

**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 4800 West



**BOWEN COLLINS**  
& ASSOCIATES

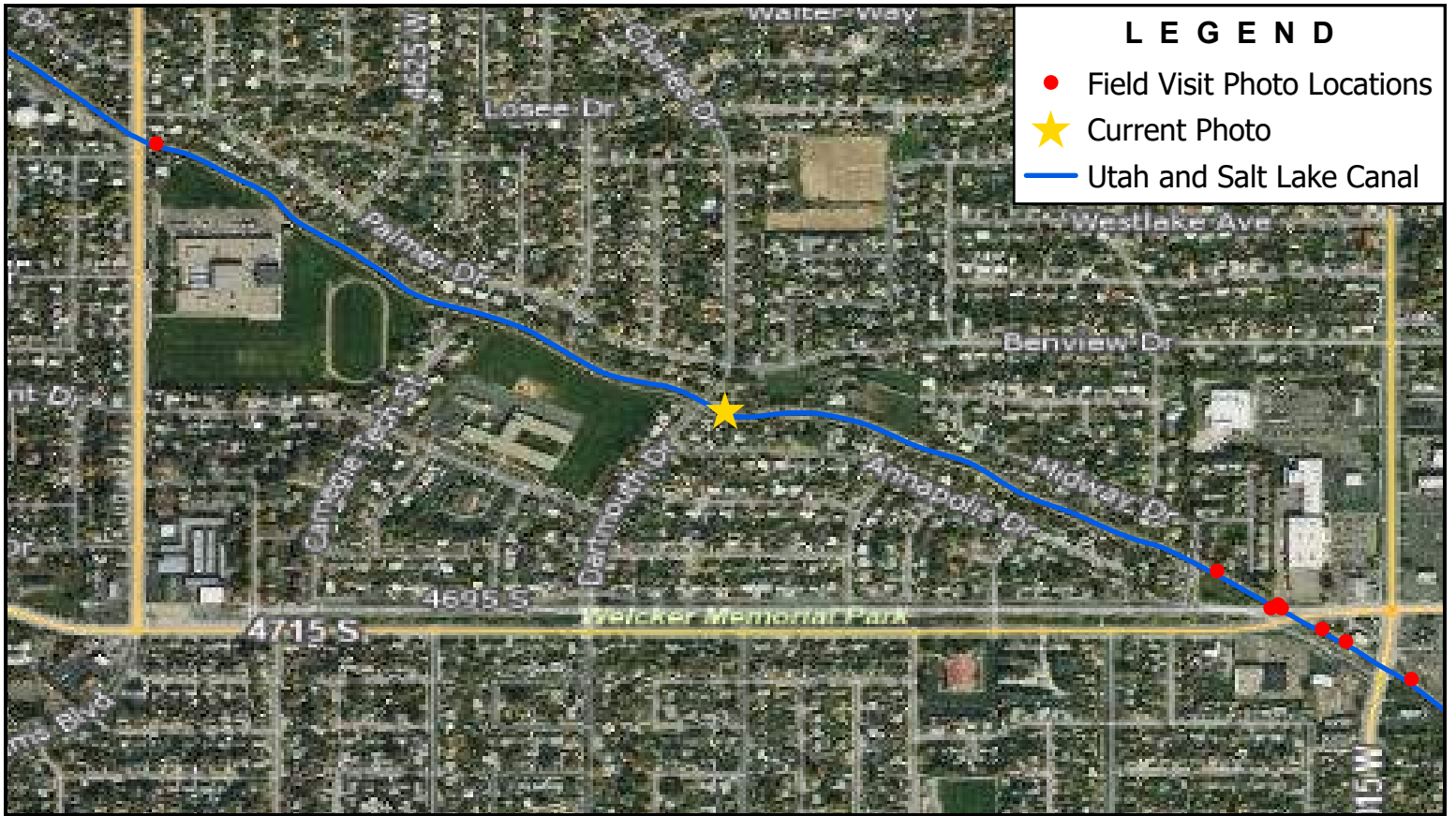
**USLC-22**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**3**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Dartmouth Dr.



**BOWEN COLLINS**  
& ASSOCIATES

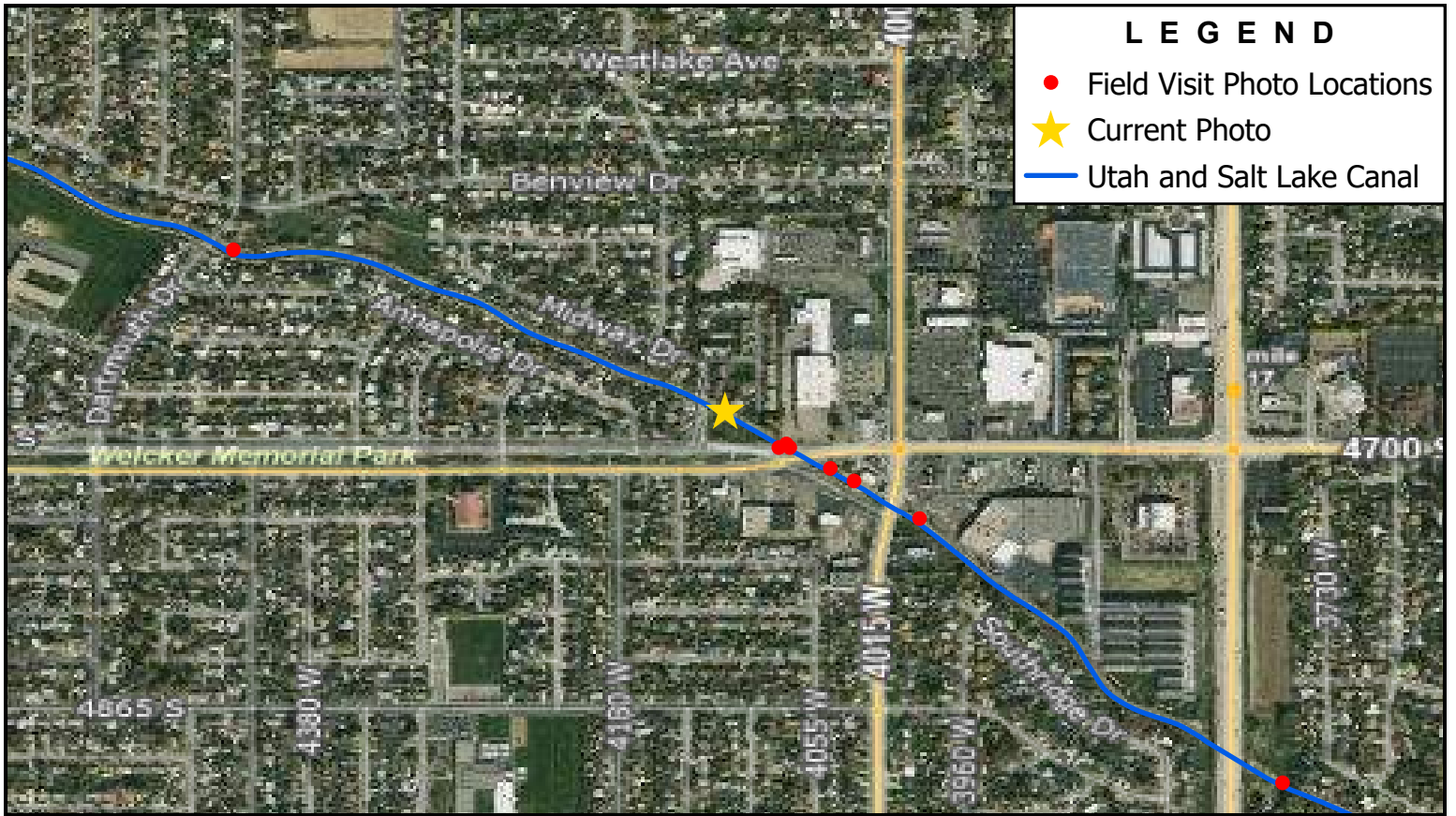
**USLC-23**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**4**

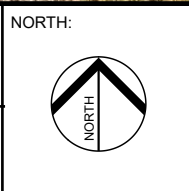


Note: Midway Dr.



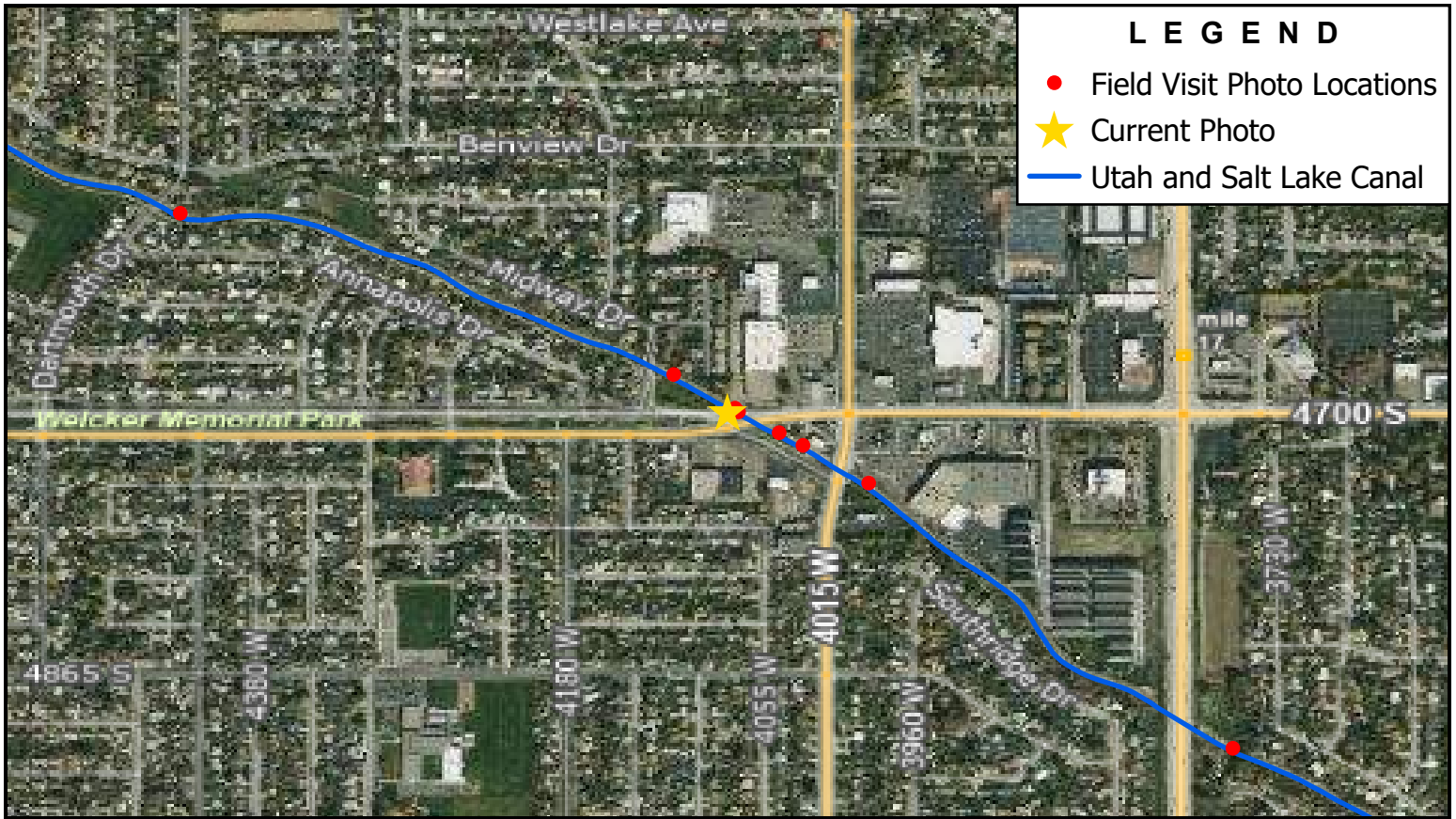
USLC-24

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**5**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 4700 South Dumpout



**BOWEN COLLINS**  
& ASSOCIATES

USLC-26

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**6**



Note: 4700 South Access Bridge



**BOWEN COLLINS**  
& ASSOCIATES

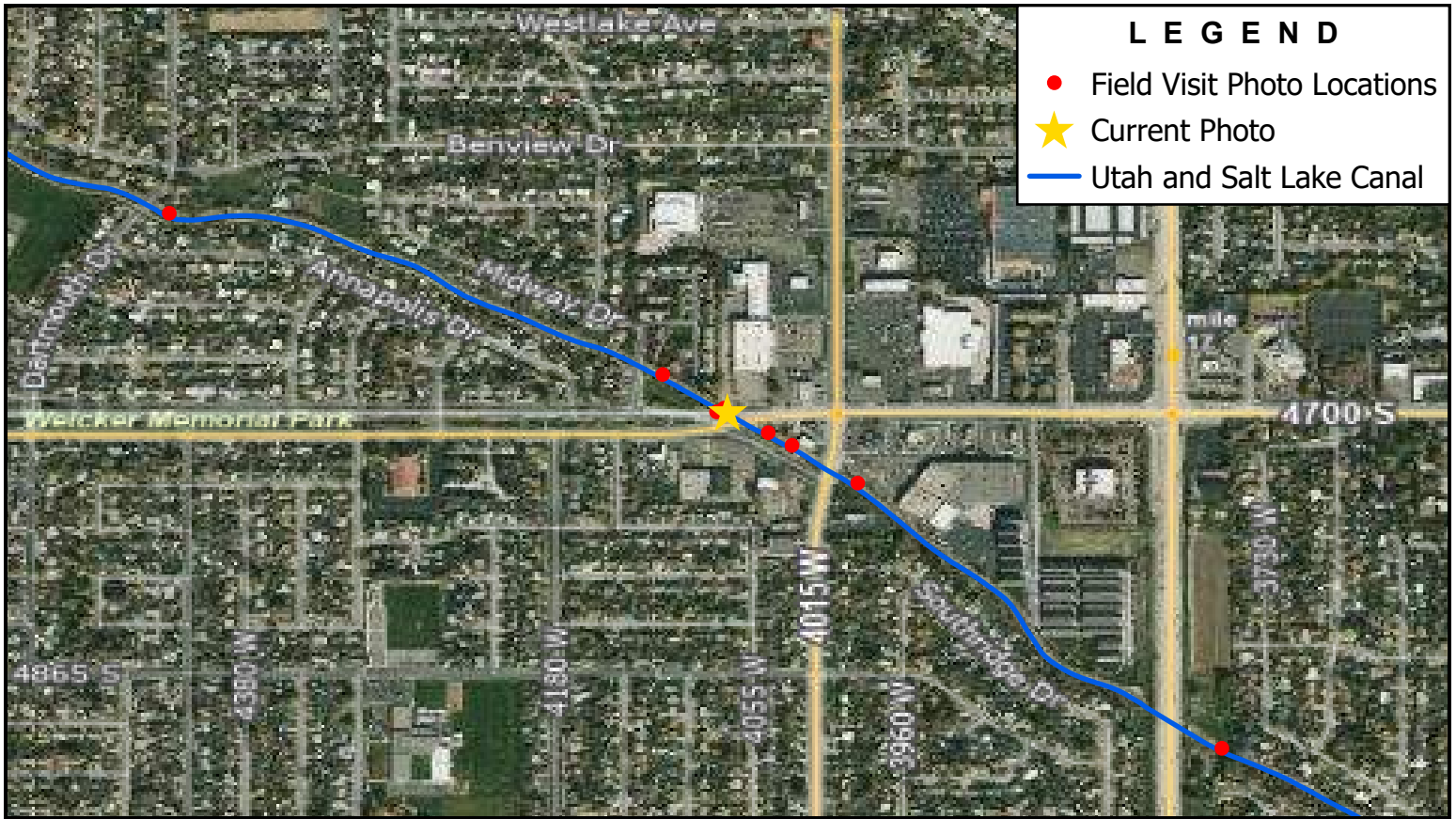
USLC-27

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**7**



Note: 4700 South Control Structure



USLC-25

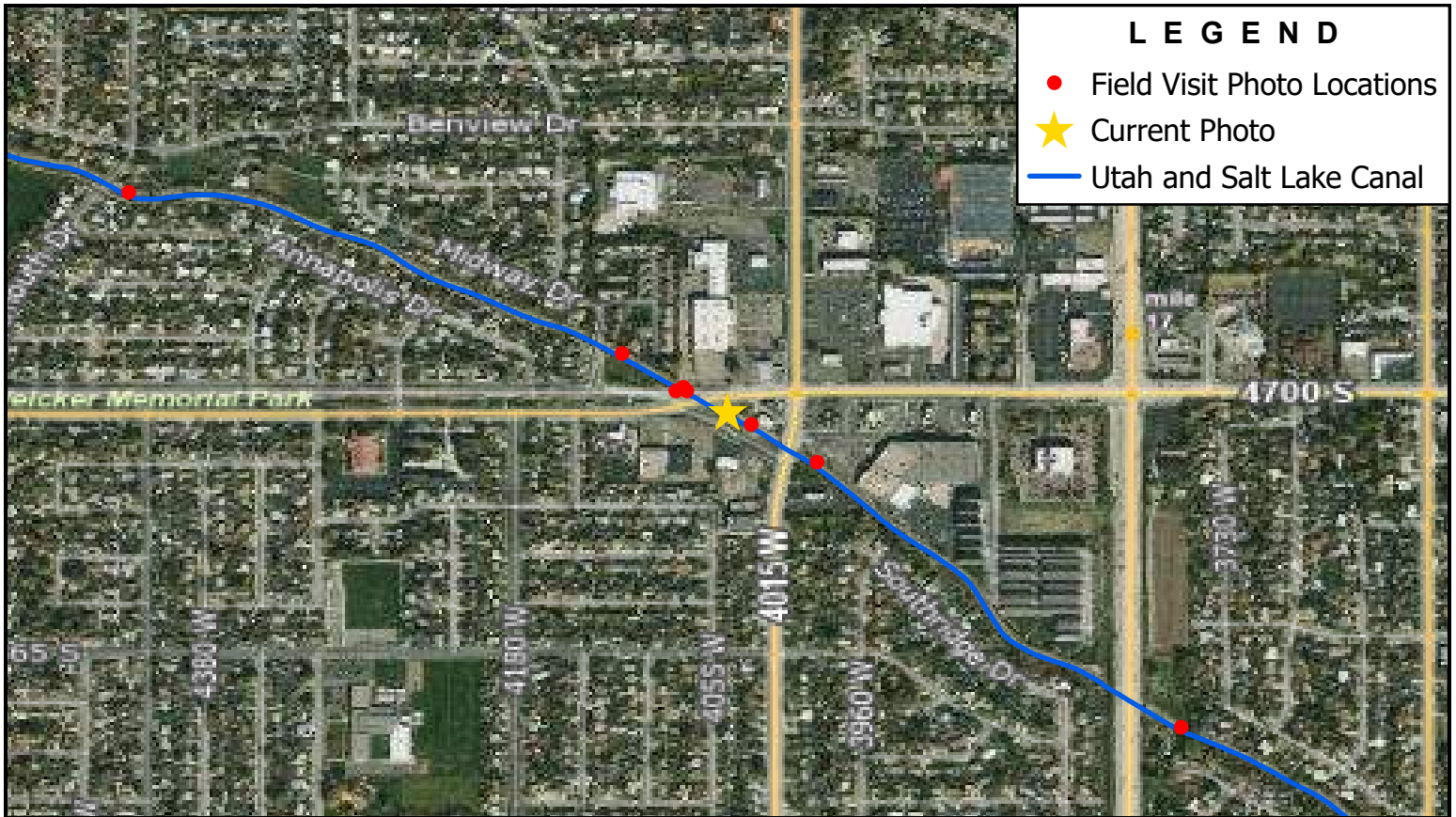
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:



PHOTOGRAPH NO.

8



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 4700 South



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-28**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**9**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 4715 South



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-29**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**10**





Note: 4000 West



**BOWEN COLLINS**  
& ASSOCIATES

USLC-30

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**11**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Bangarter Hwy



**BOWEN COLLINS**  
& ASSOCIATES

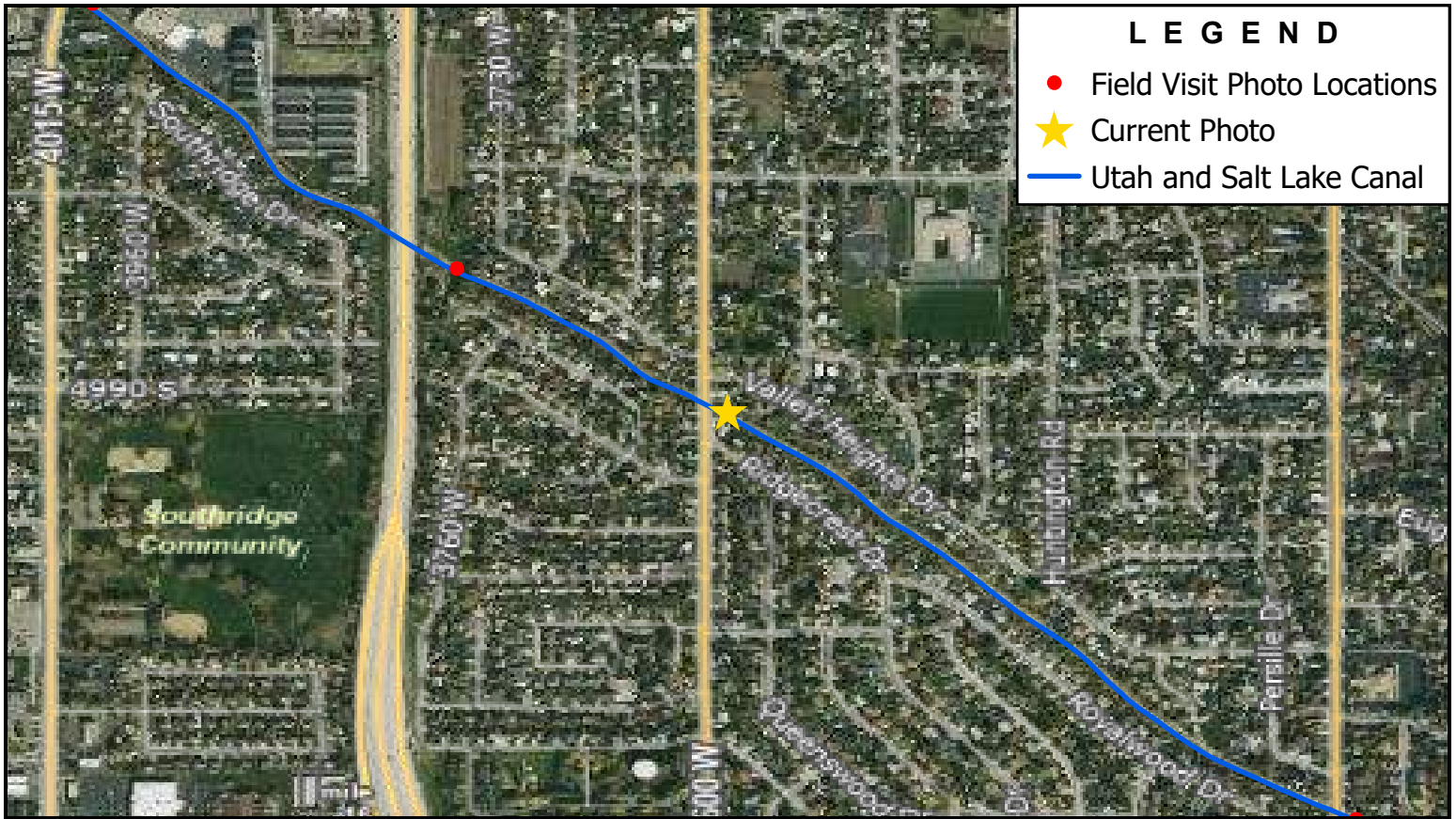
USLC-31

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**12**



Note: 3600 West



**BOWEN COLLINS**  
& ASSOCIATES

USLC-32

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

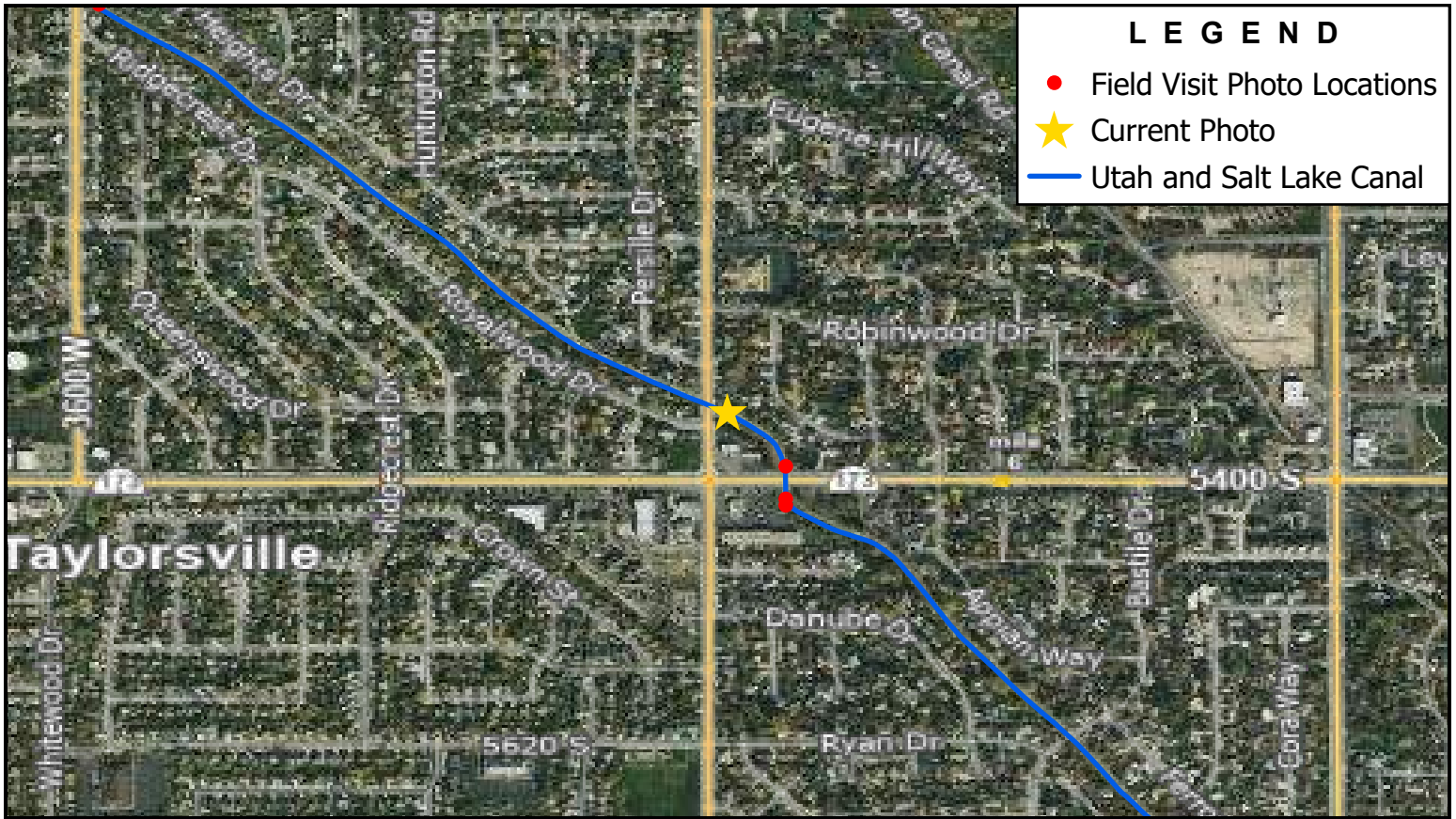
NORTH:



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.

13

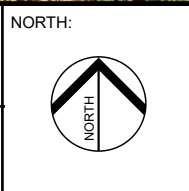


Note: 3200 West



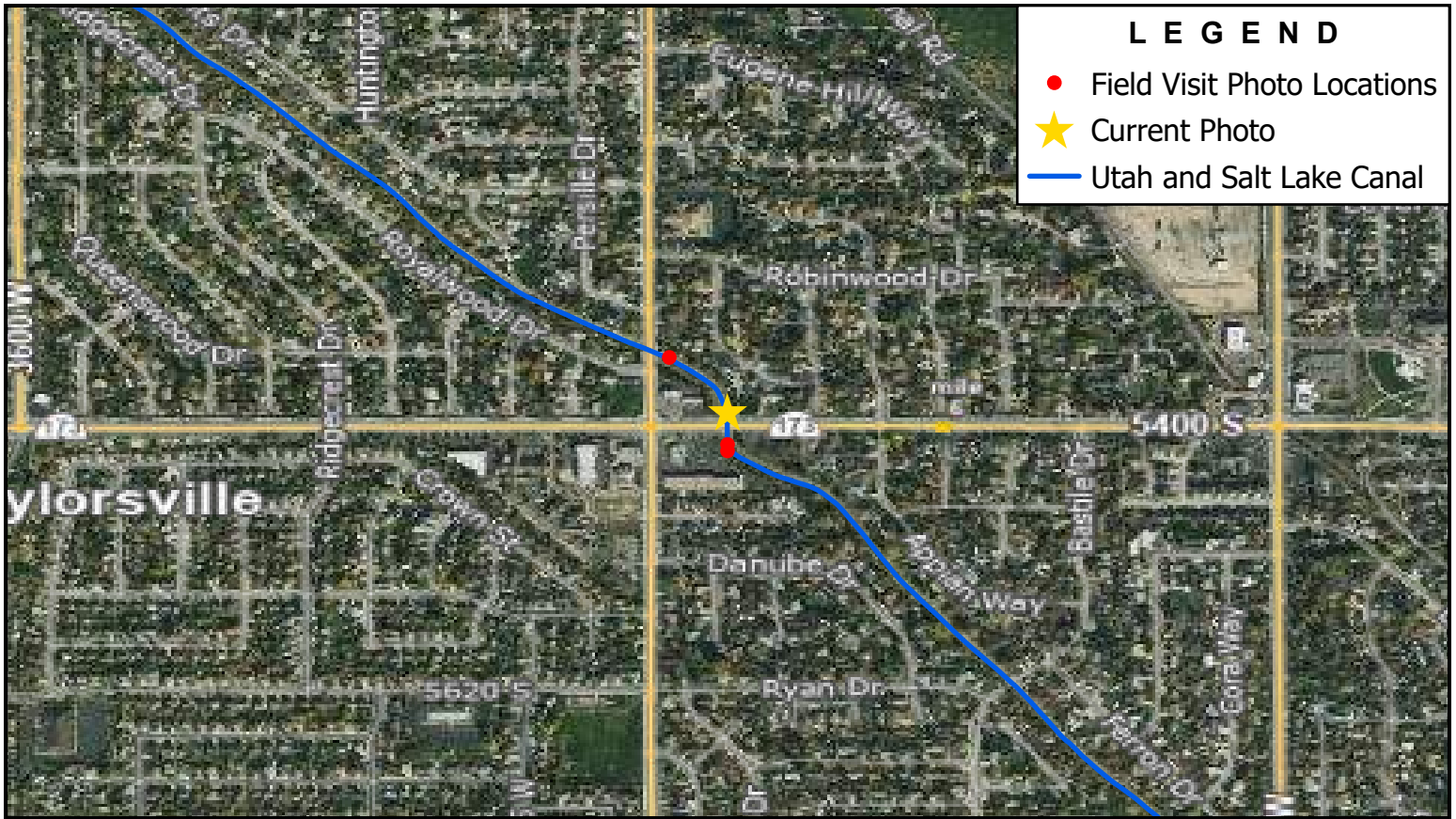
**USLC-33**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0      500      1,000  
Feet

PHOTOGRAPH NO.  
**14**



Note: 5400 South



**BOWEN COLLINS**  
& ASSOCIATES

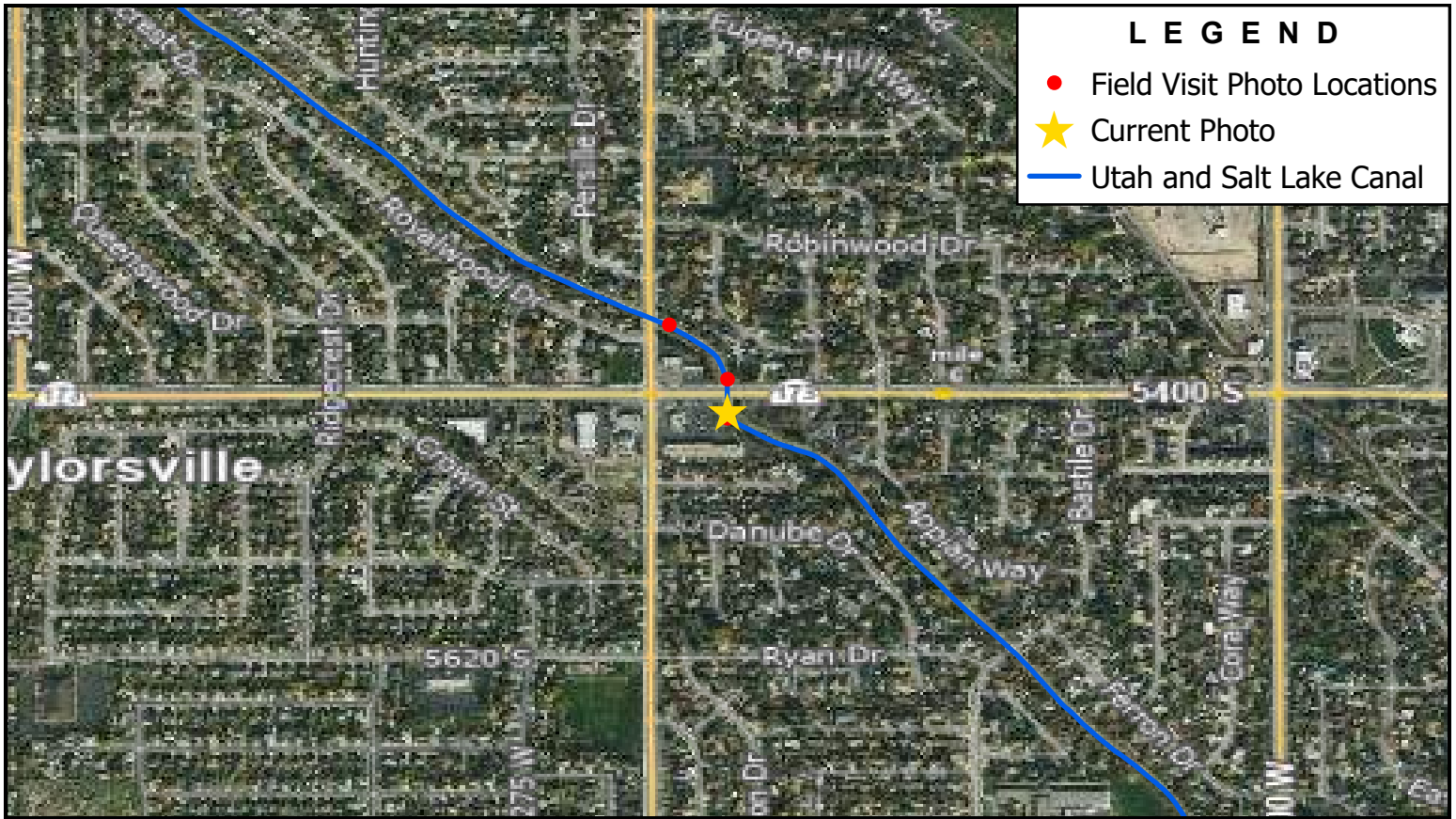
USLC-34

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**15**



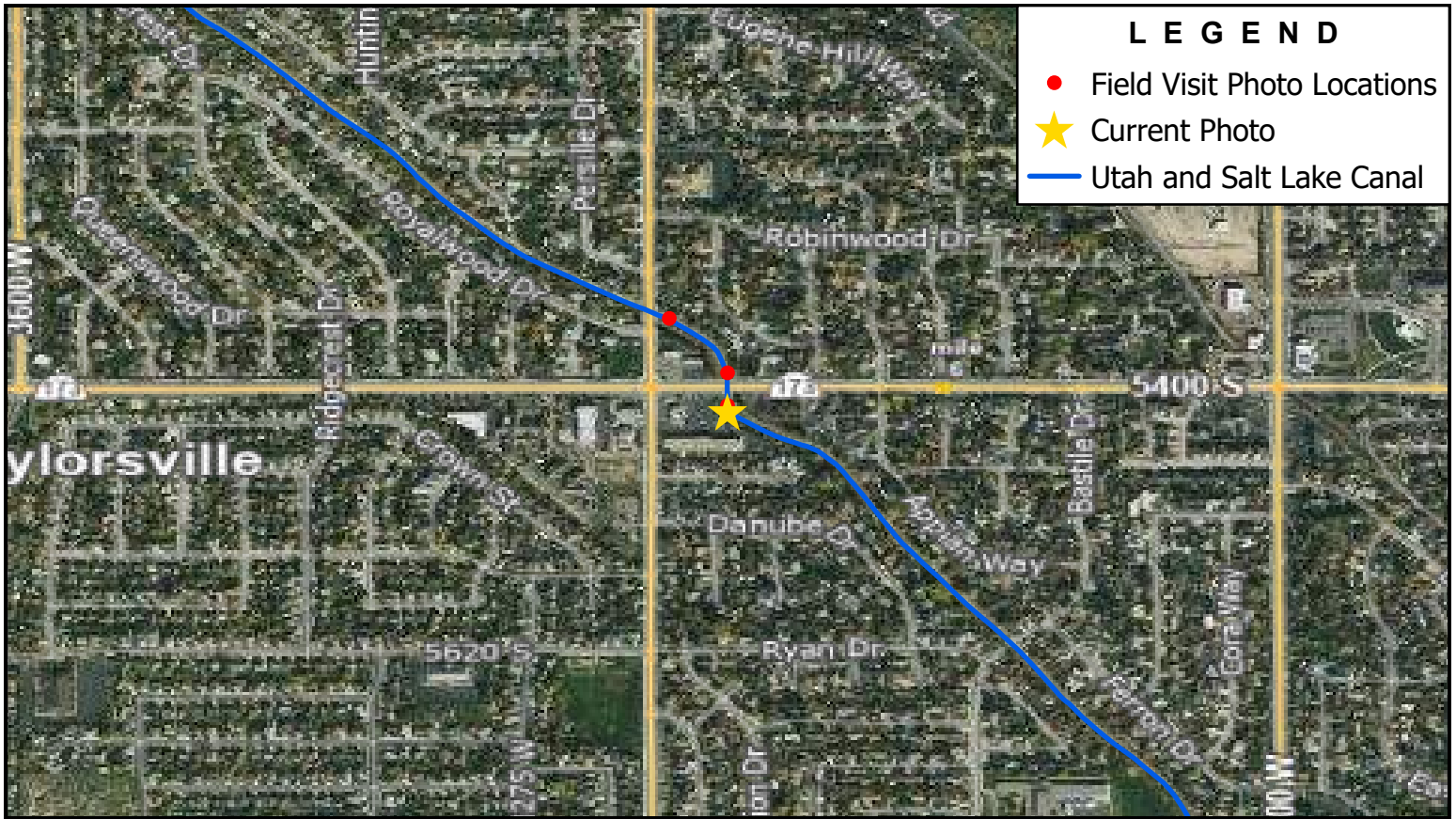
**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 5400 South Control Structure



 <p><b>BOWEN COLLINS</b> &amp; ASSOCIATES</p>	<p>USLC-35</p>	<p>NORTH:</p> 	<p>SCALE:</p> 
	<p>SALT LAKE COUNTY UTAH &amp; SALT LAKE CANAL PHOTO LOG SWCCS</p>		<p>PHOTOGRAPH NO.</p> <p style="font-size: 24pt;"><b>16</b></p>

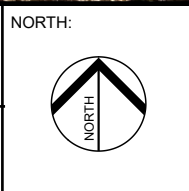


Note: 5400 South Dumpout



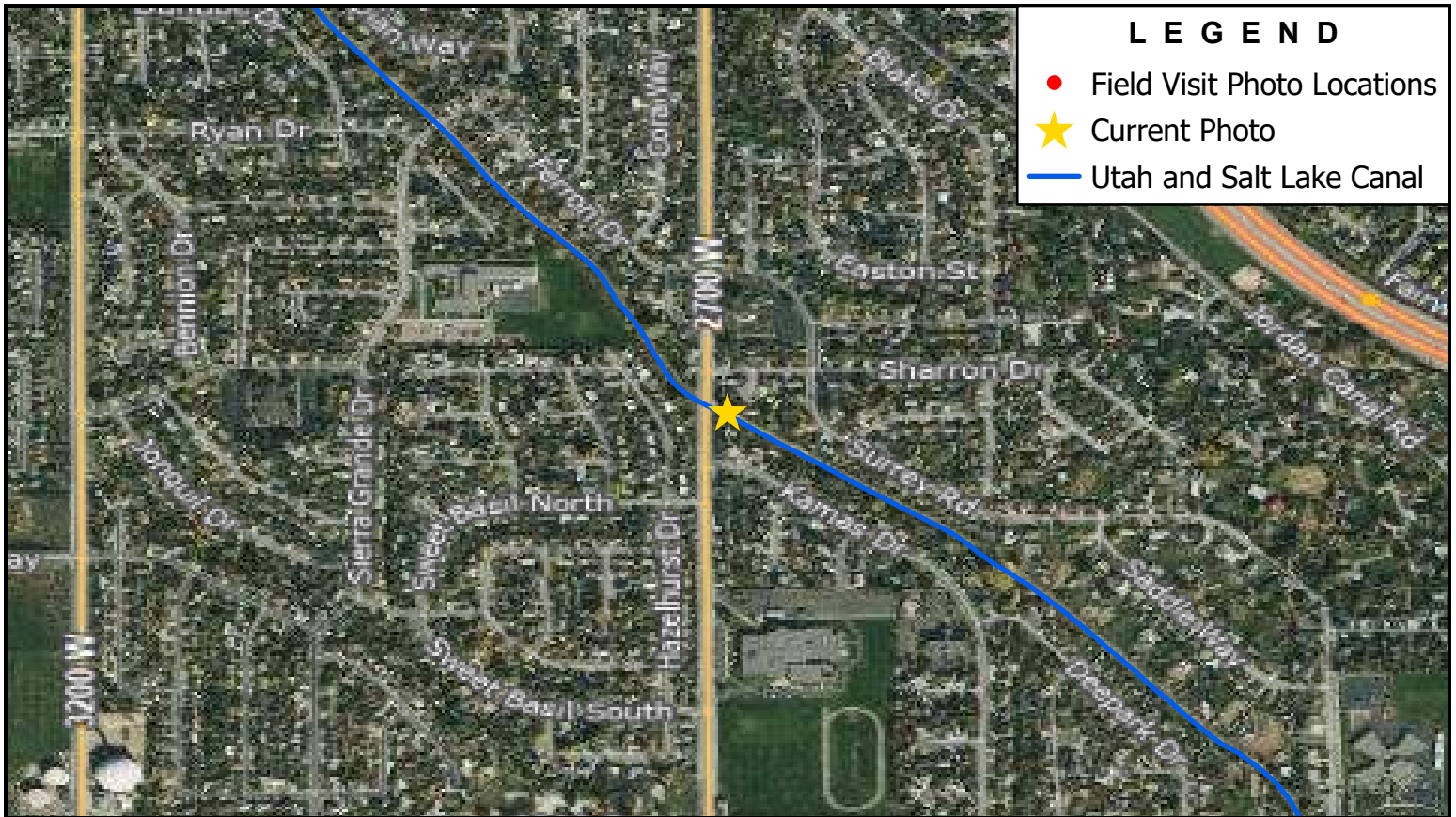
**USLC-36**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0      500      1,000  
Feet

PHOTOGRAPH NO.  
**17**

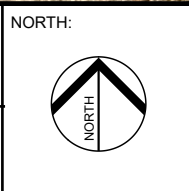


Note: Bastile Dr.



**USLC-38**

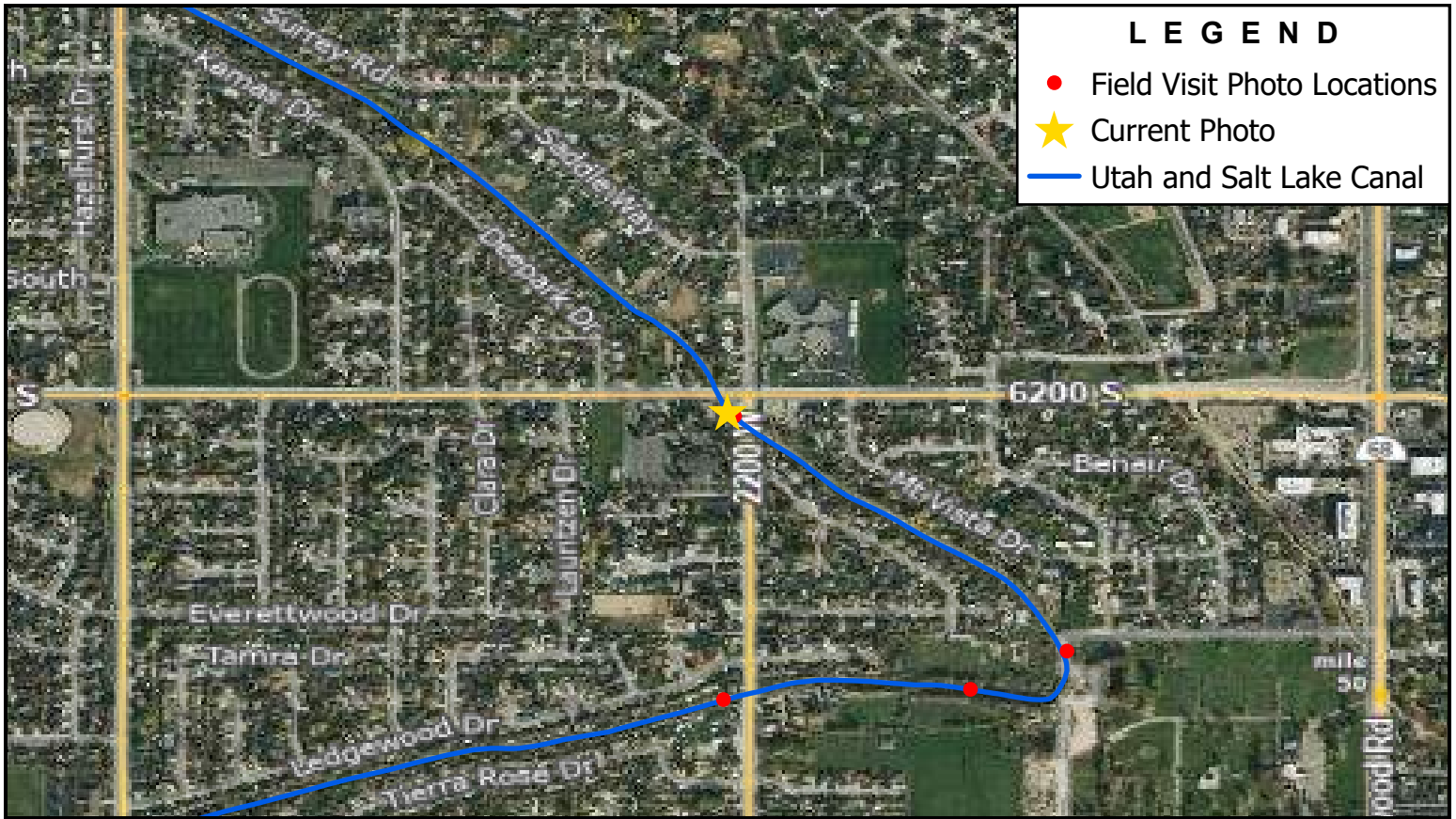
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**18**





**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 6200 South



**BOWEN COLLINS**  
& ASSOCIATES

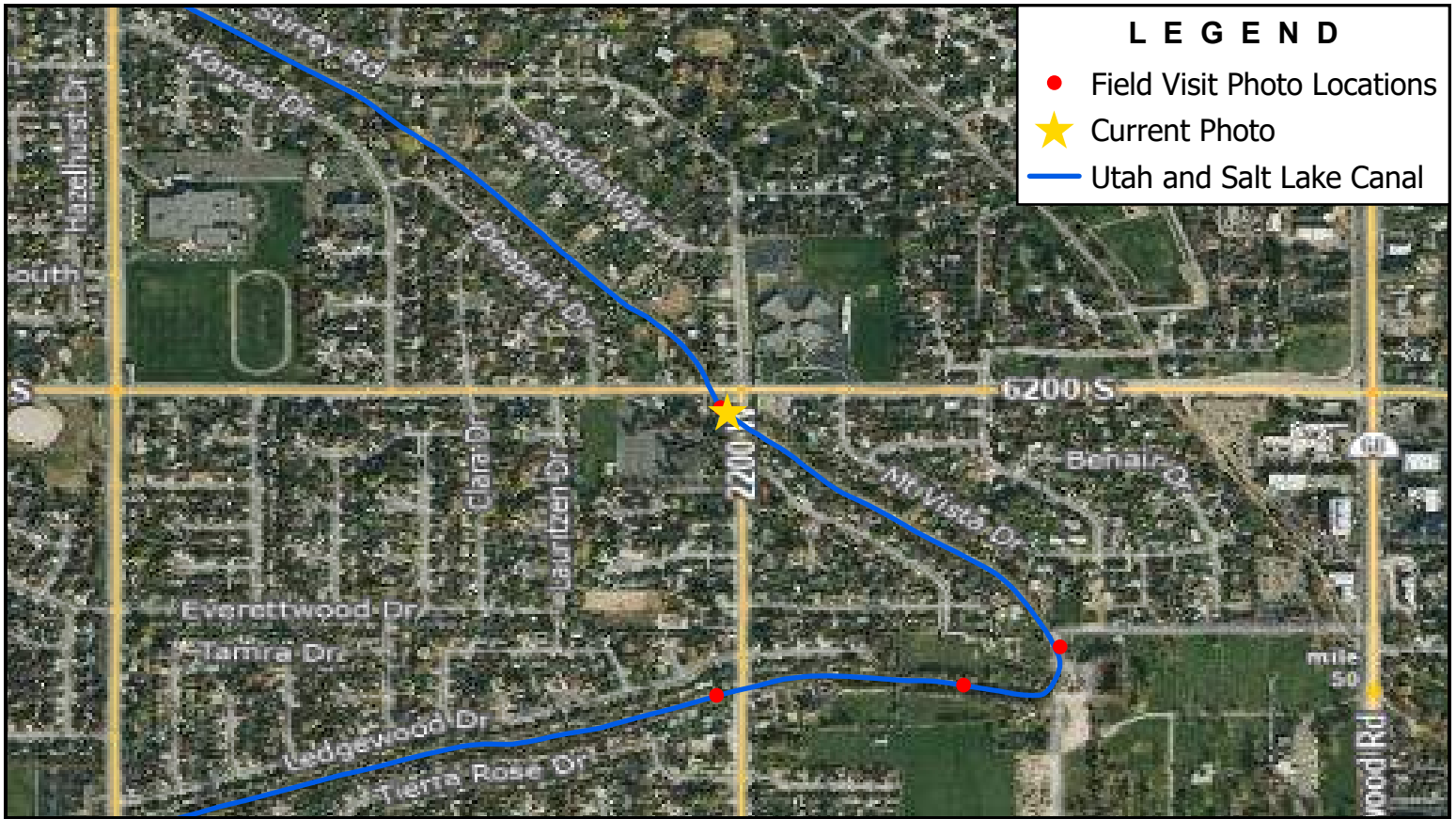
**USLC-39**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0      500      1,000  
Feet

PHOTOGRAPH NO.      **19**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 2200 West



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-40**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**20**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 2000 West Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

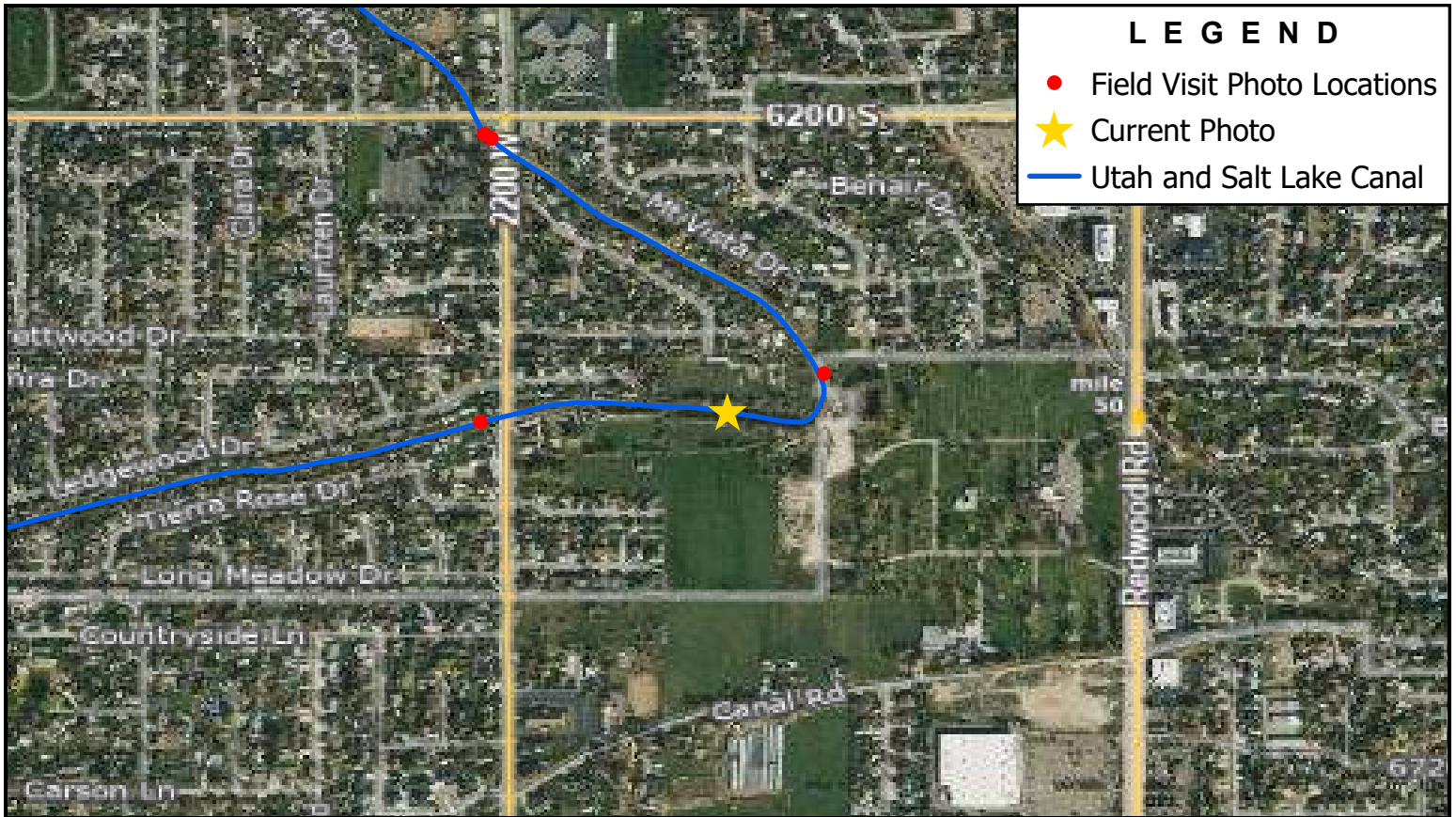
**USLC-41**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**21**

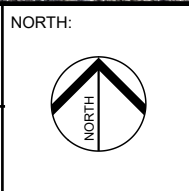


Note: 2050 West



USLC-42

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**22**

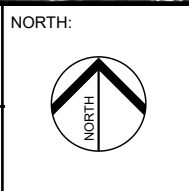


Note: 2200 West



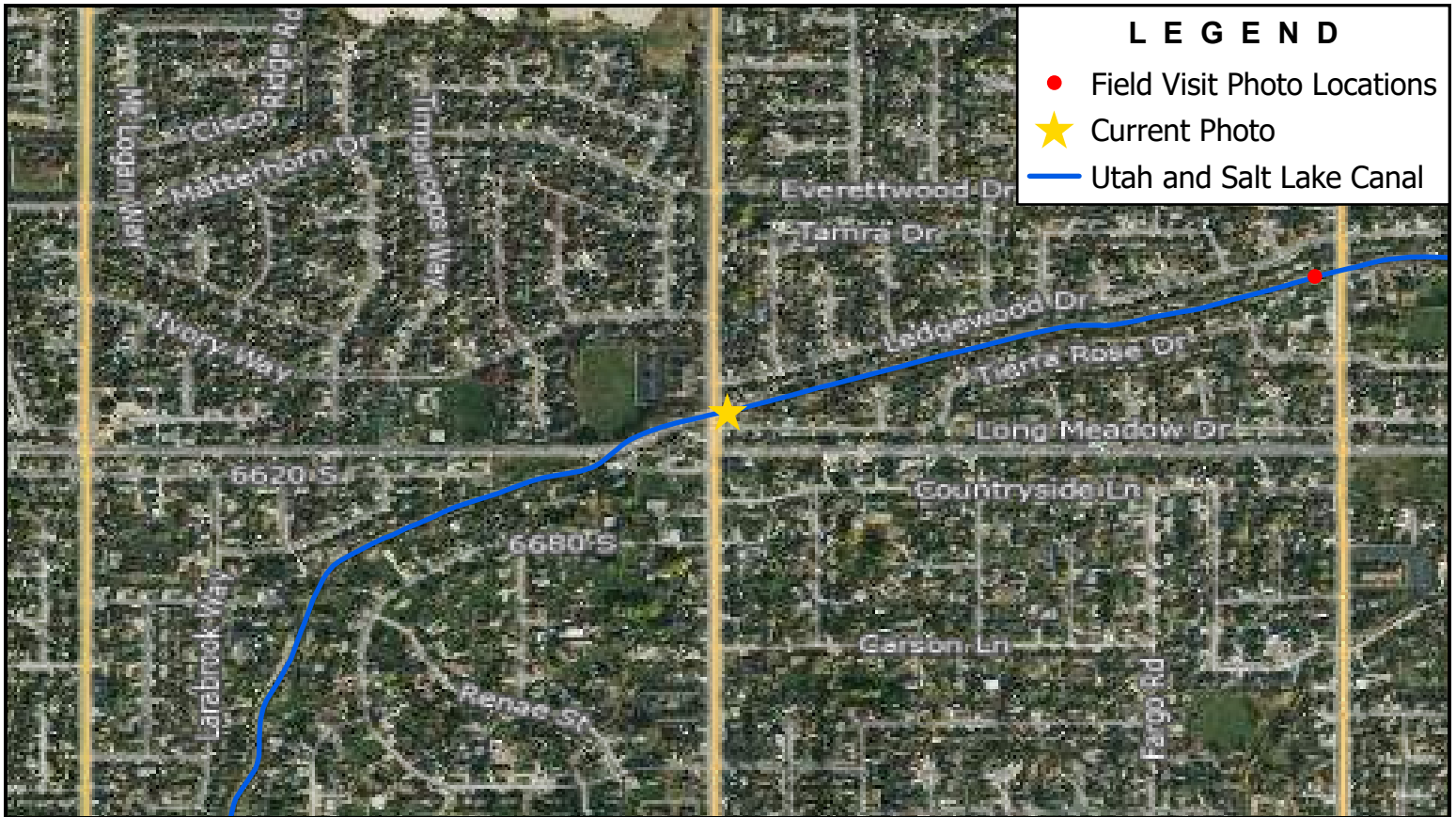
**USLC-43**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**23**

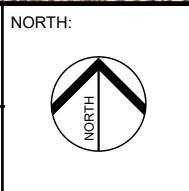


Note: 2700 West



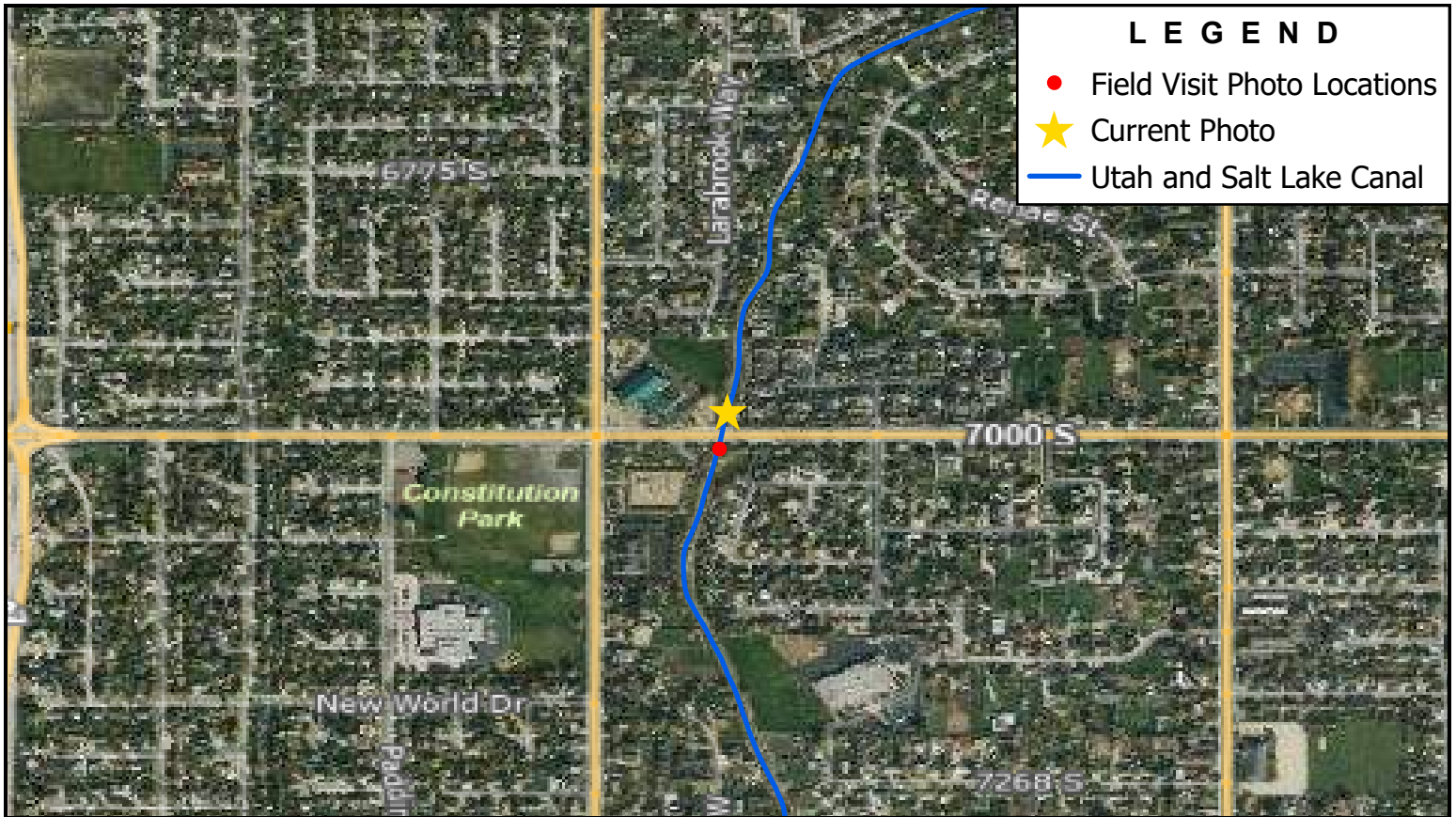
**USLC-44**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**24**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 7000 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

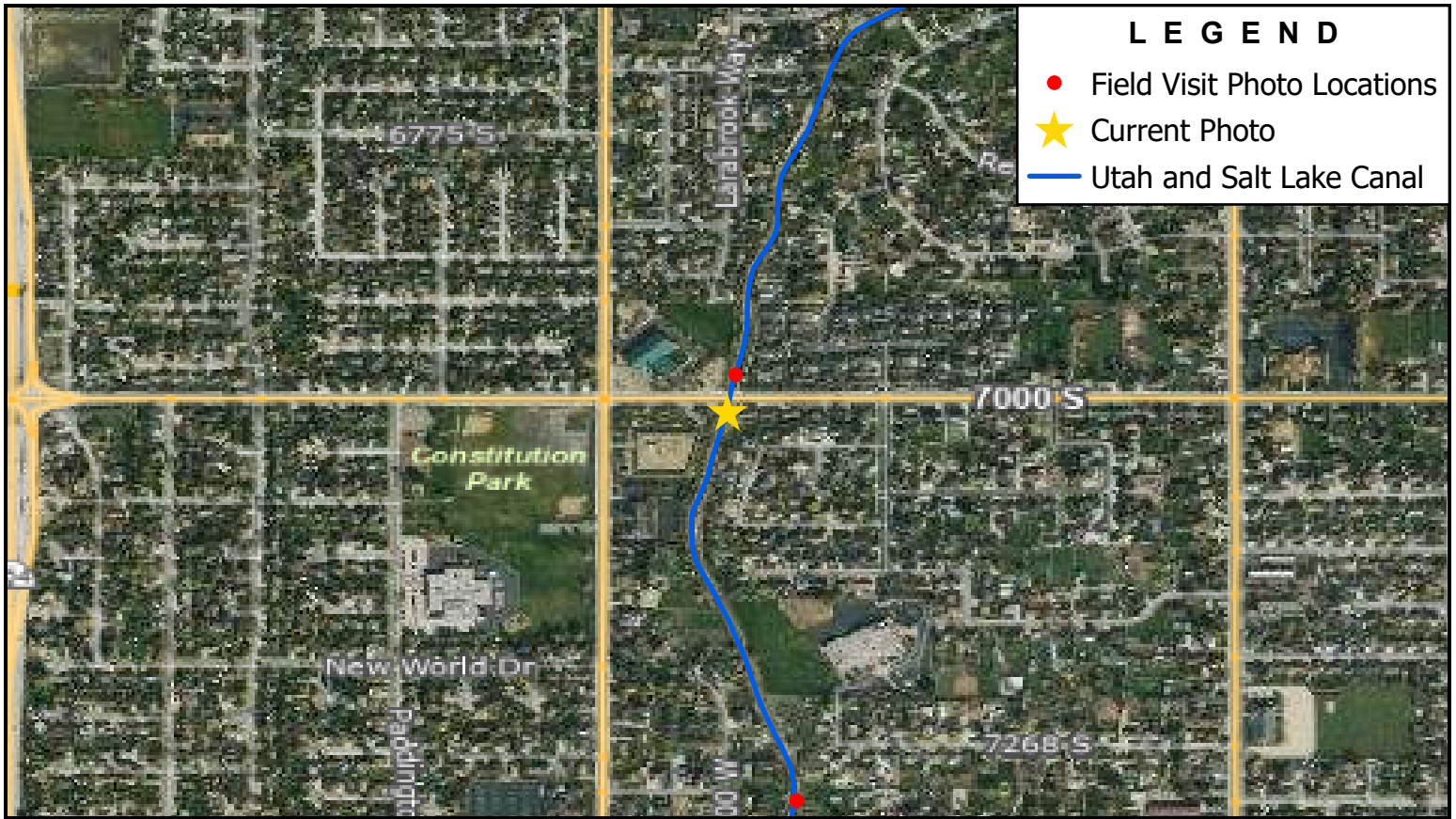
**USLC-45**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **25**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 7000 South



**BOWEN COLLINS**  
& ASSOCIATES

USLC-46

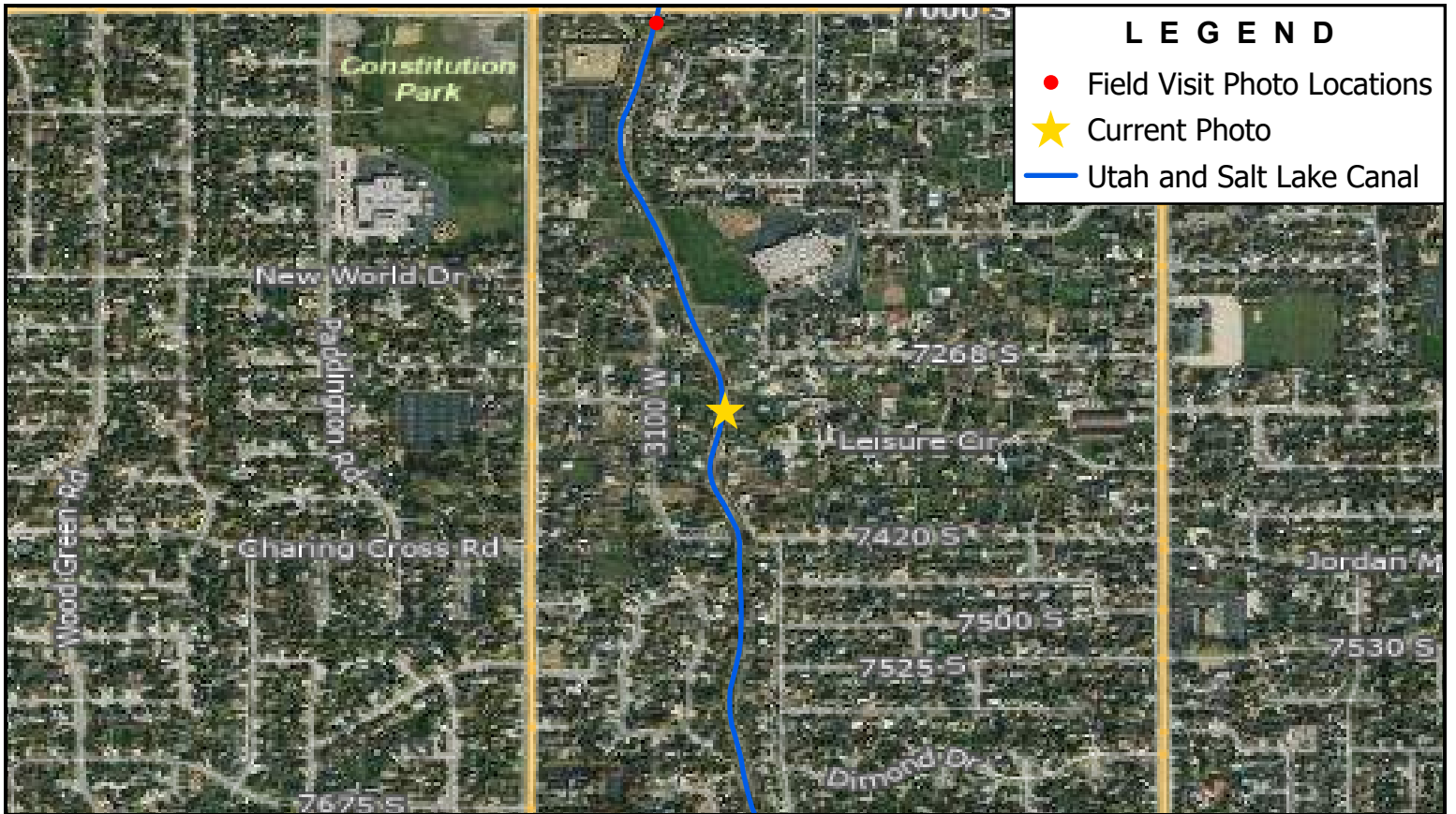
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**26**





Note: 7325 South



**BOWEN COLLINS**  
& ASSOCIATES

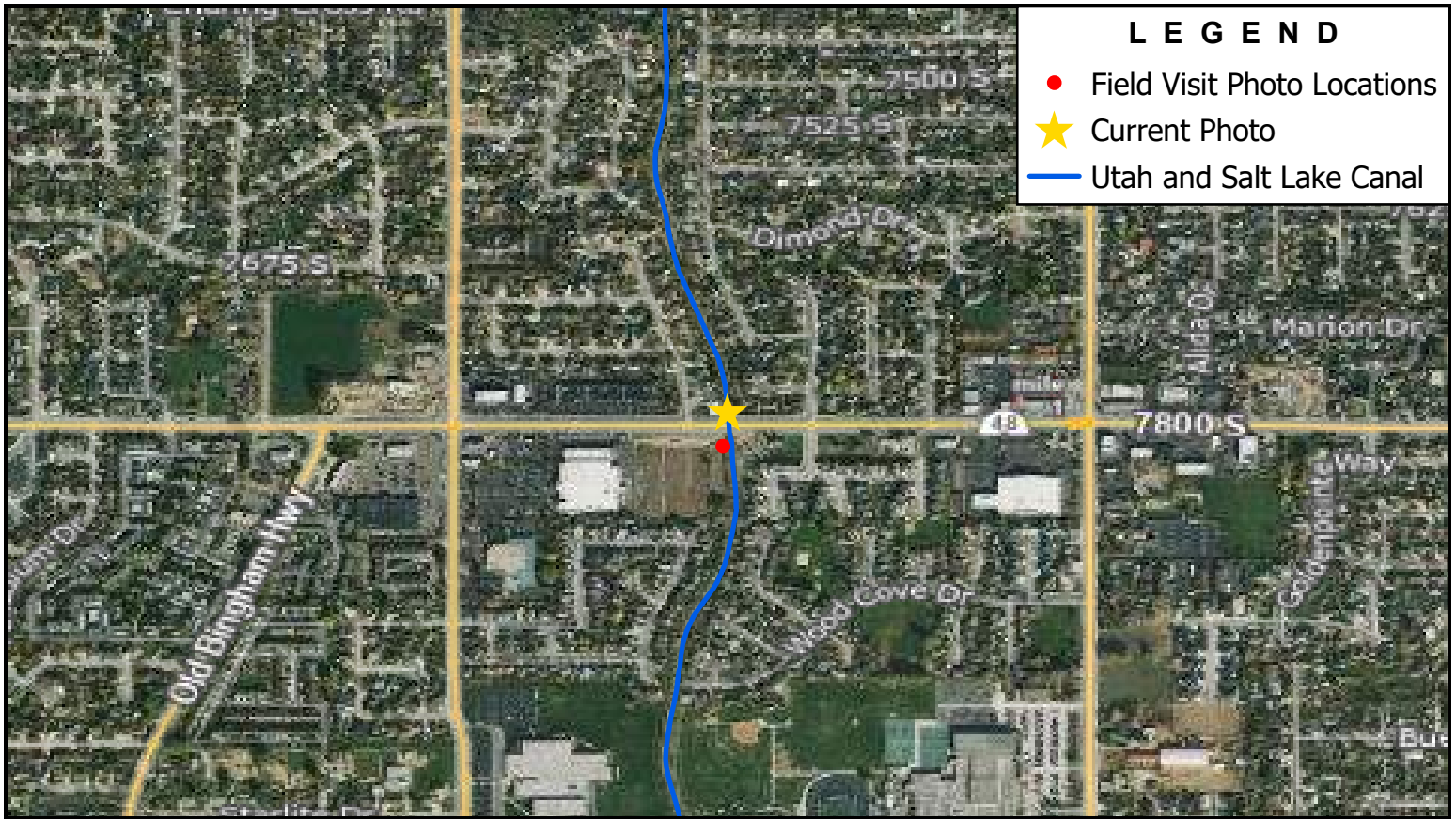
USLC-47

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:


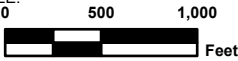
SCALE:  
0 500 1,000  
Feet

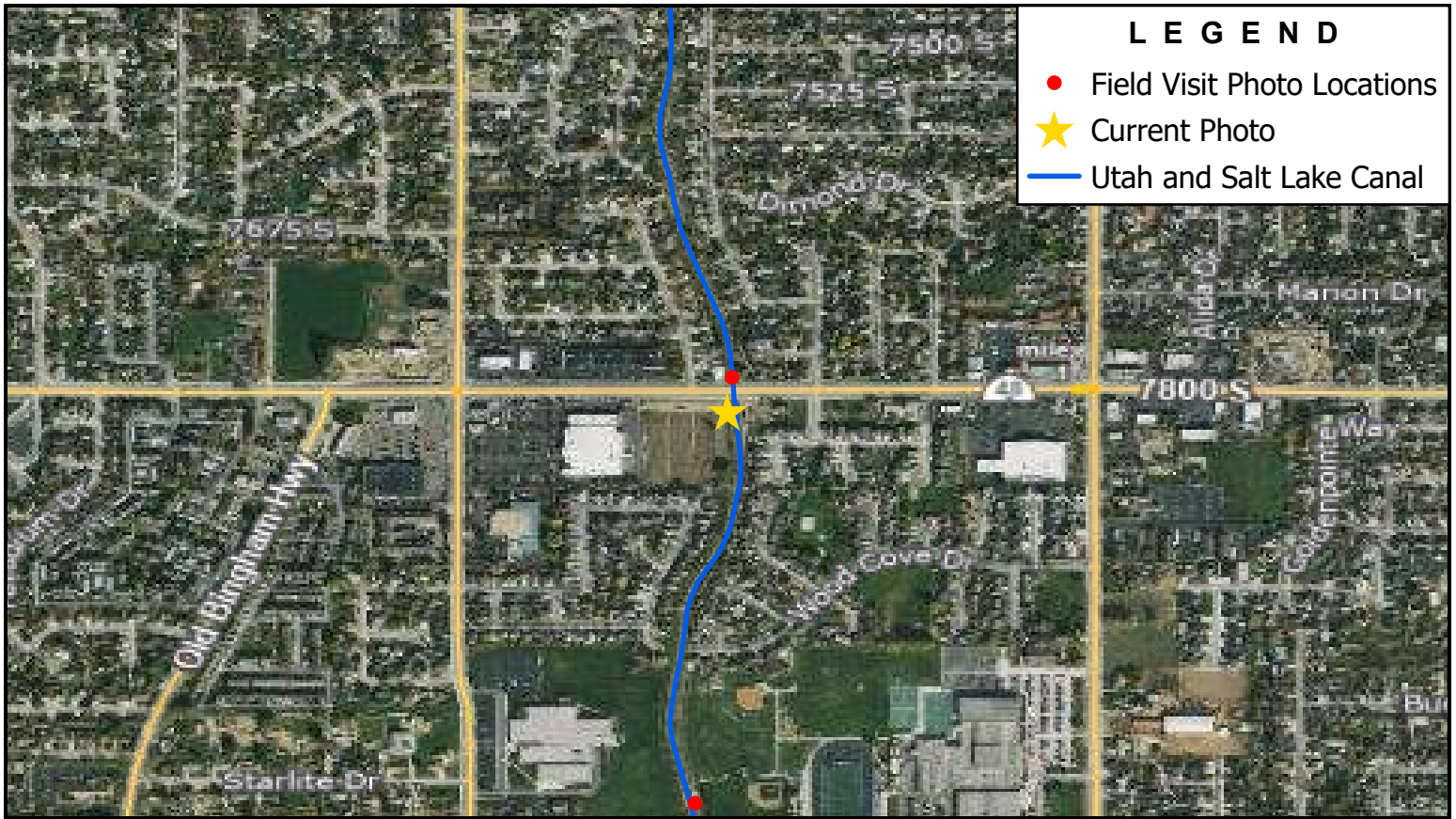
PHOTOGRAPH NO. **27**



Note: 7800 South Dumpout



 <p><b>BOWEN COLLINS</b> &amp; ASSOCIATES</p>	<p>USLC-48</p>	<p>NORTH:</p> 	<p>SCALE:</p>  <p>0 500 1,000 Feet</p>
	<p>SALT LAKE COUNTY UTAH &amp; SALT LAKE CANAL PHOTO LOG SWCCS</p>		<p>PHOTOGRAPH NO.</p> <p><b>28</b></p>



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 7800 South



**BOWEN COLLINS**  
& ASSOCIATES

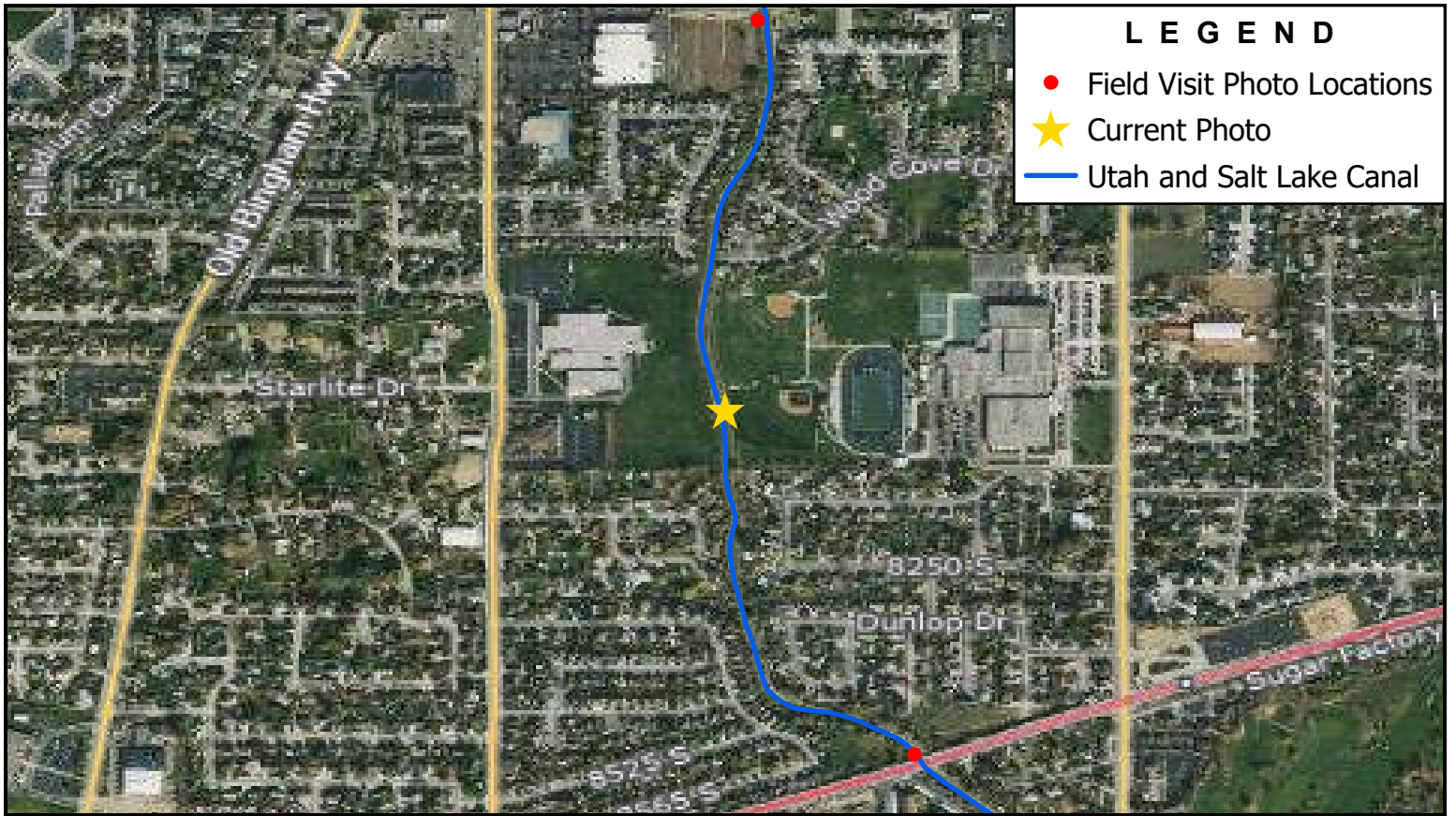
**USLC-49**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**29**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 8250 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

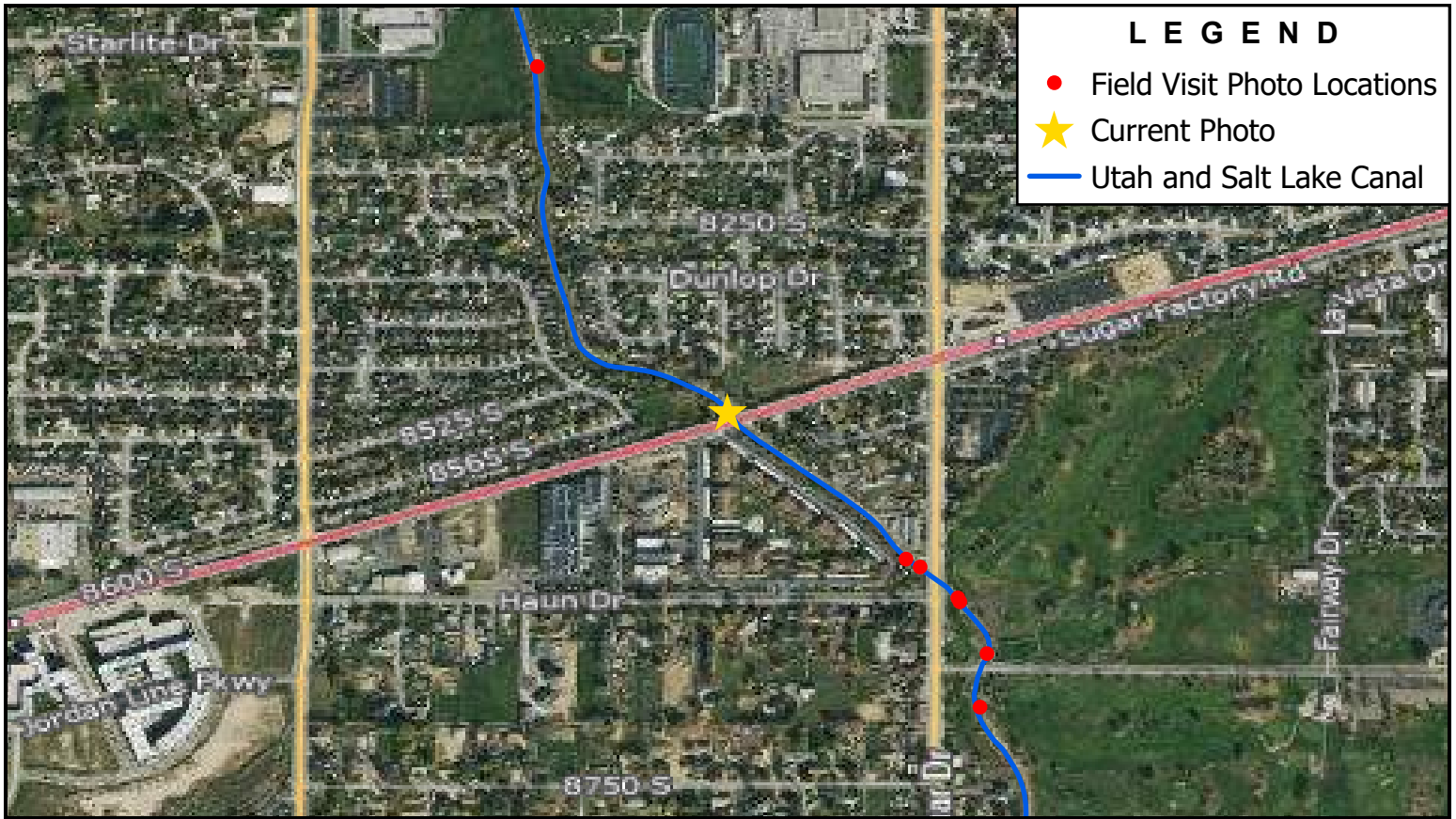
**USLC-50**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**30**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: UTA Trax Red Line



**BOWEN COLLINS**  
& ASSOCIATES

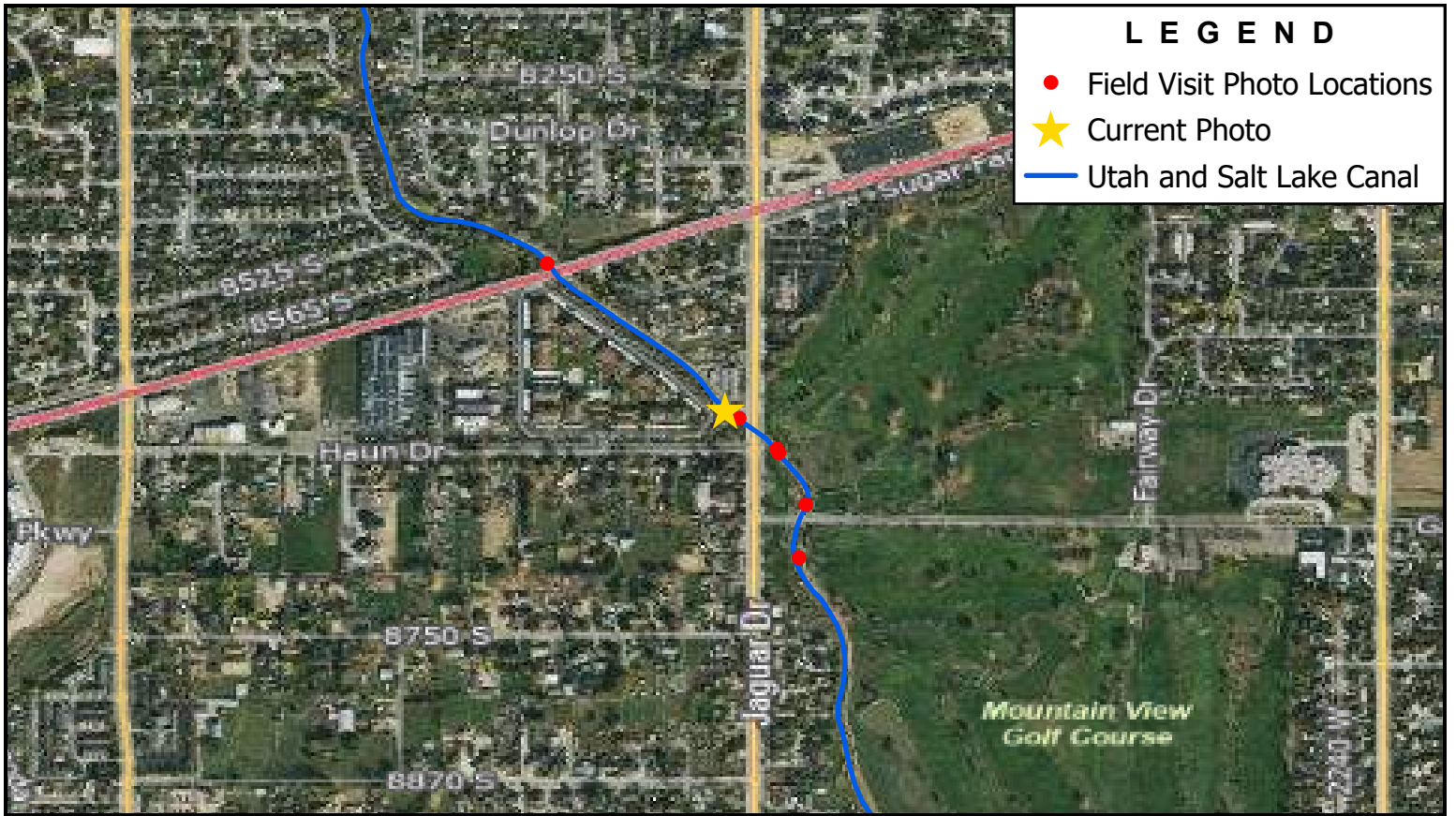
**USLC-51**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**31**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 2700 West Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

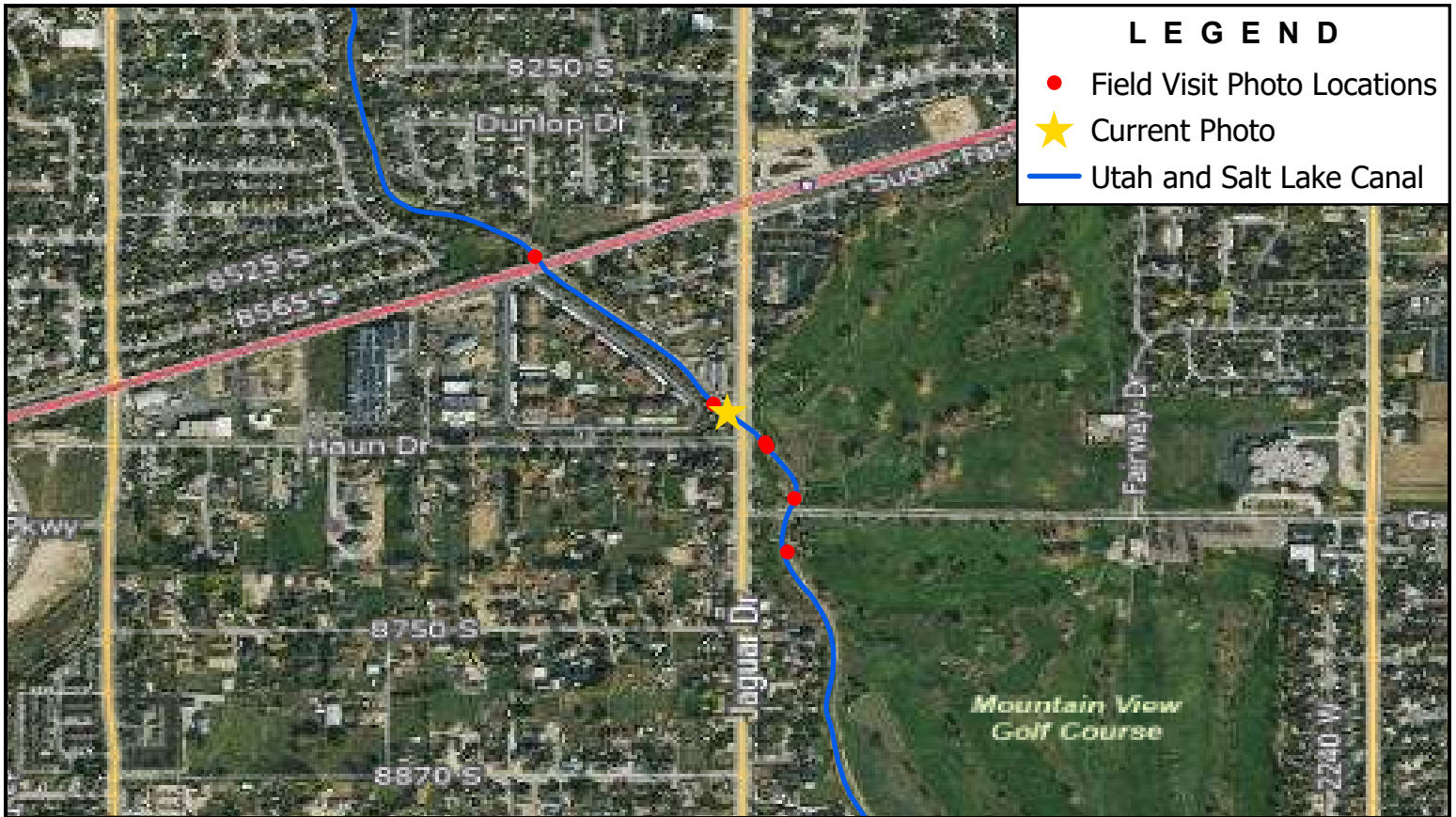
**USLC-52**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**32**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Bingham Creek Dumpout



**BOWEN COLLINS**  
& ASSOCIATES

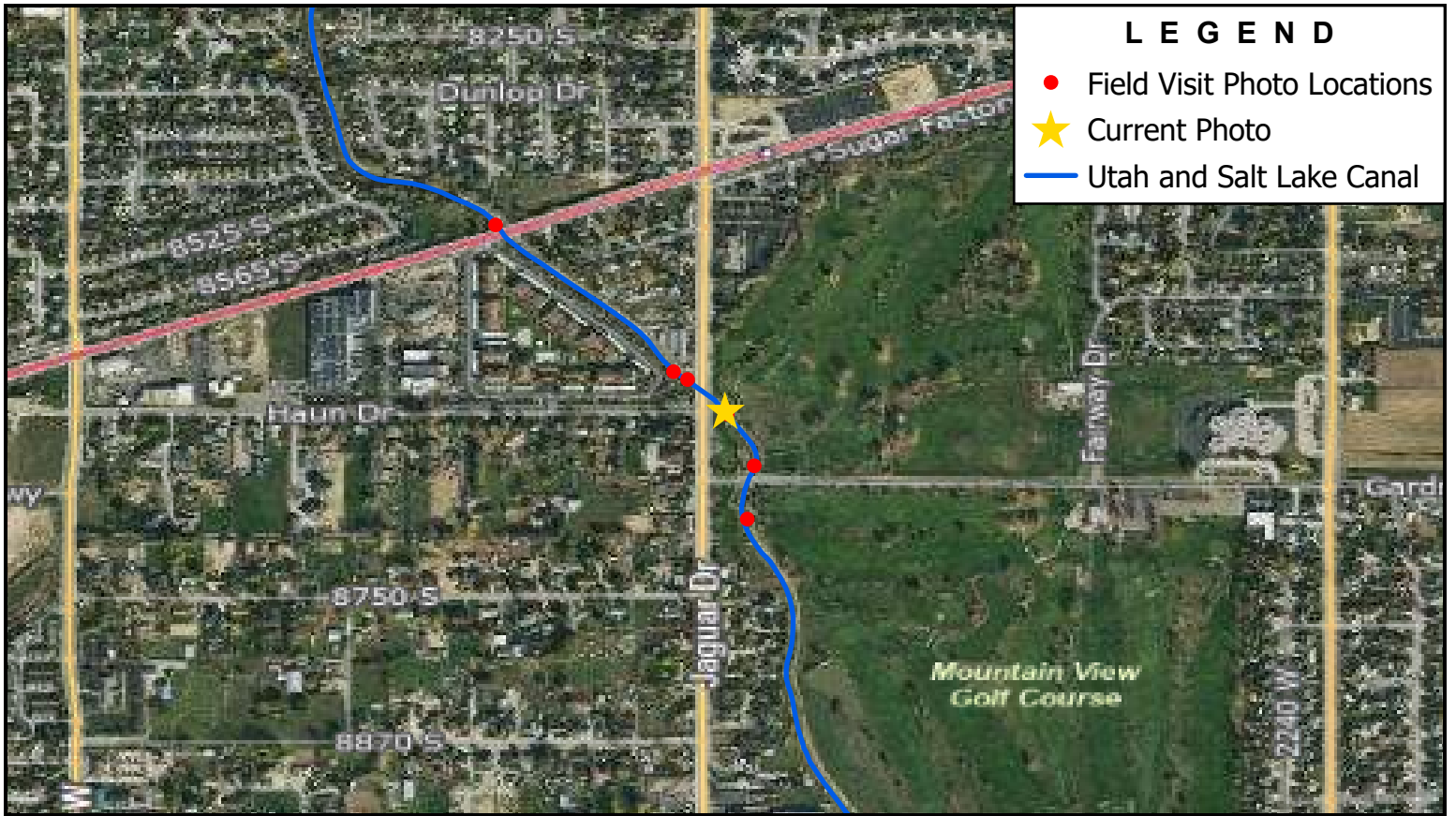
**USLC-53**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**33**

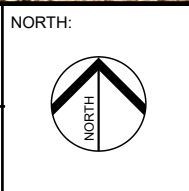


Note: 2700 West



USLC-54

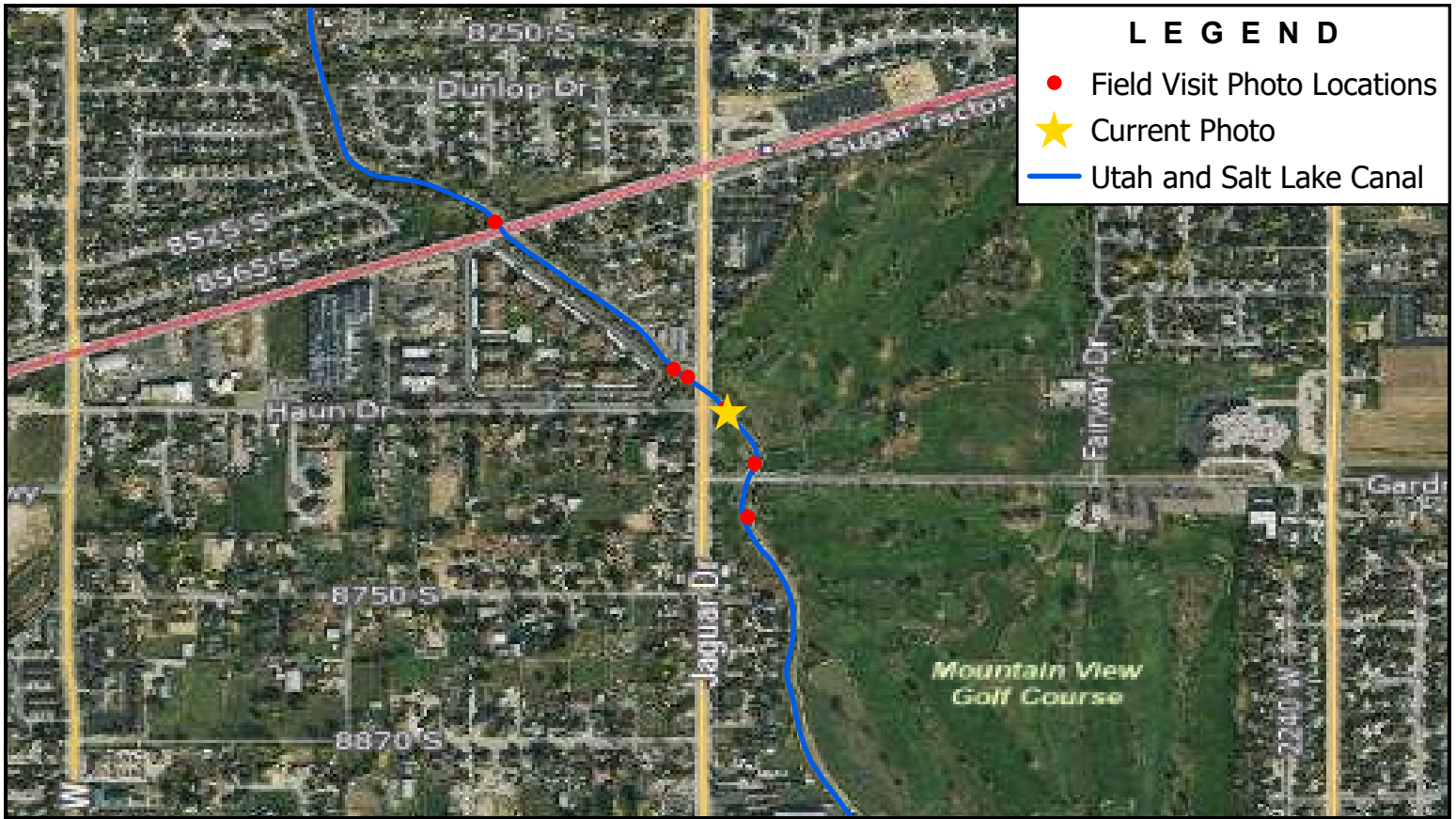
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **34**



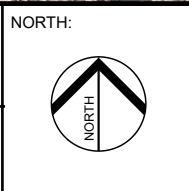



Note: Golf Course (8600 South)




**USLC-55**

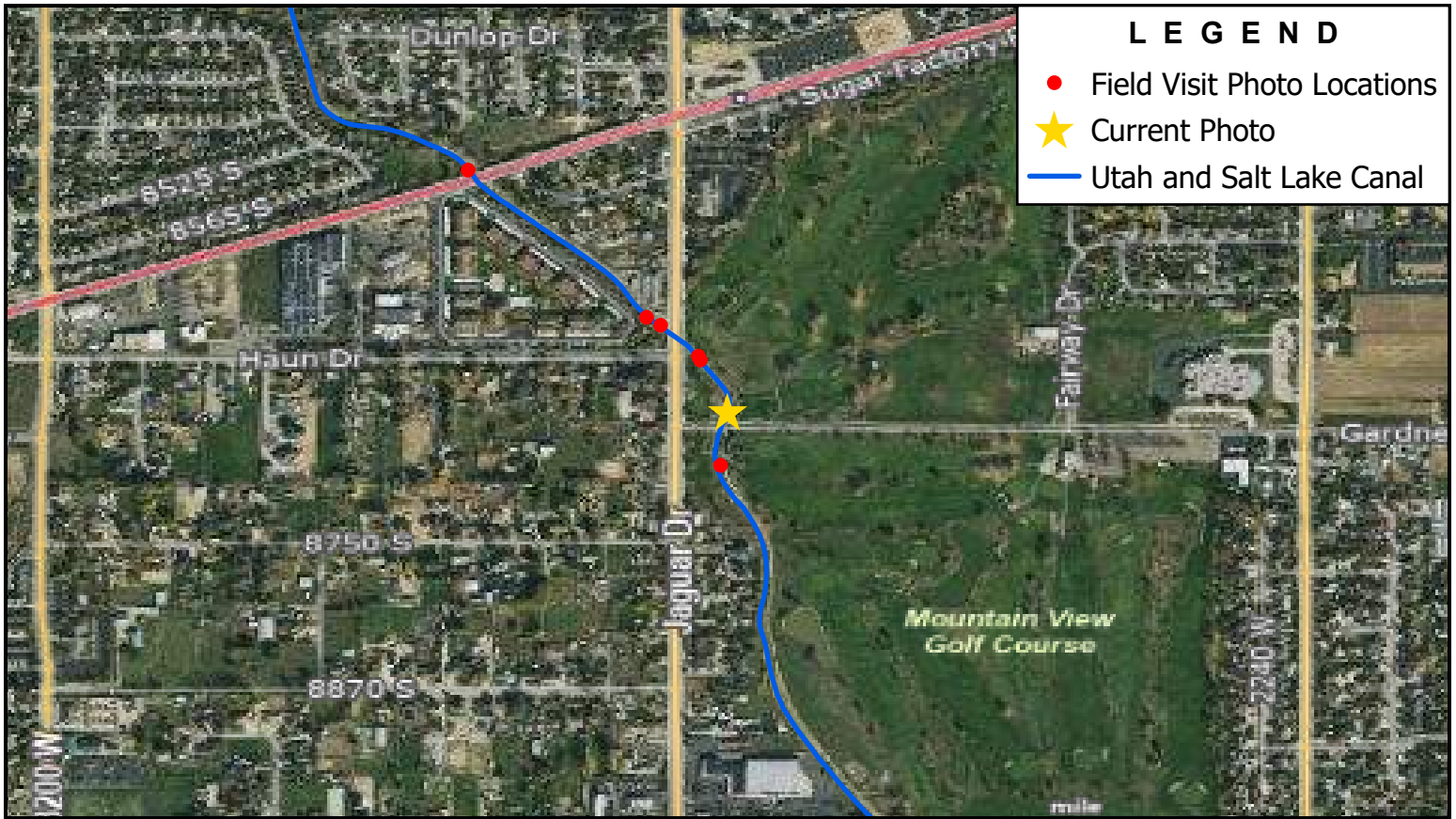
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



NORTH: 

SCALE:  Feet

PHOTOGRAPH NO. **35**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Gardner Ln.



**BOWEN COLLINS**  
& ASSOCIATES

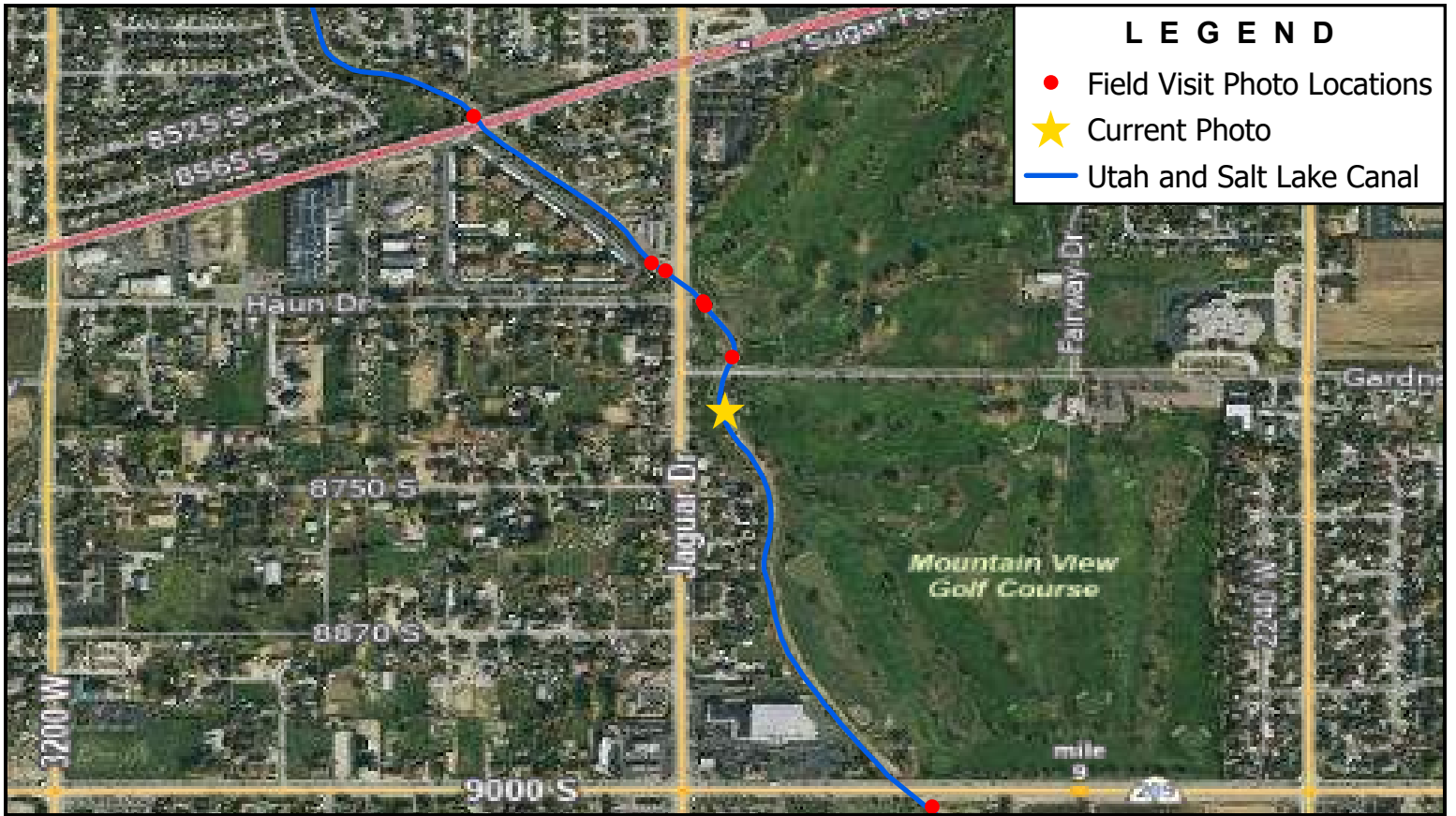
**USLC-56**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**36**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Golf Course (8675 South)



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-57**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**37**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 9000 South



**BOWEN COLLINS**  
& ASSOCIATES

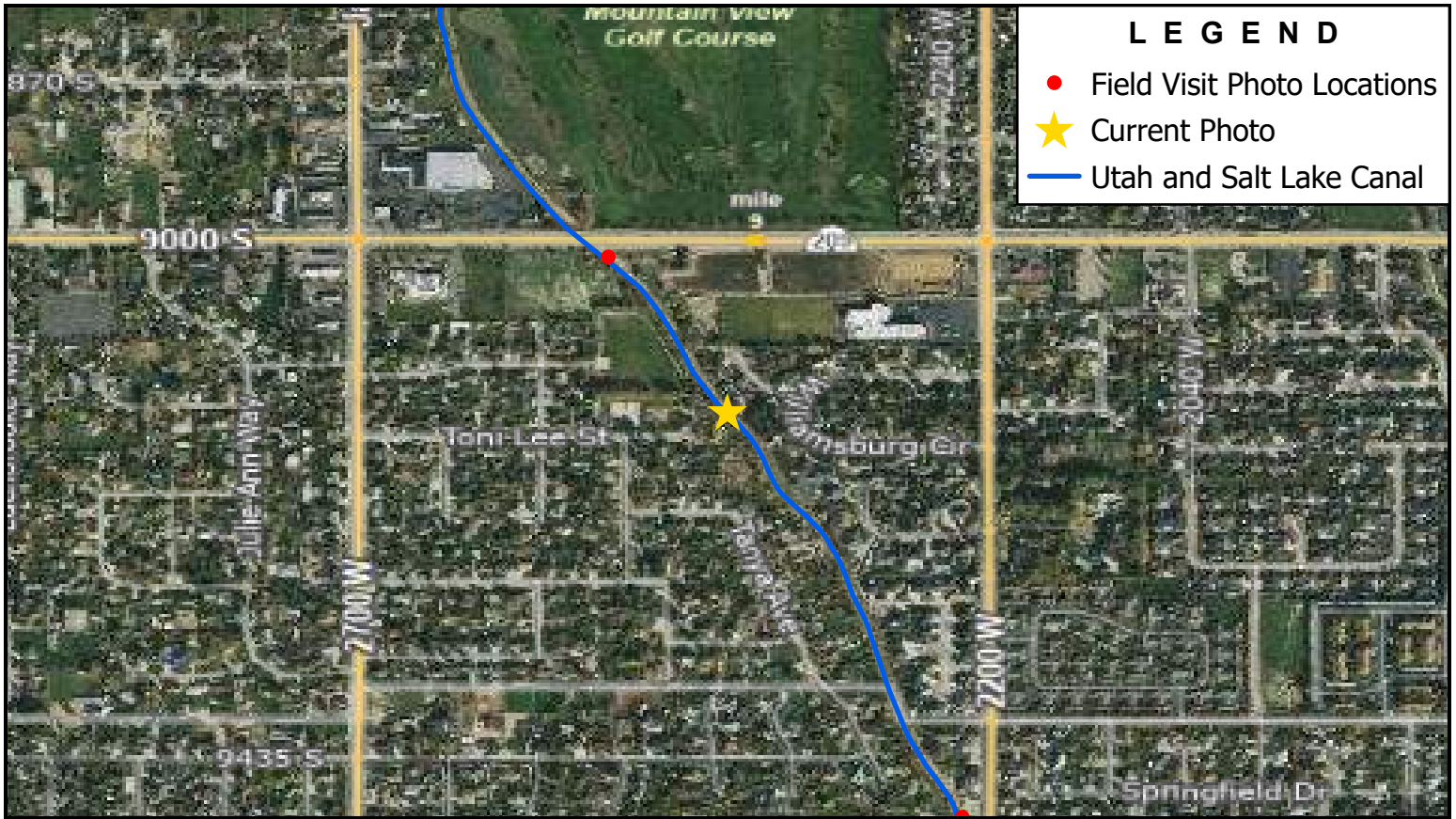
**USLC-58**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**38**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 9150 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

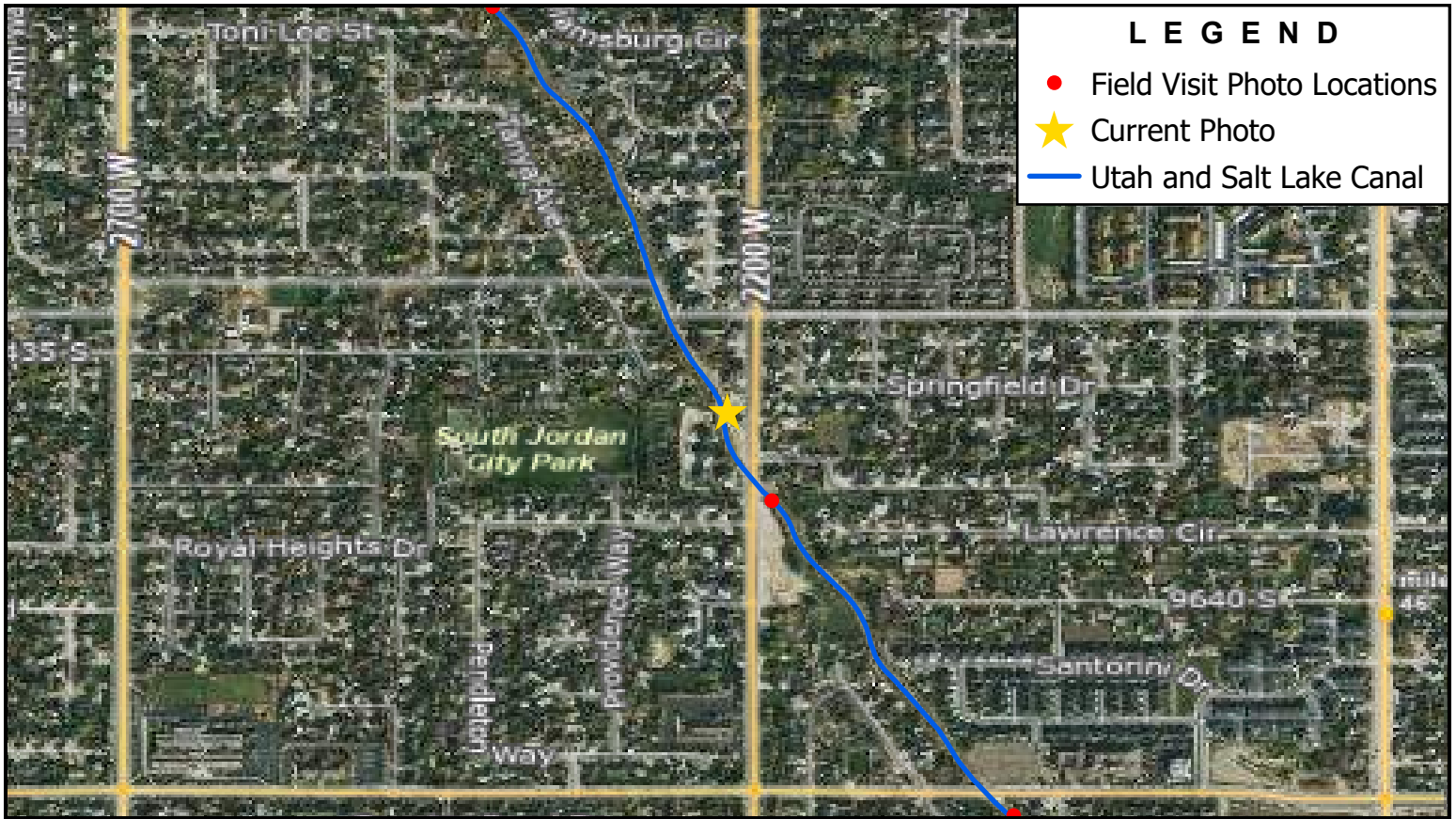
USLC-59

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**39**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 9450 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

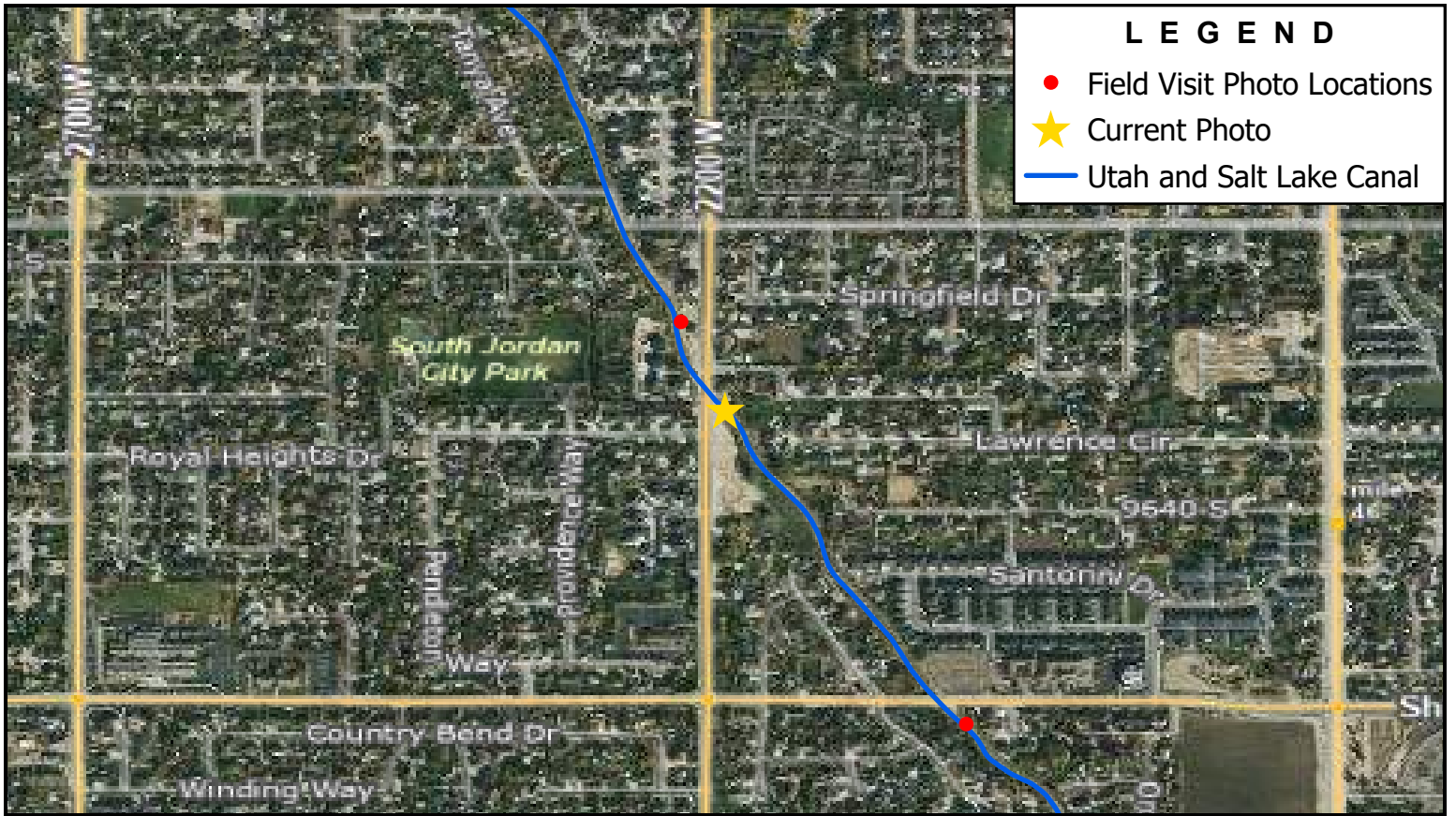
**USLC-60**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**40**



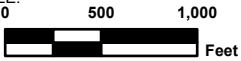


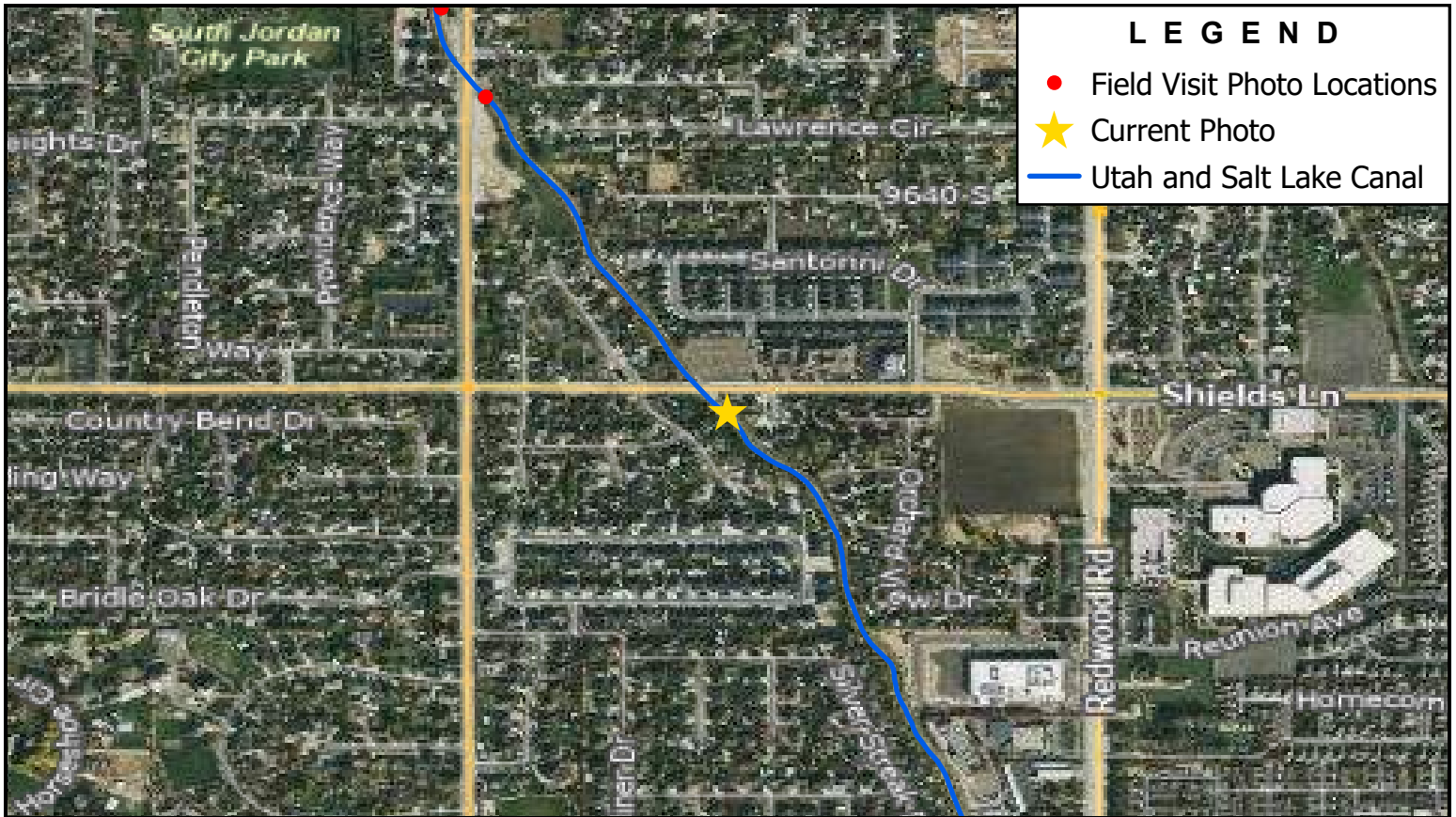
**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 2200 West



 <p><b>BOWEN COLLINS</b> &amp; ASSOCIATES</p>	<p>USLC-61</p>	<p>NORTH:</p> 	<p>SCALE:</p> 
	<p>SALT LAKE COUNTY UTAH &amp; SALT LAKE CANAL PHOTO LOG SWCCS</p>		<p>PHOTOGRAPH NO.</p> <p style="font-size: 24pt;"><b>41</b></p>

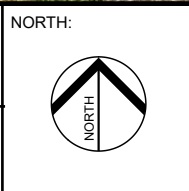


Note: 9800 South



**USLC-62**

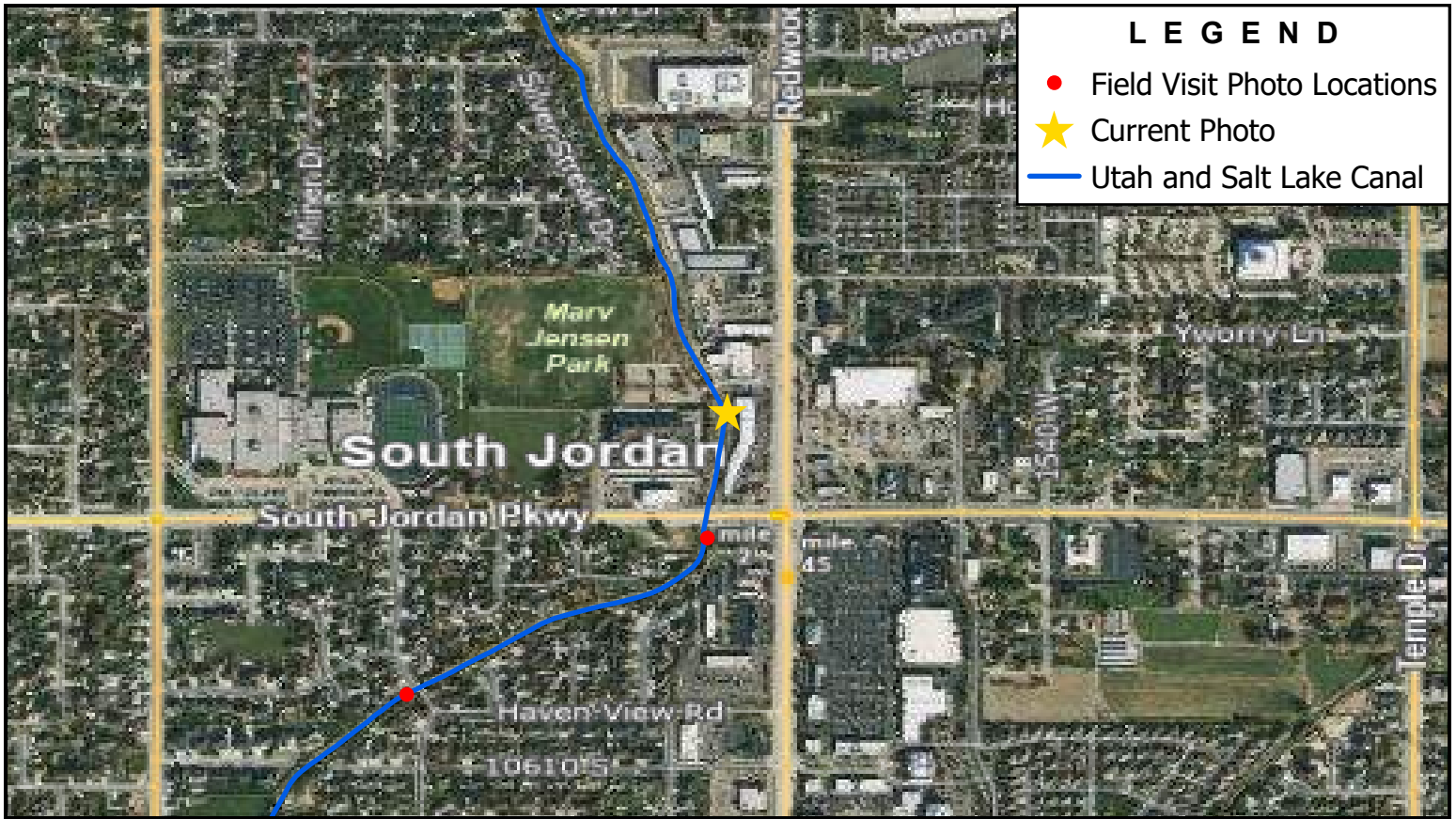
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**42**





**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Marv Jensen Park



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-63**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**43**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 10400 South



**BOWEN COLLINS**  
& ASSOCIATES

USLC-64

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**44**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Culmination St.



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-65**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**45**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 2200 West



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-66**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**46**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Gallant Fox Ct.



**BOWEN COLLINS**  
& ASSOCIATES

USLC-67

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**47**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 11200 South Access Bridge



**BOWEN COLLINS**  
& ASSOCIATES

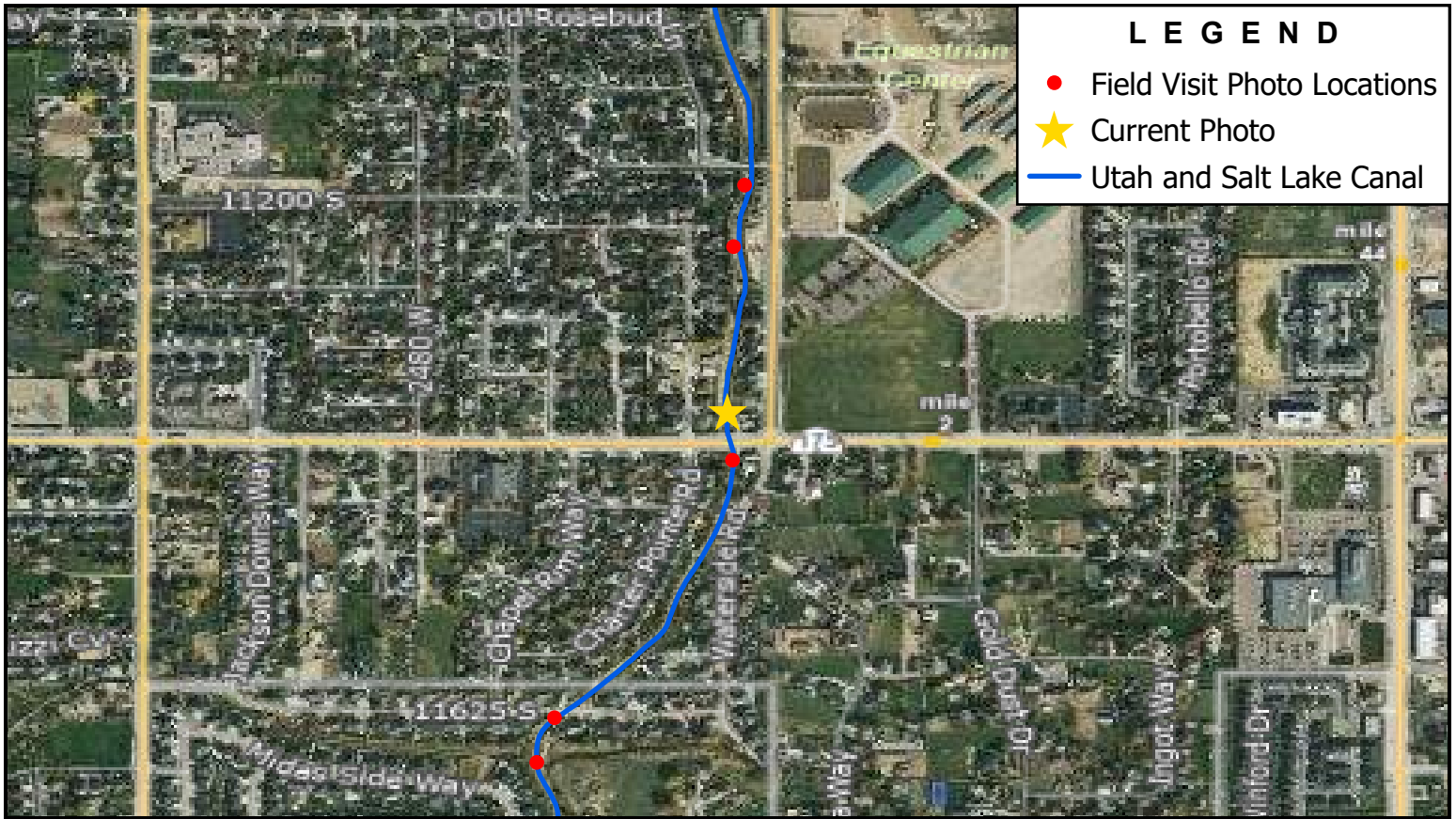
USLC-68

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**48**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 11400 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

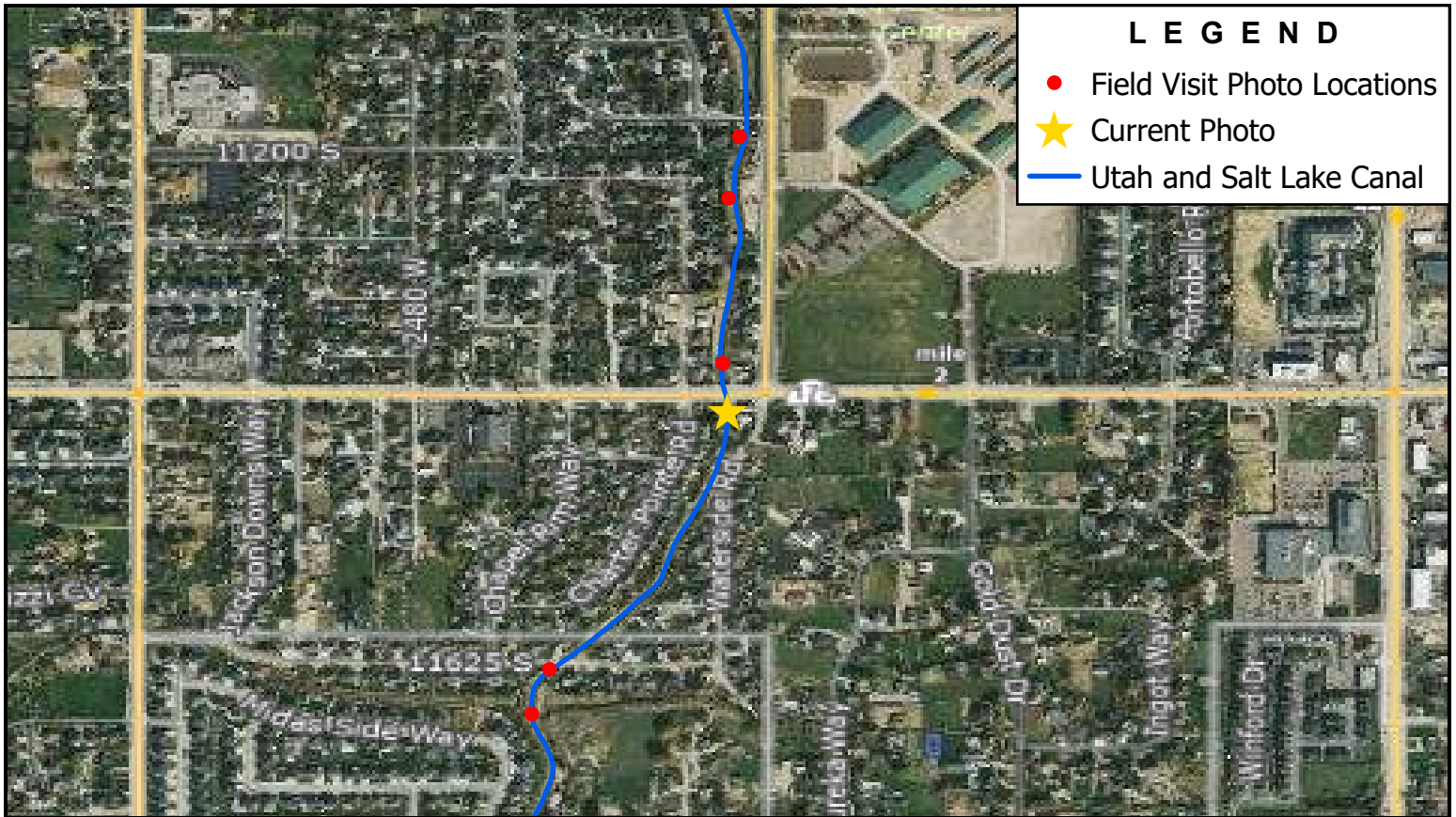
**USLC-69**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**49**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 11400 South



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-70**

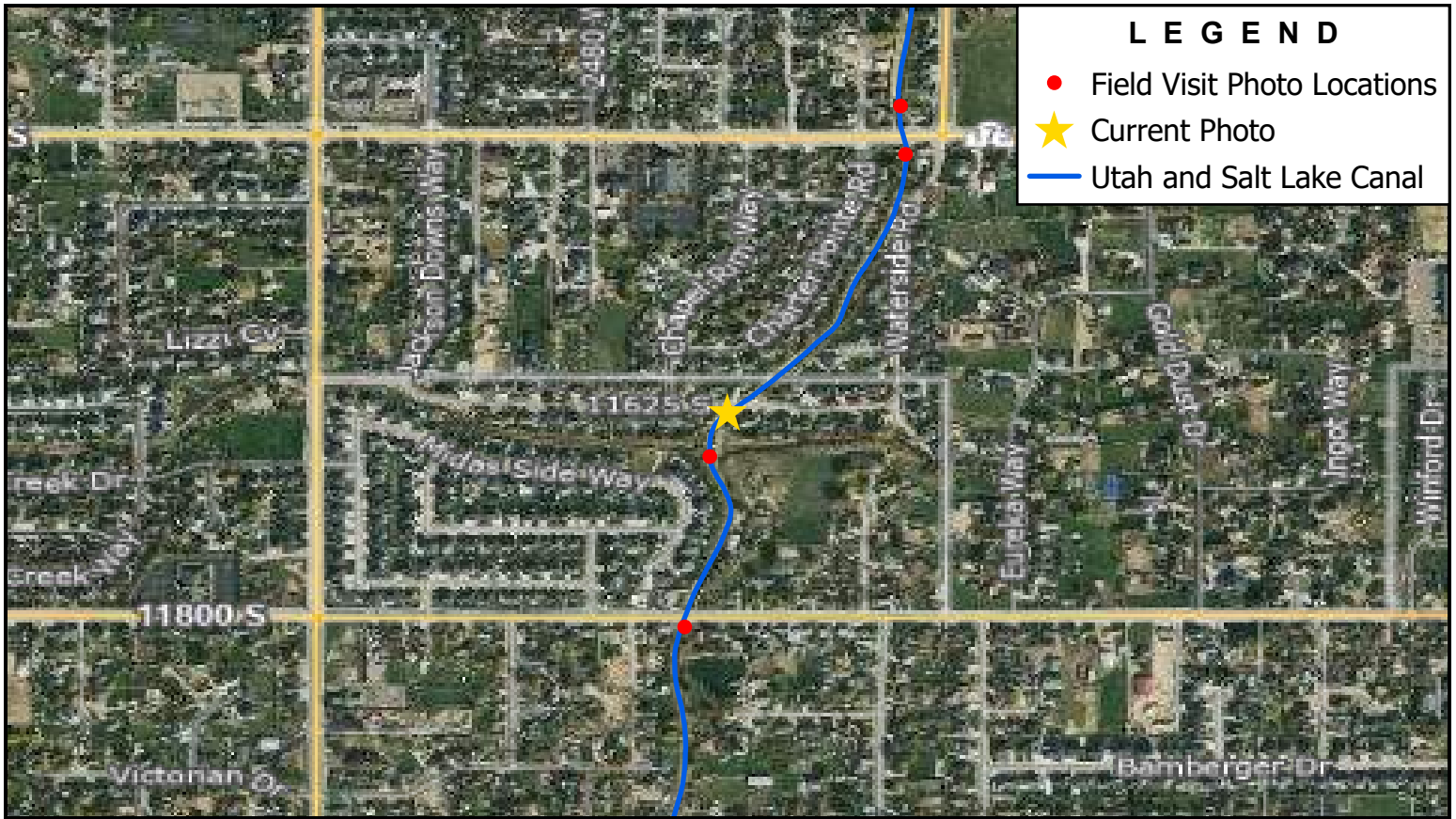
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **50**





**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 11625 South



**BOWEN COLLINS**  
& ASSOCIATES

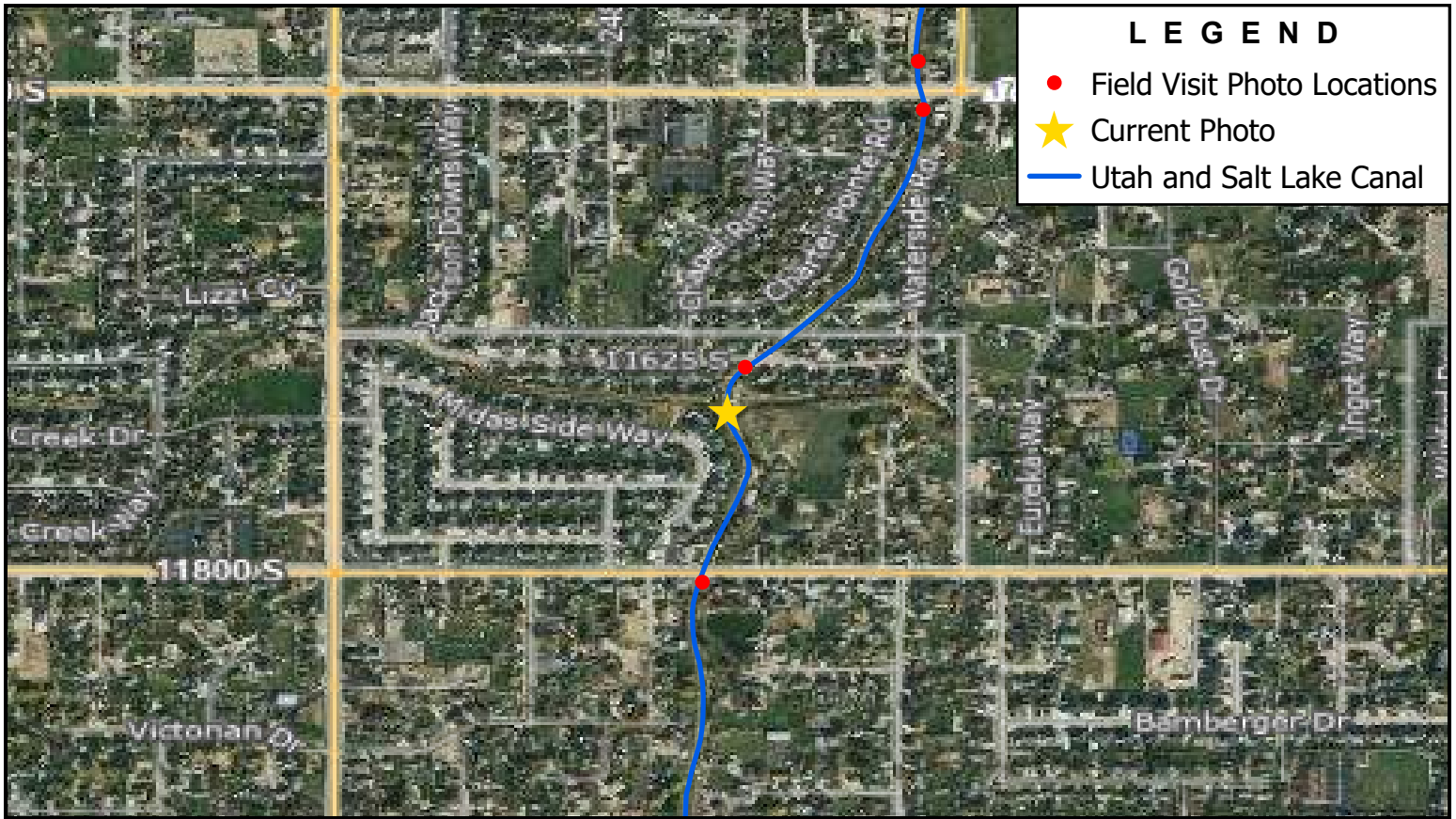
USLC-71

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **51**



Note: Midas Creek Dumpout



**BOWEN COLLINS**  
& ASSOCIATES

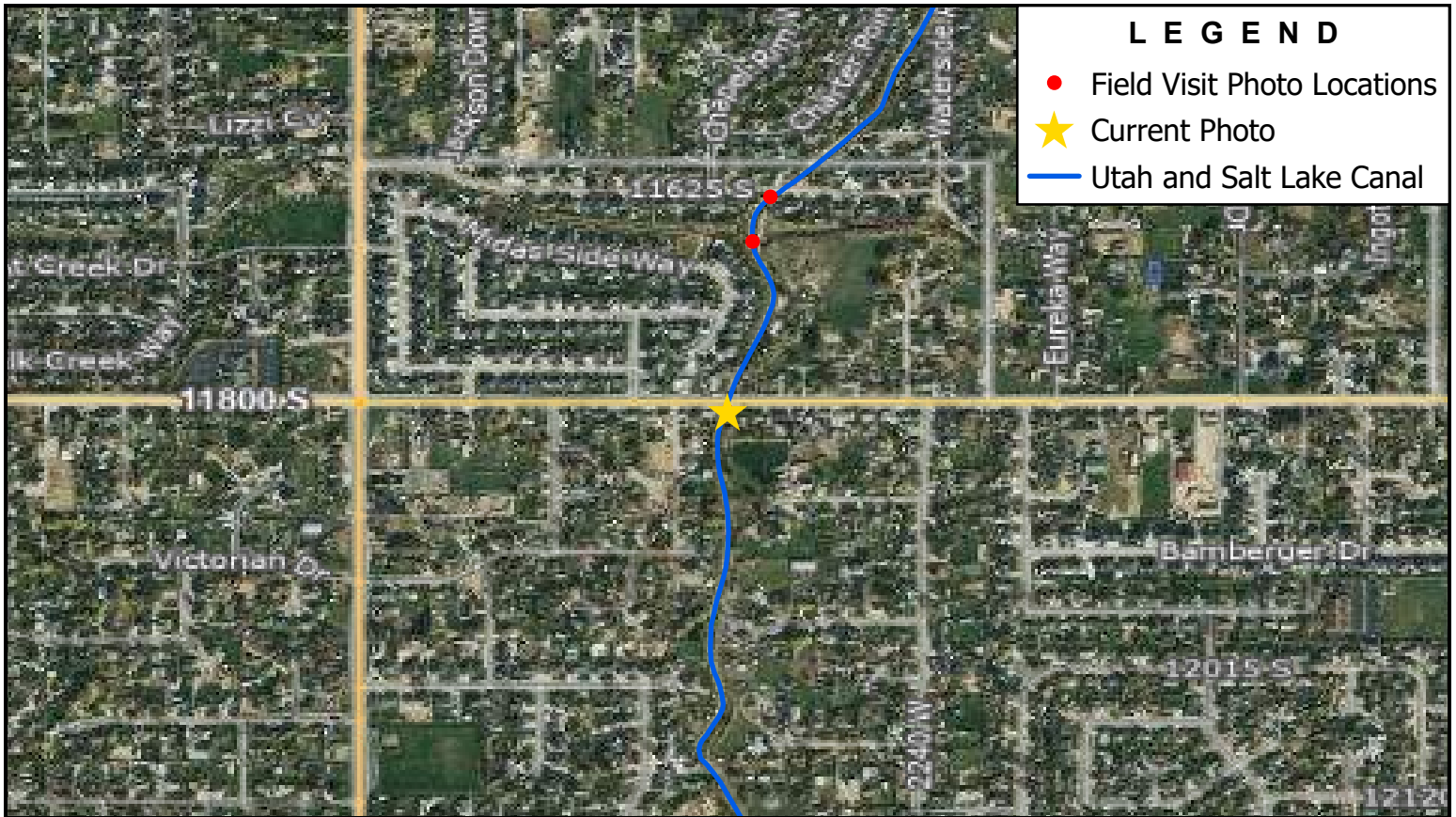
USLC-72

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **52**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 11800 South



**BOWEN COLLINS**  
& ASSOCIATES

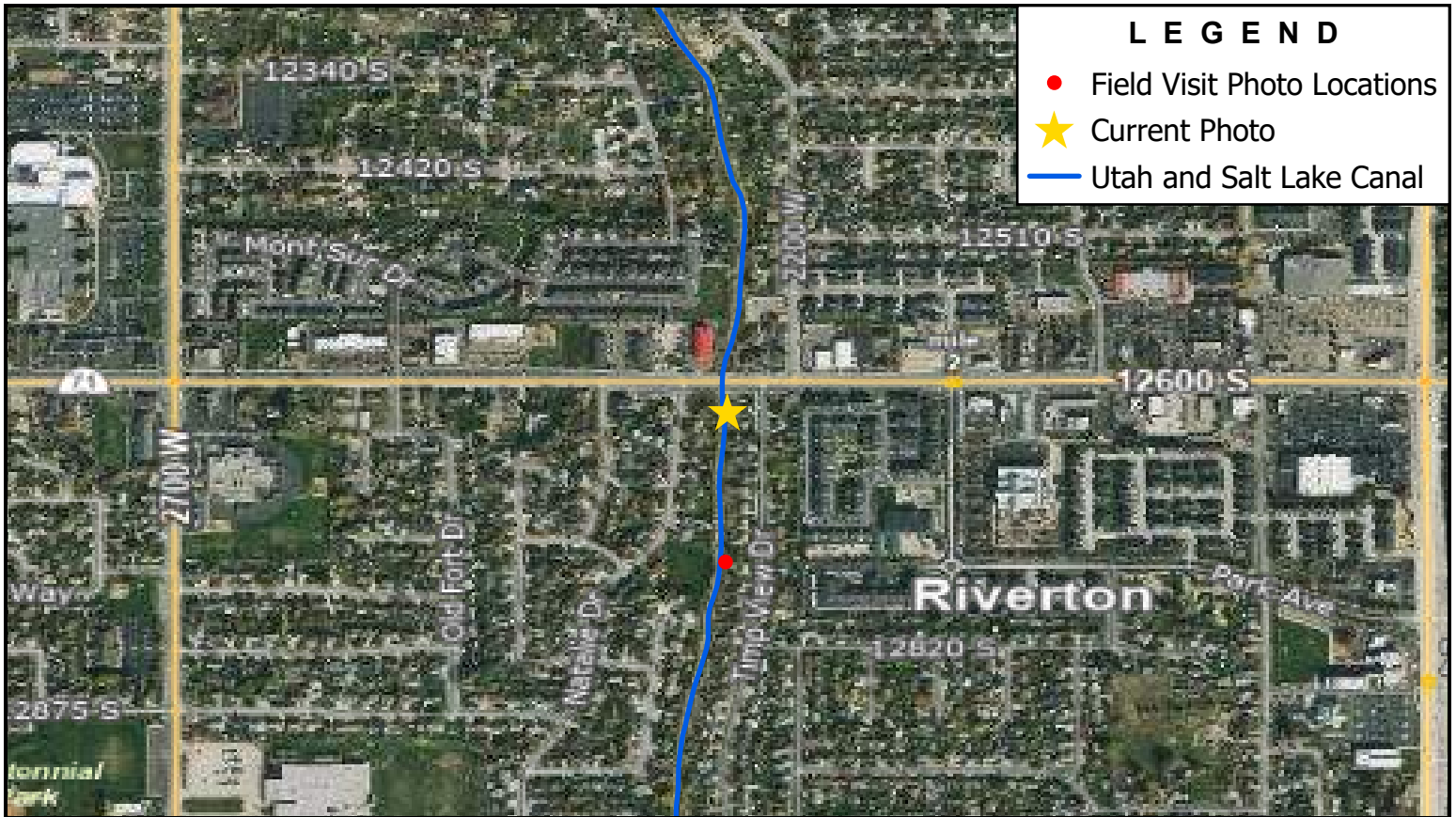
**USLC-73**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **53**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 12600 South





**BOWEN COLLINS**  
& ASSOCIATES

**USLC-74**

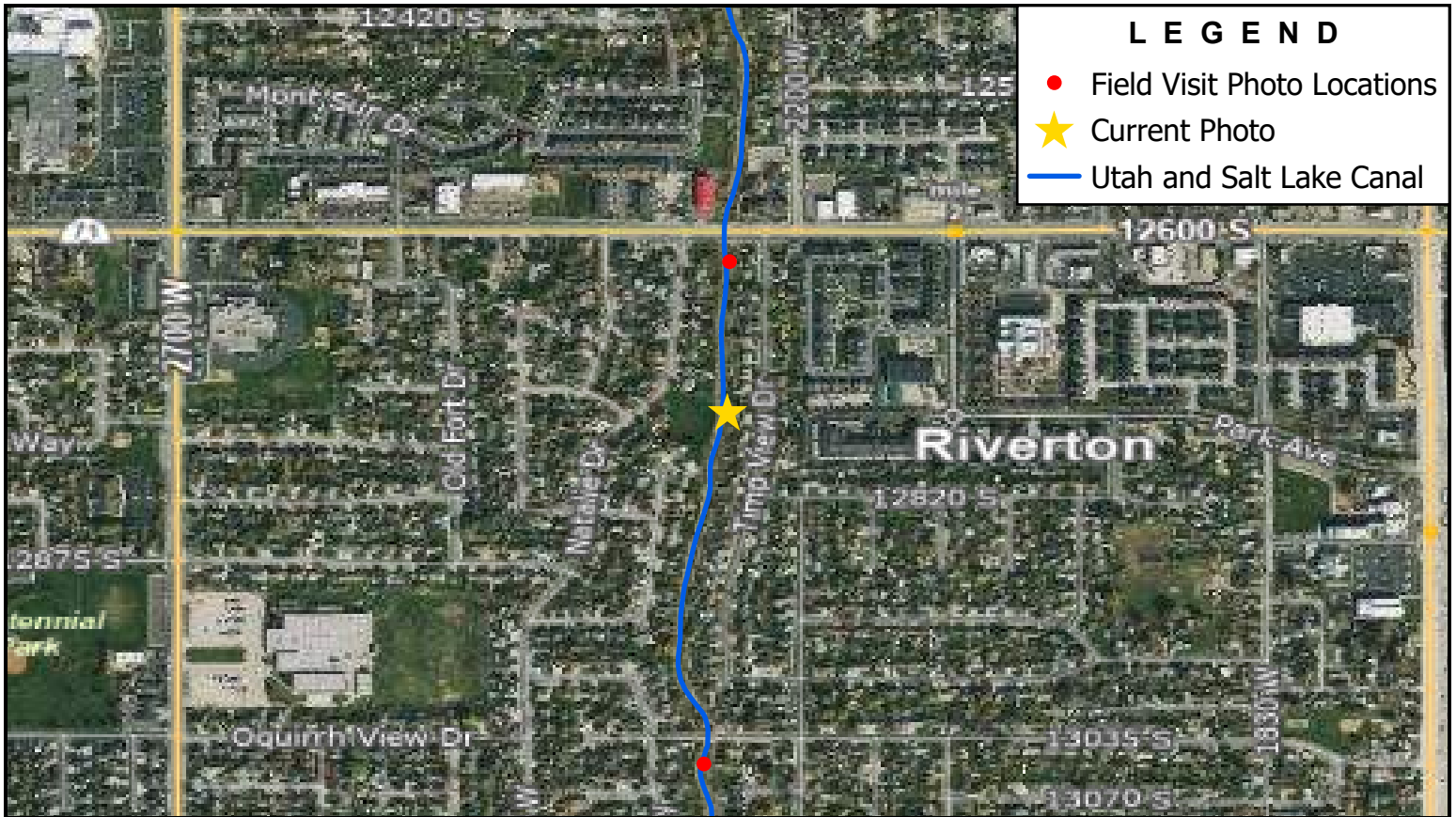
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:



SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**54**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 12750 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

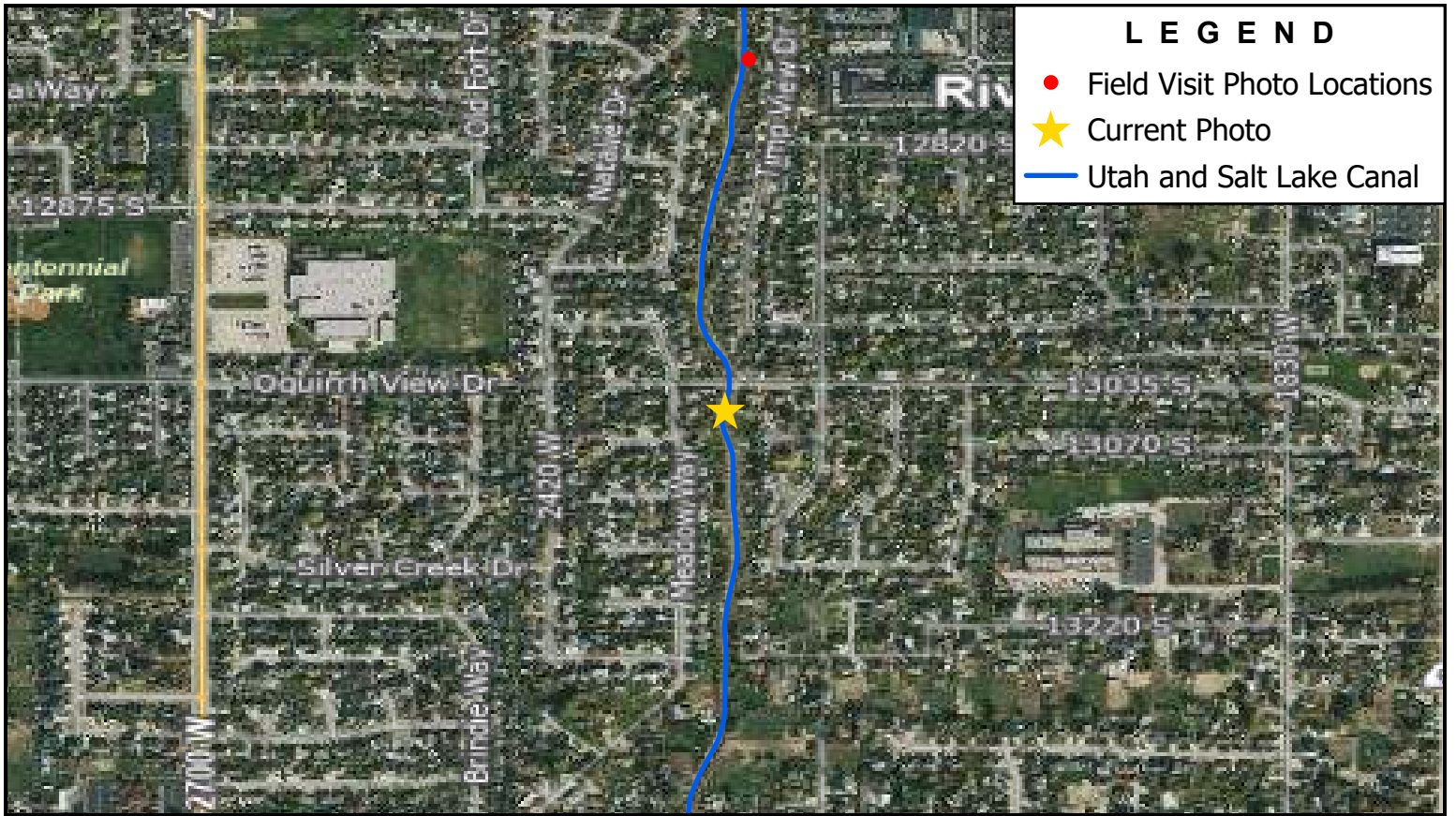
USLC-75

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **55**



Note: 13035 South



**BOWEN COLLINS**  
& ASSOCIATES

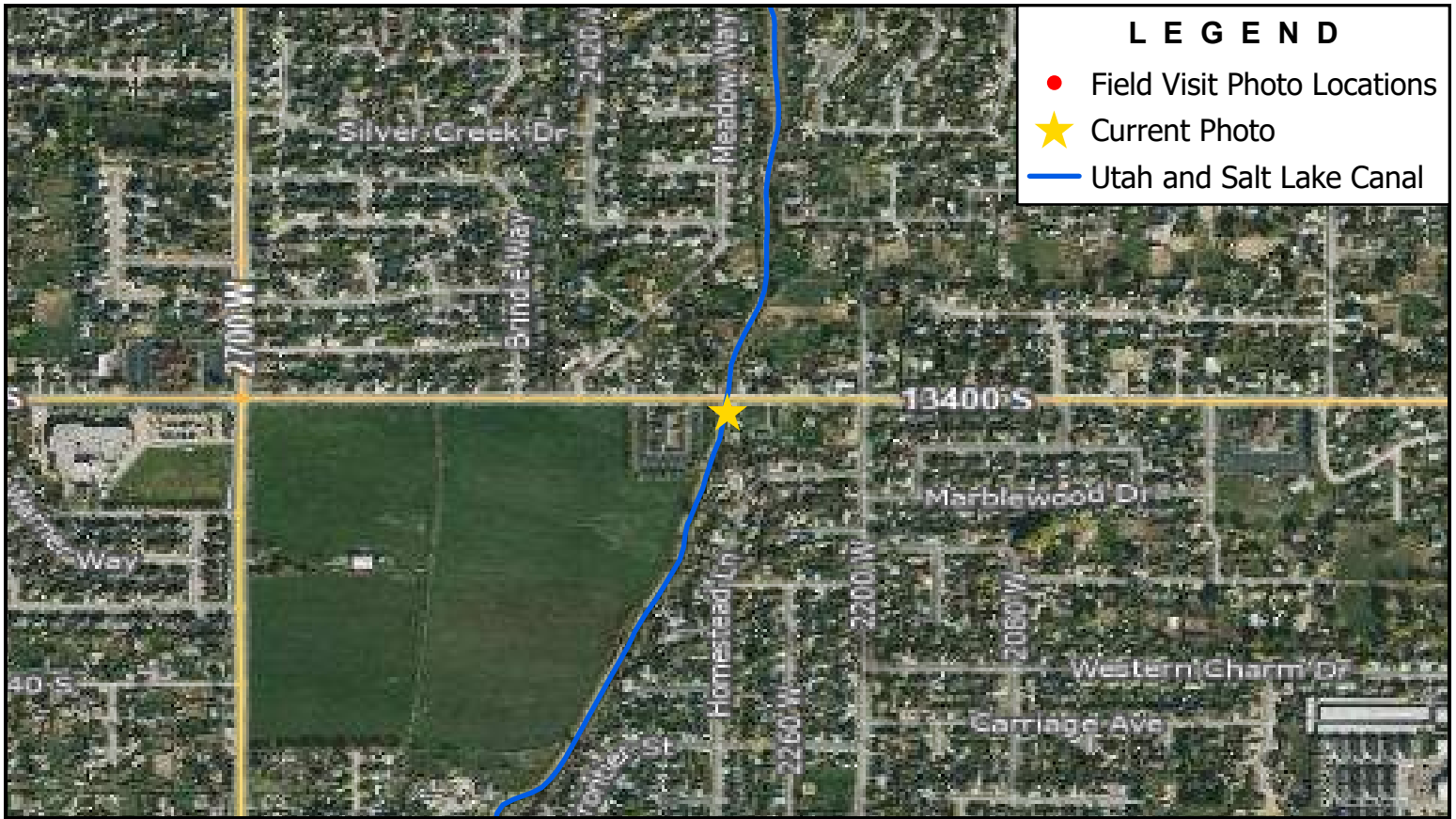
USLC-76

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. 56



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 13400 South



**BOWEN COLLINS**  
& ASSOCIATES

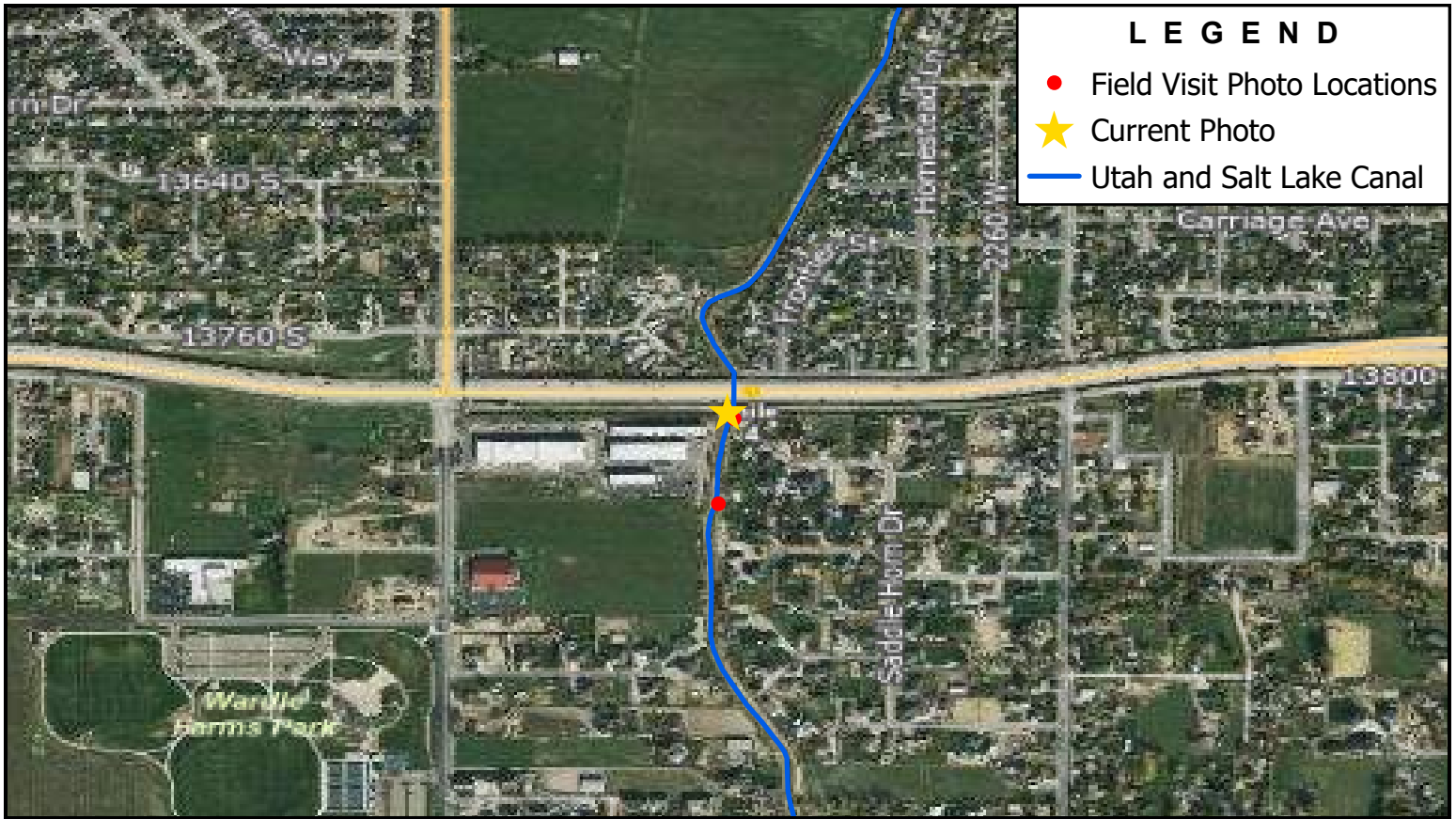
**USLC-77**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **57**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Rose Creek Dumpout



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-79**

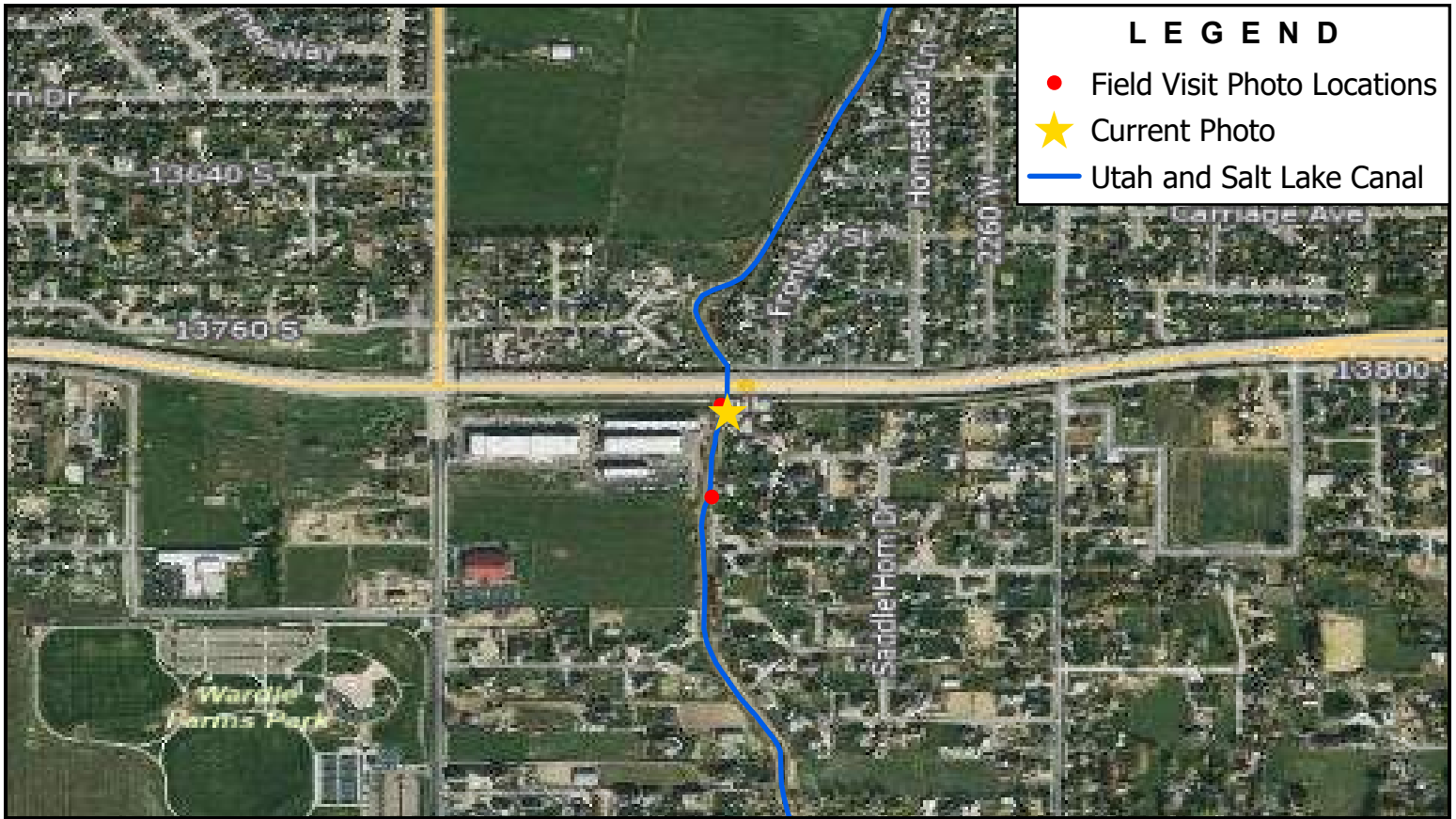
SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **58**





**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Bangerter Hwy



**BOWEN COLLINS**  
& ASSOCIATES

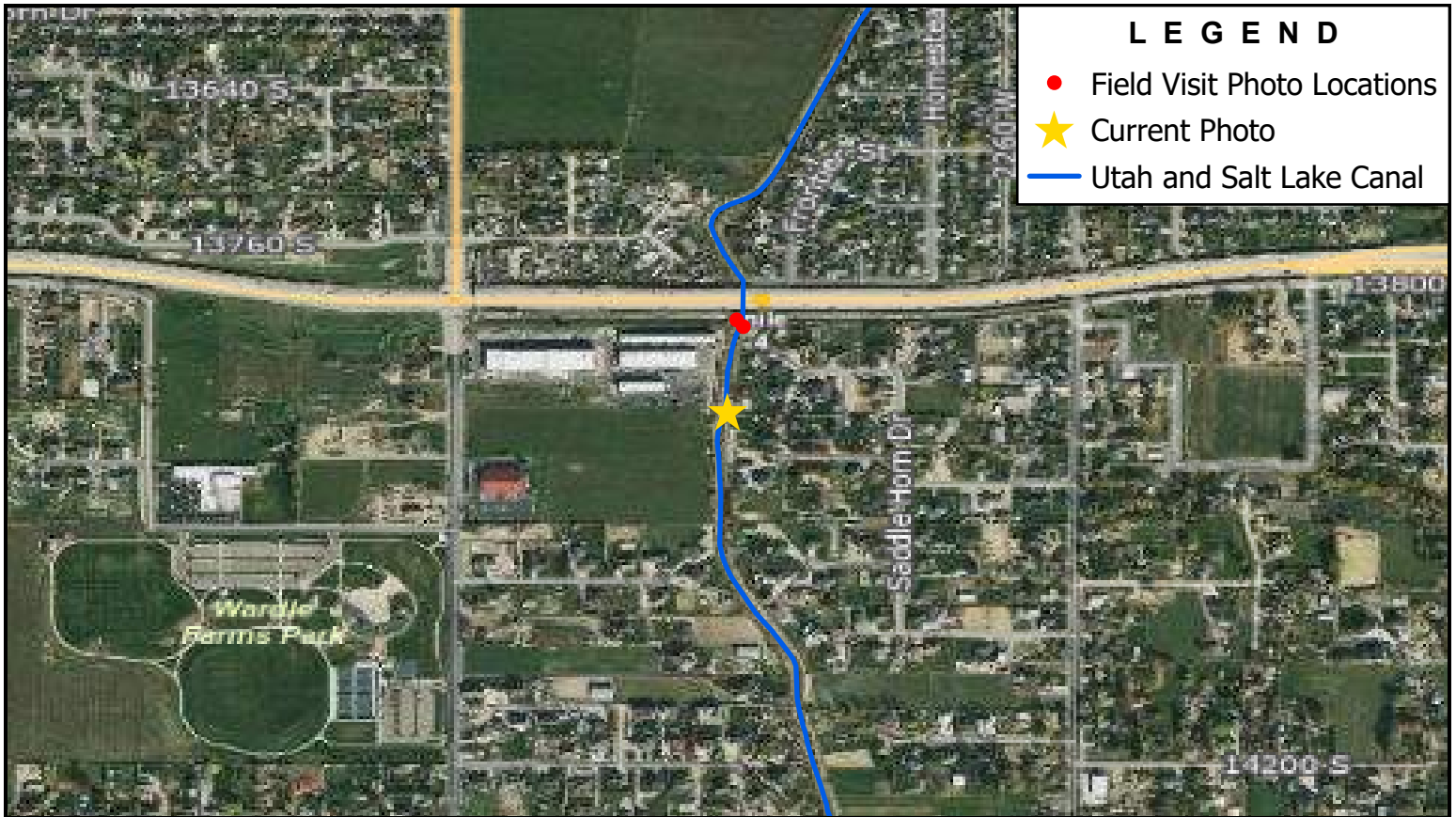
**USLC-78**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **59**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 13800 South Control Structure



**BOWEN COLLINS**  
& ASSOCIATES

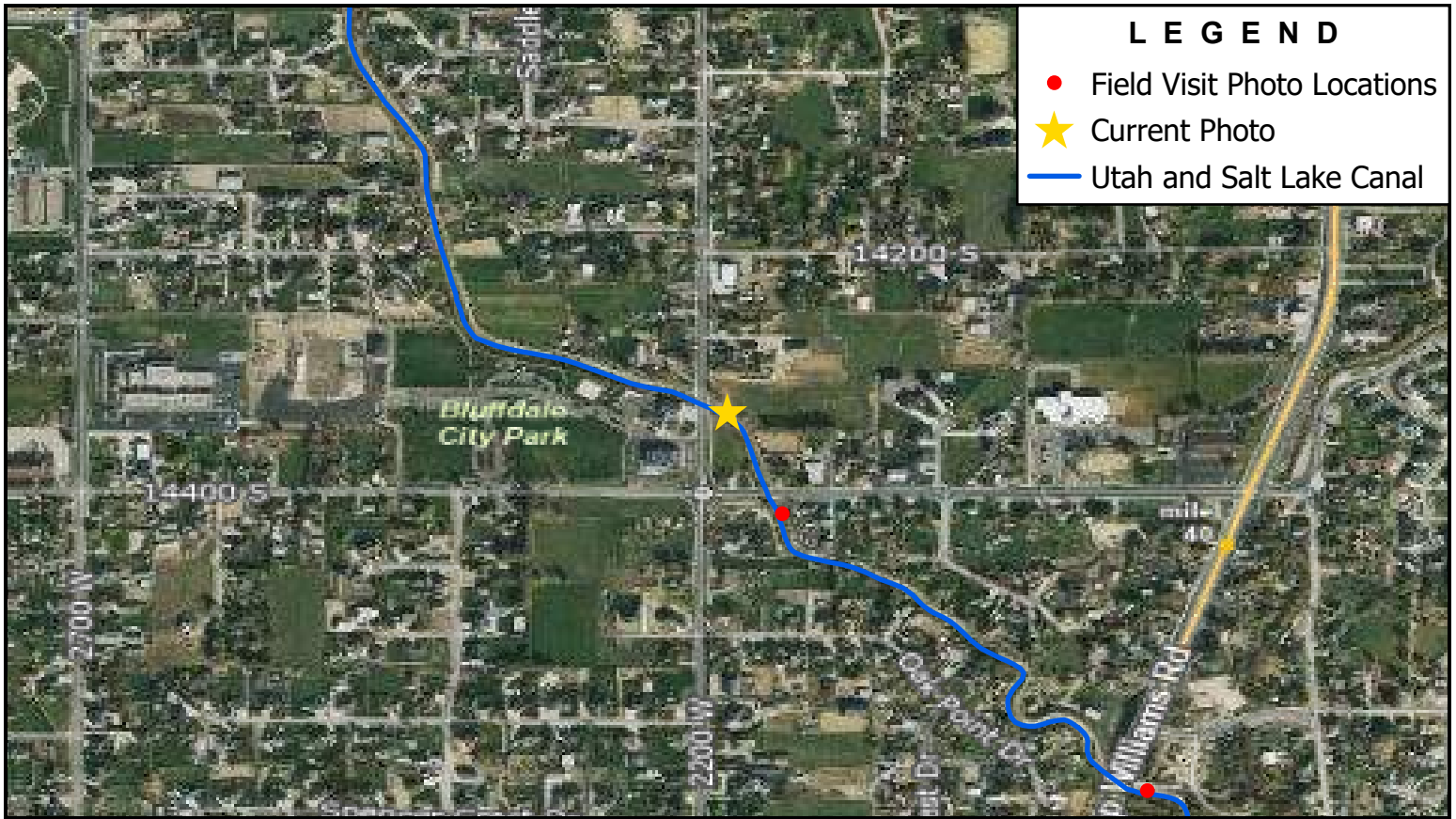
**USLC-80**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **60**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: 2200 West



**BOWEN COLLINS**  
& ASSOCIATES

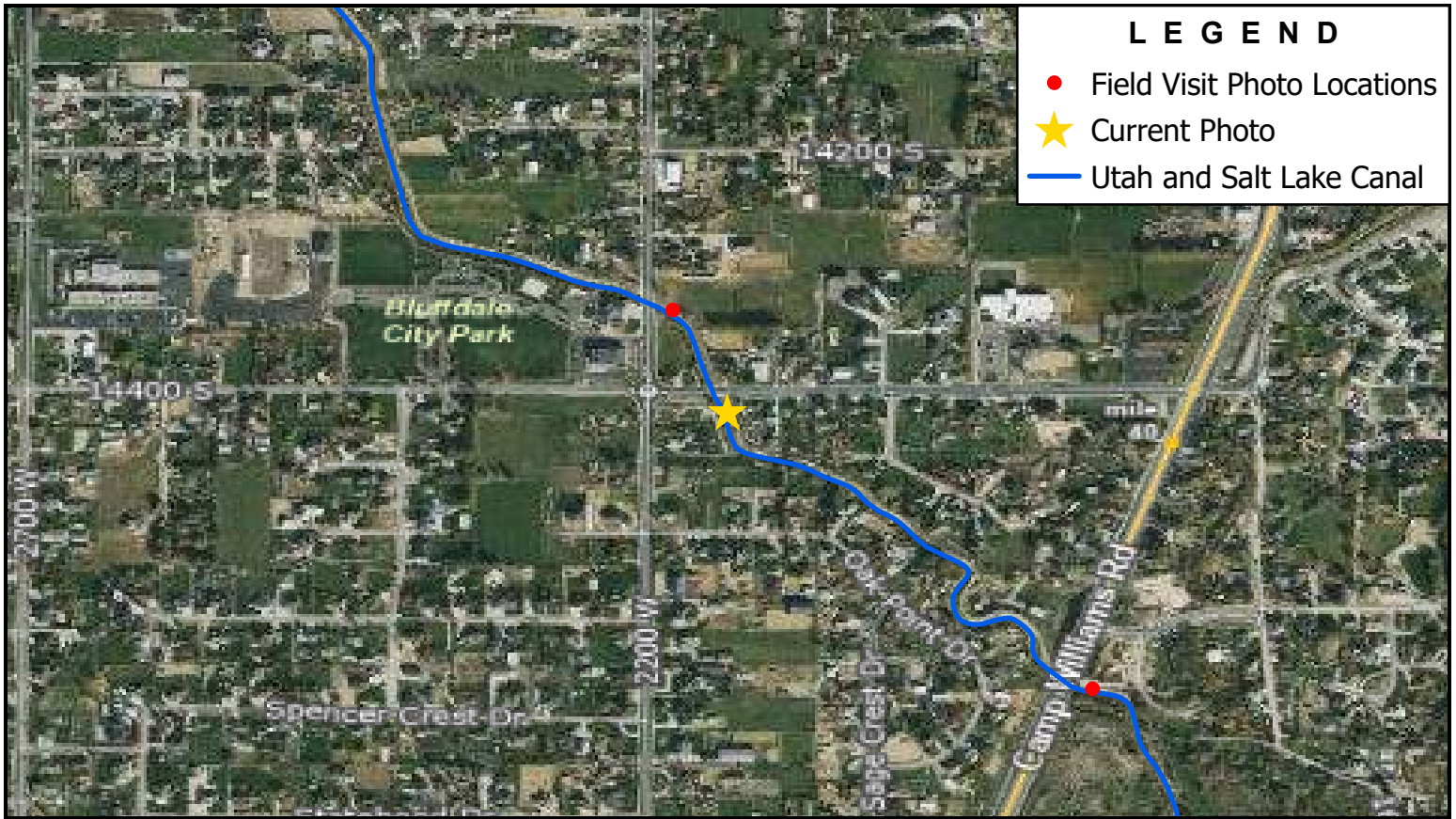
**USLC-81**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

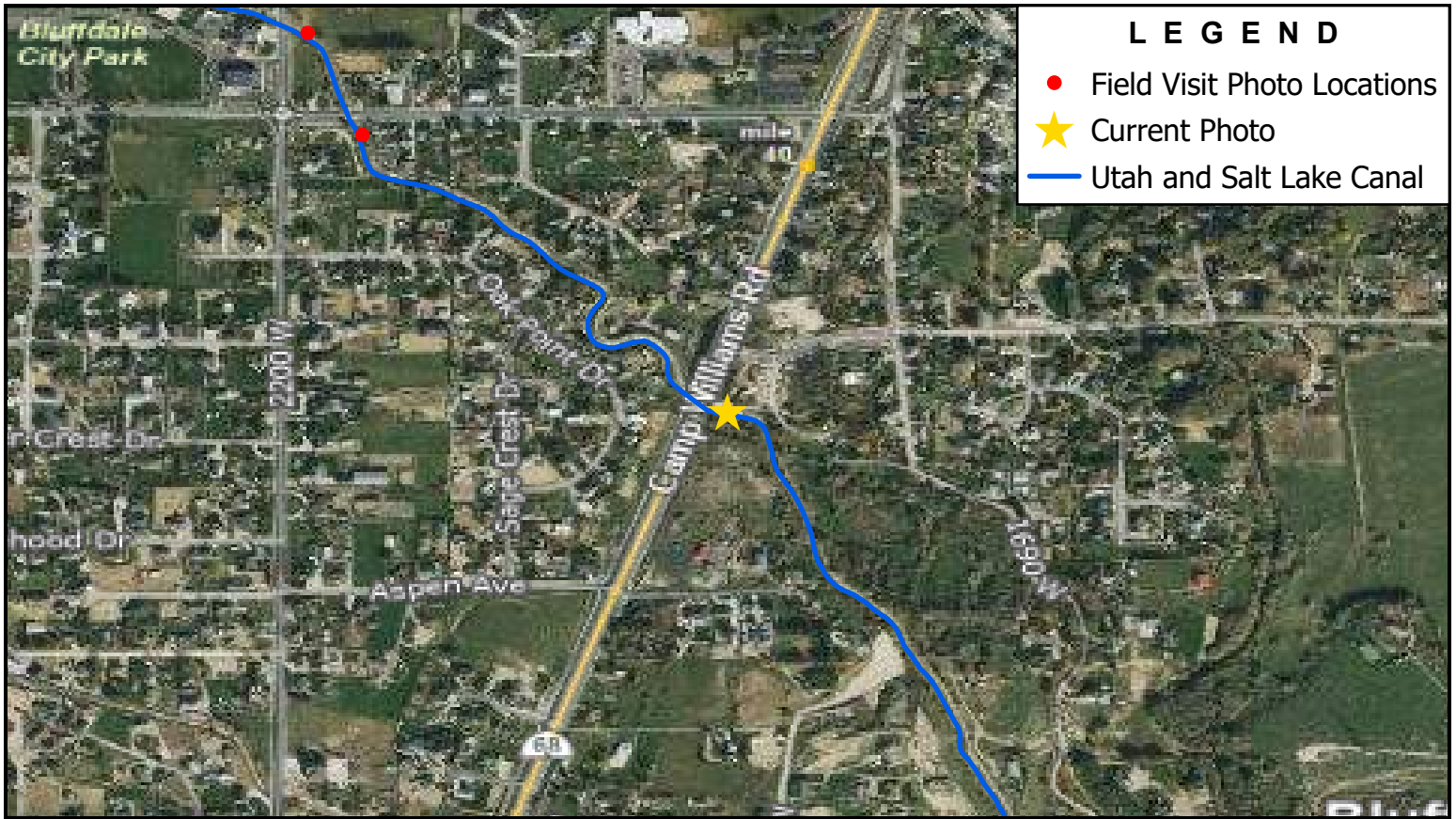
PHOTOGRAPH NO.  
**61**



Note: 14400 South



 <b>BOWEN COLLINS</b> & ASSOCIATES	<b>USLC-82</b>	NORTH: 	SCALE: 0      500      1,000  Feet
	SALT LAKE COUNTY UTAH & SALT LAKE CANAL PHOTO LOG SWCCS		PHOTOGRAPH NO. <b>62</b>



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Redwood Rd.



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-83**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **63**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Rock Hollow Dr.



**BOWEN COLLINS**  
& ASSOCIATES

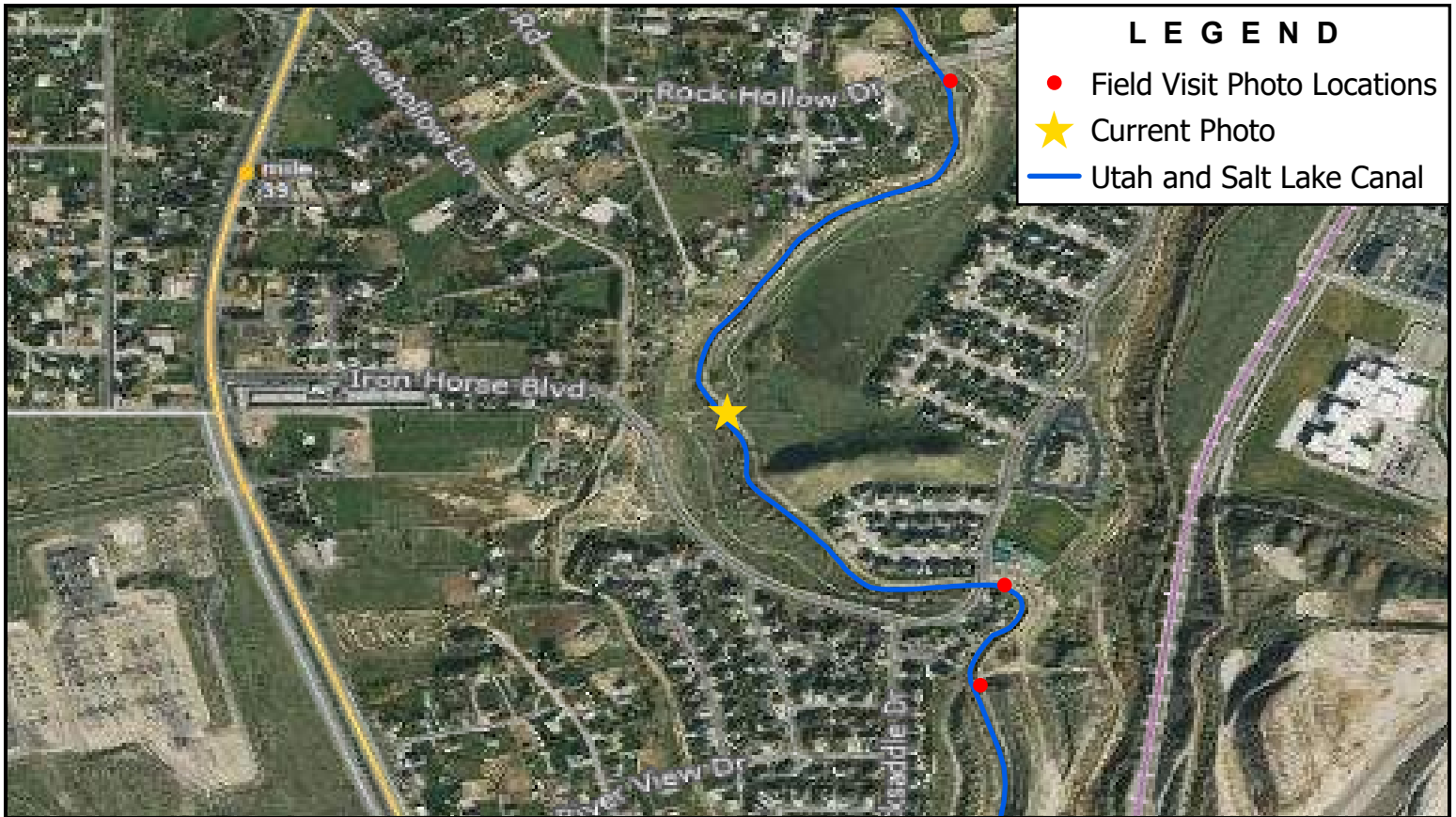
**USLC-84**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **64**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Trail Bridge



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-85**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **65**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Iron Horse Blvd.





**BOWEN COLLINS**  
& ASSOCIATES


**USLC-86**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:



SCALE:  
0 500 1,000  
Feet



PHOTOGRAPH NO. **66**





**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Trail Bridge



**BOWEN COLLINS**  
& ASSOCIATES

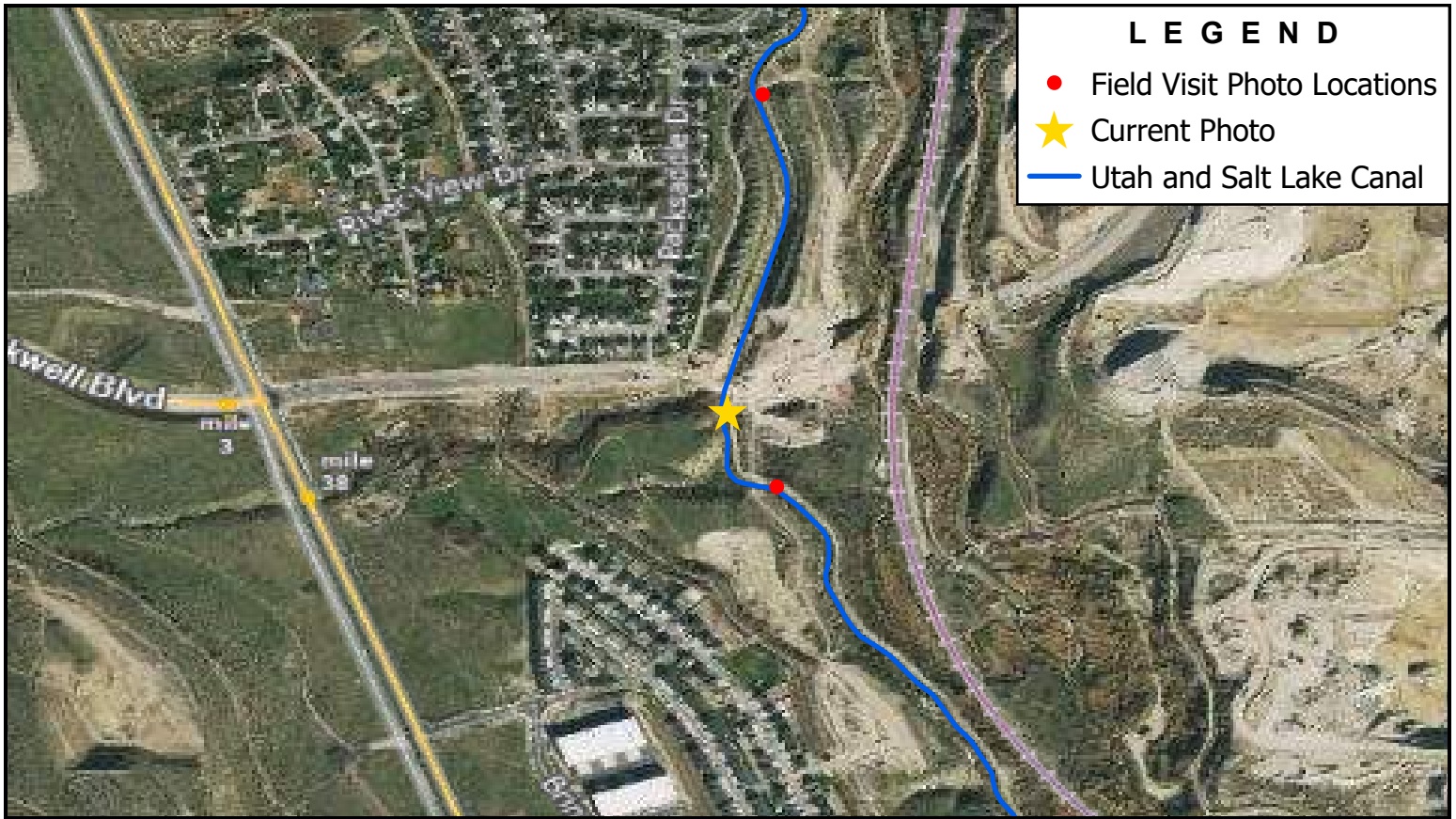
**USLC-87**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **67**



Note: Porter Rockwell Blvd.



**BOWEN COLLINS**  
& ASSOCIATES

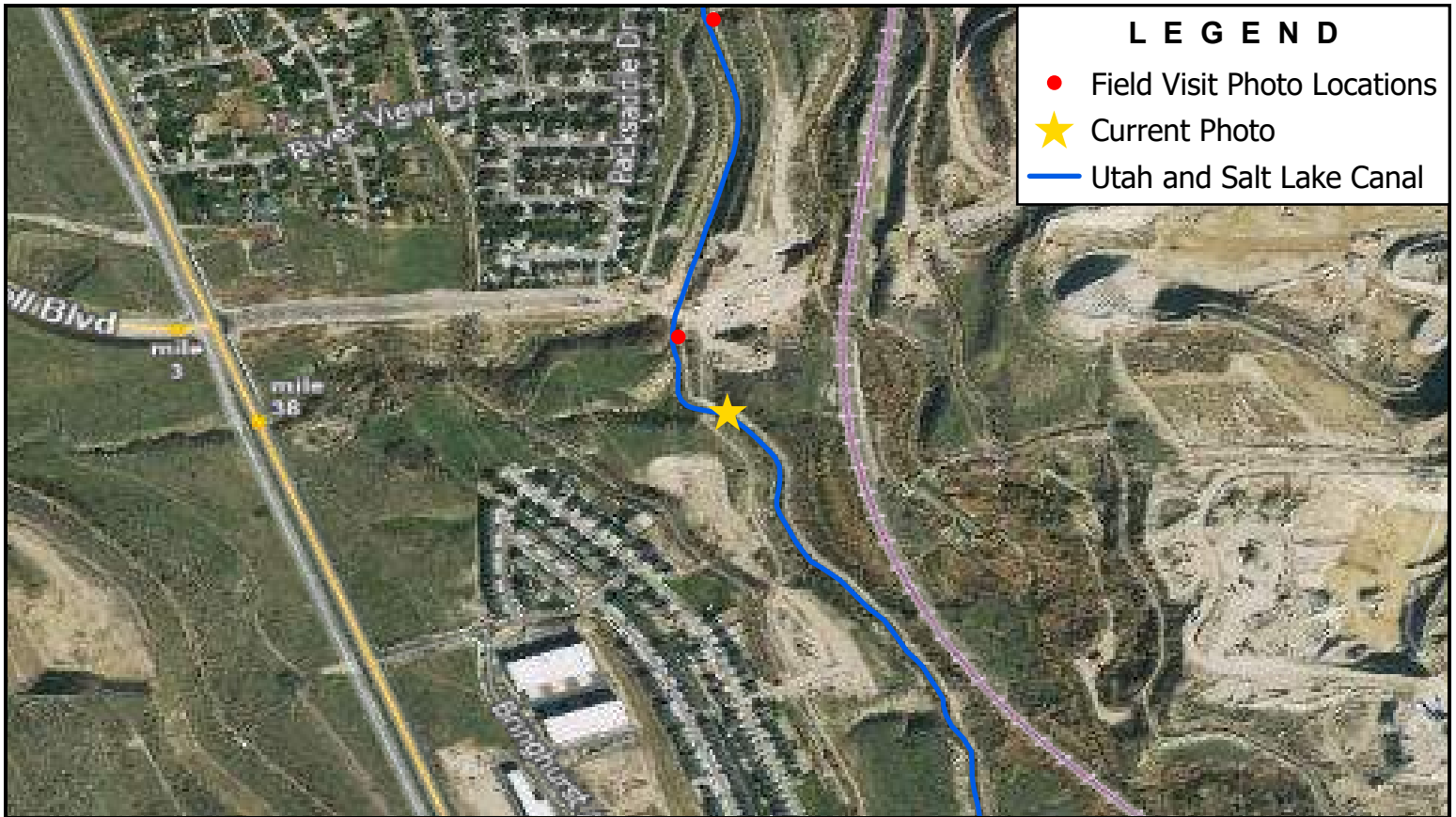
**USLC-88**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO.  
**68**



Note: Trail Bridge



**BOWEN COLLINS**  
& ASSOCIATES

USLC-89

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. 69



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Access Bridge



**BOWEN COLLINS**  
& ASSOCIATES

**USLC-90**

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

PHOTOGRAPH NO. **70**



**LEGEND**

- Field Visit Photo Locations
- ★ Current Photo
- Utah and Salt Lake Canal

Note: Diversion at Turner Dam



**BOWEN COLLINS**  
& ASSOCIATES

Turner Dam

---

SALT LAKE COUNTY  
UTAH & SALT LAKE CANAL  
PHOTO LOG SWCCS

NORTH:

SCALE:  
0 500 1,000  
Feet

---

PHOTOGRAPH NO.  
**71**

# **APPENDIX C**

## **Hydrologic Model Parameters**

# Barneys Creek Hydrologic parameters

Subbasin ID	Area (ac)	Ex CN	Fut CN	Ex % Imp.	Fut % Imp.	Lag Time (hr)
BA_100	198.25	60	60	50	85	0.51
BA_110	120.20	60	60	36	36	0.49
BA_120	149.28	60	60	28	30	0.48
BA_130	26.03	60	60	71	71	0.33
BA_140	16.60	60	60	33	33	0.33
BA_150	12.71	60	60	18	19	0.32
BA_160	27.58	60	60	18	89	0.37
BA_170	20.49	60	60	17	66	0.38
BA_180	82.08	63	60	12	16	0.38
BA_190	67.60	60	60	17	18	0.4
BA_200	7.76	65	65	14	14	0.32
BA_210	87.68	57	60	4	23	0.44
BA_220	142.40	61	60	0	41	0.49
BA_230	3694.29	57	57	0	5	3.16
BA_250	36.53	60	60	42	48	0.37
BA_260	29.50	60	60	30	75	0.38
BA_270	51.53	60	60	70	70	0.36
BA_275	24.68	60	60	20	99	0.36
BA_280	24.76	60	60	40	35	0.36
BA_290	107.35	62	62	0	10	0.51
BA_300	673.12	62	62	0	0	0.65
BA_310	311.50	65	65	0	15	0.91
BA_320	72.25	60	60	21	21	0.38
BA_340	22.41	60	60	17	17	0.31
BA_350	27.96	60	60	75	75	0.32
BA_360	24.23	60	60	20	20	0.35
BA_370	42.84	60	60	23	24	0.39
BA_380	20.11	60	60	21	21	0.36
BA_385	29.08	60	60	21	21	0.36
BA_390	30.80	60	60	20	20	0.34
BA_400	30.51	60	60	0	42	0.36
BA_410	24.91	70	60	0	82	0.33
BA_420	63.10	60	60	42	43	0.38
BA_430	126.06	61	60	2	19	0.47
BW_100	44.50	60	60	49	68	0.42
BW_110	34.21	60	60	16	16	0.39
BW_120	337.80	60	60	31	31	0.52
BW_130	20.35	60	60	69	69	0.35
BW_140	24.18	62	60	1	68	0.34
BW_150	30.44	55	60	12	76	0.37
BW_160	99.13	66	66	0	10	0.39
BW_165	14.09	59	60	0	34	0.37
BW_170	81.23	60	60	21	24	0.39
BW_180	417.39	60	60	0	34	2.33
BW_190	1505.01	63	60	4	63	2.75

BW_200	86.41	60	60	19	19	0.38
BW_210	43.58	60	60	25	26	0.35
BW_220	215.98	60	60	23	25	0.5
BW_240	145.24	59	60	0	44	0.46
BW_250	94.77	52	60	5	81	0.42
BW_260	80.35	60	60	17	72	0.4
BW_270	33.61	60	60	52	74	0.32
BW_280	39.72	60	60	38	56	0.37
BW_290	429.00	62	60	3	63	2.83
BW_300	33.35	60	60	19	24	0.36
BW_310	218.10	58	60	0	41	0.65
CH_100	11.52	61	60	1	57	0.33
CH_110	38.55	64	60	10	59	0.35
CH_120	26.19	60	60	37	42	0.35
CH_125	40.81	60	60	20	20	0.37
CH_130	82.27	62	60	0	38	0.39
CH_140	55.17	60	60	22	22	0.42
CH_150	31.00	60	60	29	29	0.37
CH_160	37.55	60	60	27	27	0.36
CH_170	102.12	62	62	0	4	0.46
CH_180	3284.38	60	60	0	11	1.5
CH_190	22.44	60	60	40	40	0.37
CH_200	27.42	60	60	32	32	0.33
CH_210	267.50	60	60	0	42	0.53
CH_230	64.90	60	60	20	20	0.41
CH_240	53.40	60	60	24	24	0.43
CH_250	62.71	60	60	38	38	0.37
CH_260	79.34	60	60	28	69	0.4
CH_270	23.44	60	60	73	73	0.36
DC_100	127.10	60	60	20	52	0.43
DC_110	128.90	60	60	33	34	0.45
DC_115	39.47	60	60	43	62	0.38
DC_130	155.89	60	60	23	34	0.48
DC_140	106.58	60	60	38	49	0.39
DC_150	194.33	56	60	0	37	0.46
DC_160	23.06	60	60	20	100	0.37
DC_170	191.57	58	60	0	49	0.41
DC_180	19.61	60	60	31	47	0.38
DC_190	404.16	62	60	0	16	0.54
DC_200	224.42	62	62	0	0	1
DC_210	36.82	55	60	0	34	0.37
DC_220	25.40	60	60	69	69	0.39
DC_230	102.91	59	60	7	53	0.4
DC_260	184.55	63	60	0	18	0.46
DC_270	18.97	56	56	0	11	0.32
R_CH_120	14.93	60	60	21	21	0.31
R_CH_250	12.74	60	60	70	70	0.31



UW_100	7.72	60	60	17	24	0.32
UW_110	29.30	60	60	44	44	0.34
UW_120	48.73	60	60	22	22	0.36
UW_130	72.72	60	60	23	23	0.38
UW_140	56.99	60	60	33	33	0.34
UW_150	29.57	60	60	22	22	0.35
UW_160	90.73	60	60	13	27	0.49
UW_170	51.21	61	60	2	18	0.38
UW_180	48.49	60	60	20	20	0.4
UW_190	40.79	60	60	20	20	0.39
UW_200	15.12	60	60	70	70	0.39

# Wood Hollow & Wood Hollow South Hydrologic parameters

FID	Area (ac)	Name	New	Basin	CN	EX_Percl	Fut_Percl	New Development?	Lag Time	0.2 cfs/ac	0.02 cfs/ac (RC)
1	109.6814	BH01	BH01	Beef Hollow	58	31.0%	42.5%	No	0.48	N/A	N/A
2	56.69619	BH02	BH02	Beef Hollow	50	0.1%	99.9%	Yes	0.38	11	11.0
3	728.7115	BH03	BH03	Beef Hollow	60	4.7%	4.8%	No	0.84	N/A	N/A
4	614.3447	BH04	BH04	Beef Hollow	65	0.0%	0.0%	No	1.67	N/A	N/A
0	1455.896	BH05	BH05	Beef Hollow	64	0.0%	0.0%	No	1.92	N/A	N/A
39	9.339068	BHN01	BHN01	Beef Hollow North	67	0.1%	14.4%	Yes	0.33	2	0.2
28	33.65976	BHN02	BHN02	Beef Hollow North	69	14.4%	35.9%	Yes	0.31	7	0.7
27	34.28636	BHN03	BHN03	Beef Hollow North	68	0.0%	64.2%	Yes	0.35	7	0.7
26	302.0312	BHN04	BHN04	Beef Hollow North	53	0.0%	51.2%	Yes	0.48	60	6.0
42	32.39818	BHN05	BHN05	Beef Hollow North	50	5.0%	15.6%	Yes	0.44	6	0.6
43	48.0835	BHN06	BHN06	Beef Hollow North	51	0.7%	64.3%	Yes	0.45	10	1.0
24	100.4764	BHN07	BHN07	Beef Hollow North	60	0.0%	0.0%	No	1.25	N/A	N/A
23	294.3141	BHN08	BHN08	Beef Hollow North	67	0.0%	0.0%	No	2.59	N/A	N/A
41	118.7408	ULDC01	ULDC01	ULDC	64	12.0%	12.0%	No	0.45	N/A	N/A
38	105.401	ULDC02	ULDC02	ULDC	62	0.6%	84.1%	Yes	0.47	21	2.1
34	101.1015	ULDC03	ULDC03	ULDC	72	12.2%	28.2%	Yes	0.45	20	2.0
40	127.103	USLC01	USLC01	USLC	61	0.1%	11.0%	Yes	0.56	25	2.5
36	39.26749	USLC02	USLC02	USLC	69	0.0%	34.1%	Yes	0.40	8	0.8
35	16.07626	USLC03	USLC03	USLC	68	0.6%	32.5%	Yes	0.37	3	0.3
37	24.15746	USLC04	USLC04	USLC	71	6.1%	6.1%	No	0.43	N/A	N/A
33	121.5605	USLC05	WH11	USLC	67	42.8%	79.7%	Portion	0.35	24	2.4
32	50.62103	USLC06	WH12	USLC	64	0.4%	3.6%	No	0.33	N/A	N/A
31	23.54036	USLC07	WH13	USLC	69	12.2%	95.8%	Yes	0.34	5	0.5
30	51.5812	USLC08	WH14	USLC	70	0.2%	58.3%	Yes	0.43	10	1.0
13	105.7333	WH01	WH01	Wood Hollow	66	17.2%	17.2%	No	0.54	N/A	N/A
9	20.32377	WH02	WH02	Wood Hollow	63	0.0%	0.0%	No	0.36	N/A	N/A
11	28.17003	WH03	WH03	Wood Hollow	69	22.4%	92.4%	No	0.37	N/A	N/A
12	123.7677	WH04	WH04	Wood Hollow	69	0.0%	37.2%	Yes	0.84	25	25.0
6	784.1685	WH05	WH05	Wood Hollow	66	0.0%	13.7%	Yes	2.34	157	157.0
7	584.1537	WH06	WH06	Wood Hollow	66	0.0%	0.0%	No	1.07	N/A	N/A
10	717.0009	WH07	WH07	Wood Hollow	65	0.0%	0.0%	No	1.49	N/A	N/A
5	703.2735	WH08	WH08	Wood Hollow	65	0.0%	0.0%	No	1.84	N/A	N/A
8	488.5848	WH09	WH09	Wood Hollow	64	0.0%	0.0%	No	1.75	N/A	N/A
22	4.075668	WHS01	WHS01	Wood Hollow South	69	0.0%	85.0%	Yes	0.30	1	0.1
14	6.390022	WHS02	WHS02	Wood Hollow South	68	0.0%	78.2%	Yes	0.31	1	0.1
15	8.237363	WHS03	WHS03	Wood Hollow South	66	0.0%	84.7%	Yes	0.31	2	0.2
16	11.38804	WHS04	WHS04	Wood Hollow South	64	0.0%	82.1%	Yes	0.33	2	0.2
25	117.7992	WHS05	WHS05	Wood Hollow South	65	0.0%	79.6%	Yes	0.44	24	2.4
17	40.65763	WHS06	WHS06	Wood Hollow South	69	0.0%	63.5%	Yes	0.38	8	0.8
29	53.12702	WHS07	WHS07	Wood Hollow South	66	0.0%	77.4%	Yes	0.43	11	1.1
20	164.0616	WHS08	WHS08	Wood Hollow South	63	0.0%	7.0%	No	2.09	N/A	N/A
21	58.91388	WHS09	WHS09	Wood Hollow South	64	0.0%	25.9%	Yes	0.39	12	1.2
19	107.003	WHS10	WHS10	Wood Hollow South	69	0.0%	1.8%	No	1.92	N/A	N/A
18	274.5091	WHS11	WHS11	Wood Hollow South	69	0.0%	0.0%	No	2.17	N/A	N/A

## Adjusted Future Subbasins

FID	Area (ac)	Name	Basin	CN	EX_Percl	Fut_Percl	New Development?	Lag Time	0.2 cfs/ac	0.02 cfs/ac (RC)
0	620.2083	Wh05	Wood Hollow	66	0	0	No	2.34	N/A	N/A
1	37.97966	WHS09	Wood Hollow South	64	0	0	No	0.39	N/A	N/A
2	193.2839	BHN09	Beef Hollow North	53	0	80	Yes	0.5	39	3.9
3	163.9503	WH10	Wood Hollow	66	0	65.5	Yes	0.56	33	N/A
4	20.93422	WHS12	Wood Hollow South	62	0	73	Yes	0.36	4	0.4
5	107.7474	BHN04	Beef Hollow North	53	0	0	No	0.48	N/A	N/A

# Beef Hollow Hydrologic parameters

<b>Subbasin ID</b>	<b>Area (acre)</b>	<b>CN</b>	<b>Ex % Imp</b>	<b>Fut % Imp</b>	<b>Lag Time (hr)</b>
BH-01	109.681	57.147	30.969	42.527	0.48
BH-02	56.696	48.833	0.128	99.93	0.84
BH-03	728.709	58.354	4.691	4.818	0.84
BH-04	614.343	63.766	0	0	1.67
BH-05	1455.891	63.463	0	0	1.92

# Utah Lake Distributing Canal Hydrologic parameters

FID	Id	Area	CN	ExPercl	FutPercl	LagT	Descrip	Name
0	0	197.9073232	60	39	39	0.35		ULDC_JL900
1	0	38.81517097	60	37	37	0.34		ULDC_JL800
2	0	47.0102706	60	20	20	0.39		ULDC_JL1000
3	0	16.60498513	60	82	82	0.33		ULDC_JL700
4	0	10.27309488	60	77	78	0.34		ULDC_JL600
5	0	9.572241842	60	82	82	0.32		ULDC_JL500
6	0	6.634447505	60	58	85	0.31		ULDC_JL400
7	0	18.50523173	60	70	70	0.33		ULDC_JL100
8	0	18.24913356	60	83	84	0.31		ULDC_JL200
9	0	9.063199426	60	44	85	0.32		ULDC_JL300
10	0	15.09856549	60	61	72	0.33		ULDC_JL110

FID	Name	Basin
0	ULDC03	See The Hollows
1	ULDC02	See The Hollows
2	ULDC01	See The Hollows
3	RC70	See Rose Creek
4	RC73	See Rose Creek
5	RC74	See Rose Creek
6	RC72	See Rose Creek
7	RC71	See Rose Creek
8	RC163	See Rose Creek
9	ULDC_MI350	See Midas Creek
10	ULDC_MI370	See Midas Creek
11	ULDC_MI300	See Midas Creek
12	ULDC_MI290	See Midas Creek
13	ULDC_MI330	See Midas Creek
14	ULDC_MI320	See Midas Creek
15	ULDC_MI400	See Midas Creek
16	ULDC_MI390	See Midas Creek
17	ULDC_MI310	See Midas Creek
18	ULDC_MI380	See Midas Creek
19	ULDC_MI360	See Midas Creek
20	ULDC_BI100	See Bingham Creek

# Utah & Salt Lake Canal Hydrologic parameters

SubbasinID	Description	Area	Curve Number	Ex. % Imp.	Fut. % Imp.	Ex. CN	Fut. CN	Lag Time
USLC_1000		39.32	80.26	61	61	60	60	0.38
USLC_1100		47.75	80.75	57	57	60	60	0.33
USLC_1110		267.98	80.87	42	45	60	60	0.50
USLC_1120		85.65	80.91	48	48	60	60	0.45
USLC_1200		37.83	82.37	78	78	60	60	0.39
USLC_1300		93.4	77.01	53	53	60	60	0.59
USLC_1310		232.8	79.15	36	36	60	60	0.58
USLC_1320		235.6	66.68	43	85	60	60	0.55
USLC_1330		235.4	76.97	36	46	60	60	0.49
USLC_1340		70.07	76	19	19	60	60	0.41
USLC_1350		79.23		82	82	60	60	0.41
USLC_1400		75.28	80.77	33	33	60	60	0.33
USLC_1500		54.92	72.1	33	33	60	60	0.37
USLC_1510		255.97	77.07	39	39	60	60	0.57
USLC_1520		138.01	77.67	36	36	60	60	0.44
USLC_1530		66.4	80.79	67	67	60	60	0.43
USLC_1540		164.59		81	81	60	60	0.43
USLC_1600		497.19	57.28	35	35	60	60	0.68
USLC_1610		141.44	70.59	71	71	60	60	0.45
USLC_1700		149.43	59.79	23	23	60	60	0.45
USLC_1800		78.02	65.75	26	43	60	60	0.39
USLC_1900		84.39	66.75	25	29	60	60	0.40
USLC_2000		106.29	74.71	20	20	60	60	0.40
USLC_2100		96.26	67.46	17	17	60	60	0.37
USLC_2200		90.05	58.04	15	15	60	60	0.40
USLC_2300		57.81	66.51	24	24	60	60	0.38
USLC_2400		139.5	59.99	28	28	60	60	0.39
USLC_2500		341.25	55.95	23	23	60	60	0.50
USLC_2600		330.74	52.39	48	48	60	60	0.51
USLC_2610		477.9	71.86	44	44	60	60	0.50
USLC_2700		145.78	51.31	63	60	60	60	0.52
USLC_2800		377.19	53.81	30	29	60	60	0.50
USLC_2900		272.48	72.98	24	24	60	60	0.39
USLC_3000		209.48	72.47	11	20	60	60	0.36
USLC_3100		173.96	72.98	23	23	60	60	0.36

# South Jordan Canal Hydrologic parameters

FID	Id	Name	Area	Existing % Imp	Future % Imp	CN	Lag Time
0		0 WJ_SJC110	130.3006459	41.3636	41.3636	79.770544	0.38
1		0 WJ_SJC120	64.61694812	42.3214	42.3214	81.161716	0.44
2		0 WJ_SJC130	93.43313278	39.8864	39.8864	80.975857	0.51
3		0 WJ_SJC140	247.8351278	35.2083	35.2083	80.863355	0.58
4		0 WV_SJC100	26.60334811	40	36	76.866848	0.39
5		0 WV_SJC110	49.31501497	31.4286	27.381	75.522306	0.47
6		0 WJ_SJC100	151.0006405	50.4839	50.4839	81.145072	0.45
7		0 WJ_SJC160	105.8212357	23.375	23.75	74.387952	0.39
8		0 WJ_SJC170	127.7755283	25.5208	25.5208	74.312032	0.42
9		0 WJ_SJC150	188.0212999	34	33.3051	80.607786	0.55
10		0 TV_SJC120	111.1450456	25.8889	22.7778	70.200468	0.55
11		0 TV_SJC100	47.2977793	27.6316	23.1579	66.137338	0.38
12		0 TV_SJC110	212.8151482	34.5055	34.8352	73.954209	0.56
13		0 TV_SJC130	86.46717005	30.5263	26.1842	74.595258	0.45
14		0 WJ_SJC180	102.386687	29.5	28.1667	67.460497	0.5
15		0 WJ_SJC190	75.68225645	14	11	66.006086	0.3

# North Jordan Canal Hydrologic parameters

Subbasin ID	Area (ac)	Existing CN	Future CN	Existing % Imp.	Future % Imp.	Lag Time
MR_NJC100	7.64	60	60	70	70	0.33
TV_NJC100	103.32	60	60	23	36	0.44
TV_NJC110	17.01	60	60	10	20	0.36
TV_NJC120	108.38	60	60	26	33	0.49
TV_NJC130	7.19	60	60	20	20	0.31
TV_NJC140	44.67	60	60	26	26	0.39
TV_NJC150	140.43	60	60	48	54	0.52
TV_NJC160	92.37	60	60	56	64	0.45
TV_NJC170	58.81	60	60	51	51	0.41
TV_NJC180	18.30	60	60	37	37	0.35
TV_NJC190	96.10	60	60	30	30	0.44
TV_NJC200	30.99	60	60	17	17	0.44
TV_NJC210	32.60	60	60	43	50	0.39
TV_NJC220	88.43	60	60	72	75	0.54
TV_NJC230	29.13	60	60	45	58	0.4
WJ_NJC100	37.90	60	60	19	19	0.39
WJ_NJC110	93.86	60	60	25	25	0.4
WJ_NJC111	39.46	60	60	27	27	0.4
WJ_NJC120	12.04	60	60	38	53	0.34
WJ_NJC130	27.99	60	60	17	19	0.37
WJ_NJC140	39.93	60	60	4	51	0.48
WJ_NJC150	61.81	60	60	30	45	0.46
WJ_NJC160	34.73	60	60	37	37	0.46
WJ_NJC170	32.60	60	60	34	34	0.37
WJ_NJC180	35.21	60	60	55	55	0.39
WJ_NJC190	17.46	60	60	56	56	0.37
WV_NJC100	74.94	60	60	65	65	0.35
WV_NJC110	80.69	60	60	22	22	0.4
WV_NJC120	39.33	60	60	26	27	0.41
WV_NJC130	10.71	60	60	20	20	0.4
WV_NJC131	32.33	60	60	85	85	0.34
WV_NJC140	56.54	60	60	26	26	0.37
WV_NJC150	29.41	60	60	22	23	0.42
WV_NJC160	27.29	60	60	26	26	0.38
WV_NJC170	12.58	60	60	20	24	0.36
WV_NJC180	13.55	60	60	26	30	0.35
WJ_NJC155	112.80	60	60	15	15	0.34

# **APPENDIX D**

## **Creek Structure Calibration Tables**



# Barneys Creek Structure Calibration

Station	ID	Culvert or Bridge Location	Invert	Max Head	DS Invert	Depth (ft)	Width (ft)	Length (ft)	WH/D	Inlet	HEC-RAS	Manning's
			Elevation (ft)	Elevation (ft)	Elevation (ft)					Nomograph Capacity (cfs)	Capacity (cfs)	Equation Capacity (cfs)
N/A	BA-01	7800 South to Airport Detention Basin	4620.6	N/A	4596.7	4	N/A	1330	#VALUE!	N/A	390	386.1
N/A	BA-2A	Airport Rd. to 7800 South	4621.8	4630.78	4620.6	5.5	N/A	660	1.63	N/A	220	143.6
4493	BA-2B	Airport Rd. Crossing	4625.95	4631.48	4621.8	3.5	N/A	113	1.58	180	185	386.7
5507	BA-03	Railroad Crossing (4600 West)	4647.8	4656.57	4647.1	5.5	N/A	43.21	1.59	260	290	428.6
5957	BA-04	4660 West	4658.6	4663.91	4657.4	3	5	59.94	1.77	105	135	737.7
6911	BA-05	4800 West	4682.8	4687.04	4680.8	3	5	109.71	1.41	90	100	704.0
9492	BA-06	Barney's Creek Trail #1 (5150 West)	4735.4	4738.76	4734.6	3	5	16.5	1.12	70	65	1148.1
10009	BA-07	Barney's Creek Trail #2 (5220 West)	4742.3	4746.08	4742.1	3	5	16.63	1.26	80	90	571.8
10648	BA-08	Amethyst Drive (5310 West)	4754.8	4759.42	4753	3.2	5	82.55	1.44	100	110	855.4
11671	BA-09	Grizzly Way (5390 West)	4773.3	4778.92	4772.5	3.5	N/A	112.6	1.61	180	170	170.1
13741	BA-10	5600 West	4809.2	4828.16	4785.5	3	N/A	1524.64	6.32	140	105	83.4
14867	BA-11	Mountain View Corridor	4839.3	4847.06	4821	6	8	819.65	1.29	460	430	5355.3
15442	BA-12	Maple Water Drive (5900 West)	4853.57	4860.51	4852.2	6	10	84.88	1.16	500	410/275	6676.6
16044	BA-13	Birch Water Lane (5980 West)	4867.5	4874.65	4863.7	6	10	167.36	1.19	525	500/385	7918.9
16321	BA-14	Fallwater Drive (6000 West)	4873.1	4881.87	4871.9	6	10	149.34	1.46	625	615/510	4710.9
17413	BA-15	6160 West	4898.6	4907.44	4898	6	8	70.93	1.47	500	475/210	3296.3
18655	BA-16	8600 South	4928	4936.01	4927.5	6	8	104.07	1.34	480	420/260	2484.2
19646	BA-17	6400 West	4959.1	4966.02	4958.1	6	8	93.7	1.15	400	370/140	3702.6
24053	BA-18	Bacchus Highway	5075.4	5082.72	5069.8	6	N/A	78.08	1.22	240	250	2274.5
26155	BA-19	Farm Road (7320 West)	5135.34	5139.93	5132.1	2.5	N/A	42.88	1.84	40	40	226.1
N/A	CH-01 <sup>1</sup>	Grizzly Way (XXXX West)				4	N/A		2.00	150		
N/A	CH-02 <sup>1</sup>	Clay Hollow Trail				5	9		1.40	400		
N/A	CH-03 <sup>1</sup>	5600 West				4	10		1.5	300		
N/A	CH-04 <sup>1,2</sup>	Uinta View Way				3.5	N/A		1.6	90 <sup>2</sup>		

Increases with to 250 cfs with changes to Airport Rd. Crossing

Notes:

<sup>1</sup> Structures on Clay Hollow have not been surveyed. Capacities are based on field visits observations and measurements

<sup>2</sup> CH-04 includes an overflow channel that will convey runoff in excess of 42-inch pipe capacity

# Bingham Creek Structure Calibration

ID	Culvert or Bridge Location	Existing Culvert/Bridge					Inlet			
		Size	Invert El.	Flood El.	Height (ft)	H/D	Nomograph Capacity	HEC-RAS Capacity	2002 Capacity	Estimated Capacity
BC-01	North Jordan Canal	6' x 12' Box	4294.3	4305.5	6	1.87	960	930		960
BC-02	Gravel Lane / 8050 South	6' X 20' Box	4308.8	4314.55	6.65	0.86		950		950
BC-03	No Name	Pipe 1 = 48" Pipe 2= 32"	4317.3	4321.81	4	1.13	105			105
BC-04	1300 West / Temple Drive	6' x 12'	4327.7	4338.79	6	1.85		1070		1070
BC-05	1500 West	4.75' CMP	4346.85	4355.78	4.75	1.88		350		350
BC-06	Pedestrian Bridge	5' X 20'	4353.71	4359	5	1.06		630		630
BC-07	1650 West	5' x 16'	4360.5	4367.7	5	1.44		850		850
BC-08	Redwood Road	5x 15'	4362.6	4370.38	5	1.56		800		800
BC-09	Pedestrian Bridge	3' High X 18'	4381.07	4385.9	3	1.61	300	690		690
BC-10	Sugar Factory Road / 8200 South	5' x 16'	4388.5	4396	5	1.50		830		830
BC-11	Pedestrian Bridge	9' High X 32'	4393.84	4402.5	9	0.96	700			700
BC-12	2200 West / South Jordan Canal	4' X 12'	4431.6	4439.7	4	2.02	570	500		570
BC-13	Club Ln.	8' x 11 CMP	4446.4	4452.78	8	0.80		360		360
BC-14	2700 West / Utah & Salt Lake Canal	US: 5' x 12' DS: 5' x 10'	4461.95	4477	5	2.00	780	920		780
BC-15	Apartment Complex near 8600 South	5' X 8'	4473.8	4483.57	5	1.95	520	430		520
BC-16	8600 South / Haun Dr.	5' x 8'	4483.1	4490.1	5	1.40	440	360		440
BC-17	3200 West	US: 5' x 12' DS: 5' x 8'	4523.5	4531.5	5	1.60	650	370		650
BC-18	Pagoda Grove Cir.	5' x 10'	4537.4	4546.27	5	1.77		610		610
BC-19	Utah Lake Distribution Canal	4' X 8'	4553.15	4562	4	2.21	400			400
BC-20	3400 West	5' x 10'	4555.5	4563.3	5	1.56		740		740
BC-21	Jordan Valley Hospital	5' X 10'	4562.25	4571.62	5	1.87	600			600
BC-22	3590 West	5' x 10'	4566.5	4575	5	1.70		1400		1400
BC-23	Bangerter Highway	DS: 7' CMP US: 7' X 13'	4592.8	4602.8	7	1.43		1130		1130
BC-24	Judd Lane / 3710 West	4' x 6' Double	4608	4616	4	2.00		1300		1300
BC-25	4000 West	5 x 10'	4645.1	4657.67	5	2.51		560		560
BC-26	Welby Jacobs Canal	10' x 4.5' Arch	4652.3	4665	10	1.27		1100		1100
BC-27	Laurel Ridge	8' CMP	4667.3	4682.5	8	1.90		2500		2500
BC-28	Private Bridge	5' x 16' Arch	4676.4	4686.5	5	2.02	600			600
BC-29	Skye Drive	4' CMP	4720.822	4737.89	4	2.50		130		130
BC-30	4800 West	10' x 12'	4771.7	4800	10	2.83	2000			2000
BC-31	Dirt Road	4' CMP	4859.23	4875.26	4	2.50	150	220		150
BC-32	Railroad	14.5' CMP	4895.793	4932.79	14.5	2.55		4000		4000
BC-33	Mountain View Corridor Northbound	39' x 100'	4928.01	4965.68	39	0.97		4000		4000
BC-34	Mountain View Corridor Southbound	39' x 100'	4938.34	4963.31	39	0.64		4000		4000
BC-35	Pedestrian Bridge west of Mountain View Corridor	10' High x 66.5'	4936.53	4945.54	10	0.90		3300		3300
BC-36	Bacchus Highway	8' x 6'	5122.138	5130.37	8	1.03		760		760
BC-37	Dirt Access Road	2.67' CMP	5227.92	5240.29	2.67	2.50	70	100		70

# Wood Hollow & Wood Hollow South Structure Calibration

ID	Existing Culvert Size (Diameter)	Hand Method	HW/D or Slope	Estimated Capacity	Model Capacity	
WH-1	60" RCP	Manning's Full Pipe	0.0	200	165	
WH-2	48" RCP	Manning's Full Pipe	N/A	190-450	235	See Pipeline Table for Details
WH-3	42" to 48" RCP	Manning's Full Pipe	N/A	150-545	155 - 235	See Pipeline Table for Details
WH-4	30" to 42" RCP	Manning's Full Pipe	N/A	75-285	85 - 120	See Pipeline Table for Details
WH-5	48" RCP	Inlet Nomograph	1.9	140	140	
WH-6	39" CMP	Inlet Nomograph	1.6	70	70	
WH-7	48" RCP	Inlet Nomograph	5.7	280	280	
WH-8	48" RCP	Inlet Nomograph	14.1	350+	420	
WHS-1	72" RCP	Inlet Nomograph	1.4	250	N/A	
WHS-2	72" RCP	Inlet Nomograph	1.4	250	N/A	
WHS-3	10' x 6' Arch	Not a Restriction	4.2	Not a Restriction	1100	
WHS-4	4' CMP	Inlet Nomograph	3.1	180	170	
WHS-5	27' x 11' Box	Inlet Nomograph	1.3	4180	3980	
WHS-6	2' CMP	Manning's Full Pipe	N/A	55-75	55	See Pipeline Table for Details
WHS-7	2' CMP	Inlet Nomograph	2	30	30	
ULDC-33	5' RCP	Manning's Open Channel	0.00016	190	200	
ULDC-34	14' X 6'	Manning's Open Channel	0.0178	160	165	
ULDC-35	12' X 6'	Manning's Open Channel	0	200	200	
USLC-82	20'X7' Box	Manning's Open Channel	0.00025	800	750	
USLC-83	45' Footbridge	Not a Restriction	0.00025	4000	Not a Restriction	
USLC-85	48' Footbridge	Not a Restriction	0.00025	4000	Not a Restriction	

# Wood Hollow Pipeline Calibration

Structure ID	Link-ID	Length	Diameter (in)	Slope	Manning's	ASSA	Range
WH-5	Link-03	80	48	0.0143	187	80	N/A
	Link-230	131	42	0.0287	185	80	N/A
WH-4	Link-04	326	42	0.0088	103	80	71-286
	Link-28	52	36	0.0098	72	80	
	Link-24	346	30	0.0388	88	80	
	Link-39	342	30	0.0306	78	85	
	Link-38	67	36	0.0377	141	85	
	Link-37	87	36	0.0386	142	85	
	Link-36	276	36	0.0173	95	100	
	Link-35	335	36	0.0287	123	110	
	Link-34	56	36	0.0161	92	120	
	Link-33	79	36	0.1568	287	155	
WH-3	Link-05	215	36	0.0525	166	155	150-548
	Link-06	248	36	0.0613	179	155	
	Link-07	164	42	0.0375	212	155	
	Link-12	166	48	0.0133	180	155	
	Link-13	130	48	0.0096	153	155	
	Link-11	56	48	0.0093	150	155	
	Link-10	111	48	0.0111	164	155	
	Link-09	79	48	0.011	164	160	
	Link-08	57	48	0.0128	177	165	
	Link-15	150	48	0.0231	237	190	
	Link-14	163	48	0.082	447	206	
	Link-20	134	48	0.0387	307	205	
	Link-19	149	48	0.0113	166	205	
	Link-32	60	48	0.02	221	205	
	Link-230	131	42	0.0287	185	80	
	Link-22	92	48	0.0547	365	237	
	Link-21	75	48	0.0616	387	253	
	Link-18	112	48	0.0736	423	276	
Link-17	51	48	0.1236	549	235		
WH-2	Link-16	224	48	0.0148	190	235	189-448
	Link-25	65	48	0.0154	194	235	
	Link-26	198	48	0.0458	334	245	
	Link-27	42	48	0.0828	449	245	
WH-1	Link-31	104	36	0.0896	217	165	216-380
	Link-30	216	36	0.0896	217	165	
	Link-29	51	48	0.0595	381	165	
WHS-6	Link-235	125	24	0.0746	67	45	53-74
	Link-236	181	24	0.0921	75	45	
	Link-237	124	24	0.0477	54	55	

# Beef Hollow Structure Calibration

Station	ID	Culvert or Bridge Location	Invert Elevation	Max		Depth	Width	Length	WH/D	Inlet		Manning's Equation Capacity	Final Capacity (cfs)
				Head Elevation	DS Invert Elevation					Nomograph Capacity (cfs)	HEC-RAS Capacity		
BH-1		Jordan River Parkway & ULDC	4553.8	4562.8	4519	4	N/A	355	2.25	160	160	450.95	160
BH-2		Dirt Road 1	4581.5	4591.5	4575.12	5	N/A	217	2.00	250	260	447.78	260
BH-3		Redwood Road	4760	4768.5	4709.8	3.5	N/A	423.4	2.43	110	115	347.36	115
BH-4		Dirt Road 2	4800.4	4802.36	4800	1.5	N/A	15	1.31	8	8.5	17.20	8.00

# **APPENDIX E**

## **Canal Structure Calibration Tables**

# Utah Lake Distributing Canal Structure Calibration

ID	Culvert or Bridge Location	US X-Section	Culvert Slope	Culvert Size	Max Depth	Energy Slope	L. Side Slope (H:V)	R. Side Slope (H:V)	Bottom Width	Max Flow (man)
ULDC-04	ULDC Pipeline from 7800 South to 7550 South	1000		-		0.00023				See ASSA
ULDC-05	7800 South Dumpout	1090								
ULDC-06	7825 South - Control Structure	1092								
ULDC-07	8070 South	2810	-0.0016	6 x 12	4.6	0.00023	2:1	2:1	8.9	260
ULDC-08	Susan Way	6942	0.0000	5 x 8	7.7	0.00023	0:1	0:1	8	118
ULDC-09	3600 West/Old Bingham Hwy	7430	0.0000	6 x 8	7.6	0.00023	0:1	0:1	8	150
ULDC-10	3400 West	8796	0.0000	5 x 10	7.8	0.00023	2:1	2:1	20.1	160
ULDC-11	Bingham Creek - Dumpout	9195								
ULDC-12	9000 South	10152	0.0014	6 x 10	7.1	0.00023	2:1	2:1	8.6	204
ULDC-13	9400 South - Control Structure	12975								
ULDC-14	9425 South - Control Structure	13261								
ULDC-15	3200 West	13881	-0.0011	5 x 15	5.6	0.00023	1:1	1.5:1	9.4	271
ULDC-16	9600 South - Control Structure	14622								
ULDC-17	Shields Ln	16044	-0.0061	5 x 15	5.5	0.00023	2:1	2:1	8	271
ULDC-18	Wheadon Ln	17501	0.0091	N/A	3.8	0.00023	2:1	2:1	7.5	
ULDC-19	Jordan Parkway/10400 South	20374	0.0026	5 x 14	5.6	0.00023	1.5:1	1:1	12.8	248
ULDC-20	10755 South	22810	0.0000	6 x 12	5.14	0.00023	1:1	3:1	11.2	260
ULDC-21	11000 South - Farm Bridge	23157	0.0157	N/A	3.67	0.00023	2:1	1:1	6.2	
ULDC-22	Jarans Honor Dr	23649	0.0033	6 x 12	6.7	0.00023	1.5:1	2:1	6.57	260
ULDC-23	Alta Peak Road	25947	0.0018	6 x 12	6.3	0.00023	2:1	2:1	9.4	260
ULDC-24	3200 West	27286	-0.0039	7 x 12	7.5	0.00023	2:1	3:1	11	319
ULDC-25	11400 South	27491	0.0009	6 x 12	4.3	0.00023				260
ULDC-26	11800 South	30444	0.0000	4 x 10	4, 5.8	0.00023				118
ULDC-27	Midas Creek - Dumpout	30445								
ULDC-28	12600 South	35990	0.0026	6 x 12	6, 6.8	0.00023				260
ULDC-29	12730 South	36817	0.0000	6 x 9	6, 6	0.00023				176
ULDC-30	13400 South	41370	0.0044	5 x 12	5, 5.7	0.00023				204
ULDC-31	Sanborn Dr	42676	0.0000	6 x 12	6, 7.1	0.00023				260
ULDC-32	Rose Creek - Dumpout	42812								
ULDC-33	Bangerter Hwy	44126	0.0009	5 x 17	5, 5.8	0.00023				317
ULDC-34	13800 South	44258	0.0038	5 x 17	5, 5.10	0.00023				317
ULDC-35	14100 South - Farm Bridge	46471	-0.0046	N/A	4.95	0.00023				
ULDC-36	14400 South	48651	-0.0023	5 x 14	5, 5.3	0.00023				248
ULDC-37	2700 West	51707	0.0000	5 x 12	5, 5	0.00023				204
ULDC-38	14775 South - Control Structure	52059								
ULDC-39	2200 West	54857	0.0027	5 x 12	5, 6.6	0.00023				204
ULDC-40	Redwood Rd	55910	-0.0008	5 x 12	5, 3.2	0.00023				204
ULDC-41	15050 South - Control Structure	57332								
ULDC-42	Iron Horse Blvd	58715	0.0016	60"	8	0.00023	1:1	2:1	10.12	64
ULDC-43	Wood Hollow - Proposed Dumpout Structure	58715								
ULDC-44	15730 South	60989	0.0000	6 x 14	5.9	0.00023	2:1	2:1	9	319
ULDC-45	Porter Rockwell Blvd	62112	0.0022	6 x 12	9.75	0.00023	3:1	2:1	8	260
ULDC-46	Wood Hollow South - Proposed Dumpout Structure	62247								
ULDC-47	16500 South - Farm Bridge	66617	0.0178	N/A	5.7	0.00023	1:1	1:2	11	
ULDC-48	16550 South - Farm Bridge	67399	-0.0168	N/A	5.8	0.00023	1:1	2:1	8.1	

# Utah & Salt Lake Canal Structure Calibration

Structure ID	Manning	Side slope			Wetted						Width	Height	Type	ID	Capacity
		depth	base	m:1	Area	Perimeter	R	Slope	Velocity	Flow					
USLC-01	0.013	5.71	13	0	74.23	24.42	3.04	0.00027	4.0	293	13		Bridge	USLC-01	290
USLC-02	0.013	4	16	0	64	24	2.67	0.00027	3.6	232	16	4		USLC-02	230
USLC-03	0.013	5.3	17	0	90.1	27.6	3.26	0.00027	4.1	373	17	5.3		USLC-03	370
USLC-04	0.013	4.5	16	0	72	25	2.88	0.00027	3.8	274	16	4.5		USLC-04	270
USLC-05	0.013	7	16	0	112	30	3.73	0.00027	4.5	508	16	7	Arch	USLC-05	510
USLC-06	0.013	5	14	0	70	24	2.92	0.00027	3.8	269	14	5		USLC-06	270
USLC-08	0.013	4.81	14.85	1	94.5646	28.454734	3.32	0.00027	4.2	397	23		Bridge	USLC-08	400
USLC-09	0.013	6	20	0	120	32	3.75	0.00027	4.5	545	20	6	Arch	USLC-09	550
USLC-11	0.013	4.8	6	1	51.84	19.57645	2.65	0.00027	3.6	187	20		Bridge	USLC-11	190
USLC-12	0.013	4.8	12.8	1.5	96	30.106646	3.19	0.00027	4.1	392	25		Bridge	USLC-12	390
USLC-14	0.013	4.8	15	1	95.04	28.57645	3.33	0.00027	4.2	399	20		Bridge	USLC-14	400
USLC-15	0.013	6	17.3	1	139.8	34.270563	4.08	0.00027	4.8	672	25		Bridge	USLC-15	670
USLC-16	0.013	5.7	8.7	1.5	98.325	29.251642	3.36	0.00027	4.2	416	18		Bridge	USLC-16	420
USLC-17	0.013	5.2	20	0	104	30.4	3.42	0.00027	4.3	445	20	5.2	Arch	USLC-17	440
USLC-18	0.013	4.5	10.9	2	89.55	31.024612	2.89	0.00027	3.8	342	24		Bridge	USLC-18	340
USLC-19	0.013	6.25	15	1.5	152.3438	37.534695	4.06	0.00027	4.8	730	24		Bridge	USLC-19	730
USLC-20	0.013	4.5	15.5	1.5	100.125	31.724981	3.16	0.00027	4.1	406	24		Bridge	USLC-20	410
USLC-21	0.013	4.5	16.7	1.5	105.525	32.924981	3.21	0.00027	4.1	432	24		Bridge	USLC-21	430
USLC-22	0.013	6.9	10.7	1.5	145.245	35.578304	4.08	0.00027	4.8	699	24		Bridge	USLC-22	700
USLC-23	0.013	6.7	20	1	178.89	38.950462	4.59	0.00027	5.2	931	20		Bridge	USLC-23	930
USLC-25	0.013	4.5	17.1	1	97.2	29.827922	3.26	0.00027	4.1	402	25		Bridge	USLC-25	400
USLC-26	0.013	4.2	16.3	1.33	91.9212	30.27761	3.04	0.00027	3.9	363	22		Bridge	USLC-26	360
USLC-27	0.013	5.3	13.9	2	129.85	37.602321	3.45	0.00027	4.3	559	24		Bridge	USLC-27	560
USLC-28	0.013	4.2	15.2	1	81.48	27.079394	3.01	0.00027	3.9	320	24		Bridge	USLC-28	320
USLC-29	0.013	7	20	0	140	34	4.12	0.00027	4.8	677	20	7		USLC-29	680
USLC-30	0.013	6	26	0	156	38	4.11	0.00027	4.8	753	26	6		USLC-30	750
USLC-31	0.013	5.3	18.3	1	125.08	33.290664	3.76	0.00027	4.6	569	24		Bridge	USLC-31	570
USLC-32	0.013	5.5	26	0	143	37	3.86	0.00027	4.6	663	26	5.5		USLC-32	660
USLC-34	0.013	5	18.2	1.5	128.5	36.227756	3.55	0.00027	4.4	563	22		Bridge	USLC-34	560
USLC-35	0.013	6.33	10	3	183.5067	50.034435	3.67	0.00027	4.5	822	22		Bridge	USLC-35	820
USLC-36	0.013	5.2	9.7	2	104.52	32.955107	3.17	0.00027	4.1	425	22		Bridge	USLC-36	420
USLC-37	0.013	6.3	12	0.5	95.445	26.087228	3.66	0.00027	4.5	427	20		Bridge	USLC-37	430
USLC-39	0.013	5.1	13.3	1	93.84	27.724978	3.38	0.00027	4.2	398	22		Bridge	USLC-39	400
USLC-40	0.013	5.3	12.3	1.33	102.5497	29.938413	3.43	0.00027	4.3	439	24		Bridge	USLC-40	440
USLC-41	0.013	7	18	0	126	32	3.94	0.00027	4.7	592	18	7	Arch	USLC-41	590
USLC-43	0.013	6.5	26	0	169	39	4.33	0.00027	5.0	846	26	6.5		USLC-43	850
USLC-45	0.013	5.7	20	0	114	31.4	3.63	0.00027	4.4	507	20		Bridge	USLC-45	510
USLC-47	0.013	5.4	12.7	1.67	117.2772	33.722305	3.48	0.00027	4.3	507	34		Bridge	USLC-47	510
USLC-49	0.013	8	18	0	144	34	4.24	0.00027	4.9	710	18	8	Arch	USLC-49	710
USLC-50	0.013	4.1	25	1.67	130.5727	40.96138	3.19	0.00027	4.1	533	20		Bridge	USLC-50	530
USLC-51	0.013	5.2	15.25	2	133.38	38.505107	3.46	0.00027	4.3	575	25		Bridge	USLC-51	580
USLC-52	0.013	6.2	18.9	1.33	168.3052	39.533615	4.26	0.00027	4.9	833	20		Bridge	USLC-52	830
USLC-53	0.013	5	16	0	80	26	3.08	0.00027	4.0	319	16	5		USLC-53	320
USLC-56	0.013	7.6	20	0	152	35.2	4.32	0.00027	5.0	759	20	7.6	Arch	USLC-56	760
USLC-57	0.013	6.1	12.2	3	186.05	50.779787	3.66	0.00027	4.5	833	20	7		USLC-57	830
USLC-58	0.013	6.1	15.4	1.3	142.313	35.409488	4.02	0.00027	4.8	678	20		Bridge	USLC-58	680
USLC-59	0.013	7	16.6	1.3	179.9	39.561707	4.55	0.00027	5.2	930	22		Bridge	USLC-59	930
USLC-60	0.013	7	13.9	1	146.3	33.69899	4.34	0.00027	5.0	733	20		Bridge	USLC-60	730



USLC-61	0.013	7.5	18	0	135	33	4.09	0.00027	4.8	650	18	7.5	Arch
USLC-62	0.013	6	20	0	120	32	3.75	0.00027	4.5	545	20	6	
USLC-63	0.013	6.5	19.7	1.3	182.975	41.021585	4.46	0.00027	5.1	934	26		Bridge
USLC-65	0.013	8	24	0	192	40	4.80	0.00027	5.4	1029	24	8	
USLC-66	0.013	8	13.2	1.3	188.8	39.441951	4.79	0.00025	5.1	972	16		Bridge
USLC-67	0.013	7.5	14	1	161.25	35.213203	4.58	0.00025	5.0	806	22		Bridge
USLC-68	0.013	7.2	27	1	246.24	47.364675	5.20	0.00025	5.4	1339	20		Bridge
USLC-70	0.013	7	24	0	168	38	4.42	0.00025	4.9	820	24	7	
USLC-71	0.013	6	22	0	132	34	3.88	0.00025	4.5	591	22	6	
USLC-72	0.013	7	20	0	140	34	4.12	0.00025	4.7	652	20	7	
USLC-74	0.013	7.75	20	0	155	35.5	4.37	0.00025	4.8	750	20	7.75	
USLC-75	0.013	8.5	23	0	195.5	40	4.89	0.00025	5.2	1020	23	8.5	
USLC-76	0.013	7.5	20	1.3	223.125	44.601829	5.00	0.00025	5.3	1183	20		Bridge
USLC-77	0.013	7	20	0	140	34	4.12	0.00025	4.7	652	20	7	
USLC-78	0.013	10.9	24	1	380.41	54.829856	6.94	0.00025	6.6	2508	60		Bridge
USLC-79	0.013	7	20	0	140	34	4.12	0.00025	4.7	652	20	7	
USLC-80	0.013	10	60	0	600	80	7.50	0.00025	6.9	4166			Bridge
USLC-81	0.013	10	60	0	600	80	7.50	0.00025	6.9	4166			Bridge

USLC-61	650
USLC-62	550
USLC-63	930
USLC-65	1030
USLC-66	970
USLC-67	810
USLC-68	1340
USLC-70	820
USLC-71	590
USLC-72	650
USLC-74	750
USLC-75	1020
USLC-76	1180
USLC-77	650
USLC-78	2510
USLC-79	650
USLC-80	4170
USLC-81	4170

# South Jordan Canal Structure Calibration

ID	Structure Location	Structure Type	Existing Structure Size (Span ft x Rise ft)	Estimated Culvert Capacity (cfs)
SJC-001	3900 West	Bridge	8' x 5'	130
SJC-002	Bangerter Highway (3800 West)	Culvert	6' x 4'	65
SJC-003	3600 West	Bridge	5' x 2.5'	35
SJC-004	4700 South	Bridge	20' x 5'	425
SJC-005	4700 South - Dumpout	Dumpout	12' Weir	135
SJC-006	3250 West	Bridge	8' x 3'	65
SJC-007	3200 West	Bridge	12' x 4'	165
SJC-008	3145 West	Bridge	10' x 2.5'	70
SJC-009	3100 West	Bridge	11' x 3'	100
SJC-010	4960 South	Bridge	12' x 3'	115
SJC-011	4965 South	Bridge	10' x 4'	80
SJC-012	4970 South	Bridge	8' x 3.3'	75
SJC-013	4980 South	Bridge	10' x 3.5'	110
SJC-014	W Bigarade Ln.	Bridge	12' x 2.5'	85
SJC-015	5080 South	Bridge	13.5' x 4'	190
SJC-016	5090 South	Bridge	10' x 3.3'	60
SJC-017	5100 South	Bridge	12' x 2.5'	50
SJC-018	5245 South	Bridge	13' x 4'	115
SJC-019	5300 South	Bridge	12.6' x 4'	110
SJC-020	Jordan Canal Rd./ 5319 South	Bridge	11' x 4'	90
SJC-021	5350 South	Bridge	10' x 5'	110
SJC-022	2700 West / 5400 South	Culvert	10' x 4'	135
SJC-023	By Marsha Brooks Circle	Bridge	17.41' x 5'	225
SJC-024	5400 South - Dumpout	Dumpout	10' Weir	175
SJC-025	5505 S 2750 West	Bridge	11' x 2.5'	105
SJC-026	5629 S 2750 West	Bridge	11' x 4'	150
SJC-027	5644 S 2005 West	Bridge	11' x 4'	90
SJC-028	5646 S 2005 West	Bridge	11' x 4'	150
SJC-029	5650 S 2005 West	Bridge	12' x 4'	165
SJC-030	5691 S 2005 West	Bridge	15.5' x 3'	115

SJC-031	5723 S Jordan Canal Road	Bridge	20' x 4'	190
SJC-032	Player Ridge Cir.	Bridge	10.7' x 3.3'	110
SJC-033	Angle Ln.	Bridge	12' x 2.5'	85
SJC-034	5824 S 2005 West	Bridge	12' x 2.5'	85
SJC-035	5834 S 2005 West	Bridge	13' x 2.5'	95
SJC-036	5860 S 2005 West	Bridge	16' x 3'	95
SJC-037	5873 S 2005 West	Bridge	17.2' x 4'	160
SJC-038	Farm Ridge Rd.	Bridge	13.5' x 3.5'	160
SJC-039	5924 S 2005 West	Bridge	13' x 3.2'	135
SJC-040	5947 S 2005 West	Bridge	12.5' x 3.3'	75
SJC-041	5976 S 2005 West	Bridge	13' x 3.7'	100
SJC-042	Canal Ridge	Bridge	12' x 3'	70
SJC-043	5990 S 2005 West	Bridge	12' x 3.1'	115
SJC-044	5992 S 2005 West	Bridge	13' x 3'	75
SJC-045	6024 S Jordan Canal Road	Bridge	12' x 4.3'	115
SJC-046	6026 S Jordan Canal Road	Bridge	11' x 3.3'	70
SJC-047	6028 S Jordan Canal Road	Bridge	11' x 4.7'	115
SJC-048	6030 S Jordan Canal Road	Culvert	13' x 6'	320
SJC-049	6032 S Jordan Canal Road	Bridge	14' x 4.7'	155
SJC-050	Labrum Park Ln./ 6150 South	Bridge	14' x 6'	220
SJC-051	Jordan Canal Road	Bridge	12' x 5'	140
SJC-052	6000 South	Bridge	12.6' x 5'	150
SJC-053	Bennion Boulevard / 6200 South	Culvert	12' x 4.5'	220
SJC-054	6296 South	Culvert	12' x 6'	300
SJC-055	Redwood Road	Bridge	12' x 3'	115
SJC-056	Redwood Road/ 6670 South	Bridge	14' x 4.5'	245
SJC-057	1780 W 6670 South	Bridge	12.3' x 3.5'	90
SJC-058	1830 W 6670 South	Bridge	13.2' x 4'	115
SJC-059	1895 W 6670 South	Bridge	12.3' x 4'	105
SJC-060	1905 W 6670 South	Bridge	13' x 4'	115
SJC-061	1900 West	Bridge	13' x 4.5'	135
SJC-062	by 24993	Bridge	10' x 3'	90
SJC-063	2200 West	Bridge	16' x 3.5'	120
SJC-064	7000 South	Culvert	15' x 4'	225

SJC-065	7000 South - Dumpout	Dumpout	16' Weir	360
SJC-066	7110 South	Bridge	16' x 4'	145
SJC-067	7200 South	Bridge	15' x 4'	135
SJC-068	Harvest Ln./ 7305 South	Bridge	18' x 3.5'	140
SJC-069	7310 South	Bridge	14' x 3.5'	100
SJC-070	7360 South	Bridge	18' x 3.3'	110
SJC-071	7390 South	Bridge	15' x 3'	90
SJC-072	7395 South	Bridge	15' x 3'	90
SJC-073	7400 South	Bridge	15' x 3'	90
SJC-074	7410 South	Bridge	15' x 3.5'	110
SJC-075	7500 South	Culvert	16' Wide Arch	110
SJC-076	7510 South	Bridge	13.5' x 3.5'	80
SJC-077	7560 South	Bridge	14' x 3.5'	100
SJC-078	By 7560 South	Bridge	16' x 3.7'	130
SJC-079	7600 South	Bridge	18' x 4'	170
SJC-080	7640 South	Bridge	14' x 4'	125
SJC-081	7680 South	Bridge	18' x 3.5'	140
SJC-082	7800 South - Dumpout	Dumpout	28' Weir	1030
SJC-083	7800 South	Bridge	16' x 3.5'	120
SJC-084	Bueno Vista Dr. / 8070 South	Bridge	18' x 4'	170
SJC-085	8120 South	Bridge	14' x 4'	125
SJC-086	Pauline Way / 8190 South	Bridge	14' x 4'	125
SJC-087	UTA Trax Red Line	Culvert	11' x 4'	155
SJC-088	Sugar Factory Rd./ 2200 West	Culvert	11' x 4'	155
SJC-089	Bingham Creek - Dumpout	Dumpout	14' Weir	145
SJC-090	Gardner Ln./ 8660 South	Bridge	17' x 4'	160
SJC-091	9000 South	Bridge	20' x 4'	190
SJC-092	Willow Cove Apartments	Bridge	18' x 4.5'	200
SJC-093	Redwood Rd. / Brigadoon Park Dr.	Bridge	18' x 5'	230
SJC-094	Kodiak Creek Ct. / 9635 South	Bridge	15' x 5'	185
SJC-095	9800 South	Bridge	13' x 5'	250
SJC-096	Reunion Avenue/ 10000 South	Bridge	14' x 5'	170
SJC-097	10075 South - Wood Bridge	Bridge	19' x 4'	180
SJC-098	Wheadon Glenn Cv.	Bridge	12' x 5'	140

SJC-099	1300 West	Bridge	16' x 6 1/2' CMP to 12' x 4'	260
SJC-100	Holt Farm Lane	Bridge	14' x 6'	220
SJC-101	1299 West	Bridge	14' x 8.5'	345
SJC-102	By 10400 South	Bridge	11' x 5'	125
SJC-103	South Jordan Parkway	Bridge	14' x 6'	220
SJC-104	10400 South - Dumpout	Dumpout	10' Weir	410
SJC-105	1300 West	Culvert	16' x 6.4'	475
SJC-106	10775 South	Culvert	14' x 6'	365
SJC-107	11025 South - Foot Bridge	Bridge	19' x 6'	320
SJC-108	11400 South	Culvert	18' x 4'	280
SJC-109	Midas Creek - Dumpout	Dumpout	15' Weir	170
SJC-110	12040 South	Culvert	14' x 6'	365
SJC-111	12600 South	Bridge	16' x 6'	260
SJC-112	12800 South - Control Structure	Control Structure	N/A	N/A
SJC-113	12800 South	Bridge	17' X 4'	160
SJC-114	13034 South	Bridge	17' X 4'	160
SJC-115	13200 South	Bridge	17' X 7'	345
SJC-116	1300 West	Bridge	20' X 5.5'	305
SJC-117	1300 West	Bridge	18' X 5'	235
SJC-118	Bangerter Highway (13800 South)	Bridge	11' X 6.5'	175
SJC-119	13970 South / Marketview Dr.	Culvert	13' X 6'	330
SJC-120	Rose Creek - Dumpout	Dumpout	15' Weir	290
SJC-121	14400 South	Culvert	14' X 6.5'	405
SJC-122	By 14600 South	Bridge	18' X 4.4'	180
SJC-123	14600 South	Culvert	12' X 6'	300
SJC-124	14725 South - 1690 West	Bridge	18' X 6'	300
SJC-125	14775 South - 1690 West	Bridge	17' X 6'	280
SJC-126	14825 South - 1690 West	Bridge	18' X 4'	170
SJC-127	15000 South - 1690 West	Bridge	20' X 4'	190
SJC-128	15025 South - 1690 West	Bridge	16.5' X 5.5'	240
SJC-129	Rock Hollow Dr.	Culvert	14' X 6'	365
SJC-130	By Cowboy Circle	Bridge	22.5' X 4'	220
SJC-131	Iron Horse Boulevard	Culvert	14' X 6'	365
SJC-132	Broad Crested Weir	Control Structure	N/A	N/A

SJC-133	Railroad	Culvert	18' X 13'	800
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# North Jordan Canal Structure Calibration

ID	Structure Type	Existing Culvert Size	Approximate slope (ft/ft)	Depth (ft)	Base (ft)	Side Slope (m:1)	Area (ft <sup>2</sup> )	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Velocity (fps)	Estimated Capacity (cfs)	Estimated Capacity Round (cfs)
NJC-01	Culvert	5' Pipe	0.00463	5			19.63	78.54	0.25	3.09	60.77	90.00
NJC-02	Culvert	3.5' Pipe	0.00839	3.5			9.62	38.48	0.25	4.17	40.08	90.00
NJC-03	Dumpout											N/A
NJC-04	Bridge	11.5' Span	0.0024	2.4	7.1		17.04	11.90	1.431932773	7.13	121.55	120.00
NJC-05	Bridge	12' Span	0.00035	3.2	12		38.40	18.40	2.086956522	3.50	134.47	135.00
NJC-06	Dumpout											N/A
NJC-07	Dumpout											N/A
NJC-08	Bridge	28' Span	0.00035	3	10	3	57.00	28.97	1.967303691	3.37	191.90	190.00
NJC-09	Dumpout											N/A
NJC-10	Dumpout											N/A
NJC-11	Bridge	18' Span	0.00035	4.1	14.3	1	75.44	25.90	2.913129219	4.37	329.95	330.00
NJC-12	Bridge	20' Span	0.00035	5.6	9	1	81.76	24.84	3.291572461	4.74	387.93	390.00
NJC-13	Bridge	22' Span	0.00035	5.6	8.3	2	109.20	33.34	3.274955812	4.73	516.38	515.00
NJC-14	Culvert	9' X 6' Box	0.00035	6	9		54.00	21.00	2.571428571	4.02	217.33	220.00
NJC-15	Dumpout											N/A
NJC-16	Bridge	18' Span	0.00035	4.7	17	0	79.90	26.40	3.026515152	4.49	358.47	360.00
NJC-17	Bridge	12.8' X 6.2' Arch	0.00035	6.2	12.8	-1	40.92	30.34	1.34888137	2.62	107.12	140.00
NJC-18	Bridge	15' Span	0.00035	5	5	2	75.00	27.36	2.741159964	4.20	314.99	315.00
NJC-19	Bridge	28' Span	0.00045	4	7.7	1	46.80	19.01	2.461382008	4.43	207.43	210.00
NJC-20	Bridge	30' Span	0.00045	4.4	10.3	2	84.04	29.98	2.80344543	4.83	406.25	405.00
NJC-21	Bridge	28.5' Span	0.00045	3.3	9.3	2	52.47	24.06	2.18097489	4.09	214.55	215.00
NJC-22	Bridge	17' Span	0.00045	4.6	5	2	65.32	25.57	2.554373769	4.54	296.77	300.00
NJC-23	Bridge	18' Span	0.00045	3.5	7.3	1.5	43.93	19.92	2.205133439	4.12	180.93	180.00
NJC-24	Bridge	19' Span	0.00045	4.6	9.7	2	86.94	30.27	2.871977453	4.91	427.09	430.00
NJC-25	Bridge	24' Span	0.00045	4.4	5.1	2	61.16	24.78	2.468378621	4.44	271.60	270.00
NJC-26	Dumpout		0.00045									N/A
NJC-27	Bridge	28' Span	0.00045	5.2	3.3	3	98.28	36.19	2.715840838	4.73	465.14	470.00
NJC-28	Bridge	13.5' Span	0.00045	4.4	13.5	0	59.40	22.30	2.66367713	4.67	277.52	280.00
NJC-29	Bridge	50' Span	0.00045								Not a Restricti	Not a Restriction
NJC-30	Bridge	54' Span	0.00045								Not a Restricti	Not a Restriction
NJC-31	Bridge	21' X 8' Arch	0.00045	8	21	-1	104.00	43.63	2.383822082	4.34	451.23	450.00
NJC-32	Bridge	22' Span	0.00045	5.6	11	1	92.96	26.84	3.463591615	5.57	517.40	520.00
NJC-33	Culvert	18' X 6' Box	0.00045	18	6		108.00	42.00	2.571428571	4.56	492.86	495.00
NJC-34	Dumpout		0.00045									N/A
NJC-35	Culvert	12' X 6' Box	0.00045	12	6		72.00	30.00	2.4	4.36	313.80	315.00
NJC-36	Dumpout		0.00045									N/A
NJC-37	Bridge	21' Span	0.00045	3	20	1	69.00	28.49	2.422303613	4.39	302.59	305.00
NJC-38	Bridge	32' Span	0.00045	3.5	20	1.5	88.38	32.62	2.709274854	4.73	417.59	420.00
NJC-39	Bridge	24' Span	0.00045	5	5	2	75.00	27.36	2.741159964	4.76	357.16	360.00
NJC-40	Bridge	46' Span	0.00045								Not a Restricti	Not a Restriction
NJC-41	Bridge	19.4' X 6.2' Arch	0.00045	6.2	19.4	-1	81.84	36.94	2.215709609	4.13	338.19	340.00
NJC-42	Bridge	25' Span	0.00045	3.5	8.5	1.5	48.13	21.12	2.27870739	4.21	202.62	205.00
NJC-43	Culvert	9' X 5' Box	0.00045	5	9		45.00	19.00	2.368421053	4.32	194.40	195.00
NJC-44	Culvert	25' X 4' Box	0.00045	4	25		100.00	33.00	3.03030303	5.09	509.14	510.00
NJC-45	Dumpout		0.00045									N/A
NJC-46	Bridge	15.7' Span	0.00045	6	15.7	0	94.20	27.70	3.400722022	5.50	517.94	520.00
NJC-47	Bridge	37' Span	0.00045								Not a Restricti	Not a Restriction

NJC-48	Dumpout		0.00045									N/A
NJC-49	Bridge	20' Span	0.00045	5	20	0	100.00	30.00	3.333333333	5.43	542.54	545.00
NJC-50	Bridge	13.3' Span	0.00045	4.5	13.3		59.85	22.30	2.683856502	4.70	281.03	280.00
NJC-51	Bridge	20' Span	0.00045	4.3	11.6	1.5	77.62	27.10	2.863613152	4.90	380.54	380.00
NJC-52	Dumpout		0.00045									N/A
NJC-53	Culvert	20' X 7.7' Arch	0.00045	7.7	20	-1	94.71	41.78	2.266934392	4.20	397.38	400.00
NJC-54	Bridge	22' Span	0.00045	3.5	9.5	2	57.75	25.15	2.295996639	4.23	244.37	245.00
NJC-55	Bridge	35.5' Span	0.00045	4.6	3.5	3	79.58	32.59	2.441631981	4.41	350.84	350.00
NJC-56	Bridge	34' Span	0.00045	4.8	7	2	79.68	28.47	2.799103948	4.83	384.78	385.00
NJC-57	Bridge	38' Span	0.00045	7.5	6	1	101.25	27.21	3.720620405	5.84	591.09	590.00
NJC-58	Bridge	37' Span	0.00045	5.9	11.7	2	138.65	38.09	3.640483338	5.75	797.77	800.00
NJC-59	Bridge	36' Span	0.00045								Not a Restricti	Not a Restriction
NJC-60	Bridge	20' Span	0.00045	6.25	20		125.00	32.50	3.846153846	5.97	746.07	745.00
NJC-61	Bridge	38' Span	0.00045								Not a Restricti	Not a Restriction



**APPENDIX F**  
**Barneys Creek Memo**

# TECHNICAL MEMORANDUM

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**TO:** Tamaran Woodland, P.E.  
Salt Lake County Engineering  
Flood Control Division  
2001 South State Street, N3100  
Salt Lake City, Utah 84114

**COPIES:** File

**FROM:** Kameron Ballentine, P.E., and Craig Bagley, P.E.  
Bowen Collins & Associates  
154 East 14075 South  
Draper, Utah 84020

**DATE:** December 14, 2021

**SUBJECT:** Barneys Creek

**JOB NO.:** 022-18-02

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## SECTION 1 INTRODUCTION

Salt Lake County (SLCo) retained Bowen Collins and Associates (BC&A) to complete an update to the Southwest Canal and Creek Study. The reach of Barneys Creek that extends from a point on the east face of the Oquirrh Mountains on land owned by Kennecott Mining Company to a storm water detention facility located at the South Valley Regional Airport is included with that study. There is currently significant development pressure in the Barneys Creek drainage area. Work was performed as part of the Southwest Canal and Creek Study Update to estimate the existing conveyance capacity of the study reach of Barneys Creek, how much of that capacity is currently being utilized during a 100-year design storm, and how much capacity is available for future development. West Jordan City is in the process of updating their City-wide storm drain master plan and has requested that information from the Southwest Canal and Creek Study Update be provided to them for use in their master planning efforts. The purpose of this Technical Memorandum is to summarize the analyses, results, and alternatives associated with Barneys Creek to allow West Jordan City to provide review comments before the Southwest Canal and Creek Study is completed.

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## SECTION 2 BARNEYS CREEK EXISTING CONDITIONS

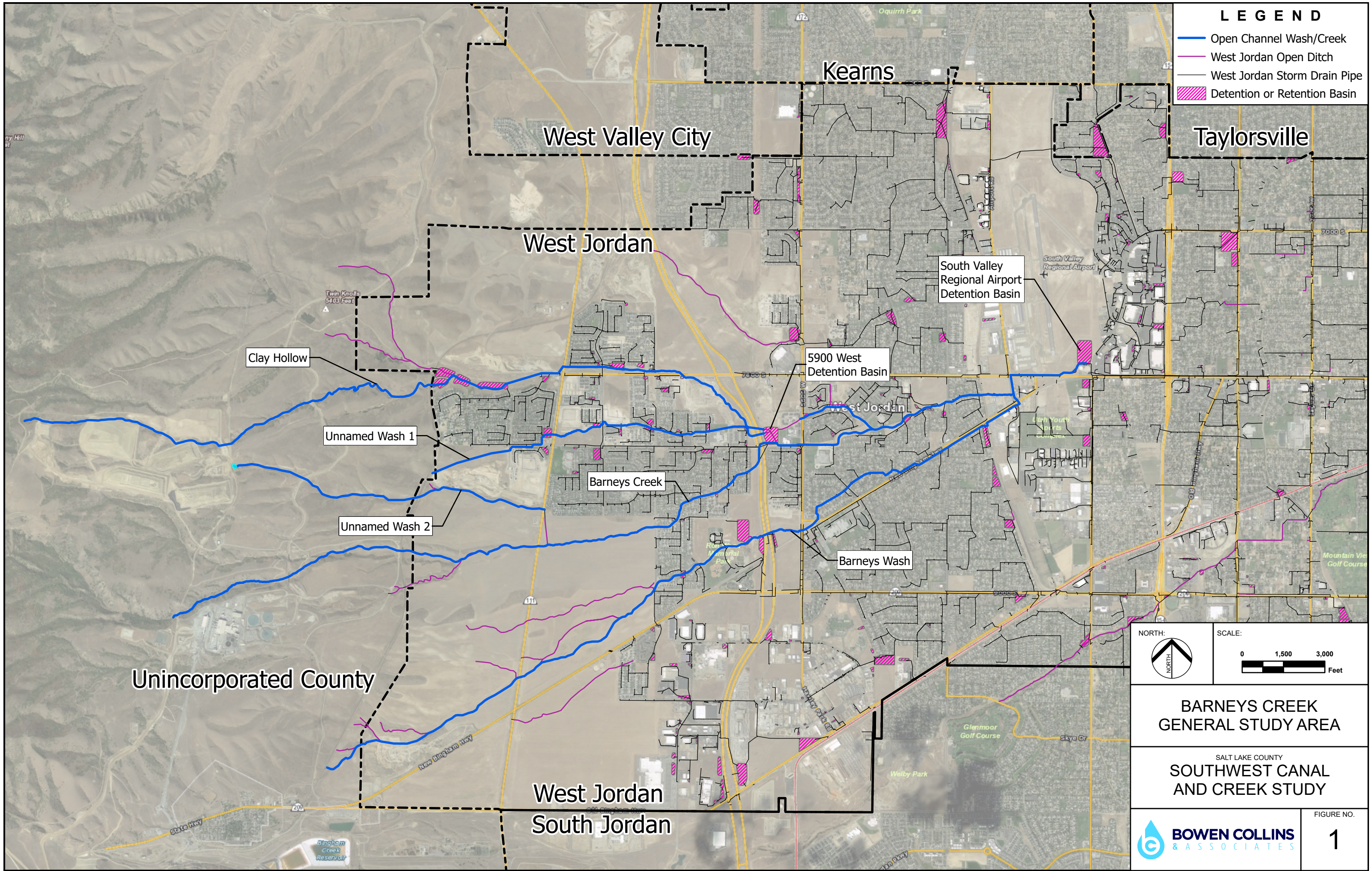
The drainage area for Barneys Creek is approximately 16.0 square miles at the detention basin east of the Mountain View Corridor at approximately 5900 West and 8200 South (5900 West Detention Basin) and 22.2 square miles at the South Valley Regional Airport Detention Basin located at approximately 4000 West 7700 South. The Barneys Creek Drainage area includes Clay Hollow, Barneys Wash and two unnamed washes shown on Figure 1. Runoff from the two unnamed washes, Clay Hollow and Barneys Creek combine in a detention basin at 5900 West. The Barneys Creek drainage area east of State Road 111 (SR-111 or Bacchus Highway) is located in West Jordan City and is mostly developed, with developed areas reportedly detaining peak storm water discharges to 0.2 cfs per acre (cfs/ac) for the 100-year design storm. Most of the area west of Bacchus Highway is undeveloped, though large portions of the area west of Bacchus Highway are in the process of being developed or are planned for development. Discharge rates for the undeveloped areas in the Barneys Creek drainage are estimated to be 0.02 cfs/ac during the 100-year design storm as described in the following sections. Figure 1 shows a map of the study area.

### **Pre-development Discharge Rates**

The challenge with utilizing a rainfall-runoff computer model to estimate runoff in an ungaged watershed like that of Barneys Creek is determining how to calibrate the model or determining if the model results are reasonable or accurate. FEMA has published Guidelines and Specifications for how to perform a hydrologic study in an ungaged watershed. FEMA stipulates that on streams with limited or no stream gage data, runoff estimates should be computed using regional regression equations that are based on actual stream gage records. If no reliable regression equations are available, a computerized hydrologic model of an ungaged watershed can be used to estimate runoff for a design storm event. The Barneys Creek analysis calibrated the hydrologic model to the peak discharges associated with the regional regression equations published by the USGS. The hydrologic model was calibrated to approximately match discharge estimates from the current regression equation analysis (published in 2008) published by the USGS. This issue is discussed in more detail below.

### **Regional Regression Equations**

The USGS regional regression equations have been developed to estimate peak runoff values for discharges with specified return intervals in natural, undeveloped areas on ungaged streams. When using a regression equation to estimate a peak discharge associated with a specific return interval, one of the required input parameters is the total drainage area at the point on the channel where the discharge value is desired to be computed. One of the key locations in the area where a 100-year discharge estimate was desired is where Barneys Creek crosses under Bacchus Highway. This location was selected because it is upstream of most development and most of the watershed upstream of this point is undeveloped land. It is important to note that Clay Hollow and the Unnamed Wash north of Barneys Creek were not included in the regional regression equation analysis upstream of Bacchus Highway because there is more development in those drainage areas. Though if those areas were



**LEGEND**

- Open Channel Wash/Creek
- West Jordan Open Ditch
- West Jordan Storm Drain Pipe
- Detention or Retention Basin

**NORTH:** [North Arrow]

**SCALE:** 0 1,500 3,000 Feet

**BARNEYS CREEK  
GENERAL STUDY AREA**

SALT LAKE COUNTY  
**SOUTHWEST CANAL  
AND CREEK STUDY**

**BOWEN COLLINS  
& ASSOCIATES**

FIGURE NO. **1**

undeveloped and were included in the regional regression equation, they would produce similar unit discharge rates.

The USGS StreamStats online computer program is the current standard regional regression equation for estimating peak flow rates on ungaged streams and rivers. The USGS regression equation associated with estimating the magnitude of a 100-year flood in the Barneys Creek drainage area is:

$$PK100 = 6.92 DRNAREA^{0.613} 1.06^{PRECIP}$$

Where: PK100 = peak discharge associated with the 100-year flood

DRNAREA = drainage area associate with a point in the watershed (in square miles)

PRECIP = mean annual precipitation of the drainage basin (in inches).

StreamStats has some online GIS applications integral with the program that were used to estimate key physical and hydrologic drainage basin parameters and runoff values for the watershed that is tributary to the Barneys Creek crossing at Bacchus Highway. A summary of the StreamStats Analysis is included in Appendix A. The results of the analysis are summarized in Table 1.

**Table 1**  
**Summary of StreamStats Analysis for Barneys Creek Crossing at Bacchus Highway**

Description	Value
Drainage Area	6.62 Square Miles
Mean Basin Elevation	6530 Feet
Basin-wide Mean Annual Precipitation	21.6 Inches
Range of Acceptable Drainage Areas	Min: 2.14 Square Miles – Max: 84.1 Square Miles
Range of Acceptable Annual Precipitation Depths	Min: 16.5 Inches – Max: 53.7 inches
Peak 100-year Discharge	73 cfs
Average Unit Discharge	0.017 cfs/ac
Standard Deviation	50%
Upper Confidence Limit	109.5 cfs
Lower Confidence Limit	36.5 cfs

As can be seen from Table 1, the drainage area and mean annual precipitation depth at Bacchus Highway on Barneys Creek are within the acceptable range of values to allow use of the USGS StreamStats equation. The peak 100-year discharge of 73 cfs results in a unit discharge of 0.017 cfs/acre with average standard error of about 50 percent. The upper confidence limit flow rate would be 109.5 cfs for the 100-year peak discharge, with a unit discharge rate of 0.026 cfs/ac.

### Barneys Creek Hydrologic Model

Autodesk Storm and Sanitary Analysis (ASSA) was the modeling software used to estimate the 100-year flow rate in Barneys Creek. ASSA uses the United States Army Corps of Engineers HEC-HMS hydrologic engine based on SCS Curve Number methodology to compute runoff for each subbasin. This method requires lag time, CN value, percent

impervious, and area for each subbasin as hydrologic input parameters. Those parameters were developed using the same method as the Southwest Canal and Creek Study.

An existing model was developed. The model included storm drain pipes and multiple regional and local storm water detention facilities. West Jordan City provided as-built drawings or design reports for the existing regional detention facilities. For smaller detention basins or where as-built drawings or design reports were not available, the general assumption was made that detention basins stored enough water to limit the peak design storm discharge to 0.2 cfs/acre, the rate that has been required historically by City and County ordinances for developed land in the study area.

**Model Results at Bacchus Hwy**

The Barneys Creek hydrologic model results were compared to the StreamStats estimated flow rates and are identified in Table 2.

**Table 2  
Runoff Value for Barneys Creek at Bacchus Highway (cfs)**

<b>Runoff Computation Method</b>	<b>Average Runoff</b>	<b>Upper Confidence Limit</b>	<b>Lower Confidence Limit</b>	<b>ASSA Model Peak Runoff Estimate</b>
<b>StreamStats</b>	73	109.5	36.5	-
<b>ASSA Model</b>	-	-	-	81

As can be seen from Table 2, the results from the model are within the confidence limits of the StreamStats equation. The estimated unit discharge rate from the ASSA model at Bacchus Highway was estimated to be 0.02 cfs/acre (81 cfs from 6.62 sq miles). That estimate is just above the average runoff rate from the StreamStats equation and was considered to be reasonable.

**Historic Aerial Photos**

As part of the calibration process, historic aerial photographs of upper portions of the Barneys Creek drainage areas were also reviewed. Multiple aerial photographs of the Barneys Creek area that shows that well-defined channels did not exist at that time and that portions of the ephemeral channel were filled in and farmed over. This generally supports the design storm runoff values estimated by StreamStats and ASSA. One of the historic aerial photos from 1940 is included in Appendix B.

**Model Results Downstream of 5900 West**

With the hydrologic model calibrated, 100-yr flow rates for the remainder of Barneys Creek were estimated. A HEC-RAS model was developed to estimate the capacity of the channel, culverts and structures. The HEC-RAS model was developed utilizing topographic data, survey data of channel cross sections and hydraulic structures, and aerial photographs. Version 5.0.1 of the HEC-RAS computer program developed by the United States Army Corps of Engineers was used to perform the hydraulic modeling for this study.

Results from the HEC-RAS hydraulic models were used to estimate the capacity of the channel and culverts. The hydraulic analysis focused on the 100-year flow rate.

The hydrologic and hydraulic analyses ended upstream of the South Valley Regional Airport. The pipelines east of Airport Road (approximately 4500 West) and the regional detention basin at the South Valley Regional Airport, both owned and maintained by West Jordan City, were not included in the model because those facilities could not be accessed to survey for field verification. Additionally, the storm drain facilities downstream of the detention basin in the South Valley Regional Airport are owned and maintained by West Jordan City. The scope for the Southwest Canal and Creek study did not include a detailed analysis of storm drain management facilities owned by West Jordan City.

Table 3 summarizes the computed peak flow rates and capacities for the culverts, and storm drain pipeline for the reach of Barneys Creek between the detention facilities at 5900 West and at the South Valley Regional Airport based on existing development conditions model results. Figure 2 identifies the locations of the Barneys Creek facilities referenced in Table 3. Table 3 also summarizes the results from the projected future development conditions model that are described in the next section of this Technical Memorandum.

As can be seen from Table 3, there are 3 existing culverts between the 5900 West Detention Basin and the South Valley Regional Airport Detention Basin that do not have adequate capacity to convey the peak 100-year discharge associated with existing development conditions. Those three culverts are adjacent to houses or other developments. The flooding from those culverts has the potential to damage properties in the area.

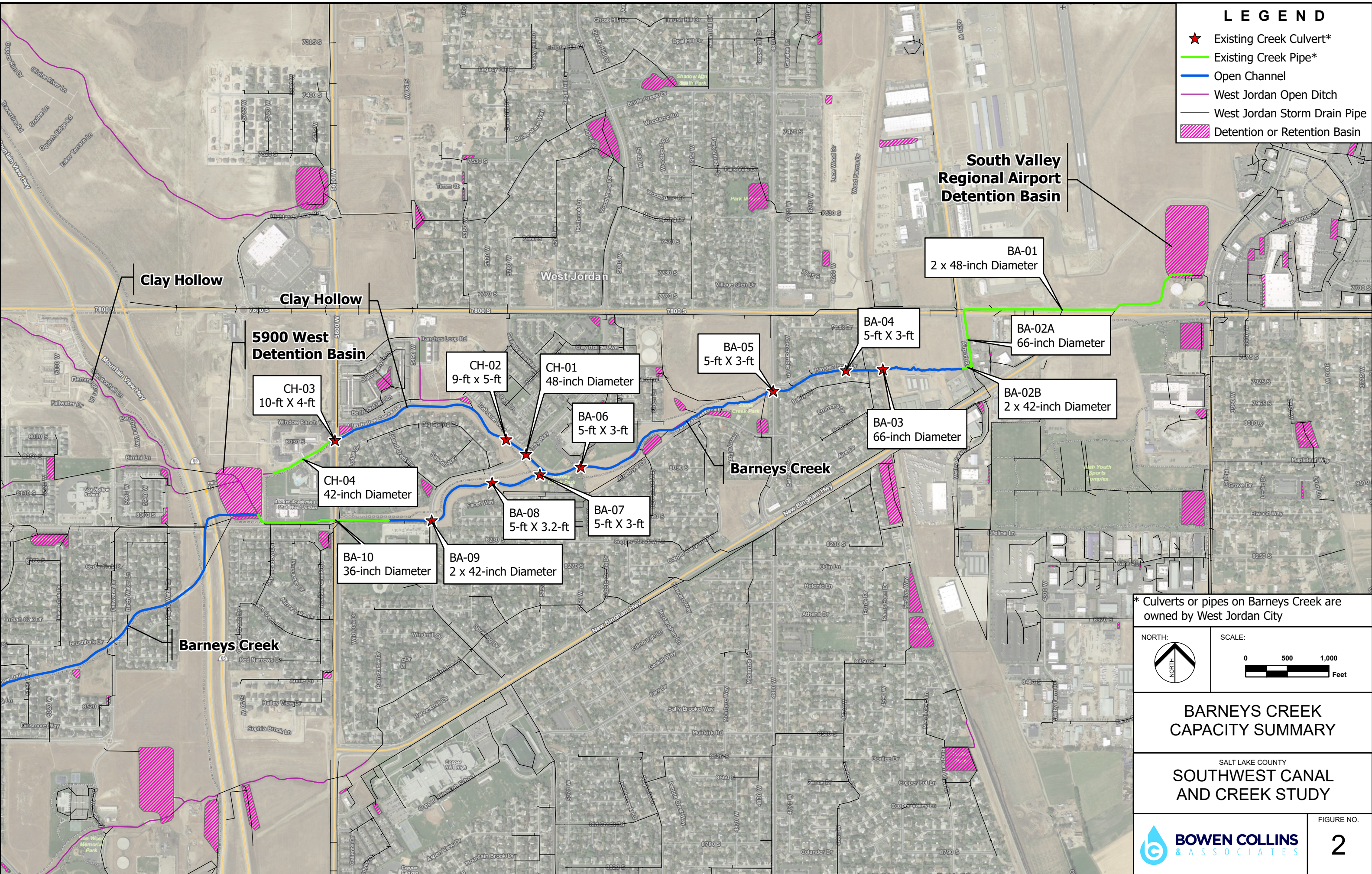
The estimated capacity of the 66-inch pipe between Airport Road and 7800 South is a little lower than the estimated peak 100-year flow rate. However, the 66-inch pipe is not identified as having a significant capacity deficiency on Table 3. Flooding in these locations caused by the minor capacity deficiency is likely to only impact the road and parking lots in the area.

The existing facilities on Barneys Creek that are not deficient in capacity for existing development conditions do not have much available capacity for additional runoff in the future.

Additionally, the large regional 5900 West Detention Basin has little capacity for future development that is projected to occur west of the Mountain View Corridor. In the existing conditions model, the detention basin has approximately 1.6 feet of freeboard during the 100-year storm event before water flows over the spillway. It was originally designed to have 1.0 feet of freeboard in the future conditions (full build-out) model.

**LEGEND**

- ★ Existing Creek Culvert\*
- Existing Creek Pipe\*
- Open Channel
- West Jordan Open Ditch
- West Jordan Storm Drain Pipe
- Detention or Retention Basin



\* Culverts or pipes on Barneys Creek are owned by West Jordan City

NORTH:

SCALE:

**BARNEYS CREEK  
CAPACITY SUMMARY**

SALT LAKE COUNTY  
**SOUTHWEST CANAL  
AND CREEK STUDY**





**Table 3**  
**Summary of Existing Capacity and Model Results between the 5900 West Detention Basin and South Valley**  
**Regional Airport Detention Basin on Barneys Creek**

Drainage Facility (ID)	Pipe or Culvert Location	Areal Reduction Factor (ARF)	Existing Culvert or Pipe Size	Estimated Hydraulic Capacity (cfs) <sup>2</sup>	FEMA Flow Rate (cfs)	Existing Conditions Flow Rate (cfs)	Future Build-Out Condition Flow Rate - 0.2 cfs/ac (cfs)	Future Build-Out Condition Flow Rate - 0.02 cfs/ac (cfs)
BA-01	7800 South to Airport Detention Basin	0.75	2 x 48-inch Diameter	390		320	580	325
BA-02A	Airport Rd. to 7800 South	0.80	66-inch Diameter	220		250	600 <sup>4</sup>	310 <sup>4</sup>
BA-02B	Airport Rd.	0.80	2 x 42-inch Diameter	185		155	290 <sup>4</sup>	215 <sup>4</sup>
BA-03	Railroad Crossing (4600 West)	0.85	66-inch Diameter	290	160	155	290 <sup>4</sup>	215 <sup>4</sup>
BA-04 <sup>1</sup>	4660 West	0.85	5-ft X 3-ft	135		155	290 <sup>4</sup>	215 <sup>4</sup>
BA-05 <sup>1</sup>	4800 West	0.85	5-ft X 3-ft	100		155	290 <sup>4</sup>	215 <sup>4</sup>
BA-06 <sup>1,3</sup>	Barneys Creek Trail #1 (5200 West)	0.85	5-ft X 3-ft	65		125	285 <sup>4</sup>	205 <sup>4</sup>
BA-07	Barneys Creek Trail #2 (5100 West)	0.85	5-ft X 3-ft	80		75	75	75
BA-08	Amethyst Drive (5420 West)	0.85	5-ft x 3-ft	100		75	75	75
BA-09	Grizzly Way (5300 West)	0.85	2 x 42-inch Diameter	180		40	40	40
BA-10	5600 West	0.85	36-inch Diameter	140	10	10	10	10
CH-01	Grizzly Way (5300 West)	0.85	48-inch Diameter	150		50	275 <sup>4</sup>	200 <sup>4</sup>
CH-02	Clay Hollow Trail	0.85	9-ft x 5-ft	400		10	280 <sup>4</sup>	200 <sup>4</sup>
CH-03	5600 West	0.85	10-ft x 4-ft	300		10	280 <sup>4</sup>	200 <sup>4</sup>
CH-04 <sup>5</sup>	Uinta View Way	0.85	42-inch Diameter	90		0	270 <sup>4</sup>	190 <sup>4</sup>

<sup>1</sup> Culverts highlighted in red are deficient in existing conditions.

<sup>2</sup> The culverts are inlet controlled, and the pipelines capacities are based on a surcharged condition based on model results.

<sup>3</sup> The confluence of Barneys Creek and Clay Hollow Wash (which is the outfall for the spillway on the 5900 West Detention Basin) is immediately upstream of 5200 West.

<sup>4</sup> The peak flow rate is governed by the spillway flow from the 5900 West Detention Basin.

<sup>5</sup> The 42-inch pipe is a low flow pipe and includes an overflow channel on the ground surface that will convey excess runoff downstream without flooding local property.

### **SECTION 3 BARNEYS CREEK FUTURE CONDITIONS**

A future development conditions model of the Barneys Creek study area was also developed as part of this analysis. The future development conditions (or build-out conditions) model was based on the West Jordan City and County general plans. The future development conditions model includes two scenarios: one scenario assumed that all future development will detain peak flows from the 100-year design storm to 0.2 cfs/ac, and the second scenario assumed that all future development will detain peak flows from the 100-year design storm to 0.02 cfs/ac. Results from those scenarios are summarized on Table 3.

As can be seen on Table 3, the Barneys Creek facilities do not have capacity if future development is allowed to discharge at a maximum rate of 0.2 cfs/ac during the 100-year storm event (scenario 1). Additionally, storm water would flow over the 5900 West Detention Basin spillway into the historic Clay Hollow wash channel, which was not anticipated in the original detention basin design.

A separate future conditions model was developed based on future development discharging at a pre-development peak rate of 0.02 cfs/ac (scenario 2). Flow rates from that model are also presented in Table 3. As can be seen from Table 3, the peak flow rates associated with scenario 2 for the 100-year design storm are higher than the existing conditions peak flow rates. This is due to the additional volume of runoff that discharges into the 5900 West Detention Basin from impervious surfaces in upstream development. Storm water flows over the spillway on the 5900 West Detention Basin, significantly increasing the peak flow rate in the 0.02 cfs/ac scenario compared to the existing conditions scenario. The 5900 West Detention Basin was not designed to activate the spillway in the 100-year storm event. The additional volume discharging into the 5900 West Detention Basin was not anticipated in previous studies, as described in the following section of this Technical Memorandum.

### **SECTION 4 PREVIOUS STUDIES**

There have been several studies completed previously in West Jordan City that estimated discharge rates in Barneys Creek. Those studies include:

- The Storm Drain Master Plan (SDMP) completed in 2003,
- The FEMA Letter of Map Revision (LOMR) submitted and approved in 2007, and
- The Storm Drain Master Plan Updated completed in 2012.

Those studies included recommended improvements and proposed discharge limits to future flow peak rates within the Barneys Creek drainage area. The recommended allowable peak discharge rate for future development in those studies was 0.2 cfs/ac in association with the recommendation of constructing a number of large regional detention facilities in the Barneys Creek drainage area. The Capital Improvements Project (CIP) lists for the 2003 SDMP and 2012 SDMP update included four large regional detention basins that needed to

be constructed immediately west of Bacchus Highway. The large regional detention facilities were going to be constructed along Barneys Creek, Clay Hollow and 2 Unnamed Washes.

The four recommended large regional detention facilities west of Bacchus Highway had recommended volumes that ranged in size from 1.5 to 54.6 acre feet and had a collective volume of 107.8 acre feet. The figure and table identifying those facilities from the 2012 SDMP update (the most recent master plan update BC&A completed) are included in Appendix C. Those four regional detention basins were supposed to collect the storm drain runoff from the developments and mountain watershed west of Bacchus Highway and detain it before discharging into their respective creek or wash. The maximum peak discharge rates from those detention basins were between 2 and 7 cfs each, for a collective discharge rate of 20 cfs west of Bacchus Highway. The 20 cfs was supposed to be a pass-through flow at the 5900 West Detention Basin. Those regional detention facilities either have not been constructed, release water at a 0.2 cfs/ac discharge rate or were constructed to collect runoff from the mountain watershed but do not collect runoff from development. Most of the development west of Bacchus Highway discharges storm water at a discharge rate of 0.2 cfs/ac for the 100-year design storm.

Because the regional facilities west of Bacchus Highway were not constructed as recommended in the previous studies, there is little capacity in Barneys Creek for runoff from future development.

It is important to note that the previously recommended collective discharge rate of 20 cfs, which applies to Barneys Creek, Clay Hollow and the Unnamed Washes, is associated with a drainage area of 14.1 square miles (9024 acres), and results in a unit discharge rate of 0.0022 cfs/ac. That discharge rate is significantly lower than the pre-development discharge rate of 0.02 cfs/ac discussed previously in this Technical Memorandum. The discharge rate of 20 cfs was based on the limited capacity of the West Jordan Storm Drain system downstream of the South Valley Regional Airport when the 2003, 2007 and 2012 studies were completed. The storm drain facilities downstream of the South Valley Regional Airport have been improved in the past 10 years, and may have additional capacity that was not anticipated in the 2003, 2007 or 2012 studies. The analysis of Barneys Creek should be extended downstream to the Jordan River so the peak flow rate and capacity of the West Jordan Storm Drain System downstream of the South Valley Regional Airport can be estimated.

## **SECTION 5 CONCLUSIONS**

Based on the analysis and results associated with the Barneys Creek Analysis, the following conclusions can be made:

- There are three culverts on Barneys Creek between 4600 West and 5200 West that do not have adequate capacity to convey the estimated 100-year discharge associated with existing development conditions.
- The 5900 West Detention Basin has approximately 1.6 feet of freeboard in the existing conditions scenario and does not have much additional volume to attenuate discharges from projected future development.

- As development continues in the future, the volume and peak flow from the Barneys Creek drainage area will increase. The peak flow rate can be limited using detention basins, but the volume of storm water runoff from a 100-year design storm cannot be significantly reduced using detention basins.
- If future development is allowed to discharge at a rate of 0.2 cfs/ac during a 100-year design storm, extensive improvements will be required to the study reach of Barneys Creek and the West Jordan storm drain system to safely convey the runoff to the Jordan River. Additionally, the spillway on the 5900 West Detention Basin will discharge water in the Clay Hollow channel during the 100-year storm event, which was not anticipated in previous studies or the 5900 West Detention Basin design.
- As shown in table 3, the existing conditions flow rates are similar to the current effective FEMA flow rates. As development continues and the flow rate increases, FEMA flow rate will need to be updated.
- If runoff from future development is allowed to discharge at the pre-development discharge rate of 0.02 cfs/ac during a 100-year design storm, the peak flow rate in Barneys Creek will increase due to storm water flow over the spillway at the 5900 West Detention Basin. This would require additional improvements on Barneys Creek at Airport Road; the parallel 42-inch pipes and the 66-inch pipe.
- There may be additional capacity deficiencies in the storm drain system downstream of the detention basin at the South Valley Regional Airport.

## SECTION 6

### ALTERNATIVES TO MANAGING STORM WATER IN THE FUTURE

The following is a summary of alternative and recommended improvements associated with the study reach of Barneys Creek.

- **Develop a More Comprehensive Computer Model** - As stated earlier, this study does not analyze storm drain facilities at or downstream of the South Valley Regional Airport. It is recommended that before finalizing alternative means to managing storm water in the Barneys Creek study area West Jordan City develop a comprehensive model of Barneys Creek, Barneys Wash and the West Jordan Storm system that extends to the Jordan River. The alternatives discussed in this Technical Memorandum should be reviewed in a comprehensive model that will analyze various flow rates in Barneys Creek and the West Jordan Storm Drain System. Recommendations should be made based on that comprehensive model. It is important to note that analysis discussed in this Technical Memorandum did not include LID or volume reduction from retaining the 80<sup>th</sup> percentile storm. This analysis is a master plan study that reviews potential alternatives to manage storm water runoff. The comprehensive model should be a more detailed model that considers the effects of retaining the 80<sup>th</sup> percentile storm.
- Alternatives to managing storm water may include:

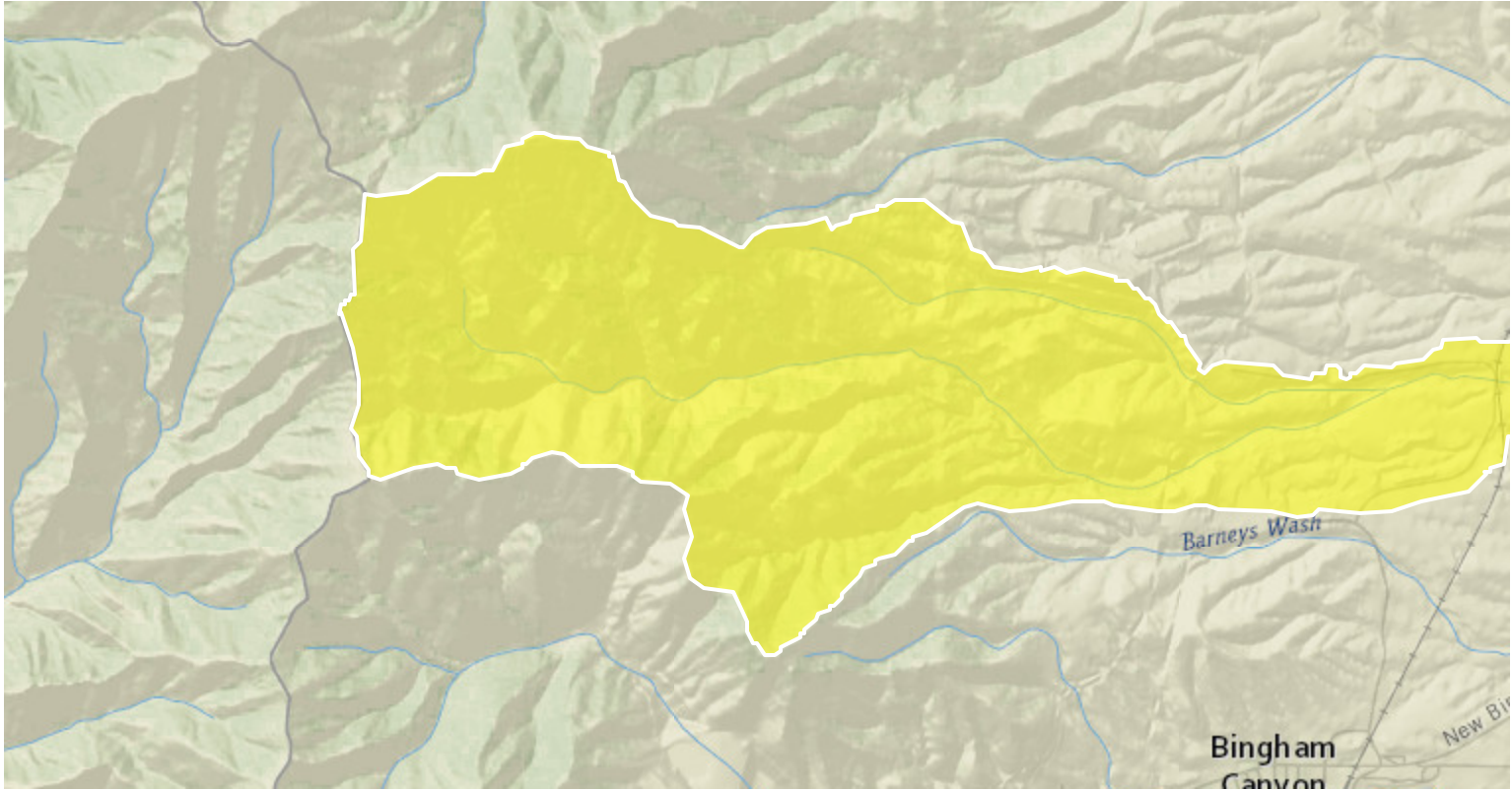
- **Limiting the peak discharge from Future Development** –The final recommended discharge rate may be the pre-development discharge rate of 0.02 cfs/ac, or a different rate selected by the City as part of their more detailed master planning process. The proposed discharge rate should be analyzed in the comprehensive model of Barneys Creek and the West Jordan Storm Drain System.
- **Additional Regional Detention Facilities** – The 2003 and 2012 storm drain master plans recommended large regional detention facilities to limit the peak discharge in Barneys Creek. As part of their storm drain master planning process, West Jordan City should analyze different areas where regional detention facilities could be constructed to limit the peak discharge in Barneys Creek. Alternative detention facility improvements should be analyzed in the comprehensive model of Barney Creek and should be incorporated into the West Jordan Storm Drain Master Plan.
- **Improving Culverts on Barneys Creek** – At least three culverts need to be improved or replaced to safely convey the estimated 100-year peak discharge associated with existing development conditions. There may be more improvements to the West Jordan Storm Drain System, depending on proposed regional facilities or the required peak discharge rate for future development.

# **APPENDIX A**

## **StreamStats Report**

# StreamStats Report

**Region ID:** UT  
**Workspace ID:** UT20211006193519715000  
**Clicked Point (Latitude, Longitude):** 40.59251, -112.05392  
**Time:** 2021-10-06 13:35:43 -0600



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	6.62	square miles
PRECIP	Mean Annual Precipitation	21.6	inches
ELEV	Mean Basin Elevation	6530	feet

## Peak-Flow Statistics Parameters [Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.62	square miles	2.14	84.1
PRECIP	Mean Annual Precipitation	21.6	inches	16.5	53.7

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

<b>Statistic</b>	<b>Value</b>	<b>Unit</b>	<b>SE</b>	<b>ASEp</b>	<b>Equiv. Yrs.</b>
50-percent AEP flood	13.6	ft <sup>3</sup> /s	71	71	0.9
20-percent AEP flood	26	ft <sup>3</sup> /s	58	58	1.6
10-percent AEP flood	36.2	ft <sup>3</sup> /s	53	53	2.5
4-percent AEP flood	48.1	ft <sup>3</sup> /s	51	51	3.7
2-percent AEP flood	61.4	ft <sup>3</sup> /s	50	50	4.6
1-percent AEP flood	73	ft <sup>3</sup> /s	50	50	5.4
0.5-percent AEP flood	85.5	ft <sup>3</sup> /s	51	51	6.1
0.2-percent AEP flood	107	ft <sup>3</sup> /s	52	52	6.8

*Peak-Flow Statistics Citations*

**Kenney, T.A., Wilkowske, C.D., and Wright, S.J.,2007, Methods for Estimating Magnitude and Frequency of Peak Flows for Natural Streams in Utah: U.S. Geological Survey Scientific Investigations Report 2007-5158, 28 p. (<http://pubs.usgs.gov/sir/2007/5158/>)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.6.2

StreamStats Services Version: 1.2.22

NSS Services Version: 2.1.2

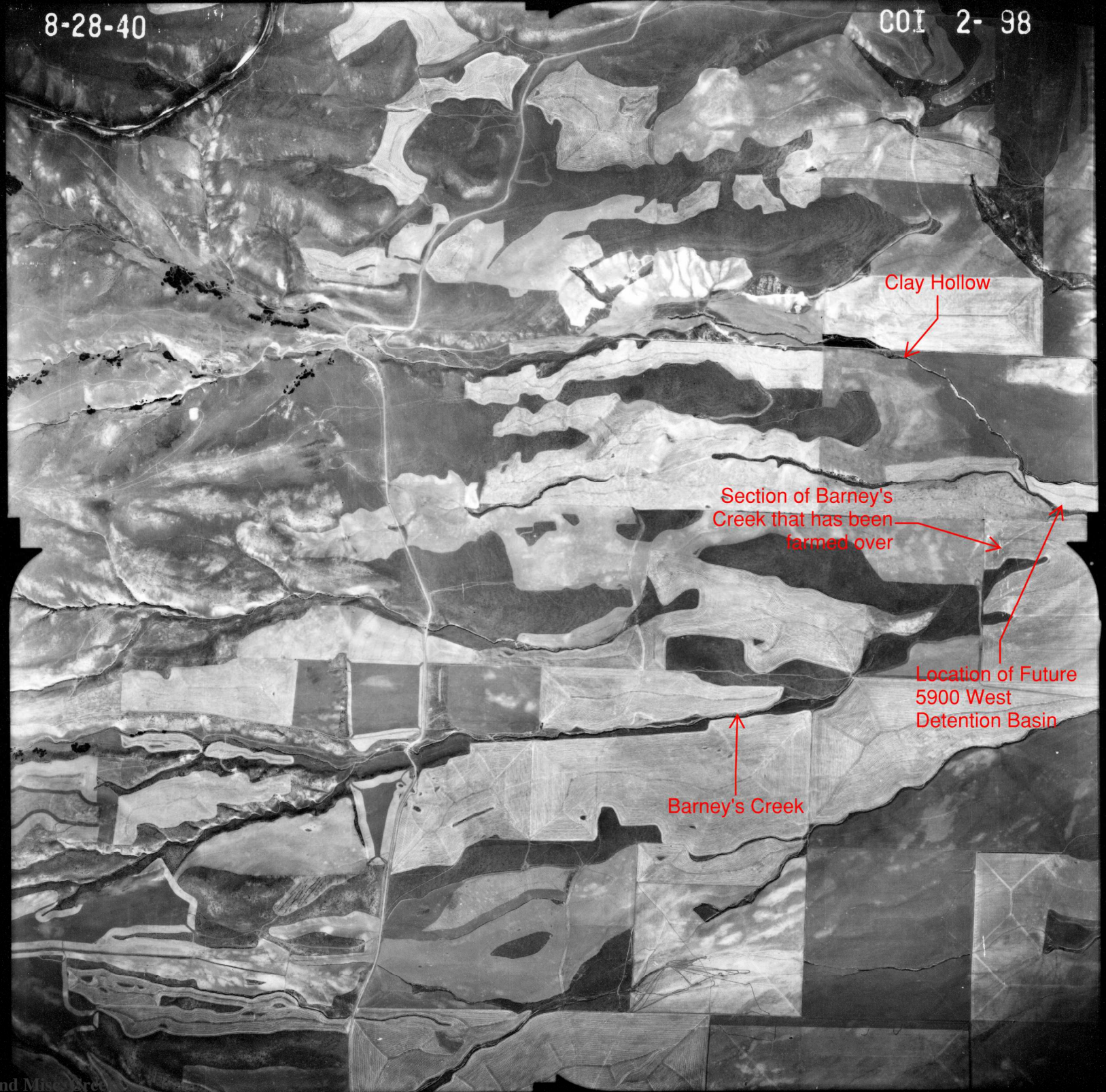


# **APPENDIX B**

## **Historic Aerial Photo**

8-28-40

COI 2-98



Clay Hollow

Section of Barney's  
Creek that has been  
farmed over

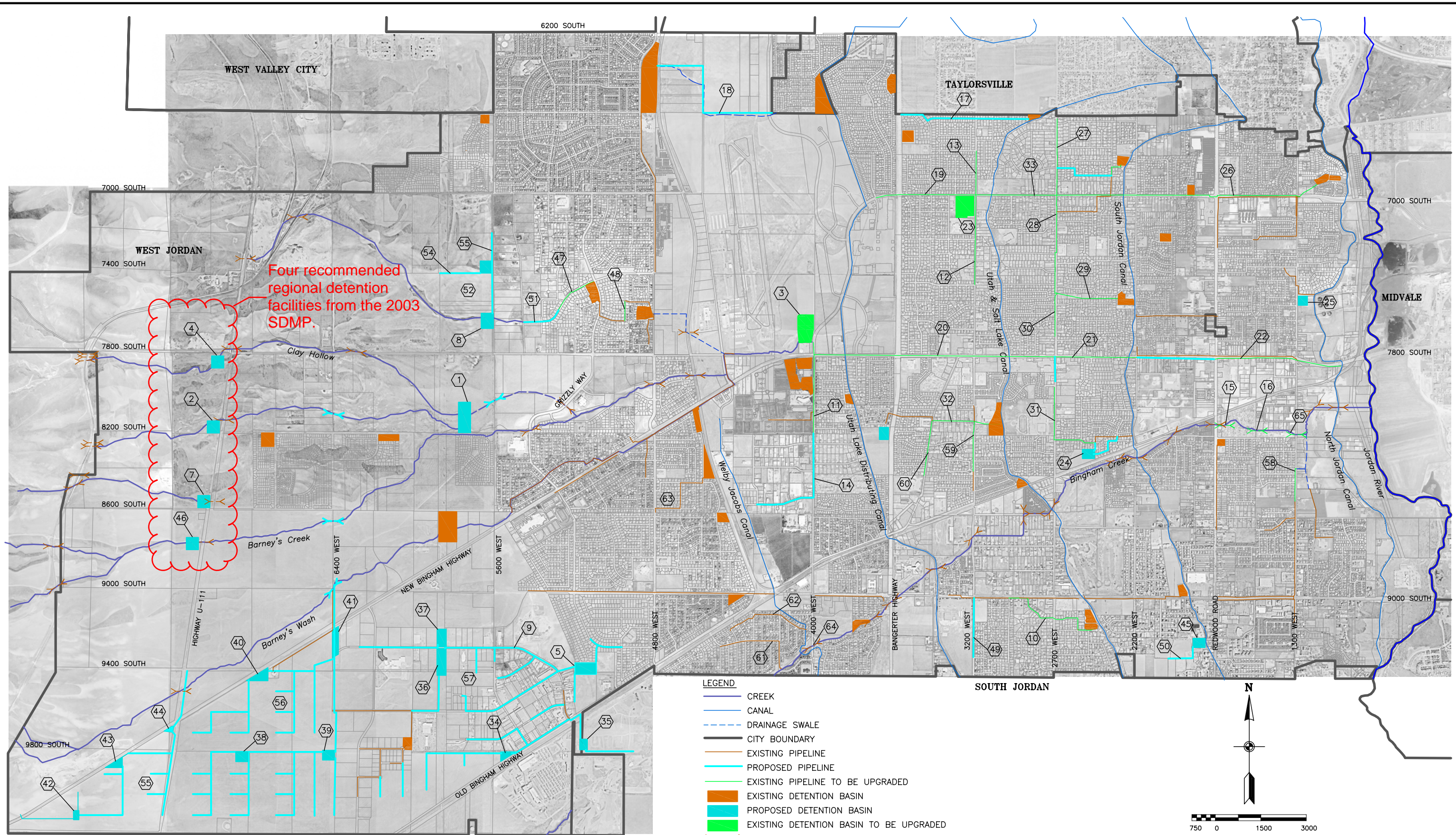
Location of Future  
5900 West  
Detention Basin

Barney's Creek

## **APPENDIX C**

### **Excerpts from the 2003 & 2012 Storm Drain Master Plans and the 2007 LOMR**

P:\West Jordan\Drainage Master Plan\Drawings\Figure 4.10201\_Fig1\_DMP.dwg Dec 19, 2003 - 12:19pm



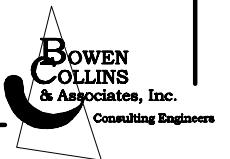
Four recommended regional detention facilities from the 2003 SDMP.

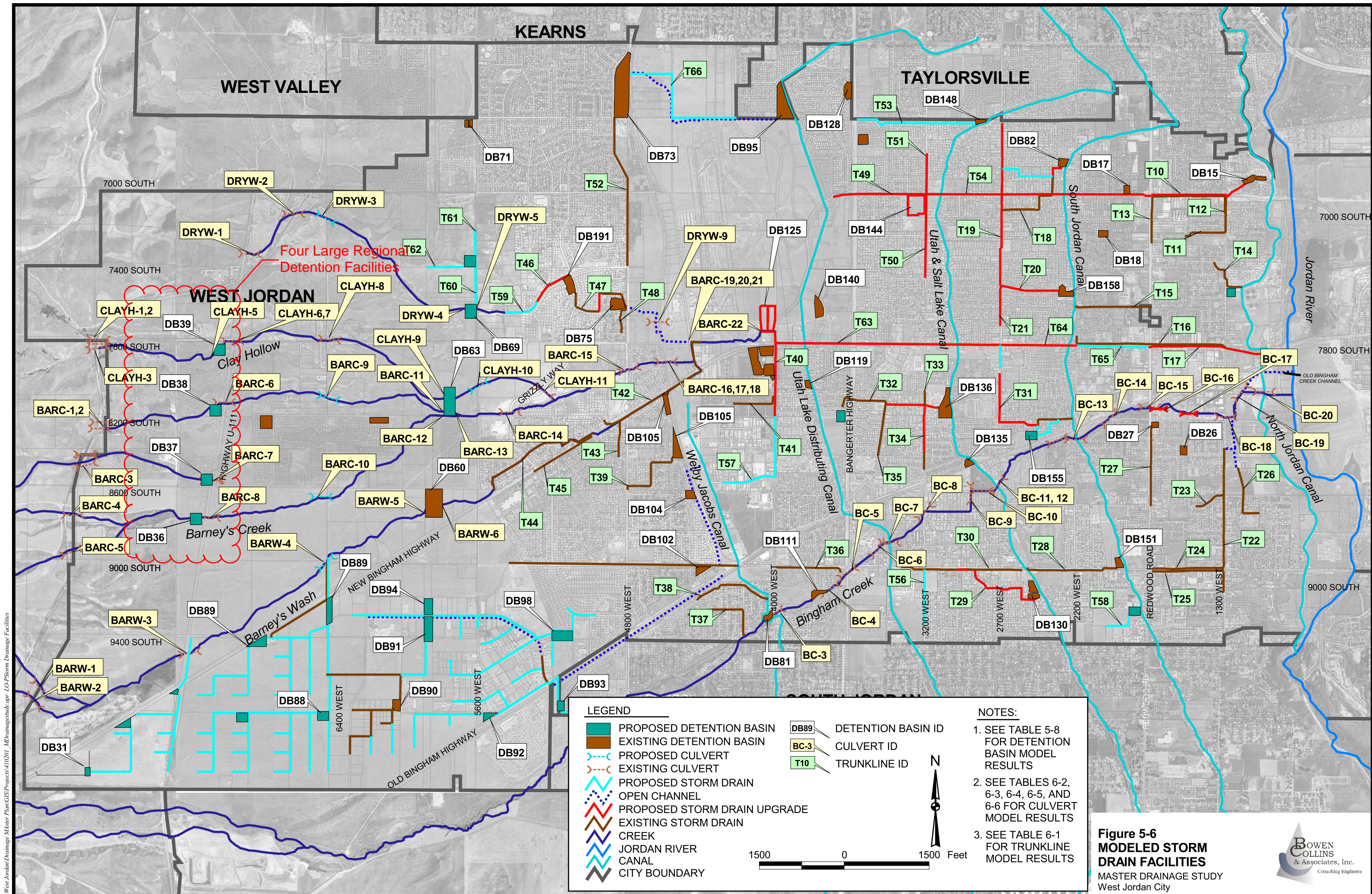
- LEGEND**
- CREEK
  - CANAL
  - DRAINAGE SWALE
  - CITY BOUNDARY
  - EXISTING PIPELINE
  - PROPOSED PIPELINE
  - EXISTING PIPELINE TO BE UPGRADED
  - EXISTING DETENTION BASIN
  - PROPOSED DETENTION BASIN
  - EXISTING DETENTION BASIN TO BE UPGRADED
  - EXISTING CULVERT
  - PROPOSED CULVERT
  - EXISTING CULVERT TO BE UPGRADED
  - RECOMMENDED IMPROVEMENT PROJECT ID

PHOTO DATE: 1999

Figure ES-1  
RECOMMENDED STORM DRAINAGE SYSTEM IMPROVEMENTS

MASTER DRAINAGE STUDY  
West Jordan City





West Jordan Drainage Master Plan GIS Projects 1410201\_MDrainageStudy.apr LO-PS Storm Drainage Facilities



Table 5-8

Summary of Hydrologic Model Results for Detention Basins

West Jordan City Master Drainage Study

Detention Basin ID	Location	----- EXISTING DEVELOPMENT CONDITIONS -----					----- FUTURE DEVELOPMENT CONDITIONS -----					Existing Volume (ac-ft)	Existing Area (ac)	Existing Volume Deficiency (ac-ft)	Future Volume Deficiency (ac-ft)	Notes
		Q <sub>in</sub> (cfs)	Q <sub>out</sub> (cfs)	Req'd Volume (ac-ft)	Drainage Area (mi <sup>2</sup> )	ARF <sup>(1)</sup>	Q <sub>in</sub> (cfs)	Q <sub>out</sub> (cfs)	Req'd Volume (ac-ft)	Drainage Area (mi <sup>2</sup> )	ARF <sup>(1)</sup>					
DB15	6930 South 1200 West	633	47	17.4	1.2	--	633	47	17.4	1.2	--	26.8	2	--	--	
DB17	7000 South 1905 West	89	40	1.1	0.2	--	89	40	1.1	0.2	--	5.7	1	--	--	
DB18	7230 South 1975 West	35	2	0.9	0.1	--	35	2	0.9	0.1	--	7.3	1.5	--	--	
DB26	8400 South 1500 West	42	5	1.0	0.1	--	42	5	1.0	0.1	--	3.8	1.9	--	--	
DB27	8200 South Redwood Road	345	11	12.4	0.6	--	262	11	8.8	0.4	--	3.1	0.5	9.3	5.7	UDOT Detention Facility
DB31	Bagley Park - West of Highway U-111	--	--	--	--	--	111	29	1.9	0.3	--	--	--	--	1.9	Corresponds to Detention Basins 9, 14, and 15 from Bagley Industrial Park Study
DB36	Barneys Creek, West of Highway U-111	--	--	--	--	--	198	2	54.6	6.6	0.90	--	--	--	54.6	
DB37	8600 South, West of Highway U-111	--	--	--	--	--	68	7	12.9	1.4	0.95	--	--	--	12.9	
DB38	8100 South, West of Highway U-111	--	--	--	--	--	54	4	1.5	0.3	--	--	--	--	1.5	
DB39	7800 South, West of Highway U-111	--	--	--	--	--	166	7	38.8	5.8	0.90	--	--	--	38.8	
DB60	Barneys Wash, 5900 West	90	18	19.0	3.6	0.95	185	18	40.5	4.9	0.95	49.0	NA	--	--	
DB63	Barneys Creek, near 5800 West	--	--	--	--	--	306	5	70.1	16.1	0.85	--	--	--	70.1	
DB69	Dry Wash, 7600 South 5600 West	--	--	--	--	--	341	5	28.9	2.2	0.95	--	--	--	28.9	
DB71	6655 South 5645 West	171	16	3.9	0.3	--	193	16	4.5	0.3	--	9.4	1.1	--	--	
DB73	6400 South 4800 West	735	42	22.2	2.0	0.95	735	5	31.1	1.7	0.95	80.0	13	--	--	
DB75	7500 South 4800 West	121	18	6.6	2.7	0.95	119	7	3.9	3.1	0.95	5.0	2	1.6	--	
DB81	Bingham Creek, 4000 West	676	375	12.4	11.1	0.90	466	345	10.1	3.3	0.95	2.2	6	10.2	7.9	Located in South Jordan City
DB82	6830 South 2310 West	102	11	3.0	0.3	--	102	11	3.0	0.3	--	5.6	1.8	--	--	
DB88	Bagley Park - Prosperity Road to Highway U-111	--	--	--	--	--	753	7	25.7	0.5	--	--	--	--	25.7	Corresponds to Detention Basins 10 and 11 from Bagley Industrial Park Study
DB89	Bagley Park - Prosperity Road to Highway U-111	--	--	--	--	--	657	11	22.9	1.0	--	--	--	--	22.9	Corresponds to Detention Basins 12 and 13 from Bagley Industrial Park Study
DB90	Bagley Park - 5200 West to Prosperity Road	207	7	9.2	0.8	--	442	7	14.7	0.3	--	12.5	2.5	--	2.2	Corresponds to Detention Basin 3 from Bagley Industrial Park Study
DB91	Bagley Park - 5200 West to Prosperity Road	--	--	--	--	--	550	7	20.4	0.7	--	--	--	--	20.4	Corresponds to Detention Basin 6 from Bagley Industrial Park Study
DB92	Bagley Park - 5200 West to Prosperity Road	--	--	--	--	--	94	7	2.6	0.1	--	--	--	--	2.6	Corresponds to Detention Basin 1 from Bagley Industrial Park Study
DB93	Bagley Park - 5200 West to Prosperity Road	--	--	--	--	--	232	7	13.4	0.4	--	--	--	--	13.4	Corresponds to Detention Basin 4 from Bagley Industrial Park Study
DB94	Bagley Park - 5200 West to Prosperity Road	--	--	--	--	--	132	1	4.6	0.1	--	--	--	--	4.6	Corresponds to Detention Basin 7 from Bagley Industrial Park Study
DB95	6400 South 3900 West	140	5	24.4	2.8	0.95	143	5	29.1	2.5	0.95	32.0	8	--	--	
DB98	Bagley Park - 5200 West to Prosperity Road	--	--	--	--	--	454	11	15.8	1.0	--	--	--	--	15.8	Corresponds to Detention Basin 8 from Bagley Industrial Park Study

(1) ARF - Areal Reduction Factor. See Section 5.

**Table 5-8**  
**Summary of Hydrologic Model Results for Detention Basins**  
**West Jordan City Master Drainage Study**

Detention Basin ID	Location	----- EXISTING DEVELOPMENT CONDITIONS -----					----- FUTURE DEVELOPMENT CONDITIONS -----					Existing Volume (ac-ft)	Existing Area (ac)	Existing Volume Deficiency (ac-ft)	Future Volume Deficiency (ac-ft)	Notes
		Q <sub>in</sub> (cfs)	Q <sub>out</sub> (cfs)	Req'd Volume (ac-ft)	Drainage Area (mi <sup>2</sup> )	ARF <sup>(1)</sup>	Q <sub>in</sub> (cfs)	Q <sub>out</sub> (cfs)	Req'd Volume (ac-ft)	Drainage Area (mi <sup>2</sup> )	ARF <sup>(1)</sup>					
DB102	9000 South 4300 West	102	14	2.3	0.2	--	102	14	2.3	0.2	--	4.8	1	--	--	
DB104	8600 South 4400 West	131	44	2.0	0.2	--	131	44	2.0	0.2	--	5.0	2.1	--	--	
DB105	4600 West New Bingham Highway	634	42	18.7	5.3	0.90	653	65	25.7	6.7	0.90	26.0	6.2	--	--	
DB111	9120 South 3780 West	408	392	3.9	12.4	0.90	375	367	3.3	4.6	0.95	13.0	2	--	--	
DB119	8010 South 3850 West	26	2	0.7	0.1	--	26	2	0.7	0.1	--	5.0	1.7	--	--	
DB125	7800 South 4000 West	378	27	120.0	26.2	0.80	327	55	55.7	27.7	0.80	40.0	10.7	80.0	15.7	
DB128	6460 South 3620 West	105	5	2.9	0.2	--	105	5	2.9	0.2	--	6.9	2.6	--	--	
DB130	9140 South 2490 West	337	11	10.9	0.5	--	337	11	10.9	0.5	--	17.0	3.4	--	--	
DB135	8565 South 2920 West	36	2	0.9	0.1	--	36	2	0.9	0.1	--	4.5	1.5	--	--	
DB136	8100 South 3100 West	382	33	9.4	0.6	--	382	33	9.4	0.6	--	28.0	4.7	--	--	
DB140	Jordan Landing	--	--	--	--	--	105	24	1.9	0.2	--	--	--	--	1.9	
DB144	7000 South 3200 West	580	8	28.6	4.5	0.95	338	25	35.9	4.1	0.95	22.0	8	6.6	13.9	
DB148	6620 South 2795 West	5	4	0.6	0.2	--	5	4	0.6	0.2	--	2.3	1	--	--	
DB151	9000 South 1870 West	129	5	4.4	0.3	--	129	5	4.4	0.3	--	6.3	2.5	--	--	
DB155	8100 South 2500 West	--	--	--	--	--	142	5	4.1	0.2	--	--	--	--	4.1	
DB158	7500 South 2200 West	179	5	5.5	0.3	--	179	5	5.5	0.3	--	4.6	2.5	0.9	0.9	
DB168	9400 South 3800 West	369	12	13.6	1.1	--	369	12	13.6	1.1	--	13.6	13.6	--	--	Located in South Jordan City
DB174	9500 South 2300 West	439	7	23.7	1.2	--	439	7	23.7	1.2	--	20.2	NA	3.5	3.5	Located in South Jordan City
DB191	7500 South 5200 West	79	32	6.2	2.5	0.95	78	6	6.8	2.9	0.95	7.2	3	--	--	

(1) ARF - Areal Reduction Factor. See Section 5.

Table 7-3  
Summary of Recommended Improvements - High Priority  
West Jordan City Master Drainage Study

Project ID	Priority	Model ID	Project Name	Location	Existing Facility	Recommended Improvement	Estimated Cost	Estimated Cost Attributed to Existing Conditions	Estimated Cost Attributed to Future Development
<b>STORM WATER DETENTION FACILITIES</b>									
1	1	DB63	Barneys Creek Detention	Barneys Creek, near 5800 West	No existing facility	Construct 71 acre-foot detention facility	\$1,898,500	\$0	\$1,898,500
2	6	DB38	Jones North Detention	8100 South, West of Highway U-111	No existing facility	Construct 2 acre-foot detention facility	\$114,800	\$0	\$114,800
3	8	DB125	Airport Detention SE	7800 South 4000 West	40 acre-feet	Increase storage by 25 acre-feet	\$651,500	\$260,600	\$390,900
4	9	DB39	Clay Hollow West Detention	7800 South, West of Highway U-111	No existing facility	Construct 39 acre-foot detention facility	\$1,873,900	\$0	\$1,873,900
5	10	DB98	Bagley Industrial Park Detention (Wildflower 14)	Bagley Park - 9400 South 5200 West	No existing facility	Construct 22 acre-foot detention facility	\$1,152,200	\$921,760	\$230,440
7	11	DB37	Jones South Detention	8600 South, West of Highway U-111	No existing facility	Construct 13 acre-foot detention facility	\$672,900	\$0	\$672,900
8	13	DB69	Dry Wash Detention	Dry Wash, 7600 South 5600 West	No existing facility	Construct 29 acre-foot detention facility	\$1,391,200	\$0	\$1,391,200
<b>STORM DRAIN PIPELINE AND DRAINAGE CULVERT FACILITIES</b>									
9	7	T73	Bagley Industrial Park Miscellaneous Piping	Bagley Park - 5200 West to Prosperity Road	No existing facilities	Install storm drain pipe system per Bagley Park Drainage Study	\$516,500	\$516,500	\$0
10	12	T29	9000 South Storm Drain Phase 2	9000 South from 3000 West to 2900 West; Southeast to Detention Basin at 9140 South 2490 West	24- and 30-inch CMP	Replace with 48- and 30-inch RCP	\$885,600	\$885,600	\$0
11	14	T40	4000 West Storm Drain Phase 1	4000 West from 8200 South to 7800 South	18- and 24-inch CMP	Replace with 36- and 42-inch RCP	\$605,900	\$605,900	\$0
12	15	T50	3200 West Storm Drain Phase 1b	3200 West from 7400 South to Detention Basin at 7000 South	36-inch RCP	Replace with 48-inch RCP	\$214,400	\$214,400	\$0
13	16	T51	3200 West Storm Drain Phase 2	3200 West from 6700 South to Detention Basin at 7000 South	30-inch RCP	Replace with 48- and 54-inch RCP	\$436,300	\$436,300	\$0
14	17	T57	4000 West Storm Drain Phase 2	4000 West from 8600 South to 8300 South	No existing facility	Install 15-, 24-, 30-, and 36-inch RCP	\$540,500	\$0	\$540,500
15	18	BC16	Bingham Creek Box Culvert A	Bingham Creek at 1650 West	48-inch CMP	Replace with 16' x 5' box culvert w/ headwall	\$246,000	\$246,000	\$0
16	19	BC17	Bingham Creek Box Culvert B	Bingham Creek at 1500 West	48-inch CMP	Replace with 12' x 5' box culvert w/ headwall; improve approximately 1000' of channel between 1650 West and 1500 West	\$459,000	\$459,000	\$0
17	20	T53	6600 South Storm Drain	6600 South from Bangarter Highway to Detention Basin at 6600 West and 7400 South	No existing facility	Install 15-, 27-, and 36-inch RCP	\$726,100	\$0	\$726,100
18	21	T66	Airport North Storm Drain	Detention Basin at 6300 South 4800 West west to Detention Basin at 6600 South 4000 West	Open channel and 15-inch RCP	Install 36-inch RCP	\$941,000	\$658,700	\$282,300
19	2	T49	7000 South Storm Drain <sup>(1)</sup>	7000 South from Bangarter Highway to Detention Basin at 3200 West	18-, 21-, and 24-inch RCP	Replace with 24-, 36-, and 42-inch RCP	\$353,900	\$353,900	\$0
20	5	T63	7800 South Storm Drain Phase 3 <sup>(1)</sup>	7800 South from 4000 West to 2700 West	No continuous facility	Install continuous storm drain trunkline ranging in size from 42- to 60-inch RCP	\$2,209,800	\$0	\$2,209,800
21	4	T64	7800 South Storm Drain Phase 2 <sup>(1)</sup>	7800 South from 2700 West to 1900 West	No continuous facility	Install continuous storm drain trunkline ranging in size from 60- to 72-inch RCP	\$1,759,700	\$0	\$1,759,700
22	3	T65	7800 South Storm Drain Phase 1 <sup>(1)</sup>	7800 South from 1900 West to North Jordan Canal	No continuous facility	Install continuous 72-inch RCP storm drain trunkline	\$2,342,400	\$0	\$2,342,400

**Notes:**

(1) - These projects are included in the 2003 budget year

Total: \$19,992,100 \$5,558,660 \$14,433,440

Total for 2004 through 2010 Improvement Projects: \$13,326,300 \$5,204,760 \$8,121,540



Table 7-5  
Summary of Recommended Improvements - Development Driven Priority  
West Jordan City Master Drainage Study

Project ID	Priority	Model ID	Location	Existing Facility	Recommended Improvement	Estimated Cost	Estimated Cost Attributed to Existing Conditions	Estimated Cost Attributed to Future Development
<b>STORM WATER DETENTION FACILITIES</b>								
34	39	DB92	Bagley Park - 5200 West to Prosperity Road	No existing facility	Construct 8 acre-foot detention facility	\$415,300	\$0	\$415,300
35	40	DB93	Bagley Park - 5200 West to Prosperity Road	No existing facility	Construct 9 acre-foot detention facility	\$420,500	\$336,400	\$84,100
36	41	DB91	Bagley Park - 5200 West to Prosperity Road	No existing facility	Construct 29 acre-foot detention facility	\$1,353,700	\$406,110	\$947,590
37	42	DB94	Bagley Park - 5200 West to Prosperity Road	No existing facility	Construct 14 acre-foot detention facility	\$758,200	\$227,460	\$530,740
38	44	DB88(BP10)	Bagley Park - Prosperity Road to Highway U-111	No existing facility	Construct 14 acre-foot detention facility	\$708,200	\$0	\$708,200
39	45	DB88(BP11)	Bagley Park - Prosperity Road to Highway U-111	No existing facility	Construct 14 acre-foot detention facility	\$653,100	\$0	\$653,100
40	46	DB89(BP12)	Bagley Park - Prosperity Road to Highway U-111	No existing facility	Construct 7 acre-foot detention facility	\$392,400	\$0	\$392,400
41	47	DB89(BP13)	Bagley Park - Prosperity Road to Highway U-111	No existing facility	Construct 12 acre-foot detention facility	\$343,900	\$343,900	\$0
42	49	DB31(BP14)	Bagley Park - West of Highway U-111	No existing facility	Construct 3 acre-foot detention facility	\$189,900	\$0	\$189,900
43	50	DB31(BP15)	Bagley Park - West of Highway U-111	No existing facility	Construct 5 acre-foot detention facility	\$313,700	\$0	\$313,700
44	51	DB31(BP9)	Bagley Park - West of Highway U-111	No existing facility	Construct 2 acre-foot detention facility	\$102,100	\$0	\$102,100
45	38	DB150	9200 South 1800 West	No existing facility	Construct 4 acre-foot detention facility	\$215,800	\$0	\$215,800
46	37	DB36	Barneys Creek, West of Highway U-111	No existing facility	Construct 55 acre-foot detention facility	\$1,956,800	\$0	\$1,956,800
<b>STORM DRAIN PIPELINE AND DRAINAGE CULVERT FACILITIES</b>								
47	34	T46	Dry Wash - 7600 South 5200 West northeast to Detention Basin at 7600 South 5000 West	27-inch RCP	Replace with 36-inch RCP	\$339,800	\$169,900	\$169,900
48	35	T47	Dry Wash - Detention Basin at 7600 South 5000 West to Detention Basin at 7700 South 4800 West	30-inch RCP	Replace with 36-inch RCP	\$139,400	\$69,700	\$69,700
49	54	T56	3200 West from 9200 South to 9000 South	No existing facility	Install 24-, and 36-inch RCP	\$303,200	\$0	\$303,200
50	53	T58	2100 West 9300 South northeast to South Jordan Canal	No existing facility	Install 21-inch RCP	\$210,700	\$0	\$210,700
51	36	T59	Dry Wash - 7600 South from 5600 West to existing line at 5200 South	No existing facility	Install 18-, and 36-inch RCP	\$376,600	\$0	\$376,600
52	55	T60	Proposed Detention Basin at 5600 West and 7500 South to 7600 South	No existing facility	Install 18-inch RCP	\$149,300	\$0	\$149,300
53	56	T61	5600 West from 7400 South to proposed Detention Basin at 5600 West and 7500 South	No existing facility	Install 36-inch RCP	\$207,400	\$0	\$207,400
54	57	T62	7500 South from 5800 West to proposed Detention Basin at 5600 West and 7500 South	No existing facility	Install 36-inch RCP	\$235,300	\$0	\$235,300
55	52	T70	Bagley Park - West of Highway U-111	No existing facility	Install storm drain pipe system per Bagley Park Drainage Study	\$1,308,700	\$0	\$1,308,700
56	48	T71	Bagley Park - Prosperity Road to Highway U-111	No existing facility	Install storm drain pipe system per Bagley Park Drainage Study	\$3,171,700	\$951,510	\$2,220,190
57	43	T72	Bagley Park - 5200 West to Prosperity Road	No existing facility	Install storm drain pipe system per Bagley Park Drainage Study	\$3,030,400	\$2,727,360	\$303,040
Total:						\$17,296,100	\$5,232,340	\$12,063,760



# Federal Emergency Management Agency

Washington, D.C. 20472

**JUL 20 2007**

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

The Honorable David B. Newton  
Mayor, City of West Jordan  
2555 West Carson Lane  
West Jordan, UT 84084

IN REPLY REFER TO:

Case No.: 07-08-0330P  
Community Name: City of West Jordan, UT  
Community No.: 490108  
Effective Date of  
This Revision: **JUL 20 2007**

Dear Mayor Newton:

The Flood Insurance Study report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Denver, Colorado, at (303) 235-4830, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,

*Beth A Norton*

Beth A. Norton, CFM, Project Engineer  
Engineering Management Section  
Mitigation Division


For: William R. Blanton Jr., CFM, Chief  
Engineering Management Section  
Mitigation Division

List of Enclosures:

Letter of Map Revision Determination Document  
Annotated Flood Insurance Rate Map  
Annotated Flood Insurance Study Report

cc: Mr. Nathan Nelson, P.E.  
City Engineer / Floodplain Manager  
City of West Jordan

Mr. Neil Stack, P.E.  
Director of Development Services  
Salt Lake County

  
Water Resources Engineer  
Bowen Collins & Associates, Inc.



# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of West Jordan Salt Lake County Utah	BRIDGE CHANNELIZATION CULVERT DETENTION BASIN	FLOODWAY HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA BASE MAP CHANGES
	COMMUNITY NO.: 490108		
IDENTIFIER	Barneys Creek and Clay Hollow Wash LOMR	APPROXIMATE LATITUDE & LONGITUDE: 40.605, -112.009 SOURCE: USGS QUADRANGLE      DATUM: NAD 27	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 49035C0410 E      DATE: September 21, 2001	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: May 15, 2002 PROFILE(S): 215P, 216P, and 217P FLOODWAY DATA TABLE: 11 SUMMARY OF DISCHARGES TABLE: 8	
TYPE: FIRM	NO.: 49035C0430 E      DATE: September 21, 2001		

Enclosures reflect changes to flooding sources affected by this revision.

\* FIRM - Flood Insurance Rate Map; \*\* FBFM - Flood Boundary and Floodway Map; \*\*\* FHBM - Flood Hazard Boundary Map

### FLOODING SOURCE(S) & REVISED REACH(ES)

See Page 2 for Additional Flooding Sources

Barneys Creek – from just downstream of 7800 South Street to approximately 1,300 feet upstream of 5600 West Street

### SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Barneys Creek	Zone A	Zone AE	YES	YES
	No BFEs*	BFEs	YES	NONE
	No Floodway	Floodway	YES	NONE
	Zone A	Zone X (shaded)	NONE	YES

\* BFEs - Base Flood Elevations

### DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

*Beth A Norton*

Beth A. Norton, CFM, Project Engineer  
Engineering Management Section  
Mitigation Division

109770 10.3.1.07080330

102-I-A-C



Federal Emergency Management Agency  
Washington, D.C. 20472

LETTER OF MAP REVISION  
DETERMINATION DOCUMENT (CONTINUED)

OTHER FLOODING SOURCES AFFECTED BY THIS REVISION

FLOODING SOURCE(S) & REVISED REACH(ES)

Clay Hollow Wash – from approximately 3,020 feet downstream to approximately 970 feet upstream of 5600 West Street

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Clay Hollow Wash	Zone A	Zone AE	YES	YES
	No BFEs*	BFEs	YES	NONE
	No Floodway	Floodway	YES	NONE

\* BFEs - Base Flood Elevations

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

*Beth A Norton*

Beth A. Norton, CFM, Project Engineer  
Engineering Management Section  
Mitigation Division

109770 10.3.1.07080330

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# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

### COMMUNITY INFORMATION

#### APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

#### COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

*Beth A Norton*

Beth A. Norton, CFM, Project Engineer  
Engineering Management Section  
Mitigation Division

109770 10.3.1.07080330

102-I-A-C



# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Jeanine D. Petterson  
Director, Federal Insurance and Mitigation Division  
Federal Emergency Management Agency, Region VIII  
Denver Federal Center, Building 710  
P.O. Box 25267  
Denver, CO 80225-0267  
(303) 235-4830

### STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

Although the project area is shown on the above-referenced FIRM panels as within the unincorporated areas of Salt Lake County, the City of West Jordan has annexed portions of this area. We have not reflected these corporate limits changes in this LOMR.

We are processing a revised countywide FIRM and FIS report for Salt Lake County. The revised countywide FIRM and FIS report, which include flood hazard information for your community, will become effective in the fall of 2008. We will not incorporate the modifications made by this LOMR into the revised FIRM and FIS report before they become effective. Therefore, the modifications made by this LOMR will be superseded when the revised countywide FIRM and FIS report become effective. After the effective date, we will reissue this LOMR to revise the newly effective FIRM and FIS report.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

*Beth A Norton*

Beth A. Norton, CFM, Project Engineer  
Engineering Management Section  
Mitigation Division

109770 10.3.1.07080330

102-I-A-C



# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

### PUBLIC NOTIFICATION OF REVISION

#### PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NGVD 29)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Barneys Creek	Just upstream of Airport Road	None	4,626	49035C0430 E
	Approximately 400 feet upstream of Grizzly Way	None	4,776	49035C0410 E
Clay Hollow Wash	Approximately 350 feet downstream of Grizzly Way	None	4,739	49035C0410 E
	Approximately 970 feet upstream of 5600 West Street	None	4,822	49035C0410 E

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below.

LOCAL NEWSPAPER      Name: *Salt Lake Tribune*  
                                       Dates: 08/09/2007      08/16/2007

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

*Beth A Norton*

Beth A. Norton, CFM, Project Engineer  
 Engineering Management Section  
 Mitigation Division

109770 10.3.1.07080330

102-I-A-C

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF WEST JORDAN, SALT LAKE COUNTY, UTAH, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On September 21, 2001, the Department of Homeland Security's Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in the City of West Jordan, Salt Lake County, Utah, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Division has determined that modification of the Base (1-percent-annual-chance) Flood Elevations (BFEs) for certain locations in this community is appropriate. The modified BFEs revise the FIRM for the community.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A hydraulic analysis was performed to incorporate updated topographic data, floodway and hydrologic analyses, and the effects of a channelization project along Barneys Creek from just downstream of 7800 South Street to approximately 1,300 feet upstream of 5600 West Street and along Clay Hollow Wash from approximately 3,020 feet downstream to approximately 970 feet upstream of 5600 West Street. This has resulted in increases and decreases in SFHA width and establishment of regulatory floodways and BFEs for Barneys Creek and Clay Hollow Wash. The aforementioned channelized portions of Barneys Creek and Clay Hollow Wash contain the base flood. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source(s) cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
Barneys Creek:		
Just upstream of Airport Road	None	4,626
Approximately 400 feet upstream of Grizzly Way	None	4,776
Clay Hollow Wash:		
Approximately 350 feet downstream of Grizzly Way	None	4,739
Approximately 970 feet upstream of 5600 West Street	None	4,822

\*National Geodetic Vertical Datum, rounded to nearest whole foot

Under the above-mentioned Acts of 1968 and 1973, the Mitigation Division must develop criteria for floodplain management. To participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Division reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Division's determination to modify the BFEs may itself be changed.



Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable David B. Newton  
Mayor, City of West Jordan  
2555 West Carson Lane  
West Jordan, UT 84084

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Table 8. Summary of Discharges

<u>Flooding Source and Location</u>	<u>Drainage Area (Square Miles)</u>	<u>Peak Discharges (Cubic Feet Per Second)</u>			
		<u>10-Year</u>	<u>50-Year</u>	<u>100-Year</u>	<u>500-Year</u>
Barneys Creek					
At 5900 West Detention Basin	16.08	-- <sup>1</sup>	-- <sup>1</sup>	10	-- <sup>1</sup>
At Denver Rio Grande and Western Railroad	22.95	-- <sup>1</sup>	-- <sup>1</sup>	160	-- <sup>1</sup>
Clay Hollow Wash					
At 5900 West Detention Basin	16.08	-- <sup>1</sup>	-- <sup>1</sup>	120	-- <sup>1</sup>

<sup>1</sup> Data Not Available

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EFFECTIVE JUL 20 2007

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY FEET (NGVD)	WITH FLOODWAY FEET (NGVD)	
<b>Barneys Creek</b>								
A	318	12	29	5.6	4,630.6	4,630.6	4,630.6	0.0
B	1,134	16	23	6.9	4,650.0	4,650.0	4,650.0	0.0
C	2,250	15	19	6.3	4,677.4	4,677.4	4,677.4	0.0
D	3,299	25	28	5.1	4,697.4	4,697.4	4,697.4	0.0
E	4,036	24	30	4.7	4,712.8	4,712.8	4,712.8	0.0
F	4,645	25	26	5.4	4,725.9	4,725.9	4,725.9	0.0
G	5,035	37	79	1.8	4,735.8	4,735.8	4,735.8	0.0
H	5,524	15	8	1.3	4,739.7	4,739.7	4,739.7	0.0
I	6,489	23	6	1.6	4,757.5	4,757.5	4,757.5	0.0
J	7,161	40	38	0.3	4,771.7	4,771.7	4,771.7	0.0

**REVISED TO  
REFLECT LOMR  
EFFECTIVE JUL 20 2007**

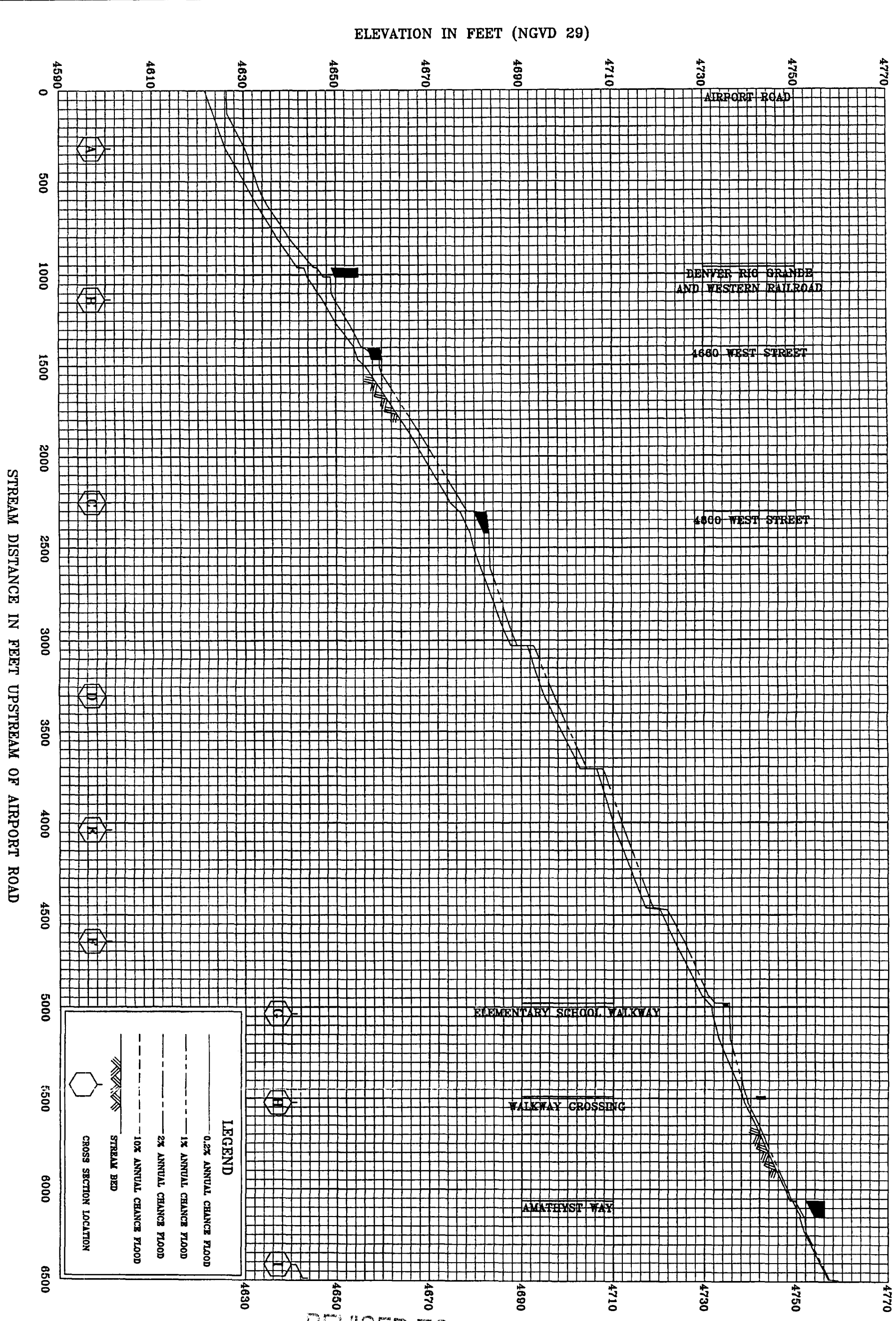
<sup>1</sup> Stream distance in feet above confluence with Barneys Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			INCREASE
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	
Clay Hollow Wash	A	298	24	45	2.7	4,740.6	4,740.6	0.0
	B	573	27	43	2.8	4,746.6	4,746.6	0.0
	C	1,428	21	26	4.7	4,764.5	4,764.5	0.0
	D	3,016	36	25	4.7	4,801.6	4,801.6	0.0
	E	3,956	34	25	4.9	4,818.0	4,818.0	0.0

REVISED TO  
REFLECT LOMR  
EFFECTIVE JUL 20 2007

<sup>1</sup> Stream distance in feet above confluence with Barney's Creek

FEDERAL EMERGENCY MANAGEMENT AGENCY <b>SALT LAKE COUNTY, UT</b> <b>AND INCORPORATED AREAS</b>	FLOODWAY DATA  <b>CLAY HOLLOW WASH</b>
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REVISED TO  
 REFLECT LOMR  
 EFFECTIVE JUL 20 2007

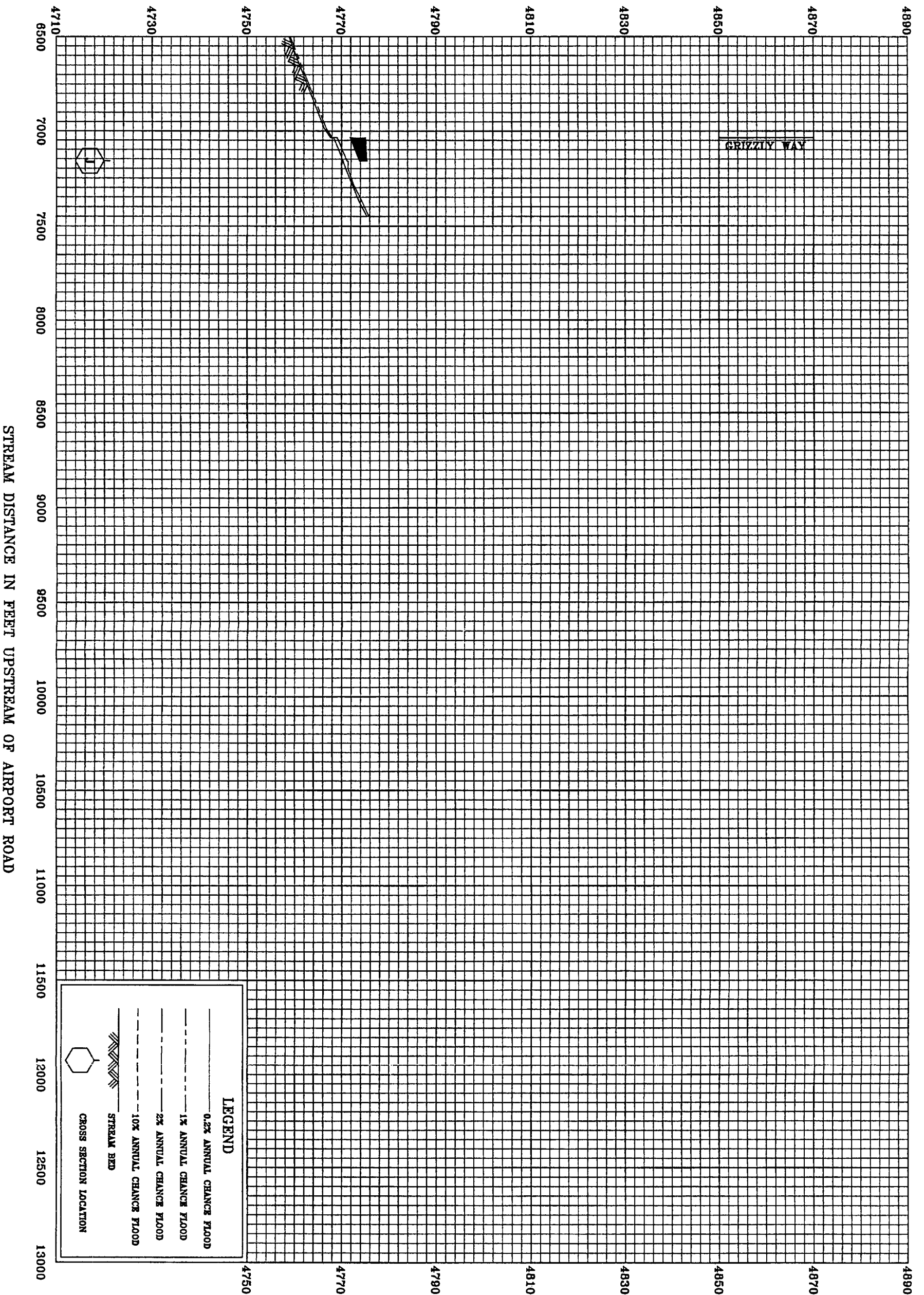
FEDERAL EMERGENCY MANAGEMENT AGENCY  
 SALT LAKE COUNTY, UT  
 AND INCORPORATED AREAS

**FLOOD PROFILES**

BARNEYS CREEK

215P

ELEVATION IN FEET (NGVD 29)



**LEGEND**

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · · 2% ANNUAL CHANCE FLOOD
- · - · 10% ANNUAL CHANCE FLOOD
- ▬ STREAM BED
- ⬡ CROSS SECTION LOCATION

STREAM DISTANCE IN FEET UPSTREAM OF AIRPORT ROAD

216P

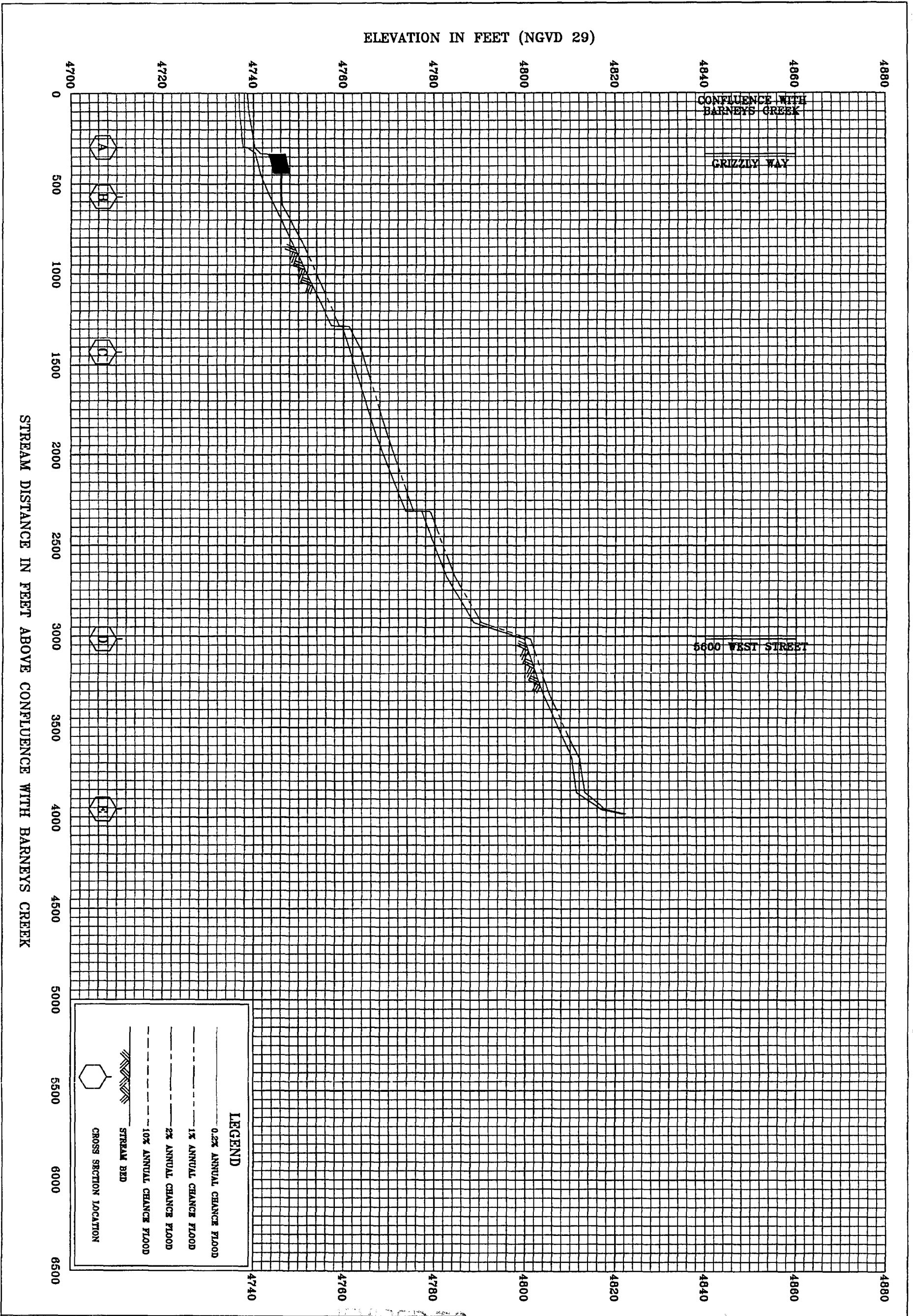
FEDERAL EMERGENCY MANAGEMENT AGENCY

SALT LAKE COUNTY, UT AND INCORPORATED AREAS

REVISED TO REFLECT LOMR EFFECTIVE JUL 20 2007

FLOOD PROFILES

BARNEYS CREEK

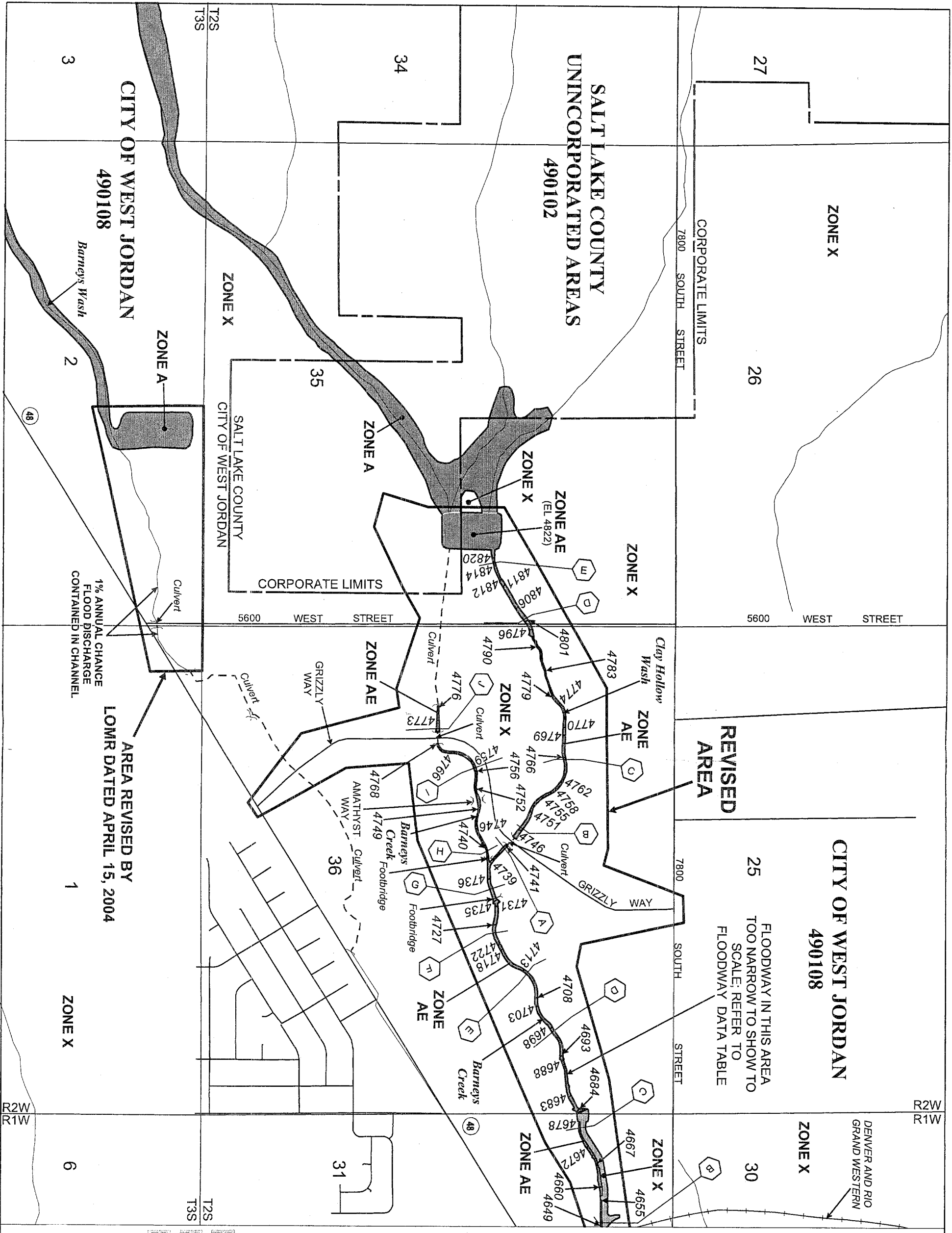


FEDERAL EMERGENCY MANAGEMENT AGENCY  
 SALT LAKE COUNTY, UT  
 AND INCORPORATED AREAS

FLOOD PROFILES  
 CLAY HOLLOW WASH

REVISED TO  
 REFLECT LOMR  
 EFFECTIVE JUL 20 2007

217P



**REVISED AREA**

**CITY OF WEST JORDAN**  
490108

FLOODWAY IN THIS AREA TOO NARROW TO SHOW TO SCALE: REFER TO FLOODWAY DATA TABLE

AREA REVISED BY LOMR DATED APRIL 15, 2004

1% ANNUAL CHANGE FLOOD DISCHARGE CONTAINED IN CHANNEL



**FIRM**  
FLOOD INSURANCE RATE MAP  
SALT LAKE COUNTY,  
UTAH AND  
UNINCORPORATED AREAS

**PANEL 410 OF 625**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

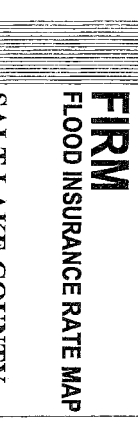
CONTAINS:  
COMMUNITY NUMBER PANEL SUFFIX  
SOUTH JORDAN, CITY OF 490107 0410 E  
WEST JORDAN, CITY OF 490108 0410 E  
SALT LAKE COUNTY, UNINCORPORATED AREAS 490102 0410 E

**REVISIONS**  
**REVISOR LOMR**  
**EFFECTIVE JUL 20 2007**

**MAP NUMBER**  
49035C0410 E

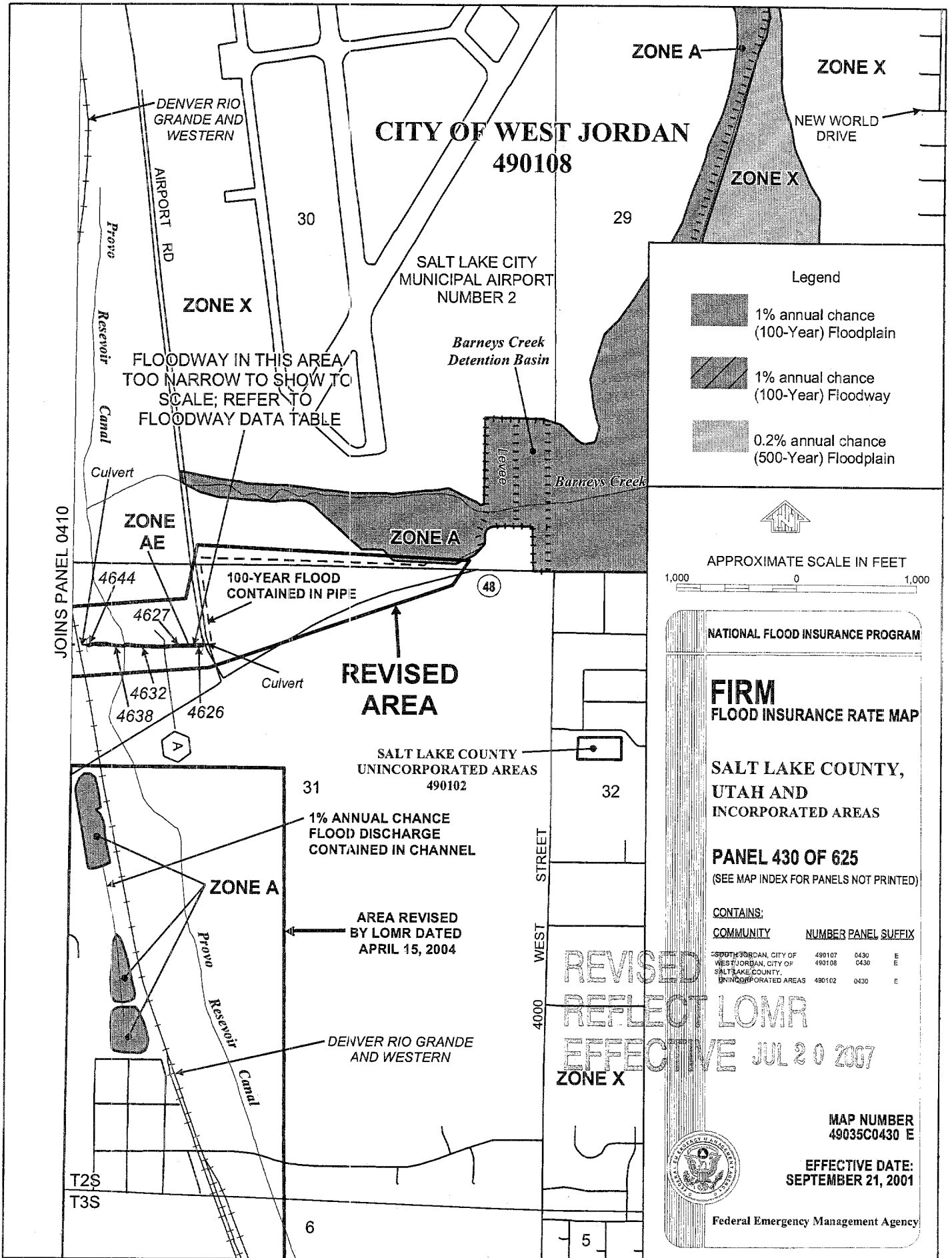
**EFFECTIVE DATE:**  
SEPTEMBER 21, 2001

Federal Emergency Management Agency



**NATIONAL FLOOD INSURANCE PROGRAM**





**CITY OF WEST JORDAN  
490108**

**Legend**

- 1% annual chance (100-Year) Floodplain
- 1% annual chance (100-Year) Floodway
- 0.2% annual chance (500-Year) Floodplain

APPROXIMATE SCALE IN FEET  
1,000 0 1,000

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM  
FLOOD INSURANCE RATE MAP**

**SALT LAKE COUNTY,  
UTAH AND  
INCORPORATED AREAS**

**PANEL 430 OF 625  
(SEE MAP INDEX FOR PANELS NOT PRINTED)**

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SOUTH JORDAN, CITY OF	490107	0430	E
WEST JORDAN, CITY OF	490108	0430	E
SALT LAKE COUNTY, UNINCORPORATED AREAS	490102	0430	E

**REVISED  
REFLECT LOMR  
EFFECTIVE JUL 20 2007**

**MAP NUMBER  
49035C0430 E**

**EFFECTIVE DATE:  
SEPTEMBER 21, 2001**



Federal Emergency Management Agency

JOINS PANEL 0410

FLOODWAY IN THIS AREA  
TOO NARROW TO SHOW TO  
SCALE; REFER TO  
FLOODWAY DATA TABLE

**REVISED  
AREA**

SALT LAKE COUNTY  
UNINCORPORATED AREAS  
490102

1% ANNUAL CHANCE  
FLOOD DISCHARGE  
CONTAINED IN CHANNEL

AREA REVISED  
BY LOMR DATED  
APRIL 15, 2004

DENVER RIO GRANDE  
AND WESTERN

T2S  
T3S

WEST STREET  
4000

30

29

31

32

6

5

48

4644

4627

4632

4638

4626

A

DENVER RIO  
GRANDE AND  
WESTERN

AIRPORT RD

Provo  
Reservoir  
Canal

Culvert

ZONE  
AE

ZONE X

SALT LAKE CITY  
MUNICIPAL AIRPORT  
NUMBER 2

Barneys Creek  
Detention Basin

ZONE A

Barneys Creek

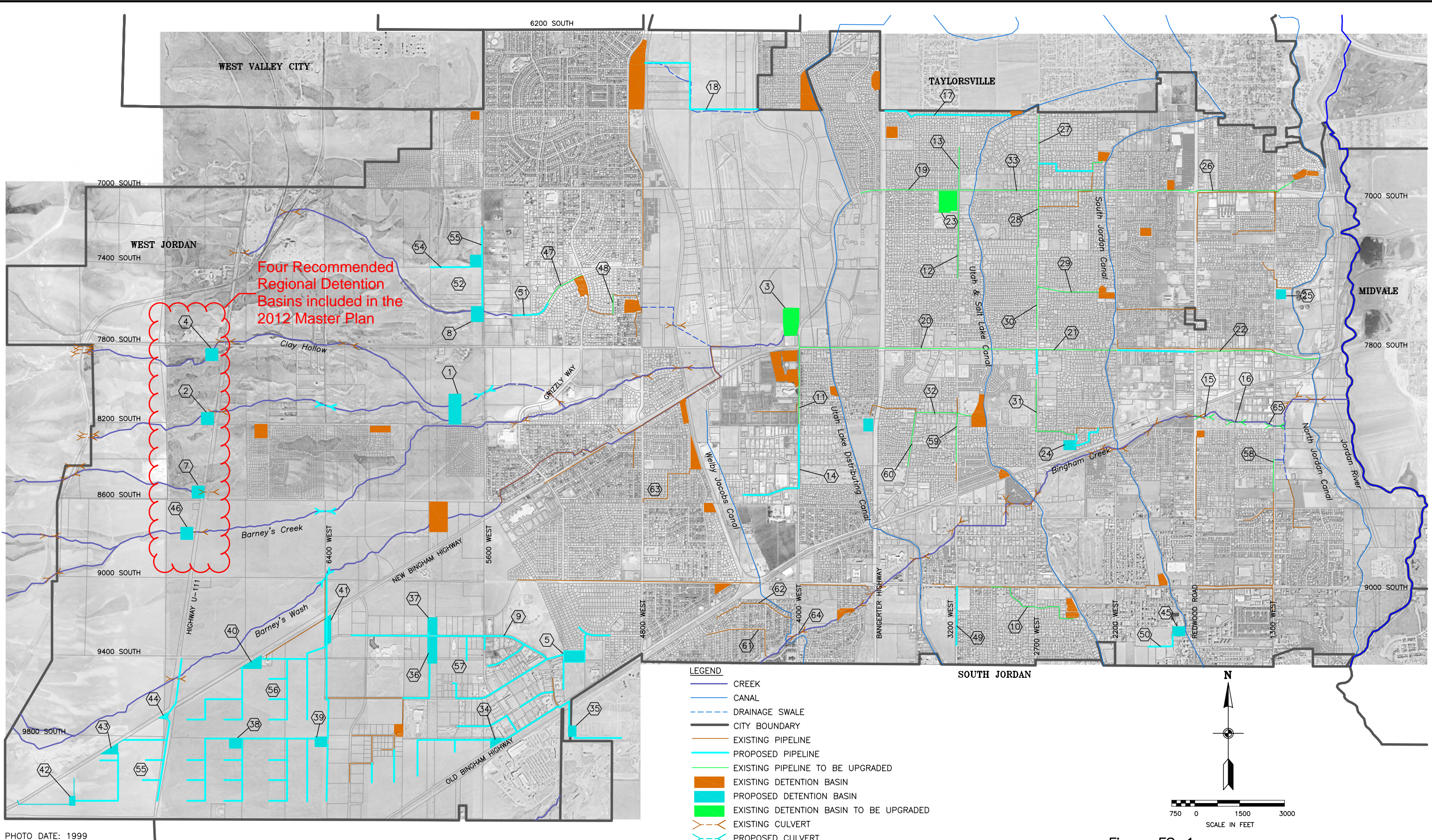
ZONE A

ZONE X

NEW WORLD  
DRIVE

ZONE X

T2S  
T3S



Four Recommended Regional Detention Basins included in the 2012 Master Plan

- LEGEND**
- CREEK
  - CANAL
  - DRAINAGE SWALE
  - CITY BOUNDARY
  - EXISTING PIPELINE
  - PROPOSED PIPELINE
  - EXISTING PIPELINE TO BE UPGRADED
  - EXISTING DETENTION BASIN
  - PROPOSED DETENTION BASIN
  - EXISTING DETENTION BASIN TO BE UPGRADED
  - EXISTING CULVERT
  - PROPOSED CULVERT
  - EXISTING CULVERT TO BE UPGRADED
  - 35 RECOMMENDED IMPROVEMENT PROJECT ID

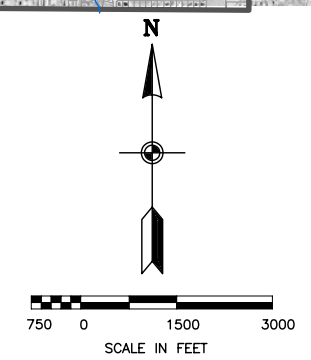


Figure ES-1  
**RECOMMENDED STORM DRAINAGE SYSTEM IMPROVEMENTS**  
 MASTER DRAINAGE STUDY  
 West Jordan City



P:\West Jordan\Drainage Master Plan\Drawings\Figure\_410201\_Fig1\_DMP.dwg Dec 19, 2003 - 12:19pm

PHOTO DATE: 1999

# **APPENDIX G**

## **Detailed Flow Rates**

# Barneys Creek Flow Rates

Page	ID	ARF	Culvert or Bridge Location	FEMA Summary of Discharges (cfs)	Existing Conditions Flow Rate (cfs)	Future Build-Out	Future Build-Out	Existing Culvert/Bridge Size	Estimated Hydraulic Capacity (cfs - Inlet Controlled Nomograph)	Estimated Hydraulic Capacity (cfs - HEC-RAS Model)	Recommended Culvert/Bridge Size Alt 1	Recommended Culvert/Bridge Size Alt 2	Recommended Culvert/Bridge Size Alt 3	Notes Alt 1	Notes Alt 2	Notes Alt 3	
						Rate - All Future Development Areas Detain to 0.2 cfs/ac (cfs)	Rate - All Future Development Areas Detain to 0.02 cfs/ac (cfs)										
	BA-01	0.75	7800 South to Airport Detention Basin		320	580	325	2 x 48-inch Diameter	N/A	390					Pipe has inadequate capacity causing roadway to flood.		
	BA-2A	0.80	Airport Rd. to 7800 South		250	600	310	66-inch Diameter	N/A	220					Pipe has inadequate capacity causing roadway to flood.	Pipe has inadequate capacity due to slope of 0.2%.	
	BA-2B	0.85	Airport Rd. Crossing		155	290	215	2 x 42-inch Diameter	180	185					Pipe has inadequate capacity causing banks to overtop.		
	BA-03	0.85	Railroad Crossing (4600 West)	160	155	290	215	66-inch Diameter	260	290					Culvert has inadequate capacity causing banks and road to overtop.	Culvert opening has capacity, banks will overtop causing flooding.	
	BA-04	0.85	4660 West		155	290	215	5-ft X 3-ft	105	135	10' x 4'	10' x 4'	10' 4'		Culvert has inadequate capacity causing road to overtop.	Culvert has inadequate capacity causing road to overtop.	
	BA-05	0.85	4800 West		155	290	215	5-ft X 3-ft	90	100	12' x 3.5'	12' x 3.5'	12' x 3.5'		Culvert has inadequate capacity causing road to overtop.	Culvert has inadequate capacity causing road to overtop.	
	BA-06	0.85	Barney's Creek Trail #1 (5200 West)		125	285	205	5-ft X 3-ft	70	65		18' x 3'	18' x 3'		Culvert has inadequate capacity causing trail to overtop. Increasing capacity requires raising banks.		
	BA-07	0.85	Barney's Creek Trail #2 (5100 West)		75	75	75	5-ft X 3-ft	80	90							
	BA-08	0.85	Amethyst Drive (5420 West)		75	75	75	5-ft x 3.2-ft	100	110							
	BA-09	0.85	Grizzly Way (5300 West)		40	40	40	2 x 42-inch Diameter	180	170							
	BA-10	0.85	5600 West	10	10	10	10	36-inch Diameter	140	105							
	BA-11	1.00	Mountain View Corridor		120	225	165	8-ft X 6-ft	460	430							
	BA-12	1.00	Maple Water Drive (5900 West)		100	200	140	10-ft x 6-ft	500	410							
	BA-13	1.00	Birch Water Lane (5980 West)		100	200	140	10-ft x 6-ft	525	500							
	BA-14	1.00	Fallwater Drive (6000 West)		100	200	140	10-ft x 6-ft	625	615							
	BA-15	1.00	6160 West		70	185	115	8-ft x 6-ft	500	475							
	BA-16	1.00	8600 South		50	175	105	8-ft x 6-ft	480	420							
	BA-17	1.00	6400 West		50	175	105	8-ft X 6-ft	400	370							
	BA-18	1.00	Bacchus Highway		25	145	95	72-inch Diameter	240	250							
	BA-19	1.00	Farm Road (7400 West)		20	110	95	30-inch Diameter	40	40		5' x 3'	5' x 3'		Culvert has inadequate capacity causing road to overtop.	Culvert has inadequate capacity causing road to overtop.	
	CH-01	0.85	Grizzly Way (5300 West)		50	275	200	48-inch Diameter	180	180		6' x 5'			Culvert has inadequate capacity causing road to overtop. Flow in Clay Hollow primarily comes from emergency spillway of large regional detention basin at Mountain View Corridor.		
	CH-02	0.85	Clay Hollow Trail		10	280	200	9-ft x 5-ft	400	400							
	CH-03	0.85	5600 West		10	280	200	10-ft x 4-ft	300	300							
	CH-04	0.85	Uinta View Way		0	270	190	42-inch Diameter <sup>1</sup>	90	90					There is an overflow channel that is expected to have adequate capacity to convey any bubble up flow to downstream culvert	There is an overflow channel that is expected to have adequate capacity to convey any bubble up flow to downstream culvert	There is an overflow channel that is expected to have adequate

Notes:

<sup>1</sup> CH-04 includes an overflow channel that will convey runoff in excess of 42-inch pipe capacity

# Bingham Creek Flow Rates

Page	ID	ARF	Culvert or Bridge Location	Future Build-	FEMA	Existing Flow Rate (cfs)	Future Flow Rate (cfs)	Existing Culvert/Bridge Size	Estimated Hydraulic Capacity (cfs)	Recommended Culvert Size	Notes (ex)	Notes (fut)	Road Overtop: HEC-RAS model
				Out 2002 SWCCS Flows (cfs)	Summary of Discharges (cfs)								
10	BC-01		North Jordan Canal	675		640	950	6' x 12' Box	950				
	BC-02		Gravel Lane / 8050 South	675		640	950	6' x 20' Box	950				
	BC-03		No Name	675		640	950	Pipe 1 = 48" Pipe 2 = 32"	105		Pipes have inadequate capacity, culvert and banks will overtop.	Culvert has capacity, but required head to pass flow will overtop banks upstream. If sediment is removed culvert will have adequate capacity.	
9	BC-04		1300 West / Temple Drive	675		540	720	6' x 12'	1070				Overtops
8	BC-05		1500 West	675		465	630	4.75' CMP	350		Culvert has inadequate capacity, road will overtop.	Culvert has inadequate capacity, road will overtop.	Overtops
	BC-06		Pedestrian Bridge	675		465	630	5' X 20'	630		Bridge has inadequate capacity, bridge and banks will both overtop	Bridge has inadequate capacity, bridge and banks will both overtop	Overtops
	BC-07		1650 West	675		465	630	5' x 16'	850				
	BC-08		Redwood Road	675		465	630	5x 15'	800				
	BC-09		Pedestrian Bridge	675		465	630	3' High X 18'	590				
	BC-10		Sugar Factory Road / 8200 South	675		465	630	5' x 16'	830				
	BC-11		Pedestrian Bridge	625		465	630	9' High X 32'	700				
7	BC-12		2200 West / South Jordan Canal	625		420	565	4' x 12'	570				
6	BC-13		Club Ln.	560		420	565	8' x 11 CMP	360		Culvert has capacity, but flow will overtop right bank and flood golf course.	Culvert has capacity, but flow will overtop right bank and flood golf course.	
	BC-14		2700 West / Utah & Salt Lake Canal	560		370	500	US: 5' x 12' DS: 5' x 10'	780				
	BC-15		Apartment Complex near 8600 South	560		370	500	5' x 8'	520				Overtops
	BC-16		8600 South / Haun Dr.	560		370	500	5' x 8'	440		Transition drop inlet increases the capacity of the culvert, no project required.	Culvert has inadequate capacity, road and banks will overtop. Transition drop inlet increases the capacity of the culvert, no project required.	Overtops
	BC-17		3200 West	560		370	500	US: 5' x 12' DS: 5' x 8'	650				
	BC-18		Pagoda Grove Cir.	465		370	500	5' x 10'	610				
	BC-19		Utah Lake Distribution Canal	465		290	450	4' x 8'	400			Culvert is not deficient because it is a detention basin outlet structure.	
5	BC-20		3400 West	495		290	450	5' x 10'	740				Overtops
	BC-21		Jordan Valley Hospital	495		290	450	5' x 10'	600				
	BC-22		3590 West	495		290	450	5' x 10'	1400				
	BC-23		Bangerter Highway	495		290	450	DS: 7' CMP US: 7' X 13'	1130				
4	BC-24		Judd Lane / 3710 West	495		120	330	4' x 6' Double	1300				
3	BC-25		4000 West	495		120	320	5 x 10'	560				
	BC-26		Welby Jacobs Canal	445	480	120	320	10' x 4.5' Arch	1100				
	BC-27		Laurel Ridge	445		120	320	8' CMP	2500				
2	BC-28		Private Bridge	445		120	320	5' x 16' Arch	600				
	BC-29		Skye Drive	445	360	105	220	4' CMP	130			Culvert has inadequate capacity, parking lot and road will overtop.	rely Overtops
	BC-30		4800 West	410		105	220	10' x 12'	2000				
	BC-31		Dirt Road	410		105	220	4' CMP	150				
	BC-32		Railroad	410		105	220	14.5' CMP	4000				
1	BC-33		Mountain View Corridor Northbound	410		75	80	39' x 100'	4000				
	BC-34		Mountain View Corridor Southbound	410		75	80	39' x 100'	4000				
	BC-35		Pedestrian Bridge west of Mountain View Corridor	410	205	75	80	10' High x 66.5'	3300				
	BC-36		Bacchus Highway	300		75	80	8' x 6'	760				
	BC-37		Dirt Access Road	105	100	75	80	2.67' CMP	70				

# Wood Hollow & Wood Hollow South Flow Rates

ID	Culvert or Bridge Location	Existing Culvert Size (Diameter)	Estimated 100-yr	Estimated 100-yr Discharge for	Estimated 100-yr Discharge for	Estimated 100-yr Discharge for	Estimated Culvert Capacity (cfs)	Inlet Controlled Nomograph Culvert Capacity (cfs)
			Discharge for Existing Conditions (cfs)	Future Conditions for Alternative 1 (cfs)	Future Conditions for Alternative 2 (cfs)	Future Conditions for Alternative 3		
WH-1	Pipe from overflow pond to Jordan River	36" RCP	130	340	150	150	200	0
WH-2	Pipe from USLC to Overflow Pond	48" RCP	130	360	160	160	235	0
WH-3	Pipe from ULDC to USLC	42" to 48" RCP	130	270	160	160	155 - 235	0
WH-4	Pipe from Redwood Road to ULDC	30" to 42" RCP	130	160	160	160	85 - 120	0
WH-5	Pipe under Redwood Road	48" RCP	110	140	140	140	140	140
WH-6	Welby Jacob Canal	39" CMP	110	140	140	140	70	70
WH-7	Mountain View Corridor	48" RCP	110	130	130	130	280	280
WH-8	Gravel Pit Road	48" RCP	100	130	130	130	420	300+
WHS-1	South Jordan Canal	--	0	0	230	0	--	--
WHS-2	Utah & Salt Lake Canal	--	25	80	200	35	--	--
WHS-3	Utah Lake Distribution Canal	10' x 6' Arch	25	80	190	35	1100	Not a Restriction
WHS-4	Trail	4' CMP	25	80	80	35	170	180
WHS-5	Redwood Road	27' x 11' Box	23	80	80	35	3980	4180
WHS-6	Pipe under Welby Jacob Canal	2' CMP	23	50	50	30	55	0
WHS-7	Pipe from Start to Welby Jacob Canal	2' CMP	23	40	40	30	30	30
ULDC-33	Ironhorse Blvd	5' RCP	90	50	70	80	190	
ULDC-34	15730 S	14' X 6'	90	140	50	70	160	
ULDC-35	Porter Rockwell Blvd	12' X 6'	90	140	50	70	200	
USLC-82	Iron Horse Blvd	20'X7' Box	190	260	175	200	800	
USLC-83	Trail Bridge #2	45' Footbridge	195	255	170	200	Not a Restriction	
USLC-85	Trail Bridge #3	48' Footbridge	180	190	190	180	Not a Restriction	

# Beef Hollow Flow Rates

Page	ID	Culvert Location	Future Build-Out 2002 SWCCS Flows (cfs)	FEMA Summary of Discharges (cfs)	100-Year Discharge Associated with Existing Development (cfs)	Estimated Full Build-Out 100-Year Discharge (cfs)	Existing Culvert Size	Estimated Hydraulic Capacity (cfs)	Recommended Culvert Size	Notes
	BH-1	Jordan River Parkway & ULDC	105	N/A	90	105	48" RCP	160		
	BH-2	Dirt Road 1	105	N/A	90	100	60" CMP	260		
	BH-3	Redwood Road	105	N/A	90	100	42" RCP	115		
	BH-4	Dirt Road 2	105	N/A	90	90	18" CMP	8	42" RCP	This is currently an access road, if the road is improved or washed out the capacity of the culvert should be increased.

# Utah Lake Distributing Canal Flow Rates

ID	Culvert or Bridge Location	Approximate Peak Summer Irrigation Flow (cfs)	Future Build-Out 100-yr Design Storm Water Flow from 2002 SWCCS Flows <sup>1</sup> (cfs)	Existing 100-yr Design Storm Flow <sup>1</sup> (cfs)	Existing 100-yr Design Storm Combined Irrigation and Storm Flow Rate <sup>2</sup> (cfs)	Future 100-yr Design Storm Build Out Storm Flow <sup>1</sup> (cfs)	Future 100-yr Build Out Design Storm Combined Irrigation and Storm Flow Rate (cfs)	Existing Culvert Size	Estimated Hydraulic Capacity
ULDC-01	ULDC Pipeline from 7200 South to 7000 South Outlet	20		35	55	40	60	10' X 4'	85
ULDC-02	ULDC Pipeline from 7400 South to 7200 South	20		25	45	25	45	10' X 4'	70
ULDC-03	ULDC Pipeline from 7550 South to 7400 South	20		15	35	15	35	10' X 4'	100
ULDC-04	ULDC Pipeline from 7800 South to 7550 South	20		5	25	5	25	10' X 4'	70
ULDC-05	7800 South Dumpout	30	80	35	65	35	65	24' Weir	170
ULDC-06	7825 South - Control Structure	30	80	35	65	35	65	N/A	N/A
ULDC-07	8070 South	30	80	35	65	35	65	12' X 6'	260
ULDC-08	Susan Way	30	80	35	65	35	65	8' X 5'	120
ULDC-09	3600 West/Old Bingham Hwy	30	0	0	30	0	30	8' X 6'	150
ULDC-10	3400 West	30	0	0	30	0	30	10' X 5'	160
ULDC-11	Bingham Creek - Dumpout	30	90	30	60	30	60	20' Weir	355
ULDC-12	9000 South	30	90	30	60	30	60	10' X 6'	205
ULDC-13	9400 South - Control Structure	35	0	0	35	0	35	N/A	N/A
ULDC-14	9425 South - Control Structure	35	0	0	35	0	35	N/A	N/A
ULDC-15	3200 West	35	0	0	35	0	35	15' X 5'	270
ULDC-16	9600 South - Control Structure	35	0	0	35	0	35	N/A	N/A
ULDC-17	Shields Ln	35	0	0	35	0	35	15' X 5'	270
ULDC-18	Wheadon Ln	35	0	0	35	0	35	Bridge	175
ULDC-19	Jordan Parkway/10400 South	35	0	0	35	0	35	14' X 5'	250
ULDC-20	10755 South	35	0	0	35	0	35	12' X 6'	260
ULDC-21	11000 South - Farm Bridge	35	0	0	35	0	35	Bridge	130
ULDC-22	Jarans Honor Dr	35	0	0	35	0	35	12' X 6'	260
ULDC-23	Alta Peak Road	35	0	0	35	0	35	12' X 6'	260
ULDC-24	3200 West	35	0	0	35	0	35	12' X 7'	320
ULDC-25	11400 South	35	0	0	35	0	35	12' X 6'	260
ULDC-26	11800 South	45	0	0	45	0	45	10' X 4'	120
ULDC-27	Midas Creek - Dumpout	45	235	55	100	55	100	18' Weir	360
ULDC-28	12600 South	45	235	30	75	30	75	12' X 6'	260
ULDC-29	12730 South	45	235	30	75	30	75	9' X 6'	175
ULDC-30	13400 South	45	0	0	45	0	45	12' X 5'	205
ULDC-31	Sanborn Dr	45	0	0	45	0	45	12' X 6'	260
ULDC-32	Rose Creek - Dumpout	45	265	95	140	95	140	12' Weir	115
ULDC-33	Bangerter Hwy	50	265	95	145	95	145	17' X 5'	320
ULDC-34	13800 South	50	265	95	145	95	145	17' X 5'	320
ULDC-35	14100 South - Farm Bridge	50	265	95	145	95	145	Bridge	190
ULDC-36	14400 South	50	265	95	145	95	145	14' X 5'	250
ULDC-37	2700 West	50	265	105	155	105	155	12' X 5'	205
ULDC-38	14775 South - Control Structure	50	265	105	155	105	155	N/A	N/A
ULDC-39	2200 West	50	265	105	155	105	155	12' X 5'	205
ULDC-40	Redwood Rd	50	140	75	125	75	125	12' X 5'	205
ULDC-41	15050 South - Control Structure	50	140	75	125	75	125	N/A	N/A
ULDC-42	Iron Horse Blvd	50	140	40	90	40	90	60"	190
ULDC-43	Wood Hollow - Proposed Dumpout Structure	50	140	40	90	40	90	N/A	N/A
ULDC-44	15730 South	50	140	40	90	40	90	14' X 6'	160
ULDC-45	Porter Rockwell Blvd	50	140	40	90	40	90	12' X 6'	200
ULDC-46	Wood Hollow South - Proposed Dumpout Structure	50	140	40	90	40	90	N/A	N/A
ULDC-47	16500 South - Farm Bridge	50	140	40	90	40	90	Bridge	420
ULDC-48	16550 South - Farm Bridge	50	140	40	90	40	90	Bridge	220



1 = Storm Flow Only

2 = Includes both Irrigation and Storm Flow



- Hollows
- Rose Creek
- Midas Creek
- Bingham Creek
- Jordan Landing

# Utah & Salt Lake Canal Flow Rates

ID	Structure Location	Structure Type	Approximate Peak Summer Irrigation Flow (cfs)	2002 SWCCS Future Build-Out 100-yr Design Storm Flow (cfs)	Existing 100-Year Design Storm Flow Only (cfs)	Existing 100-yr Design Storm Combined Flow (cfs)	Future 100-yr Design Storm Flow Only (cfs)	Future 100-yr Design Storm Combined Flow (cfs)	Existing Culvert Size	Estimated Culvert Capacity (cfs)
USLC-01	9200 West - Access Bridge	Bridge	30	0	25	55	25	55	13' Wide	290
USLC-02	9200 West	Culvert	30	0	25	55	25	55	16'X4' Box	230
USLC-03	8920 West	Culvert	30	0	25	55	25	55	17'X5.3' Box	370
USLC-04	3500 South	Culvert	30	0	25	55	25	55	16'x4.5' Box	270
USLC-05	Elk Point Dr.	Culvert	30	0	25	55	25	55	16'X7' Arch	320
USLC-06	8400 West	Culvert	30	0	30	60	30	60	14'X5' Box	270
USLC-07	8300 West - Control Structure	Control Structure	30	0	30	60	30	60	N/A	N/A
USLC-08	8000 West	Bridge	30	0	0	30	0	30	23' Wide	400
USLC-09	8000 West - Dumpout	Canal Dumpout	60	115	125	185	140	200	20' Weir	700
USLC-10	Valley Forge Rd.	Culvert	60	115	125	185	140	200	20'X6' Arch	400
USLC-11	7225 West - Control Structure	Control Structure	60	115	125	185	140	200	N/A	N/A
USLC-12	7200 West	Bridge	60	115	130	190	140	200	20' Wide	190
USLC-13	6800 West	Bridge	60	115	130	190	140	200	25' Wide	390
USLC-14	6700 West - Control Structure	Inline	60	115	130	190	140	200	N/A	N/A
USLC-15	6400 West	Bridge	60	115	140	200	140	200	20' Wide	400
USLC-16	6000 West	Bridge	60	115	110	170	110	170	25' Wide	670
USLC-17	Mountain View Corridor	Bridge	60	115	80	140	80	140	18' Wide	420
USLC-18	Lowe's Parking Lot	Culvert	60	115	80	140	80	140	20'X5.2' Arch	340
USLC-19	4100 South	Bridge	60	115	80	140	80	140	24' Wide	340
USLC-20	5600 West	Bridge	60	115	80	140	80	140	24' Wide	730
USLC-21	5400 West	Bridge	60	115	70	130	85	145	24' Wide	410
USLC-22	4800 West	Bridge	60	115	85	145	85	145	24' Wide	430
USLC-23	Dartmouth Dr.	Bridge	60	115	85	145	85	145	24' Wide	700
USLC-24	Midway Dr.	Bridge	60	115	85	145	85	145	20' Wide	930
USLC-25	4700 South - Control Structure	Inline Bridge	60	115	70	130	70	130	N/A	N/A
USLC-26	4700 South - Dumpout	Canal Dumpout	60	125	70	130	70	130	15' Weir	405
USLC-27	4700 South - Access Bridge	Bridge	60	125	70	130	70	130	25' Wide	400
USLC-28	4700 South	Bridge	70	135	50	120	50	120	22' Wide	360
USLC-29	4715 South - Access Bridge	Bridge	70	135	50	120	50	120	24' Wide	560
USLC-30	4000 West	Bridge	70	135	50	120	50	120	24' Wide	320
USLC-31	Bangerter Hwy (3800 West)	Culvert	70	135	50	120	50	120	20'X7' Box	680
USLC-32	3600 West	Culvert	70	135	35	105	35	105	26'X6' Box	750
USLC-33	3200 West	Bridge	70	135	35	105	35	105	24' Wide	570
USLC-34	5400 South	Culvert	70	0	0	70	0	70	26'X5.5' Box	660
USLC-35	5400 South - Control Structure	Control Structure	70	0	0	70	0	70	N/A	N/A
USLC-36	5400 South - Dumpout	Canal Dumpout	100	165	140	240	150	250	15' Weir	N/A
USLC-37	Bastille Dr.	Bridge	100	165	140	240	150	250	22' Wide	560
USLC-38	2700 West	Bridge	100	165	140	240	145	245	22' Wide	820
USLC-39	6200 South	Bridge	100	165	140	240	145	245	22' Wide	420
USLC-40	2200 West	Bridge	100	165	140	240	145	245	20' Wide	430
USLC-41	2000 West - Control Structure	Control Structure	100	165	140	240	145	245		N/A
USLC-42	2050 West - Farm Bridge	Bridge	100	165	140	240	145	245	22' Wide	400
USLC-43	2200 West	Bridge	100	165	140	240	145	245	24' Wide	440

USLC-44	2700 West	Culvert	60	165	70	130	85	145	18'X7' Arch	400
USLC-45	7000 South - Control Structure	Control Structure	100	165	140	240	145	245	N/A	N/A
USLC-46	7000 South	Culvert	100	165	140	240	145	245	26'X6.5' Box	850
USLC-47	7325 South - Control Structure	Control Structure	100	165	50	150	50	150	N/A	N/A
USLC-48	7800 South - Dumpout	Canal Dumpout	120	235	90	210	130	250	24' Weir	255
USLC-49	7800 South	Bridge	120	235	90	210	130	250	20' Wide	510
USLC-50	8250 South - Control Structure	Control Structure	120	235	90	210	100	220	N/A	N/A
USLC-51	UTA Trax Red Line	Bridge	120	235	10	130	15	135	34' Wide	510
USLC-52	2700 West - Control Structure	Inline Bridge	120	235	0	120	0	120	N/A	N/A
USLC-53	Bingham Creek - Dumpout	Canal Dumpout	130	405	140	270	145	275	20' Weir	430
USLC-54	2700 West	Culvert	130	405	140	270	145	275	18'X8' Arch	450
USLC-55	Golf Course Bridge (8600 South)	Bridge	130	405	140	270	145	275	20' Wide	530
USLC-56	Gardner Ln.	Bridge	130	405	140	270	145	275	25' Wide	580
USLC-57	Golf Course Bridge (8675 South)	Bridge	130	405	140	270	145	275	20' Wide	830
USLC-58	9000 South	Culvert	130	405	140	270	145	275	16'X7.5'	320
USLC-59	9150 South - Control Structure	Control Structure	130	405	140	270	145	275	N/A	N/A
USLC-60	9450 South - Control Structure	Control Structure	130	405	130	260	130	260	N/A	N/A
USLC-61	2200 West	Culvert	130	405	120	250	120	250	20'X7.6' Arch	520
USLC-62	9800 South	Culvert	130	405	120	250	120	250	20'X7' Box	830
USLC-63	Marv Jensen Park	Bridge	130	405	105	235	105	235	20' Wide	680
USLC-64	10400 South	Bridge	130	405	105	235	105	235	22' Wide	930
USLC-65	Culmination St.	Bridge	130	405	105	235	105	235	20' Wide	730
USLC-66	2200 West	Culvert	130	405	105	235	105	235	18'X7.5' Arch	430
USLC-67	Gallant Fox Ct.	Culvert	130	405	50	180	50	180	20'X6' Arch	550
USLC-68	11200 South - Access Bridge	Bridge	130	405	15	145	15	145	26' Wide	930
USLC-69	11400 South - Control Structure	Control Structure	130	405	5	135	5	135	N/A	N/A
USLC-70	11400 South	Culvert	130	405	5	135	5	135	24'X8' Box	1030
USLC-71	11625 South	Bridge	130	405	5	135	5	135	16' Wide	970
USLC-72	Midas Creek - Dumpout	Canal Dumpout	140	360	180	320	180	320	18' Weir	265
USLC-73	11800 South	Bridge	140	360	180	320	180	320	22' Wide	810
USLC-74	12600 South	Bridge	140	360	100	240	100	240	20' Wide	1340
USLC-75	12750 South - Control Structure	Control Structure	140	360	100	240	100	240	N/A	N/A
USLC-76	13035 South	Culvert	140	360	50	190	50	190	24'X7' Box	820
USLC-77	13400 South	Culvert	140	360	20	160	20	160	22'X6' Box	590
USLC-78	Bangerter Hwy (13800 South)	Culvert	140	360	0	140	0	140	20'X7' Box	650
USLC-79	Rose Creek - Dumpout	Canal Dumpout	170	310	185	355	190	360	18' Weir	220
USLC-80	13800 South - Control Structure	Control Structure	170	310	185	355	190	360	N/A	N/A
USLC-81	2200 West	Culvert	170	310	175	345	180	350	20'X7.75' Box	750
USLC-82	1440 South	Culvert	170	310	175	345	180	350	23'X8.5' Box	1020
USLC-83	Redwood Rd.	Bridge	170	310	95	265	95	265	20' Wide	1180
USLC-84	Rock Hollow Dr.	Culvert	170	310	20	190	30	200	20'X7' Box	650
USLC-85	Trail Bridge (15100 South)	Bridge	170	310	20	190	30	200	60' Wide Footbridge	2510
USLC-86	Iron Horse Blvd.	Culvert	170	310	20	190	30	200	20'X7' Box	650
USLC-87	Trail Bridge (15600 South)	Bridge	170	310	25	195	30	200	45' Footbridge	ot a restrictio
USLC-88	Porter Rockwell Blvd.	Culvert	170	310	25	195	30	200	Under Construction	
USLC-89	Trail Bridge (16100 South)	Bridge	170	310	10	180	30	200	48' Footbridge	ot a restrictio
USLC-90	Access Bridge (17000 South)	Bridge	170	310	10	180	10	180	23.5' Bridge	ot a restrictio

1 = Storm Flow Only

2 = Includes both Irrigation and Storm Flow



- Hollows
- Rose Creek
- Midas Creek
- Bingham Creek
- Barney's Creek
- 5400 South
- 4700 South
- 8000 West
- End of Model

# South Jordan Canal Flow Rates

ID	Structure Location	Structure Type	Approximate Peak Summer Irrigation Flow (cfs)	2002 SWCCS Future Build-Out 100-Yr Design Storm Flows (cfs)	Existing 100-Yr Design Storm Flow Only (cfs)	Existing 100-Yr Design Storm Combined Flow (cfs)	Future 100-Yr Design Storm Flow Only	Future 100 -yr Design Storm Combined	2002 Structure Size	Existing Structure Size (Span ft x Rise ft)	Estimated Culvert Capacity (cfs)
SJC-001	3900 West	Bridge	30	30	5	35	5	35		8' x 5'	130
SJC-002	Bangerter Highway (3800 West)	Culvert	30	30	5	35	5	35	5.5' x 6' W	6' x 4'	65
SJC-003	3600 West	Bridge	30	30	5	35	5	35	6' W	5' x 2.5'	35
SJC-004	4700 South	Bridge	30	30	5	35	5	35	18.25' W	20' x 5'	425
SJC-005	4700 South - Dumpout	Dumpout	30	55	5	35	5	35		12' Weir	135
SJC-006	3250 West	Bridge	30	55	5	35	5	35	8' W	8' x 3'	65
SJC-007	3200 West	Bridge	30	55	5	35	5	35	4.25' x 12' W	12' x 4'	165
SJC-008	3145 West	Bridge	30	55	5	35	5	35		10' x 2.5'	70
SJC-009	3100 West	Bridge	30	55	5	35	5	35		11' x 3'	100
SJC-010	4960 South	Bridge	30	55	5	35	5	35		12' x 3'	115
SJC-011	4965 South	Bridge	30	55	5	35	5	35		10' x 4'	80
SJC-012	4970 South	Bridge	30	55	5	35	5	35		8' x 3.3'	75
SJC-013	4980 South	Bridge	30	55	5	35	5	35		10' x 3.5'	110
SJC-014	W Bigarade Ln.	Bridge	30	55	5	35	5	35	2.3' x 12' W?	12' x 2.5'	85
SJC-015	5080 South	Bridge	30	55	5	35	5	35	2.3' x 12' W?	13.5' x 4'	190
SJC-016	5090 South	Bridge	30	55	5	35	5	35		10' x 3.3'	60
SJC-017	5100 South	Bridge	30	55	5	35	5	35		12' x 2.5'	50
SJC-018	5245 South	Bridge	30	55	5	35	5	35		13' x 4'	115
SJC-019	5300 South	Bridge	30	55	5	35	5	35		12.6' x 4'	110
SJC-020	Jordan Canal Rd./ 5319 South	Bridge	30	55	5	35	5	35	13' W	11' x 4'	90
SJC-021	5350 South	Bridge	30	55	5	35	5	35		10' x 5'	110
SJC-022	2700 West / 5400 South	Culvert	30	55	5	35	5	35	4.5' X 10'	10' x 4'	135
SJC-023	By Marsha Brooks Circle	Bridge	30	55	5	35	5	35		17.41' x 5'	225
SJC-024	5400 South - Dumpout	Dumpout	30	115	40	70	40	70		10' Weir	175
SJC-025	5505 S 2750 West	Bridge	30	115	40	70	40	70		11' x 2.5'	105
SJC-026	5629 S 2750 West	Bridge	30	115	40	70	40	70		11' x 4'	150
SJC-027	5644 S 2005 West	Bridge	30	115	40	70	40	70		11' x 4'	90
SJC-028	5646 S 2005 West	Bridge	30	115	40	70	40	70		11' x 4'	150
SJC-029	5650 S 2005 West	Bridge	30	115	40	70	40	70		12' x 4'	165
SJC-030	5691 S 2005 West	Bridge	30	115	40	70	40	70		15.5' x 3'	115
SJC-031	5723 S Jordan Canal Road	Bridge	30	115	40	70	40	70		20' x 4'	190
SJC-032	Player Ridge Cir.	Bridge	30	115	40	70	40	70		10.7' x 3.3'	110
SJC-033	Angle Ln.	Bridge	30	115	40	70	40	70		12' x 2.5'	85
SJC-034	5824 S 2005 West	Bridge	30	115	40	70	40	70		12' x 2.5'	85
SJC-035	5834 S 2005 West	Bridge	30	115	40	70	40	70		13' x 2.5'	95
SJC-036	5860 S 2005 West	Bridge	30	115	40	70	40	70		16' x 3'	95
SJC-037	5873 S 2005 West	Bridge	30	115	40	70	40	70		17.2' x 4'	160
SJC-038	Farm Ridge Rd.	Bridge	30	115	40	70	40	70		13.5' x 3.5'	160
SJC-039	5924 S 2005 West	Bridge	30	115	40	70	40	70		13' x 3.2'	135
SJC-040	5947 S 2005 West	Bridge	30	115	40	70	40	70		12.5' x 3.3'	75
SJC-041	5976 S 2005 West	Bridge	30	115	40	70	40	70		13' x 3.7'	100
SJC-042	Canal Ridge	Bridge	30	115	40	70	40	70		12' x 3'	70
SJC-043	5990 S 2005 West	Bridge	30	115	40	70	40	70		12' x 3.1'	115
SJC-044	5992 S 2005 West	Bridge	30	115	40	70	40	70		13' x 3'	75
SJC-045	6024 S Jordan Canal Road	Bridge	30	115	40	70	40	70		12' x 4.3'	115
SJC-046	6026 S Jordan Canal Road	Bridge	30	115	40	70	40	70		11' x 3.3'	70
SJC-047	6028 S Jordan Canal Road	Bridge	30	115	40	70	40	70		11' x 4.7'	115
SJC-048	6030 S Jordan Canal Road	Culvert	30	115	40	70	40	70		13' x 6'	320
SJC-049	6032 S Jordan Canal Road	Bridge	30	115	40	70	40	70		14' x 4.7'	155
SJC-050	Labrum Park Ln./ 6150 South	Bridge	30	115	40	70	40	70		14' x 6'	220
SJC-051	Jordan Canal Road	Bridge	30	115	40	70	40	70		12' x 5'	140
SJC-052	6000 South	Bridge	30	115	40	70	40	70		12.6' x 5'	150
SJC-053	Bennion Boulevard / 6200 South	Culvert	30	115	40	70	40	70	4.65' X 13'	12' x 4.5'	220

SJC-054	6296 South	Culvert	30	115	40	70	40	70	-	12' x 6'	300
SJC-055	Redwood Road	Bridge	30	115	45	75	45	75	12' W	12' x 3'	115
SJC-056	Redwood Road/ 6670 South	Bridge	30	115	45	75	45	75	15' W	14' x 4.5'	245
SJC-057	1780 W 6670 South	Bridge	30	115	45	75	45	75		12.3' x 3.5'	90
SJC-058	1830 W 6670 South	Bridge	30	115	45	75	45	75		13.2' x 4'	115
SJC-059	1895 W 6670 South	Bridge	30	115	45	75	45	75		12.3' x 4'	105
SJC-060	1905 W 6670 South	Bridge	30	115	45	75	45	75		13' x 4'	115
SJC-061	1900 West	Bridge	30	115	45	75	45	75	13' W	13' x 4.5'	135
SJC-062	by 24993	Bridge	30	115	45	75	45	75		10' x 3'	90
SJC-063	2200 West	Bridge	30	115	45	75	45	75	20' W	16' x 3.5'	120
SJC-064	7000 South	Culvert	30	115	0	30	0	30	15' W	15' x 4'	225
SJC-065	7000 South - Dumpout	Dumpout	30	115	25	55	25	55		16' Weir	360
SJC-066	7110 South	Bridge	30	115	25	55	25	55		16' x 4'	145
SJC-067	7200 South	Bridge	30	115	25	55	25	55		15' x 4'	135
SJC-068	Harvest Ln./ 7305 South	Bridge	30	115	25	55	25	55		18' x 3.5'	140
SJC-069	7310 South	Bridge	30	115	25	55	25	55		14' x 3.5'	100
SJC-070	7360 South	Bridge	30	115	25	55	25	55		18' x 3.3'	110
SJC-071	7390 South	Bridge	30	115	25	55	25	55		15' x 3'	90
SJC-072	7395 South	Bridge	30	115	25	55	25	55		15' x 3'	90
SJC-073	7400 South	Bridge	30	115	25	55	25	55		15' x 3'	90
SJC-074	7410 South	Bridge	30	115	25	55	25	55		15' x 3.5'	110
SJC-075	7500 South	Culvert	30	115	25	55	25	55		16' Wide Arch	110
SJC-076	7510 South	Bridge	30	115	25	55	25	55		13.5' x 3.5'	80
SJC-077	7560 South	Bridge	30	115	25	55	25	55		14' x 3.5'	100
SJC-078	By 7560 South	Bridge	30	115	25	55	25	55		16' x 3.7'	130
SJC-079	7600 South	Bridge	30	0	5	35	5	35		18' x 4'	170
SJC-080	7640 South	Bridge	30	0	5	35	5	35		14' x 4'	125
SJC-081	7680 South	Bridge	30	0	5	35	5	35	18' W	18' x 3.5'	140
SJC-082	7800 South - Dumpout	Dumpout	30	135	5	35	5	35		28' Weir	1030
SJC-083	7800 South	Bridge	30	135	0	30	0	30	16' W	16' x 3.5'	120
SJC-084	Bueno Vista Dr. / 8070 South	Bridge	30	135	20	50	20	50	19' W	18' x 4'	170
SJC-085	8120 South	Bridge	30	135	20	50	20	50	14' W	14' x 4'	125
SJC-086	Pauline Way / 8190 South	Bridge	30	135	20	50	20	50	14' W	14' x 4'	125
SJC-087	UTA Trax Red Line	Culvert	30	0	0	30	0	30		11' x 4'	155
SJC-088	Sugar Factory Rd./ 2200 West	Culvert	30	0	0	30	0	30		11' x 4'	155
SJC-089	Bingham Creek - Dumpout	Dumpout	35	100	150	185	155	190		14' Weir	145
SJC-090	Gardner Ln./ 8660 South	Bridge	35	100	85	120	105	140	17' W	17' x 4'	160
SJC-091	9000 South	Bridge	35	100	70	105	100	135	20' W	20' x 4'	190
SJC-092	Willow Cove Apartments	Bridge	35	100	70	105	85	120		18' x 4.5'	200
SJC-093	Redwood Rd. / Brigadoon Park Dr.	Bridge	35	100	70	105	85	120	18' W	18' x 5'	230
SJC-094	Kodiak Creek Ct. / 9635 South	Bridge	35	100	85	120	110	145	14' W	15' x 5'	185
SJC-095	9800 South	Bridge	35	100	85	120	110	145		13' x 5'	250
SJC-096	Reunion Avenue/ 10000 South	Bridge	35	100	85	120	110	145	14' W	14' x 5'	170
SJC-097	10075 South - Wood Bridge	Bridge	35	100	85	120	110	145		19' x 4'	180
SJC-098	Wheadon Glenn Cv.	Bridge	35	100	85	120	110	145		12' x 5'	140
SJC-099	1300 West	Bridge	35	100	85	120	110	145	7.5' x 17' W	16' x 6 1/2' CMP to 12' x 4'	260
SJC-100	Holt Farm Lane	Bridge	35	100	85	120	110	145		14' x 6'	220
SJC-101	1299 West	Bridge	35	100	85	120	110	145		14' x 8.5'	345
SJC-102	By 10400 South	Bridge	35	100	85	120	110	145	7 X 14.76	11' x 5'	125
SJC-103	South Jordan Parkway	Bridge	35	0	0	35	0	35		14' x 6'	220
SJC-104	10400 South - Dumpout	Dumpout	35	10	35	70	35	70		10' Weir	410
SJC-105	1300 West	Culvert	35	10	35	70	35	70	16' W	16' x 6.4'	475
SJC-106	10775 South	Culvert	35	10	5	40	5	40		14' x 6'	365
SJC-107	11025 South - Foot Bridge	Bridge	35	10	5	40	5	40		19' x 6'	320
SJC-108	11400 South	Culvert	35	0	0	35	0	35	18' W	18' x 4'	280
SJC-109	Midas Creek - Dumpout	Dumpout	45	65	90	135	90	135		15' Weir	170
SJC-110	12040 South	Culvert	45	65	105	150	105	150		14' x 6'	365
SJC-111	12600 South	Bridge	45	65	40	85	40	85	18' W	16' x 6'	260

SJC-112	12800 South - Control Structure	Control Structure	45	65	40	85	40	85		N/A	N/A
SJC-113	12800 South	Bridge	45	270	40	85	40	85	17' W	17' X 4'	160
SJC-114	13034 South	Bridge	45	270	35	80	35	80		17' X 4'	160
SJC-115	13200 South	Bridge	45	270	35	80	35	80	17' W	17' X 7'	345
SJC-116	1300 West	Bridge	45	0	0	45	0	45	20' W	20' X 5.5'	305
SJC-117	1300 West	Bridge	45	0	0	45	0	45	18' W	18' X 5'	235
SJC-118	Bangerter Highway (13800 South)	Bridge	45	0	0	45	0	45	7.4' x 11.2 W	11' X 6.5'	175
SJC-119	13970 South / Marketview Dr.	Culvert	45	0	0	45	0	45		13' X 6'	330
SJC-120	Rose Creek - Dumpout	Dumpout	80	70	75	155	75	155		15' Weir	290
SJC-121	14400 South	Culvert	80	70	75	155	75	155	16' W	14' X 6.5'	405
SJC-122	By 14600 South	Bridge	80	70	75	155	75	155		18' X 4.4'	180
SJC-123	14600 South	Culvert	80	70	75	155	75	155		12' X 6'	300
SJC-124	14725 South - 1690 West	Bridge	80	70	75	155	75	155		18' X 6'	300
SJC-125	14775 South - 1690 West	Bridge	80	70	75	155	75	155		17' X 6'	280
SJC-126	14825 South - 1690 West	Bridge	80	70	75	155	75	155		18' X 4'	170
SJC-127	15000 South - 1690 West	Bridge	80	70	75	155	75	155		20' X 4'	190
SJC-128	15025 South - 1690 West	Bridge	80	70	75	155	75	155		16.5' X 5.5'	240
SJC-129	Rock Hollow Dr.	Culvert	80	70	75	155	55	135		14' X 6'	365
SJC-130	By Cowboy Circle	Bridge	80	70	75	155	55	135		22.5' X 4'	220
SJC-131	Iron Horse Boulevard	Culvert	80	70	75	155	55	135		14' X 6'	365
SJC-132	Broad Crested Weir	Control Structure	80	0	0	80	0	80		N/A	N/A
SJC-133	Railroad	Culvert	80	0	0	80	0	80	Semi Circle 12' RISE (41/9)	18' X 13'	800

DS of Bingham
Bingham Creek
Midas Creek
Rose Creek

# North Jordan Canal Flow Rates

ID	Structure Location	2002 SWCCS		Existing 100-	Future 100-y	Future 100-yr	Existing Culvert Size	Estimated Structure Capacity (cfs)
		Future Build-Out 100-yr Design Storm Flow (cfs)	2015 NJC Study Storm Flow (cfs)	Year Design Storm Flow Only (cfs)	Design Storm Flow Only (cfs)	Design Storm Combined Flow (cfs)		
NJC-01	3615 South - Access Bridge			45	45	92	5' Pipe	90
NJC-02	3800 South			35	35	82	3.5' Pipe	90
NJC-03	3800 South - Drain	55	9	35	35	82	Gate Only	N/A
NJC-04	3300 West - Access Bridge	55		45	45	92	11.5' Span	120
NJC-05	3200 West	55		35	35	82	12' Span	135
NJC-06	3200 West - Drain	55	14	45	45	92	Gate Only	N/A
NJC-07	3000 West - Drain	55	14	35	35	82	Gate Only	N/A
NJC-08	Market Street	55		20	20	67	28' Span	190
NJC-09	4000 South - Drain	55	17	20	20	67	8' Weir	125
NJC-10	2700 West -Dumpout	55	0	60	65	112	7.4' Weir	125
NJC-11	Constitution Blvd and 4100 South	55		15	20	67	18' Span	330
NJC-12	Farthingale Ln - Access Bridge	55		15	20	67	20' Span	390
NJC-13	Dutch Draw	55		0	0	47	22' Span	515
NJC-14	4250 South	55		0	0	47	9' X 6' Box	220
NJC-15	I-215 - Dumpout	55	26	85	90	137	4.6' Weir	125
NJC-16	I-215 (West)	55		90	100	147	18' Span	360
NJC-17	Marvinwood Dr.	55		90	100	147	12.8' X 6.2' Arch	140
NJC-18	2200 West	55		90	100	147	15' Span	315
NJC-19	2150 West -Access Bridge	55		40	45	92	28' Span	210
NJC-20	2100 West - Access Bridge	55		40	45	92	30' Span	405
NJC-21	1775 West - Pedestrian Bridge	55		40	45	92	28.5' Span	215
NJC-22	Redwood Rd.	55		40	45	92	17' Span	300
NJC-23	Cemetery Rd.	55		40	45	92	18' Span	180
NJC-24	Conifer Way	55		40	45	92	19' Span	430
NJC-25	4700 South	55		40	45	92	24' Span	270
NJC-26	4700 South - Dumpout	140	35	50	50	102	27' Weir	130
NJC-27	4750 South - Access Bridge	140		55	55	107	28' Span	470
NJC-28	Murray Taylorsville Rd.	140		40	40	92	13.5' Span	280
NJC-29	5025 South - Access Bridge	140		40	40	92	50' Span	Not a Restriction
NJC-30	Morning Sun Dr.	140		40	40	92	54' Span	Not a Restriction
NJC-31	Morning Vista Dr.	140		60	60	112	21' X 8' Arch	450
NJC-32	5225 South - Access Bridge	140		60	60	112	22' Span	520
NJC-33	5400 South	0		0	0	52	18' X 6' Box	495
NJC-34	5400 South - Dumpout	140	12	85	100	152	N/A	N/A
NJC-35	1300 West	140		105	120	172	12' X 6' Box	315
NJC-36	5600 South - Dumpout	140	142	95	125	177	16' Weir	130
NJC-37	5800 South	140		95	125	177	21' Span	305
NJC-38	I-215 (South)	140		50	65	117	32' Span	420
NJC-39	5910 South - Access Bridge	140		35	55	107	24' Span	360
NJC-40	Lock Hawkins Dr.	140		35	55	107	46' Span	Not a Restriction
NJC-41	Bennion Blvd.	140		35	55	107	19.4' X 6.2' Arch	340
NJC-42	6375 South - Access Bridge	140		20	30	82	25' Span	205
NJC-43	Murray Bluffs Ct.	0		0	0	52	9' X 5' Box	195



NJC-44	Winchester St.	0		0	0	52	25' X 4' Box	510
NJC-45	6500 South - Dumpout	70	18	35	35	87	15' Weir	130
NJC-46	7000 South	70		50	50	102	15.7' Span	520
NJC-47	Jordan River Parkway Trail	0		0	0	52	37' Span	Not a Restriction
NJC-48	7200 South - Dumpout	220	105	35	40	92	19' Weir	150
NJC-49	Valley Water Access	220		40	45	97	20' Span	545
NJC-50	1125 West - Pedestrian Bridge	70		0	0	52	13.3' Span	280
NJC-51	7800 South	70		0	0	52	20' Span	380
NJC-52	7800 South - Dumpout	15	34	85	85	145	N/A	175
NJC-53	UTA Trax Red Line	15		85	85	145	20' X 7.7' Arch	400
NJC-54	7900 South - Access Bridge	15		85	85	145	22' Span	245
NJC-55	8050 South	15		100	100	160	35.5' Span	350
NJC-56	1100 West	15		100	100	160	34' Span	385
NJC-57	8200 South	15		100	100	160	38' Span	590
NJC-58	8250 South - Access Bridge	15		100	100	160	37' Span	800
NJC-59	8600 South	15		100	100	160	36' Span	Not a Restriction
NJC-60	9000 South	15		130	130	190	20' Span	745
NJC-61	Golf Cart Path (9025 South)	15		130	130	190	38' Span	Not a Restriction

# **APPENDIX H**

## **Detailed Cost Estimates**

# Bingham Creek Culvert Project Cost Estimates

#	Project Improvement	Base Cost	Culvert Calculations							Engineering/Legal/Admin	Contingency	Culvert Cost
			Length	Unit Cost/LF	Headwall/Wingwall	Additional Costs	MOB	Total Construction				
1	Raise Banks between North Jordan Canal and Jordan River (Paid by Developer)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Install curb walls along both banks upstream of North Jordan Canal Crossing	\$ 122,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	BC-02: Clean sediment out from Gravel Lane / 8050 South Culvert (No Cost Estimate Provided)	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Raise banks between BC-03 & BC-02	\$ 138,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	BC-03: Replace existing pipe culverts with a full width bridge and raise right bank	\$ 590,000.00	25	\$ 2,300.00	\$ 4,600.00	\$ 300,000.00	\$ 36,210.00	\$ 398,310.00	\$ 59,746.50	\$ 91,611.30	\$ 549,667.80	
6	BC-05: Replace existing pipe culvert with a 6' X 10' box culvert	\$ 626,000.00	110	\$ 800.00	\$ 24,150.00	\$ 300,000.00	\$ 41,215.00	\$ 453,365.00	\$ 68,004.75	\$ 104,273.95	\$ 625,643.70	
7	Raise banks between 1560 West and 1500 West	\$ 71,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8	Rase bank by 1620 West cul-de-sac	\$ 45,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
9	BC-13: Raise banks upstream to offset increase head	\$ 113,000.00	90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
10	Rase bank by Apartemnt complex	\$ 31,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
11	Construct curb wall by 3200 West and 8750 South	\$ 40,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
12	Raise bank upstream of 3400 West	\$ 32,000.00		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
13	BC-29: Replace existing pipe culvert with a new 6' RCP culvert	\$ 685,000.00	215	\$ 2,000.00	\$ 20,700.00	\$ -	\$ 45,070.00	\$ 495,770.00	\$ 74,365.50	\$ 114,027.10	\$ 684,162.60	

# Bingham Creek Embankment Project Cost Estimates

Project Improvement	Dirt Embankment Calculations										Length	Average Height	Top Width	M:1	X-Sec Area	Volume	Notes
	Base Cost	Fill (CY)	Cost	Mob & Additional Costs	Total Construction	Engineering/Legal/Admin	Contingency	Total Project Cost									
Raise Banks between North Jordan Canal and Jordan River (Paid by Developer)	\$ -	440	\$30,800.00	\$ 20,000.00	\$ 50,800.00	\$ 7,620.00	\$11,684.00	\$ 70,104.00	650	2	3	3	18	433.3333333			
Install curb walls along both banks upstream of North Jordan Canal Crossing	\$ 122,000.00	970	\$67,900.00	\$ 20,000.00	\$ 87,900.00	\$ 13,185.00	\$20,217.00	\$ 121,302.00	1450	2	3	3	18	966.6666667			
BC-02: Clean sediment out from Gravel Lane / 8050 South Culvert (No Cost Estimate Provided)	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -						0			
Raise banks between BC-03 & BC-02	\$ 138,000.00	1140	\$79,800.00	\$ 20,000.00	\$ 99,800.00	\$ 14,970.00	\$22,954.00	\$ 137,724.00	850	3	3	3	36	1133.333333			
BC-03: Replace existing pipe culverts with a full width bridge and raise right bank	\$ 590,000.00	130	\$ 9,100.00	\$ 20,000.00	\$ 29,100.00	\$ 4,365.00	\$ 6,693.00	\$ 40,158.00	100	3.5	3	2	35	129.6296296			
BC-05: Replace existing pipe culvert with a 6' X 10' box culvert	\$ 626,000.00	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -						0			
Raise banks between 1560 West and 1500 West	\$ 71,000.00	440	\$30,800.00	\$ 20,000.00	\$ 50,800.00	\$ 7,620.00	\$11,684.00	\$ 70,104.00	250	3.5	3	3	47.25	437.5			
Raise bank by 1620 West cul-de-sac	\$ 45,000.00	170	\$11,900.00	\$ 20,000.00	\$ 31,900.00	\$ 4,785.00	\$ 7,337.00	\$ 44,022.00	300	1.75	3	3	14.4375	160.4166667			
BC-13: Raise banks upstream to offset increase head	\$ 113,000.00	880	\$61,600.00	\$ 20,000.00	\$ 81,600.00	\$ 12,240.00	\$18,768.00	\$ 112,608.00	500	3.5	3	3	47.25	875			
Raise bank by Apartemnt complex	\$ 31,000.00	30	\$ 2,100.00	\$ 20,000.00	\$ 22,100.00	\$ 3,315.00	\$ 5,083.00	\$ 30,498.00	50	1.5	3	3	11.25	20.83333333			
Construct curb wall by 3200 West and 8750 South	\$ 40,000.00	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -						0			
Raise bank upstream of 3400 West	\$ 32,000.00	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -						0			
BC-29: Replace existing pipe culvert with a new 6' RCP culvert	\$ 685,000.00	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -						0			

# Bingham Creek Concrete Curb Project Cost Estimates

#	Project Improvement	Base Cost	Concrete Curb Wall Calculations (mimic the fill)				Cost	Mob & Additional Costs	Total Construction	Engineering/Legal/Admin	Contingency	Total Project Cost
			Length	Average Height	Average Thickness	Volume						
1	Raise Banks between North Jordan Canal and Jordan River (Paid by Developer)	\$ -				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Install curb walls along both banks upstream of North Jordan Canal Crossing	\$ 122,000.00		2	1	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	BC-02: Clean sediment out from Gravel Lane / 8050 South Culvert (No Cost Estimate Provided)	\$ -				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Raise banks between BC-03 & BC-02	\$ 138,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	BC-03: Replace existing pipe culverts with a full width bridge and raise right bank	\$ 590,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	BC-05: Replace existing pipe culvert with a 6' X 10' box culvert	\$ 626,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Raise banks between 1560 West and 1500 West	\$ 71,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	Rase bank by 1620 West cul-de-sac	\$ 45,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	BC-13: Raise banks upstream to offset increase head	\$ 113,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Rase bank by Apartemnt complex	\$ 31,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Construct curb wall by 3200 West and 8750 South	\$ 40,000.00	300	1.5	1	16.66666667	\$8,333.33	\$ 20,000.00	\$ 28,333.33	\$ 4,250.00	\$ 6,516.67	\$ 39,100.00
12	Raise bank upstream of 3400 West	\$ 32,000.00	100	1.5	1	5.555555556	\$2,777.78	\$ 20,000.00	\$ 22,777.78	\$ 3,416.67	\$ 5,238.89	\$ 31,433.33
13	BC-29: Replace existing pipe culvert with a new 6' RCP culvert	\$ 685,000.00				0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Barneys Creek Does not Include Detailed Cost Estimates. A recommended alternative has not been selected at this time.

**Table B-1**  
**Estimated Capital Improvement Costs**

#	Project Improvement	Base Cost for Flooding
1	Replace existing Welby Jacobs canal culvert crossing	\$ 310,000.00
2	Pipeline project; Construct new or parrallel pipeline from Redwood Rd to Crooked Sky Dr.	\$ 1,170,000.00
3	Construct manhole that can be pressurized or bolt down existing manhole	\$ -
4	Pipeline project; Construct new or parallel pipeline from Crooked Sky Dr. to Overflow Pond	\$ 1,420,000.00
5	Construct new overflow pond outlet pipe	\$ 530,000.00
6	Construct improved inlet to increase capacity of pipeline	\$ 70,000.00
7	Construct a new culvert to convey storm water underneath USLC	\$ 350,000.00
8	Construct a new culvert to convey storm water underneath SJC	\$ 390,000.00
9	Construct overflow/dumpout to convey storm water to Wood Hollow	\$ 210,000.00
10	Bank Deficiency Btw Porter Rockwell Blvd & 15370 South Street	\$ 29,000.00
11	Construct overflow/dumpout to convey storm water to Wood Hollow South	\$ 210,000.00
12	Construct overflow/dumpout to convey storm water to Wood Hollow	\$ 210,000.00
13	Construct overflow/dumpout to convey storm water to Wood Hollow South	\$ 210,000.00

**Table B-2  
Culvert Replacement Project Calculations**

UDOT Road (Y/N)	Proposed Culvert Size	Length/Qt	Unit Cost	Mob	Admin/Engineering/Legal		Cost
					Fees/Contingency		
N	5.5' RCP	60	\$ 400.00	\$ 200,000.00	\$	89,600.00	\$ 313,600.00
N							\$ 1,167,000.00
N							\$ -
N		0			\$	-	\$ 1,420,000.00
N	6' RCP	450	\$ 400.00	\$ 200,000.00	\$	152,000.00	\$ 532,000.00
N		1	\$ -	\$ 50,000.00	\$	20,000.00	\$ 70,000.00
N	6' RCP	130	\$ 400.00	\$ 200,000.00	\$	100,800.00	\$ 352,800.00
N	6' RCP	200	\$ 400.00	\$ 200,000.00	\$	112,000.00	\$ 392,000.00
N		1	\$ -	\$ 150,000.00	\$	60,000.00	\$ 210,000.00
N					\$	-	
N		1	\$ -	\$ 150,000.00	\$	60,000.00	\$ 210,000.00
N		1	\$ -	\$ 150,000.00	\$	60,000.00	\$ 210,000.00
N		1	\$ -	\$ 150,000.00	\$	60,000.00	\$ 210,000.00



**Table B-3  
Bank Improvement Project Calculations**

Unit Cost Used for Fill: \$ 70.00 /cu yd

Fill (cu yd)	Unit Cost	Mob & Design	Admin/Engineering/Legal Fees/Contingency	Cost
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
120	\$ 70.00	\$ 20,000.00	\$ 336.00	\$ 28,736.00
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -
0	\$ 70.00	\$ -	\$ -	\$ -

**Table B-4  
Bank Improvement Project Calculations Continued**

Length	Height	Top Width	M:1	X-Sec Area	Volume (cu ft)	Volume (cu yd)	Notes
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
550	0.5	10	2	5.5	3025	112	
				0	0	0	
				0	0	0	
				0	0	0	

Beef Hollow does not have any recommended projects, so there is no detailed cost estimate.

# Utah Lake Distributing Canal Embankment Project Cost Estimates

Project #	Project Improvement Description	Total Project Cost	Fill (cu yd)	Fill Cost	Bank Capacity Improvement Costs			Contingency	Total Bank Cost
					Mob & Design	Total Construction	Engineering/Legal/As		
1	Raise 556 LF of the Right Bank from about 12150 South to Brinley Peak Ln	\$ 33,000.00	46	\$ 3,220.00	\$ 20,000.00	\$ 23,220.00	\$ 3,483.00	\$ 5,340.60	\$ 32,044.00
2	Raise 154 LF of the Right Bank near Appoximatley 195 feet Upstream of Rose Creek Dumpout	\$ 29,000.00	5	\$ 350.00	\$ 20,000.00	\$ 20,350.00	\$ 3,052.50	\$ 4,680.50	\$ 28,083.00
3	Raise 1,678 LF of the Right Bank from about 13880 South to about 14100 South	\$ 88,000.00	615	\$ 43,050.00	\$ 20,000.00	\$ 63,050.00	\$ 9,457.50	\$ 14,501.50	\$ 87,009.00
4	Raise 1,935 LF of the Right Bank from about 14450 South to about 14660 South	\$ 151,000.00	1274	\$ 89,180.00	\$ 20,000.00	\$ 109,180.00	\$ 16,377.00	\$ 25,111.40	\$ 150,669.00
5	Raise 389 LF of the Right Bank from about 14670 South to about 14750 South	\$ 34,000.00	63	\$ 4,410.00	\$ 20,000.00	\$ 24,410.00	\$ 3,661.50	\$ 5,614.30	\$ 33,686.00
6	Raise 451 LF of the Right Bank from about 14800 South to about 14900 South	\$ 41,000.00	130	\$ 9,100.00	\$ 20,000.00	\$ 29,100.00	\$ 4,365.00	\$ 6,693.00	\$ 40,158.00
7	Raise 45 LF of the Left Bank at ULDC-38	\$ 31,000.00	27	\$ 1,890.00	\$ 20,000.00	\$ 21,890.00	\$ 3,283.50	\$ 5,034.70	\$ 30,209.00
8	Raise 870 LF of the Right Bank from aout 15000 South to 15100 South	\$ 67,000.00	399	\$ 27,930.00	\$ 20,000.00	\$ 47,930.00	\$ 7,189.50	\$ 11,023.90	\$ 66,144.00
9	Raise 43 LF of the Left Bank at about 15100 South	\$ 28,000.00	1	\$ 70.00	\$ 20,000.00	\$ 20,070.00	\$ 3,010.50	\$ 4,616.10	\$ 27,697.00
10	Raise 58 LF of the Right Bank Upstream of ULDC-40	\$ 28,000.00	3	\$ 210.00	\$ 20,000.00	\$ 20,210.00	\$ 3,031.50	\$ 4,648.30	\$ 27,890.00
11	Raise 102 LF of the Right Bank Dowsntream of ULDC-40	\$ 34,000.00	57	\$ 3,990.00	\$ 20,000.00	\$ 23,990.00	\$ 3,598.50	\$ 5,517.70	\$ 33,107.00
12	Raise 528 LF of the Right Bank Between 15700 South and 15900South	\$ 33,000.00	52	\$ 3,640.00	\$ 20,000.00	\$ 23,640.00	\$ 3,546.00	\$ 5,437.20	\$ 32,624.00

# Utah & Salt Lake Canal Embankment Project Cost Estimates

Project #	Project Improvement Description	Total Project Cost	Fill (cu yd)	Fill Cost	Mob & Design	Bank Capacity Improvement Costs				Total Bank Cost
						Total Construction	Engineering/Legal/Admin	Contingency		
1	Raise 70 LF of the Right Bank at about !	\$ 29,000.00	6	\$ 420.00	\$ 20,000.00	\$ 20,420.00	\$ 3,063.00	\$ 4,696.60	\$ 28,180.00	
2	Raise 80 LF of the Right Bank upstream	\$ 28,000.00	3	\$ 210.00	\$ 20,000.00	\$ 20,210.00	\$ 3,031.50	\$ 4,648.30	\$ 27,890.00	
3	Raise 1,000 LF of the Left Bank from 66	\$ 64,000.00	367	\$ 25,690.00	\$ 20,000.00	\$ 45,690.00	\$ 6,853.50	\$ 10,508.70	\$ 63,053.00	
4	Raise 600 LF of Left Bank from 9870 So	\$ 66,000.00	394	\$ 27,580.00	\$ 20,000.00	\$ 47,580.00	\$ 7,137.00	\$ 10,943.40	\$ 65,661.00	

# South Jordan Canal Embankment Project Cost Estimates

Project #	Project Improvement Description	Total Project Cost	Fill (cu yd)	Fill Cost	Mob & Design	Bank Capacity Improvement Costs			Total Bank Cost
						Total Constructio	Engineering/Leg	Contingency	
1	Raise 190 LF of the right bank at approximately 6700 South 2200 West	\$ 47,000.00	176	\$ 12,320.00	\$ 20,000.00	\$ 32,320.00	\$ 4,848.00	\$ 9,292.00	\$ 46,460.00
2	Raise a total of 2,040 LF of bank between 8350 South and Gardner Ln.	\$ 275,000.00	2444	\$ 171,080.00	\$ 20,000.00	\$ 191,080.00	\$ 28,662.00	\$ 54,935.50	\$ 274,678.00
3	Raise 1,830 LF of the left bank between 8400 South and 9000 South	\$ 250,000.00	2193	\$ 153,510.00	\$ 20,000.00	\$ 173,510.00	\$ 26,026.50	\$ 49,884.13	\$ 249,421.00
4	Raise 80 LF of the right bank immedeatly downstream of 9000 South	\$ 39,000.00	96	\$ 6,720.00	\$ 20,000.00	\$ 26,720.00	\$ 4,008.00	\$ 7,682.00	\$ 38,410.00
5	Raise 370 LF of the right bank upstream of 9000 South	\$ 74,000.00	444	\$ 31,080.00	\$ 20,000.00	\$ 51,080.00	\$ 7,662.00	\$ 14,685.50	\$ 73,428.00
6	Raise 530 LF of the right bank behind Schmidt's Greenhouse	\$ 93,000.00	635	\$ 44,450.00	\$ 20,000.00	\$ 64,450.00	\$ 9,667.50	\$ 18,529.38	\$ 92,647.00
7	Raise 760 LF of the right bank downstream of 9280 South	\$ 121,000.00	911	\$ 63,770.00	\$ 20,000.00	\$ 83,770.00	\$ 12,565.50	\$ 24,083.88	\$ 120,420.00
8	Raise 770 LF of the right bank upstream of Redwood Rd.	\$ 122,000.00	923	\$ 64,610.00	\$ 20,000.00	\$ 84,610.00	\$ 12,691.50	\$ 24,325.38	\$ 121,627.00
9	Raise 120 LF of the right bank at approximately 9450 South	\$ 44,000.00	144	\$ 10,080.00	\$ 20,000.00	\$ 30,080.00	\$ 4,512.00	\$ 8,648.00	\$ 43,240.00
10	Raise 1,170 LF of bank between 9450 South and Hunters Creek Cir.	\$ 170,000.00	1402	\$ 98,140.00	\$ 20,000.00	\$ 118,140.00	\$ 17,721.00	\$ 33,965.25	\$ 169,827.00
11	Raise 130 LF of right bank immedeatly downstream of Kodiak Creek Ct.	\$ 45,000.00	156	\$ 10,920.00	\$ 20,000.00	\$ 30,920.00	\$ 4,638.00	\$ 8,889.50	\$ 44,448.00
12	Raise 50 LF of left bank immedeatly downstream of Kodiak Creek Ct.	\$ 35,000.00	60	\$ 4,200.00	\$ 20,000.00	\$ 24,200.00	\$ 3,630.00	\$ 6,957.50	\$ 34,788.00
13	Raise 70 LF of right bank immedeatly upstream of Kodiak Creek Ct.	\$ 38,000.00	84	\$ 5,880.00	\$ 20,000.00	\$ 25,880.00	\$ 3,882.00	\$ 7,440.50	\$ 37,203.00
14	Raise 260 LF of right bank at approximately 9700 South	\$ 61,000.00	312	\$ 21,840.00	\$ 20,000.00	\$ 41,840.00	\$ 6,276.00	\$ 12,029.00	\$ 60,145.00
15	Raise 120 LF of left bank at approximately 9700 South	\$ 44,000.00	144	\$ 10,080.00	\$ 20,000.00	\$ 30,080.00	\$ 4,512.00	\$ 8,648.00	\$ 43,240.00
16	Raise 260 LF of right bank immedeatly upstream of 9800 South	\$ 61,000.00	312	\$ 21,840.00	\$ 20,000.00	\$ 41,840.00	\$ 6,276.00	\$ 12,029.00	\$ 60,145.00
17	Raise 400 LF of right bank at Marwood Park Ln.	\$ 78,000.00	480	\$ 33,600.00	\$ 20,000.00	\$ 53,600.00	\$ 8,040.00	\$ 15,410.00	\$ 77,050.00
18	Raise 820 LF of right bank downstream of Reunion Ave.	\$ 128,000.00	983	\$ 68,810.00	\$ 20,000.00	\$ 88,810.00	\$ 13,321.50	\$ 25,532.88	\$ 127,665.00
19	Raise 260 LF of right bank at Wheadon Glenn Cv.	\$ 61,000.00	312	\$ 21,840.00	\$ 20,000.00	\$ 41,840.00	\$ 6,276.00	\$ 12,029.00	\$ 60,145.00
20	Raise 350 LF of right bank between Reunion Ave. and Wheadon Glenn Cv.	\$ 72,000.00	420	\$ 29,400.00	\$ 20,000.00	\$ 49,400.00	\$ 7,410.00	\$ 14,202.50	\$ 71,013.00
21	Raise Private Bridge upstream of Wheadon Glenn Av.	\$ -	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	\$ -
22	Raise 80 LF of right bank upstream of 1300 South	\$ 43,000.00	138	\$ 9,660.00	\$ 20,000.00	\$ 29,660.00	\$ 4,449.00	\$ 8,527.25	\$ 42,637.00
23	Raise an additional 90 LF of right bank upstream of 1300 South	\$ 45,000.00	156	\$ 10,920.00	\$ 20,000.00	\$ 30,920.00	\$ 4,638.00	\$ 8,889.50	\$ 44,448.00
24	Riase 290 LF of right bank downstream of 1299 West	\$ 80,000.00	500	\$ 35,000.00	\$ 20,000.00	\$ 55,000.00	\$ 8,250.00	\$ 15,812.50	\$ 79,063.00
25	Raise 120 LF of right bank downstream of Holt Farm Ln.	\$ 50,000.00	207	\$ 14,490.00	\$ 20,000.00	\$ 34,490.00	\$ 5,173.50	\$ 9,915.88	\$ 49,580.00
26	Raise 360 LF of right bank at approximetly 10500 South	\$ 92,000.00	621	\$ 43,470.00	\$ 20,000.00	\$ 63,470.00	\$ 9,520.50	\$ 18,247.63	\$ 91,239.00
27	Raise 390 LF of right bank upstream of 1300 South	\$ 97,000.00	673	\$ 47,110.00	\$ 20,000.00	\$ 67,110.00	\$ 10,066.50	\$ 19,294.13	\$ 96,471.00
28	Raise 670 LF of right bank between Pinyon Pines Way and Arbor View Way	\$ 145,000.00	1155	\$ 80,850.00	\$ 20,000.00	\$ 100,850.00	\$ 15,127.50	\$ 28,994.38	\$ 144,972.00
29	Raise 130 LF of right bank at approximetly 10740 South	\$ 52,000.00	225	\$ 15,750.00	\$ 20,000.00	\$ 35,750.00	\$ 5,362.50	\$ 10,278.13	\$ 51,391.00
30	Raise 160 LF of right bank at approximetly 14850 South	\$ 57,000.00	276	\$ 19,320.00	\$ 20,000.00	\$ 39,320.00	\$ 5,898.00	\$ 11,304.50	\$ 56,523.00
31	Raise 110 LF of right bank downstream of Rock Hollow Dr.	\$ 48,000.00	190	\$ 13,300.00	\$ 20,000.00	\$ 33,300.00	\$ 4,995.00	\$ 9,573.75	\$ 47,869.00
32	Raise 140 LF of right bank at Bridlewood Dr.	\$ 54,000.00	242	\$ 16,940.00	\$ 20,000.00	\$ 36,940.00	\$ 5,541.00	\$ 10,620.25	\$ 53,102.00

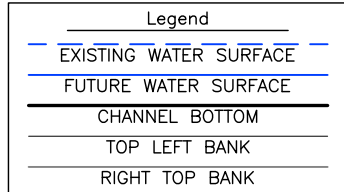
# North Jordan Canal Embankment Project Cost Estimates

Project #	Project Improvement Description	Total Project Cost	Fill (cu yd)	Fill Cost	Mob & Additional Costs	Bank Capacity Improvement Costs			Contingency	Total Bank Cost
						Total Construction Cost	Engineering/Legal/Admin			
1	Raise 50 LF of right bank upstream of dumpout at 3800 South	\$ 31,000.00	27	\$ 1,890.00	\$ 20,000.00	\$ 21,890.00	\$ 3,283.50	\$ 5,034.70	\$ 30,209.00	
2	Raise 1600 LF of both banks upstream of 3200 West	\$ 219,000.00	1981	\$ 138,670.00	\$ 20,000.00	\$ 158,670.00	\$ 23,800.50	\$ 36,494.10	\$ 218,965.00	
3	Raise 60 LF of right bank approximately 100-feet downstream of I-215	\$ 31,000.00	30	\$ 2,100.00	\$ 20,000.00	\$ 22,100.00	\$ 3,315.00	\$ 5,083.00	\$ 30,498.00	

# **APPENDIX I**

## **HEC-RAS Profiles**





SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

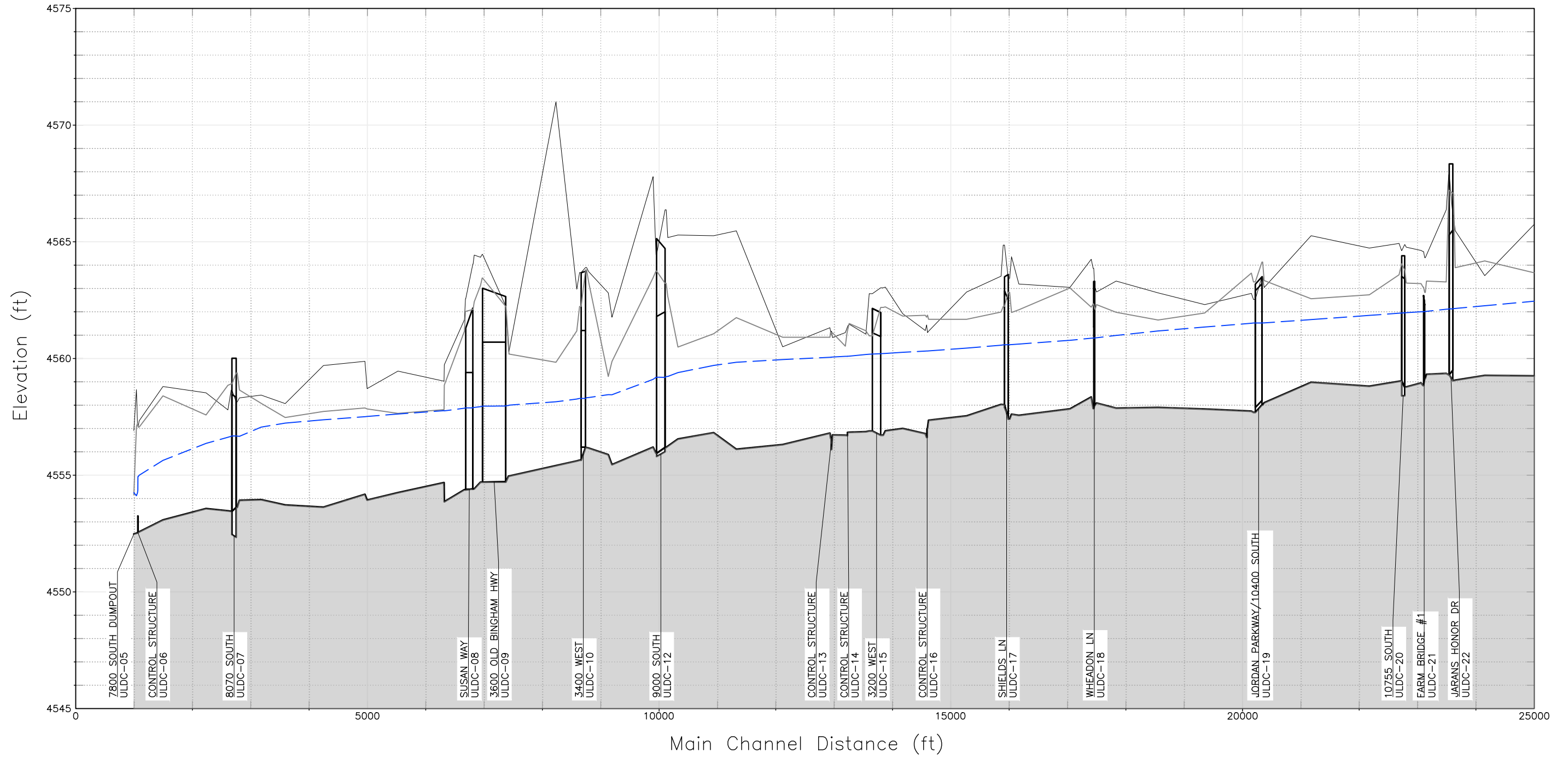
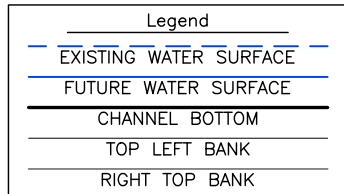


FIGURE I-01  
 HYDRAULIC PROFILE OF UTAH LAKE DISTRIBUTING CANAL  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

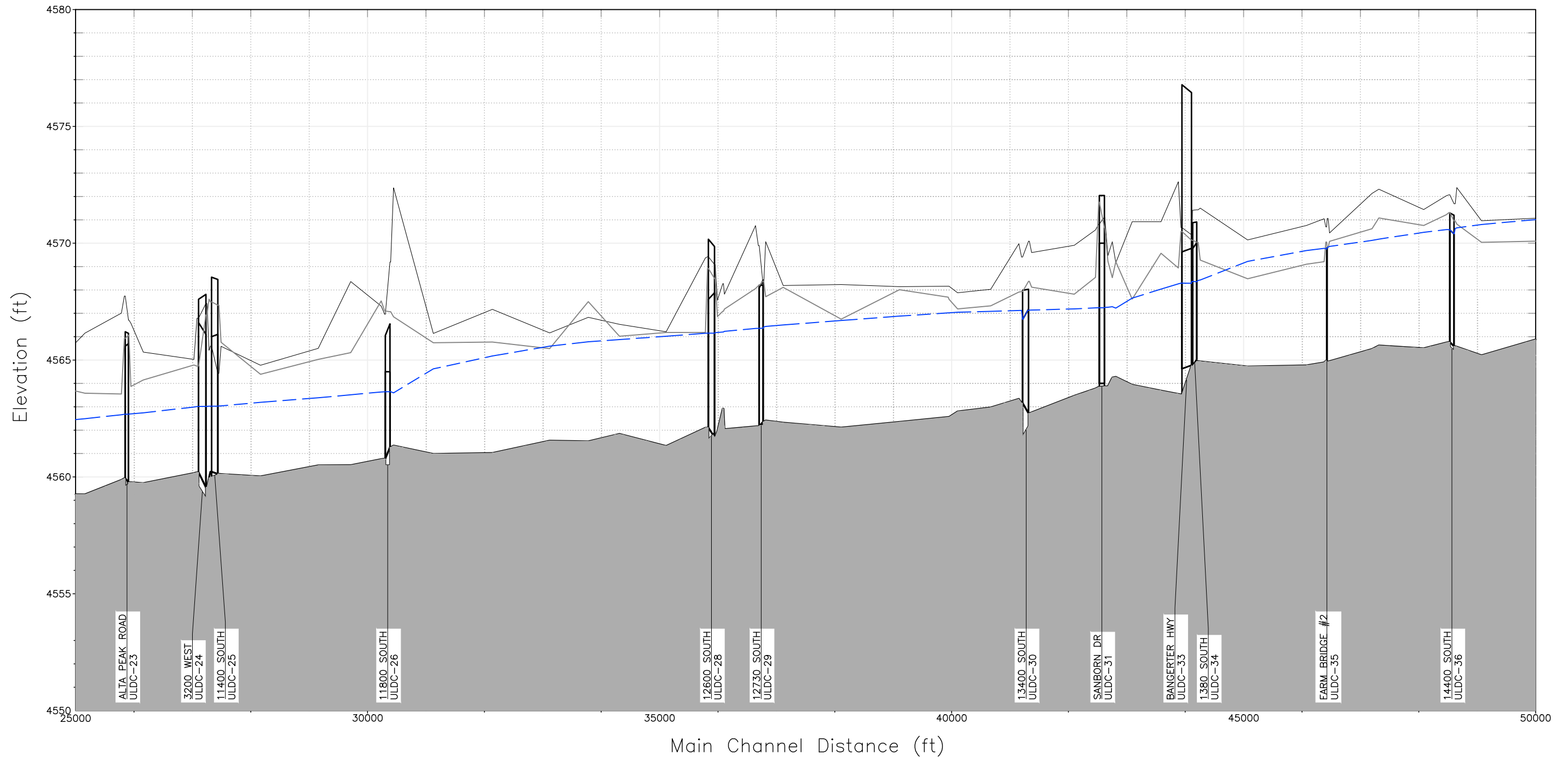
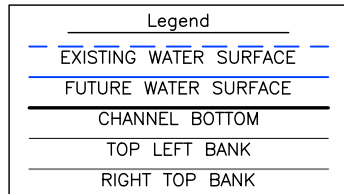


FIGURE I-01  
 HYDRAULIC PROFILE OF UTAH LAKE DISTRIBUTING CANAL  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

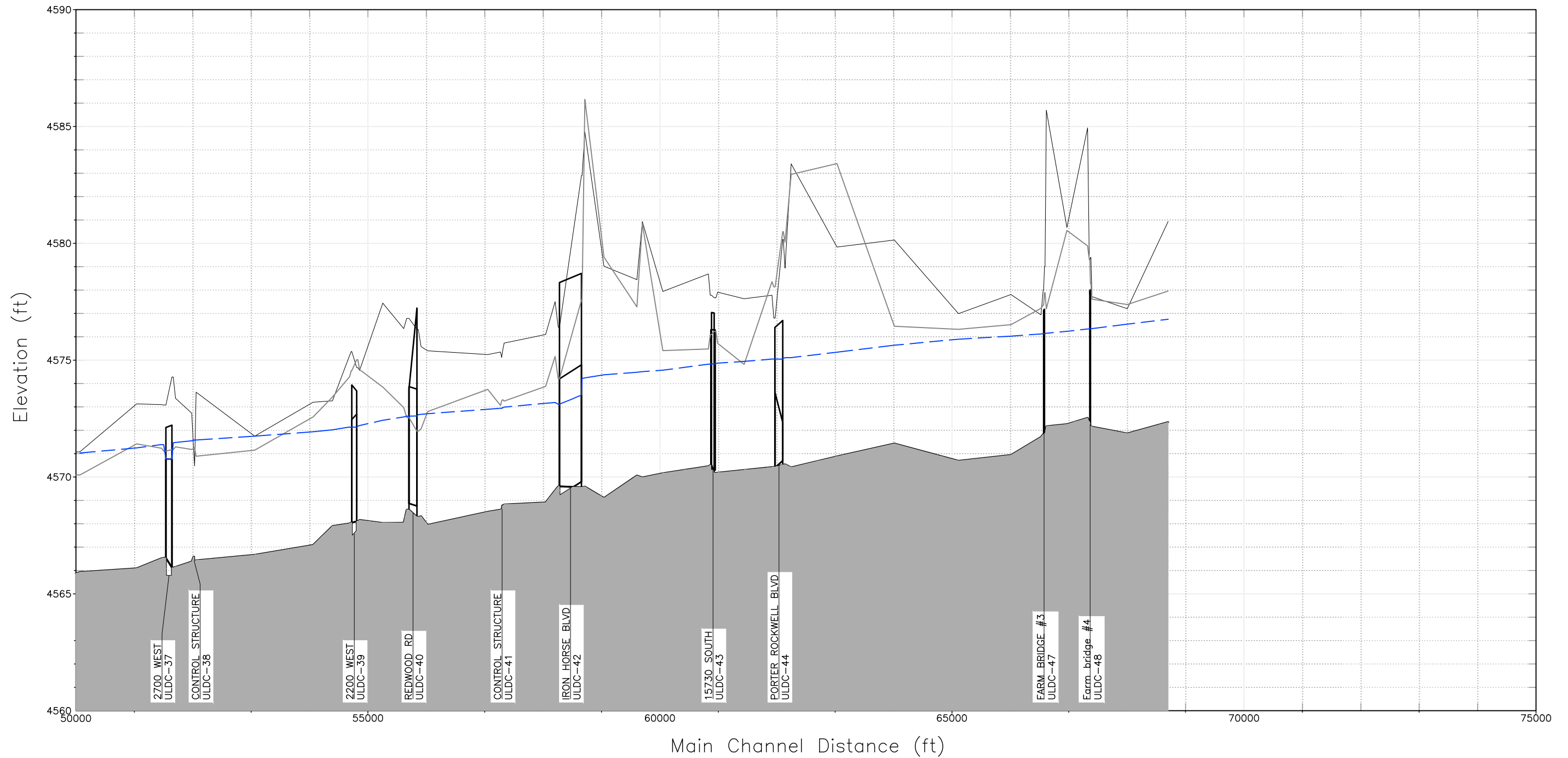
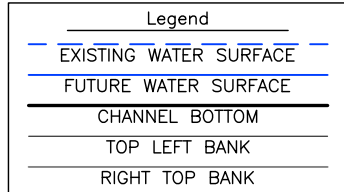


FIGURE I-01  
 HYDRAULIC PROFILE OF UTAH LAKE DISTRIBUTING CANAL  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

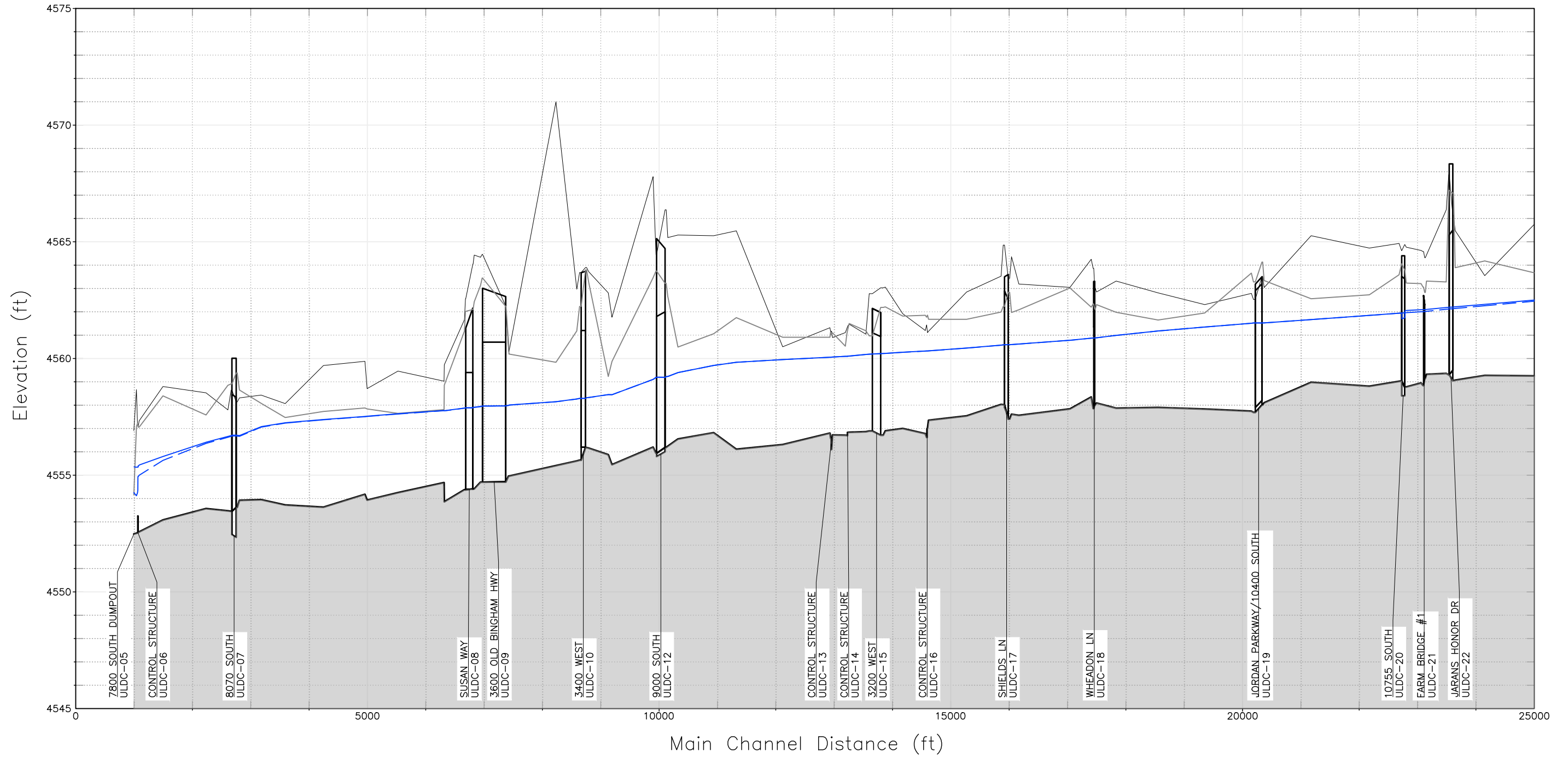
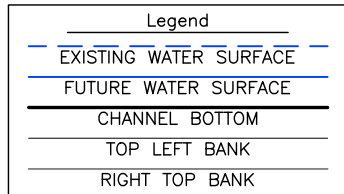


FIGURE I-02 Future Conditions  
 HYDRAULIC PROFILE OF UTAH LAKE DISTRIBUTING CANAL  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

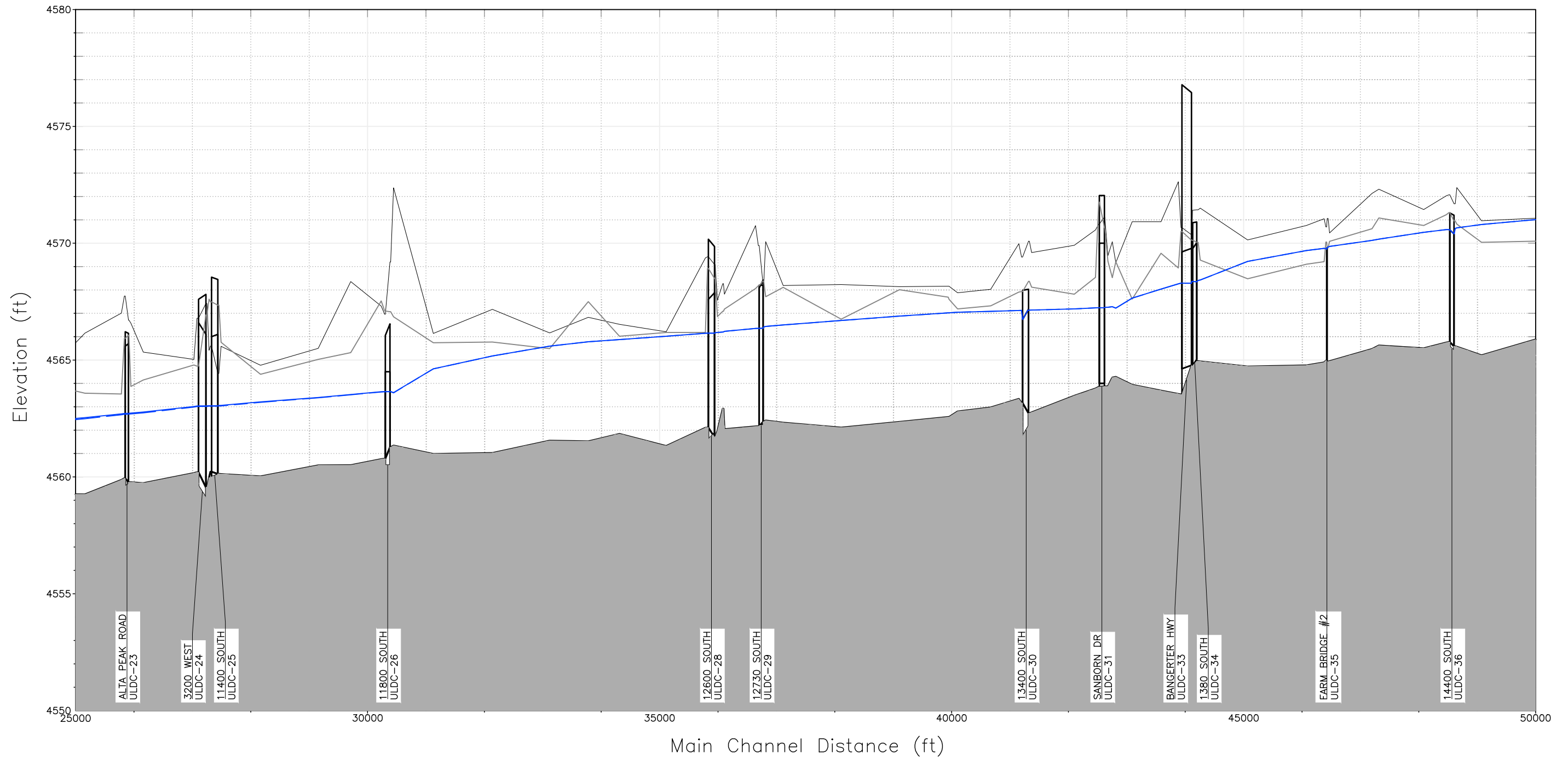
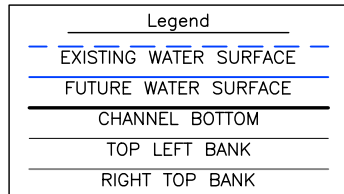


FIGURE I-02 Future Conditions  
 HYDRAULIC PROFILE OF UTAH LAKE DISTRIBUTING CANAL  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

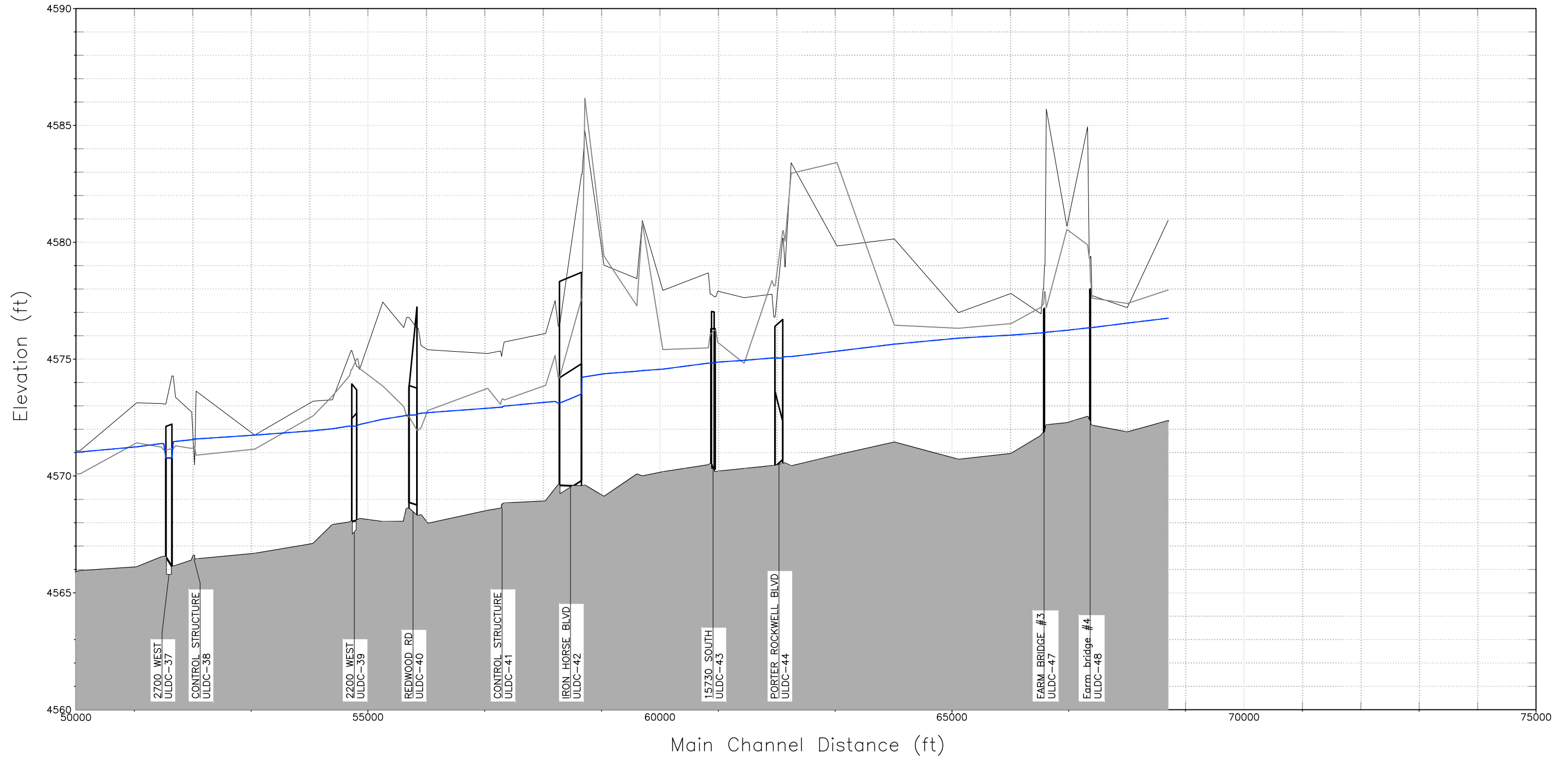
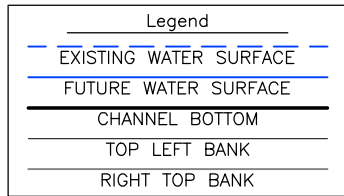


FIGURE I-02 Future Conditions  
 HYDRAULIC PROFILE OF UTAH LAKE DISTRIBUTING CANAL  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

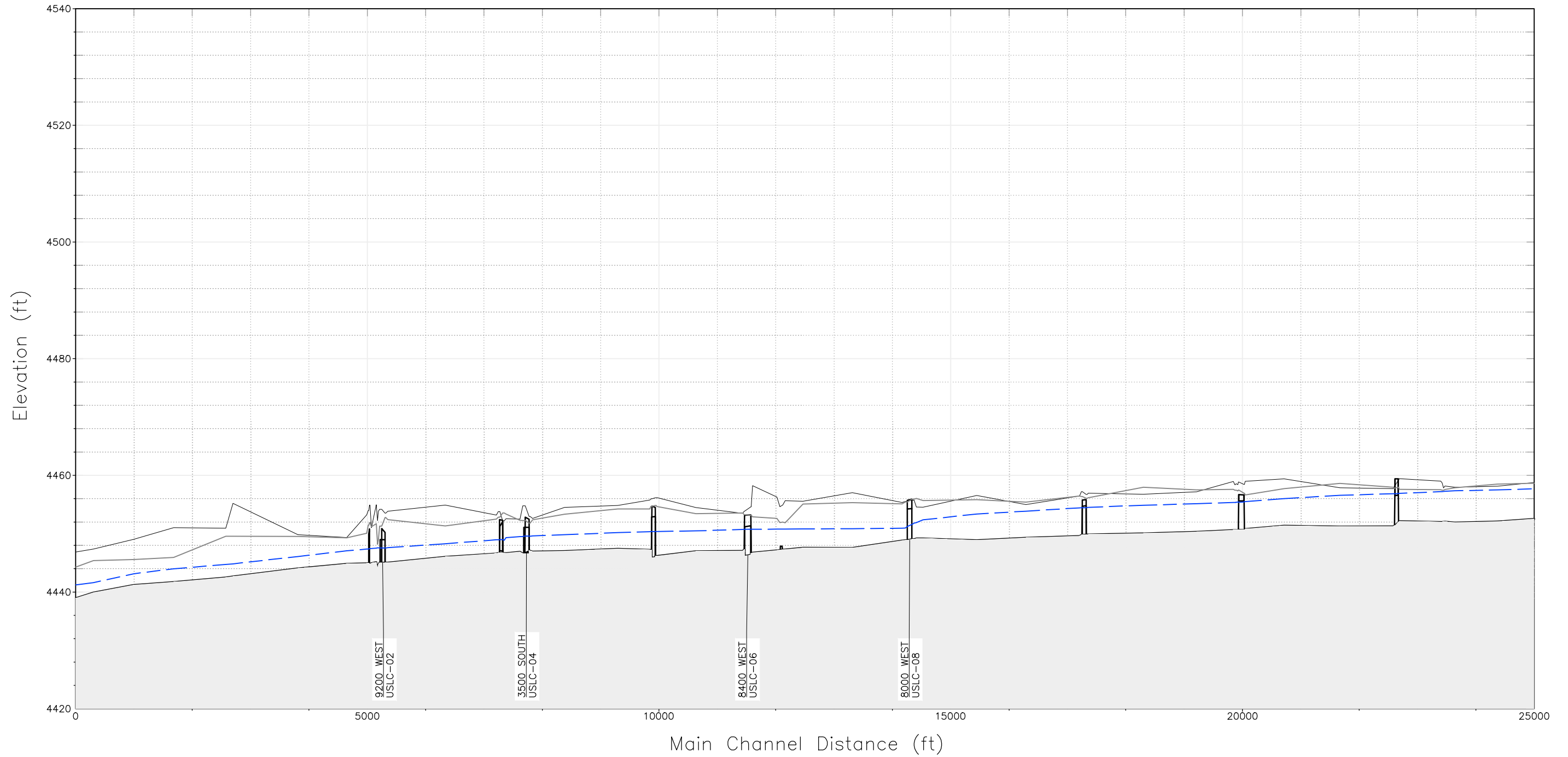
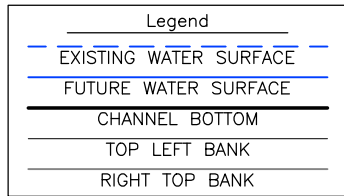


FIGURE I-03  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

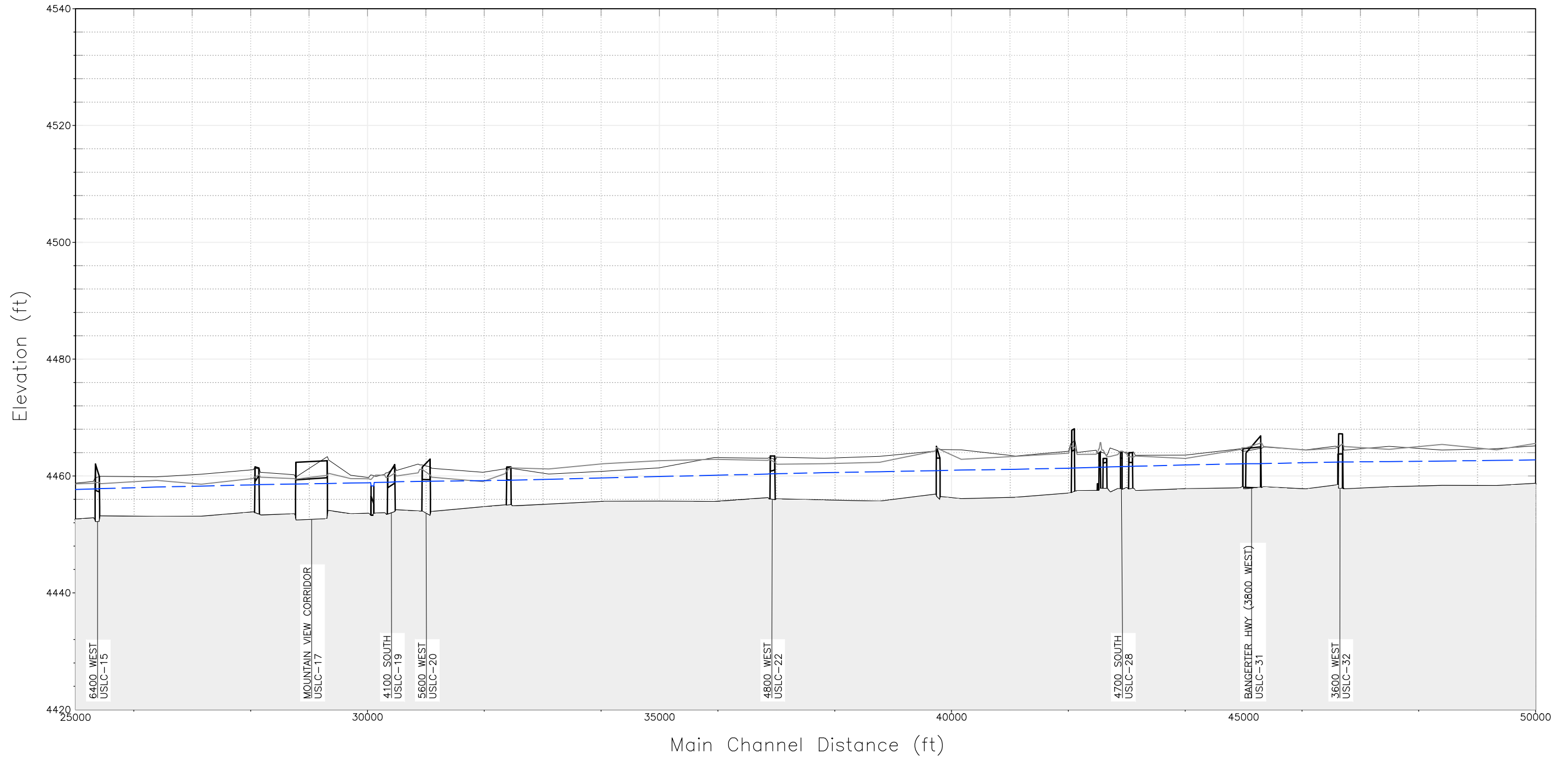
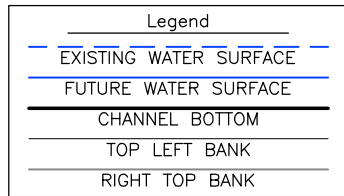


FIGURE I-03  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY





SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

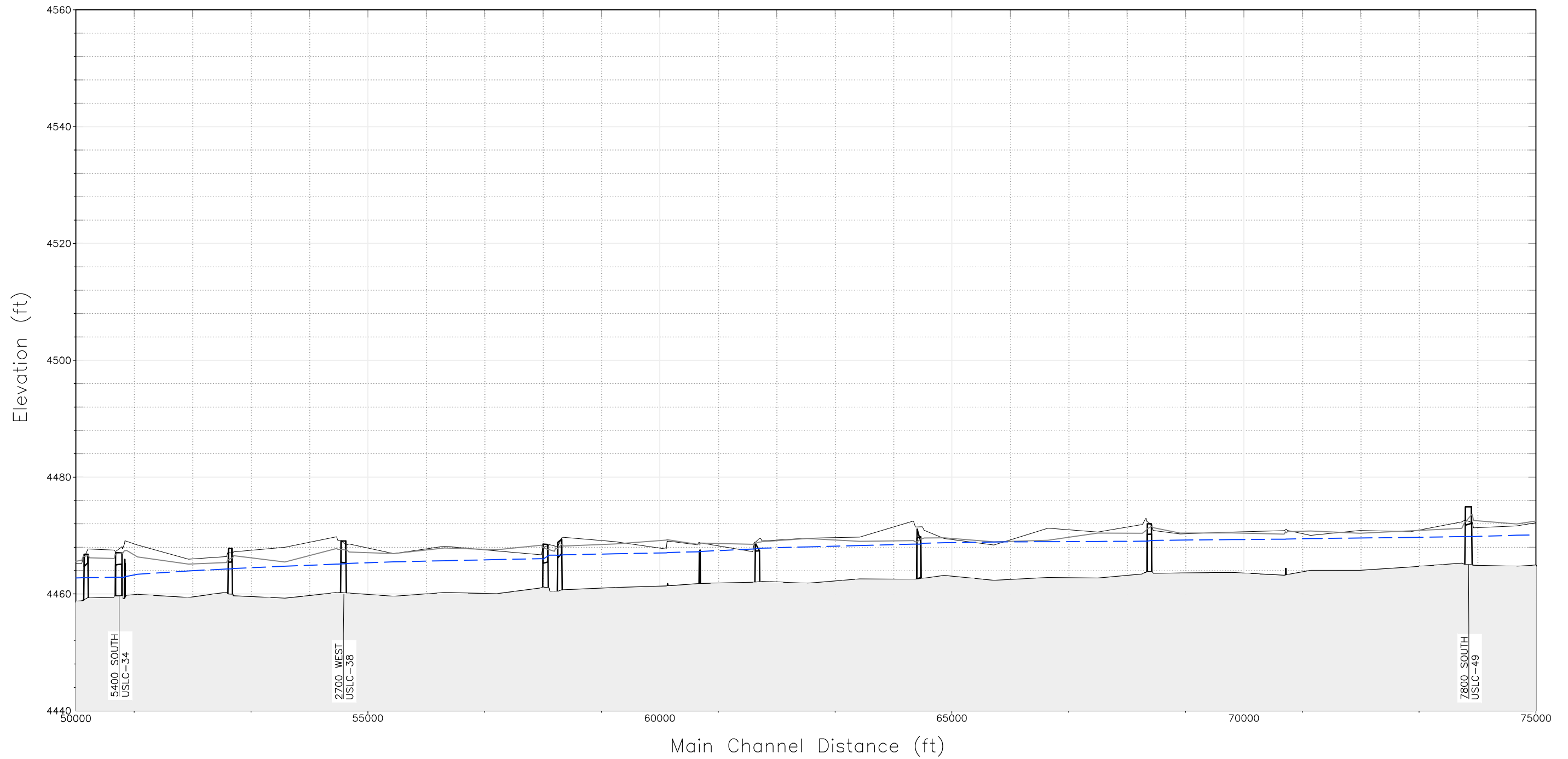
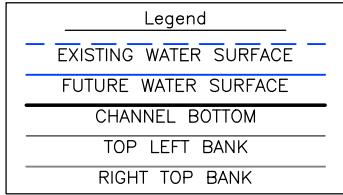


FIGURE I-03  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

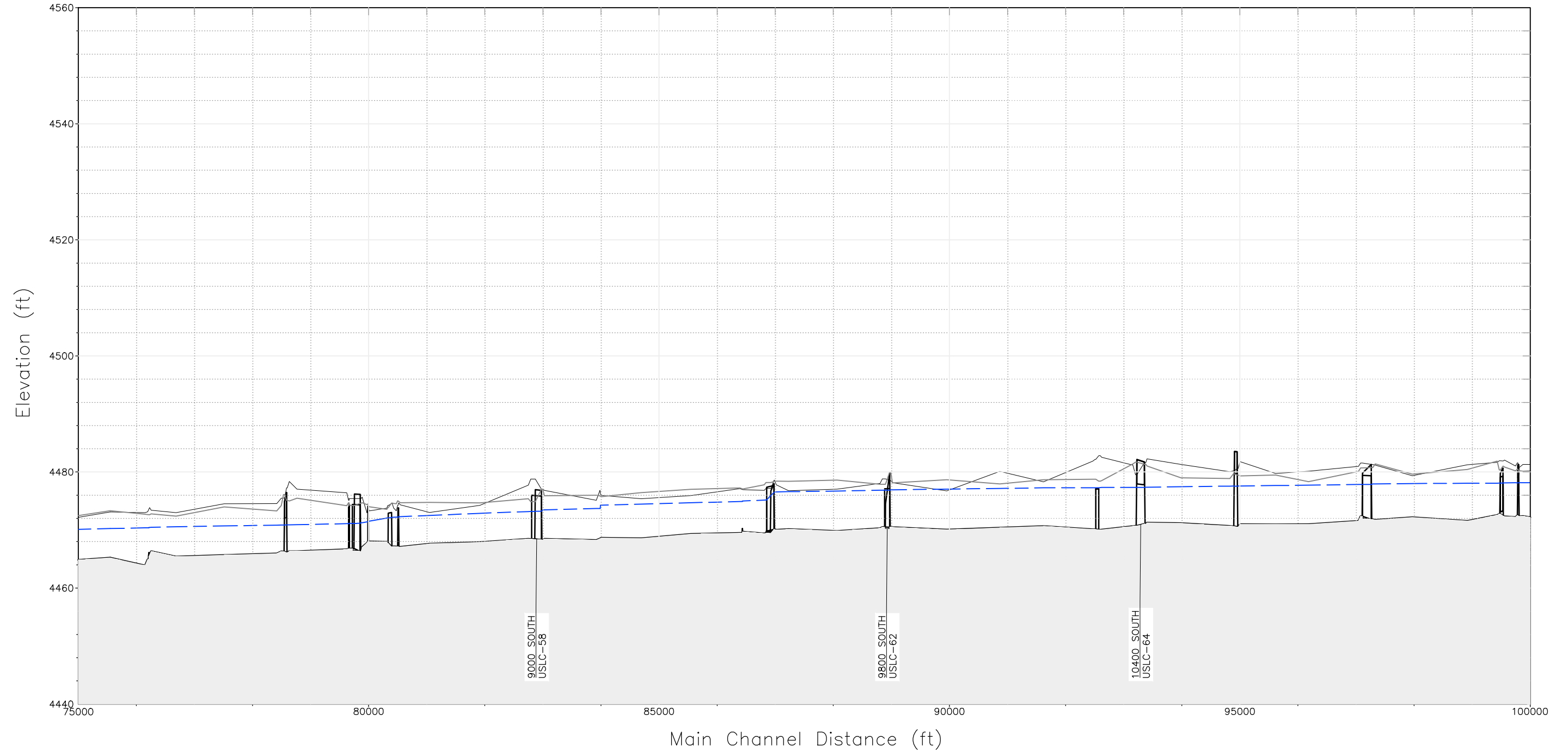
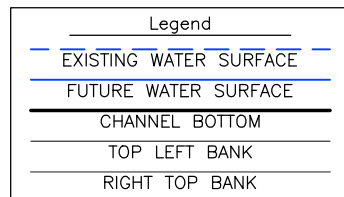


FIGURE I-03  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

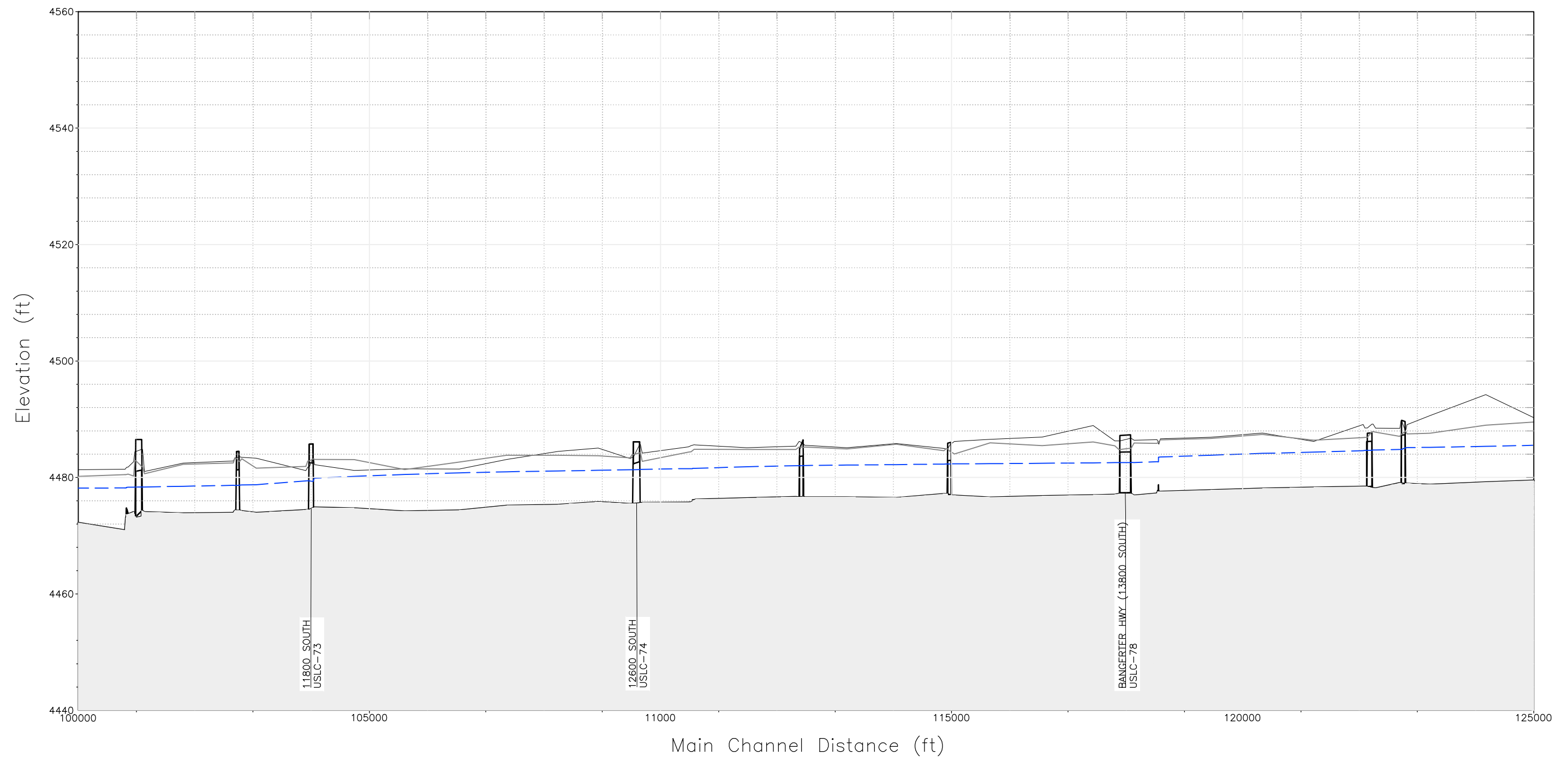
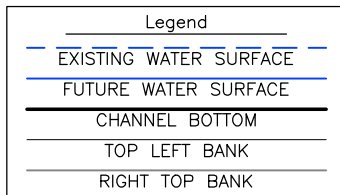


FIGURE I-03  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

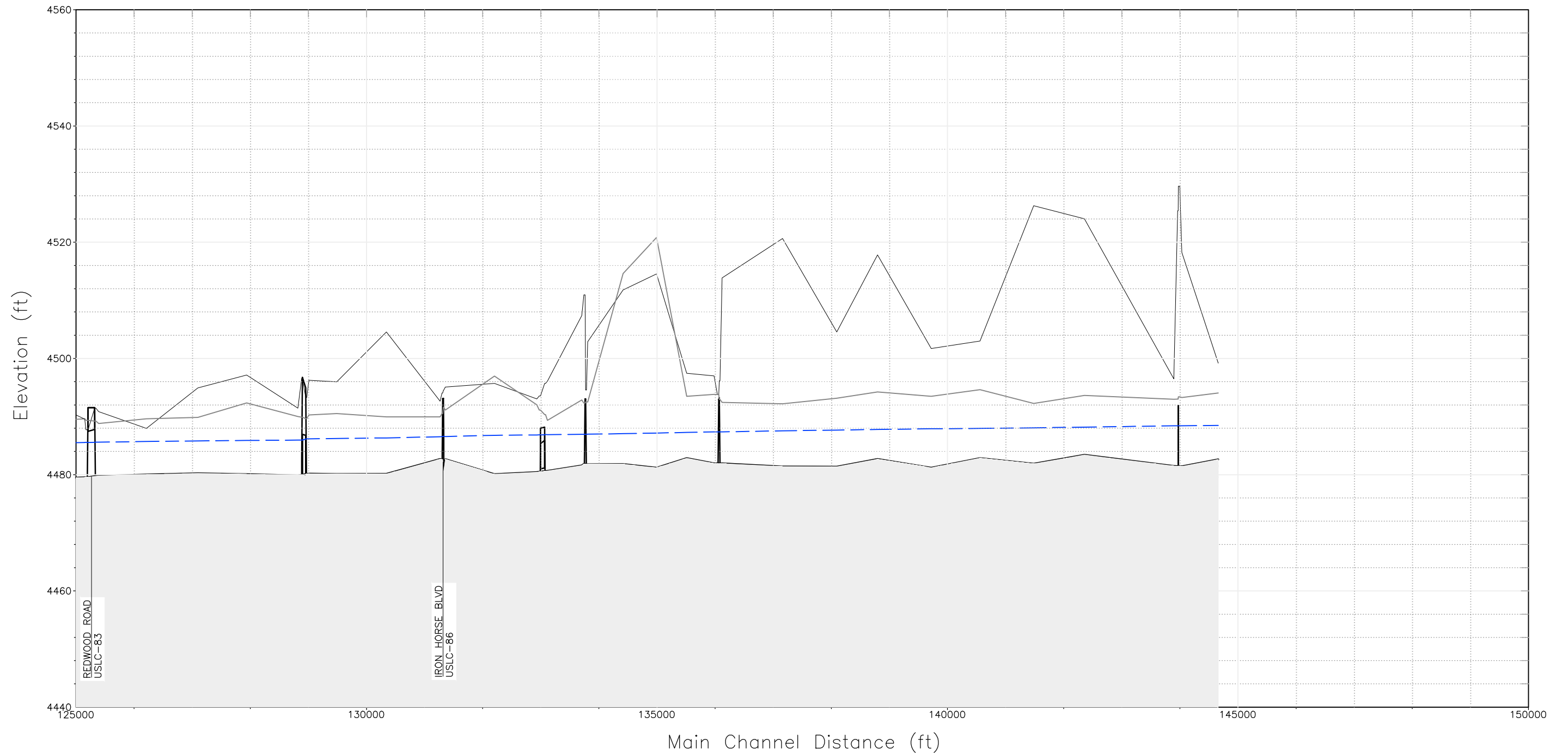
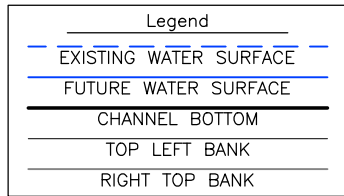


FIGURE I-03  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

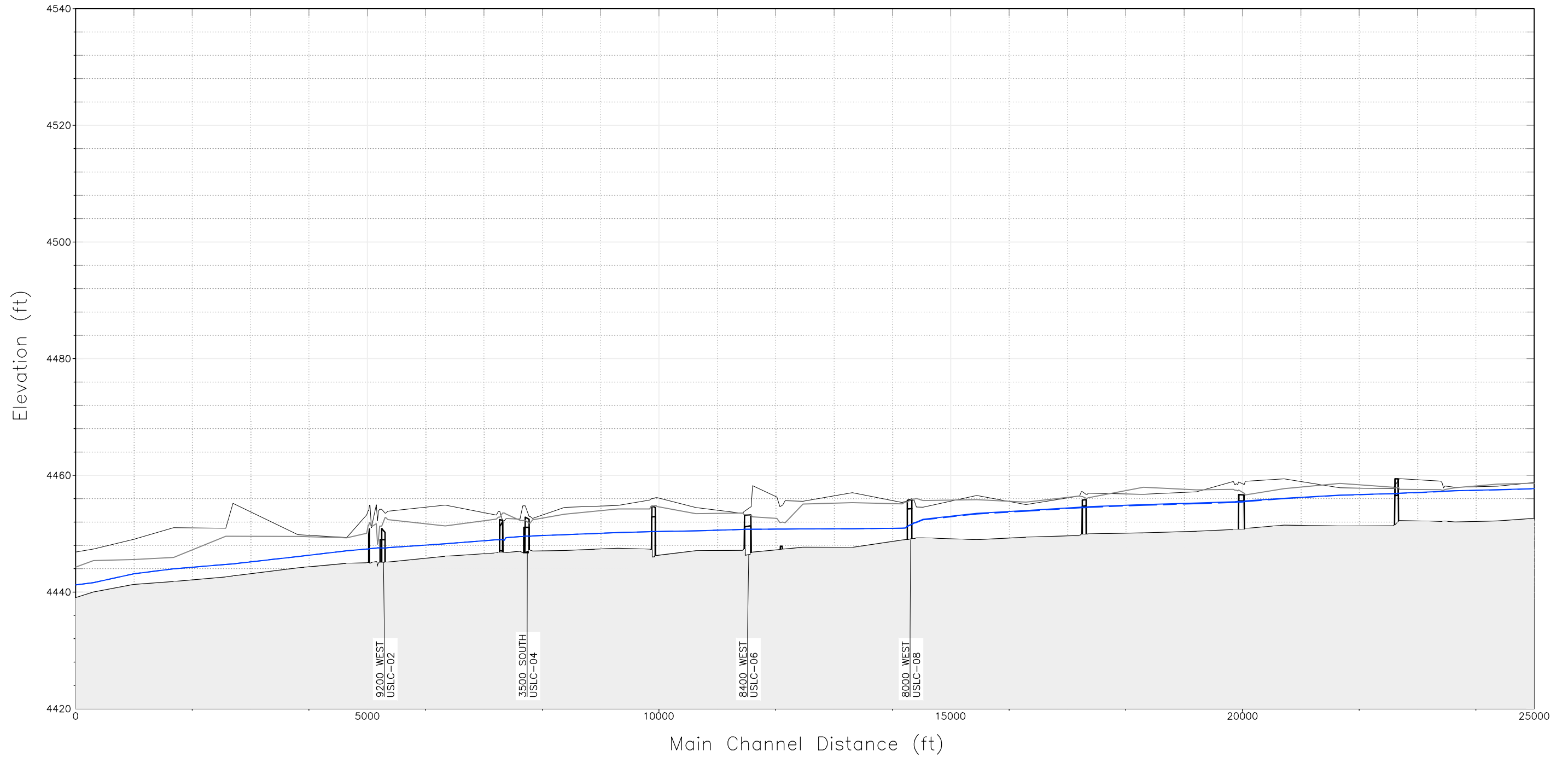
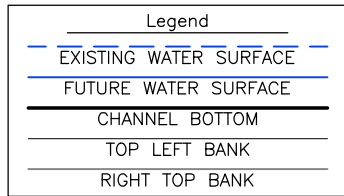


FIGURE I-04  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

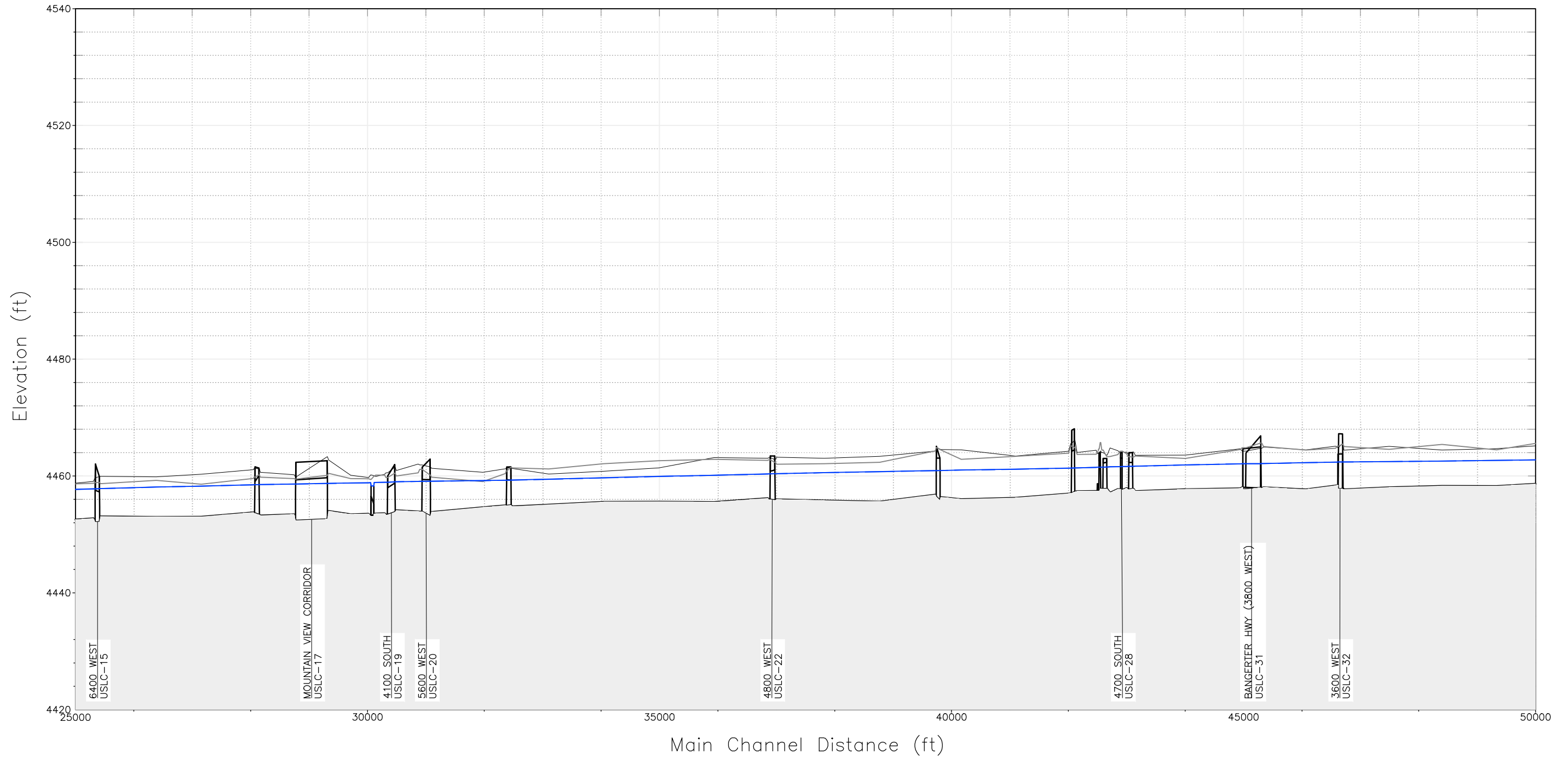
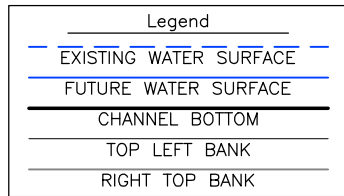


FIGURE I-04  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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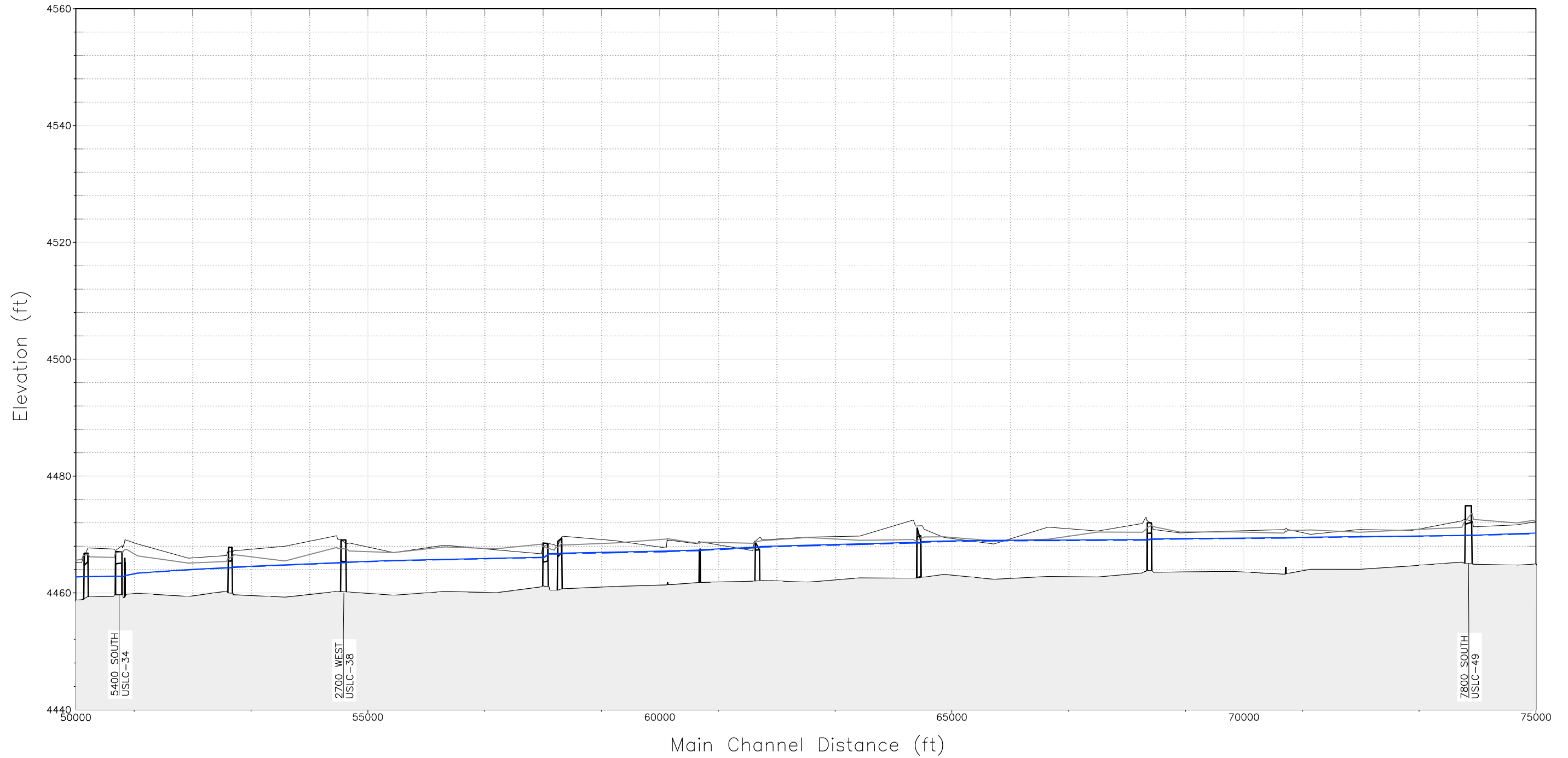







FIGURE I-04  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

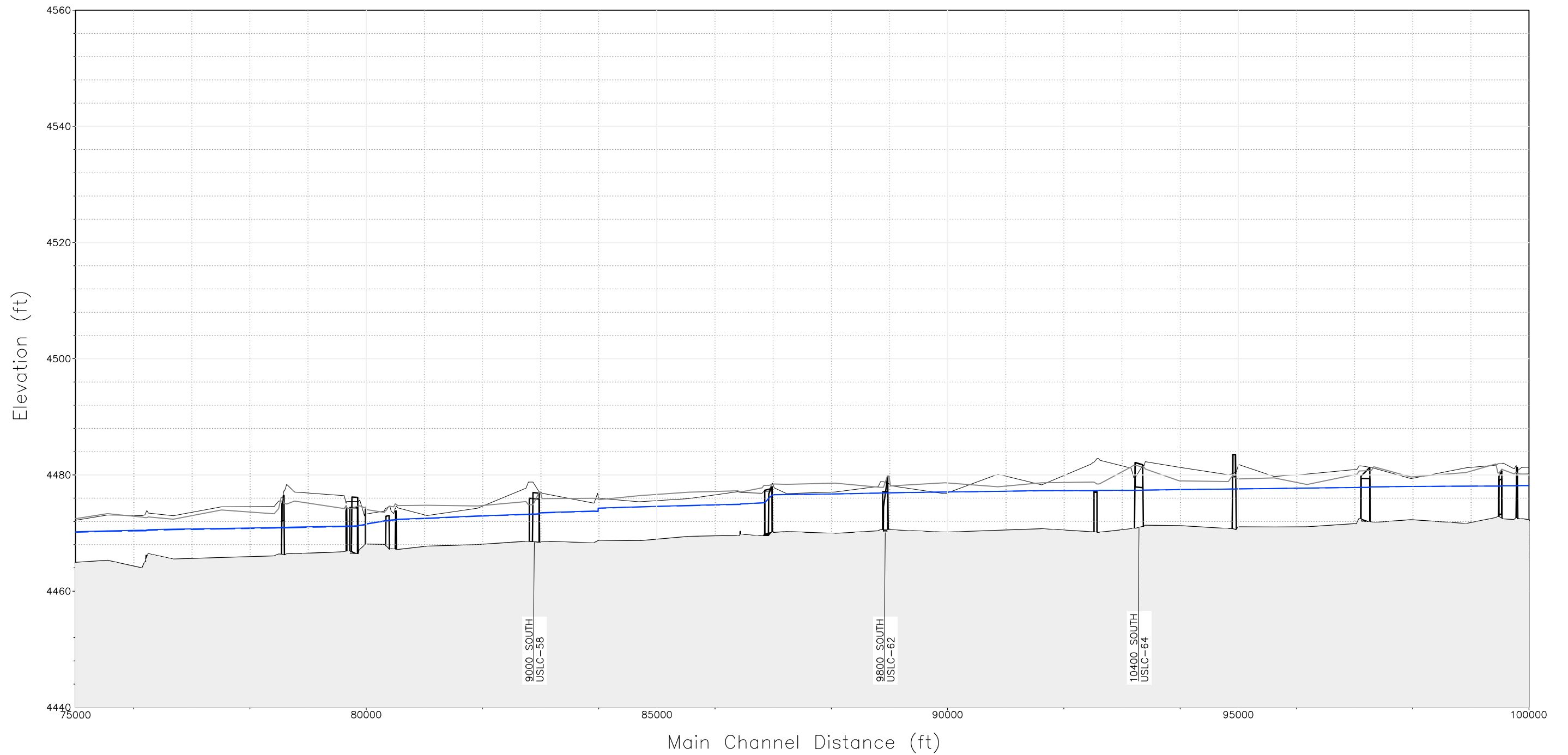
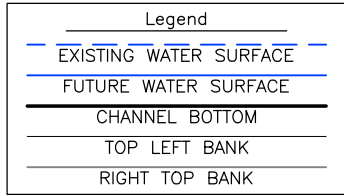


FIGURE I-04  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY





SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

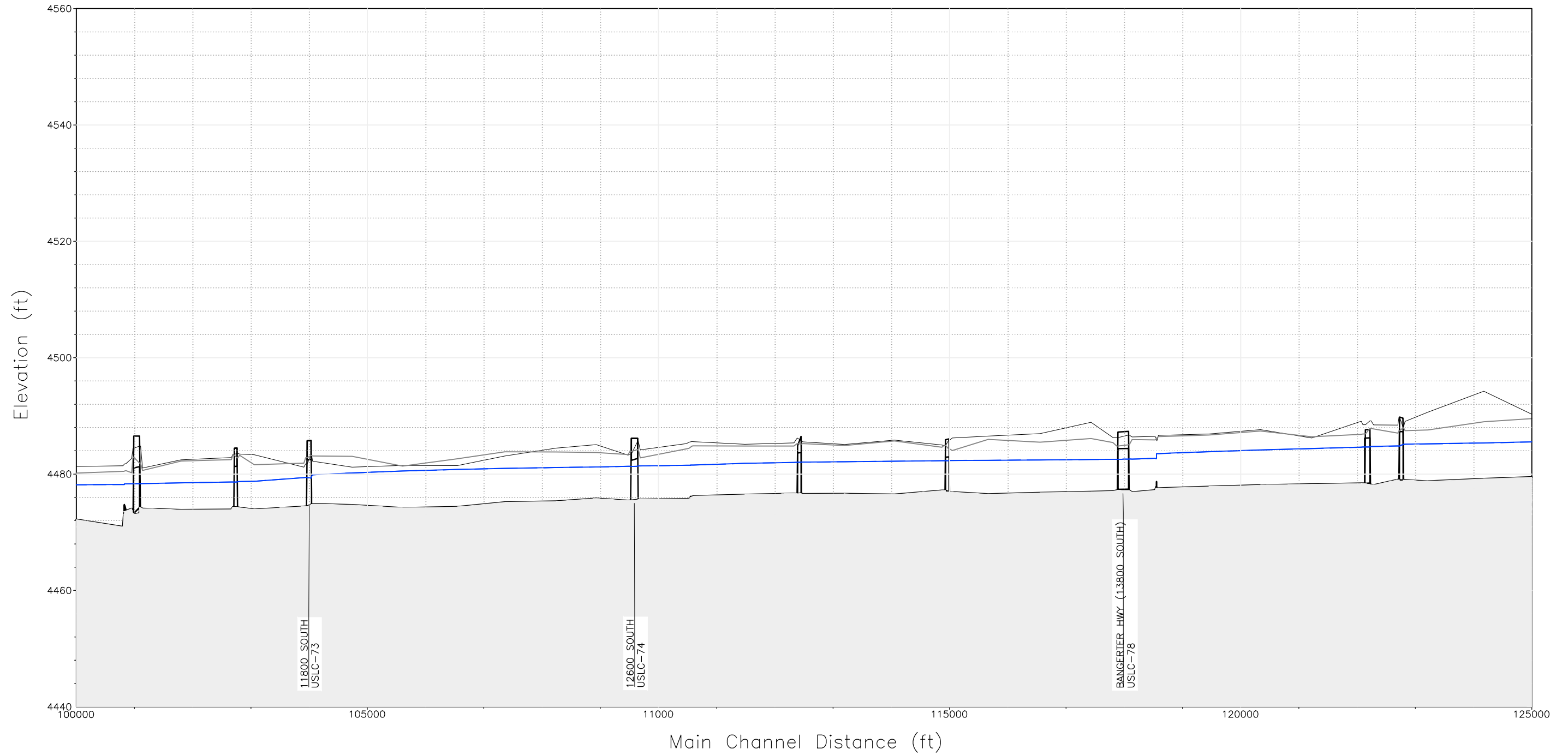
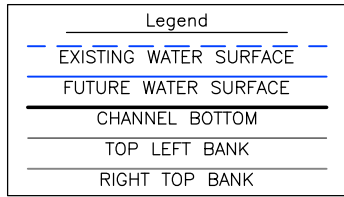


FIGURE I-04  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
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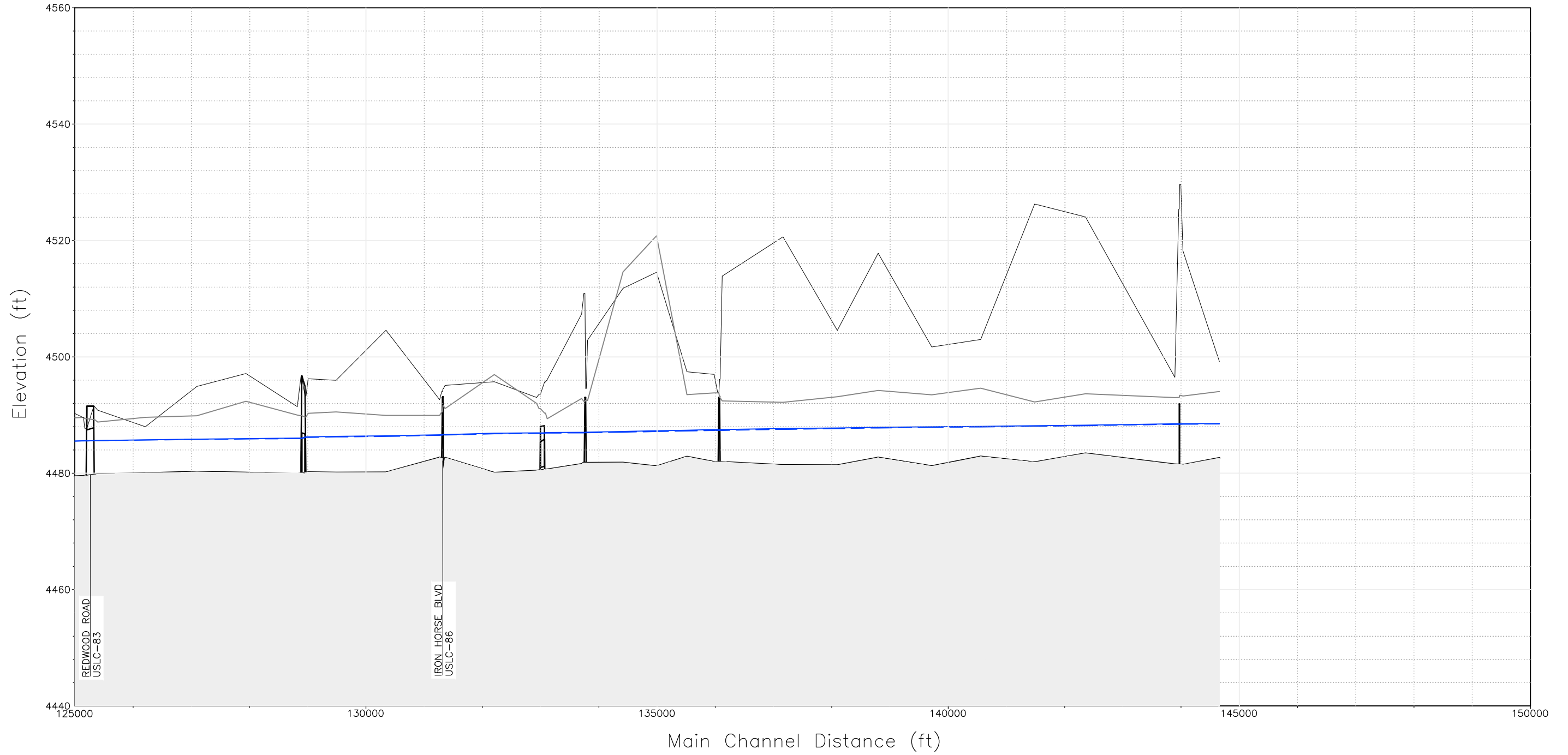
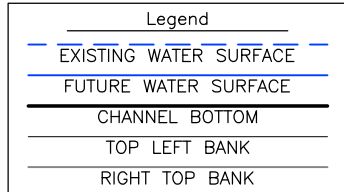


FIGURE I-04  
 HYDRAULIC PROFILE OF UTAH AND SALT LAKE CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
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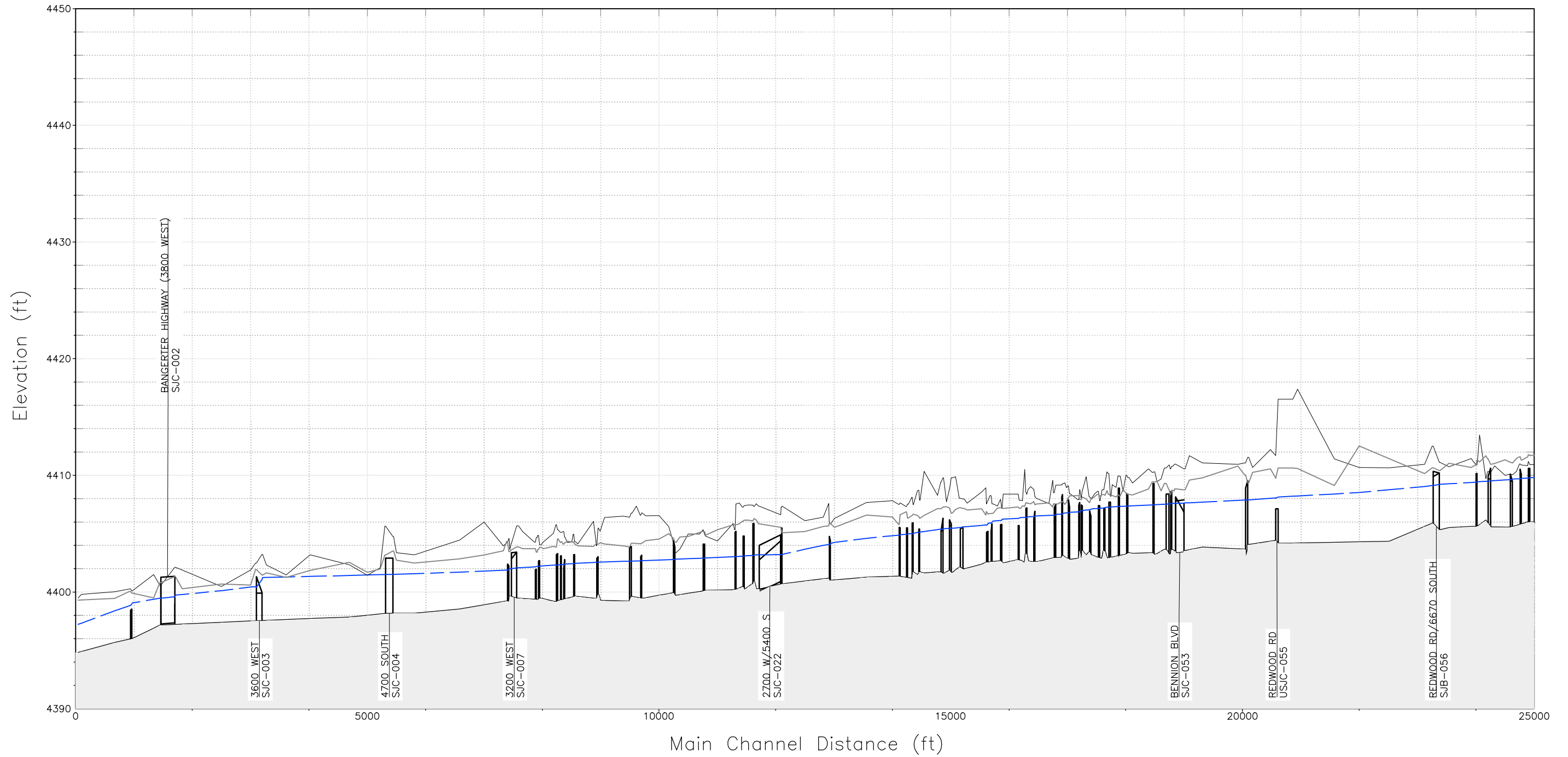
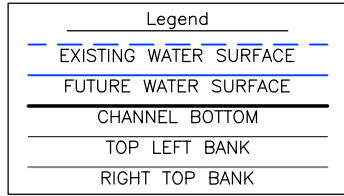


FIGURE I-05  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

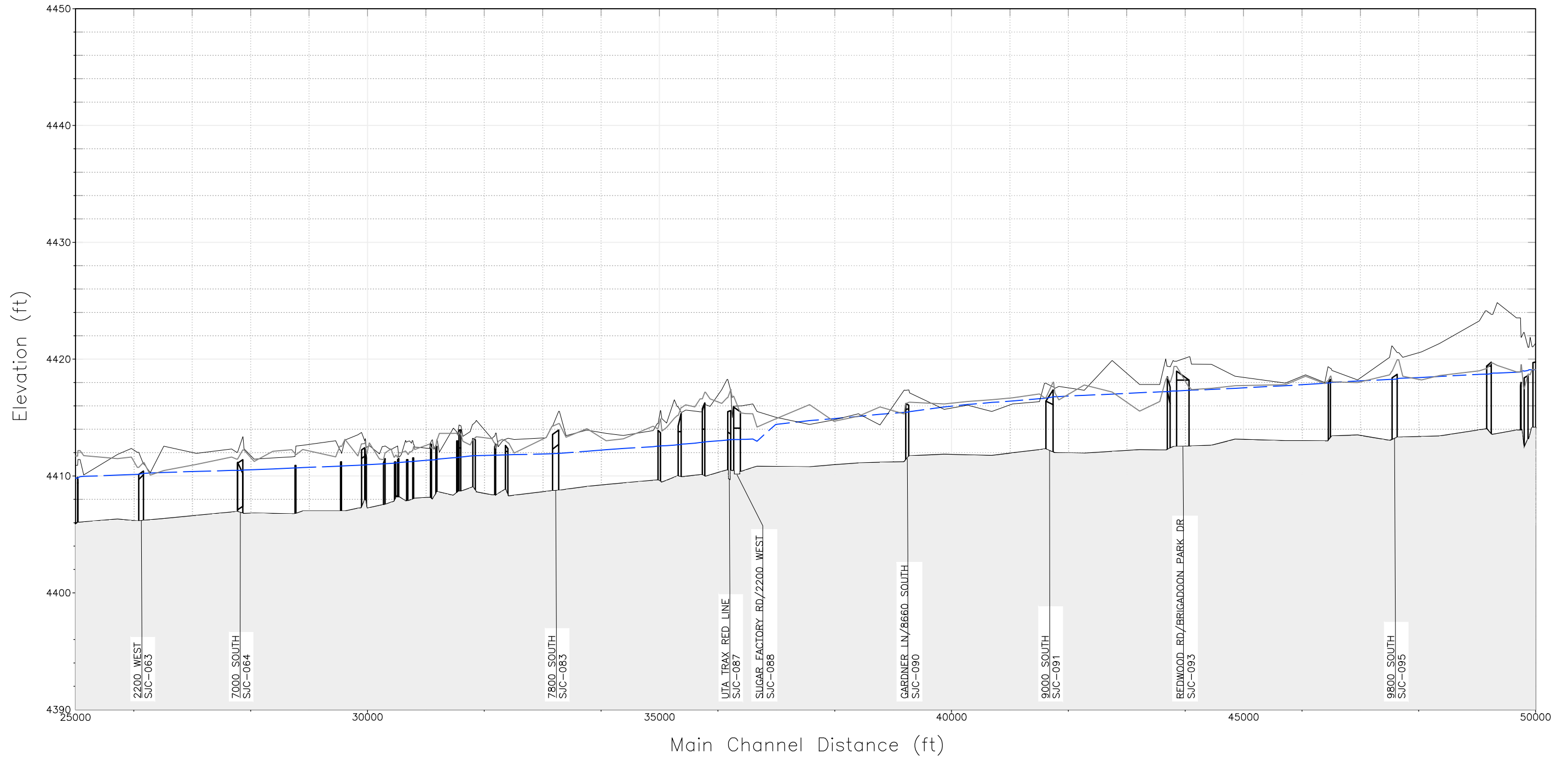
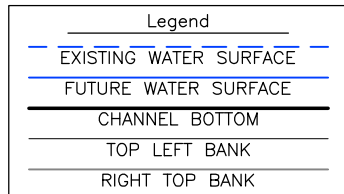


FIGURE I-05  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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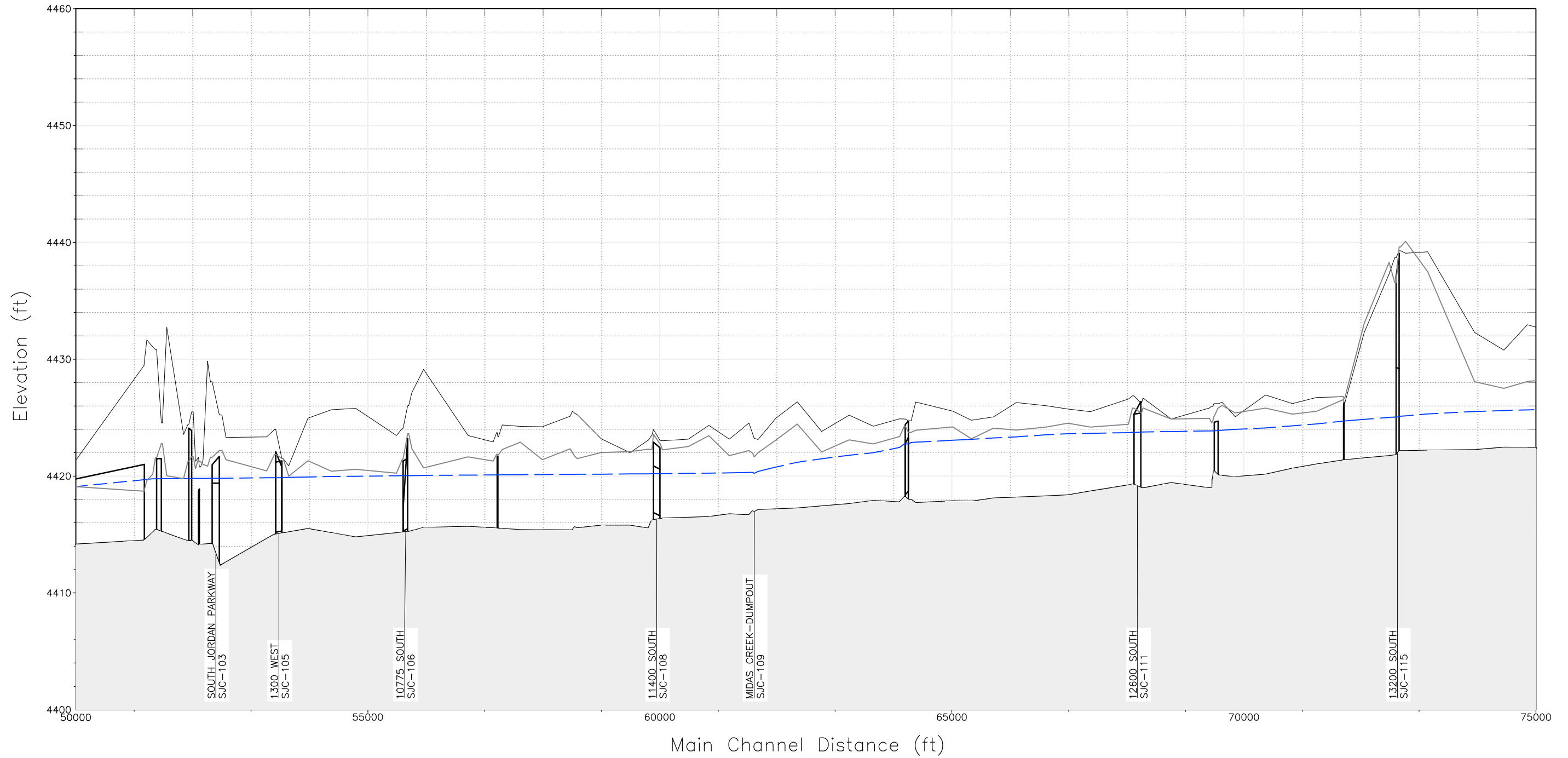
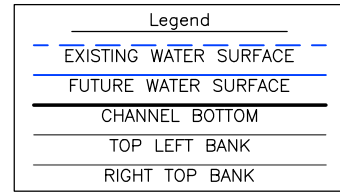


FIGURE I-05  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
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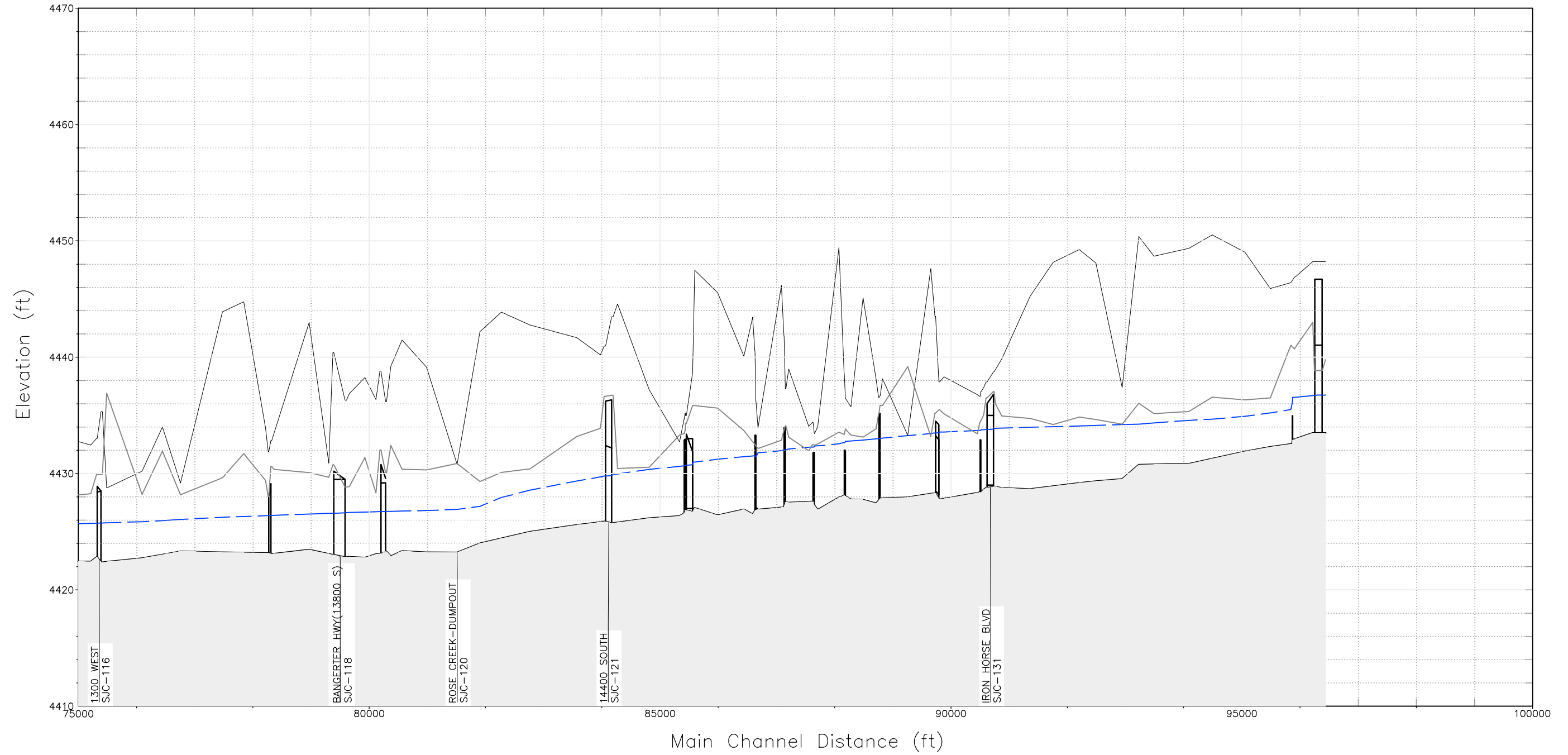
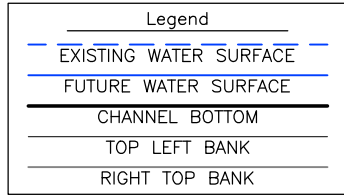


FIGURE I-05  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
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 VERT 1"=9'

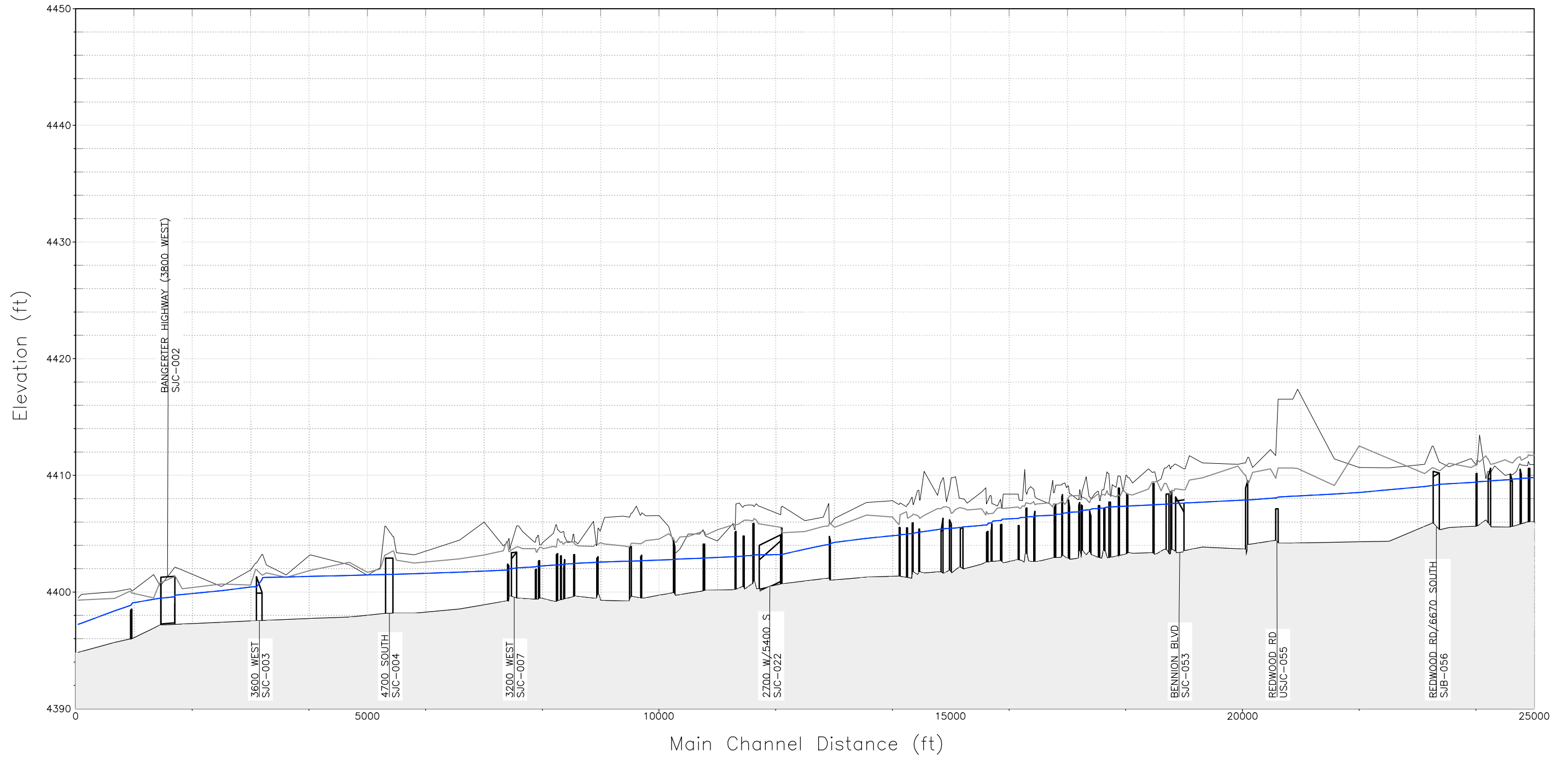
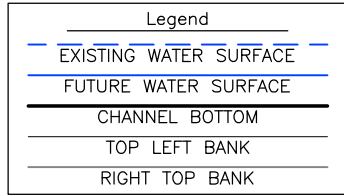


FIGURE I-06  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

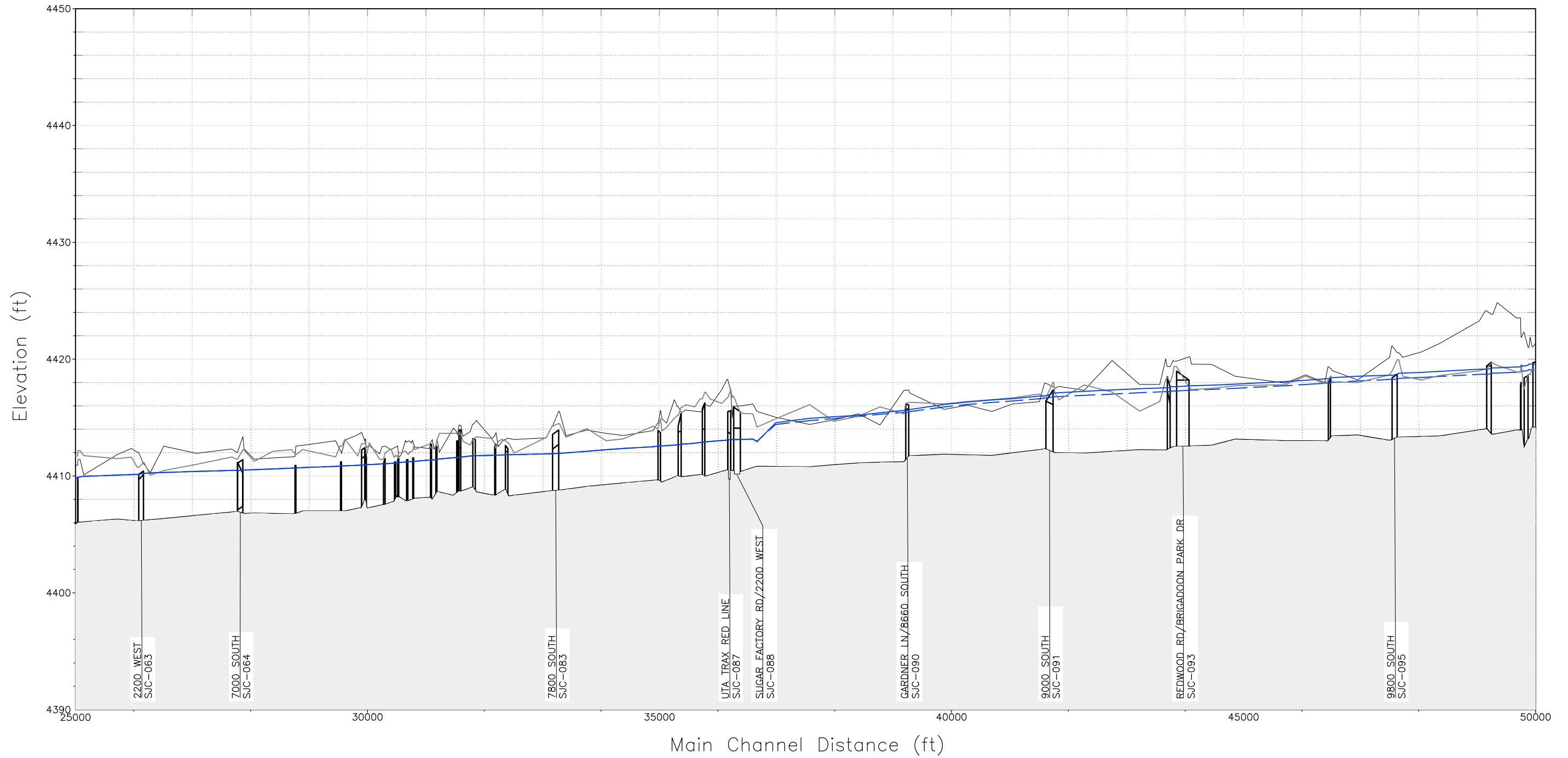
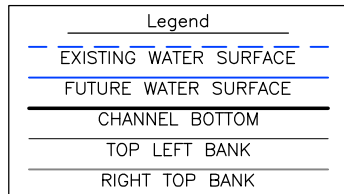


FIGURE I-06  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY





SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

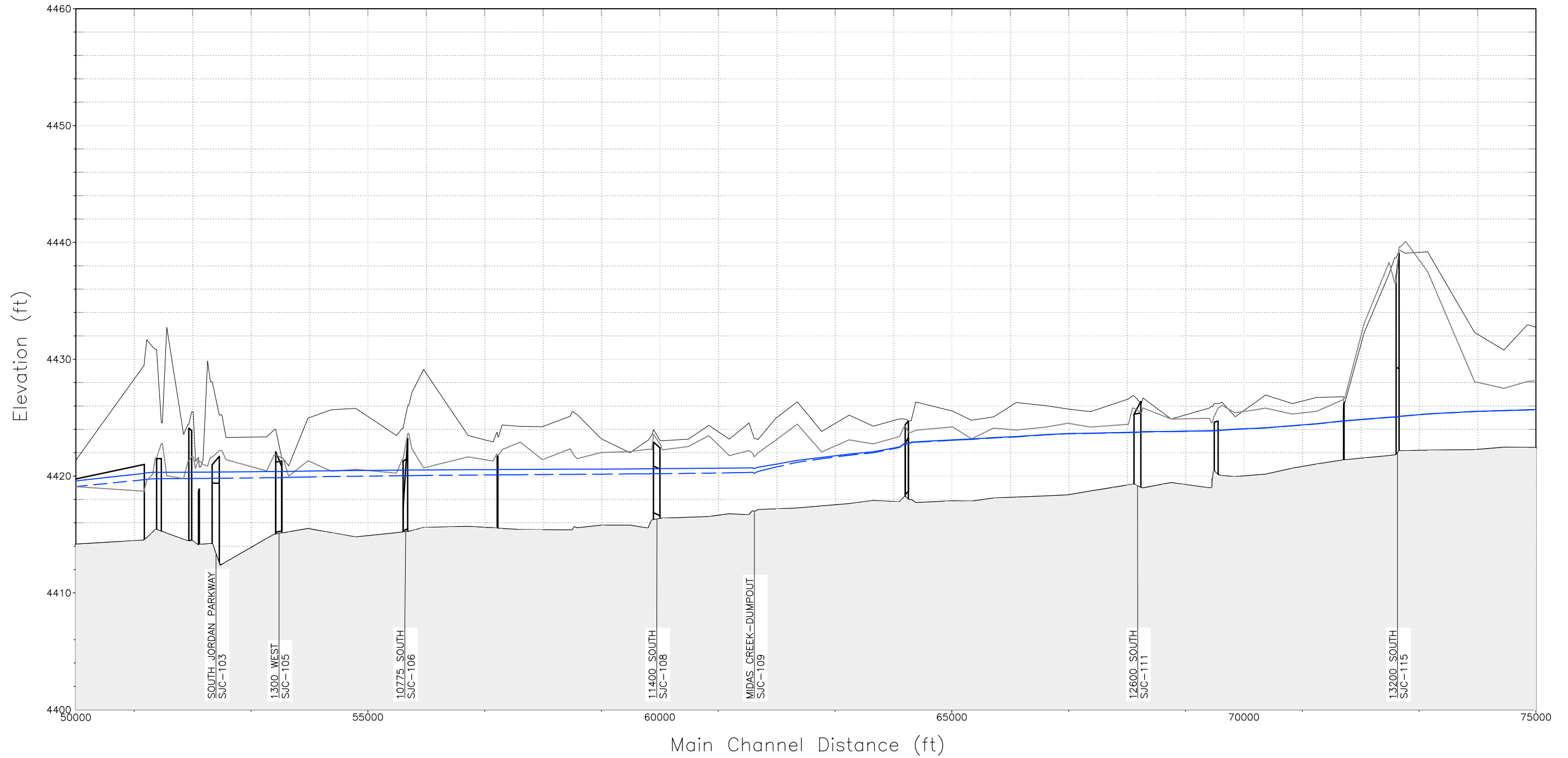
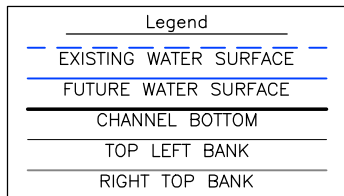


FIGURE I-06  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

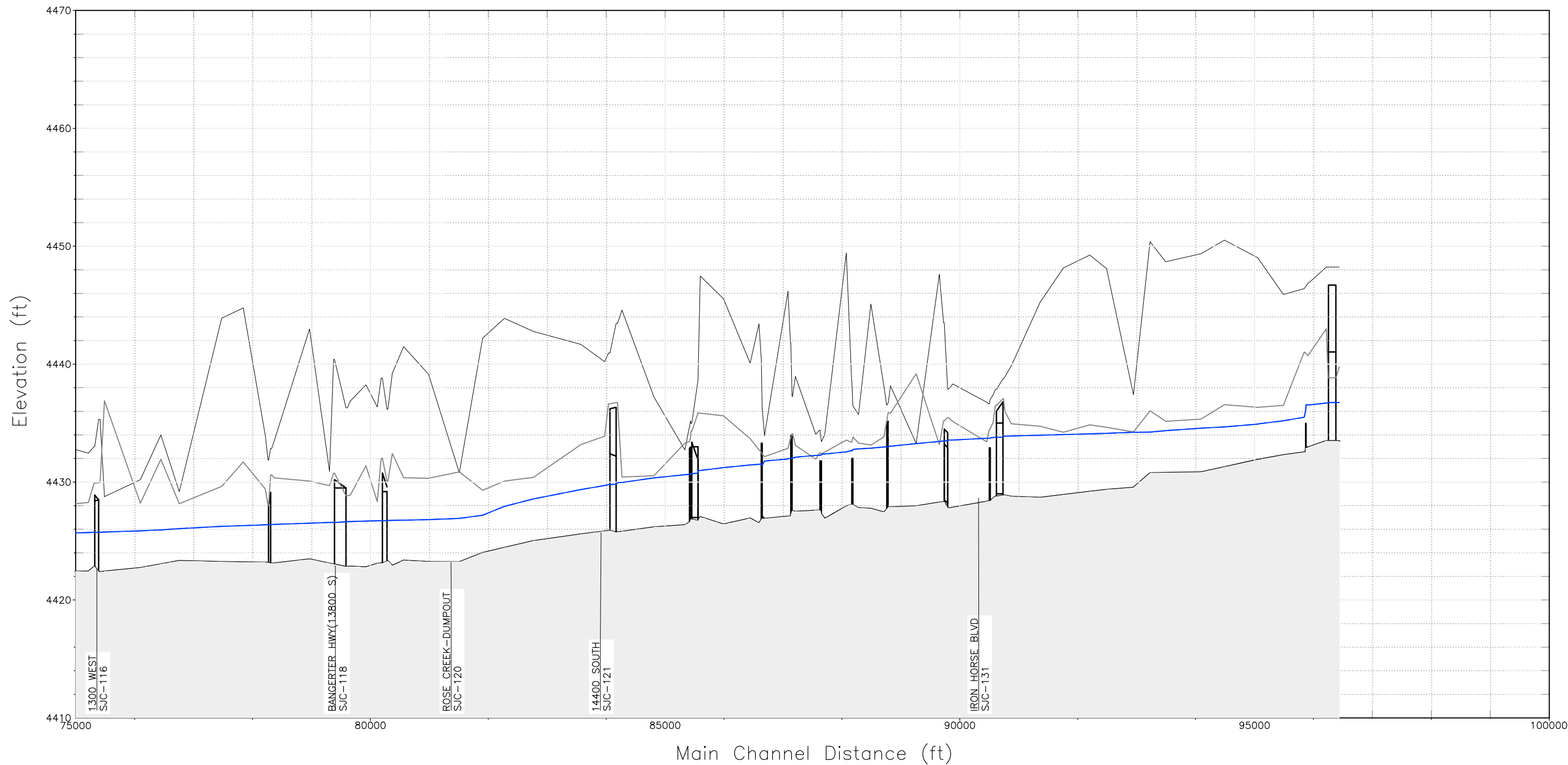
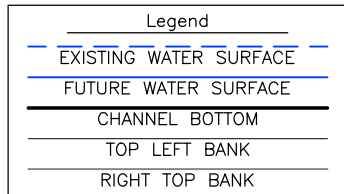


FIGURE I-06  
 HYDRAULIC PROFILE OF SOUTH JORDAN CANAL - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

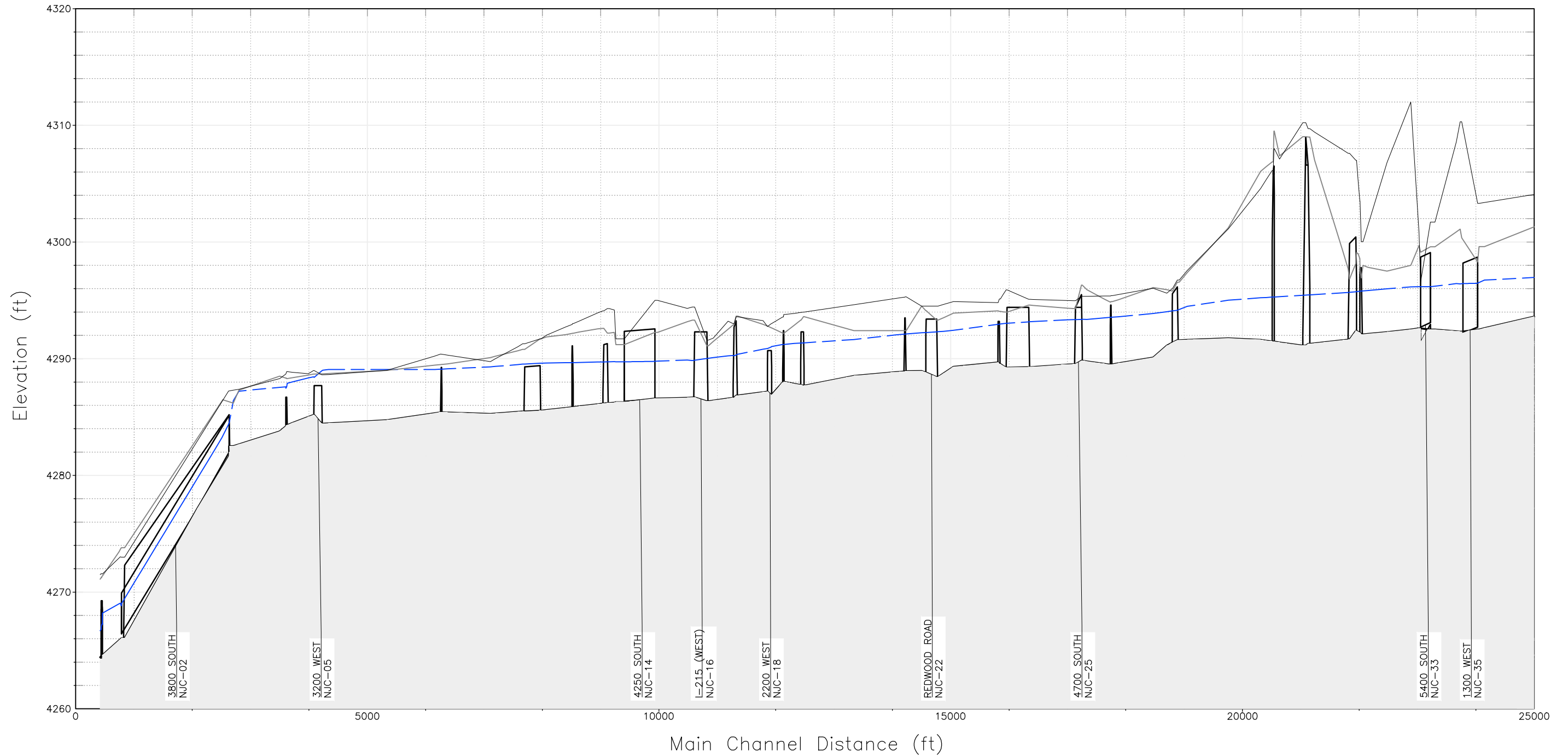
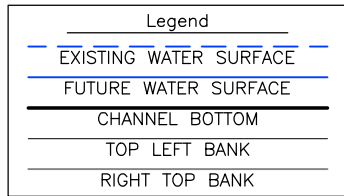


FIGURE I-07  
 HYDRAULIC PROFILE OF NJC - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

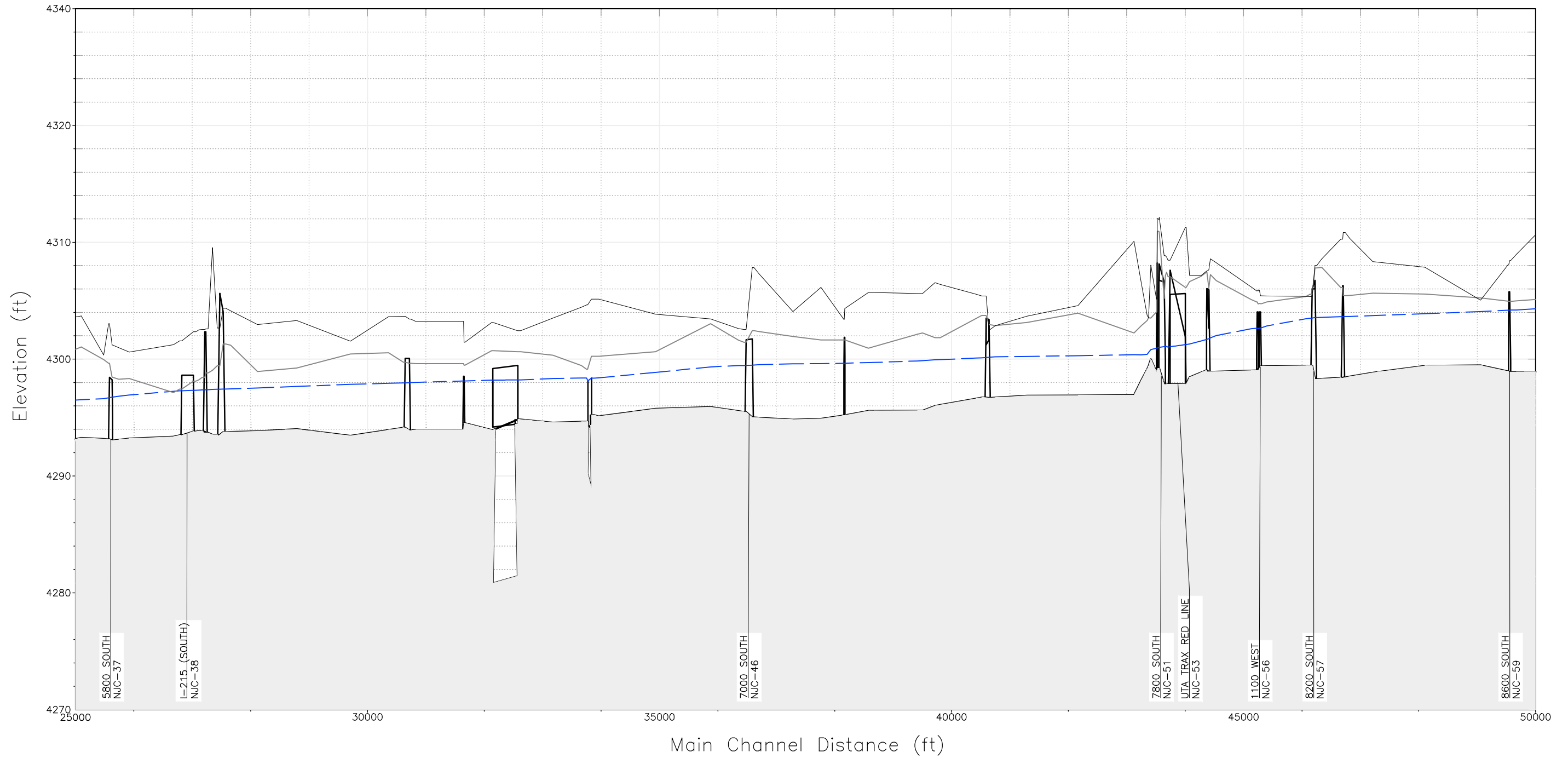



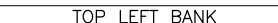



FIGURE I-07  
 HYDRAULIC PROFILE OF NJC - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
HORIZ 1"=900'  
VERT 1"=9'

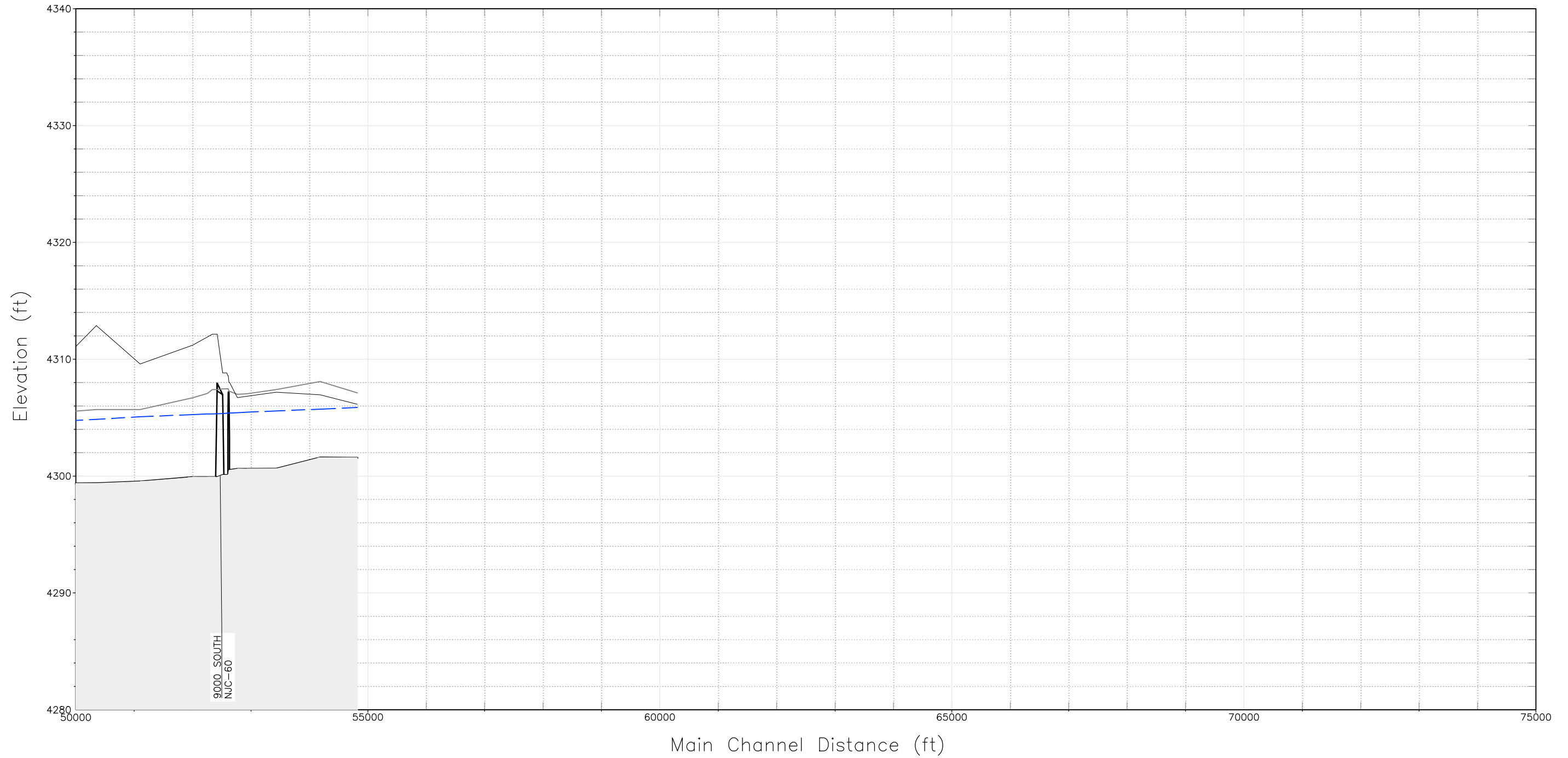
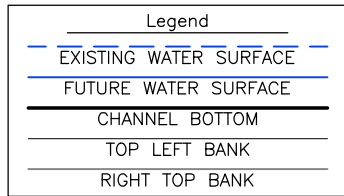


FIGURE I-07  
HYDRAULIC PROFILE OF NJC - EXISTING  
SOUTHWEST CANAL AND CREEK STUDY  
SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

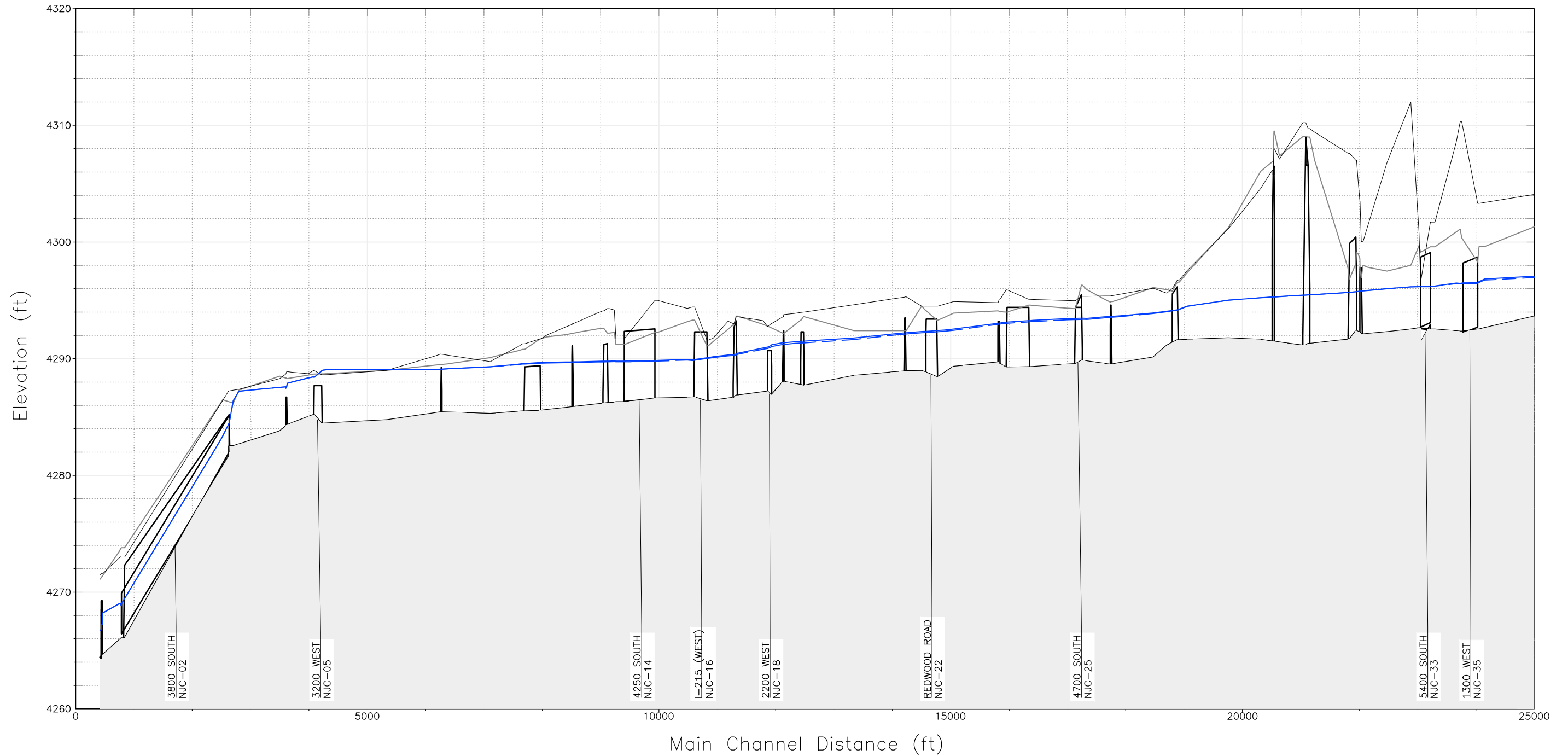
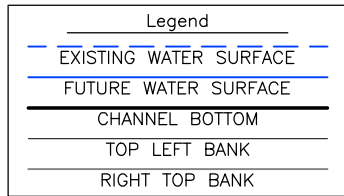


FIGURE I-08  
 HYDRAULIC PROFILE OF NJC - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=900'  
 VERT 1"=9'

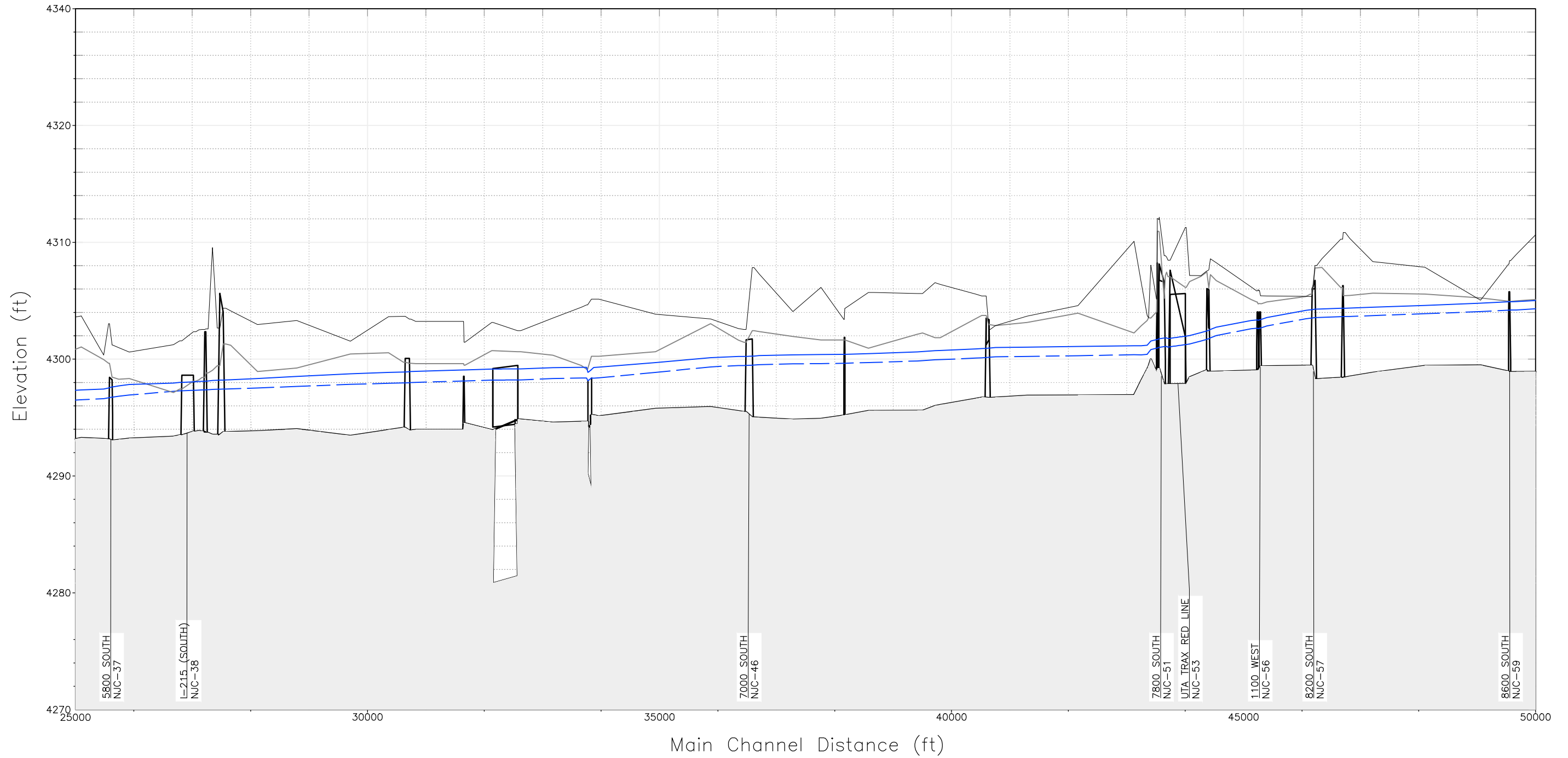







FIGURE I-08  
 HYDRAULIC PROFILE OF NJC - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
HORIZ 1"=900'  
VERT 1"=9'

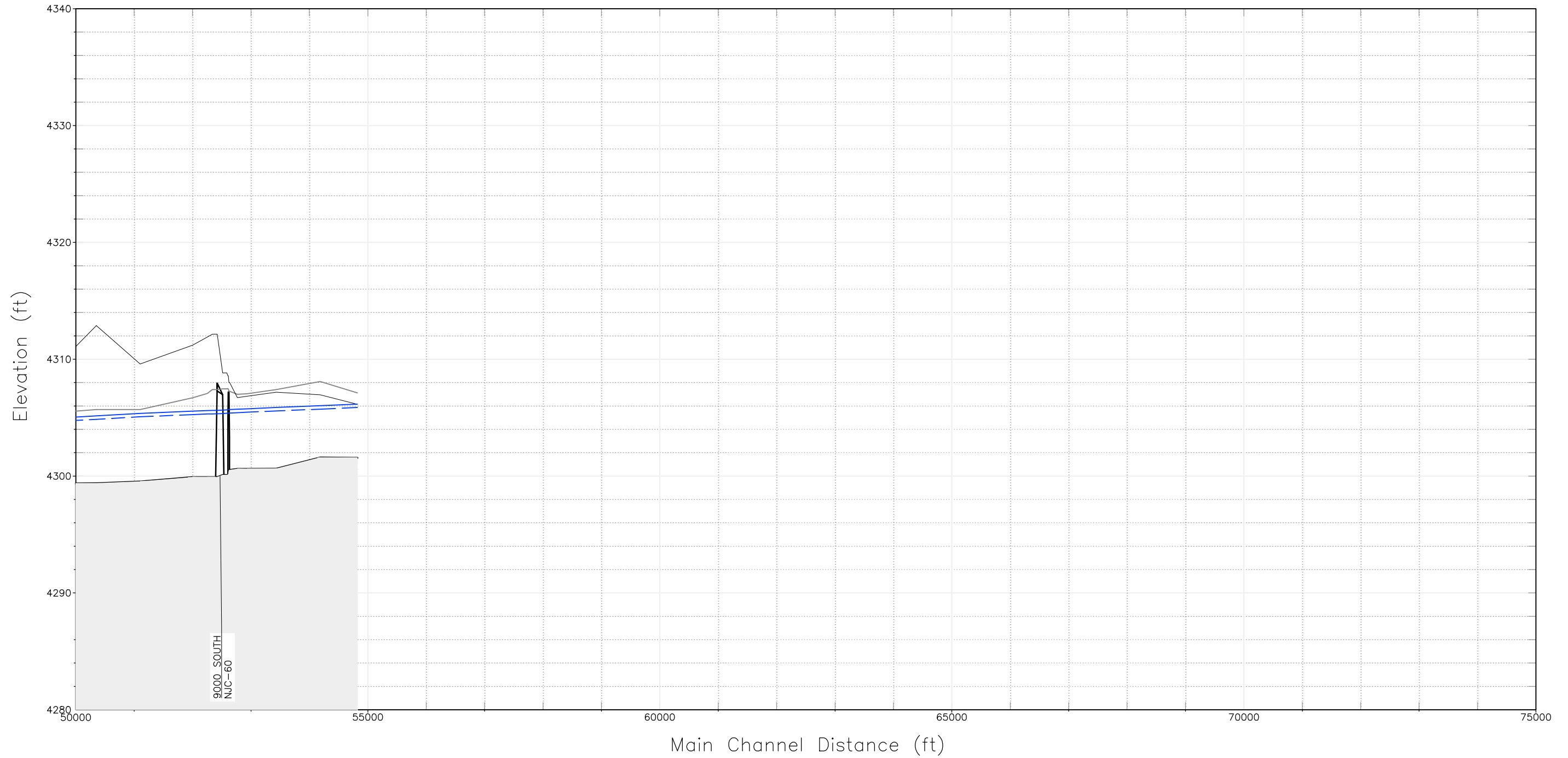
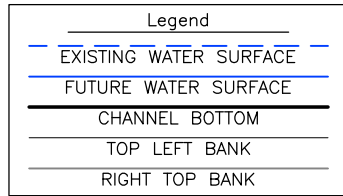


FIGURE I-08  
HYDRAULIC PROFILE OF NJC - FUTURE  
SOUTHWEST CANAL AND CREEK STUDY  
SALT LAKE COUNTY





SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

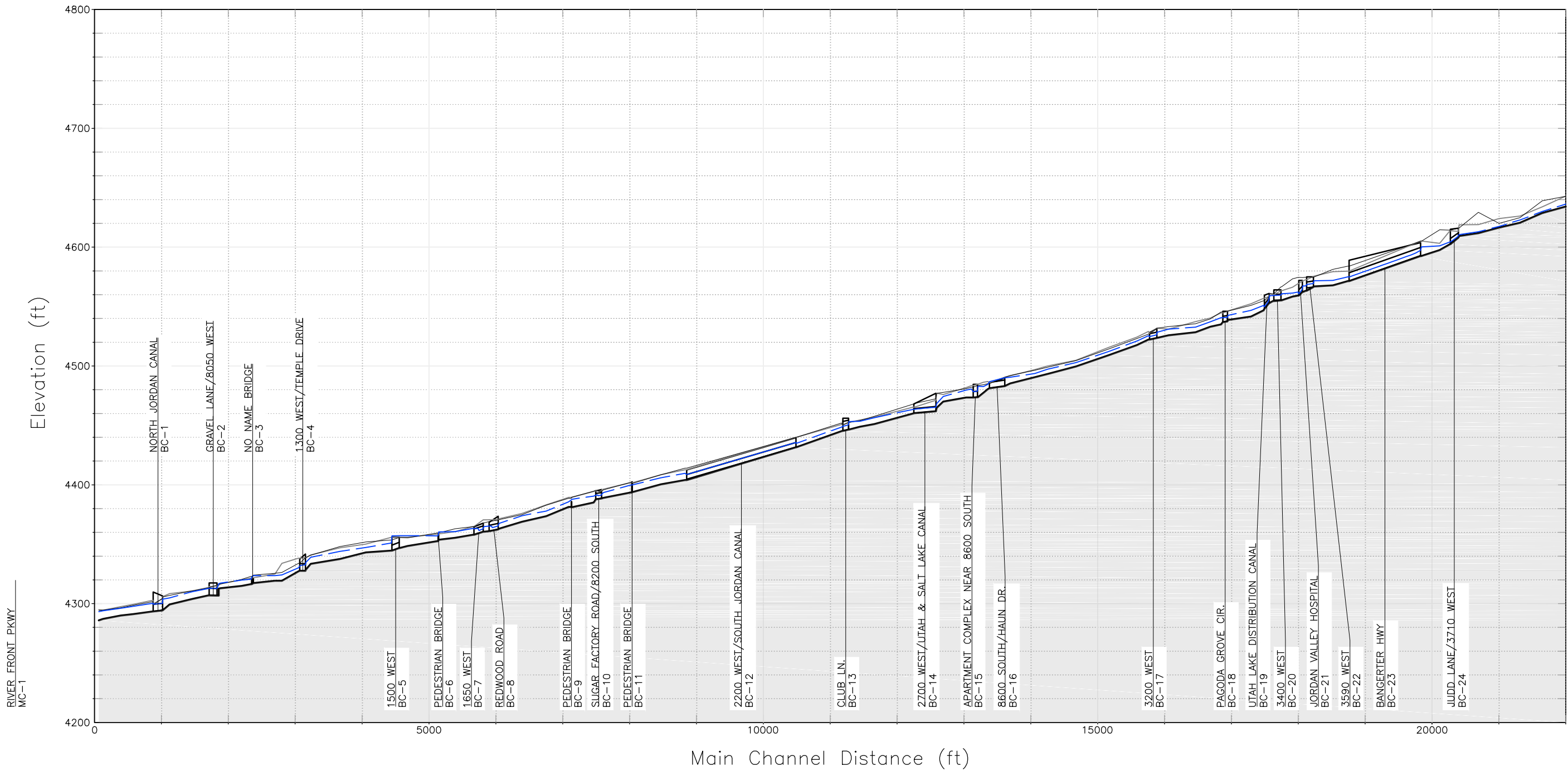
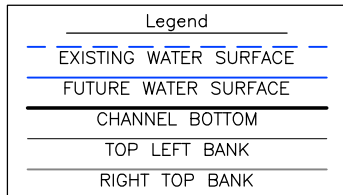


FIGURE I-09  
 HYDRAULIC PROFILE OF BINGHAM CREEK - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

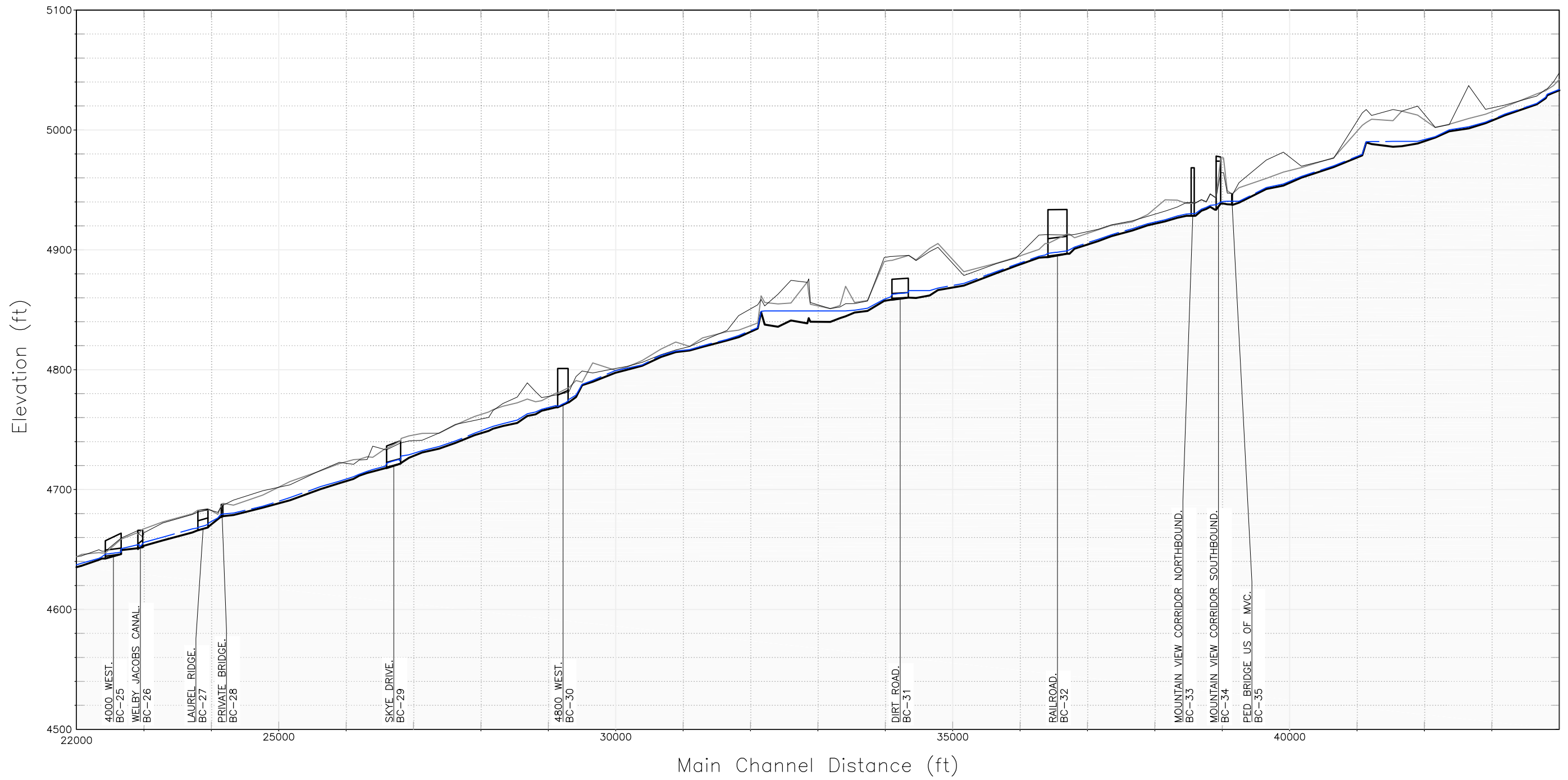







FIGURE I-09  
 HYDRAULIC PROFILE OF BINGHAM CREEK - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
HORIZ 1"=800'  
VERT 1"=40'

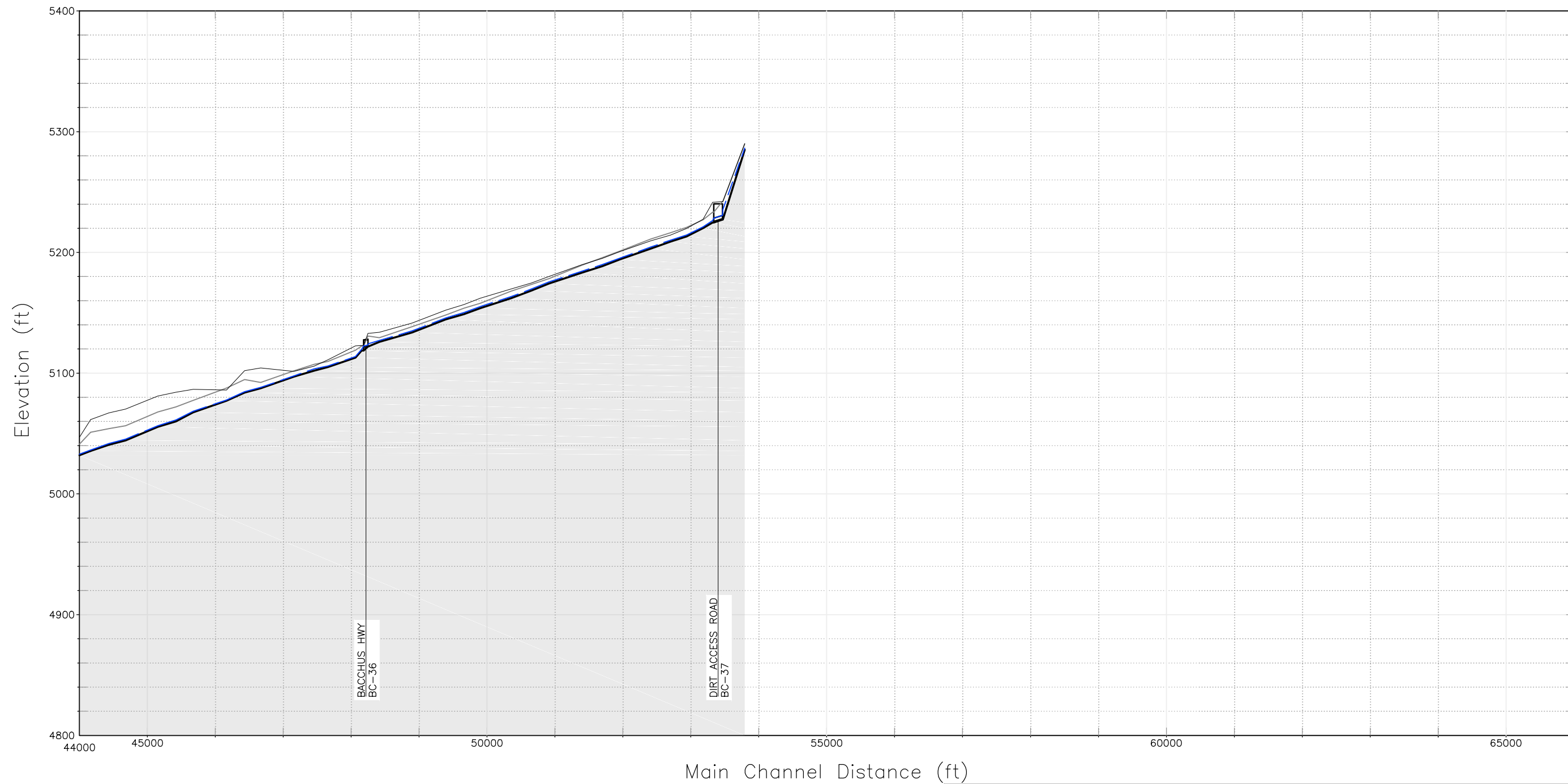
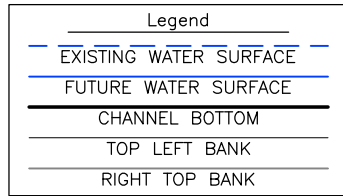


FIGURE I-09  
HYDRAULIC PROFILE OF BINGHAM CREEK - EXISTING  
SOUTHWEST CANAL AND CREEK STUDY  
SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

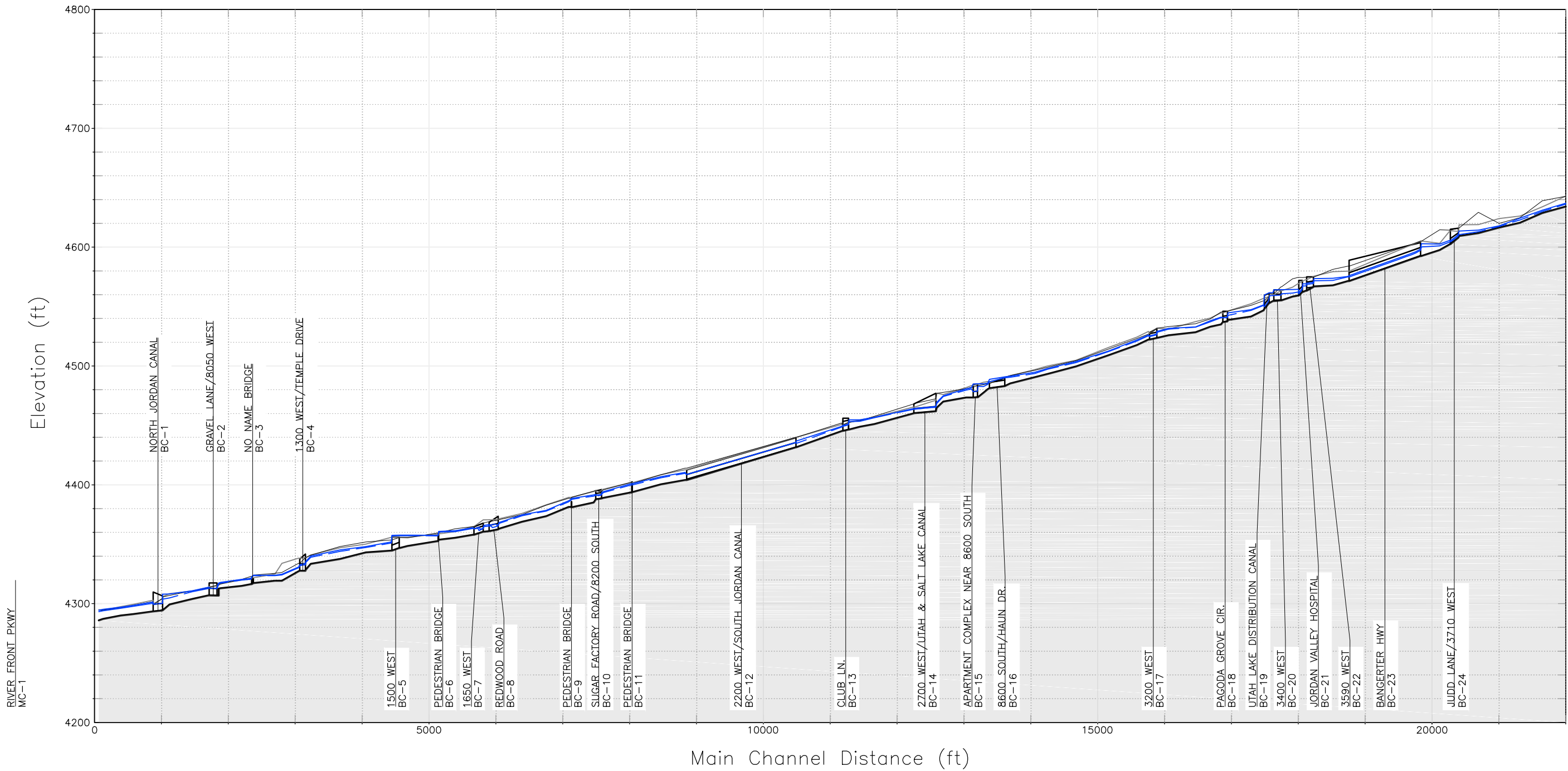
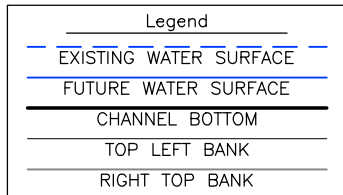


FIGURE I-10  
 HYDRAULIC PROFILE OF BINGHAM CREEK - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

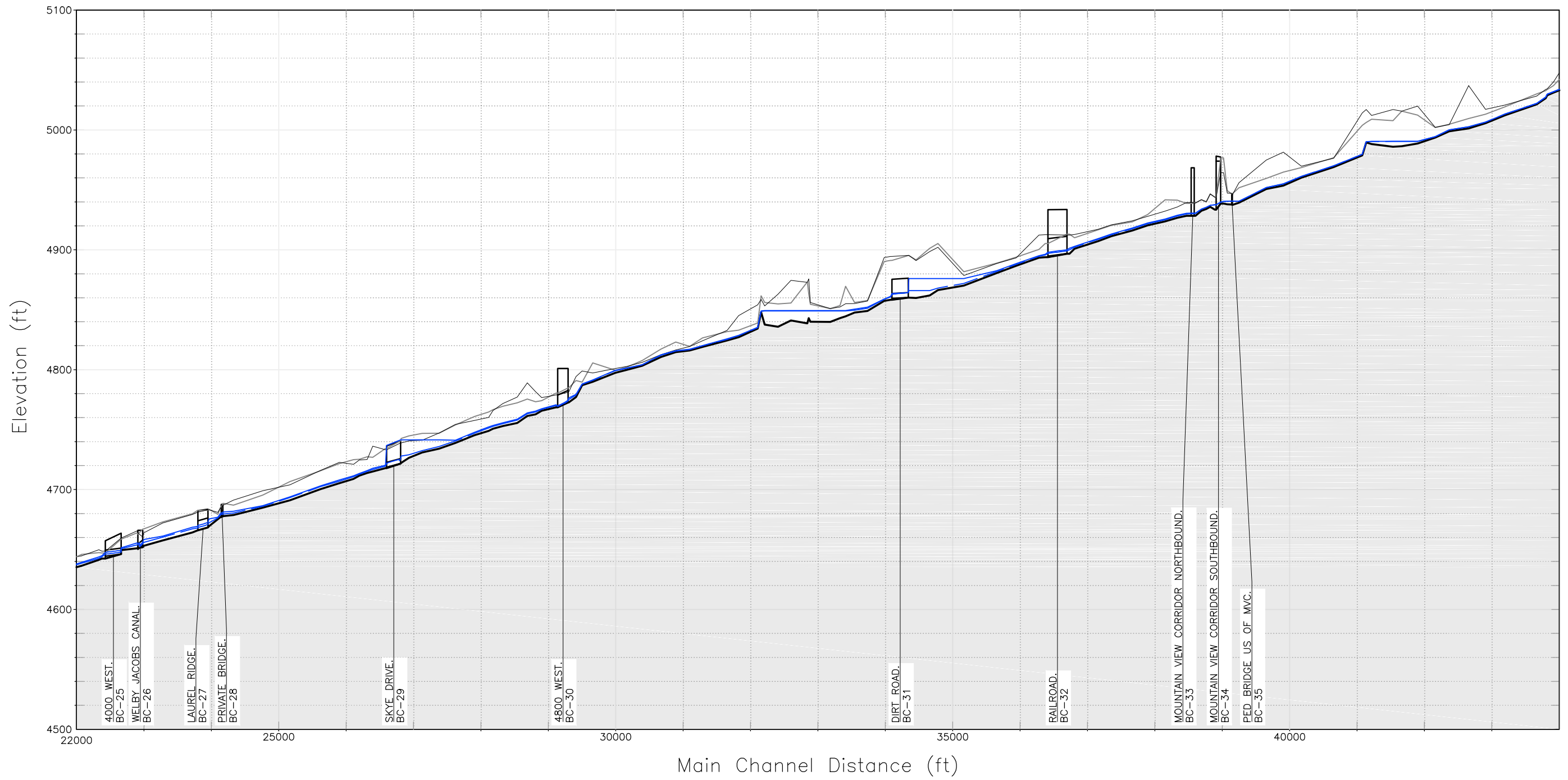







FIGURE I-10  
 HYDRAULIC PROFILE OF BINGHAM CREEK - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
HORIZ 1"=800'  
VERT 1"=40'

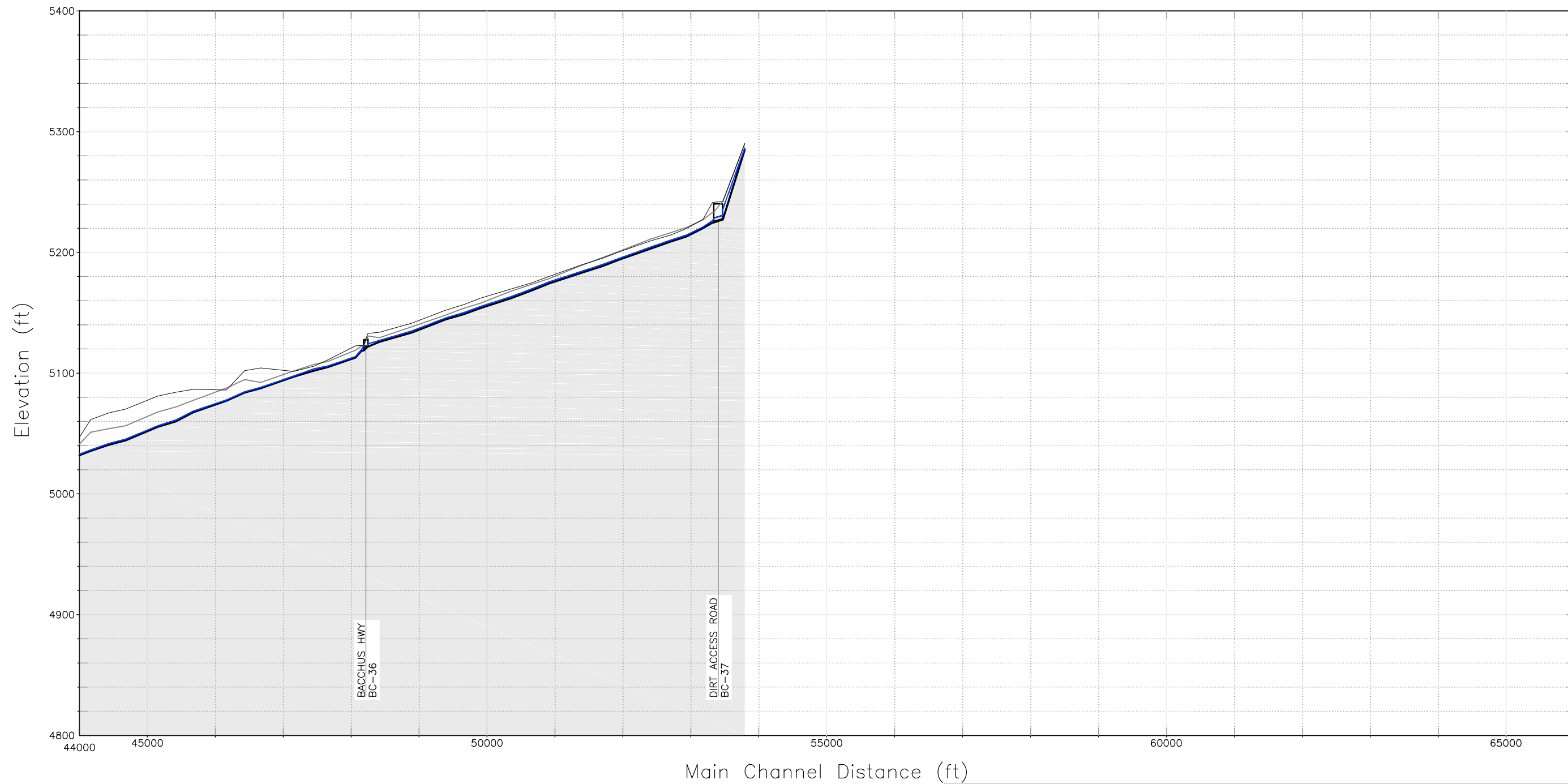
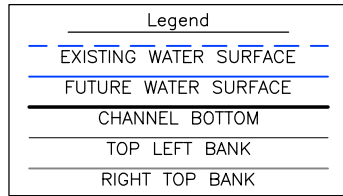


FIGURE I-10  
HYDRAULIC PROFILE OF BINGHAM CREEK - FUTURE  
SOUTHWEST CANAL AND CREEK STUDY  
SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

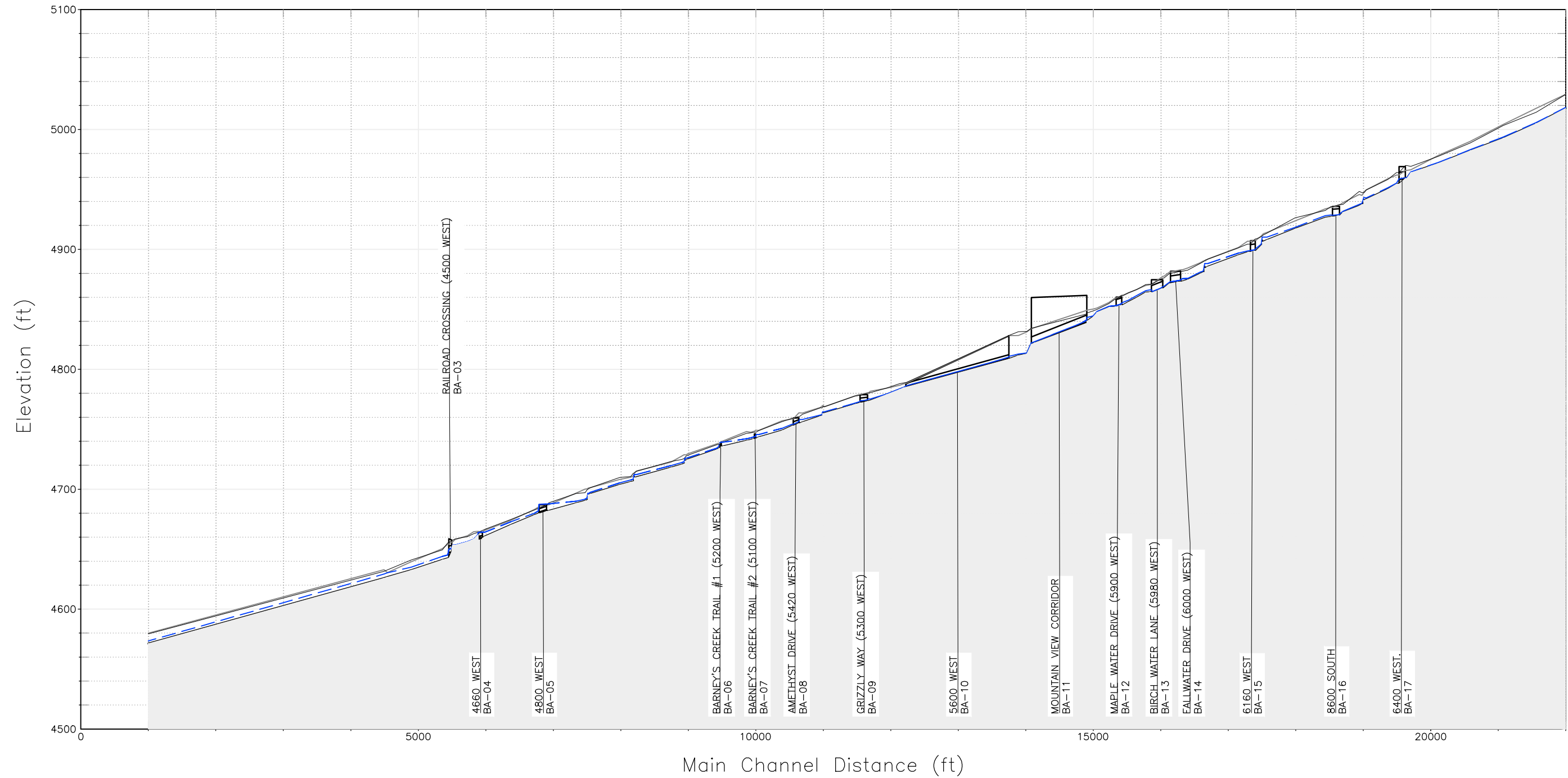







FIGURE I-11  
 HYDRAULIC PROFILE OF BARNEY'S CREEK - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
HORIZ 1"=800'  
VERT 1"=40'

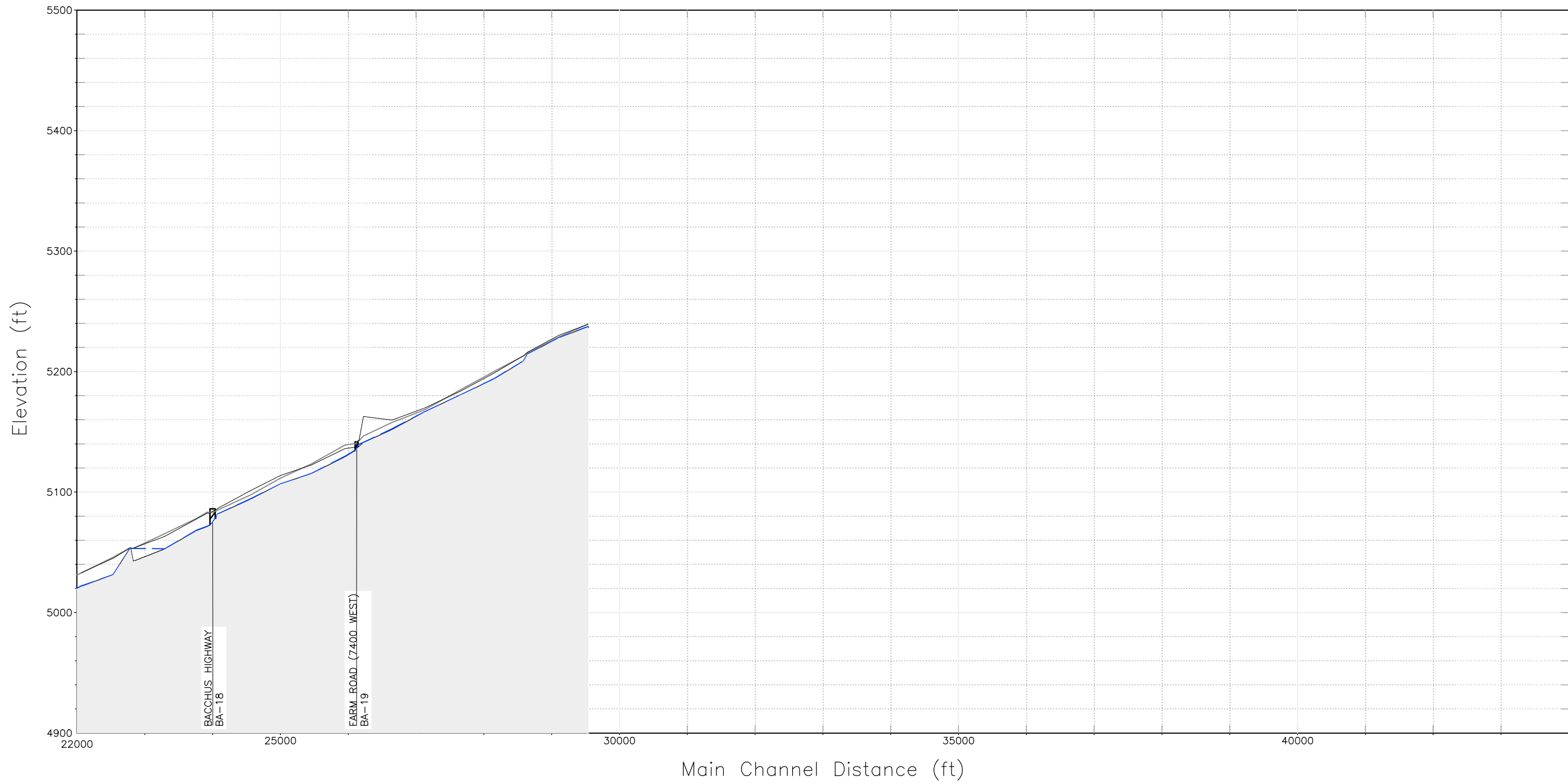
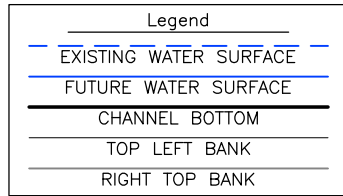


FIGURE I-11  
HYDRAULIC PROFILE OF BARNEY'S CREEK - EXISTING  
SOUTHWEST CANAL AND CREEK STUDY  
SALT LAKE COUNTY





SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

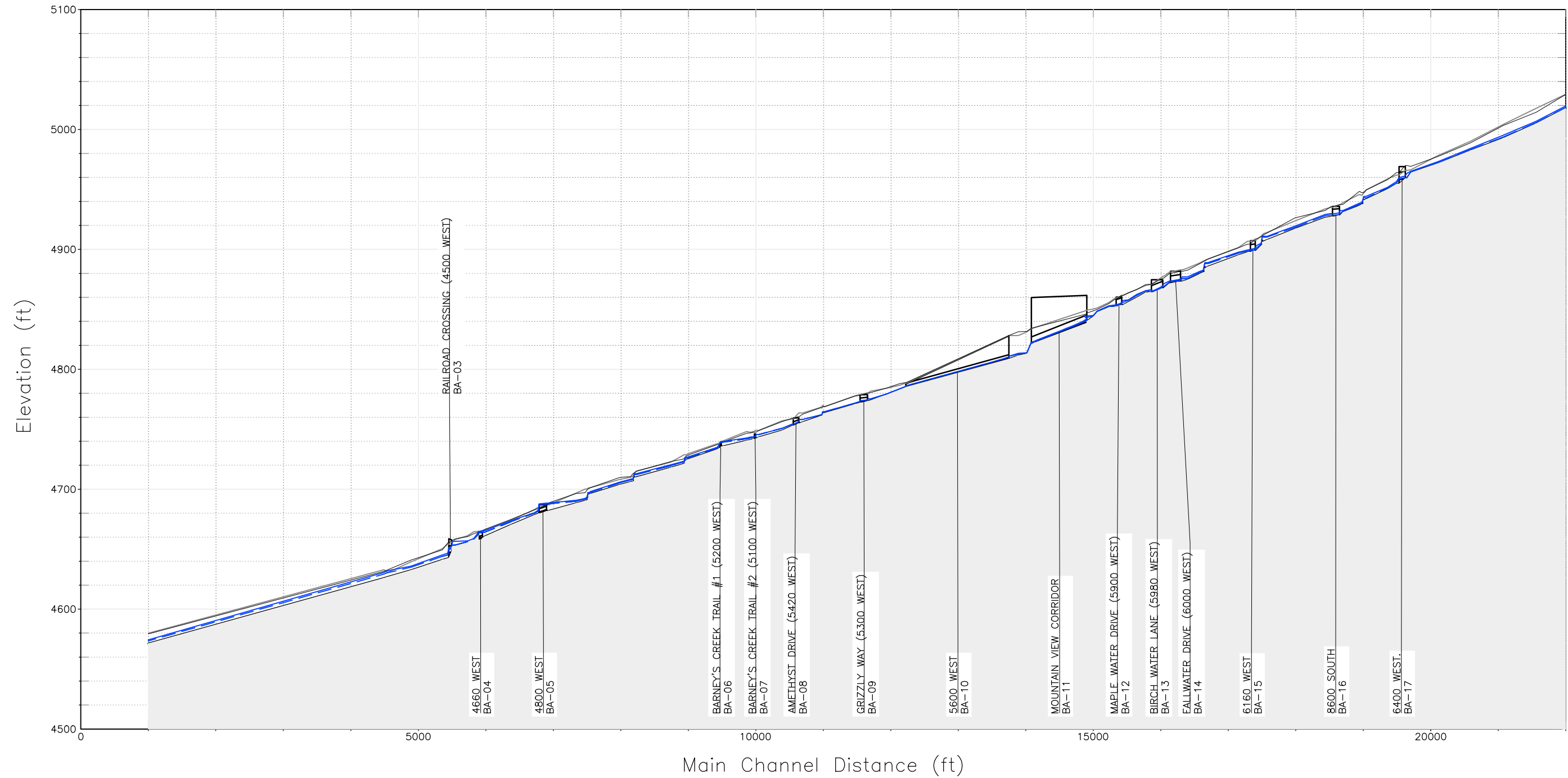







FIGURE I-12  
 HYDRAULIC PROFILE OF BARNEY'S CREEK - FUTURE 0.2 CFS-AC  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

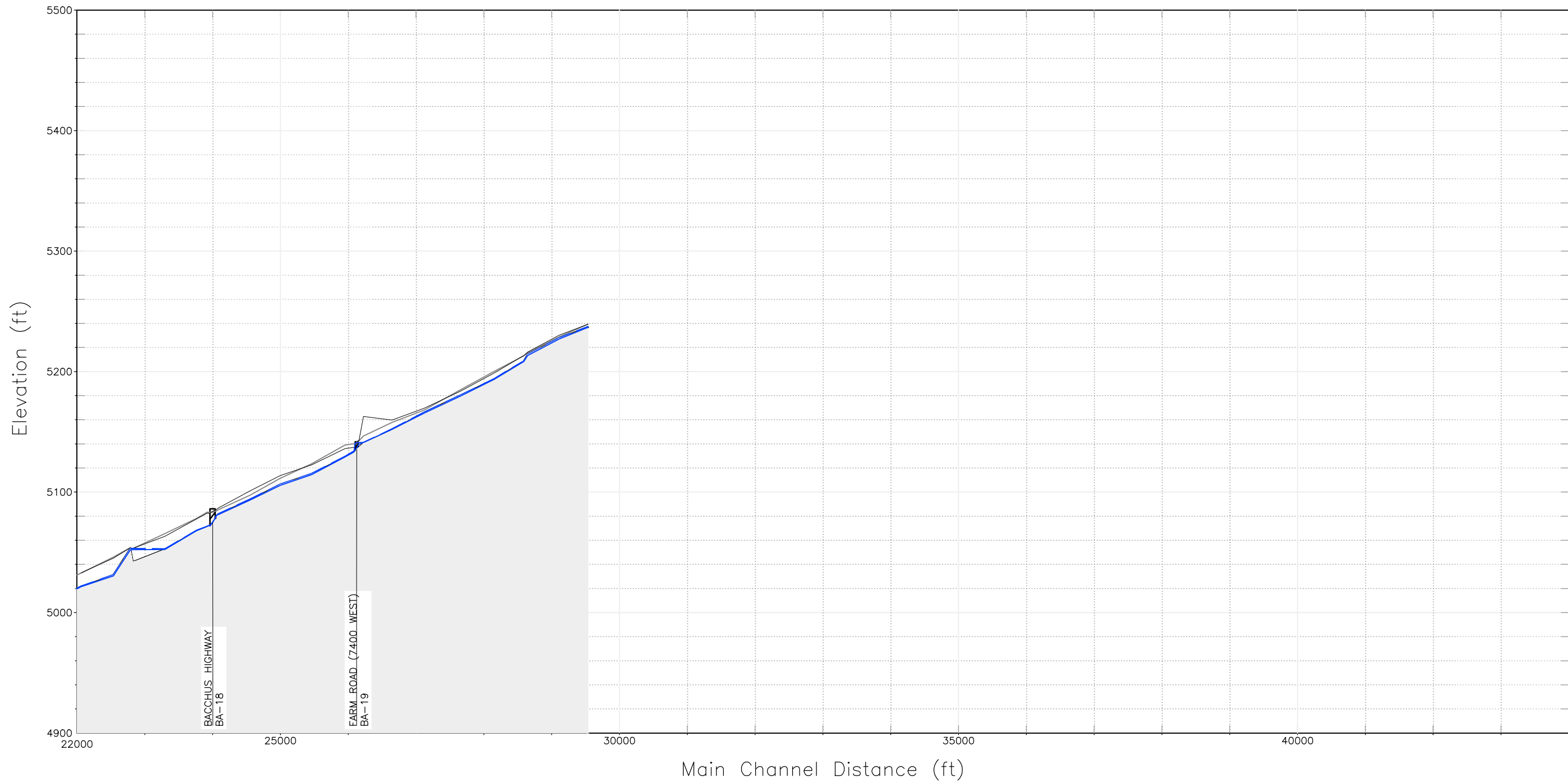
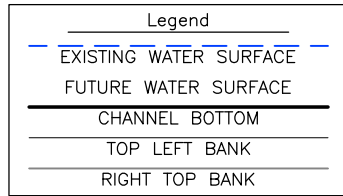


FIGURE I-12  
 HYDRAULIC PROFILE OF BARNEY'S CREEK - FUTURE 0.2 CFS-AC  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

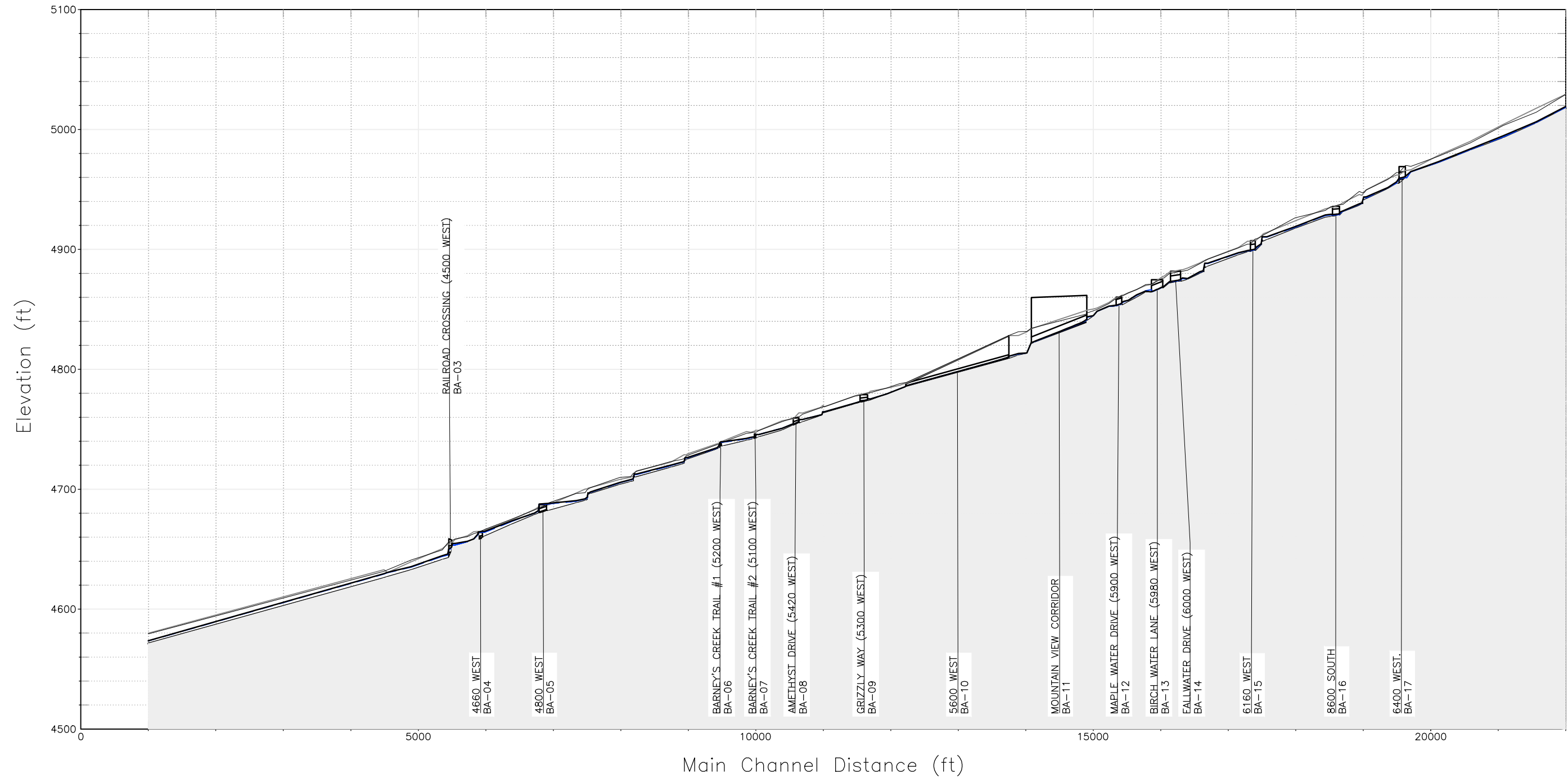







FIGURE I-13  
 HYDRAULIC PROFILE OF BARNEY'S CREEK - FUTURE 0.02 CFS-AC  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY

Legend	
	EXISTING WATER SURFACE
	FUTURE WATER SURFACE
	CHANNEL BOTTOM
	TOP LEFT BANK
	RIGHT TOP BANK

SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

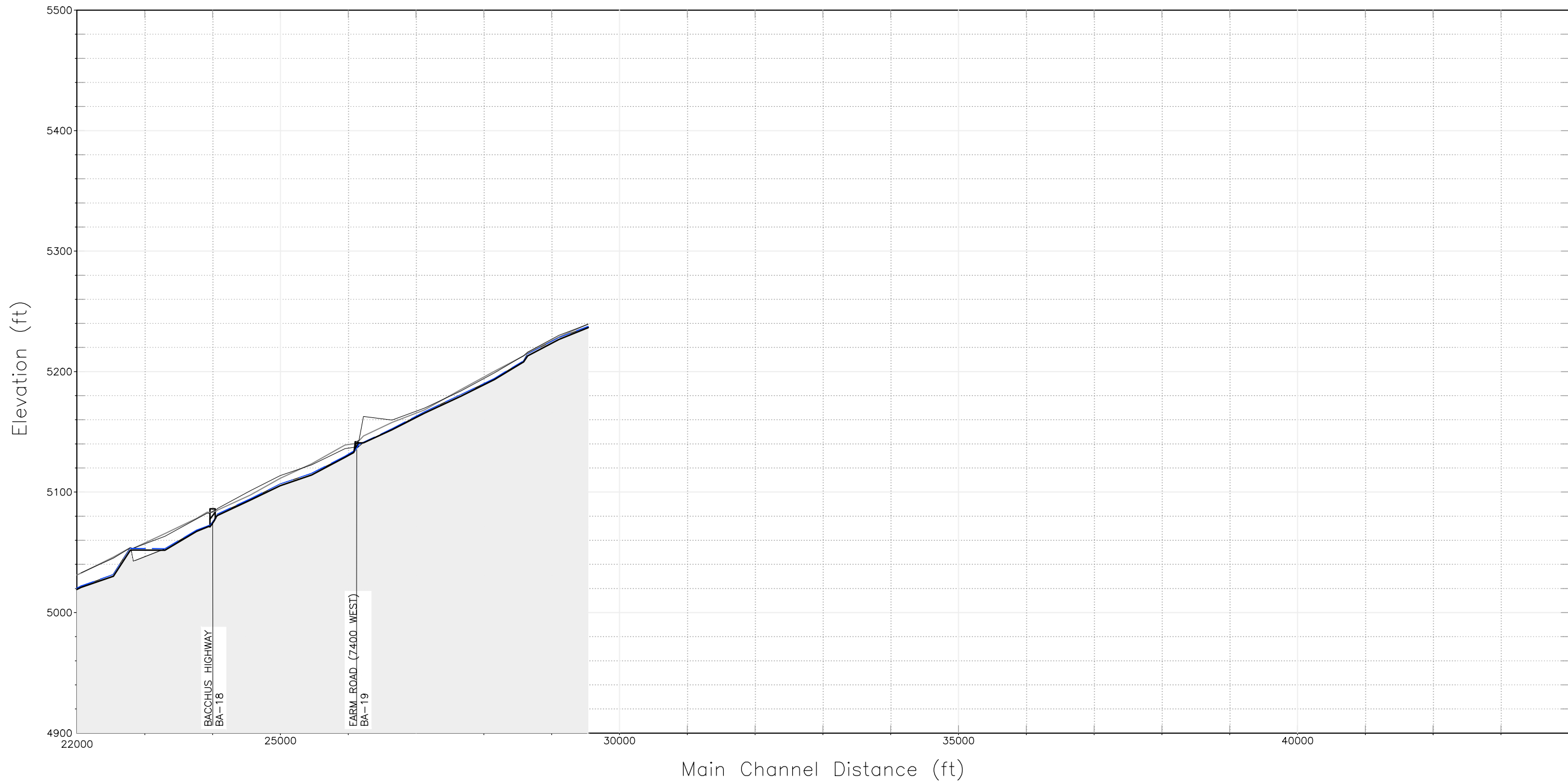
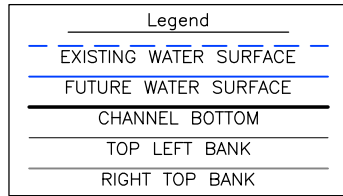


FIGURE I-13  
 HYDRAULIC PROFILE OF BARNEY'S CREEK - FUTURE 0.02 CFS-AC  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

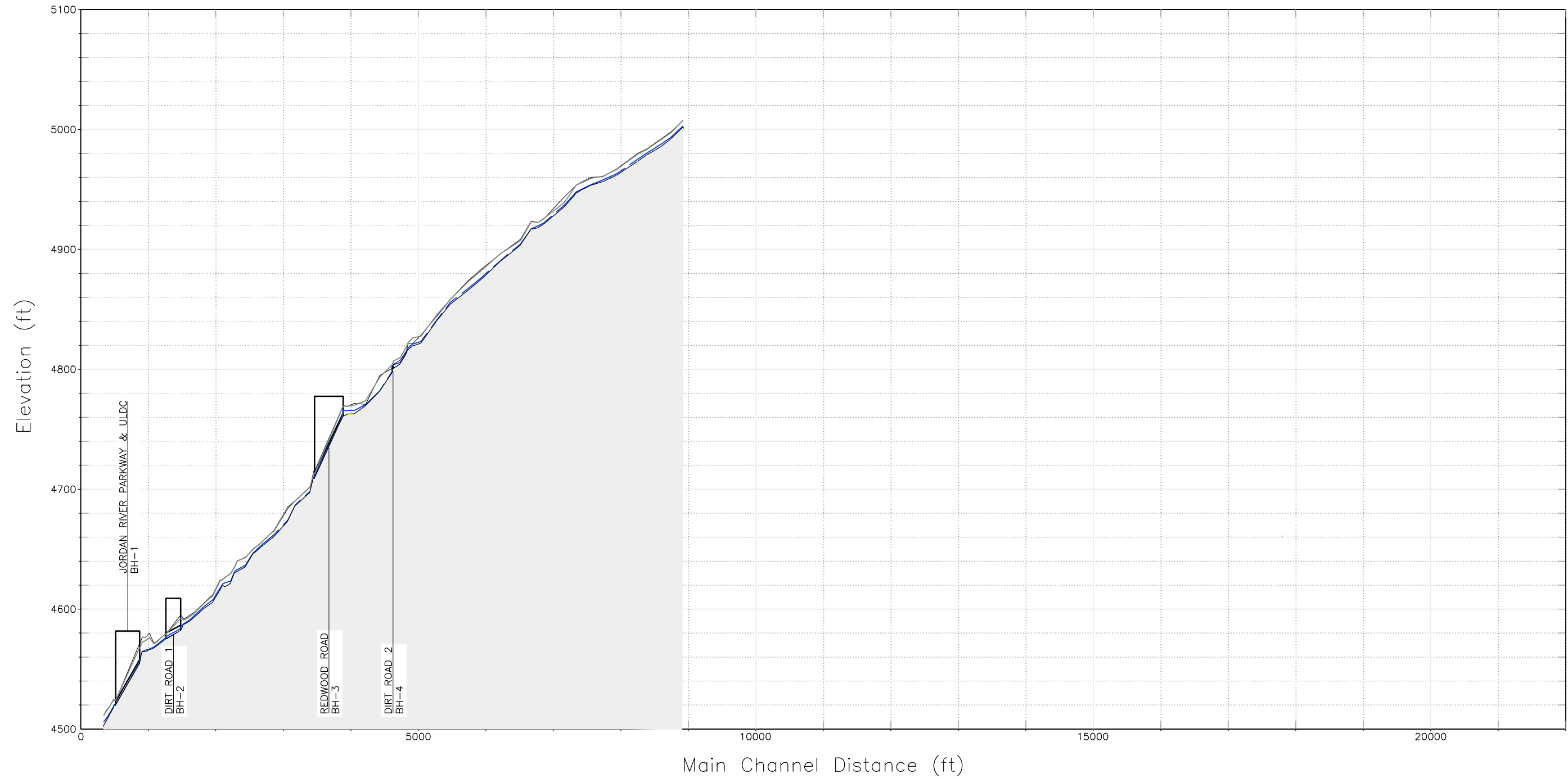
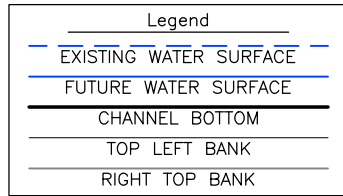


FIGURE I-14  
 HYDRAULIC PROFILE OF BEEF HOLLOW - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

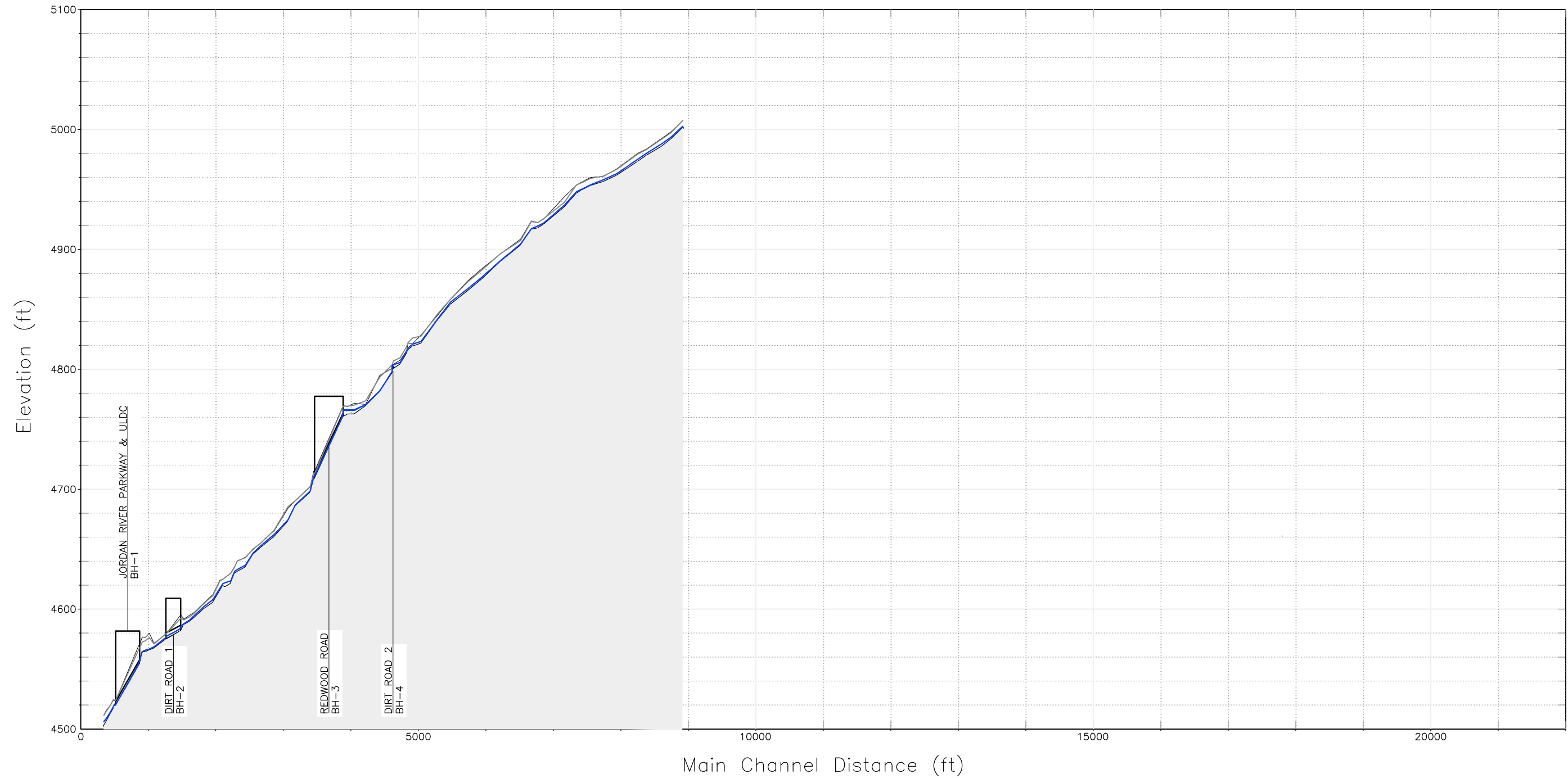
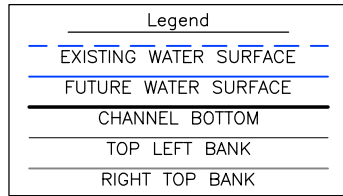


FIGURE I-15  
 HYDRAULIC PROFILE OF BEEF HOLLOW - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

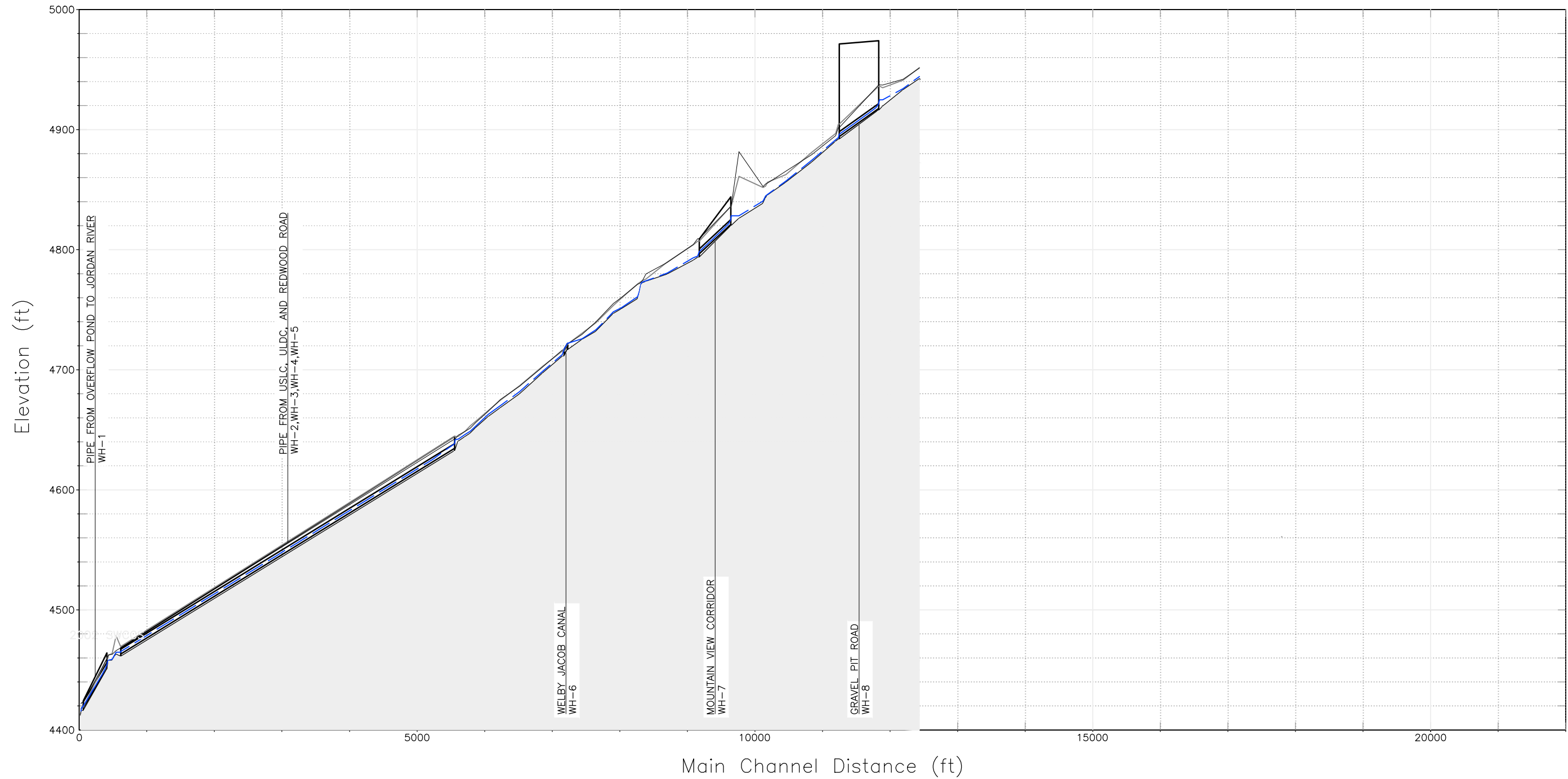
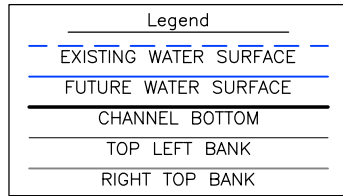


FIGURE I-16  
 HYDRAULIC PROFILE OF WOOD HOLLOW - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

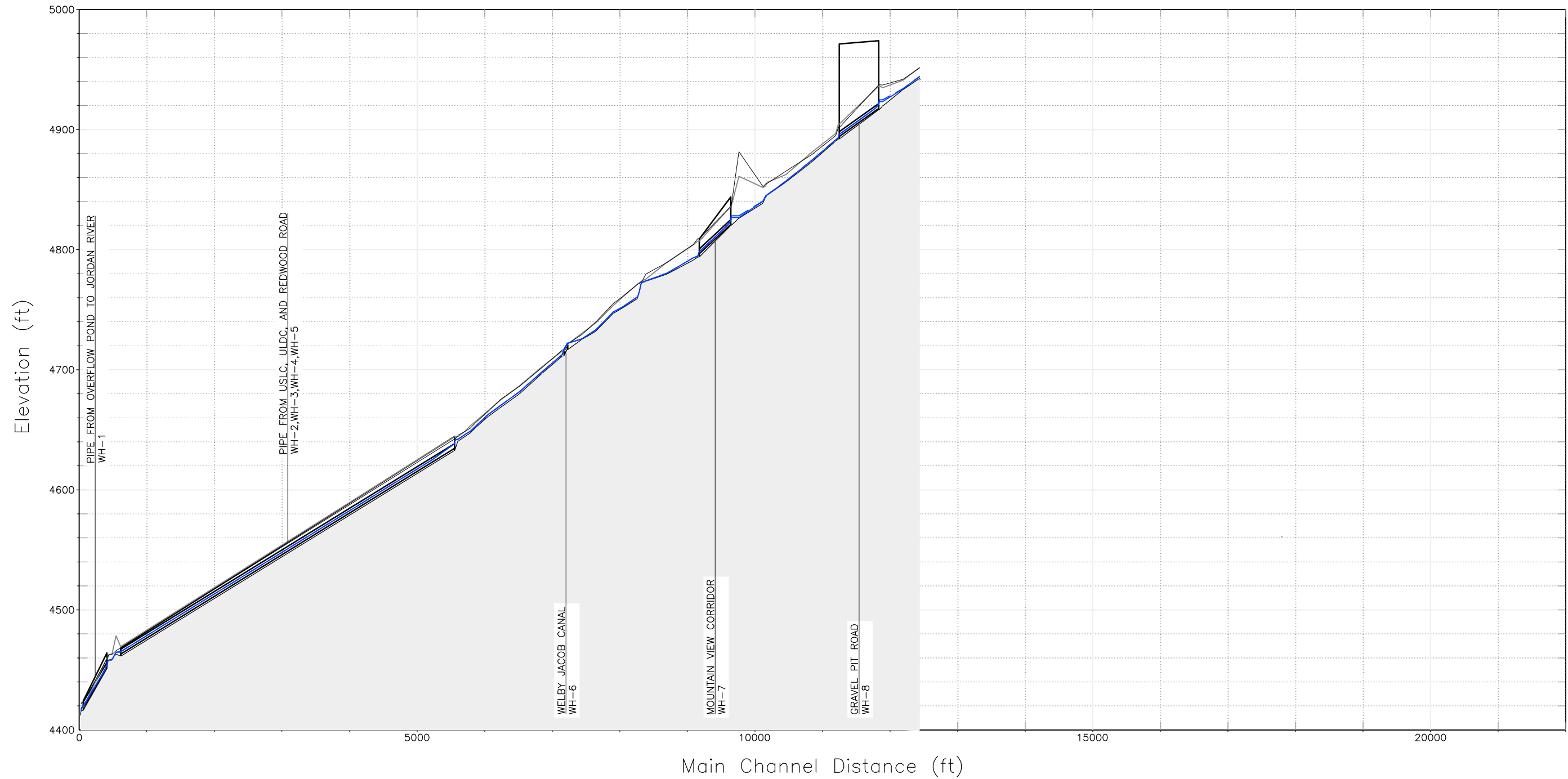
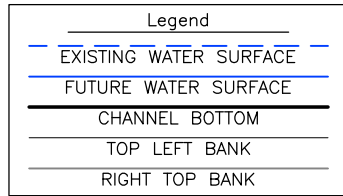


FIGURE I-17  
 HYDRAULIC PROFILE OF WOOD HOLLOW - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY





SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

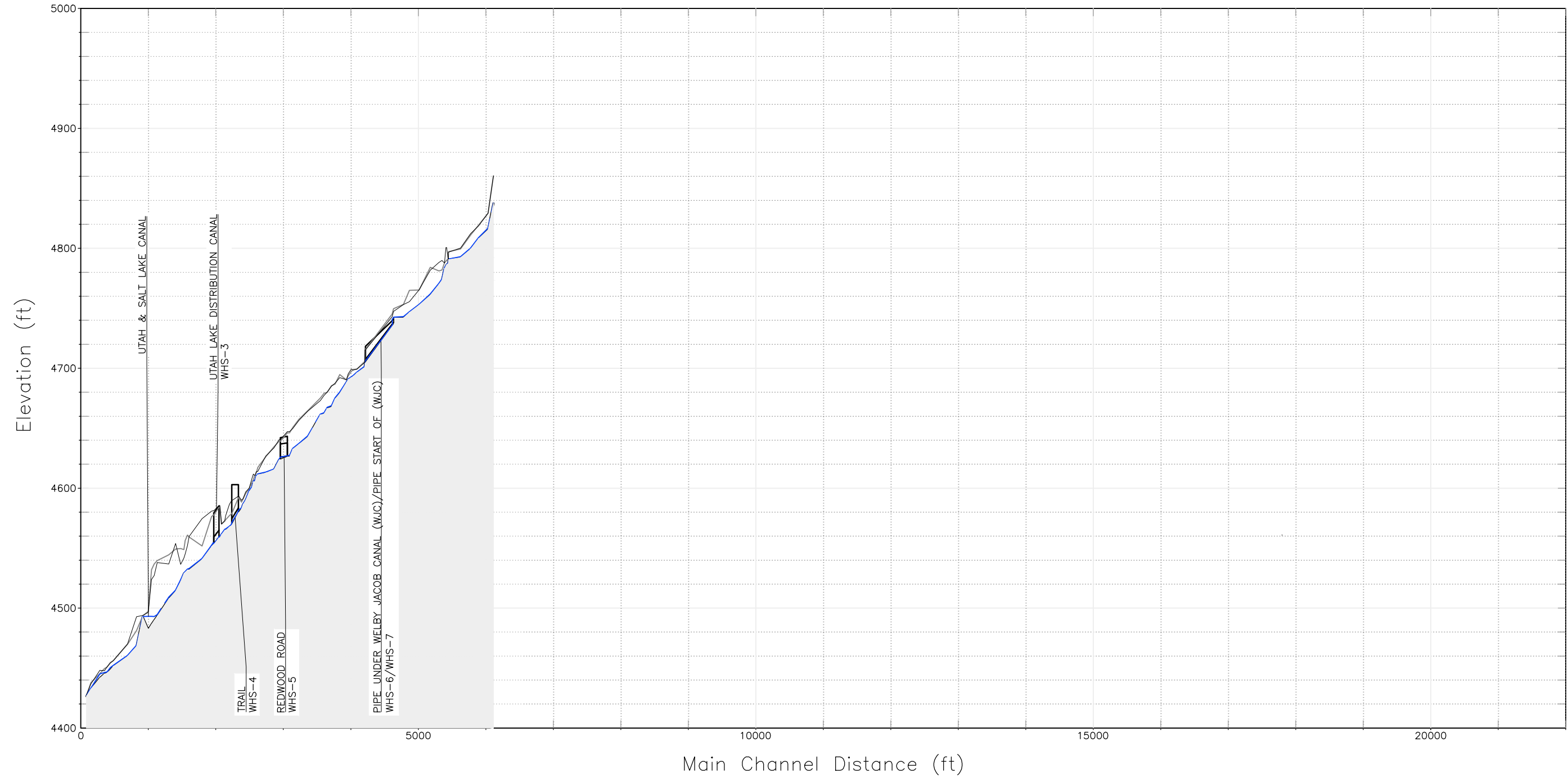
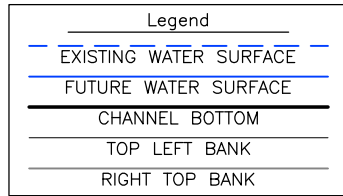


FIGURE I-18  
 HYDRAULIC PROFILE OF WOOD HOLLOW SOUTH - EXISTING  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



SCALE:  
 HORIZ 1"=800'  
 VERT 1"=40'

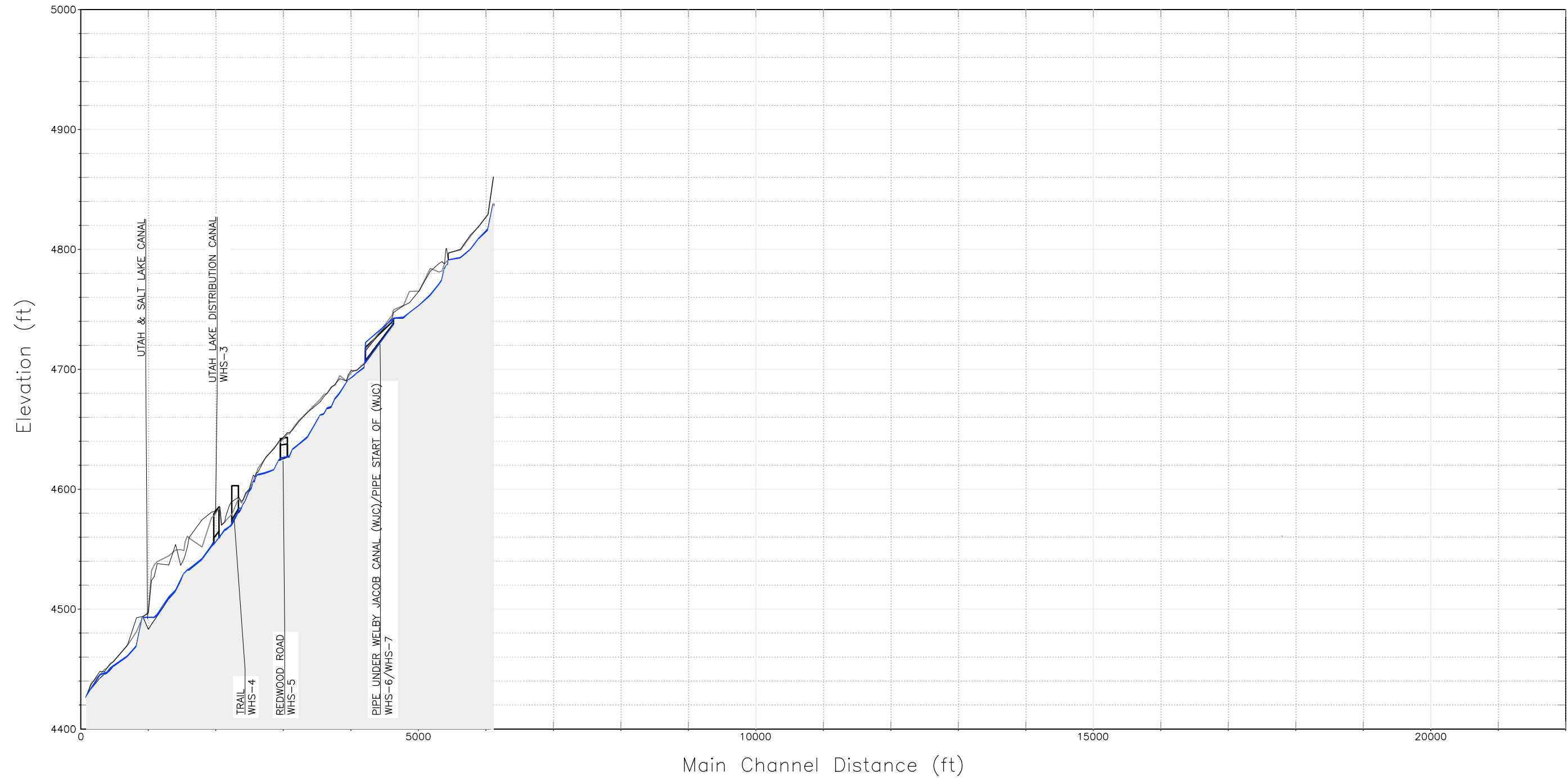


FIGURE I-19  
 HYDRAULIC PROFILE OF WOOD HOLLOW SOUTH - FUTURE  
 SOUTHWEST CANAL AND CREEK STUDY  
 SALT LAKE COUNTY



**BOWEN COLLINS**  
& ASSOCIATES