DRAFT ENVIRONMENT COMMITTEE AGENDA

February 18, 2016 – North Conference Room

21630 11th Avenue South – Des Moines 98198

5:30P – 6:50P

1. Approve minutes of the 1.21.2016 meeting

2. CAO/SMP/Frequently Flooded Areas Code Update
   Staff and consultant AHBL will provide an overview of the GAP analysis completed by AHBL for regulatory compliance, and will discuss options and recommendations for updating the CAO, SMP and Frequently Flooded areas of the code. Staff will be seeking Committee concurrence and/or direction for bringing forward code amendments.

3. Methanol Proposal in Tacoma
   Staff will provide a discussion of the proposal to build a Methanol Facility in Tacoma, and seek direction from the Committee on the preparation of a Draft Resolution in opposition to the proposal, as directed by the City Council.

Draft MINUTES - ENVIRONMENTAL COUNCIL COMMITTEE MEETING 1.21.20165

The meeting was called to order @ 6:03 PM, Thursday, June 18, 2015, in the North Conference room @ 21630 11th Avenue South, Des Moines with the following in attendance:

Council Members
Robert Back, Chair
Melissa Musser
Matt Pina

City Staff
Tony Piasecki, City Manager
Dan Brewer, PBPW Director
Loren Reinhold, SWM Utility Manager
Peggy Volin, Admin Asst II

AGENDA:

1. Selection of Chair and Co-chair
2. Approve minutes of the 6.18.2015 meeting
3. 2016 Work Program
4. Low Impact Development Code Integration Project

MEETING:

1. Selection of Chair and Co-chair: Robert Back, Chair and Melissa Musser, Co-chair
2. Approve the minutes of the June 18, 2015 meeting: Unanimously approved.
3. 2016 Work Program: PBPW Director Dan Brewer took the Committee members through the proposed 2016 Work Program. The topics for the year were discussed and Committee members concurred with the work program for 2016.
4. Low Impact Development (LID) Code Integration Project: Surface Water & Environmental Engineering Manager Loren Reinhold briefed the Committee on the upcoming Low Impact Development Stormwater Standards that must be adopted into the City's Code by the end of 2016. He explained that the City will be reviewing our regulations and standards to identify ways to integrate the LID's into our codes, ordinances, policies, processes and standards in order to be compliant with the new requirements. Staff will provide periodic updates to the Committee and full Council so they stay informed on all the issues. Loren also presented the Committee an example scope of work from the City of SeaTac's consultant for integrating LID into their code. The Committee directed staff to develop a similar contract using a consultant from the City on-call roster. Staff recommended using Parametrix given their familiarity with our SWM Program and City codes after preparing last year's SWM Comprehensive Plan.

Meeting Adjourned @ 6:48 pm
Submitted by: Peggy Volin, Admin Asst II

Memo

Date: February 12, 2016

To: Council Finance Environment Committee

From: Denise Lathrop, AICP – Community Development Mgr.

RE: Critical Areas/Shorelines/Frequently Flooded Areas Regulatory Updates

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Purpose

The purpose of this agenda item is to provide the Council Environment Committee with an overview of GAP analysis of Des Moines Critical Areas Ordinance (CAO), Shoreline Master Program (SMP) and Frequently Flooded Areas regulations in light of the changes to the Washington Department of Ecology (Ecology)) wetland classification and rating system and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) and designations.

Overview

At the 5/21/15 Environment Committee meeting, staff provided an overview of the Washington State Growth Management Act (GMA) requirement that cities to conduct a review of our development regulations and specifically our Critical Areas Ordinance (CAO) by June 30, 2016 to ensure they comply with State and Federal regulations. Two key regulatory changes that need to be considered in conjunction with the 2015 update process are the recent changes to Ecology's wetlands rating system and changes to FEMA's FIRM maps and designations. These amendments affect the City's CAO, Shoreline Master Program (SMP) and Frequently Flooded Areas (FFA) regulations which are codified in Title 16 of the Des Moines Municipal Code. Staff discussed recommendations from Ecology (Attachment 1) and a memo prepared by Parametrix (August 11, 2015) related to the FEMA Program Compliance Review.

The City has since retained the services of AHBL to assist this regulatory review and update process. AHBL has completed a review of the City's environmental regulations along with the recommendations from Ecology and the August 11, 2015 Parametrix Memo related to the FEMA Program Compliance Review.

AHBL's GAP analysis concurred with Ecology's recommended changes and only revealed one additional section in Title 16 of the DMMC that needs to be amended. The section is DMMC 16.10.140(2) that references the wetlands rating manual. Although the reference citation may be technically correct, it should be updated for consistency with the definition correction identified for DMMC 16.01.050 (Attachment 2).

As part of the analysis, AHBL also reviewed the Shoreline Master Program (SMP) for consistency with the DMMC. Analysis of the SMP identified 12 sections that had one or more references to the DMMC or wetlands that need to be amended. None of these changes are substantive. They correct code citations that chanced when CAO regulations were moved from Title 18 to Title 16 during the Code reorganization in 2013.

Attachment 3 provides an overview of the FEMA Program Compliance Review and provides a discussion of options and recommendations on how the City should proceed toward maintaining eligibility to participate in the National Flood Insurance Program (NFIP).

Attachment 1: Ecology's Recommended Changes to Des Moines CAO

- **16.01.050 Definitions**
  The reference to the rating system under "wetlands" should be updated to Ecology Publication No. 14-06-029, and the category descriptions need to be updated. I can send you that text.

- **16.05.310.(4)(xxix)** refers to the state delineation manual. This should be replaced with "the approved federal wetland delineation manual and applicable regional supplements." While I think most consultants know that they need to delineate the wetland edge and use the established procedure, you should probably mention it in the wetland definition above and in 16.10.100(a): "The edge of the wetland and the outside edge of its buffer shall be determined and field marked by a professional wetland biologist or similarly qualified professional *in accordance with the federal wetland delineation manual and applicable regional supplements.*"

- **16.10.120(2)**
  I added the habitat scores in red to be consistent with the updated 2014 rating system.

	Width of Buffer (feet)
Category I Wetlands	
High habitat function (habitat score 8-9)	300
Moderate habitat function (habitat score 5-7)	150
High water quality function and low habitat function or none of the above characteristics (habitat score less than 5)	100
Category II Wetlands	
High habitat function (habitat score 8-9 points)	300
Moderate habitat function (habitat score 5-7)	150
High water quality function and low habitat function or none of the above characteristics (habitat score less than 5)	100
Category III Wetlands	
Moderate habitat function (habitat score 5-7)	150
Low habitat or not meeting above criteria (habitat score less than 5)	80
Category IV Wetlands	
Low functions	50

- **(6)(a)(i) and (ii)** should refer to 5 points (rather than 20).

- **16.10.140(2)(1)(iii)** should refer to 5 points (rather than 20).

- **16.10.150(7):** The ratios in this table are not consistent with the ratios recommended in the joint state/federal guidance (see Table 1a on page 73 of Wetland Mitigation Guidance Part 1. By requiring mitigation based on this guidance, you will be providing consistency for applicants who must also apply for state and federal permits.

- **Frequently Flooded Areas**

  The Growth Management Act is silent on specific requirements for Frequently Flooded Areas. However, as a critical area, Best Available Science must be applied to the identification of Frequently Flooded Areas.

  WAC 365-190-110(1) provides that "classifications of frequently flooded areas should include, at a minimum, the 100-year flood plain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

  While the WAC language is not mandatory, it is good advice. The local government may well determine that the FEMA Flood Insurance Rate Maps are Best Available Science with respect to Frequently Flooded Areas.

  The NFIP Biological Opinion language does not necessarily need to be in the CAO. FEMA has recommended the provisions be placed in the local Flood Damage Prevention Ordinance. However local governments approach this, the adoption of clear procedures for how to meet the requirements of the Biological Opinion should be beneficial.

Title 16 ENVIRONMENT

Chapter 16.01 GENERAL PROVISIONS

16.01.050 Definitions.

"Wetland" or "wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created for nonwetland areas created to mitigate conversion of wetlands.

To differentiate between levels of wetland protection and the application of development standards, wetlands shall be rated according to the "Washington State Wetland Rating System for Western Washington" (Ecology Publication No. 04-06-025, August 2004) or as revised by the Department of Ecology. Wetland rating categories shall be applied as the wetland exists at the time of the adoption of this chapter or as it exists at the time of an associated permit application. Wetland rating categories shall not change due to illegal modifications.

(a) Category I. Category I wetlands represent a unique or rare wetland type, are more sensitive to disturbance than most wetlands, are relatively undisturbed and contain some ecological attributes that are impossible to replace within a human lifetime, or provide a very high level of functions. Category I wetlands are:

(i) Mature forested wetlands larger than one acre; or

(ii) Wetlands that perform many functions well.

(b) Category II. Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but they still need a relatively high level of protection. Category II wetlands are:

(i) Wetlands identified by the Washington State Department of Natural Resources as containing "sensitive" plant species;

(ii) Wetlands with a moderately high level of functions.

(c) Category III. Generally, wetlands in this category may have been disturbed in some way and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category III wetlands are wetlands with a moderate level of functions.

(d) Category IV. Category IV wetlands have the lowest levels of functions and are often heavily disturbed. These are wetlands that should be replaceable, and in some cases may be improved. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

PROJECT MEMO

TO:	Denise Lathrop, AICP	**DATE:**	February 12, 2016
FROM:	Stan May, AICP & Wayne E. Carlson, AICP, LEED AP	**PROJECT NO.:**	2150222.31
		PROJECT NAME:	Des Moines Critical Areas Ordinance Update

SUBJECT: Recommended Approach for National Flood Insurance Program Compliance

This analysis was done to clarify how the City should proceed toward maintaining eligibility to participate in the National Flood Insurance Program (NFIP).

As you are aware, the FEMA Biological Assessment provides for three "doors" for compliance with floodplain habitat assessment requirements. The "doors" are as follows:

Door 1: Adopt FEMA's code language as the City code
Door 2: Demonstrate how the City's code language meets the requirements of the FEMA biological assessment.
Door 3: Allow applicants on a case-by-case basis to demonstrate that their proposals will not have any short- or long-term adverse effects on ESA-listed species or adverse modifications to critical habitats

We analyzed the recommendation in the Parametrix Memo, dated August 11, 2015, regarding FEMA Program Compliance Review and concurred with the recommendation that remaining in Door 3 is appropriate. Door 3 requires a project-by-project review and determination that each project will have no adverse effect. The local official must "...formally determine (and document the basis and supporting data for that determination) that a project will not have any short- or long-term adverse effects on ESA-listed species, or any adverse modifications to designated critical habitats." This effectively places the burden of proof on the applicant. Staying in Door 3 only requires the City provide guidance to the applicant in the form of additional submittal requirements as well as providing the FEMA Floodplain Habitat Assessment Guide.

We concur with this recommendation because the City of Des Moines is basically "built out" and most projects in the shoreline will be infill and repairs or replacements to damaged structures, including bulkheads. This means a relatively small demand for development that would require compliance with the NFIP.

A programmatic approach such as Door 2 would require the City to show that existing zoning, critical areas, shoreline and flood damage prevention regulations already comply with the Biological Opinion or the City would need to update those regulations for compliance. Other issues surrounding a potential move to Door 2 are discussed in more detail below. This approach is probably better suited for cities and counties with large tracts of undeveloped land.

In addition to the Parametrix Memo, we reviewed a number of documents from both Ecology and from FEMA regarding the Biological Opinion (BiOp) from National Marine Fisheries Service (NMFS). Our review also included discussions with the Floodplain Management Regional Specialist for Northwest Washington, Dave Radabaugh of Ecology, and Karen Wood-McGuiness of FEMA.

Highlights of our research and additional recommendations are as follows:

Of the 122 jurisdictions that have requested approval for selecting what is referred to as Door 1, Door 2 or Door 3 strategies, 81 jurisdictions, including the City of Des Moines, have submitted for and been approved for Door 3. 37 communities have submitted for Door 2 but only 6 have been approved. Four communities submitted for Door 1 and all four were approved.

Example of pitfalls holding back approval of some Door 2 submittals:

- Understaffing causing slow reviews by FEMA. FEMA is working towards bringing aboard additional staff to alleviate the slow review times.

- Bulkheads, especially on marine shorelines. No short- or long-term adverse effects to existing habitat functions within the Protected Area are allowed. The Protected Area for marine shorelines extends 200 feet landward from the Mean Higher High tide line. This applies to repair, replacement and new bulkheads. Normal maintenance and repair may be covered under the U.S. Army Corps of Engineers Nationwide Permit 3. But, if there are any changes to the design, location, or materials used when repairing or maintaining a bulkhead, the NFIP requirement to apply for a local floodplain development permit still applies, and a habitat assessment would be required. This provision is a major sticking point in many communities. (These bulkhead requirements also apply to the Door 3 approach.)

- Demonstrating how existing regulations meet or exceed the performance standards set forth in the BiOp RPAs and the performance standards of the minimum NFIP program. FEMA reviews expect to see more narrative than just a restatement of a regulation.

- Showing how zoning, land ownership and existing development will minimize the need for future development. Identify lands in the Protected Area that are in public ownership or are permanent open space. Lands that are zoned public or park or some other designation that indicates unlikely development. Finally showing how existing development has already degraded habitat and that redevelopment is unlikely to further adversely affect existing habitat function.

FEMA would like to encourage jurisdictions currently in Door 3 to move to the programmatic approach of Door 2 or adopt the model ordinance, Door 1. We believe that the City should postpone consideration of using Door 2 until a higher number of the 37 jurisdictions that have applied for review have been approved. At that time, City staff can contact those jurisdictions and determine if the work necessary to modify local codes and standards is worth it in a community with little in the way of undeveloped floodplain areas. In the meantime, City staff should begin the process of amending submittal bulletins to provide guidance to applicants that are proposing new, redevelopment, repair, and replacement of structures within floodplain areas.

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November 1, 2013

FAQ: What are the Compliance Options available to my community and what is required to implement each?

What is the National Marine Fisheries Service 2008 Biological Opinion?

In 2004, FEMA entered into a consultation with the National Marine Fisheries Service (NMFS) to consult on the effects of implementation of the National Flood Insurance Program (NFIP) on endangered species and critical habitat. In September 2008 NMFS provided a Biological Opinion in which they concluded that development consistent with the NFIP jeopardizes threatened or endangered Chinook salmon, chum salmon, steelhead, and killer whales and adversely modifies critical habitat based on potential take of listed species.

Federal agencies are prohibited by the Endangered Species Act (ESA) from causing jeopardy to endangered species or adverse modification of critical habitat. Once a jeopardy determination is made, NMFS is obligated to provide a Reasonable and Prudent Alternative (RPA), which are measures FEMA can do to avoid jeopardy to endangered species and adverse modification of critical habitat. These measures outline steps FEMA and communities participating in the NFIP can do to minimize harm to Puget Sound Chinook salmon, Puget Sound steelhead, Hood Canal summer-run chum and Southern Resident killer whales.

What are the new species-protective standards that apply to floodplain development permits?

RPA #3 of NMFS' 2008 Biological Opinion requires that FEMA and all of the affected participating communities ensure that any type of floodplain development, as defined by 44 CFR § 59.1, does not have an adverse effect on listed species or their critical habitat. Specifically, the local jurisdiction must demonstrate to FEMA that any proposed development in the Protected Area (the designated floodway, the Channel Migration Zone (CMZ) plus 50 feet, and the riparian buffer zone (RBZ)) does not adversely affect water quality, water quantity, flood volumes, flood velocities, spawning substrate, and/or floodplain refugia for listed salmonids.

Outside the Protected Area, any floodplain development shall avoid, rectify, or compensate for loss of floodplain storage. Additionally, any indirect adverse effects of development in the floodplain (effects to stormwater, riparian vegetation, bank stability, channel migration, hyporheic zones, wetlands, etc.) must be mitigated such that equivalent or better salmon habitat protection is

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provided. Appendix 4 of NMFS's 2008 Biological Opinion (attached) provides detail on how to comply with these criteria.

What are the compliance options available to my community?

Participating Communities have the option of complying with the Biological Opinion by one of the following three general pathways

A) Adopting the Model Ordinance (**Door 1**)

FEMA Region X developed an RPA compliant Model Ordinance that incorporates all the substantive provisions of the RPA and the minimum standards of the NFIP. Communities that adopt and enforce the ESA compliant Model Ordinance will be considered to be in compliance with the ESA. The Model Ordinance may be found on the NFIP ESA website at http://www.fema.gov/national-flood-insurance-program-endangered-species-act.

B) Using a Programmatic Approach that utilizes existing regulations and edits and supplements those regulations as needed (**Door 2**)

Washington State requires communities to adopt and enforce multiple state statutes that, when combined with the NFIP, could potentially achieve compliance with the ESA. Communities are required to enforce ordinances dealing with growth management, critical areas, and shorelines. When the combination of these individual programs can be shown to achieve the same protection to salmon habitat, communities will be considered to be in compliance with the ESA. FEMA has provided a checklist to help guide communities develop the documentation to show their suite of rules and regulations, when combined with the NFIP, will assure no adverse effect on salmon populations or their habitats. Another option under the Door 2 pathway is for communities to evaluate their suite of regulations that cover the regulated floodplain and describe existing habitat conditions and land-uses across all the land parcels that are located within the watersheds or sub-watersheds that comprise their jurisdiction (via GIS database queries) and conduct effects analyses that rigorously demonstrates how their regulations comply with the standards in the RPA. The NFIP-ESA Biological Opinion Checklist may be found on the NFIP ESA website at http://www.fema.gov/national-flood-insurance-program-endangered-species-act.

C) Utilizing a Permit-by-Permit Approach (**Door 3**)

Communities that elect not to adopt FEMA's RPA compliant Model Ordinance, and cannot demonstrate their suite of other rules and regulations meet the same standards under the Door 2 approach, must demonstrate that each and every floodplain development permit is compliant with the RPA and the "no adverse effect" standard of the RPA. FEMA grants the communities some discretion as to how to achieve that standard. The preferred approach is one that complies with the guidance provided by FEMA (i.e., the

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Habitat Assessment and Mitigation Guidance and the other FAQs on FEMA's NFIP ESA website). For projects in the Protected Area where the community or the project proponent are using the FEMA Habitat Assessment and Mitigation Guidance to demonstrate the project has no adverse effects, the habitat assessment must address short- and long-term, direct, indirect, and cumulative effects to ESA-listed salmon and their habitats, including any impacts to designated critical habitat. Communities and project proponents do, however, have other options to demonstrate compliance with the required standard. They may initiate separate consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (collectively "the Services"). They may also seek ESA coverage under an ESA consultation that was already completed by another federal agency if that consultation covers the same activities and impacts as the current project proposal. Any consultation used needs to include an analysis of any interdependent or interrelated actions and the potential cumulative effects of other current or reasonably foreseeable future non-Federal projects within the defined action area.

Comparison of the Door 1, 2, and 3 options

FEMA considers that any communities that adopt and enforce the Model Ordinance (Door 1) are in full compliance with the RPA for the NFIP in Puget Sound. The programmatic option (Door 2) is presented to allow jurisdictions to utilize (to the extent possible) their existing regulations, and to potentially allow greater potential flexibility in the application of the RPA standards for those cases where jurisdictions can adequately address them via rigorous, funded, long-term management plan(s) across their entire watershed(s) jurisdictions may have part of such plans within their current planning documents. Communities need to describe current and estimated future land management actions, as well as the combined effects of all regulations upon Threatened and Endangered Species (TES) populations and their habitats within affected watersheds. They would also have to provide sufficient evidence that any proposed mitigation actions outside of the Protected Area would result in a net effect of maintaining or improving habitat conditions. No short-term or long-term adverse effects are allowed within the Protected Area. Jurisdictions must document to FEMA how project design criteria and implementation of mitigation efforts will be monitored, enforced, and adaptively managed. The Door 2 option provides a holistic assessment of all possible proposed actions across a landscape.

Projects located in the Protected Area must avoid adverse effects to species and habitat. An example of a potentially allowable action within the Protected Area would be to construct a project during summer when the water level is below the affected reach of the stream bank, and complete construction before flow levels increase in the fall and fish may be present. This example assumes that conditions can be fully repaired to pre-project levels. If that can't occur, then the repair does not prevent all short- and long-term adverse impacts and the project is not compliant with the RPA, hence the project proposal would have to be abandoned. Please note that within the Protected Area that off-site compensatory mitigation is also not allowed to offset adverse effects at the site under Door 3 because of the difficulty in estimating and tracking their sufficiency and appropriateness on a permit-by-permit basis. This is because the overall effects to the watershed would not be assessed under a permit-by-permit approach, compared to a programmatic

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approach where such overall effects would be assessed. If a habitat assessment determines that the project does not meet the "no adverse effect" standard for the Protected Area, the project must either be abandoned, redesigned, or receive permission from the Services to allow the adverse effect to occur. Such permission may be sought through separate consultation with the Services pursuant to the ESA.

Some localized or short-term adverse effects are potentially allowable outside the Protected Area under Door 3, but the effects of these impacts must be fully be mitigated so that the net result is that current conditions are either maintained or improved. Jurisdictions must analyze for any cumulative effects impacts from other current or reasonably foreseeable future, non-federal actions that overlap with any lingering observable or measureable effects of the proposed action, and fully mitigate those effects.

Requirements common to all Door options regarding actions within the Protected Areas

The following uses are allowed within the Protected Area:

1) " repair of existing building in its existing footprint , including damages by fire or other casualties;
2) removal of noxious weeds;
3) replacement of non-native vegetation with native vegetation;
4) ongoing activities such as lawn and garden maintenance;
5) removal of hazard trees;
6) normal maintenance of public utilities and facilities; restoration or enhancement of floodplains, riparian areas and streams that meets Federal and State standards" (NFIP BO Appendix 4, page 223).

In addition, the BO states that the following uses are not allowed within the Protected Area "unless shown not to adversely affect water quality, water quantity, flood volumes, flood velocities, spawning substrate, and/or floodplain refugia for listed salmon:

> new buildings, including accessory buildings; new impervious surfaces; removal of native vegetation; new clearing, grading, filling, land-disturbing activity or other 'development' (see definition) other than for the purpose of replacing non-native vegetation with native vegetation, and for other approved restoration work; septic tanks and drain fields, dumping of any materials, hazardous or sanitary waste landfills; receiving areas for toxic or hazardous waste or other contaminants, and stream relocations, unless the primary function of the action is to restore natural ecological function."

See NFIP BO Appendix 4, pages 222 and 223. Please note that the acronym "RMZ" on page 223 of the BO should not be confused with the RBZ. This older acronym referred to the Riparian Management Zone, which is synonymous with the Protected Area.

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Some limited impacts to listed fish species and aquatic habitat functions and processes may be allowable if they are determined to be "beneficial", "insignificant" or "discountable." Those are the terms used by the Services in the consultation handbook to describe actions that do not constitute adverse effects. "Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects, or (2) expect discountable effect to occur." (Endangered Species Consultation Handbook, USFWS and NMFS 1998, pages 3-12 and 3-13).

Some limited construction and disturbance within the Protected Area is allowed, as long as it can be rigorously demonstrated and documented that the result of all actions is that there are no short- or long-term adverse effects to ESA-listed species or their designated critical habitats. The only exceptions to this are those few categories of work that are listed as exempt in the BO (see list provided above).

Requirements common to all Door options regarding actions beyond (outside) the Protected Areas

No net adverse effects to ESA-listed populations or their designated critical habitats can occur, including no adverse effects to "water quality, water quantity, flood volumes, flood velocities, spawning substrate, and/or floodplain refugia for listed salmon" (NFIP BO Appendix 4, page 222). In addition, all indirect effects of actions outside of the Protected Area that impact stormwater, riparian vegetation, bank stability, channel migration, hyporheic zones, wetlands, or large woody debris (LWD)" must be mitigated (NFIP BO Appendix 4, page 223). Compliance with all the standards in the RPA is mandatory for all submittals through any of the door pathway options. Compliance with both the RPA standards and the additional criteria listed in Appendix 4 of the BO (attached) assures that the submittal will be compliant with the ESA.

Requirements for use of the Programmatic (Door 2) approach

Communities may be able to demonstrate compliance with Door 2 via a couple of options. The first option is to modify existing regulations to strictly conform to the performance standards in the Biological Opinion as demonstrated on the NFIP-ESA Biological Opinion Checklist.

Another approach that allows for some flexibility is for jurisdictions to complete something analogous to a watershed management plan, possibly largely contained within one or more of their current management plans. Such a plan would likely require stratification of a jurisdiction's land-base by general site conditions and current habitat functions. The jurisdiction could then propose what mitigation measures it will use, where those actions will take place, and the methods proposed to use to estimate how the combined

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effects of all proposed actions will result in either maintaining or improving current habitat conditions for each affected watershed. Note that this does not require that habitat be restored to fully, properly functioning, natural conditions and functions. Temporal and spatial scales need to be defined for both negative and positive effects for each project for those habitat functions relevant for baseline conditions. See the FAQ regarding Habitat Analysis at an Appropriate Scale for more information.

Project actions within the Protected Area under the alternate Door 2 approach described above

All Door 2 submittals using the alternate approach described above within the Protected Area must abide by the following conditions:

- No short-term or long-term adverse effects to TES populations or their habitats due to project actions are allowed to occur except for those actions that are listed as exempt in the BO (see list on page 5 of this memo)

- Any mitigation plan must include viable methods that enable the jurisdiction to be able track and document implementation of mitigation measures and be able to demonstrate adequate effectiveness of those mitigation actions.

- Jurisdictions must be able to demonstrate adequacy of their enforcement program with respect to non-compliance with mitigation requirements.

- Acquisition of lands that currently have properly functioning conditions and functions (i.e. intact, mature, natural habitats) to offset proposed degradation at another site does not constitute adequate compensation since this would still likely result in continued additional incremental degradation relative to current baseline conditions.

- On-site compensation is far preferable to off-site compensation. Off-site compensation should only be considered in highly degraded (altered) reaches or sub-watersheds if the jurisdiction can provide sufficient evidence that avoidance, minimization, replacement, or on-site compensation is not possible, and that the net result in each watershed will be an improved trend in habitat conditions (via tracking of implementation and effectiveness monitoring, as well as records of enforcement). See the FAQ regarding Habitat Analysis at an Appropriate Scale for more information.

- Potential on-site compensation under a Door 2 programmatic approach assumes proof of implementation of projects, and evidence of the effectiveness of mitigation actions. Effectiveness monitoring would consist of a combination of the assessment of the success of past methods, along with monitoring and assessment of a statistically valid subset of ongoing projects. Jurisdictions are required to make the data and accompanying summary reports of implementation and effectiveness monitoring available to FEMA for review.

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•Off-site compensation is more difficult to justify and track than on-site compensation because it requires finding suitable, available parcels of partially degraded habitats (at least degraded in some aspects) to partially improve (restore), and demonstration of how the overall effect of all actions are beneficial over a mutually agreed upon time frame. Depending on what habitat functions are being compensated for, restoration actions at the compensatory sites may range from such things as purchasing riparian stands of immature trees and requiring those trees to be allowed to mature (i.e. passive restoration), to active restoration of riparian or instream habitat functions and processes.

Project Actions Outside of the Protected Area under the alternate Door 2 approach described above

All Door 2 submittals using the alternate approach described above outside the Protected Area must abide by the same conditions as within the Protected Area, except that outside of the Protected Area, some limited adverse effects may potentially be allowed to occur if the following conditions are also met:

•Current and reasonably potential future habitat functions must be protected from adverse effects associated with NFIP actions. Under the Programmatic Approach this determination can be made on the basis of all reasonably foreseeable, funded actions within the entire analysis area, which may include an entire watershed(s). Hence the impacts of projects that restore or improve conditions can be considered together with those actions that degrade some habitat variables in other locations within the same analysis area. This option to analyze the net effects of all actions within entire watersheds or sub-watersheds is not available under the permit-by-permit approach. The net effect within the Protected Area must, however, be to maintain or improve current baseline conditions. This analysis represents a significant undertaking in effort by a jurisdiction to document and analyze the impacts of all actions across a landscape, but can provide coverage for a suite of actions under one programmatic analysis.

•In all cases potential mitigation measures must be considered and justified in the following descending order of preference: avoidance, minimization, replacement, on-site compensation, off-site compensation.

•Appendix 4 of the Biological Opinion (NFIP BO Appendix 4 page 223) also states that fish habitat and flood storage within the floodplain but outside the Protected Area must be protected by mitigating impacts to stormwater regimes, bank stability, channel migration processes, hyporheic zones, wetlands, and large woody debris loadings and recruitment to rivers. Each of these variables must be considered when jurisdictions describe current conditions and assess the impacts of proposed actions.

Appendix 4: Minimum Criteria

It is the purpose of the following criteria to maintain streams and floodplains in their natural state to the maximum extent possible so they support healthy biological ecosystems, by: 1) assuring that flood loss reduction measures under the NFIP protect natural floodplain functions and riparian habitat, and the natural processes that create and maintain fish habitat, and 2) preventing or minimizing loss of hydraulic, geomorphic, and ecological functions of freshwater and estuarine floodplains and stream channels.

In all 100-year floodplain areas (SFHAs) the following criteria apply:

1. Restrict development in the Riparian Buffer Zone for all watercourses including off channel areas (areas outside this zone but within the Special Flood Hazard Area) to provide necessary protection to the RBZ. The RBZ is the greater of the following:

- 250 feet measured perpendicularly from ordinary high water for Type S (Shorelines of the State) streams, 200 feet for Type F streams (fish bearing) greater than 5 feet wide and marine shorelines, and 150 feet for Type F streams less than 5 feet wide, for lakes. For type N (nonsalmonid-bearing) perennial and seasonal streams a 150 foot or 225 foot buffer applies, depending on slope stability (the 225 foot buffer applies to unstable slopes), *[updated per the May 14, 2009, errata letter]*
- the Channel Migration Zone[22] plus 50 feet; and
- the mapped Floodway.

The Riparian Buffer Zone is an overlay zone that encompasses lands as defined above on either side of all streams, and for all other watercourses including off channel areas. The RBZ is a no disturbance zone, other than for activities that will not adversely affect habitat function. Any property or portion thereof that lies within the RBZ is subject to the restrictions of the RBZ, as well as any zoning restrictions that apply to the parcel in the underlying zone.

[Footnote 22: The lateral extent of likely movement along a stream reach during the next one hundred years with evidence of active stream channel movement over the past one hundred years. Evidence of active movement can be provided from aerial photos or specific channel and valley bottom characteristics. A time frame of one hundred years was chosen because aerial photos and field evidence can be used to evaluate movement in this time frame. Also, this time span typically represents the time it takes to grow mature trees that can provide functional large woody debris to most streams. In large meandering rivers a more detailed analysis can be conducted to relate bank erosion processes and the time required to grow trees that function as stable large woody debris.

With the exception of shorelands in or meeting the criteria for the "natural" and "rural conservancy" environments, areas separated from the active channel by legally existing artificial channel constraints that limit bank erosion and channel avulsion without hydraulic connections shall not be considered within the CMZ. All areas, including areas within the "natural" and "rural conservancy" environments, separated from the natural channel by legally existing structures designed to withstand the 100-year flood shall not be considered within the CMZ. A tributary stream or other hydraulic connection allowing listed species fish passage draining through a dike or other constricting structure shall be considered part of the CMZ.]

Restrictions in this area apply to all development, per the definition of development.[23] Uses that are not permitted unless shown not to adversely affect water quality, water quantity, flood volumes, flood velocities, spawning substrate, and/or floodplain refugia for listed salmon, include the following: new buildings, including accessory buildings; new impervious surfaces; removal of native vegetation; new clearing, grading, filling, land-disturbing activity or other "development" (see definition), other than for the purpose of replacing non-native vegetation with native vegetation, and for other approved restoration work; septic tanks and drain fields, dumping of any materials, hazardous or sanitary waste landfills; receiving areas for toxic or hazardous waste or other contaminants; and, stream relocations, unless the primary function of the action is to restore natural ecological function.

[Footnote 23: Development. Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, storage of equipment or materials, or any other activity which results in the removal of substantial amounts of vegetation or in the alteration of natural site characteristics located within the area of special flood hazard.]

In the RBZ the following uses are allowed: [1] repair or remodel of an existing building in its existing footprint, including buildings damaged by fire or other casualties; [2] removal of noxious weeds; [3] replacement of non-native vegetation with native vegetation; [4] ongoing activities such as lawn and garden maintenance; [5] removal of hazard trees; [6] normal maintenance of public utilities and facilities; and [7] restoration or enhancement of floodplains, riparian areas and streams that meets Federal and State standards

2. Protect fish habitat and flood storage in the remaining 100-year floodplain (outside the RBZ) by either:

a.) Prohibiting development in the 100-year floodplain, OR

b.) Providing compensation for any adverse effects to floodwater storage and fish habitat function within the 100-year floodplain. *[updated per the May 14, 2009, errata letter]*

Any development in the 100-year floodplain must be compensated, for example, through the creation of an equivalent area and volume of floodwater storage and fish habitat through a balanced cut and fill program. The new flood storage/habitat area must be graded and vegetated to allow fish refugia during flood events and return to the main channel as floodwaters recede without creating stranding risks. In addition, equivalent area, if not located on site, must be located in priority floodplain restoration areas identified in the ESU Recovery Plan for listed species.

3. Mitigate for all adverse indirect effects of development in the floodplain (effects to stormwater, riparian vegetation, bank stability, channel migration, hyporheic zones, wetlands, LWD, etc.) such that equivalent or better salmon habitat protection is provided. *[updated per the May 14, 2009, errata letter]*

Stormwater. Reduce flood volumes and stormwater runoff from new development by ensuring that increased volumes of stormwater reach the river at the same frequency, timing, and duration as historical runoff. Low Impact Development (LID) methods are required to treat and infiltrate runoff as described in PSAT 2002. These methods generally include various practices for infiltrating stormwater to provide water quality treatment, match historical runoff durations, and preserve base flows.

Riparian vegetation: Maintain or replace riparian function by providing equivalent area, diversity, and function of riparian vegetation as currently exists on the site (per WDFW riparian management recommendations (Knutson and Naef 1997).

Bank Stability: Bank stabilization measures along salmonid-bearing streams, channel migration zones, and along estuarine and marine shorelines must be minimized to the maximum extent possible. If bank stabilization measures are necessary, bioengineered armoring of streambanks and shorelines must be used (per the Integrated Streambank Protection Guidelines 2003 (for riverine shorelines) or the State Shorelines Guidelines on bank stabilization (2003) (for estuarine and marine shorelines).

Channel migration. No activity is allowed that limits the natural meandering pattern of the channel migration zone, however, natural channel migration patterns may be enhanced or restored (see Rapp and Abbe 2003, for delineating channel migration zones).

Hyporheic zones. No activity is allowed that interferes with the natural exchange of flow between surface water, groundwater and the hyporheic zone, however, natural hyporheic exchange may be enhanced or restored (see Bolton and Shellberg. 2001 for hyporheic zone issues).

Wetlands. Wetland function must be maintained or replaced by providing equivalent function per Washington State Department of Ecology (McMillan 1998) regulations.

LWD. Any LWD removed from the floodplain must be replaced in kind, replicating or improving the quantity, size, and species of the existing LWD (per WDFW Aquatic Habitat guidelines).

In the 100-year floodplain outside the Riparian Buffer Zone the following apply:

1) For buildable lots partially in the floodplain, require structures to be located on the portion of the lot outside of the mapped floodplain. Where a buildable lot is fully in the floodplain, structures must be sited in the location that has the least impact on listed salmon, e.g., located as far from the stream or river as possible on the lot, placing structures on the highest land on the lot, orienting structures parallel to flow rather than perpendicular, and avoiding disruption of active hyporheic exchange on a site.

2) Require zoning to maintain a low density (e.g., 5-acre lots or greater) of floodplain development to reduce the damage potential within the floodplain to both property and habitat, and help maintain flood storage and conveyance capacity.

3) All structures must be set back at least 15 feet from the RBZ and shall be sited as close to the 100-year floodplain boundary as possible.

4) In an effort to site structures as far away from the watercourse and RBZ as possible, the applicant will be apprised of the elevations of the 10-year and 50-year floods in detailed study areas at the same time that the (city, county) provides the 100-year elevation as a part of the permit review. The applicant, in addition to plotting the 100-year elevation near the building site, will also plot the 10 and 50-year elevations on the land. The purpose is to show the applicant the significantly lower risk of placing the structure further away from the watercourse.

5) Structures built using post, pier, piling or stem wall construction may require less mitigation than structures built on earth fill, but must provide equivalent mitigation for lost fish habitat and indirect effects from development.

6) Creation of new impervious surfaces[24] shall not exceed 10 percent of the surface area of the portion of the lot in the floodplain unless mitigation is provided.

> [Footnote 24: Any material or land alteration (i.e. clearing, grading, etc.) which reduces or prevents absorption of storm water into the ground. That hard surface area which either prevents or retards the entry of water into the soil, water that had entered under natural conditions prior to development; and/or that hard surface area that causes water to run off the surface in greater quantities or at an increased rate of flow from that present under natural conditions prior to development. Common impervious surfaces include, but are not limited to: roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, and packed earthen materials.]

7) Removal of native vegetation must leave 65 percent of the surface area of the portion of the lot in the floodplain in an undeveloped state; the 65 percent pertains to the entire portion of the lot in the floodplain, including that area in the RBZ, where removal of native vegetation is generally prohibited.

8) The proposed action must be designed and located so that it will not require new structural flood protection (e.g., levees).

9) During the floodplain permit review process, applicants shall be notified that their property contains land within the Riparian Buffer Zone and/or 100-year floodplain, and that the applicant is required to record a Notice on Title on the property before a permit may be issued. Applicants shall be further notified that development in the RBZ and 100-year floodplain can only occur according to the above criteria.

10) New road crossings over streams are prohibited.

11) Concepts of cluster development, density transfer, credits and bonuses, planned unit development, and transfer of development rights shall be employed wherever possible.

12) Any flood information that is more restrictive or detailed than the FEMA data can be used for flood loss reduction and/or fisheries habitat management purposes, including data on channel migration, more restrictive floodways, maps showing future build-out and global climate change conditions, specific maps from watershed or related studies that show riparian habitat areas, or similar maps.

In the RBZ and the floodplain the following re-development criteria apply:

1) Require that expansion to existing buildings in the floodplain be limited to no more than 10 percent of the existing footprint (i.e., when building and other structures such as garages are substantially damaged or expanded in the floodplain), unless mitigation for any adverse effects to floodplain habitat is provided, as described above .

4. Communities choosing to implement the mitigation option (2.b. above) must track the projects for which they issue floodplain development permits, including effects to flood storage, fish habitat, and all indirect direct of development. The expected development effects, the equivalent mitigation provided, and the success of the mitigation in replacing the affected fish habitat and flood storage functions shall be reported to FEMA on a semi-annual basis (according to the monitoring requirements in RPA element 3.D)

U.S. Department of Homeland Security
Region X
130 228th Street SW
Bothell, WA 98021-9796

FEMA

November 1, 2013

Frequently Asked Questions

Bulkheads and the National Flood Insurance Program (NFIP) Biological Opinion

Background

Marine shoreline bank protection, or shoreline armoring, is pervasive throughout Puget Sound, primarily in the form of bulkheads. Bulkheads are hardened structures, usually of concrete or large rock, placed within the marine floodplain on the beach to protect landward property from the erosive forces of tides and wave action. Over 800 miles of Puget Sound shorelines are armored with some type of bulkhead structure, an estimated 1/3 of the total shoreline. Bulkheads, while they can be useful for property protection, have a number of well documented detrimental side effects. Hard vertical structures on the beach are known to steepen the beach slope and harden beach sediments over time, reducing available habitat for forage fish spawning and reducing available habitat and prey items for juvenile salmon. Other effects include removal of overhanging vegetation, cutting off of sediment supplies that create and maintain beaches, and degrading adjacent beaches that are not armored (including, but not limited to, increasing erosion at those neighboring sites).

For more information on bulkheads in Puget Sound and their effects, please see:
http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead.html

In addition, The Puget Sound Nearshore Ecosystem Restoration Project has conducted a number of scientific studies about shoreline armoring, which can be reviewed at:
http://www.pugetsoundnearshore.org/

Q - Bulkheads to protect single family residences are exempt from shoreline permits under the Washington State Shorelines Management Act (SMA) the State Environmental Policy Act (SEPA) -do I still need to get any local permits?

A – Actually, you do need to obtain a floodplain development permit from the local jurisdiction. Washington shorelines are typically within the NFIP regulated floodplain. The NFIP requires any development in the regulatory floodplain to be permitted by the NFIP participating jurisdiction, and since the NFIP is a federal statute, it is not affected by the state exemption under the SMA and SEPA. In most cases, a habitat assessment is required to determine whether or not there will be adverse effects to existing habitat functions.

Frequently asked question regarding Marine Shoreline Armoring in Puget Sound can be reviewed at:
https://fortress.wa.gov/ecy/publications/publications/1006003.pdf

In addition, the actual language in the Washington Administrative Code (WAC) that describes what types of projects have exemptions from shoreline development permits can be found at:
http://apps.leg.wa.gov/wac/default.aspx?cite=173-27-040

U.S. Department of Homeland Security
Region X
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FEMA

Q – Will a Hydraulic Permit Approval (HPA) from the Washington Department of Fish and Wildlife suffice as a permit for a bulkhead?

A – No, the HPA does not satisfy the NFIP permit requirement. The NFIP is a program that provides flood insurance to individuals when their local government meets certain development and regulatory standards in the floodplain. The HPA is a state level permit, and a floodplain development permit must still be obtained from the local jurisdiction. The project proponent will also need the HPA for any projects that are either within a water body, or adjacent to a water body, when the project has any potential to affect aquatic species or their habitats. FEMA's regulations at 44 CFR 60.3(a)(2) requires compliance with all local, state, and federal permitting requirements.

Q – I know I will need a permit from the U.S. Army Corps of Engineers (USACE) to build a new bulkhead. How does that affect the floodplain development permit requirement?

A – Getting a USACE permit doesn't avoid the requirement to obtain floodplain development permit from the local jurisdiction for a bulkhead, but it does make it easier to show compliance with the Endangered Species Act (ESA). ESA compliance is required whenever a federal permit is issued. When a project proposal requires an ESA consultation in order to obtain an USACE permit, that consultation can be used to demonstrate that a proposed bulkhead in a marine floodplain meets the terms of the Biological Opinion (BO) on the NFIP in Puget Sound, (National Marine Fisheries Service in 2008), and through 44 CFR 60.3(a)(2). Some projects within marine floodplains may, however, be partially or completely upland of the upper extent of the jurisdiction of the USACE in Puget Sound (i.e. Mean Higher High (MHH) tide line). If there is not consultation with the USACE, it is still necessary to obtain a floodplain development and provide a habitat assessment to document that there are no adverse effects to ESA-listed species.

Q – All I am doing is repairing an existing bulkhead – does that require new permits?

A – There are permit requirements even if a project only involves repairs of an existing bulkhead. The USACE may cover such work under Nationwide Permit 3 (Normal Maintenance and Repair), but a HPA is probably still required. If there are any changes to the design, location, or materials used when repairng or maintaining a bulkhead, the NFIP requirement to apply for a local floodplain development permit still applies, and a habitat assessment is required to be completed.

Q – I've heard it is hard to get a new bulkhead approved because of some ESA requirements- is that true?

A - Yes it is harder, in part because the NMFS found that floodplain development that is harmful to salmon habitat is preventing recovery of ESA-listed fish species and Killer Whales (*Orcinus orca*) that depend on those fish for food. Floodplain habitat serves important functions for rearing juvenile fish, especially in the marine shoreline environment.

U.S. Department of Homeland Security
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FEMA

Q- Where is the "Protected Area" (or floodplain) compared to my marine shoreline property?

A - In riverine systems the Protected Area "is comprised of those lands that lie within the boundaries of the floodway, the riparian habitat zone, and the channel migration area" that occur within the Special Flood Hazard Area, i.e. within the 100-year floodplain (Model Ordinance, FEMA Region 10). On marine shorelines, the Protected Area extends 200 feet landward from the Mean Higher High (MHH) tide line. It is important to note that in marine areas, designated critical habitat extends to the Extreme High tide line, which potentially could be significantly upland from MHH. In general, it may be appropriate to seek the assistance of a professional in determining the MHH or the Extreme High tide lines.

Q- Can I mitigate for effects of my bulkhead?

A – If the project is located within the Protected Area, adverse effects must be avoided rather than mitigated. No short- or long-term adverse effects to existing habitat functions within the Protected Area are allowed. Therefore, if adverse effects would potentially occur, the only options are to either redesign the project to avoid them or abandon the project altogether. If the project site is completely outside the Protected Area, but still in the regulatory floodplain, and there is some potential for adverse effects, those adverse effects must be fully mitigated using all the options under the 'Mitigation Sequence' in the order listed:

Avoid > Minimize > Replace > Compensatory Mitigation

Discussion about this mitigation sequence can be found in the Habitat Assessment and Mitigation guidance and the Frequently Asked Question (FAQ) titled Compliance Options, which both can be found at:
http://www.fema.gov/national-flood-insurance-program-endangered-species-act

Q - Are there effective alternatives to rock and concrete bulkheads?

A- In some locations, the answer is yes. In fact, some locations do not benefit from a bulkhead at all. This is a developing science. Here are some useful websites that discuss this subject:
http://www.fema.gov/national-flood-insurance-program-endangered-species-act

An interactive decision tool for identifying alternative bulkhead construction methods for lake shorelines that can be found at: http://www.govlink.org/watersheds/8/action/GreenShorelines/Design.aspx

The City of Seattle has also produced a guidebook describing alternatives to the use of bulkheads and other shore armoring for lakes, which can be found at:
http://www.seattle.gov/dpd/cms/groups/pan/@pan/documents/web_informational/dpdp025742.pdf

The National Oceanic and Atmospheric Administration (NOAA) provides a website that introduces alternative shoreline stabilization methods for marine waters at:
http://coastalmanagement.noaa.gov/initiatives/shoreline_stabilization.html

U.S. Department of Homeland Security
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FEMA

Q -What if I'm only building a stairway or other "non-bulkhead" structure?

A – Regardless of the type of structure, there can be no short- or long-term adverse effects to ESA-listed fish species or their critical habitats. In many cases, a simple stairway may not result in any adverse effects, but each project proposal needs to be assessed by conducting a habitat assessment that is reviewed and approved by the jurisdiction and available to FEMA or NMFS for review and comments (see Habitat Assessment and Mitigation guidance (FEMA Region 10).

When any project is within the Protected Area (and in most cases regarding the example of a stairway it would be), the project must avoid all adverse effects. Impacts from projects located outside of the Protected Area must be fully mitigated (see earlier description of the mitigation sequence).

RESOLUTION NO. 16-701

A RESOLUTION of the City Council of the City of Federal Way, Washington, opposing the development and operation of a natural gas-to-methanol production plant in the City of Tacoma.

WHEREAS, Northwest Innovation Works Tacoma, LLC ("NWIW"), a business venture formed with funding from the Chinese government and British Petroleum, has proposed to develop and operate a natural gas-to-methanol production plant in the City of Tacoma on approximately 125 acres leased from the Port of Tacoma; and

WHEREAS, the development and operation of the proposed project has created concern for the health and safety of citizens and the impact on resources; and

WHEREAS, the potential air pollution, water pollution, and exposure to methanol produced by this project could be related to various diseases, cause serious negative health impacts, and have unknown impacts on the natural environment and human health; and

WHEREAS, the development and operation of this project has the potential for increased risks of exposure to pollutants and toxic chemicals due to spills, leaks, fires, explosions, and natural or other disasters; and

WHEREAS, the project has generated concerns about the methods and costs to address mitigation measures such as accident and disaster preparedness, health impacts, decreased property values, and medical expenses due to increased exposure; and

WHEREAS, the project has generated concerns about the methods and costs of restoring damaged ecosystems such as waterways, plants, and animals; and

Section 2. Scoping Comments. The Federal Way City Council submits the following issues for inclusion into the EIS Scope of Work by the City of Tacoma:

1. Consideration of off-site impacts that extend into the City of Federal Way.

2. Environmental impacts, safety records and mitigation measures for other methanol facilities, on an international basis for the methanol industry and the principals involved with the Tacoma project.

3. Public health risks of exposure to methanol pollutants, including air quality, water quality and usage, soil leeching, and industrial accidents.

4. Workplace safety risks for employees of the methanol plant and neighboring industrial users of the Port of Tacoma.

5. Risk analysis for industrial accidents and impact of man-made or natural disasters, both during construction and operation.

6. Pipeline safety, during construction and operation.

7. Short and long term impacts on natural resources during construction and operation, including:
    a) Impacts of dredging;
    b) Air and soil plume formation and migration;
    c) Water temperatures, both in Puget Sound and the Hylebos Watershed;
    d) Water supply impacts, including drought-year planning; and
    e) Impacts to wildlife and marine species.

8. Cost-benefit analysis during construction and operation, including:
    a) Net job gain or loss to regional and U.S. economies as a result of the project, and contribution to the U.S. trade deficit with China;
    b) Impacts to other U.S. industries;
    c) Consideration of other geographic or technical alternatives to the project location; and
    d) Economic volatility of the benefitting industry.

9. Environmental justice issues related to economically distressed communities, minority communities, and efforts to address language and cultural barriers to participation of these communities in the process.

This list is not intended to be all inclusive of the potential impacts to be considered, but rather, a beginning point from which to expand as the impacts are more fully examined.

Section 3. Severability. If any section, sentence, clause or phrase of this resolution should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this resolution.

Section 4. Corrections. The City Clerk and the codifiers of this resolution are authorized to make necessary corrections to this resolution including, but not limited to, the correction of scrivener/clerical errors, references, resolution numbering, section/subsection numbers and any references thereto.

Section 5. Ratification. Any act consistent with the authority and prior to the effective date of this resolution is hereby ratified and affirmed.

Section 6. Effective Date. This resolution shall be effective immediately upon passage by the Federal Way City Council.

RESOLVED BY THE CITY COUNCIL OF THE CITY OF FEDERAL WAY, WASHINGTON this 11th day of February 2016.

CITY OF FEDERAL WAY

MAYOR, JIM FERRELL

ATTEST:

CITY CLERK, STEPHANIE COURTNEY, CMC

APPROVED AS TO FORM:

Amy Jo Pearsall

CITY ATTORNEY, AMY JO PEARSALL

FILED WITH THE CITY CLERK: 02/11/2016
PASSED BY THE CITY COUNCIL: 02/11/2016
RESOLUTION NO.: 16-701

Northwest Innovation Works lease and location

Port of Tacoma

Northwest Innovation Works is proposing a facility at the Port of Tacoma to convert natural gas to methanol.

The methanol will be used as feedstock in Asia to produce olefin, a compound used in such consumer goods as plastic components, cell phones and carpet fibers.

Coal is traditionally used to produce olefins. Using methanol instead could reduce carbon emissions by 70 percent.

The site is the former Kaiser Aluminum property, which the Port bought in 2003.

Since then, we have removed thousands of tons of waste from the site, dismantled contaminated buildings and cleaned up the property.

This proposal will put a former industrial site back into productive use, creating green jobs and economic growth for our community.

Environmental review process

The City of Tacoma is the SEPA (State Environmental Policy Act) lead agency. A typical environmental review is broken into three parts: scoping, draft Environmental Impact Statement (EIS) and a final EIS.

Scoping

60-day comment period, which is twice as long as the standard 30-day period.

- **Dec. 15, 2015:** Scoping notice published
- **Jan. 21, 2016:** Public hearing
- **Feb. 5, 2016:** Draft scope published
- **Feb. 10, 2016:** Second public hearing
- **Feb. 16, 2016:** Third public hearing
- **March 4, 2016:** Public comment period closes

Draft EIS

- **September 2016 (est.):** Draft EIS to be issued. The City will hold two public hearings during public comment period

Final EIS

- **January 2017 (est.):** Final EIS to be issued

More information about SEPA process
www.cityoftacoma.org

Lease background

The Port of Tacoma commission authorized the lease May 1, 2014, with Northwest Innovation Works. The 30-year lease includes the option for one 25-year extension. The lease covers about 90 acres of the former Kaiser site, and the 16-acre East Blair One wharf.

Lease terms include three phases

- **Feasibility:** During the feasibility period, NWIW designs engineering plans, goes through environmental review and secures permits.
- **Construction:** During construction, the company will pay half rent. With an estimated $3.4 billion investment, NWIW estimates about 1,000 jobs during peak construction.
- **Full operations:** NWIW will pay full rent at $6,000 per acre, $8,000 per acre for preferential/non-exclusive use of the East Blair One wharf, plus wharfage and leasehold excise tax. Full operations are expected to create more than 260 full-time, family-wage manager and labor positions.

Why Tacoma?

We have the opportunity to be part of a global climate solution. We can help reduce greenhouse gases to address climate change by providing cleaner alternatives to the coal and oil currently used to produce consumer goods, as we work collectively to green our lifestyles.

We have the skilled labor, geography, plentiful natural resources and a world-class port to supply Asia with a cleaner manufacturing feedstock.

- **Skilled labor:** Our history of manufacturing means we have the skilled labor to build, run and maintain a facility like this.
- **Geography:** We have industrially zoned property in the Tacoma Tideflats with close proximity to Asia.
- **Natural resources:** We have access to supplies of natural gas, water and clean, cost-effective sources of electricity.
- **World-class port:** The Port of Tacoma has invested billions of dollars and almost 100 years in shipping infrastructure and services to become one of North America's top ports.

Why *not* Tacoma? We have the opportunity to be a leader in building a bridge to a cleaner future for generations to come.

Background on the former Kaiser Aluminum site

The Port of Tacoma bought the abandoned aluminum smelter in 2003. The sale included about 96 acres and related structures in the Industrial area next to the Blair Waterway. The Port purchased the property with the express intent to dismantle the facility, finish cleaning up the site and put it back into productive use.

Kaiser Aluminum smelter in October 1968

Activity at Kaiser's Tacoma facility stopped in 2002 after more than 60 years. At full operation, the facility employed 350 people and was capable of producing about 73,000 metric tons of aluminum per year.

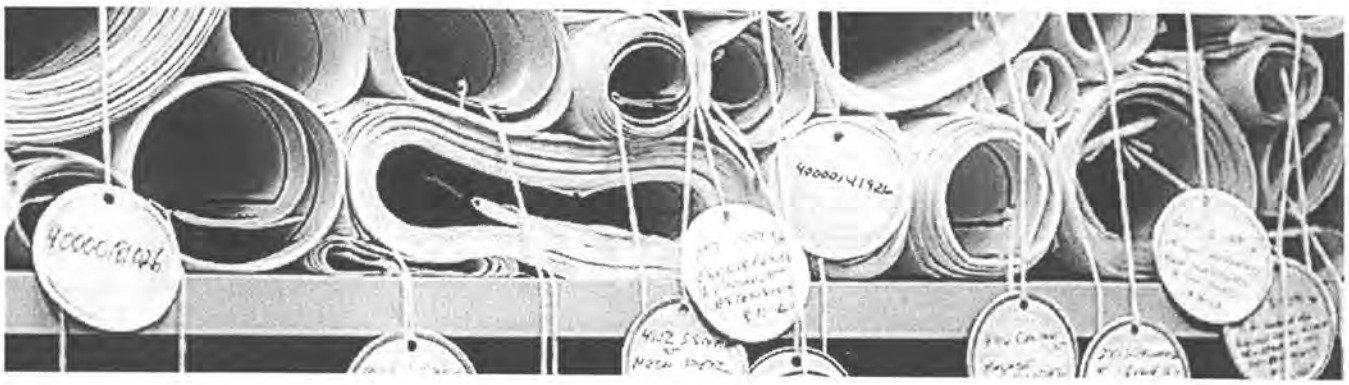
During the past 10 years, the Port has removed thousands of tons of waste from the site, dismantled buildings and cleaned up significant portions of the property. The Port's total cost to purchase the property and clean it up will add up to about $32.7 million.

We are pleased to finally see the site developed and put back into long-term productive use that will create family-wage jobs that will have a direct effect on reducing global greenhouse gases to address climate change.

Port of Tacoma

People Partnership Performance

City of Tacoma
WASHINGTON



Print Friendly

Latest - Draft Scope of Work Released

As of February 5, 2016, the Draft EIS Scope of Work and Appendix 1 (the Draft Scoping Report) for the Proposed Methanol Plant project are available for public review and comment. The documents are posted below.

Methanol Plant EIS Draft Scope of Work (February 5, 2016)

Methanol Plant EIS Draft Scoping Report (Appendix 1 of the Scope of Work) (February 5, 2016)

Determination of Significance and Notice of Public Scoping Meetings (updated January 27, 2016)

Public Scoping Meetings

As announced in the notice posted above, the City of Tacoma has scheduled the following three public scoping meetings to provide information about the proposed project and to provide an opportunity to make oral comment on the scope of the Environmental Impact Statement (EIS):

1. *(held)* Thursday, January 21, 2016, 6:30 PM, at Greater Tacoma Convention & Trade Center, 1500 Broadway. The transcript and recording of this meeting are posted below.

- Scoping Meeting Transcript (January 21, 2016)
- Scoping Meeting Recording Part 1 Intro (January 21, 2016)
- Scoping Meeting Recording Part 2 (January 21, 2016)
- Scoping Meeting Recording Part 3 (January 21, 2016)

2. *(held)* Wednesday, February 10, 2016, 6:30 PM, at Greater Tacoma Convention & Trade Center, 1500 Broadway. The transcript and recording of this meeting will soon be posted here.

3. *(upcoming)* Tuesday, **February 16**, 2016, 6:30 PM, at Meeker Middle School, 4402 Nassau Avenue NE. The doors will open at 5:00 for speaker sign-up and the meeting will begin at 6:30; speakers will be called upon in the order of sign-up. This meeting is being scheduled to make it easier for Northeast Tacoma residents to attend.

Written Comments due March 4

In addition to oral comment, written comments will be accepted at the public scoping meetings. Comment forms will be available. Comments may also be e-mailed to Tacoma.Methanol.SEPA@cityoftacoma.org.

All submitted comments will be entered in the proposal's environmental review record as scoping comments. **Written comments are due no later than Friday, March 4, 2016, 5:00 PM.**

Background

Northwest Innovation Works, Tacoma, LLC (NWIW) proposes to develop and operate a natural gas-to-methanol production plant and export facility on approximately 125 acres in the Port of Tacoma. The project objective is the manufacture and shipment of methanol to global markets for use as a feedstock for manufacturing olefins used in the production of plastics and other materials.

Through ongoing engineering efforts, NWIW has identified design features that allow for greater volumes of water to be reused throughout the methanol production process. These design features mean water usage at the facility will be reduced by approximately 28 percent to an estimated 10.4 million gpd. This is a decline from earlier preliminary estimates of 14.4 million gpd.

The City of Tacoma is the Lead Agency for the purposes of completing environmental review pursuant to the Washington State Environmental Policy Act (SEPA). Under state regulations at WAC 197-11 and Tacoma Municipal Code 13.12, the City has issued a Determination of Significance, requiring the preparation of an Environmental Impact Statement (EIS).

The EIS is not a substitute for permit review. It is a process that develops information that is used to support permit review and development of recommended mitigation measures related to potential impacts to matters such as transportation, fire, health and safety. Key permits for this project include the City of Tacoma Shoreline Substantial Development Permit, Department of Ecology Water Quality Certification, the Department of Fish and Wildlife's Hydraulic Project Approval, the U.S. Army Corps of Engineers' Sections 10 and 404 permits, and a Notice of Construction air contaminant permit from Puget Sound Clean Air Agency. The federal permits will likely involve a thorough review of waterway operations by the US Coast Guard.

This page will provide current information related to the preparation of the Draft and Final EIS, the public process for that EIS, schedules, and related documents.

Additional information can be found in the following documents:

Project Update to the City Council (January 13, 2016)

SEPA Lead Agency Status (November 18, 2015)

Staff Contact

Tacoma.methanol.sepa@cityoftacoma.org

Ian Munce, Project Manager
(253) 573-2478

Shirley Schultz
(253) 591-5121

Northwest Innovation Works Tacoma Proposed Methanol Plant

About Tacoma City Jobs City Departments Residential Resources Business Resources Site Map

This is the official site of the City of Tacoma, 747 Market Street, Tacoma, WA 98402 (253) 591-5000
People with hearing or speech impairments may contact us through Washington Relay Services (800) 833-6388 (TTY or ASCII) (800) 833-6386 (VCO) or (877) 833-6341 (STS)
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Determination of Significance, Notice of Request for EIS Scoping Comments, and Notice of Public Scoping Meeting: Updated January 27, 2016

Proponent:	Northwest Innovation Works, Tacoma, LLC
Project Name:	Tacoma Manufacturing and Marine Export Facility (TMMEF)
Location of Proposal:	Blair-Hylebos Peninsula, Port of Tacoma: 3400 Taylor Way, Tacoma, tax parcels: 0321363034, 0321363037, 0321363033, 0321363013, 0321363033, 0321363036, and 0321354035; see attached map (also at www.cityoftacoma.org/planning, under 'Proposed Methanol Plant'
SEPA Lead Agency:	City of Tacoma – File No. SEPA2015-40000260025

Project Description: Northwest Innovation Works, Tacoma, LLC (NWIWT) proposes to develop and operate a natural gas-to-methanol production plant and export facility on approximately 125 acres in the Port of Tacoma (Port). The project objective is the manufacture and shipment of methanol (a liquid) to global markets for use as a feedstock for manufacturing olefins used in the production of plastics and other materials. The characteristics of the proposed project are described below.

As proposed, the plant will include up to four methanol production lines, each with a production capacity of 5,000 metric tons per day, for a total of 20,000 metric tons per day. The plant will also include ancillary elements such as an administrative and lab building, employee parking, access roadways, fire suppression facilities, air separation units, air storage, water storage and treatment facilities, wastewater treatment facilities, cooling towers, a flare system for the disposal of flammable gases and vapors, substations and emergency generators. Plant components are proposed to be primarily located on approximately 110 acres of Port property situated at the southwest base of the Blair-Hylebos peninsula. Construction is expected to proceed in two phases, each including two production lines totaling production capacity of 10,000 metric tons per day.

The plant will utilize ultra-low emissions (ULE) reforming technology, which will emit substantially lower greenhouse gas and other air pollutants compared to conventional technologies for reforming natural gas to methanol.

Natural gas will be delivered to the methanol plant via a new lateral pipeline, which will transmit odorized gas. Northwest Pipeline GP will be responsible for obtaining permits and constructing this lateral pipeline. This lateral pipeline will connect the existing regional pipeline to the NWIWT project site over an approximately 10-mile corridor through unincorporated Pierce County, the Puyallup Tribe of Indians Reservation, and the cities of Sumner, Puyallup, Fife, Tacoma, and potentially others. Separately, Northwest Pipeline GP is pursuing expansion of its regional pipeline between Sumas and Longview, Washington which is being permitted through the Federal Energy Regulatory Commission. NWIWT anticipates using natural gas distribution capacity that will be provided by that portion of the Northwest Pipeline regional expansion project between Sumas and Tacoma.

The production process will require up to approximately 10.4 million gallons per day of water, which will be supplied by the City of Tacoma Domestic water and sanitary services for on-site personnel use will be obtained from the City of Tacoma. Treated process wastewater (up to approximately 1.44 million gallons per day) will be discharged to the City of Tacoma's wastewater treatment works.

A construction stormwater permit will be required. Stormwater management post-construction will be discharged through Port of Tacoma outfalls or through the City of Tacoma's stormwater system.

At full production, the project will require up to approximately 450 megawatts of electrical power, which will be transmitted through the existing transmission system with localized upgrades if necessary.

The anticipated yearly production at full capacity is approximately 7.2 million metric tons of methanol. Up to approximately 300,000 metric tons of methanol will be stored in storage tanks at atmospheric

pressure and ambient temperature and surrounded by secondary containment. Storage tanks will be co-located with plant components, as well as on approximately 15 acres of land adjacent to or in close proximity to the main 110 acre plant site. Methanol product will be transferred by pipeline across Port property from the storage area to the Port's existing deep draft marine terminal (the "East Blair One [EB1] terminal) on the Blair Waterway. Roadway improvements to access the EB1 terminal may be necessary. NWIWT anticipates loading between four and seven ships per month depending on vessel size. The Port will be responsible for obtaining permits for modifications to the dock, as well as localized dredging, if necessary, in the vicinity of the berth.

The plant will be operated in compliance with applicable fire, health, and safety regulations and codes. Plant safety features will include fire suppression systems, fire safety equipment, and storage and containment systems designed to current industry standards and regulatory requirements. NWIWT will conduct process safety management assessments and develop emergency response plans in accordance with applicable local, state and federal regulations.

Determination of Significance: NWIWT acknowledges the issuance of a Determination of Significance as the SEPA Threshold Determination in order to initiate SEPA scoping for an Environmental Impact Statement ("EIS") for the TMMEF Project. The EIS is not a substitute for permit review. It is a process that develops information that is used to support permit review and development of recommended mitigation measures related to potential impacts associated with matters such as transportation, fire, health and safety. Key permits for this project include the City of Tacoma Shoreline Substantial Development Permit, Department of Ecology Water Quality Certification, the Department of Fish and Wildlife's Hydraulic Project Approval, the U.S. Army Corps of Engineers' Sections 10 and 404 permits, and a Notice of Construction air contaminant permit from Puget Sound Clean Air Agency. The federal permits will likely involve a thorough review of waterway operations by the US Coast Guard.

Scoping: Consistent with TMC Chapter 13.12, the City of Tacoma, as SEPA lead agency, is initiating a 60-day scoping process beginning December 15, 2015 and ending on February 17, 2016 to narrow the scope of the EIS. The NWIWT Project EIS will discuss the probable significant adverse impacts of the proposed action, the no-action alternative, and alternatives that are capable of attaining the proposal's objectives stated above. The Blair-Hylebos Terminal Redevelopment Project FEIS (Feb. 2009) and the Tacoma LNG FEIS (Nov. 2015) are proposed for incorporation, to the extent relevant, by reference under WAC 197-11-600(4)(b) to provide additional information and analysis in preparation of the project-specific TMMEF EIS. The City has determined that Environmental Health and Safety ("EH&S") will be areas of emphasis in the EIS.

In addition to the foregoing topics, agencies, affected tribes, and members of the public are invited and encouraged to comment on the scope of this EIS. You may comment on alternatives, proposed mitigation measures, probable significant adverse impacts, permits, licenses and/or other approvals that may be required. The City will use the scoping comments to help define the topics to be examined closely in the project-specific EIS. Methods for presenting your comments are described below. All comments are due no later than 5 p.m. on ~~February 17, 2016~~ March 4, 2016.

- **EIS Public Scoping Meetings (~~2~~3)** – The first EIS Public Scoping Meeting is scheduled to begin at 6:30 p.m. on Thursday January 21, 2016 at the City Convention Center, 1500 Broadway; NWIWT will have representatives and materials available in the foyer to share currently available information beginning at 5 p.m. The second EIS Public Scoping Meeting is scheduled to begin at 6:30 p.m. on Wednesday, February 10, 2016, in the 5th Floor Exhibit Hall at the City Convention Center, 1500 Broadway (doors will open at 5:00 p.m. for speaker sign-up; speakers will be called upon in order of sign-up). The third EIS Public Scoping Meeting is scheduled for February 16 at Meeker Middle School in NE Tacoma. Doors will open at 5:00 p.m. for speaker sign-up; the meeting will begin at 6:30 p.m. We are locating the third meeting to make it easier for NE Tacoma residents to attend.

- City staff plan to have a draft Scope of Work available and posted on the project web page no later than February 5, 2016. As much as possible, the second and third hearings should focus on the details of the Scope of Work.
- The purpose of the public scoping meeting is to provide information about the proposed project and to provide an opportunity to make oral comment on the scope of the EIS. Additionally, written comments will be accepted at this meeting (comment forms will be available) which will be entered in the proposal's environmental review record as scoping comments. Additional information may be found at www.cityoftacoma.org/planning.
- **Submittal of written comments** - Written comments may be submitted via mail, e-mail or fax to the City's Project Manager, as follows:

Project Manager:	Ian Munce, AICP, Principal Planner
Address:	City of Tacoma: Planning & Development Services Department 747 Market Street, Suite 345, Tacoma, WA 98402
E-mail:	tacoma.methanol.sepa@cityoftacoma.org
Phone#|Fax #:	(253) 573-2478 | (253) 591-5433

Responsible Official: The Responsible Official is the designated person within the City of Tacoma's Planning & Development Services Department who is responsible for compliance with the SEPA lead agency procedural responsibilities.

Issuance Date: December 15, 2015, Updated January 27, 2016

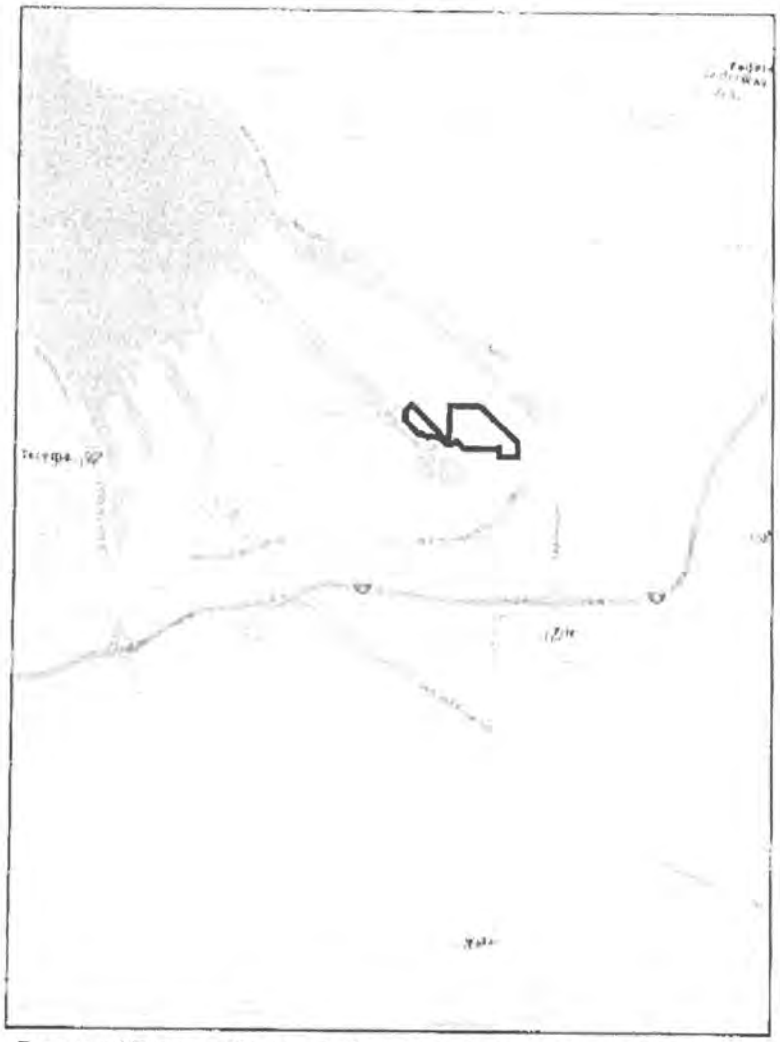
Peter Huffman, Planning & Development Services Director
SEPA Responsible Official

Tacoma Daily Index Publication: December 15, 2015 and December 22, 2015, *Updated January 27, 2016*

The City of Tacoma does not discriminate on the basis of disability in any of its programs, activities, or services. To request this information in an alternative format or a reasonable accommodation, please contact the City Clerk's Office at 253.591.5505. TTY or speech-to-speech users please dial 711 to connect to Washington Relay Services.

PROJECT AREA MAP

Proponent: Northwest Innovation Works, Tacoma, LLC
Project Name: Tacoma Manufacturing and Marine Export Facility (TMMEF)
SEPA Lead Agency: City of Tacoma
Agency File No.: SEPA2015-40000260025



Proposed Tacoma Methanol Manufacturing and Export Facility
Project Location*

* Approximately 15 acres of land adjacent to or in close proximity to the location shown above will be needed for storage tanks.

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Contact: Ian Munce
Building and Land Use Services
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