

# Updating Bucoda's Floodplain Map and Floodplain Development Ordinance

July 28, 2015



# Agenda for Tonight's Discussion

1. **Introduction/Background** -- Scott Boettcher, Chehalis River Basin Flood Authority
2. **Updated Floodplain Map** -- Larry Karpack, Watershed Science & Engineering
  - Existing (“Effective”) FEMA Floodplain Mapping
  - New Study Modeling and Analysis
  - Revised Flows
  - New Floodplain Mapping
  - Comparisons to Effective Mapping
3. **Updating Floodplain Development Ordinance** -- Mark Riebau, French & Associates

# 1. Introduction/Background (Scott)

- Bucoda has been selected as “test pilot” for foundation flood opening program.
- First two properties are installing flood openings now . . .

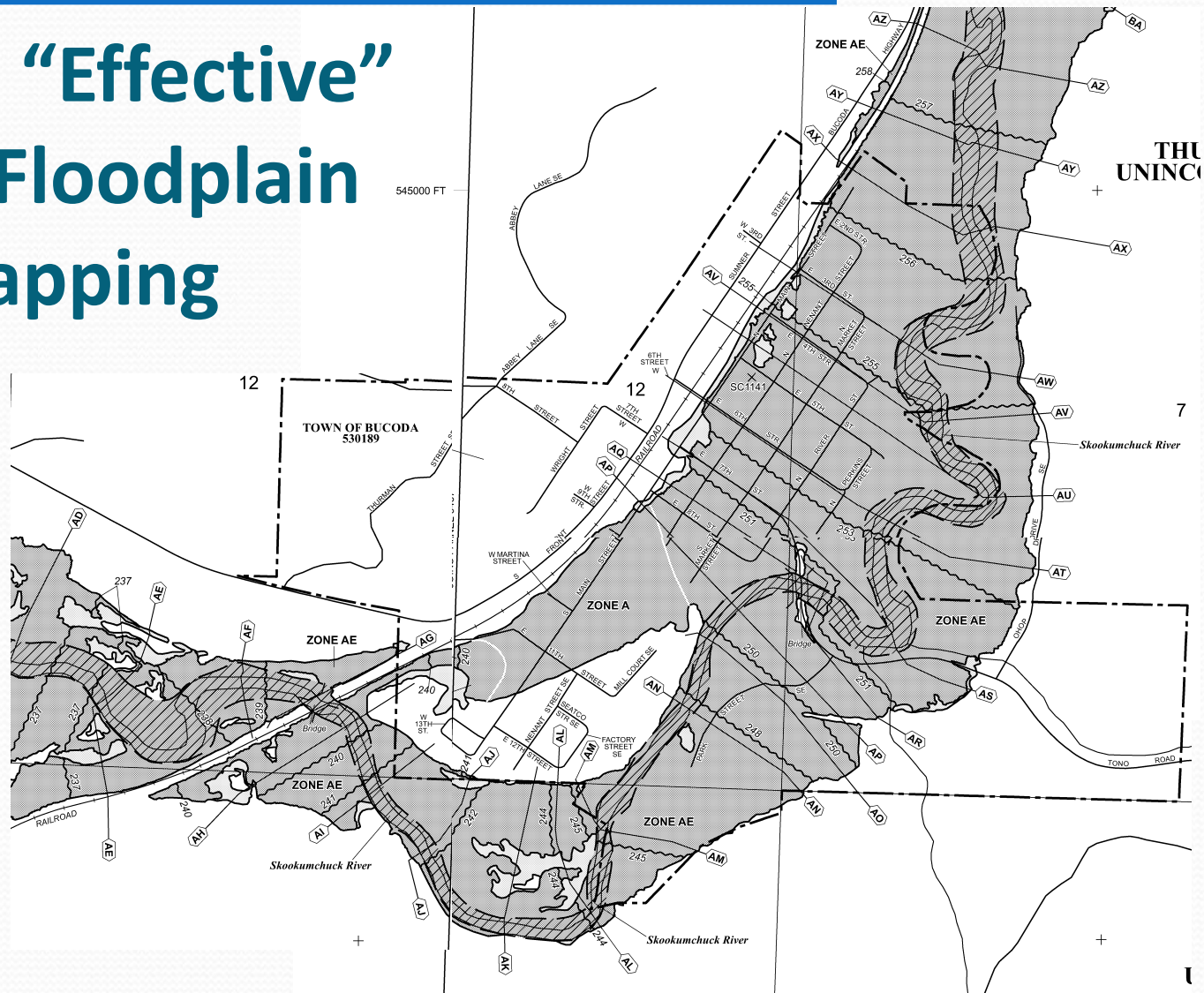
Contractor	Property	Parcel	Start Date
Clean Space Northwest	303 N. Market Street	61800300900	1 <sup>st</sup> /2 <sup>nd</sup> week of August, 2015.
McCann Construction	407 N. Nenant Street	73001600901	Week of July 20, 2015.

- First installations will complete full process before remaining properties.
  - a. Property access
  - b. Bidding and acceptance
  - c. Installation
  - d. Sign-off
  - e. Payment
- First installations found portions of Bucoda’s mapped floodplain did not have established flood depths (base flood elevations) and were designated “A-Zone.”



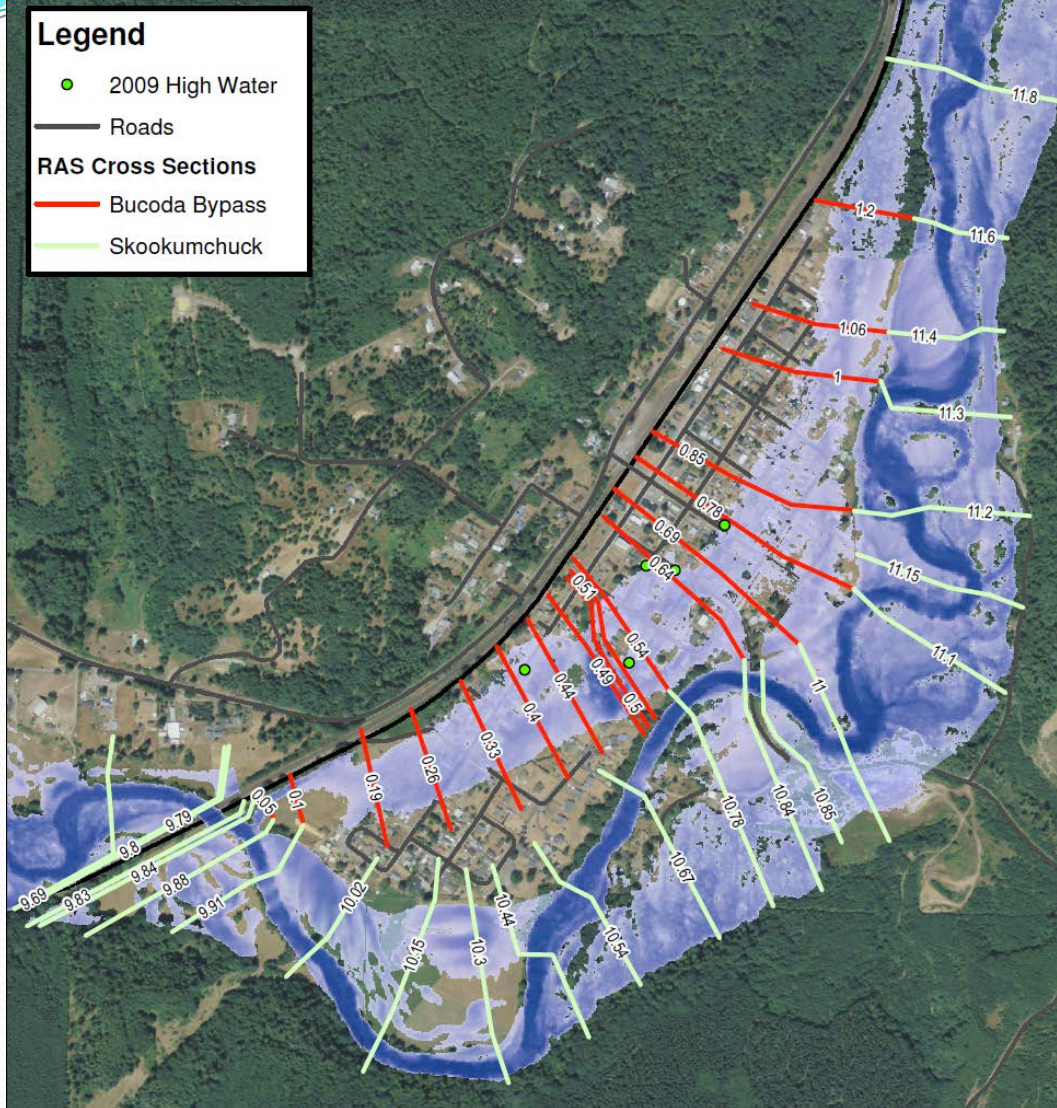
## 2. Updated Floodplain Map (Larry)

# Existing “Effective” FEMA Floodplain Mapping





## 2. Updated Floodplain Map (Larry)



## Revised Hydraulic Model

- Updated topography and cross sections
- Added split flow reach
- Calibrated to January 2009 Flood Event



## 2. Updated Floodplain Map (Larry)

### Revised Hydrology

Table 1. Skookumchuck River Peak Flow at USGS Bucoda Gage

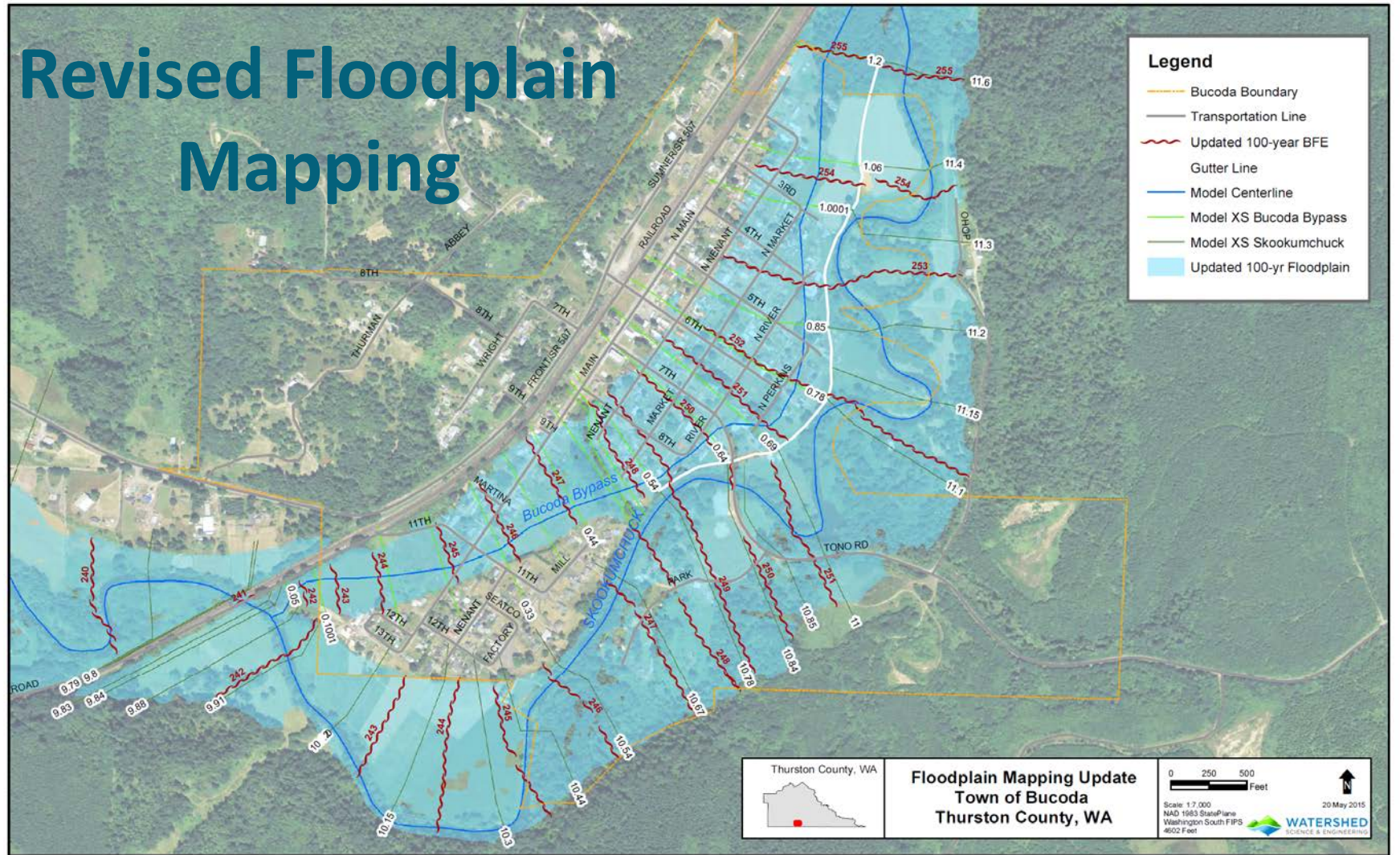
Event	Peak Flow (cfs)
Updated 100-Year	12,600
Feb 1996*	11,300
January 2009*	10,500
FEMA 100-Year	9,060

\*USGS Observed Flow



## 2. Updated Floodplain Map (Larry)

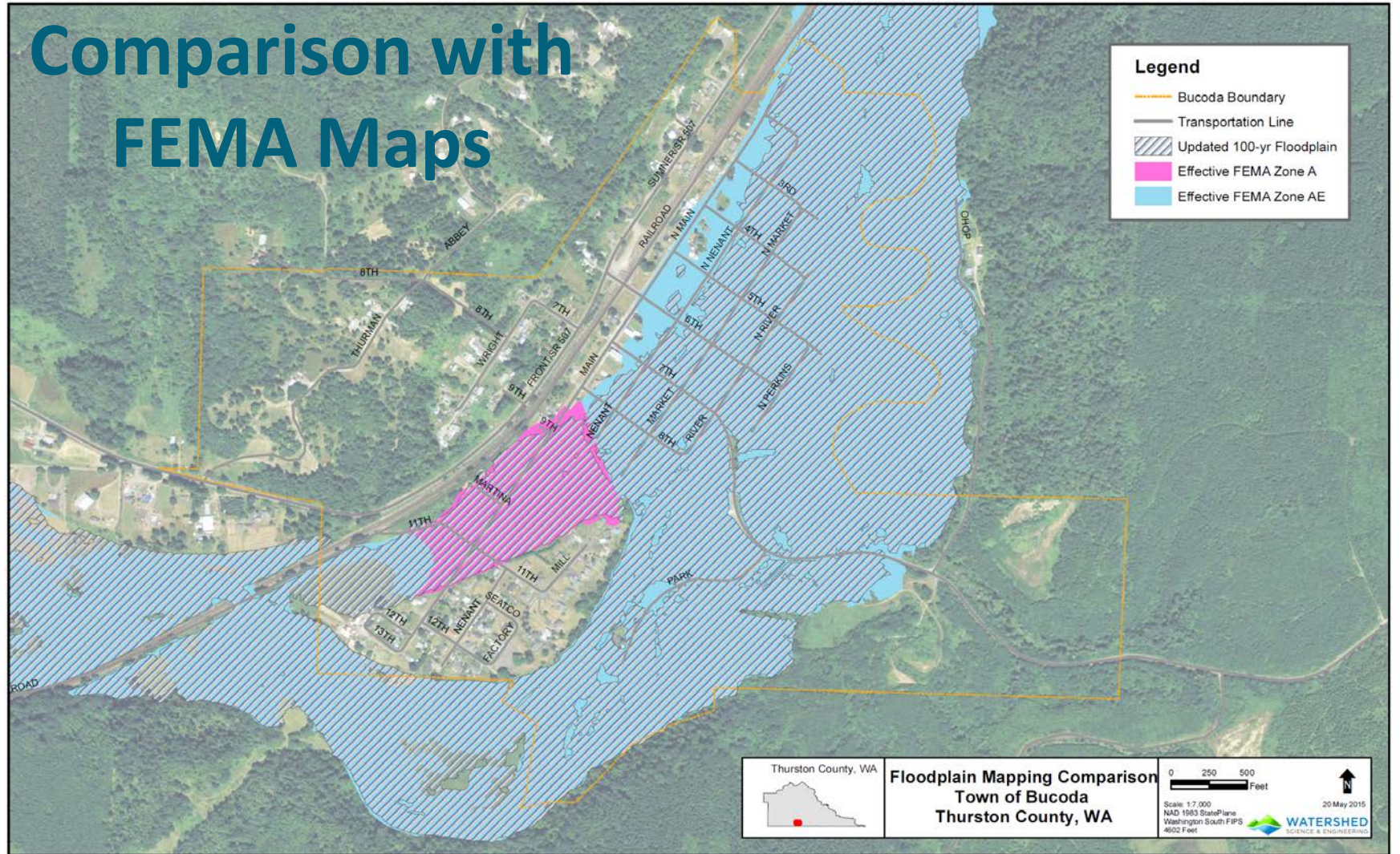
### Revised Floodplain Mapping





## 2. Updated Floodplain Map (Larry)

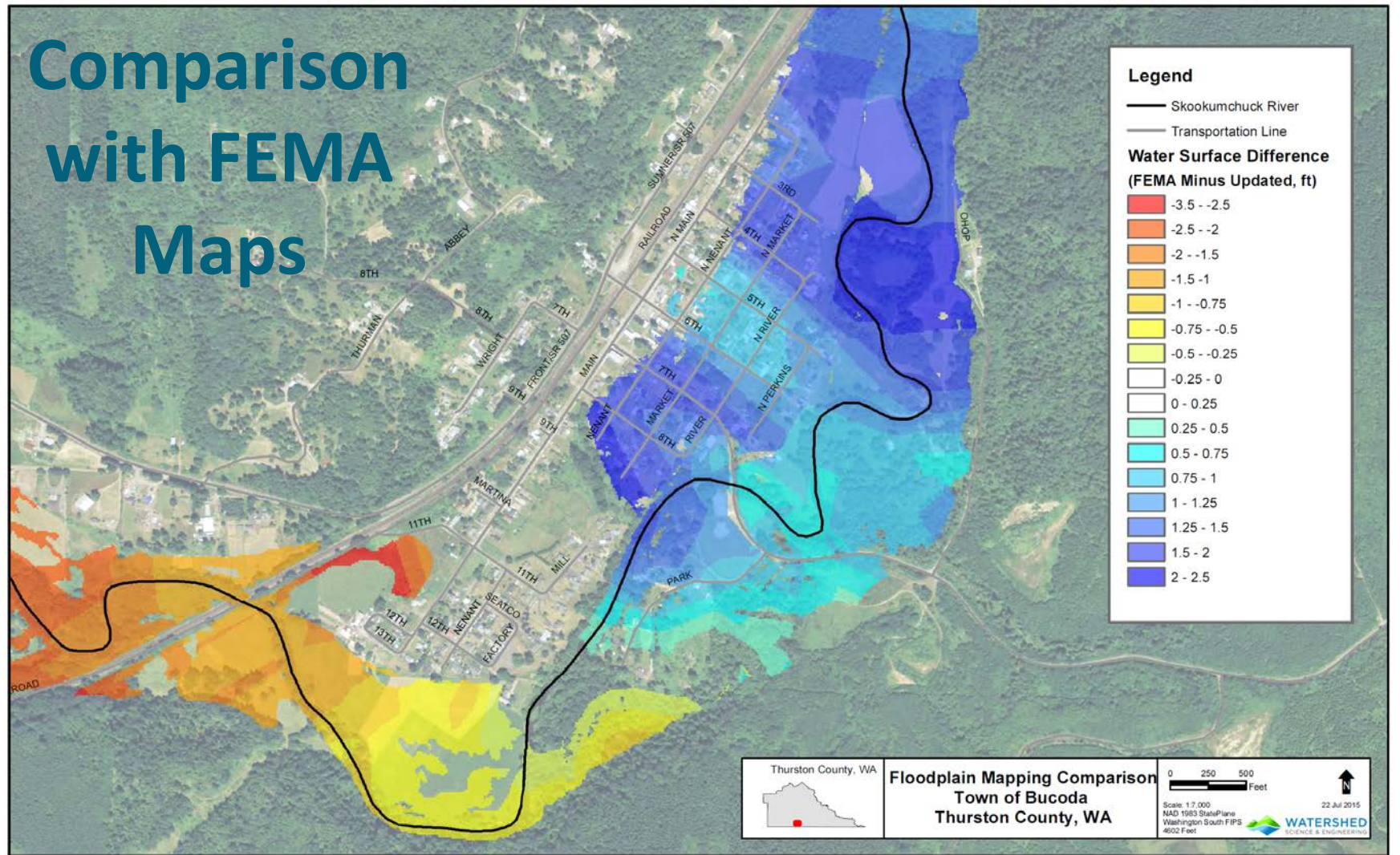
### Comparison with FEMA Maps





## 2. Updated Floodplain Map (Larry)

### Comparison with FEMA Maps





### 3. Updating Floodplain Development Ord. (Mark)

- **Who benefits?** People in A-Zone who would like to have flood openings installed benefit immediately.
- **How 1?** WSE study can be used as “Community Determined BFE” on the Elevation Certificate.  
**How 2?** Bucoda must adopt WSE study to supplement FEMA FIS and FIRM.  
**How 3?** By amending Bucoda’s Floodplain Development Ordinance to reference WSE study, map and elevations\*\*.
- **Is it difficult?** No.
- **Does anybody approve Bucoda’s action?** Yes -- WA Dep’t of Ecology and FEMA.
- **Is it a problem?** No -- It happens all the time.

\*\*CAUTION: Bucoda must continue to use the FIS/FIRM where the BFE is higher than the WSE study unless, and until, FEMA issues a revised FIRM.



# Questions/Discussion

I-5 at Hwy 507 Interchange – December 4, 2007

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