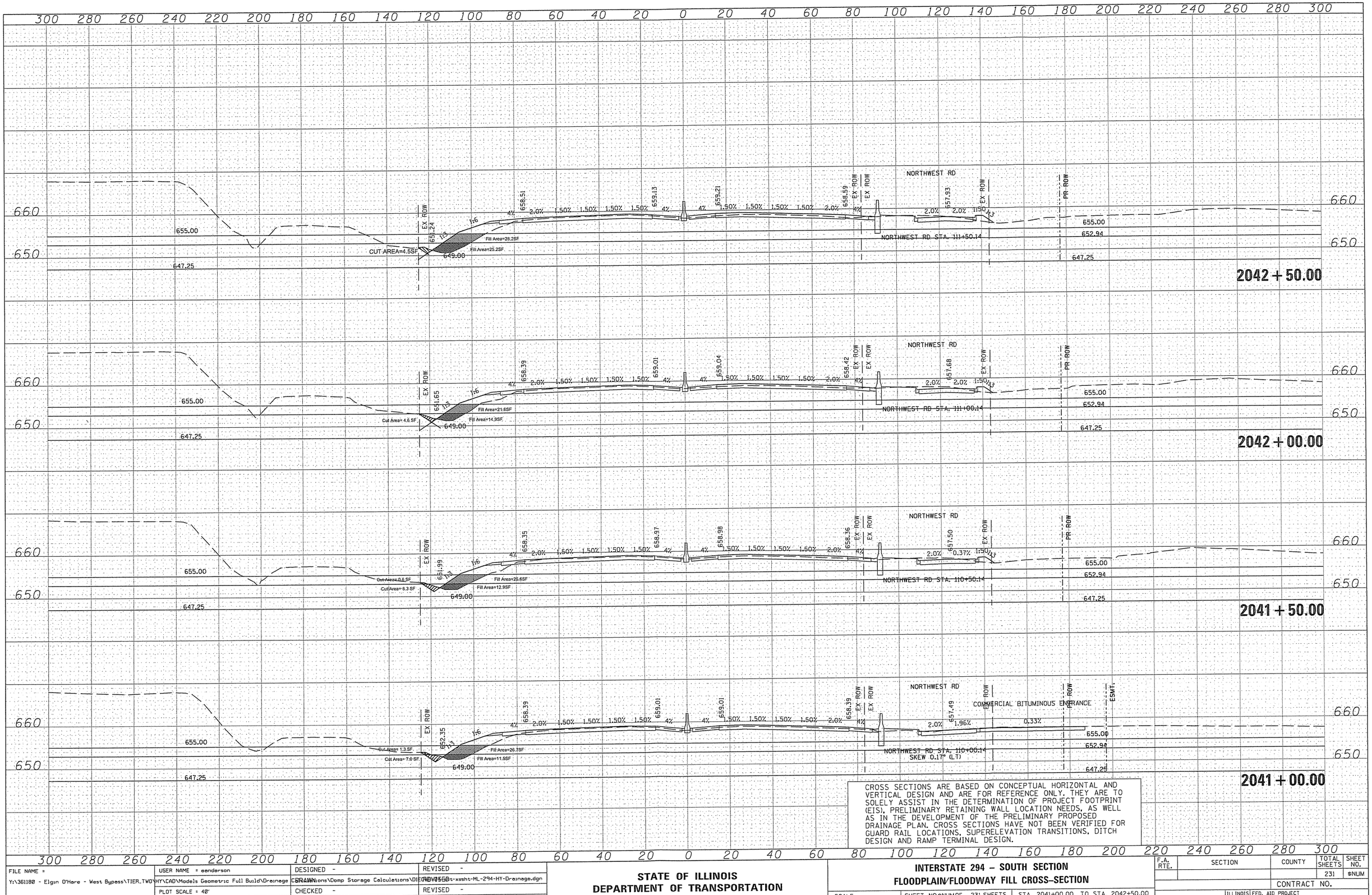
FILE NAME = Y:\361180 - Elgin O'Hare - West Bypass\TIER_TWO\HY\CAD\Models Geometric Full Build\Drainage Calculations\Comp Storage Calculations\DI...dgn	USER NAME = eenderson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
	PLOT DATE = 8/28/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERSTATE 294 – SOUTH SECTION
FLOODPLAIN/FLOODWAY FILL CROSS-SECTION

SCALE: | SHEET NO. #NUM OF 231 SHEETS | STA. 2039+00.00 TO STA. 2040+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			231	#NUM
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



CROSS SECTIONS ARE BASED ON CONCEPTUAL HORIZONTAL AND VERTICAL DESIGN AND ARE FOR REFERENCE ONLY. THEY ARE TO SOLELY ASSIST IN THE DETERMINATION OF PROJECT FOOTPRINT (EIS), PRELIMINARY RETAINING WALL LOCATION NEEDS, AS WELL AS IN THE DEVELOPMENT OF THE PRELIMINARY PROPOSED DRAINAGE PLAN. CROSS SECTIONS HAVE NOT BEEN VERIFIED FOR GUARD RAIL LOCATIONS, SUPERELEVATION TRANSITIONS, DITCH DESIGN AND RAMP TERMINAL DESIGN.

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

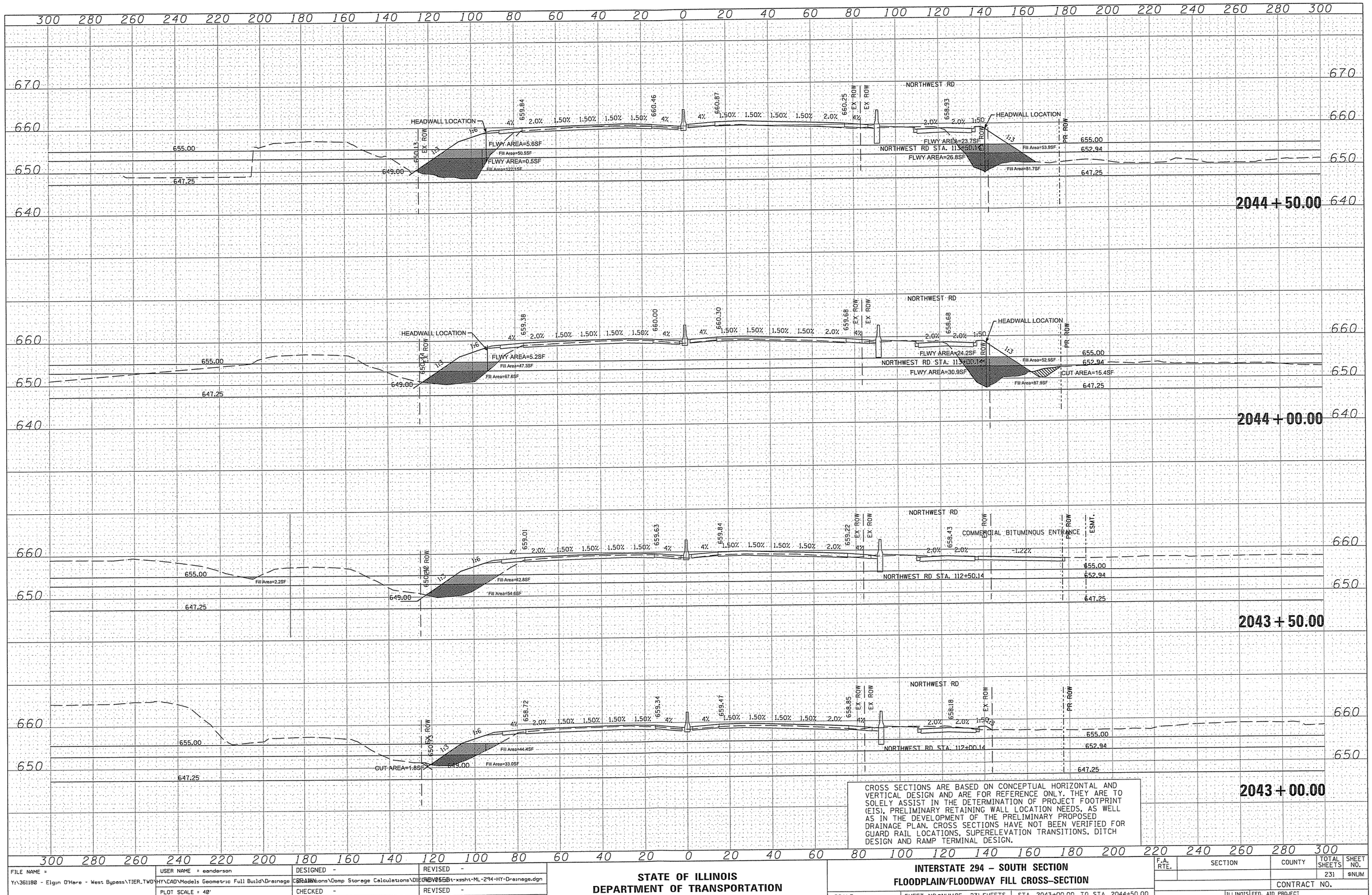
FILE NAME = Y:\361180 - Elgin O'Hare - West Bypass\TIER_TWO\HY\CAD\Models Geometric Full Build\Drainage Calculations\Comp Storage Calculations\DIEGRUEN01t-xssht-ML-294-HY-Drainage.dgn	USER NAME = eanderson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
	PLOT DATE = 8/28/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERSTATE 294 – SOUTH SECTION
FLOODPLAIN/FLOODWAY FILL CROSS-SECTION

SCALE: | SHEET NO. $SNUM OF 231 SHEETS | STA. 2041+00.00 TO STA. 2042+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			231	$SNUM
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



CROSS SECTIONS ARE BASED ON CONCEPTUAL HORIZONTAL AND VERTICAL DESIGN AND ARE FOR REFERENCE ONLY. THEY ARE TO SOLELY ASSIST IN THE DETERMINATION OF PROJECT FOOTPRINT (EIS), PRELIMINARY RETAINING WALL LOCATION NEEDS, AS WELL AS IN THE DEVELOPMENT OF THE PRELIMINARY PROPOSED DRAINAGE PLAN. CROSS SECTIONS HAVE NOT BEEN VERIFIED FOR GUARD RAIL LOCATIONS, SUPERELEVATION TRANSITIONS, DITCH DESIGN AND RAMP TERMINAL DESIGN.

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		DATE
PLOTTED		BY
TEMPLATE		
AREAS		
AREAS CHECKED		

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		DATE
PLOTTED		BY
TEMPLATE		
AREAS		
AREAS CHECKED		

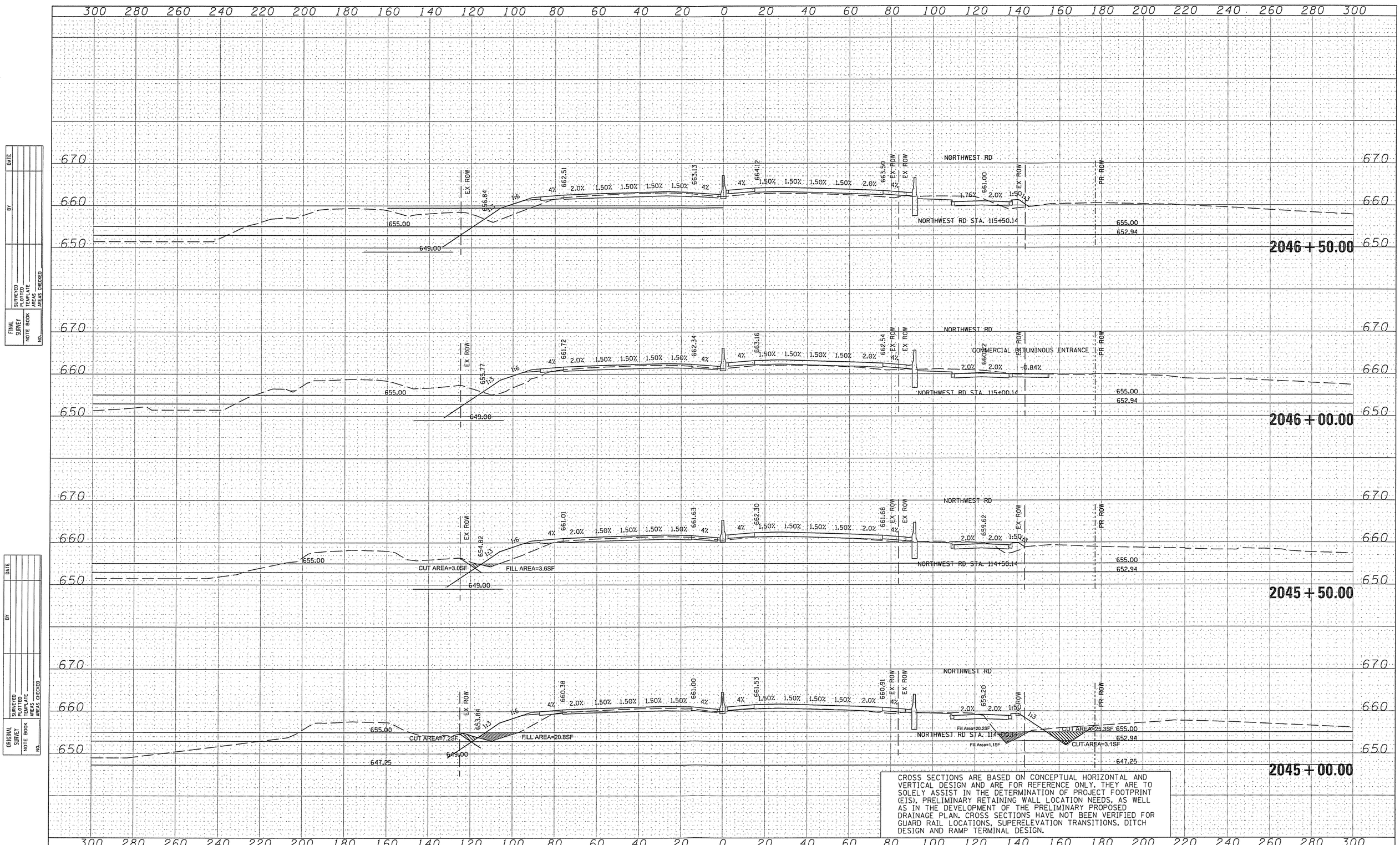
FILE NAME = Y:\361180 - Elgin O'Hare - West Bypass\TIER_TWO\HY\CAD\Models Geometric Full Build\Drainage Calculations\Comp Storage Calculations\DIECKMANN\c-xssht-ML-294-HY-Drainage.dgn	USER NAME = eanderson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
	PLOT DATE = 8/28/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERSTATE 294 – SOUTH SECTION
FLOODPLAIN/FLOODWAY FILL CROSS-SECTION

SCALE: | SHEET NO. S NUM OF 231 SHEETS | STA. 2043+00.00 TO STA. 2044+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			231	S NUM
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

FILE NAME = Y:\361180 - Elgin O'Hare - West Bypass\TIER_TWO\HY\CAD\Models Geometric Full Build\Drainage Calculations\Comp Storage Calculations\DIE0[illegible]t-xssht-ML-294-HY-Drainage.dgn	USER NAME = eanderson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
	PLOT DATE = 8/28/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERSTATE 294 – SOUTH SECTION
FLOODPLAIN/FLOODWAY FILL CROSS-SECTION

SCALE: | SHEET NO.#NUM OF 231 SHEETS | STA. 2045+00.00 TO STA. 2046+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			231	#NUM
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

SECTION 13

CORRESPONDENCE AND NOTES

Emily T. Anderson

From: Masouridis, Eleftherios P [Eleftherios.Masouridis@illinois.gov]
Sent: Friday, October 29, 2010 2:45 PM
To: eanderson@cbbel.com
Cc: cwang@cbbel.com; Wojcik, Rick F
Subject: RE: I-290, Addison Creek Overtopping at 30th Avenue to I-290

Follow Up Flag: Follow up
Flag Status: Flagged

Emily,

We had a meeting with IDNR/OWR yesterday. If the FIS has an obvious correction (such as representing the wrong size structure in this case) then that correction can be made to the FIS model and the results used for permitting purposes. If a proposed structure is part of the project and it needs to be enlarged (such as to lower the profile to match the incorrect regulatory profile) then it may be more feasible to construct a supplemental pipe in this case. However, we would need to discuss this with the Tollway.

We should plan on using two models (independent/design & permit) if we cannot get a good match (within 0.1'). The comparison will be based on the truncated FIS that reflects the corrected culvert size. The independent can be used to reflect to reflect the upstream development if needed.

Is there potential to modify the County Line Rd structure? If not then the natural condition could be based on the removal of I-294 only.

Perry

E. Perry Masouridis, P.E.
Hydrology and Hydraulics Engineer
Illinois Department of Transportation, Region 1
Bureau of Programming, Hydraulics Section
201 West Center Court
Schaumburg, IL. 60196-1096

Phone: (847) 705-4474 Fax: (847) 221-3052
Email: eleftherios.masouridis@illinois.gov

From: Emily T. Anderson [mailto:eanderson@cbbel.com]
Sent: Wednesday, October 27, 2010 9:54 AM
To: Masouridis, Eleftherios P
Cc: cwang@cbbel.com; Wojcik, Rick F
Subject: RE: I-290, Addison Creek Overtopping at 30th Avenue to I-290

From the site visit and aerials, I-294 is not shown on a skew, and it does not appear from the X2 card that it was modeled on a skew either.

Correcting the I-294 bridge (decreasing the opening size) increases the 100-year profile 0.9 ft upstream of I-294 and 0.1 ft upstream of County Line Road, but does not change the 2- through 50-year flood profiles. (The 500-year increases by 1.0 ft between I-294 and County Line Road and 0.5 ft upstream of the road). Just to clarify, the permit baseline model would be the corrected FEMA Effective model with the surveyed I-294 bridge?

-Emily

Emily T. Anderson, EI, CFM
Water Resources Engineer
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 318-9793
E-Mail: eanderson@cbbel.com

From: Masouridis, Eleftherios P [mailto:Eleftherios.Masouridis@illinois.gov]
Sent: Wednesday, October 27, 2010 7:55 AM
To: eanderson@cbbel.com
Cc: cwang@cbbel.com; Wojcik, Rick F
Subject: RE: I-290, Addison Creek Overtopping at 30th Avenue to I-290

Thanks for the exhibit.

I will look through this information regarding I-294. Before I get to it is the FIS opening larger because it is on a skew and they modeled the skewed geometry?

We had something similar on Lake St over Addison Creek. If that is the case and it results in a higher flood profile then we can use the FIS model as is except for the I-294 bridge. Our permit condition could then be based on this modified FIS profile.

Perry

E. Perry Masouridis, P.E.
Hydrology and Hydraulics Engineer
Illinois Department of Transportation, Region 1
Bureau of Programming, Hydraulics Section
201 West Center Court
Schaumburg, IL. 60196-1096

Phone: (847) 705-4474 Fax: (847) 221-3052
Email: eleftherios.masouridis@illinois.gov

Emily T. Anderson

From: Masouridis, Eleftherios P [Eleftherios.Masouridis@illinois.gov]
Sent: Friday, October 08, 2010 11:20 AM
To: eanderson@cbbel.com
Cc: cwang@cbbel.com
Subject: RE: Addison Creek Regulatory Model for O'Hare Bypass Project

Emily,

That crossing should have been picked up as part of the survey effort. Whether or not there is a model that reflects it I do not know. Probably someone did one to get a permit but tracking it down (and assuming someone would share it with us) is not worth the time since we need to reflect it our analysis anyway and it should have been surveyed.

Our practice has been to use the regulatory model. Since we do not expect that the FIS will change throughout the life of this project and probably into Phase II/III we will proceed with using the FIS as the base model.

Generally we run the FIS (as is) and include the input & output in the report. Then we obtain the new survey data and insert it into the regulatory model. We try to match the regulatory results within 0.1 ft for all profiles. Sometimes minor adjustments are needed to so. That way we are not responsible for obtaining a LOMR.

If this can be done then we can base our entire study on one analysis for both permitting and IDOT design criteria.

Sometimes it is not possible to match within 0.1'. In this case we use two models. The first is the FIS 'as-is'. The IDOT structure is removed to develop a natural condition The existing condition is the FIS and then proposed is modeled based on the project scope. A WIT is then developed and it is labeled FIS or permit. This way we demonstrate compliance with the effective regulatory analysis.

Another model is then developed using the survey data to create a model that better reflects the existing conditions in the study reach. Existing, natural and proposed conditions are then developed and a WIT labeled design is prepared to evaluate IDOT design criteria.

It seems that we can use similar techniques for the I-294 and County line Rd crossing. Sometimes coming up with a natural condition when there is a downstream structure causing a tailwater (such if I-294 causes a tailwater on County line rd) takes some thought. Having the most downstream structure's created reflected in the upstream structure is not desirable.

Perry

E. Perry Masouridis, P.E.
Hydrology and Hydraulics Engineer
Illinois Department of Transportation, Region 1
Bureau of Programming, Hydraulics Section
201 West Center Court
Schaumburg, IL. 60196-1096

Phone: (847) 705-4474 Fax: (847) 221-3052
Email: eleftherios.masouridis@illinois.gov

From: Emily T. Anderson [mailto:eanderson@cbbel.com]
Sent: Wednesday, October 06, 2010 9:18 AM
To: Masouridis, Eleftherios P

Cc: cwang@cbbel.com
Subject: Addison Creek Regulatory Model for O'Hare Bypass Project

Hello Perry,

I have attached the June 2005 FEMA Effective HEC-2 model for your review. This is the current regulatory model, and we used it as a starting point for the Addison Creek Restoration Commission and MWRD projects. We would also like to use it for the I-294 and County Line Road crossings analysis for the O'Hare bypass project if it meets your approval. It extends from the confluence with Salt Creek to the Redmond Reservoir upstream of George Street.

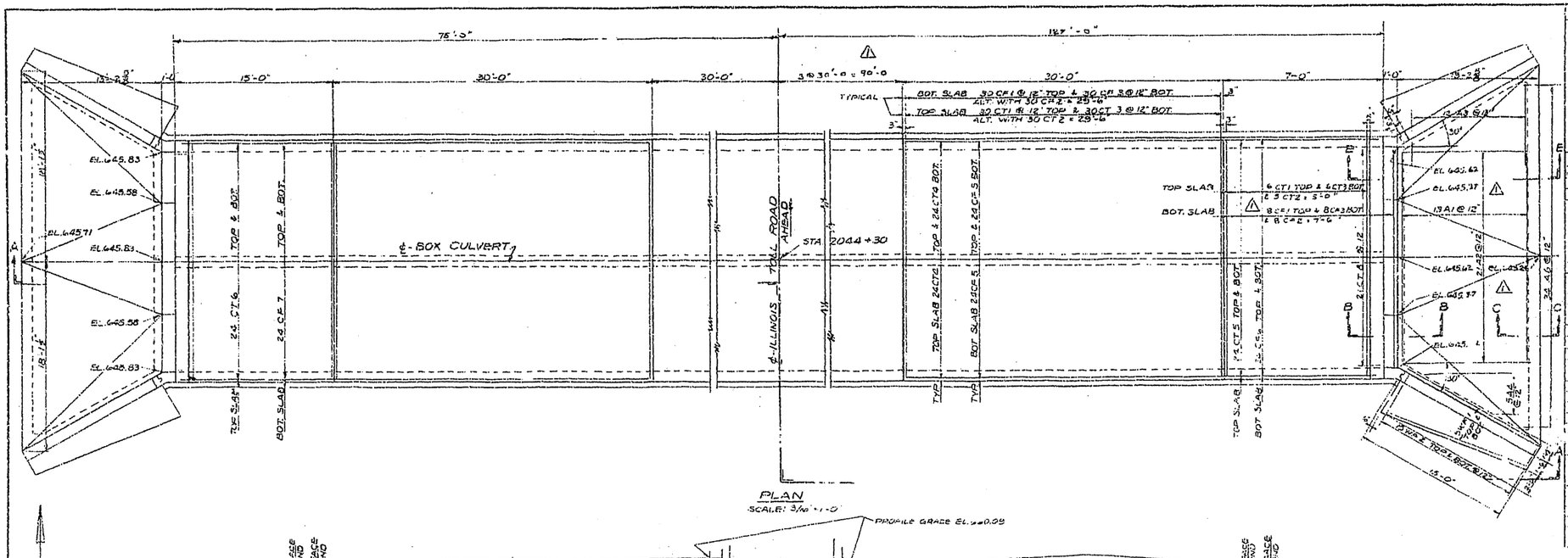
Currently, we are trying to find if there is a newer non-regulatory model that includes a new crossing upstream of County Line Road circa 2006-2008, however we would like to approach this new crossing by starting with the regulatory model and adding the surveyed as-built bridge for the existing conditions model. I have attached a .pdf and picture of the new crossing that is not included in the regulatory model for your reference. Do you agree with this approach? Or is there another model that you would prefer us to use? Please let me know if you have any questions or concerns.

-Emily

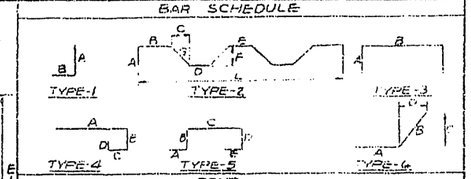
Emily T. Anderson, EI, CFM
Water Resources Engineer
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 318-9793
E-Mail: eanderson@cbbel.com

SECTION 14

SURVEY NOTES



BAR SCHEDULE



BENT

MARK	SIZE	NO	TYPE	LENGTH	A	B	C	D	E	F	G	L
CF2	7	204	2	36'-2"	10"	2'-8"	7"	6'-0"	3'-10	7"	10"	45°
CF3	7	204	3	25'-2"	10"	23'-6"						
CF4	5	1442	1	3'-0"	2'-6"	6"						
CT1	6	101	3	25'-2"	1'-3"	22'-8"						
CT2	6	198	2	26'-8"	1'-3"	25'-2"	3"	6'-0"	1'-6"	3"	11"	22'-8"
CT3	4	92	5	5'-8"	4"	2'-0"	1'-0"	2'-6"	4"			
WW6	4	40	6	2'-0"	6"	1'-6"	3"	1'-2"				
WF3	5	20	1	3'-6"	3'-0"	6"						
A6	4	68	4	7'-8"	2'-0"	2'-7"	7"	2'-6"				

STRAIGHT

MARK	SIZE	NO	LENGTH	MARK	SIZE	NO.	LENGTH
CF1	4	1204	23'-6"	CW4	5	18	8'-3"
CF5	5	288	31'-6"	CW5	5	18	14'-9"
CF6	5	48	9'-3"	CW6	5	348	1'-9"
CW1	5	33°	31'-6"				
CW2	5	1442	10'-3"	WW1	5	24	14'-0"
CW3	5	36	9'-3"	WW2	5	54	2'-6" TO 12'-6" VB 1'-6
CT3	5	200	22'-6"	WW3	5	120	2'-4 TO 10'-9" VB 3'-6
CT4	5	288	31'-6"	WW4	4	40	1'-0"
CT5	5	48	6'-3"	WW5	5	8	10'-3"
CT6	5	48	10'-9"				
CT7	7	8	22'-6"	A1	5	26	2'-0"
				A2	5	46	12'-0"
CF7	5	48	15'-0"	A3	5	44	2'-0" TO 8'-5" VB 7"
CF8	5	4	22'-6"	A4	5	20	3'-3" TO 10'-5" VB 1'-8
				A5	5	6	36'-0"
				WF1	5	20	14'-0"
				WF2	5	120	2'-4" TO 9'-9" VB 1'-6

NOTE:
24" OF GRAVEL FILL TO BE PLACED UNDER BOTTOM SLAB OF CULVERT & WING WALLS. EXCAVATION FOR PLACING OF GRAVEL FILL & PLACEMENT OF FILL TO BE MADE IMMEDIATELY BEFORE PLACING BOTTOM SLAB.

ILLINOIS STATE TOLL HIGHWAY COMMISSION
NORTHERN ILLINOIS TOLL HIGHWAY

TRI-STATE ROUTE

STRUCTURE NO. T 7-9
ADDISON CREEK
STATION - 2044+30
BOX CULVERT

CONTRACT T-7A

NAESS and MURPHY & BEISWENGER and HOCH
Section Engineer
CHICAGO, ILLINOIS AKRON, OHIO

Designed By:
Drawn By:
Checked By:

LENGTH OF CULVERT BY STA-0
REVISIONS

SCALE As Noted
DATE

SHEET 1 of 1

DWG. NO. T7-9

11-24-10

BC, KIKO

ADDISON CREEK

- BOX CULVERT UNDER BOTH COUNTY LINE RD AND I-294.
- ℄ TRIPLE OF COUNTY LINE RD

INSTRUMENT FILE: ADDISONCREEK.clv

-x @ 102300 wp "+"

-y @ 102301 wp "+"

PT

102302 Top of Bank

102303 Top of Wing Wall

102311 102312 644.89, 644.90

102313, 102314 @ Top/Slope

102315 102316 Water elev.

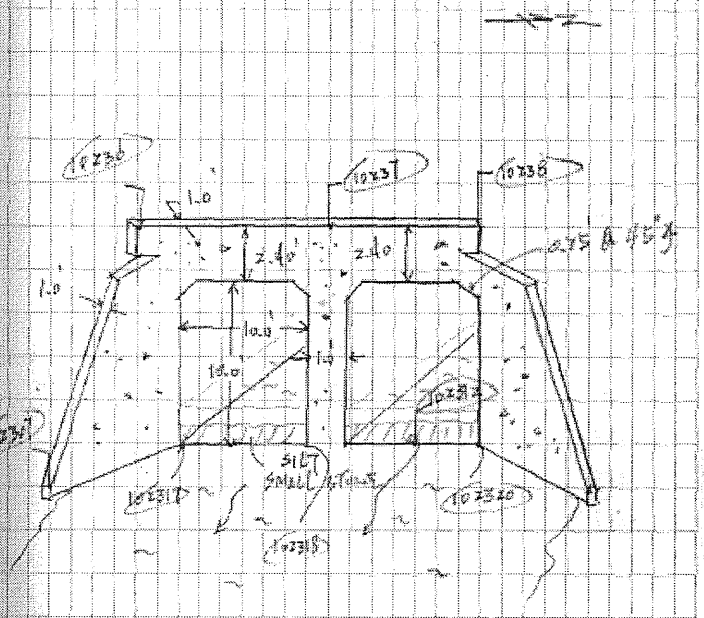
102317 → 102322 Box dir. 10'x10' 654.86, 654.84

102323 → 102324 Top of Wing Wall

102326 → 102325 Top of Head Wall

102304 Top of Wing Wall

102307 Slope



10' x 10' TWIN BOX CULVERT

I 294 D.S.

11-24-10

BC, KIKO

ADDISON CREEK

- BOX CULVERT

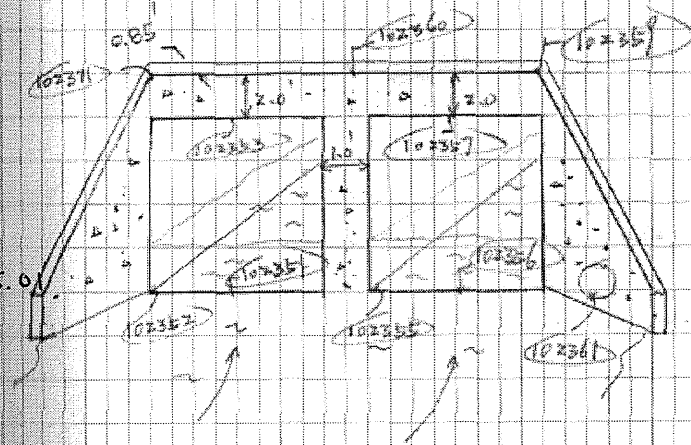
CONT FILE: ADDISONCREEK.CLV

π @ (102338) WP NAIL

BS @ (102339) WP PK

PT	DESC
102340	SET WP NAIL BS-CHK
102341	GROUND
102362	BOX CULVERT @ BOTTOM
102351, 102356	INVERT 645.35', 645.27'
102363, 102357	BOX CULVERT @ TOP 655.00', 655.0
102354	TOP OF HEADWALL
102361	30" RCP PIPE
102366	TOP WING WALL
102367	GROUND

I-294



I-294 CULVERT

UP STREAM

file: EDWADDOCK ADDTL XS – UG

SET CP's With GPS

POINTS #100 & 101

T.S @ CP#100 (103 809) H.I. =

N 1916549.389

E 1096458.065

ELEV. = 651.711

B.S @ CP#101 (103 809) Rod Ht. = 2.54

N 1916442.150

E 1096362.365

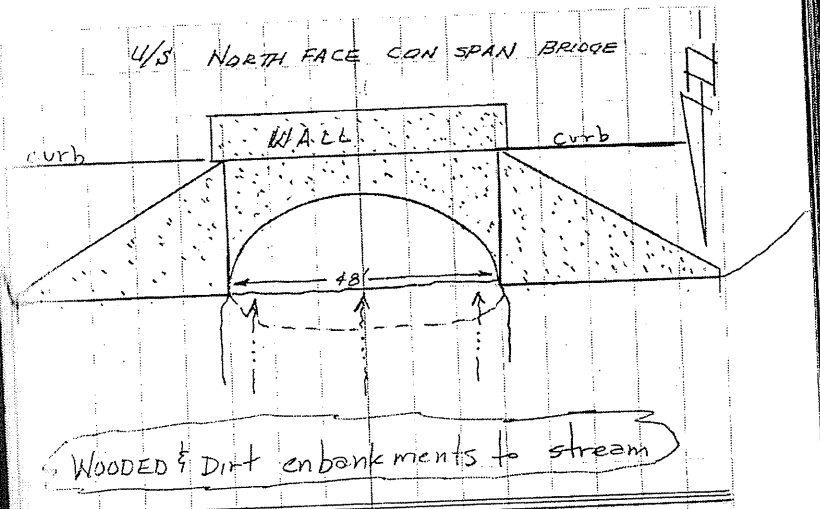
ELEV. = 651.239

POINTS #1000 – 1128

Stream in Wooded area With natural terrain for bank & stream bottom; With Industrial Warehouse to West of stream.

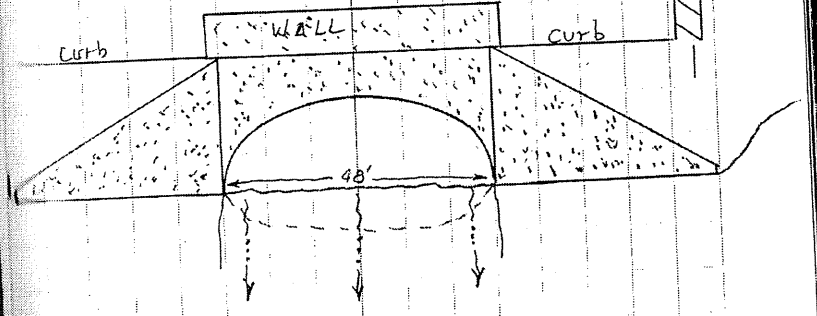
Nov. 12, 2010
UG & JG
CLOUDY 55°

U/S NORTH FACE CON SPAN BRIDGE



Wooded & Dirt enbankments to stream

D/S SOUTH FACE CON SPAN BRIDGE



11-24-10

BC KIND

Anderson Creek

3 BOX CULVERT @ COUNTY LINE RD

CONT. FILE: [illegible] dlv.

X @ 10x28 WP IR

→ 4@ 10x34 WPIR

→ SAC

WP
10x38 → TOP OF HEADWALL

10x40

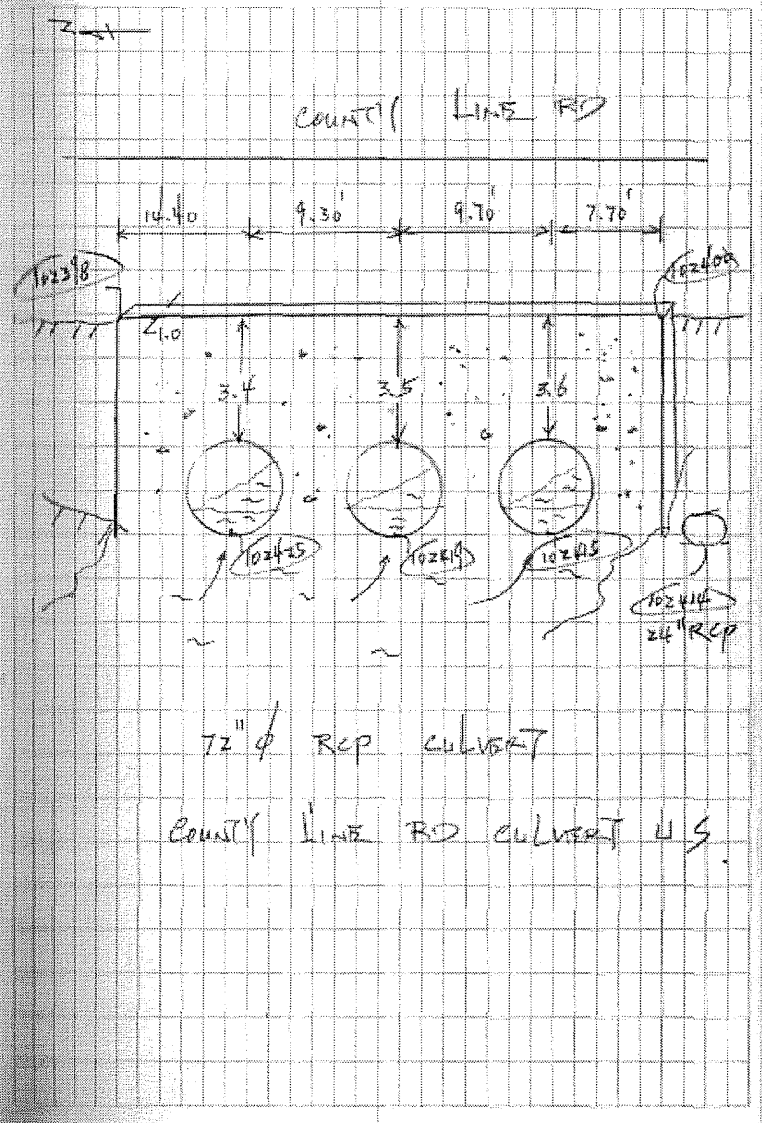
10x44 → 24" RCP

10x45 , 10x46 , 10x46 INVERT @ 72" RCP

10x48 WATER LEVEL

10x4x WATER SURFACE

11



72" ϕ RCP CULVERT

COUNTY LINE RD CULVERT #5

11-24-10

BC KKD

Addison Creek

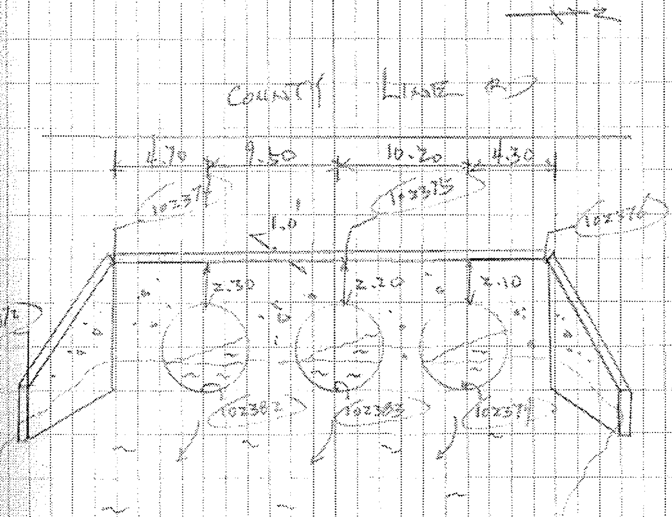
- Box culvert County Line Rd

Cont - File: Addison Creek ...

PT @ 102338 wp wall

BS @ 102339 wp pk

PT	Desc
102369	Ground
102372	Wing wall
102374 → 102376	Head wall
102379, 102382, 102383	Invert.
102378	Wing wall
102389	Ground.
102391 ↓ 102397	℄ County Line Rd



72" ⌀ RCP culvert

County Line Rd culvert DS.

ADDISON CREEK

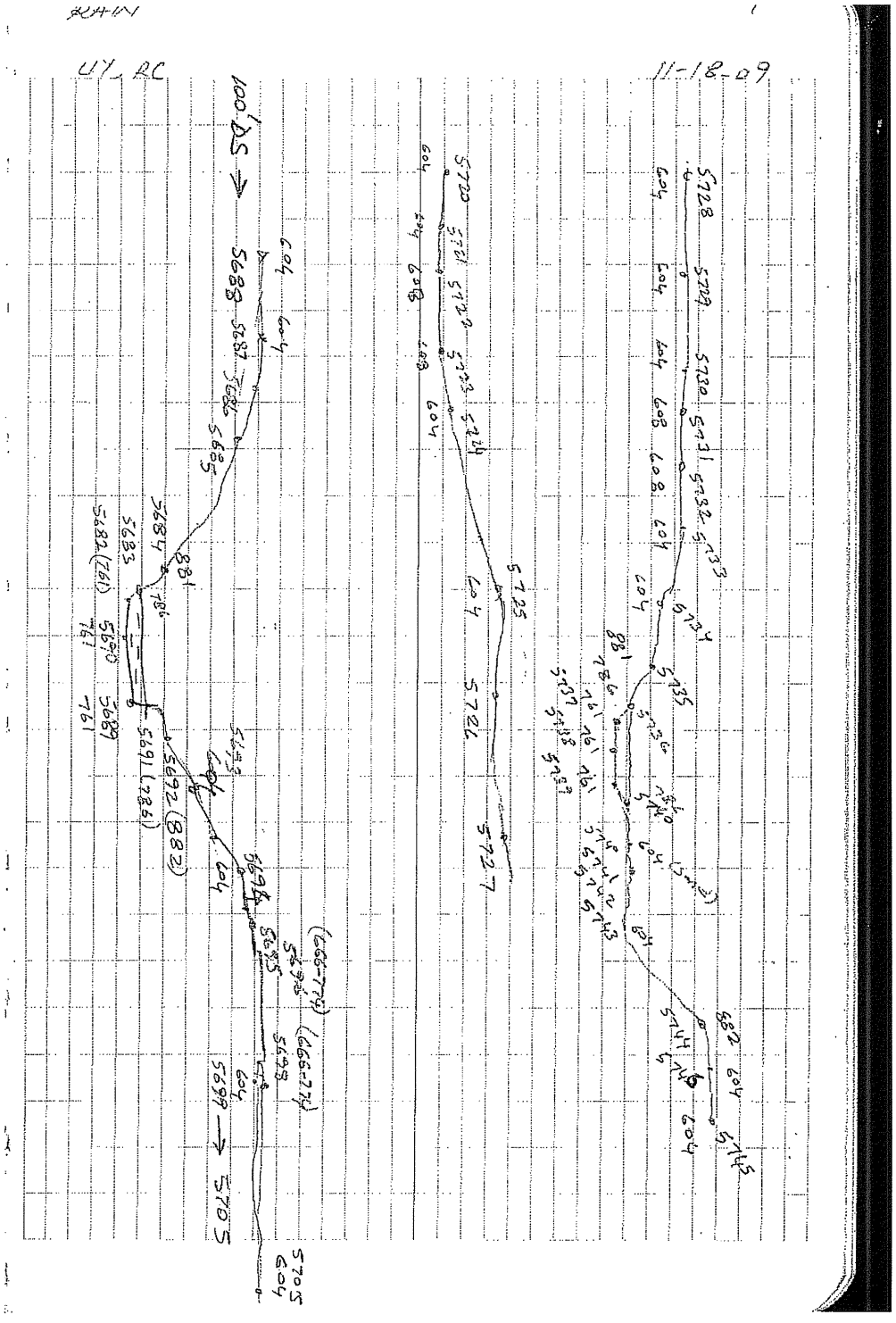
SET CONTROL POINTS

5706 — 100D NAIL
N: 1916180.433
E: 1097372.504
Elev: 654.366

5707 — 100D NAIL
N: 1916293.635
E: 1097619.960
Elev: 655.856

5708 — Pipe with Yellow cap
N: 1916081.070
E: 1096217.578
Elev: 661.028

5709 — Pipe with Yellow cap
N: 1916096.523
E: 1096393.114
Elev: 654.861



ADDISON CREEK

5718 Check CP# 407
N: 1914978.368
E: 1096890.160
Elev: 659.747 659.725

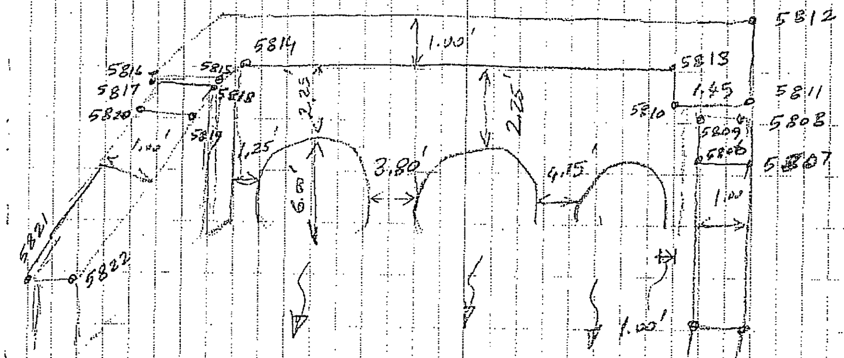
5719 Check CP# 408
N: 1916644.376
E: 1096889.827
Elev: 668.106 667.995

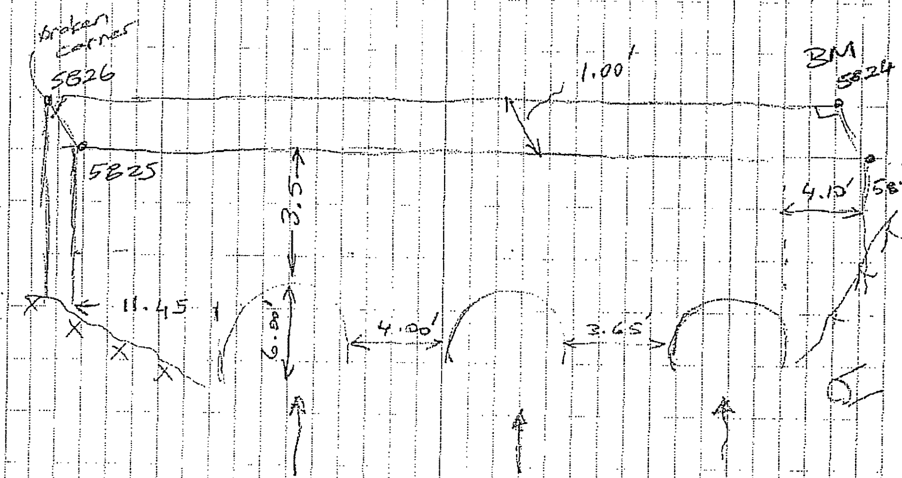
45 °F CLOUDY RAIN

4Y, PC

11-19-09

COUNTY LINE RD- STRUCTURES





ADDISON CREEK

FILE NAME: ADDISON

SET R @ CP# 5708 HI: 5.22'

5750 BS @ CP# 5709 HT: 5.12'

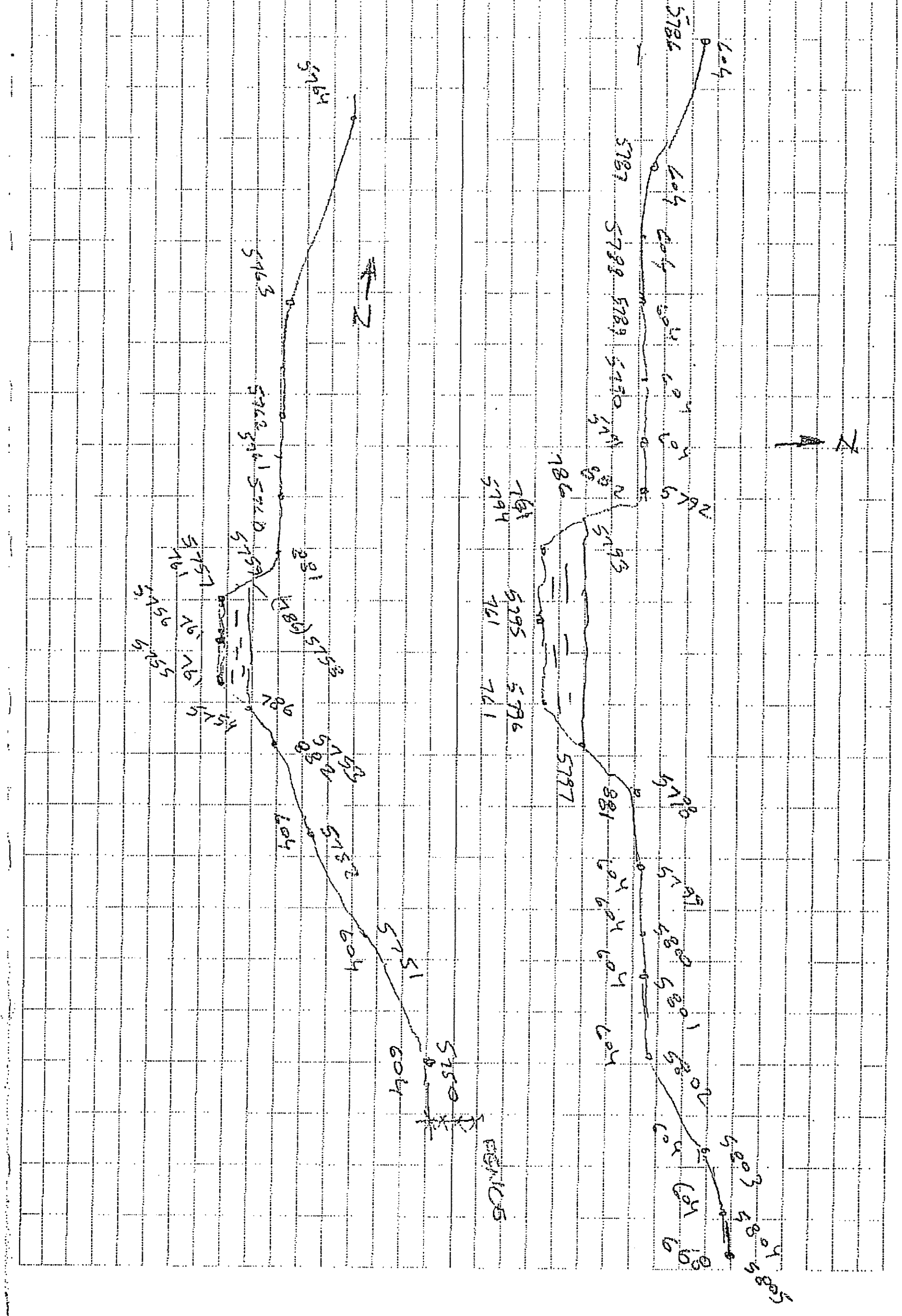
↓

5764

5765 CP PK
N: 1916515.480
E: 1096495.076
Elev: 662.208

5766 CP PK
N: 1916483.020
E: 1096654.372
Elev: 662.249

UY, RC 11.19.09



SECTION 15

CD (MODELING AND SURVEY DATA)