

SHORELINE COMMITTEE AGENDA ITEM COVER SHEET

Meeting Date	Staff Contact	
4/09/2009	STEVEN SUNDIN, 778-8359	
Subject:		
<p>Installation of a temporary 160-foot tall meteorological tower for the purpose of collecting data for the potential of future wind-power generation. Tower includes 4 anchors and 24 guy-wires for support. Approximate duration of the tower is two-years.</p> <p>APPLICANT: Port of Bellingham. LOCATION: Generally east of the Georgia Pacific "Log Pond" in Area 15 of the CBD Neighborhood.</p>		
Attachments:		
1. EXHIBIT A Vicinity map		
2. EXHIBIT B Proposal details		
3. EXHIBIT C Compliance with City's SMP		
4. EXHIBIT D Public comments		
Meeting Type	Category	
<input type="checkbox"/> Public Hearing	<input type="checkbox"/> Legislative	
<input checked="" type="checkbox"/> Public Meeting	<input checked="" type="checkbox"/> Quasi-judicial	
<input type="checkbox"/> Work Session	<input type="checkbox"/> Information Only	
<input type="checkbox"/> Briefing		
Clearances	Initials	Date
Tim Stewart, Director	TMS	4-1-09
Alan Marriner, Legal	AM	3/31/09
Steven Sundin, Planning	SS	3-27-09
Previous Commission Meeting or Action:		
None.		
Recommended Action:		
Approve.		

1 **STAFF REPORT**

2
3 **Agenda Topic:** **Shoreline Permit #SHR2008-11;** Temporary 160-foot tall
4 meteorological data collection tower (met tower) for potential future
5 wind-power generation.
6

7 **Applicant:** Port of Bellingham
8

9 **For:** April 9, 2009 Shoreline Committee Public Meeting (Quasi-judicial)
10

11 **Staff Contact:** Steve Sundin, Planner
12

13 **I. SUMMARY OF PROPOSAL**
14

15 Installation of a temporary meteorological data collection tower. Purpose is to gather wind
16 data in order to determine if future wind-power generation is feasible in the proximity of the
17 central waterfront. The tower is 6-inches in diameter, 160-feet tall and includes 24 guy-wires
18 anchored in four general locations with ecology blocks. The guy-wires extend approximately
19 110-feet from the base of tower. It is anticipated that the tower will remain in place for two-
20 years from the time it is erected.
21

22 Data collection devices will be located near the base and near the top of the tower. Tower
23 includes a lighting rod and grounding mechanism, pressure/temperature/sun sensors and
24 three wind vanes which are all located at the top of the tower.
25

26 The tower, guy-wires and their anchors all are to be located at the southeast corner of the
27 historic Georgia Pacific log pond. There are no other buildings or existing uses within 400-
28 feet of the met tower.
29

30 There are no documented nests for bald eagles or rookeries for great blue herons within
31 three miles of the proposal site.
32

33 **II. SHORELINE COMMITTEE ROLE**
34

35 The Shoreline Committee will review this proposal and the staff recommendations as
36 specified in SECTION VII and forward their recommendations to the Planning and
37 Community Development Director.
38

39 **III. ATTACHMENTS**
40

- 41 EXHIBIT A Vicinity Map / Site Plans / Aerial Photograph
- 42 EXHIBIT B Public Comments
- 43 EXHIBIT C WDFW PHS list for marine birds
- 44 EXHIBIT D SMP Compliance
45

46 **IV. STAFF RECOMMENDATION**
47

48 Staff recommends approval of the project as proposed with the conditions specified in
49 SECTION VII.
50
51

1 **V. ISSUES**

2
3 Nearly all windustry and agency material on wind power reviewed by staff for this proposal
4 have been connected to wind-turbines and turbine farms. This proposal is not for a wind-
5 turbine.
6

7 The data gathering devices do not extend more than two feet out from the met tower (wind
8 vanes / anemometers / lighting rod). However, the supporting guy-wires could have an
9 impact to some avian species. The issues analyzed below deal almost entirely with the guy-
10 wires as the met tower itself is anticipated to have negligible impacts.
11

12 In addition, analysis of this proposal has given staff and the applicant an excellent
13 opportunity to become familiar with the available research and measures to avoid and
14 minimize potential impacts of these types of facilities.
15

16 **POTENTIAL IMPACTS TO AVIAN SPECIES:** In August 2008 the Washington State
17 Department of Fish and Wildlife (WDFW) published its latest version of the Priority Habitat
18 and Species List (PHS) for Washington State. The PHS is a catalog of habitats and species
19 considered to be priorities for conservation and management. (Applicable portions are
20 provided in EXHIBIT C.)
21

22 Priority species require protective measures for their survival due to their population status,
23 sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.
24 Examples of these are Chinook (King) Salmon, Killer Whale (Orca), Bald Eagle, Great Blue
25 Heron.
26

27 Priority habitats are habitat types or elements of habitats with unique or significant value to a
28 diverse assemblage of species. A priority habitat may consist of a unique vegetation type
29 (e.g., shrub-steppe) or dominant plant species (e.g., juniper savannah), a described
30 successional stage (e.g., old-growth forest), or a specific habitat feature (e.g., Puget Sound,
31 nearshore).
32

33 In February 2009, WDFW released a programmatic Determination of Non-Significance for its
34 Wind Power Guidelines. (The comment period ends on March 31, 2009) These DRAFT
35 guidelines are NOT regulatory but are designed in order for wind power projects to avoid,
36 minimize, and mitigate impacts to fish and wildlife habitats in Washington State. These
37 guidelines include the following considerations for siting these facilities:
38

- 39 1. Baseline and monitoring studies should be implemented
- 40 2. Minimize impacts to wildlife
- 41 3. Operational monitoring should be implemented
- 42 4. Consider research oriented studies
- 43 5. Explore opportunities for habitat mitigation
- 44

45 The project site is within a heavily impacted area. The most viable aquatic habitat exists
46 within the Georgia Pacific log pond as inter-tidal nearshore area. The met tower is not
47 anticipated to have any impacts to marine aquatic species that utilize this area. The met
48 tower and guy-wire supports are not located within the intertidal nearshore area.
49

50 There are documented occurrences of Bald Eagle nests (Sehome Hill and Clark's Point) and
51 Great Blue Heron rookeries (Post Point) within Bellingham. However, the Sehome Hill nest

1 is approximately 1 mile and the Clark's Point nest and the Post Point rookery is more than 3
2 miles from the subject site. It is not uncommon to see eagles perched on shorelines along
3 the South Bay Trail or herons feeding in shallow waters of the GP log pond or Cornwall
4 Avenue Beach. Nonetheless – the wind power guidelines and other publications reviewed
5 are most applicable when these facilities are within one-quarter to one-half mile from the
6 project site.

7
8 Furthermore, most of the publications reviewed by staff also place more stringent review and
9 documentation of habitat on sites that are largely undisturbed or are difficult to restore OR
10 focus location efforts within existing utility corridors.

11
12 If towers require guy-wires then multiple mitigation measures can be employed. The most
13 effective of these are bird diverters. Bird diverters can be rotating flashers, bright colored
14 coils, small strobe-light or streamers. If lights must be mounted on the tower for nighttime
15 visibility strobe lights are more effective than solid red or green lights. Birds tend to gravitate
16 toward solid red or green lights and frequently have been documented to inadvertently
17 perish colliding with the tower or turbine blades. Perch guards or "porcupine backs" can be
18 installed onto horizontal extensions or surfaces to prevent bird attraction.

19
20 Monitoring is required by state or federal wildlife agencies in areas where there will be
21 impacts to priority habitats or endangered / threatened species. The most common
22 monitoring product is a 'carcass retrieval report.' The report documents the specie, its sex,
23 approximate age, date of retrieval and the frequency of injurious or mortality occurrences.

24
25 Research oriented studies have more to do with indirect impacts such as displacement or
26 cumulative impacts. These studies provide vital information for future projects. Funding can
27 also be found through a variety of non-profit agencies (Environmental and advocacy groups,
28 industry and state and federal agencies). Research oriented studies reviewed as part of
29 this proposal; Lanai Met Towers Habitat Conservation Plan, September 19, 2008, The New
30 Mexico Department of Game and Fish Guidelines for Mitigating Bird Mortality from
31 Communication Towers, July 2001, the Windustry.Org website and the Wild Horse Wind
32 Power Project website.

33
34 While there are priority species that are documented to occur within Whatcom County / the
35 project site there is virtually no upland habitat associated with those species within
36 immediate proximity to the site. Only the GP log pond (marine nearshore / intertidal zone) is
37 within close proximity.

38
39 The opportunities for mitigation for this project were considered and conveyed to the
40 applicant and are reflected in the CONDITIONS in SECTION XXX of this report.

41
42 **VIEWS:** The tower is 6-inches in diameter. The supporting guy-wires are 12-gauge (about
43 one-half inch in diameter). No wind turbine blades are proposed. The proposed met tower
44 will be within the view from residences on the north flank of Sehome Hill but will not block or
45 obliterate or obstruct views whatsoever.

46
47 **ADJACENCY OF USES:** The ENCOGEN facility and the two warehouses at the Bellingham
48 Shipping Terminal are the only structures within proximity of the met tower. These structures
49 are more than 400-feet from the proposed tower.

1 **VI. ANALYSIS SUMMARY**

- 2
- 3 ✓ The proposal is consistent with the City's 1989 Shoreline Master Program.
- 4 ✓ The proposal as conditioned is not anticipated to have negative impacts to certain
- 5 avian species.
- 6 ✓ The proposal is not anticipated to impact marine species whatsoever.
- 7 ✓ The fact that the subject site is largely disturbed is a benefit because access roads
- 8 and anchor blocks do not require removal of any shoreline vegetation
- 9 ✓ The proposal is located in an area that is relatively free of adjacent land uses so the
- 10 risk of damage to structures and humans is nearly zero.
- 11 ✓ The proposal is also beneficial in terms providing valuable data for determining an
- 12 opportunity for a means to produce alternative energy for possible use on the site.
- 13

14 **VII. STAFF RECOMMENDATION**


15

16 **Staff recommends approval of the proposal with the following conditions:**

17

- 18 1. **Two bird diverters shall be installed on each of the guy wires. Any type of**
- 19 **diverter may be used and these shall be installed at the time the met tower is**
- 20 **erected.**
- 21 2. **A "Carcass" report shall be submitted to the Planning Department every 6**
- 22 **months for the duration of the met tower's operation. The Carcass report shall**
- 23 **include specie type and sex, approximate age and date of retrieval. This report**
- 24 **will be useful in determining potential impacts should wind turbines be located**
- 25 **in this area in the future.**
- 26 3. **Temporary meteorological tower shall be deconstructed within 2-years of**
- 27 **installation date.**
- 28

29 **Prepared by:**

30 

31 _____

32 **Steven Sundin, Planner**

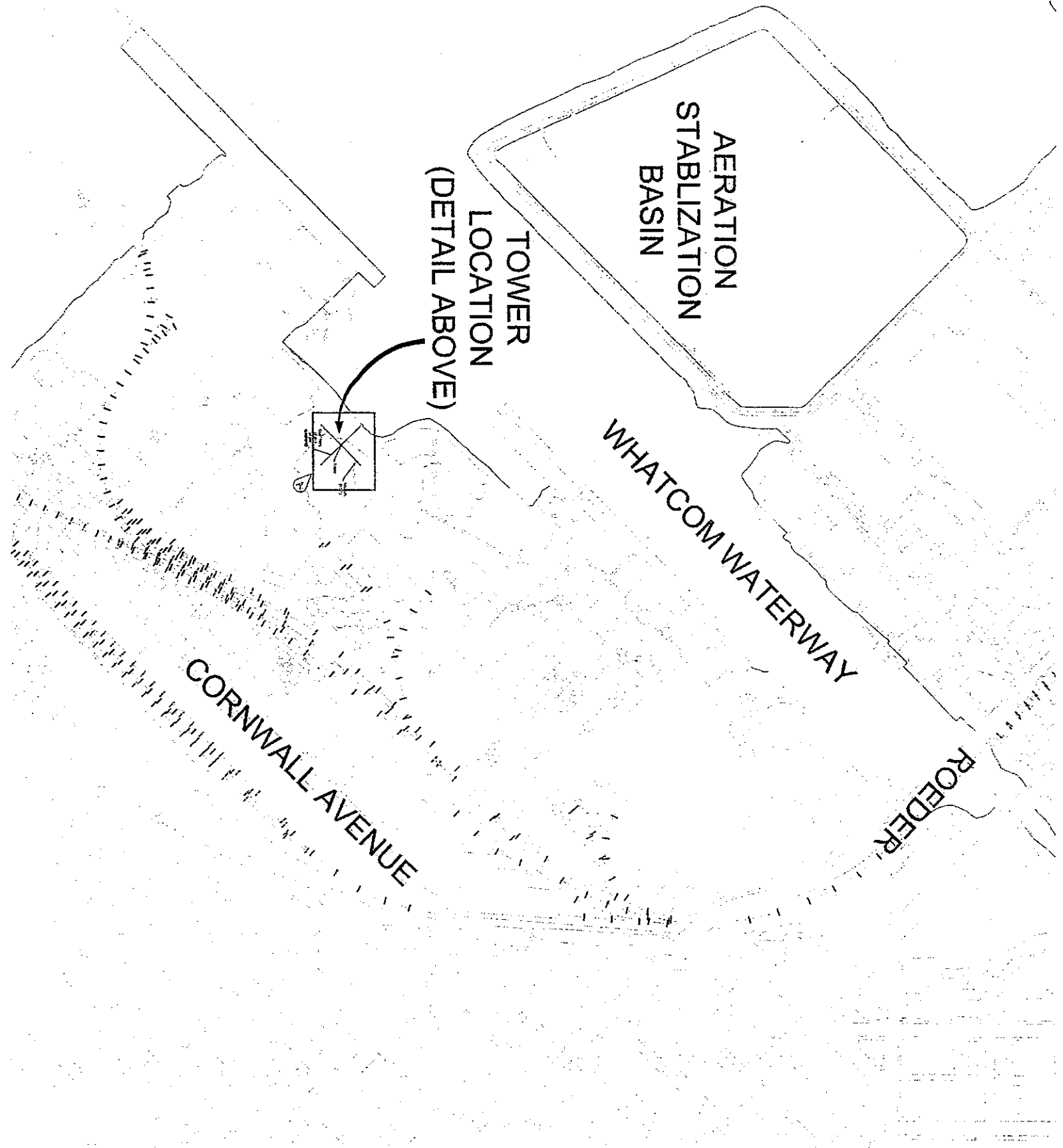
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Approved by:

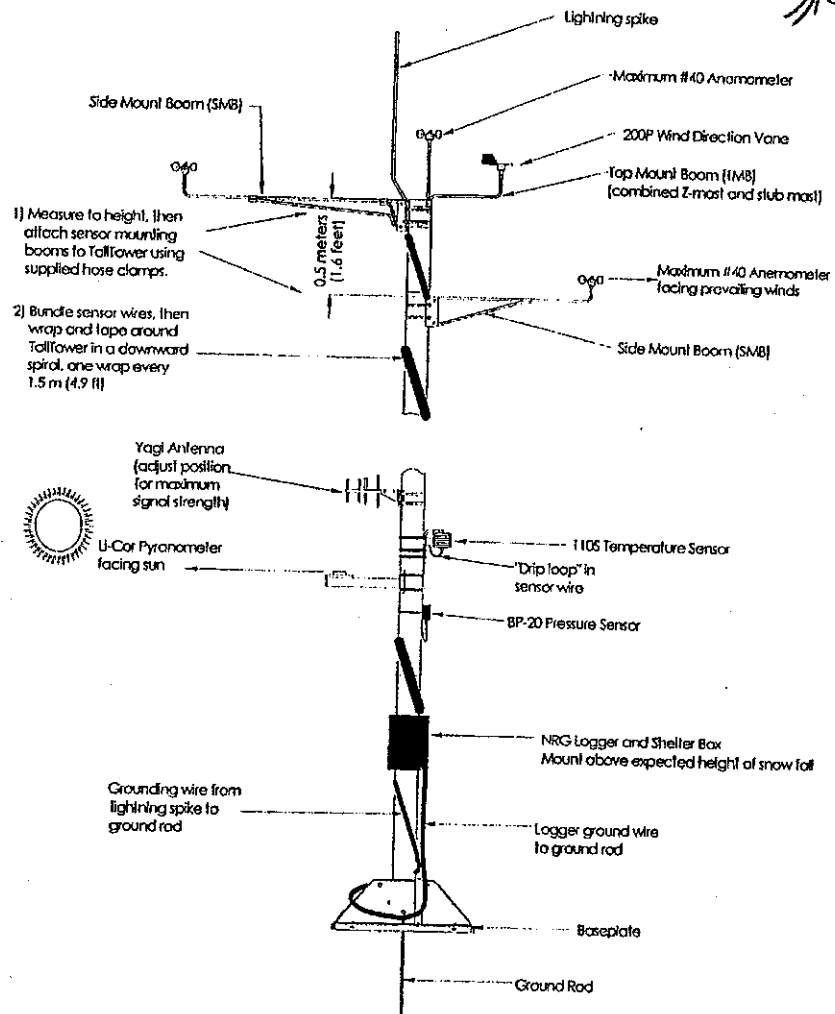


Tim Stewart, Director

EXHIBIT A



Typical Wind Monitoring Site



6' & 8' BASE PLATE ASSEMBLY

TallTowerManual-7.11.doc

15 February 2007

25-08

17

EXHIBIT A

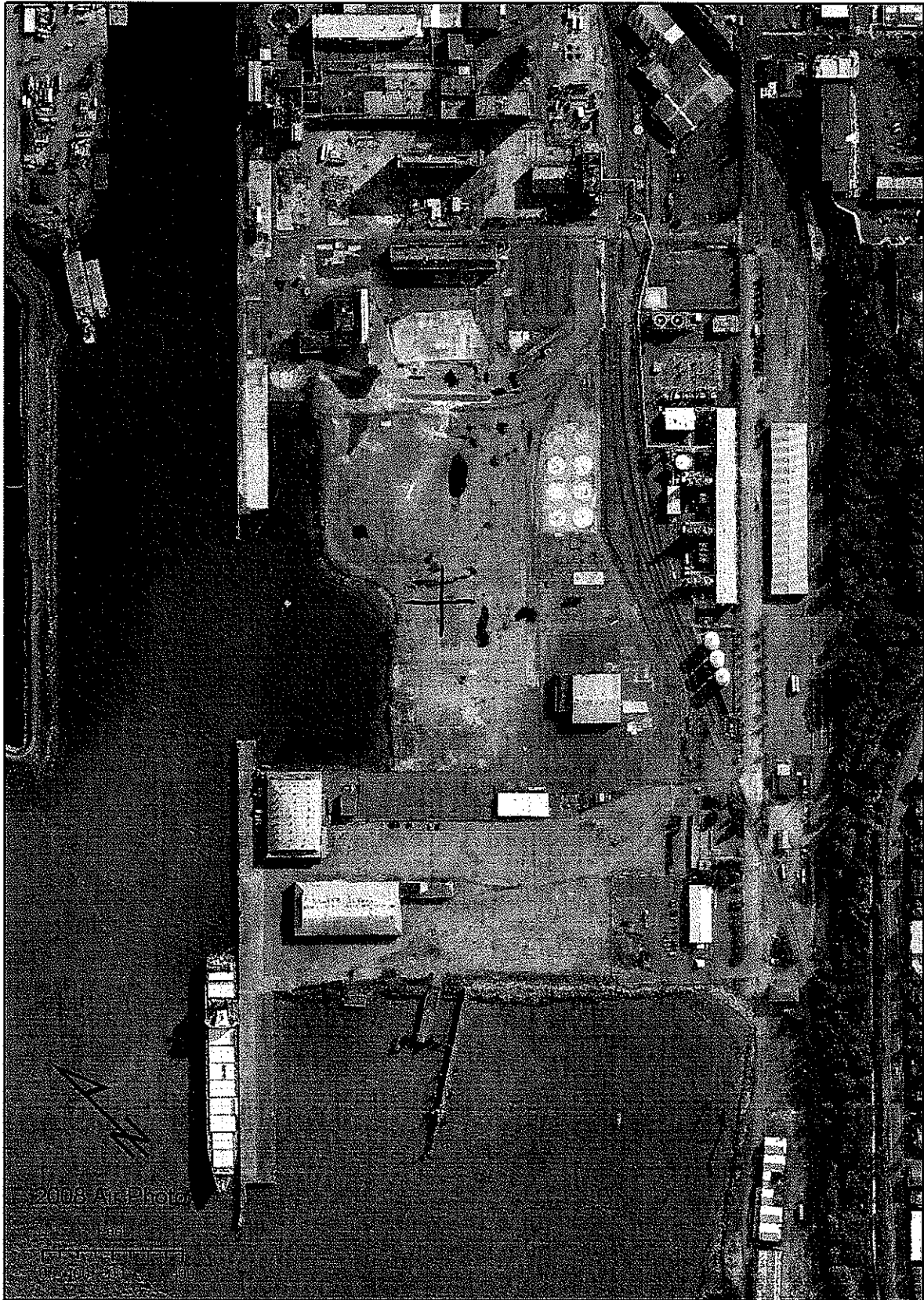


EXHIBIT B



Michael Lilliquist
<lilliquist@comcast.net>
12/09/2008 09:20 AM

To <ssundin@cob.org>
cc
bcc
Subject: Test wind tower

Steve Sundin
COB Planner

Re: SEP2008-00030 & SHR2008-00011

"Installation of a temporary 160-foot tall meteorologic tower for the purpose collecting data for potential future wind-power generation."

I would like to go on record as supporting this application and project. I believe that wind power will become increasingly important and cost-effective way of contributing to our energy supply, and my expectation is that the northern rim of Bellingham Bay may be an excellent location, exceeded in wind quality only by the southern tip of Lummi Island (in case anyone want to look into that option, too!).

Sincerely,

~ Michael Lilliquist

EXHIBIT B



David MacLeod
<miles58@yahoo.com>

12/09/2008 11:28 AM

Please respond to
miles58@yahoo.com

To ssundin@cob.org

cc

bcc

Subject Port of Bellingham Temporary Meteorologic Tower

History:

 This message has been replied to.

Hello Steve Sundin,

I'd just like to state that I am personally in support of the Port of Bellingham installing a Temporary Meteorologic Tower, and would like to be kept informed of city actions in relation to this project. I believe we need to be continuing to explore avenues for alternative energy generation as well as ways in which we can all dramatically reduce our use of fossil fuels.

Regards,

David MacLeod
Bellingham/Whatcom County Energy Resource Scarcity/Peak Oil Task Force

2332 E. Hemmi Rd.
Bellingham, WA 98226

BIRDS

Marine Birds

Common Name	Scientific Name	Page
American White Pelican	<i>Pelecanus erythrorhynchos</i>	81
Brandt's Cormorant	<i>Phalacrocorax penicillatus</i>	81
Brown Pelican	<i>Pelecanus occidentalis</i>	82
Cassin's Auklet	<i>Ptychoramphus aleuticus</i>	82
Common Loon	<i>Gavia immer</i>	83
Common Murre	<i>Uria aalge</i>	84
Eastern Washington breeding concentrations of: Grebes, Cormorants	N/A	84
Eastern Washington breeding: Terns	N/A	85
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	85
Short-tailed Albatross	<i>Phoebastria albatrus</i>	86
Tufted Puffin	<i>Fratercula cirrhata</i>	86
Western grebe	<i>Aechmophorus occidentalis</i>	87
Western Washington breeding concentrations of: Cormorants, Storm-petrels, Terns, Alcids	N/A	87
Western Washington nonbreeding concentrations of: Loons, Grebes, Cormorants, Fulmar, Shearwaters, Storm-petrels, Alcids	N/A	88

EXHIBIT C

Hérons (Ardeidae)

Common Name	Scientific Name	Page
Black-crowned Night-heron	<i>Nycticorax nycticorax</i>	89
Great Blue Heron	<i>Ardea herodias</i>	89

Waterfowl (Anseriformes)

Common Name	Scientific Name	Page
Brant	<i>Branta bernicla</i>	90
Cavity-nesting ducks: Wood Duck, Barrow's Goldeneye, Common Goldeneye, Bufflehead, Hooded Merganser	N/A	91
Harlequin Duck	<i>Histrionicus histrionicus</i>	92
Snow Goose	<i>Chen caerulescens</i>	92
Trumpeter Swan	<i>Cygnus buccinator</i>	93
Tundra Swan	<i>Cygnus columbianus</i>	93
Waterfowl Concentrations	N/A	94
Western Washington non-breeding concentrations of: Barrow's Goldeneye, Common Goldeneye, Bufflehead	N/A	94

Hawks, Falcons, and Eagles (Falconiformes)

Common Name	Scientific Name	Page
Bald Eagle	<i>Haliaeetus leucocephalus</i>	95
Ferruginous Hawk	<i>Buteo regalis</i>	96

EXHIBIT D

COMPLIANCE WITH THE CITY'S SHORELINE MASTER PROGRAM

Section 24 – URBAN MARITIME ENVIRONMENT:

- A. **DEFINITION:** Areas proximate to navigable waters and are suitable for water borne commerce or other water dependent use.
- B. **PURPOSE AND INTENT:** The purpose of the Urban Maritime Environment is to reserve areas of land use activities that require proximity to navigable waters.
- C. **REGULATIONS**
 - 1. Permitted uses must be:
 - a. Water-dependent, or
 - b. Publicly owned waterfront recreational uses, which make use of a unique shoreline resource such as a waterfront park, view, tower, public pathway, public maritime interpretive display, or aquarium.
 - c. Required public access features. The above uses are permitted on over-water construction.
 - 2. Non-water dependent uses, excluding residences, may be permitted as accessory uses provided they functionally support a permitted use. Accessory uses must be vacated if the primary use they support is vacated. Uses permitted as accessory uses shall not be built on over-water construction in the Urban Maritime Environment.
 - 3. Conditional Uses: Water enjoyment uses may be permitted as conditional uses on land above the ordinary high water mark in the Urban Maritime Environment provided they meet all other ordinances, codes and regulations and provided they meet the following conditions:
 - a. The proposed development provides continuous public access at the water's edge.
 - b. The proposed use does not interfere or restrict existing or permitted water-dependent uses. Water-dependent commercial and industrial uses have primary over water-enjoyment uses in the Urban Maritime Environment.
 - c. Other conditions as set by the Direction of the Planning and Economic Development. Water enjoyment uses except for publicly owned waterfront recreational uses may not be built on over-water construction in the Urban Maritime Environment.

Section 26: **GENERAL REGULATIONS:** (General regulations are intended to deal with uses or activities that either are associated with a permitted use or that can occur in any shoreline designation type. For example, utilities, public access, shoreline stabilization, parking, landscaping, over-water structures.)

- A. The following activities are allowed within the setbacks required in Section 18 through 25 of this ordinance or in any water body, EXCEPT in a Natural Environment.
 - 1. Road, railroad, and utility construction necessary to span the shorelines to facilitate the circulation or utility network of the City.

Section 27: USE ACTIVITY REGULATIONS: The following regulations shall apply respectively to all developments established consistent with Sections 17 through 25 of this ordinance.

U. UTILITIES: The following regulations shall apply to the installation of electrical, gas, oil, telephone, television, sanitary and storm sewer and water utilities on the shorelines of the City.

1. All utilities shall be placed underground where feasible. Following installation/maintenance projects, project areas shall be returned to pre-project configuration and shall be planted with shrubs, grasses and trees of similar types and concentration as exists in the general vicinity of the project, PROVIDED, the requirement for vegetative installation may be waived or altered if, in the opinion of the Planning and Economic Development Department the utility easement may be utilized for public access and such access is consistent with the protection of private property.
2. Electrical, television and telephone lines may be permitted to cross a water body by overhead suspension. However, when gas, oil, water, sanitary or storm sewer lines must necessarily cross a water body, such crossing shall be done underground or shall be integrated with road or railway bridges or dams. Undergrounding of utilities across a water body must gain the approval of the State of Washington Departments of Fisheries and Wildlife.
3. Where feasible, storm water drainage facilities for shoreline development shall be connected to existing storm water facilities. New storm drainage outfalls shall be designed to be aesthetically compatible with the shoreline area (i.e., placement of rock rip-rap as an energy dissipater and streambed armor, designed and constructed to resemble a natural drainage stream.)

USE ACTIVITY POLICIES: UTILITIES

Utilities are necessary to serve shoreline uses with electricity, gas, sewer, water and communications and, if properly installed, protect the shoreline and water from contamination.

Policy: Provisions should be made for the protection of the shoreline during utility installation. Following installation/maintenance projects, project areas must be returned to pre-project configuration and adequate vegetation installed to prevent erosion.

Policy: Utilities on the shorelines should be installed underground.

Policy: Utility corridors should be utilized as pedestrian access ways where practical.

Policy: Undergrounding of existing facilities should be encouraged.

CITY OF BELLINGHAM SHORELINE
GOALS AND OBJECTIVES
SHORELINE USE ELEMENT

- GOAL:** Coordinate the regulation of shoreline uses so as to insure uses which result in long-term over short-term benefit, protect the resources and ecology of the shorelines, increase both visual and physical public access to the shorelines, and accommodate water dependent uses.
- OBJECTIVE:** Identify and reserve shoreline and water areas with unique attributes for particular long-term uses, including commercial, industrial, residential, recreational and conservational uses.
- OBJECTIVE:** All uses should be developed in a manner which will result in the least modification of the shoreline unless such modification contributes to the attainment of Master Program goals.
- OBJECTIVE:** Uses which will provide an opportunity for a substantial number of people to enjoy the shorelines should be permitted.
- OBJECTIVE:** Inappropriate shoreline uses should be identified and established as nonconforming uses.

STAFF RESPONSE: The met tower is considered a non-water-dependent use despite the fact that it does not support a permitted use. Technically it *cannot* support a permitted use because it is an analytical and data gathering device. The met tower's proposed location does not impact the ability for water-dependent uses to continue to use the shipping terminal or the over-water wharves further up the Whatcom Waterway. The log pond is not navigable as intended by this shoreline sub-area.

There are no setback requirements for structures in the Urban Maritime shoreline sub-area.

It is interesting to note that in the explanation and examples of utilities in the policy section above, wind turbines, solar panels and even desalination plants were not included. The City's SMP is 20-years old and those uses were not expressly considered at that time.

At the time the applicant submitted an application for this proposal City staff consulted with the Department of Ecology Bellingham Field Office's shoreline administrator and determined that this proposal – for which there was not a clear use allowance – was most appropriately categorized as a utility. In the future however, wind-turbines that actually generate electricity can easily be categorized as a utility.

The proposal requires no modification to this already heavily impacted location.