Urban Drainage and Flood Control District

E-19 Surveys

Havana Park
ALERT ID: 503
LID: HAVC2

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Introduction

HDR Engineering Inc. was contracted by the Urban Drainage and Flood Control District to survey and provide information about various flood warning stream gage sites in a manner consistent with National Weather Service E-19 procedures. On December 20, 2002, HDR personnel surveyed five sites. This report is a summary of the work done and information gathered for the Havana Park gage. Included in this report are elevations of critical points in the vicinity of the site, and estimates of stages causing flood damage in vicinity of the gage.

Site

The stream gage is located at the corner of 11th Street and Del Mar Parkway and reports the stage of the Havana Park Detention Basin. The ALERT ID number for this Gage is 503 while the National Weather Service LID is HAVC2 and is referred to as Havana Park. There is a 24" pipe draining the detention basin at the gage site. Potential flooding at the gage site itself will consist of Havana Park being flooded. During high flows 11th Street will be overtopped and the houses to the north of 11th Street could also be affected. Figure 1 shows a general location map of the site.

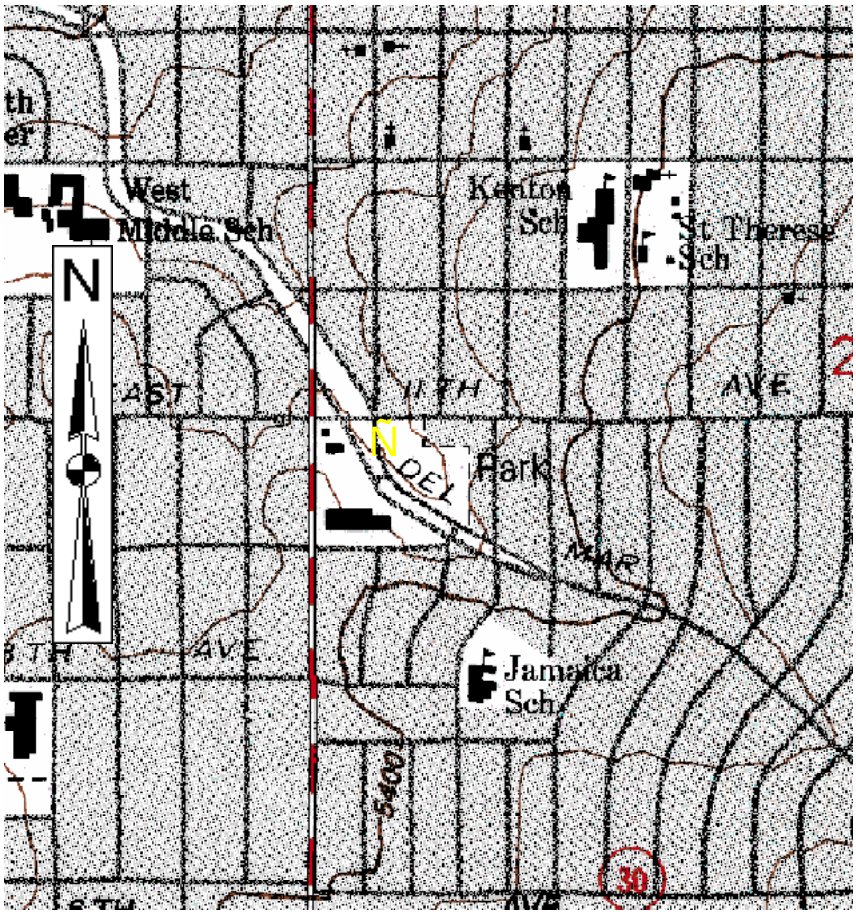

Figure – 1 Location Map

Surveyed locations

Ground elevations were surveyed along a cross section for a possible future rating curve for the site. In addition, the elevations and locations of any buildings around the detention basin were surveyed, along with elevations of the detention basin itself. Figure 2 shows locations of the surveyed points in the vicinity of the gage. The base of the ALERT transmitter was surveyed at an elevation of 100.00 for a temporary benchmark. The invert elevation of the outlet pipe is 93.2 feet. The detention basin will be bank full at an elevation of 6.4 feet above the invert. Water will begin to overtop the road and flood the houses also at an elevation of 6.4 feet above the invert.

Figure – 2 Surveyed Points

Site photographs

Several photographs were taken of the site. Figure 3 shows the Havana Park detention basin outlet at the gage location looking through the culvert. Figure 4 shows the park at the southeast corner of the park looking back at the gage location. Figure 5 shows the outlet at the gage location and the low damage house.

Figure – 3 Detention Basin Outlet

Figure – 4 Looking Across Detention Basin

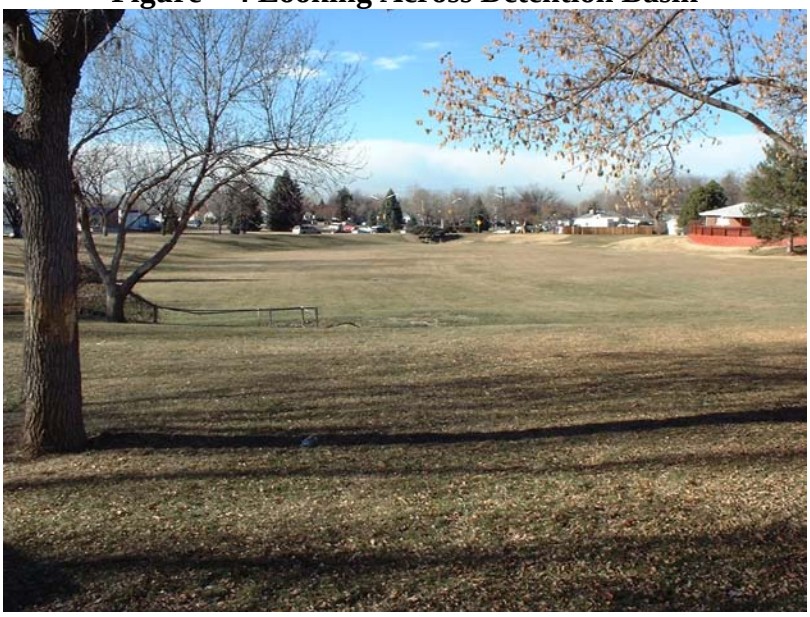

Figure – 5 Looking at Outlet and Low Damage House

Historic records

Since the gauge installation date in May 26, 1988, a peak flow rate of 420 cfs with a stage height of 7.8 feet was recorded on June 6, 1991.

Flood warning template

The graphics template was created based on the surveyed information, historic records, another information supplied by the Urban Drainage and Flood Control District and the National Weather Service. The graphics template is compatible with the flood warning system and has been created and installed on the District's WebServer. This template is named 503e19.tpt and is located in the appropriate directory in the District's WebServer. Figure 7 shows the graphics template online from the WebServer.

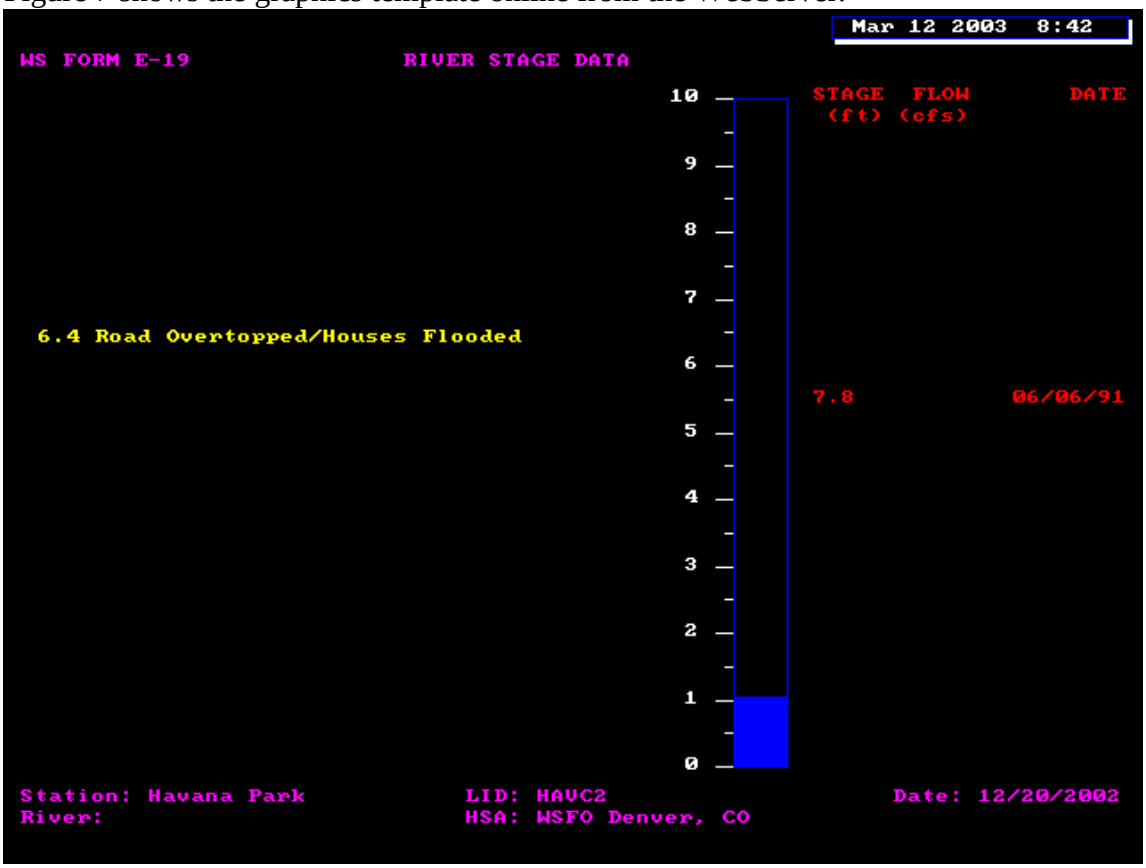

Figure – 7 Graphic Template

APPENDIX
Surveyed Data Points

Havana Park

ID	X	Y	Elevation (ft)	Description
1000	10000	10000	100.8695346	INST
1001	10015.1219	10000	101.2631726	BS
1002	10048.0937	9981.75091	100	BASETRANS
1003	10043.1734	9968.6998	93.2150764	INVTPIPE
1004	10041.0304	9970.30046	96.0524311	TOPGUAGEPIPE
1005	10044.6972	9966.63148	93.2418956	EDGCONINVT
1006	10041.2834	9970.81625	93.2578412	EDGCONINVT
1007	10040.8348	9971.54706	95.7233569	TOPCONCRT
1008	10020.6918	10000.2092	100.731899	TOPBERM
1009	10060.9259	9981.0075	99.6295131	TOPBERMOVRFL
1010	10075.2564	10016.885	99.5519796	OVERFLDRAIN
1011	10046.0364	9964.50632	96.017027	TOPCONCRT
1012	10070.0649	9931.92766	101.7265076	TOPBERM
1013	10019.5596	9765.84587	105.0544636	TOPBERM
1014	9975.79539	9792.56748	97.2936433	INBASIN
1015	9882.28932	9692.64078	99.1603309	INBASIN
1016	9918.47417	9647.30193	107.4211566	TOPBERM
1017	9762.73955	9562.46432	108.8411466	TOPBERM
1018	9752.28109	9616.59595	101.4288296	INVTBASIN
1019	9697.4973	9612.00061	98.5317995	INVTPIPE
1020	9655.78758	9608.66977	106.3802876	TOPBERM
1021	9635.48732	9574.0057	108.3309976	TOPBERM
1022	9674.32563	9626.61765	101.7508696	INVTBASIN
1023	9651.06083	9852.79167	100.2262563	INVTBASIN
1024	9610.98381	9777.14571	105.5802066	TOPBERM
1025	9785.00152	9709.63763	98.4466677	TOPINLET
1026	9785.28741	9709.39085	95.8712674	PIPEINVT
1027	9924.54005	9849.98271	96.8470822	TOPINLET
1028	9924.45484	9849.7498	94.4800588	PIPEINVRT
1029	9841.25135	9905.32508	97.2321131	BASININVT
1030	9829.98544	9928.11018	99.5809918	BASEWALL
1031	9830.65287	9928.87098	104.0949586	TOPWALL
1032	9921.15488	9948.003	96.7400744	BASININVRT
1033	9917.41653	9986.8236	101.6046556	TOPBERM
1034	10033.7186	10077.1433	98.9200399	LOWDAMAGEHOUSE