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**St. George Harbor**

**Navigation Improvements**

**Appendix D: Economics**

**Addendum II – RECONS**

**St. George, Alaska**

**September 16, 2018**

DRAFT



**US Army Corps  
of Engineers**

Alaska District

**US Army Corps of Engineers**  
**Regional Economic System**  
**Civil Works Budget Analysis Analysis**

US Army Corps of Engineers

Louis Berger Group

Michigan State University

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**EXECUTIVE SUMMARY**

This report provides estimates of the economic impacts of Civil Works Budget Analysis for New Analysis Project.

The U.S Army Corps of Engineers (USACE) Institute for Water Resources, the Louis Berger Group and Michigan State University has developed a regional economic impact modeling tool called RECONS (Regional ECONomic System) to provide estimates of regional and national job creation, and retention and other economic measures such as income, value added, and sales. This modeling tool automates calculations and generates estimates of jobs and other economic measures, such as income and sales associated with USACE's ARRA spending, annual Civil Work program spending and stem-from effects for Ports, Inland Water Way, FUSRAP and Recreation. This is done by extracting multipliers and other economic measures from more than 1,500 regional economic models that were built specifically for USACE's project locations. These multipliers were then imported to a database and the tool matches various spending profiles to the matching industry sectors by location to produce economic impact estimates. The tool will be used as a means to document the performance of direct investment spending of the USACE as directed by the American Recovery and Reinvestment Act (ARRA). The Tool will also allow the USACE to evaluate project and program expenditures associated with the annual expenditure by the USACE.

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1. ALTERNATIVE Z-1:

Table 1: Project Information

Project Name:	Z-1
Project ID:	
Division:	
District:	
Type of Analysis:	Civil Works Budget Analysis
Business Line:	Navigation
Work Activity:	Construction and Repair of Large Stone Breakwaters and Jetties

Table 2: Economic Impact Regions

Regional Impact Area:	Rural Area Generic Model
Regional Impact Area ID:	RURAL
Counties included	
State Impact Area:	Alaska
National Impact:	Yes

Table 3: Input Assumptions (Spending and LPCs)

Category	Spending (%)	Spending Amount	Local LPC (%)	State LPC (%)	National LPC (%)
Explosive Materials	4%	\$7,341,910	6%	7%	86%
Metals and Steel Materials	0%	\$667,446	8%	19%	90%
Aggregate Materials	5%	\$8,676,803	46%	87%	97%
Other Materials	2%	\$3,337,232	50%	68%	100%
Equipment	63%	\$105,122,808	28%	82%	100%
Construction Labor	25%	\$41,715,400	75%	75%	100%

Total	100%	\$166,861,600	-	-	-
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The USACE is planning on expending \$166,861,600 on the project. Of this total project expenditure \$67,345,008 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

Table 4: Overall Summary Economic Impacts

Impact Areas Impacts	Regional	State	National
Total Spending	\$166,861,600	\$166,861,600	\$166,861,600
Direct Impact			
Output	\$67,345,008	\$127,976,228	\$165,361,350
Job	1,462.93	1,711.37	2,246.35
Labor Income	\$39,734,333	\$55,678,864	\$73,967,597
GRP	\$49,483,091	\$84,166,554	\$108,454,669
Total Impact			
Output	\$90,527,750	\$213,834,684	\$429,320,539
Job	1,675.46	2,301.94	3,884.59
Labor Income	\$46,555,576	\$84,855,250	\$163,678,319
GRP	\$62,951,010	\$135,788,941	\$261,707,941

Table 5: Economic Impact at Regional Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$74,440	0.12	\$13,436	\$18,694
171	Steel product manufacturing from purchased steel	\$4,738	0.01	\$721	\$894

26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$1,708,928	11.79	\$722,074	\$869,096
319	Wholesale trade businesses	\$322,712	2.21	\$112,794	\$239,432
332	Transport by air	\$14,325	0.07	\$1,393	\$3,997
333	Transport by rail	\$132,341	0.38	\$41,895	\$70,822
334	Transport by water	\$46,484	0.12	\$8,296	\$13,710
335	Transport by truck	\$2,130,066	17.85	\$851,984	\$1,063,809
36	Construction of other new nonresidential structures	\$1,674,823	13.32	\$462,707	\$604,065
365	Commercial and industrial machinery and equipment rental and leasing	\$29,949,602	114.07	\$6,232,483	\$15,312,022
5001	Labor	\$31,286,550	1,303.00	\$31,286,550	\$31,286,550
	Total Direct Effects	\$67,345,008	1,462.93	\$39,734,333	\$49,483,091
	Secondary Effects	\$23,182,742	212.54	\$6,821,243	\$13,467,919
	Total Effects	\$90,527,750	1,675.46	\$46,555,576	\$62,951,010

Table 6: Economic Impact at State Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$74,440	0.12	\$13,436	\$18,694
171	Steel product manufacturing from purchased steel	\$70,270	0.15	\$22,976	\$27,802
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$4,461,926	33.75	\$1,885,300	\$2,269,167
319	Wholesale trade businesses	\$350,293	2.40	\$124,822	\$260,908
332	Transport by air	\$61,392	0.30	\$13,860	\$25,801
333	Transport by rail	\$132,341	0.38	\$41,895	\$70,822
334	Transport by water	\$98,360	0.25	\$18,047	\$35,068
335	Transport by truck	\$2,909,491	24.39	\$1,218,065	\$1,505,649

36	Construction of other new nonresidential structures	\$2,283,924	18.16	\$739,731	\$927,826
365	Commercial and industrial machinery and equipment rental and leasing	\$86,247,242	328.48	\$20,314,182	\$47,738,267
5001	Labor	\$31,286,550	1,303.00	\$31,286,550	\$31,286,550
	Total Direct Effects	\$127,976,228	1,711.37	\$55,678,864	\$84,166,554
	Secondary Effects	\$85,858,456	590.57	\$29,176,386	\$51,622,387
	Total Effects	\$213,834,684	2,301.94	\$84,855,250	\$135,788,941

Table 7: Economic Impact at National Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$5,524,855	10.53	\$997,202	\$1,387,451
171	Steel product manufacturing from purchased steel	\$483,511	1.01	\$163,314	\$197,482
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$4,816,333	36.58	\$2,153,538	\$2,602,262
319	Wholesale trade businesses	\$820,755	5.62	\$331,159	\$627,230
332	Transport by air	\$61,392	0.30	\$14,682	\$27,239
333	Transport by rail	\$297,504	1.30	\$94,622	\$160,054
334	Transport by water	\$98,581	0.25	\$18,968	\$37,061
335	Transport by truck	\$3,236,553	27.13	\$1,371,679	\$1,691,053
36	Construction of other new nonresidential structures	\$3,337,232	26.53	\$1,218,784	\$1,487,701
365	Commercial and industrial machinery and equipment rental and leasing	\$104,969,234	399.79	\$25,888,249	\$58,521,737
5001	Labor	\$41,715,400	1,737.33	\$41,715,400	\$41,715,400
	Total Direct Effects	\$165,361,350	2,246.35	\$73,967,597	\$108,454,669
	Secondary Effects	\$263,959,189	1,638.24	\$89,710,721	\$153,253,272

Total Effects	\$429,320,539	3,884.59	\$163,678,319	\$261,707,941
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Table 8: Impact Region Definition (2008)

Regional Impact Area ID:	RURAL
Regional Impact Area Name:	Rural Area Generic Model
Impact Area Type	N/A
State Impact Region::	Alaska

County	FIPS	Area (sq. mi)	Population	Households	Total Personal Income (in millions)
Total		0	0	0	\$0

Table 9: Impact Region Profile (2008)

Regional Impact Area ID:	RURAL
Regional Impact Area Name:	Rural Area Generic Model
Impact Area Type	N/A
State Impact Region::	Alaska

Section	Output (millions)	Labor Income (millions)	GRP (millions)	Employment
Accommodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0



Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

Table 10: Top Ten Industries Affected by Work Activity (2008)

Project:	New Analysis
Business Line:	Navigation
Work Acitiy:	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

Rank	Industry (millions)	IMPLAN No.	% of Total Employment
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %

10	Retail Stores - Food and beverage	324	1 %
			63 %

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$5,524,855	3,175.44	\$7,227,478	3,675.34	1,481.78	5,157.12	8,332.56
171	Steel product manufacturing from purchased steel	\$483,511	1,124.06	\$539,874	867.85	337.48	1,205.33	2,329.39
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$4,816,333	24,238.30	\$3,491,747	2,165.54	488.54	2,654.08	26,892.38
319	Wholesale trade businesses	\$820,755	87.61	\$257,023	22.52	4.88	27.40	115.01
332	Transport by air	\$61,392	165.97	\$39,238	14.78	3.95	18.73	184.70
333	Transport by rail	\$297,504	309.99	\$218,765	43.66	11.92	55.58	365.57
334	Transport by water	\$98,581	480.78	\$65,179	11.30	2.69	13.99	494.78
335	Transport by truck	\$3,236,553	7,425.45	\$2,086,802	1,228.10	187.68	1,415.79	8,841.23
36	Construction of other new nonresidential structures	\$3,337,232	1,190.41	\$2,797,543	1,488.80	536.93	2,025.73	3,216.14
365	Commercial and industrial machinery and equipment rental and leasing	\$104,969,234	43,072.25	\$69,020,525	9,266.15	1,579.14	10,845.29	53,917.54
	<b>Total</b>	<b>\$123,645,950</b>	<b>81,270.27</b>	<b>\$85,744,175</b>	<b>18,784.04</b>	<b>4,634.98</b>	<b>23,419.03</b>	<b>104,689.30</b>

2. ALTERNATIVE Z-2:

Table 1: Project Information

Project Name:	Z-2
Project ID:	
Division:	
District:	
Type of Analysis:	Civil Works Budget Analysis
Business Line:	Navigation
Work Activity:	Construction and Repair of Large Stone Breakwaters and Jetties

Table 2: Economic Impact Regions

Regional Impact Area:	Rural Area Generic Model
Regional Impact Area ID:	RURAL
Counties included	
State Impact Area:	Alaska
National Impact:	Yes

Table 3: Input Assumptions (Spending and LPCs)

Category	Spending (%)	Spending Amount	Local LPC (%)	State LPC (%)	National LPC (%)
Explosive Materials	4%	\$4,491,951	6%	7%	86%
Metals and Steel Materials	0%	\$408,359	8%	19%	90%
Aggregate Materials	5%	\$5,308,670	46%	87%	97%
Other Materials	2%	\$2,041,796	50%	68%	100%
Equipment	63%	\$64,316,574	28%	82%	100%
Construction Labor	25%	\$25,522,450	75%	75%	100%
Total	100%	\$102,089,800	-	-	-

The USACE is planning on expending \$102,089,800 on the project. Of this total project expenditure \$41,203,239 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

Table 4: Overall Summary Economic Impacts

Impact Areas Impacts	Regional	State	National
Total Spending	\$102,089,800	\$102,089,800	\$102,089,800
Direct Impact			
Output	\$41,203,239	\$78,298,827	\$101,171,912
Job	895.05	1,047.05	1,374.37
Labor Income	\$24,310,387	\$34,065,621	\$45,255,093
GRP	\$30,274,904	\$51,495,051	\$66,355,084
Total Impact			
Output	\$55,386,979	\$130,829,023	\$262,668,271
Job	1,025.09	1,408.38	2,376.68
Labor Income	\$28,483,782	\$51,916,412	\$100,142,195
GRP	\$38,514,889	\$83,078,826	\$160,118,993

Table 5: Economic Impact at Regional Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$45,544	0.07	\$8,220	\$11,437
171	Steel product manufacturing from purchased steel	\$2,899	0.01	\$441	\$547

26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$1,045,562	7.21	\$441,782	\$531,733
319	Wholesale trade businesses	\$197,443	1.35	\$69,010	\$146,490
332	Transport by air	\$8,764	0.04	\$852	\$2,445
333	Transport by rail	\$80,969	0.23	\$25,632	\$43,330
334	Transport by water	\$28,440	0.07	\$5,076	\$8,388
335	Transport by truck	\$1,303,224	10.92	\$521,264	\$650,863
36	Construction of other new nonresidential structures	\$1,024,696	8.15	\$283,095	\$369,581
365	Commercial and industrial machinery and equipment rental and leasing	\$18,323,862	69.79	\$3,813,178	\$9,368,250
5001	Labor	\$19,141,838	797.20	\$19,141,838	\$19,141,838
	Total Direct Effects	\$41,203,239	895.05	\$24,310,387	\$30,274,904
	Secondary Effects	\$14,183,740	130.04	\$4,173,395	\$8,239,986
	Total Effects	\$55,386,979	1,025.09	\$28,483,782	\$38,514,889

Table 6: Economic Impact at State Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$45,544	0.07	\$8,220	\$11,437
171	Steel product manufacturing from purchased steel	\$42,993	0.09	\$14,057	\$17,010
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,729,910	20.65	\$1,153,470	\$1,388,329
319	Wholesale trade businesses	\$214,317	1.47	\$76,369	\$159,629
332	Transport by air	\$37,561	0.18	\$8,480	\$15,786
333	Transport by rail	\$80,969	0.23	\$25,632	\$43,330
334	Transport by water	\$60,179	0.15	\$11,042	\$21,455
335	Transport by truck	\$1,780,094	14.92	\$745,240	\$921,191

36	Construction of other new nonresidential structures	\$1,397,358	11.11	\$452,585	\$567,666
365	Commercial and industrial machinery and equipment rental and leasing	\$52,768,064	200.97	\$12,428,688	\$29,207,380
5001	Labor	\$19,141,838	797.20	\$19,141,838	\$19,141,838
	Total Direct Effects	\$78,298,827	1,047.05	\$34,065,621	\$51,495,051
	Secondary Effects	\$52,530,196	361.33	\$17,850,790	\$31,583,775
	Total Effects	\$130,829,023	1,408.38	\$51,916,412	\$83,078,826

Table 7: Economic Impact at National Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$3,380,235	6.44	\$610,111	\$848,875
171	Steel product manufacturing from purchased steel	\$295,823	0.62	\$99,920	\$120,824
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,946,744	22.38	\$1,317,585	\$1,592,124
319	Wholesale trade businesses	\$502,157	3.44	\$202,611	\$383,754
332	Transport by air	\$37,561	0.18	\$8,983	\$16,666
333	Transport by rail	\$182,020	0.79	\$57,892	\$97,924
334	Transport by water	\$60,314	0.15	\$11,605	\$22,675
335	Transport by truck	\$1,980,198	16.60	\$839,225	\$1,034,626
36	Construction of other new nonresidential structures	\$2,041,796	16.23	\$745,680	\$910,210
365	Commercial and industrial machinery and equipment rental and leasing	\$64,222,614	244.60	\$15,839,032	\$35,804,957
5001	Labor	\$25,522,450	1,062.94	\$25,522,450	\$25,522,450
	Total Direct Effects	\$101,171,912	1,374.37	\$45,255,093	\$66,355,084
	Secondary Effects	\$161,496,359	1,002.31	\$54,887,102	\$93,763,909

Total Effects	\$262,668,271	2,376.68	\$100,142,195	\$160,118,993
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Table 8: Impact Region Definition (2008)

Regional Impact Area ID:	RURAL
Regional Impact Area Name:	Rural Area Generic Model
Impact Area Type	N/A
State Impact Region::	Alaska

County	FIPS	Area (sq. mi)	Population	Households	Total Personal Income (in millions)
Total		0	0	0	\$0

Table 9: Impact Region Profile (2008)

Regional Impact Area ID:	RURAL
Regional Impact Area Name:	Rural Area Generic Model
Impact Area Type	N/A
State Impact Region::	Alaska

Section	Output (millions)	Labor Income (millions)	GRP (millions)	Employment
Accommodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0

Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

Table 10: Top Ten Industries Affected by Work Activity (2008)

Project:	New Analysis
Business Line:	Navigation
Work Acitiy:	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

Rank	Industry (millions)	IMPLAN No.	% of Total Employment
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %



10	Retail Stores - Food and beverage	324	1 %
			63 %

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$3,380,235	1,942.81	\$4,421,939	2,248.66	906.59	3,155.24	5,098.05
171	Steel product manufacturing from purchased steel	\$295,823	687.73	\$330,308	530.97	206.48	737.45	1,425.18
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,946,744	14,829.55	\$2,136,332	1,324.93	298.90	1,623.83	16,453.38
319	Wholesale trade businesses	\$502,157	53.60	\$157,253	13.78	2.98	16.76	70.37
332	Transport by air	\$37,561	101.55	\$24,007	9.04	2.42	11.46	113.01
333	Transport by rail	\$182,020	189.66	\$133,845	26.71	7.29	34.00	223.66
334	Transport by water	\$60,314	294.15	\$39,878	6.91	1.65	8.56	302.72

335	Transport by truck	\$1,980,198	4,543.06	\$1,276,754	751.38	114.83	866.21	5,409.27
36	Construction of other new nonresidential structures	\$2,041,796	728.32	\$1,711,601	910.88	328.50	1,239.39	1,967.71
365	Commercial and industrial machinery and equipment rental and leasing	\$64,222,614	26,352.60	\$42,228,360	5,669.25	966.15	6,635.40	32,988.00
	Total	\$75,649,462	49,723.04	\$52,460,277	11,492.51	2,835.79	14,328.31	64,051.35

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3. ALTERNATIVE Z-3:

Table 1: Project Information

Project Name:	Z-3
Project ID:	
Division:	
District:	
Type of Analysis:	Civil Works Budget Analysis
Business Line:	Navigation
Work Activity:	Construction and Repair of Large Stone Breakwaters and Jetties

Table 2: Economic Impact Regions

Regional Impact Area:	Rural Area Generic Model
Regional Impact Area ID:	RURAL
Counties included	
State Impact Area:	Alaska
National Impact:	Yes

Table 3: Input Assumptions (Spending and LPCs)

Category	Spending (%)	Spending Amount	Local LPC (%)	State LPC (%)	National LPC (%)
Explosive Materials	4%	\$3,275,559	6%	7%	86%
Metals and Steel Materials	0%	\$297,778	8%	19%	90%
Aggregate Materials	5%	\$3,871,115	46%	87%	97%
Other Materials	2%	\$1,488,890	50%	68%	100%
Equipment	63%	\$46,900,048	28%	82%	100%
Construction Labor	25%	\$18,611,130	75%	75%	100%
Total	100%	\$74,444,520	-	-	-

The USACE is planning on expending \$74,444,520 on the project. Of this total project expenditure \$30,045,660 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

Table 4: Overall Summary Economic Impacts

Impact Areas Impacts	Regional	State	National
Total Spending	\$74,444,520	\$74,444,520	\$74,444,520
Direct Impact			
Output	\$30,045,660	\$57,095,994	\$73,775,190
Job	652.68	763.52	1,002.20
Labor Income	\$17,727,286	\$24,840,864	\$33,000,296
GRP	\$22,076,649	\$37,550,513	\$48,386,542
Total Impact			
Output	\$40,388,531	\$95,401,341	\$191,539,344
Job	747.50	1,027.00	1,733.09
Labor Income	\$20,770,552	\$37,857,772	\$73,024,314
GRP	\$28,085,298	\$60,581,599	\$116,759,770

Table 5: Economic Impact at Regional Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$33,211	0.05	\$5,994	\$8,340
171	Steel product manufacturing from purchased steel	\$2,114	0.00	\$322	\$399

26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$762,430	5.26	\$322,150	\$387,743
319	Wholesale trade businesses	\$143,977	0.99	\$50,323	\$106,822
332	Transport by air	\$6,391	0.03	\$621	\$1,783
333	Transport by rail	\$59,043	0.17	\$18,691	\$31,597
334	Transport by water	\$20,739	0.05	\$3,701	\$6,117
335	Transport by truck	\$950,319	7.96	\$380,109	\$474,613
36	Construction of other new nonresidential structures	\$747,214	5.94	\$206,435	\$269,501
365	Commercial and industrial machinery and equipment rental and leasing	\$13,361,874	50.89	\$2,780,593	\$6,831,387
5001	Labor	\$13,958,348	581.33	\$13,958,348	\$13,958,348
	Total Direct Effects	\$30,045,660	652.68	\$17,727,286	\$22,076,649
	Secondary Effects	\$10,342,872	94.82	\$3,043,265	\$6,008,649
	Total Effects	\$40,388,531	747.50	\$20,770,552	\$28,085,298

Table 6: Economic Impact at State Level

IMPLAN No.	Industry Sector	Sales	Jobs	Labor Income	GRP
	Direct Effects				
141	All other chemical product and preparation manufacturing	\$33,211	0.05	\$5,994	\$8,340
171	Steel product manufacturing from purchased steel	\$31,350	0.07	\$10,251	\$12,404
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$1,990,667	15.06	\$841,118	\$1,012,378
319	Wholesale trade businesses	\$156,281	1.07	\$55,689	\$116,403
332	Transport by air	\$27,390	0.13	\$6,184	\$11,511
333	Transport by rail	\$59,043	0.17	\$18,691	\$31,597
334	Transport by water	\$43,883	0.11	\$8,052	\$15,645
335	Transport by truck	\$1,298,056	10.88	\$543,434	\$671,738
36	Construction of other new nonresidential structures	\$1,018,962	8.10	\$330,028	\$413,945

365	Commercial and industrial machinery and equipment rental and leasing	\$38,478,802	146.55	\$9,063,077	\$21,298,204
5001	Labor	\$13,958,348	581.33	\$13,958,348	\$13,958,348
	<b>Total Direct Effects</b>	<b>\$57,095,994</b>	<b>763.52</b>	<b>\$24,840,864</b>	<b>\$37,550,513</b>
	<b>Secondary Effects</b>	<b>\$38,305,347</b>	<b>263.48</b>	<b>\$13,016,908</b>	<b>\$23,031,086</b>
	<b>Total Effects</b>	<b>\$95,401,341</b>	<b>1,027.00</b>	<b>\$37,857,772</b>	<b>\$60,581,599</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$2,464,888	4.70	\$444,897	\$619,005
171	Steel product manufacturing from purchased steel	\$215,716	0.45	\$72,862	\$88,106
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,148,784	16.32	\$960,791	\$1,160,987
319	Wholesale trade businesses	\$366,176	2.51	\$147,745	\$279,836
332	Transport by air	\$27,390	0.13	\$6,550	\$12,153
333	Transport by rail	\$132,730	0.58	\$42,215	\$71,407
334	Transport by water	\$43,981	0.11	\$8,462	\$16,535
335	Transport by truck	\$1,443,973	12.10	\$611,968	\$754,456
36	Construction of other new nonresidential structures	\$1,488,890	11.84	\$543,755	\$663,731
365	Commercial and industrial machinery and equipment rental and leasing	\$46,831,531	178.36	\$11,549,921	\$26,109,199
5001	Labor	\$18,611,130	775.10	\$18,611,130	\$18,611,130
	<b>Total Direct Effects</b>	<b>\$73,775,190</b>	<b>1,002.20</b>	<b>\$33,000,296</b>	<b>\$48,386,542</b>
	<b>Secondary Effects</b>	<b>\$117,764,154</b>	<b>730.89</b>	<b>\$40,024,017</b>	<b>\$68,373,228</b>
	<b>Total Effects</b>	<b>\$191,539,344</b>	<b>1,733.09</b>	<b>\$73,024,314</b>	<b>\$116,759,770</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>



**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$2,464,888	1,416.71	\$3,224,505	1,639.73	661.09	2,300.82	3,717.53
171	Steel product manufacturing from purchased steel	\$215,716	501.50	\$240,862	387.19	150.57	537.75	1,039.25
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,148,784	10,813.80	\$1,557,827	966.15	217.96	1,184.10	11,997.91
319	Wholesale trade businesses	\$366,176	39.09	\$114,670	10.05	2.18	12.22	51.31
332	Transport by air	\$27,390	74.05	\$17,506	6.59	1.76	8.36	82.40
333	Transport by rail	\$132,730	138.30	\$97,601	19.48	5.32	24.80	163.10
334	Transport by water	\$43,981	214.50	\$29,079	5.04	1.20	6.24	220.74
335	Transport by truck	\$1,443,973	3,312.83	\$931,017	547.91	83.73	631.65	3,944.48
36	Construction of other new nonresidential structures	\$1,488,890	531.10	\$1,248,110	664.22	239.55	903.77	1,434.87
365	Commercial and industrial machinery and equipment rental and leasing	\$46,831,531	19,216.48	\$30,793,184	4,134.05	704.52	4,838.57	24,055.06

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<b>Total</b>	<b>\$55,164</b>	<b>36,2</b>	<b>\$38,254</b>	<b>8,380.</b>	<b>2,067.88</b>	<b>10,448.2</b>	<b>46,706.6</b>
	<b>,060</b>	<b>58.3</b>	<b>,361</b>	<b>41</b>		<b>9</b>	<b>4</b>
		<b>5</b>					

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4. ALTERNATIVE Z-4:

**Table 1: Project Information**

<b>Project Name:</b>	Z-4
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$4,004,862	6%	7%	86%
Metals and Steel Materials	0%	\$364,078	8%	19%	90%
Aggregate Materials	5%	\$4,733,018	46%	87%	97%
Other Materials	2%	\$1,820,392	50%	68%	100%
Equipment	63%	\$57,342,335	28%	82%	100%
Construction Labor	25%	\$22,754,895	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$91,019,580</b>	<b>-</b>	<b>-</b>	<b>-</b>

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The USACE is planning on expending \$91,019,580 on the project. Of this total project expenditure \$36,735,321 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$91,019,580	\$91,019,580	\$91,019,580
<b>Direct Impact</b>				
	<b>Output</b>	\$36,735,321	\$69,808,407	\$90,201,224
	<b>Job</b>	798.00	933.52	1,225.34
	<b>Labor Income</b>	\$21,674,264	\$30,371,678	\$40,347,807
	<b>GRP</b>	\$26,992,011	\$45,911,129	\$59,159,797
<b>Total Impact</b>				
	<b>Output</b>	\$49,381,031	\$116,642,434	\$234,185,547
	<b>Job</b>	913.93	1,255.66	2,118.96
	<b>Labor Income</b>	\$25,395,112	\$46,286,798	\$89,283,165
	<b>GRP</b>	\$34,338,485	\$74,070,082	\$142,756,314

**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$40,605	0.07	\$7,329	\$10,197
171	Steel product manufacturing from purchased steel	\$2,584	0.01	\$393	\$488
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$932,185	6.43	\$393,877	\$474,074
319	Wholesale trade businesses	\$176,033	1.20	\$61,527	\$130,605
332	Transport by air	\$7,814	0.04	\$760	\$2,180
333	Transport by rail	\$72,189	0.21	\$22,853	\$38,632
334	Transport by water	\$25,356	0.06	\$4,525	\$7,478
335	Transport by truck	\$1,161,907	9.74	\$464,740	\$580,286
36	Construction of other new nonresidential structures	\$913,582	7.26	\$252,397	\$329,505
365	Commercial and industrial machinery and equipment rental and leasing	\$16,336,894	62.22	\$3,399,691	\$8,352,394
5001	Labor	\$17,066,171	710.76	\$17,066,171	\$17,066,171
	<b>Total Direct Effects</b>	<b>\$36,735,321</b>	<b>798.00</b>	<b>\$21,674,264</b>	<b>\$26,992,011</b>
	<b>Secondary Effects</b>	<b>\$12,645,710</b>	<b>115.94</b>	<b>\$3,720,848</b>	<b>\$7,346,474</b>
	<b>Total Effects</b>	<b>\$49,381,031</b>	<b>913.93</b>	<b>\$25,395,112</b>	<b>\$34,338,485</b>

**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$40,605	0.07	\$7,329	\$10,197
171	Steel product manufacturing from purchased steel	\$38,331	0.08	\$12,533	\$15,165
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,433,889	18.41	\$1,028,393	\$1,237,784
319	Wholesale trade businesses	\$191,077	1.31	\$68,088	\$142,320
332	Transport by air	\$33,488	0.16	\$7,560	\$14,074
333	Transport by rail	\$72,189	0.21	\$22,853	\$38,632
334	Transport by water	\$53,653	0.14	\$9,844	\$19,129
335	Transport by truck	\$1,587,068	13.30	\$664,429	\$821,301
36	Construction of other new nonresidential structures	\$1,245,834	9.91	\$403,508	\$506,110
365	Commercial and industrial machinery and equipment rental and leasing	\$47,046,101	179.18	\$11,080,970	\$26,040,245
5001	Labor	\$17,066,171	710.76	\$17,066,171	\$17,066,171
	<b>Total Direct Effects</b>	<b>\$69,808,407</b>	<b>933.52</b>	<b>\$30,371,678</b>	<b>\$45,911,129</b>
	<b>Secondary Effects</b>	<b>\$46,834,026</b>	<b>322.15</b>	<b>\$15,915,120</b>	<b>\$28,158,953</b>
	<b>Total Effects</b>	<b>\$116,642,434</b>	<b>1,255.66</b>	<b>\$46,286,798</b>	<b>\$74,070,082</b>



**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$3,013,695	5.74	\$543,953	\$756,826
171	Steel product manufacturing from purchased steel	\$263,746	0.55	\$89,085	\$107,722
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,627,211	19.95	\$1,174,711	\$1,419,480
319	Wholesale trade businesses	\$447,705	3.06	\$180,640	\$342,141
332	Transport by air	\$33,488	0.16	\$8,009	\$14,859
333	Transport by rail	\$162,282	0.71	\$51,614	\$87,306
334	Transport by water	\$53,774	0.14	\$10,347	\$20,216
335	Transport by truck	\$1,765,473	14.80	\$748,223	\$922,435
36	Construction of other new nonresidential structures	\$1,820,392	14.47	\$664,822	\$811,510
365	Commercial and industrial machinery and equipment rental and leasing	\$57,258,564	218.08	\$14,121,509	\$31,922,407
5001	Labor	\$22,754,895	947.68	\$22,754,895	\$22,754,895
<b>Total Direct Effects</b>		<b>\$90,201,224</b>	<b>1,225.34</b>	<b>\$40,347,807</b>	<b>\$59,159,797</b>
<b>Secondary Effects</b>		<b>\$143,984,323</b>	<b>893.62</b>	<b>\$48,935,358</b>	<b>\$83,596,516</b>
<b>Total Effects</b>		<b>\$234,185,547</b>	<b>2,118.96</b>	<b>\$89,283,165</b>	<b>\$142,756,314</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$3,013,695	1,732.14	\$3,942,441	2,004.82	808.28	2,813.10	4,545.24
171	Steel product manufacturing from purchased steel	\$263,746	613.15	\$294,490	473.39	184.09	657.48	1,270.64
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,627,211	13,221.49	\$1,904,677	1,181.26	266.49	1,447.74	14,669.24
319	Wholesale trade businesses	\$447,705	47.79	\$140,201	12.29	2.66	14.95	62.74
332	Transport by air	\$33,488	90.53	\$21,404	8.06	2.16	10.22	100.75
333	Transport by rail	\$162,282	169.09	\$119,332	23.82	6.50	30.32	199.41
334	Transport by water	\$53,774	262.26	\$35,554	6.17	1.47	7.63	269.89
335	Transport by truck	\$1,765,473	4,050.43	\$1,138,308	669.90	102.38	772.28	4,822.71
36	Construction of other new nonresidential structures	\$1,820,392	649.35	\$1,526,002	812.11	292.88	1,104.99	1,754.34
365	Commercial and industrial machinery and equipment rental and leasing	\$57,258,564	23,495.03	\$37,649,281	5,054.50	861.39	5,915.88	29,410.91

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<b>Total</b>	<b>\$67,446</b>	<b>44,3</b>	<b>\$46,771</b>	<b>10,24</b>	<b>2,528.29</b>	<b>12,774.6</b>	<b>57,105.8</b>
	<b>,329</b>	<b>31.2</b>	<b>,689</b>	<b>6.31</b>		<b>0</b>	<b>7</b>
		<b>7</b>					

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5. ALTERNATIVE Z-5:

**Table 1: Project Information**

<b>Project Name:</b>	Z-5
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$19,249,226	6%	7%	86%
Metals and Steel Materials	0%	\$1,749,930	8%	19%	90%
Aggregate Materials	5%	\$22,749,085	46%	87%	97%
Other Materials	2%	\$8,749,648	50%	68%	100%
Equipment	63%	\$275,613,912	28%	82%	100%
Construction Labor	25%	\$109,370,600	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$437,482,400</b>	-	-	-

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The USACE is planning on expending \$437,482,400 on the project. Of this total project expenditure \$176,567,023 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$437,482,400	\$437,482,400	\$437,482,400
<b>Direct Impact</b>				
	<b>Output</b>	\$176,567,023	\$335,531,646	\$433,549,002
	<b>Job</b>	3,835.54	4,486.91	5,889.55
	<b>Labor Income</b>	\$104,176,583	\$145,980,399	\$193,930,311
	<b>GRP</b>	\$129,736,149	\$220,670,220	\$284,349,479
<b>Total Impact</b>				
	<b>Output</b>	\$237,348,182	\$560,637,742	\$1,125,604,571
	<b>Job</b>	4,392.78	6,035.30	10,184.72
	<b>Labor Income</b>	\$122,060,708	\$222,475,863	\$429,136,384
	<b>GRP</b>	\$165,046,716	\$356,015,237	\$686,153,185

**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$195,168	0.32	\$35,227	\$49,012
171	Steel product manufacturing from purchased steel	\$12,422	0.03	\$1,890	\$2,344
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$4,480,515	30.90	\$1,893,155	\$2,278,621
319	Wholesale trade businesses	\$846,096	5.79	\$295,726	\$627,750
332	Transport by air	\$37,557	0.18	\$3,651	\$10,479
333	Transport by rail	\$346,975	1.00	\$109,841	\$185,683
334	Transport by water	\$121,872	0.31	\$21,752	\$35,945
335	Transport by truck	\$5,584,665	46.81	\$2,233,757	\$2,789,123
36	Construction of other new nonresidential structures	\$4,391,098	34.91	\$1,213,138	\$1,583,755
365	Commercial and industrial machinery and equipment rental and leasing	\$78,522,703	299.06	\$16,340,497	\$40,145,486
5001	Labor	\$82,027,950	3,416.24	\$82,027,950	\$82,027,950
<b>Total Direct Effects</b>		<b>\$176,567,023</b>	<b>3,835.54</b>	<b>\$104,176,583</b>	<b>\$129,736,149</b>
<b>Secondary Effects</b>		<b>\$60,781,160</b>	<b>557.24</b>	<b>\$17,884,125</b>	<b>\$35,310,567</b>
<b>Total Effects</b>		<b>\$237,348,182</b>	<b>4,392.78</b>	<b>\$122,060,708</b>	<b>\$165,046,716</b>

**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$195,168	0.32	\$35,227	\$49,012
171	Steel product manufacturing from purchased steel	\$184,235	0.38	\$60,239	\$72,892
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$11,698,403	88.49	\$4,942,933	\$5,949,367
319	Wholesale trade businesses	\$918,407	6.28	\$327,263	\$684,055
332	Transport by air	\$160,959	0.78	\$36,339	\$67,647
333	Transport by rail	\$346,975	1.00	\$109,841	\$185,683
334	Transport by water	\$257,884	0.66	\$47,316	\$91,942
335	Transport by truck	\$7,628,185	63.93	\$3,193,556	\$3,947,552
36	Construction of other new nonresidential structures	\$5,988,056	47.61	\$1,939,447	\$2,432,601
365	Commercial and industrial machinery and equipment rental and leasing	\$226,125,425	861.22	\$53,260,290	\$125,161,521
5001	Labor	\$82,027,950	3,416.24	\$82,027,950	\$82,027,950
<b>Total Direct Effects</b>		<b>\$335,531,646</b>	<b>4,486.91</b>	<b>\$145,980,399</b>	<b>\$220,670,220</b>
<b>Secondary Effects</b>		<b>\$225,106,096</b>	<b>1,548.38</b>	<b>\$76,495,463</b>	<b>\$135,345,016</b>
<b>Total Effects</b>		<b>\$560,637,742</b>	<b>6,035.30</b>	<b>\$222,475,863</b>	<b>\$356,015,237</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$14,485,220	27.61	\$2,614,493	\$3,637,658
171	Steel product manufacturing from purchased steel	\$1,267,684	2.64	\$428,182	\$517,764
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$12,627,596	95.91	\$5,646,207	\$6,822,682
319	Wholesale trade businesses	\$2,151,878	14.72	\$868,242	\$1,644,488
332	Transport by air	\$160,959	0.78	\$38,494	\$71,417
333	Transport by rail	\$780,003	3.40	\$248,082	\$419,633
334	Transport by water	\$258,462	0.66	\$49,730	\$97,167
335	Transport by truck	\$8,485,685	71.12	\$3,596,306	\$4,433,651
36	Construction of other new nonresidential structures	\$8,749,648	69.56	\$3,195,442	\$3,900,495
365	Commercial and industrial machinery and equipment rental and leasing	\$275,211,268	1,048.17	\$67,874,534	\$153,433,924
5001	Labor	\$109,370,600	4,554.98	\$109,370,600	\$109,370,600
	<b>Total Direct Effects</b>	<b>\$433,549,002</b>	<b>5,889.55</b>	<b>\$193,930,311</b>	<b>\$284,349,479</b>
	<b>Secondary Effects</b>	<b>\$692,055,569</b>	<b>4,295.17</b>	<b>\$235,206,073</b>	<b>\$401,803,706</b>
	<b>Total Effects</b>	<b>\$1,125,604,571</b>	<b>10,184.72</b>	<b>\$429,136,384</b>	<b>\$686,153,185</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$14,485,220	8.32 5.47	\$18,949,203	9,636.10	3,884.98	13,521.07	21,846.54
171	Steel product manufacturing from purchased steel	\$1,267,684	2.94 7.10	\$1,415,457	2,275.34	884.83	3,160.17	6,107.27
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$12,627,596	63.5 48.6 5	\$9,154,761	5,677.67	1,280.86	6,958.53	70,507.18
319	Wholesale trade businesses	\$2,151,878	229.71	\$673,870	59.05	12.78	71.84	301.55
332	Transport by air	\$160,959	435.15	\$102,876	38.75	10.36	49.11	484.26
333	Transport by rail	\$780,003	812.74	\$573,564	114.47	31.24	145.71	958.45
334	Transport by water	\$258,462	1.26 0.53	\$170,889	29.63	7.05	36.69	1,297.22
335	Transport by truck	\$8,485,685	19.4 68.2 5	\$5,471,235	3,219.87	492.08	3,711.95	23,180.20
36	Construction of other new nonresidential structures	\$8,749,648	3.12 1.06	\$7,334,675	3,903.38	1,407.73	5,311.11	8,432.17
365	Commercial and industrial machinery and equipment	\$275,211,268	112,928.02	\$180,959,940	24,294.25	4,140.23	28,434.48	141,362.51



rental and leasing							
<b>Total</b>	<b>\$324,178,402</b>	<b>213,076.67</b>	<b>\$224,806,471</b>	<b>49,248.53</b>	<b>12,152.13</b>	<b>61,400.66</b>	<b>274,477.34</b>

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6. ALTERNATIVE Z-6:

**Table 1: Project Information**

<b>Project Name:</b>	Z-6
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$8,418,643	6%	7%	86%
Metals and Steel Materials	0%	\$765,331	8%	19%	90%
Aggregate Materials	5%	\$9,949,306	46%	87%	97%
Other Materials	2%	\$3,826,656	50%	68%	100%
Equipment	63%	\$120,539,664	28%	82%	100%
Construction Labor	25%	\$47,833,200	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$191,332,800</b>	<b>-</b>	<b>-</b>	<b>-</b>

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The USACE is planning on expending \$191,332,800 on the project. Of this total project expenditure \$77,221,536 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$191,332,800	\$191,332,800	\$191,332,800
<b>Direct Impact</b>				
	<b>Output</b>	\$77,221,536	\$146,744,668	\$189,612,530
	<b>Job</b>	1,677.47	1,962.35	2,575.79
	<b>Labor Income</b>	\$45,561,598	\$63,844,485	\$84,815,365
	<b>GRP</b>	\$56,740,067	\$96,510,057	\$124,360,162
<b>Total Impact</b>				
	<b>Output</b>	\$103,804,158	\$245,194,753	\$492,282,831
	<b>Job</b>	1,921.18	2,639.54	4,454.28
	<b>Labor Income</b>	\$53,383,215	\$97,299,754	\$187,682,672
	<b>GRP</b>	\$72,183,133	\$155,703,160	\$300,088,895

**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$85,357	0.14	\$15,406	\$21,436
171	Steel product manufacturing from purchased steel	\$5,433	0.01	\$827	\$1,025
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$1,959,552	13.52	\$827,971	\$996,554
319	Wholesale trade businesses	\$370,040	2.53	\$129,336	\$274,546
332	Transport by air	\$16,426	0.08	\$1,597	\$4,583
333	Transport by rail	\$151,750	0.44	\$48,039	\$81,208
334	Transport by water	\$53,301	0.14	\$9,513	\$15,720
335	Transport by truck	\$2,442,452	20.47	\$976,933	\$1,219,822
36	Construction of other new nonresidential structures	\$1,920,445	15.27	\$530,566	\$692,655
365	Commercial and industrial machinery and equipment rental and leasing	\$34,341,881	130.79	\$7,146,512	\$17,557,617
5001	Labor	\$35,874,900	1,494.09	\$35,874,900	\$35,874,900
<b>Total Direct Effects</b>		<b>\$77,221,536</b>	<b>1,677.47</b>	<b>\$45,561,598</b>	<b>\$56,740,067</b>
<b>Secondary Effects</b>		<b>\$26,582,622</b>	<b>243.71</b>	<b>\$7,821,617</b>	<b>\$15,443,066</b>
<b>Total Effects</b>		<b>\$103,804,158</b>	<b>1,921.18</b>	<b>\$53,383,215</b>	<b>\$72,183,133</b>

**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$85,357	0.14	\$15,406	\$21,436
171	Steel product manufacturing from purchased steel	\$80,575	0.17	\$26,345	\$31,879
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$5,116,293	38.70	\$2,161,790	\$2,601,954
319	Wholesale trade businesses	\$401,665	2.75	\$143,128	\$299,171
332	Transport by air	\$70,395	0.34	\$15,893	\$29,585
333	Transport by rail	\$151,750	0.44	\$48,039	\$81,208
334	Transport by water	\$112,785	0.29	\$20,694	\$40,211
335	Transport by truck	\$3,336,184	27.96	\$1,396,701	\$1,726,461
36	Construction of other new nonresidential structures	\$2,618,874	20.82	\$848,217	\$1,063,897
365	Commercial and industrial machinery and equipment rental and leasing	\$98,895,889	376.66	\$23,293,372	\$54,739,355
5001	Labor	\$35,874,900	1,494.09	\$35,874,900	\$35,874,900
<b>Total Direct Effects</b>		<b>\$146,744,668</b>	<b>1,962.35</b>	<b>\$63,844,485</b>	<b>\$96,510,057</b>
<b>Secondary Effects</b>		<b>\$98,450,085</b>	<b>677.19</b>	<b>\$33,455,268</b>	<b>\$59,193,103</b>
<b>Total Effects</b>		<b>\$245,194,753</b>	<b>2,639.54</b>	<b>\$97,299,754</b>	<b>\$155,703,160</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$6,335,107	12.07	\$1,143,448	\$1,590,928
171	Steel product manufacturing from purchased steel	\$554,421	1.15	\$187,265	\$226,444
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$5,522,675	41.94	\$2,469,367	\$2,983,898
319	Wholesale trade businesses	\$941,123	6.44	\$379,725	\$719,216
332	Transport by air	\$70,395	0.34	\$16,835	\$31,234
333	Transport by rail	\$341,134	1.49	\$108,499	\$183,526
334	Transport by water	\$113,038	0.29	\$21,750	\$42,496
335	Transport by truck	\$3,711,212	31.10	\$1,572,843	\$1,939,056
36	Construction of other new nonresidential structures	\$3,826,656	30.42	\$1,397,526	\$1,705,880
365	Commercial and industrial machinery and equipment rental and leasing	\$120,363,568	458.42	\$29,684,907	\$67,104,282
5001	Labor	\$47,833,200	1,992.12	\$47,833,200	\$47,833,200
<b>Total Direct Effects</b>		<b>\$189,612,530</b>	<b>2,575.79</b>	<b>\$84,815,365</b>	<b>\$124,360,162</b>
<b>Secondary Effects</b>		<b>\$302,670,301</b>	<b>1,878.49</b>	<b>\$102,867,308</b>	<b>\$175,728,733</b>
<b>Total Effects</b>		<b>\$492,282,831</b>	<b>4,454.28</b>	<b>\$187,682,672</b>	<b>\$300,088,895</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$6,335,107	3,641.14	\$8,287,428	4,214.34	1,699.09	5,913.44	9,554.58
171	Steel product manufacturing from purchased steel	\$554,421	1,288.91	\$619,050	995.12	386.98	1,382.10	2,671.01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$5,522,675	27,792.98	\$4,003,832	2,483.13	560.18	3,043.31	30,836.29
319	Wholesale trade businesses	\$941,123	100.46	\$294,717	25.83	5.59	31.42	131.88
332	Transport by air	\$70,395	190.31	\$44,993	16.95	4.53	21.48	211.79
333	Transport by rail	\$341,134	355.45	\$250,848	50.07	13.66	63.73	419.18
334	Transport by water	\$113,038	551.29	\$74,738	12.96	3.09	16.04	567.34
335	Transport by truck	\$3,711,212	8,514.43	\$2,392,843	1,408.21	215.21	1,623.42	10,137.85
36	Construction of other new nonresidential structures	\$3,826,656	1,365.00	\$3,207,818	1,707.14	615.67	2,322.81	3,687.81
365	Commercial and industrial machinery and equipment rental and leasing	\$120,363,568	49,389.04	\$79,142,777	10,625.09	1,810.73	12,435.81	61,824.85

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<b>Total</b>	<b>\$141,77</b> <b>9,330</b>	<b>93,1</b> <b>89.0</b> <b>2</b>	<b>\$98,319</b> <b>,045</b>	<b>21,53</b> <b>8.83</b>	<b>5,314.73</b>	<b>26,853.5</b> <b>6</b>	<b>120,042.</b> <b>58</b>
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7. ALTERNATIVE Z-7:

**Table 1: Project Information**

<b>Project Name:</b>	Z-7
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$7,741,708	6%	7%	86%
Metals and Steel Materials	0%	\$703,792	8%	19%	90%
Aggregate Materials	5%	\$9,149,291	46%	87%	97%
Other Materials	2%	\$3,518,958	50%	68%	100%
Equipment	63%	\$110,847,177	28%	82%	100%
Construction Labor	25%	\$43,986,975	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$175,947,900</b>	<b>-</b>	<b>-</b>	<b>-</b>

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The USACE is planning on expending \$175,947,900 on the project. Of this total project expenditure \$71,012,221 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$175,947,900	\$175,947,900	\$175,947,900
<b>Direct Impact</b>				
	<b>Output</b>	\$71,012,221	\$134,945,060	\$174,365,955
	<b>Job</b>	1,542.59	1,804.56	2,368.68
	<b>Labor Income</b>	\$41,898,031	\$58,710,807	\$77,995,437
	<b>GRP</b>	\$52,177,649	\$88,749,769	\$114,360,472
<b>Total Impact</b>				
	<b>Output</b>	\$95,457,358	\$225,478,861	\$452,698,807
	<b>Job</b>	1,766.70	2,427.29	4,096.12
	<b>Labor Income</b>	\$49,090,718	\$89,475,967	\$172,591,276
	<b>GRP</b>	\$66,378,952	\$143,183,208	\$275,959,014

**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$78,493	0.13	\$14,168	\$19,712
171	Steel product manufacturing from purchased steel	\$4,996	0.01	\$760	\$943
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$1,801,986	12.43	\$761,394	\$916,422
319	Wholesale trade businesses	\$340,285	2.33	\$118,936	\$252,470
332	Transport by air	\$15,105	0.07	\$1,468	\$4,215
333	Transport by rail	\$139,548	0.40	\$44,176	\$74,678
334	Transport by water	\$49,015	0.13	\$8,748	\$14,456
335	Transport by truck	\$2,246,056	18.82	\$898,379	\$1,121,737
36	Construction of other new nonresidential structures	\$1,766,024	14.04	\$487,903	\$636,959
365	Commercial and industrial machinery and equipment rental and leasing	\$31,580,481	120.28	\$6,571,867	\$16,145,824
5001	Labor	\$32,990,231	1,373.95	\$32,990,231	\$32,990,231
	<b>Total Direct Effects</b>	<b>\$71,012,221</b>	<b>1,542.59</b>	<b>\$41,898,031</b>	<b>\$52,177,649</b>
	<b>Secondary Effects</b>	<b>\$24,445,137</b>	<b>224.11</b>	<b>\$7,192,688</b>	<b>\$14,201,303</b>
	<b>Total Effects</b>	<b>\$95,457,358</b>	<b>1,766.70</b>	<b>\$49,090,718</b>	<b>\$66,378,952</b>



**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$78,493	0.13	\$14,168	\$19,712
171	Steel product manufacturing from purchased steel	\$74,096	0.15	\$24,227	\$29,316
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$4,704,896	35.59	\$1,987,963	\$2,392,733
319	Wholesale trade businesses	\$369,368	2.53	\$131,619	\$275,115
332	Transport by air	\$64,735	0.31	\$14,615	\$27,206
333	Transport by rail	\$139,548	0.40	\$44,176	\$74,678
334	Transport by water	\$103,716	0.26	\$19,030	\$36,978
335	Transport by truck	\$3,067,925	25.71	\$1,284,393	\$1,587,638
36	Construction of other new nonresidential structures	\$2,408,293	19.15	\$780,012	\$978,350
365	Commercial and industrial machinery and equipment rental and leasing	\$90,943,758	346.37	\$21,420,373	\$50,337,812
5001	Labor	\$32,990,231	1,373.95	\$32,990,231	\$32,990,231
	<b>Total Direct Effects</b>	<b>\$134,945,060</b>	<b>1,804.56</b>	<b>\$58,710,807</b>	<b>\$88,749,769</b>
	<b>Secondary Effects</b>	<b>\$90,533,802</b>	<b>622.73</b>	<b>\$30,765,160</b>	<b>\$54,433,439</b>
	<b>Total Effects</b>	<b>\$225,478,861</b>	<b>2,427.29</b>	<b>\$89,475,967</b>	<b>\$143,183,208</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$5,825,707	11.10	\$1,051,504	\$1,463,003
171	Steel product manufacturing from purchased steel	\$509,841	1.06	\$172,207	\$208,236
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$5,078,602	38.57	\$2,270,807	\$2,743,966
319	Wholesale trade businesses	\$865,448	5.92	\$349,192	\$661,385
332	Transport by air	\$64,735	0.31	\$15,482	\$28,723
333	Transport by rail	\$313,704	1.37	\$99,774	\$168,769
334	Transport by water	\$103,949	0.27	\$20,001	\$39,079
335	Transport by truck	\$3,412,797	28.60	\$1,446,372	\$1,783,138
36	Construction of other new nonresidential structures	\$3,518,958	27.98	\$1,285,152	\$1,568,712
365	Commercial and industrial machinery and equipment rental and leasing	\$110,685,240	421.56	\$27,297,970	\$61,708,486
5001	Labor	\$43,986,975	1,831.94	\$43,986,975	\$43,986,975
	<b>Total Direct Effects</b>	<b>\$174,365,955</b>	<b>2,368.68</b>	<b>\$77,995,437</b>	<b>\$114,360,472</b>
	<b>Secondary Effects</b>	<b>\$278,332,852</b>	<b>1,727.44</b>	<b>\$94,595,839</b>	<b>\$161,598,543</b>
	<b>Total Effects</b>	<b>\$452,698,807</b>	<b>4,096.12</b>	<b>\$172,591,276</b>	<b>\$275,959,014</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$5,825,707	3,348.36	\$7,621,044	3,875.47	1,562.47	5,437.94	8,786.30
171	Steel product manufacturing from purchased steel	\$509,841	1,185.27	\$569,273	915.10	355.86	1,270.97	2,456.24
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$5,078,602	25,558.17	\$3,681,887	2,283.46	515.14	2,798.60	28,356.78
319	Wholesale trade businesses	\$865,448	92.39	\$271,019	23.75	5.14	28.89	121.28
332	Transport by air	\$64,735	175.01	\$41,375	15.59	4.17	19.75	194.76
333	Transport by rail	\$313,704	326.87	\$230,678	46.04	12.56	58.60	385.47
334	Transport by water	\$103,949	506.96	\$68,729	11.92	2.84	14.75	521.72
335	Transport by truck	\$3,412,797	7,829.80	\$2,200,437	1,294.98	197.91	1,492.88	9,322.68
36	Construction of other new nonresidential structures	\$3,518,958	1,255.24	\$2,949,880	1,569.87	566.16	2,136.04	3,391.27
365	Commercial and industrial machinery and equipment rental and leasing	\$110,685,240	45,417.71	\$72,778,977	9,770.73	1,665.13	11,435.86	56,853.57

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<b>Total</b>	<b>\$130,378,980</b>	<b>85,695.78</b>	<b>\$90,413,298</b>	<b>19,806.91</b>	<b>4,887.38</b>	<b>24,694.29</b>	<b>110,390.07</b>
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8. ALTERNATIVE N-1:

**Table 1: Project Information**

<b>Project Name:</b>	N-1
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$1,057,105	6%	7%	86%
Metals and Steel Materials	0%	\$96,100	8%	19%	90%
Aggregate Materials	5%	\$1,249,306	46%	87%	97%
Other Materials	2%	\$480,502	50%	68%	100%
Equipment	63%	\$15,135,819	28%	82%	100%
Construction Labor	25%	\$6,006,278	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$24,025,110</b>	<b>-</b>	<b>-</b>	<b>-</b>



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The USACE is planning on expending \$24,025,110 on the project. Of this total project expenditure \$9,696,486 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$24,025,110	\$24,025,110	\$24,025,110
<b>Direct Impact</b>				
	<b>Output</b>	\$9,696,486	\$18,426,306	\$23,809,101
	<b>Job</b>	210.64	246.41	323.43
	<b>Labor Income</b>	\$5,721,039	\$8,016,769	\$10,650,022
	<b>GRP</b>	\$7,124,687	\$12,118,491	\$15,615,548
<b>Total Impact</b>				
	<b>Output</b>	\$13,034,390	\$30,788,401	\$61,814,541
	<b>Job</b>	241.24	331.44	559.31
	<b>Labor Income</b>	\$6,703,177	\$12,217,651	\$23,566,774
	<b>GRP</b>	\$9,063,829	\$19,551,198	\$37,681,300

**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$10,718	0.02	\$1,935	\$2,692
171	Steel product manufacturing from purchased steel	\$682	0.00	\$104	\$129
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$246,055	1.70	\$103,966	\$125,134
319	Wholesale trade businesses	\$46,465	0.32	\$16,240	\$34,474
332	Transport by air	\$2,063	0.01	\$200	\$575
333	Transport by rail	\$19,055	0.05	\$6,032	\$10,197
334	Transport by water	\$6,693	0.02	\$1,195	\$1,974
335	Transport by truck	\$306,692	2.57	\$122,671	\$153,170
36	Construction of other new nonresidential structures	\$241,145	1.92	\$66,622	\$86,975
365	Commercial and industrial machinery and equipment rental and leasing	\$4,312,211	16.42	\$897,367	\$2,204,659
5001	Labor	\$4,504,708	187.61	\$4,504,708	\$4,504,708
<b>Total Direct Effects</b>		<b>\$9,696,486</b>	<b>210.64</b>	<b>\$5,721,039</b>	<b>\$7,124,687</b>
<b>Secondary Effects</b>		<b>\$3,337,904</b>	<b>30.60</b>	<b>\$982,138</b>	<b>\$1,939,141</b>
<b>Total Effects</b>		<b>\$13,034,390</b>	<b>241.24</b>	<b>\$6,703,177</b>	<b>\$9,063,829</b>

**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$10,718	0.02	\$1,935	\$2,692
171	Steel product manufacturing from purchased steel	\$10,118	0.02	\$3,308	\$4,003
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$642,438	4.86	\$271,450	\$326,720
319	Wholesale trade businesses	\$50,436	0.35	\$17,972	\$37,566
332	Transport by air	\$8,839	0.04	\$1,996	\$3,715
333	Transport by rail	\$19,055	0.05	\$6,032	\$10,197
334	Transport by water	\$14,162	0.04	\$2,598	\$5,049
335	Transport by truck	\$418,915	3.51	\$175,380	\$216,787
36	Construction of other new nonresidential structures	\$328,845	2.61	\$106,508	\$133,591
365	Commercial and industrial machinery and equipment rental and leasing	\$12,418,073	47.30	\$2,924,882	\$6,873,463
5001	Labor	\$4,504,708	187.61	\$4,504,708	\$4,504,708
	<b>Total Direct Effects</b>	<b>\$18,426,306</b>	<b>246.41</b>	<b>\$8,016,769</b>	<b>\$12,118,491</b>
	<b>Secondary Effects</b>	<b>\$12,362,094</b>	<b>85.03</b>	<b>\$4,200,882</b>	<b>\$7,432,708</b>
	<b>Total Effects</b>	<b>\$30,788,401</b>	<b>331.44</b>	<b>\$12,217,651</b>	<b>\$19,551,198</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
<b>Direct Effects</b>					
141	All other chemical product and preparation manufacturing	\$795,481	1.52	\$143,579	\$199,768
171	Steel product manufacturing from purchased steel	\$69,617	0.14	\$23,514	\$28,434
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$693,466	5.27	\$310,071	\$374,680
319	Wholesale trade businesses	\$118,174	0.81	\$47,681	\$90,310
332	Transport by air	\$8,839	0.04	\$2,114	\$3,922
333	Transport by rail	\$42,835	0.19	\$13,624	\$23,045
334	Transport by water	\$14,194	0.04	\$2,731	\$5,336
335	Transport by truck	\$466,006	3.91	\$197,497	\$243,482
36	Construction of other new nonresidential structures	\$480,502	3.82	\$175,483	\$214,202
365	Commercial and industrial machinery and equipment rental and leasing	\$15,113,707	57.56	\$3,727,449	\$8,426,092
5001	Labor	\$6,006,278	250.14	\$6,006,278	\$6,006,278
<b>Total Direct Effects</b>		<b>\$23,809,101</b>	<b>323.43</b>	<b>\$10,650,022</b>	<b>\$15,615,548</b>
<b>Secondary Effects</b>		<b>\$38,005,440</b>	<b>235.88</b>	<b>\$12,916,752</b>	<b>\$22,065,752</b>
<b>Total Effects</b>		<b>\$61,814,541</b>	<b>559.31</b>	<b>\$23,566,774</b>	<b>\$37,681,300</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>



Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$795,481	457.21	\$1,040,629	529.18	213.35	742.53	1,199.74
171	Steel product manufacturing from purchased steel	\$69,617	161.85	\$77,732	124.95	48.59	173.55	335.39
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$693,466	3.489.88	\$502,750	311.80	70.34	382.14	3,872.02
319	Wholesale trade businesses	\$118,174	12.61	\$37,007	3.24	0.70	3.95	16.56
332	Transport by air	\$8,839	23.90	\$5,650	2.13	0.57	2.70	26.59
333	Transport by rail	\$42,835	44.63	\$31,498	6.29	1.72	8.00	52.63
334	Transport by water	\$14,194	69.22	\$9,385	1.63	0.39	2.01	71.24
335	Transport by truck	\$466,006	1.069.13	\$300,462	176.82	27.02	203.85	1,272.98
36	Construction of other new nonresidential structures	\$480,502	171.40	\$402,796	214.36	77.31	291.67	463.07
365	Commercial and industrial machinery and equipment rental and leasing	\$15,113,707	6.201.64	\$9,937,731	1,334.16	227.37	1,561.53	7,763.17

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Total	\$17,802,823	11,701.48	\$12,345,640	2,704.57	667.36	3,371.92	15,073.40
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9. ALTERNATIVE N-2

**Table 1: Project Information**

<b>Project Name:</b>	N-2
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$3,896,603	6%	7%	86%
Metals and Steel Materials	0%	\$354,237	8%	19%	90%
Aggregate Materials	5%	\$4,605,077	46%	87%	97%
Other Materials	2%	\$1,771,183	50%	68%	100%
Equipment	63%	\$55,792,277	28%	82%	100%
Construction Labor	25%	\$22,139,793	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$88,559,170</b>	<b>-</b>	<b>-</b>	<b>-</b>

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The USACE is planning on expending \$88,559,170 on the project. Of this total project expenditure \$35,742,304 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$88,559,170	\$88,559,170	\$88,559,170
<b>Direct Impact</b>				
	<b>Output</b>	\$35,742,304	\$67,921,370	\$87,762,936
	<b>Job</b>	776.43	908.28	1,192.22
	<b>Labor Income</b>	\$21,088,372	\$29,550,681	\$39,257,139
	<b>GRP</b>	\$26,262,372	\$44,670,075	\$57,560,610
<b>Total Impact</b>				
	<b>Output</b>	\$48,046,180	\$113,489,395	\$227,855,124
	<b>Job</b>	889.23	1,221.72	2,061.68
	<b>Labor Income</b>	\$24,708,640	\$45,035,589	\$86,869,693
	<b>GRP</b>	\$33,410,259	\$72,067,845	\$138,897,374

**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$39,508	0.06	\$7,131	\$9,922
171	Steel product manufacturing from purchased steel	\$2,515	0.01	\$383	\$475
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$906,987	6.26	\$383,230	\$461,259
319	Wholesale trade businesses	\$171,274	1.17	\$59,864	\$127,075
332	Transport by air	\$7,603	0.04	\$739	\$2,121
333	Transport by rail	\$70,238	0.20	\$22,235	\$37,588
334	Transport by water	\$24,671	0.06	\$4,403	\$7,276
335	Transport by truck	\$1,130,499	9.47	\$452,177	\$564,600
36	Construction of other new nonresidential structures	\$888,886	7.07	\$245,574	\$320,598
365	Commercial and industrial machinery and equipment rental and leasing	\$15,895,280	60.54	\$3,307,792	\$8,126,615
5001	Labor	\$16,604,844	691.55	\$16,604,844	\$16,604,844
	<b>Total Direct Effects</b>	<b>\$35,742,304</b>	<b>776.43</b>	<b>\$21,088,372</b>	<b>\$26,262,372</b>
	<b>Secondary Effects</b>	<b>\$12,303,876</b>	<b>112.80</b>	<b>\$3,620,267</b>	<b>\$7,147,886</b>
	<b>Total Effects</b>	<b>\$48,046,180</b>	<b>889.23</b>	<b>\$24,708,640</b>	<b>\$33,410,259</b>

**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$39,508	0.06	\$7,131	\$9,922
171	Steel product manufacturing from purchased steel	\$37,295	0.08	\$12,194	\$14,755
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,368,097	17.91	\$1,000,593	\$1,204,325
319	Wholesale trade businesses	\$185,912	1.27	\$66,247	\$138,473
332	Transport by air	\$32,583	0.16	\$7,356	\$13,694
333	Transport by rail	\$70,238	0.20	\$22,235	\$37,588
334	Transport by water	\$52,203	0.13	\$9,578	\$18,612
335	Transport by truck	\$1,544,167	12.94	\$646,469	\$799,099
36	Construction of other new nonresidential structures	\$1,212,157	9.64	\$392,601	\$492,429
365	Commercial and industrial machinery and equipment rental and leasing	\$45,774,367	174.34	\$10,781,433	\$25,336,334
5001	Labor	\$16,604,844	691.55	\$16,604,844	\$16,604,844
	<b>Total Direct Effects</b>	<b>\$67,921,370</b>	<b>908.28</b>	<b>\$29,550,681</b>	<b>\$44,670,075</b>
	<b>Secondary Effects</b>	<b>\$45,568,025</b>	<b>313.44</b>	<b>\$15,484,908</b>	<b>\$27,397,770</b>
	<b>Total Effects</b>	<b>\$113,489,395</b>	<b>1,221.72</b>	<b>\$45,035,589</b>	<b>\$72,067,845</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$2,932,230	5.59	\$529,249	\$736,368
171	Steel product manufacturing from purchased steel	\$256,616	0.53	\$86,677	\$104,810
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,556,193	19.41	\$1,142,957	\$1,381,109
319	Wholesale trade businesses	\$435,603	2.98	\$175,757	\$332,892
332	Transport by air	\$32,583	0.16	\$7,792	\$14,457
333	Transport by rail	\$157,895	0.69	\$50,219	\$84,946
334	Transport by water	\$52,320	0.13	\$10,067	\$19,669
335	Transport by truck	\$1,717,750	14.40	\$727,997	\$897,500
36	Construction of other new nonresidential structures	\$1,771,183	14.08	\$646,850	\$789,574
365	Commercial and industrial machinery and equipment rental and leasing	\$55,710,770	212.18	\$13,739,781	\$31,059,492
5001	Labor	\$22,139,793	922.06	\$22,139,793	\$22,139,793
	<b>Total Direct Effects</b>	<b>\$87,762,936</b>	<b>1,192.22</b>	<b>\$39,257,139</b>	<b>\$57,560,610</b>
	<b>Secondary Effects</b>	<b>\$140,092,188</b>	<b>869.47</b>	<b>\$47,612,555</b>	<b>\$81,336,764</b>
	<b>Total Effects</b>	<b>\$227,855,124</b>	<b>2,061.68</b>	<b>\$86,869,693</b>	<b>\$138,897,374</b>



**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$2,932,230	1.68 5.32	\$3,835,870	1,950.63	786.43	2,737.06	4,422.38
171	Steel product manufacturing from purchased steel	\$256,616	596.58	\$286,530	460.60	179.11	639.71	1,236.29
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,556,193	12,864.10	\$1,853,190	1,149.33	259.28	1,408.61	14,272.71
319	Wholesale trade businesses	\$435,603	46.50	\$136,411	11.95	2.59	14.54	61.04
332	Transport by air	\$32,583	88.09	\$20,825	7.85	2.10	9.94	98.03
333	Transport by rail	\$157,895	164.52	\$116,106	23.17	6.32	29.50	194.02
334	Transport by water	\$52,320	255.17	\$34,593	6.00	1.43	7.43	262.59
335	Transport by truck	\$1,717,750	3.94 0.94	\$1,107,537	651.80	99.61	751.41	4,692.35
36	Construction of other nonresidential structures	\$1,771,183	631.79	\$1,484,752	790.16	284.96	1,075.12	1,706.92
365	Commercial and industrial machinery and equipment rental and leasing	\$55,710,770	22,859.92	\$36,631,558	4,917.86	838.10	5,755.97	28,615.89

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Total	\$65,623,143	43,132.92	\$45,507,372	9,969.34	2,459.95	12,429.28	55,562.20
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10. ALTERNATIVE N-3:

**Table 1: Project Information**

<b>Project Name:</b>	N-3
<b>Project ID:</b>	
<b>Division:</b>	
<b>District:</b>	
<b>Type of Analysis:</b>	Civil Works Budget Analysis
<b>Business Line:</b>	Navigation
<b>Work Activity:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

**Table 2: Economic Impact Regions**

<b>Regional Impact Area:</b>	Rural Area Generic Model
<b>Regional Impact Area ID:</b>	RURAL
<b>Counties included</b>	
<b>State Impact Area:</b>	Alaska
<b>National Impact:</b>	Yes

**Table 3: Input Assumptions (Spending and LPCs)**

<b>Category</b>	<b>Spending (%)</b>	<b>Spending Amount</b>	<b>Local LPC (%)</b>	<b>State LPC (%)</b>	<b>National LPC (%)</b>
Explosive Materials	4%	\$4,460,474	6%	7%	86%
Metals and Steel Materials	0%	\$405,498	8%	19%	90%
Aggregate Materials	5%	\$5,271,469	46%	87%	97%
Other Materials	2%	\$2,027,488	50%	68%	100%
Equipment	63%	\$63,865,872	28%	82%	100%
Construction Labor	25%	\$25,343,600	75%	75%	100%
<b>Total</b>	<b>100%</b>	<b>\$101,374,400</b>	<b>-</b>	<b>-</b>	<b>-</b>

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The USACE is planning on expending \$101,374,400 on the project. Of this total project expenditure \$40,914,505 will be captured within the regional impact area. The rest will flow out to the state or the nation. The expenditures made by the USACE for various services and products are expected to generate additional economic activity in that can be measured in jobs, income, sales and gross regional product as summarized in the following table and includes impacts to the region, the State impact area, and the Nation. Table 4 is the overall economic impacts for this analysis.

**Table 4: Overall Summary Economic Impacts**

<b>Impacts</b>	<b>Impact Areas</b>	<b>Regional</b>	<b>State</b>	<b>National</b>
<b>Total Spending</b>		\$101,374,400	\$101,374,400	\$101,374,400
<b>Direct Impact</b>				
	<b>Output</b>	\$40,914,505	\$77,750,143	\$100,462,944
	<b>Job</b>	888.78	1,039.72	1,364.74
	<b>Labor Income</b>	\$24,140,031	\$33,826,905	\$44,937,965
	<b>GRP</b>	\$30,062,751	\$51,134,197	\$65,890,097
<b>Total Impact</b>				
	<b>Output</b>	\$54,998,851	\$129,912,231	\$260,827,608
	<b>Job</b>	1,017.90	1,398.51	2,360.03
	<b>Labor Income</b>	\$28,284,180	\$51,552,604	\$99,440,443
	<b>GRP</b>	\$38,244,994	\$82,496,647	\$158,996,950



**Table 5: Economic Impact at Regional Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$45,225	0.07	\$8,163	\$11,357
171	Steel product manufacturing from purchased steel	\$2,878	0.01	\$438	\$543
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$1,038,235	7.16	\$438,686	\$528,007
319	Wholesale trade businesses	\$196,059	1.34	\$68,526	\$145,464
332	Transport by air	\$8,703	0.04	\$846	\$2,428
333	Transport by rail	\$80,402	0.23	\$25,453	\$43,027
334	Transport by water	\$28,241	0.07	\$5,040	\$8,329
335	Transport by truck	\$1,294,091	10.85	\$517,611	\$646,302
36	Construction of other new nonresidential structures	\$1,017,515	8.09	\$281,111	\$366,991
365	Commercial and industrial machinery and equipment rental and leasing	\$18,195,456	69.30	\$3,786,457	\$9,302,602
5001	Labor	\$19,007,700	791.62	\$19,007,700	\$19,007,700
	<b>Total Direct Effects</b>	<b>\$40,914,505</b>	<b>888.78</b>	<b>\$24,140,031</b>	<b>\$30,062,751</b>
	<b>Secondary Effects</b>	<b>\$14,084,346</b>	<b>129.12</b>	<b>\$4,144,149</b>	<b>\$8,182,243</b>
	<b>Total Effects</b>	<b>\$54,998,851</b>	<b>1,017.90</b>	<b>\$28,284,180</b>	<b>\$38,244,994</b>

**Table 6: Economic Impact at State Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$45,225	0.07	\$8,163	\$11,357
171	Steel product manufacturing from purchased steel	\$42,691	0.09	\$13,959	\$16,891
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,710,780	20.51	\$1,145,387	\$1,378,601
319	Wholesale trade businesses	\$212,815	1.46	\$75,834	\$158,511
332	Transport by air	\$37,298	0.18	\$8,421	\$15,675
333	Transport by rail	\$80,402	0.23	\$25,453	\$43,027
334	Transport by water	\$59,757	0.15	\$10,964	\$21,305
335	Transport by truck	\$1,767,620	14.81	\$740,018	\$914,736
36	Construction of other new nonresidential structures	\$1,387,566	11.03	\$449,413	\$563,688
365	Commercial and industrial machinery and equipment rental and leasing	\$52,398,289	199.56	\$12,341,594	\$29,002,707
5001	Labor	\$19,007,700	791.62	\$19,007,700	\$19,007,700
	<b>Total Direct Effects</b>	<b>\$77,750,143</b>	<b>1,039.72</b>	<b>\$33,826,905</b>	<b>\$51,134,197</b>
	<b>Secondary Effects</b>	<b>\$52,162,088</b>	<b>358.80</b>	<b>\$17,725,700</b>	<b>\$31,362,450</b>
	<b>Total Effects</b>	<b>\$129,912,231</b>	<b>1,398.51</b>	<b>\$51,552,604</b>	<b>\$82,496,647</b>

**Table 7: Economic Impact at National Level**

<b>IMPLAN No.</b>	<b>Industry Sector</b>	<b>Sales</b>	<b>Jobs</b>	<b>Labor Income</b>	<b>GRP</b>
	<b>Direct Effects</b>				
141	All other chemical product and preparation manufacturing	\$3,356,548	6.40	\$605,836	\$842,926
171	Steel product manufacturing from purchased steel	\$293,750	0.61	\$99,219	\$119,977
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,926,095	22.22	\$1,308,352	\$1,580,967
319	Wholesale trade businesses	\$498,638	3.41	\$201,191	\$381,064
332	Transport by air	\$37,298	0.18	\$8,920	\$16,549
333	Transport by rail	\$180,744	0.79	\$57,486	\$97,238
334	Transport by water	\$59,891	0.15	\$11,524	\$22,516
335	Transport by truck	\$1,966,322	16.48	\$833,344	\$1,027,376
36	Construction of other new nonresidential structures	\$2,027,488	16.12	\$740,455	\$903,831
365	Commercial and industrial machinery and equipment rental and leasing	\$63,772,570	242.88	\$15,728,039	\$35,554,052
5001	Labor	\$25,343,600	1,055.49	\$25,343,600	\$25,343,600
	<b>Total Direct Effects</b>	<b>\$100,462,944</b>	<b>1,364.74</b>	<b>\$44,937,965</b>	<b>\$65,890,097</b>
	<b>Secondary Effects</b>	<b>\$160,364,664</b>	<b>995.29</b>	<b>\$54,502,477</b>	<b>\$93,106,853</b>
	<b>Total Effects</b>	<b>\$260,827,608</b>	<b>2,360.03</b>	<b>\$99,440,443</b>	<b>\$158,996,950</b>

**Table 8: Impact Region Definition (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>County</b>	<b>FIPS</b>	<b>Area (sq. mi)</b>	<b>Population</b>	<b>Households</b>	<b>Total Personal Income (in millions)</b>
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$0</b>

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**Table 9: Impact Region Profile (2008)**

<b>Regional Impact Area ID:</b>	RURAL
<b>Regional Impact Area Name:</b>	Rural Area Generic Model
<b>Impact Area Type</b>	N/A
<b>State Impact Region::</b>	Alaska

<b>Section</b>	<b>Output (millions)</b>	<b>Labor Income (millions)</b>	<b>GRP (millions)</b>	<b>Employment</b>
Accomodations and Food Service	\$0	\$0	\$0	0
Administrative and Waste Management Services	\$0	\$0	\$0	0
Agriculture, Forestry, Fishing and Hunting	\$0	\$0	\$0	0
Arts, Entertainment, and Recreation	\$0	\$0	\$0	0
Construction	\$0	\$0	\$0	0
Education	\$0	\$0	\$0	0
Finance, Insurance, Real Estate, Rental and Leasing	\$0	\$0	\$0	0
Government	\$0	\$0	\$0	0
Health Care and Social Assistance	\$0	\$0	\$0	0
Imputed Rents	\$0	\$0	\$0	0
Information	\$0	\$0	\$0	0
Management of Companies and Enterprises	\$0	\$0	\$0	0
Manufacturing	\$0	\$0	\$0	0
Mining	\$0	\$0	\$0	0
Professional, Scientific, and Technical Services	\$0	\$0	\$0	0
Retail Trade	\$0	\$0	\$0	0
Transportation and Warehousing	\$0	\$0	\$0	0
Utilities	\$0	\$0	\$0	0
Wholesale Trade	\$0	\$0	\$0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>

**Table 10: Top Ten Industries Affected by Work Activity (2008)**

<b>Project:</b>	New Analysis
<b>Business Line:</b>	Navigation
<b>Work Actiy:</b>	Construction and Repair of Large Stone Breakwaters and Jetties

The following table shows the top ten industries that typically benefit from the types of expenditures made for this project by the USACE. This analysis was conducted at the national level and thus it cannot be guaranteed that these industries would be present in the regional impact area as analyzed.

<b>Rank</b>	<b>Industry (millions)</b>	<b>IMPLAN No.</b>	<b>% of Total Employment</b>
1	Maintenance and repair construction of nonresidential structures	39	44 %
2	Food services and drinking places	413	4 %
3	Real estate establishments	360	2 %
4	Wholesale trade businesses	319	2 %
5	Architectural, engineering, and related services	369	2 %
6	Offices of physicians, dentists, and other health practitioners	394	2 %
7	Private hospitals	397	2 %
8	Employment services	382	2 %
9	Retail Stores - General merchandise	329	1 %
10	Retail Stores - Food and beverage	324	1 %
			<b>63 %</b>

Table 11: CO<sub>2</sub> Emission Intensities

Industry	Industry Name	Output Direct	CO <sub>2</sub> Emission Intensity Direct	Output Indirect	CO <sub>2</sub> Emission Intensity Indirect Domestic	CO <sub>2</sub> Emission Intensity Indirect Imported	CO <sub>2</sub> Emission Intensity Indirect Total	CO <sub>2</sub> Emission Intensity Total
141	All other chemical product and preparation manufacturing	\$3,356,548	1.92 9.20	\$4,390,952	2,232.90	900.24	3,133.13	5,062.33
171	Steel product manufacturing from purchased steel	\$293,750	682.91	\$327,993	527.25	205.03	732.28	1,415.19
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	\$2,926,095	14.7 25.6 3	\$2,121,362	1,315.64	296.80	1,612.45	16,338.08
319	Wholesale trade businesses	\$498,638	53.23	\$156,151	13.68	2.96	16.65	69.88
332	Transport by air	\$37,298	100.83	\$23,839	8.98	2.40	11.38	112.21
333	Transport by rail	\$180,744	188.33	\$132,908	26.53	7.24	33.77	222.09
334	Transport by water	\$59,891	292.09	\$39,599	6.87	1.63	8.50	300.59
335	Transport by truck	\$1,966,322	4.51 1.23	\$1,267,807	746.12	114.03	860.14	5,371.37
36	Construction of other new nonresidential structures	\$2,027,488	723.22	\$1,699,607	904.50	326.20	1,230.70	1,953.92
365	Commercial and industrial machinery and equipment rental and leasing	\$63,772,570	26.1 67.9 3	\$41,932,442	5,629.52	959.38	6,588.90	32,756.84

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<b>Total</b>	<b>\$75,119</b>	<b>49,3</b>	<b>\$52,092</b>	<b>11,41</b>	<b>2,815.92</b>	<b>14,227.9</b>	<b>63,602.5</b>
	<b>,344</b>	<b>74.6</b>	<b>,658</b>	<b>1.98</b>		<b>0</b>	<b>0</b>

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