MERTARVIK RELOCATION PROJECT

Steering Committee #9

Meeting Notes

June 22, 2017

1:30 PM – 3:30PM

866-866-2244

1949418#

Participants: Newtok Village Council, Denali Commission, State of Alaska, DOWL, BIA

1. Introductions –Glen Price, NNC Atty; Don Antrobus & Chris Allerd, Denali Commission; Sally Russell-Cox & Jill Furbish, AkDCEED; Barbara Blake and Catherine Treater(?), Governor's Office; Romy Cadiente, Paul Charles, Bernice John, Teddy Tom, Andrew John NVC; Stu Hartford, BIA Roads; Jolene John BIA; Dave Rogers, Quik Pro Accounting, Mark Sherman, Goldstream Engineering, Wally Swanson, LCG Lantech, Gavin Dixon & Jackie Schaeffer, ANTHC, Eric Voorhees & Randy Romenesko, DOWL.
2. Site Development
    a. Community will review and provide final comments tonight for the 100% Community Plan Layout. Plan will be used to inform EIS and to start survey and platting effort later this month.
    b. Geotechnical drilling crew under contract to ANTHC will be in Mertarvik on 6/26/2017 to drill soil borings for use in design of necessary community infrastructure. This is a 2-week effort.
3. Housing
    a. AVCP RHA housing materials are on barge due to arrive in Mertarvik around 6/25/2017.
    b. Glen Price working on lease agreement between NNC and AVCP RHA for the new houses. Lease needs to be in place by 8/1/2017.
    c. Temporary Barracks Analysis.
        i. Phase 1 report on Code and Conditions is complete.
        ii. Results of study show "the units to be in very good condition for the Anchorage location they have been designed for, and they have been maintained very well for over the 10 year life of the units."
        iii. There is nothing in the report that would prevent moving forward with Phase 2 work – conceptual plan for all upgrades and renovations with cost estimate for upgrades and relocation to Mertarvik.
        iv. Bettisworth North will be released to prepare the Phase 2 work products or plans and cost estimates.

4. MEC

    a. Wally Swanson provided information on the 35% design narrative and drawings.
    b. Initial build out will be for evacuation center only with shell, 2 large rooms, and no toilet or cooking facilities (these are assumed to be available at the construction camp). Phase 2 would allow for limited educational spaces.
    c. ROM cost at 35% is $1.7M which is greater than current grant funds of $1.4M.
    d. LCG request NVC approval of the 35% concept design by mid-July to allow them to continue design work.

5. Roads and Quarry

    a. Mark Sherman provided a verbal update of activities to date at Mertarvik.
    b. Camp to be ready for visitors on 6/24; reservations to be coordinated thru Romy or his appointee.
    c. 100% PS&E to BIA for review and approval.
    d. 95% of needed equipment, supplies, etc. are onsite; balance of items to arrive on barges over next 2 weeks with fuel arriving on July 3.
    e. Road survey is complete.
    f. Mobilization of crusher, generator and other items scheduled for 6/29.
    g. Stu H request cost estimate for the work based upon "actual" costs using force account labor not an engineer estimate based upon bidding the job.
    h. BIA stated engineering 'deviations' may be permitted but need approval of the EOR, NVC and concurrence from BIA.

6. Energy

    a. Mertarvik Master Energy plan is complete. Report looks into how the Regulatory Commission of Alaska figures into PCE for Mertarvik, also how Newtok will be powered down.
    b. AEA and its consultants are advancing design of a new power house to serve the ultimate community of Mertarvik. Concept design to be complete in August. ROM cost estimate is $3.5M for full build out.
    c. Community, with Denali Commissions assistance, is working to obtain USDA RUS funds to leverage against DC funds.
    d. If full funding not available from RUS, then the 'pioneer' power house option will be used with funding from DC.

7. Financial Issues

    a. DOWL has prepared grant applications to HUD for IT (fund construction of the MEC to support educational space that will be lost when river gets to school in Newtok) ICDBG (housing) funds.
    b. Gov. Walker put in a request to White House for $124M to fund infrastructure that will be lost in Newtok.
    c. Glen Price noted that Mark Romick may be a resource to the community for the AHFV "GOAL" NOFA currently on the street.

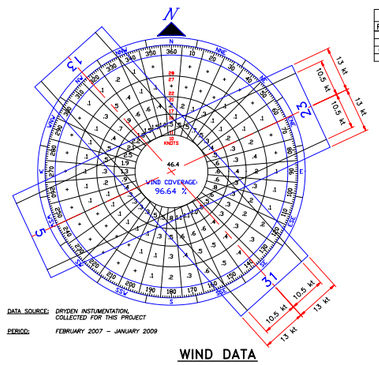
8. Reports

    a. See attached DOWL Steering Committee report & high level schedule.
    b. See attached Newtok Planning Group Mtg notes.

9. Closing Comments

    a. EIS draft should be available by the end of July. Final EIS is still scheduled for December 2017.
    b. AkDOT is looking to see if ANTHC can perform geotech work when ANTHC has its drill rig onsite. There are no available funds to pay the estimated $100K for the work. It is desirable to perform the work now as it may advance design by 1 year. ANTHC and DC to see if AkDOT can reimburse ANTHC for the work.
    c. Glen requested attachments to Master Site Control agreement be provided as they are approved.

WIND DATA TABLE		
RUNWAY	13 kt	16 kt
13/31	89.26%	94.76%
5/23	77.35%	–
COMBINED	96.64%	–



WIND DATA

0 600' 1200'

NOTE:

SEE SUBSISTENCE MAP FOR APPROXIMATE LOCATIONS OF COMMUNITY RESOURCES.

Mertarvik Relocation Project
Steering Committee Mtg #9
2a_Site Development

BAIRD INLET

5,000 FT RUNWAY CLEARANCE
ARCHEOLOGICAL SITE
EXISTING SHALLOW BARGE LANDING
POWER FACILITY
EXISTING MEC FOUNDATION
LAGOON SITE
DEEP WATER BARGE LANDING
BULK FUEL STORAGE
COMMUNITY SPRING WATER SOURCE
FISH CAMPS
COMMUNITY SCALE WIND FARM
EXISTING HOMES
AIRPORT ROAD
TERMINAL
RUNWAY APRON
AKDOT&PF SNOW REMOVAL EQUIPMENT BUILDING
POTENTIAL GRAVE YARD
EXISTING HOMES (UNINHABITED)
ROAD TO ROCK QUARRY (TRAIL TO LANDFILL ADJACENT)
CROSSWIND RUNWAY
PRIMARY RUNWAY
CONSTRUCTION ACCESS TO FUTURE RUNWAY
EQUIPMENT SHOP
LANDFILL SITE
ROCK QUARRY
SEPTAGE DISPOSAL SITE

COLOR LEGEND

EXISTING INFRASTRUCTURE

A1 OVERALL SITE PLAN

1" = 600'

Division of Environmental Health and Engineering
4500 Diplomacy Drive
Anchorage, Alaska 99508
(907) 729-3600

0 1"

BAR IS ONE INCH ON ORIGINAL DRAWING, IF NOT ADJUST SCALES ACCORDINGLY

MERTARVIK, AK
COMMUNITY LAYOUT
CONCEPTUAL

MRK	DATE	DESCRIPTION	INIT

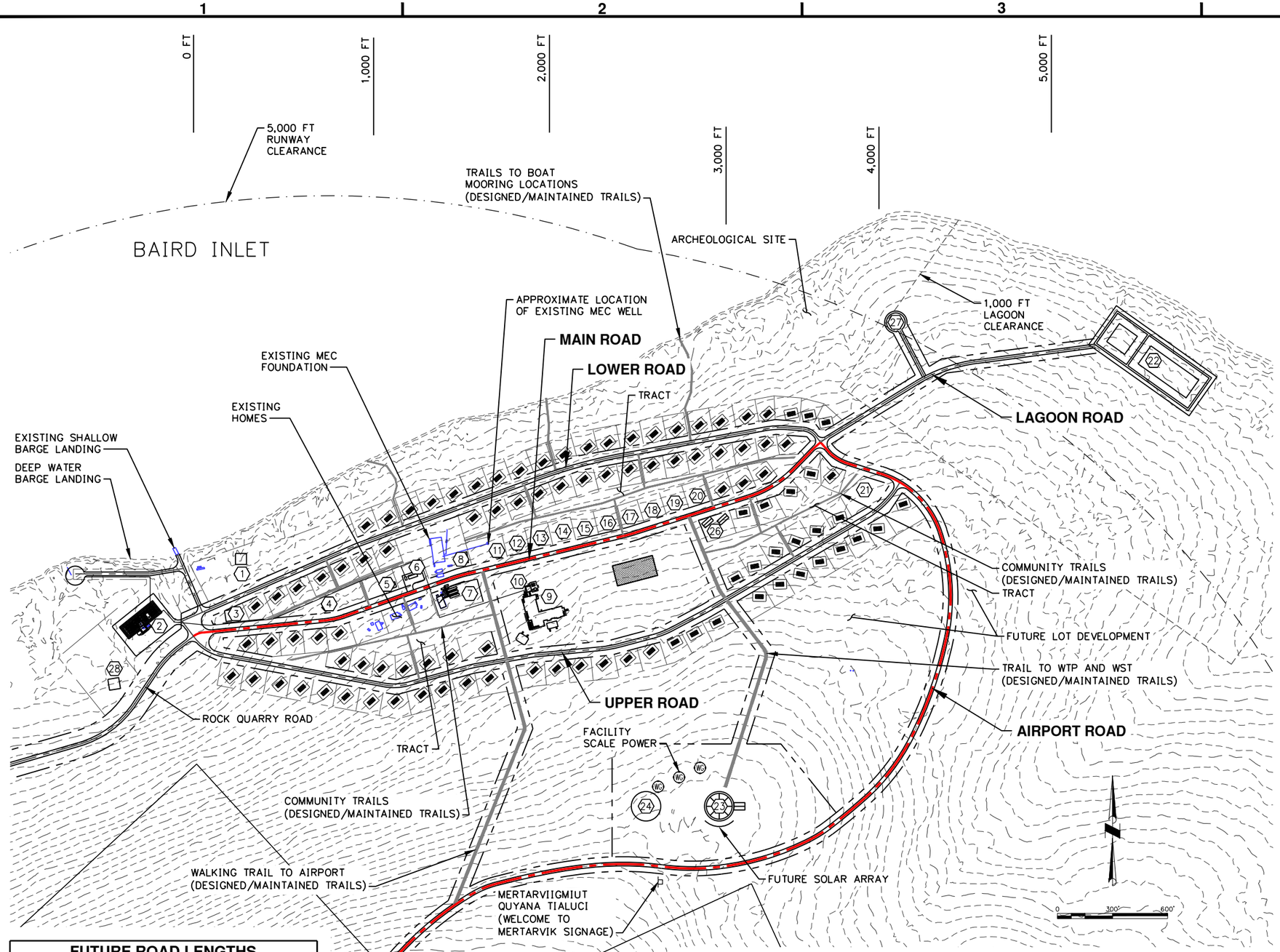
PLAN SET:	MTV-00-000
PROJ MGR:	GND
PROJ ENG:	JEH
DRUMS ENG:	----
DRAWN BY:	----

SHEET TITLE

COMMUNITY SITE PLAN

C-100

SHEET 1 OF 2



FUTURE INFRASTRUCTURE KEY

1	BARGE UNLOADING AREA AND BOAT STORAGE FISHERIES SUPPORT CENTER
2	BULK FUEL STORAGE
3	LIFT STATION
4	CORPORATION OFFICE
5	STORE AND FUEL STATION
6	POWER FACILITY
7	MAN CAMP AND WST
8	CVRF SHOP
9	SCHOOL
10	SCHOOL BULK FUEL STORAGE
11	TOM'S STORE
12	WASHETERIA
13	CHURCH
14	CLINIC
15	ELDER HOUSING
16	ELDER HOUSING
17	TRIBAL OFFICE
18	POST OFFICE
19	FOUR-PLEXES
20	FOUR-PLEXES
21	VPSO OFFICE, GARAGE, AND LIVING QUARTERS
22	LAGOON
23	WTP AND WST
24	WELL FIELD
25	RUNWAY AND APRON
26	TEACHER HOUSING
27	TELECOMMUNICATION BUILDING
28	COMMUNITY EQUIPMENT SHOP AND DRY STORAGE

PROPERTY INFORMATION

RESIDENTIAL LOT SIZE	3/8 ACRE
SCHOOL LOT SIZE	12 ACRES
NEW RESIDENTIAL LOTS	99
EXISTING RESIDENCES	3

NOTES:

1. THERE IS A 5' PUBLIC UTILITY AND ACCESS EASEMENT ON EACH SIDE OF ALL COMMON LOT LINES.
2. THERE IS A 10' PUBLIC UTILITY AND ACCESS EASEMENT ON ALL NON-COMMON LOT LINES.
3. THERE IS A 15' EASEMENT, 7.5' EACH SIDE OF THE CENTERLINE OF ALL TRAILS.
4. ALL TRACTS WILL BE RETAINED IN TRIBAL OWNERSHIP.

FUTURE ROAD LENGTHS

MAIN ROAD	3,625 LF
AIRPORT ROAD	5,300 LF
LOWER ROAD	3,685 LF
UPPER ROAD	4,150 LF
LAGOON ACCESS	1,625 LF
DESIGNED/MAINTAINED TRAILS	8,750 LF
WTP AND WST TRAIL	1,600 LF
LIGHTING SHALL BE PROVIDED FOR PRIMARY ROADS	

NEWTOK DISTANCE COMPARISONS

FROM	TO	DISTANCE IN NEWTOK	DISTANCE IN MERTARVIK
SCHOOL	STORE	1,700 FEET	500 FEET
SCHOOL	CLINIC	740 FEET	400 FEET
SCHOOL	COMMUNITY HALL	1,350 FEET	800 FEET
SCHOOL	AIRPORT	1,100 FEET	7,000 FEET
SCHOOL	POST OFFICE	870 FEET	930 FEET
DISTANCE ACROSS MAIN COMMUNITY		3,000 FEET	3,625 FEET
DISTANCES IN MERTARVIK ARE TAKEN BY NAVIGATING A COMBINATION OF ROAD AND TRAILS			

COLOR LEGEND

EXISTING INFRASTRUCTURE

PRIMARY COMMUNITY ROADS

A1 **COMMUNITY LAYOUT**
1" = 300'

Division of Environmental Health and Engineering
4500 Diplomacy Drive
Anchorage, Alaska 99508
(907) 729-3600

0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING, IF NOT ADJUST SCALES ACCORDINGLY

MERTARVIK, AK COMMUNITY LAYOUT CONCEPTUAL

						INIT
						DESCRIPTION
						DATE
						MRK

PLAN SET:	MTV-00-000
PROJ MGR:	GND
PROJ ENG:	JEH
DRUMS ENG:	----
DRAWN BY:	----

SHEET TITLE

HOUSING AND INFRASTRUCTURE LAYOUT PLAN

C-101

SHEET 2 OF 2

Mertarvik Relocation Project
Steering Committee Mtg #9
3b_Housing

Photo by the Fairbanks Newsminer

VILLAGE HOUSING ASSESSMENT FOR THE VILLAGE OF MERTARVIK

FOR DOWL ENGINEERS AND NEWTOK VILLAGE

June 14, 2017

BETTISWORTH NORTH

Contact
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p. 907.561.5780

LCG Lantech Inc
architecture • engineering • surveying

35% CONCEPTUAL NARRATIVE
DATE: JUNE 10, 2017

MERTARVIK EVACUATION CENTER (MEC)
BUILDING SHELL –– 35% CONCEPTUAL DESIGN NARRATIVE

TABLE OF CONTENTS

A. INTRODUCTION & GOALS

This conceptual design report has been prepared by LCG Lantech (LCG) for basic architectural and engineering design for the building shell, basic core areas, and any necessary appurtenances for the Mertarvik Evacuation Center (MEC) building. This work is being completed under contract with ANTHC. Initial goals for this project include:

- Provide a facility that will support the eventual relocation of the Village of Newtok, Alaska, with a population of approximately 320.
- Make use of the existing foundation and platform framing (approximately 7,000 square feet) constructed in 2011 by Cornerstone Construction.
- Incorporate an adaptive re-use of the existing 4'X8' SIP's panels previously procured and stored on site.
- Design wall and roof framing components of lightweight components, suitable for light truck transport and construction by hand with limited use of heavy equipment.
- Tie in to the existing well and septic system installed on site.
- Program for phased flexible multi-use space that can serve as a staging area, storage area, meeting space, emergency shelter, classroom space, or other uses.
- Provide a highly energy efficient building shell, with R-values similar to the scheme put forward by CCHRC (walls R-66, roof R-70, soffit R-70).
- Phase the development of this facility, making best use of services provided by the nearby construction camp facility.
- Provide basic (temporary) mechanical and electrical systems to allow usage of the space.

B. PROPOSED PROGRAM PHASING

The use of this building has been reviewed and discussed numerous times. Will the primary use be an evacuation center for the emergency housing of village residents, or will it have another use related to the village relocation? Any investment in time and funding should result in a building that can readily be put to practical use and ultimately become an asset for the Village of Mertarvik.

To get the MEC project moving, and keep initial construction costs low, we are proposing a phased construction process. This will provide greater flexibility in the future, allowing the interior build-out of the building to best meet the actual needs of the community. The ultimate use and build-out of this shell may evolve over the next 2 to 5 years.

1. Phase I – Pioneering Phase:
    a. Evacuation Shelter: Use of this structure as an evacuation shelter can occur once the building shell is completed. A separation wall would be constructed to provide a multi-use assembly space with a maximum occupancy of approximately 265 persons.
        i. An A-3 assembly space would be a more accurate International Building Code (IBC) occupancy classification. A fire sprinkler and fire

alarm system would not be required if the A-3 occupant load is less than 300 people.

ii. If utilized as a 24-hour emergency shelter, full-time supervision and a fire watch would be recommended. This approach should be reviewed and accepted by the State Fire Marshal.

b. Storage for Logistics and Support: A portion of the building will initially be dedicated to storage for food and supplies needed by evacuees during the transition period before permanent housing is developed.

c. Flexible Multi-Use Space: The initial design and construction will provide a flexible-use building shell, with basic heating, ventilation, and lighting provided.

d. Toilet Rooms and Showers: During this phase, toilets and showers would be available in the construction man-camp facility, and shared with evacuees.

e. Kitchen Facilities: During this phase, commercial kitchen facilities would be located in the construction man-camp facility, and shared with evacuees.

f. Heating and Ventilation Systems: Initial building heat would be provided by oil fired Monitor (Toyo) direct vented wall heaters. Occupied spaces would be ventilated with operable windows or a simplified mechanical ventilation system (controlled with CO detection).

2. Phase II – Programmed Mixed Use:

a. Educational Space: A temporary home for K-12 classrooms could be incorporated into this facility. This would need to be carefully designed to remain within a building without a fire sprinkler system.

i. Use of the facility for educational purposes could result in the need for a fire sprinkler system. Buildings with educational occupancies having 49 or fewer occupants are not required to be sprinklered, by State of Alaska amendment to the IBC.

ii. Layouts for a K-12 classroom space would need to be configured in such a way to limit the occupant load to 49, or a fire sprinkler would need to be installed.

b. Flexible-Use Multipurpose Space: A large gathering space is a benefit in a small village. This could be used for community celebrations, potlatch gatherings, village IRA meetings, religious gatherings, and more.

c. Yupik Cultural Center: In the future, we see a portion of this structure used as a Yupik Cultural, Education, Lifestyle, and Arts Center. This could work in conjunction with a village K-12 school.

d. Vocational Education: In the future, we see a strong potential for developing classroom spaces into a Village Vocational Education program.

e. Other Future Uses: This facility should ultimately meet the needs of the village community. Optional uses for this structure include a washeteria, health clinic, or village administrative offices.

C. SHARED-USE AND MATERIAL RECLAMATION

1. Potential Shared Use with On-Site Man-Camp: To keep initial costs down, we see shared-use of projected Mertarvik facilities a viable solution. The proposed construction man-camp will be built near the MEC and will include commercial kitchen facilities, dining hall, restrooms, and shower facilities. Under proper management and scheduling, these facilities should be made available for use by evacuees during the period they are displaced from their homes.
2. Reclaimed / Salvaged Newtok Building Materials: Newtok facilities, including the school building, will ultimately be evacuated. At that time, selected materials from those structures should be identified and salvaged for re-use. These materials could potentially be used in the future build-out of the MEC or other Mertarvik public facilities. High value items for reclamation would include:
    a. Windows and Doors
    b. Siding
    c. Door Hardware
    d. Fixtures and Equipment
    e. Commercial Kitchen Equipment

D. EXISTING FOUNDATION & PLATFORM CONDITION

LCG performed an on-site inspection of the existing foundation and floor deck framing on April 20, 2017. This is the MEC construction built in 2011 that we intend to re-use. Following is a summary of the findings from Danny Graham PE, structural engineer.

1. The driven heavy “H” Pile foundation system appears to be in a very serviceable condition and holding up against the weather with no excessive settling or frost heaving. The driven depths of several piles were verified. The required driving depths (per the original design) were painted on the piles during driving and are still visible. I noted three piles on the east exterior gridline were driven to a depth of at least 27 to 28 feet.
2. The floor framing system is comprised of steel beams with both manufactured wood ”I” and gang-nail floor joists. The steel beams and wood floor joists appear to be in reasonably good shape. Some of the joists are exhibiting lateral deflections along the bottom chords. Joists should be able to be repaired during construction and stabilized with a suitable diaphragm to remain in use.
3. The floor sheathing system has been damaged by water intrusion from a constant exposure to the weather. Several areas have started to delaminate and need to be repaired. A new layer of floor sheathing can be placed over the existing sheathing to provide a very serviceable working surface.
4. The Structural Insulated Panels (SIPs) purchased and stored at the building site are still present. Several of the panels packages were opened and those panels have been exposed to weather and have deteriorated. It is the intent of the owner to salvage as many of the panels as possible for the final build-out and I agree with this approach.

5. The existing steel decks and stairs are in reasonably good condition and can be incorporated into the final design. Some handrails are in place but might need to be modified to meet the final design requirements.

6. Conclusion: It is our professional opinion that the existing primary foundation and platform structural members are in satisfactory condition and should be serviceable for the life of the structure with little or no alteration.

E. PROPOSED SHELL DESIGN

1. Floorplan Layout: During the initial Pioneering Phase of the project, the floorplan for the MEC will initially be very simple, an open floor with one dividing wall to separate the A-3 multi-use assembly space from the remaining floor area. Based on an emergency shelter occupancy of 240 persons this room would be a maximum of 3,600 square feet in area. See the attached Conceptual Floorplan attached.

2. Floor Framing: The proposed scheme will take full advantage of the existing on-site foundation and floor framing system. Repairs to the existing protection layer of ¾" plywood sheathing will be required to correct any delamination and to provide a sound, level surface. The existing ¾" plywood sheathing will be overlain with a second layer of ¾" T&G floor sheathing.

3. Floor Soffit: The floor joist space would be soffited from below with existing 6-3/8" thick R-33 SIPS panels and the joist cavity insulated with 10" to 12" of blown in fiberglass insulation. This would result in a floor assembly with a total insulation value of R-70.

4. Wall System: Exterior walls would be framed with 2x6 wood studs and ½" structural sheathing. Existing SIPs panels would be attached to the exterior of the sheathing in two layers, with staggered joints. Walls would be clad with metal siding. This approach will leave stud cavities open for future placement of window headers, door headers, electrical wiring and additional batt insulation. The initial construction would provide an insulation value of approximately R-66. At final build-out an additional 5-1/2" of fiberglass batt insulation and an interior finish could be added, resulting in a wall insulation value of approximately R-85.

5. Roof Construction: The roof structure would be framed with lightweight wood trusses at 24" O.C., bearing on exterior walls and girder trusses bearing on timber columns aligning with the existing foundation framing. Trusses would be sheathed with ½" plywood. Roofing would be a standing seam metal roof over ice & water shield; an alternate roofing would be a single-ply EPDM membrane. A ceiling of ½" cedar plywood would be secured to the bottom chord of the trusses, over a 10-mil poly vapor retarder. The roof system would be insulated with 20" to 24" of blown-in fiberglass insulation, providing an insulation value of R-70. The roof system cavity would be ventilated with a continuous baffled eve and rake vent.

6. Mechanical Plumbing, Heating & Ventilation:

    a. Future Mechanical Room: Due to the height of the main floor platform, a future mechanical room would be framed in below the floor framing, with grade level access. See the attached Conceptual Design Floorplan.

    b. Prior design heat load was approximately 140MBh (Jack Hebert-CCHRC).

c. Initial building heat would be provided by oil-fired Monitor (Toyo) direct vented wall heaters.

d. Occupied spaces would be ventilated with operable windows and/or a simplified mechanical ventilation system. Fresh air would be drawn into the facility using wall mounted exhaust fans controlled by carbon dioxide (CO2) detectors.

7. Electrical Systems:

   a. The electrical service would be sized to meet future needs. Assume a 400amp service (verify). Initial electrical loads will be only lighting and convenience receptacles.

   b. Initially there would be electrical power receptacles located throughout the interior of the facility on the exterior wall. Outdoor GFCI outlets in weatherproof enclosures would be provided near each entry door.

   c. Interior and exterior lighting would be provided to provide a safe level of general illumination. LED type fixtures would be provided to reduce the electrical loads and safe energy.

   d. Lighting load will likely be 0.25 to 0.50 W/SF, or about 3kW max connected lighting load.

   e. Initial photovoltaic estimate is 10kW; at 200watts per panel it would require about 50 panels (1,050 SF) at a weight of approximately 4,000 pounds.

8. Existing Exterior Stairs and Ramp: The existing steel stair and ramp components would be re-used. The missing handrail for the existing ramp will be provided. The existing stair and ramp are each 4’-0” in width.

F. MECHANICAL DESIGN

Plumbing Systems – Phase 1

General Plumbing: The initial phase of the facility is not anticipated to have any plumbing fixtures, and the building will not be provided with plumbing systems such as cold water, hot water, waste and vent piping systems. A plumbing vent through roof (VTR) assembly will be installed at a central location and capped for future use.

Fuel Oil: A 2,000 gallon fuel oil storage tank will be provided at grade level. The primary storage tank will be skid mount, double wall construction. The primary storage tank will feed a 50 gallon day tank within the building. The day tank assembly will be provided with appropriate pumps to transfer fuel from the primary tank to the day tank. The day tank will gravity feed fuel fired terminal heating devices (toyo heaters).

Plumbing Systems – Phase 2

General Plumbing: Plumbing systems including cold water, hot water, waste and vent piping systems will be installed within the building to serve applicable fixtures. Cold water will be supplied from an existing well adjacent to the facility. Hot water will be produced by an oil fired water heater, or indirect fired water heater served by an oil fired boiler as determined in the future.

Fuel Oil: The existing fuel oil system will remain in place and revised as applicable to serve new fuel oil fired appliances.

HVAC Systems – Phase 1

Building Heat: The building will be heated by fuel oil fired terminal heat units (toyo heaters). Three (3) heaters will be required to serve the Open Area, and two (2) heaters will be required to serve the Storage Area. Heating units are not anticipated in small ancillary spaces such as the Corridor and Entry, and the spaces will rely on conduction from the heated spaces. These small ancillary spaces will get cool under winter design conditions.

Building Ventilation: Ventilation will be provided by operable exterior openings per IBC requirements. A mechanical ventilation system is not anticipated during the initial phase of construction.

HVAC Systems – Phase 2

Building Heat: Appropriate building heat will be determined as applicable to proposed building use. It is likely that the toyo heaters will eventually be removed and an oil fired boiler serving a perimeter hydronic heating system will be installed. The hydronic system would most likely serve perimeter baseboard with multiple control zones as applicable to the building layout.

Building Ventilation: Appropriate building ventilation will be determined as applicable to proposed building use. It is likely that heat recovery ventilators (HRVs) will be installed to provide mechanical ventilation to various spaces as applicable to building use and layout.

G. ELECTRICAL DESIGN

Power Systems – Phase 1

Electrical Service: An overhead electrical service will be installed at the exterior of the building. The service will conform to the local utility company's standards and will be sized as required for the building's anticipated future loads. It is anticipated that the electrical service will be rated 400 amps 120/240 volts single phase. A manual transfer switch will be installed on the load side of the electrical service for connection to the construction camp's generator to power the building during Phase 1. The electrical service will be connected to a grounding electrode system complying with the NEC and local electrical utility requirements.

Panels: A Main Distribution Panel will be provided to power the initial electrical loads installed under Phase I. The panel will be sized to allow for future panels and loads to be added in the future as the building use is developed. Provisions for future connection to Solar Photovoltaic Panels will be made for energy usage cost savings.

Power Outlets: Convenience outlets will be distributed on the inside of the exterior building walls, on the exterior of the building near doors, and in the utility spaces to allow for general use. Receptacles throughout the building will be 20 amp rated, commercial spec grade, NEMA 5-20R. GFCI protected duplex receptacles will be provided where receptacles are located on the exterior of the building, in wet or damp locations, and as required by codes. Receptacles located in wet or damp locations will also be a listed weather resistant type. All receptacles and electrical devices located outside and where susceptible to water spray will be provided with "extra duty" weatherproof covers. Branch circuitry will be installed from the Main Distribution Panel to the power receptacles as appropriate.

Power Systems – Phase 2

Electrical Service: Once the local electrical utility infrastructure has been established, connections will be provided between the electrical utility and the building electrical service to provide for permanent utility power to the building.

Panels: Additional panels will be added as necessary to provide power to the new loads added during this phase. The panels will be supplied by new circuit breakers and feeders originating in the Main Distribution Panel.

Power Outlets: Additional power outlets will be added in quantities and locations as appropriate for the use of each space.

Lighting Systems – Phase 1

Interior Lighting: New energy efficient LED lights will be added in all areas of the building to provide general illumination. The quantity and location of fixtures will be as required to provide adequate illumination levels as recommended by IES standards. To keep costs to a minimum, fixtures are anticipated to be economical, contractor grade, surface or pendant mount LED type with lenses as appropriate for the space.

Exit/Emergency Lighting: Emergency exit signs will be LED type with battery backup and emergency egress lighting will consist of self-contained emergency units with integral battery, charger, and adjustable lamps to automatically illuminate upon loss of normal power and be sized to provide emergency illumination for a minimum of 90 minutes. Exit signs will be located to provide clear direction to all exits and as required to comply with all applicable codes. Emergency lighting units will be located as required by code to provide the necessary illumination at all paths of egress including at the exterior of each exit.

Exterior Lighting: Exterior luminaires will utilize LED lamps and be of a type listed and suitable for wet locations and cold temperatures. Fixtures shall be located on the building exterior, around the building perimeter to illuminate and provide security at entrances, and walkways adjacent to the building. The majority of fixtures will be wall mount type and where located under the building or where canopies are provided, surface mount fixtures will be utilized. Fixtures shall be appropriate for the location to be installed.

Lighting Controls: Interior lighting will be controlled with manual on/off switches at entrances and exits to allow for individual control of lighting within each space. Exterior lights shall be controlled by photocell and switch controls.

Lighting Systems – Phase 2

Interior Lighting: As the building usage develops, existing fixtures will be replaced and/or relocated to provide desired illumination levels and appearance as appropriate for each space.

Exit/Emergency Lighting: As the building usage develops, existing fixtures will be replaced and/or relocated to provide desired illumination levels and appearance appropriate for each space.

Lighting Controls: Lighting controls will be replaced and/or relocated as appropriate for the layout and usage. For energy savings, occupancy sensor controls will be added where appropriate to automatically turn off lighting fixtures when the areas become unoccupied.

Telecommunication Systems – Phase 1

General: Conduit sleeves will be provided through the exterior of the building to allow future telecommunication connectivity with the serving telecomm utility provider. Telecommunication systems are not anticipated during the initial phase of construction.

Telecommunication Systems – Phase 2

General: Once the local telecommunication utility infrastructure has been established, connections will be provided between the telecommunication utility and the building for phone and data service in the facility. A complete telecommunication system infrastructure including rack, patch panels, pathways, cabling, jacks, etc will be provided as appropriate for the use of the space.

Fire Alarm Systems

General: Fire Alarm systems are not anticipated to be provided during the intial phase of construction unless required by code.

H. CODE SUMMARY

1. BACKGROUND:

   LCG contacted Tim Fisher at the Alaska State Fire Marshal's office (FM) to confirm the status of this project. They have quite a large file on this project, but since it has been inactive for a number of years, a new Application for Fire and Life Safety Plan Review will be required. Mr. Fisher confirmed the following:

   a. Most recent submittal to the FM office was approved for foundation & framing only, and did not get a final approval. Since then, codes have changed and the FM would need to review again.

   b. An A-3 occupancy with an occupant load of one person per 15 square feet is reasonable for multi-purpose shelter use (cots/beds, chairs & tables, living space) but not for auditorium seating with chairs only.

   c. A Fire Barrier wall will need to be maintained to reduce the Fire Area of the multi-purpose space to 300 occupants of less. An occupant load exceeding 300 will require a fire sprinkler system.

   d. According to a State of Alaska code amendment, a single educational "E" occupancy within this structure with 49 or fewer occupants would be exempt from the requirement for a fire sprinkler system.

2. APPLICABLE CODES:

   a. 2012 INTERNATIONAL BUILDING CODE (IBC)

   b. 2012 INTERNATIONAL FIRE CODE (IFC)

   c. 2012 INTERNATIONAL MECHANICAL CODE (IMC)

   d. 2012 UNIFORM PLUMBING CODE (UPC)

   e. 2014 NFPA 70 NATIONAL ELECTRICAL CODE (NEC)

   f. ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG)

3. OCCUPANCY CLASSIFICATIONS: Multi-Purpose Room: A-3 Community Hall

Office, Future Clinic: B Office
Storage: S-2 Low Hazard Storage
Classroom Space: E Educational

4. CONSTRUCTION TYPE: V-B non-rated

5. SPRINKLER SYSTEM: Not required when A-3 occupant load < 300 and E occupant load is < 50

6. FIRE ALARM SYSTEM: Not required when A-3 occupant load < 300

7. FIRE EXTINGUISHERS: Provide 3-A, 40-B:C dry chemical fire extinguishers

8. ALLOWABLE AREA CALCULATION: A-3 Occupancy (most restrictive)

BASE AREA:	6,000 SF
FRONTAGE INCREASE:	4,500 SF
SPRINKLER INCREASE:	N/A
TOTAL ALLOWABLE AREA:	10,500 SF
ACTUAL GROUND FLOOR AREA:	7,000 SF ***OK***

9. ALLOWABLE HEIGHT: 1 story

10. FIRE RATED CONSTRUCTION: A 2-hour occupancy separation is typically required between A or E occupancies and B occupancies. A 1-hour separation is typically required between A or E occupancies and S-2 occupancies. This design conforms to IBC 508.3 for non-separated occupancies.

11. Egress Width: The total building occupant load is currently governed by the width of the existing exterior stair and ramp. Each of these two exiting elements is approximately 48" in width, allowing safe egress for 240 occupants. Without additional exit stairs or ramps the total building occupant load is limited to 480 persons.

End of Report

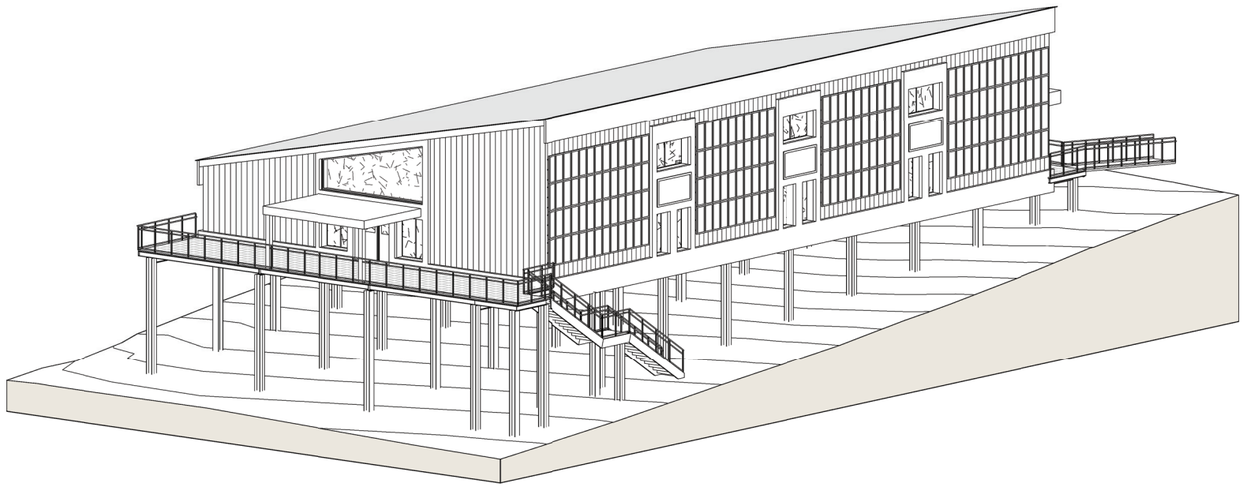
MERTARVIC EVACUATION CENTER (MEC)

NATIVE VILLAGE OF MERTARVIK

MERTARVIK, ALASKA

35% DESIGN

06/09/17



PROJECT LOCATION

DRAWING LIST

ARCHITECTURAL DRAWINGS

A1	ARCHITECTURAL FLOOR PLANS
A2	EXTERIOR ELEVATIONS
A3	BUILDING SECTIONS

STRUCTURAL DRAWINGS

S1	STRUCTURAL FRAMING PLANS

PROJECT TEAM

ARCHITECTURE, CIVIL AND STRUCTURAL ENGINEERING

LCG Lantech Inc
architecture . engineering . surveying
250 H Street
Anchorage, AK 99501
P (907) 243-8985
F (907) 243-5629
www.lcgak.com

MECHANICAL AND ELECTRICAL ENGINEERING

6/9/2017 11:24:19 AM

MERTARVIC EVACUATION CENTER (MEC)

939.31

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HMS Project No. 17065

Mertarvik Relocation Project
Steering Committee Mtg #9
4a_MEC

35% DESIGN SUBMITTAL
CONSTRUCTION COST ESTIMATE

MERTARVIK EVACUATION CENTER
PHASE I CORE AND SHELL PACKAGE
MERTARVIK, ALASKA

PREPARED FOR:

LCG Lantech Inc.
250 H Street
Anchorage, Alaska 99501

June 15, 2017

4103 Minnesota Drive • Anchorage, Alaska 99503 p: 907.561.1653 • f: 907.562.0420 • e: mail@hmsalaska.com

NOTES REGARDING THE PREPARATION OF THIS ESTIMATE

DRAWINGS AND DOCUMENTS

Level of Documents:	(4) core and shell drawings and systems narratives
Date:	June 9, 2017
Provided By:	LCG Lantech Inc. of Anchorage, Alaska

RATES

Pricing is based on current material, equipment and freight costs.

Labor Rates:	A.S. Title 36 working 60 hours per week
Premium Time:	16.70%

BIDDING ASSUMPTIONS

Contract:	Standard construction contract without restrictive bidding clauses
Bidding Situation:	Competitive bids assumed
Bid Date:	May 2018
Start of Construction:	June 2018
Contract Time:	(6) months, including submittals, materials procurement, etc.
Construction Time:	(5) months

EXCLUDED COSTS

1. A/E design fees
2. Owner's administrative and management costs
3. Any major work to existing platform, except minor upgrade
4. Future complete Phase II interior and exterior build out package

NOTES REGARDING THE PREPARATION OF THIS ESTIMATE (Continued)

GENERAL

When included in HMS Inc.'s scope of services, opinions or estimates of probable construction costs are prepared on the basis of HMS Inc.'s experience and qualifications and represent HMS Inc.'s judgment as a professional generally familiar with the industry. However, since HMS Inc. has no control over the cost of labor, materials, equipment or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, HMS Inc. cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from HMS Inc.'s opinions or estimates of probable construction cost.

This estimate assumes normal escalation based on the current economic climate. While the global economic downturn appears to be moderating, it remains unclear how its effects and subsequent economic recovery will affect construction costs. HMS Inc. will continue to monitor this, as well as other international, domestic and local events, and the resulting construction climate, and will adjust costs and contingencies as deemed appropriate.

GROSS FLOOR AREA

First Floor	6,584 SF
Mezzanine	1,998 SF
TOTAL:	**8,582 SF**

HMS Project No.: 17065

35% DESIGN COST SUMMARY

	Material	*Labor*	*Total*
01 - SITE WORK	$ 0	$ 0	$ 0
02 - SUBSTRUCTURE	0	0	Existing
03 - SUPERSTRUCTURE	102,562	135,193	237,755
04 - EXTERIOR CLOSURE	137,917	150,684	288,601
05 - ROOF SYSTEMS	62,383	49,630	112,013
06 - INTERIOR CONSTRUCTION	6,369	15,283	21,652
07 - CONVEYING SYSTEMS	0	0	0
08 - MECHANICAL	87,578	70,622	158,200
09 - ELECTRICAL	82,958	56,244	139,202
10 - EQUIPMENT	0	0	0
11 - SPECIAL CONSTRUCTION	0	0	0
SUBTOTAL:	*$ 479,767*	*$ 477,656*	*$ 957,423*
12 - GENERAL REQUIREMENTS			521,881
SUBTOTAL:			*$ 1,479,304*
13 - CONTINGENCIES			225,895
TOTAL ESTIMATED CONSTRUCTION COST (BID SPRING 2018):			***$ 1,705,199***
COST PER SQUARE FOOT:			*$ 198.69 /SF*
GROSS FLOOR AREA:			*8,582 SF*

Mertarvik Relocation Project
Steering Committee Mtg #9
6a_Energy

Newtok-Mertarvik Relocation Energy Master Plan

Prepared For:

ALASKA ENERGY AUTHORITY

813 West Northern Lights Boulevard
Anchorage, Alaska 99503

Prepared By:

Mark Swenson, PE
David Cooper, PE

HDL ENGINEERING Consultants
3335 Arctic Blvd., Suite 100
Anchorage, AK 99503
Phone: 907.564.2120
Fax: 907.564.2122

Steven Stassel, PE

Gray Stassel Engineering, Inc.
P.O Box 111405
Anchorage, AK 99516
Phone: 907.349.0100
Fax: 907.349.8001

May 2017

EXECUTIVE SUMMARY

This report has been prepared for the Alaska Energy Authority and its partners to provide a practical and efficient plan for phased development of power and bulk fuel infrastructure in the new community of Mertarvik and decommissioning of the existing power and bulk fuel systems in Newtok. The rapid rate of riverbank erosion in Newtok is threatening the community and efforts are underway to plan and facilitate relocation of the village to the nearby undeveloped area of Mertarvik. The Newtok Village Council and Alaska Native Tribal Health Consortium, in cooperation with other stakeholders, have prepared a Community Layout Plan depicting the proposed location of new homes and community infrastructure in Mertarvik. The relocation of the community is expected to be performed over six phases (Phase 1, 2A, 2B, 3A, 3B, and 4), with Phase 1 already complete and Phase 2A currently underway. Construction and implementation of bulk fuel and power plant facilities in Mertarvik to meet the demand of the phased community development is critical to the success of the village relocation. This report presents a comprehensive Energy Master Plan describing the action required under each phase to provide fuel storage, dispensing, power generation, and electrical distribution facilities to meet the anticipated demand. Special consideration has been given to incorporating fuel-efficient power generation equipment, recovered heat, and renewable energy into the final power plant concept. The plan also considers the actions required under each phase to decommission the existing dilapidated tank farm and power plant facilities in Newtok and incorporate reusable tanks into the new facilities in Mertarvik.

David Cooper, PE, of HDL Engineering Consultants LLC, Steven Stassel, PE, of Gray Stassel Engineering, Inc., and David Lockard, PE, of the Alaska Energy Authority traveled to Newtok with other stakeholders on March 21, 2017 to meet with residents and community leaders and inspect the existing power plant and tank farm infrastructure. The project team evaluated the condition of the existing power plant, power distribution system, fuel pipelines, and nine existing tank farms. The majority of the existing tanks and equipment were at or near the end of their useful life and only five tanks were identified for potential reuse in the new bulk fuel facilities in Mertarvik. The other facilities should be decommissioned and demolished as they reach end-of-life, are taken out of service due to reduced demand, or are threatened by riverbank erosion. The project team held a community meeting to discuss the recommendations of this Energy Master Plan and residents voiced general agreement with the phased approach described herein.

In general, this Energy Master Plan recommends the following bulk fuel and energy improvements in Mertarvik, which correspond to the phased relocation from Newtok and the new community development in Mertarvik:

- Phase 1: This phase took place between 2006 and 2016 and included construction of shallow and deep-water barge landings; pioneer roads and trails; seven homes; four storage buildings; the Mertarvik Evacuation Center foundation, well and septic system; and a rock quarry .

- Phase 2A: Install temporary tank farm and small mobile generator units to support construction and man-camp operations. This phase is anticipated to be complete in fall 2017.

- Phase 2B: Improve temporary tank farm and install a prime power modular power plant, with recovered heat, and limited electrical distribution system, to support a population of up to 35 year-round residents. This phase is anticipated to be complete in fall 2018.

- Phase 3A: Expand power distribution, and recovered heat systems as necessary to support a growing population of up to 100 year-round residents in Mertarvik. This phase is currently scheduled for completion by fall 2019, but construction is dependent on funding availability.

- Phase 3B: Construct permanent tank farm, install fuel transfer and dispensing equipment, expand power distribution and recovered heat systems to serve a population of 200 year-round residents (approximately half of Newtok's current population). This phase is currently scheduled for completion by fall 2020, but construction is dependent on funding availability.

- Phase 4: Add tanks to tank farm, increase power generation capacity, incorporate renewable energy, and expand distribution system to serve the entire population and infrastructure needs of the relocated community with additional capacity for anticipated growth. This phase is currently scheduled for completion by fall 2021, but construction is dependent on funding availability.

The phases are briefly described in Table 1 below. A more detailed graphical depiction of the Energy Master Plan is included in Appendix A.

Mertarvik Relocation Project
Steering Committee Mtg #9
7d_Finance & Funding

12/23/2016

PROJECTED DAMAGE and LOSS ANALYSIS
Newtok, Alaska

FACILITY / INFRASTRUCTURE	DAMAGE		REPAIR and MITIGATION			NOTES
	To Date	Future	Strategy	Scope	Cost[1]	
Public Utilities						
Water Source		Complete Loss	*Replace in (or relocate to) Mertarvik, the new village site, chosen by the community and obtained by a land exchange with the US Fish and Wildlife Service in 2003 via Public Law 108-129*	Replace	$ -	*Wells already installed in Mertarvik*
Water Treatment Plant/Laundry	*see note 2*	Complete Loss		Replace	$ 3,000,000	
Water Storage Tank		Complete Loss		Replace	$ 1,500,000	
Skid Mounted Water Tanks		Complete Loss		Relocate	$ 400,000	
Water Distribution System	no system in Newtok			Infrastructure Needed	$ -	*Piped system feasible in Mertarvik*
Wastewater Lagoon		Complete Loss		Replace	$ 6,000,000	
Self-haul Wastewater Lagoon	Complete Loss			Replace	$ -	*Self-haul waste currently dumped in river. Function of this facility will be performed by wastewater lagoon above*
Sewage Collection System	no system in Newtok			Infrastructure Needed	$ -	*Piped system feasible in Mertarvik*
Landfill	Complete Loss			Replace	$ 3,000,000	*Unpermitted dumpsite currently being utilized*
Power Plant		Complete Loss		Replace/Relocate	$ 4,000,000	*Generators may be relocated; building is not salvageable*
Power Distribution System		Complete Loss		Replace	$ 3,000,000	
Bulk Fuel Storage		Complete Loss		Replace	$ 4,000,000	
Public Buildings						
School Complex		Complete Loss		Replace/Relocate	$ 25,000,000	*Potential for physical relocation of these structures to be determined. Cost estimate is based on full replacement in Mertarvik.*
Teacher Housing		Complete Loss		Replace/Relocate	$ 3,000,000	
Clinic		Complete Loss		Replace/Relocate	$ 2,000,000	
National Guard Armory		Complete Loss		Replace/Relocate	$ 2,000,000	
Traditional Council Office		Complete Loss		Replace	$ 400,000	
Community Center		Complete Loss		Replace	$ 1,500,000	
Tribal Court		Complete Loss		Replace	$ 400,000	
Transportation						
Airport		Complete Loss		Replace	$ 25,000,000	
Boardwalks	*See note 3*	Complete Loss		Replace (Improved Project)	$ 12,000,000	*Gravel roads can be built in Mertarvik in lieu of boardwalks; pioneer road to quarry already built*
Dock		Complete Loss		Replace	$ -	*Dock can be incorporated with Barge Landing*
Barge Landing	Complete Loss			Replace	$ 1,000,000	*Temp. Barge Landing already constructed in Mertarvik; additional work needed*
Housing						
45 in Poor Condition	*See note 4*	Complete Loss		Replace	$ 15,200,000	*7 homes already constructed in Mertarvik*
29 Structurally Sound		Complete Loss		Replace/Relocate	$ 11,600,000	*Potential for physical relocation of these structures to be determined. Cost estimate is based on full replacement in Mertarvik.*
Commercial Buildings						
Communication Equip Bldg		Complete Loss		Not qualified for FEMA Assistance		
Tom's Store		Complete Loss				
				Total	**$ 124,000,000**	*see note 5*

NOTES

1. *Cost estimates are rough order of magnitude prepared by Denali Commission based on information from DOWL, CRW, LeMay Engineering, and ANTHC*
2. *Foundation damage due to permafrost degradation*
3. *Portions of boardwalk system and dock have been damaged and have been replaced or repaired*
4. *Damaged from permafrost degradation and/or flood; not suitable for relocation*
5. *Newtok Village Council has approximately $22 M of funding available for road and other infrastructure design and construction*

MERTARVIK RELOCATION PROJECT

Status Report for Steering Committee

Prepared by DOWL

June 19, 2017

Steering Committee last met on May 11, 2017. Since then we want to report on the following:

1) Community Site Plan:
   a) ANTHC has advanced the Community Layout to the 95% level. ANTHC will present final plan to the Newtok Village Council (NVC) this week for final approval by Resolution. (SEE ATTACHED)
   b) Site geotechnical work is scheduled for mid-June to best coordinate shipping and camp opportunities.
2) Housing:
   a) Status Update (verbal)
   b) Barracks Study – Phase I Code & Condition Survey completed by Bettisworth North (BNAP). Attached is the report for your review. Roy Rountree with BNAP will present his findings to the Committee. (SEE ATTACHED)
3) Mertarvik Evacuation Center (MEC):
   a) LCG Lantech has produced 35% drawings and narrative for the MEC shell and initial build out. Wally Swanson with LCG will present to the Committee on the work to date. (SEE ATTACHED)
   b) 35% cost estimate has been developed. Cost is estimated at $1.7M, which is greater than current available State of Alaska funding of $1.46M. DOWL is preparing a HUD IT grant application for $400K to close the funding gap. (SEE ATTACHED)
   c) A physical inventory of all SIPs should be made to verify all panels are in good condition for use in construction. We recently learned panels may have been compromised by weather over the past 8+ years.
4) Roads and Quarry Development:
   a) Mark Sherman, Goldstream Engineering (GEI) will provide a brief verbal report on activities to date and on his site visit this past week.
   b) Barge with majority of equipment arrived in Mertarvik on May 29th. The ‘shallow’ barge landing was not useable to due silting of the ramp area; the ‘deep’ landing was used to move materials off the barge.
   c) Work camp construction will complete this week with running water, functioning septic system, sleeping quarters available, dining and mess hall complete, and washeteria ready for workers.
   d) Quarry equipment should start moving to the quarry this week.
   e) A hiring packet was developed by NVC, GEI, QPA & DOWL to aid in the hiring of local residents for the project. Folks have been hired and are working on camp construction, barge unloading, set up of fuel tank farm and other activities.

5) Financial & Funding:
   a) DOWL & NVC have been meeting with FEMA/AkDM&VA to finalize the 'buy out' application. The meetings have been very productive with many issues being resolved. The final revised application is due to FEMA on July 14th.
   b) DOWL is assisting NVC with applying for two funding opportunities:
      i) HUD IT Grant – Proposed project is to fund mechanical / electrical / plumbing for the MEC building. This project provides a solution to the imminent threat of the loss of the school.
      ii) ICDBG Grant – Proposed project is to fund construction of two additional houses.
   c) NVC obtained a limited NTP for Pre-Construction Activities from the BIA to pay for labor to unload the barge, move equipment to the quarry and other pre-con activities. NVC is working toward final NTP for construction activities from BIA.
   d) AHFC issued a NOFA for its Greater Opportunity for Affordable Living (GOAL) program. This is a grant, loan, tax credits program. DOWL is working to see if NVC can get qualified for this program.

6) Gaps
   a) Housing funds to leverage BIA HIP program and FEMA buy-out program funds.
   b) Funds for prime power plant and distribution system for pioneer phase of project. Power plant will be located next to the MEC and it is envisioned the plant will provide heating for the MEC. The community desire is for the electrical system to be functional by fall of 2018.
   c) Funds for MEC mechanical-electrical-plumbing (MEP) needed. NVC has state grant 12-DC-550 that should cover costs to erect the shell and some interior walls. We believe the grant is not sufficient to cover MEP costs needed to make the MEC functional for its intended use.
   d) Utility design: water storage, water source (new community well), sewage lagoon. Also need design and construction dollars for honey bucket / septage disposal pit and a trash disposal pit for pioneer homes in 2018.

Mertarvik RelocationProject
Steering Committee Mtg #9
8B_Schedule

April 2017

Mertarvik Relocation Project
High Level Schedule

Project / Task	2017 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2018 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Barging																																				
Quarry Development																																				
Roads																																				
Quarry to Town																																				
In Town																																				
Housing																																				
HUD IT								Shell (2)											Complete (2)												(?)					
Title VI								Shell (2)											Complete (2)																	
BIA (Training House)																			(1)																	
Pads							6												15												20					
FEMA + Partners																				(5)												(5)				
MEC																																				
Shell Design																																				
Shell Bid & Construct											Bid								Construct																	
Interior Design																																				
Interior Bid & Construct																														(?)						
Power - Phase 1																																				
Design																																				
Construct																																				
Sanitation Facilities																																				
Landfill / HB Disposal																																				
School																					Home School or				in MEC										
Move																				Move		9 Homes			available, Population 45 - 54 ???????										

Newtok Village Council
P.O. Box 5596
Newtok, AK 99559

Mertarvik Community

Phone (907)237-2202

Newtok Planning Group Meeting

Thursday, April 13, 2017, 1:30 – 3:30 pm.

Meeting Notes

In Attendance:

- ***Newtok Village Council (NVC):*** Frieda Carl, George Carl, Phillip Carl, Katherine Charles, Paul Charles, Bernice John, Teddy Tom
- ***Newtok Native Corporation (NNC):*** Jimmy Charles, Lisa Charles, Marla Fairbanks, Simeon Fairbanks,
- ***Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs (AKDCCED/DCRA):*** Sally Russell Cox
- ***Alaska Department of Environmental Conservation, Village Safe Water Program (AKDEC/VSW):*** Sean Lee
- ***Alaska Department of Military and Veterans Affairs, Division of Homeland Security and Emergency Management (AKDMVA/DHSEM):*** Brent Nichols
- ***Alaska Department of Transportation and Public Facilities (AKDOT/PF):*** Morgan Merritt
- ***Alaska Energy Authority (AEA):*** David Lockard
- ***Alaska Native Tribal Health Consortium (ANTHC):*** Gavin Dixon, Joe Hess
- ***Association of Regional Housing Authorities Regional Housing Authority (AVCP/RHA):*** Allen Joseph
- ***Bureau of Indian Affairs (BIA):*** Dewayne Cooper, Stu Hartford, Jolene John, Lynn A. Polacca, Julie Stoneking-Radford
- ***Cold Climate Housing Research Center (CCHRC):*** Jack Hébert
- ***Denali Commission:*** Chris Allard, Don Antrobus
- ***DOWL:*** Adison Smith, Randy Romenesko
- ***Environmental Protection Agency (EPA):*** Tami Fordham, Molly Vaughan
- ***Federal Aviation Administration (FAA):*** Keith Gordon
- ***Federal Emergency Management Agency (FEMA):*** Science Kilner, Jeff Markham, Kristen Meyers
- ***Harvard Law School:*** Shaun Goho
- ***Lower Kuskokwim School District (LKSD):*** Dennis Cobos, Carlton Kuhns, Dan Walker
- ***National Oceanic and Atmospheric Administration (NOAA):*** Amy Holman
- ***Quik Pro Accounting & Consulting:*** David Rogers
- ***Rural Community Assistance Corporation (RCAC):*** Jacqueline Shirley, Heather Cannon (Environmental Finance Center Network)
- ***Senator Murkowski's Office:*** Deborah Vo
- ***U.S. Department of Agriculture (USDA):*** Greg Stuckey
- ***U.S. Department of Housing and Urban Development (HUD):*** Deb Alston, Colleen Bickford, Ann Gravier, Bill Zachares

Lynn A. Polacca, BIA Acting Regional Director welcomed the Newtok Planning Group (NPG) to the BIA offices. Dewayne Cooper provided the safety minute, and Jolene John interpreted from

English to Yup'ik. Sally Russell Cox led introductions, review of the agenda and facilitated the meeting.

MESSAGE FROM THE COMMUNITY

A number of members of the NVC and NNC attended the meeting by teleconference. They asked the group to proceed with the agenda.

GROUPS FORMED SINCE MAY 2016

Randy Romenesko, DOWL, provided an overview of the two groups formed since the NPG last met. Randy explained that DOWL's task has been to advance the relocation project toward construction in 2017 and 2018.

The **Mertarvik Relocation Steering Committee** was formed at the request of the NVC. It consists of two members from the NVC, two members from NNC, a representative from the Denali Commission (Don Antrobus), two state representatives (Sally Russell Cox, DCRA and Barbara Blake, Governor's office), Newtok's local coordinator, Romy Cadiente, as well as key staff from DOWL. BIA has also participated in most of the meetings. The committee's role is to advise the project manager, the NVC and the local coordinator on relocation and associated issues, and if necessary, to assist with mediating issues and concerns raised by the project manager, NVC or NNC. The steering committee has been meeting monthly. The project manager has provided the committee with status updates on activities accomplished, currently worked on and challenges being faced that we are trying to resolve. (Steering Committee updates are provided online at https://www.commerce.alaska.gov/web/dcra/PlanningLandManagement/NewtokPlanningGroup/MertarvikRelocationProjectSteeringCommittee.aspx)

An ad hoc **Design and Construction Team** was formed to advise DOWL and the steering committee. The team is composed of agencies or contractors that have direct or indirect contracts with NVC for services in 2017 -2018, including AEA, ANTHC, AVCP Rural Housing Authority, CCHRC, Denali Commission, DOWL, Goldstream Engineering (GEI), Quik Pro Accounting & Consulting (QPA) and DOWL. The team meets monthly to discuss construction plans, schedules and logistics.

2017-2018 CONSTRUCTION PROJECTS

Randy Romenesko also provided an overview of anticipated construction activities for the 2017-2018 seasons. The expectation is to build four new homes (for a total of nine homes supporting approximately 45 residents), the shell of the Mertarvik Evacuation Center (MEC),

and primary power, water and sewer for the 45 residents to be living at Mertarvik full-time in 2018.

Roads and Quarry Development

GEI (the NVC's contractor for road development) is purchasing equipment and construction materials to develop the quarry and construct the road from the quarry to the town site. The barge will load equipment and material in Anchorage on May 11 for sailing to Mertarvik, hopefully arriving June 1st. GEI will set up a man-camp to support construction workers. The man-camp will later we turned over to Newtok for long-term use. GEI's road and quarry superintendent and AVCP RHA's project manager went to Newtok and Mertarvik in February to take an inventory of materials, tanks, and fuel at the Mertarvik. They also met with the community to begin recruiting local workers for the road and housing projects. The plan is to have people hired by mid-May so they'll be ready to begin work when the contractor arrives at Mertarvik.

The 2017 focus is to develop the quarry, complete road construction from the quarry to the townsite, and to develop a small spur road within the townsite to provide access for the development of housing pads for the new homes that will be built.

2017 Homes

AVCP RHA will be managing Newtok's HUD Imminent Threat grant funds. AVCP RHA has ordered shell material for four homes using Newtok's Title VI and HUD IT funds and will begin construction on the homes August 1, 2017, pending completion of housing pads by GEI. GEI has committed to having housing pads ready by July 31, 2017. Completion of the homes is slated for August 2018.

Four Newtok residents have qualified for the BIA HIP Category D loan buy-down program. There is potentially $300,000 available for use in an integrated funding plan. The likely lead agency to manage these funds will be AVCP RHA.

BIA has committed funds for a demonstration and training house to be built in 2018 at Mertarvik. CCHRC will train Newtok residents on the construction of a cost-effective, energy-efficient home.

Mertarvik Evacuation Center

NVC has entered into a Memorandum of Agreement with ANTHC to use ANTHC's term A/E contractor, LCG Lantech to design the MEC shell and limited Mechanical, Electrical, and Plumbing design using State of Alaska designated legislative grant funding. LCG is

preparing bid documents for the construction of the MEC shell only, with an additive alternate for mechanical-electrical-plumbing work. The project is expected to be put out to bid in the next 2-3 months. Construction is expected to take place in 2018.

CCHRC is working under a consultant contract with LGC to provide input on the design development CCHRC completed in 2016 on the MEC shell (80% +/-) and historical design with NVC and the community on the interior functional space.

USACE funding for the MEC is not currently available. NVC is working with the USACE to negotiate a final, updated project agreement in fall 2017.

The LKSD has expressed an interest in using the MEC for a school program in the fall of 2018. LCG Lantech is working with LKSD on their program needs to incorporate them into the MEC design.

Financial

NVC hired QPA to assist with accounting and grants management. QPA is working with NVC staff to develop in-house capacity for properly accounting of receipt of funds and payment of expenses. QPA and DOWL are updating the NVC financial procedures and training the NVC staff on implementing the procedures.

(Please also see Attachment A, Randy Romenesko's written notes)

OTHER HOUSING

Mertarvik Housing Master Plan

Jack Hébert, CCHRC, discussed the Mertarvik Housing Master Plan which was completed in February 2017. The plan was a collaborative effort funded by the Association of Alaska Housing Authorities (AAHA), managed by AVCP RHA, with significant involvement by people of Newtok, who had a key role in the development of the plan. Jack encouraged the NPG to review the plan, if only the executive summary to understand the challenges to financing and building housing at Mertarvik, and how important it will be for the agencies to work together and with the community. CCHRC spent time with 55 households in Newtok; all but 11 households contributed to the body of work. We are looking at the development of at least 100 homes at Mertarvik. There are questions about what type of homes these will be, how they're built, what they're built from, and who builds them. There's a deep commitment in the plan to building homes that are sustainable: homes that people can afford to live in and don't have to struggle to stay warm; which reflect the local culture including adequate space for the storage of subsistence foods; and which are functional within the human needs of the people. The plan provides a great opportunity to do things right at Mertarvik.

The Mertarvik Housing Master Plan is available online at:
https://www.commerce.alaska.gov/web/Portals/4/pub/mertarvik_housing_master_plan.pdf

Hazard Mitigation Grant Program Buy-out Application

Brent Nichols, DHS&EM provided an update on the Hazard Mitigation Grant Program (HMGP) buyout application to FEMA from the NVC. Brent explained that DHS&EM has progressed from the transition of working with the NVC on an application to relocate 12 homes to amending the application to an acquisition/demolition project for 13 homes. DHS&EM received the modified application on February 1, 2017, and both DHS&EM and FEMA have reviewed the application. Both agencies found there are points of clarification still needed on the application before it can be submitted for funding. Brent reported that the project can no longer be funded under the disaster it was originally funded under, and that it will need to be moved to another disaster. This is not an issue; it simply means the application is being moved to another funding cycle. In the next week, DHS&EM will send the application back to the NVC to request additional information to ensure the application meets programmatic requirements. When the NVC re-submits the application, it will still need to go through FEMA's review, including environmental review. Adison Smith, DOWL, stated that a critical piece to the application is the identification of a financial institution to help leverage and package funding related to new housing. The NVC is anxious to hear back from DHS&EM in order to understand how they can proceed to work with housing funders for the project. Paul Charles, president of NVC, expressed concern and frustration over the further delay of the application due to the request for additional information. Bernice John, treasurer of NVC, stated that she is hopeful that the new State Hazard Mitigation Officer (Brent Nichols) and the new project manager (DOWL) will work together. Brent affirmed that he and the leadership at DHS&EM were very supportive of the project and wanted to see it be a success. Kristen Meyer, FEMA Region 10 Hazard Mitigation Branch Chief, stated that this is FEMA's program development funding from FEMA to the State of Alaska, and if this project is something that the State supports, it's something that FEMA supports as well, so they will continue working with the State and the NVC to make this application a success. FEMA has identified a couple of scenarios for the buyout project on which they would like to get clarification because this will affect the type of environmental review FEMA needs to do. FEMA has asked to part of the EIS being prepared, so that whichever of the scenarios end up working the best for Newtok, FEMA will be prepared to address it through the environmental review.

COMMUNITY SITE PLAN

Gavin Dixon, ANTHC, provided an overview of the recent effort to take the Mertarvik community layout plan up to a 65% design. The project began in November 2016 when ANTHC began the review of previous versions of the Mertarvik community layout that had been

developed between 2006 - 2015. The next step was to engage the community; the project team has been spending about 2 days each month in Newtok to better understand the community's values and priorities. A design charrette was conducted with a variety of technical stakeholders – mostly individuals currently involved in the ad hoc Design and Construction Team. Three alternatives were developed for the community to review. The community selected layout alternative two with a signed resolution. As ANTHC advances the development of the Community Layout Plan from its current 65% status to 100% completion, there will be no changes to major infrastructure, and minor changes to alignment, lots and siting of infrastructure on lots as the design is finalized. The 65% design will inform the ongoing EIS as well as current construction efforts. It will also be used to inform geotechnical investigations and survey and platting work that ANTHC will be working on this summer as well as future design efforts. Next steps include additional input from the community and stakeholders, receiving approval by resolution from the NVC on the final layout, and preparing a layout report which will provide some back-up with technical justifications, documentation of the process and phasing recommendations for design and construction going forward. ANTHC plans to have final layout approval from NVC by the end of June, and they will begin conducting survey work to plat the layout to help expedite future design and construction efforts.
(Please also see Attachment B, Gavin Dixon's presentation)

DENALI COMMISSION ENVIRONMENTAL IMPACT STATEMENT

Don Antrobus, Denali Commission, reported on efforts to complete an environmental impact statement (EIS) for the Mertarvik Infrastructure Development Project. The townsite plan that Gavin described delineates all the infrastructure that will be included in the environmental analysis. The Denali Commission will be leading this effort. The class of action, an EIS, is driven by the fact that Denali Commission regulations specifically define community relocation as an EIS, and the Denali Commission would like to address the cumulative impacts that infrastructure development will have at Mertarvik. The Denali Commission is partnering with the U.S. Army Corps of Engineers (USACE) who will be acting as a contractor for the Denali Commission to complete the writing of the environmental document. The USACE was selected for this because they have been involved in the relocation effort in the past and they've completed some of the environmental studies at Mertarvik. The EIS is being pursued on an extremely aggressive schedule with the hope that all work will be completed by October of 2017. The FAA and the Fish and Wildlife Service have been invited to participate as full cooperating agencies. Invitation letters have been sent out to all other federal and state agencies to participate. FEMA has asked to participate as a cooperating agency. To date, an agency kick-off meeting and community/agency scoping meetings have been conducted.

(see also https://www.commerce.alaska.gov/web/dcra/PlanningLandManagement/NewtokPlanningGroup/NEPADocumentation.aspx)

Other Infrastructure Projects

Don also reported on two additional infrastructure projects being funding by the Denali Commission. There is funding in place to design a landfill at Mertarvik as well as Preliminary Engineering Reports defining and recommending alternatives for Water Treatment, Water Distribution, and Sewer Collection. Denali Commission will also be funding some additional geotechnical work that ANTHC will be conducting this summer.

MERTARVIK ENERGY MASTER PLAN

David Lockard, AEA, reported on the energy master plan that AEA is developing for Mertarvik. The plan includes the design of a new bulk fuel facility and power house. The powerhouse will include an electrical grid and a heat-recovery system that will provide heat from the generators to the nearby buildings. There's a feasibility study associated with it for renewable energy as well as an inter-tie to the community of Toksook Bay (southeast Nelson Island). The bulk fuel facility will include a barge header system to receive fuel from a barge. The scope of work also includes planning at Newtok as well to help the power company expand its service area. They are assisting Newtok with a power cost equalization application. A draft energy master plan has been completed. The final energy master plan is due the end of May, conceptual design of the bulk fuel facility and power house is due at the end of June, 65% design is due the end of August, and final design is slated to be complete at the end of November 2017.

UNFUNDED GAP ITEMS

On behalf of Romy Cadiente, Randy Romenesko addressed a number of outstanding funding gaps for relocation activities over the next two years, including funding for a housing specialist, continued funding for the project management team and the local coordinator, pioneering phase power, mechanical-electrical-plumbing of the MEC, geophysical investigation of the entire village site; septage pit and mini-landfill design and construction; aerial LiDAR survey; assessment of materials in Newtok that can be relocated to Mertarvik; and man-camp winterization. ***(Please see Funding Memo, Attachment C).***

AGENCY UPDATES

Jacqueline Shirley, Rural Community Assistance Corporation (RCAC), said the RCAC could provide a range of services to Newtok including loans for self-help, community facilities and environmental infrastructure as well as technical and capacity development. RCA staff could

also provide housing specialist services. She encouraged the NVC to contact her to see how RCAC could get involved with the relocation effort.

Amy Holman from NOAA asked whether LiDAR that was flown a couple of years ago by USGS and the Western Alaska Landscape Conservation Cooperative was sufficient , because it did cover some of the Mertarvik townsite. The data acquired at was 2-foot contours which is insufficient for utility and roadwork design purposes. [***Note:*** *The USGS LiDAR does not cover the entirety of the townsite. The data has not been available for evaluation to date, but it is expected the LiDAR captured would sufficient for 1 foot contour detail. Orthoimagery has also been acquired of the townsite, however it was determined that the effort had insufficient ground support to establish a reliable surface. Additionally, the technology utilized has challenges with accuracy when it comes to vegetation. Since the Newtok Planning Group meeting was held, it was determined that the combination of the two data sets under development indicates that additional aerial survey is unlikely to produce significant additional value to the relocation efforts.]*

Dewayne Cooper and Don Antrobus spoke about barracks that joint Base Elmendorf-Richardson (JBER) is surplusing. The barracks could be separated and used as housing units. The NVC will make a site visit to JBER to inspect the barracks in a couple of weeks and determine if they are interested in them. Additional study is needed to determine the structural and financial feasibility of the barracks. Jack Hébert said that CCHRC has a some funding that could be used to assess the feasibility of the units.

NEXT MEETING

The NPG agreed to hold the next meeting during the last two weeks of August.

Meeting notes prepared by Sally Russell Cox.