

Appendix D. Master Relocation Matrix

Documents Included:

- **Site Matrix**

	Site						
	Tatchim Isua	Imnakuk Bluff	Simiq	Kuuruq	Igrugaivik	Kiniktuuraq	Existing Site
site has generally positive attributes associated with this specific criteria							
site has mixed positive and negative attributes with specific criteria; or criteria is neutral							
site has generally negative attributes associated with this specific criteria							
PHYSICAL ENVIRONMENT							
Storm surge vulnerability	5	5	5	3	3	1	1
River flooding vulnerability	5	5	5	2	2	3	3
Shoreline erosion vulnerability	5	5	5	2	2	1	1
Site drainage and wetlands	4	3	2	3	1	1	5
Soils - ice content	3	3	2	3	1	1	5
Vulnerability to high winds	1	1	3	3	3	3	3
Water supply - source and quality	4	5	2	2	2	1	1
<i>Subtotal Physical Environment</i>	27	27	24	18	14	11	19
CONSTRUCTION & UTILITIES FACTORS							
Sewage disposal availability	5	3	5	3	2	2	1
Ease of water storage and distribution	4	4	2	3	2	1	1
Solid waste disposal availability	5	5	3	1	1	1	1
Gravel requirements to develop site	3	3	2	2	2	1	2
Barge access/distance to site	3	2	1	2	2	5	5
Site for an airport with crosswind runway	4	3	4	3	3	3	2
Community expansion potential	5	5	4	2	2	2	1
Ease of maintaining two sites during construction	1	1	1	3	3	4	3
Permitting Obstacles	4	4	3	2	2	2	3
<i>Subtotal Construction and Utilities</i>	34	30	25	21	19	21	19
SOCIAL AND ACCESS FACTORS							
Distance from current village site	1	2	3	4	4	5	5
Access to the ocean	3	2	1	4	4	5	5
Access to the Wulik River	1	1	1	5	5	5	4
Access to the Kivalina River	3	5	1	2	2	2	2
Access to the Kivalina Lagoon	4	3	1	4	4	5	5
Access to subsistence camps and traditional use areas	2	2	1	4	4	5	5
Location of boat/gear storage	2	2	1	5	5	5	5
Potential for ice cellar construction	3	3	5	5	5	5	2
General comfort with site	2	3	2	3	3	3	3
Land Status	5	2	5	1	5	5	3
<i>Subtotal Social and Access</i>	26	25	21	37	41	45	39
COST IMPLICATIONS							
1 Site preparation costs	5	1	1	1	2	1	3
Access road development costs	4	2	2	3	3	4	5
2 O&M costs	4	4	3	2	2	1	1
3 Cost of living (heat, power)	2	2	2	3	3	3	3
Fuel costs for access to subsistence areas, airport, dock	1	2	2	3	3	4	4
<i>Subtotal Cost Implications</i>	16	11	10	12	13	13	16
COMPARATIVE TOTAL							
	103	93	80	88	87	90	93
RANK	1	2	7	5	6	4	3
1 Site preparation cost estimates range from \$155 to 252 million							
2 O&M costs reflect differences in costs per village, mostly for maintaining erosion and flood barriers							
3 Costs for heat and power are assumed to be higher in areas where terrain is subject to higher winds (hillside sites)							