

RESULTS: BARRIER DESIGN
I-20 Widening

ICA Engineering						20 April 2015				
Will Kerr/Wayne Hall						TNM 2.5				
RESULTS: BARRIER DESIGN						Calculated with TNM 2.5				
PROJECT/CONTRACT:		I-20 Widening								
RUN:		2037 SC 6 to Longs Pond Road - Wall 4								
BARRIER DESIGN:		INPUT HEIGHTS								
ATMOSPHERICS:		68 deg F, 50% RH								
Selected Receivers										
Name	No.	Calc	Noise Reduction		Barrier Reviewed		Important Segments		Partial	
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	LAeq1h
		dBA	dB	dB	dB				ft	dBA
Receiver9	9	56.0	7.8	8	-0.2	Wall 4	778+50.00	32	25.0	45.5
						Wall 4	777+50.00	31	25.0	45.1
						Wall 4	779+50.00	33	25.0	44.7
						Wall 4	776+50.00	30	25.0	44.5
						Wall 4	780+50.00	34	25.0	43.4
						Wall 4	775+50.00	29	25.0	42.8
						Wall 4	781+50.00	35	25.0	42.6
						Wall 4	786+50.00	40	25.0	42.0
						Wall 4	782+50.00	36	25.0	41.8
						Wall 4	787+50.00	41	25.0	41.6
Receiver10	10	57.2	8.7	8	0.7	Wall 4	778+50.00	32	25.0	47.4
						Wall 4	777+50.00	31	25.0	47.0
						Wall 4	779+50.00	33	25.0	46.4
						Wall 4	776+50.00	30	25.0	46.2
						Wall 4	780+50.00	34	25.0	45.0
						Wall 4	775+50.00	29	25.0	44.0
						Wall 4	781+50.00	35	25.0	44.0
						Wall 4	786+50.00	40	25.0	43.2
						Wall 4	787+50.00	41	25.0	43.0
						Wall 4	782+50.00	36	25.0	42.9
Receiver13	13	61.2	12.8	8	4.8	Wall 4	776+50.00	30	25.0	57.0

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						Wall 4	775+50.00	29	25.0	52.0
						Wall 4	777+50.00	31	25.0	51.8
						Wall 4	778+50.00	32	25.0	48.2
						Wall 4	780+50.00	34	25.0	46.4
						Wall 4	786+50.00	40	25.0	45.6
						Wall 4	774+50.00	28	25.0	45.4
						Wall 4	781+50.00	35	25.0	45.3
						Wall 4	785+50.00	39	25.0	44.9
						Wall 4	752+50.00	6	25.0	44.6
Receiver14	14	59.7	11.3	8	3.3	Wall 4	776+50.00	30	25.0	52.9
						Wall 4	777+50.00	31	25.0	51.1
						Wall 4	775+50.00	29	25.0	49.9
						Wall 4	778+50.00	32	25.0	48.6
						Wall 4	786+50.00	40	25.0	46.6
						Wall 4	779+50.00	33	25.0	46.1
						Wall 4	774+50.00	28	25.0	45.8
						Wall 4	780+50.00	34	25.0	45.6
						Wall 4	752+50.00	6	25.0	44.7
						Wall 4	781+50.00	35	25.0	44.5
Receiver15	15	56.8	7.4	8	-0.6	Wall 4	775+50.00	29	25.0	46.0
						Wall 4	776+50.00	30	25.0	45.8
						Wall 4	774+50.00	28	25.0	45.1
						Wall 4	777+50.00	31	25.0	45.0
						Wall 4	778+50.00	32	25.0	44.2
						Wall 4	773+50.00	27	25.0	43.9
						Wall 4	772+50.00	26	25.0	42.9
						Wall 4	779+50.00	33	25.0	42.7
						Wall 4	751+50.00	5	25.0	42.7
						Wall 4	771+50.00	25	25.0	42.5
Receiver17	17	56.1	4.1	8	-3.9	Wall 4	771+50.00	25	25.0	45.1
						Wall 4	772+50.00	26	25.0	44.9
						Wall 4	770+50.00	24	25.0	44.6
						Wall 4	773+50.00	27	25.0	44.3
						Wall 4	769+50.00	23	25.0	43.3
						Wall 4	774+50.00	28	25.0	43.2
						Wall 4	751+50.00	5	25.0	43.0

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						Wall 4	752+50.00	6	25.0	42.8
						Wall 4	775+50.00	29	25.0	42.0
						Wall 4	768+50.00	22	25.0	41.7
Receiver221	221	58.2	6.1	8	-1.9	Wall 4	768+50.00	22	25.0	48.7
						Wall 4	769+50.00	23	25.0	48.6
						Wall 4	752+50.00	6	25.0	47.0
						Wall 4	770+50.00	24	25.0	46.9
						Wall 4	767+50.00	21	25.0	46.8
						Wall 4	751+50.00	5	25.0	46.8
						Wall 4	766+50.00	20	25.0	45.0
						Wall 4	771+50.00	25	25.0	44.7
						Wall 4	765+50.00	19	25.0	43.6
						Wall 4	772+50.00	26	25.0	43.4
Receiver222	222	57.9	5.7	8	-2.3	Wall 4	768+50.00	22	25.0	47.8
						Wall 4	769+50.00	23	25.0	47.2
						Wall 4	767+50.00	21	25.0	46.8
						Wall 4	751+50.00	5	25.0	46.8
						Wall 4	752+50.00	6	25.0	46.5
						Wall 4	770+50.00	24	25.0	45.8
						Wall 4	766+50.00	20	25.0	45.4
						Wall 4	765+50.00	19	25.0	44.2
						Wall 4	771+50.00	25	25.0	43.8
						Wall 4	764+50.00	18	25.0	43.1
Receiver223	223	58.0	6.4	8	-1.6	Wall 4	768+50.00	22	25.0	47.8
						Wall 4	767+50.00	21	25.0	47.4
						Wall 4	751+50.00	5	25.0	47.1
						Wall 4	769+50.00	23	25.0	46.8
						Wall 4	752+50.00	6	25.0	46.7
						Wall 4	766+50.00	20	25.0	46.1
						Wall 4	770+50.00	24	25.0	45.2
						Wall 4	765+50.00	19	25.0	44.9
						Wall 4	764+50.00	18	25.0	43.8
						Wall 4	763+50.00	17	25.0	43.2
Receiver224	224	57.8	7.0	8	-1.0	Wall 4	767+50.00	21	25.0	46.9
						Wall 4	768+50.00	22	25.0	46.8
						Wall 4	751+50.00	5	25.0	46.6

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						Wall 4	752+50.00	6	25.0	46.2
						Wall 4	766+50.00	20	25.0	46.2
						Wall 4	769+50.00	23	25.0	45.8
						Wall 4	765+50.00	19	25.0	45.2
						Wall 4	770+50.00	24	25.0	44.4
						Wall 4	764+50.00	18	25.0	44.3
						Wall 4	763+50.00	17	25.0	43.7
Receiver225	225	57.6	7.1	8	-0.9	Wall 4	767+50.00	21	25.0	46.6
						Wall 4	766+50.00	20	25.0	46.2
						Wall 4	751+50.00	5	25.0	46.2
						Wall 4	768+50.00	22	25.0	46.1
						Wall 4	752+50.00	6	25.0	46.0
						Wall 4	765+50.00	19	25.0	45.5
						Wall 4	769+50.00	23	25.0	44.9
						Wall 4	764+50.00	18	25.0	44.7
						Wall 4	763+50.00	17	25.0	44.1
						Wall 4	770+50.00	24	25.0	43.5
Receiver226	226	57.4	7.4	8	-0.6	Wall 4	767+50.00	21	25.0	46.2
						Wall 4	766+50.00	20	25.0	46.1
						Wall 4	751+50.00	5	25.0	45.8
						Wall 4	765+50.00	19	25.0	45.5
						Wall 4	752+50.00	6	25.0	45.4
						Wall 4	768+50.00	22	25.0	45.4
						Wall 4	764+50.00	18	25.0	44.9
						Wall 4	763+50.00	17	25.0	44.4
						Wall 4	769+50.00	23	25.0	44.2
						Wall 4	762+50.00	16	25.0	43.4
Receiver227	227	57.4	7.6	8	-0.4	Wall 4	766+50.00	20	25.0	46.0
						Wall 4	751+50.00	5	25.0	46.0
						Wall 4	767+50.00	21	25.0	45.8
						Wall 4	765+50.00	19	25.0	45.8
						Wall 4	752+50.00	6	25.0	45.4
						Wall 4	764+50.00	18	25.0	45.2
						Wall 4	763+50.00	17	25.0	44.9
						Wall 4	768+50.00	22	25.0	44.8
						Wall 4	762+50.00	16	25.0	43.8

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						Wall 4	769+50.00	23	25.0	43.5
Receiver228	228	57.2	7.6	8	-0.4	Wall 4	751+50.00	5	25.0	46.0
						Wall 4	765+50.00	19	25.0	45.6
						Wall 4	766+50.00	20	25.0	45.4
						Wall 4	764+50.00	18	25.0	45.4
						Wall 4	763+50.00	17	25.0	45.3
						Wall 4	767+50.00	21	25.0	44.9
						Wall 4	752+50.00	6	25.0	44.4
						Wall 4	762+50.00	16	25.0	44.3
						Wall 4	768+50.00	22	25.0	43.6
						Wall 4	769+50.00	23	25.0	42.2
Receiver229	229	56.5	7.4	8	-0.6	Wall 4	763+50.00	17	25.0	45.1
						Wall 4	764+50.00	18	25.0	45.0
						Wall 4	765+50.00	19	25.0	44.9
						Wall 4	766+50.00	20	25.0	44.4
						Wall 4	762+50.00	16	25.0	44.2
						Wall 4	751+50.00	5	25.0	44.2
						Wall 4	767+50.00	21	25.0	43.6
						Wall 4	752+50.00	6	25.0	42.8
						Wall 4	761+50.00	15	25.0	42.2
						Wall 4	768+50.00	22	25.0	42.2
Receiver230	230	55.9	7.4	8	-0.6	Wall 4	763+50.00	17	25.0	44.6
						Wall 4	764+50.00	18	25.0	44.2
						Wall 4	762+50.00	16	25.0	44.0
						Wall 4	765+50.00	19	25.0	43.8
						Wall 4	766+50.00	20	25.0	43.1
						Wall 4	751+50.00	5	25.0	42.7
						Wall 4	761+50.00	15	25.0	42.3
						Wall 4	767+50.00	21	25.0	42.3
						Wall 4	760+50.00	14	25.0	41.3
						Wall 4	752+50.00	6	25.0	41.1
Receiver231	231	55.0	7.7	8	-0.3	Wall 4	763+50.00	17	25.0	43.5
						Wall 4	762+50.00	16	25.0	43.4
						Wall 4	764+50.00	18	25.0	42.7
						Wall 4	761+50.00	15	25.0	42.0
						Wall 4	765+50.00	19	25.0	41.9

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						Wall 4	760+50.00	14	25.0	41.1
						Wall 4	766+50.00	20	25.0	41.0
						Wall 4	751+50.00	5	25.0	40.7
						Wall 4	759+50.00	13	25.0	40.5
						Wall 4	767+50.00	21	25.0	40.0
Receiver232	232	57.9	10.7	8	2.7	Wall 4	762+50.00	16	25.0	48.6
						Wall 4	763+50.00	17	25.0	47.8
						Wall 4	761+50.00	15	25.0	47.4
						Wall 4	760+50.00	14	25.0	46.1
						Wall 4	764+50.00	18	25.0	46.0
						Wall 4	751+50.00	5	25.0	45.9
						Wall 4	759+50.00	13	25.0	45.1
						Wall 4	752+50.00	6	25.0	45.1
						Wall 4	765+50.00	19	25.0	44.2
						Wall 4	758+50.00	12	25.0	44.0
Receiver233	233	56.9	9.3	8	1.3	Wall 4	762+50.00	16	25.0	46.8
						Wall 4	761+50.00	15	25.0	46.2
						Wall 4	763+50.00	17	25.0	45.8
						Wall 4	760+50.00	14	25.0	45.6
						Wall 4	759+50.00	13	25.0	44.9
						Wall 4	751+50.00	5	25.0	44.0
						Wall 4	764+50.00	18	25.0	44.0
						Wall 4	758+50.00	12	25.0	44.0
						Wall 4	752+50.00	6	25.0	43.4
						Wall 4	757+50.00	11	25.0	42.8
Receiver234	234	56.1	8.7	8	0.7	Wall 4	762+50.00	16	25.0	45.1
						Wall 4	761+50.00	15	25.0	44.7
						Wall 4	760+50.00	14	25.0	44.3
						Wall 4	763+50.00	17	25.0	44.2
						Wall 4	759+50.00	13	25.0	44.0
						Wall 4	758+50.00	12	25.0	43.3
						Wall 4	751+50.00	5	25.0	42.6
						Wall 4	764+50.00	18	25.0	42.5
						Wall 4	757+50.00	11	25.0	42.3
						Wall 4	752+50.00	6	25.0	42.0
Receiver235	235	56.3	3.7	8	-4.3	Wall 4	770+50.00	24	25.0	45.8

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						Wall 4	771+50.00	25	25.0	45.5
						Wall 4	769+50.00	23	25.0	45.0
						Wall 4	772+50.00	26	25.0	44.6
						Wall 4	751+50.00	5	25.0	43.7
						Wall 4	752+50.00	6	25.0	43.6
						Wall 4	768+50.00	22	25.0	43.5
						Wall 4	773+50.00	27	25.0	43.4
						Wall 4	774+50.00	28	25.0	41.6
						Wall 4	767+50.00	21	25.0	41.4
Receiver236	236	56.1	3.7	8	-4.3	Wall 4	770+50.00	24	25.0	45.5
						Wall 4	769+50.00	23	25.0	45.0
						Wall 4	771+50.00	25	25.0	44.9
						Wall 4	772+50.00	26	25.0	43.9
						Wall 4	768+50.00	22	25.0	43.8
						Wall 4	751+50.00	5	25.0	43.4
						Wall 4	752+50.00	6	25.0	43.4
						Wall 4	773+50.00	27	25.0	42.7
						Wall 4	767+50.00	21	25.0	42.0
						Wall 4	774+50.00	28	25.0	40.9
Receiver237	237	56.1	3.9	8	-4.1	Wall 4	770+50.00	24	25.0	45.1
						Wall 4	769+50.00	23	25.0	45.0
						Wall 4	771+50.00	25	25.0	44.3
						Wall 4	768+50.00	22	25.0	44.1
						Wall 4	751+50.00	5	25.0	43.4
						Wall 4	772+50.00	26	25.0	43.3
						Wall 4	752+50.00	6	25.0	43.1
						Wall 4	767+50.00	21	25.0	42.6
						Wall 4	773+50.00	27	25.0	42.0
						Wall 4	766+50.00	20	25.0	41.4
Receiver238	238	56.0	4.4	8	-3.6	Wall 4	769+50.00	23	25.0	44.7
						Wall 4	770+50.00	24	25.0	44.6
						Wall 4	768+50.00	22	25.0	44.2
						Wall 4	771+50.00	25	25.0	43.6
						Wall 4	751+50.00	5	25.0	43.5
						Wall 4	767+50.00	21	25.0	43.0
						Wall 4	752+50.00	6	25.0	42.8

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						Wall 4	772+50.00	26	25.0	42.7
						Wall 4	766+50.00	20	25.0	41.9
						Wall 4	773+50.00	27	25.0	41.4
Receiver239	239	55.6	5.6	8	-2.4	Wall 4	768+50.00	22	25.0	43.4
						Wall 4	767+50.00	21	25.0	43.3
						Wall 4	769+50.00	23	25.0	43.1
						Wall 4	766+50.00	20	25.0	42.8
						Wall 4	751+50.00	5	25.0	42.7
						Wall 4	770+50.00	24	25.0	42.5
						Wall 4	765+50.00	19	25.0	42.3
						Wall 4	764+50.00	18	25.0	41.9
						Wall 4	763+50.00	17	25.0	41.6
						Wall 4	771+50.00	25	25.0	41.3
Receiver240	240	55.3	5.6	8	-2.4	Wall 4	767+50.00	21	25.0	42.8
						Wall 4	768+50.00	22	25.0	42.8
						Wall 4	766+50.00	20	25.0	42.6
						Wall 4	769+50.00	23	25.0	42.3
						Wall 4	765+50.00	19	25.0	42.2
						Wall 4	751+50.00	5	25.0	42.0
						Wall 4	764+50.00	18	25.0	41.8
						Wall 4	770+50.00	24	25.0	41.7
						Wall 4	763+50.00	17	25.0	41.5
						Wall 4	762+50.00	16	25.0	40.7
Receiver241	241	55.0	5.9	8	-2.1	Wall 4	766+50.00	20	25.0	42.3
						Wall 4	767+50.00	21	25.0	42.3
						Wall 4	765+50.00	19	25.0	42.2
						Wall 4	763+50.00	17	25.0	42.0
						Wall 4	764+50.00	18	25.0	42.0
						Wall 4	768+50.00	22	25.0	41.9
						Wall 4	751+50.00	5	25.0	41.6
						Wall 4	769+50.00	23	25.0	41.3
						Wall 4	762+50.00	16	25.0	41.2
						Wall 4	770+50.00	24	25.0	40.6
Receiver242	242	54.9	6.2	8	-1.8	Wall 4	763+50.00	17	25.0	42.2
						Wall 4	765+50.00	19	25.0	42.1
						Wall 4	764+50.00	18	25.0	42.1

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						Wall 4	766+50.00	20	25.0	42.0
						Wall 4	767+50.00	21	25.0	41.8
						Wall 4	762+50.00	16	25.0	41.5
						Wall 4	768+50.00	22	25.0	41.2
						Wall 4	751+50.00	5	25.0	41.0
						Wall 4	769+50.00	23	25.0	40.5
						Wall 4	770+50.00	24	25.0	39.8
Receiver243	243	54.9	6.5	8	-1.5	Wall 4	763+50.00	17	25.0	42.5
						Wall 4	764+50.00	18	25.0	42.2
						Wall 4	765+50.00	19	25.0	42.1
						Wall 4	762+50.00	16	25.0	41.9
						Wall 4	766+50.00	20	25.0	41.8
						Wall 4	767+50.00	21	25.0	41.4
						Wall 4	751+50.00	5	25.0	40.9
						Wall 4	768+50.00	22	25.0	40.7
						Wall 4	761+50.00	15	25.0	40.1
						Wall 4	769+50.00	23	25.0	39.9
Receiver244	244	54.6	6.7	8	-1.3	Wall 4	763+50.00	17	25.0	42.4
						Wall 4	764+50.00	18	25.0	42.0
						Wall 4	762+50.00	16	25.0	41.9
						Wall 4	765+50.00	19	25.0	41.7
						Wall 4	766+50.00	20	25.0	41.3
						Wall 4	767+50.00	21	25.0	40.8
						Wall 4	761+50.00	15	25.0	40.3
						Wall 4	751+50.00	5	25.0	40.3
						Wall 4	768+50.00	22	25.0	39.9
						Wall 4	760+50.00	14	25.0	39.4
Receiver245	245	54.4	6.6	8	-1.4	Wall 4	763+50.00	17	25.0	42.2
						Wall 4	762+50.00	16	25.0	41.8
						Wall 4	764+50.00	18	25.0	41.6
						Wall 4	765+50.00	19	25.0	41.2
						Wall 4	766+50.00	20	25.0	40.7
						Wall 4	761+50.00	15	25.0	40.3
						Wall 4	767+50.00	21	25.0	40.1
						Wall 4	751+50.00	5	25.0	39.8
						Wall 4	760+50.00	14	25.0	39.5

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						Wall 4	768+50.00	22	25.0	39.1
Receiver246	246	53.8	6.6	8	-1.4	Wall 4	763+50.00	17	25.0	41.1
						Wall 4	762+50.00	16	25.0	41.1
						Wall 4	764+50.00	18	25.0	40.3
						Wall 4	761+50.00	15	25.0	39.9
						Wall 4	765+50.00	19	25.0	39.6
						Wall 4	760+50.00	14	25.0	39.1
						Wall 4	766+50.00	20	25.0	39.0
						Wall 4	759+50.00	13	25.0	38.7
						Wall 4	751+50.00	5	25.0	38.6
						Wall 4	767+50.00	21	25.0	38.2
Receiver247	247	53.4	6.4	8	-1.6	Wall 4	762+50.00	16	25.0	40.2
						Wall 4	763+50.00	17	25.0	40.0
						Wall 4	761+50.00	15	25.0	39.2
						Wall 4	764+50.00	18	25.0	39.1
						Wall 4	760+50.00	14	25.0	38.6
						Wall 4	765+50.00	19	25.0	38.3
						Wall 4	759+50.00	13	25.0	38.3
						Wall 4	758+50.00	12	25.0	37.9
						Wall 4	751+50.00	5	25.0	37.8
						Wall 4	766+50.00	20	25.0	37.6
Receiver248	248	53.4	6.1	8	-1.9	Wall 4	762+50.00	16	25.0	39.9
						Wall 4	763+50.00	17	25.0	39.6
						Wall 4	761+50.00	15	25.0	39.0
						Wall 4	764+50.00	18	25.0	38.6
						Wall 4	760+50.00	14	25.0	38.4
						Wall 4	759+50.00	13	25.0	38.2
						Wall 4	758+50.00	12	25.0	37.8
						Wall 4	765+50.00	19	25.0	37.8
						Wall 4	751+50.00	5	25.0	37.6
						Wall 4	757+50.00	11	25.0	37.3
Receiver249	249	53.3	6.2	8	-1.8	Wall 4	762+50.00	16	25.0	39.4
						Wall 4	763+50.00	17	25.0	39.0
						Wall 4	761+50.00	15	25.0	38.7
						Wall 4	760+50.00	14	25.0	38.2
						Wall 4	759+50.00	13	25.0	38.1

RESULTS: BARRIER DESIGN
I-20 Widening

						Wall 4	764+50.00	18	25.0	38.0
						Wall 4	758+50.00	12	25.0	37.8
						Wall 4	751+50.00	5	25.0	37.4
						Wall 4	757+50.00	11	25.0	37.3
						Wall 4	765+50.00	19	25.0	37.2
Receiver250	250	54.5	7.2	8	-0.8	Wall 4	762+50.00	16	25.0	42.4
						Wall 4	763+50.00	17	25.0	42.0
						Wall 4	761+50.00	15	25.0	41.5
						Wall 4	760+50.00	14	25.0	40.9
						Wall 4	764+50.00	18	25.0	40.8
						Wall 4	759+50.00	13	25.0	40.5
						Wall 4	758+50.00	12	25.0	40.0
						Wall 4	765+50.00	19	25.0	39.8
						Wall 4	751+50.00	5	25.0	39.7
						Wall 4	757+50.00	11	25.0	39.3
Receiver251	251	55.2	8.0	8	-0.0	Wall 4	762+50.00	16	25.0	43.7
						Wall 4	763+50.00	17	25.0	43.2
						Wall 4	761+50.00	15	25.0	42.9
						Wall 4	760+50.00	14	25.0	42.3
						Wall 4	764+50.00	18	25.0	41.9
						Wall 4	759+50.00	13	25.0	41.8
						Wall 4	758+50.00	12	25.0	41.3
						Wall 4	751+50.00	5	25.0	41.0
						Wall 4	765+50.00	19	25.0	40.7
						Wall 4	757+50.00	11	25.0	40.5
Receiver252	253	57.0	9.3	8	1.3	Wall 4	763+50.00	17	25.0	46.8
						Wall 4	762+50.00	16	25.0	46.7
						Wall 4	764+50.00	18	25.0	45.7
						Wall 4	761+50.00	15	25.0	45.0
						Wall 4	751+50.00	5	25.0	44.6
						Wall 4	765+50.00	19	25.0	44.5
						Wall 4	760+50.00	14	25.0	43.9
						Wall 4	752+50.00	6	25.0	43.2
						Wall 4	766+50.00	20	25.0	43.1
						Wall 4	759+50.00	13	25.0	43.0

RESULTS: BARRIER DESIGN

I-20 Widening

Total Cost, All Barriers (including additional cost(s))	\$0					
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