

Appendix E. Kivalina Relocation Planning Project Meeting Notes

Documents Included:

- **August 2004 – Meeting Notes**
- **October 2004 – Meeting Notes**
- **December 2004 – Meeting Notes**
- **September 2005 – Elder Council Meeting Notes**
- **September 2005 – KRPC Meeting Notes**

August 2004 Meeting Notes

KIVALINA RELOCATION PLANNING PROJECT
COMMUNITY MEETING, AUGUST 23, 2004; 7:00 PM
MEETING AGENDA

1. WELCOME, BY KIVALINA RELOCATION PLANNING COMMITTEE (KRPC) MEMBER
2. PRAYER, BY VILLAGE ELDER
3. WELCOME, BY CORPS OF ENGINEERS
4. INTRODUCTION OF PROJECT TEAM MEMBERS
5. PURPOSE OF MEETING
 - a. Introduce ourselves and our plan objectives
 - b. Discussion of planning effort, past and present, including tasks for this phase
6. OBJECTIVES OF THIS TRIP
 - a. First of at least three trips
 - b. Field work
 - c. Discussions with KRPC
 - d. Hold a community meeting
7. OPEN FORUM FOR MEETING PARTICIPANTS
 - a. "What do you feel like asking or saying?"
8. CLOSING COMMENTS

September 21, 2004

RE: Kivalina Relocation Public Meeting

Time: August 23, 2004, 7:00pm – 9:45pm



Agencies present (listed alphabetically):

Kivalina City Council, Kivalina, Alaska
Kivalina IRA Council, Kivalina, Alaska
Kivalina Relocation Planning Committee (KRPC), Kivalina, Alaska
Northwest Arctic Slope Borough, Kotzebue, Alaska
Tryck Nyman Hayes, Inc., Anchorage, Alaska
URS Corporation, Anchorage, Alaska
U.S Army Corps of Engineers Alaska District, Anchorage, Alaska

Moderator: Enoch Adams, Jr.

Purpose: To inform Kivalina residents of the purpose of the site visit, describe the steps of this portion of the study, and answer questions regarding the status of the project.

Highlights presented by the following entities

Kivalina City and IRA Councils, and KRPC:

- Mentioned City/IRA/KRPC meeting (8/23/04) to public.
- Asked COE team to describe what they were looking for with other sites.
- Water supply and landfill sites are sensitive issues due to wildlife (i.e. otters) and being close to subsistence.
- Described how winter is shorter and warmer for soils (global warming).
- Mentioned it is the first time the water has been seen up so high.
- Mentioned that a lot of work has been done on the Kiniktuuraq study. A significant amount of money has been spent previously on this effort.
- Emphasis should be placed on finding the best water source.
- Mentioned Ted Stevens will be visiting next summer. Encouraged all Kivalina residents to come for full house. Need to tell Sen. Stevens why relocation is important. Mentioned money was no issue and cost was no issue since Senator Stevens was coming.

- Kivalina did not know Comico was violating permits. Comico said everything is fine since ADEC was collecting money.
- Stated that Kiniktuuraq was unsuitable because of too much cost, \$200 mil.
- Statement made about Kivalina being at the bottom of the list. COE has not responded for 1.5 years. Why is the process taking 5 years? COE responded that the tasks need to be performed in steps.
- Requested that COE explain why they are looking at other sites. COE responded they got bogged down with gravel at the site. Due to high cost, that is why the team is looking at other sites.
- Mentioned that purchase of land is not required at time of Relocation.
- Need Kivalina Relocation Coordinator.
- Mentioned Jeanie Greene, Heartbeat Alaska was coming to Kivalina to investigate how community feels about relocation. She did not show up.

NWASB

- Mentioned that NWASB will be looking at recommendations through the Executive Committee.

Kivalina Community

- Time considerations were expressed.
- Questions posed during the meeting include:
 - What is the estimated cost for the move?
 - What is the estimated cost if the move begins next summer?
 - Is there zero cost for gravel at any site?
 - What is the process for a move?

Do we have to hold another vote on a new site?
 What is estimate cost for gravel? Can we use less gravel get costs down?
 What gravel and soils are in area?
 Why is Kiniktuuraq site unsuitable and why keep studying?
 Why was the Kiniktuuraq site selected?
 Is there fresh water under nearby hills?
- Described that once during May, the river was high enough it would want to make you relocate. If relocation does not happen, the future of the children may be at stake.

- Community will stick to Kiniktuuraq site until community decides otherwise.
- Channel site needs to be maintained. Do not want to move away from food source. Good barge landing sites nearby – no need to dredge.
- Sanitation issues need to improve.
- Expressed concern for water source.

COE/TNH/URS Team

- COE introduces team and mentioned award of the study contract. Discussed our scope of work, which is a Stage 1 Master Plan. The plan will perform site investigations, prepare cost estimates, prepare a master relocation schedule, and prepare a decision matrix.
- COE explains that the team is reinvestigating because the cost of the recommended 12-foot gravel pad at the Kiniktuuraq site was too high.
- COE explains that the team will be taking a fresh look at Kiniktuuraq and prepare a report. Funding agencies need to take a look at alternate sites. Described further meetings involved in the study as:

2nd meeting – present steps for moving community

3rd meeting – show what was done with recommendation

- Described the process of the planning phase as:

1st step - what community should look like

2nd step - where should facilities be

3rd step - scheduling, master plan

- Mentioned that state and federal agencies were meeting in Anchorage to look at plan.
- Inform community that when the studies are done, will move on to construction phase.
- COE says contract calls for Executive Committee Meeting. Four people should be assigned on the Committee.
- Response to questions posed during the meeting:
 - The village will move in phases.
 - Stated that the community's input is needed.
 - Seven sites were shown on the map.
 - Stated that there is no zero cost gravel on any site.

- After studies are completed, there will be no need to vote, however there will need to be direction from community.
 - Due to a lack of knowledge, the Kiniktuuraq site was selected beforehand.
- Kiniktuuraq has lower elevation than current Kivalina site. It is not as suitable in terms of the relocation cost and due to no barge landing site.
 - Example stated that in the North Slope, gravity sewer systems are having problems/failures due to the melting of permafrost.
 - COE will be looking toward Executive Committee for solutions.
 - Mentioned the flood surge had been previously looked at.
 - Described what the TNH/URS team was doing and that they needed to look over other sites. Kiniktuuraq may not be safe so there were concerns about its livability.
 - URS stated that with the new information from this study, the community could decide what they wanted to do.
 - Questioned about ANTHC doing water/sewer study on current Kivalina site.
 - Kivalina wants to move because they want water/sewer. Agencies will not fund.
 - Stated that there is a need to incorporate engineering and social concerns.
 - The question was raised as to when the construction would begin. The TNH team described that the Master Plan phases must be conducted prior to the construction phase. Amount of funding allotted for each phase would determine when construction would begin.
 - Stated that all sites looked at will consider water/sewer.

Cc: Kivalina City Council, Kivalina, Alaska
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 Northwest Arctic Slope Borough, Kotzebue, Alaska
 Tryck Nyman Hayes, Inc., Anchorage, Alaska
 URS Corporation, Anchorage, Alaska
 U.S Army Corps of Engineers Alaska District, Anchorage, Alaska

Kivalina Joint Meeting Notes – Jill Missal

Monday, August 23, 2004

- Andrea – we must find a more economic way to develop the Kiniktuaruq site.
- Enoch Adams – is an EIS going to be performed on the sites? What agency would do the EIS?
- Less talk, more action
- No direction in project
- Executive committee should be formed.
- Too long in development and not enough actually happening.
- We are in the 8th year of a 5 year planning committee
- Current agreement expires September 30
- Colleen though amendments had been agreed upon, Andrea said no, there was additional time needed to get URS and TNH together on the project
- Andrea wants to go over legal information with council members individually; Colleen says it's better for Andrea to explain it all together
- Enoch Adams – do we need a resolution from the council to renew the contract
- Colleen – we can establish the executive committee informally, and confirm its members at a later date. It is important to renew or extend agreement – long delays are getting frustrating and are costing the village even though they paid for it. Now they have no choice but to add two more years to the contract whether they want to or not
- Original contract stated that everything will be done in 2005 but we are still in planning stage
- Informal consensus exists that action should happen really soon
- Money is needed for a coordinator
- The “blame game” between city, borough, and COE has contributed to delays
- We need a letter of agreement from each entity stating who sits on executive committee
- Village wants to know who from the COE would be on executive committee
- Andrea suggests planning an executive committee meeting within a month
 - Myra – first Tuesday of September
- State executive committee issues more clearly
- PAS has “general language” relating to an executive committee
- Currently there is an excess of local funds, but there will be a need for an infusion of local funds in 2006
- Enoch Adams worries that the grant is competitive
- Note that federal government will not fund anything that is threatened by 100 year and 500 year flood levels
- State might not want the new site to be near the port expansion
- Tired of studies, more delays, move will never happen if studies keep being implemented
- Why are studies repeated?
- Cost of moving all villages will be the same
 - But do all communities have the same issue with the gravel?

- Enoch – the problem is that we told people we already picked a site
- Enoch – we are looked on as “noble savages” and we want to get rid of that perception
- Andrew – there is no problem building on Noaataq, with water and sewer, and everything. Why can't we do that? Kotzebue now has paved roads while Kivalina still has problems with sewage contamination. Why are they pushing us away?
- Raymond Hollis – asks about 13 foot gravel pad. That's all we hear, no other options.
- Flood plains should not matter because it is being done other ways and in other places.
 - Bob Wright - Where are utilities in those places? Above or below ground?
- Is water and sewer going to work on wetlands?
- We should not let Ted Stevens back us off.
- There are options available to avoid the gravel issues that have been studied.
- Final decision rests with village
 - Why “reconfirm” then?
- Kivalina deserves better life and better living conditions
- Joe – who wrote letter to mayor stating that the chosen site was too expensive?
- We never see a timeline

September 21, 2004

RE: Kivalina IRA/City/KRPC Joint Special Meeting

Time: August 23, 2004, 3:30pm – 6:00pm



Agencies present (listed alphabetically):

Kivalina City Council, Kivalina, Alaska
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Kivalina Relocation Planning Committee (KRPC), Kivalina, Alaska
Northwest Arctic Slope Borough, Kotzebue, Alaska
Tryck Nyman Hayes, Inc., Anchorage, Alaska
URS Corporation, Anchorage, Alaska
U.S Army Corps of Engineers Alaska District, Anchorage, Alaska

Moderator: Enoch Adams, Jr.

Purpose: Joint special meeting to discuss Kivalina relocation status.

Agenda (as prepared and followed by Kivalina City Council, Kivalina IRA Council, and KRPC):

1. Call to Order
 - Roll Call
 - Invocation
2. Approval of Agenda
3. Introductions/Recognitions
4. Army Corps of Engineers/NAB
 - a. Correspondence: 8/6/04
 - b. Planning Assistance to States Agreement
5. URS/Tryck Nyman Hayes, Inc.
 - a. Scope of Work
 - b. Need for boat/ ATV
6. Comments
7. Adjournment

Highlights presented by the following agencies

Kivalina City and IRA Councils, and KRPC:

- Expressed desire to form and recommend members to an Executive Committee. This measure would eliminate problems. Following the original agreement, each entity (i.e. City, IRA, and Borough) would take its turn. Mentioned that the Kivalina KRPC/City is responsible for moving. Suggested the Executive Committee should be composed of a city planner. The following agencies/persons would also be represented:

Kivalina IRA Council – President

Kivalina City Council – Mayor

- Voiced concern that nothing had been done to execute Planning Assistance to States (PAS). Mention that it was now the 8th year of 5-year planning phase.
- Mentioned they had no choice but to extend contract expiring Sept. 30th. No more time wanted beyond this extension.
- Discussed project schedule. Mentioned that construction was supposed to start in 2003. The project was supposed to be finished in June 2005.
- Mentioned that the State of Alaska cannot handle construction costs. It must come from the federal government.
- The community was told that the government would not fund anything threatened by 100-yr floodplain. The State of Alaska does not want to build on Kiniktuuraq site.
- Bob Sanders told the community that Kiniktuuraq site was doable but needed a 12-foot gravel pad. Question was raised whether the 12-foot gravel pad could be thinner?
- Question was raised of why more sites have to be studied?
- Unfair practice by Comico and Nana Corporation was expressed since want to push the City of Kivalina away from their expansion.
- Mentioned that relocation of communities around the State of Alaska would cost the same amount.
- The gravel pad was mentioned to not be the point of why the community was not relocated yet. It was passionately expressed that the federal government still looks at Kivalina as “noble savages”.

- Pointed out that Noatak had no problems building a piped system on permafrost. (Noatak currently has a piped, recirculating water and sewer distribution system in place.)
- Strong desire was expressed for a water/sewer system. Expressed concerns of the health problems with sewage in Kivalina. The community wants to live a better way of life.
- Question was raised of why gravel had to be overlaid through the entire Kiniktuuraq site. Why not lay gravel only under houses and roads?
- Doubt was expressed that the gravel pad for Kiniktuuraq site would cost that much.
- Mentioned that the community needs to write letters to the government and explain water/sewer problems.
- Expressed concern that the project was regressing.
- Mentioned that the community needs to be expanded. Buildings need to be rebuilt.
- Mentioned that most villages can direct bury utilities. Houses can be up on piling.
- Mentioned that most people elected to move to Kiniktuuraq before studies back in 2001. Why is the Kiniktuuraq site being reconsidered?
- KRPC gave permission to COE to look at other sites.
- Mentioned that the fuel tanks were out of fire code since they were too close to the community.
- Questioned what would be presented at the community meeting that evening.
- Mentioned that the Community wants to know the timeline of the project.
- Mentioned to the contractors that trash should not be left out when visiting the sites and to show respect to land. Bring a 5-gallon bucket.

Northwest Arctic Slope Borough:

- Mentioned that the Borough had doubts about extending the agreement. What would it cost? Who is going to do what?
- Mentioned the need to look at cost with all communities. The gravel pad played a key factor.

Tryck Nyman Hayes, Inc.:

- Mentioned that below-ground utilities are wanted in Kivalina. Utilities must be kept safe. How would water get out?
- Explained what the TNH/URS site visit scope of work consisted of.
- Submittals are due at the end of Oct. (1st submittal) and Dec 2nd.
- Mentioned that the project is not regressing. It is moving forward. The layout picked for the Kiniktuuraq site can be used in any site.
- Asked about the Red Dog contract. Contact: Arlene Thomas, ASCG in Anchorage.

URS Corporation:

- Mentioned that other ways need to be looked at to find out the most cost effective method for all sites.
- Mentioned that the cost of the 12-foot gravel pad scared the delegation.
- Discussed the Scope of Work for this project phase:
 1. Master Relocation schedule
 2. Design Matrix rating all sites
 3. Brief report covering what design matrix provides
- Discussed what the URS/TNH team would be presenting at the public meeting that evening. This includes presenting the tasks to be performed and discuss why other ways to do things need to be looked at.

U.S Army Corps of Engineers Alaska District:

- Discussed how a fresh look at Kiniktuuraq is needed and whether the gravel pad is needed to be developed or not. Discussed how the Design Matrix is needed since Congress will want other sites evaluated before appropriating funds.
- Mentioned that an EIS would probably be done upon being asked by KRPC. The federal agency will be involved.
- Stated that COE will not be the construction agency. Possibly agencies funding construction would be the Denali Commission. COE would however be involved in permitting.
- Recommended COE Executive Committee member to be Rich Hancock or James Dalton.
- Suggested that the Executive Committee Meeting to be held in Kivalina (beginning of September)
- COE sent out a draft amendment and received no response from Kivalina.
- COE needs funds from Congress to continue after the 35% Submittal. The study needs to increase to \$500,000 - ½ sponsors, ½ government. The Borough will supply an extra \$140,000.
- Discussed competition for the grant. The CTGB is a very competitive grant.
- Discussed how the relocation move of an entire village to a new site has never been done before in the U.S. Highlighted that the site would be developed and then the water/sewer.
- Mentioned that the TNH was in Kivalina to take a fresh look at it Kiniktuuraq.
- One of the site options is to stay in Kivalina and cost will be provided to develop Kivalina.
- Agreed that there were other communities that were developed with a gravel pad.
- Explained what reconsider means as stated in the contract.
- Explained the need to look at other alternatives.
- A tech memo was sent to the community stating that Bob Sanders said Kiniktuuraq was an unsuitable site. This document was sent last summer.

Cc: Kivalina City Council, Kivalina, Alaska
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URS Corporation, Anchorage, Alaska

U.S Army Corps of Engineers Alaska District, Anchorage, Alaska

October 2004 Meeting Notes

**Kivalina Relocation Master Schedule Considerations
Agency Meeting 10/15/04**

Considerations:

Funding

- Earmarks
- Agency programs and requirements
- Grants
- State and local match requirements
- Sequence of program completion

Activities

- Planning/site confirmation/site selection
- Site design
- Permitting/NEPA process
- Site prep/construction
- Facility construction
- Resident relocation/move
- Sequence relationships – how should activities be scheduled?

Planning Phase 3a:

Stage 1 Master Plan

Considerations/Activities:

- Site investigation
- Community involvement
- Infrastructure
 - water supply
 - sewer
 - solid waste
 - power/waste heat
 - roads
 - fuel
 - airport
 - marine
- Site Confirmation

Planning Phase 3b:

Comprehensive Master Plan

Considerations/Activities:

- Detailed land status
- Topography/base mapping/photo base
- Plug ins from previous work (layout)
- Preliminary gravel needs/source investigation
- CCDP for funding
- Preliminary structural analysis
- Future planning studies should be tiered off of this document

Planning Phase 3c

Feasibility Studies

Considerations/Activities:

- Site previously confirmed
- Infrastructure feasibility studies/planning documents
 - by element
 - system option selections
 - VSW Sanitary Facilities Feasibility Study
- Confirm gravel needs and source
- Grant identification/initiate applications

IDENTIFY LEAD

AGENCY FOR DESIGN

AND CONSTRUCTION

Phase 4:

Design Phase

Considerations/Activities:

- Buildings (schools, clinic, housing, public buildings)
- By element (sewer/roads, etc.)
- Review, approval, public involvement
 - 35%
 - 65%
 - 95%
 - Final
- Ready to construct at end of this phase
- Phasing considerations:
 - funding, sequencing
 - maintaining two communities

Phase 5:

Permitting/NEPA Compliance

Time Frame: 12-18 months

Considerations/Activities:

- EA or EIS
- Permitting
 - COE
 - ACMP
 - ADNR/Fish streams
 - ADEC
 - ADNR (gravel)
 - NWAB

Phase 6:

Site Preparation/Facility Construction

Considerations/Activities:

- Assume earmark funds will be required/legislation
- Survey
 - construction camps
 - sewage lagoon, if chosen
 - airport
- Pioneer road to site
- Barge landing/staging area
- Gravel source/development/haul
- Seasonal aspects/implications will be key
- Gravel placement – roads and pads
- Contracting implications

Facility Construction – assume 3 phases/3 years

Considerations:

- Fuel and power – tank farms and generators
- Water source and treatment building
- Sewage treatment
- Utility distribution/collection
- Transport between sites
 - ferry/hovercraft
- Phased development of housing subdivisions
- Facility breakout:
 - schools
 - health clinic
 - fire/public safety
 - housing
 - churches
 - post office
 - city offices/tribal offices
 - commercial stores
 - community/teen center
 - construction camp conversion (hotel, community center)

Timing Considerations

- 7-10 years total
- Site preparation: 1-2 years
- Buildings: 2-3 years (some overlap with infrastructure development)
- 4-7 years overall to get to relocation completed
- Prep (design/NEPA/permit): 3 years
- Bid timing considerations

Questions for funding agencies:

- Can you come up with enough funding (\$14 million?) for new homes in one year?
- Who funds various public buildings?

- How are earmark funds being distributed?
- What happens to/at the old site? (land title/transfer issues)
- Does old site get demolished?
- Work force – is it available and from where?
- What other plans do agencies currently have for Kivalina at the existing site?
- Who will be the lead agency(s) for the next phases - design, regulatory, and construction?

Planning Phase 3a
**Stage I Master Plan –
Current Effort**

(where we are now)

This stage includes:

- Phases of relocation and potential schedule
- Investigation and comparison of potential sites
- Community involvement
- Infrastructure planning (water, sewer, solid waste, roads, airport, etc.)
- Site choice confirmation

October Agency Meeting

- Purpose
 - Review steps in relocating community
 - Review draft relocation schedule
 - Open discussion
- General Comments and Conclusions
- Outstanding Issues

Phases of Relocation

- Planning (current phase)
- Design
- Permitting/NEPA Compliance
- Construction
 - Site preparation
 - Facility relocation or construction
 - Startup of new community

Why Compare Sites?

- Side-by-side comparison of sites (alternatives) are required for permitting and funding
- Sites may have benefits that have been previously overlooked
- Sites with potential future problems can be avoided (i.e. storm surge and erosion)

Site Comparison Factors

Many things must be considered while relocating a community. These include:

- Physical environment
- Construction and utilities
- Social and access factors
- Cost implications

Physical Environment

Things that should be considered are:

- Vulnerability to storms, weather, flooding, wind, and erosion
- Climate
- Water source and quality
- Ice content of soil
- Drainage

Construction and Utilities

- Sewage and solid waste disposal
- Ease of water supply and source
- Gravel requirements to develop site; gravel source availability
- Barge access to site
- Site for airport
- Permitting
- Potential for community expansion

Social and Access Factors

- Distance from current village site
- Access to ocean, Wulik River, Kivalina River, and Kivalina Lagoon
- Access to subsistence camps and traditional use areas
- Location of boat/gear storage
- General comfort with site

Cost Implications

- Site preparation costs
- Access road development costs
- Operation and maintenance costs
- Cost of living (heat and power)
- Fuel costs for access to subsistence areas, airport, and dock

Utility/Site Development Studies

- Solid waste
- Sewer and water
- Airport
- Fuel/heating and electrical
- Access

Planning Phase 3b

Next Phase: Comprehensive Master Plan

This document will be the primary planning document for the new village site and will provide a starting point for future studies.

Activities and considerations for this step include:

- Detailed land status study
- Topographic maps
- Preliminary gravel needs and source identification
- Preliminary structural analysis
- CCDP for funding
- Layout designs from previous work

Planning Phase 3c

Next Phase: Feasibility Studies

Activities and considerations for this step include working with a confirmed site location to:

- Conduct infrastructure feasibility studies and planning documents
- Confirm gravel needs and source
- Identify potential sources of grant funding and initiate applications

Kivalina Relocation Master Schedule Considerations
Minutes of Agency Meeting 10/28/04
1:30 pm Atwood Building

Introduction and Meeting Intent

On October 28, 2004, the Alaska District Corps of Engineers (Corps of Engineers), Tryck Nyman Hayes (TNH), and URS Corporation (URS) held an agency meeting on the Kivalina Relocation Plan studies. An agenda and sign-in sheet associated with the meeting are attached. Attendance generally included representatives of various state and federal agencies that would likely have a role in relocating the community of Kivalina, and included representatives of the Kivalina IRA, the City of Kivalina, the Kivalina Relocation Planning Commission (KRPC), and the Northwest Arctic Borough (NWAB).

The intent of the meeting was to provide a briefing on the progress of studies associated with the relocation of Kivalina, specifically initial considerations regarding the phasing and schedule for relocation. Given the potential funding resources, program jurisdictions and requirements, and expertise of the agency participants, it was felt that they could provide important review and feedback regarding the information being presented. There were four items that were listed as agenda items:

- Overview of Project and Current Scope of Work
- Review of Phasing and Funding Considerations for Master Schedule Development Items
- Presentation of Draft Master Relocation Schedule for Discussion
- Suggestions and Revisions for Draft Master Relocation Schedule

The meeting was opened by Andrea Elconin, Corps of Engineers, and then turned over to Jon Isaacs of URS to facilitate. Mr. Isaacs asked the community representatives for initial comments, and community representatives reiterated the seriousness of the hazardous situations facing Kivalina and the need for action.

Opening Comments and Overview of Project and Current Scope of Work

A recent newspaper article in the Arctic Sounder mentions a 25 mile road/bridge for emergency evacuation plan (EEP) for Kivalina being proposed by the NWAB, using a disaster relief grant (source of information cited in article was Tom Bolen of the NWAB). A discussion then followed regarding an EEP compared to a road/bridge, and the relationship of an EEP and Kivalina relocation. One attendee asked if this proposal would speed up relocation, and an agency representative asked if the new site (Kiniktuuraq) was above storm surge.

Walter Sampson, NWAB and NANA Corporation, responded that a recent fly-over after the storm indicated there was quite a bit of water on the back portion of Kiniktuuraq.

Stanley Hawley, of the Kivalina City Council, indicated that the last storm that affected Kivalina was really bad. We need to throw the bridge to Kiniktuuraq question in here. Moving south towards the port site is not out of the question....we need to weigh this. Can we use Kiniktuuraq as a reasonable site? We will have to answer the site question.

Enoch Adams Jr., KRPC, responded that the question of what site to move to has been answered; it is Kiniktuuraq. Jon Isaacs, URS, indicated that there are three important factors that need to be considered when evaluating a site: community preference, regulatory requirements, and the cost of site development and likelihood of obtaining the funds. The community preference is important and recognized. However, other considerations include: 1.) does the preferred site have problems, 2.) can they be fixed and 3.) how much funding is it going to take.

Joe Swan, KRPC, asked what do we have to do regarding site evaluation? If we go with a new site, do we have to start all over again?

Jon Isaacs, URS, responded that at this stage of relocation planning, we will not have to start over. The work we are doing on the schedule of relocation, site comparison, and conceptual engineering, is needed and can be applied for any site. However, if we start the next phase and have to change sites because of development problems, we will have to redo some studies.

Christy Miller, Alaska Department of Community and Economic Development (DCED), indicated that the ability to get flood insurance is an issue to consider. If the flood plain management program determines that Kiniktuuraq is flood prone, then it is a state/federal regulatory and funding problem and not just a factor to be considered. Nothing (facilities, housing) can be funded if it being built in an identified flood plain. Federal regulatory requirements use a 1% chance of occurrence to define a floodplain. Questions asked include whether waves from the ocean are included in the definition of floodplain, and whether and development of Kiniktuuraq can meet federal requirements? If flooding is an issue, site development will require an Environmental Impact Statement. It may add some time to the relocation schedule because of flood considerations. The Corps of Engineers has some preliminary storm surge data from the Red Dog port site, but additional work will be required, perhaps using the WES model.

Walter Porter, NWAB, asked if erosion has also been addressed, in addition to being concerned about flooding. Enoch Adams indicated that there have been no erosion studies of Kiniktuuraq. Andrea Elconin, Corps of Engineers, indicated that they have asked the consultant, TNH, to consider the flooding and erosion issues. She indicated that the current effort is looking at seven sites, including the existing site. Enoch Adams asked if these sites were being evaluated due to National Environmental Policy Act requirements; Ms. Elconin responded that in addition to NEPA requirements, there was a Congressional request to look at additional sites. Andy Meltzer, Alaska Native Tribal Health Consortium (ANTHC), suggested that climate change effects need to be addressed, and as a result, earlier assumptions of gravel pad are probably wrong now.

David Swan, KRPC, stated that the community position on Kiniktuuraq as the preferred site doesn't always agree; he would like to work toward coming to a consensus. As a KRPC member – he likes to think that until we have exhausted all options we will stick to people's wishes when

they voted for Kiniktuuraq. He would hate to go back to the drawing board, but he wants to see the studies. He would like to stay on schedule.

Colleen Swan, KRPC, stated that if in the end Kiniktuuraq is not a suitable site, we will look at other sites.

Review of Phasing and Funding Considerations for Master Schedule Development Items

Jon Isaacs, URS, then provided a review of phasing and funding considerations associated with development of a master relocation schedule. In response to questions on Phase 3 schedule and funding, the Corps of Engineers indicated that this part of Phase 3 will be completed by February or March, and that funding is available through Phase 3b.

Gillian Smythe, US Rural Development (RD), asked if preliminary engineering investigation for water sources and site has been done? Andy Meltzer, ANTHC, responded that the Phase 3A work for sewer and water studies being funded by ANTHC are currently limited to Kiniktuuraq, but that four additional sites have had water source investigations. He suggested that Phase 3 consider a funding strategy approach that needs to address agencies funding availability, and compare it to what is needed from earmarked/special funding.

Gillian Smythe, US RD, asked how do we deal with townsite restricted lots and the need for congressional action? Helen Bolen, Maanilaq Association, confirmed that a change of transfer of status will need Congressional action, including creating new townsite lots (restricted), at the new site if that is what the homeowner wants. Restricted townsite lots should be added as a planning consideration. Maanilaq Association is responsible for health clinics in the NANA region and could be a resource for building one in Kivalina; relocation would likely require a new clinic.

Colleen Swan, KRPC, asked if Kinikturaaq is not chosen, does this schedule being presented here still apply? Andrea Elconin, Corps of Engineers answered yes, unless we later have to go back to look at another site.

Joe Swan, KRPC, said that community can pick another site, however, native allotments may get in the way of moving to other sites. Will state give money for the allotments, if relocation requires purchase? Jon Isaacs, URS, indicated that we need a complete understanding of all the sites, Native allotments etc. One requirement of looking at sites is evaluating the cost of living analysis for all sites.

A further discussion of Kiniktuuraq and other sites ensued. Enoch Adams Jr., KRPC, no more room to build on the existing community site; no agency will build a running water system on current site. Anita Hawley, Kivalina IRA council asked what happens if Kiniktuuraq floods? How much erosion will take place? The vote to select Kiniktuuraq was taken in 1995 before all this information came out. We need to consider reality, what is going on now and look at all of the sites. Stanley Hawley, Kivalina City Council, stated that we already know we have to move. The stumbling block is moving to a flood plain. Funding agencies are here today have their limitations by law on what they can do, and it is important to hear the agency limitations.

Enoch Adams Jr., KRPC, recognizes that the community is asking for an enormous amount of money, and that it must come from special legislation. He was confident that Senator Stevens will get the money that is needed. If cost becomes a consideration Kivalina won't ask for more money after the village is relocated. Walter Sampson, NANA Corporation, indicated that when Senator Stevens was in the region a couple days ago – he mentioned that Alaska will get very limited funding because of hurricane damage and disaster relief funding requirements.

Jon Isaacs, URS, addressed the issue of cost - we don't want a cheap solution to relocation just because it is cheap. However, can we design our way out of the regulatory problems, funding agency requirements? Agencies responded that there are normal funding processes to follow. For example, with Indian Health Service Funding, they receive \$17 million for the entire state of Alaska; they can't ask for specific lump sum funds. Grants are based on feasible limits. They can handle earmarked funds if provided through Congress.

Christy Miller, DCED, indicated that what she heard this summer at appropriation hearings before Senator Stevens and the State Erosion Task Force, that there may be another entity to lead this erosion authority issue. Perhaps the Denali Commission or another federal task force. Gillian Smythe, US RD, stated that most agencies don't have 100% funding, and with USDA, even earmarks need matching funds from the applicant. Most matching requirements can't use federal funds to match federal grant dollars.

The conversation returned to phasing considerations. Andy Meltzer, ANTHC, suggested that we are missing the site control issue for relocation. – Phase 3c should include subdivision. Walter Sampson, NANA Corporation, stated that site control is easy and simple. The ANCSA 14c process is time consuming, but for site control NANA can lease to Kivalina while the 14c3 process starts. Once 14c3 is finished, lands for the new townsite will be conveyed. In response to a question asked, Mr. Sampson indicated that 1280 acres are eligible for selection.

At the end of the discussion of phasing considerations, Andy Meltzer, ANTHC, raised the issue of what agency has the capability to act as design/lead agency for relocation. The Corps of Engineers does not have authority to design and construct, only plan; if the Corps of Engineers led design/construction phases, it would require a congressional mandate. No one agency has experience with all things. There is not really a lead agency that is suitable to administer the variety of designs required for relocation. Christy Miller, DCED, concurred that the same issues exist at the state level as at federal level regarding a lead agency. It might require establishment of a special entity such as the Knik Arm Bridge and Toll Authority, as an example of mechanisms for handling the funding and contracts. Gillian Smythe, US RD, indicated that she believes that is why Denali Commission was suggested.

Review of Preliminary Relocation Schedule

Mike Wolski of TNH, presented the preliminary draft relocation schedule (see attachment). The schedule followed the organization of the phasing requirements and considerations. During the course of discussion, several participants felt that the schedule as portrayed assumed that everything went smoothly, and was perhaps optimistic. Several specific steps could foreseeably take longer.

John Wood, Alaska Industrial Development and Export Authority, suggested that fuel/power facility construction be moved to the site preparation phase. He also suggested adding preparation of a contracting plan for design and construction to the schedule. Walter Porter, NWAB, felt that one of the initial phases should be job training. The Borough is willing to do a training type program for construction and operating heavy equipment; this is something that young people need. Christy Miller, DCED, felt that the contracting plan would include capacity building force accounting capabilities.

The meeting ended with a statement of appreciation for people taking the time to attend the meeting. The project team requested that participants contact Lisa Loy Gray (261-6173) or Mike Wolski, (279-0543), if they had considerations or ideas that should be considered in the Master Relocation Schedule.

December 2004 Meeting Notes

Community Meeting

You are invited to a community meeting to discuss the Kivalina village relocation planning project.

Agenda items include:

- Review of the October 28th agency meeting in Anchorage
- Review of steps in the relocation process and schedule
- Site comparison workshop
- Next steps in relocation

The meeting will be held on
December 7th at 7:00pm at
McQueen School .

Refreshments will be provided!

Please join us!

KIVALINA RELOCATION PLANNING PROJECT
COMMUNITY MEETING, DECEMBER 7, 2004; 7:00 PM
MEETING AGENDA

1. WELCOME, BY KIVALINA RELOCATION PLANNING COMMITTEE (KRPC) MEMBER
2. PRAYER, BY VILLAGE ELDER
3. WELCOME, BY U.S. ARMY CORPS OF ENGINEERS
4. INTRODUCTION OF PROJECT TEAM MEMBERS
5. PURPOSE OF MEETING
 - a. Review of October 28th agency meeting in Anchorage
 - b. Review of steps in the relocation process and schedule
 - c. Site comparison workshop
 - d. Next steps in relocation
6. OPEN FORUM FOR MEETING PARTICIPANTS
 - a. "What do you feel like asking or saying?"
7. CLOSING COMMENTS

Kivalina December 2004 Public Meeting Flip Chart Notes (Public Comments)

- Construction and utilities – emergency access needs

Kivalina site comparison – Tachim Isua

- What's under the gravel?
- Potential quarry access
- Historic fishing
- Good solid ground
- Can be shallow, jet boat issue
- Might require less gravel
- Must be windier

Bluff

- Less wind, good hunting and fishing
- Shallow, may need jet boats or walk a boat up
- Wind could be the same as Tachim Isua
- Barge landing and road required
- Can dredging be possible?

Bluff/Tachim Isua

- If dredging is required who pays for it?
- People more familiar with Imnakuk than Tachim Isua
- What is the cost of a road between the current site and 2 northern sites?
- What about dredging costs?
- Allotment, land ownership, permitting issues

Simiq

- Fastest, easiest site off the ocean
- People can buy trailers and haul boats
- Be more expensive for whaling, boat/truck or sno-go
- Not a lot of warm support for site or excitement

Kugugraq

- Potential Native allotment issues
- Possibly subject to river flooding, needs building up
- Ruled out, move on

Igrugaivik

- Ice rich, potentially subject to flooding
- Ruled out, move on
- Swampy area

Kiniktuuraq

- Access to barge landing

- Close to marine mammals
- Access to water
- Lower travel cost of living expensive (fuel)
- Kiniktuuraq was flooded in the big storm, what is it going to be 20 years from now/ erosion and flooding forecast
- The community can't live next to the ocean

General Comments

- Look at other sites to the south
- Look at site to the south of the Kiniktuuraq site near big lake

Sites south of Kiniktuuraq

- Fossils and signs of human activity – these sites have never been checked
 - Ussuk site – check out potential ice and wetlands at this site
 - Imnakuk is a good subsistence choice. Channel is a good location
 - Economy and the ability to work should be a site consideration
 - 4 people involved in Oren Sage's allotment at Imnakuk, deal has to be made with them
-
- Next Meeting: Borough and Corps report on erosion control funding

Kivalina Relocation Plan
Minutes of Elder Council Meeting
9/15/05

Introduction

On September 15, 2005, Tryck Nyman Hayes (TNH), and URS Corporation (URS) held a meeting with the Elder Council of Kivalina. The intent of the meeting was learning from the elders any traditional knowledge they have about the six proposed sites for village relocation, specifically with regards to the physical environment and subsistence activities. The Kivalina IRA suggested this meeting as a way to gather information from knowledgeable members of the community. The meeting was held in the McQueen School, and TNH and URS provided food. A list of elders and community members who attended the meeting is attached.

Opening Comments and Convocation

Jon Isaacs of URS opened the meeting by giving an update on the status of the current Corps of Engineers (ACOE) contract regarding the community relocation plan, and the timing of its release (finalized by the end of October 2005). He explained why he was asking elders for help with site evaluation information, and then outlined the broad topics of questions that he would be asking with regards to each of the six new sites. Raymond Hawley followed with the convocation to bring the meeting to order.

Elders were asked to help answer a series of questions for each of the relocation sites under consideration. Information learned on each of the sites is provided below.

Kinikturraq

Raymond Hawley started by saying that he has never seen any flooding in this area. He remembers asking one of his elders if they remembered that place ever flooding, and they told him that it had never changed.

Another elder felt that the site was sinking, and that they would have to add gravel every year. They did not consider it a safe place.

Big waves keep splashing the banks of Kinikturraq, and there is a lot of erosion along the coast there. A whole flat area was covered with water a few years ago (possibly storm surge from low pressure).

The shoreline is falling down, just like Kivalina. Soils over there are just mud and ice. The area towards the beach (SE side of area) is where they see many ruts and cracks in the ground (drainage ditches). The area is full of tundra hummocks – is very swampy all the way up.

The sea ice in the general area begins to form in December/January. If pressure ridges form early, then it will stay in place and not move.

One elder commented how there were effects on sea ice as a result of tsunamis (that occur in other parts of the world). Ice came up on shore in Kivalina near the school. Ice override happened one other time a bit further south as a result of wind.

The potential for water supply was felt to be similar to that of Kivalina, with a need to pump it in from upriver.

Weather: Could be stormy in Kivalina, but calm further down the coast (almost like there is a line at Kivalina). If there is a north wind, then weather is generally better in Kinikturraq, but windier. The east and south winds have been getting stronger and colder. Never used to get rain from west and north winds, but now they do – weather is switching from what it used to be. The winters over the past two years have been much milder.

Subsistence: Good access, but not as much water access around it as Kivalina. Don't get as many belugas in the area since Red Dog Mine began operating (Kivalina has spring bowhead quota of four).

Becky Norton asked how the planning team is defining flood levels. Mike Wolski, TNH, responded that for Kinikturraq, the village would need to be at 13.5 feet to be above the floodplain. Current elevation is around 10 feet. He explained that a gravel pad would have to be put in place to raise the elevation base of the site above flood level.

Igrugaivik

Flooding: The site is slightly higher elevation than Kinikturraq – it doesn't flood that often.

Erosion: Not a lot, only during high waters of the spring.

Soils: Has deep ruts going into the river (implying there is melting and drainage).

Water: The existing water source pump station is near Kuugaruaq.

Weather: Snowfall is about the same as Kivalina. Probably would get some drifting (especially if structures are put in place there).

Subsistence: Same as Kivalina. Access is very good all over the general area.

A question was asked about the soil differences found on this site from Kinikturraq. Mike Wolski, TNH, responded that the soils appeared to be a mixture of silt/ice or gravel/ice. The higher areas were mostly ice.

Kuugruaq

For the most part, they felt this area was the same as Igrugaivik in terms of weather, soils, and subsistence. The area floods during spring breakup. There is gravel in the area, but it is found on a Native allotment.

Simiq (Uqpiksuug)

There is no community support for this site at all. Elders asked why this site was being evaluated, as the community had not suggested it. Jon Isaacs explained that Bob Sanders of the ACOE felt it might be a high area with gravel. There was no further discussion of the site.

Imnakuk Bluff

Flooding: No flooding around this site; there is a rocky shoreline along the river which is hard on boats. Area is pretty stable for erosion. Austin Swan talked about his experiences in the area, and mentioned that the area towards the mouth of the river is not as rocky as near the proposed site. However, he said that there were large boulders that could be found in the river along its entire length.

Soil: Soil was discussed primarily in terms of the recent drilling program and use of aerial photos.

Water: The Kivalina River is very shallow in that area, but some elders felt it would probably be safe to drink. Austin Swan felt that below the bluff, the water would be salty because the tidal influence from the lagoon reaches that far up the river. When there is high water in the lagoon, water goes all over that area, and there is a very weak current. Enoch Adams Sr. felt that the “water is rich” there; that the mineral content of the Kivalina River is much higher than the Wulik River (also less volume).

Weather: The wind is much stronger at this site than in Kivalina. The area also receives a stronger north wind, which brings colder temperatures and more storms.

Subsistence: Access for subsistence is a problem here. The lagoon is very shallow in the area where the Kivalina River enters. Joe Swan talked about how he can't get up to that site in his jet boat when the river is low. Others said that the area is good for caribou, but bad for access to oogrük (bearded seal). There are many Native allotments in the area that would have to be dealt with. Members of the community tend to go to the Kivalina River for whitefish, but primarily fish in the Wulik (fishing is always better there).

Betty Swan asked about barge access to that site. Mike Wolski, TNH, responded that barge access would be a challenge, and that a road would probably have to be built from the site.

Tatchim Isua

Flooding and Erosion: This site is above flood levels, and community members don't know of any erosion problems there.

Water Supply: One elder said that the creek at this site turns bone dry during the winter (for the whole season). The water would probably have to be pumped from a different location (maybe further up the Kivalina River or from a different creek). Austin Swan asked if it would be possible to put in a small dam to catch water and make storage

“behind the mountain.” Another elder said that the very end of the lagoon (northwestern edge) is the deepest part, but in the springtime and fall, they can’t load boats there because the water is too low. They felt that the barge landing would have to go to the ocean.

Weather: Wind and snowfall is stronger there than at Kivalina (bigger drifts and heavier snowfalls).

Subsistence: The area is a major snow goose migratory stopover point. Generally felt that the area wouldn’t be good for subsistence because it would be very hard to transport subsistence items back to their homes due to the shallow lagoon.

Raymond Hawley suggested that we hear from the oldest member of the group, Oscar Swan, on his impressions of this site. Oscar felt that conditions at Tatchim Isua aren’t much different than those at Kivalina. The condition of the snow and wind is almost the same. The site is always impacted by strong winds. He also felt that the lagoon is not changing – there is a dead current in the middle, and it is stronger along the inner edge. This should be taken into consideration for any building of bridges or roads that may occur as a result of this project.

Oscar then talked about the area across the lagoon from Kivalina, which could be in the vicinity of an access road to Simiq. The swamp area has unstable soils and would be hard to build in. He has seen mountain rocks sticking up from the lagoon/swamp land.

Closing Discussions

Enoch Adams Jr. wanted to know if the COE had ever obtained the information that DOT had collected on gravel sources in the area. The data was collected by DOT when the airport runway was being resurfaced, and the gravel for that project was pulled across from Imnakuk Pass. Jon Isaacs, URS, responded that the gravel question needs to be addressed immediately, and that his request would be looked into. Dealing with the “gravel issue” would be the number one way to reduce costs. Enoch Adams Jr. added that all of the gravel that was taken by DOT for runway resurfacing has refilled itself. Another community member asked if gravel could be taken from the lagoon. Mike Wolski, TNH, answered that taking gravel from the lagoon would increase costs because it would all have to be washed in order to remove the salt (which would melt the permafrost). Oscar Swan added that to find gravel, one should just look for willows, and told the story of how the Kivalina River has been eroding and how he has had to rebuild his house three times as a result.

Jon Isaacs, URS, closed the meeting by thanking all of the members of the Elder Council and the community for attending, and for their continued patience with this planning process.

Kivalina Relocation Plan
Minutes of Kivalina Planning Commission Meeting
9/15/05

Introduction

On September 15, 2005, Tryck Nyman Hayes (TNH), and URS Corporation (URS) met with the Kivalina Relocation Planning Committee (KRPC) in Kivalina to present preliminary findings of geotechnical explorations done for the Kivalina Relocation Plan, the purpose of the Elders meeting on site characteristics, and discuss the upcoming 95% draft report. Attendance included representatives of the KRPC and other community members.

The intent of the meeting was to seek guidance from the KRPC on questions to be raised during the meeting with the Elder Council scheduled for later that day, and provide a briefing on the geotechnical explorations associated with the relocation of Kivalina, which were conducted at the six proposed sites. Preliminary cost estimates associated with relocation at each site, and the implications of gravel sources and costs were also discussed.

Planning Update

Jon Isaacs of URS opened the meeting by giving an update as to where things stand with the plan, and the timing of its release (finalized by the end of October 2005). Mr. Isaacs then turned it over to Mike Wolski of TNH to go over the preliminary results of the geotechnical studies. His discussion centered on the soil types that were found during the coring of each site, the amount of gravel that would be needed to build at each site based on soil characteristics and flood elevation requirements, and options for above or below-ground utilities.

Enoch Adams Jr., KRPC, asked if a gravel source has already been identified. Mike Wolski, TNH, responded by saying that the Alaska District Corps of Engineers (ACOE) was considering shipping it in from outside Alaska (British Columbia), but that this was not a definite answer at this time. Enoch Adams Jr. asked why the gravel couldn't be taken from the Tatchim Isua site, or from a mountain up the coast past that site, and wondered about the results of a study that Bob Sanders from ACOE had done on gravel supplies in the area.

Enoch Adams Jr., also brought up the proposed evacuation road for Kivalina, and why a route towards Simiq was being considered if there is no gravel in that area. He wanted to know about mining and transportation cost estimates for the gravel. Jon Isaacs, URS, responded that those costs would be the primary costs associated with village relocation. A gravel pad 14 feet thick was given a low estimate of \$80 million. Mike Wolski, TNH, indicated that he thought the cost of importing gravel could be much higher. He also added that actual placement of facilities within any of these sites could be moved or shifted to minimize negative geologic issues or native allotments.

Enoch Adams Jr. asked if the Kuugruaq site was still a consideration. He feels that the cost of living and loss of culture are the two main issues that need to be addressed for the village. Jon Isaacs, URS, answered that the site was still an option for relocation, although it is assumed to be lower in elevation than the current village site. The soil there is better than some sites, but would still need a substantial gravel pad to get the village above the floodplain. Mike Wolski, TNH, added that Kuugruaq has less fill than Kinikturraq. Mr. Isaacs indicated that cost of living and cultural strengths and weaknesses have been evaluated for each site, although the safety of each site remains a more important consideration.

Jon Isaacs, URS, asked the community representatives if people had been thinking about new sites, or if there were sites that the study had overlooked thus far. He emphasized that none of the current sites were perfect, and warned against putting “all of their eggs in one basket” with regard to hanging on to a site that might not be acceptable.

Raymond Hawley, KRPC, talked about the trends he has been noticing with his cold storage units. In the summers, they keep the meat cold, but then he has to take the meat out by November because it gets too warm and the meat spoils, indicating that they start thawing some in late fall and early winter. Coastal sites have been caving in.

Jon Isaacs, URS, asked about the possibility of putting temporary solutions in place at the current Kivalina site (erosion breaks, etc.). A member of the community mentioned that Tom Bolen of the Northwest Arctic Borough told them that they had missed the funding cycle for this season already. Joe Swan, KRPC, stated that the gravel for the Kivalina Airport was taken from around the Kinikturraq and Kuugruaq sites, and has refilled itself. However the material over there (Kinikturraq) is coarser than the sandy material found at Kivalina. He also pointed out that the Kivalina shoreline used to be where the big metal box offshore was a year ago. Enoch Adams Jr. added that the shoreline has changed 200 feet since 1930, and the storm that happened last October took off about 30 feet of shoreline.

Jon Isaacs, URS, began a discussion letting the community know that a lead agency needs to be identified for the project to move forward. A member of the community (Jerry) asked if they could take the lead themselves. Jon Isaacs, URS, responded that this would probably be assigned to a federal agency (FEMA, ACOE, Denali Commission) because of the way the funding would be appropriated through Congress, and that the community would not have the capacity to manage the funds themselves. Colleen Swan, KRPC, said she felt that the COE would be the best agency because they are familiar with the area and they pay attention to rules, regulations, and process. The dumpsite and tanks are currently in illegal locations, and the COE would never allow that at the new site. Enoch Adams Jr. added that Senator Stevens’ staff has been in contact with the ACOE this summer.

Discussion of the Proposed Sites and Questions for Elders

The draft questionnaire that URS had prepared for the Elder Council was given to the KRPC for review and comment. The questions were designed to gain knowledge of site

characteristics related to the physical environment, such as soils, erosion, weather, drainage, subsistence, and other values. Each of the seven (including existing Kivalina site) sites would have the same questions asked and answered. Members of the KRPC helped the project team to rephrase questions in ways that would be easier for the Elder Council to understand. Some of the suggestions are summarized below.

- Kuugruaq Site: Colleen Swan, KRPC, wanted to know more information about the elevation and gravel requirements of Kuugruaq, which was the original site chosen by the people. Joe Swan, KRPC, added that not all of that area floods, just the lower corner. It was also mentioned that a road from Kuugruaq to the coast would have to be constructed because the barge is not able to get into the lagoon.
- Flooding: Ask about standing water instead of flooding. Or ask seasonal questions (“In the fall, has this site ever flooded?”) – during fall storms, residents can’t get off the island on the lagoon side because it is frozen. USGS has data from a gauge station on the Wulik River from 2002 (May 25th) that shows flood levels of 53 feet, which was presumed to result from ice jams.
- Erosion: Joe Swan, KRPC, said that he doesn’t really remember any erosion ever happening at Imnakuk Bluffs.
- Sea Ice: Enoch Adams Jr. felt that Kivalina gets more “slush ice” now than sea ice. The biggest storms are usually during late September or early October, and the ice doesn’t protect them anymore by creating a barrier along the shoreline. Joe Swan asked if there was a plan for ice coming up (ice override) in front of the school, which appears to have occurred last year.
- Drainage: Ask if there is water all of the time on the site, or if the ground is soft.
- Weather: Members of the community felt that Tatchim Isua and Imnakuk Bluff were windier than Kivalina. If areas are windier, they could also have more storms, which is a public safety concern.

The meeting ended with Jon Isaacs, URS, letting everyone know that the project team plans to come back for a formal public meeting in late October/early November. Project costs of each alternative, and their strengths and weaknesses will be discussed in detail. Enoch Adams Jr. added that the elders first wanted to move so they could get their own fuel and water, and to get more space for community expansion. However, members of the community need to be able to pay their utility bills at the new location. He also stated that the site that would result in the least amount of cultural change would be Kinikturraq, and that 70% of the community had already voted for it in a referendum. Raymond Hawley asked a final question about the gravel requirements for Shishmaref and Newtok. Jon Isaacs, URS, responded that the answer was not currently known, and that the project team would get the answers back to him. He then gave a statement of appreciation for people taking the time to attend the meeting.