Draft
Supplemental Environmental Assessment
Appendix A: MKARNS 12-Foot Channel Data Tables

Arkansas River Navigation Study
Arkansas and Oklahoma

January 2024

Prepared By:

Regional Planning and Environmental Center
Environmental Branch
U.S. Army Corps of Engineers
Little Rock and Tulsa Districts

Table 1. Proposed River Training Structures

Name	Lngth_x	Tp_Elvt	Tp_Wdth	Lft_Slp	Rght_Sl	Max_Rch	Elv_P_T	Pool	Reach	N_M	Type	MdlngAs	Lngth_y	Exst_E_	Prps_E_	Elv_Ch_	Exst_G_	Raw_Tns	Cntngn_	wCnt_Tn	Tns_C_R	wCn_T_C
D57.8L	471.0804	168.5	10	1.25	1.25	100	50	2	36	36.6	Dike	No dredging needed, limited dredge history. However, including design footprints for the record if system response indicates this area is aggrading as a result of upstream construction	479	150.36	168.5	18.14	145.38	20368.07	0.16	23875.01	275067.3	348983.5
LH58.85L	383.7202	169	10	1.25	1.25	100	50	2	38	37.6	Dike		384.8	164.52	169	4.48	151.42	6107.43	0.15	7023.54	281174.7	356007
D58.92L	280.8383	169	10	1.25	1.25	100	50	2	38	37.7	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	286.7	163.9	169	5.1	150.33	5179.32	0.15	5956.21	286354	361963.2
LH59.00L	181.8936	169	10	1.25	1.25	100	50	2	38	37.8	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	181.8	164.11	169	4.89	152.22	2629.01	0.17	3057.63	288983	365020.9
D59.08L	144.3717	169	10	1.25	1.25	100	50	2	38	37.9	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	144.37	156	169	13	151.38	4109.55	0.25	5136.94	293092.6	370157.8
LH59.17L	337.1794	169	10	1.25	1.25	100	50	2	38	38	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	337.1	163.77	169	5.23	155.8	3391.81	0.2	4070.17	296484.4	374228
LH59.28L	386.9756	169	10	1.25	1.25	100	50	2	38	38.18	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	386.9	163.23	169	5.77	147.58	7301.99	0.15	8397.29	303786.4	382625.3
LH59.39L	364.7679	169	10	1.25	1.25	100	50	2	38	38.3	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	364.6	162.66	169	6.34	147.88	6629.24	0.15	7623.62	310415.6	390248.9
D59.50L	297.1636	169	10	1.25	1.25	100	50	2	38	38.45	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	297.1	164.95	169	4.05	149.19	4539.4	0.15	5220.31	314955	395469.2
LH59.60L	326.4015	169	10	1.25	1.25	100	50	2	38	38.5	Dike	Raise L head to contain flow, could raise/extend structures on right bank, but these L heads will have to be raised if the area is a problem no matter what. Expensive design for small problem area with little history, but this is the minimalist option	326.4	139.79	169	29.21	135.77	26735.88	0.25	33419.85	341690.9	428889.1

LH62.97R	658.2661	171.5	10	1.25	1.25	100	50	2	44	43.1	Dike		658.2	167.84	171.5	3.66	152.66	7987	0.27	10163.12	405858.9	503881.8
D63.5R	376.7658	170	10	1.25	1.25	100	50	2	44	43.61	Dike	Raise to contain the 70kcfs flowline	376.7	162.62	170	7.38	162.79	2291.04	0.23	2797.51	411117.4	510490.2
D63.7R	410.3559	170	10	1.25	1.25	100	50	2	44	43.8	Dike	Raise to contain the 70kcfs flowline	410.3	161.31	170	8.69	161.2	3632.54	0.28	4552.68	414749.9	515042.9
D63.9R	466.0544	170	10	1.25	1.25	100	50	2	44	44	Dike	Raise to contain the 70kcfs flowline	466	163.73	170	6.27	160.28	4167.69	0.31	5450.06	418917.6	520493
D64.1R	440.9141	170	10	1.25	1.25	100	50	2	44	44.26	Dike	Raise to contain the 70kcfs flowline	440.9	162.32	170	7.68	156.55	5386.67	0.31	7048.51	424304.3	527541.5
D64.3R	491.6256	170	10	1.25	1.25	100	50	2	44	44.49	Dike	Raise to contain the 70kcfs flowline	491.6	163.41	170	6.59	159.29	4925.89	0.31	6428.55	429230.2	533970
D64.5R	542.9926	170	10	1.25	1.25	100	50	2	44	44.69	Dike	Raise to contain the 70kcfs flowline	542.9	163.44	170	6.56	159.87	4891.02	0.37	6643.84	434121.2	540613.9
D68.8R	225.4667	173	10	1.25	1.25	100	50	2	46	46.2	Dike	Extend to contain trace width further through the crossing to deeper water	225.9	151.11	173	21.89	151.11	9737.26	0.35	13145.3	443858.4	553759.2
R69.8R	382.2508	173	10	1.25	1.25	100	50	2	46	46.4	Revetment	Extend to contain trace width further through the crossing to deeper water	382.2	144.94	173	28.06	144.94	27477.88	0.25	34347.35	471336.3	588106.5
D68.6L	456.4267	173	10	1.25	1.25	100	50	2	46	46.68	Dike	Raise and extend to increase capacity, although this reach is technically deep enough, the sediment load diverted down from upstream mods will settle out here next.	456.4	154.11	173	18.89	154.15	14109.27	0.35	19047.51	485445.6	607154
D68.8L	571.4202	173	10	1.25	1.25	100	50	2	46	46.9	Dike	Raise and extend to increase capacity, although this reach is technically deep enough, the sediment load diverted down from upstream mods will settle out here next.	572.4	158.98	173	14.02	158.76	9756.32	0.19	11538.65	495201.9	618692.7
R72.0L	3339.099	173.5	10	1.25	1.25	100	50	2	49	48.5	Revetment	Need to raise to contain and catch flow from mods on right bank, good capacity increase in major problem reach	3339	164.29	173.5	9.21	157.12	54740.59	0.18	64095.11	549942.5	682787.8
D70.78R	447.5142	173.5	10	1.25	1.25	100	50	2	49	48.7	Dike	Raise and extended to increase capacity through problem reach	447.5	153.95	173.5	19.55	153.8	12698.37	0.27	16390.25	562640.9	699178
D70.91R	539.5373	173.5	10	1.25	1.25	100	50	2	49	48.8	Dike	Raise and extended to increase capacity through problem reach	539.5	157.59	173.5	15.91	157.59	11220.23	0.25	14056.45	573861.1	713234.5
D71.03R	400.4501	173.5	10	1.25	1.25	100	50	2	49	48.9	Dike	Raise and extended to increase capacity through problem reach	400.4	156.9	173.5	16.6	156.9	9053.12	0.28	11529.33	582914.2	724763.8
D71.17R	362.3772	173.5	10	1.25	1.25	100	50	2	49	49	Dike	Raise and extended to increase capacity through problem reach	362	157.97	173.5	15.53	157.97	6959.45	0.27	8869.82	589873.7	733633.6
D71.37R	443.1113	173.5	10	1.25	1.25	100	50	2	49	49.15	Dike	Raise and extended to increase capacity through problem reach	443	165.08	173.5	8.42	161.36	4553.68	0.2	5665.53	594427.4	739299.2
D63.04R	272.1689	171.5	10	1.25	1.25	100	50	2	44	43.21	Dike		260	168.47	171.5	3.03	159.94	1288.38	0.19	1629.96	407147.2	505511.7
D63.15R	256.9055	172	10	1.25	1.25	100	50	2	44	43.32	Dike		187.1	162.35	172	9.65	162.35	1679.1	0.26	2180.98	408826.3	507692.7
R60.01L	2365.673	169.5	10	1.25	1.25	100	50	2	38	39	Dike	Need to raise to constrict width for 70kcfs at the start of the bend	2365.6	164.11	169.5	5.39	147.08	47079.93	0.12	53445.06	397871.8	493718.7
D59.60L	415.8789	169	10	1.25	1.25	100	50	2	38	38.59	Dike	Need to raise this dike/tiebank of the L-Head to the same height as that L-Head upstream to contain the flow width	415.8	163.3	169	5.7	137.02	9101.01	0.24	11384.54	350791.9	440273.6
D211.2R	449.8386	270	10	1.25	1.25	100	50	8	166	166.3	Dike	Raising dikes 211.2R and 211.0R to 270 feet shows the most impact over the given taper period. This seems to target a small shoaling area near NM 166 that transitions to the next crossing that needs work immediately downstream. The condition needs verification.	446.5	240.48	270	29.52	240.48	35399.05	0.35	47788.71	131661.2	174538.8
D211.0R	575.9757	270	10	1.25	1.25	100	50	8	166	166	Dike	Raising dikes 211.2R and 211.0R to 270 feet shows the most impact over the given taper period. This seems to target a small shoaling area	598.3	257.47	270	12.53	250.03	14174.28	0.3	18484.27	96262.15	126750.1

												near NM 166 that transitions to the next crossing that needs work immediately downstream. Condition needs verification.										
R209.9L	1202.008	270	10	1.25	1.25	100	50	8	164.5	165.1	Revetment	These proposed raises from feasibility were kept as adequate sediment transport capacity resulted and other alternatives would include building new structures which would not be cost effective.	1212	256.5	270	13.5	255.4	24289.77	0.27	31248.87	82087.86	108265.9
LH209.7L	1264.608	270	10	1.25	1.25	100	50	8	164.5	164.8	Dike	These proposed raises from feasibility were kept as adequate sediment transport capacity resulted and other alternatives would include building new structures which would not be cost effective.	1297.4	256.94	255.26	-1.69	254.44	28132.79	0.37	38641.9	33646.83	45620.36
D209.4L	583.9055	270	10	1.25	1.25	100	50	8	164.5	164.5	Dike	These proposed raises from feasibility were kept as adequate sediment transport capacity resulted and other alternatives would include building new structures which would not be cost effective.	584.9	263.23	270	6.77	255.16	5514.05	0.26	6978.46	5514.05	6978.46
R224.5R	3079.612	278	10	1.25	1.25	100	50	8	175.6	175.6	Revetment	Two alternatives were explored. Raising revetment 224.5R to 278, or raising and extending several dikes on the left side. A taper event of the navigation bench indicates that raising R224.5R will provide the most benefits.	3074.99	272.18	278	5.82	267.53	27583.5	0.25	34479.37	250599.9	318696.1
D218.1L	1548.933	272.6	10	1.25	1.25	100	50	8	169.5	169.95	Dike	All proposed raises and extensions were kept. 218.1L, 217.7L, 217.6L, 217.5L, 217.4L, and 217.3L as they adequately increases sediment transport capacity in the trouble reach.	1548.8	267.16	272.6	5.44	262.31	10968.27	0.21	13597.24	202297.9	257282.7
D217.4L	415.1553	272.3	10	1.25	1.25	100	50	8	169.5	169.2	Dike	All proposed raises and extensions were kept. 218.1L, 217.7L, 217.6L, 217.5L, 217.4L, and 217.3L as they adequately increases sediment transport capacity in the trouble reach.	414.2	258.37	272.3	13.93	254.64	9937.43	0.13	11201.1	151745.1	197056.2
D217.6L	536.3337	272.3	10	1.25	1.25	100	50	8	169.5	169.42	Dike	All proposed raises and extensions were kept. 218.1L, 217.7L, 217.6L, 217.5L, 217.4L, and 217.3L as they adequately increases sediment transport capacity in the trouble reach.	535.6	255.14	272.3	17.16	254.28	15660.97	0.13	17550.84	179445.5	228004.9
D217.7L	1055.925	272.4	10	1.25	1.25	100	50	8	169.5	169.6	Dike	All proposed raises and extensions were kept. 218.1L, 217.7L, 217.6L, 217.5L, 217.4L, and 217.3L as they adequately increases sediment transport capacity in the trouble reach.	1048.6	263.29	272.4	9.11	259.21	11884.14	0.31	15680.49	191329.6	243685.4
D217.5L	374.7093	272.3	10	1.25	1.25	100	50	8	169.5	169.35	Dike	All proposed raises and extensions were kept. 218.1L, 217.7L, 217.6L, 217.5L, 217.4L, and 217.3L as they adequately increases sediment transport capacity in the trouble reach.	376.1	256.12	272.3	16.18	252.38	12039.45	0.12	13397.92	163784.5	210454.1
D217.3L	451.2388	272.3	10	1.25	1.25	100	50	8	169.5	169.1	Dike	All proposed raises and extensions were kept. 218.1L, 217.7L, 217.6L, 217.5L, 217.4L, and 217.3L as they adequately increases sediment transport capacity in the trouble reach.	455.2	258.63	272.3	13.67	256.53	10146.43	0.12	11316.22	141807.6	185855.1
NMR165.1R	2570.349	270	9	1.25	1.25	0	0	8	164.5	165.1	Revetment	These proposed raises from feasibility were kept as adequate sediment transport capacity resulted and other alternatives would include building new structures which would not be cost effective. A longer version of this revetment was proposed in Feasibility	2450	0	270	270	251.25	24151.25	0.3	31396.63	57798.09	77016.99
NMR170.0R	1631.177	277	10	1.25	1.25	0	0	8	169.5	170	Revetment	Needed for bank protection	1696	0	277	277	258.21	20718.51	0.3	26934.06	223016.4	284216.7
NMD145.19L	374.6226	255.3	20	1.25	1.25	300	50	7	146	145.19	Dike	Prioritize geotechnical investigations, excavation/blasting first, then monitor and possibly include these designs. The hinged pool operations investigations may assist in alleviating problems in this reach.	376	237.21	255.3	18.09	237.21	10689.11	0.47	15582.53	116426	153705.9
NMD145.55L	400.2741	255.3	20	1.25	1.25	300	50	7	146	145.55	Dike		405	238.97	255.3	16.33	238.97	9609.11	0.47	14053.88	126035.1	167759.7

D193.0L	561.2517	256.2	20	1.25	1.25	300	50	7	147	147.58	Dike	The magnitude of capacity calculated for this reach is quite a bit higher than other locations, which risks scouring this area, depositing into the next problematic area. To mitigate this, we shorten the extensions from 200ft to 150ft, maintaining	560.5	246.34	256.2	9.86	240.54	8551.97	0.75	14965.95	181513	254948.4
D192.6L	622.209	256	20	1.25	1.25	300	50	7	147	147.1	Dike	The magnitude of capacity calculated for this reach is quite a bit higher than other locations, which risks scouring this area, depositing into the next problematic area. To mitigate this, we shorten the extensions from 200ft to 150ft, maintaining	623.5	247.49	256	8.51	241.66	8550.1	0.75	14962.67	172961	239982.4
D191.7L	901.1314	255.6	20	1.25	1.25	300	50	7	146	146.19	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	903.39	245.47	255.6	10.13	242.64	10455.8	0.44	15459.58	164410.9	225019.8
D191.4L	747.0227	255.6	20	1.25	1.25	300	50	7	146	145.9	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	750.6	240.06	255.6	15.54	236.92	17443.3	0.49	26142.44	153955.1	209560.2
D191.2L	526.4204	255.5	20	1.25	1.25	300	50	7	146	145.7	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	524.8	241.1	255.5	14.4	239.52	10476.73	0.48	15658.01	136511.8	183417.7
D188.7R	400.712	254.6	20	1.25	1.25	300	50	7	143	143.25	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	409.4	234.58	254.6	20.02	234.26	14427.89	0.34	18923.62	105736.9	138123.3
D188.6R	621.9802	254.6	20	1.25	1.25	300	50	7	143	143.1	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	627.7	233.51	254.6	21.09	233.04	22871.98	0.34	30378.76	91309.01	119199.7
D188.4R	978.3521	254.6	20	1.25	1.25	300	50	7	143	142.9	Dike	Prioritize geotechnical investigations, excavation/blasting first, the monitor and possibly include these designs; however, hinged pool operations investigations may assist in alleviating problems in this reach.	979.7	234.69	254.6	19.91	233.31	33817.97	0.33	44478.99	68437.03	88820.94
D188.0R	615.2807	254.3	20	1.25	1.25	300	50	7	143	142.5	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	606.2	242.25	254.3	12.05	238.45	13204.63	0.25	16505.79	34619.05	44341.95
LH188.0R	493.5812	254.3	20	1.25	1.25	300	50	7	143	142.4	Dike	Prioritize geotechnical investigations and excavation/blasting first, then monitor and possibly include these designs. Hinged pool operations investigations may assist in alleviating problems in this reach.	486.6	248.59	254.3	5.71	236.2	10681.38	0.35	14419.86	21414.42	27836.16
D230.0R	1034.332	285.5	10	1.25	1.25	100	50	9	182	182.2	Dike	Could be an excessive design, but increases capacity through the needed reach - more modeling and discussion may bring this design to a lesser amount needed.	1040	273.42	285.5	12.08	269.16	19042.12	0.29	24756.68	36851.44	48117.65
D229.7R	796.2039	285.3	10	1.25	1.25	100	50	9	182	181.8	Dike	Could be an excessive design, but increases capacity through the needed reach - more modeling and discussion may bring this design to a lesser amount needed.	794.1	270.35	285.3	14.95	267.18	17809.32	0.29	23360.97	17809.32	23360.97

D230.4R	848.6591	285.7	10	1.25	1.25	100	50	9	182	182.6	Dike	Could be an excessive design, but increases capacity through the needed reach - more modeling and discussion may bring this design to a lesser amount needed.	859	278.31	285.7	7.39	272.94	11321.64	0.22	13733.57	48173.07	61851.22
LH149.1L	1005.161	0	0	0	0	0	0	5	102	102.86	Dike	Needed to improve channel conditions in dredging area to >12ft. Supported by model.	1005	208	218.2	10.2	0	33185	0.2	39822	227206	272647.2
LH149.0L	1600.39	0	0	0	0	0	0	5	102	102.7	Dike	Needed to improve channel conditions in dredging area to >12ft. Supported by model.	1600	208.6	218.2	9.6	0	64422	0.2	77306.4	194021	232825.2
LH148.7L	1737.771	0	0	0	0	0	0	5	102	102.4	Dike	Needed to improve channel conditions in dredging area to >12ft. Supported by model. Discussed as part of the potential $10M earmark	1738	209.3	217.9	8.6	0	51547	0.2	61856.4	129599	155518.8
LH148.4L	1141.921	0	0	0	0	0	0	5	102	102.1	Dike	Needed to improve channel conditions in dredging area to >12ft. Supported by model. Discussed as part of the potential $10M earmark	1142	204.5	217.8	13.3	0	25832	0.2	30998.4	78052	93662.4
LH148.3L	1106.445	0	0	0	0	0	0	5	102	101.9	Dike	Needed to improve channel conditions in dredging area to >12ft. Supported by model. Discussed as part of the potential $10M earmark	1106	208.5	217.8	9.3	0	26279	0.2	31534.8	52220	62664
LH148.1L	2258.286	0	0	0	0	0	0	5	102	101.7	Dike	Needed to improve channel conditions in dredging area to >12ft. Supported by model. Discussed as part of the potential $10M earmark	2258	212	217.8	5.8	0	25941	0.2	31129.2	25941	31129.2
SBC-3-L	7091.094	0	0	0	0	0	0	15	3.5 - 4.9	0	Dike	SBC-3-L, SBC-2-L, and SBC-1-L are all from the 2004 feasibility study. Since they are in a backwater area it is hard to evaluate with the RAS model based on our criteria of 2x capacity.	7090	454.94	461.5	6.56	454.23	48969.61	0.25	61212.02	67526.22	86117.18
SBC-2-L	1595.896	0	0	0	0	0	0	15	3.5 - 4.9	0	Dike	SBC-3-L, SBC-2-L, and SBC-1-L are all from the 2004 feasibility study. Since they are in a backwater area it is hard to evaluate with the RAS model based on our criteria of 2x capacity.	1589	454.72	461.5	6.78	454.68	9414.79	0.34	12563.71	18556.61	24905.17
SBC-1-L	3194.46	0	0	0	0	0	0	15	3.5 - 4.9	0	Dike	SBC-3-L, SBC-2-L, and SBC-1-L are all from the 2004 feasibility study. Since they are in a backwater area it is hard to evaluate with the RAS model based on our criteria of 2x capacity.	3176	457	461.5	4.5	457.03	9141.82	0.35	12341.46	9141.82	12341.46
D351.7L	963.1302	0	0	0	0	0	0	15	352.7 - 356.3	351.7	Dike	D351.7L & D 350.5L are new structures based on a problem area defined by Joe. Need to refine modeling before going to construction - these may have little positive impact (little velocity in the reach) and inadvertent negative effects.	939	451.82	461.5	9.68	449.53	15825.31	0.35	21364.17	120564.8	157719.2
D350.5L	3512.729	0	0	0	0	0	0	15	352.7 - 356.3	350.5	Dike	D351.7L & D 350.5L are new structures based on a problem area defined by Joe. Need to refine modeling before going to construction - these may have little positive impact (little velocity in the reach) and inadvertent negative effects	3508	453.91	461.5	7.59	453.24	37213.23	0.35	50237.86	104739.5	136355
D394.5R	375.0741	0	0	0	0	0	0	16		394.5	Dike	Extend and include to increase sediment transport capacity. This area has been dredged more than most in SWT reaches and in recent history	396	486.97	495.41	8.44	482.87	3537.05	0.35	4775.02	261902.3	355820.2
D394.4R	370.2756	0	0	0	0	0	0	16		394.4	Dike	Extend and include to increase sediment transport capacity. This area has been dredged more than most in SWT reaches and in recent history	381	485.81	489.5	3.69	483.58	969.81	0.35	1309.24	258365.2	351045.1
D394.3R	385.2879	0	0	0	0	0	0	16		394.3	Dike	Extend and include to increase sediment transport capacity. This area has been dredged more than most in SWT reaches and in recent history	385	485.52	492.41	6.89	485.54	2580.8	0.35	3484.08	257395.4	349735.9
D394.2R	390.5334	0	0	0	0	0	0	16		394.2	Dike	Extend and include to increase sediment transport capacity. This area has been dredged more than most in SWT reaches and in recent history	387	486.48	492.41	5.93	486.45	1905.78	0.35	2572.8	254814.6	346251.8
D394.1R	369.6122	0	0	0	0	0	0	16		394.1	Dike	Extend and include to increase sediment transport capacity. This area has been dredged more than most in SWT reaches and in recent history	371	486.86	492.41	5.55	486.87	1691.71	0.35	2283.8	252908.8	343679
D87.1L	584.128	0	10	1.25	1.25	100	50	3	65.4	65.4	Dike	Could improve conditions of the D/S lock approach of 4, but requires more modeling and see what the new multi-beam can tell us. Should	584	178.92	183	4.08	167.91	5666.12	0.23	6884.51	129224.5	0

												coordinate the final design and understanding of the issues at this approach with Ops closely.										
D86.8L	716.5859	0	10	1.25	1.25	100	50	3	65.4	65.4	Dike	Could improve conditions of the D/S lock approach of 4, but requires more modeling and see what the new multi-beam can tell us. Should coordinate the final design and understanding of the issues at this approach with Ops closely.	754	181.03	182.8	1.77	174.97	2612.64	0.25	3265.8	123558.4	0
D86.5L	504.8632	0	10	1.25	1.25	100	50	3	65.4	64.75	Dike	Could improve conditions of the D/S lock approach of 4, but requires more modeling and see what the new multi-beam can tell us. Should coordinate the final design and understanding of the issues at this approach with Ops closely.	576	177.86	182.6	4.74	173.7	3720.19	0.24	4591.1	120945.8	0
D333.9R	835.5367	0	10	2	1.25	100	20	12	280	280.05	Dike	Historical dredging and depth is about 13ft. New bathymetry on the riverward end of the dike was utilized, but most of the bathymetry is interpolated from 2019 cross sections.	835.54	365.04	377	11.96	360.9	13852.65	0.25	17315.81	429039.7	536299.7
D333.8R	857.8045	0	10	2	1.25	100	50	12	280	279.8	Dike	Historical dredging and depth is about 13ft. New bathymetry on the riverward end of the dike was utilized, but most of the bathymetry is interpolated from 2019 cross sections.	857.8	366.23	377	10.77	362.96	11706.18	0.25	14632.72	415187.1	518983.9
D327.6L	464.5695	0	10	2	1.25	100	10	12	275	275.15	Dike	Historical dredging just downstream and depth is 15-18ft. Bathymetry is from 2019 cross sections. All existing dike lengths, elevations, footprint is estimated from design drawings.	464.57	365.57	368.5	2.93	363.98	2054.69	0.25	2568.37	271718.6	339648.2
D327.7R	647.9766	0	10	1.25	2	100	10	12	275	275.25	Dike	Historical dredging just downstream and depth is 15-18ft. Bathymetry interpolated and estimated from 1D HEC-RAS and 2019 cross sections. The entire underwater portion of the structure is in the hydroflatened area of the LiDAR.	469.84	368.09	375.38	7.29	361.43	10565.33	0.25	13206.66	282283.9	352854.9
DNM284.1R	427.3367	0	10	1.25	2	100	50	12	284	284.1	Dike	Historical dredging and depth is about 12-13ft. Bathymetry is interpolated from 2019 cross sections.	427.33	360.73	377.5	16.77	360.65	11923.85	0.25	14904.82	671793.5	840383.2
DNM283.95R	424.0869	0	10	1.25	2	100	50	12	284	283.95	Dike	Historical dredging and depth is about 12-13ft. Bathymetry is interpolated from 2019 cross sections.	424.08	361.06	377.5	16.44	360.99	10989.28	0.25	13736.6	659869.7	825478.4
D337.0R	471.9819	0	10	1.5	1.5	100	10	12	284	283.57	Dike	Historical dredging and depth is about 11-13ft. Bathymetry is interpolated from 2019 cross sections. Existing Dike extends only about 100ft riverward so this is really a new dike.	471.97	366.26	378	11.74	362.75	14956.13	0.25	18695.16	638805.6	799148.4
DNM283.76R	397.2615	0	10	1.25	2	100	50	12	284	283.76	Dike	Historical dredging and depth is about 11-13ft. Bathymetry is interpolated from 2019 cross sections.	397.25	361.37	377.5	16.13	361.24	10074.74	0.25	12593.43	648880.4	811741.8
D336.9R	767.1995	0	10	1.25	1.25	100	20	12	284	283.42	Dike	Historical dredging and depth is about 12-13ft. Bathymetry is interpolated from 2019 cross sections. Existing Dike extends only about 50ft riverward so this is really a new dike.	767.2	365.64	378	12.36	365.05	11141.99	0.29	14568.8	623849.5	780453.2
DNM274.75R	597.7333	0	10	1.25	1.25	100	50	12	275	274.75	Dike	Historical dredging area and depth is 10-14ft. Bathymetry interpolated and estimated from 1D HEC-RAS and 2019 cross sections.	597.73	358.45	374	15.55	359.84	19055.6	0.25	23819.5	269663.9	337079.8
DNM274.60R	381.0857	0	10	1.25	1.25	100	20	12	27	274.6	Dike	Historical dredging area and depth is 12-18ft. Bathymetry interpolated and estimated from 1D HEC-RAS and 2019 cross sections.	381.09	362.89	374	11.11	363.86	20024.83	0.25	25031.04	20024.83	25031.04
D334.0R	631.126	0	10	1.25	2	100	50	12	280	280.2	Dike	Historical dredging about 200ft downstream of dike. Depth is about 14-15ft. Bathymetry is from 2019 cross sections. Existing dike extents and elevations are estimated from design drawings. Surrounding water or terrain has been hydro flattened.	631.12	361.85	377	15.15	358.07	14288.47	0.25	17860.59	443328.2	554160.3
R334.3R	1388.649	0	10	1.25	1.25	100	50	12	280	280.2	Revetment	Historical dredging about 200ft downstream of dike. Depth is about 14-15ft. Bathymetry is from	1390.04	371.96	371.8	-0.16	357.46	20524.64	0.25	25655.79	463852.9	579816.1

												2019 cross sections. Existing dike extents and elevations are estimated from design drawings. Surrounding water or terrain has been hydro flattened.										
R337.5L	2540.342	0	5	1.25	1.25	100	50	12	284	0	Revetment	Historical dredging and depth is about 11-13ft. Bathymetry is interpolated from 2019 cross sections. Upstream half of the structure is estimated from construction drawings since that portion was not in the LiDAR. All underwater bathymetry is estimated.	2540.33	374.67	378	3.33	362.05	28775.81	0.25	35969.76	700569.3	876353
D288.4R	1330.605	0	0	0	0	0	0	10	236	236.3	Dike	Dredge box just upstream of this dike. Current survey shows adequate depths and width. This dike would scour channel downstream of dredge box. Good location to quickly vet/test numerical methods. Location is just upstream of a detailed ADH model built	1330	333.68	340	6.32	327.51	12445.26	0.2	14934.32	60383.74	72460.48
D292.9L	2393.557	0	0	0	0	0	0	10	240	240.46	Dike	Raise and extend (added 50' from feasibility). Would improve reach on lower end of dredge box.	2393	337.48	340	2.52	333.35	8100.29	0.3	10530.38	117069.3	143779.7
R293.7L	1770.894	0	0	0	0	0	0	10	240	241	Dike	Raise from feasibility estimates.	1100	338.69	340	1.31	327.92	6968.96	0.3	9059.64	129717.1	160221.9
D294.1R	663.8978	0	0	0	0	0	0	10	242	242	Dike	Dike raises and extensions needed to keep flow against opposite bank upstream of crossing. Model supports design.	663	330.66	340	9.34	329.25	6133.97	0.3	7974.15	161378	201381
D294.3R	581.8583	0	0	0	0	0	0	10	242	242.12	Dike	Dike raises and extensions needed to keep flow against opposite bank upstream of crossing. Model supports design.	581	331.16	340	8.84	328.43	5474.45	0.3	7116.78	166852.5	208497.8
D294.4R	517.5383	0	0	0	0	0	0	10	242	242.28	Dike	Dike raises and extensions needed to keep flow against opposite bank upstream of crossing. Model supports design.	517	332.4	340	7.6	329.5	4168.82	0.3	5419.47	171021.3	213917.3
DNM223.0L	2906.991	0	0	0	0	0	0	10	222	223	Dike	New dike shows 1.5-2x total transport capacity difference in nav channel through entire dredge box. Substantially higher values out of channel near dike. Modeled with 222R dike without trail dike.	2906	325.27	335	9.73	325.27	40052.1	0.2	48062.52	40052.1	48062.52
DNM230.05R	394.1667	0	0	0	0	0	0	10	230	230	Dike	New short dike shows 1.5-2x total transport capacity difference in channel within dredge box. Needed if repairs to 283.6R doesn't resolve dredging concerns. No structures proposed during feasibility.	394	325.79	340	14.21	325.75	7886.37	0.2	9463.65	47938.47	57526.17
DNM237.7R	469.1742	0	0	0	0	0	0	10	237.5	237.7	Dike	Proposed building 3 new shorter dikes in lieu of revetment work. Model supports this improving the reach throughout dredge box.	469	328.82	340	11.18	328.82	6783.82	0.2	8140.58	77044.38	92453.25
D293.1L	893.194	0	0	0	0	0	0	10	240	240.78	Dike	Raise and extend (added 150' from feasibility). Would improve reach on lower end of dredge box.	893	333.09	340	6.91	332.27	5678.88	0.3	7382.54	122748.2	151162.2
D293.7R	672.576	0	0	0	0	0	0	10	242	241.5	Dike	Dike raises and extensions needed to keep flow against opposite bank upstream of crossing. Model supports design.	672	334.76	340	5.24	328.54	4383.48	0.3	5698.52	142897.6	177356.5
DNM246.38R	547.8287	0	0	0	0	0	0	10	246	246.38	Dike	New Dike. No structures nor dredging were proposed here during feasibility, but it's needed now. New shoaling since 2003 at this natural deposition area - many structures in the area to be modified accordingly.	547	330.13	342	11.87	330.08	9283.5	0.2	11140.2	180304.8	225057.5
DNM237.5R	392.5114	0	0	0	0	0	0	10	237.5	237.5	Dike	Proposed building 3 new shorter dikes in lieu of revetment work. Model supports that this would improve the reach throughout dredge box.	392	323.96	340	16.04	323.96	9876.82	0.2	11852.18	70260.56	84312.67
DNM238.2R	408.8475	0	0	0	0	0	0	10	237.5	238.2	Dike	Proposed building 3 new shorter dikes in lieu of revetment work. Model supports that this would improve the reach throughout dredge box.	408	326.09	340	13.91	326.09	7059.82	0.2	8471.78	84104.19	100925
D293.4L	1467.013	0	0	0	0	0	0	10	240	241.05	Dike	Raise from feasibility. Also extended 200 ft into channel. Needed to improve channel within dredge box.	1467	334.52	340	5.48	331.32	8797.02	0.3	11436.13	138514.2	171658

DNM249.25L	447.1264	0	0	0	0	0	0	10	250	249.25	Dike	New dike shows 1.5-2x total transport capacity difference in nav channel through entire dredge box. Dredged after 2019 (twice). There's a gas pipeline that crosses here so need that depth.	447	329.66	345	15.34	329.66	10075.15	0.2	12090.18	190379.9	237147.6
DNM249.5L	488.0442	0	0	0	0	0	0	10	250	249.5	Dike	New dike shows 1.5-2x total transport capacity difference in nav channel through entire dredge box. Dredged after 2019 (twice). There's a gas pipeline that crosses here so need that depth.	488	329.49	345	15.51	329.49	11347.27	0.2	13616.72	201727.2	250764.4
DNM249.75L	485.2192	0	0	0	0	0	0	10	250	249.75	Dike	New dike shows 1.5-2x total transport capacity difference in nav channel through entire dredge box. Dredged after 2019 (twice). There's a gas pipeline that crosses here so need that depth.	485	330.23	345	14.77	330.23	10306.58	0.2	12367.9	212033.8	263132.3
D293.9R	816.3781	0	0	0	0	0	0	10	242	241.73	Dike	Dike raises and extensions needed to keep flow against opposite bank upstream of crossing. Model supports design.	816	329.6	340	10.4	321.66	12346.43	0.3	16050.35	155244.1	193406.9

Table 2. Proposed Dredge Sites

State	Pool	Vol_12	Nav_Mile	Area (Acres)
AR	-1	18323	1 - Montgomery Point LD	8.06
AR	0	122592	10 - Downstream Lock 1	28.36
AR	0	217417	8	65.16
AR	0	35974	4	9.15
AR	0	0	5.4	6.69
AR	0	0	4.7	5.36
AR	1	102045	13 - Canal - Downstream Lock 2 - Upstream Lock 1	65.70
AR	2	39740	50.2 Downstream Hardin LD 3	6.46
AR	2	29931	49	9.75
AR	2	61939	47-46	11.20
AR	2	65471	45-43	11.03
AR	2	28376	38-36	18.25
AR	2	118101	24.5	15.43
AR	2	519314	19 - Canal Entrance - Upstream Lock 2	165.09
AR	3	121771	66 - Downstream Sanders LD 4	45.30
AR	3	54555	62	15.36
AR	4	15332	86.3 Downstream Maynard LD 5	7.11
AR	4	7160	80-79	19.28
AR	5	4580	108.1 Downstream Terry LD 6	4.46
AR	5	78625	102	13.88
AR	6	2299	125.3 - Downstream Murray LD7	8.17
AR	7	15744	155.9 - Downstream Toad Suck LD8	4.11
AR	7	199029	151 -149	66.24
AR	7	253963	147-144	90.95
AR	7	338242	143-140	81.87
AR	8	17245	176.9 - Downstream Ormond LD9	4.89
AR	8	59307	175.5	7.37
AR	8	230334	169.5	38.28
AR	8	14703	166	6.16
AR	8	50559	165	20.43
AR	8	0	167.9	8.95
AR	8	0	165.9	1.73
AR	9	49835	205.5 - Downstream Dardanelle LD10	22.28
AR	9	15455	187	29.90
AR	9	5293	185	22.49
AR	9	25190	182	19.02
AR	10	11528	256.8 - Downstream Ozark LD12	3.38
AR	10	238267	249.8	40.46
AR	10	61873	246	18.30
AR	10	75549	240.7	55.73
AR	10	123473	237.5	33.33
AR	10	5294	236	9.36
AR	10	34112	230	19.84
AR	10	187096	222	63.46
AR	10	45651	225	12.35
AR	12	33396	292.8 - Downstream Trimble LD13	22.84
AR	12	54308	284	27.35
AR	12	14537	280	25.88
AR	12	63281	278	19.00
AR	12	19529	275	9.00
AR	12	199725	272	52.43
OK	13	162660	311.3-312.6	61.01
OK	13	193532	314.2-315.4	43.78
OK	13	220574	315.4-317.4	98.70
OK	13	254918	317.4 - Lock 14	74.33

OK	13	85931	Poteau 1.2-end	14.05
OK	13	27572	Poteau 0.0-0.4	7.41
OK	13	0	319.0-319.5	12.76
OK	14	117639	334.0 - Lock 15	63.49
OK	15	80837	337.7-338.8	85.84
OK	15	16205	AC 0.0 - 0.3	15.97
OK	15	162875	342.3-344.5	98.22
OK	15	105312	346.5-347.4	38.52
OK	15	317400	347.8-349.4	72.52
OK	15	59646	355.4-356.4	43.18
OK	15	58287	361.2-363.3	81.62
OK	15	140373	363.9 - Lock 16	124.69
OK	15	153326	Sallisaw Cr.	14.07
OK	15	42839	Short Mtn	10.44
OK	16	187090	Lock 16 - 367.6	33.51
OK	16	182722	374.0-375.3	65.55
OK	16	24403	379.1-379.9	52.24
OK	16	122494	380.3-381.8	69.62
OK	16	260569	382.9-384.4	85.10
OK	16	223249	389.2-391.5	111.68
OK	16	287630	391.5-393.4	92.92
OK	16	176627	394.0-395.2	54.20
OK	16	61859	395.2-398.0	102.89
OK	16	282069	398.0-400.3	103.57
OK	16	175789	400.3 - Lock 17	51.41
OK	16	51634	Boudinot	4.51
OK	16	0	392.5-393	38.01
OK	17	194572	Lock 17 - 403.3	60.48
OK	17	35526	407.4-407.9	20.55
OK	17	28636	414.1-414.5	10.30
OK	17	56328	416.3-416.7	15.86
OK	17	119214	418.4-420.0	53.43
OK	17	140000	420.0-Lock 18	50.53
OK	18	19530	Lock18-422.3	11.32
OK	18	35880	427.5-427.9	12.54
OK	18	58955	428.9-429.7	20.48
OK	18	35549	433.4-434.5	38.53
OK	18	50932	436.0-436.8	17.13
OK	18	45838	440.0-441.6	61.12
OK	18	55669	441.6-443.3	65.77
OK	18	151029	443.3-end	74.93

Table 3. Proposed Upland Disposal Sites

SITE #	STATE	PERMANENTLY DISTURBED AREA				TEMPORARILY DISTURBED AREA		TOTAL DISTURBED AREA	
		DESIGN SQ FT	DESIGN ACRES	DESIGN VOL-NAV-CY	DESIGN VOL-LAYOUT-CY	SF	AC	SF	AC
0	OK	355,007	8	1,922	4,647	3,317,592	76	3,672,599	84
1	OK	597,057	14	76,694	92,379	634,738	15	1,231,795	28
2	OK	1,629,215	37	145,772	164,713	4,823,531	111	6,452,746	148
6	OK	1,626,764	37	458,574	462,817	5,872,053	135	7,498,817	172
7	OK	1,385,717	32	529,740	563,557	719,386	17	2,105,103	48
10	OK	935,437	21	243,554	271,601	1,938,811	45	2,874,248	66
11	OK	2,397,177	55	37,538	527,176	527,077	12	2,924,254	67
12	OK	707,873	16	127,546	143,546	2,843,046	65	3,550,919	82
13	OK	487,395	11	44,324	59,935	6,283,160	144	6,770,555	155
14	OK	429,101	10	68,812	82,724	2,740,293	63	3,169,394	73
15	OK	590,429	14	59,236	79,713	5,631,347	129	6,221,776	143
16	OK	348,808	8	56,484	70,213	2,228,319	51	2,577,127	59
18	OK	1,306,196	30	303,140	331,140	3,421,739	79	4,727,935	109
20	OK	491,043	11	87,914	107,513	2,170,590	50	2,661,633	61
21	OK	504,395	12	60,850	72,348	1,319,871	30	1,824,266	42
22	OK	549,550	13	57,061	73,378	3,225,271	74	3,774,821	87

24	OK	411,787	9	46,616	56,810	459,208	11	870,995	20
27	OK	1,077,742	25	190,398	236,188	1,216,043	28	2,293,785	53
28	OK	1,874,731	43	304,310	402,411	2,466,818	57	4,341,549	100
29	OK	1,037,469	24	300,108	334,310	3,142,420	72	4,179,889	96
30	OK	332,860	8	34,196	44,805	1,071,266	25	1,404,126	32
32	OK	743,002	17	23,324	35,726	1,304,454	30	2,047,456	47
34	OK	657,173	15	56,280	67,046	597,690	14	1,254,863	29
35	OK	277,989	6	15,430	24,201	1,399,421	32	1,677,410	39
37	OK	241,422	6	27,426	35,379	1,505,545	35	1,746,967	40
38	OK	340,202	8	27,608	35,379	807,280	19	1,147,482	26
39	OK	272,853	6	15,782	21,946	1,416,200	33	1,689,053	39
40	OK	1,112,016	26	64,984	80,246	6,361,355	146	7,473,371	172
41	OK	524,641	12	101,936	119,768	4,121,470	95	4,646,111	107
ALT-4	OK	719,240	17	70,998	87,268	665,941	15	1,385,181	32
18A	OK	847,357	19	84,813	105,490	3,234,305	74	4,081,662	94
1a	OK	963,096	22	28,747	38,546	5,017,073	115	5,980,169	137
31a	OK	111,016	3	2,004	5,001	1,100,631	25	1,211,647	28
33A	OK	281,886	6	19,584	29,046	3,011,750	69	3,293,636	76
36A	OK	234,329	5	23,324	35,379	1,512,638	35	1,746,967	40

4A	OK	2,067,133	47	N/A	N/A	2,203,087	51	4,270,220	98
ALT - 20	OK	561,447	13	70,998	86,380	3,754,568	86	4,316,015	99

Table 4. In-Water Disposal Sites

Feature Name	Navigation Mile Description	Feature Description	Area (acres)
23.2L	23.5-23.1 LDB	Permit Number 9055	44.1
27.2L	27.5-27.1 LDB	Permit Number 9055	84.4
39.8L	39.9-39.6 LDB	Permit Number 9055	26.2
45.5L	46.1-45.3 LDB	Permit Number 9055	150.1
48.0L	49.3-47.4 LDB	Permit Number 9055	208.8
49.7R	50.2-48.6 LDB	Permit Number 9055	155.7
38.0L	38.5-37.7 LDB	Permit Number 9043	20.5
44.4R	44.7-44 LDB	Permit Number 9004	32.7
23.6L	24.1-23.6 LDB	Permit Number 8987	39.2
23.6R	23.8-23.4 RDB	Permit Number 8987	14.6
32.3R	32.8-31.7 RDB	Permit Number 8987	40.8
36.4L	36.6-35.2 LDB	Permit Number 8987	106.2
36.4R	37.2-36.4 RDB	Permit Number 8987	36.3
39.0L	39-38.8 LDB	Permit Number 8987	16.6
39.0R	39.6-38.8 RDB	Permit Number 8987	38.9
42.8R	43-42.7 RDB	Permit Number 8987	12.4
46.7R	47.4-45.9 RDB	Permit Number 8987	131.2
(no ID)	31.7-31 RDB	No Existing Permit	32.4
43.8L	44.2-43.4 LDB	Permit Number 9055	91.7
61.4L	62.1-61 LDB	Permit Number 9055	107.1
64.5R	65.1-64.1 RDB	Permit Number 9055	46.6
55.6L	55.9-55.1 LDB	Permit Number 8987	44.4
55.6R	56.3-55 RDB	Permit Number 8987	250.5
65.0L	65.4-65 LDB	Permit Number 9055	48.9
65.5L	65.7-65.4 RDB	Permit Number 8987	9.2
85.9L	86.1-85.8 LDB	Permit Number 8987	3.4
(no ID)	80.0-79.2 LDB	No Existing Permit	20.1
85.9R	86.2-85.7 RDB	Permit Number 9055	46.7
70.4L	71-69.9 LDB	Permit Number 8987	148.0
71.0R	71.3-70.9 RDB	Permit Number 9055	86.6
(no ID)	92.1-91.7 RDB	No Existing Permit	12.7
(no ID)	103.9-102.5 RDB	No Existing Permit	187.3
107.0L	107.7-106.5 RDB	Permit Number 9055	139.1
103.0L	103.6-101.7 RDB	Permit Number 9055	206.2
95.7L	96.2-95 LDB	Permit Number 9004	217.5
124.8R	125-124.6 RDB	Permit Number 8987	10.8
123.1R	123.4-122.8 RDB	Permit Number 9055	42.9
124.8L	124.8-124.3 LDB	Permit Number 9055	15.3
8.0L	8.3-7.7 LDB	Permit Number 9055	15.7
4.3R	4.5-4.2 RDB	Permit Number 9016	49.9
9.9L	10.1-9.8 LDB	Permit Number 8987	7.3

9.9R	10.2-9.9 RDB	Permit Number 8987	5.2
0.3L	0.5-0.1 LDB	No Existing Permit	22.8
5.8R	5.9 UPLAND	Permit Number 9035	31.4
5.8R	5.9 UPLAND	Permit Number 9035	7.9
0.0M	0.0 INCHANNEL	No Existing Permit	43.8
7.3L	7.7-7 LDB	No Existing Permit	8.2
1.7L	2.6-0.7 LDB	No Existing Permit	59.9
3.3R	3.9-2.7 RDB	No Existing Permit	29.8
5.0R	5.4-4.8 RDB	No Existing Permit	11.3
6.0L	6.4-5.5 LDB	No Existing Permit	19.1
110.8R	111-110.6 RDB	No Existing Permit	20.1
9.4L	9.4-9.2 LDB	No Existing Permit	2.7
7.0L	7.4-6.8 LDB UPLAND	No Existing Permit	86.0
(no ID)	21.7-21 LDB	No Existing Permit	13.9
(no ID)	25-24.5 LDB	No Existing Permit	42.4
9.2L	9.2 UPLAND	NOT AVAILABLE FOR USE	41.9
8.6R	8.7 UPLAND	NOT AVAILABLE FOR USE	74.5
103.7L	104-103.6 LDB	Permit Number 9055	26.8
97.0R	97.5-96.9 RDB	Permit Number 9055	24.1
96.8R	96.9-96.7 RDB	Permit Number 9055	9.5
67.7L	67.6-67.5 LDB	Permit Number 8987	3.6
67.7R	67.9-67.8 RDB	Permit Number 8987	8.1
49.7	49.9-49.4 LDB	Permit Number 8987	11.1
47.0L	47.7-46.7 LDB	Permit Number 9055	75.6
42.8L	42.9-41 LDB	Permit Number 8987	100.6
32.3L	32.7-31.9 LDB	Permit Number 8987	61.6
28.3R	29.1-28 RDB	Permit Number 8987	104.8
28.3L	28.5-27.9 LDB	Permit Number 8987	86.5
307.0L	307.5-303.6 LBD	Permit Number 9055	179.3
306.5R	306.7-306.3 RDB	Permit Number 9055	22.4
304.8L	305.1-304.6 LDB UPLAND	Permit Number 9055	25.0
302.6L	303.1-302.4 LDB	Permit Number 9035	17.6
302.6R	303-302.1 RDB	No Existing Permit	39.8
300.0R	300.4-299.8 RDB	Permit Number 9055	42.8
298.0R	298.2-297.8 RDB	Permit Number 9035	33.6
297.0L	297.5-296.8 LDB	Permit Number 9035	47.4
256.2L	256.4-256 LDB	Permit Number 9055	13.8
256.0R	256-255.6 RDB	Permit Number 8987	21.6
265.6L	265.8-265.4 LDB	No Existing Permit	23.6
266.4L	266.6-266.2 LDB	No Existing Permit	23.4
266.0L	266.1-266 LDB	No Existing Permit	11.0
268.3L	268.7-268.3 LDB	No Existing Permit	24.0
268.8L	269.1-268.8 LDB	No Existing Permit	11.9

269.6L	270-269.4 LDB	No Existing Permit	37.1
271.4L	271.8-271.3 LDB	No Existing Permit	29.4
272.5L	272.6-272.4 LDB	No Existing Permit	19.6
275.0L	275.8-274.5 LDB	Permit Number 9035	66.8
276.3R	272.2-275.6 RDB	Permit Number 9035	76.7
278.1L	278.3-277.8 LDB UPLAND	Permit Number 9055	44.3
279.7R	279.5-280 RDB	Permit Number 9035	30.8
279.4L	279.7-279 LDB	Permit Number 9055	129.3
282.7L	283.4-281.9 LDB	Permit Number 9055	176.2
283.0R	283.4-282.2 RDB	Permit Number 9055	131.1
285.8L	286.1-285.3 LDB	Permit Number 8987	46.2
285.8R	286.1-285.2 RDB	Permit Number 9055	112.0
288.8L	287.3-286.1 RDB	Permit Number 9035	22.3
290.5R	291.7-290 RDB	Permit Number 9055	187.8
292.3L	292.4-292.1 LDB	Permit Number 9055	24.0
292.2R	292.5-292 RDB	No Existing Permit	10.1
223.4R	223.2-222.8 RDB	No Existing Permit	21.6
222.8R	222.8-222.5 RDB	No Existing Permit	21.6
222.4R	222.4-222.1 RDB	No Existing Permit	21.6
221.8R	222.1-221.8 RDB	No Existing Permit	21.6
221.4R	221.4-221 RDB	No Existing Permit	21.6
225.3L	225.3-225 LDB	No Existing Permit	21.6
225.4R	225.5-225.2 RDB	No Existing Permit	21.6
225.8R	225.9-225.5 RDB	No Existing Permit	21.6
225.7L	225.7-225.4 LDB	No Existing Permit	21.6
226.2R	226.2-225.9 RDB	No Existing Permit	21.6
230.0R	230.7-229.1 RDB	No Existing Permit	133.6
230.0L	230.4-229.5 LDB	No Existing Permit	62.4
233.0L	223.4-232.5 LDB	Permit Number 9035	65.1
236.0R	236.6-234.8	Permit Number 9035	335.2
236.6L	236.7-236.4 UPLAND	Permit Number 9055	12.7
239.0L	239.6-238.2 LDB	Permit Number 9055	158.4
241.0L	241.1-240.6 LDB	Permit Number 8987	29.5
241.8R	242.1-241 RDB	Permit Number 9055	53.0
242.2L	242.4-241.6 LDB	Permit Number 9055	67.3
244.1R	244.4-243.4 RDB	Permit Number 9055	53.6
244.6L	245.2-243.5 LDB	Permit Number 9055	185.0
248.0R	248.7-246.9 RDB	Permit Number 9055	294.3
164.6L	164.9-164 LDB	Permit Number 9035	50.1
165.4R	166.2-165.6 RDB	Permit Number 9055	29.0
166.5L	166.9-165.7 LDB	Permit Number 9035	98.2
169.4R	169.7-169 RDB	Permit Number 9055	57.4
169.3L	169.6-169 LDB	Permit Number 9035	23.1

171.7R	172-171.6 RDB	Permit Number 9055	37.7
175.2R	176.6-174 RDB	Permit Number 9055	254.1
176.1L	176.5-175.8 LDB	Permit Number 9055	20.9
183.2R	184.9-182 RDB	Permit Number 9055	239.2
186.2L	186.6-185.8 LDB	Permit Number 9055	27.9
188.5R	189.7-186.9 RDB	Permit Number 9055	503.7
194.0L	194.9-193.5 LDB	Permit Number 9055	121.8
197.5R	197.7-197.1 RDB	Permit Number 8987	35.0
201.0L	201.8-199.9 LDB	Permit Number 9035	214.8
204.4R	205.1-203.6 RDB	Permit Number 9055	97.3
126.7L	126.9-126.6 LDB	Permit Number 9060	48.7
126.7R	127-126.6 RDB	Permit Number 9060	36.1
128.5R	128.9-128 RDB	Permit Number 8987	97.3
130.8L	131.1-130.7 LDB	Permit Number 8987	44.4
130.4L	130.5-130.2 LDB	Permit Number 8987	19.7
129.8L	130.1-129.7 LDB	Permit Number 8987	15.2
134.5L	135.4-133.1 LDB	Permit Number 8987	180.0
136.8R	138.3-135.2 RDB	Permit Number 8987	414.3
138.2L	139.2-137.4 LDB	Permit Number 9035	184.6
139.9R	140.7-139.2 RDB	Permit Number 8987	93.9
142.0R	142.5-141.5 RDB	Permit Number 9055	77.3
146.3R	146.6-146 RDB	Permit Number 9055	35.3
147.3R	147.8-146.7 RDB	Permit Number 9055	91.9
147.0L	147.7-146.6 LDB	Permit Number 9055	77.7
150.5L	151.3-149.2 LDB	Permit Number 9055	323.1
154.0R	155.3-152.7 RDB	Permit Number 9055	299.3
154.1L	154.3-153.8 LDB	Permit Number 9055	78.4
155.5L	155.6-155.2 LDB	Permit Number 9055	9.4
152.3L	152.8-151.5 LDB	Permit Number 9055	69.4
279.9L	280.4-279.7 LDB	Permit Number 9055	119.9
280.1R	280-280.4 LDB	Permit Number 9035	20.3
274.0L	274.5-273.5 LDB	Permit Number 9035	37.2
246.4L	247-246 LDB	Permit Number 9035	99.3
245.7L	246-245.2 LDB	Permit Number 8987	161.6
238.5L	238.2-238 LDB	No Existing Permit	16.3
189.6L	190.3-188.8 LDB	Permit Number 9035	141.0
180.7R	181.2-180.2 RDB	Permit Number 8987	44.6
171.0L	171.8-169.7 LDB	Permit Number 9055	260.1
152.0R	152.7-151.2 RDB	Permit Number 9055	215.1
148.0L	148.7-147.8 LDB	Permit Number 9035	38.6
9.7	9.8-9.7 IN CHANNEL	No Existing Permit	3.8
286.6R	287.3-286.2 RDB	Permit Number 9055	96.8
165.4R	165.5-165.1 RDB	Permit Number 9055	22.4

(no ID)	256.7 IN CHANNEL	No Existing Permit	5.2
18.8R	18.8 RDB	Permit Number 9055	56.8