SITE SURVEY CHECKLIST
[Form version of 20080715]

(Complete One Form for Each Specific Location Surveyed)

EXACT AND UNIQUE SITE NAME:

Cordova Eyak Site

DATE OF SITE SURVEY:

8/19/2011

LOCATION (NEAREST CITY AND STATE):

Cordova, Alaska

NAME, PHONE, E-MAIL, AFFILIATION(S) OF SURVEY PERSONNEL.
RCC PERSON(S):

Rocky Bilotta
National Climatic Data Center
151 Patton Avenue
Asheville, NC 28801-5001
828-271-4794
Rocky.Bilotta@noaa.gov

NWS / SC / Other PERSON(S):

Mark Hall
Atmospheric Turbulence and Diffusion Division
456 S. Illinois Avenue, P.O. Box 2456
Oak Ridge, TN 37831
Mark.E.Hall@noaa.gov

Dan Keirns
DAPM, NWS Anchorage
6930 Sand Lake Road
Anchorage, AK 99502
907-266-5105

SITE VISIT CONTACT INFORMATION (That is, who can represent the transactions that were part of the location survey?):
Name, Organization, Address, Voice Phone, Fax, Email

Angela Arnold
Land Manager
The Eyak Corporation
901 LeFevre Street
P.O. Box 340
Cordova, AK 99574

907-424-7161
AArnold@eyakresources.com

Site Visit Circumstances and Remarks (What motivated this visit?):

Fulfill CRN grid requirement in Alaska (Grid #24) – identified by NWS

HOST ORGANIZATION (Property Owner, Administrative Contact)
Contact name, Name / Title of Person to sign agreements,
Organization, Address, Voice Phone, Fax, Email

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Discuss the level of local routine support available for activities such as periodic visual inspections, site maintenance (mowing, cleaning dust from pyranometer lenses, debris removal from precipitation gauge, dumping and recording accumulated precipitation, snowfall and depth measurements) :

Good

LOCAL TECHNICAL SUPPORT PERSON CONTACT INFORMATION:
Contact, Organization, Address, Voice Phone, Fax, Email
Who will be the person who assists with insuring a minimal level of oversight to make sure the station is running properly, and with no obvious damage or problems?

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SPECIFIC LOCATION INFORMATION
Note: Determine beforehand how necessary it is that the host organization contact, NWS representative, SC, or other some representative accompany you on the visits.
Place a visible white marker at the exact location of the tower site, and use those coordinates to describe the rest of the site.
Record latitude / longitude in ddd mm ss.s, or dd mm.mmmm or dd.ddddd and

N, S, E, W.

Latitude:

N 60.47308°

Longitude:

W 145.35414°

Datum (preferably WGS 84), position uncertainty (+/- feet):

WGS 84

Coordinates from topo map or GPS ?

GPS

Elevation in feet (minus = below sea level):

185

City / County-Parish / State:

Cordova	Valdez-Cordova Borough	AK

Type of property (National Park, University Reserve, Private Property, Public Park, etc)

Eyak Corporation (Native)

Other weather / climate observing sites in vicinity (ASOS, COOP, NADP, ARM, RAWS, USGS, SNOTEL, OTHER) and what elements are measured ?

ASOS at airport (about 2 miles west of site)

Any other remarks about entire site that are not highlighted elsewhere:

*Site Requires Some Vegetation Clearing!!!

PHYSICAL DESCRIPTION OF SITE AND SURROUNDING AREA

A. Describe the Present Use of the Property and Surrounding Area. (eg, pasture land used for grazing, national park reserve, manicured lawn, etc)

Land is in its natural state on an old railroad bed or bench (elevated area)

B. Describe Terrain (360 degree panorama) and Large Scale Setting (miles to near distance of 300 meters or so). Ex: nearby hills or mountains, open or forested, valley orientations, flatness, proximity to cliffs, urban influences, distance to water, etc.

Site is flat elevated strip of land (likely an old railroad bed that runs North to South. Land slope towards the East and West. Mountains to the North & Ocean to the South

C. Document all Obstructions (360 degree panorama) within 300 meters of the tower location.

C.1. Distance, nature, size, estimated angular height and angular width of each obstruction.

See Obstruction Diagram

C.2. Elevation angle of solar blockage in degrees, and nature of obstruction (tree, hill, building, etc), with high and low points that are between 8-pt headings. Also give min and max elevation angle and direction to within 16 pt compass bearing.

Looking toward (also show high/low points in between these directions):
(with 30 meter clearing of vegetation)

S:

4° - Trees

SW:

6° - Trees at 30 meters

W:

3° - Tree

NW:

2° - Trees

N:

2° - Trees

NE:

5° - Trees at 30 meters

E:

3° - Trees

SE:

2° - Trees; Gravel road at 35 meters

S (repeated, in case there are features between S and SE):

4°

MAX Elevation and Direction(s):

SW – 6°

:

MIN Elevation and Direction(s):

N – 2°

C.3. Slope of ground and direction of slope, up and down from the site, measure with inclinometer. (example: -2 degrees downward toward the SE, +3 degrees upward toward the northwest)

Relatively flat 360°

C.4. Weather during visit, and time of visit. (example: sunny, raining, cloudy, drizzle, foggy, approx temp, very windy, patches of leftover snow, ground soggy from recent rains, hard packed soil, etc). Do not visit with snow on ground, or in thick fog, or when too dark.

Cloudy/Foggy (cannot see mountains towards N), wet, light rain, 45°F, 10-15mph winds

C.5. Footprint of site, in terms of distance from marker (marker represents what area?) (example: 70 m to West, 120 m to East, 20 M to North, 15 m to South).

30 x 100 feet

C.6. Ground surface state during visit and suitability for soil moisture sensor (hard packed soil, soft loam, sandy, rocky, bare rock)

Likely an old railroad bed, expect rocks

C.7. Height of vegetation near marker (within 10 m) during visit. Representativeness (6" shrubs, but during dry season). Tilled some years? Grazed?

Small trees up to 10' tall. After clearing – mainly trees, shrubs, grasses under 2ft

D. Evaluate Site Meteorological Measurements Representativity for Each Instrument. Use the site score sheet, mark appropriate points in **bold font**.

with 30 meter clearing of vegetation

Temperature and Humidity Classification / Classification Number	**1**		**2**		**3**		**4**		**5**	
Distance from artificial heating sources and reflective surfaces (m)	300+ m	**14 pts**	240-300	12 pts	100-240	8 pts	50-100	5 pts	0-50	0 pts
Distances to large bodies of water (m), when location near water is not representative of the area	300+ m	**12 pts**	240-300	9 pts	100-240	7 pts	50-100	5 pts	0-50	0 pts
Angular height of surrounding vegetation (referenced to eye height) within 100 m radius (80 % or more coverage is below the angle specified)	0-5 deg	**8 pts**	5-6 deg	6 pts	6-11 deg	3 pts	11+ deg	0 pts	*	0 pts
Slope of cleared & flat ground surface within 30 m radius	0-8 deg	6 pts	8-15 deg	**3 pts**	15-23 deg	2 pts	23+ deg	0 pts	*	0 pts

Remarks

Precipitation Classification / Classification Number	1		2		3		4		5	
Angular height of nearest obstacle with angular width > 10 degrees	0-14 deg	**30 pts**	14-27 deg	20 pts	27-45 deg	10 pts	45+ deg	0 pts	*	0 pts

Remarks

Wind Classification / Classification Number	1		2		3		4		5	
Angular height of nearest “significant” obstacle (angular width > 10 deg)	0-6= deg	**7 pts**	6-8 deg	4 pts	8-11 deg	2 pts	11+ deg	0 pts	*	0 pts
Angular width of nearest “thin” obstacle (angular width < 10 deg)	0-4 deg	4 pts	4-5 deg	**3 pts**	5-6 deg	1 pts	6+ deg	0 pts	*	0 pts
Surrounding terrain relief change (m) (Expressed as height difference within a radius around the site)	0-5 m / 300 m	4 pts	0-5 m / 100 m	**3 pts**	0-1 m / 10 m	2 pts	1+ m / 10 m	1 pts	*	0 pts

Remarks

Solar Radiation Classification / Classification Number	1		2		3		4		5	
Angular height of Solar Horizon (degrees) (Average angular height throughout the azimuthal sector from 60 to 300 degrees)	0-7 deg	**9 pts**	7-10 deg	6 pts	10-15 deg	3 pts	15+ deg	0 pts	*	0 pts
Height of “significant” obstacles (angular width >10 deg, < 20 deg) (Expressed as angular height to top of obstacle)	0-12 deg	**6 pts**	12-16 deg	4 pts	16-22 deg	2 pts	22+ deg	0 pts	*	0 pts

Remarks

Scores

Temperature and RH:	37	Class: 1
Precipitation:	30	Class: 1
Wind:	13	Class: 1
Solar Radiation:	15	Class: 1

Total Score: 95 **Class: 1**

Acceptable?: YES

	Temp / RH	Precip	Wind	Solar Rad	Total Pts
Class 1	35-40 pts	25-30 pts	13-15 pts	13-15 pts	85-100 pts
Class 2	30-34 pts	20-24 pts	10-12 pts	8-12 pts	65- 84 pts
Class 3	20-29 pts	10-19 pts	5- 9 pts	5- 7 pts	40- 64 pts
Class 4	10-19 pts	not accept	not accept	not accept	11- 39 pts
Class 5	not accept	not accept	not accept	not accept	0- 10 pts

- "not accept" means unacceptable. n= means inclusive of the value n.
Adopted from Ed May revision of 20030310.

Other remarks regarding special or unusual considerations.

E. Is AC needed or desired? Distance, Direction, Intermediate Terrain between tower and AC power source. Default is that AC is NOT needed. (trenching conditions, photos, soil type, rocks?)

Combination of alternative power – solar, wind, fuel cell

F. Discussion Topics with Host Organization:

1) Unusual local weather phenomena and influences

Lots and lots of RAIN!!!

2) Is the host willing to absorb cost of AC power (like 60 W light bulb)?

Not expected

3) Access to the site (Locked? Drive there? Need escort? Hard to locate?)

Easy to access, no gate, can drive up to site area

4) Local routine housekeeping support

Available – when available and in area

5) Long term stability of the site, past/future plans for the surrounding area, other sources of change

Stable, no plans for change

6) Fencing needed? What type? How strong? Nature of hazard? (cows, pigs, pigs, elk, moose, buffalo, bears, etc)

Possibly – people and animals in area

PRACTICAL SITE PREPARATION INFORMATION NEEDED

A. Permits needed? Who to contact?

Yes. Contact Angela Arnold

B. Visual or aesthetics issues?

none

C. Other relevant issues?

People and animals in area

D. Ability of concrete truck or other vehicle to get close to exact site to deliver equipment or parts or building materials)?

Drive equipment to site

E. Closest road is how far and which way?

Road to site is 35 meters east of site

F. Where to stay in the area?

Cordova, AK

G. Fly to which airport?

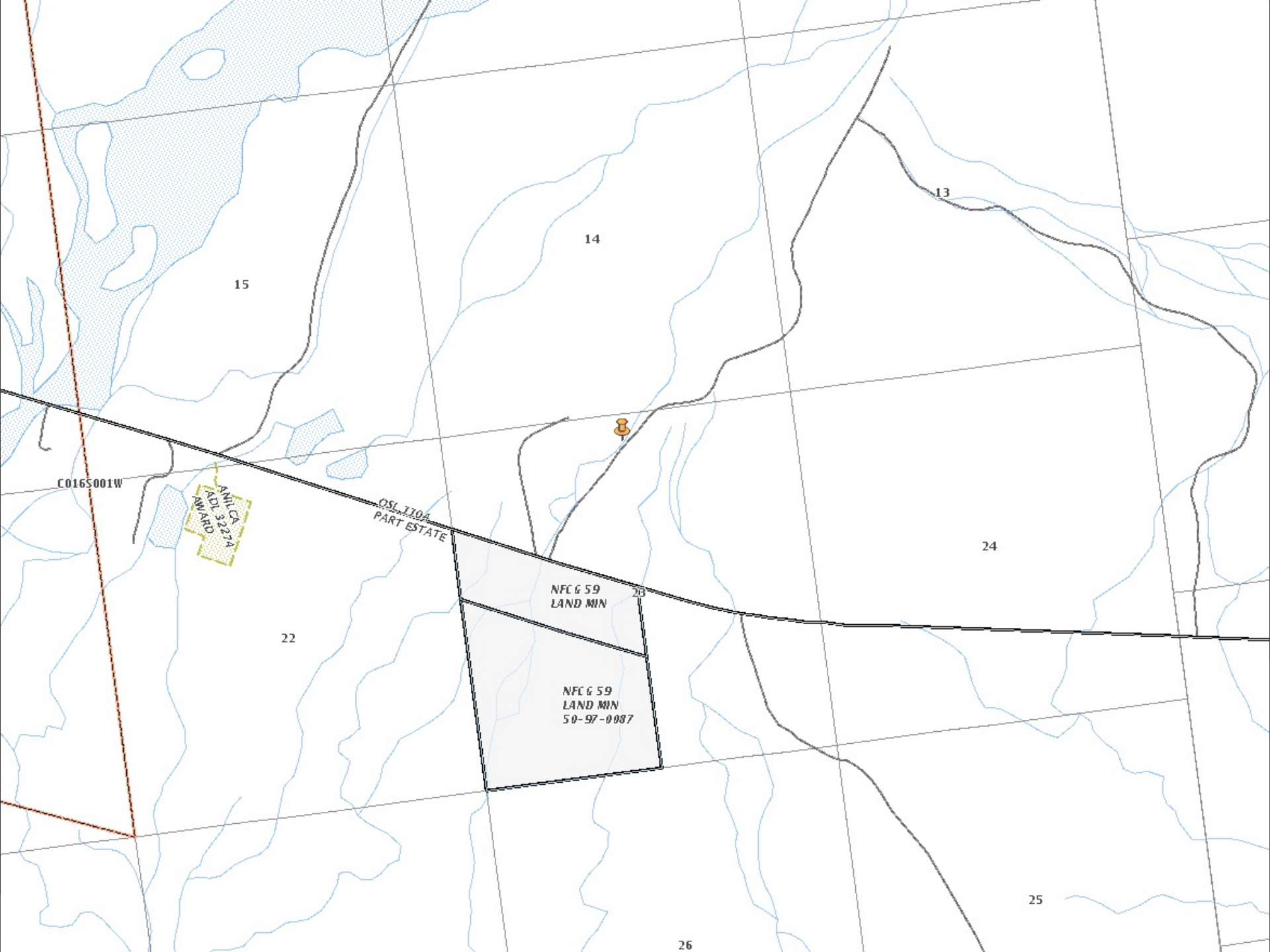
Cordova, AK

H. Other practical considerations of interest?

Eyak Corporation Site

Latitude - N 60.47308°
Longitude - W 145.35414°
Elevation - 185ft


Site
© 2011 Europa Technologies
Image © 2011 GeoEye
Image © 2011 TerraMetrics
© 2011 Google
©2010 Google
Imagery Date: 4/9/2010
60°28'49.07" N 145°21'30.52" W elev 57 ft
Eye alt 39200 ft


15
14
13
24
22
25
26
C016S001W
ANILCA
ADL 32274
AWARD
OSL 1104
PART ESTATE
NFC G 59
LAND MIN
23
NFC G 59
LAND MIN
50-97-0087


Road to Site


Center to North
*After 30 meter radius clearing
Trees at 2°


Center to Northeast
Trees – 30 meters at 5°


Center to East
Trees at 3°


Center to Southeast
Trees at 2°
Road – 35 meters


Center to South
Trees at 4°


Center to Southwest
Trees – 30 meters at 6°


Center to West
Trees at 3°


Center to Northwest
Trees at 2°


Ground Cover

SITE SCORE SHEET

- with a 30 meter radius clearing of vegetation

Temperature and Humidity Classification / Classification Number	1		2		3		4		5	
Distance from artificial heating sources and reflective surfaces (m)	300+ m	14 pts	240-300	12 pts	100-240	8 pts	50-100	5 pts	0-50	0 pts
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Slope of cleared & flat ground surface within 30 m radius	0-8 deg	6 pts	8-15 deg	3 pts	15-23 deg	2 pts	23+ deg	0 pts	*	0 pts

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Angular height of nearest obstacle with angular width > 10 degrees	0-14 deg	30 pts	14-27 deg	20 pts	27-45 deg	10 pts	45+ deg	0 pts	*	0 pts

Wind Classification / Classification Number	1		2		3		4		5	
Angular height of nearest "significant" obstacle (angular width > 10 deg)	0-6= deg	7 pts	6-8 deg	4 pts	8-11 deg	2 pts	11+ deg	0 pts	*	0 pts
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Solar Radiation Classification / Classification Number	1		2		3		4		5	
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Scores

Temperature and RH:	_37_	Class: _1_
Precipitation:	_30_	Class: _1_
Wind:	_13_	Class: _1_
Solar Radiation:	_15_	Class: _1_

Total Score: _95_ Class: _1_

Acceptable?: YES

SITE OBSTRUCTION DRAWING. Sketch obstructions to approximate scale in angular width, indicate elevation angle of top, and note type of obstruction (tree, tower, building, etc). Show linear features (roads, pavement, driveways, ditches, ponds, etc) and label. Show any other factor that could affect measurements of temperature, precipitation, wind, solar). Outer range is 100 m with 25 m increments, 0 is looking north, 180 is looking to south. Some obstructions of interest may lie beyond 100 m. If sketched, indicate distance. Convert hand sketch to .pdf if needed, or use image software. Use dark pencil or pen.

Exact Site Name: