City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: GRADING PLAN FOR THE DEL WEBB @ MIREHAVEN PHASE 1 Building Permit #: _____ City Drainage #: _____

DRB#: 1006864 EPC#: _____ Work Order#: _____

Legal Description: N-2-A OF THE WATERSHED SUBDIVISION

City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: BRIAN PATTERSON

Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109

Phone#: 823-1000 Fax#: _____ E-mail: BPATTERSON@BHINC.COM

Owner: PULTE DEVELOPMENT OF NEW MEXICO Contact: GARRET PRICE

Address: 7600 JEFFERSON ST NE SUITE 180, ALBUQUERQUE, NM 87109

Phone#: 341-8524 Fax#: _____ E-mail: _____

Architect: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1st SUBMITTAL
- ____ DRAINAGE PLAN RESUBMITTAL
- ____ CONCEPTUAL G & D PLAN
- ____ GRADING PLAN
- ____ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ____ ENGINEER'S CERT (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEER'S CERT (TCL)
- ____ ENGINEER'S CERT (DRB SITE PLAN)
- ____ ENGINEER'S CERT (ESC)
- ____ SO-19
- X OTHER (SPECIFY) FOR YOUR RECORDS

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ____ SIA/FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM)
- ____ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ GRADING CERTIFICATION
- ____ SO-19 APPROVAL
- ____ ESC PERMIT APPROVAL
- ____ ESC CERT. ACCEPTANCE
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: ____ Yes ____ No ____ Copy Provided

DATE SUBMITTED: 10-8-14 By: BRIAN PATTERSON

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the followin

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

Bohannan Huston

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

October 8, 2014

Ms. Rita Harmon, P.E.
City of Albuquerque
Planning Department
600 2nd Street NW
Albuquerque, NM 87103

Re: Supplemental Submittal-Additional Inlet Analysis
Drainage Master Plan for Del Webb @ Mirehaven Phase 1 and 2

Dear Ms. Harmon:

Per the review of the construction plans of Del Webb @ Mirehaven Phase 1 by Shahab Biazar and phone correspondence between myself and you on October 7, it was agreed upon that BHI will provide additional analysis for the inlets located within the crown transition (inlets 5, 6, 9 10, 13 and 14). These inlets were originally analyzed in the DMP using a standard 2% crown but due to their location being within the crown transition, the street cross section has been altered. The attached analysis shows that these inlets, as well as the downstream inlets, can safely capture and convey flows in accordance to those practices demonstrated in the approved DMP.

The supplemental analysis for the inlets is enclosed. Please feel free to contact me at 823-1000 with questions or comments.

Sincerely,

Brian C. Patterson, P.E.
Project Engineer
Community Development and Planning

BCP/
Enclosures

cc: Yolanda Moyer, BHI

Q (cfs) CAPTURED BY INLETS		
INLET #	ORIGINAL DMP	REVISED ANALYSIS
5	6.8	9.3
6	6.8	3
9	5.1	6.9
10	5.1	1.6
11	7.6	7.9
12	7.6	7.9
13	8.1	2.9
14	8.1	9.3
15*	20.5	23.7
16*	20.5	23.7
TOTAL	96.2	96.2
* INLETS IN SUMP CONDITION		

MANNING'S N = 0.017 SLOPE = 0.040

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	14.5	0.1	9.0	40.7	0.9
2.0	11.8	0.7	6.0	26.5	0.4	10.0	41.2	0.9
3.0	12.3	0.7	7.0	38.5	0.4	11.0	53.0	1.2
4.0	12.5	0.0	8.0	40.5	0.2			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.028	0.822	1.445	1.782	0.082
0.100	0.100	0.078	0.179	1.645	2.294	2.564	0.182
0.150	0.150	0.182	0.483	3.082	2.652	3.961	0.259
0.200	0.200	0.388	1.167	5.442	3.007	6.282	0.341
0.250	0.250	0.711	2.483	7.966	3.492	8.758	0.440
0.300	0.300	1.176	4.593	11.149	3.904	11.861	0.537
0.350	0.350	1.797	7.871	14.331	4.380	14.963	0.648
0.400	0.400	2.804	10.423	28.589	3.718	29.142	0.615
0.450	0.450	4.211	20.486	28.692	4.864	29.167	0.818
0.500	0.500	5.620	33.061	28.795	5.882	29.193	1.038
0.550	0.550	7.031	47.900	28.899	6.813	29.218	1.272
0.600	0.600	8.442	64.824	29.002	7.679	29.244	1.517
0.650	0.650	9.855	83.697	29.105	8.493	29.269	1.772
0.700	0.700	11.306	100.560	31.156	8.894	30.765	1.930
0.750	0.750	12.881	118.671	33.673	9.213	33.243	2.070
0.800	0.800	14.580	139.046	36.189	9.537	35.720	2.215
0.850	0.850	16.403	161.795	38.706	9.864	38.197	2.363
0.900	0.900	18.350	187.027	41.223	10.192	40.675	2.516

$Q = 23.4$ CFS

STREET CAPACITY

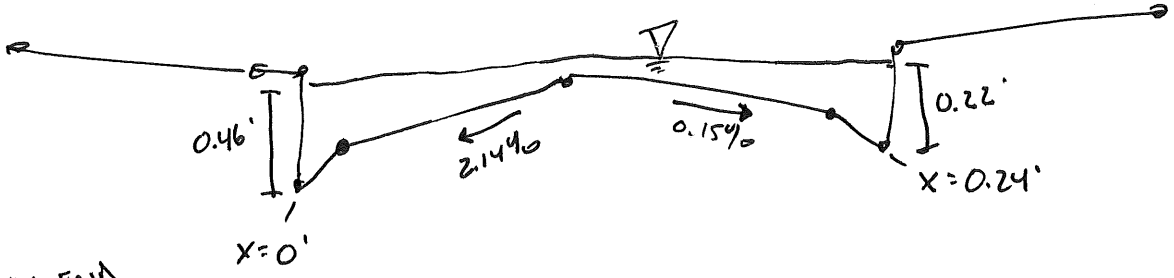
$$\frac{33.06-20.49}{1.04-0.82} = \frac{33.06-23.4}{1.04-x} \Rightarrow \frac{12.57}{0.22} = \frac{9.66}{1.04-x} \Rightarrow 2.1252 = 13.0728 - 12.57x$$

$x = 0.86' < 0.87'$ ok

WSEL

$$\frac{33.06-20.49}{0.50-0.45} = \frac{33.06-23.4}{0.50-x} \Rightarrow \frac{12.57}{0.05} = \frac{9.66}{0.5-x} \Rightarrow 0.483 = 6.29 - 12.57x$$

$d = 0.46'$



LOW-END

@ S = 4%, d = 0.46

2% - 8 CFS

5% - 10 CFS

$$\frac{5-2}{10-8} = \frac{5-4}{10-x} \Rightarrow \frac{3}{2} = \frac{1}{10-x} \Rightarrow 20-3x = 2 \Rightarrow$$

$X = 9.3$ CFS

HIGH-END

$d = 0.46' - 0.24' = 0.22'$

$X \approx 3$ CFS

TOTAL COMBINED FLOW @ INLETS 5 & 6 = 12.3 CFS

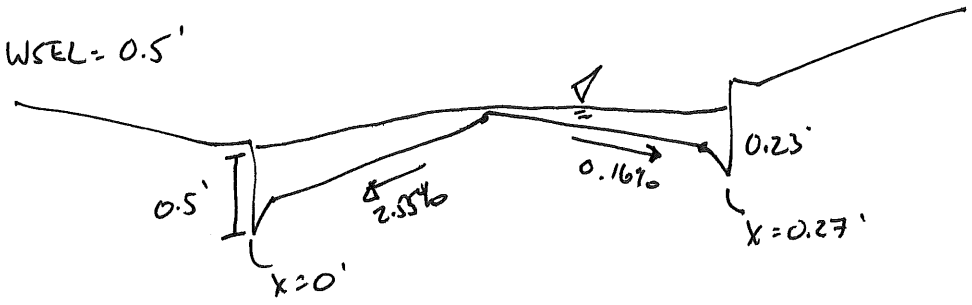
RESIDUAL FLOW = 11.1 CFS

MANNING'S N = 0.017 SLOPE = 0.015

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	14.5	0.1	9.0	40.7	0.9
2.0	11.8	0.7	6.0	26.5	0.4	10.0	41.2	0.9
3.0	12.3	0.7	7.0	38.5	0.4	11.0	53.0	1.2
4.0	12.5	0.0	8.0	40.5	0.3			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.017	0.822	0.885	1.782	0.062
0.100	0.100	0.078	0.110	1.645	1.405	2.564	0.131
0.150	0.150	0.181	0.300	2.959	1.661	3.838	0.193
0.200	0.200	0.373	0.707	5.011	1.895	5.851	0.256
0.250	0.250	0.666	1.477	7.064	2.218	7.863	0.326
0.300	0.300	1.066	2.637	9.609	2.472	10.345	0.395
0.350	0.350	1.604	4.371	12.484	2.725	13.140	0.466
0.400	0.400	2.280	6.846	15.359	3.002	15.934	0.540
0.450	0.450	3.490	9.178	28.662	2.630	29.160	0.558
0.500	0.500	4.898	16.111	28.765	3.289	29.185	0.668
0.550	0.550	6.308	24.501	28.869	3.884	29.211	0.785
0.600	0.600	7.719	34.220	28.972	4.433	29.236	0.906
0.650	0.650	9.132	45.172	29.075	4.947	29.261	1.031
0.700	0.700	10.583	55.190	31.126	5.215	30.758	1.123
0.750	0.750	12.158	66.033	33.643	5.431	33.235	1.209
0.800	0.800	13.856	78.260	36.159	5.648	35.712	1.296
0.850	0.850	15.679	91.940	38.676	5.864	38.190	1.385
0.900	0.900	17.625	107.141	41.193	6.079	40.667	1.475

INLETS 9 & 10 — 16.6 CFS



LOW END

@ S = 1.5%, d = 0.5'

0.2% - 4 CFS
2.0% - 8 CFS

$\frac{2-0.2}{8.4} = \frac{2-1.5}{8-x} \Rightarrow \frac{1.8}{4} = \frac{0.5}{8-x} \Rightarrow 2 = 14.4 - 1.8x \Rightarrow$

$x = 6.9$ CFS

HIGH END

@ S = 1.5%, d = 0.5 - 0.27 = 0.23'

0.2% - 1.0 CFS
2.0% - 1.8 CFS

$\frac{2-0.2}{1.8-1.0} = \frac{2-1.5}{1.8-x} \Rightarrow \frac{1.8}{0.8} = \frac{0.5}{1.8-x} \Rightarrow 0.4 = 3.24 - 1.8x$

$x = 1.6$ CFS

∴ TOTAL COMBINED FLOW @ INLETS 9 & 10 = 8.5 CFS

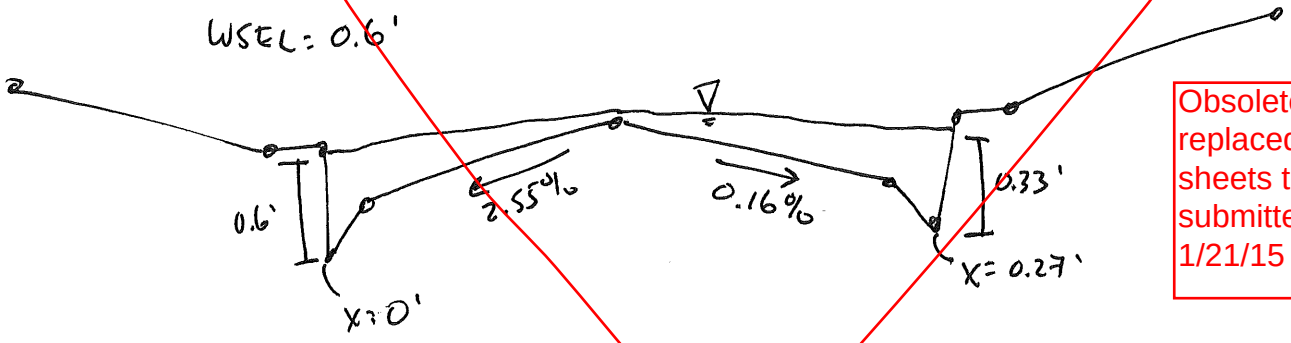
RESIDUAL FLOW = 8.1 CFS

MANNING'S N = 0.017 SLOPE = 0.015

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	14.5	0.1	9.0	40.7	0.9
2.0	11.8	0.7	6.0	26.5	0.4	10.0	41.2	0.9
3.0	12.3	0.7	7.0	38.5	0.4	11.0	53.0	1.2
4.0	12.5	0.0	8.0	40.5	0.3			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.017	0.822	0.885	1.782	0.062
0.100	0.100	0.078	0.110	1.645	1.405	2.564	0.131
0.150	0.150	0.181	0.300	2.959	1.661	3.838	0.193
0.200	0.200	0.373	0.707	5.011	1.895	5.851	0.256
0.250	0.250	0.666	1.477	7.064	2.218	7.863	0.326
0.300	0.300	1.066	2.637	9.609	2.472	10.345	0.395
0.350	0.350	1.604	4.371	12.484	2.725	13.140	0.466
0.400	0.400	2.280	6.846	15.359	3.002	15.934	0.540
0.450	0.450	3.490	9.178	28.662	2.630	29.160	0.558
0.500	0.500	4.898	16.111	28.765	3.289	29.185	0.668
0.550	0.550	6.308	24.501	28.869	3.884	29.211	0.785
0.600	0.600	7.719	34.220	28.972	4.433	29.236	0.906
0.650	0.650	9.132	45.172	29.075	4.947	29.261	1.031
0.700	0.700	10.583	55.190	31.126	5.215	30.758	1.123
0.750	0.750	12.158	66.033	33.643	5.431	33.235	1.209
0.800	0.800	13.856	78.260	36.159	5.648	35.712	1.296
0.850	0.850	15.679	91.940	38.676	5.864	38.190	1.385
0.900	0.900	17.625	107.141	41.193	6.079	40.667	1.475

INLETS 13 & 14 ⇒ @ = 34 CFS



Obsolete, these calcs replaced with last 2 sheets that were submitted for DRC on 1/21/15

LOW END

@ S = 1.5%, d = 0.6'

0.2% = 6 CFS

2% = 10.5 CFS

$\frac{2-0.2}{10.5-6} = \frac{2-1.5}{10.5-X} \Rightarrow \frac{1.8}{4.5} = \frac{0.5}{10.5-X} \Rightarrow 2.25 = 18.9 - 1.8X \Rightarrow$

X = 9.3 CFS

HIGH END

@ S = 1.5%, d = 0.6' - 0.27' = 0.33'

0.2% = 1.5 CFS

2% = 3.5 CFS

$\frac{2-0.2}{3.5-1.5} = \frac{2-1.5}{3.5-X} = \frac{1.8}{2} = \frac{0.5}{3.5-X} \Rightarrow 1 = 6.3 - 1.8X \Rightarrow$

X = 2.9 CFS

∴ TOTAL COMBINED FLOW @ INLETS 13 & 14 = 12.2 CFS

RESIDUAL FLOW = 21.8 CFS

MANNING'S N = 0.017 SLOPE = 0.037

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	14.5	0.1	9.0	40.7	0.7
2.0	11.8	0.7	6.0	26.5	0.4	10.0	41.2	0.7
3.0	12.3	0.7	7.0	38.5	0.1	11.0	53.0	0.9
4.0	12.5	0.0	8.0	40.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.054	1.645	1.390	2.564	0.080
0.100	0.100	0.156	0.345	3.290	2.206	4.128	0.176
0.150	0.150	0.366	0.920	6.318	2.516	7.076	0.248
0.200	0.200	0.795	2.262	11.423	2.845	12.101	0.326
0.250	0.250	1.476	4.958	16.527	3.359	17.127	0.426
0.300	0.300	2.408	9.368	21.631	3.891	22.152	0.535
0.350	0.350	3.591	15.837	26.735	4.410	27.178	0.652
0.400	0.400	4.981	25.971	28.839	5.214	29.203	0.823
0.450	0.450	6.391	39.263	28.942	6.143	29.228	1.037
0.500	0.500	7.803	54.630	29.045	7.001	29.254	1.262
0.550	0.550	9.217	71.927	29.148	7.804	29.279	1.497
0.600	0.600	10.631	91.038	29.251	8.563	29.304	1.741
0.650	0.650	12.047	111.866	29.354	9.286	29.330	1.991
0.700	0.700	13.538	124.793	33.354	9.218	32.298	2.022
0.750	0.750	15.277	139.220	38.284	9.113	37.227	2.042
0.800	0.800	17.261	157.411	43.214	9.119	42.156	2.094
0.850	0.850	19.492	179.366	48.144	9.202	47.085	2.167
0.900	0.900	21.970	205.172	53.075	9.339	52.014	2.257

INLETS 11 & 12 $\Rightarrow$ Q = 31.2 CFS

WSEL:

$$\frac{39.26 - 25.97}{0.45 - 0.40} = \frac{39.26 - 31.2}{0.45 - x} \Rightarrow \frac{13.29}{0.05} = \frac{8.06}{0.45 - x} \Rightarrow 0.403 = 5.98 - 13.29x$$

$$x = 0.43'$$

@ S = 3.7%, d = 0.43' $\Rightarrow$ X = 7.9 CFS

$$\text{RESIDUAL} = 31.2 - 2(7.9) = 15.4 \text{ CFS}$$

DEL WEBB BLVD - STA 20+10
(SUMP)

Double A inlet, in sump condition:

Open Area (for orifice calc in sq. ft.):	7.7977431
Length of Weir (feet):	7.9791667
Orifice Coeficient	0.6
Weir Coeficient	3

Head (ft)	Head (in)	1 Wing Weir Q (cfs)	Grate Weir Q (cfs)	Grate Orifice Q (cfs)	Control Q Sgl Wing (cfs)	Control Q Dbl Wing (cfs)
0.05	0.6	0.13	0.27	8.40	0.40	0.54
0.1	1.2	0.38	0.76	11.87	1.14	1.52
0.15	1.8	0.70	1.39	14.54	2.09	2.78
0.2	2.4	1.07	2.14	16.79	3.21	4.29
0.25	3	1.50	2.99	18.77	4.49	5.99
0.3	3.6	1.97	3.93	20.56	5.91	7.88
0.35	4.2	2.48	4.96	22.21	7.44	9.93
0.4	4.8	3.04	6.06	23.75	9.09	12.13
0.45	5.4	3.62	7.23	25.19	10.85	14.47
0.5	6	4.24	8.46	26.55	12.71	16.95
0.55	6.6	4.89	9.76	27.84	14.66	19.55
0.6	7.2	5.58	11.13	29.08	16.70	22.28
0.65	7.8	6.29	12.54	30.27	18.83	25.12
0.667	8.0	6.54	13.04	30.66	19.58	26.11
0.7	8.4	7.03	14.02	31.41	21.05	28.08
0.75	9	7.79	15.55	32.52	23.34	31.14
0.8	9.6	8.59	17.13	33.58	25.71	34.30
0.85	10.2	9.40	18.76	34.62	28.16	37.57
0.9	10.8	10.25	20.44	35.62	30.68	40.93
0.95	11.4	11.11	22.16	36.60	33.28	44.39
1	12	12.00	23.94	37.55	35.94	47.94
1.05	12.6	12.91	25.76	38.47	38.67	51.58
1.1	13.2	13.84	27.62	39.38	41.46	55.31
1.15	13.8	14.80	29.52	40.26	44.32	59.12
0.567	6.804	5.12	10.22	28.27	15.34	20.47

Calculation of open area:

Total Grate Area	2000	13.888889
Cross Bar Area	-732	-5.083333
Supports (ends)	-115.625	-0.802951
(middle)	-100	-0.694444
Areas Counted Twice	70.5	0.4895833
	1122.875	7.7977431

Calculation of Length of Weir:

Total Perimeter of Grate	130	10.833333
Short Cross Bars	-7	-0.583333
Bearing Bars	-13	-1.083333
End Supports	-9.25	-0.770833
Middle Supports	-5	-0.416667
	110	7.9791667

10% BASIN A-2-A - 2 CFS
RESIDUAL FLOW - 21.8 CFS (#13 & #14)
RESIDUAL FLOW - 15.4 CFS (#11 & #12)
RESIDUAL FLOW - 8.1 CFS (#9 & #10)
47.3 CFS / 2 = 23.7 CFS

EACH INLET = 23.7 CFS ⇒ h = 0.62' < 0.67' (HP IN DEL WEBB MINUS LP @ SUMP)

23.7 CFS x 1.15 (15% CLOGGING FACTOR) = 27.1 CFS ⇒ h = 0.67' ≤ 0.67'

B-8

MANNING'S N = 0.017 SLOPE = 0.015

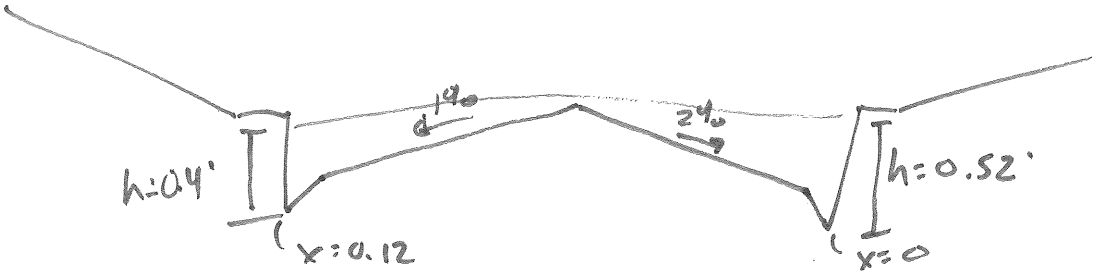
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.0	5.0	14.5	0.3	9.0	40.7	0.7
2.0	11.8	0.8	6.0	26.5	0.4	10.0	41.2	0.7
3.0	12.3	0.2	7.0	38.5	0.1	11.0	53.0	0.9
4.0	12.5	0.1	8.0	40.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.017	0.822	0.885	1.282	0.062
0.100	0.100	0.078	0.110	1.645	1.405	2.064	0.131
0.150	0.150	0.191	0.283	3.700	1.483	4.072	0.184
0.200	0.200	0.454	0.776	7.141	1.707	7.460	0.245
0.250	0.250	0.886	1.820	10.530	2.055	10.783	0.316
0.300	0.300	1.589	3.353	18.147	2.111	18.338	0.369
0.350	0.350	2.669	6.304	25.764	2.362	25.892	0.437
0.400	0.400	4.060	11.753	28.881	2.895	28.946	0.530
0.450	0.450	5.484	19.343	28.998	3.527	29.001	0.644
0.500	0.500	6.910	28.360	29.115	4.104	29.055	0.762
0.550	0.550	8.340	38.692	29.231	4.640	29.110	0.885
0.600	0.600	9.771	50.252	29.348	5.143	29.164	1.011
0.650	0.650	11.206	62.974	29.465	5.620	29.218	1.141
0.700	0.700	12.680	73.964	31.529	5.833	30.744	1.229
0.750	0.750	14.280	85.640	34.060	5.997	33.250	1.309
0.800	0.800	16.008	97.908	37.070	6.116	36.241	1.382
0.850	0.850	17.943	108.961	42.000	6.073	41.170	1.424
0.900	0.900	20.125	122.517	46.930	6.088	46.099	1.476

Submitted for DRC on 1/21/15
RTH

$Q_T = 34$ CFS @ INLETS 13 & 14

WSEL ≅ 0.52'



@ INLET #13 (HIGH END)

S = 1.5%, depth = 0.4'

0.2% - 2.85 CFS

2% - 6.4 CFS

$$\frac{2-0.2}{6.4-2.85} = \frac{2-1.5}{6.4-x} \Rightarrow \frac{1.9}{3.55} = \frac{0.5}{6.4-x} \Rightarrow 1.775 = 11.52 - 1.8x$$

$x = 5.4$ CFS

ENTERING INLET #13

MANNING'S N = 0.017 SLOPE = 0.015

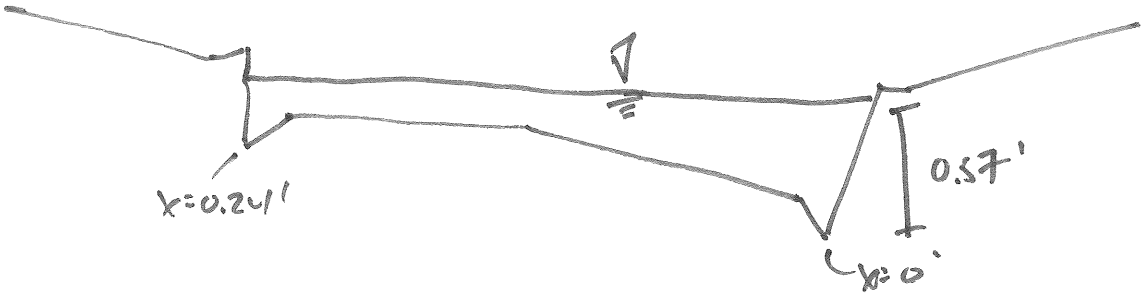
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.2	5.0	14.5	0.4	9.0	40.7	0.7
2.0	11.8	0.9	6.0	26.5	0.4	10.0	41.2	0.7
3.0	12.3	0.9	7.0	38.5	0.1	11.0	53.0	0.9
4.0	12.5	0.2	8.0	40.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.017	0.822	0.885	13.782	0.062
0.100	0.100	0.078	0.110	1.645	1.405	14.564	0.131
0.150	0.150	0.183	0.293	3.159	1.602	16.038	0.190
0.200	0.200	0.398	0.720	5.711	1.812	18.551	0.251
0.250	0.250	0.739	1.560	8.428	2.112	21.220	0.319
0.300	0.300	1.232	2.924	11.802	2.374	24.514	0.388
0.350	0.350	1.890	5.046	15.177	2.670	27.809	0.461
0.400	0.400	3.044	7.319	28.589	2.405	29.142	0.490
0.450	0.450	4.451	13.759	28.692	3.091	29.167	0.599
0.500	0.500	5.860	21.707	28.795	3.704	29.193	0.713
0.550	0.550	7.271	31.021	28.898	4.267	29.218	0.833
0.600	0.600	8.682	41.596	29.001	4.791	29.244	0.957
0.650	0.650	10.095	53.352	29.104	5.285	29.269	1.084
0.700	0.700	11.546	63.775	31.156	5.523	30.765	1.175
0.750	0.750	13.121	74.942	33.672	5.712	33.243	1.257
0.800	0.800	14.820	87.497	36.189	5.904	35.720	1.342
0.850	0.850	16.643	101.507	38.706	6.099	38.197	1.429
0.900	0.900	18.590	117.038	41.222	6.296	40.675	1.517

Submitted for DRC on 1/21/15
RTH

$Q_T = 34$ cfs @ INLETS 13 & 14

WSEL $\approx$ 0.57'



@ INLET #14 (Low end)

S=1.5%, depth = 0.57'

0.2% – 6.8 cfs

2% – 12 cfs

$\frac{2-a2}{12-6.8} = \frac{2-1.5}{12-x} \Rightarrow \frac{1.8}{5.2} = \frac{0.5}{12-x} \Rightarrow 2.6 = 21.6 - 1.8x$

$x = 10.6$ cfs

ENTERING INLET #14