

# Tribal Perspective and Lessons Learned from FMAG-HMGP Pilot Program (FM-5109)

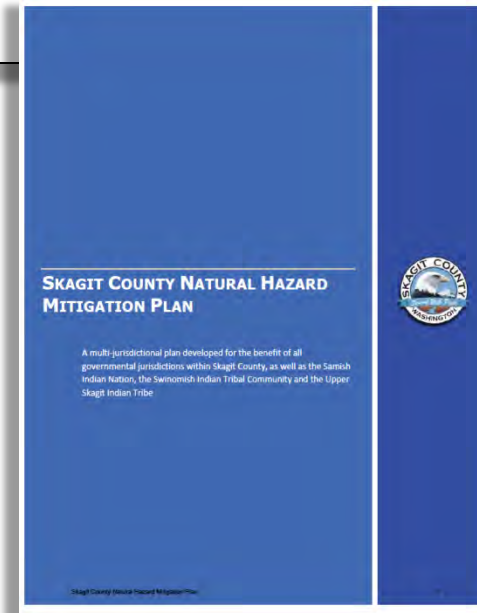
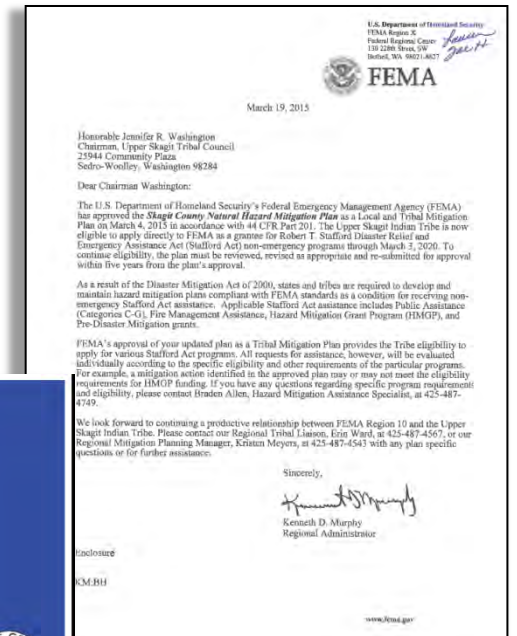
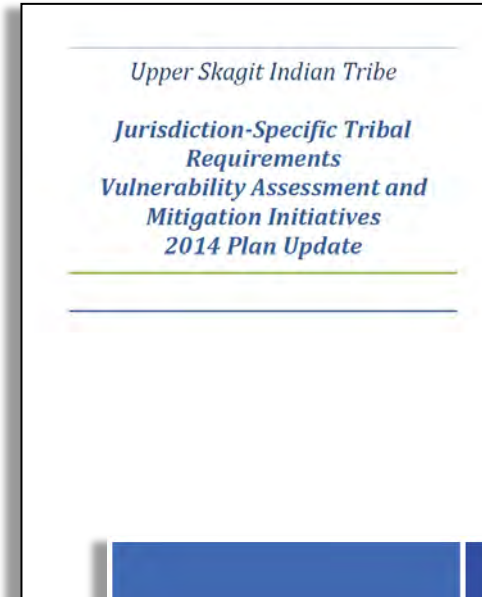
Tribal Public Health Emergency Preparedness Training

Dan Tolliver, P.E.  
Upper Skagit Indian Tribe  
May 16, 2018



# Multi-Jurisdictional Natural Hazard Mitigation Plan

- Tribe has participated in Multi-Jurisdictional Natural Hazard Mitigation Plan (Skagit County) since 2003
- Tribe received FEMA approval for its plan, which is an element of the Multi-Jurisdictional Plan
- Allowed Tribe to be eligible for FMAG-HMGP Pilot funding



# Goodell Fire



Photo: North Cascades Institute

- Fire Mitigation Assistance Grants—Hazard Mitigation Grant Program (FMAG-HMGP)
- FMAG declaration (FM 5109)
- Fire affected Tribal resources
- Funding available for Tribe to complete hazard mitigation project(s)

# Administrative Plan

- Requirement for direct recipient funding (not through State)
- Need one for each funding application
- Checklist
- Must comply with 44 CFR, 2 CFR 200

**Tribe Hazard Mitigation Administrative Plan Compliance Review Checklist**

Compliance review performed by: \_\_\_\_\_ Administrative Plan for the State/Tribe of: Upper Skagit Indian Tribe  
 Date: \_\_\_\_\_ Administrative Plan for declaration: 5009


Minimum Criteria	44 CFR Reference	2 CFR 200 Reference	Regulatory Compliance	Initials	Comments
Designation of the State Agency having responsibility for program administration	206.437(b)(1)	N/A	Y N		
Identification of the State Hazard Mitigation Officer responsible for all matters related to the hazard mitigation grant program	206.437(b)(2)	N/A	Y N		
Determination of staffing requirements and sources of staff necessary for administration of the program	206.437(b)(3)	N/A	Y N		
Establishment of procedures to identify and notify potential applicants (subgrantees) of the availability of the program	206.437(b)(4)(i)	N/A	Y N		
Establishment of procedures to ensure that potential applicants are provided information on the application process, program eligibility and key deadlines	206.437(b)(4)(ii)	N/A	Y N		
Establishment of procedures to determine applicant eligibility	206.437(b)(4)(iii)	N/A	Y N		
Establishment of procedures to conduct environmental and floodplain management reviews	206.437(b)(4)(iv)	N/A	Y N		
Establishment of procedures to establish priorities for selection of mitigation projects	206.437(b)(4)(v)	N/A	Y N		
Establishment of procedures to process requests for advances of funds and reimbursements	206.437(b)(4)(vi)	N/A	- -		Refer to SECTION 1
Establishment of procedures to monitor and evaluate the progress and completion of the selected projects	206.437(b)(4)(vii)	N/A	Y N		
Establishment of procedures to review and approve cost overruns	206.437(b)(4)(viii)	N/A	Y N		
Establishment of procedures to process appeals	206.437(b)(4)(ix)	N/A	Y N		
Establishment of procedures to provide technical assistance as required to subgrantees	206.437(b)(4)(x)	N/A	Y N		
Establishment of procedures to comply with the administrative requirements of 2 CFR part 200 and 44 CFR part 206	206.437(b)(4)(xi)	N/A	- -		Refer to SECTION 2

Upper Skagit Indian Tribe | 2016  
Hazard Mitigation Grant Program (HMGP) Administrative Plan

Upper Skagit Indian Tribe  
Hazard Mitigation Grant Program Administrative Plan

March 2016  
Revision June 2016

FMAG-HMGP Tribal Pilot Program – FM-5109, Goodell Fire





# Projects—Successfully Funded Under FMAG-HMGP

- Mitigate stormwater flooding impacting Tribe's wastewater disposal area
- Emergency generators for Tribe's Emergency Operations Center (EOC)



**SARGENT**Sargent Engineers, Inc.  
320 Ronlee Ln NW  
Olympia, WA 98502  
Tel 360-867-9284SEI#: A16136.00  
Project: USIT Assessment  
Designed By: E.C. MartinFile: AdminAnnex.xmcd  
Date: 7/11/2016**Seismic Evaluation of Existing Building: Admin Annex**

The following is based on the ASCE 41-13, Tier 1 Checklist, and Tier 2 Evaluation of an Existing Building.

**Building Description:**

The Administration Annex structure is a two story with daylight basement, wood framed structure. Lateral forces are resisted using a plywood floor and roof decking for the diaphragm, and plywood walls for the shear walls in both directions.

Type W2 building per Table 3-1.

L := 45ft Length of building

W := 42ft Width of building

H := 37.1ft Approximate

Year Built: 2004  
Design Code: 1997 Uniform Building Code**Seismic Loading:** Determined using Pse**Site Seismicity:** $S_s := 0.347$  (Per USGS f) $S_1 := 0.129$ **Site Classification:**

Class D (Per DNR Sk

**Site Coefficients:** $F_a := 1.522$  (Per USGS) $F_v := 2.284$ **Adjusted Spectral Response Acceleration** $S_{X5} := F_a S_s$   $S_{X5} = 0.528$  $S_{X1} := F_v S_1$   $S_{X1} = 0.295$ **SARGENT**Sargent Engineers, Inc.  
320 Ronlee Ln NW  
Olympia, WA 98502  
Tel 360-867-9284SEI#: A16136.00  
Project: USIT Assessment  
Designed By: E.C. MartinFile: AdminAnnex.xmcd  
Date: 7/11/2016**Roof Weights and Heights:** $n_f := 2$  Total number of floors above grade $h_f := 9.25\text{ft}$  Height of each floor
$$h := \left[ \begin{array}{c} 0.5 (3 \cdot h_f + H) \\ 2 \cdot h_f \\ 1 \cdot h_f \end{array} \right] \frac{1}{\text{ft}} = \left( \begin{array}{c} 32.425 \\ 18.5 \\ 9.25 \end{array} \right)$$
 Height of each level
$$w := \left[ \begin{array}{c} (L_b \cdot B_b) \cdot (w_{rw} + 0.5 \cdot w_{ww}) \\ L \cdot W \cdot (w_{fw} + w_{ww}) \\ L \cdot W \cdot (w_{fw} + w_{ww}) \end{array} \right] = \left( \begin{array}{c} 39.445 \\ 37.8 \\ 37.8 \end{array} \right) \cdot \text{k}$$
 Weight at each level (floors and roof) $W_{tot} := \sum w$   
 $W_{tot} = 115 \cdot \text{kip}$  Total weight of building (floors and roof) $h_r := h_{n_f}$   $h_r = 9.25$  Height of roof diaphragm**Total Seismic Base Shear:** $W_{seis} := W_{tot}$   $W_{seis} = 115 \cdot \text{k}$  Total Seismic Design Weight $V_{seis} := C_s \cdot W_{seis}$   $V_{seis} = 124 \cdot \text{k}$  Total Building Base Shear

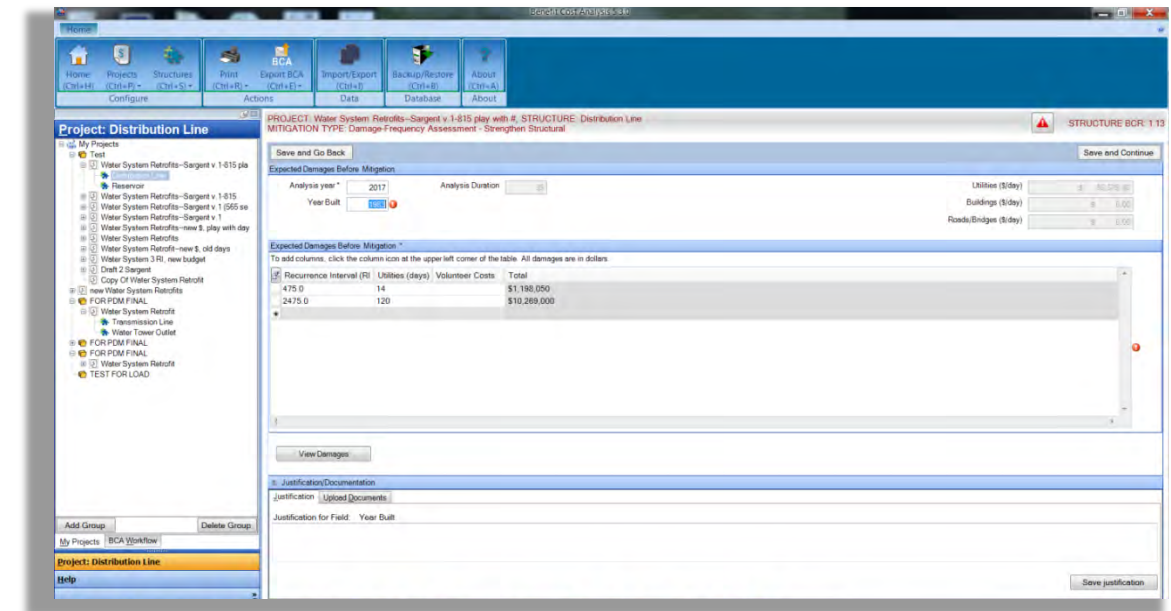
# Projects—Not Funded Under FMAG-HMGP

- Seismic retrofits of Tribal buildings
  - Needed seismic structural engineering analysis for BCA
  - Analysis not funded by FEMA—cost covered by Tribe
- Seismic retrofits to potable water system
  - Better fit under the PDM application
  - Submitted under FY17 PDM—successful



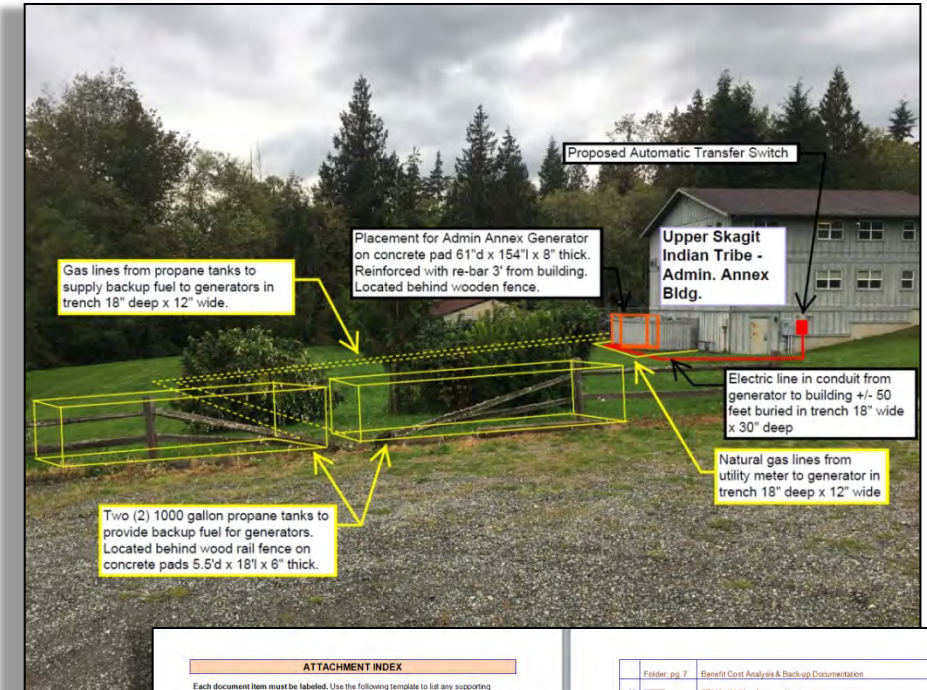
# Lessons Learned: BCA

- Benefit Cost Analysis (BCA) software tool
- Must have ratio  $>1$  to be funded
- Need to use FEMA default values or provide backup documentation for alternate values
- Damage Frequency Assessment (DFA) module
  - DFA module was required for all of our projects (generators, stormwater flooding, structural seismic retrofits of a utility)
  - Fewer default values available
  - More extensive backup documentation required



# Lessons Learned: FEMA Staff Support

- FEMA staff support provided in FMAG-HMGP Pilot (not available in PDM)
- Especially helpful as a first-time applicant to FEMA
- Explained expectations & level of supporting documentation necessary
- BCA feedback
- Lessons learned from FMAG-HMGP informed our FY 17 PDM application process, had successful application



ATTACHMENT INDEX	
Each document item must be labeled. Use the following template to list any supporting documentation that is attached to the application. In the first column list which section from the HMGP application and from the attachment refers to. Example: Section 2, Item 1. If any required documentation is not attached, the application will be considered incomplete and will not be considered for possible funding.	
SECTION # & ITEM	ATTACHED DOCUMENT NAME
1	Upper Skagit Indian Tribe - Grant Documents
2	Tribal Resolution Approving Agreement
3	Tribal Resolution Approving Agreement with Addendum
4	Tribal Officers
5	Certification Lobbying
6	Construction Assurance
7	Non-Construction Assurance
8	Upper Skagit Indirect Cost Rate Agreement
9	Tribal NHPA Letter
10	SHPO & DASHP Letter
11	EPA Assessment
12	EPA CAA Attainment & Non-Attainment Map
13	Wilderness Areas
14	No Prime Farmland Map
15	State Source Apportionment Region 10 EPA
16	Generator Project Documents
17	Application
18	Attachment Index

Folder - pg. 7	Benefit Cost Analysis & Back-up Documentation
15	FEMA HMGP Plan Approval Letter
16	Page 5 of App. Upper Skagit HMGP Plan Page 5 & 16
17	Page 11 of App. USIT Emergency Power Project Cost
18	SF-424C Form
19	Pacific Power Products Quote 1 & 2 for Generators
20	Generator Spec Sheets
21	Page 11 of App. Non-Federal Match Commitment Document
21a	Page 11 of App. Tribal Resolution Approving Application and Match
22	Page 12 of App. Maintenance Agreement & Service
23	Generator Project Photos
24	Maps
24a	EOC Generators Topo Quad
24b	Aerial Generators Site Map
24c	Aerial Imagery ESA/Critical Habitat
24d	Ecology Coastal Atlas
24e	US Fish & Wildlife Service National Wetlands Inventory
24f	Flood Insurance Rate Map 1 & 2 (FIRM)
24g	Directions to the Project
25	Equipment & Tracker SF-429 Form (Required at Project Closeout)
26	



# Lessons Learned: Contracting



- Construction costs high
  - Lowest bid up to 40% above engineer's cost estimate
- Rural area—but see similar trends region-wide
- Busy market = low contractor interest
  - Have had to do multiple advertisements to get any bids
  - Phone solicitation in addition to publication
- Small projects = small profit margin for contractor
- Bid timing matters—more success in winter
- Federal requirements such as Davis-Bacon increase management time demands for small contractors
- Small and inexperienced contractors require significant Tribal staff resources to support and manage project

# Lessons Learned: Contracting

Water Meter Replacment Project			
Note: Bid Package Split (Civil, Equipment Purchasing)			
April 27, 2017		0 Contractors at Walkthrough	\$0.00
August 1, 2017		2 Contractors at Walkthrough	\$0.00
January 22, 2018		2 (Civil Contractors)	\$112,150.70
		Engineers Estimate:	\$119,850.00
		Equipment Purchase (Tribe)	\$60,072.84
		Total Contract+Equipment Cost:	\$172,223.54

# Lessons Learned: Contracting

STEP #2 Recirculation Project (Nitrogen Reduction)				Cost Change:
August 11, 2016		Total:	\$62,050.00	
		Engineers Estimate:	\$40,900.00	
January 22, 2018		Total:	\$93,693.95	51.00%
		Engineers Estimate:	\$53,010.00	29.61%
Note: Bid Package Split (Civil, Electrical, Equipment Purchasing) + 20 Working Days w/ 80 Day Start Window				
February 22, 2018		Total:	\$59,518.96	-36.48%
		Engineers Estimate:	\$53,010.00	



# Future

- FY17 PDM was successful
- Planning
  - Development of comprehensive interdisciplinary plan
  - More fully fund assessment of hazards and risks
  - Forecast what is needed for mitigation
  - Allow decision makers to prioritize pre-disaster mitigation efforts
- Project—seismic retrofit of potable water system

