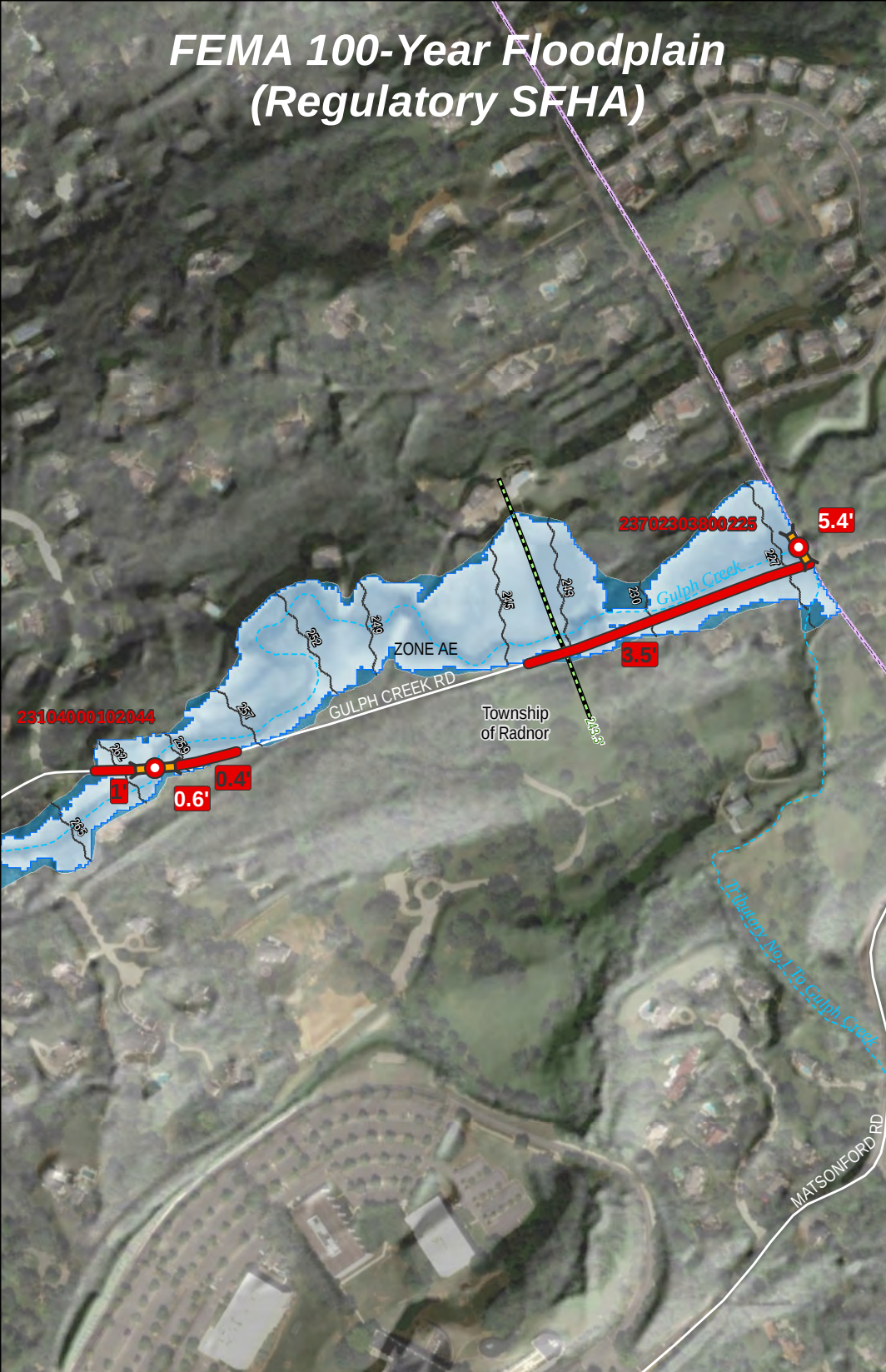
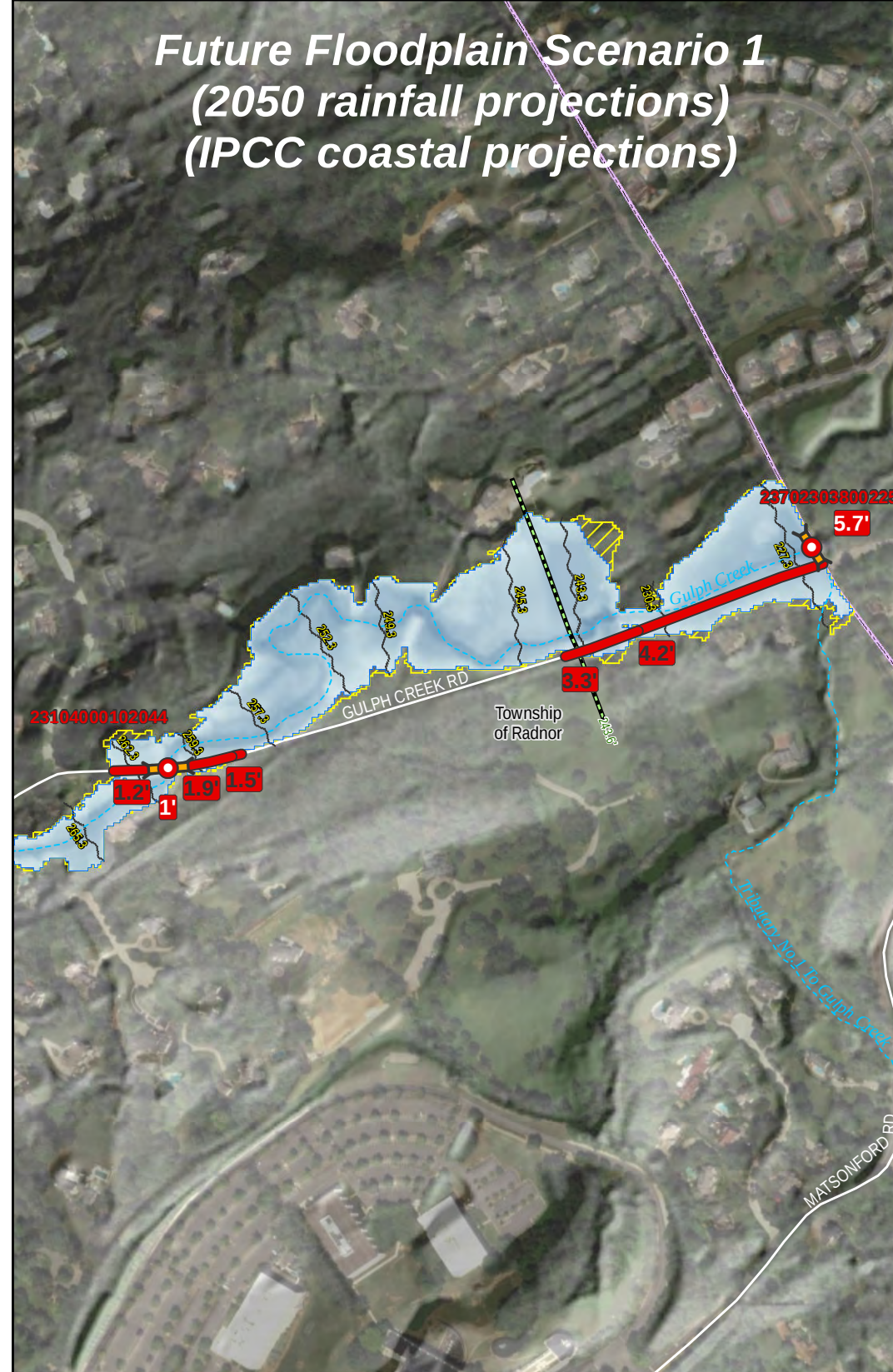


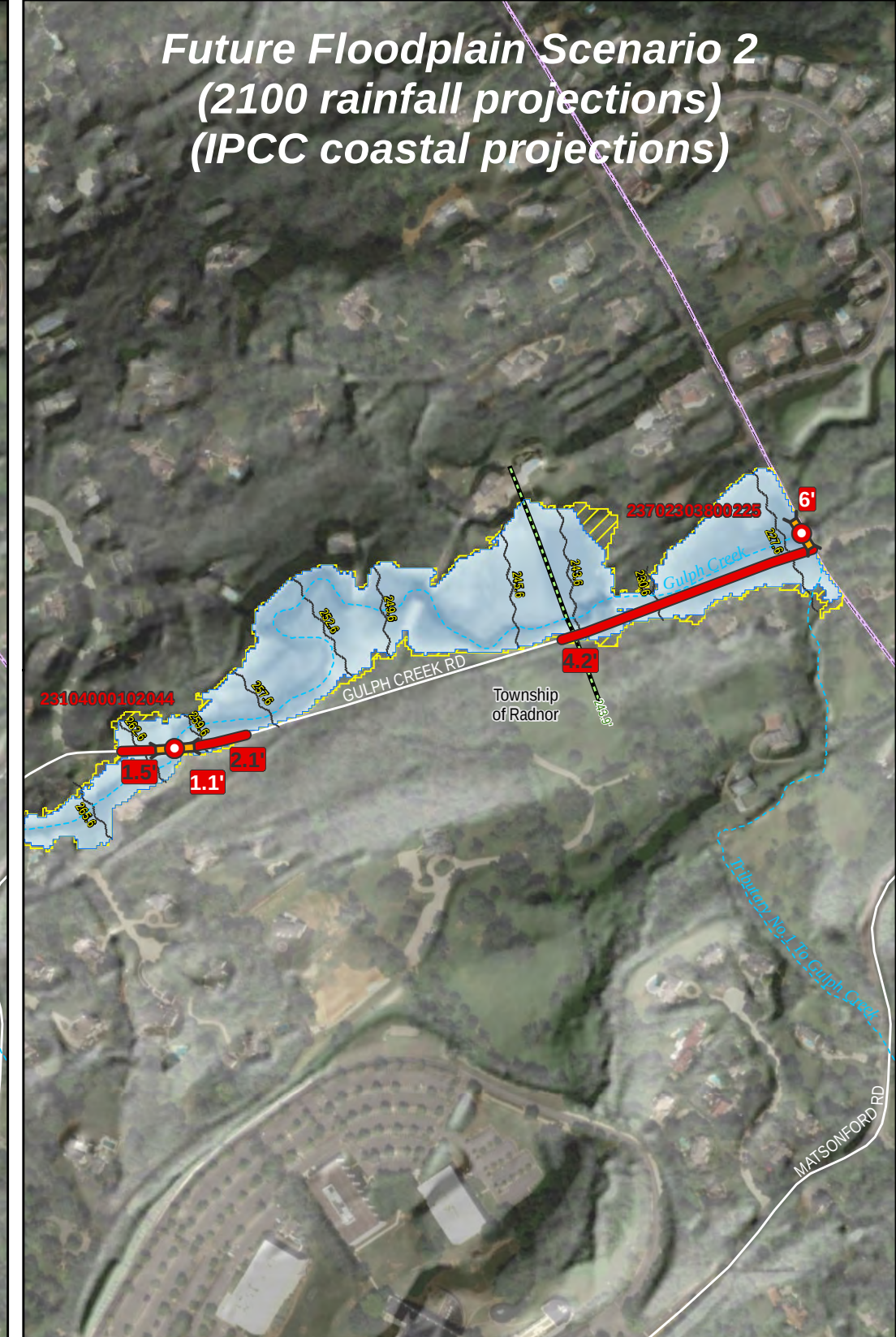
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents
- Projected SFHA Extents
- Projected SFHA Extents

FUTURE CONDITIONS SFHA

(Based on Depth Grid Boundary)

- Projected SFHA Extents

0 Feet
1,000

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

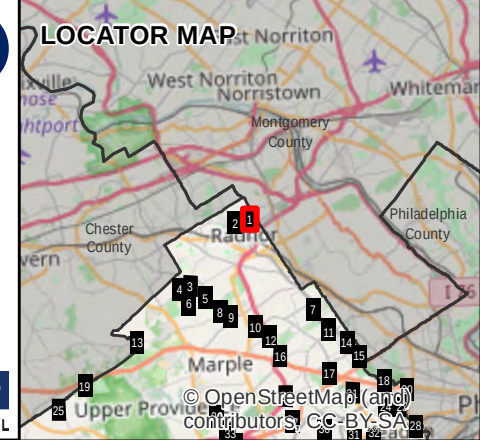
Sheet 1 of 125

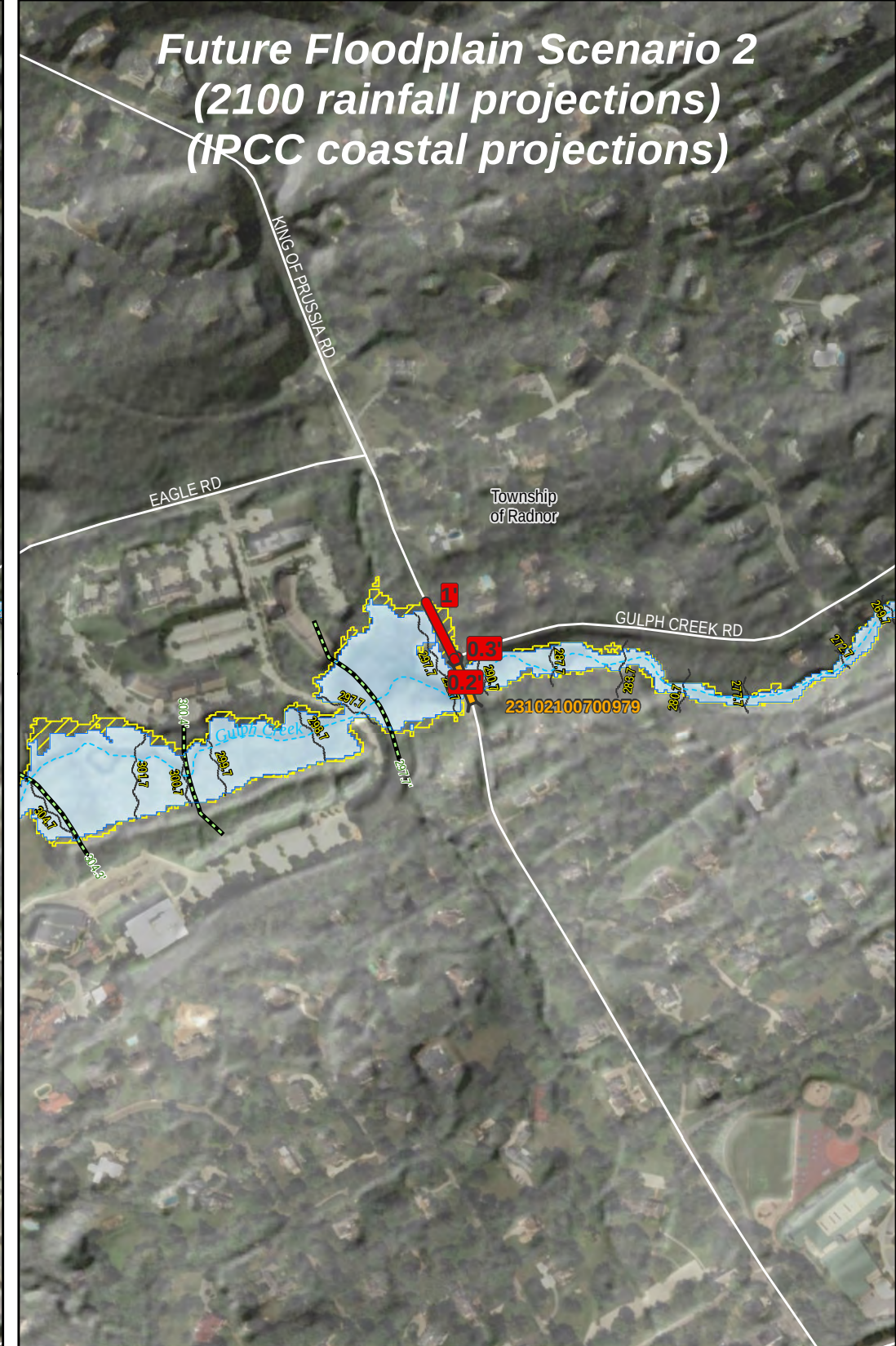
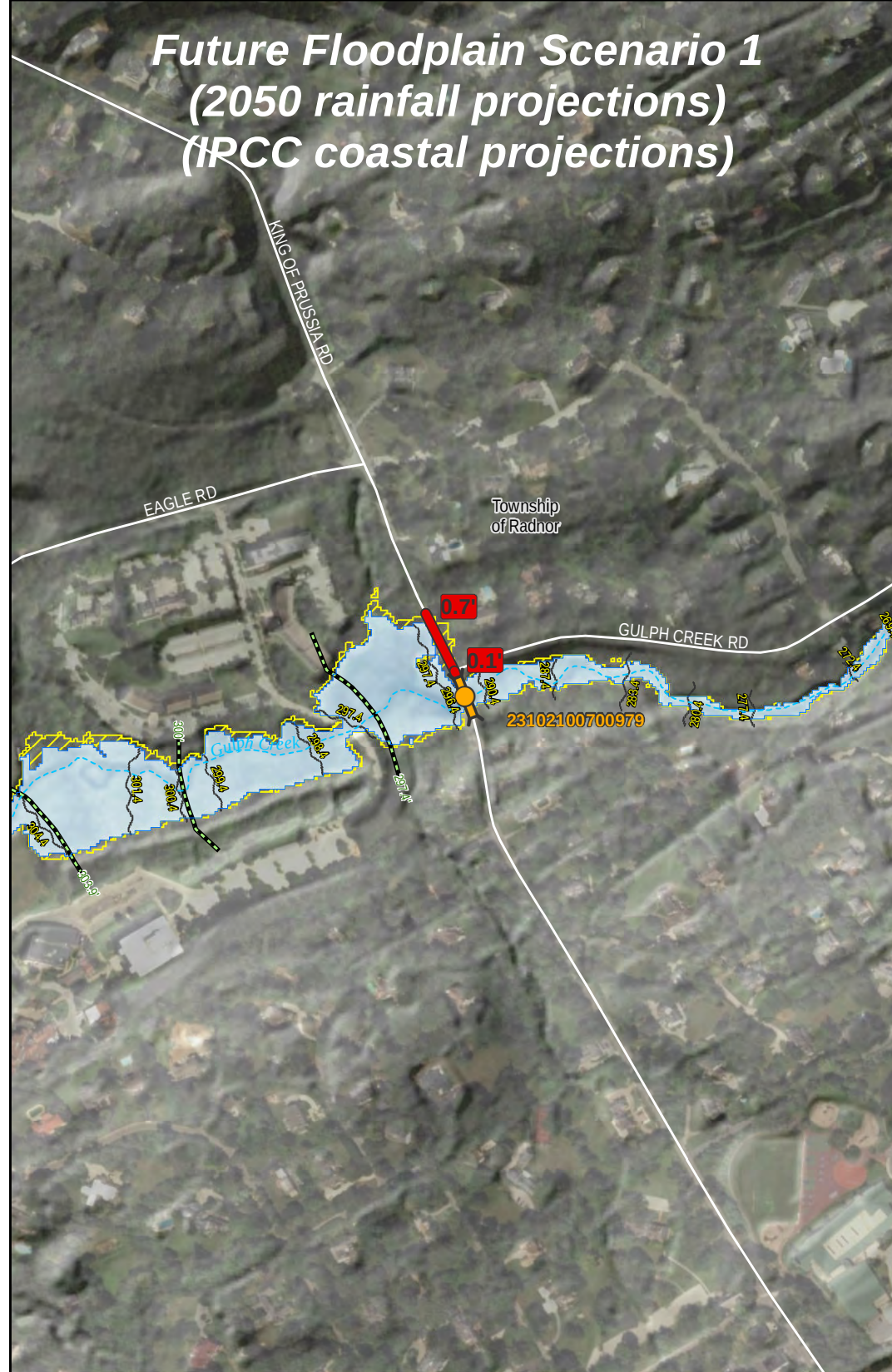
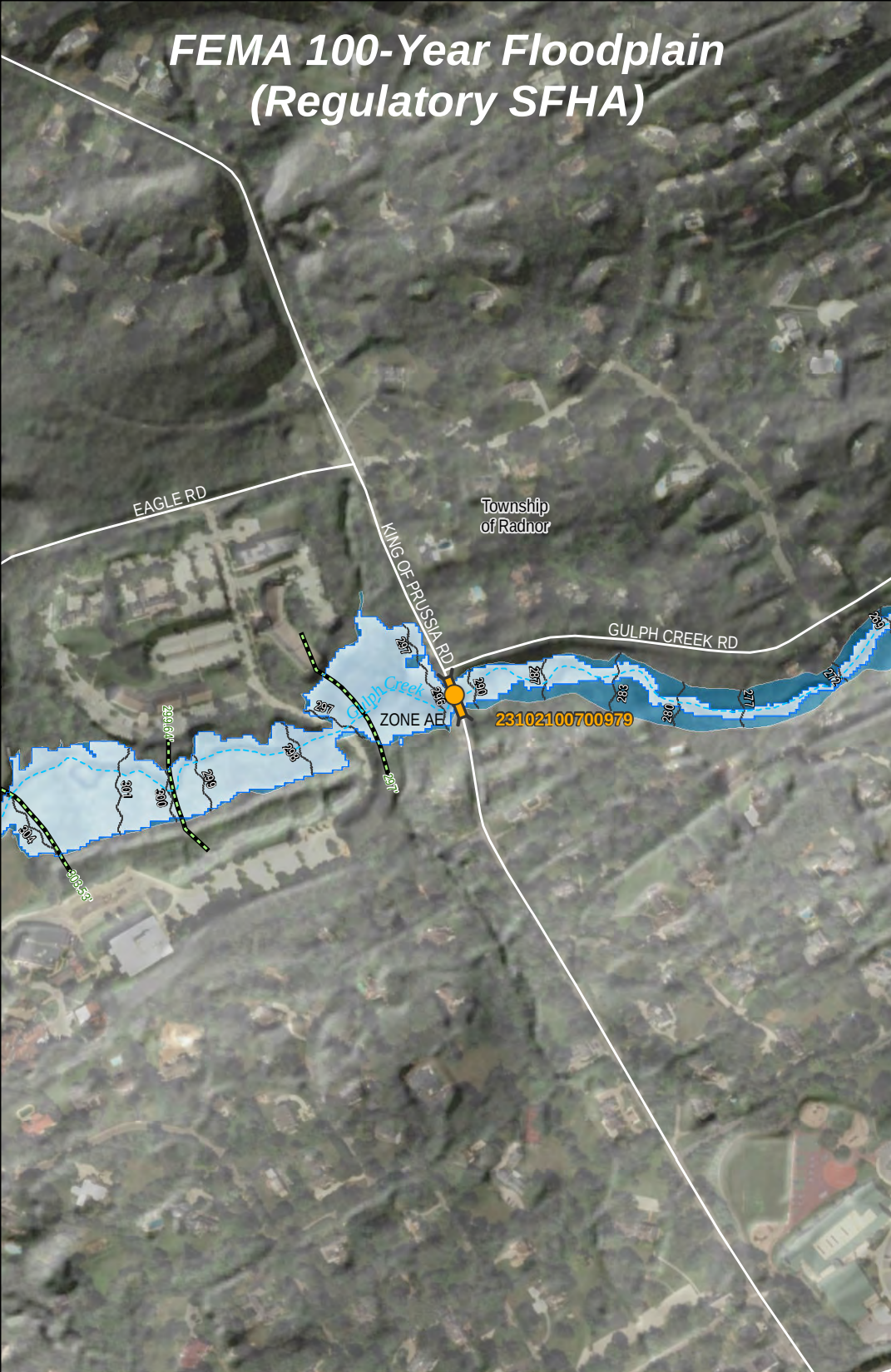


DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

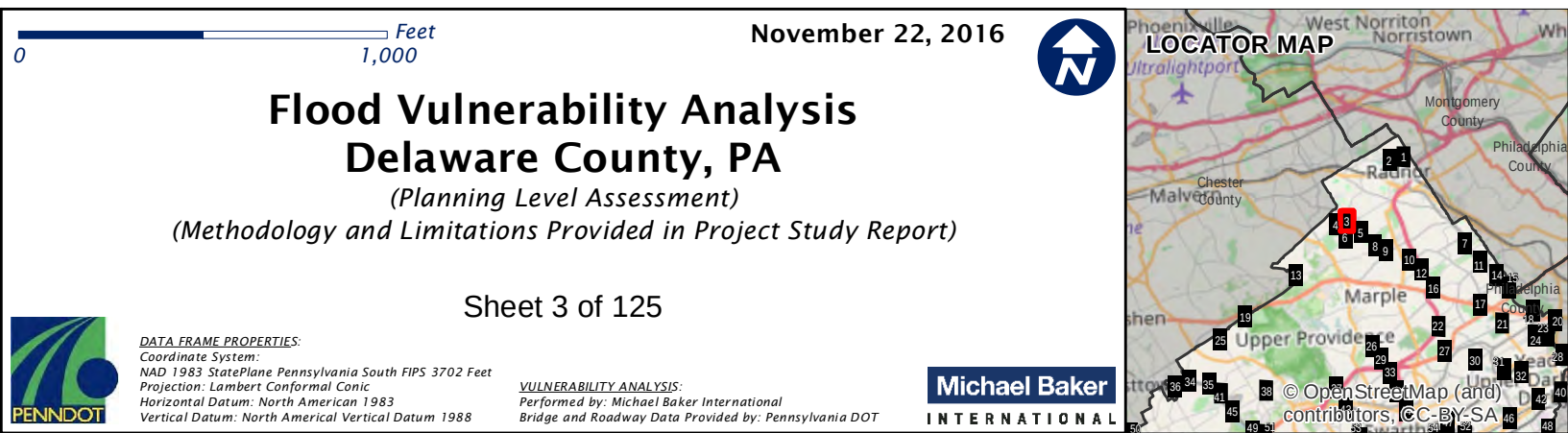
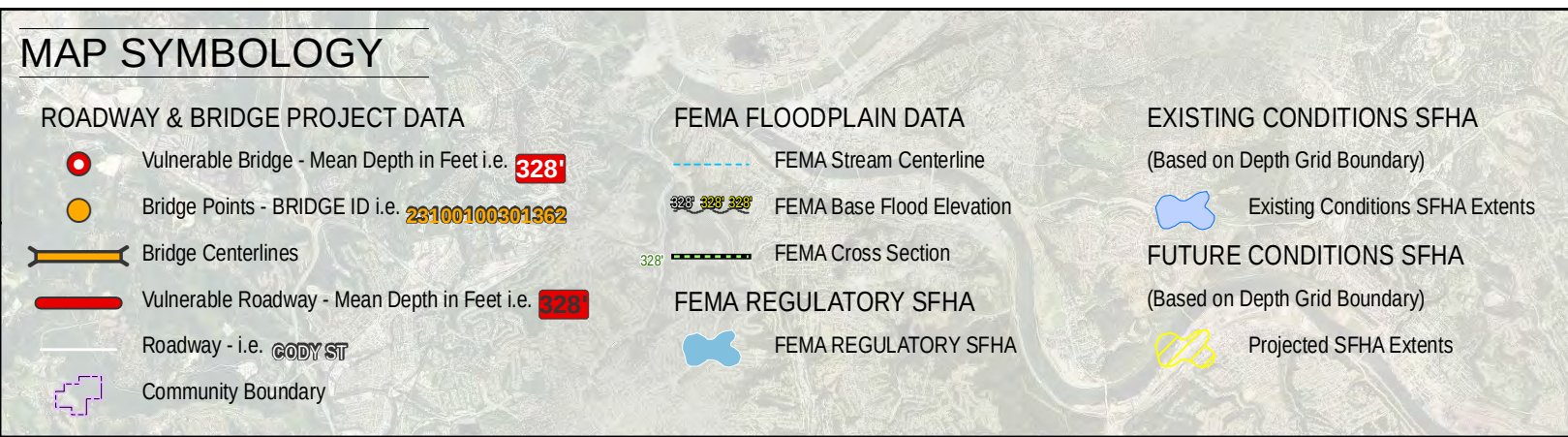
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

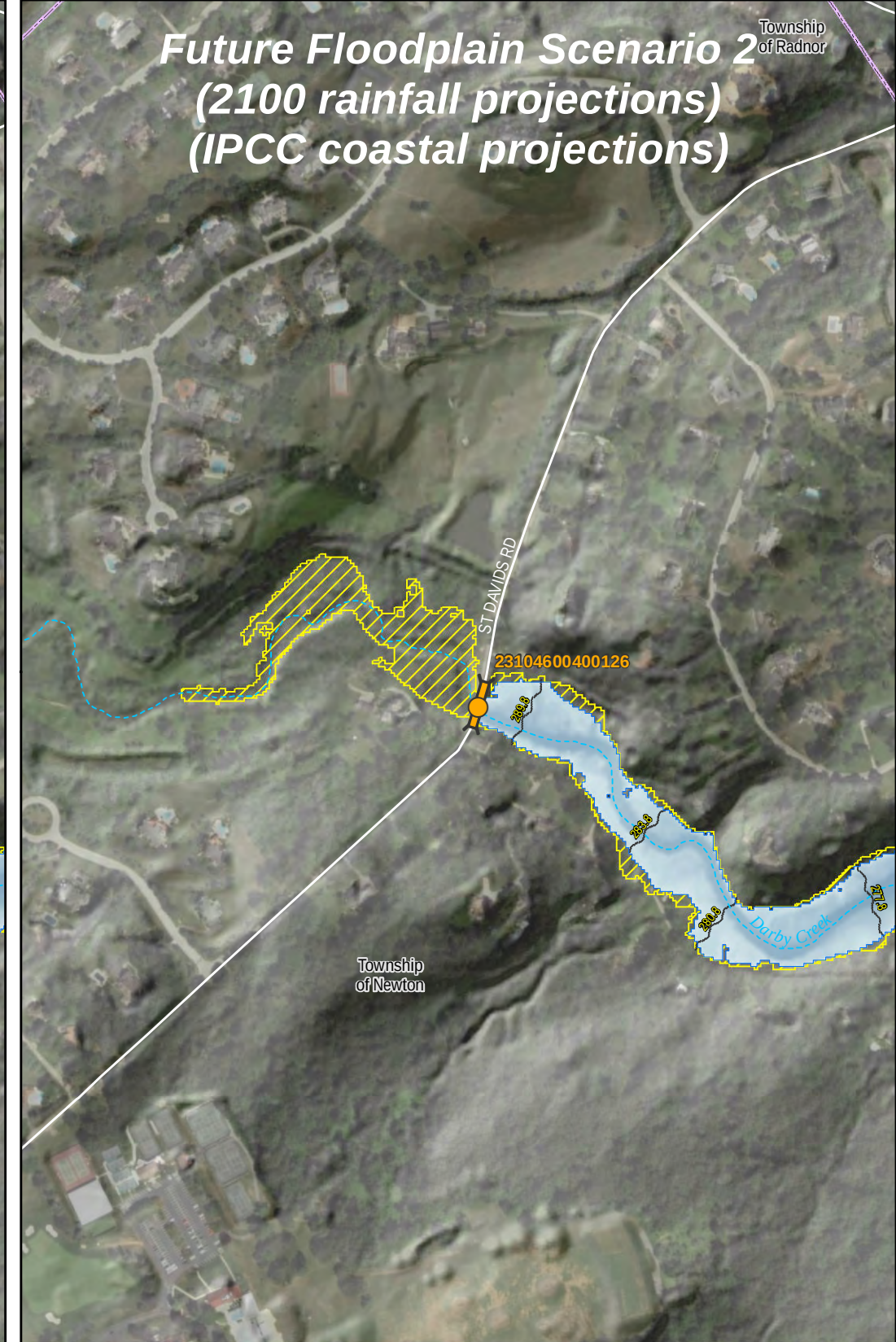
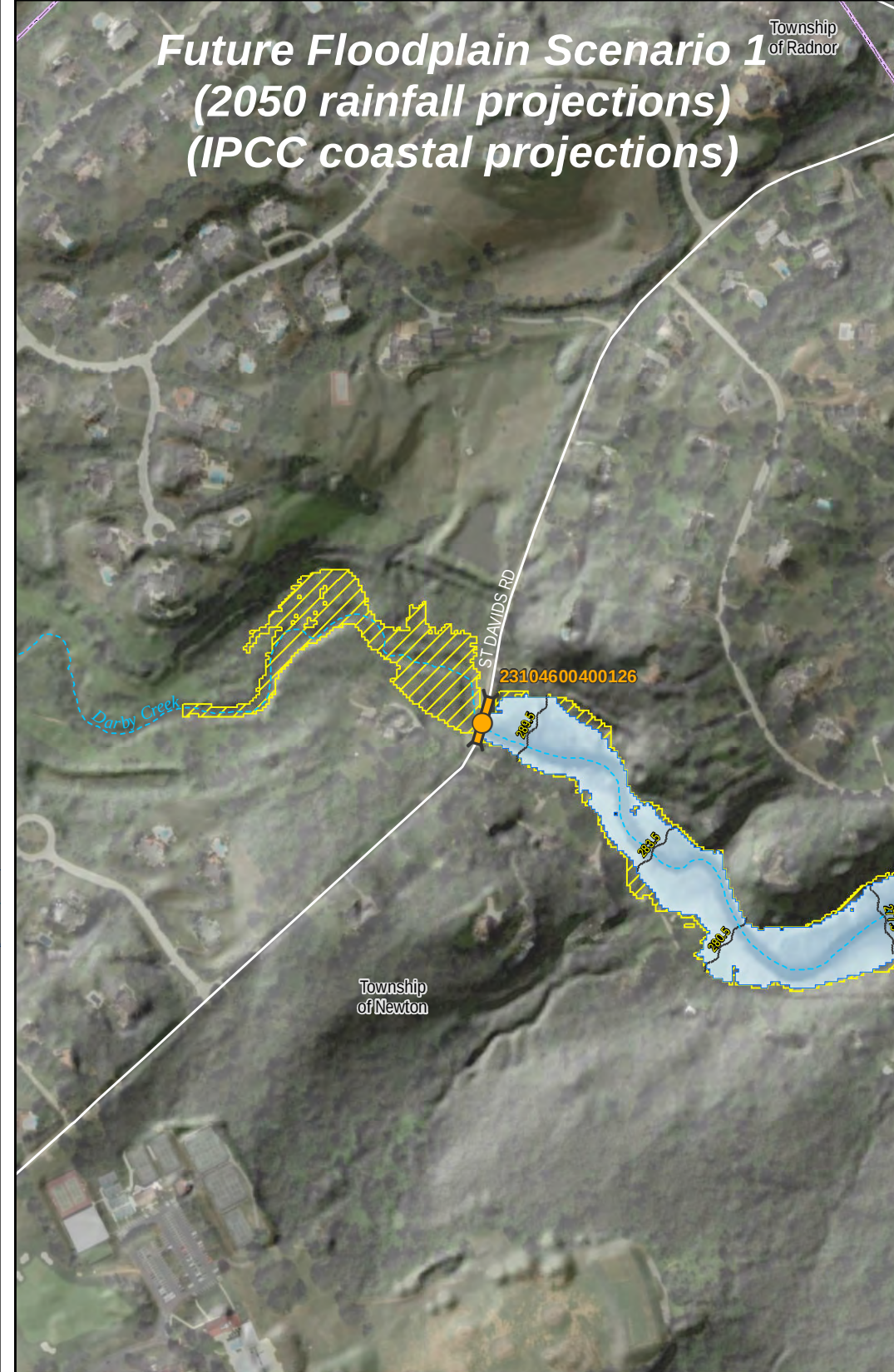
Sheet 2 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
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- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents
- Projected SFHA Extents
- Projected SFHA Extents

FUTURE CONDITIONS SFHA

(Based on Depth Grid Boundary)

0 1,000 Feet

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

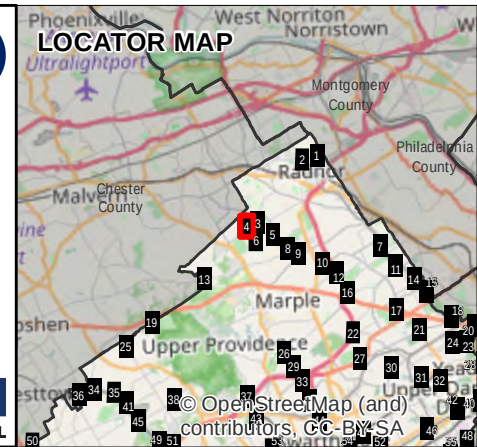
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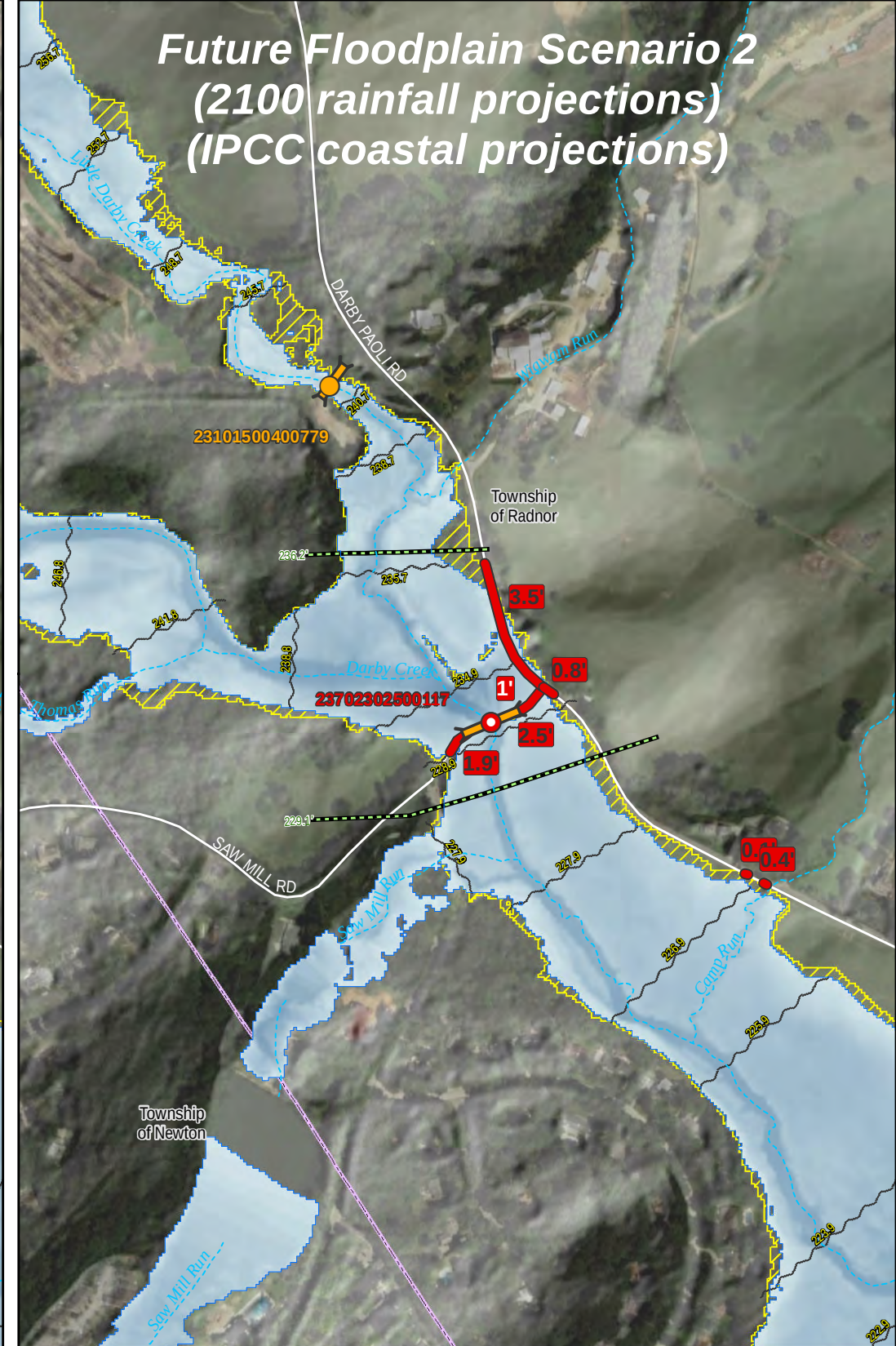


DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
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FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

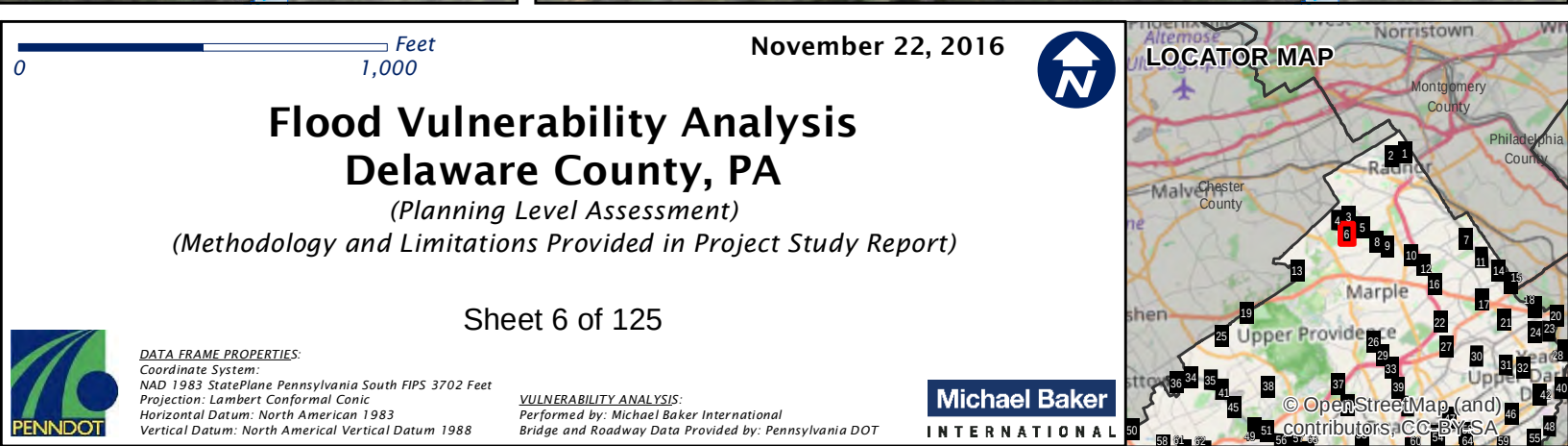
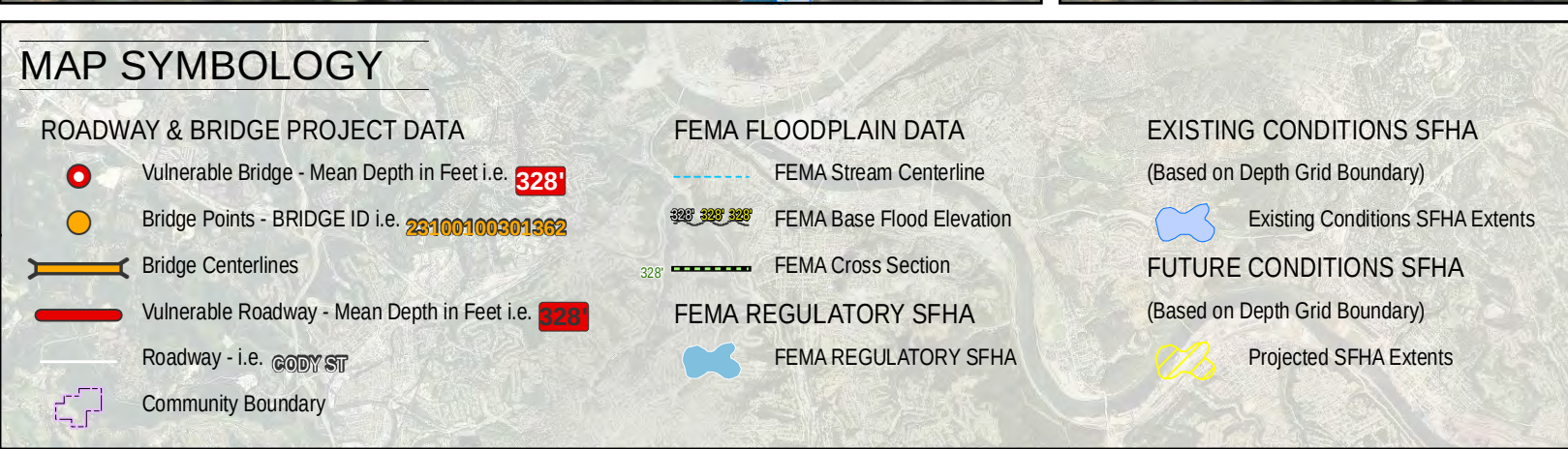
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

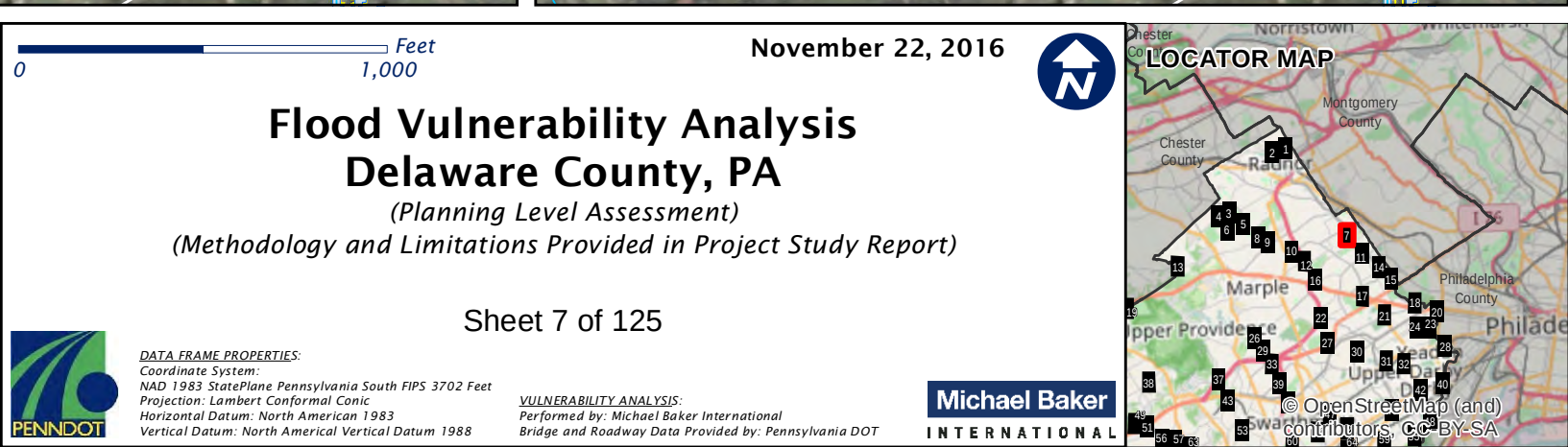
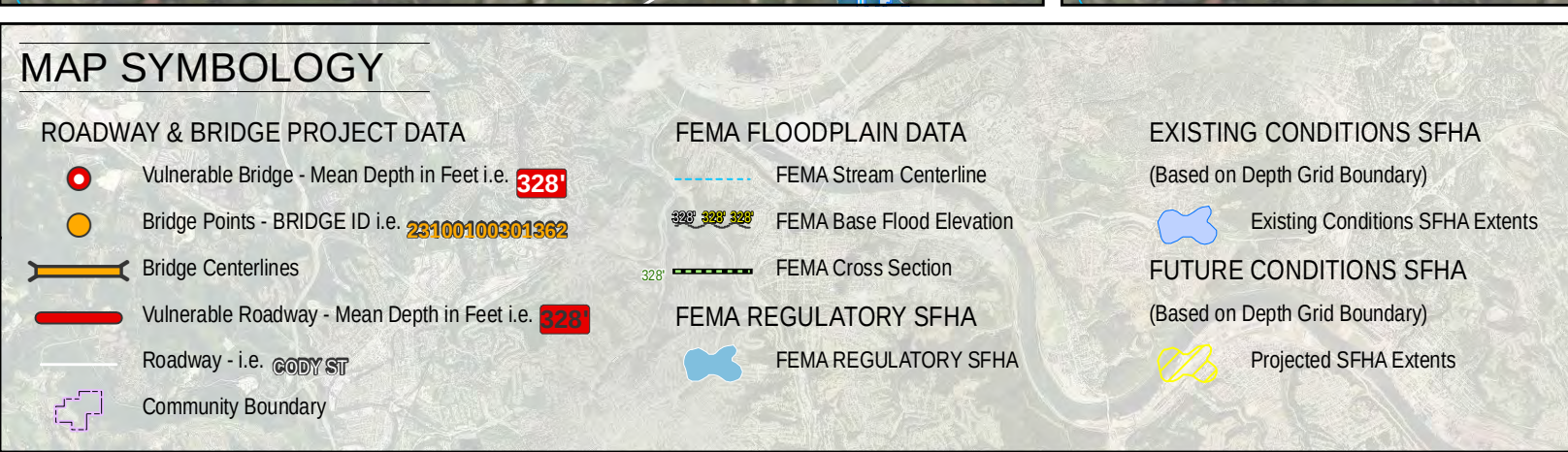
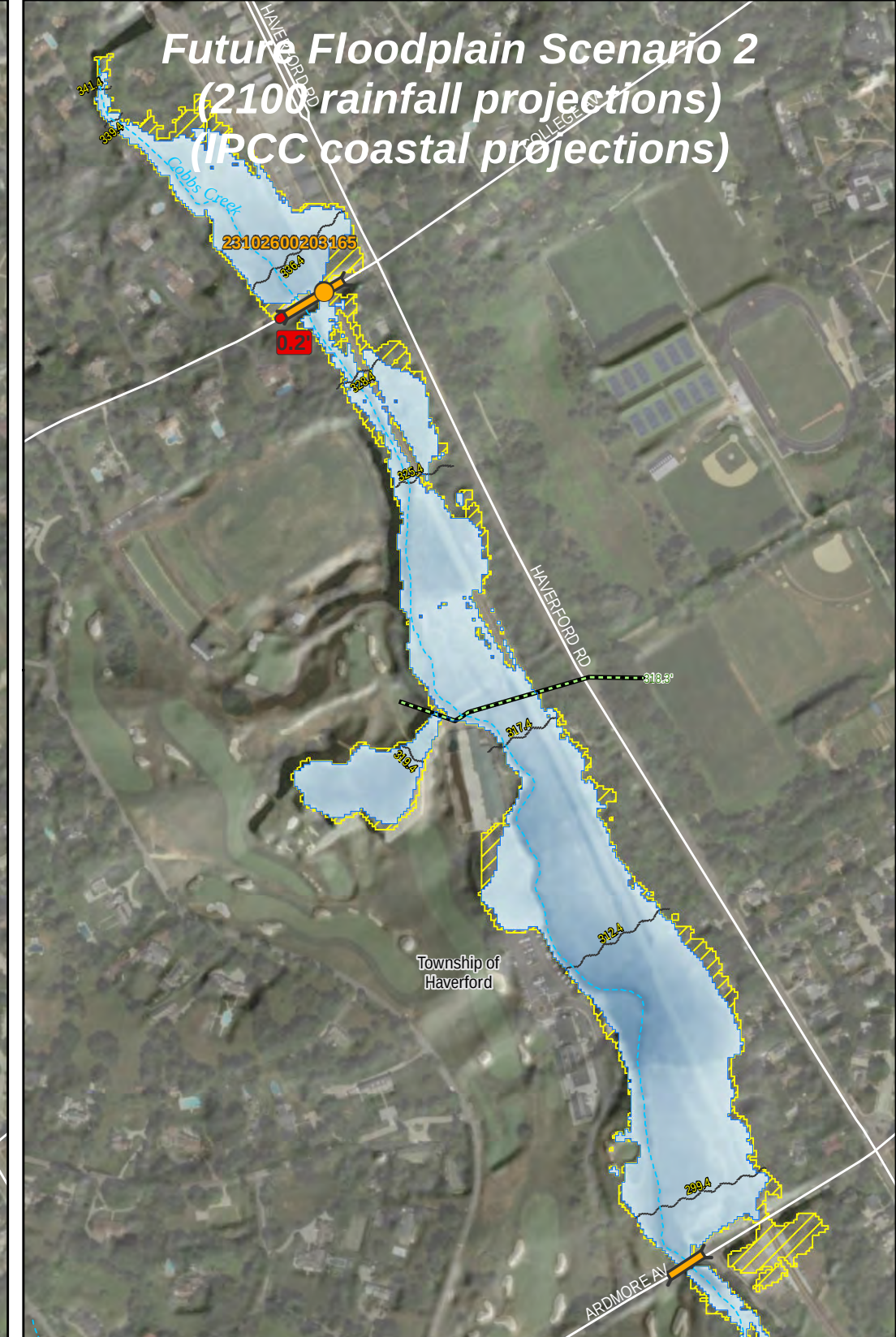
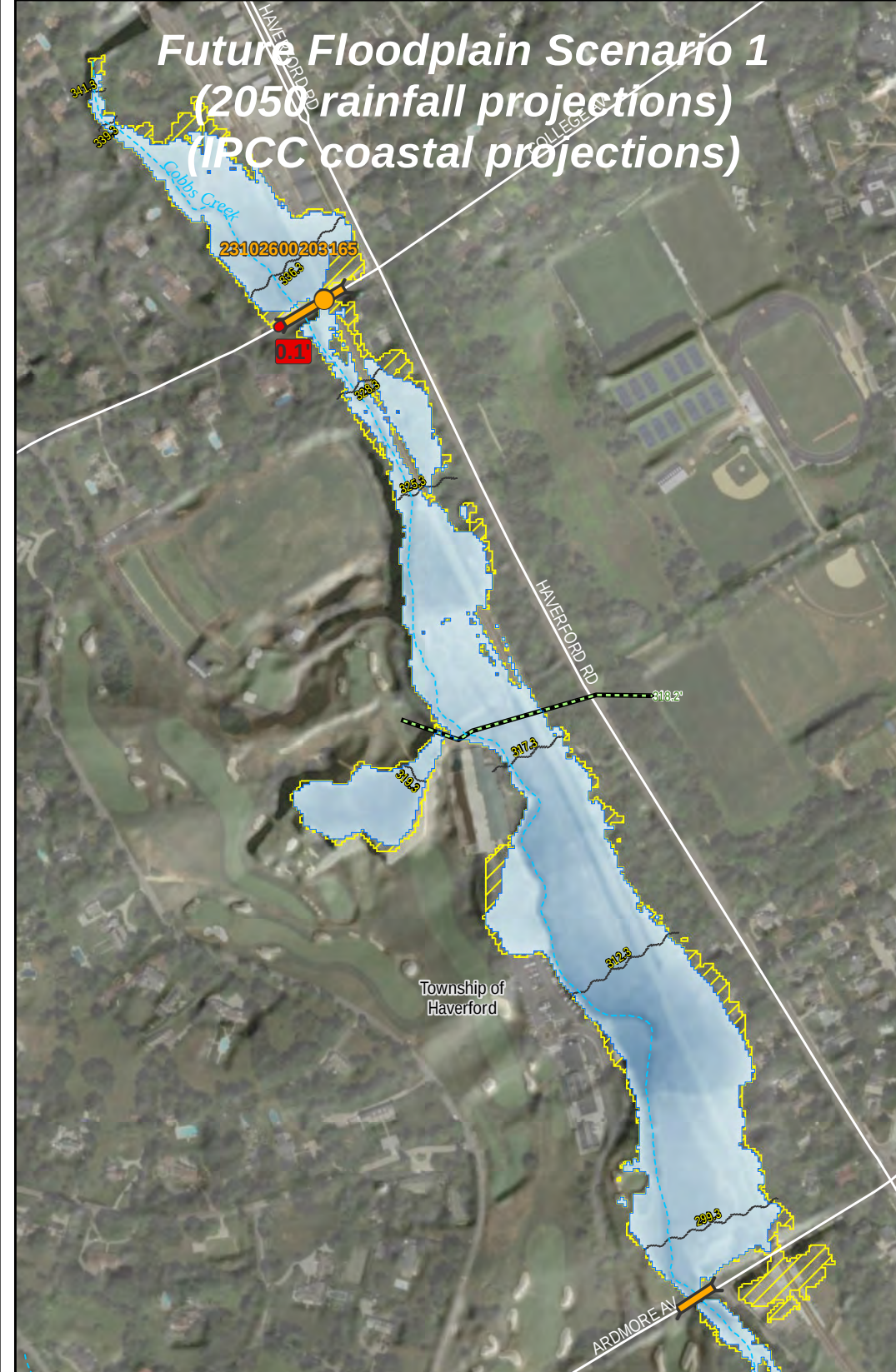
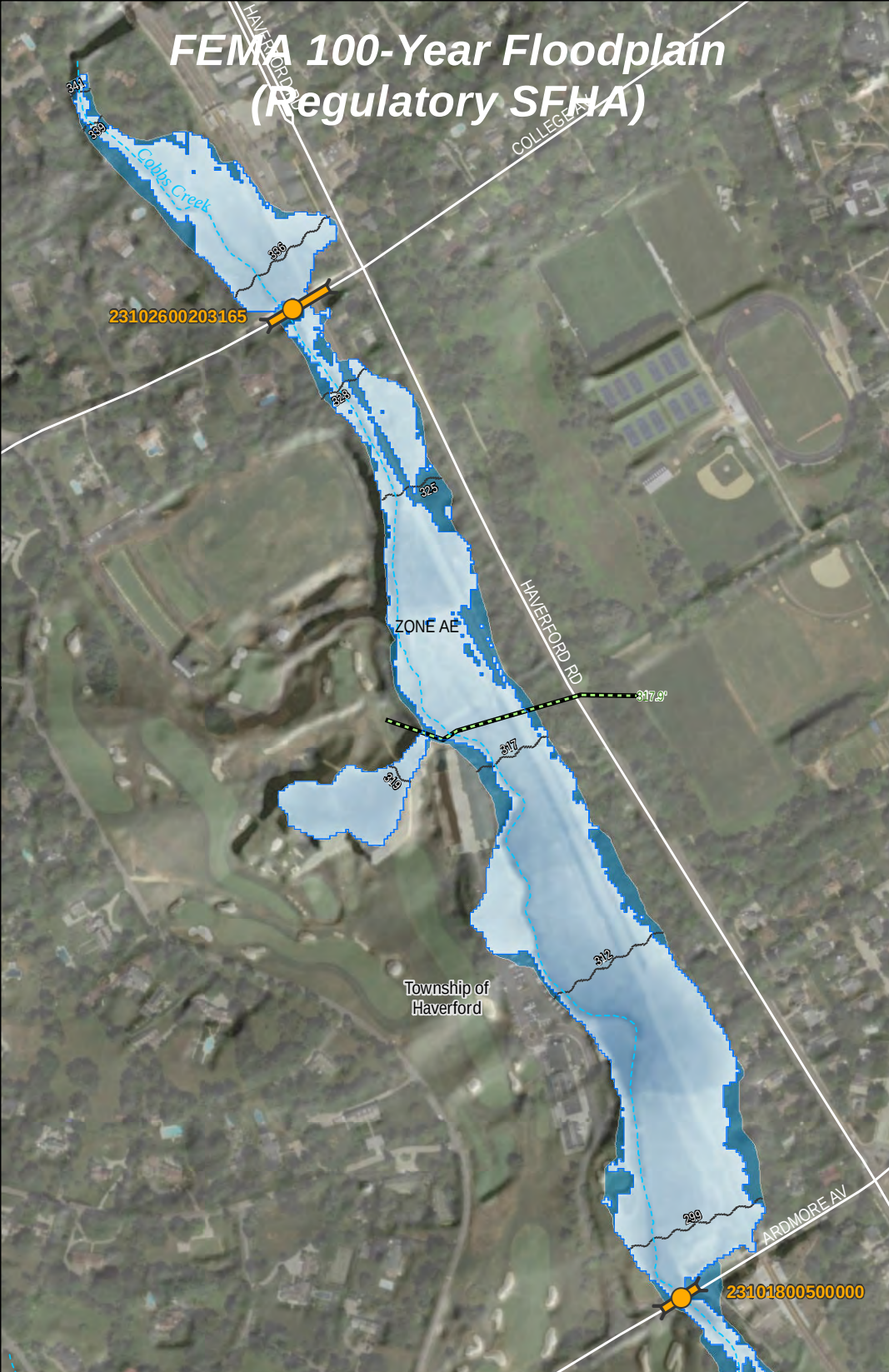
Sheet 5 of 125

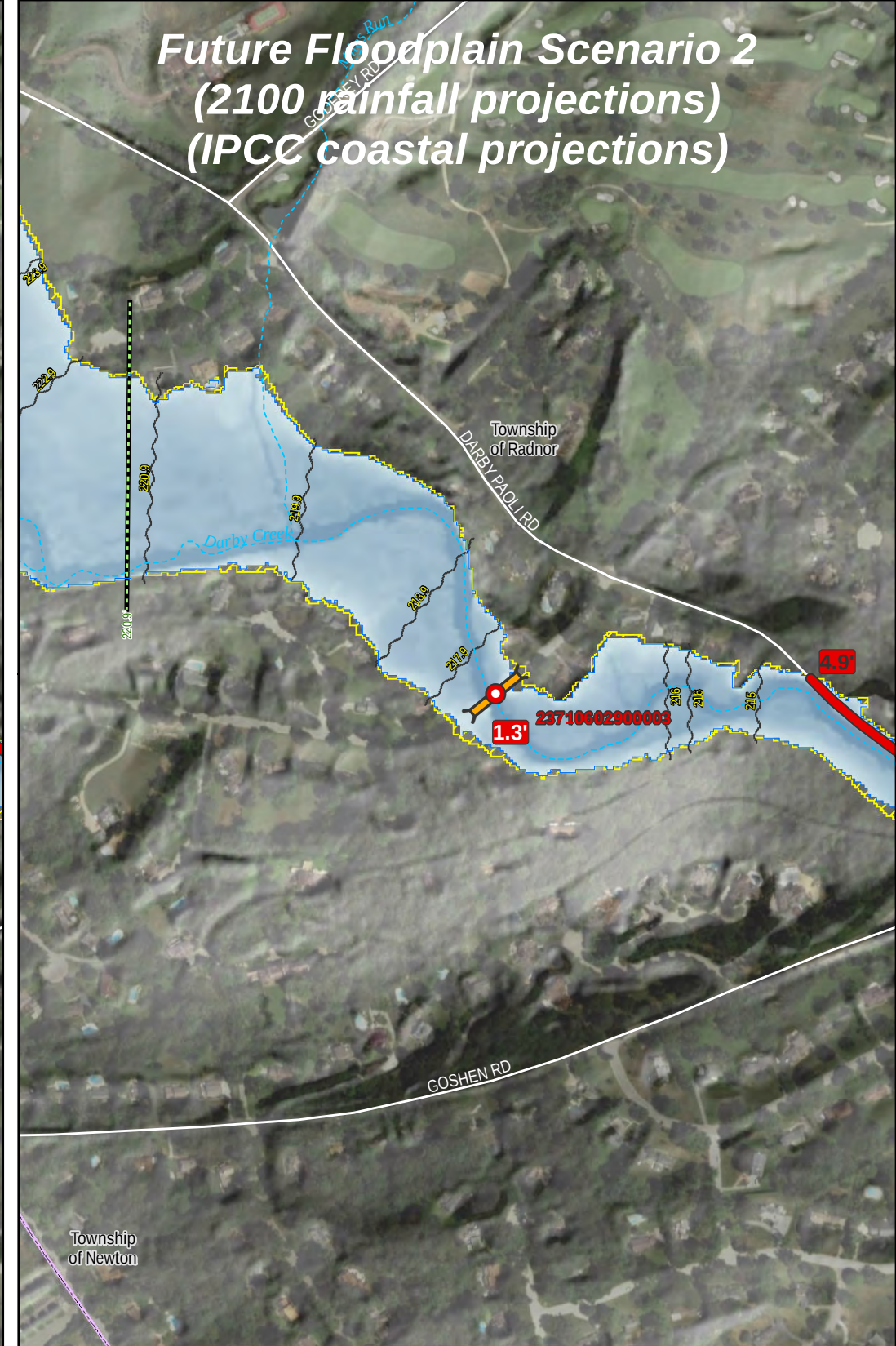
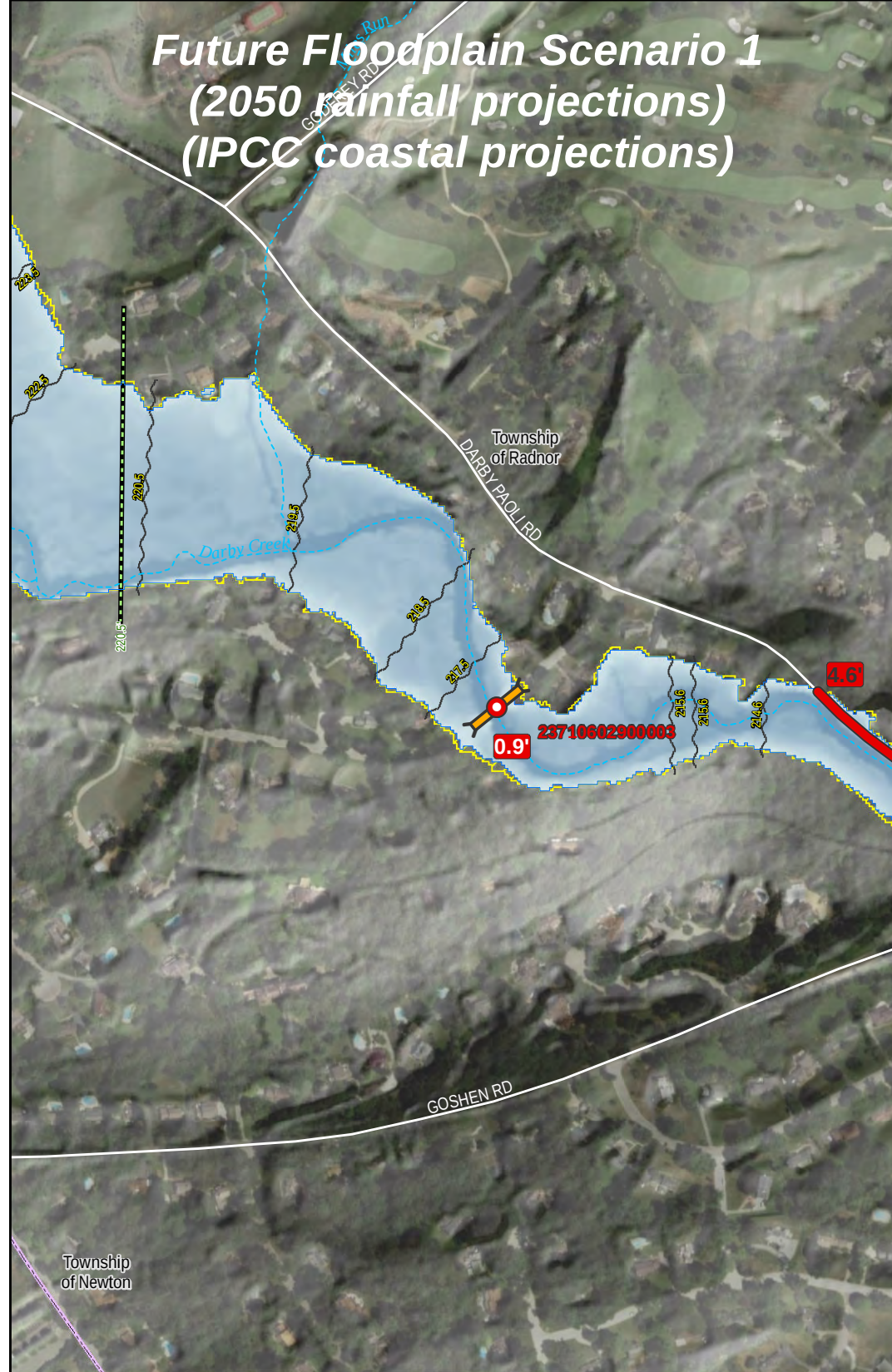
DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP







MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **GODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 8 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

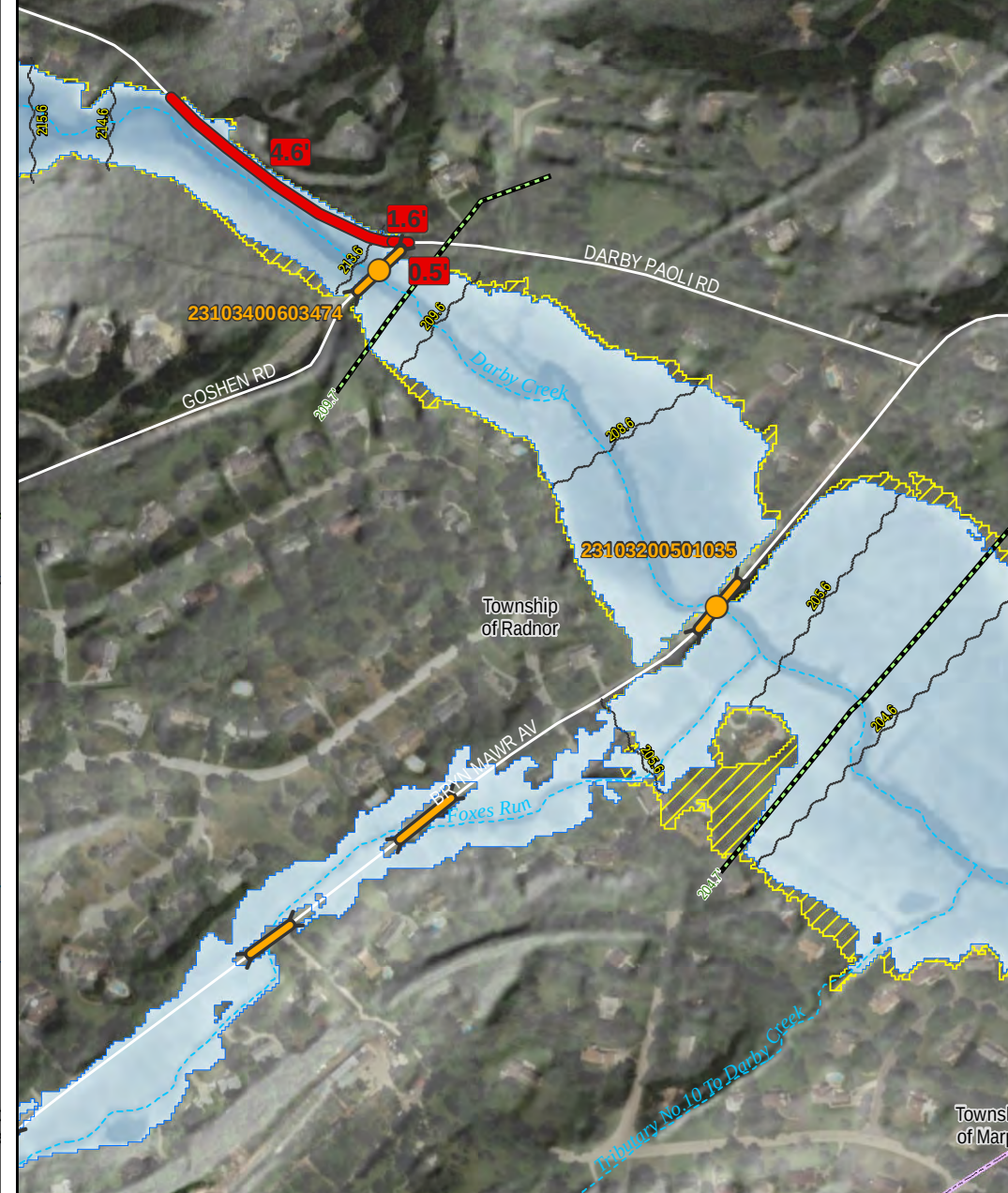
VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

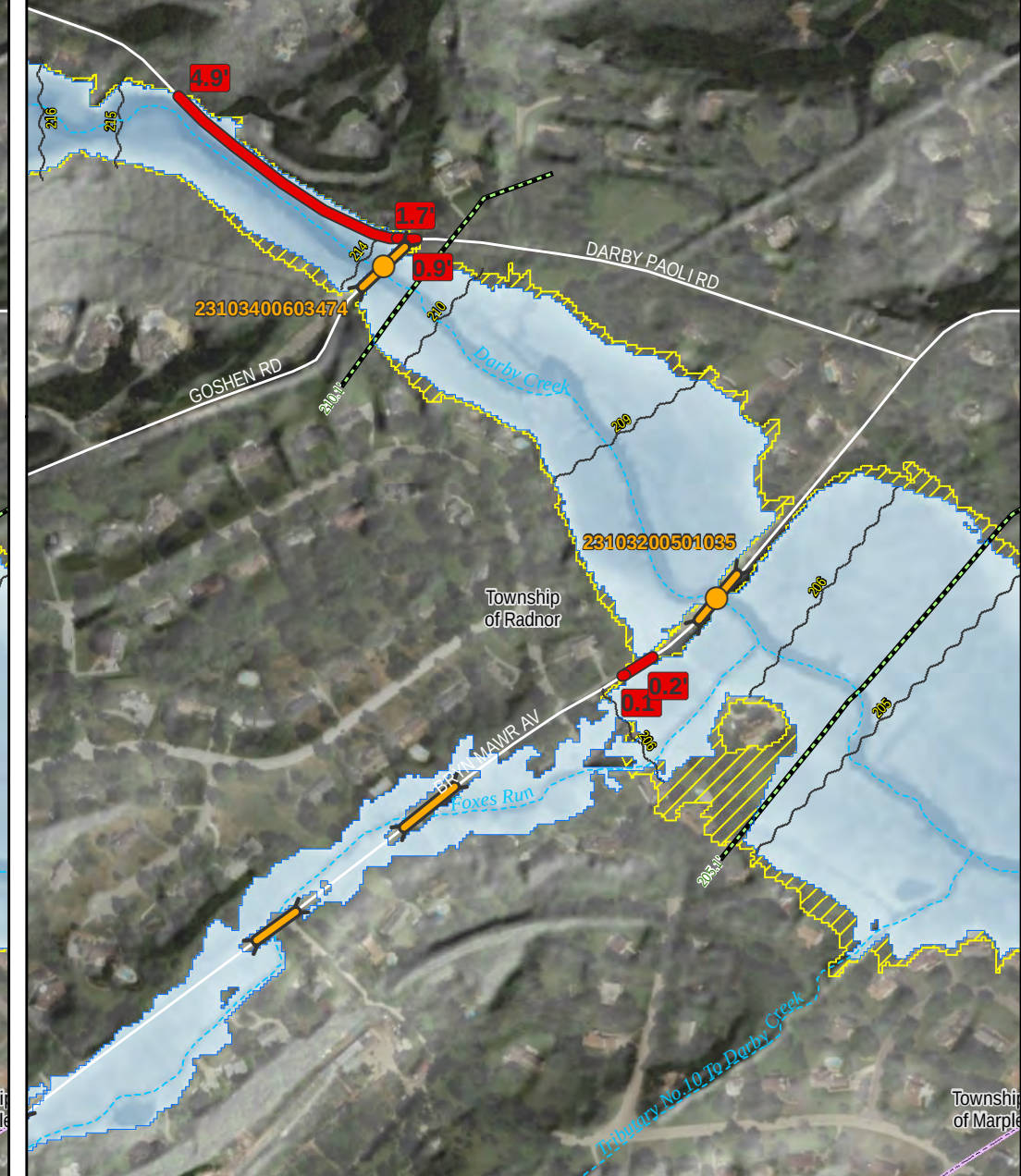
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
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- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents
- FUTURE CONDITIONS SFHA
(Based on Depth Grid Boundary)
- Projected SFHA Extents

0 Feet
1,000

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

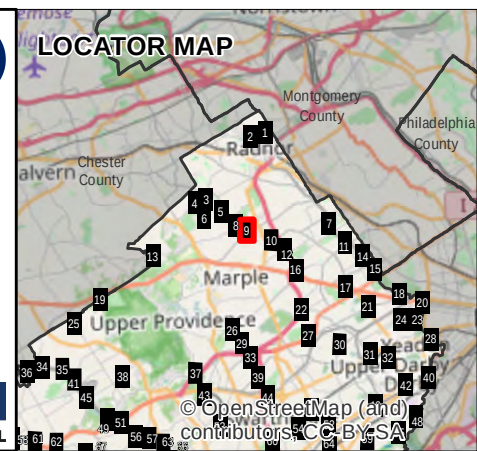
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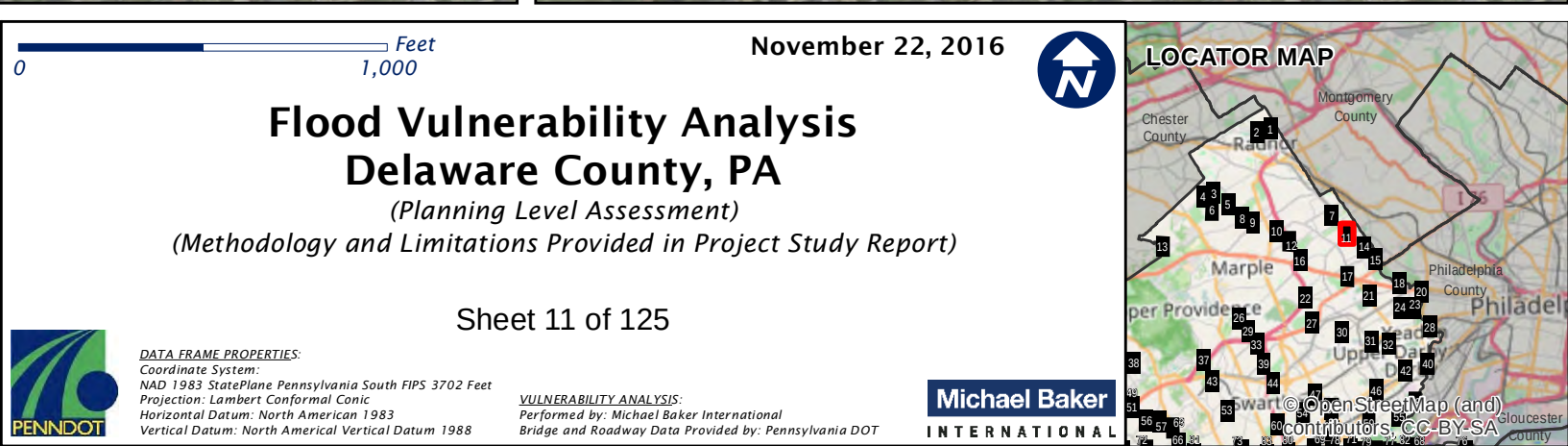
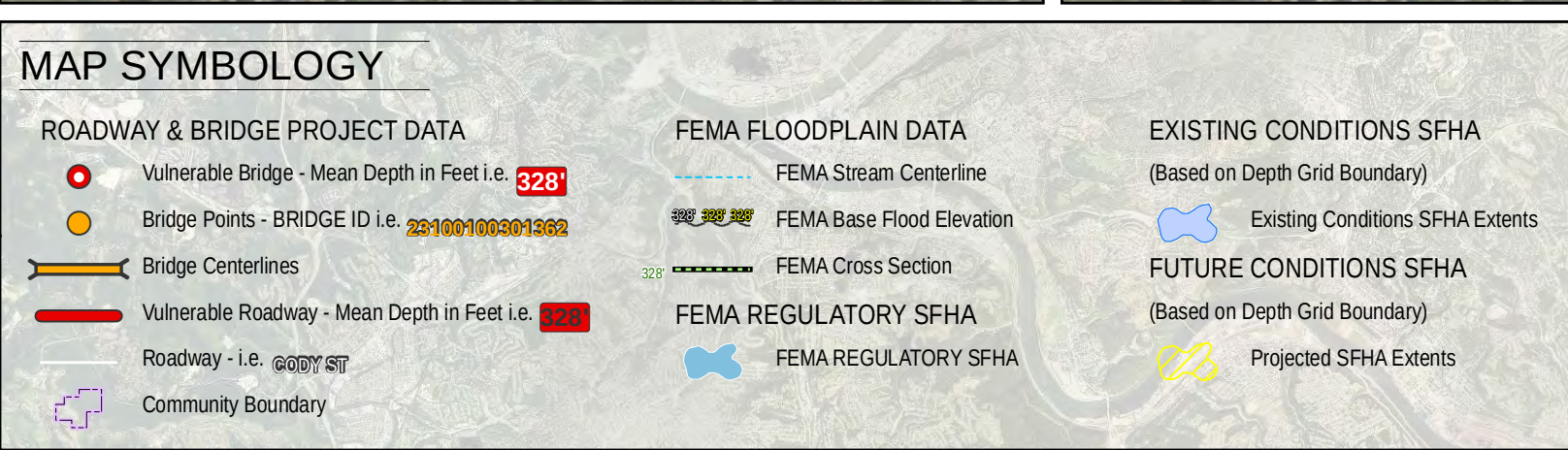
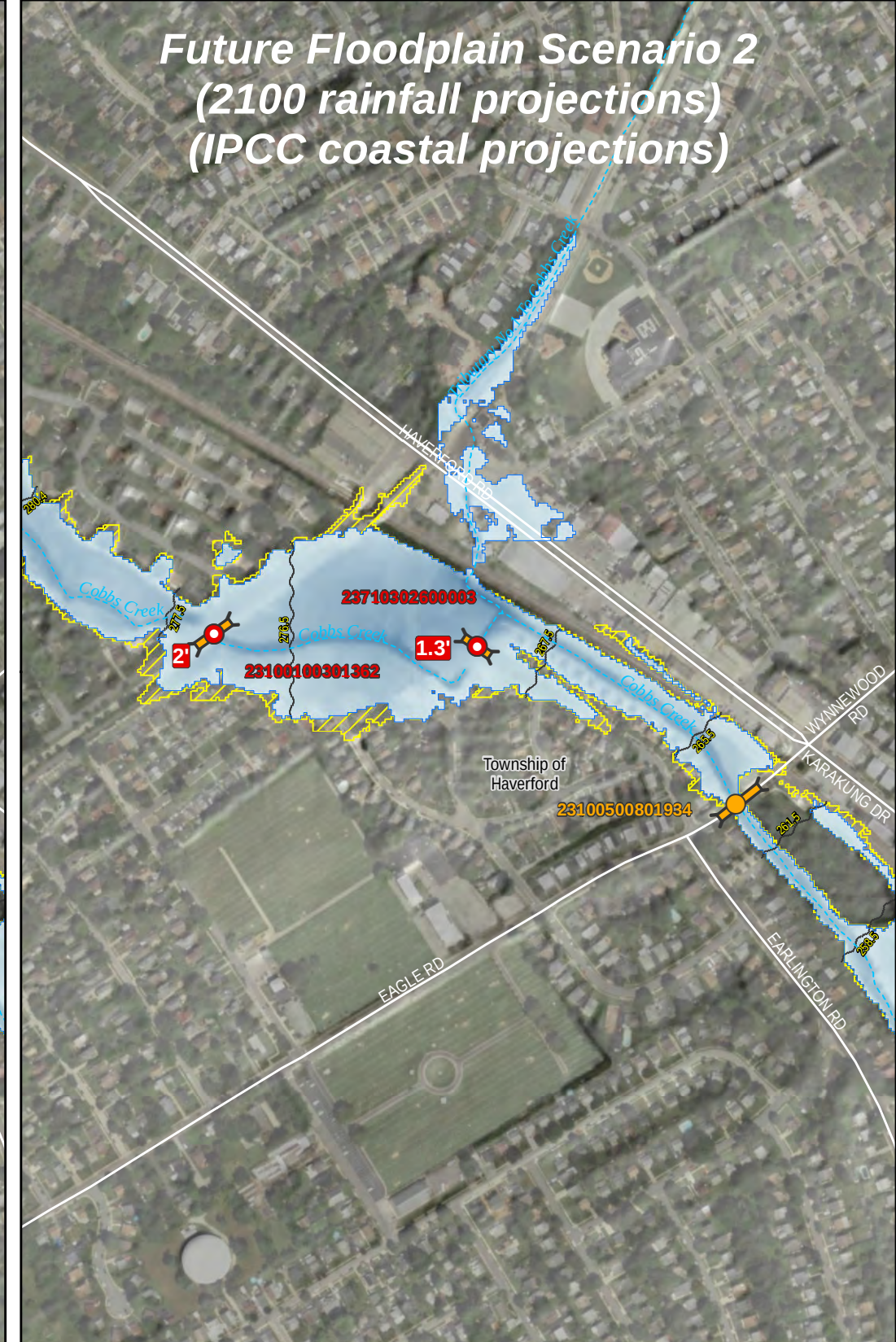
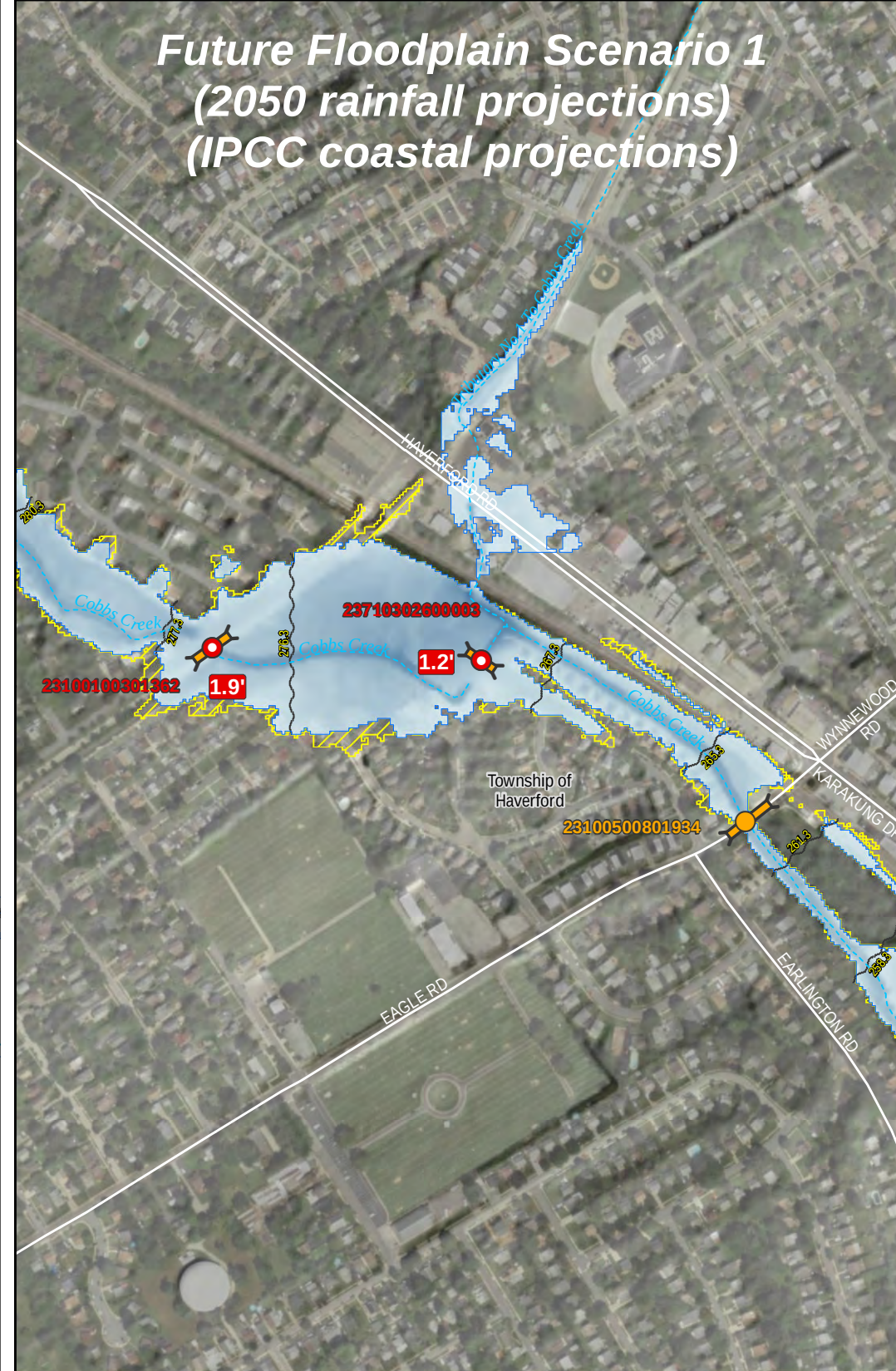
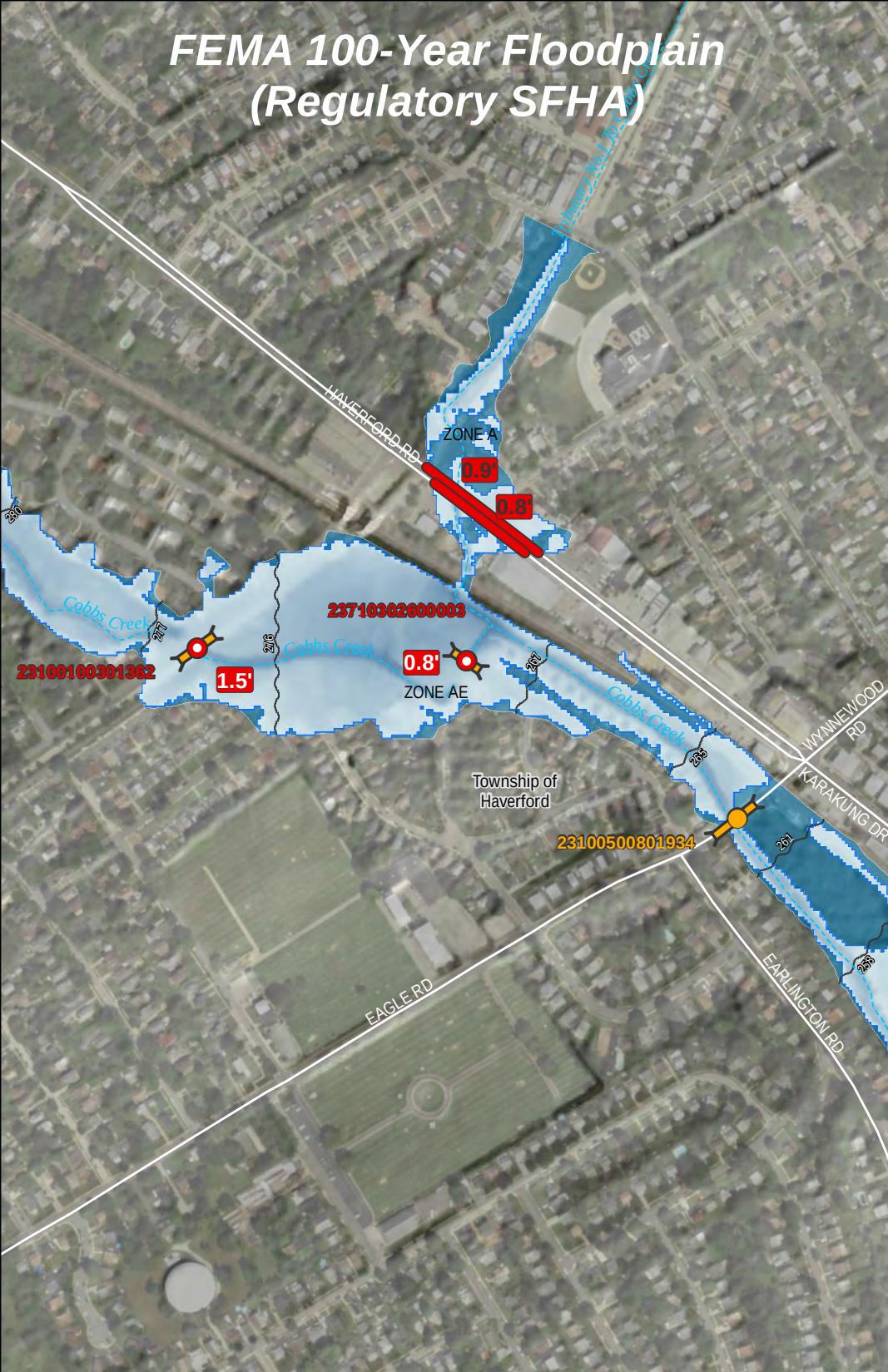


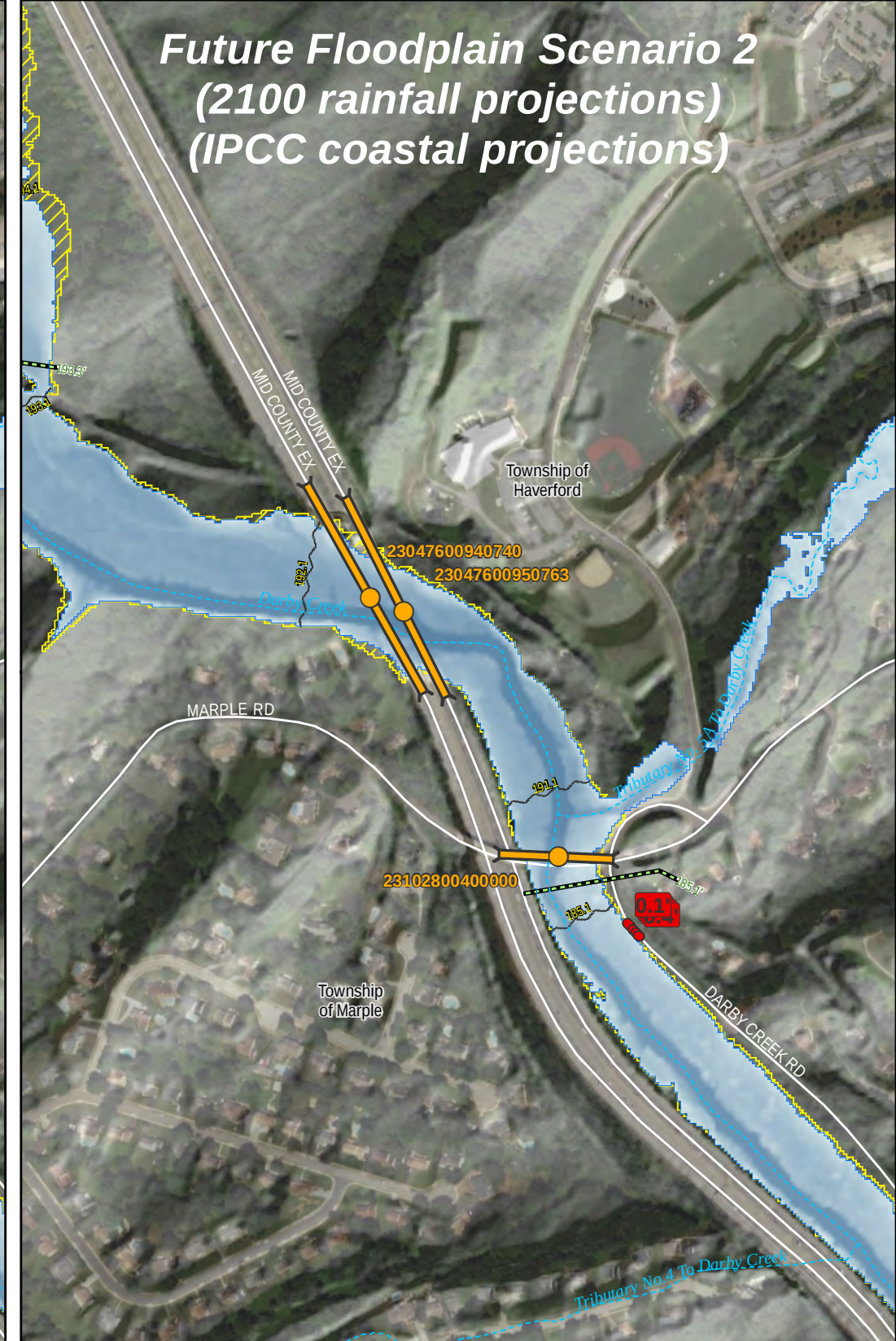
DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**







MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

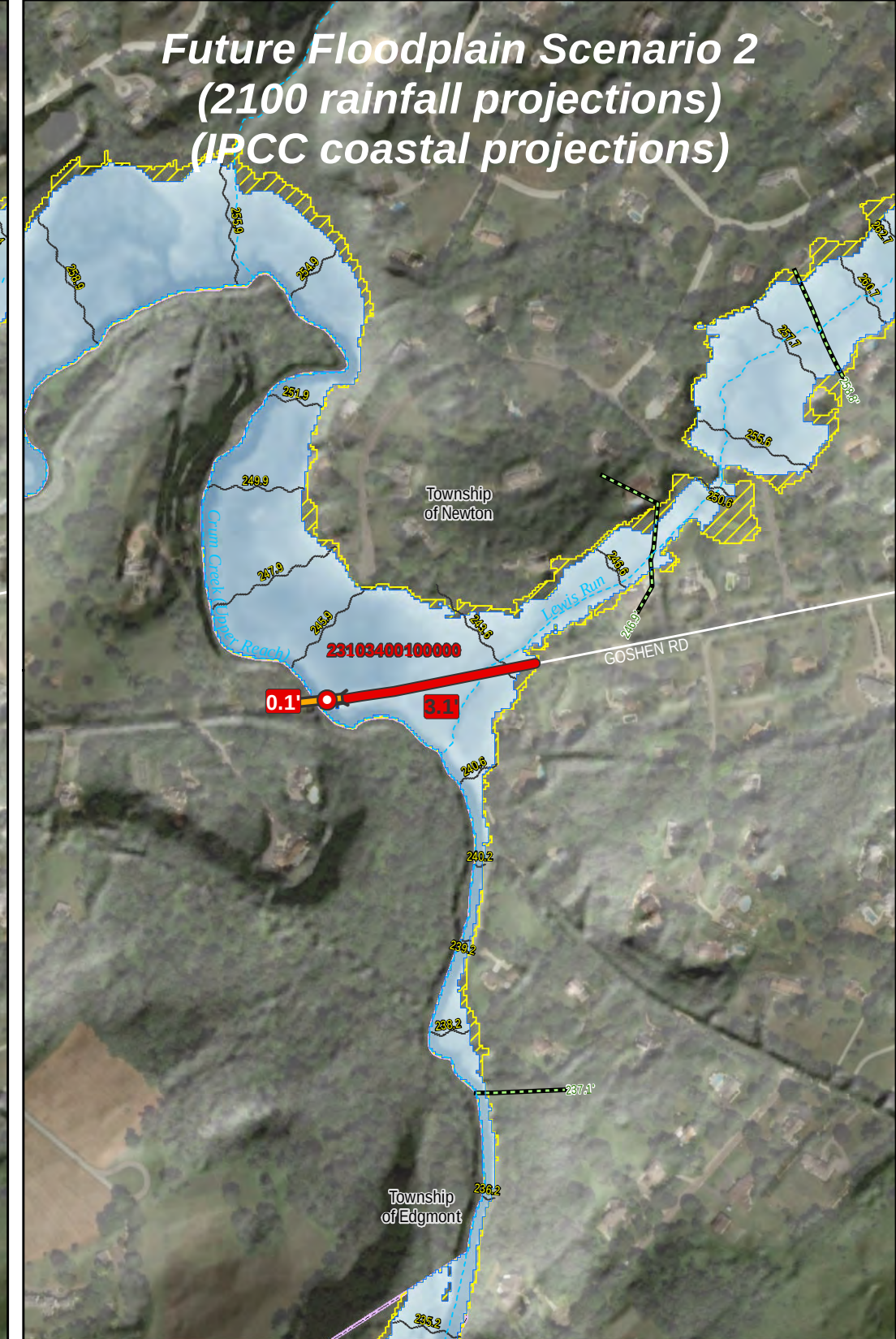
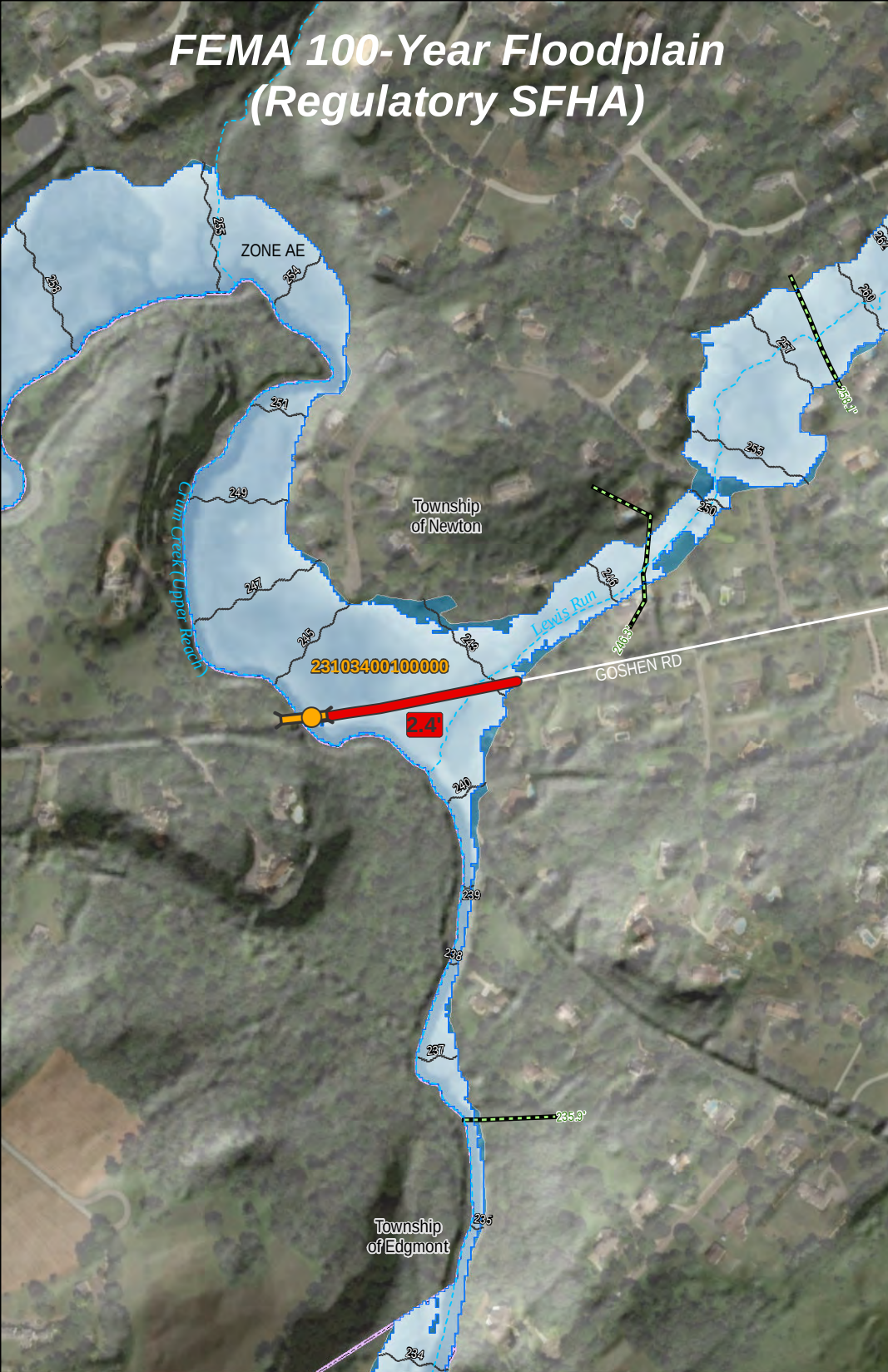
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
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- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

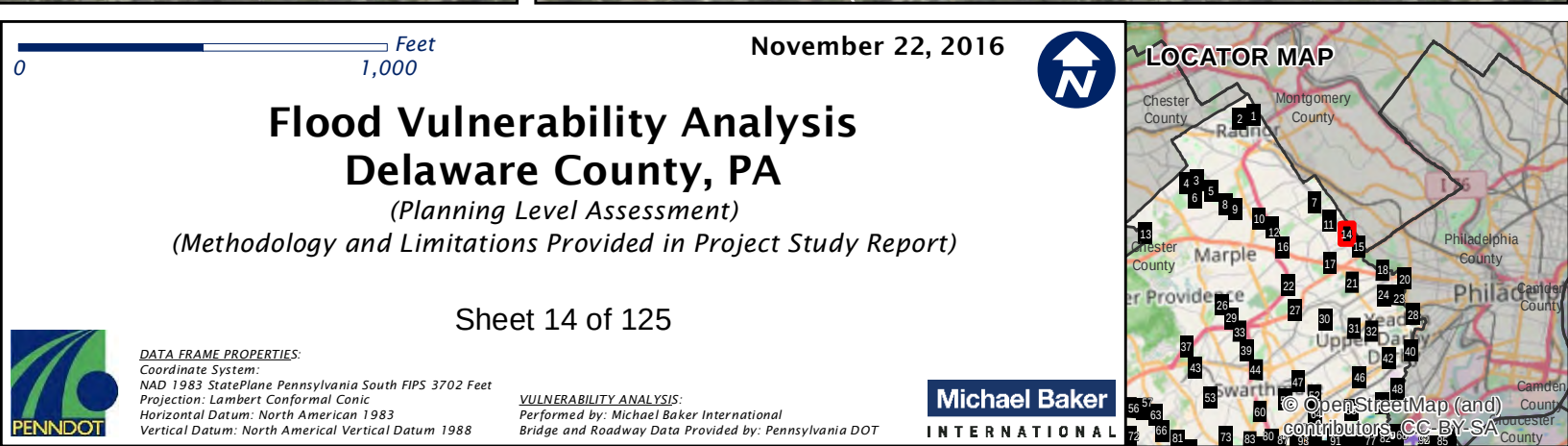
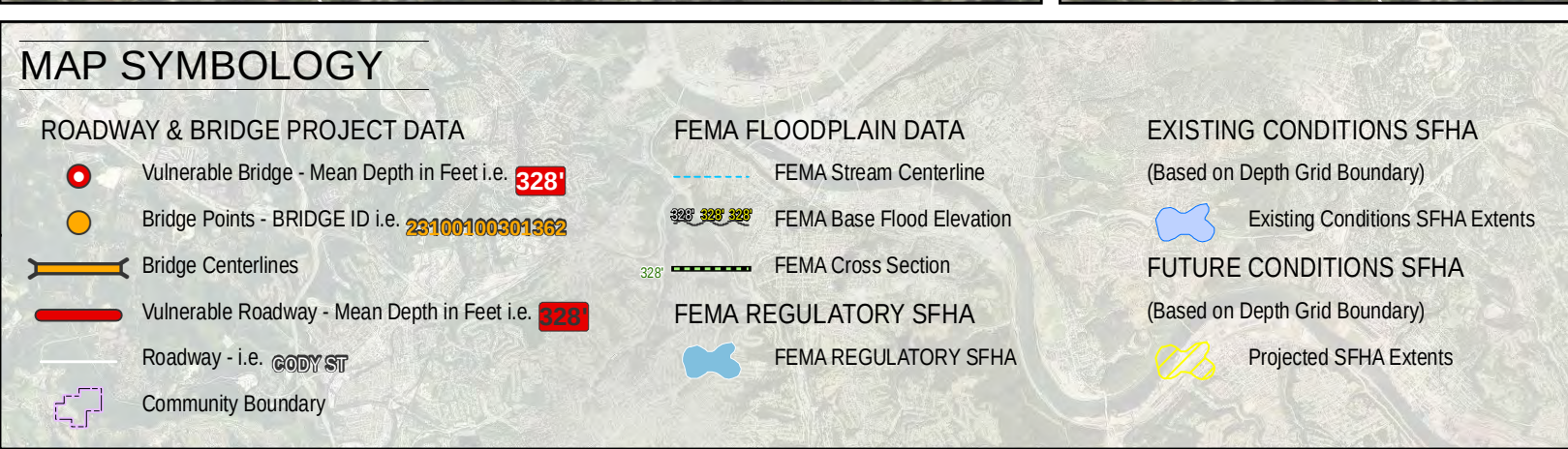
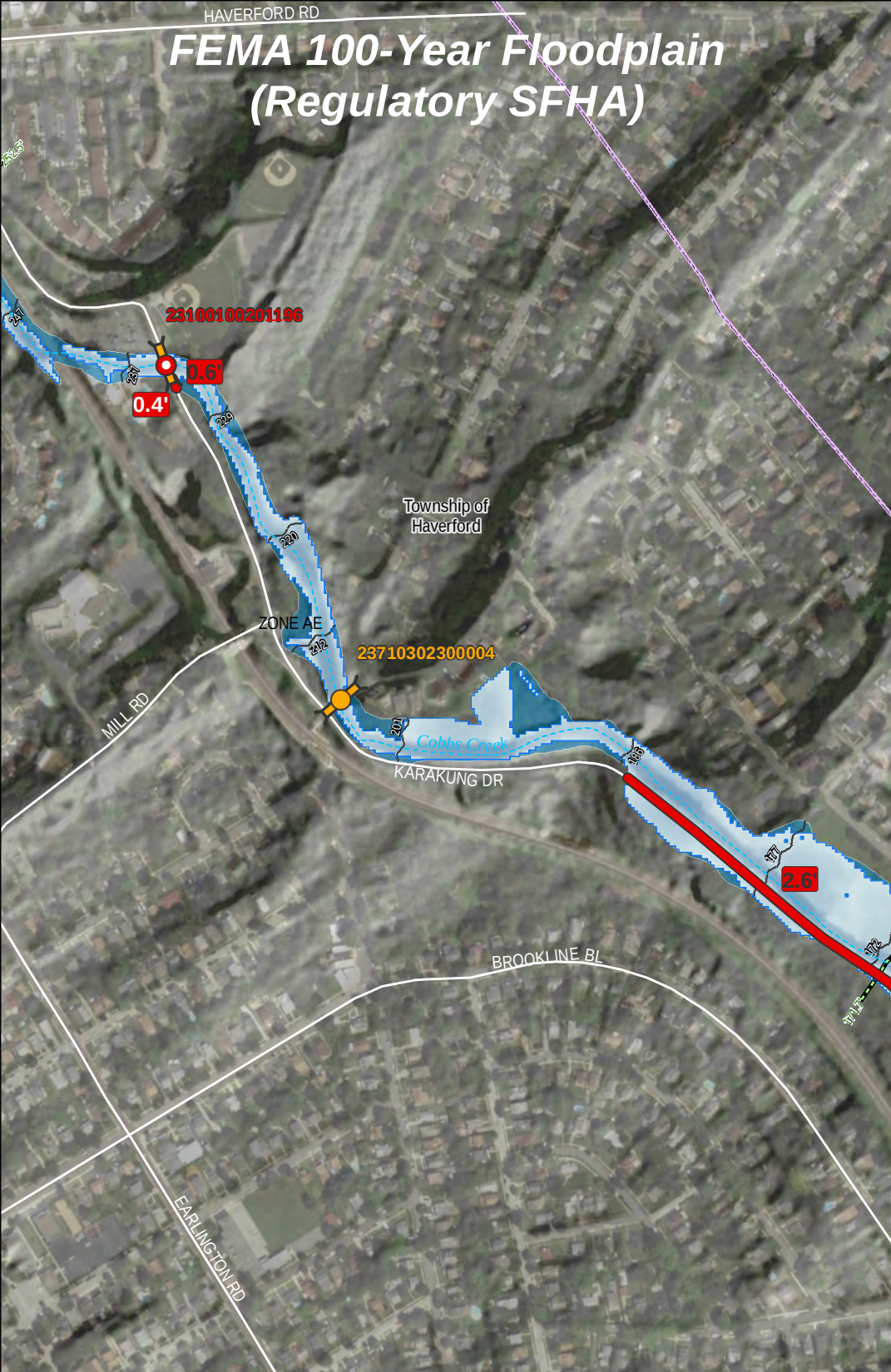
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(Methodology and Limitations Provided in Project Study Report)

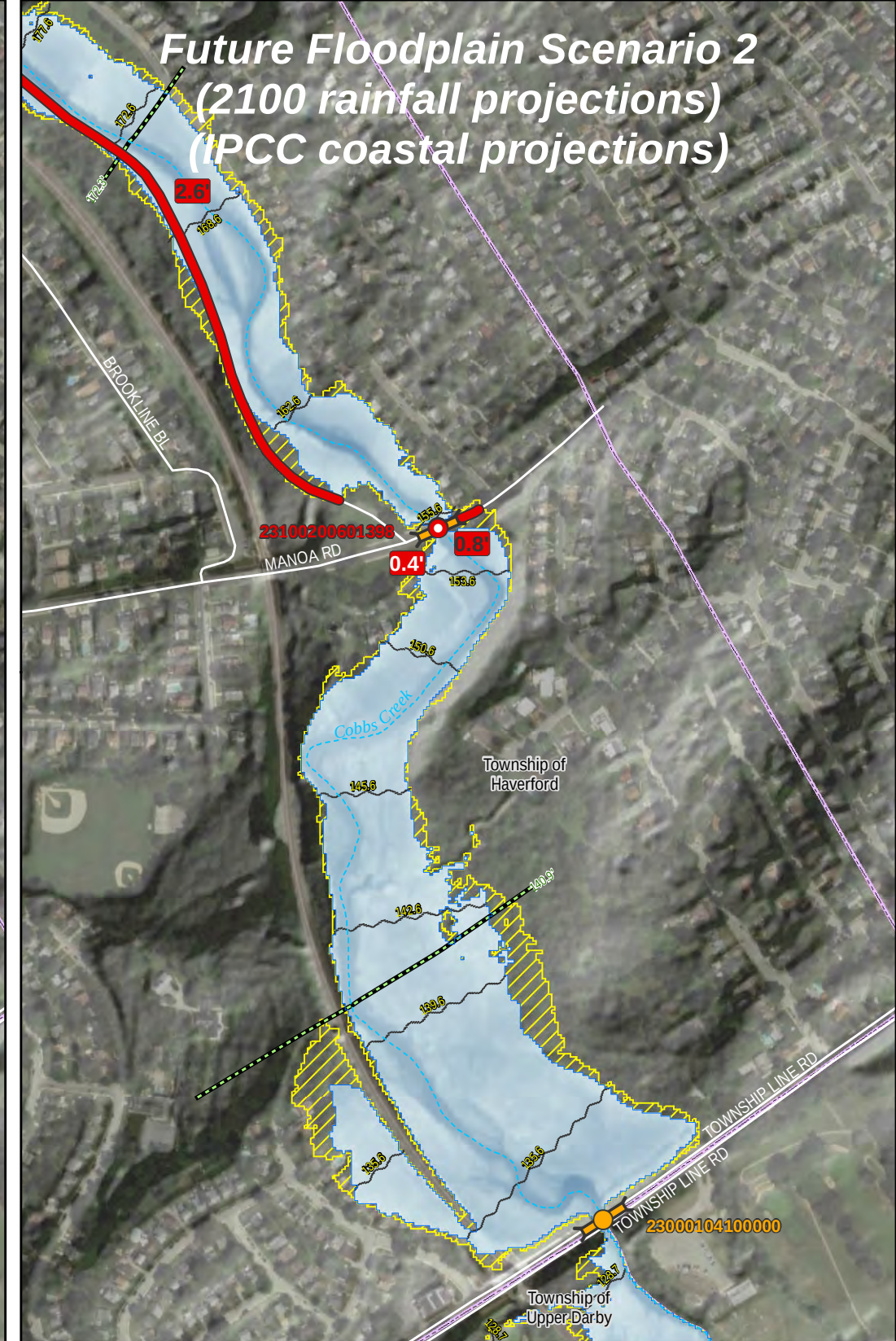
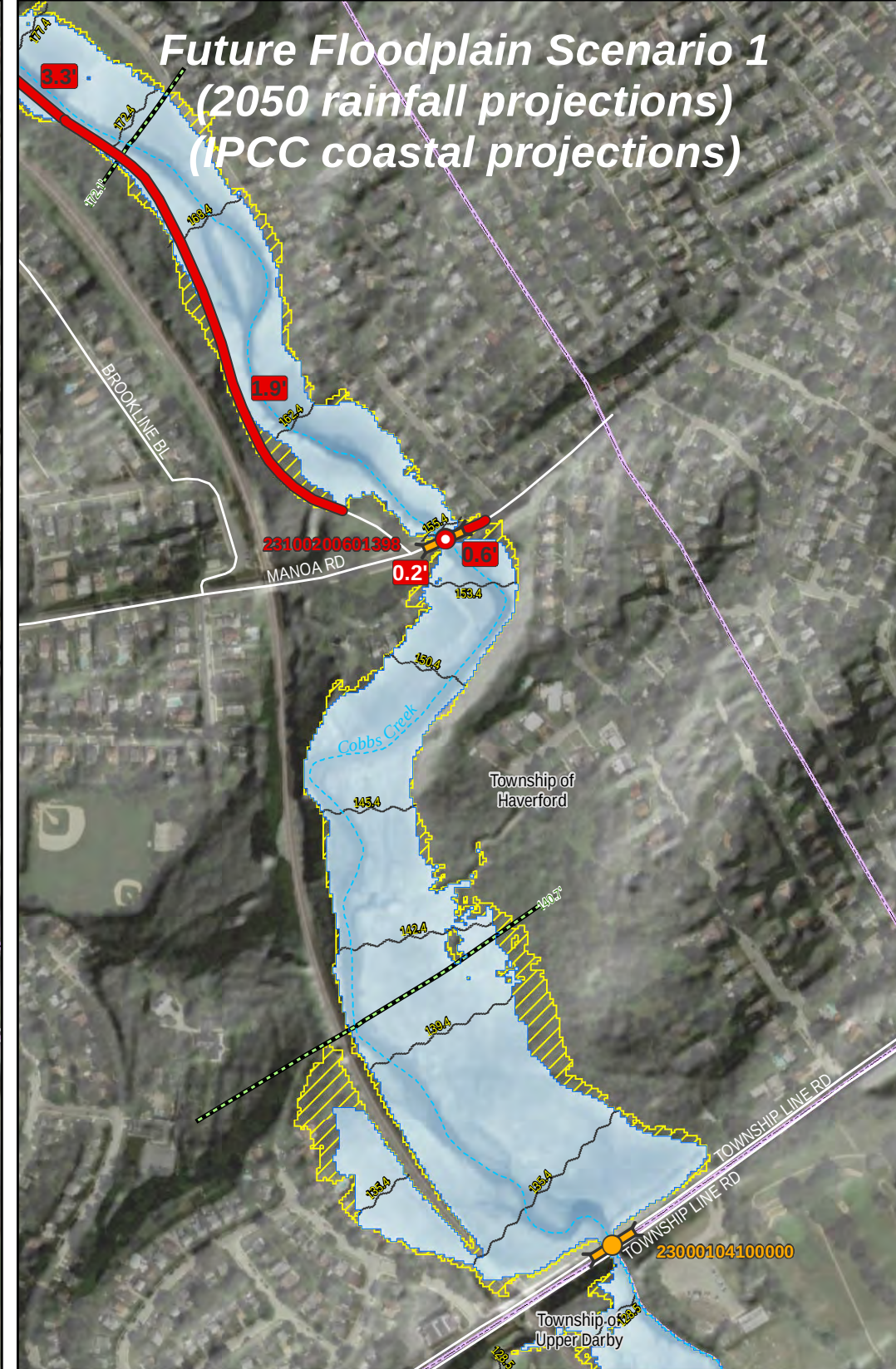
Sheet 13 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

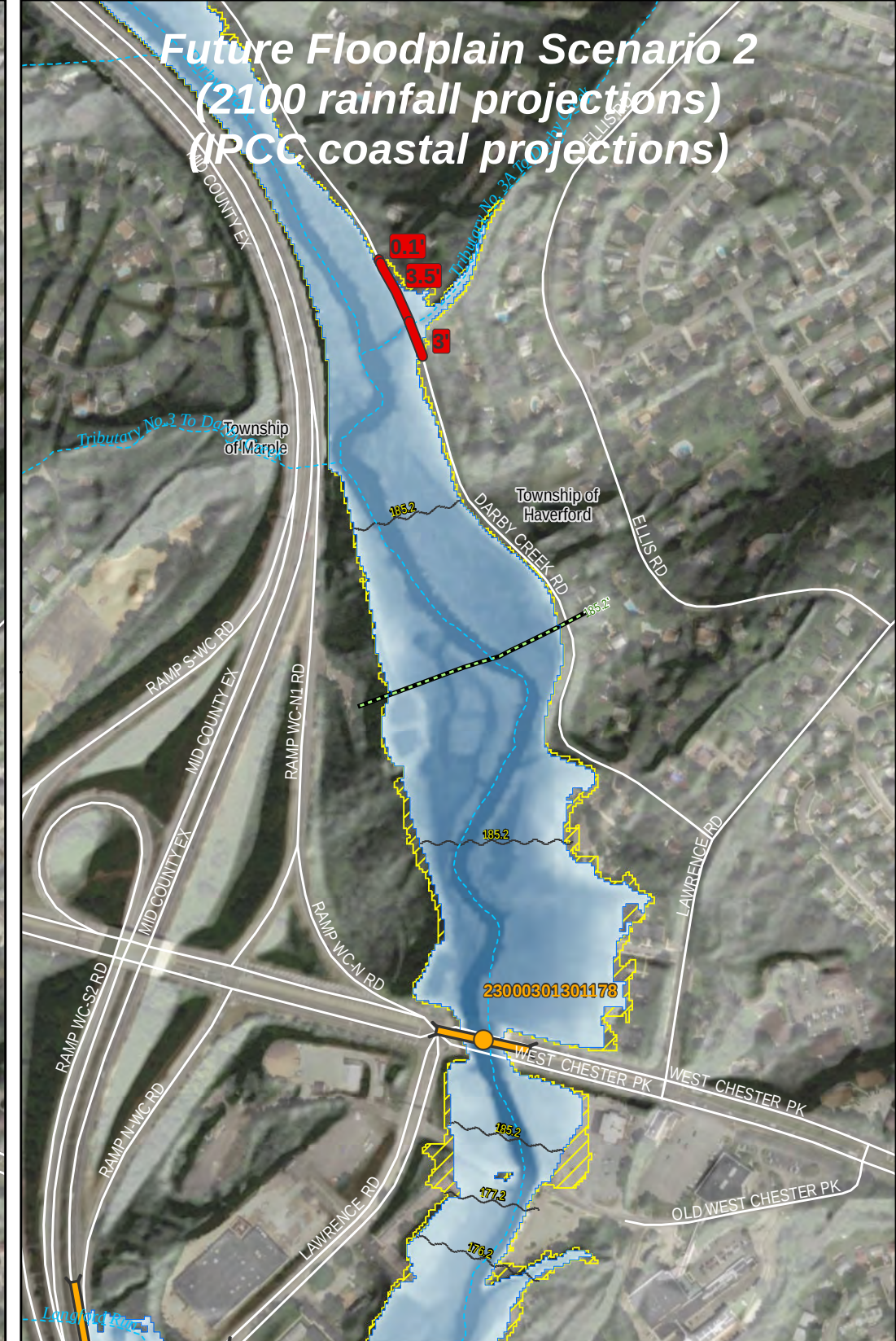
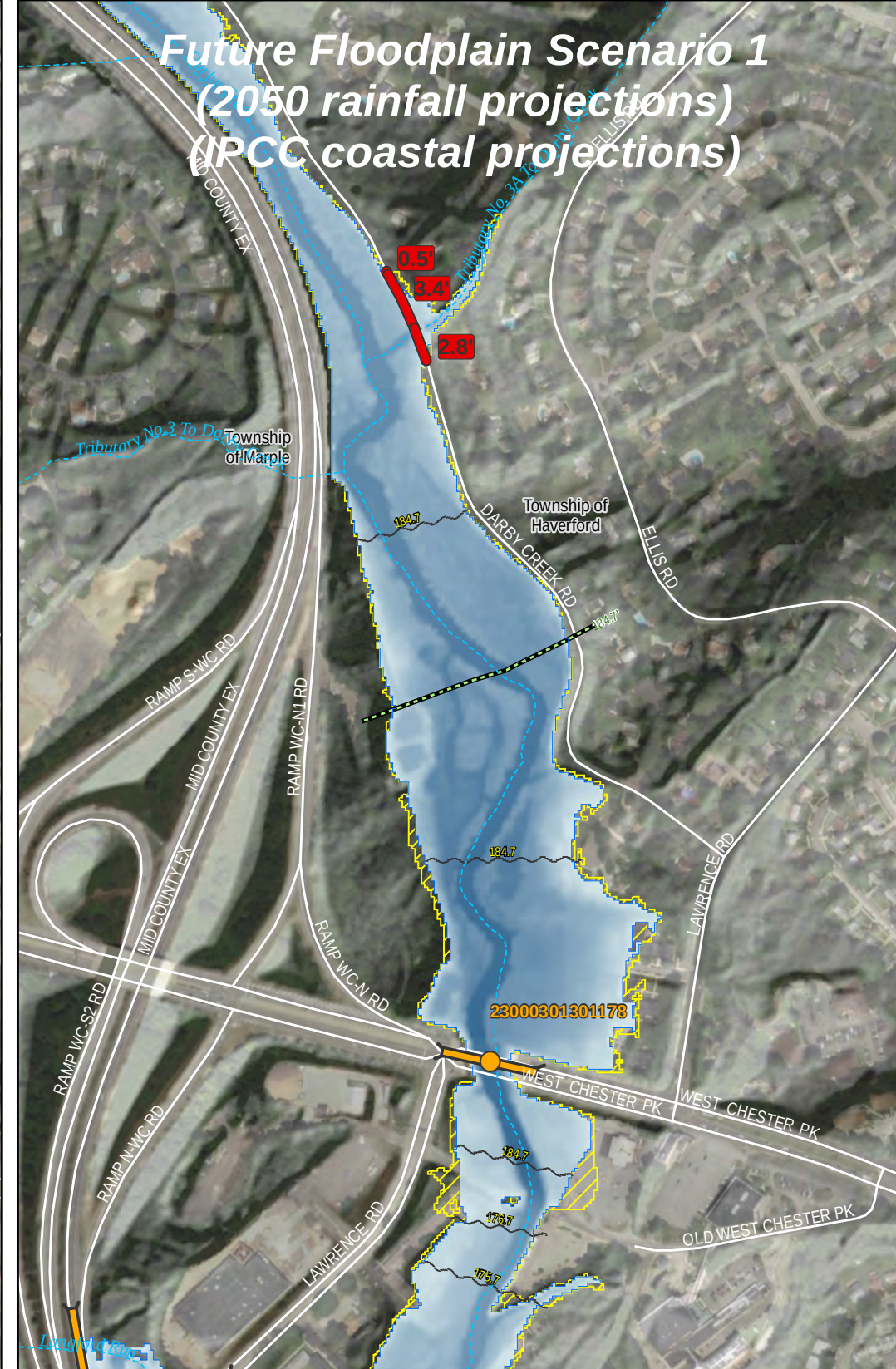
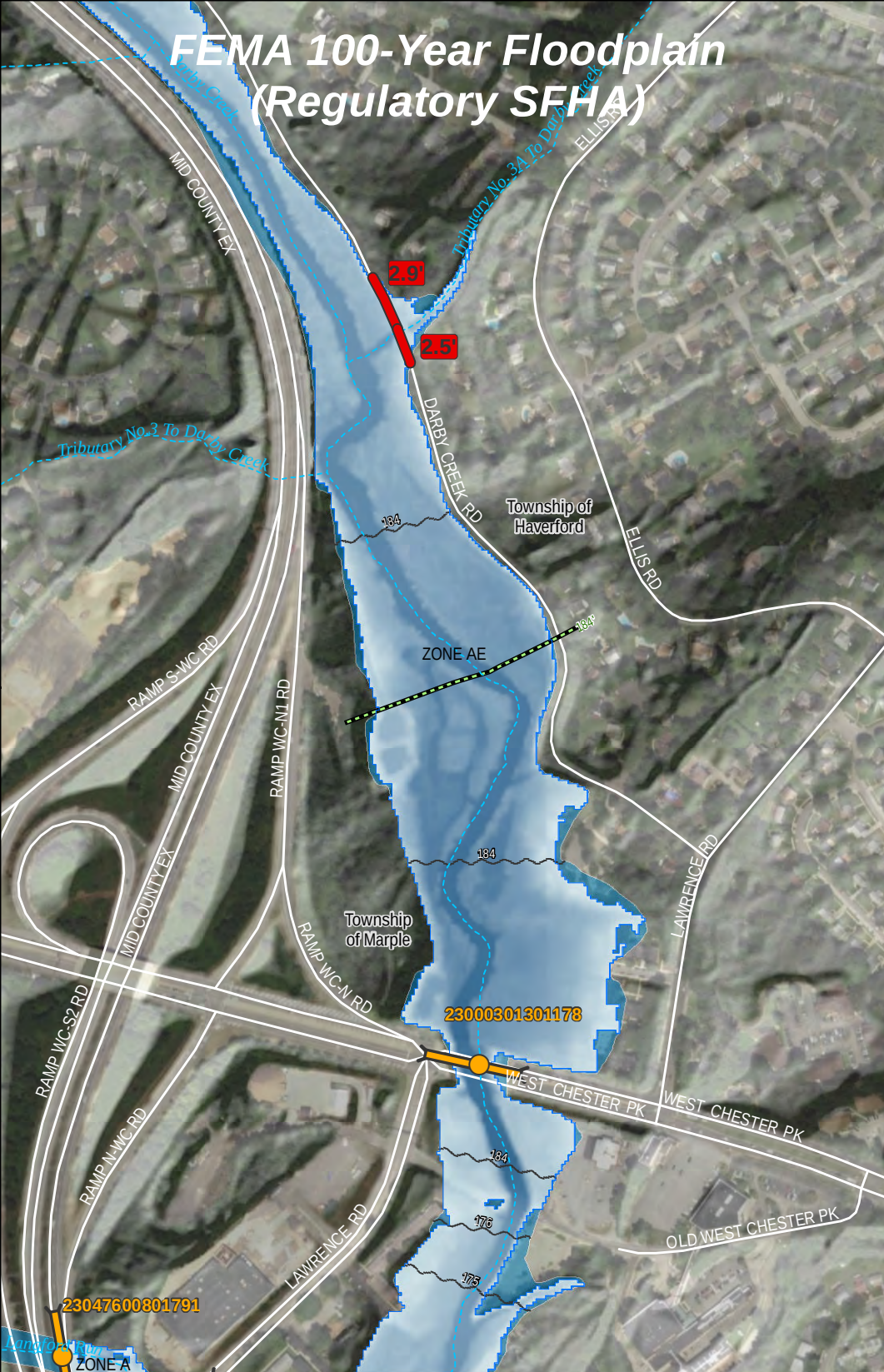
Sheet 15 of 125

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INTERNATIONAL**

LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
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Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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Michael Baker INTERNATIONAL

LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

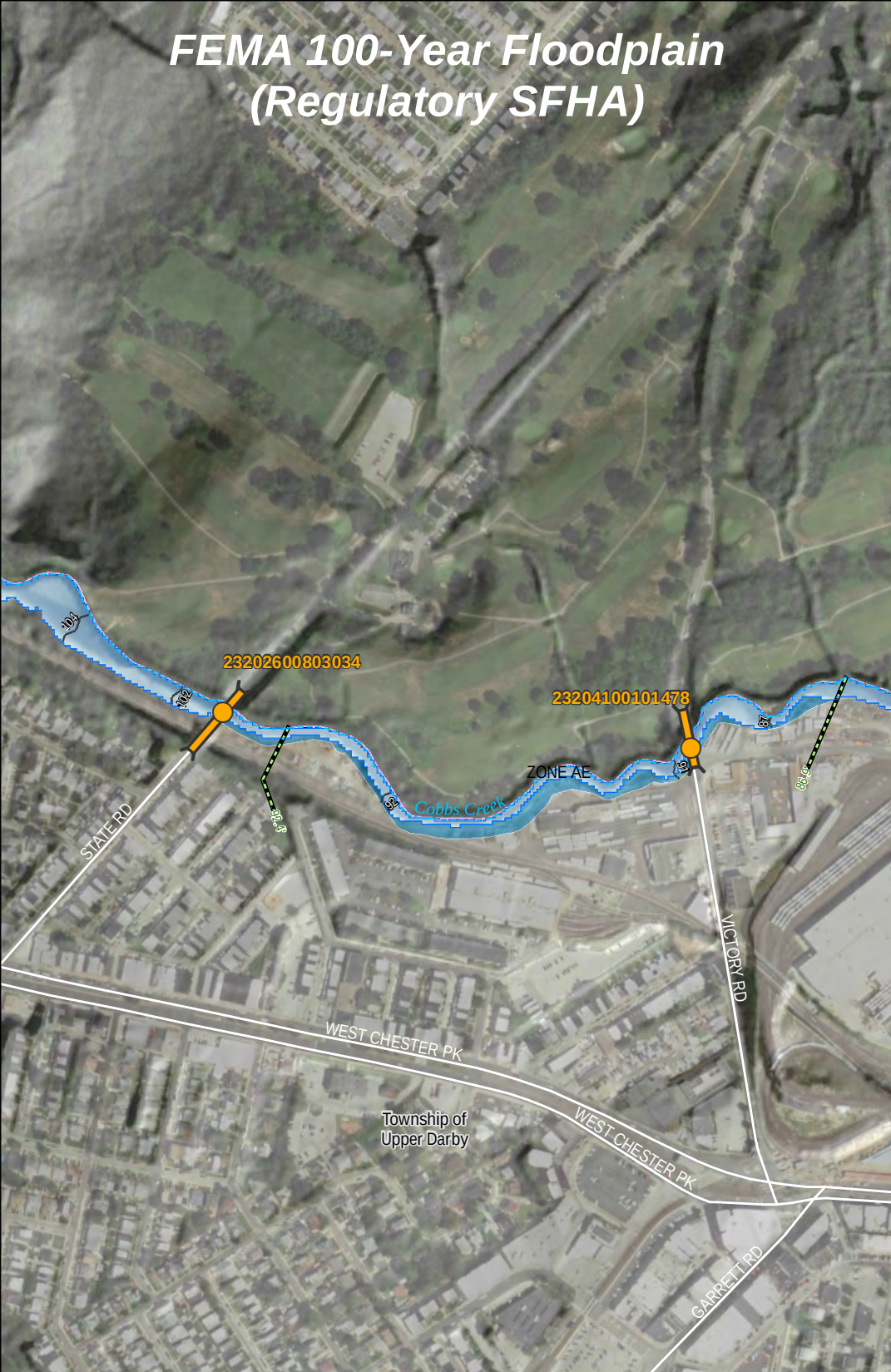
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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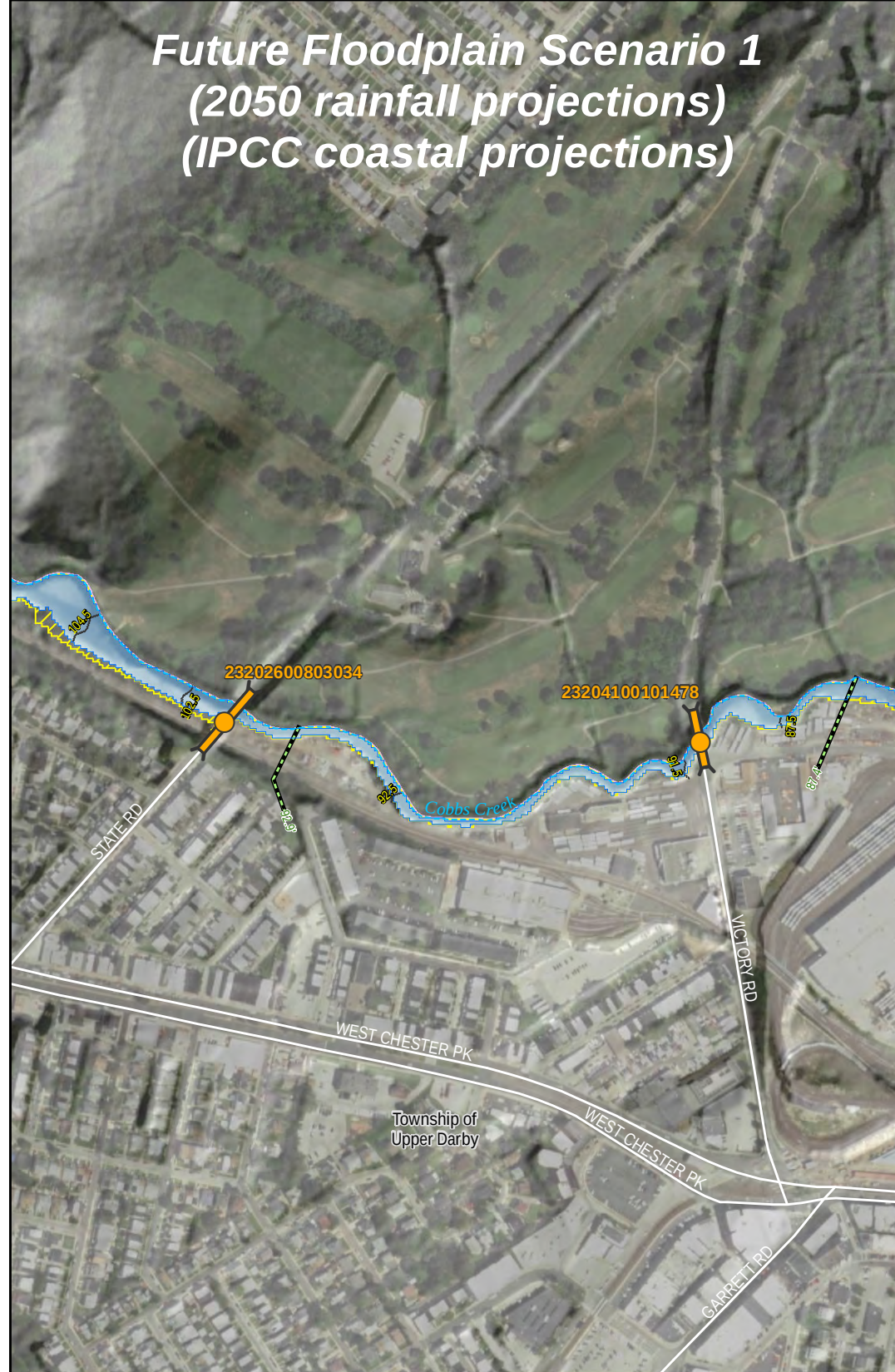
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Bridge and Roadway Data Provided by: Pennsylvania DOT

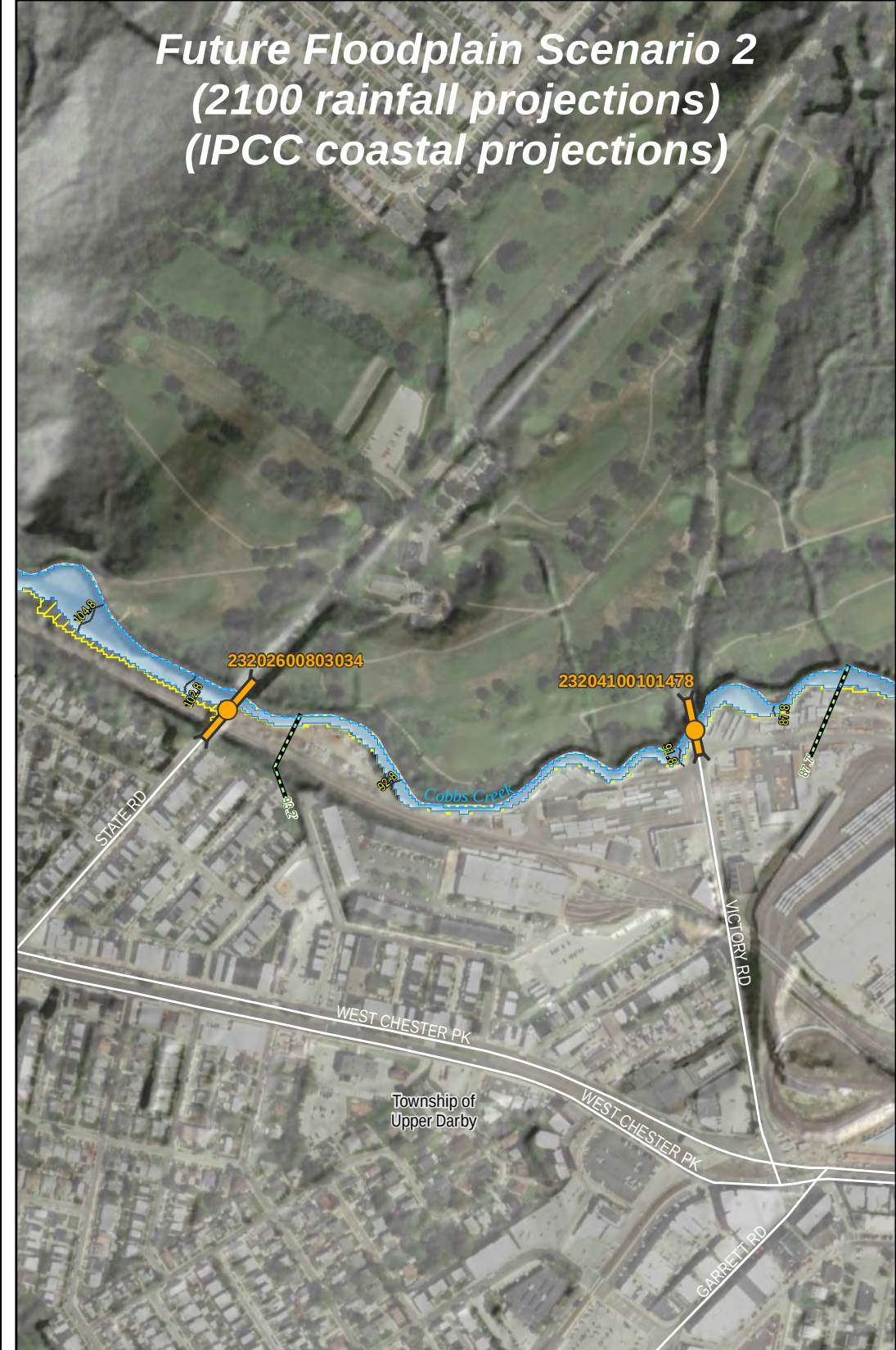
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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FEMA FLOODPLAIN DATA

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EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

November 22, 2016

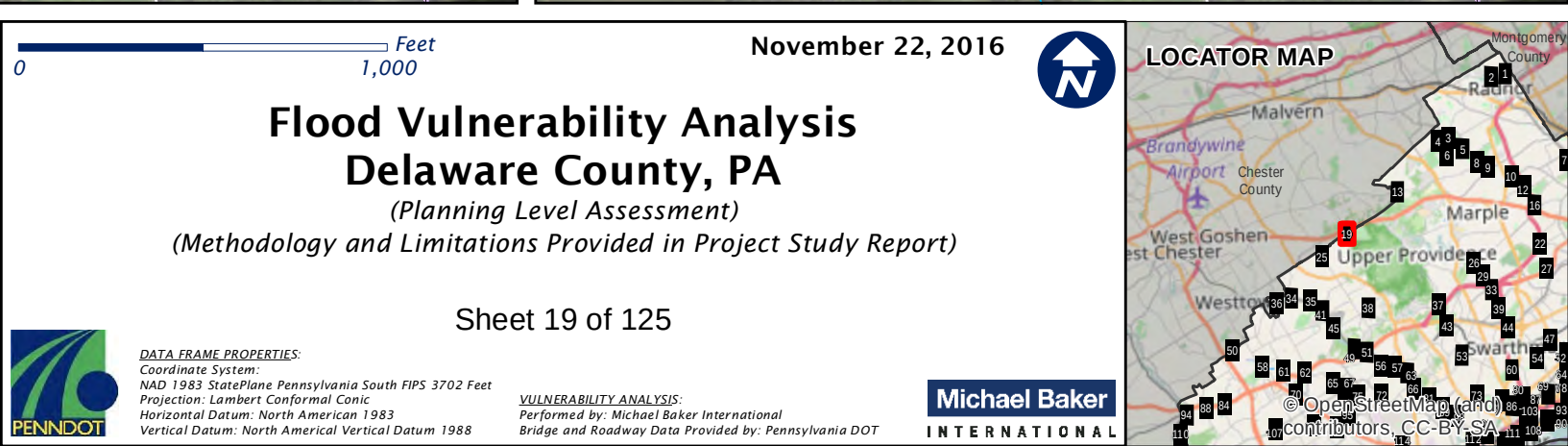
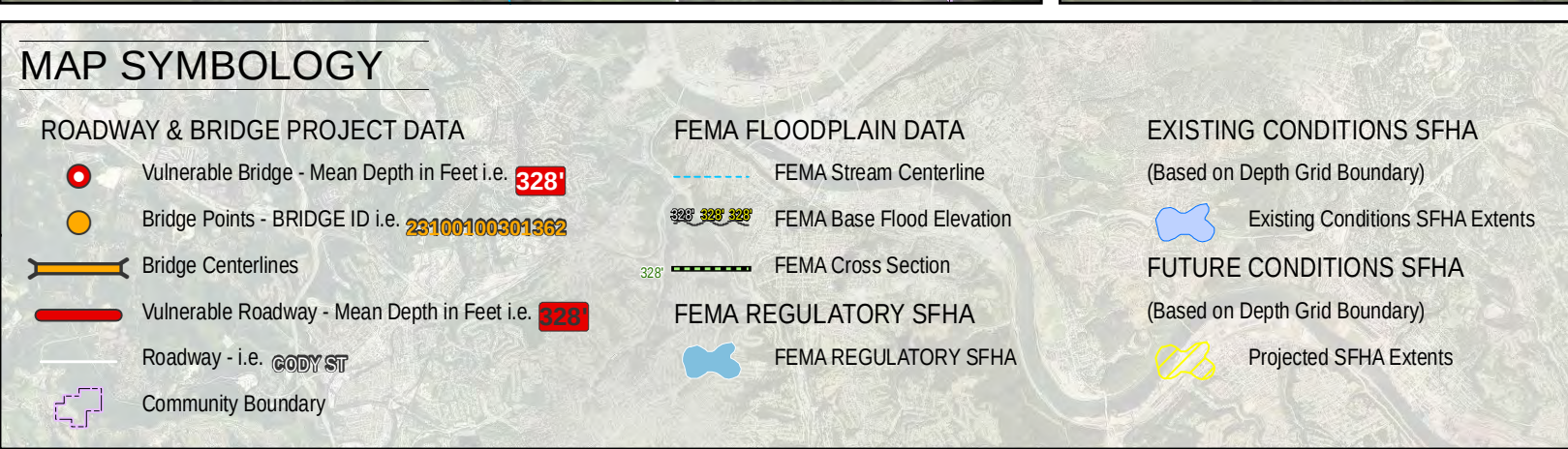
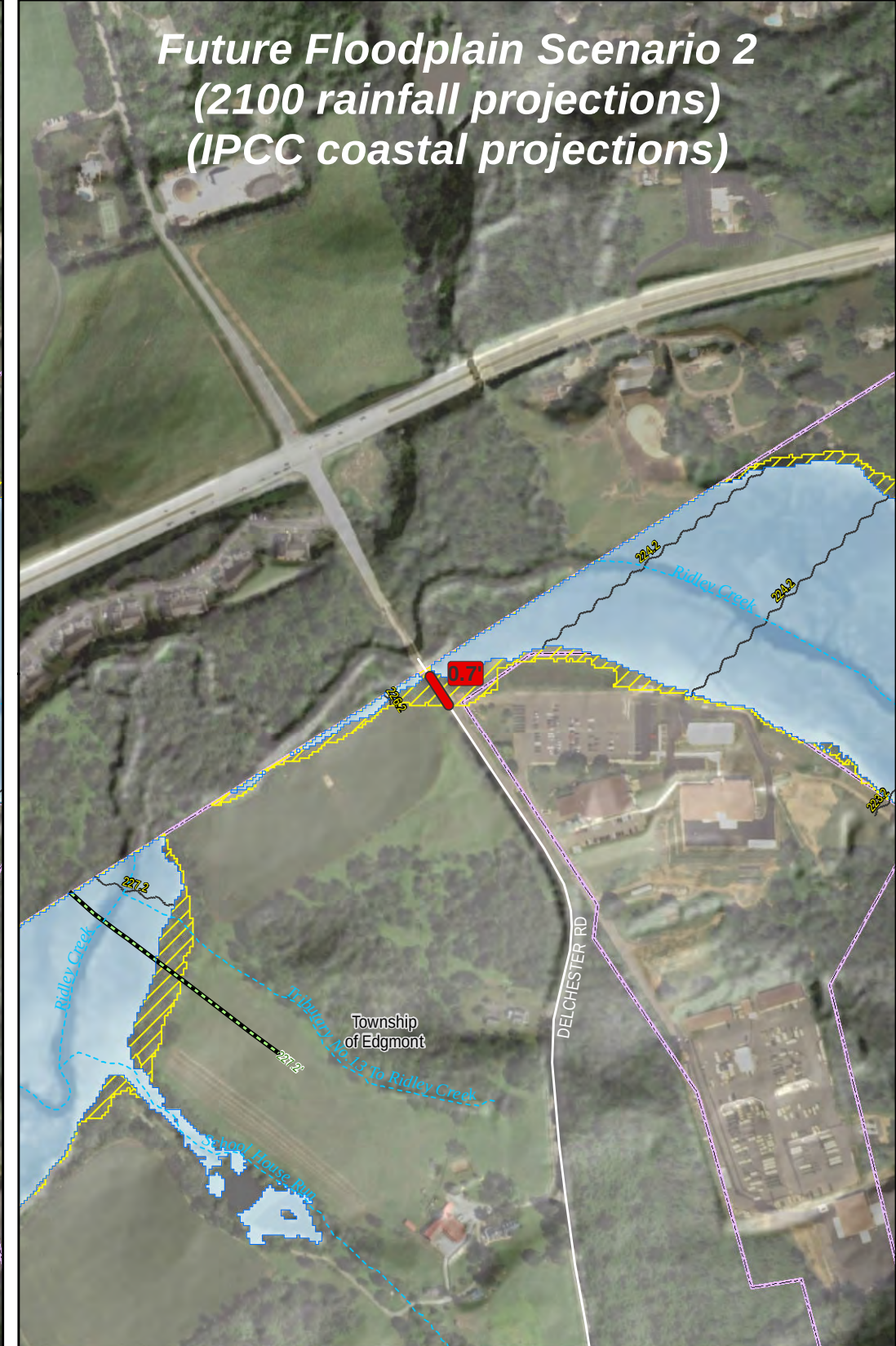
Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 18 of 125

**Michael Baker
INTERNATIONAL**

LOCATOR MAP



FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- Existing Conditions SFHA Extents
- Projected SFHA Extents

0 1,000 Feet

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

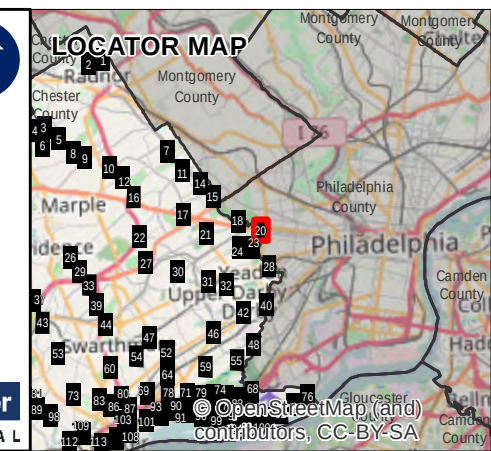
Sheet 20 of 125

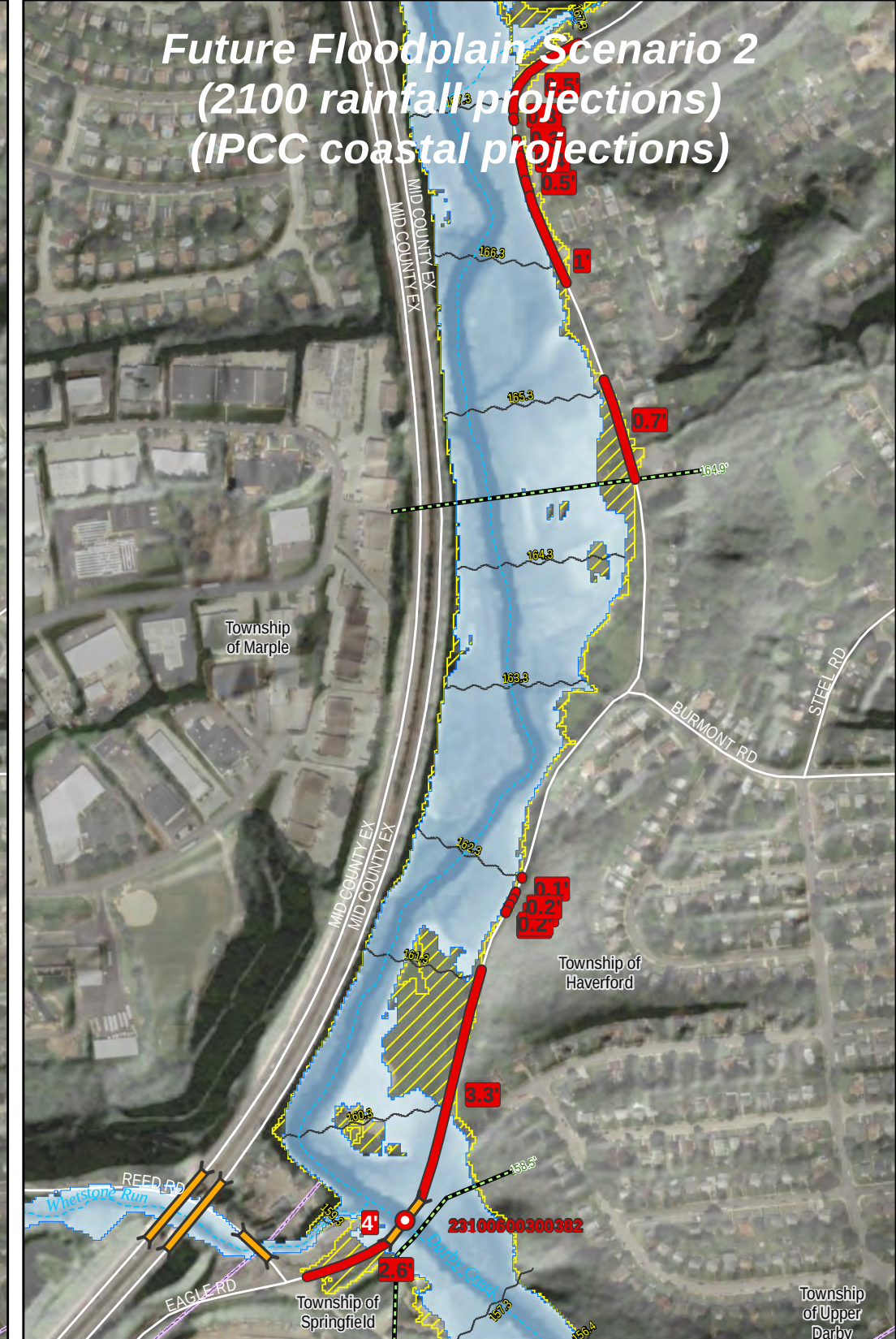
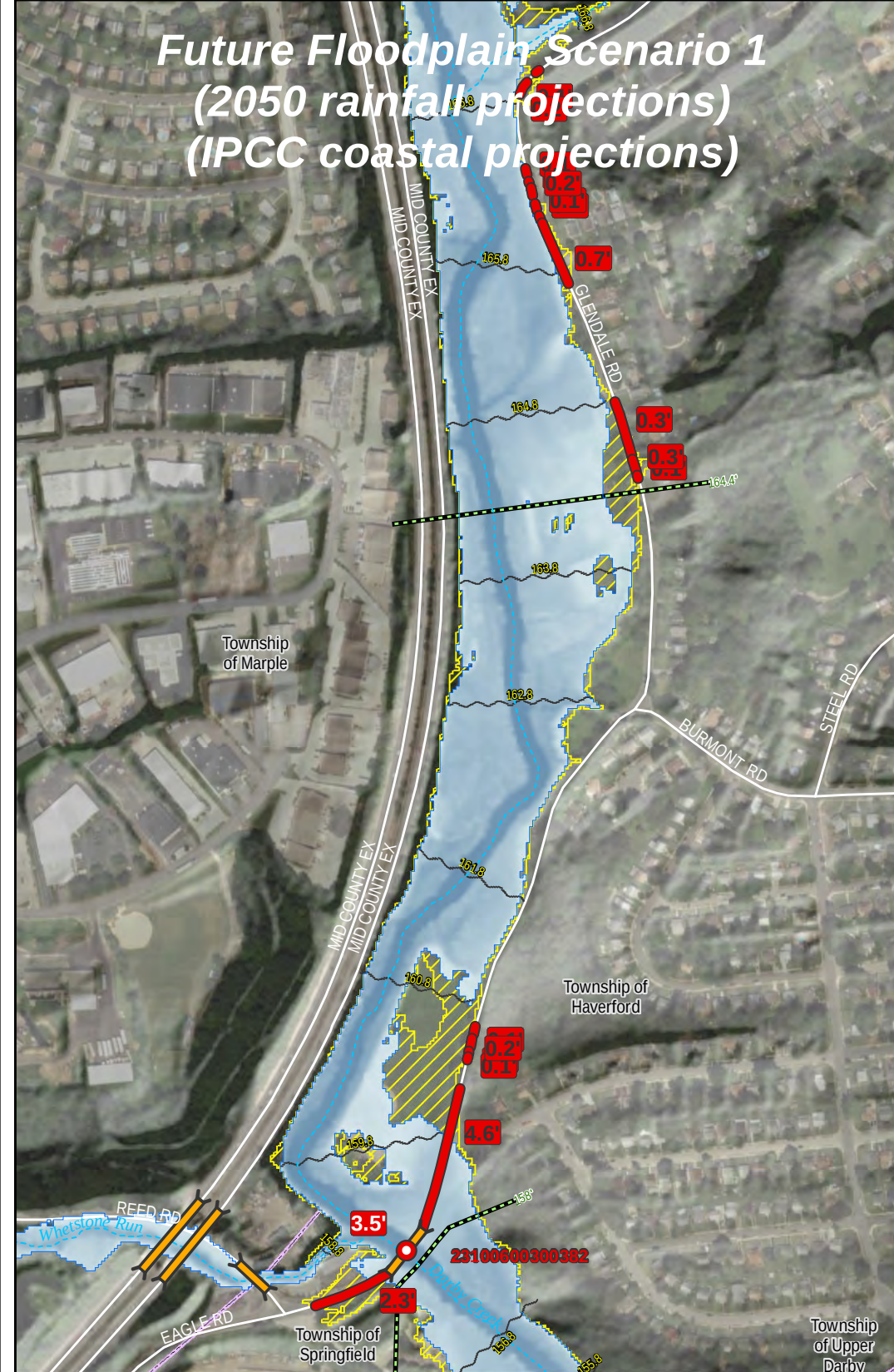


DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

Michael Baker
INTERNATIONAL





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents
- Projected SFHA Extents
- Projected SFHA Extents

FUTURE CONDITIONS SFHA

- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents
- Projected SFHA Extents
- Projected SFHA Extents

0 Feet
1,000

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

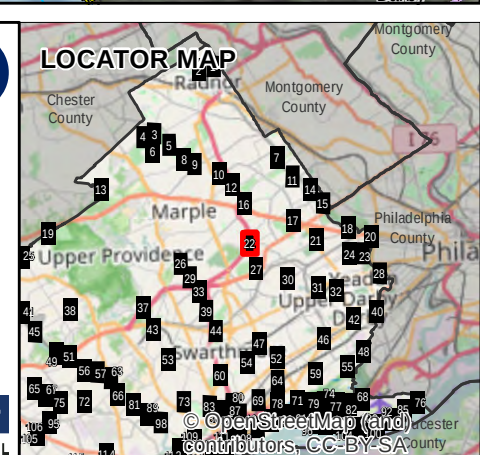
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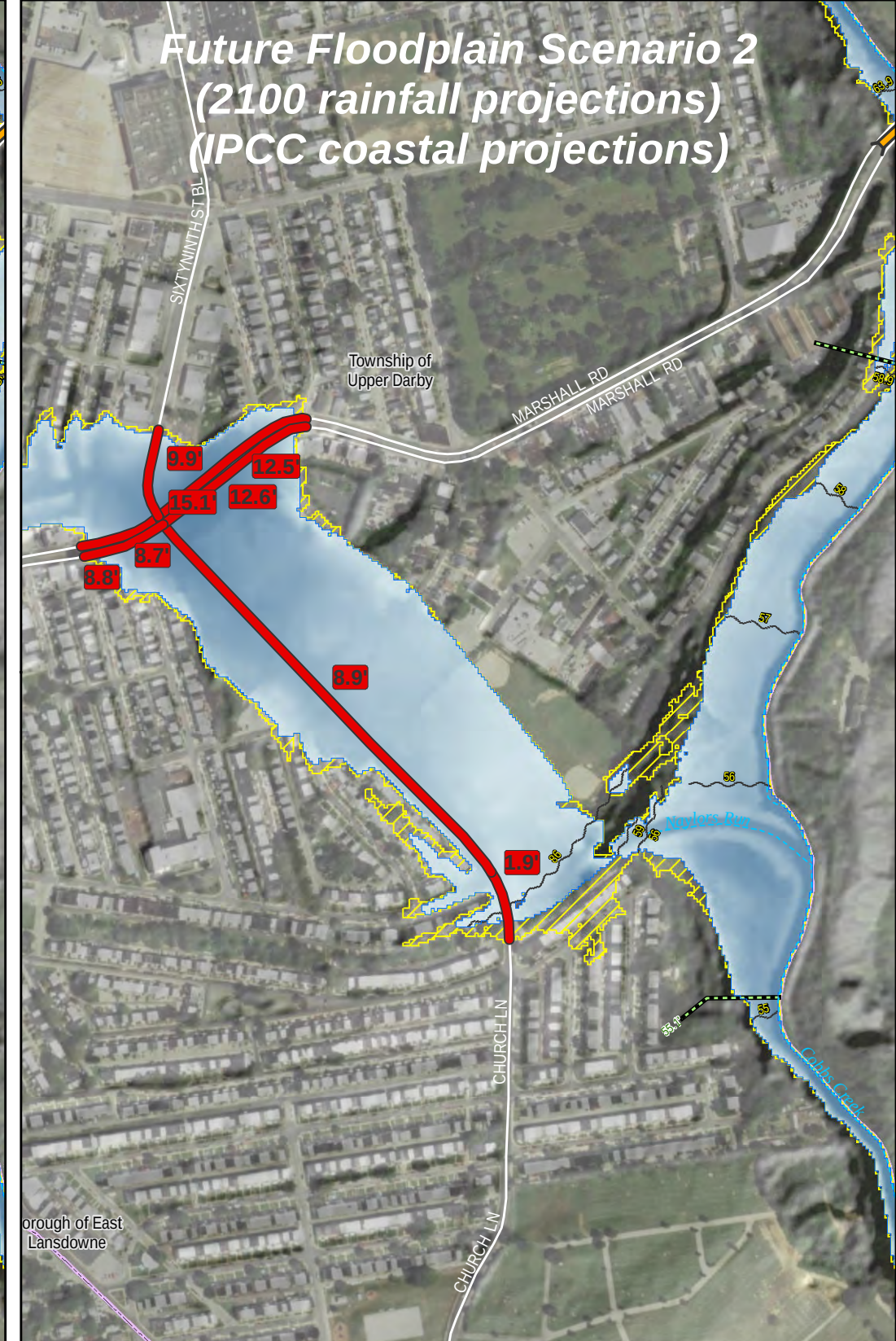
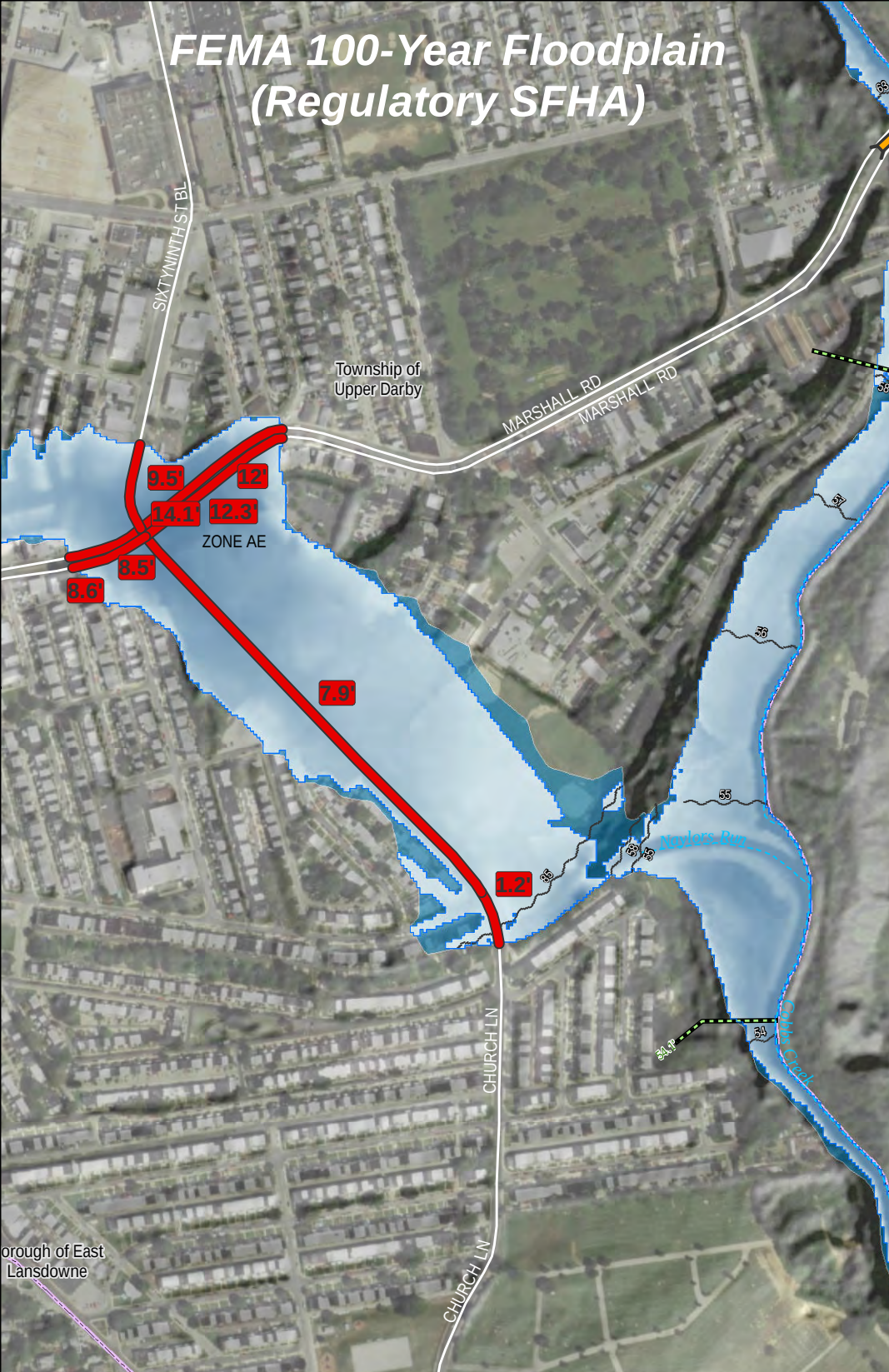


DATA FRAME PROPERTIES:
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

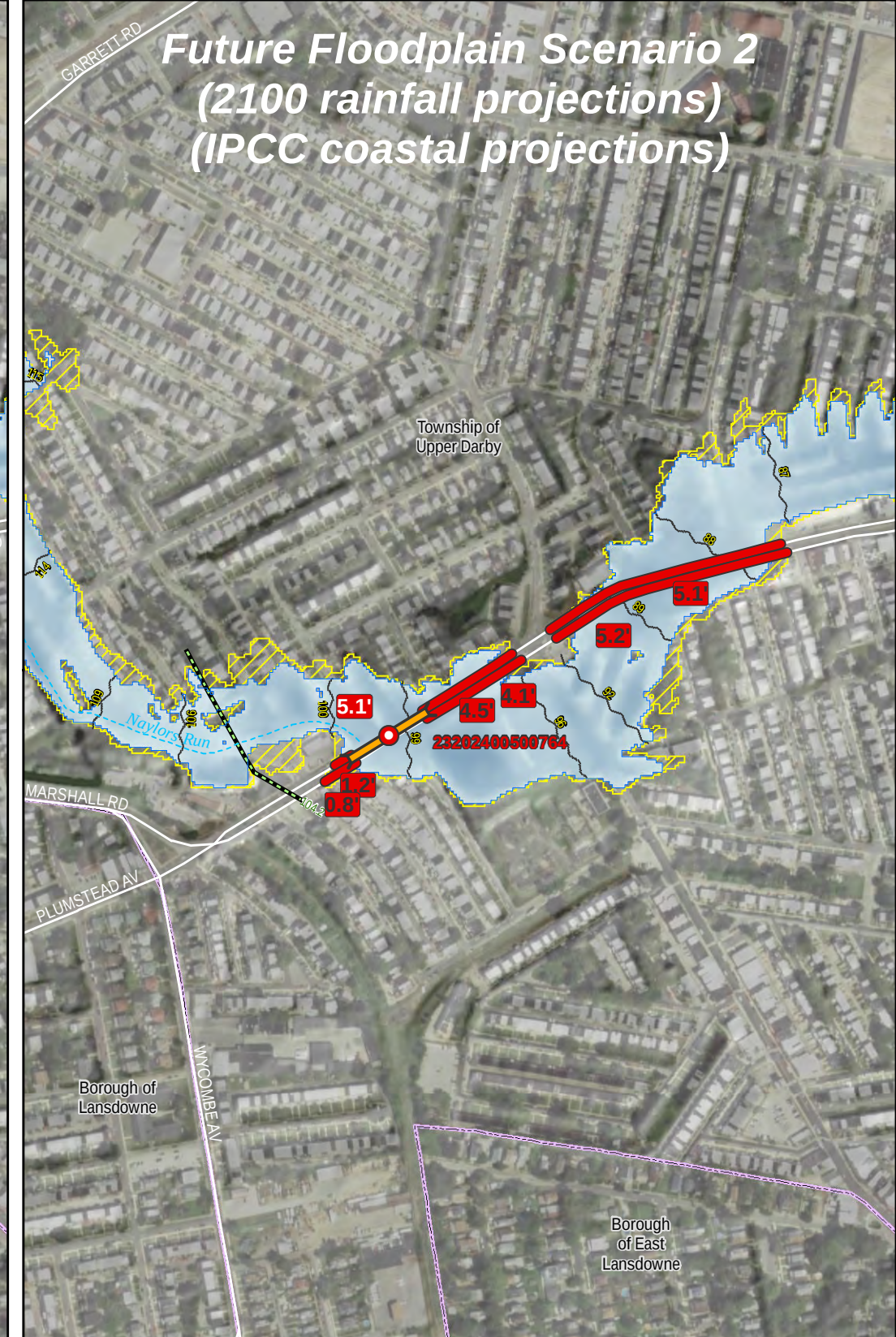
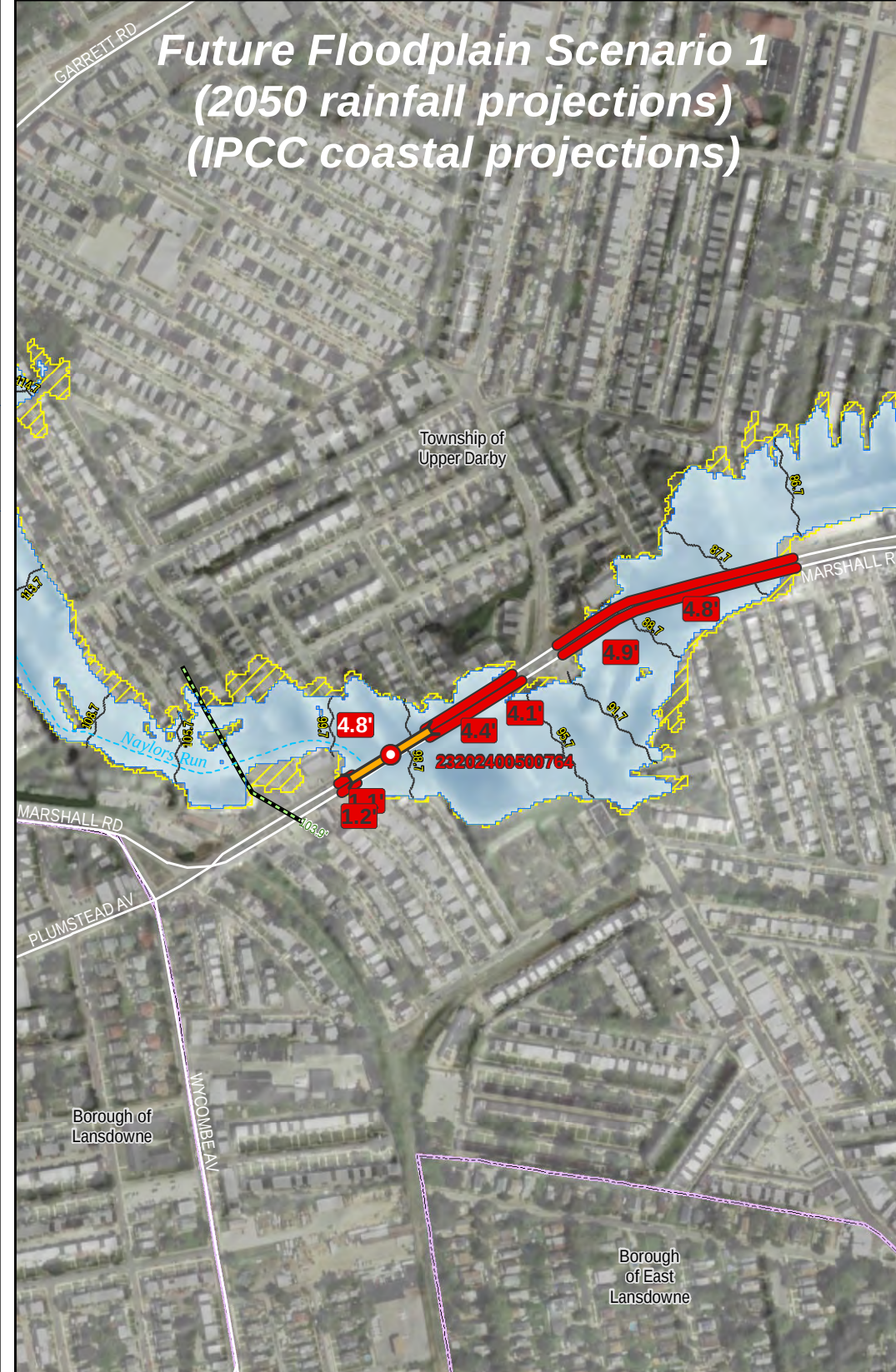
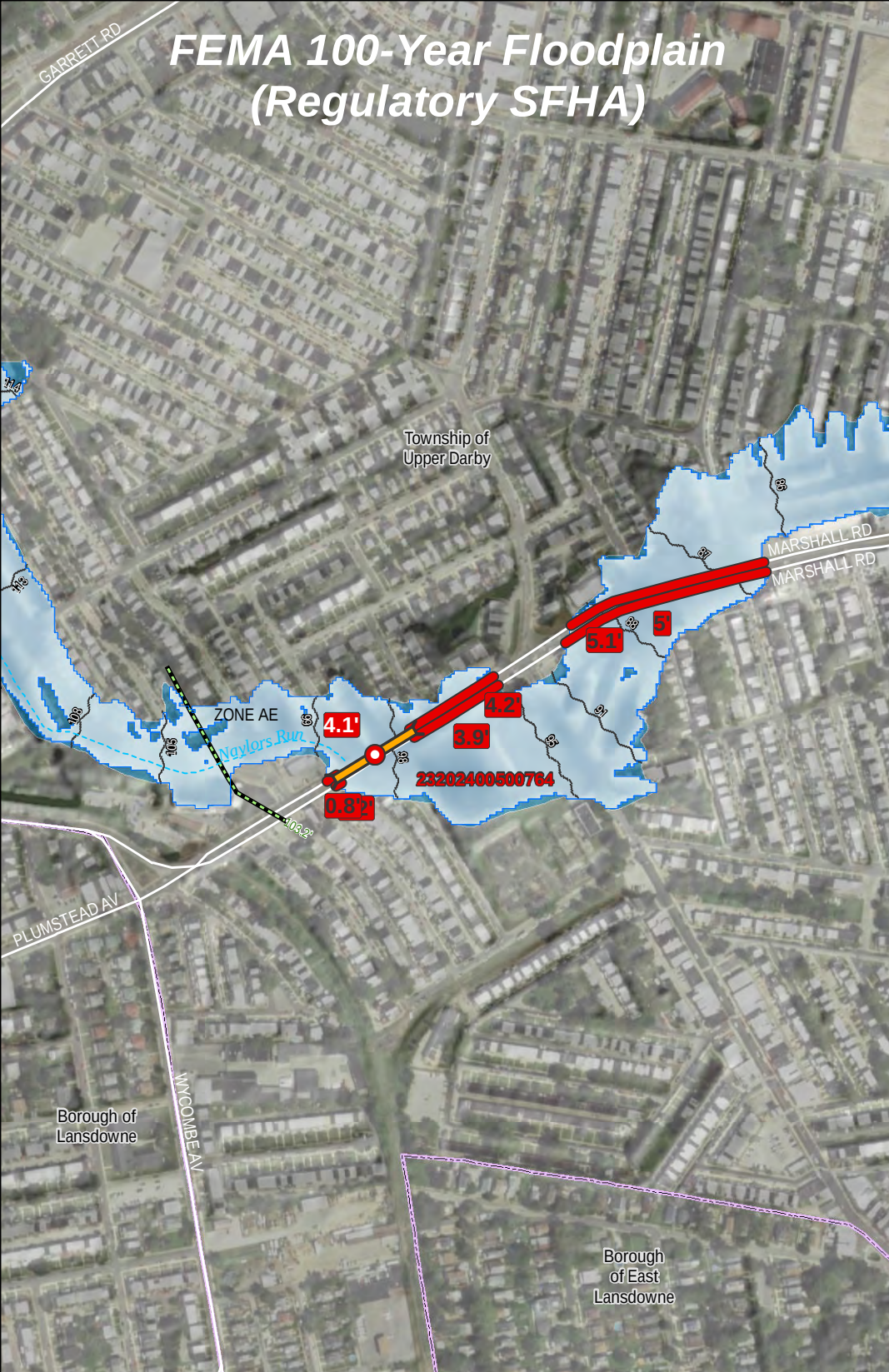
Sheet 23 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

Michael Baker
INTERNATIONAL

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **3.28'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **3.28'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
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Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

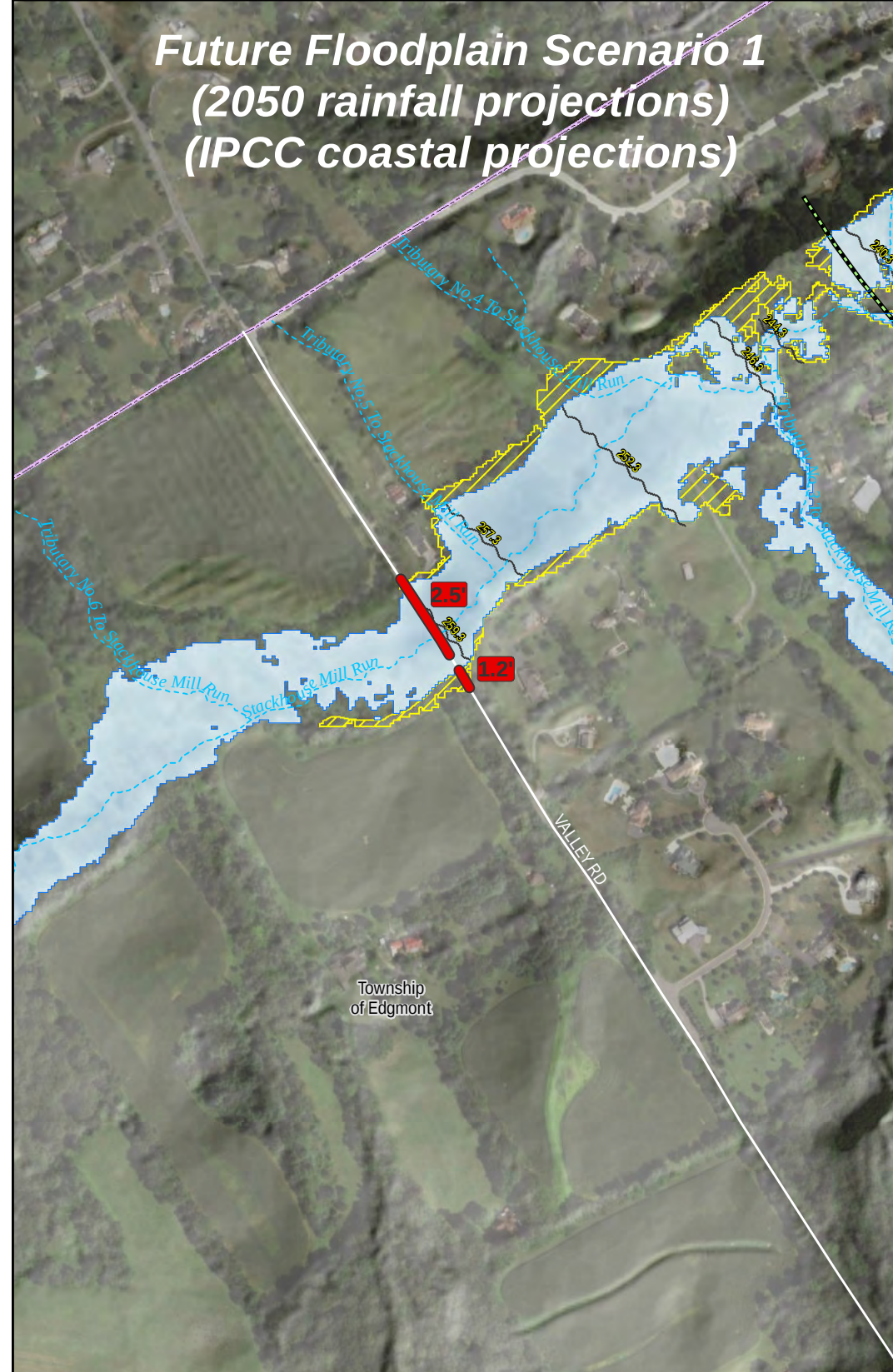
VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

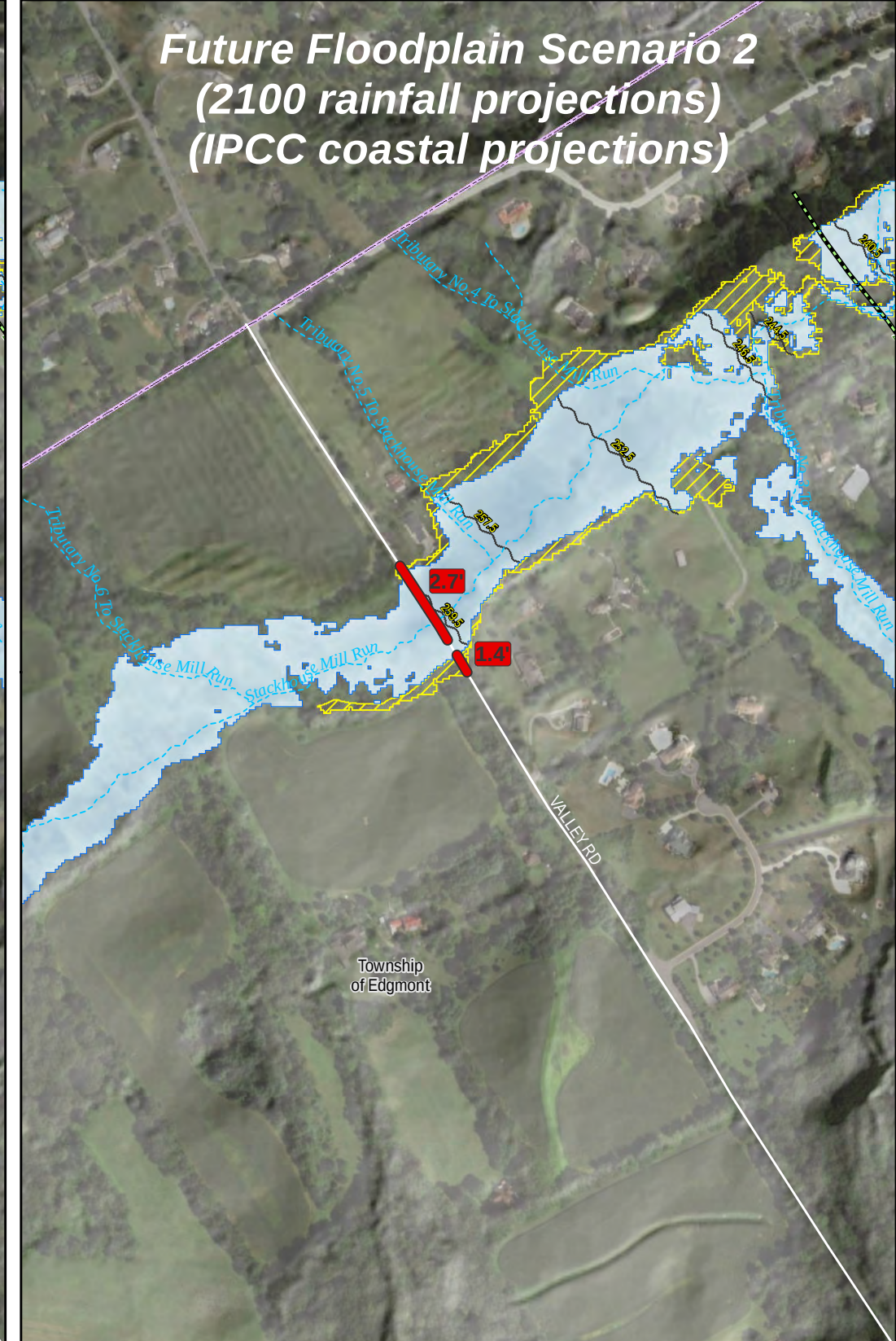
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- (Based on Depth Grid Boundary)
- Existing Conditions SFHA Extents
- Projected SFHA Extents

FUTURE CONDITIONS SFHA

(Based on Depth Grid Boundary)

- Projected SFHA Extents

0 Feet
1,000

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

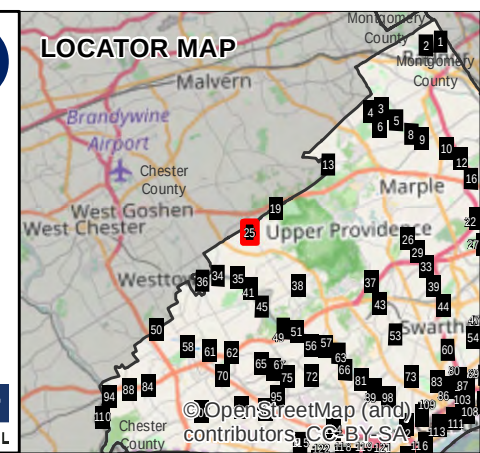
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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**



Future Floodplain Scenario 1
(2050 rainfall projections)
(IPCC coastal projections)

PALMERS MILL

Township of Marple

PAXON HOLLOW RD

DOG KENNEL RD

Crum Creek (Lower Reach)

23702301500230

1.9 4.2

Township of Upper Providence



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
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	Community Boundary

FEMA FLOODPLAIN DATA	
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FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

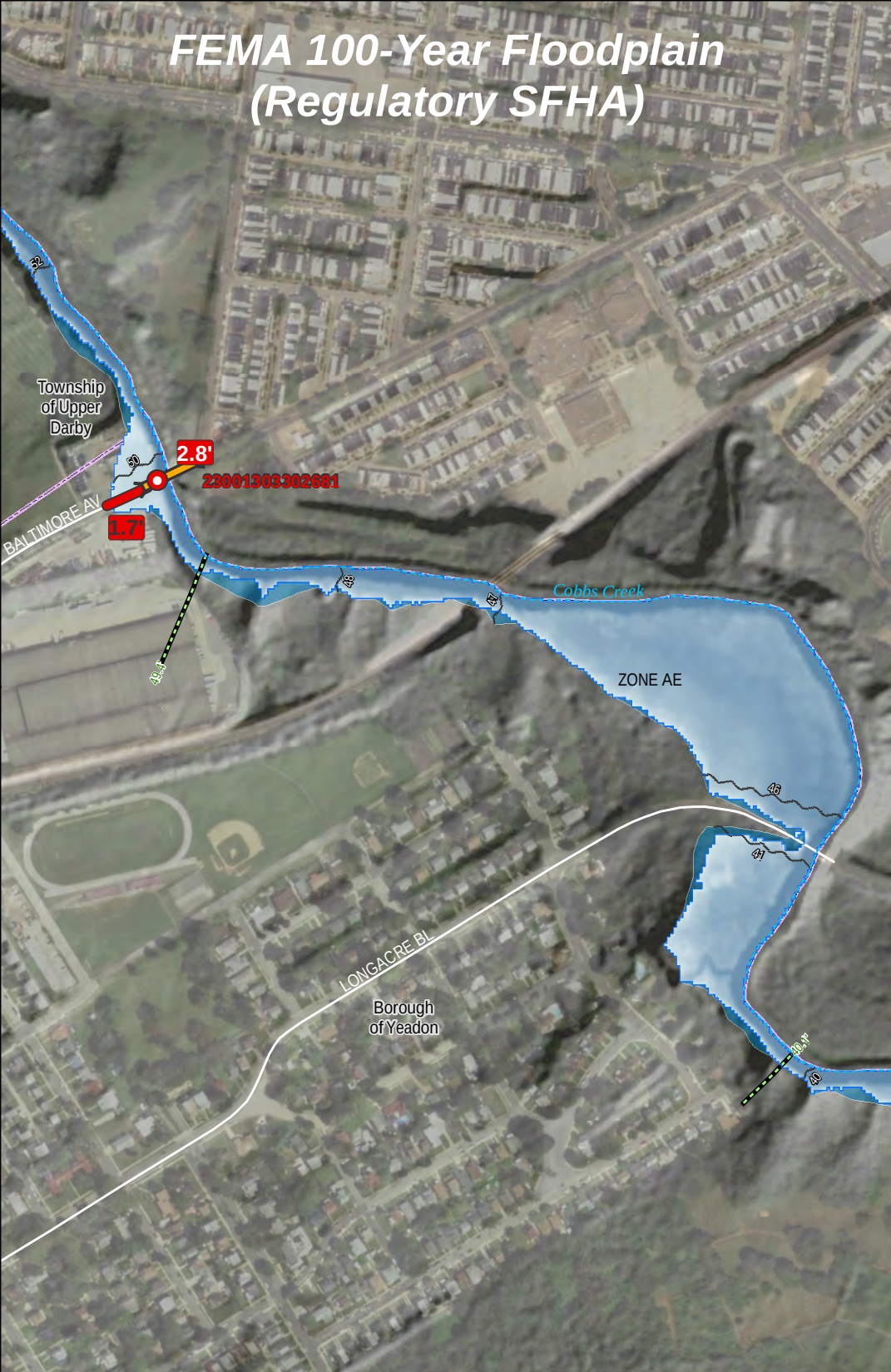
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
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NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
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	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 28 of 125

DATA FRAME PROPERTIES:
Coordinate System:
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
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	FEMA REGULATORY SFHA

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FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

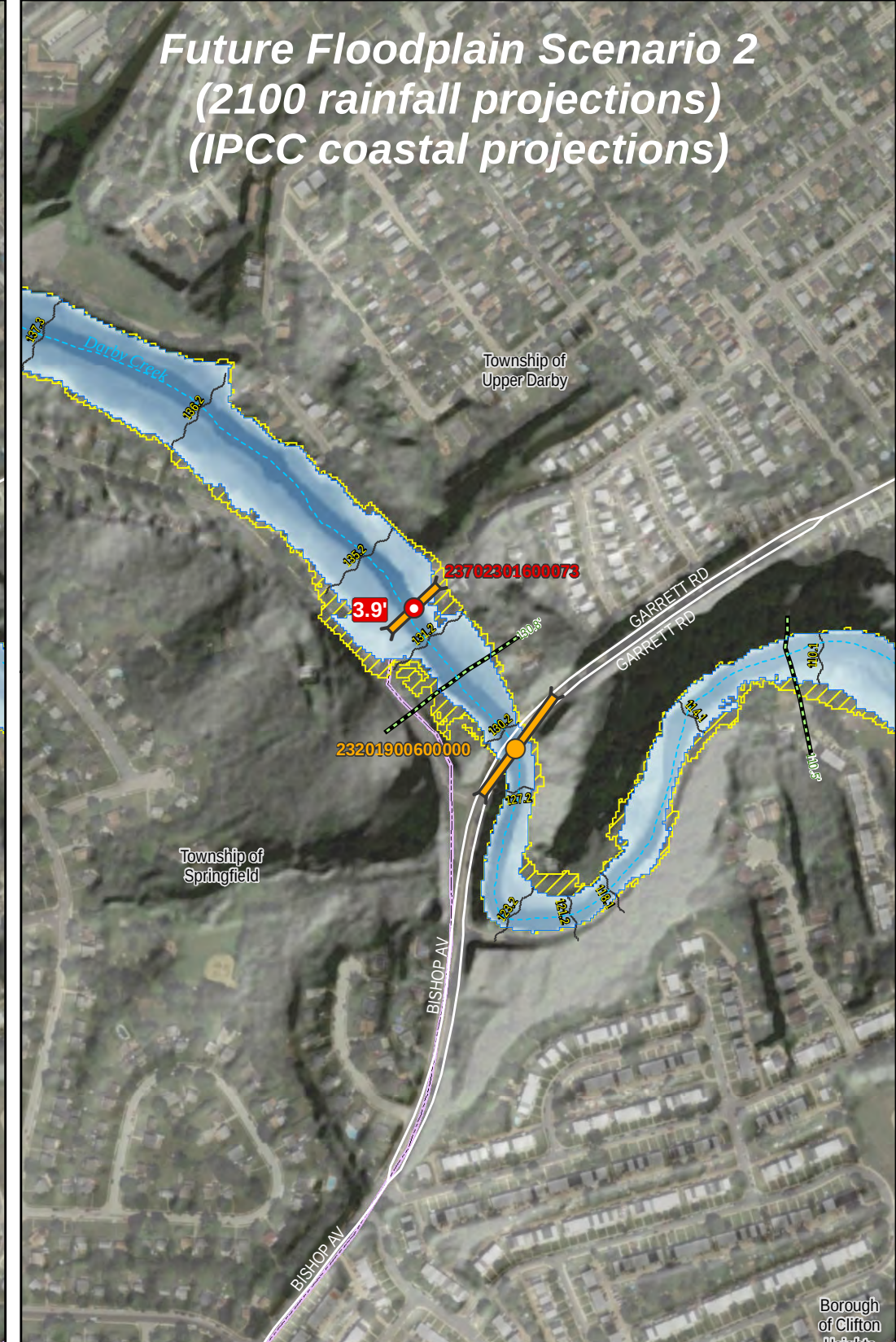
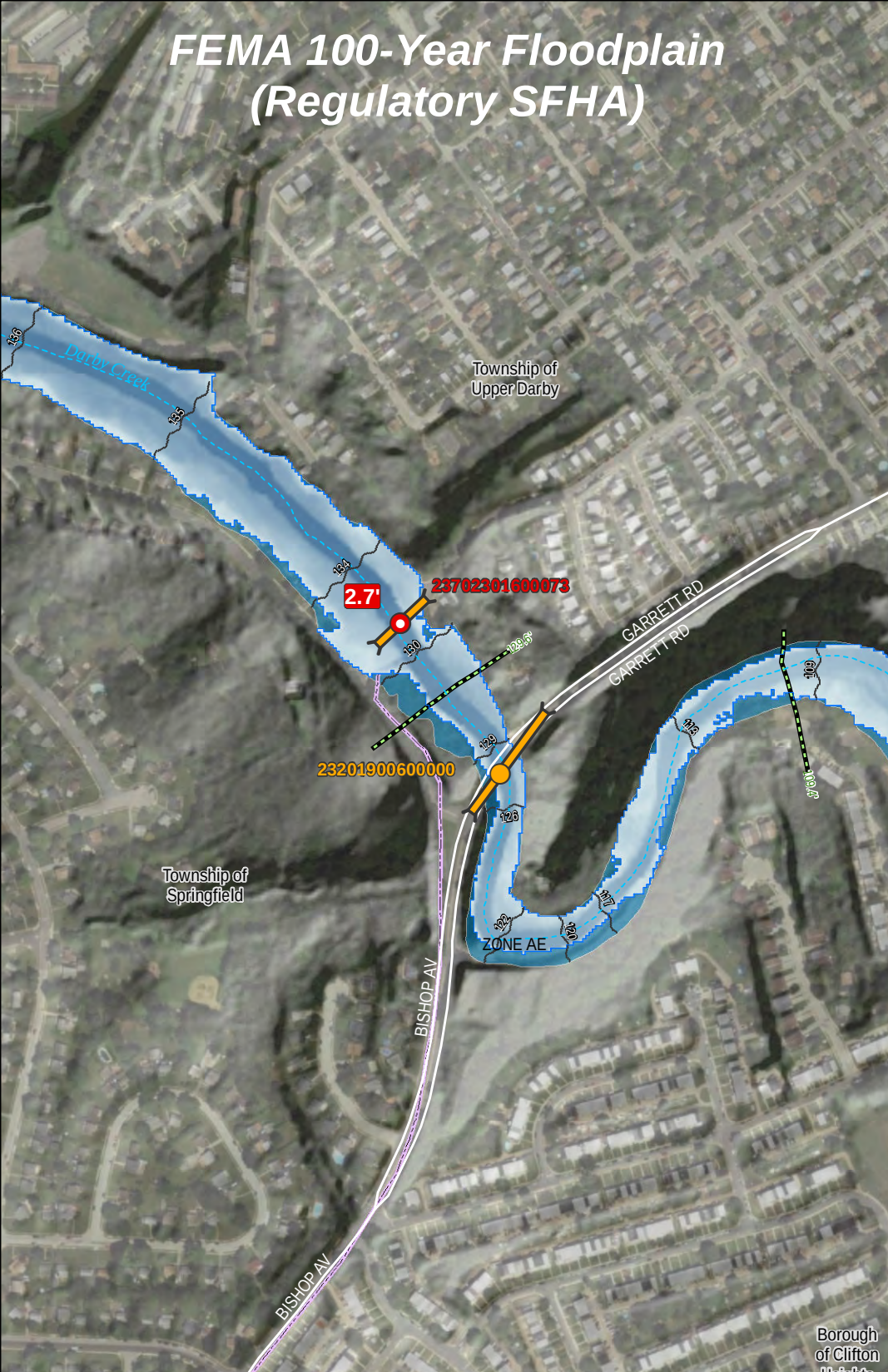
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(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
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- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

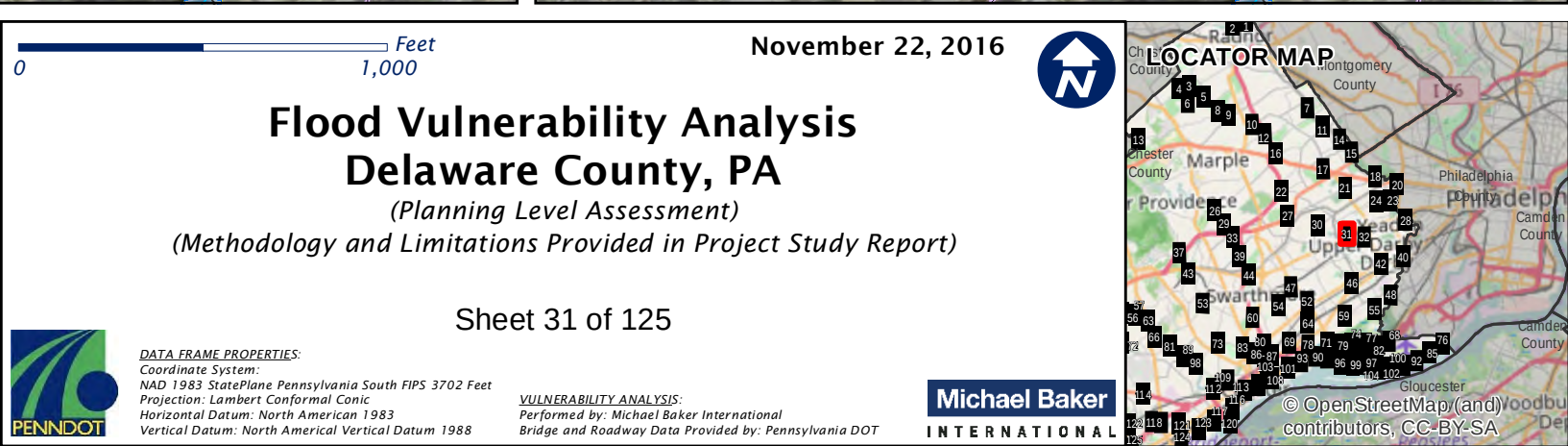
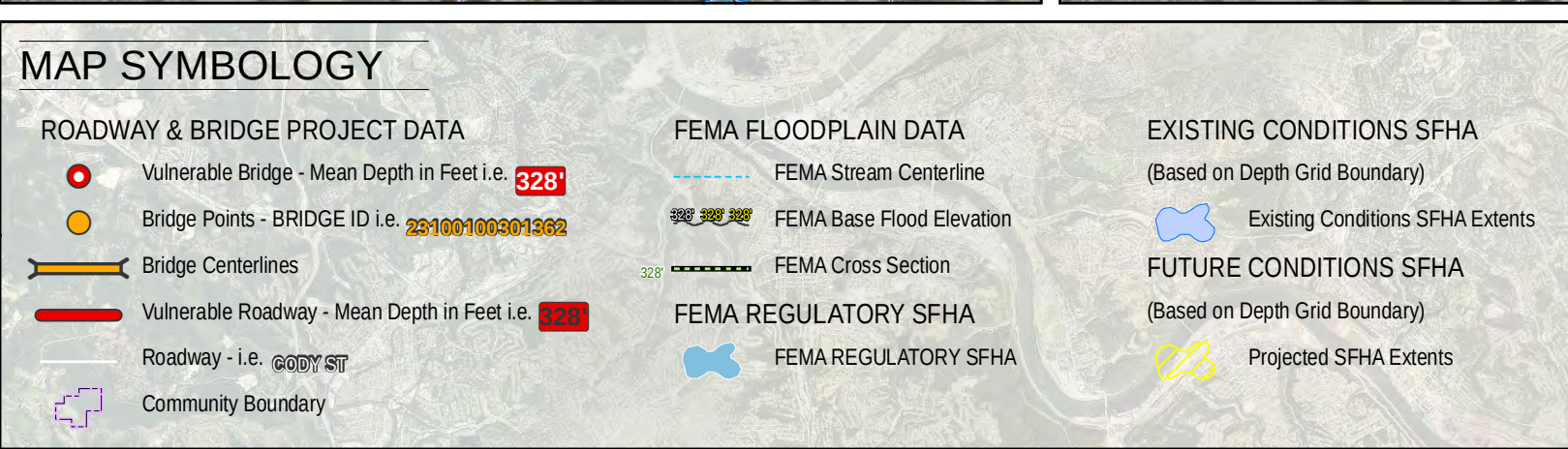
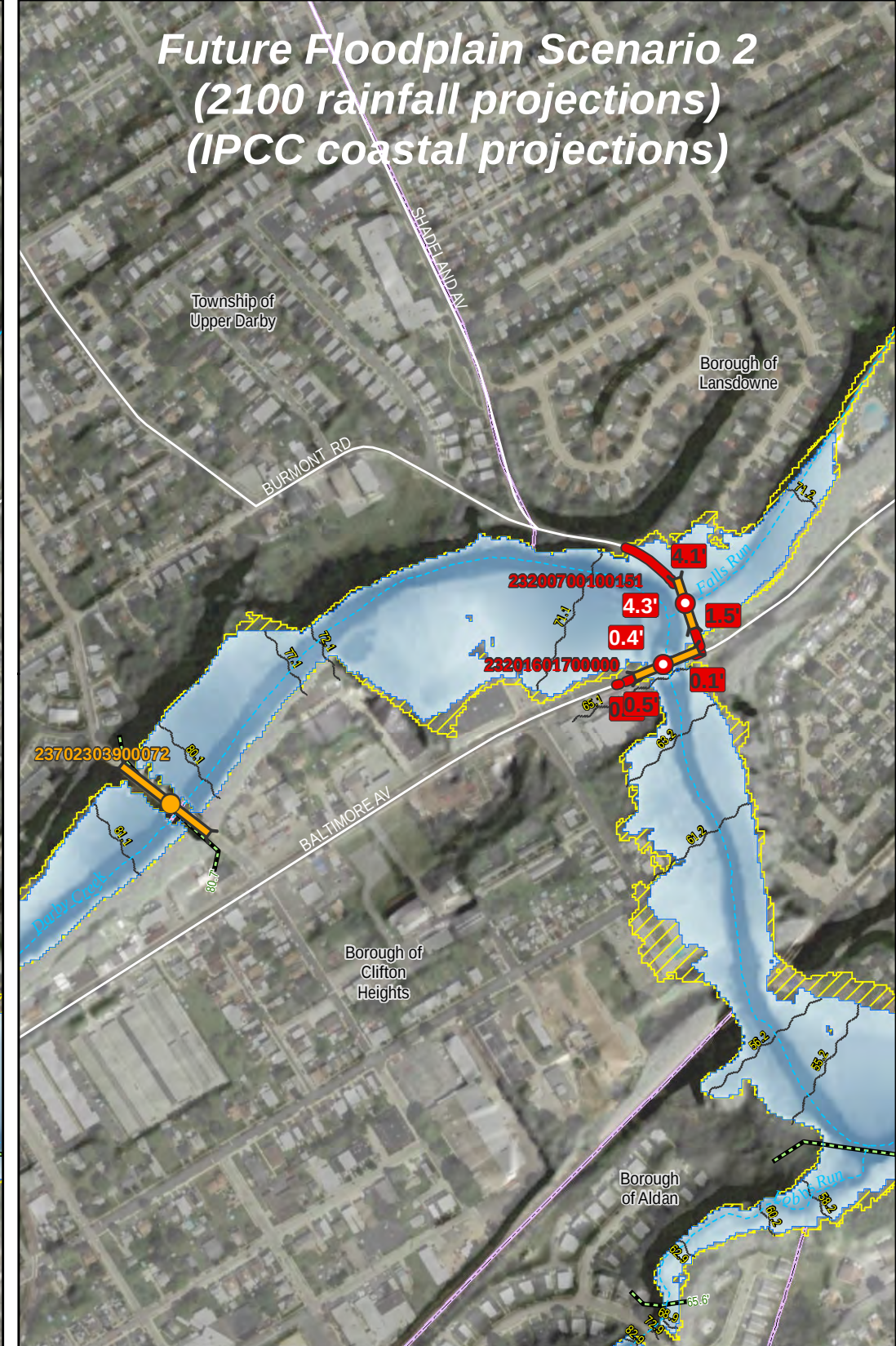
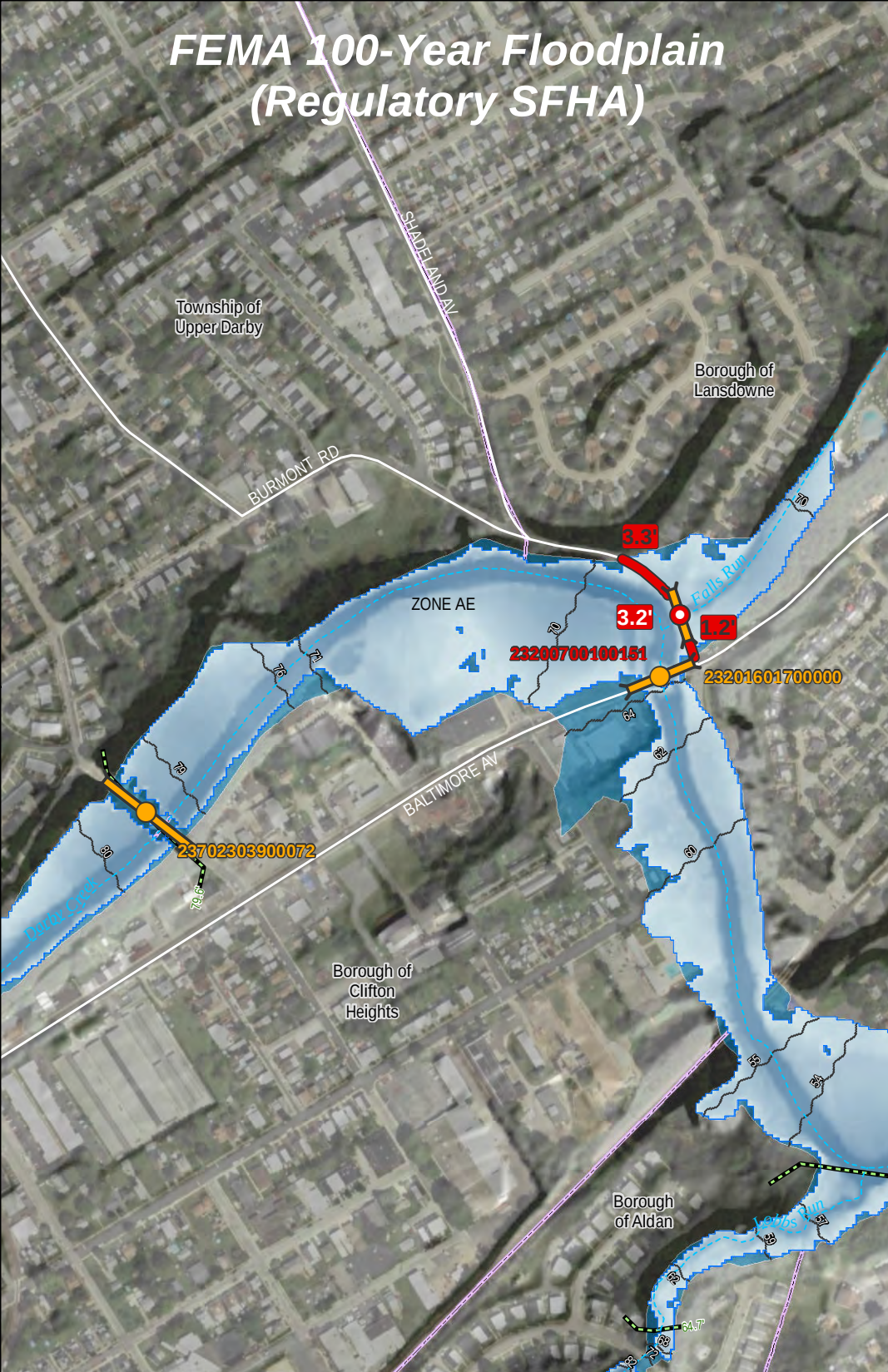
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

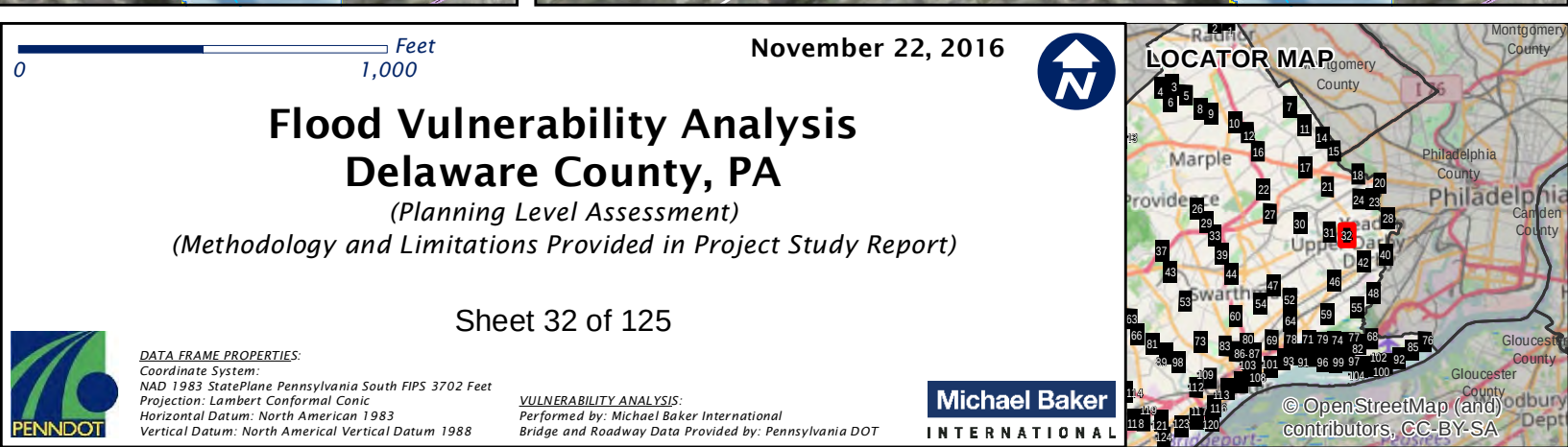
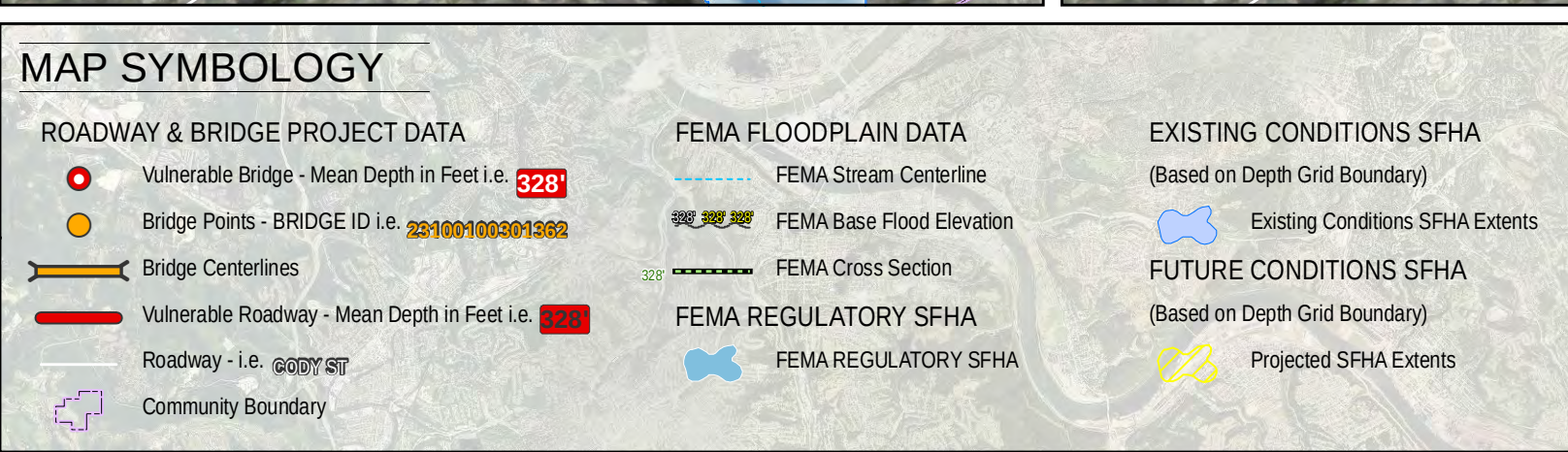
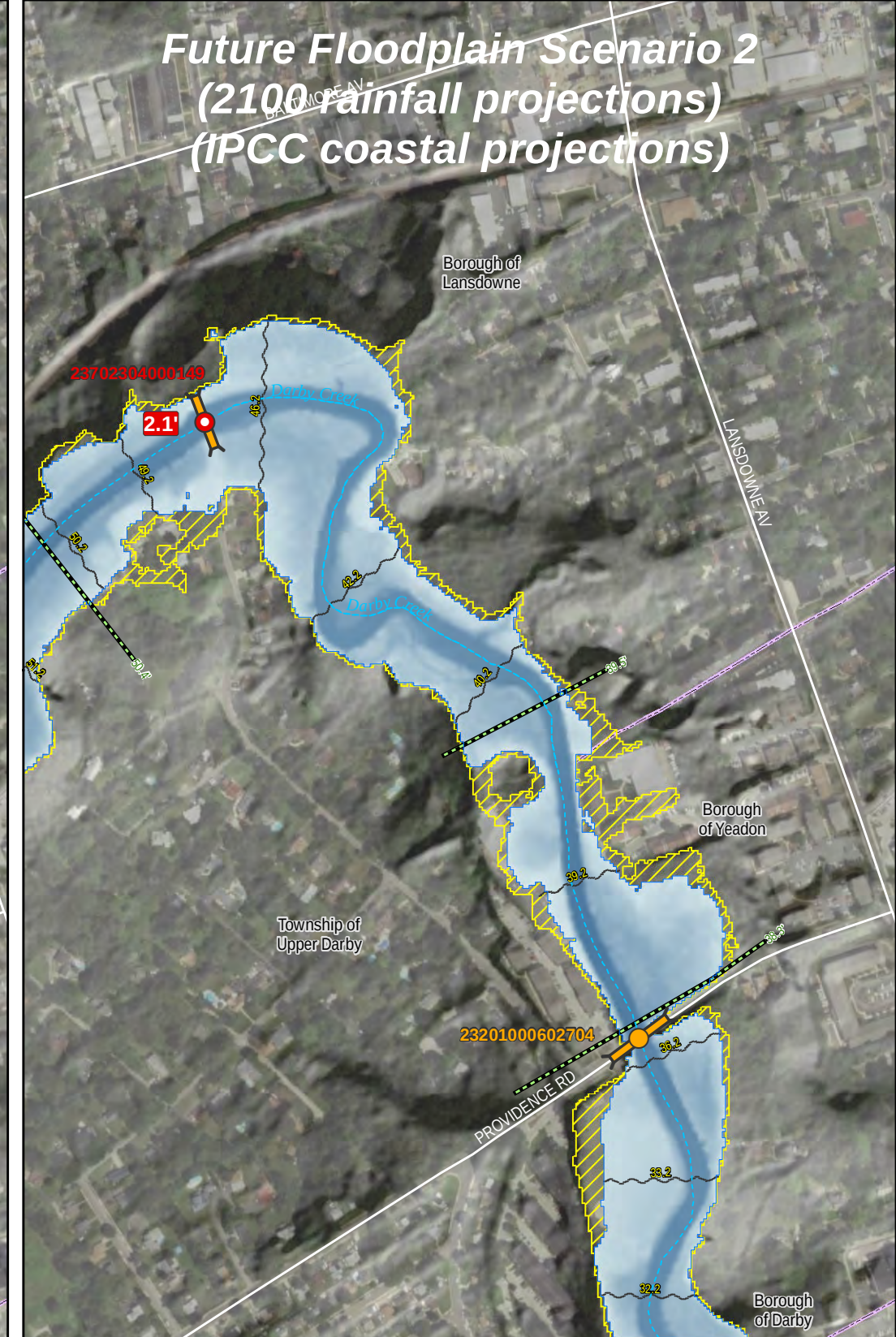
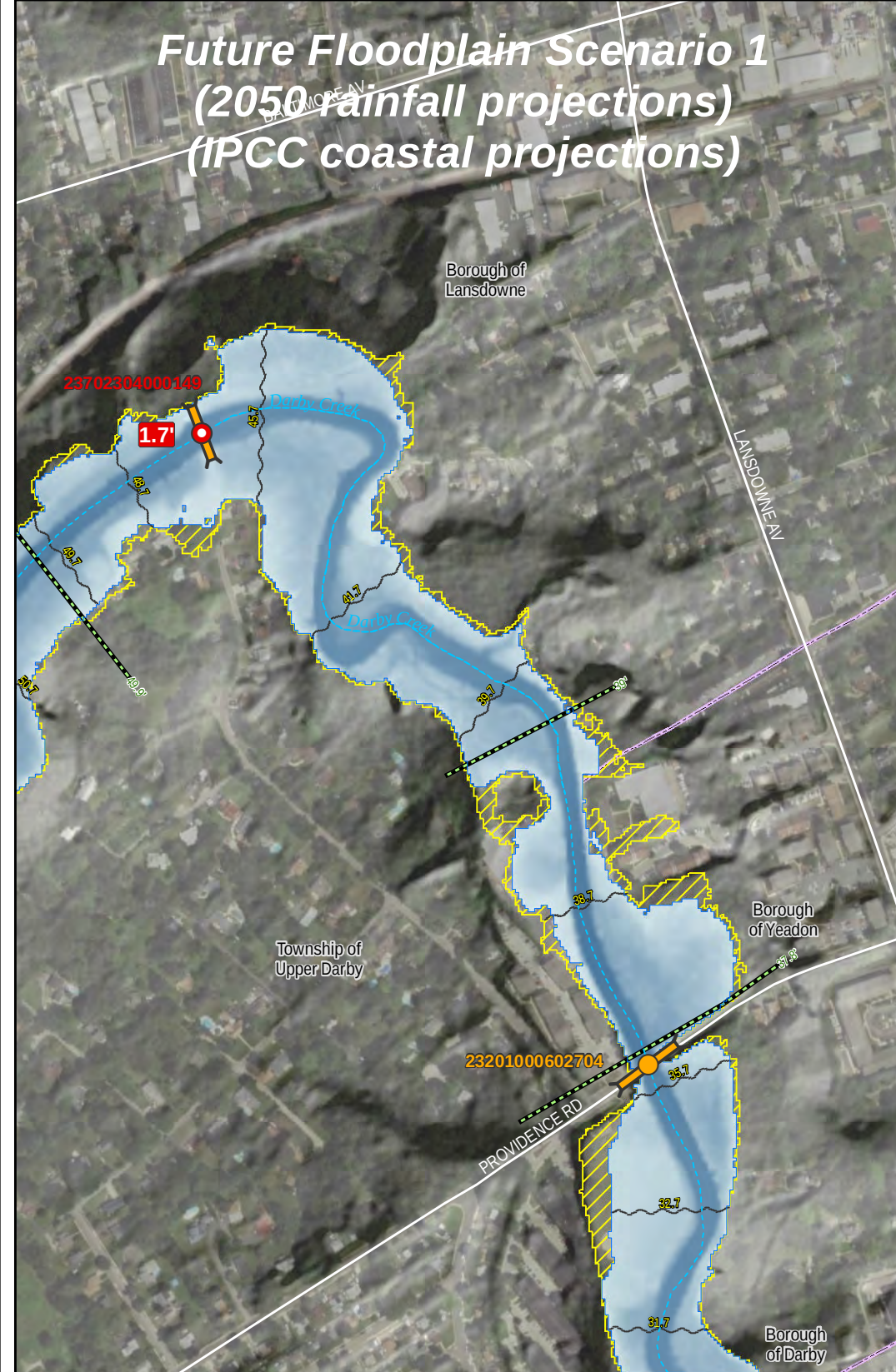
Sheet 30 of 125

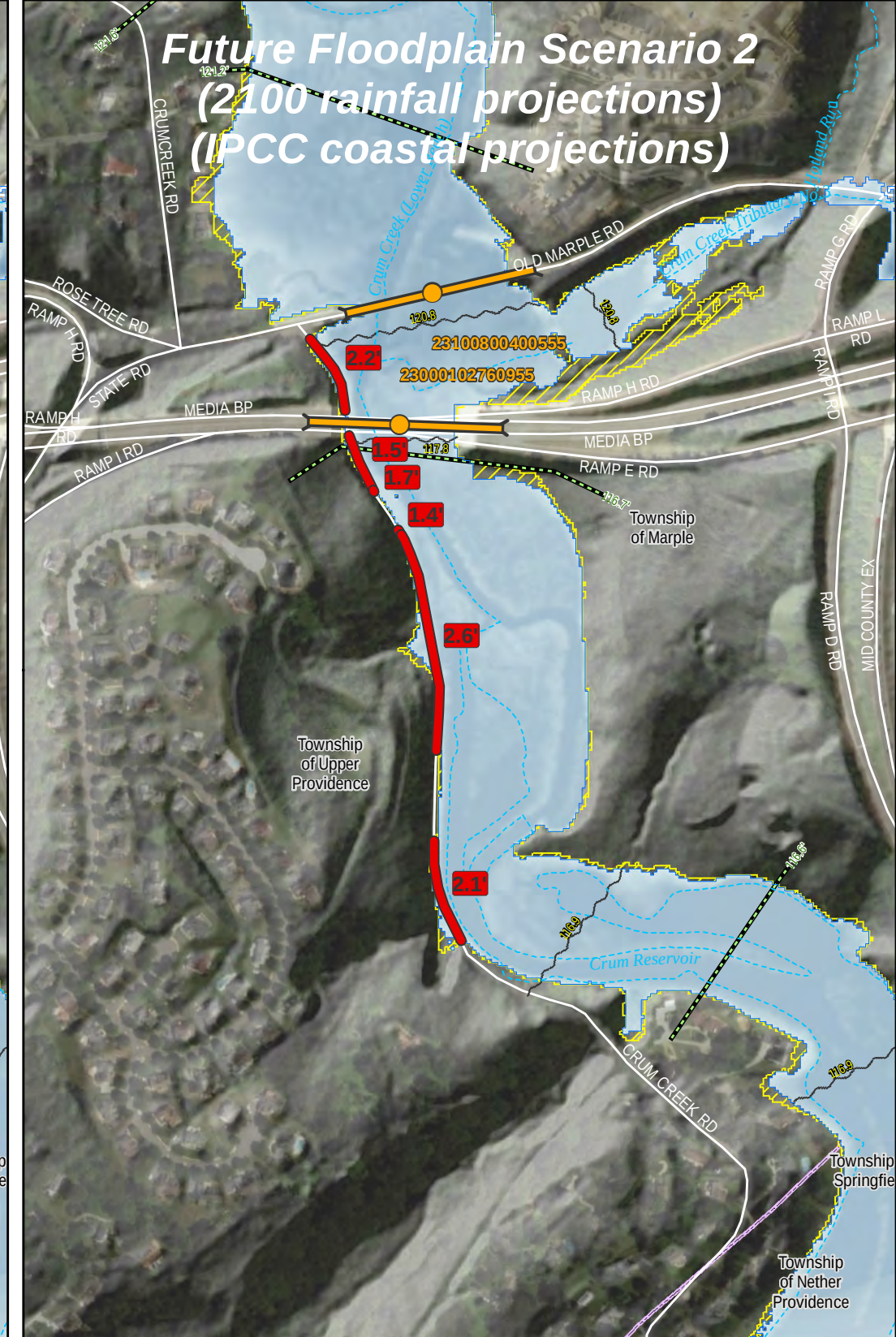
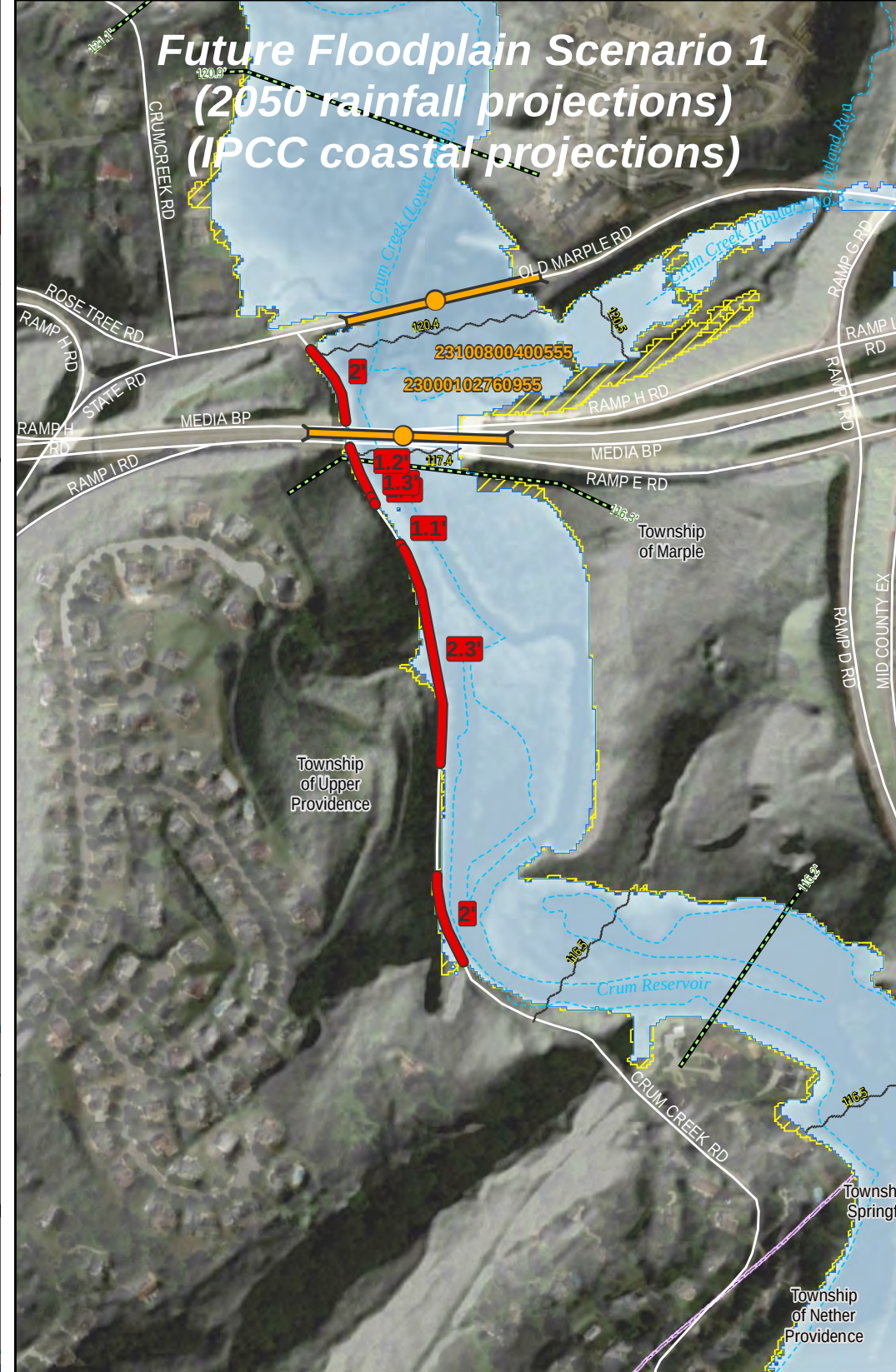
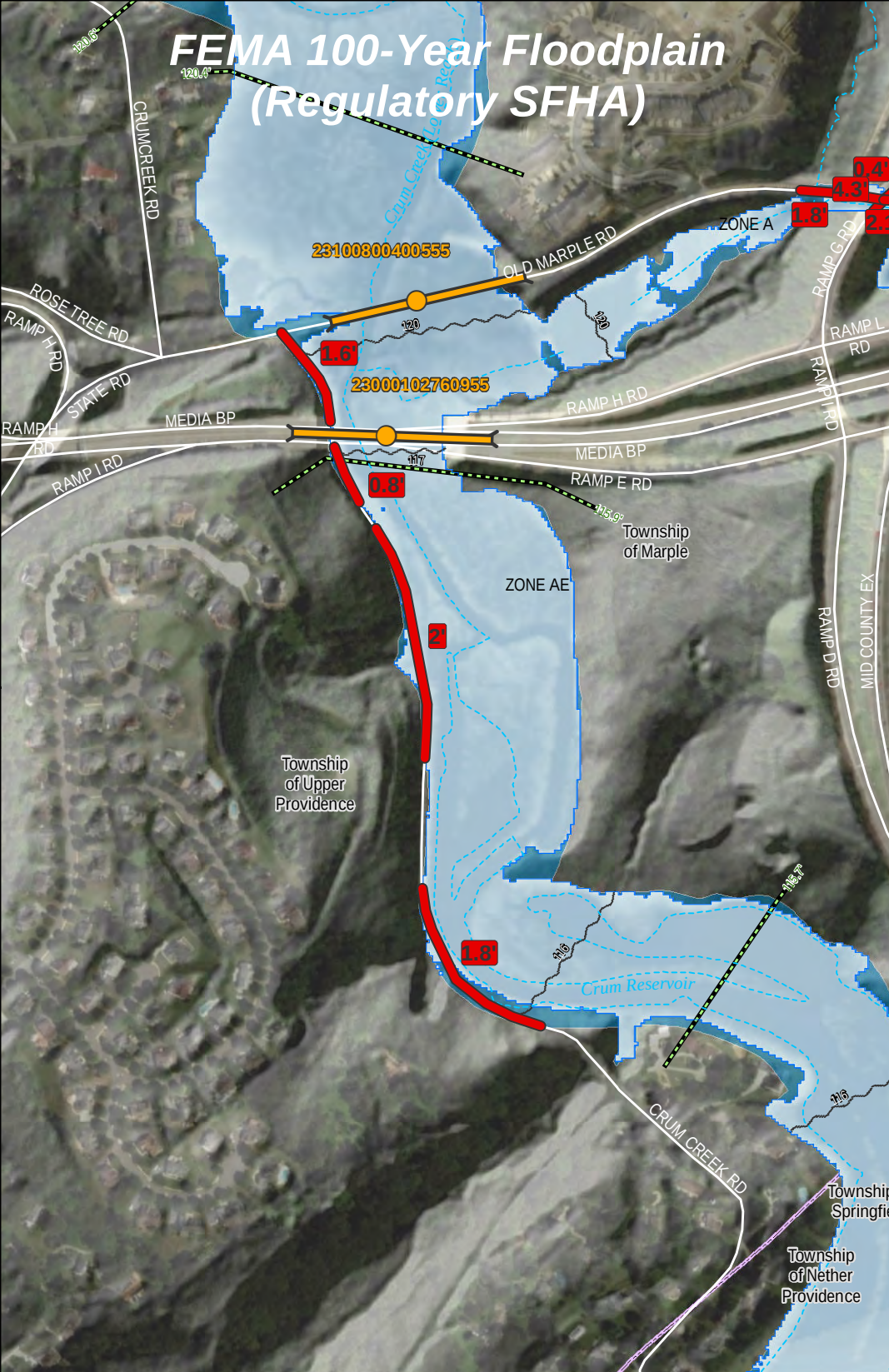
DATA FRAME PROPERTIES:
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NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

Michael Baker
INTERNATIONAL







MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
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	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

Feet
0 1,000

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

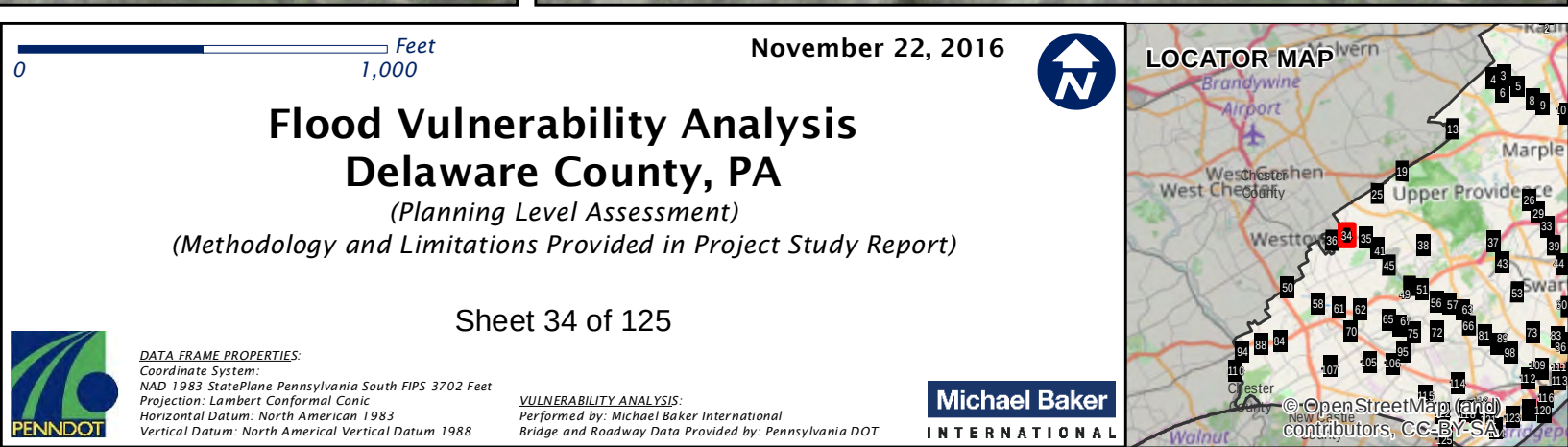
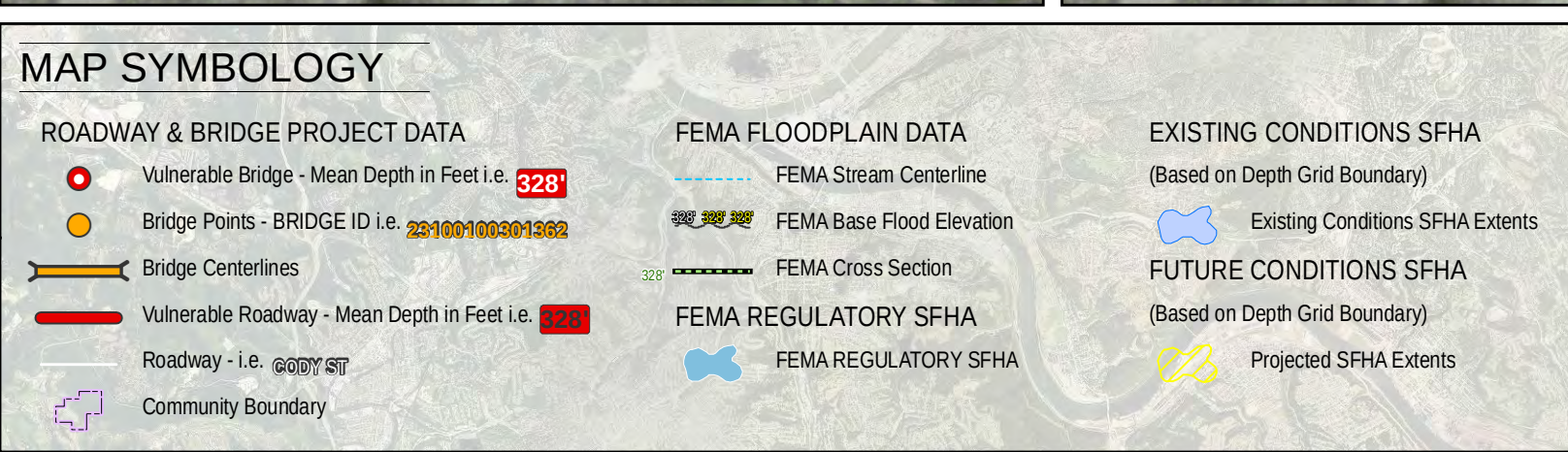
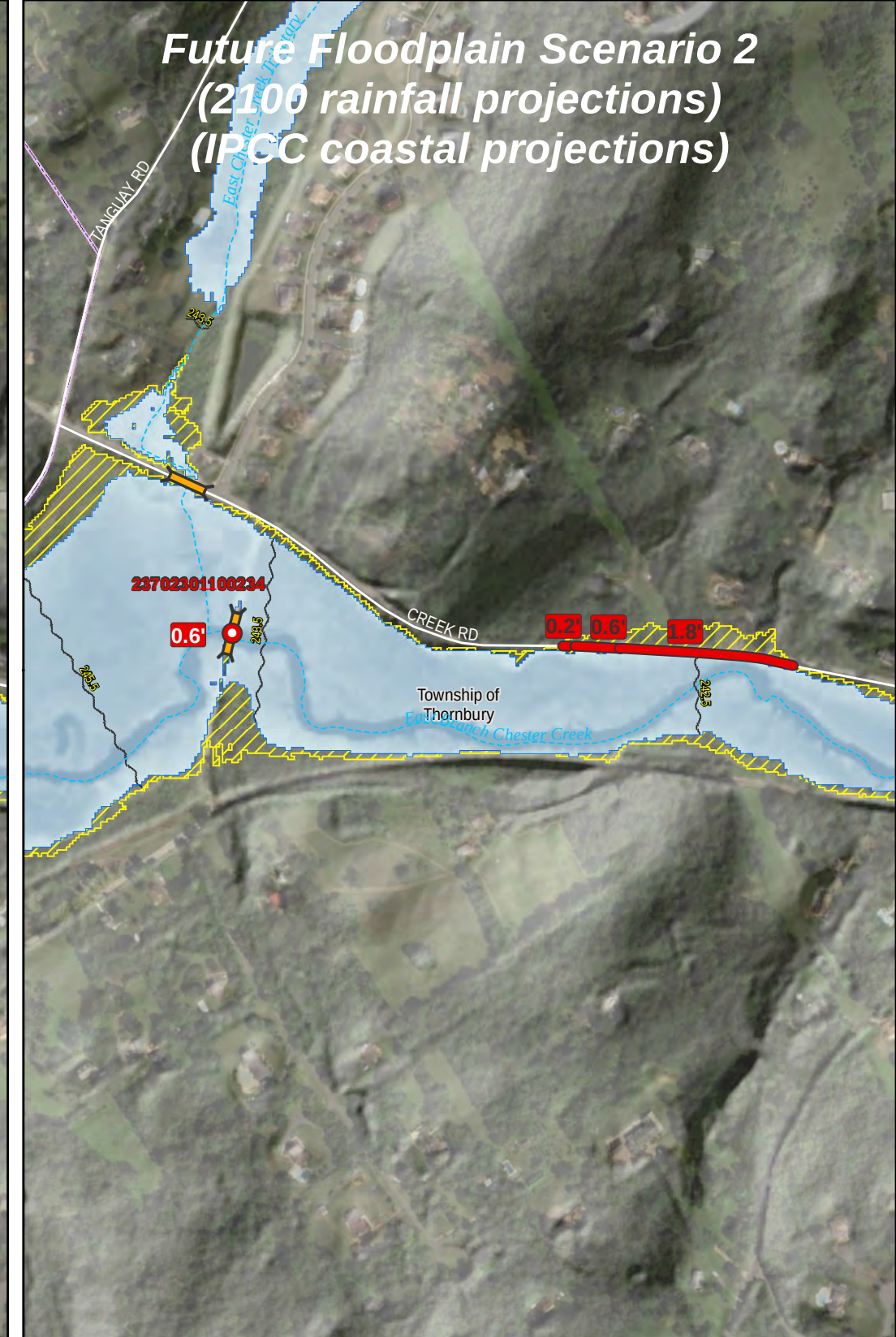
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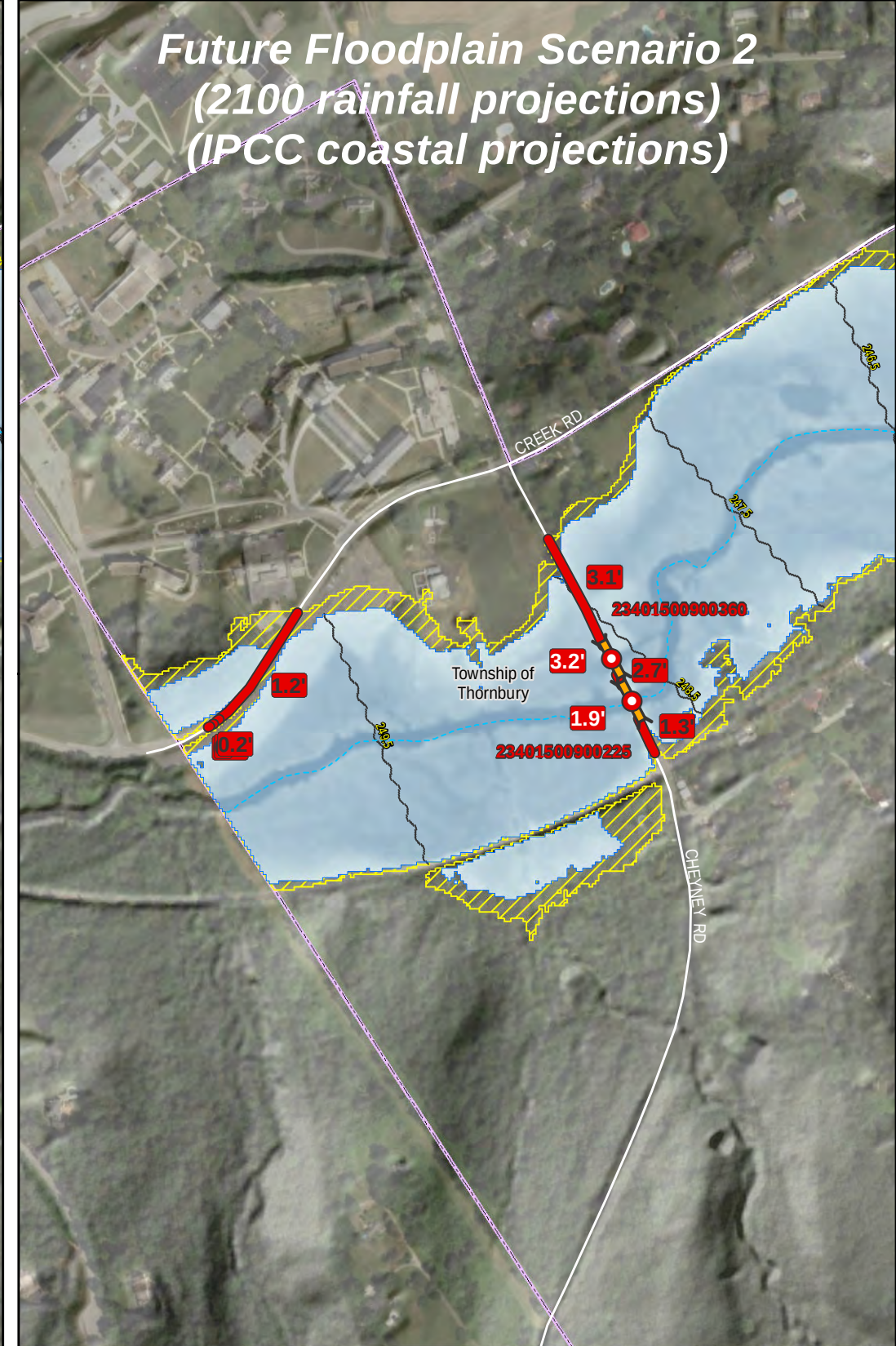
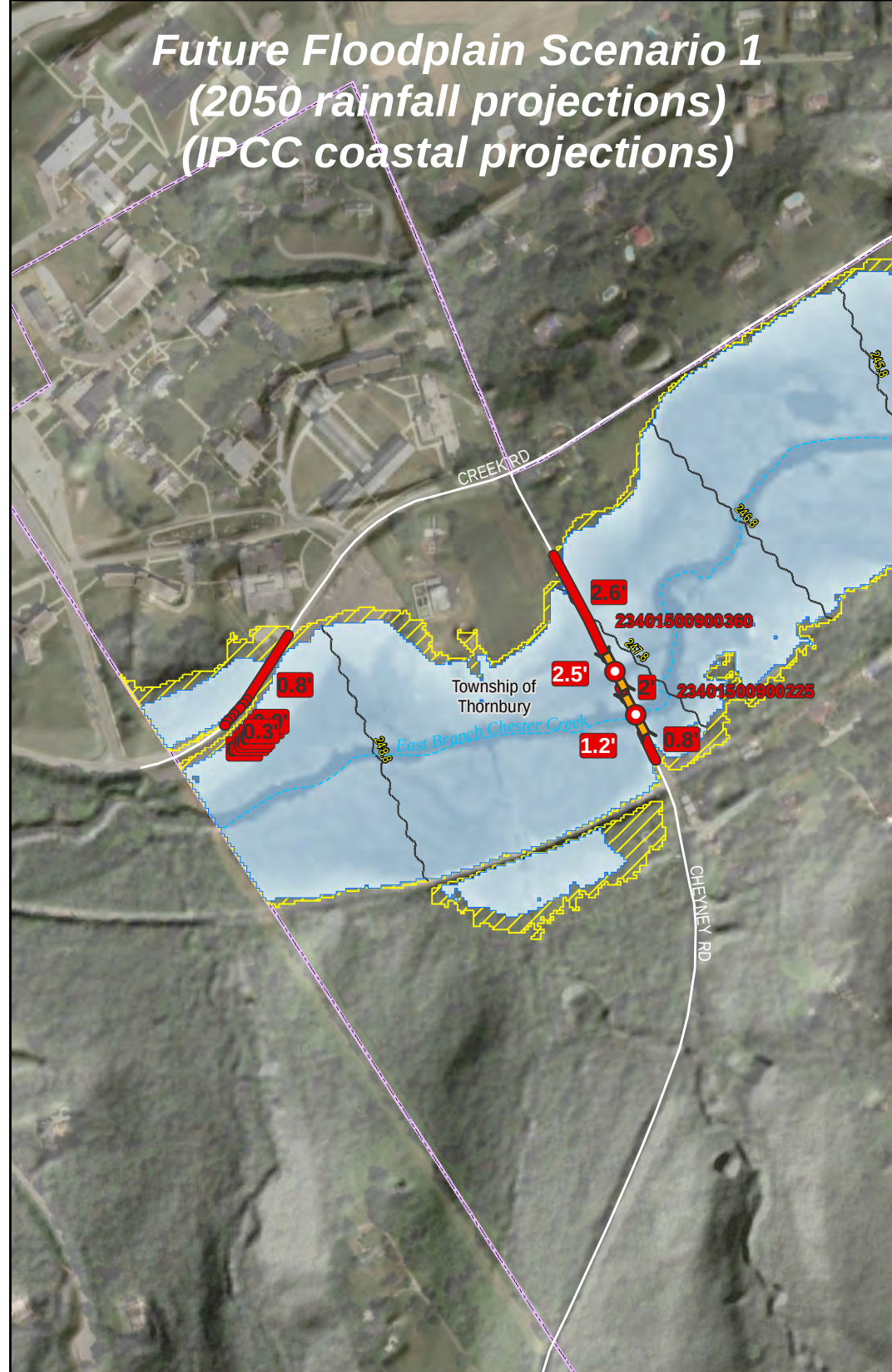
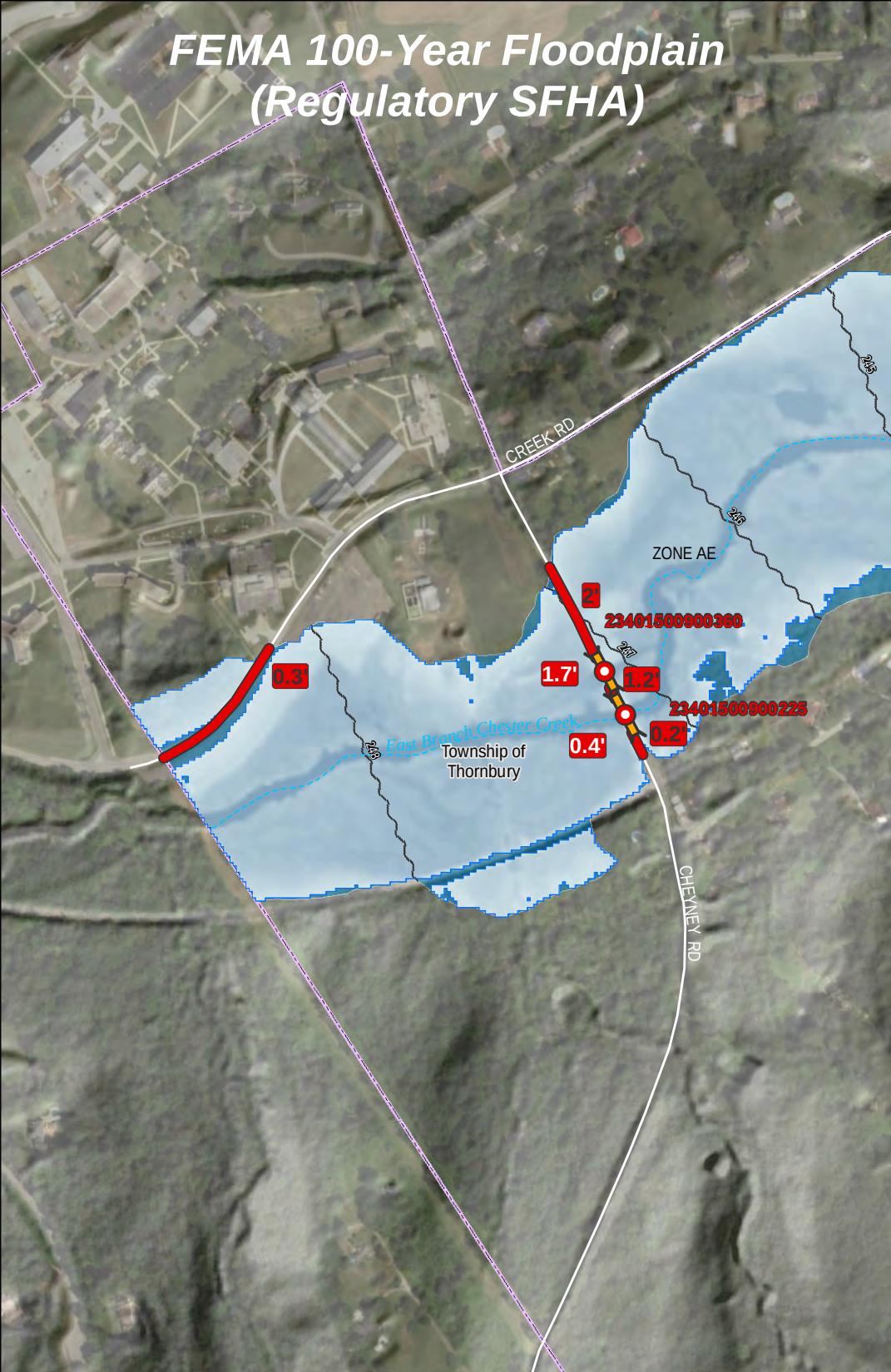
Sheet 33 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

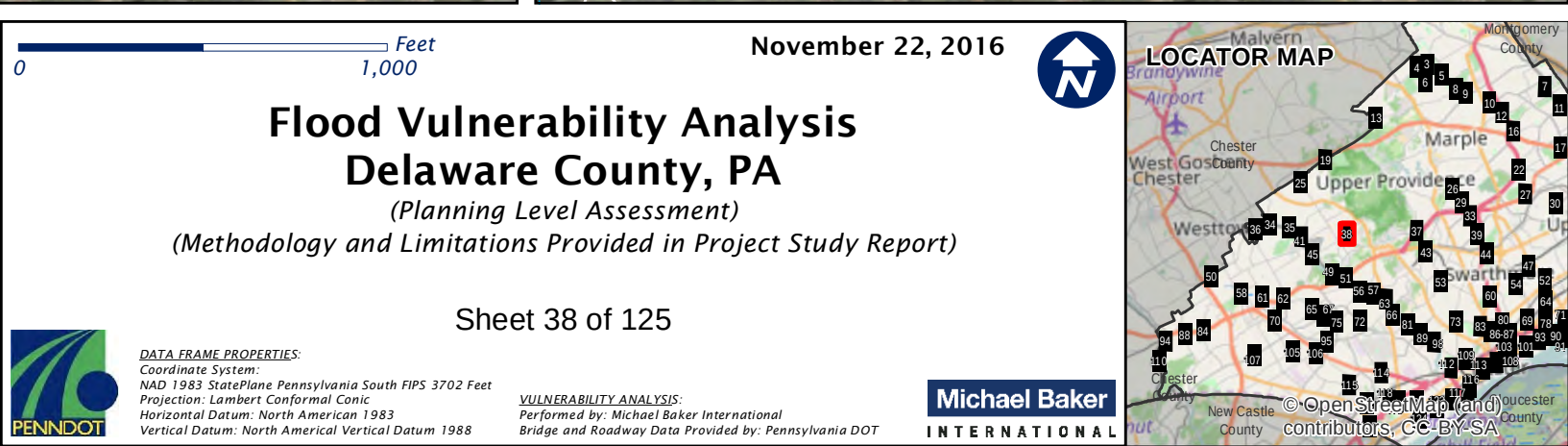
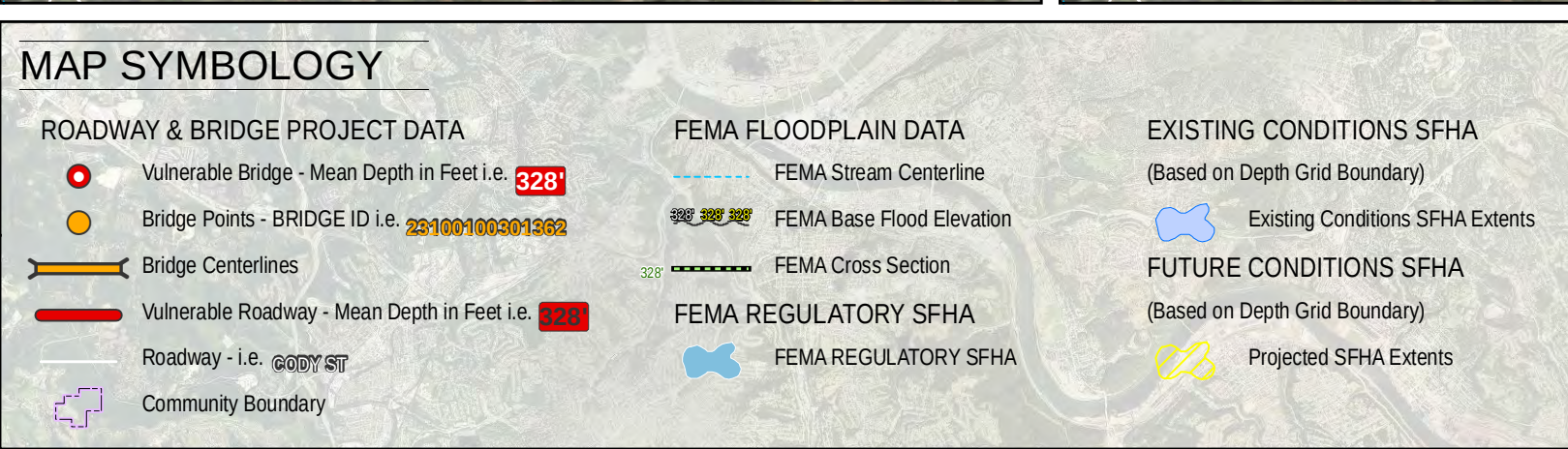
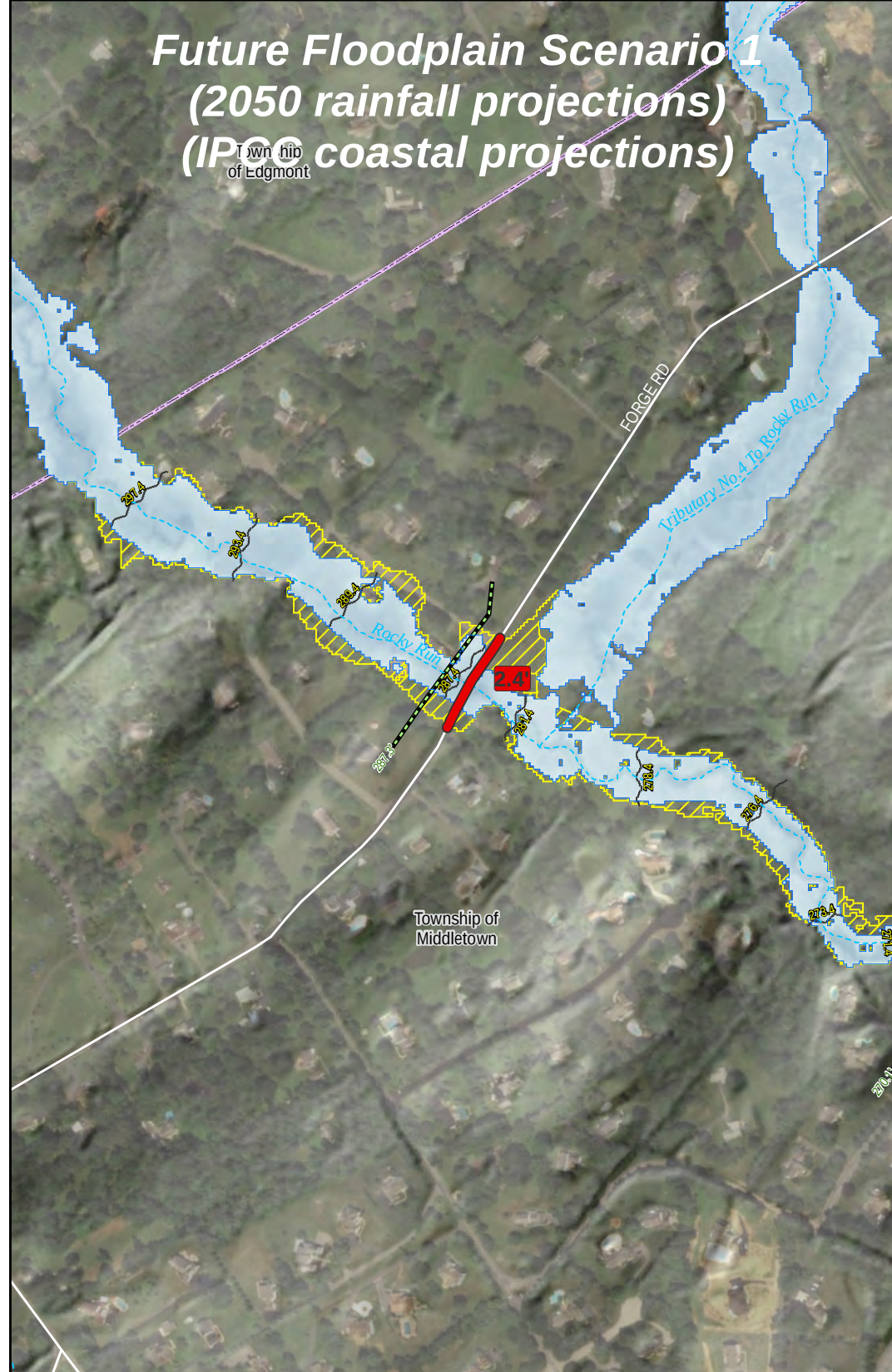
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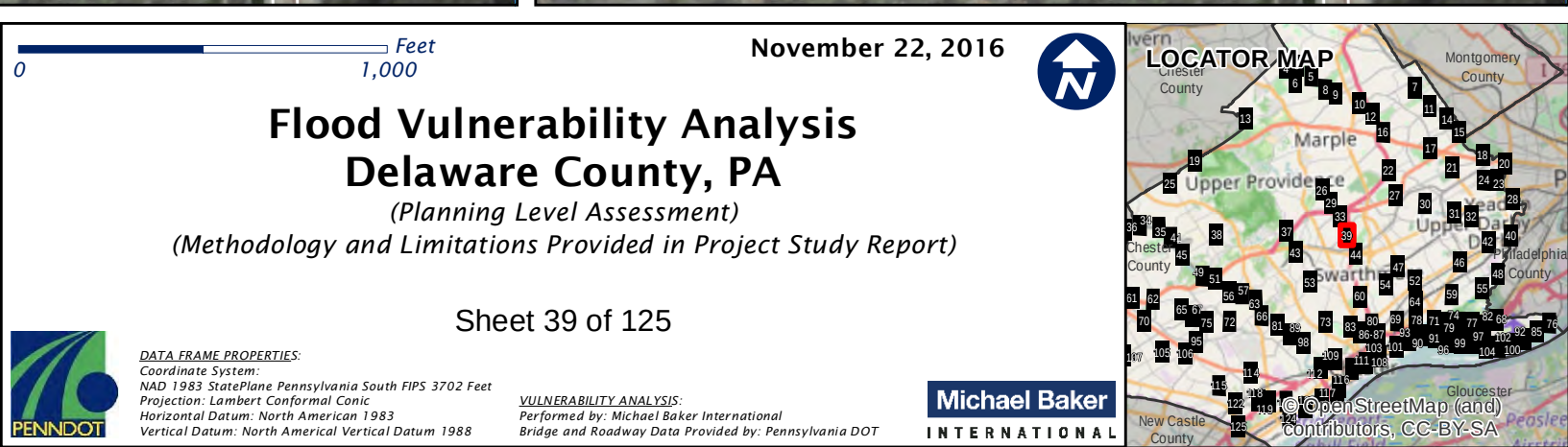
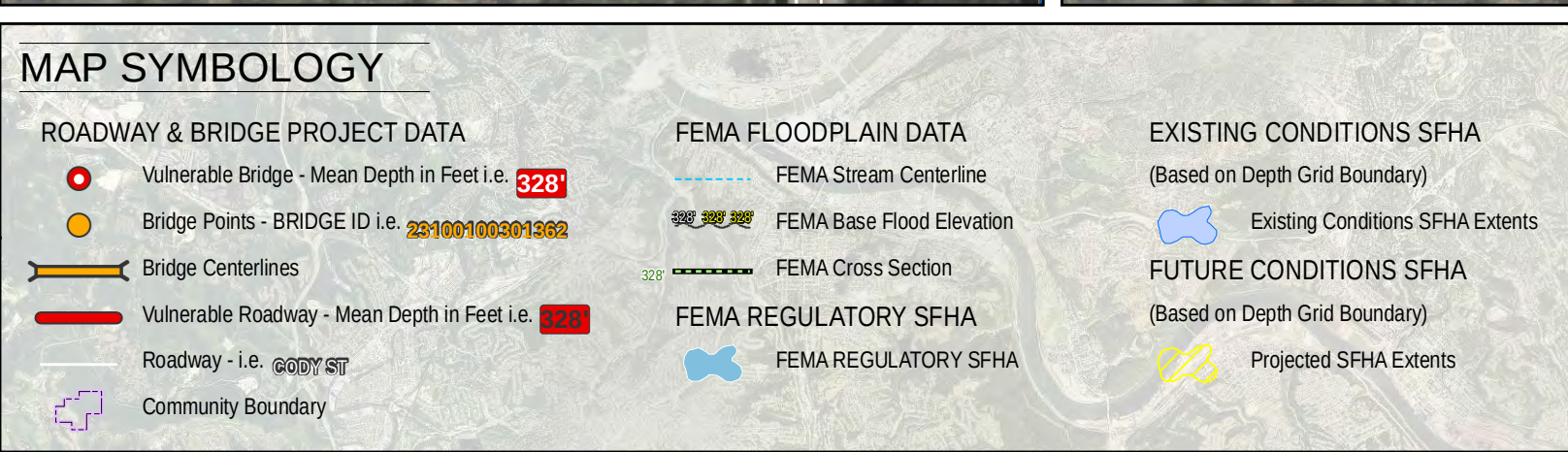
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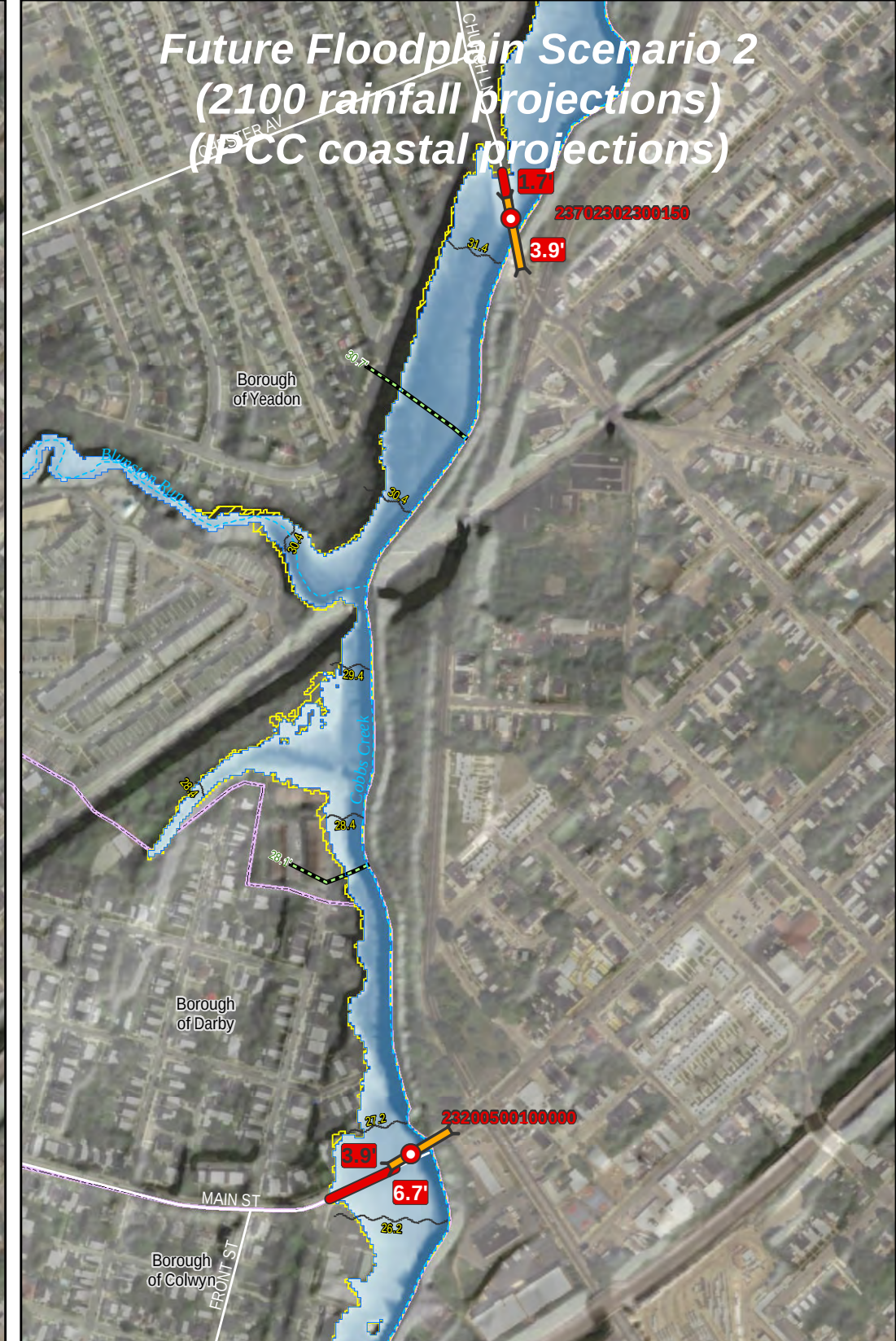
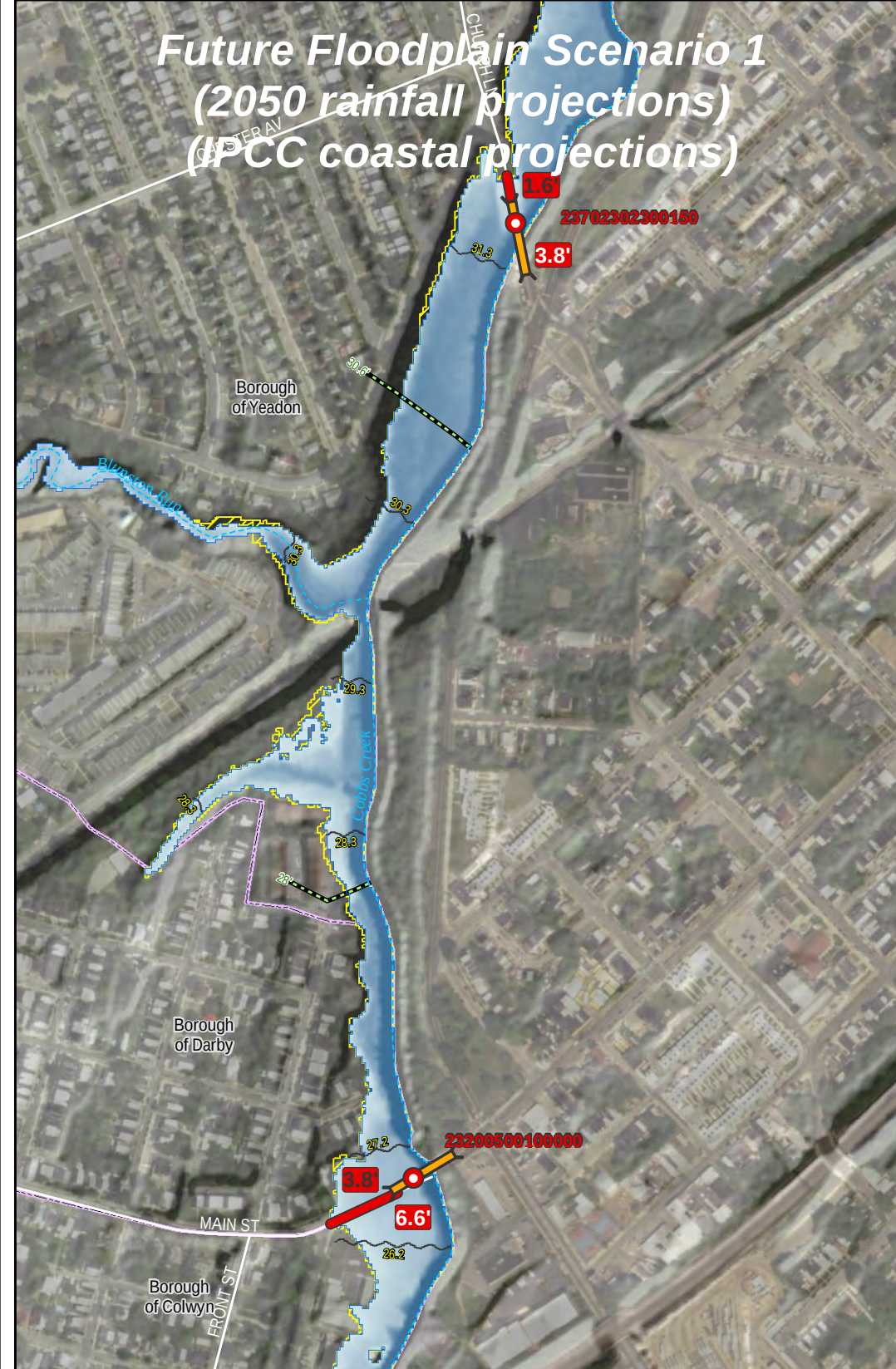
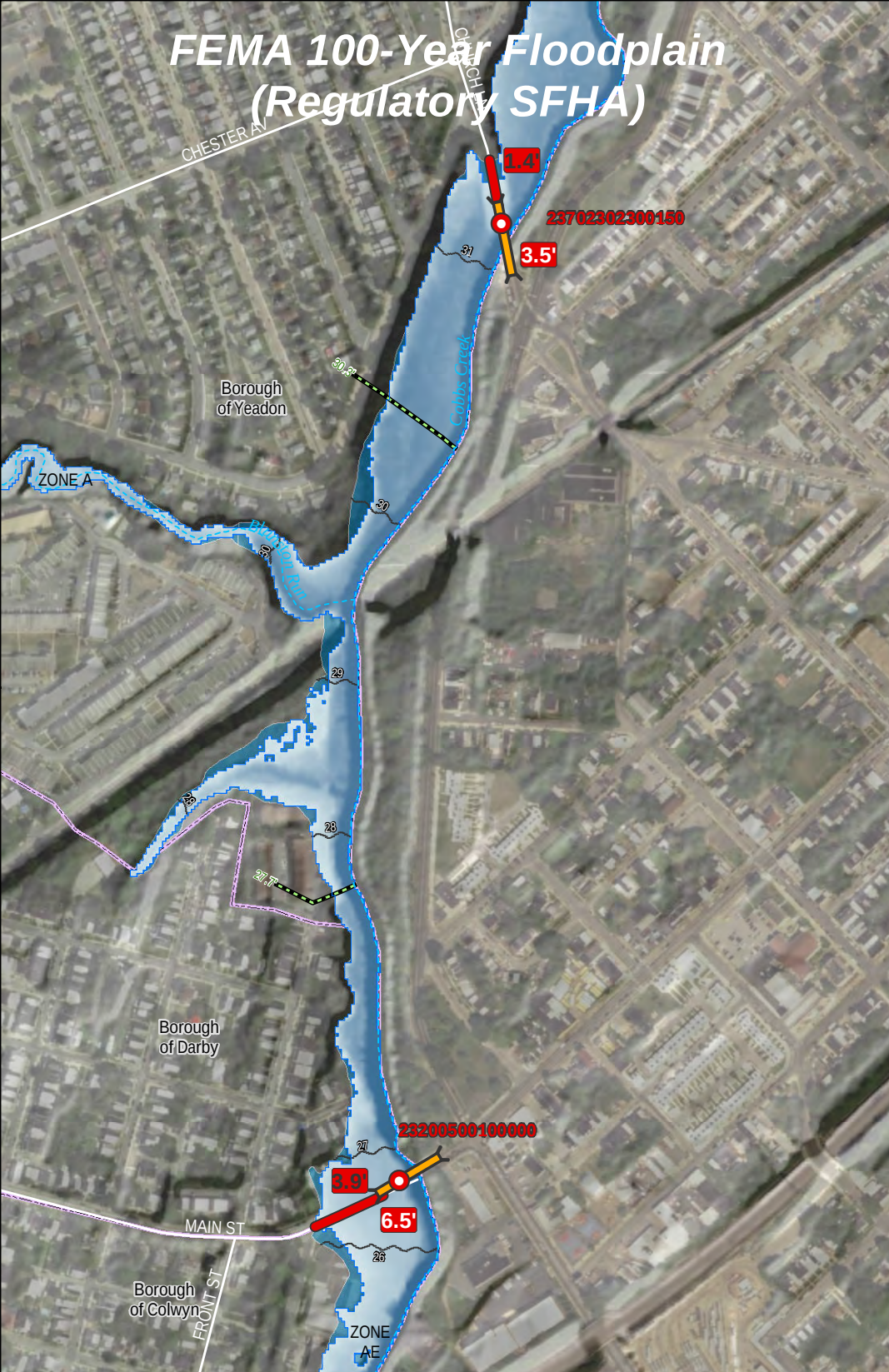
DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Horizontal Datum: North American 1983
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP







MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
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- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

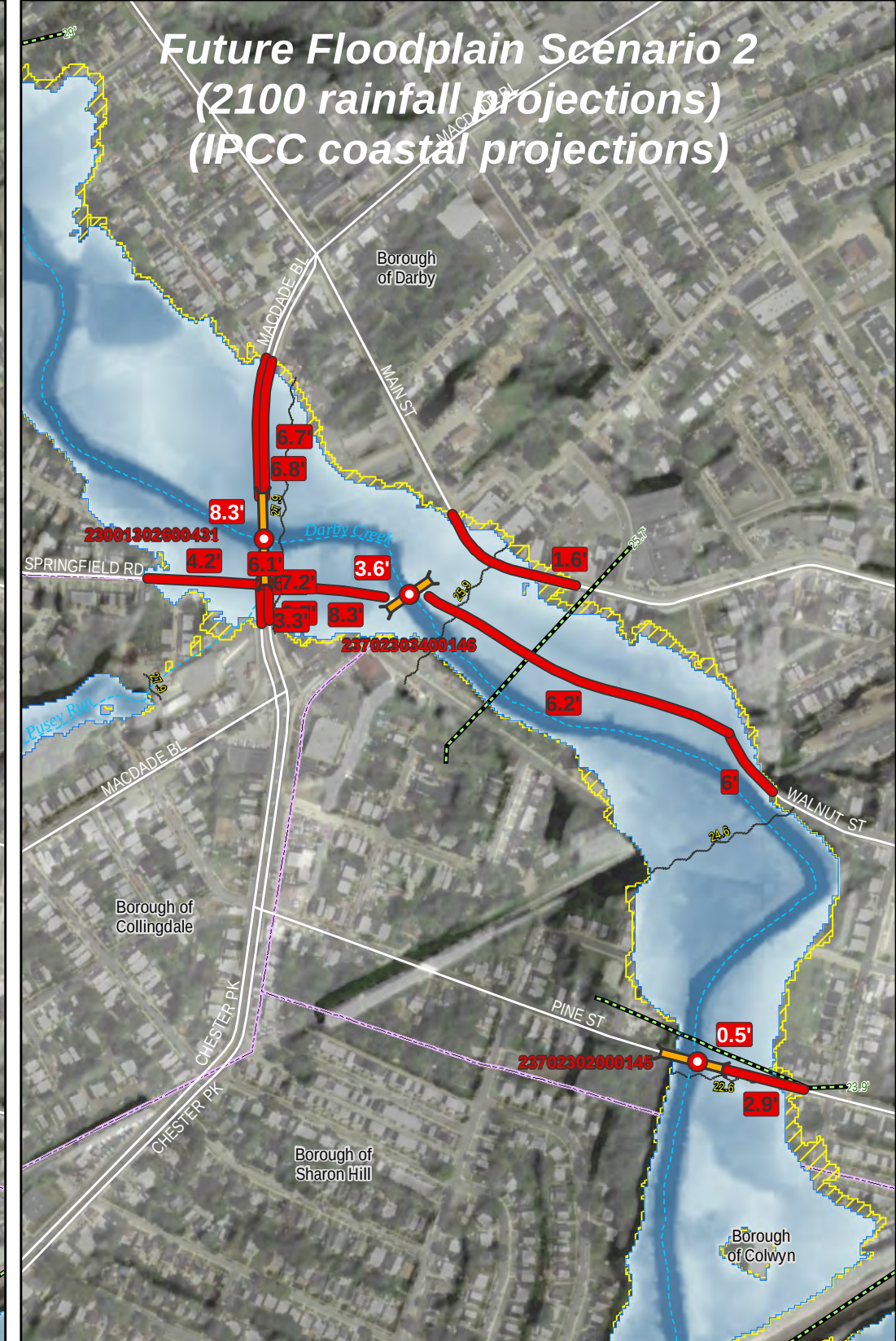
Sheet 40 of 125

Michael Baker
INTERNATIONAL

LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

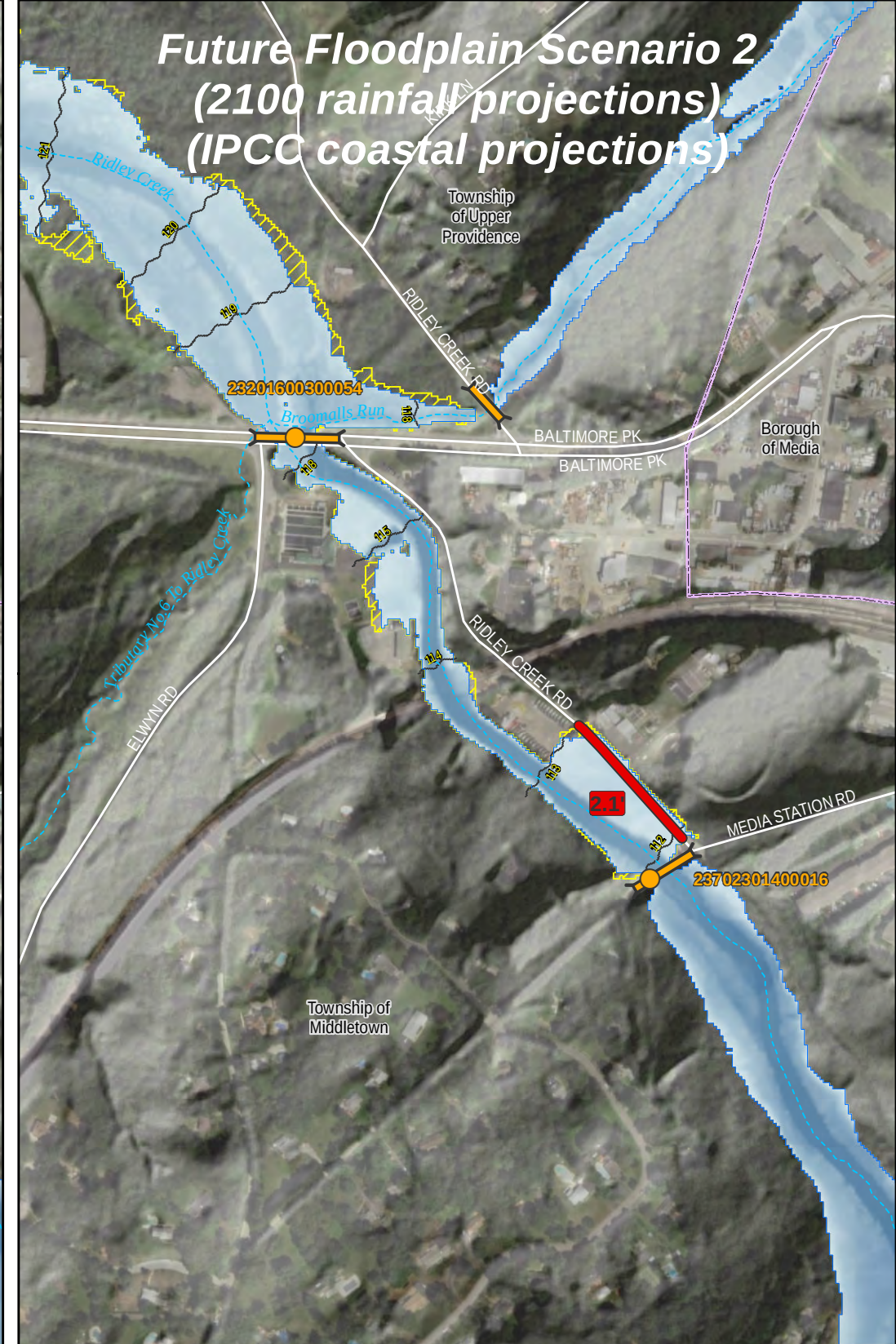
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

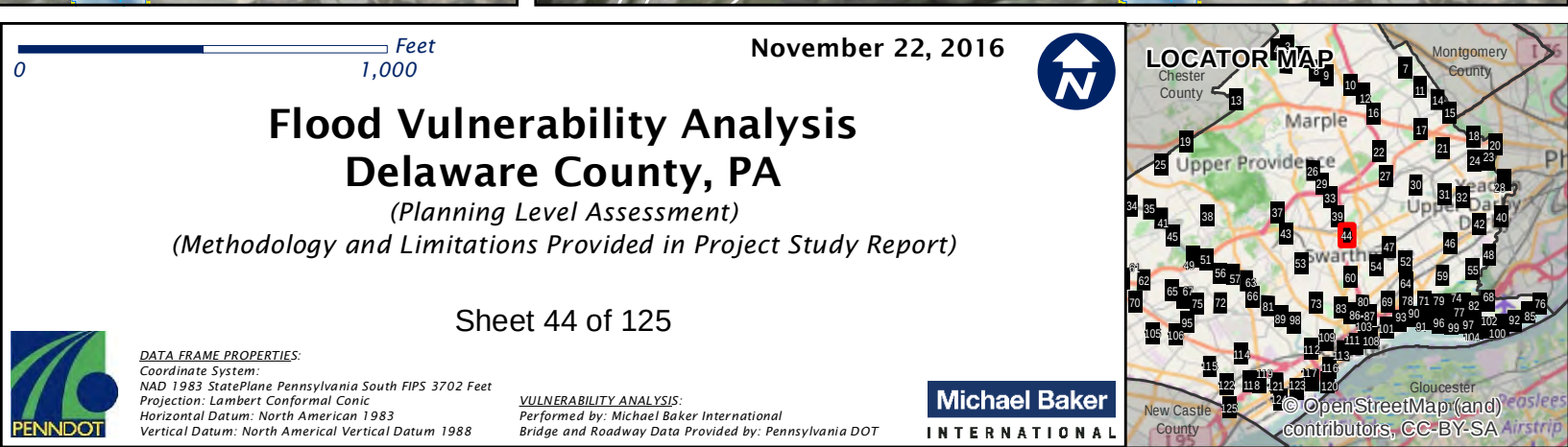
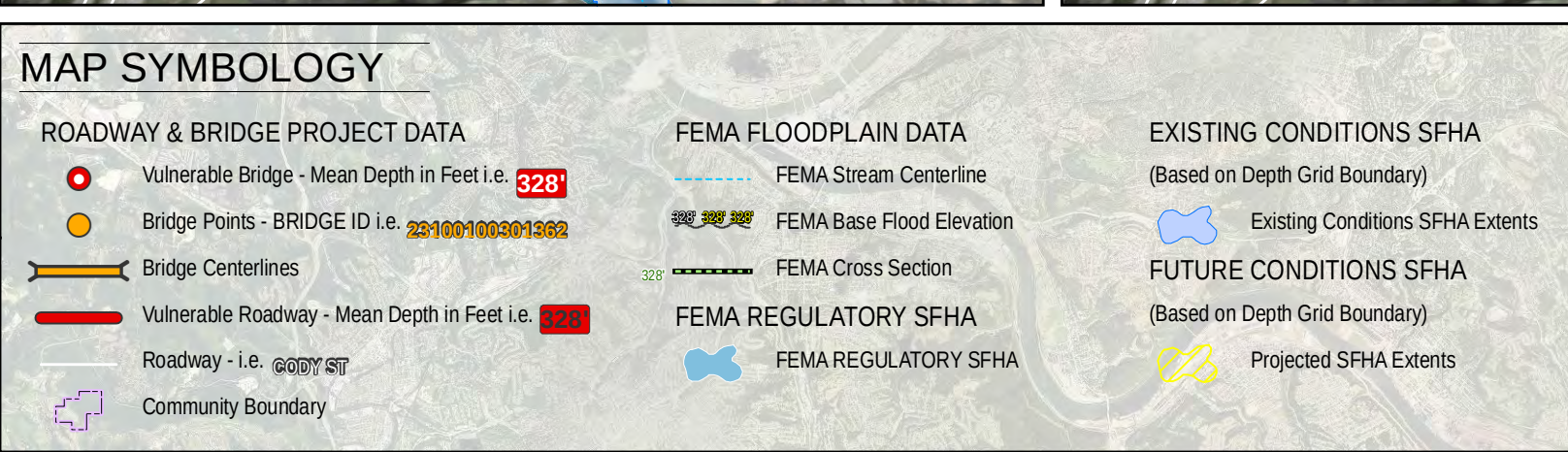
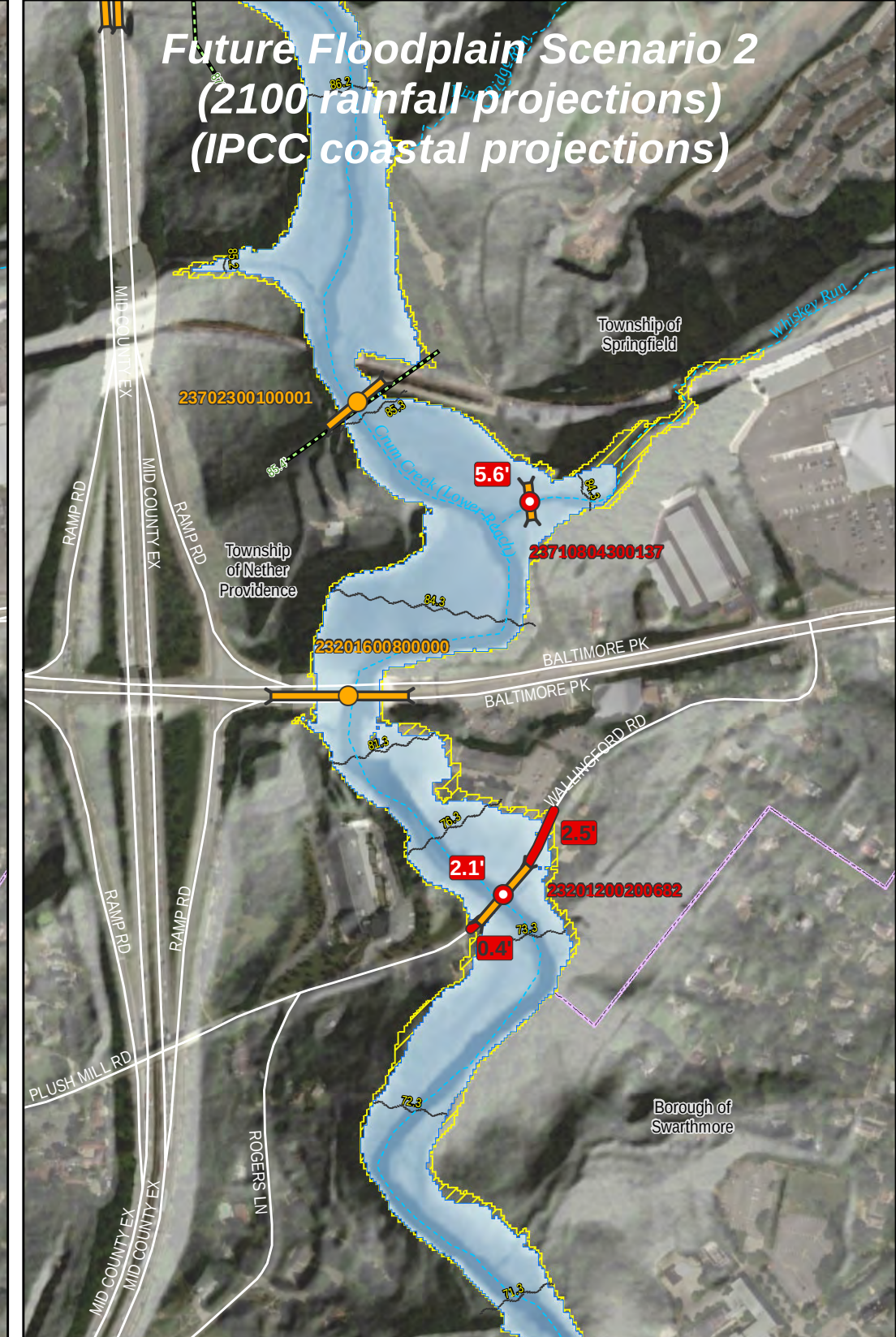
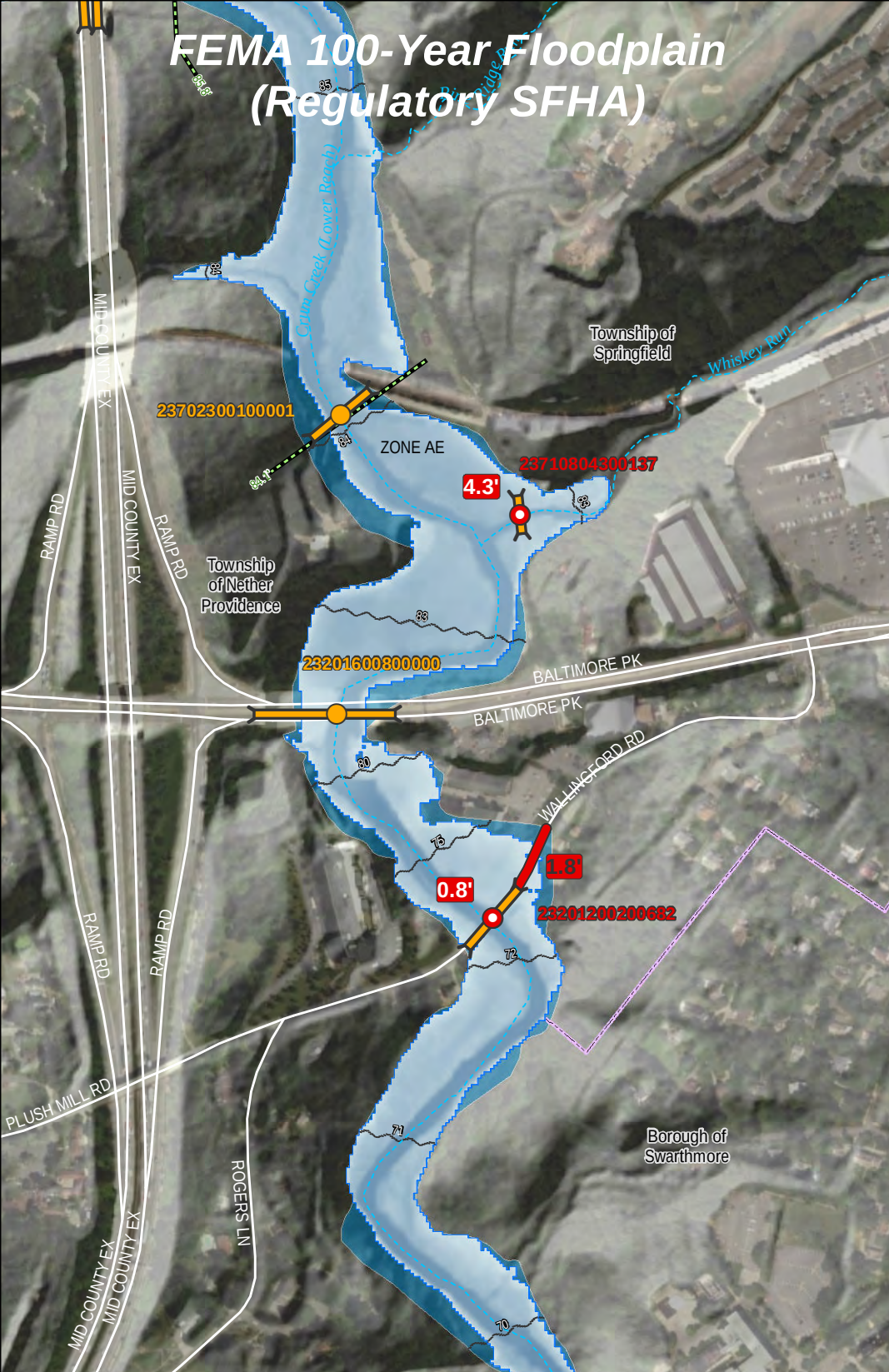
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

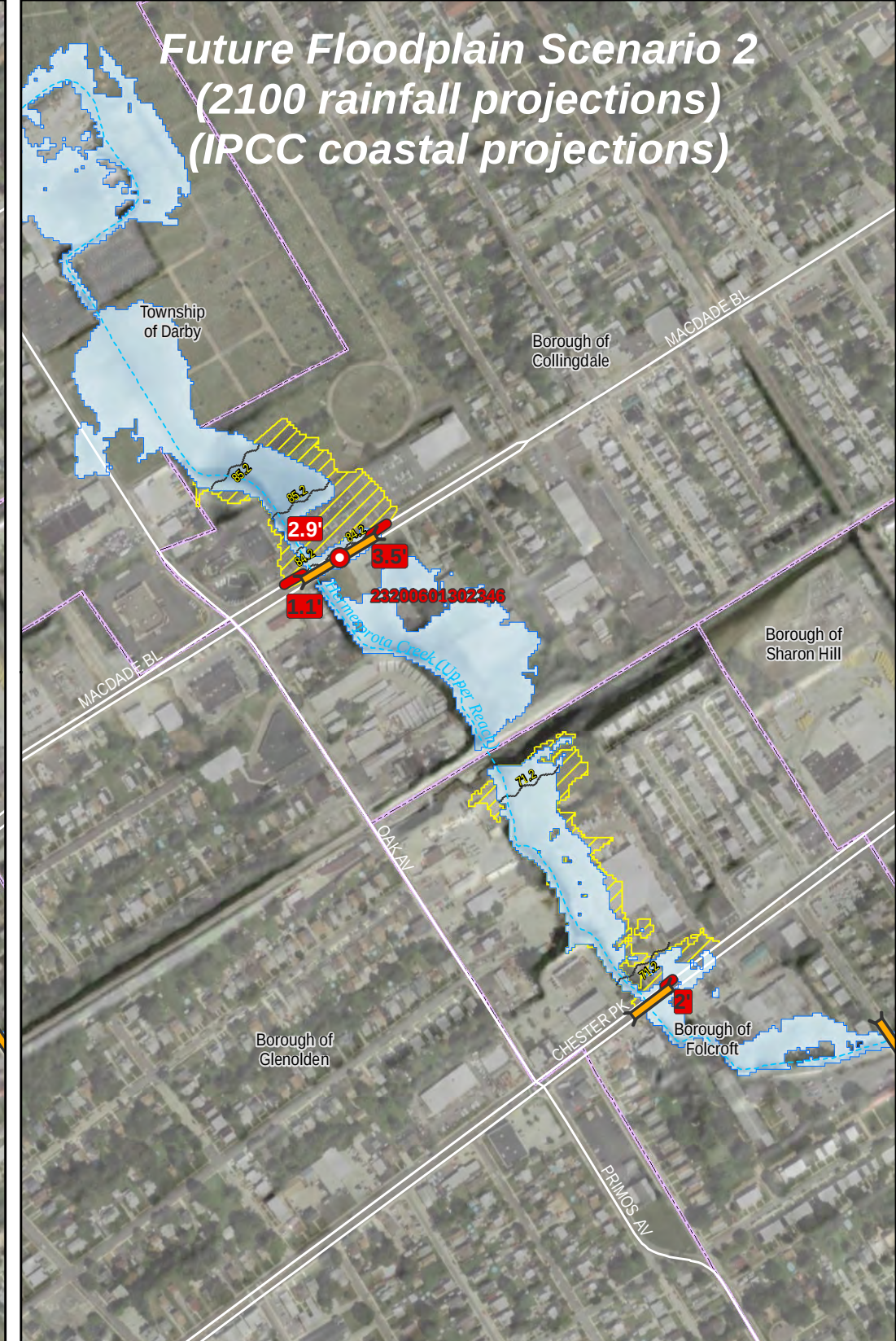
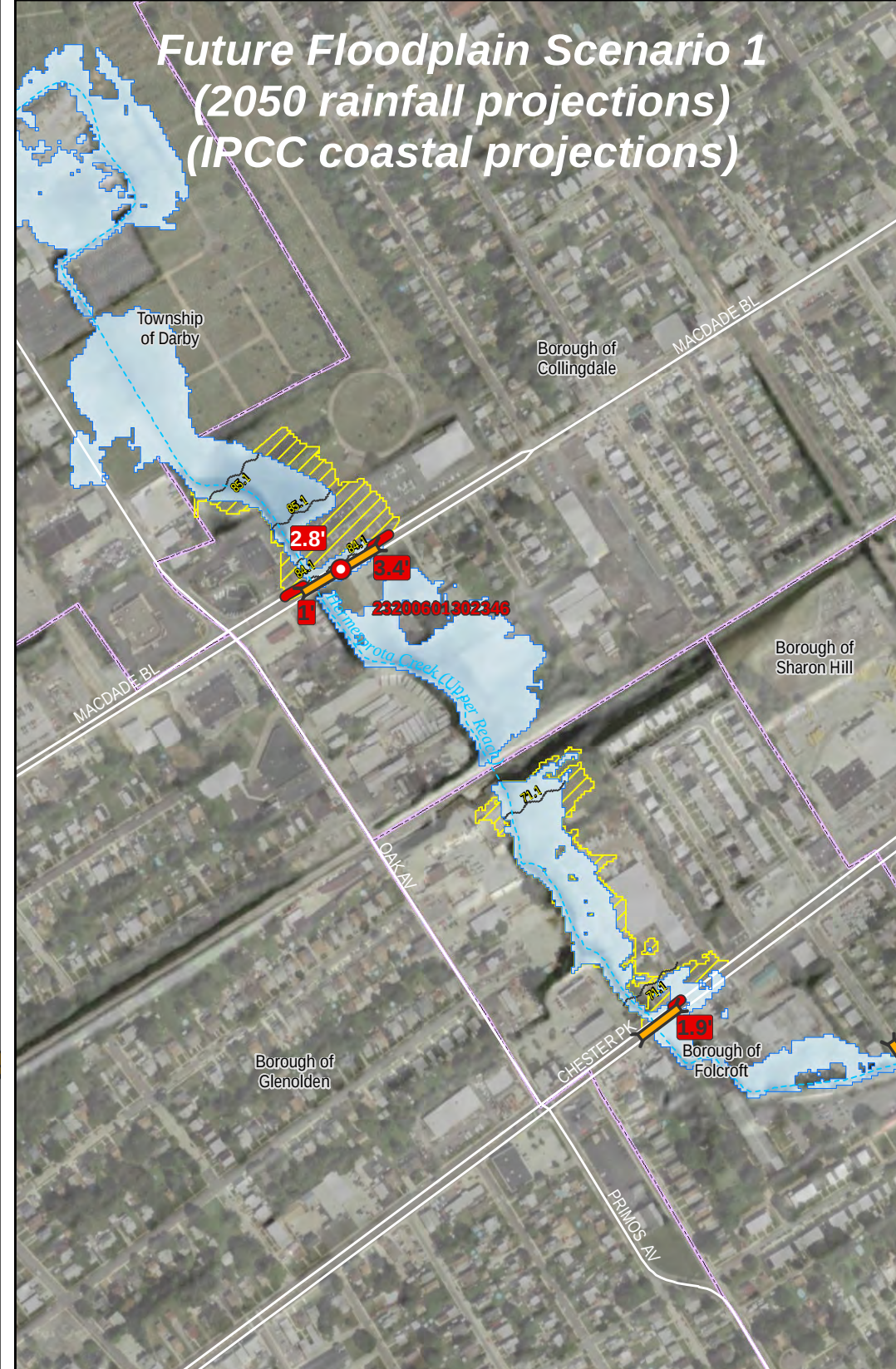
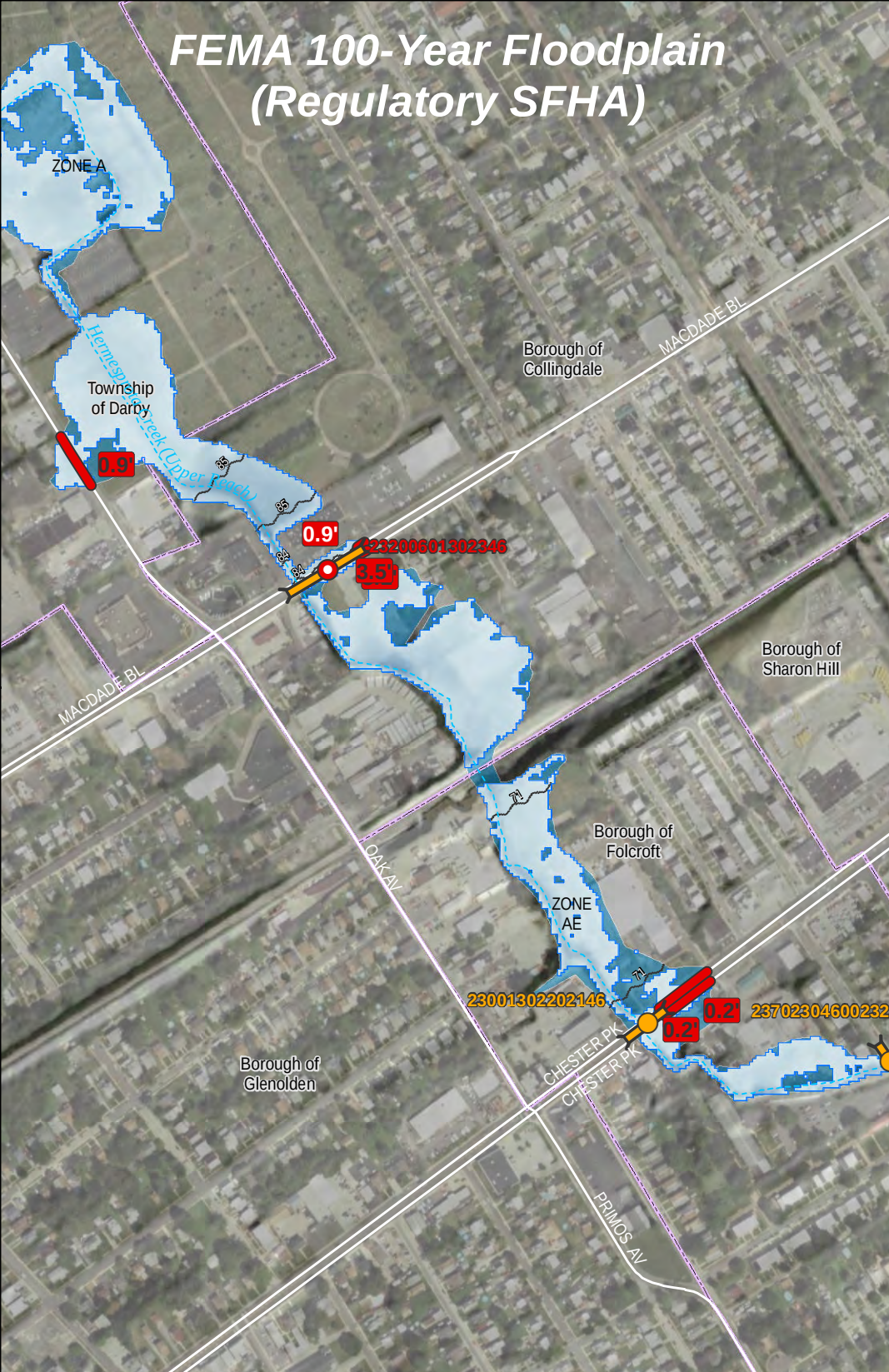
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
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Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST		
Community Boundary		

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

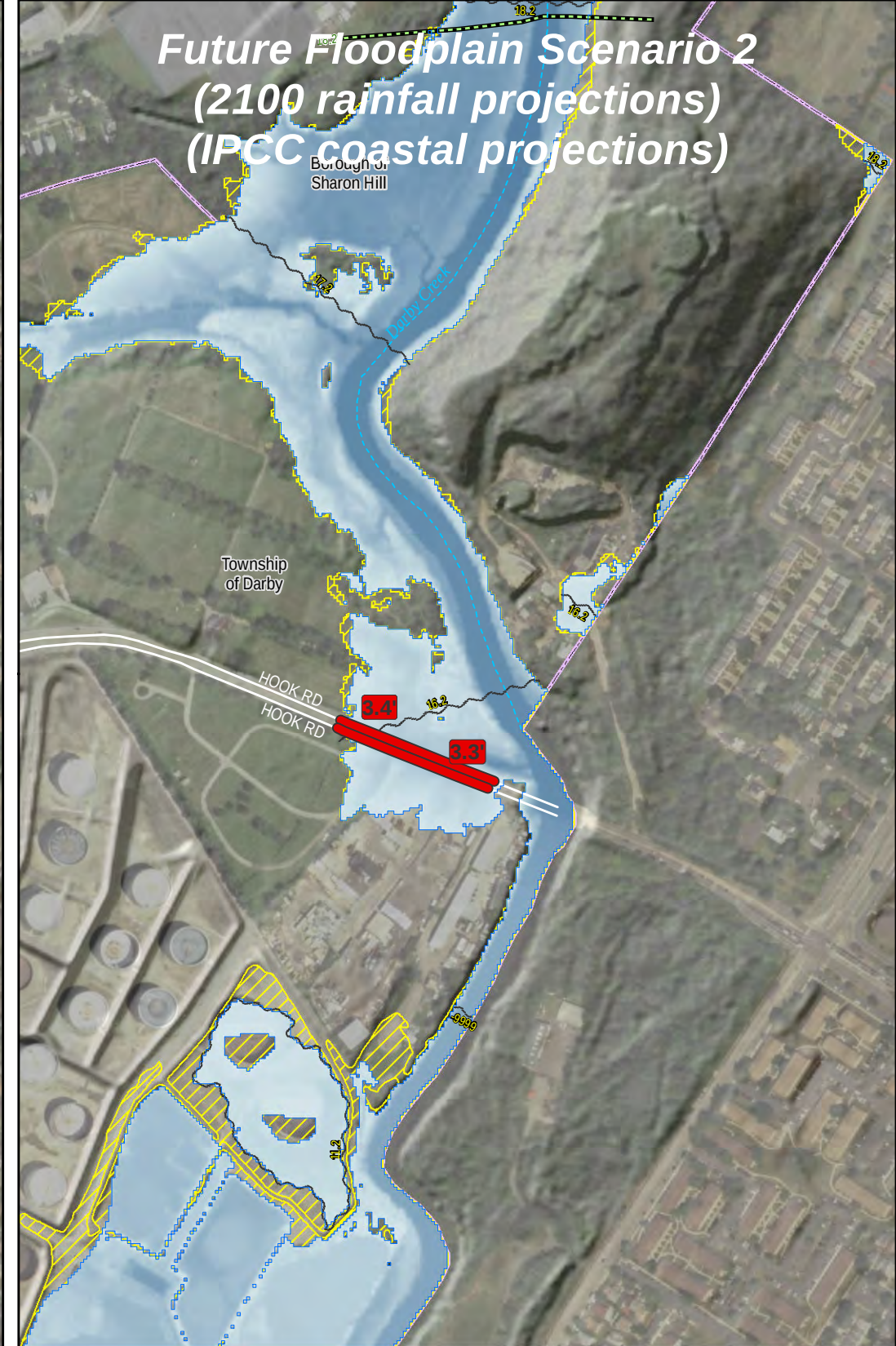
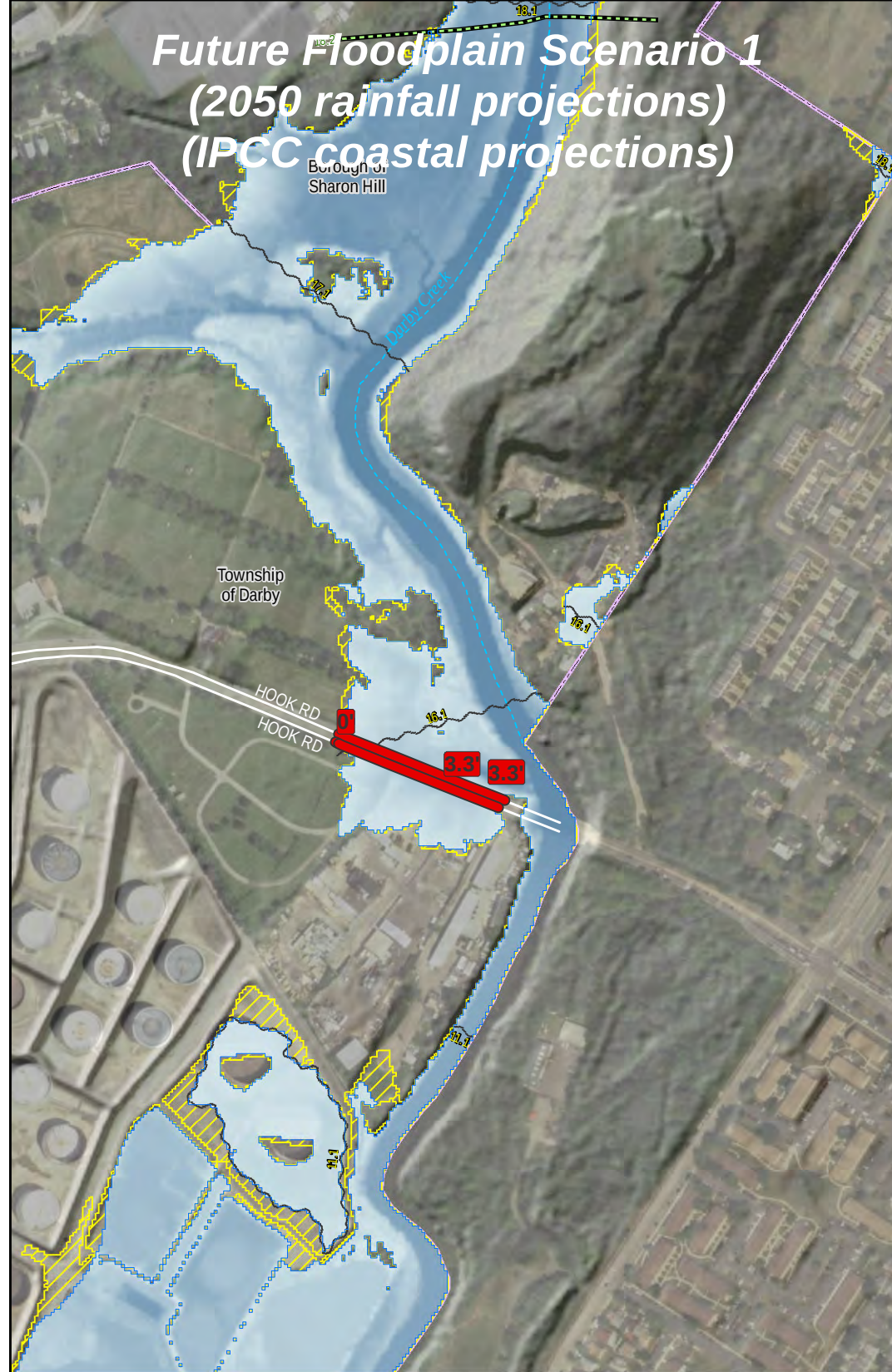
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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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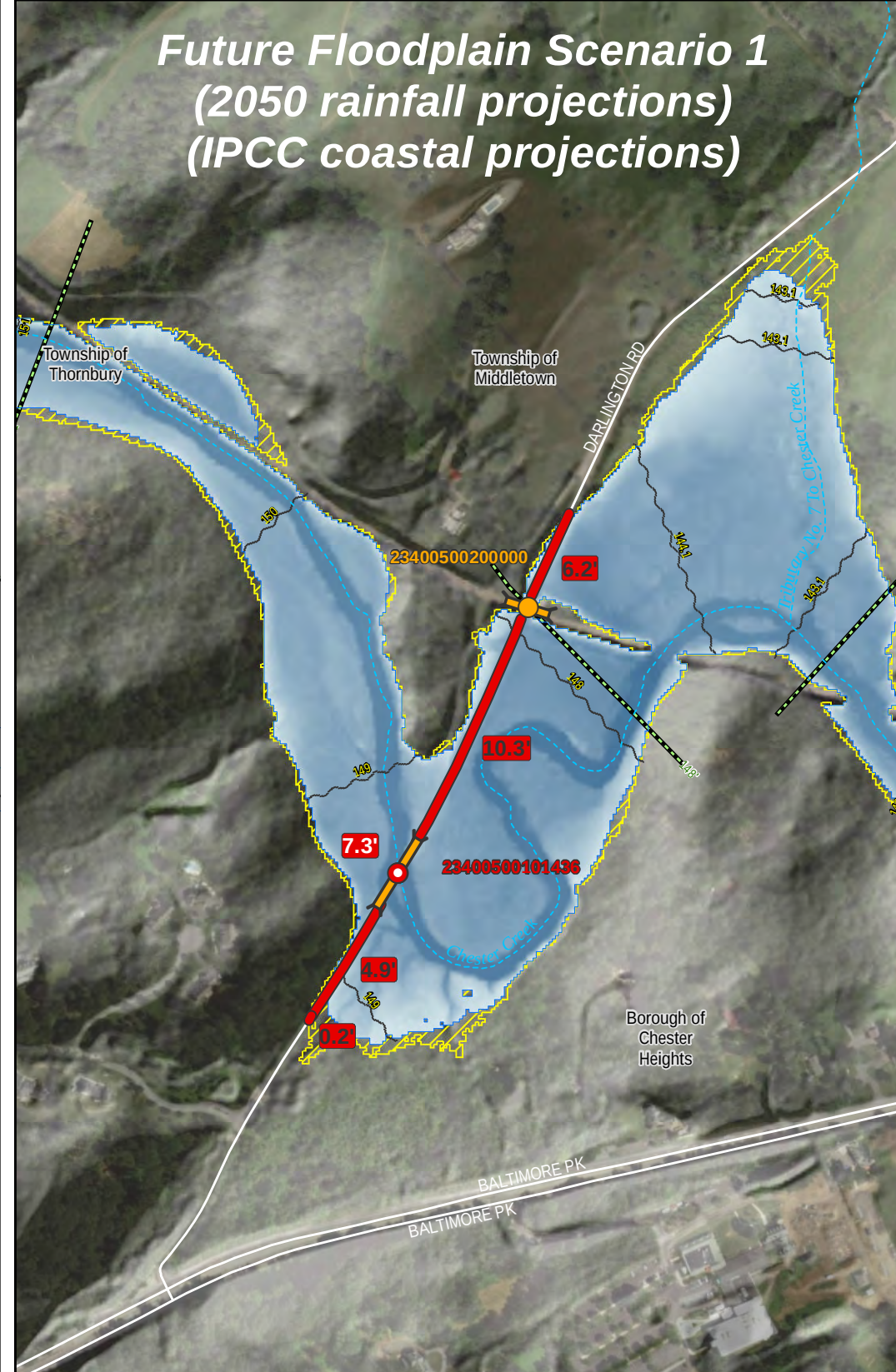
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

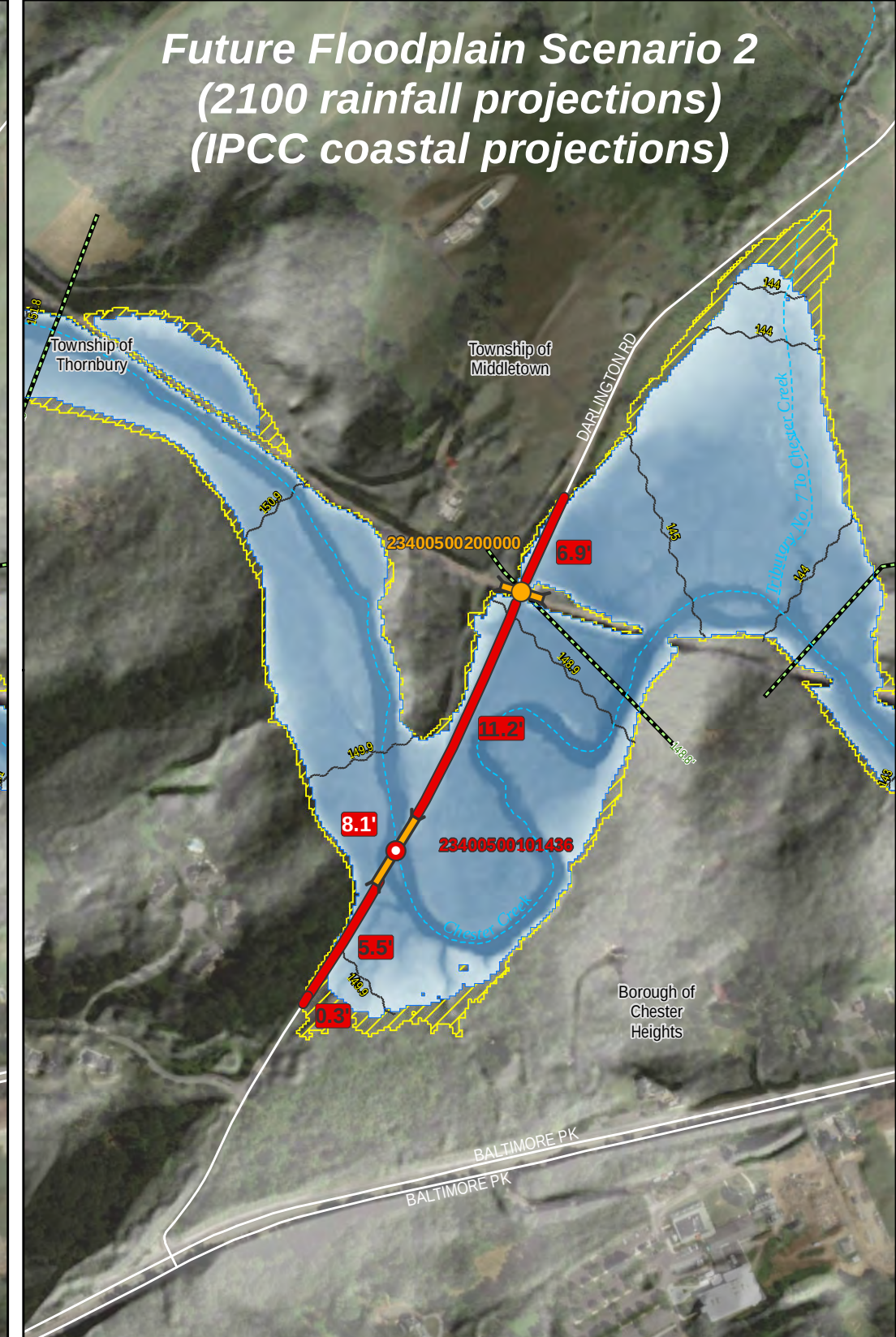
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents
- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA

- Future Conditions SFHA Extents
- Future Conditions SFHA Extents
- Future Conditions SFHA Extents
- Future Conditions SFHA Extents

0 Feet
1,000

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

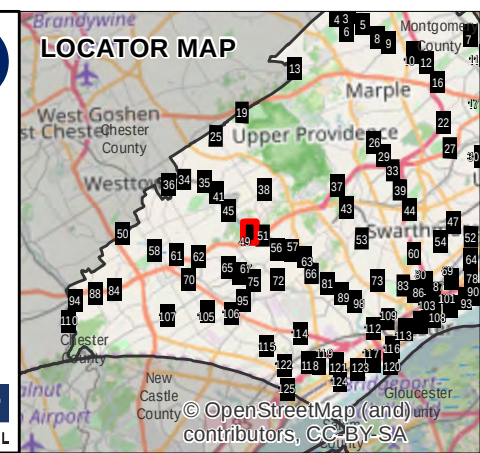
Sheet 49 of 125



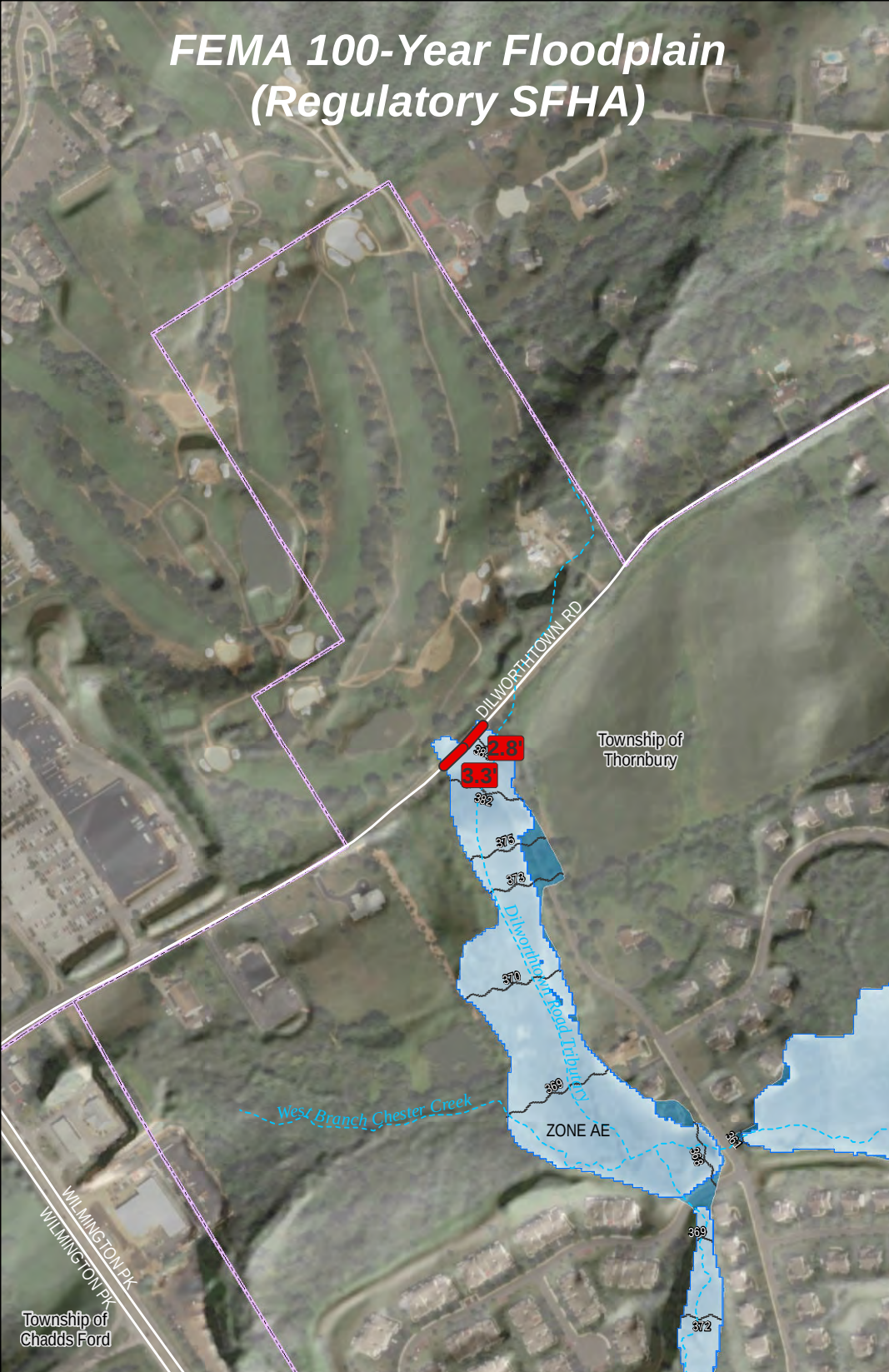
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
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FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
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- FEMA REGULATORY SFHA
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- FUTURE CONDITIONS SFHA
(Based on Depth Grid Boundary)
- Projected SFHA Extents

0 1,000 Feet

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

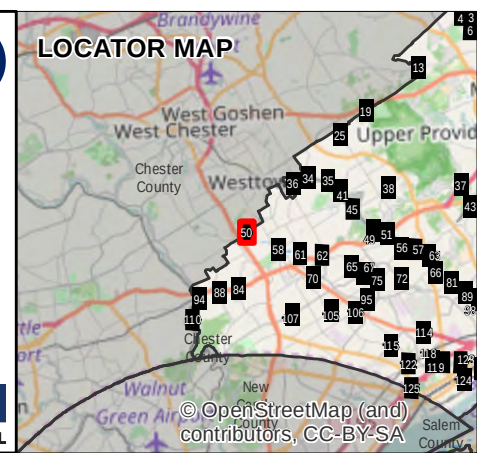
Sheet 50 of 125

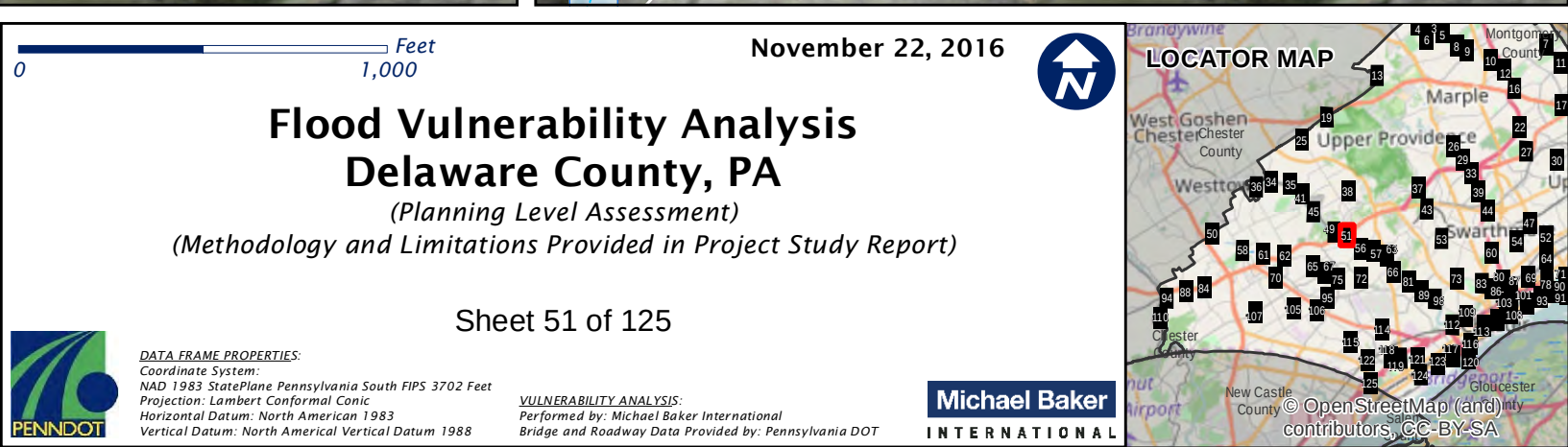
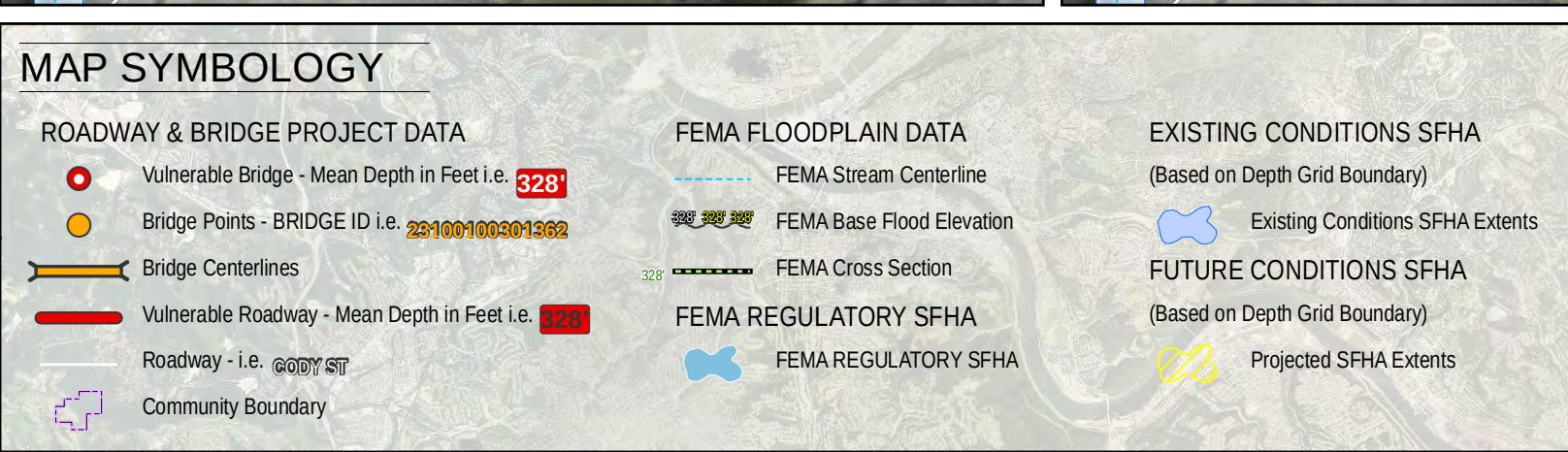


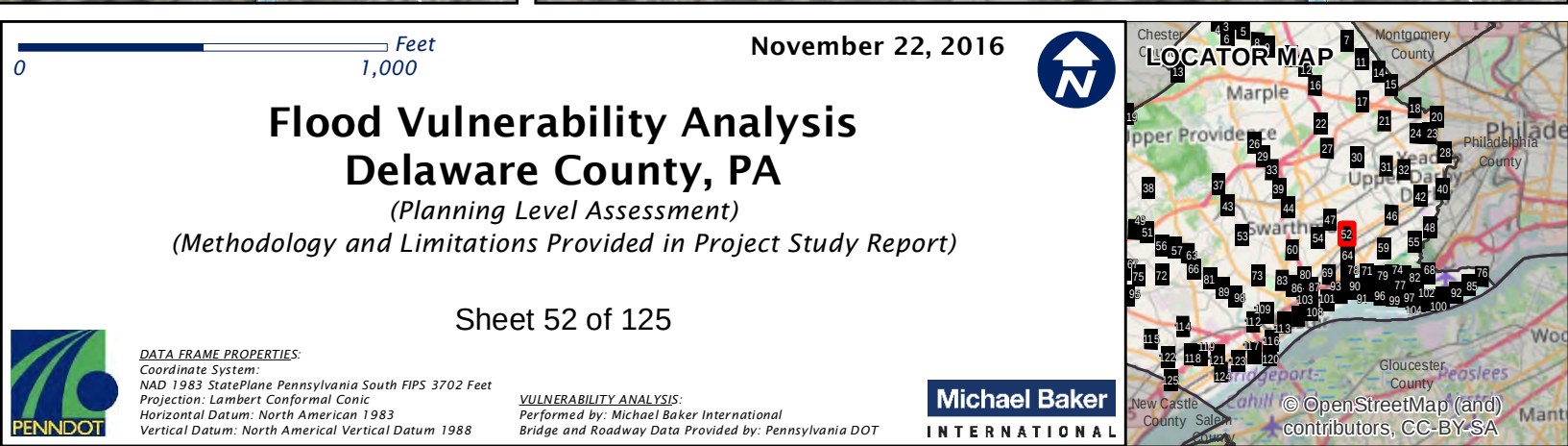
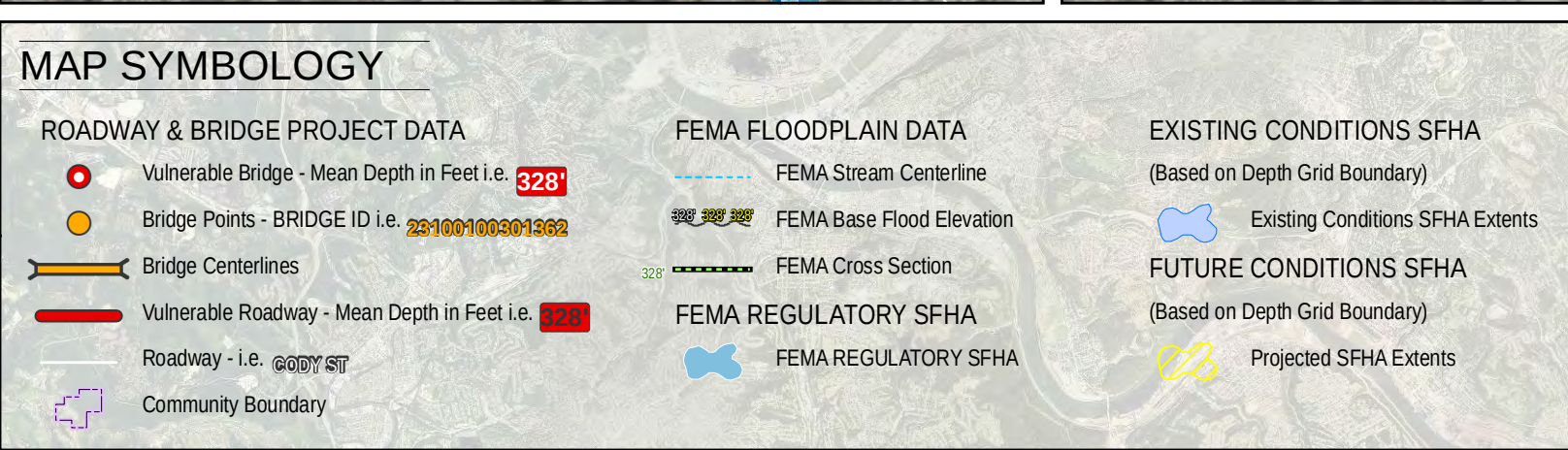
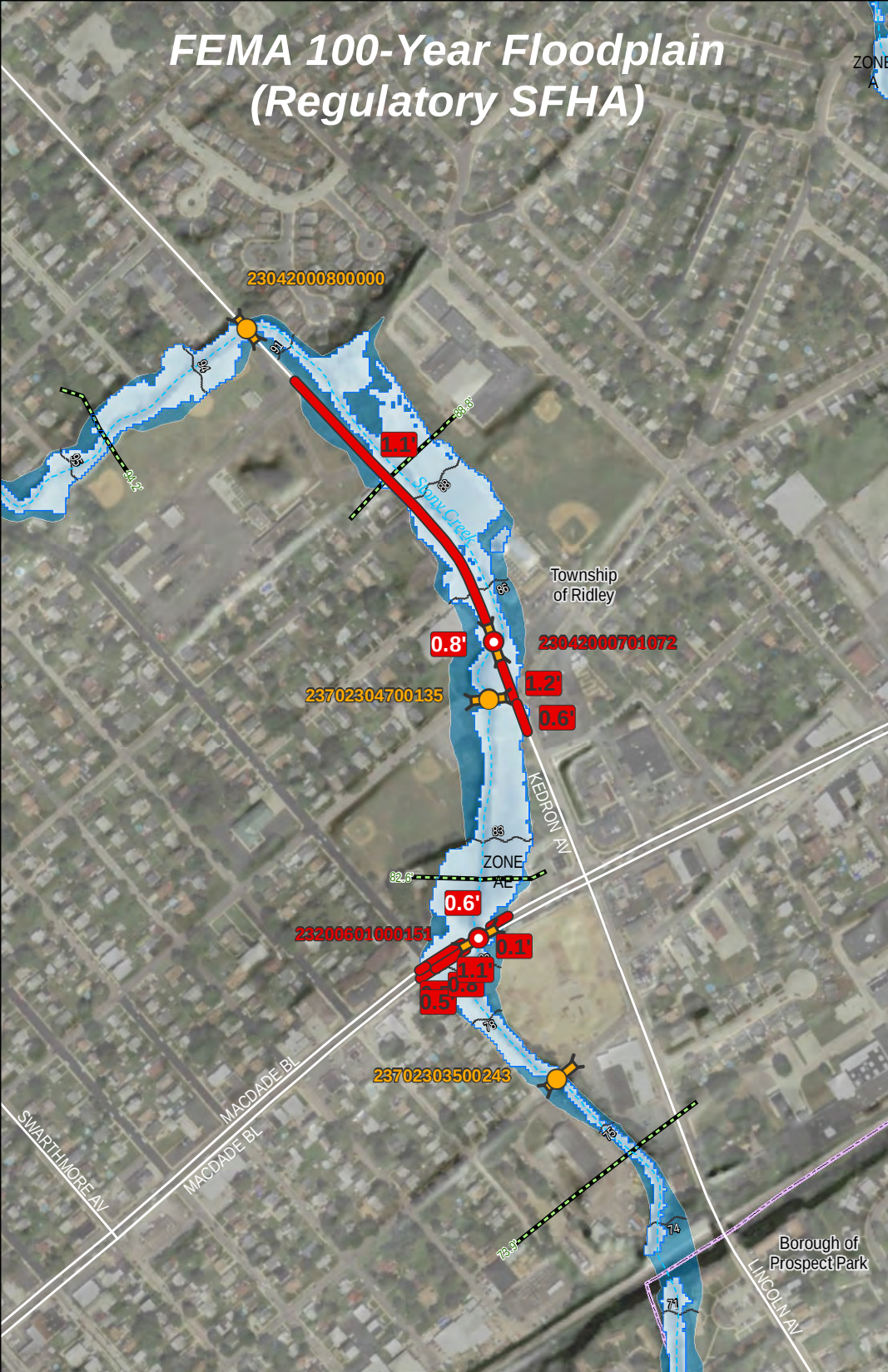
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Coordinate System:
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Projection: Lambert Conformal Conic
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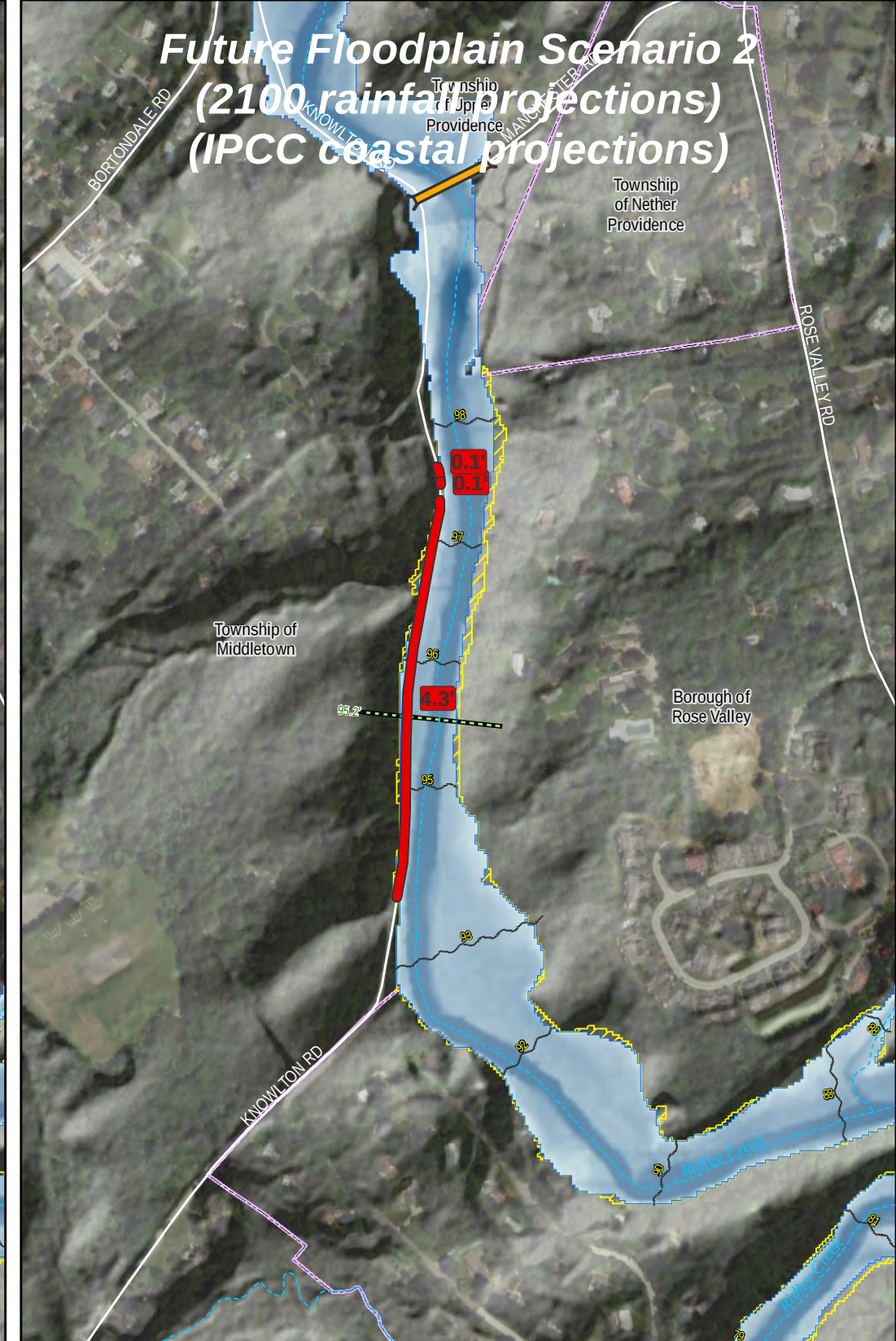
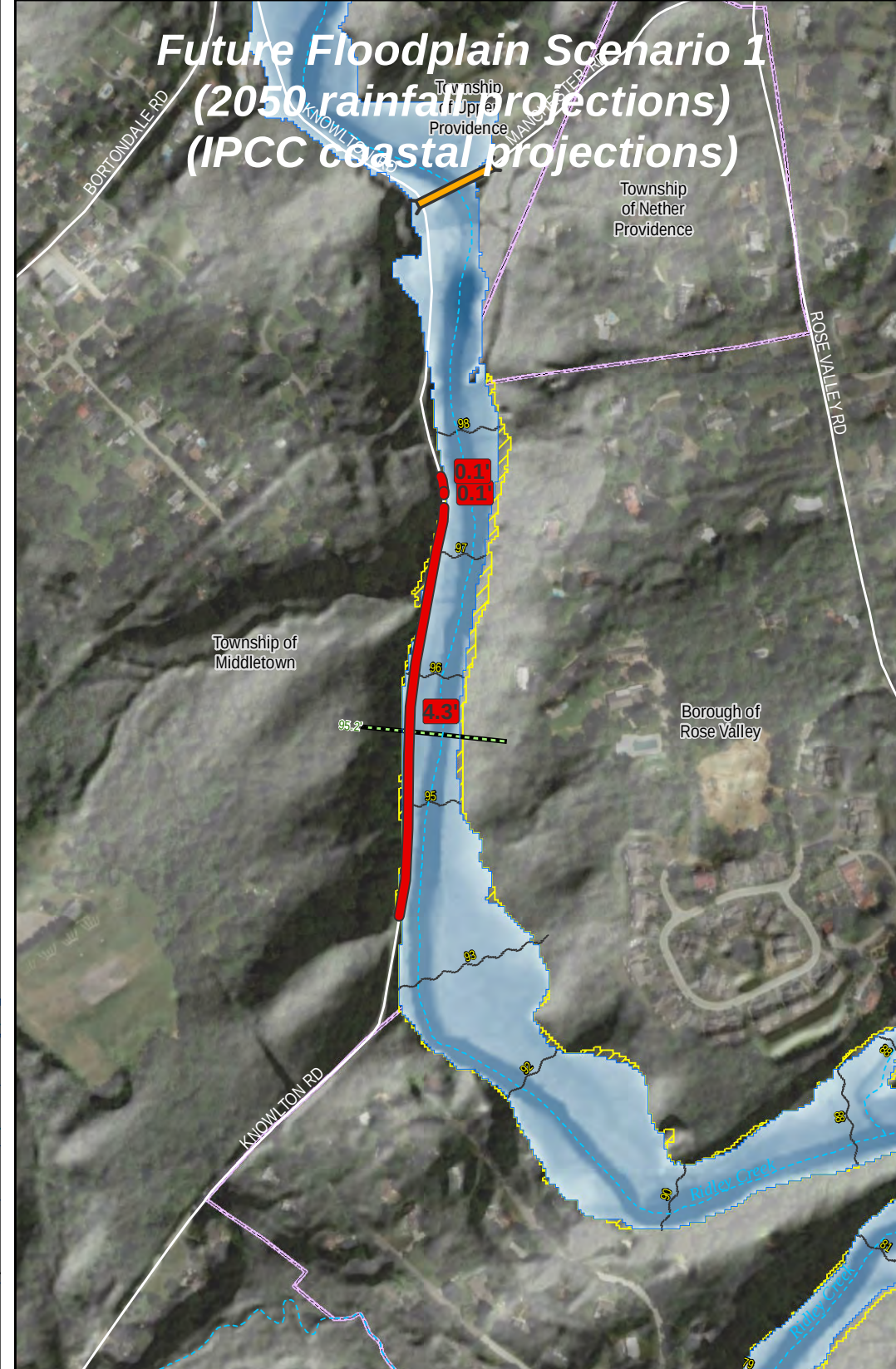
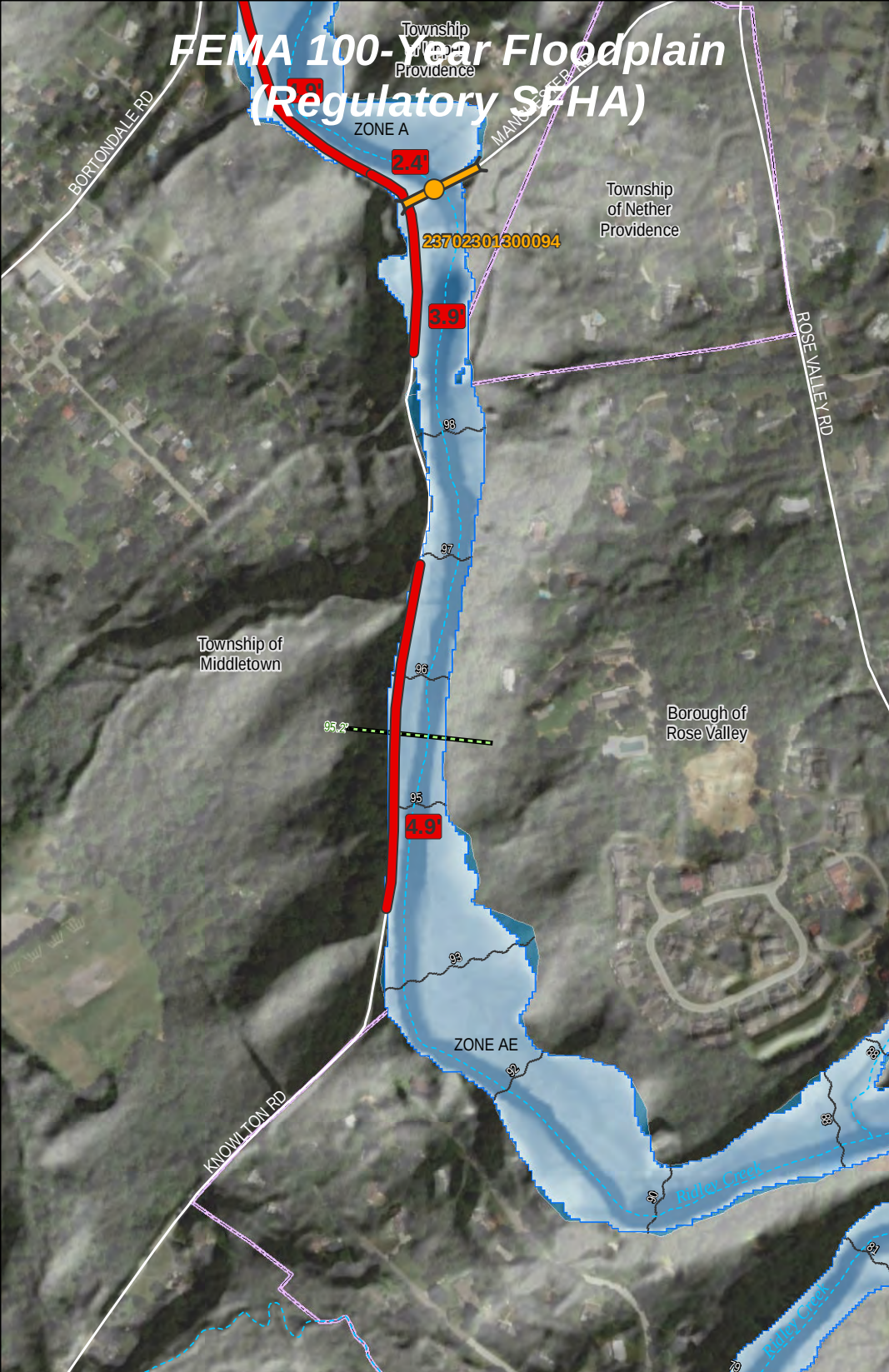
VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

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INTERNATIONAL









MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

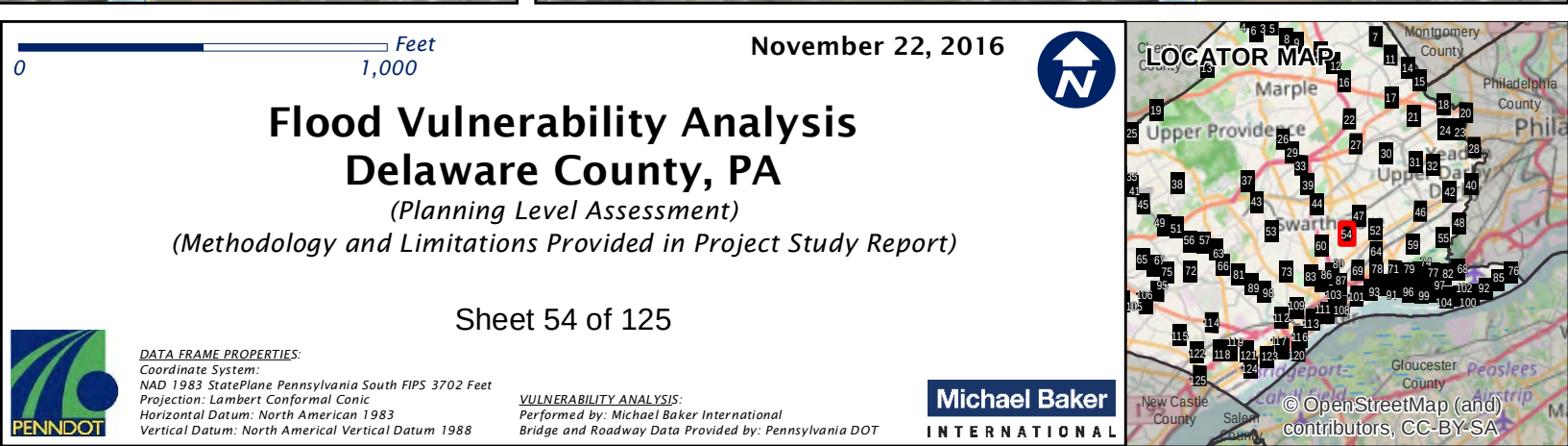
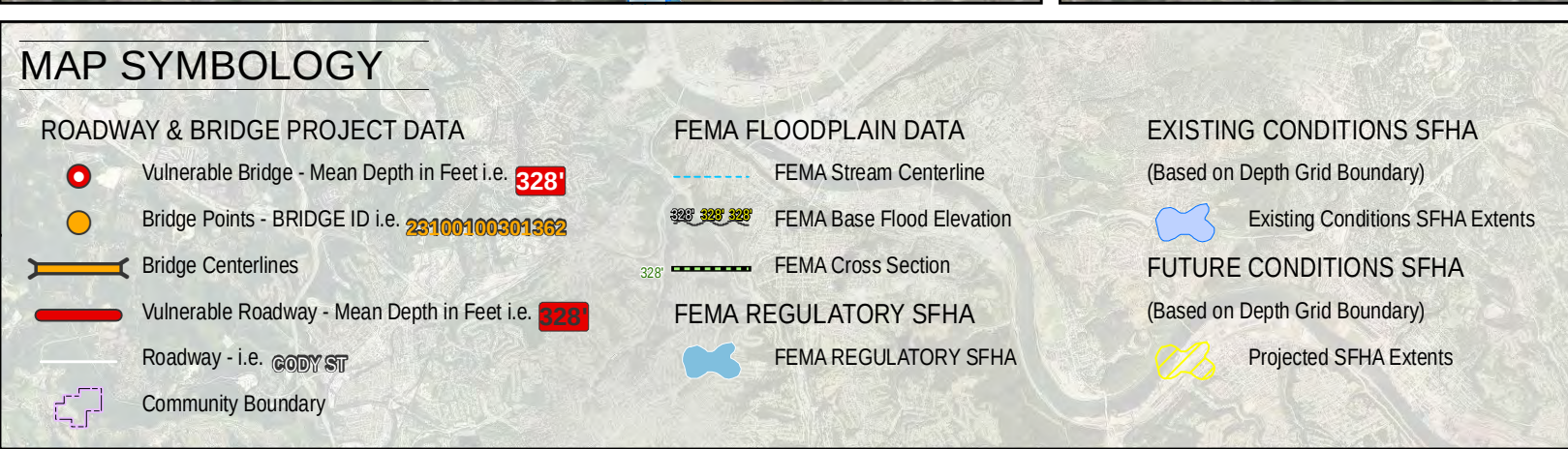
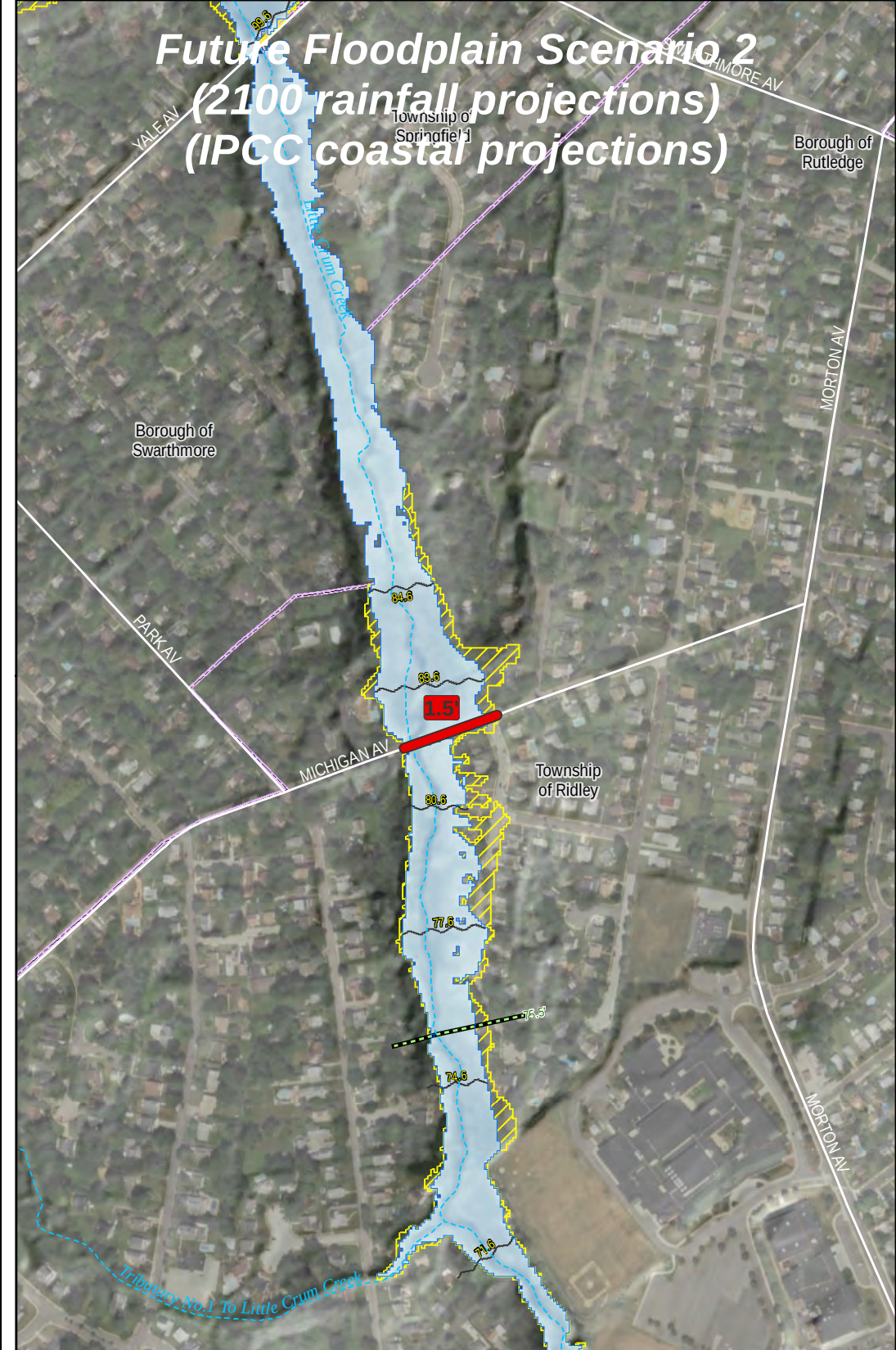
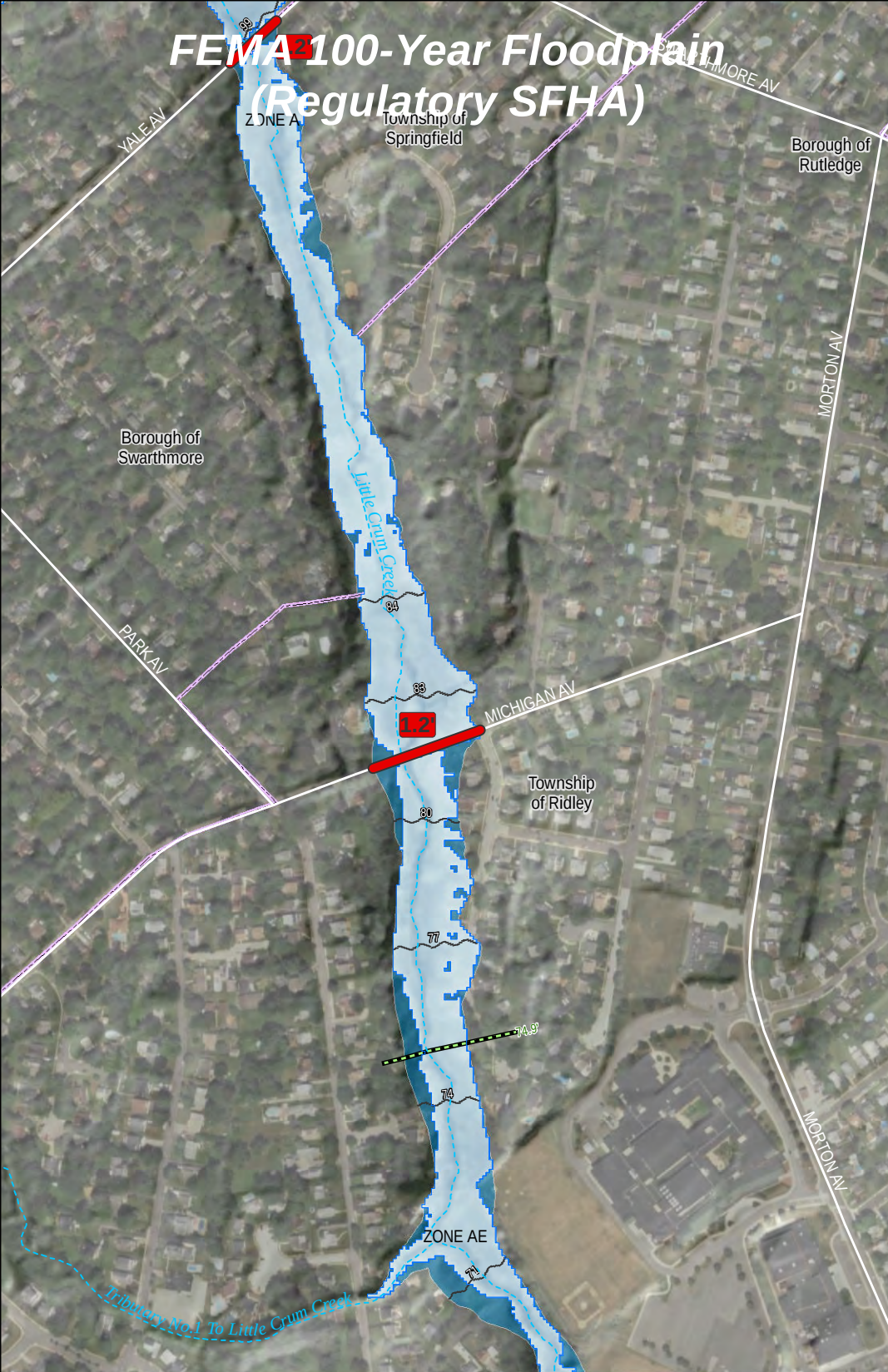
Sheet 53 of 125

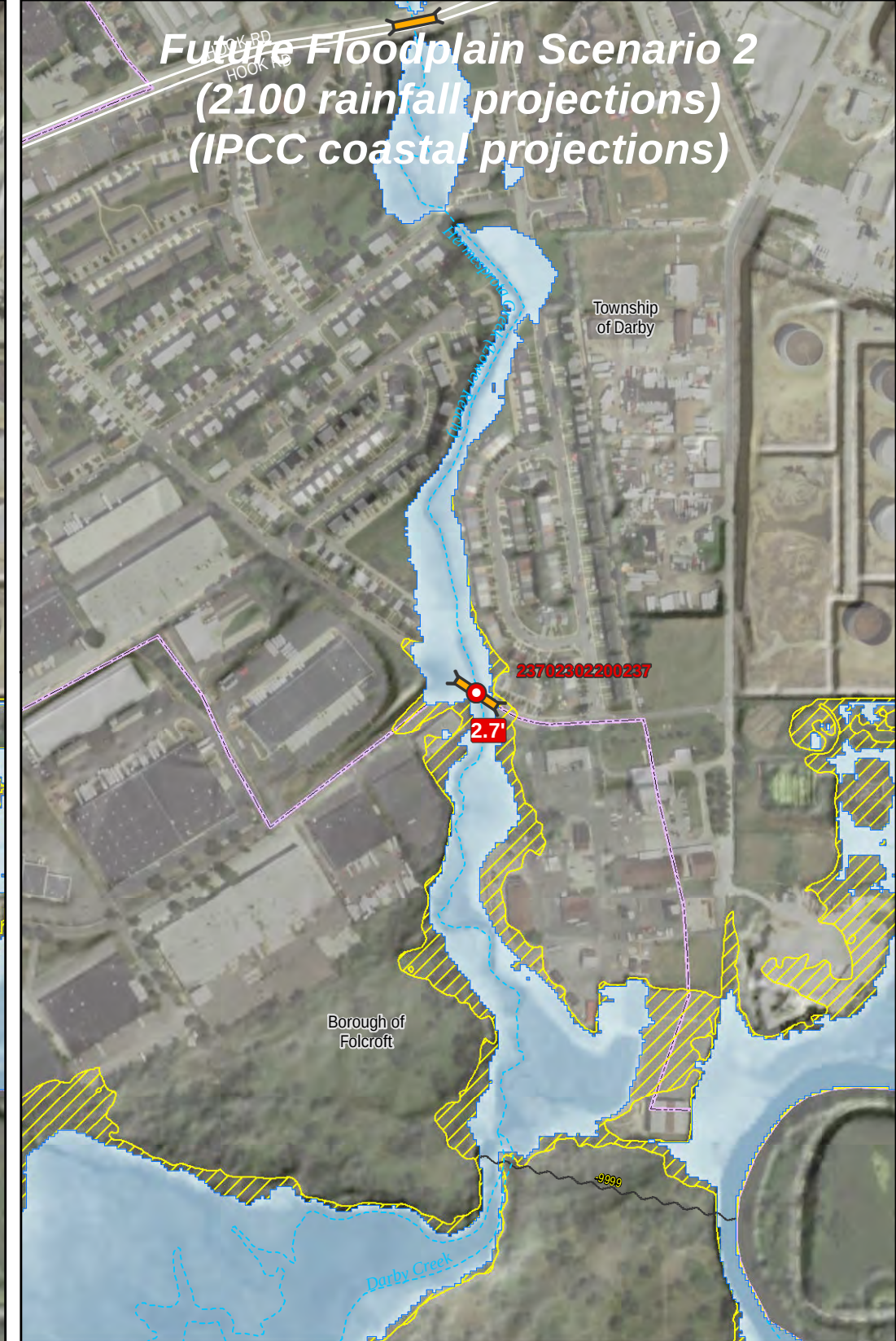
DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
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Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

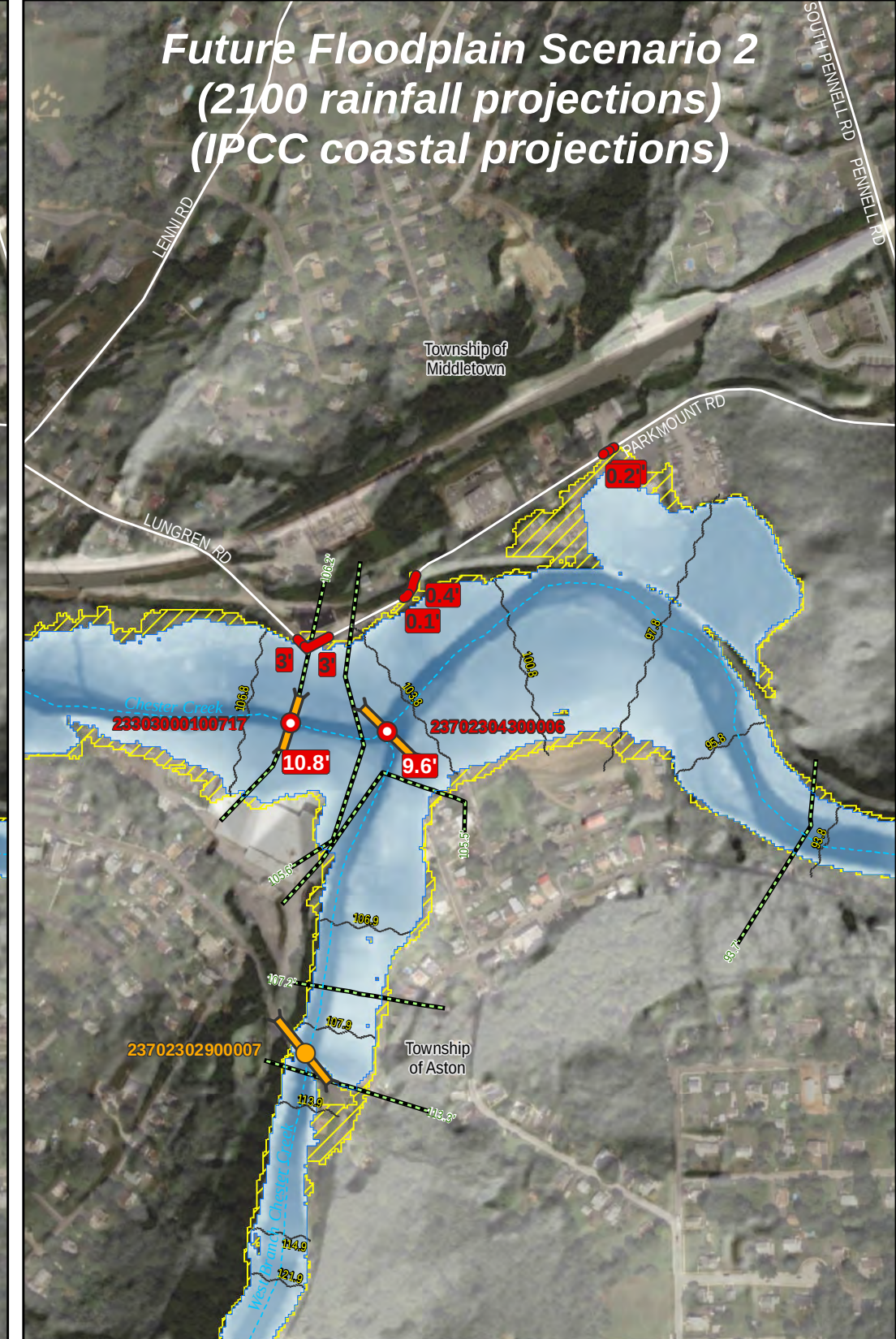
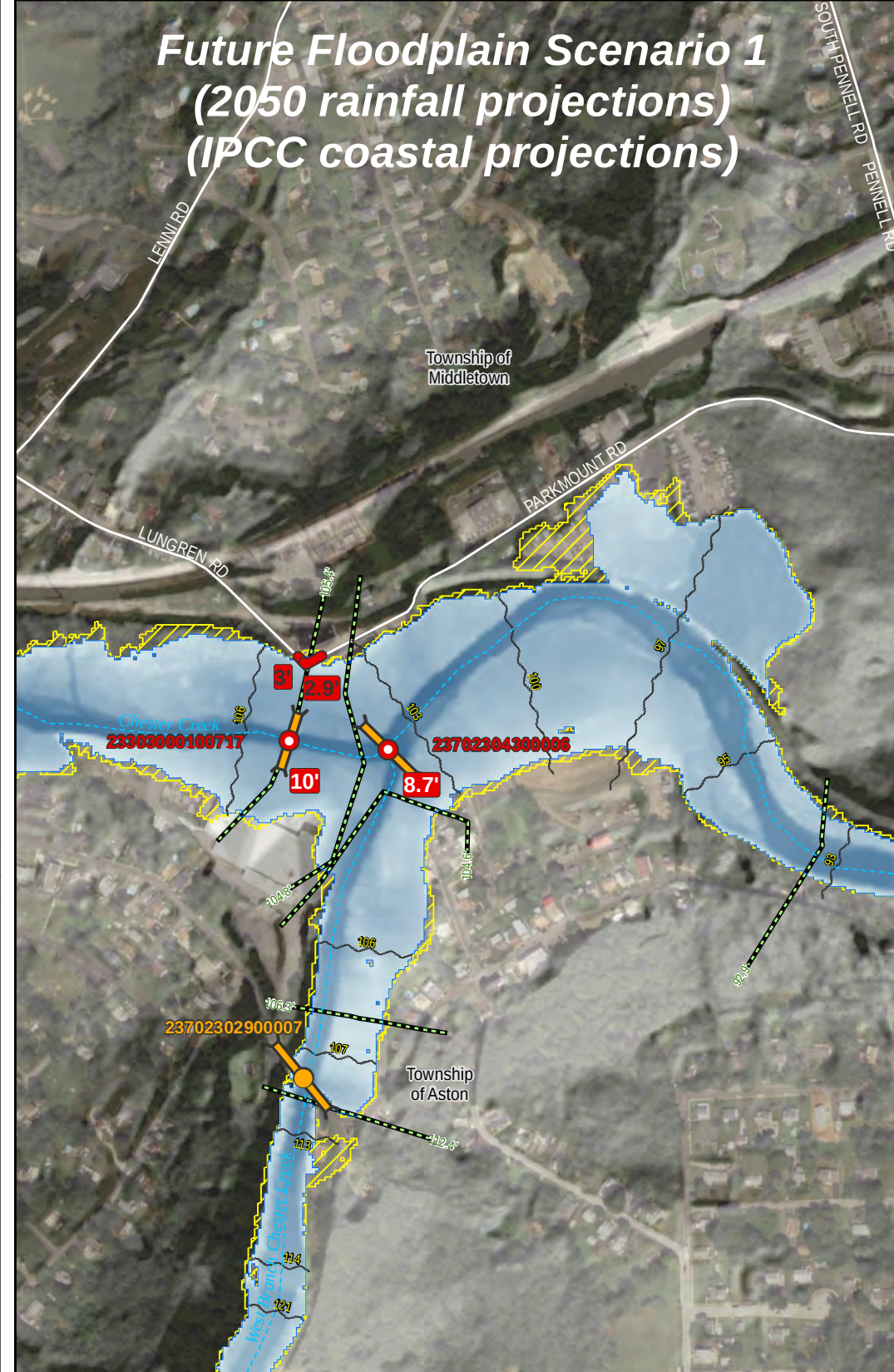
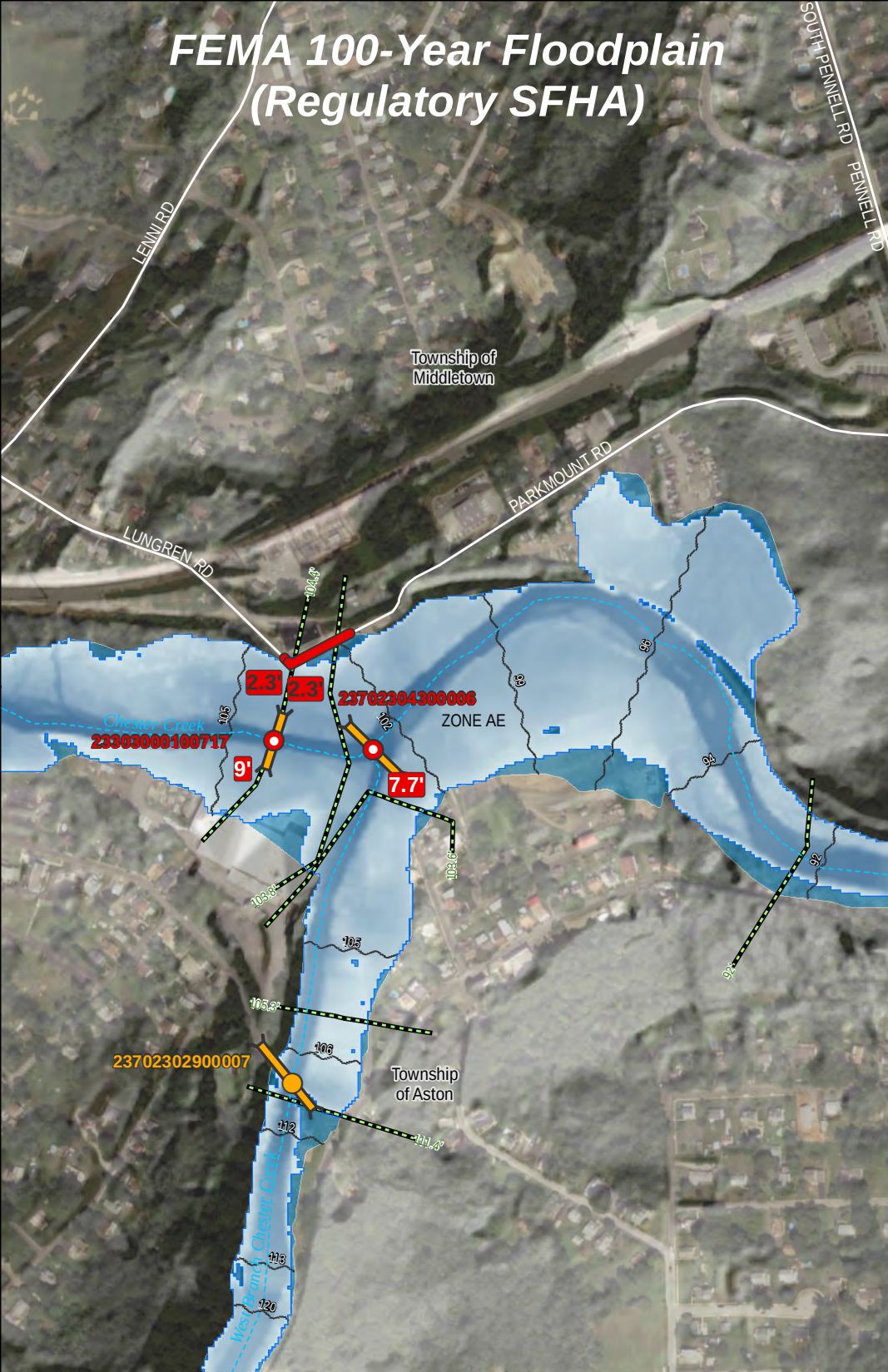
Sheet 55 of 125

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INTERNATIONAL

DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
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- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

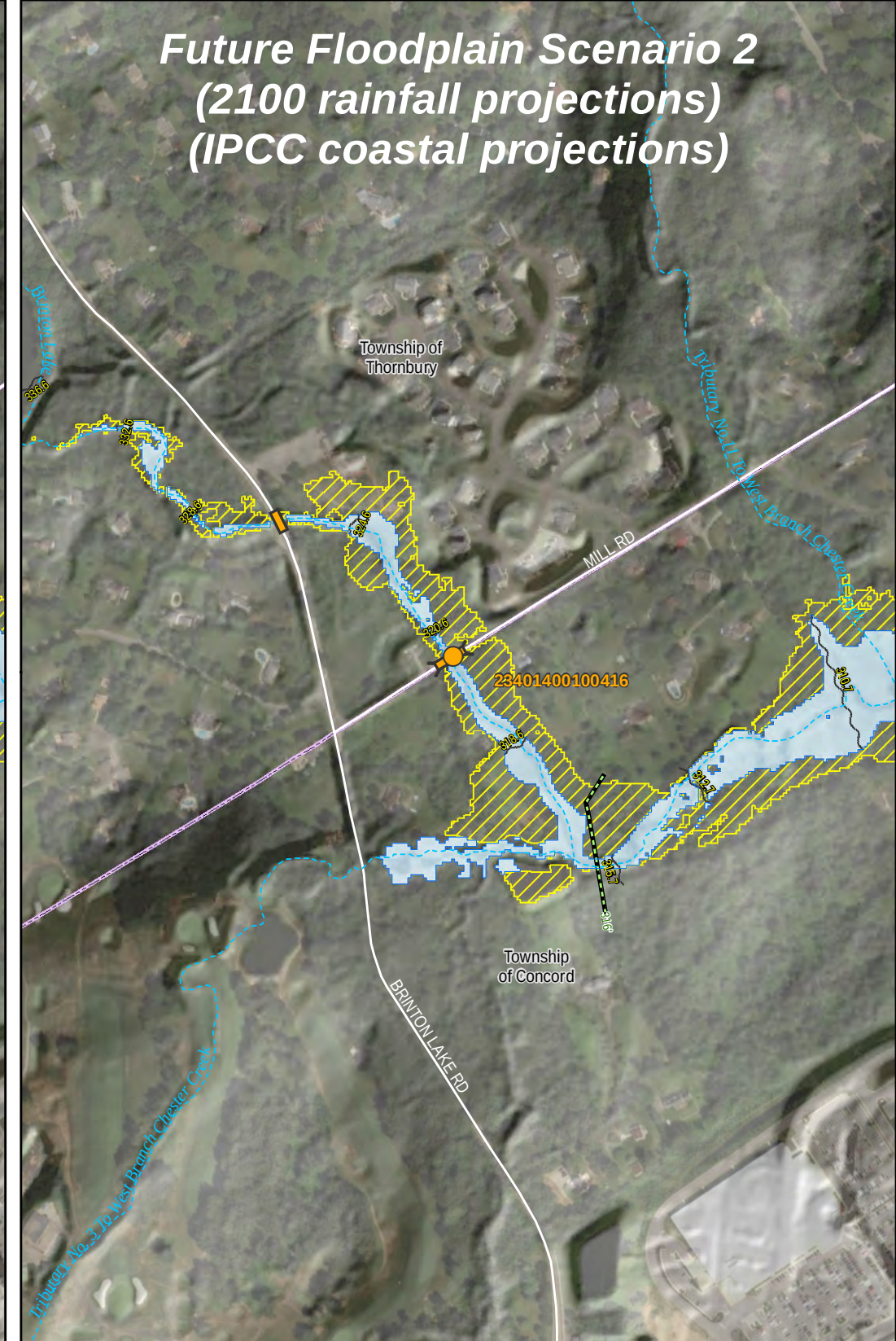
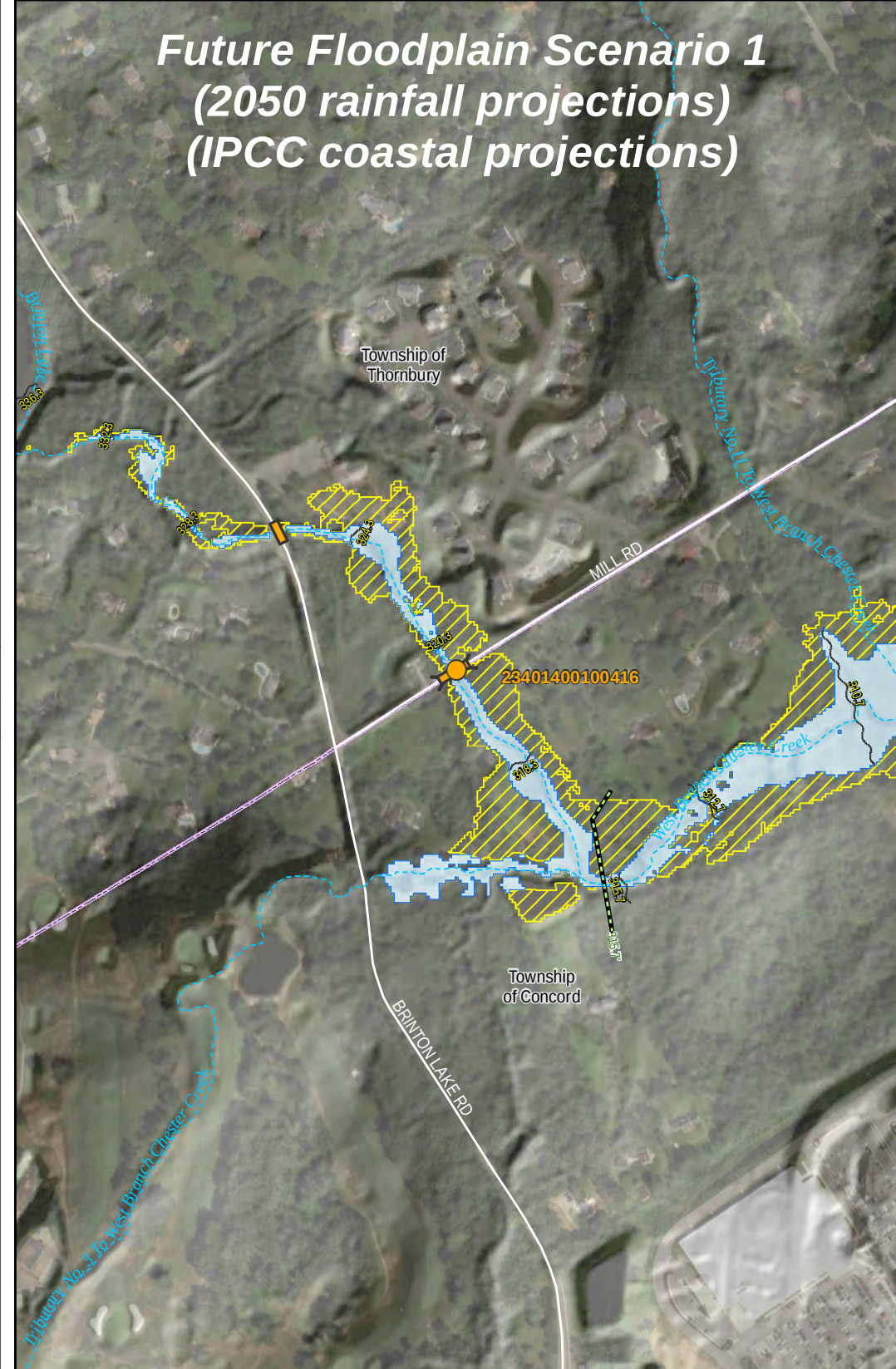
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA		FEMA FLOODPLAIN DATA		EXISTING CONDITIONS SFHA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'		FEMA Stream Centerline		Existing Conditions SFHA Extents
	Bridge Points - BRIDGE ID i.e. 23100100301362		FEMA Base Flood Elevation		FUTURE CONDITIONS SFHA
	Bridge Centerlines		FEMA Cross Section		
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'		FEMA REGULATORY SFHA		
	Roadway - i.e. CODY ST				
	Community Boundary				

November 22, 2016

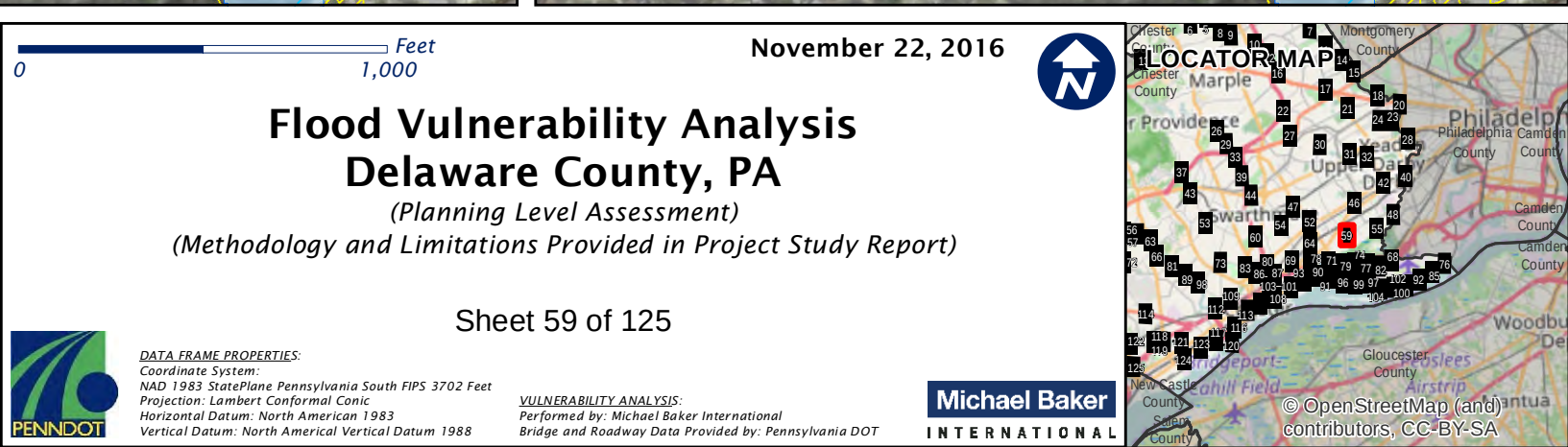
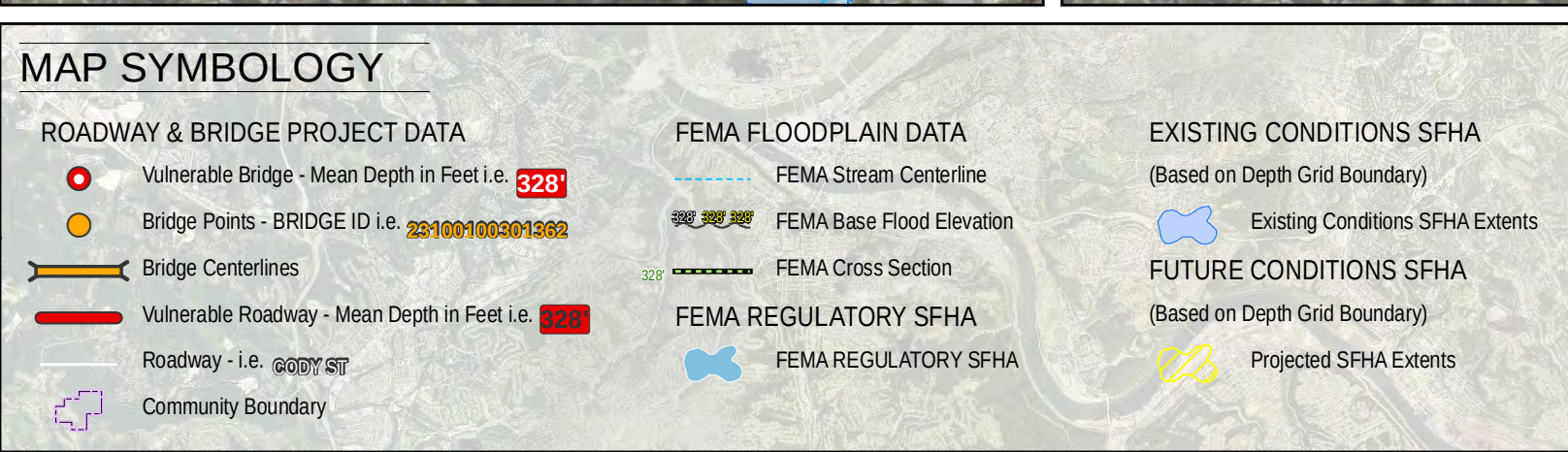
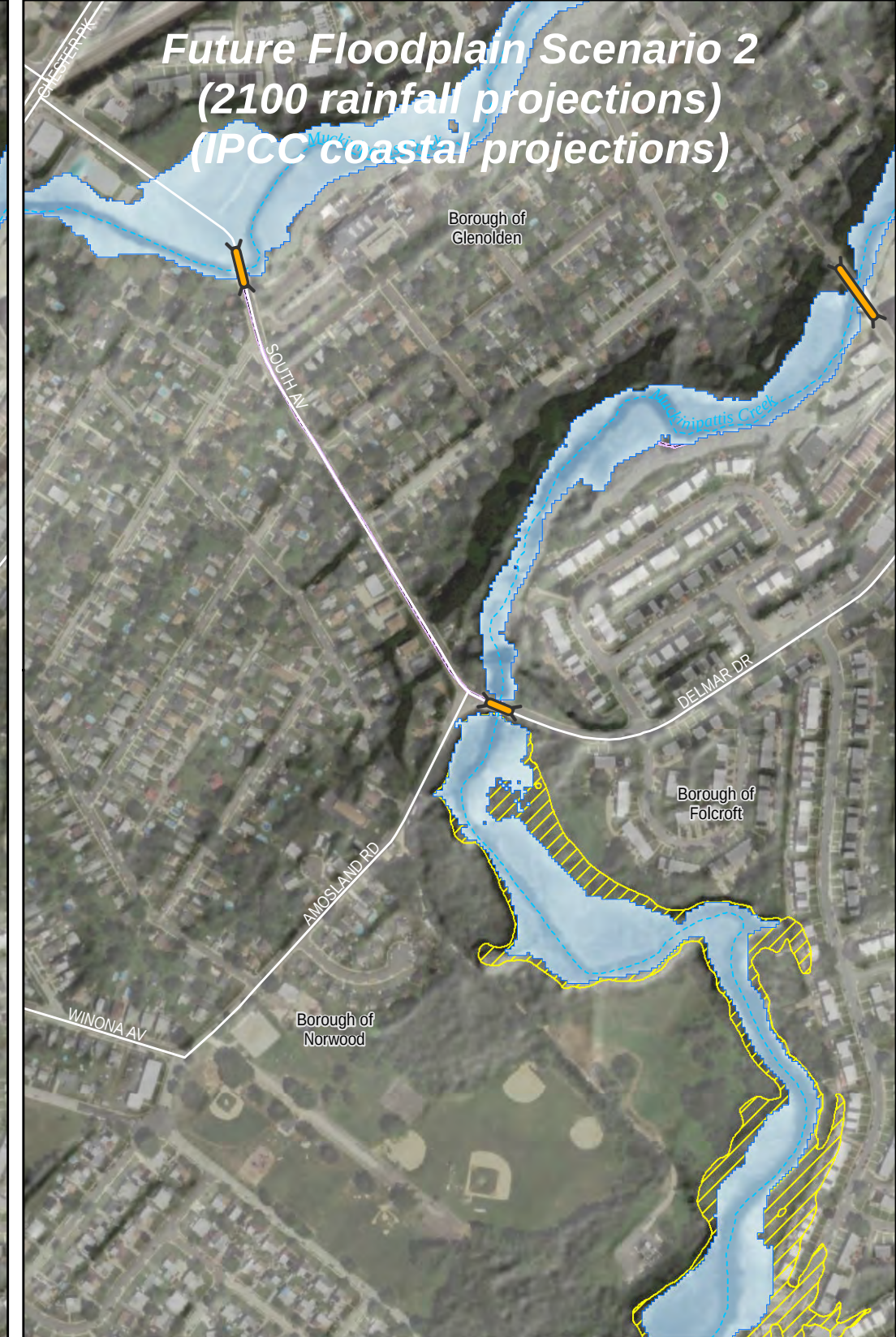
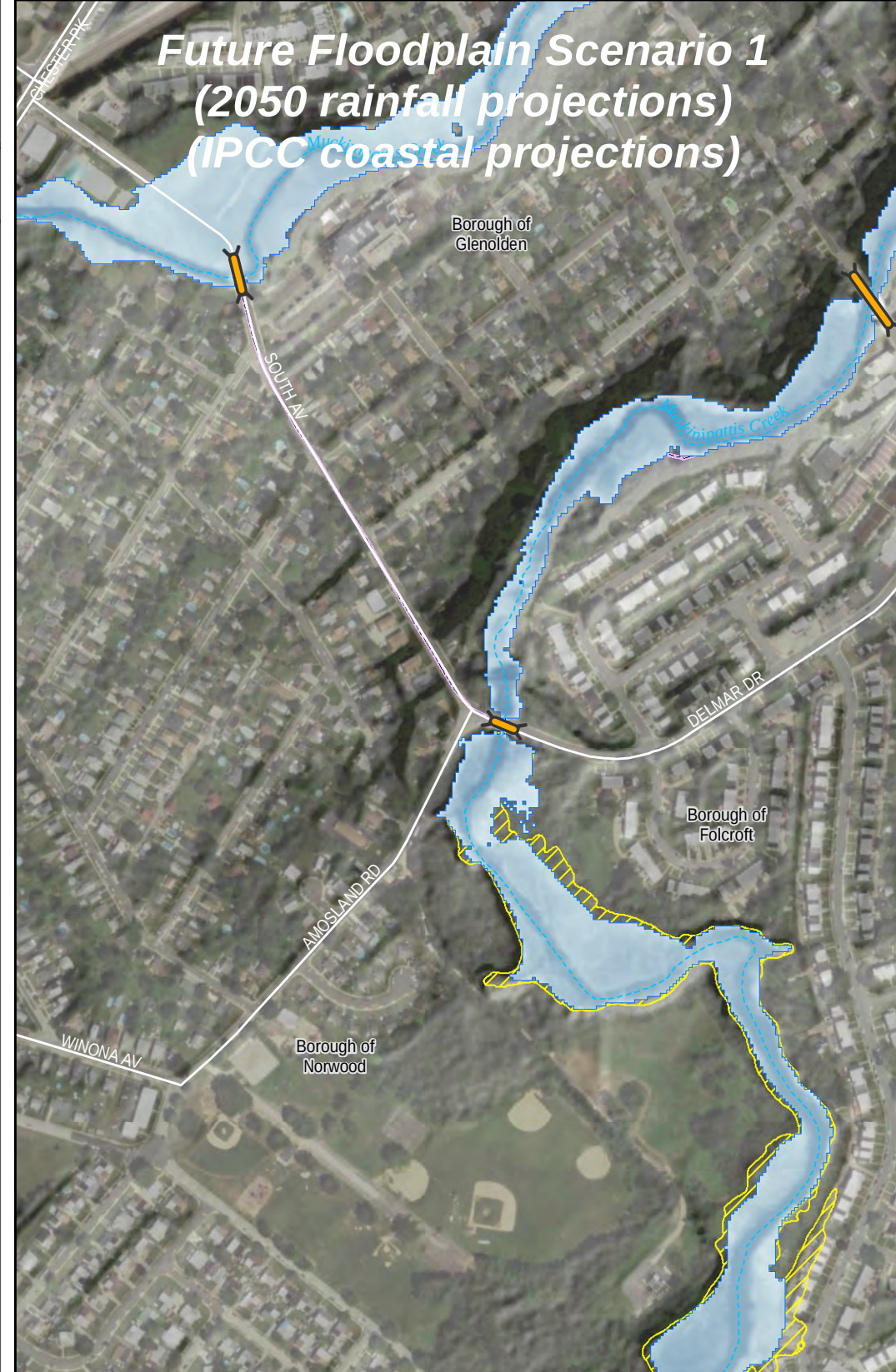
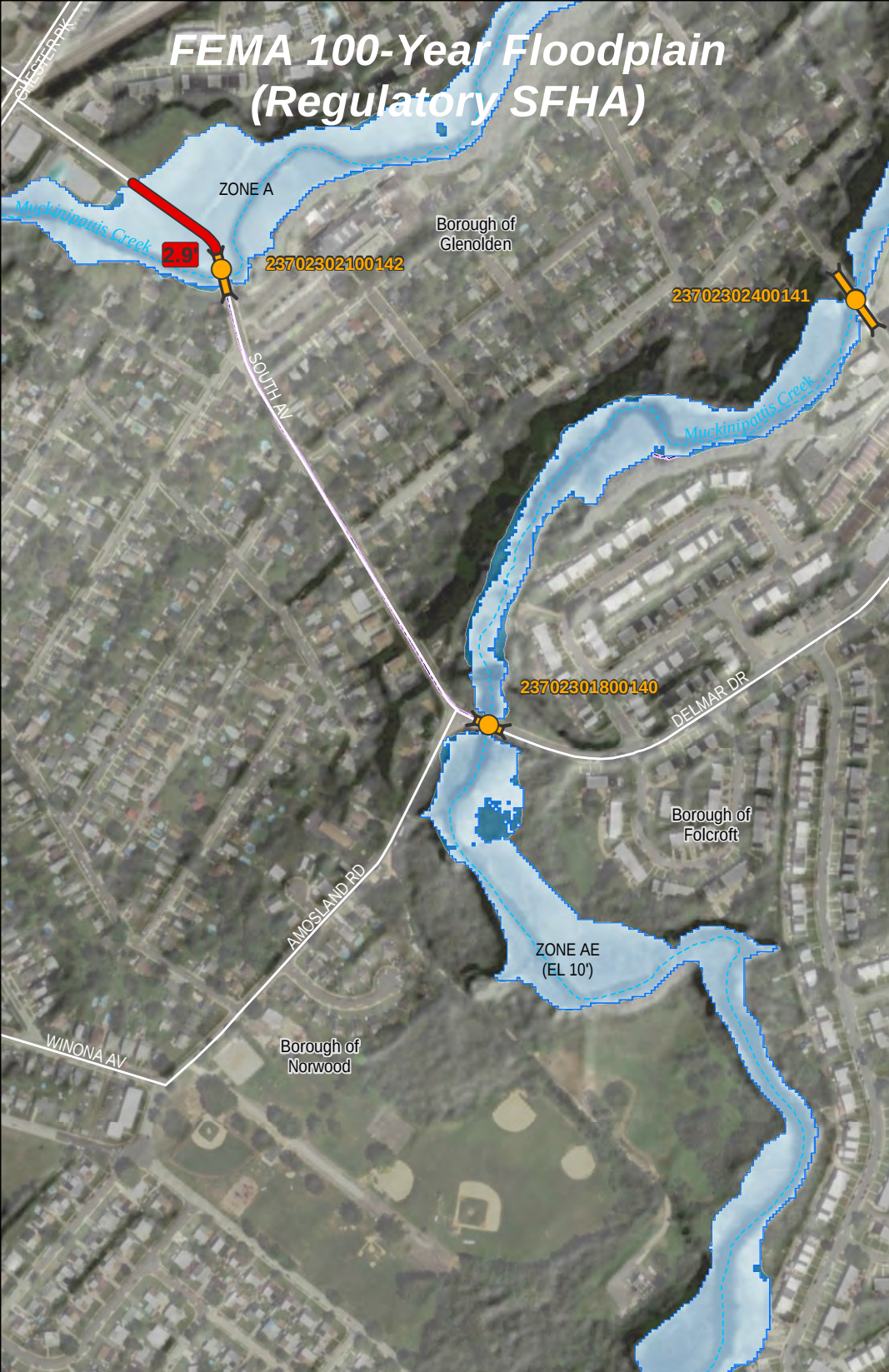
Flood Vulnerability Analysis Delaware County, PA

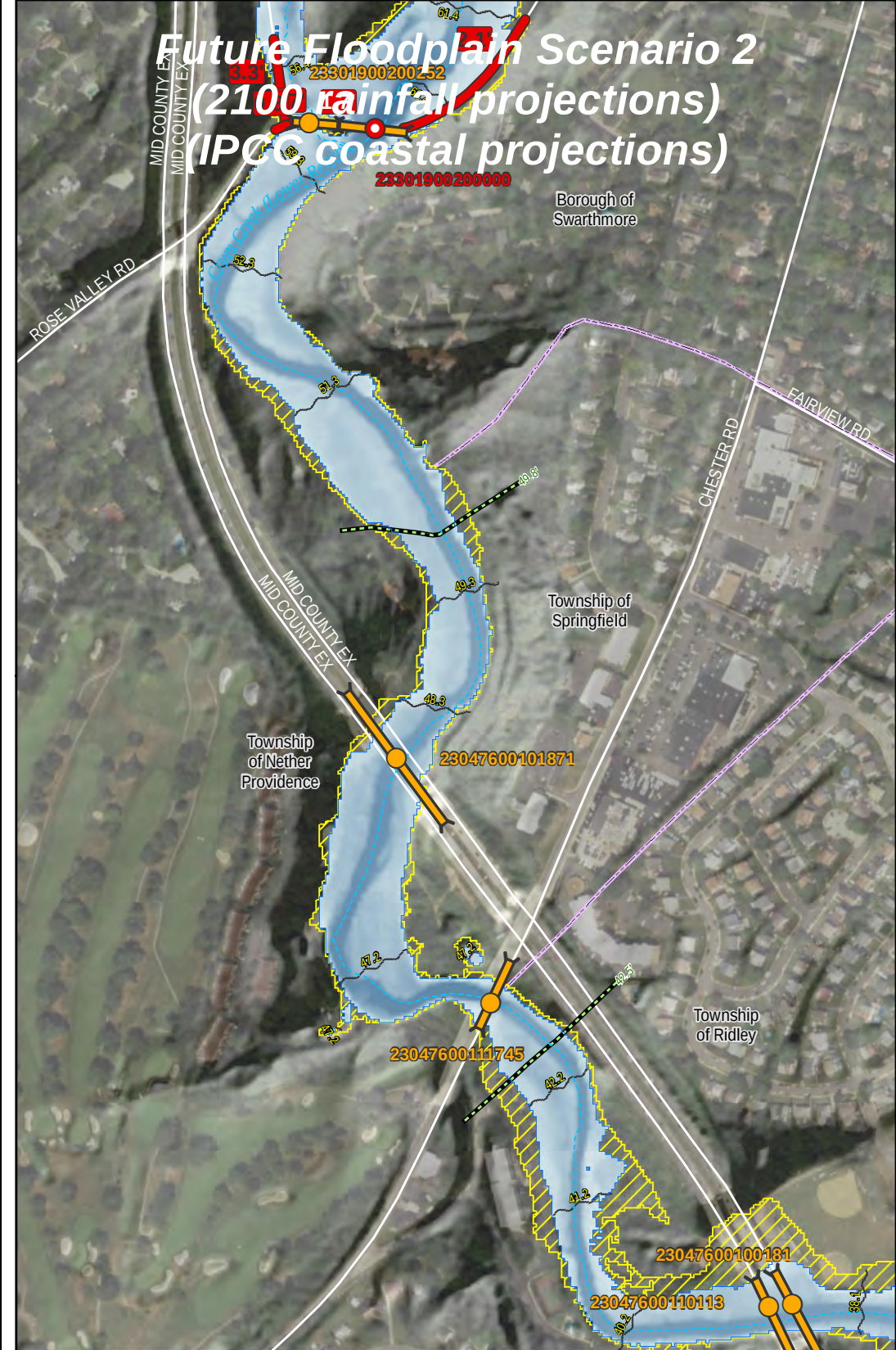
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(Methodology and Limitations Provided in Project Study Report)

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Michael Baker INTERNATIONAL

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

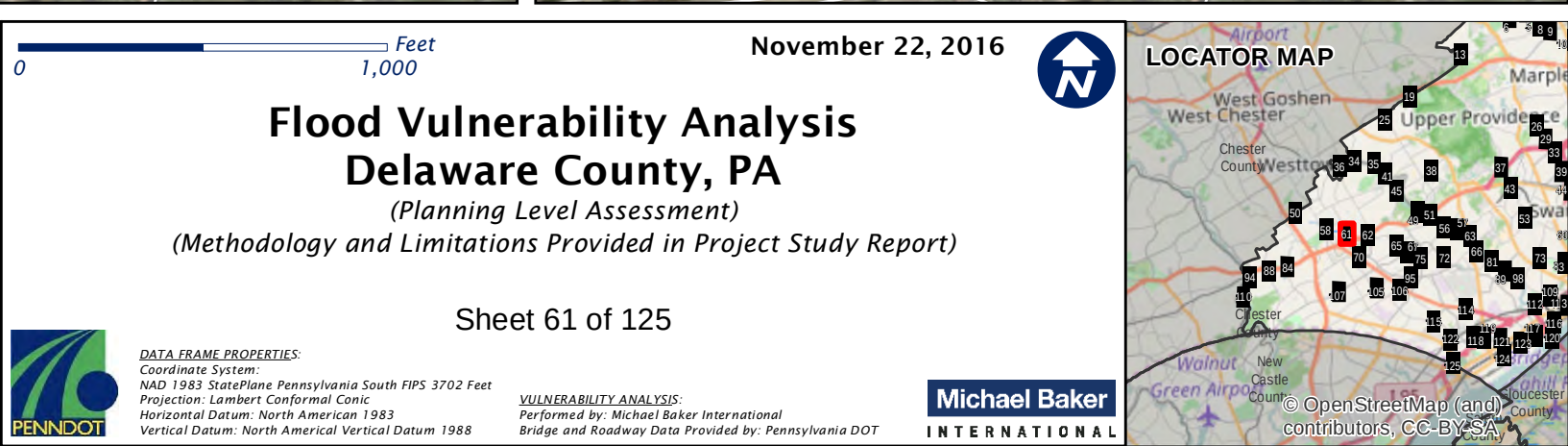
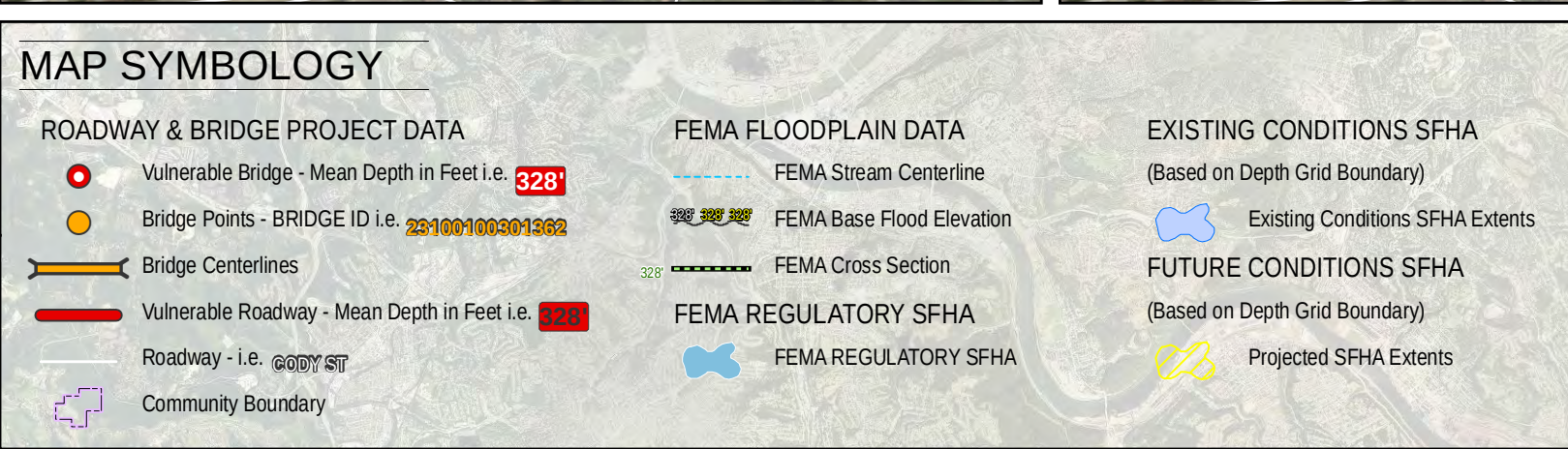
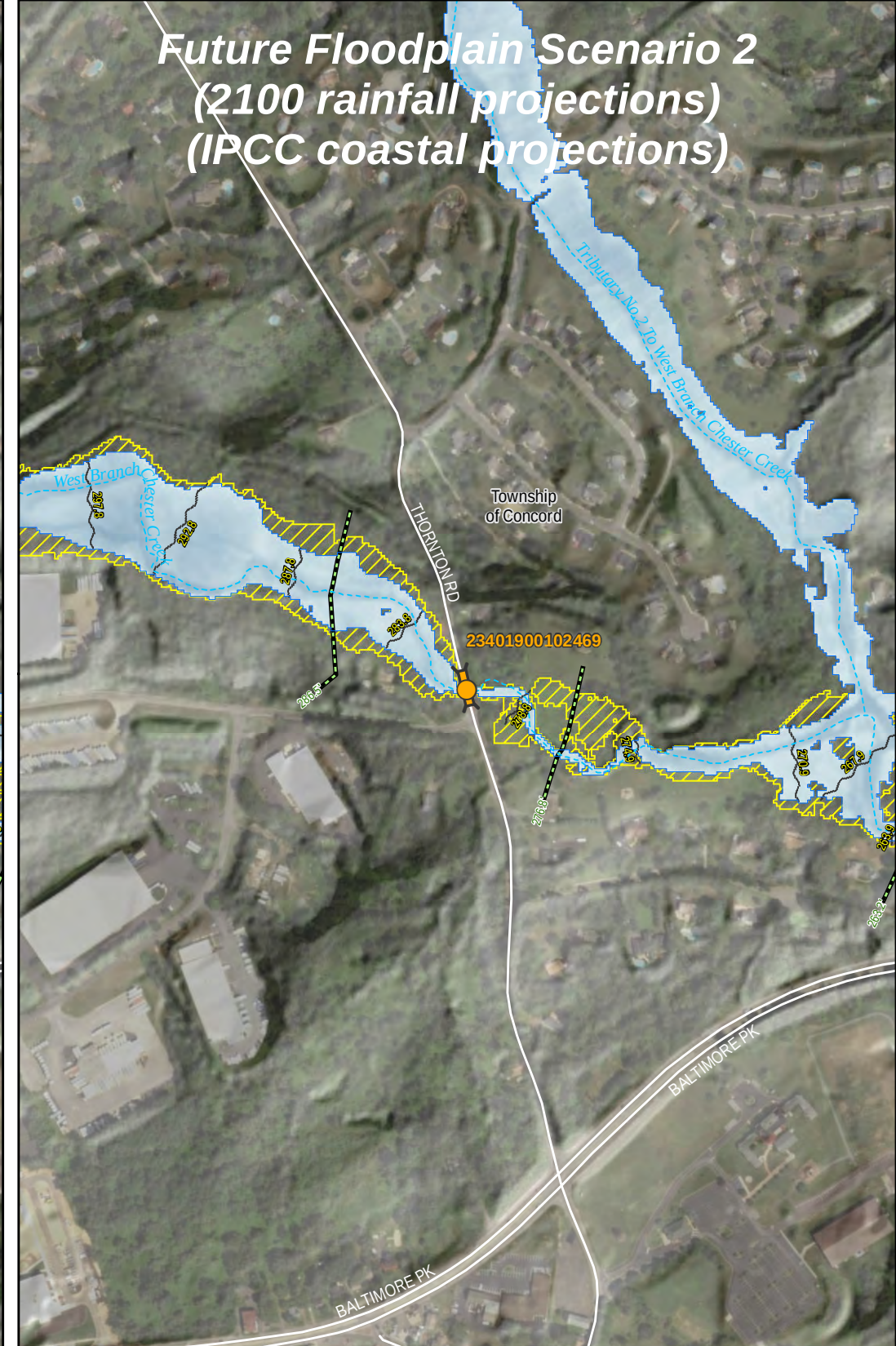
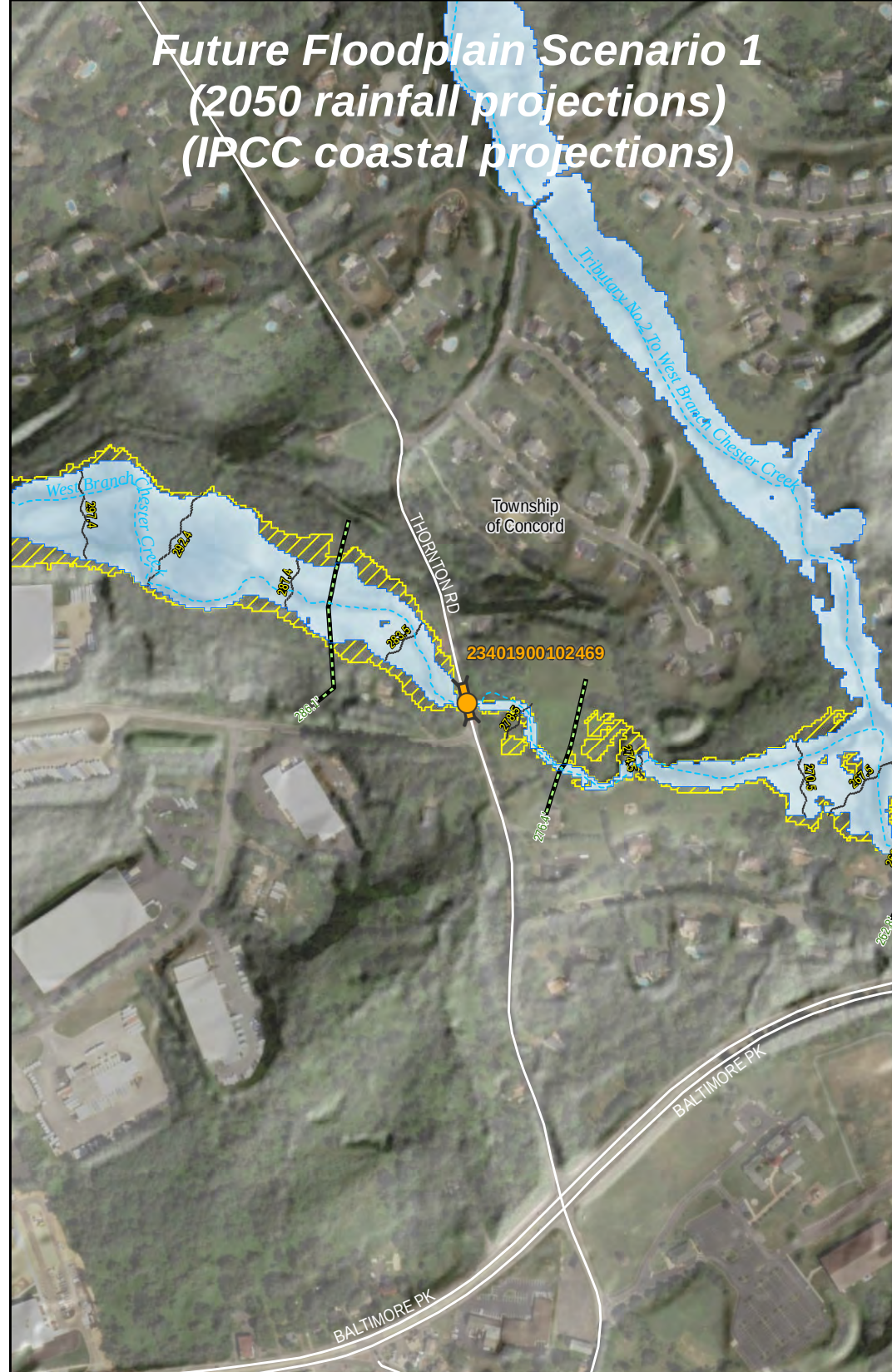
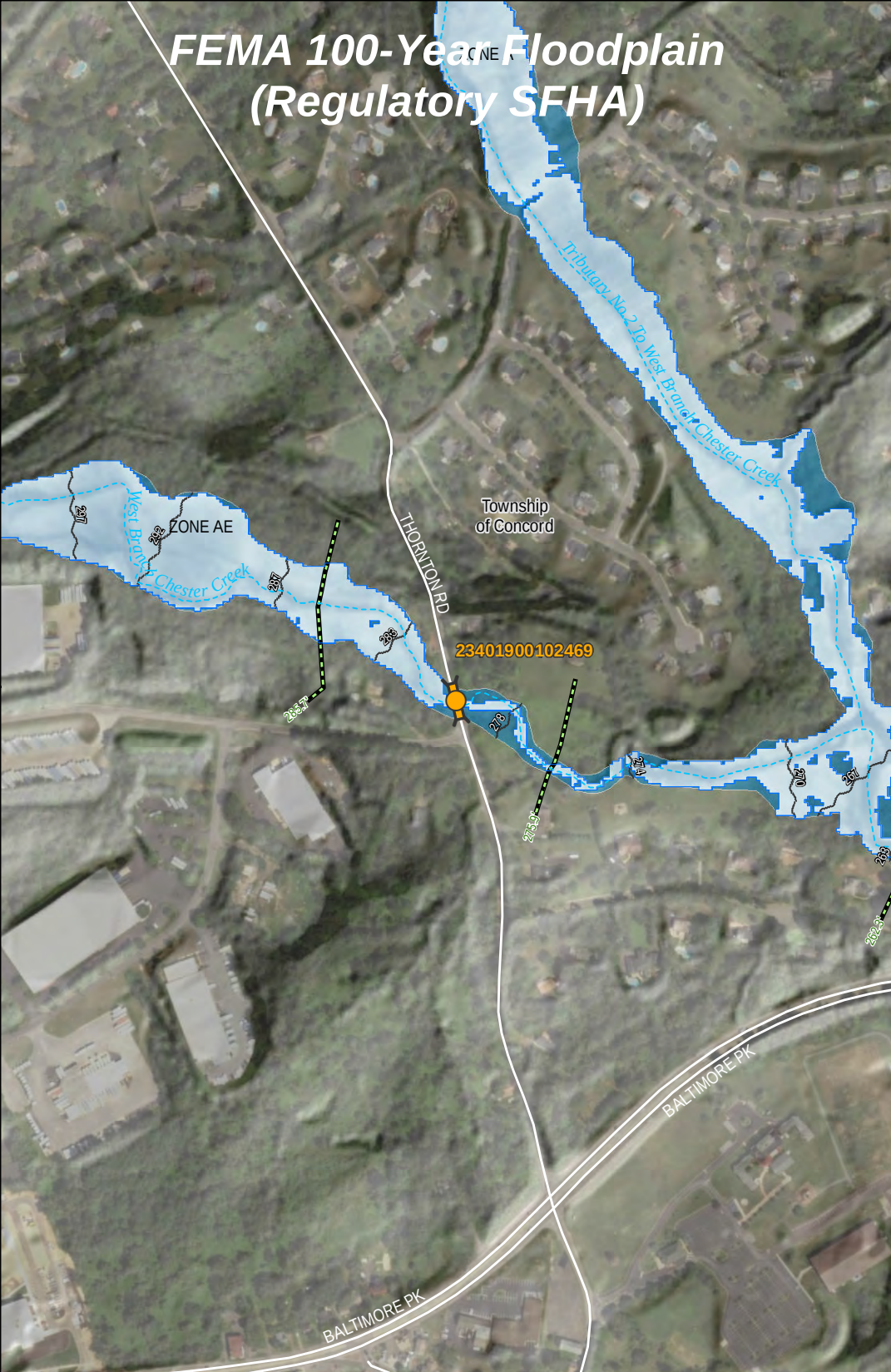
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

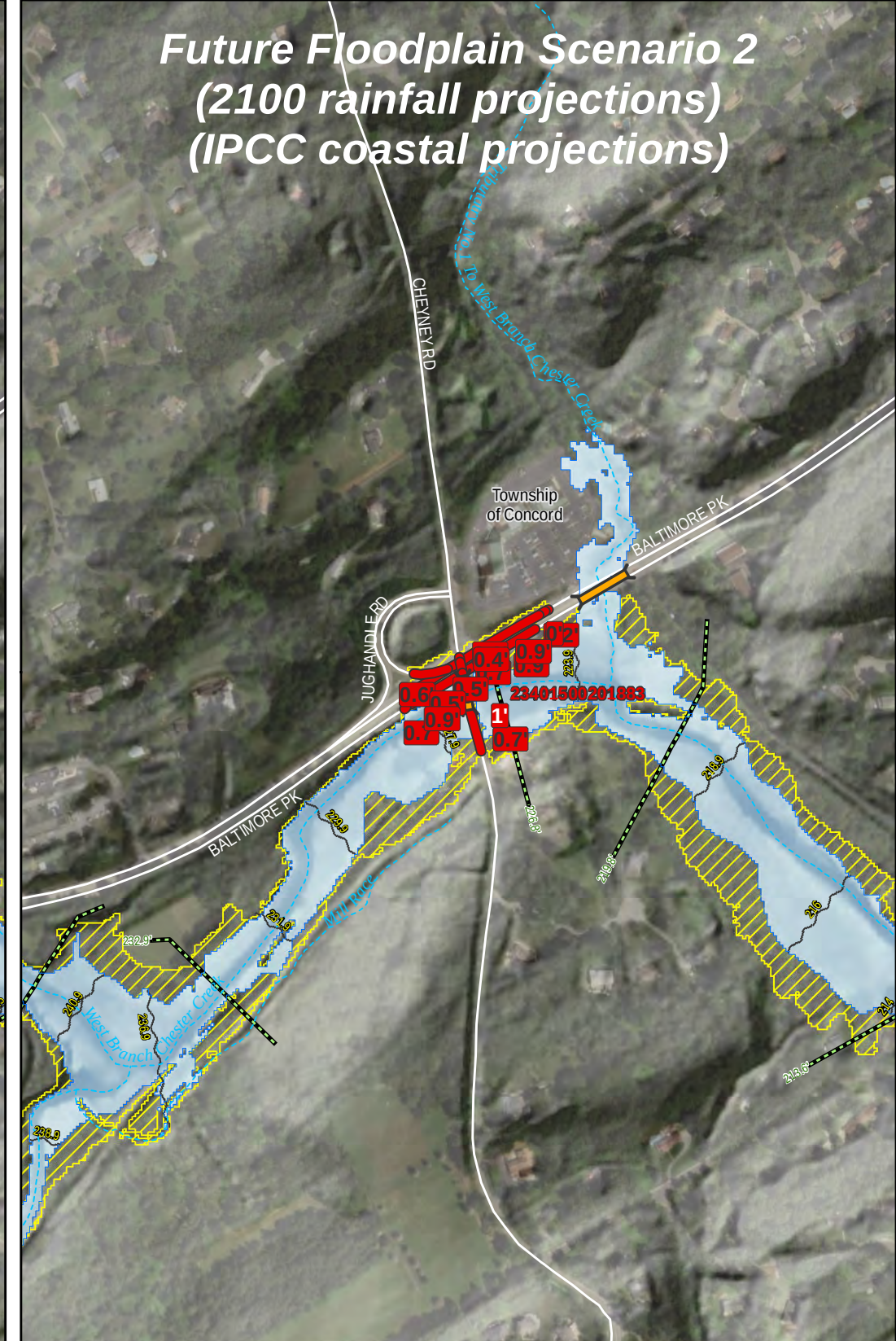
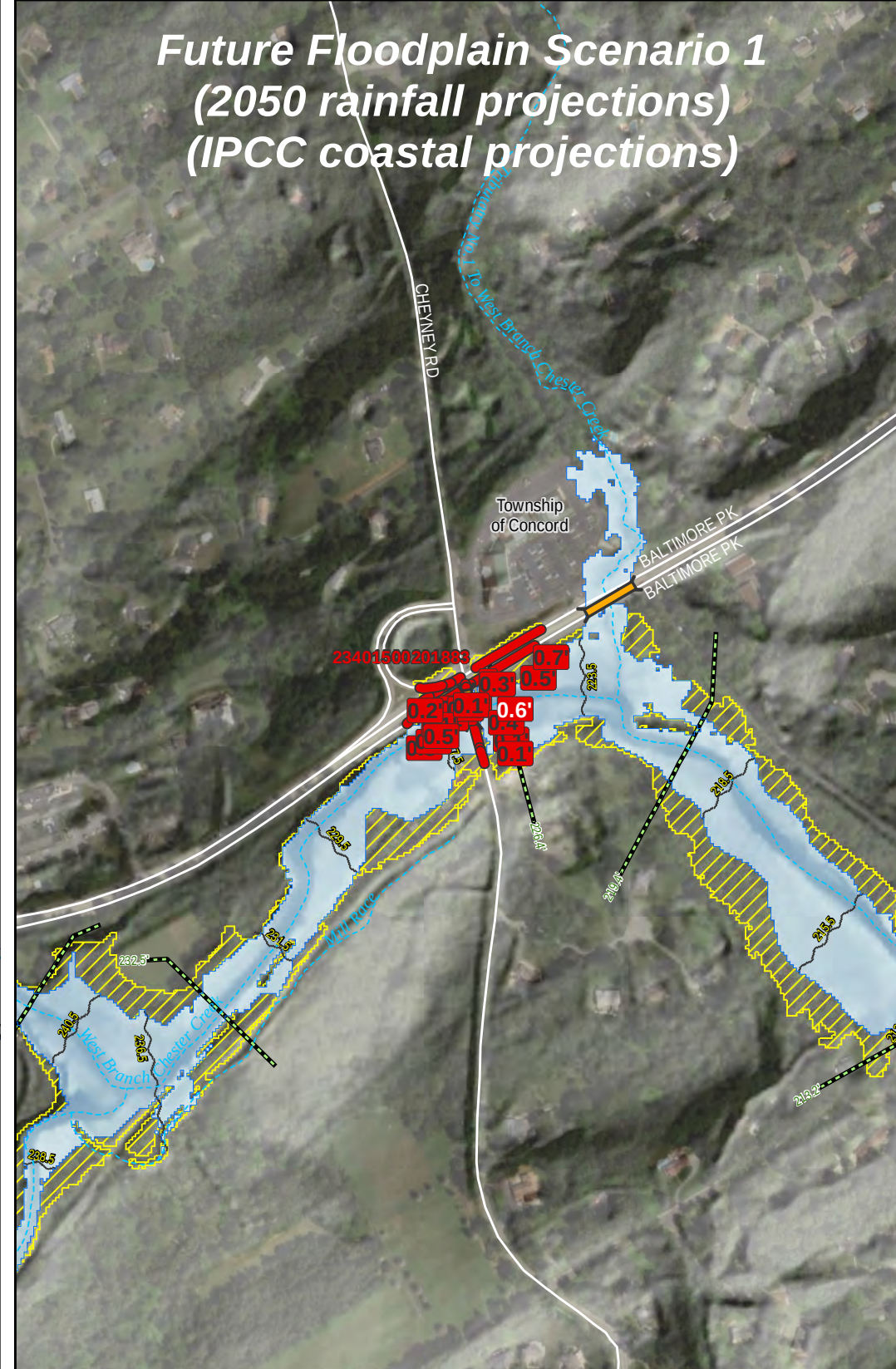
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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

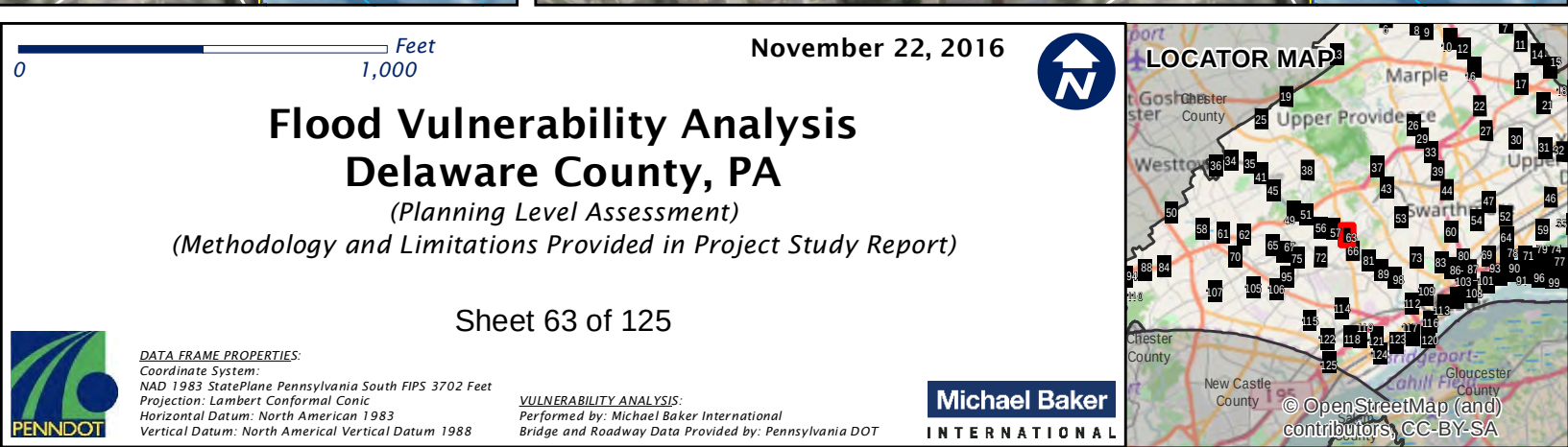
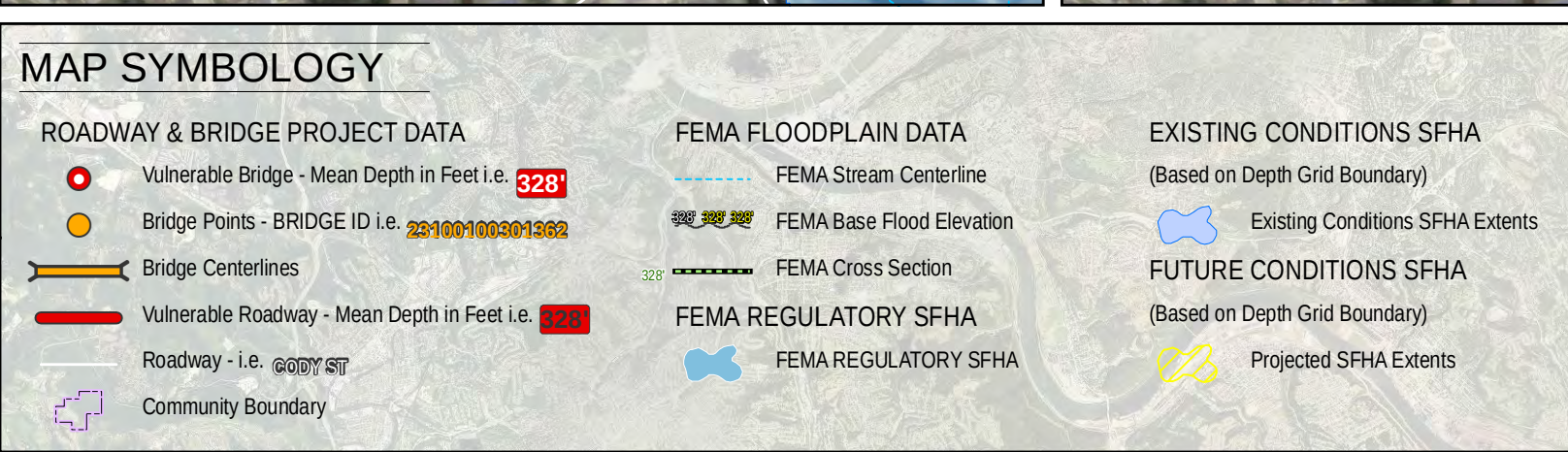
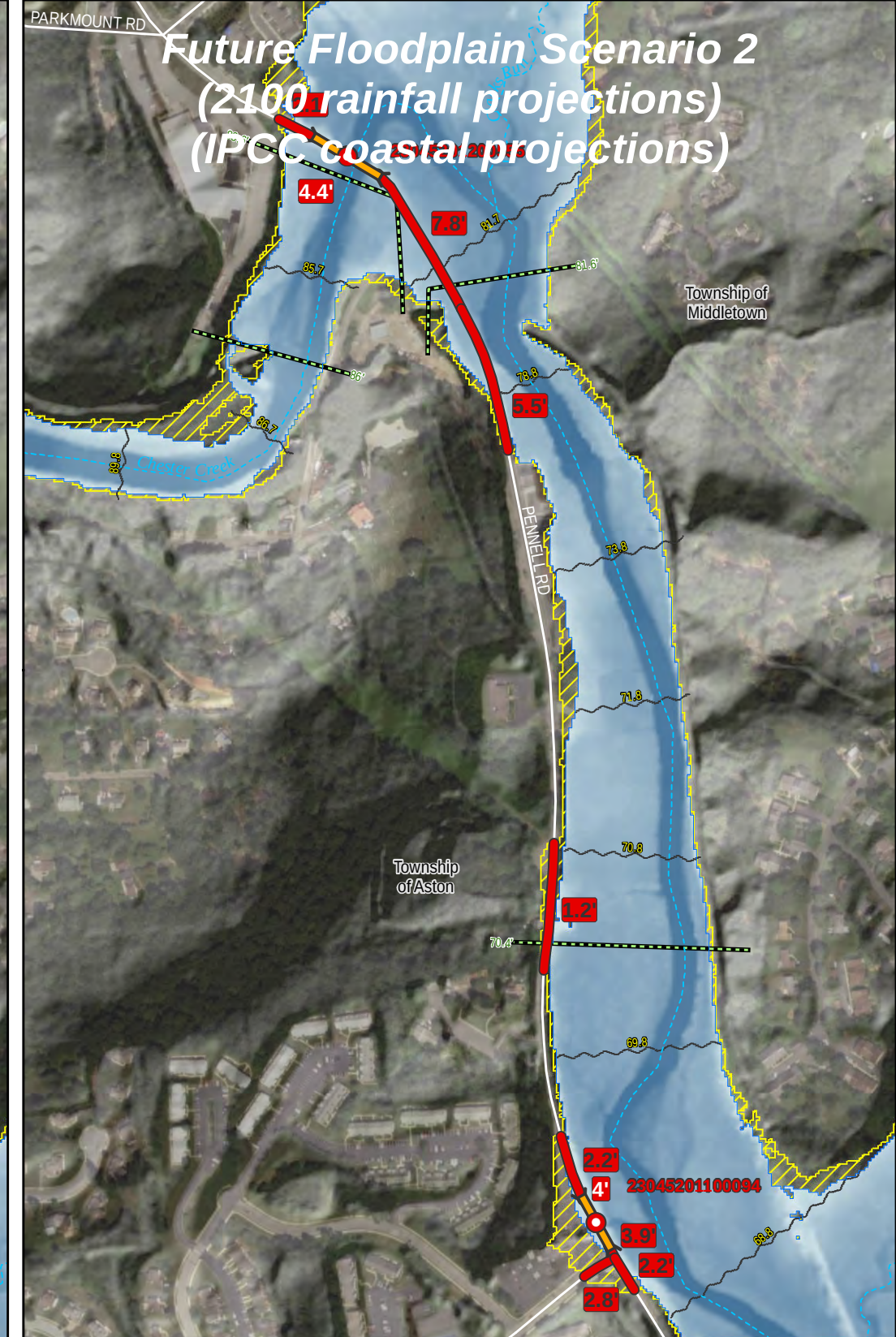
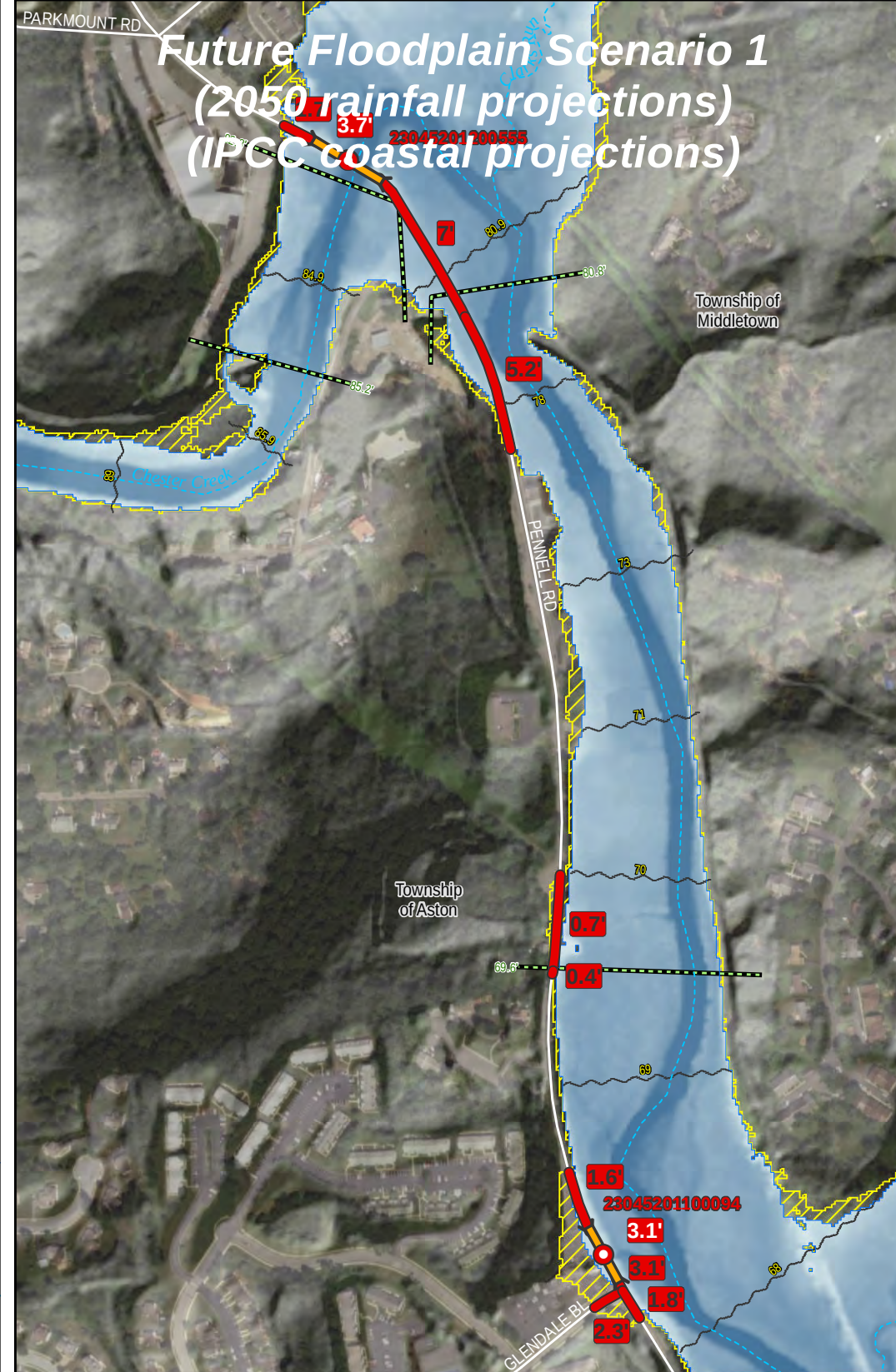
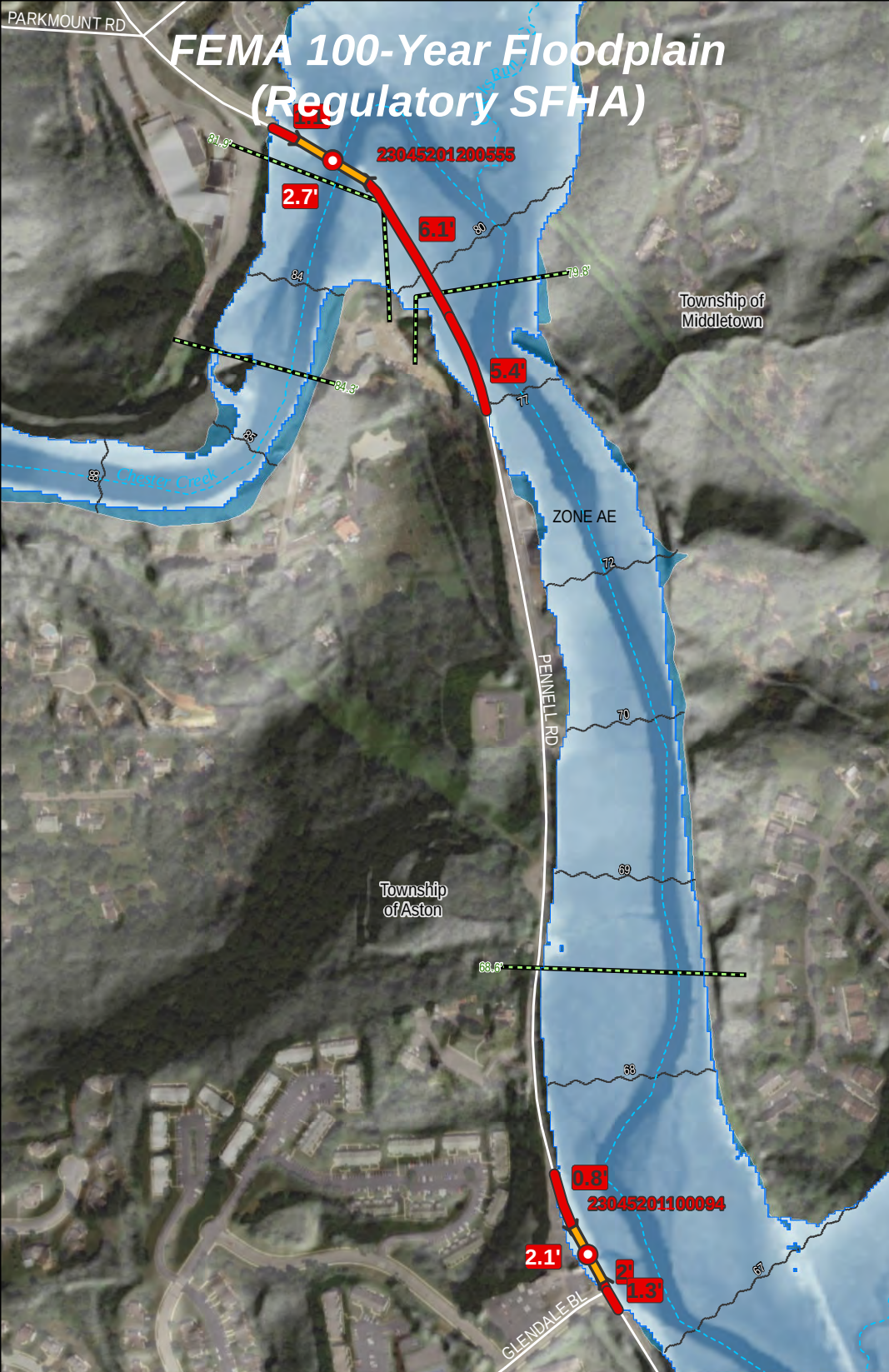
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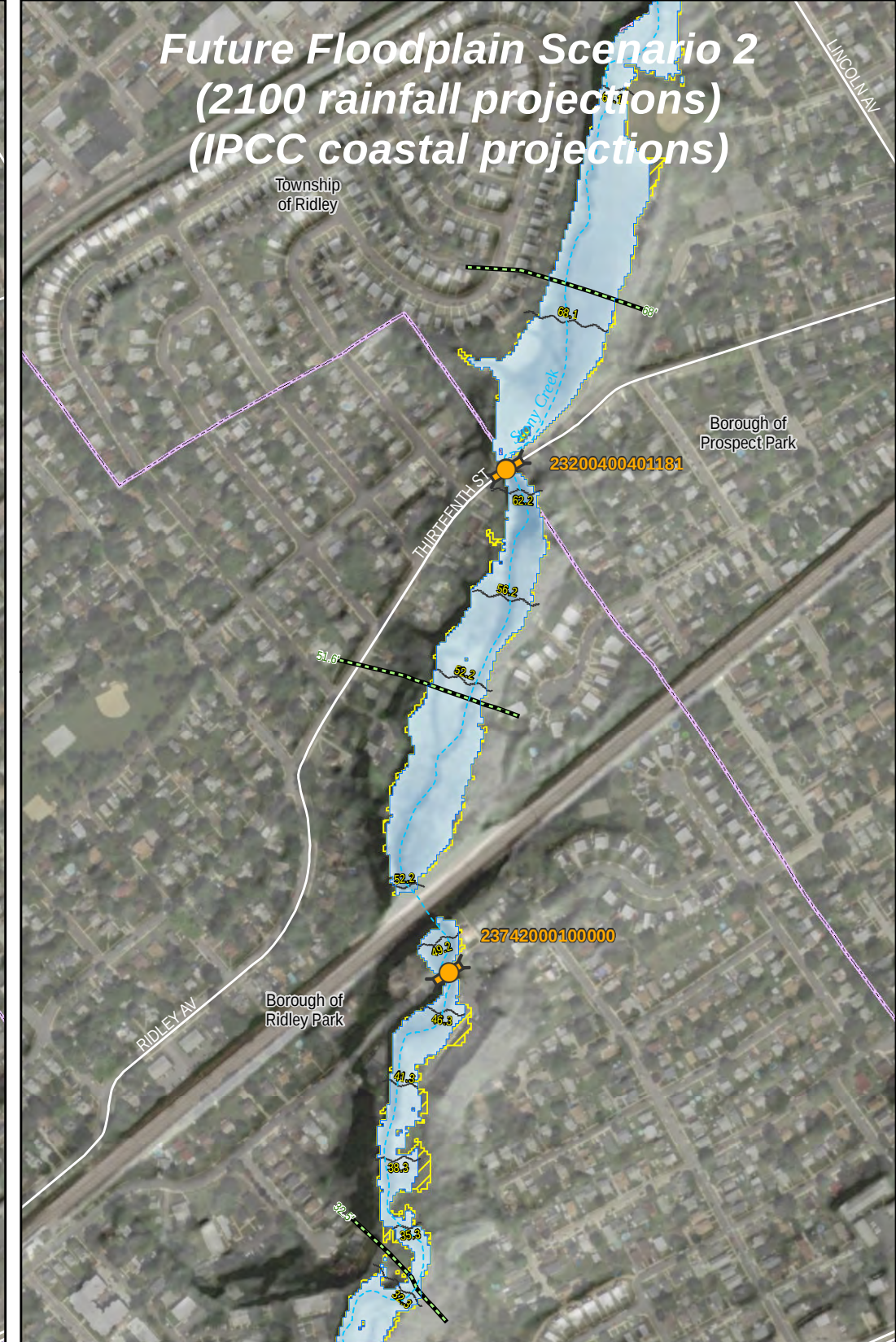
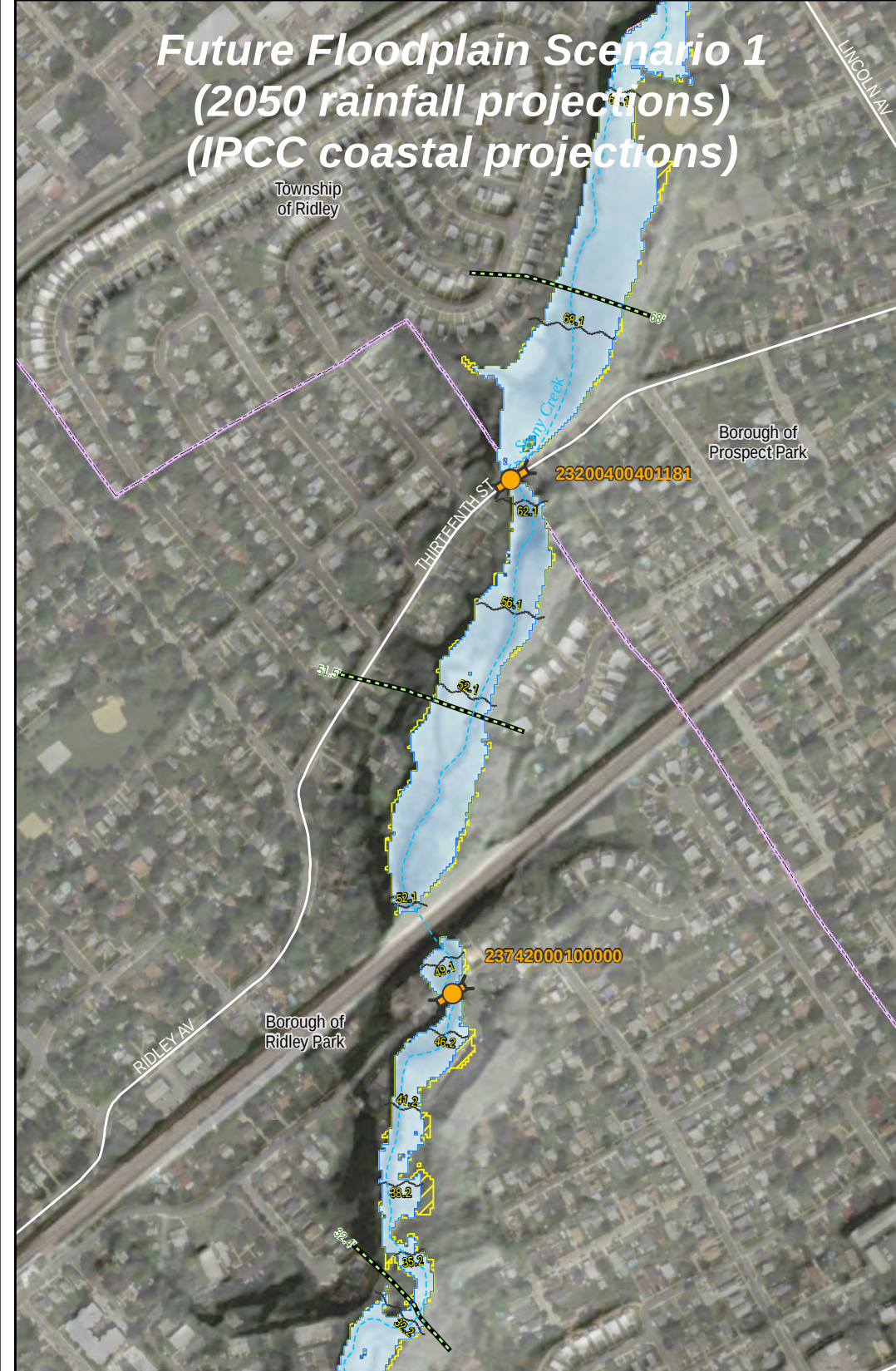
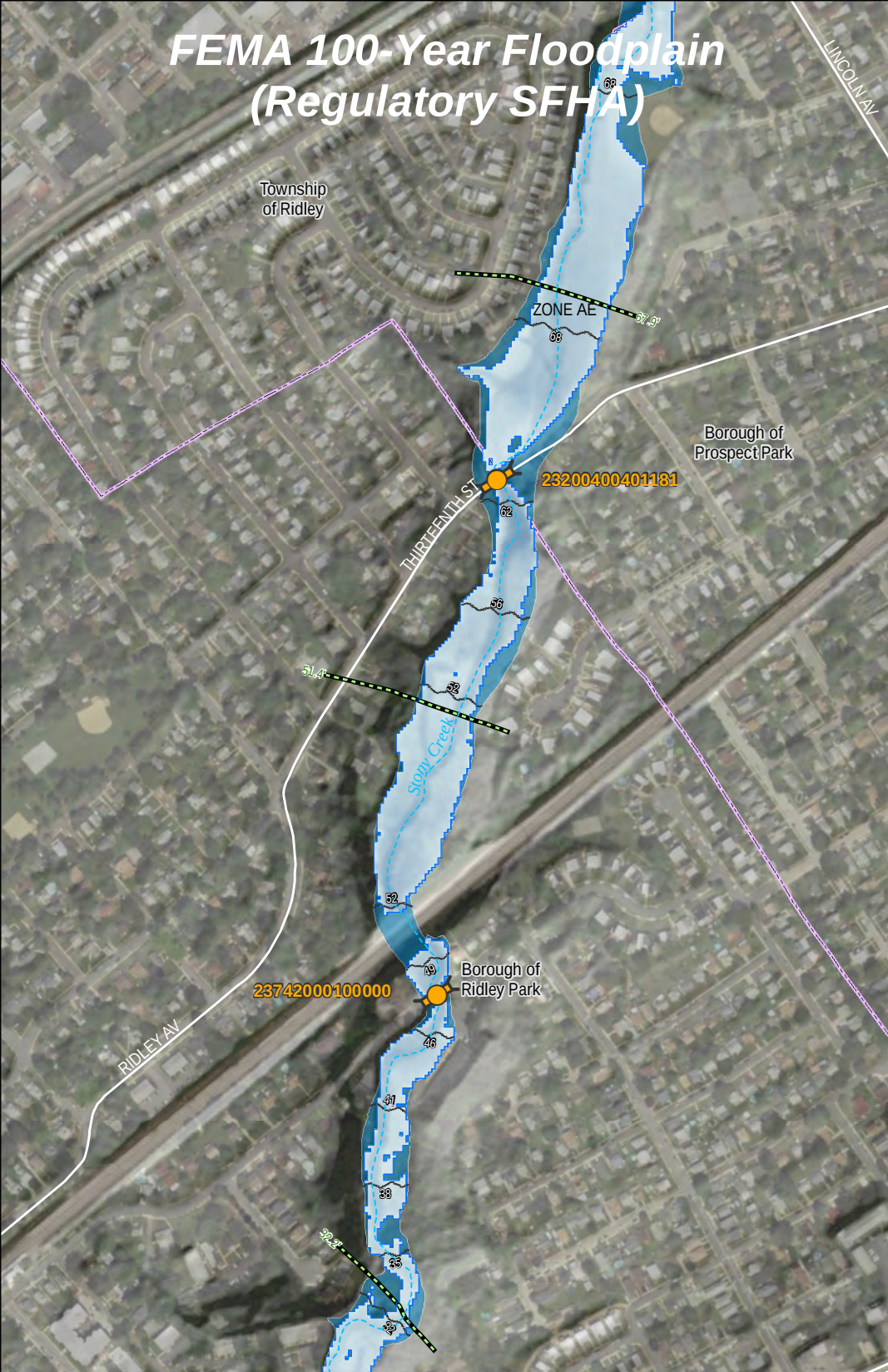
Michael Baker INTERNATIONAL

LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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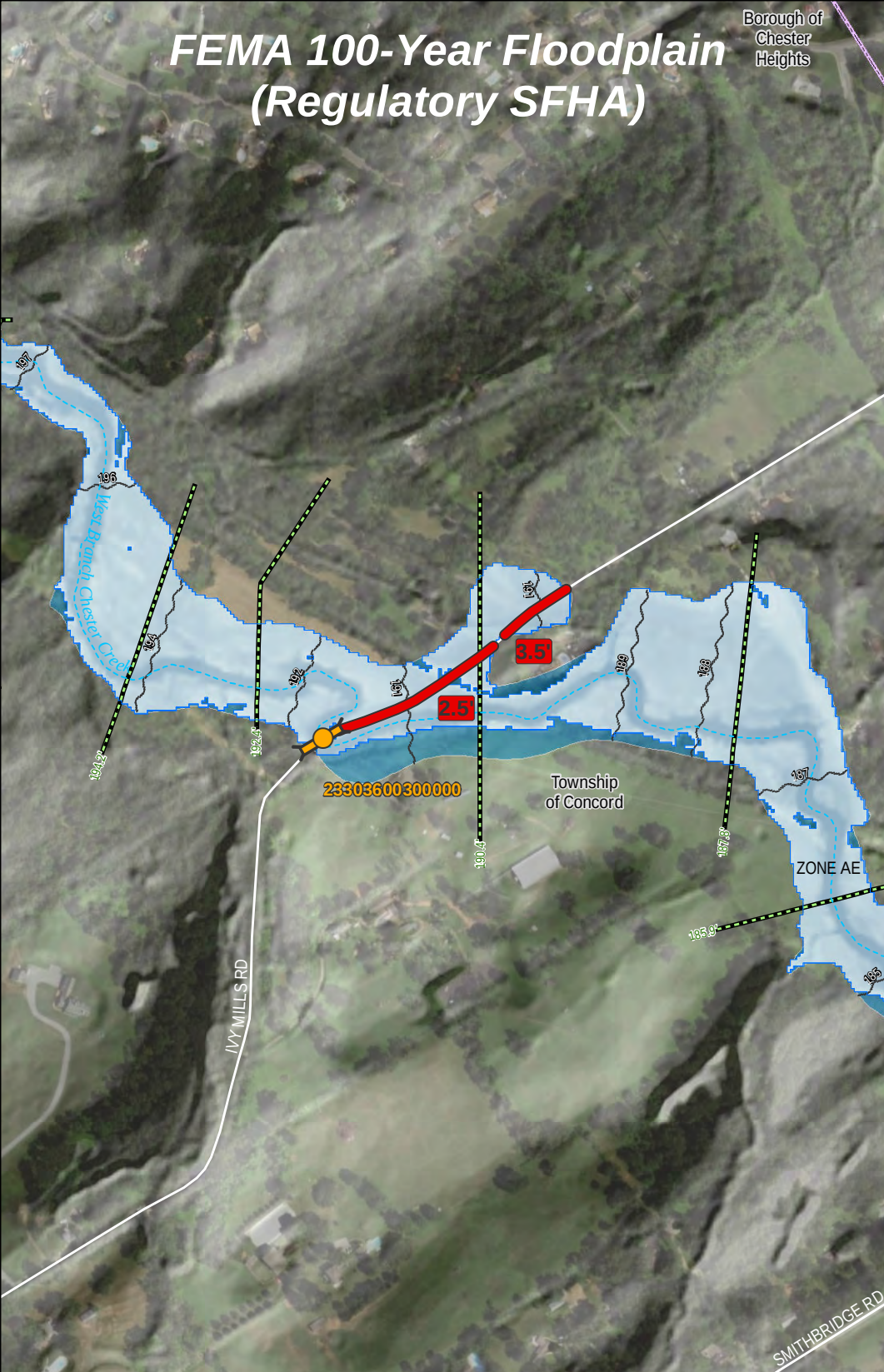
Michael Baker INTERNATIONAL

LOCATOR MAP

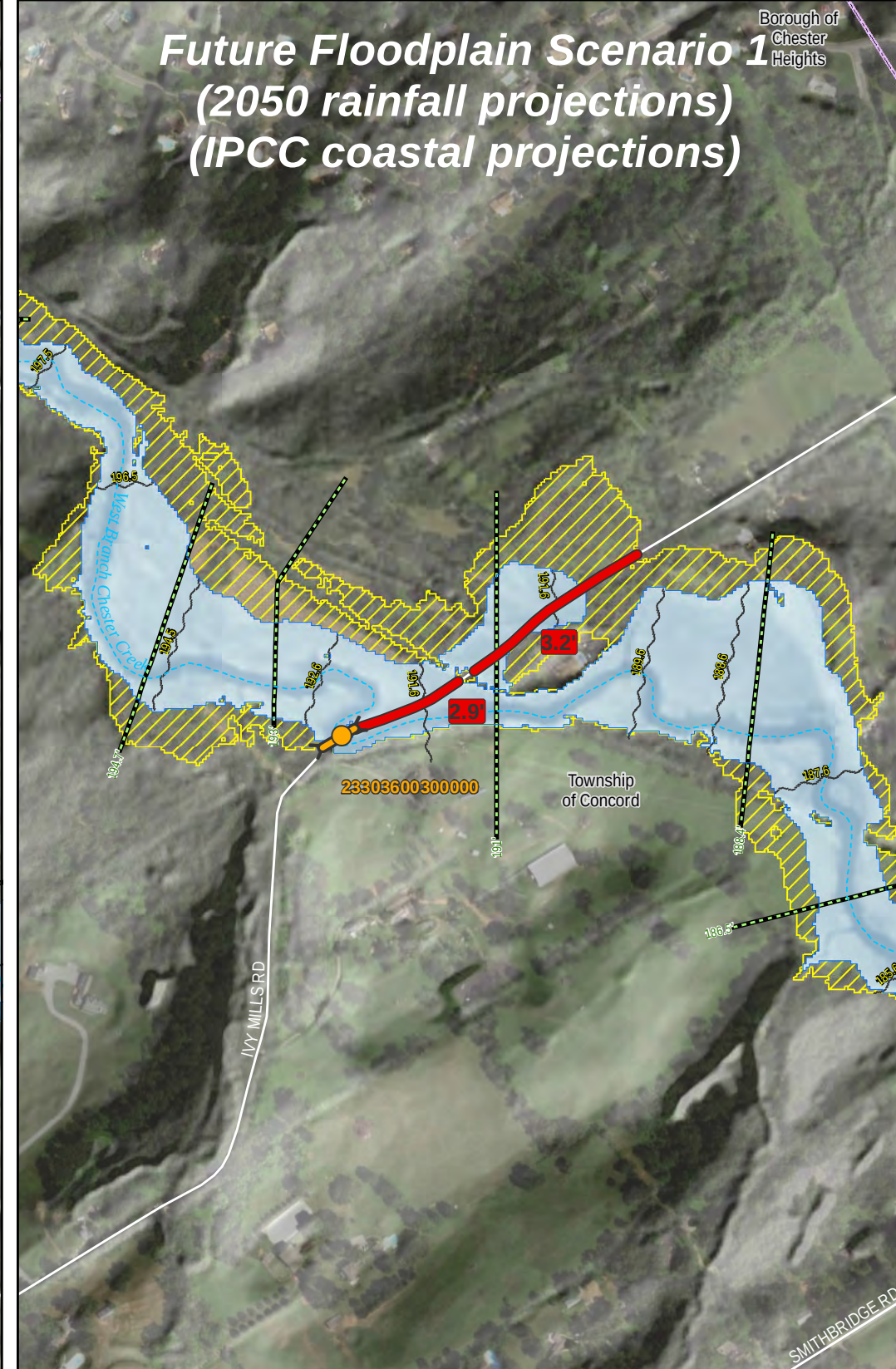
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Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

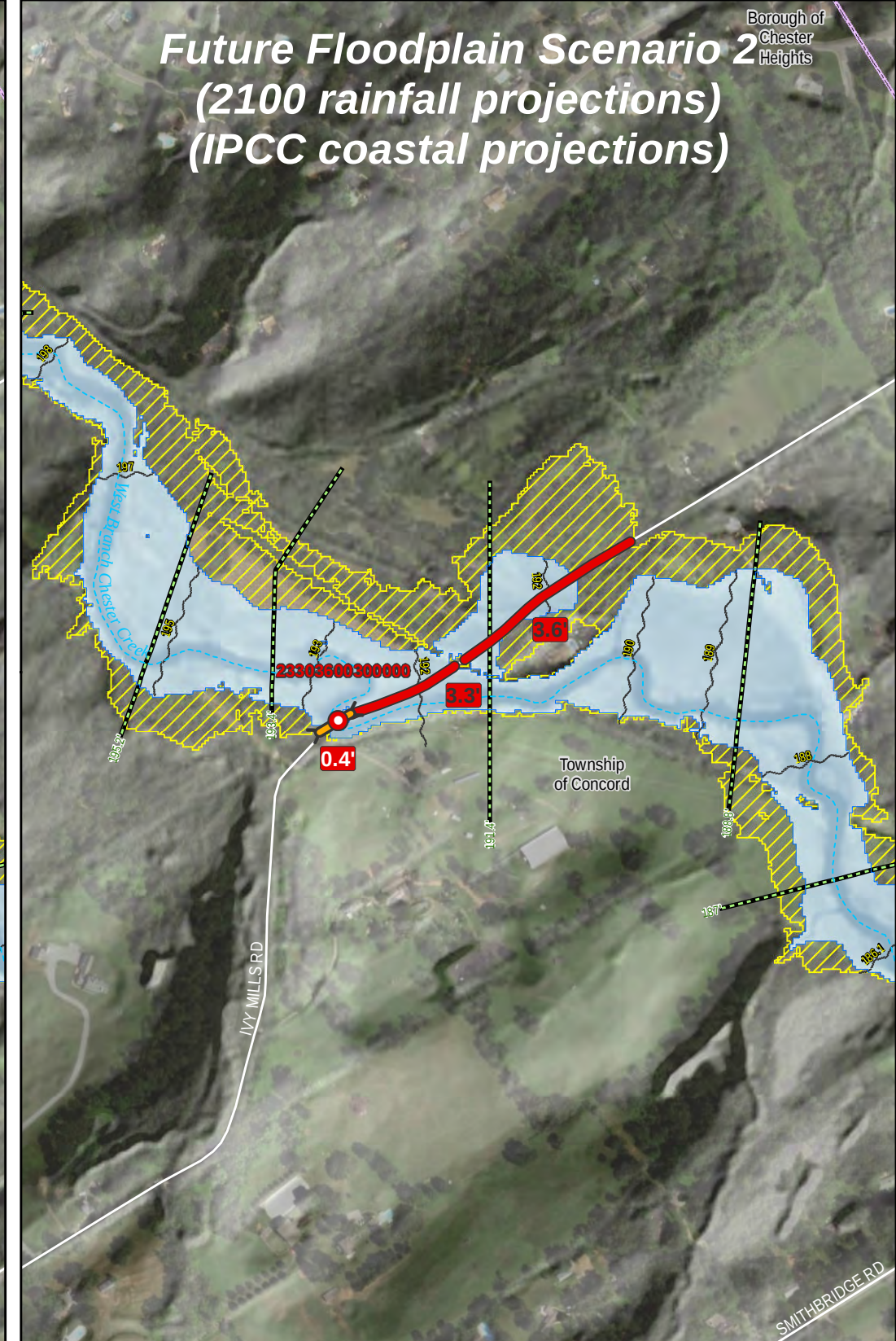
Borough of
Chester
Heights



1 Borough of Chester Heights



**Borough of
Chester
Heights**



ROADWAY & BRIDGE PROJECT DATA

- FEMA FLOODPLAIN DATA

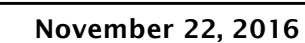
- FEMA REGULATORY SFHA

- 
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

(Based on Depth Grid Boundary)

-  Existing Conditions SFHA Extents
- FUTURE CONDITIONS SFHA**
(Based on Depth Grid Boundary)
-  Projected SFHA Extents



Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 65 of 125

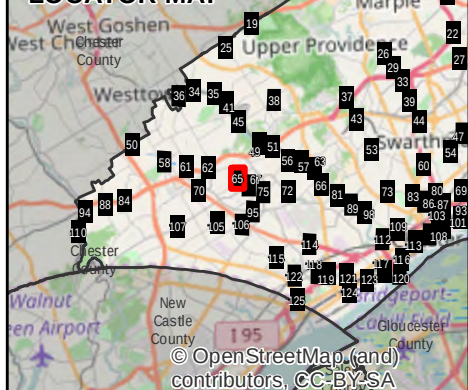


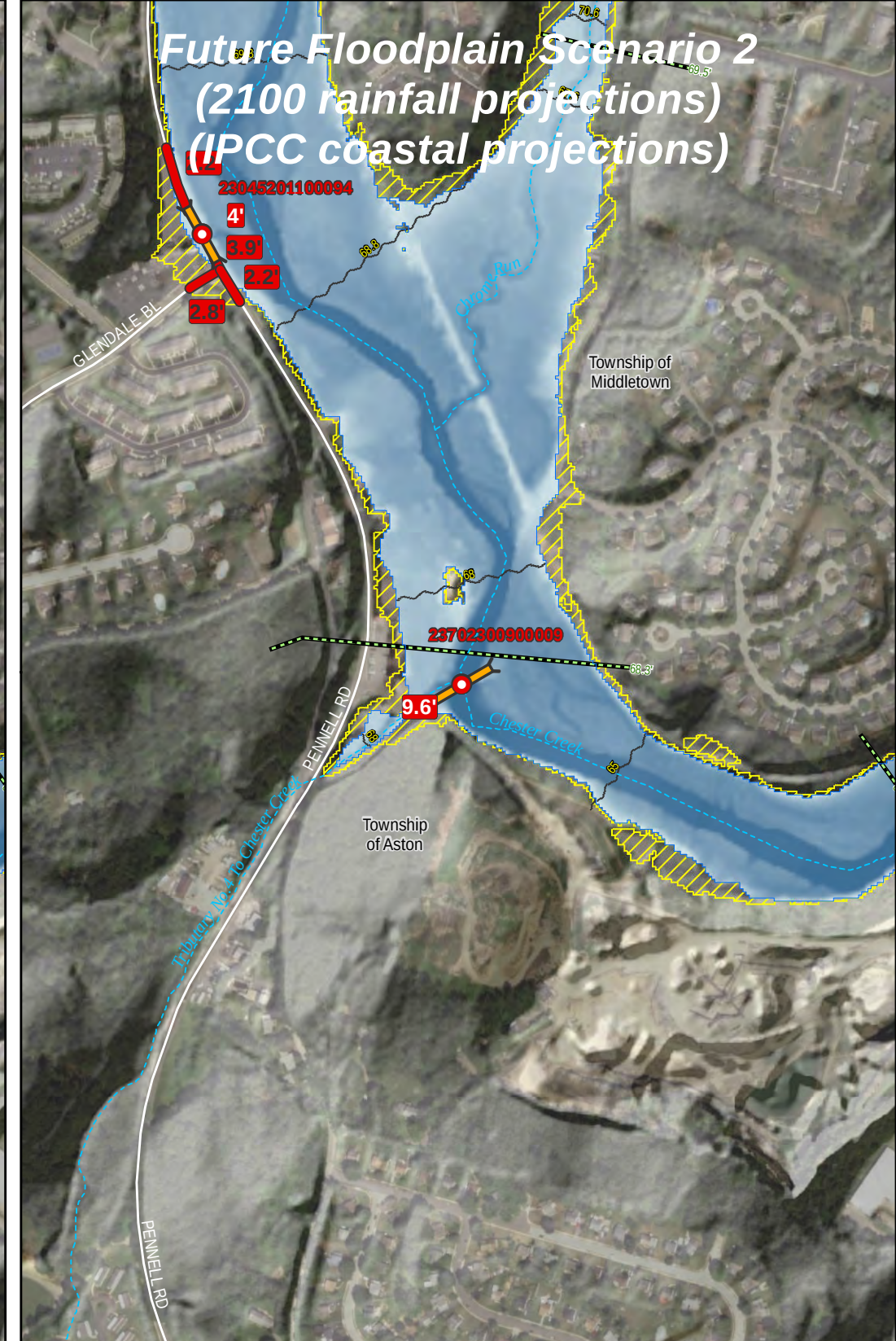
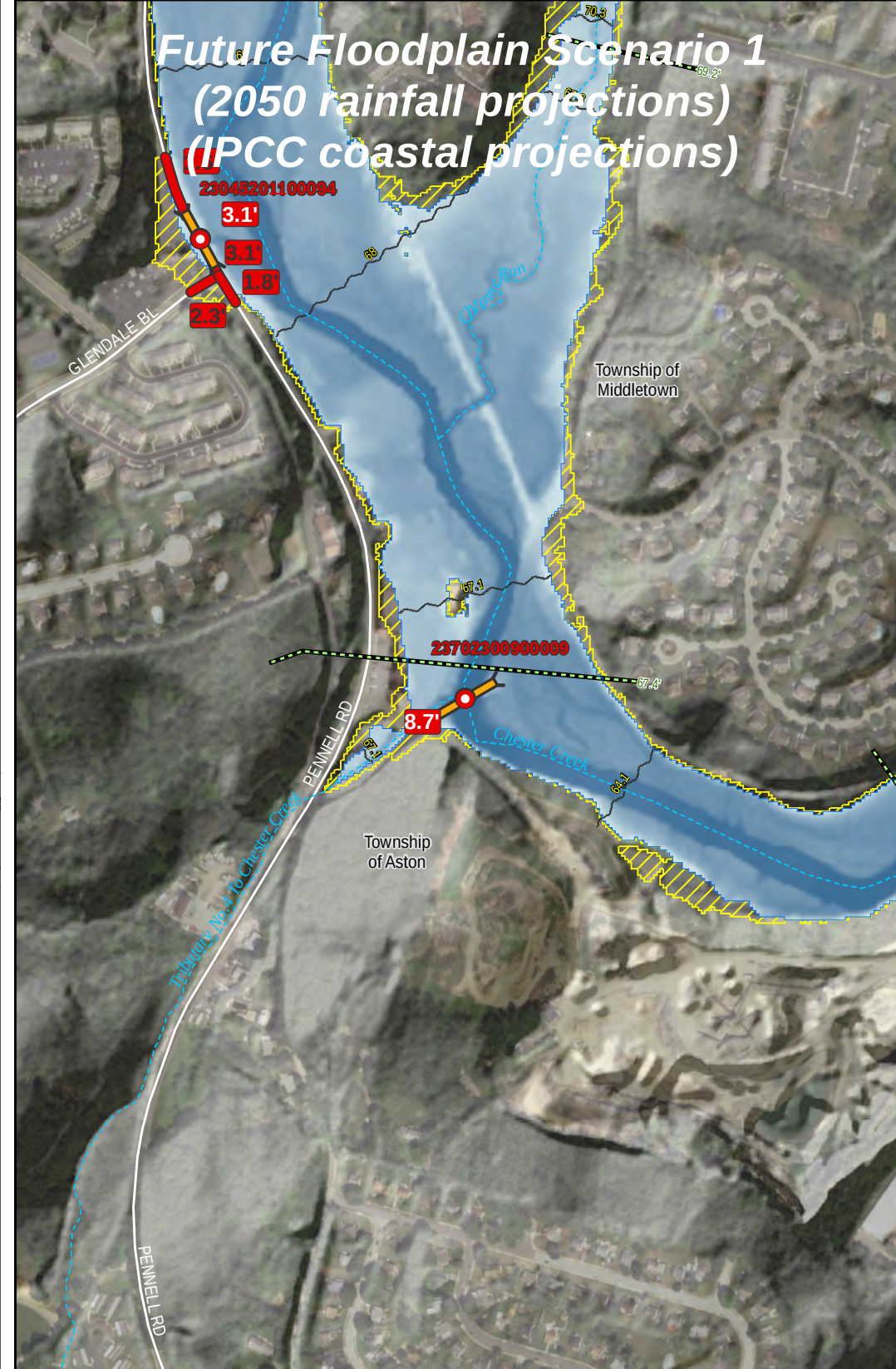
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 Projection: Lambert Conformal Conic
 Horizontal Datum: North American 1983
 Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

Michael Baker
INTERNATIONAL

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

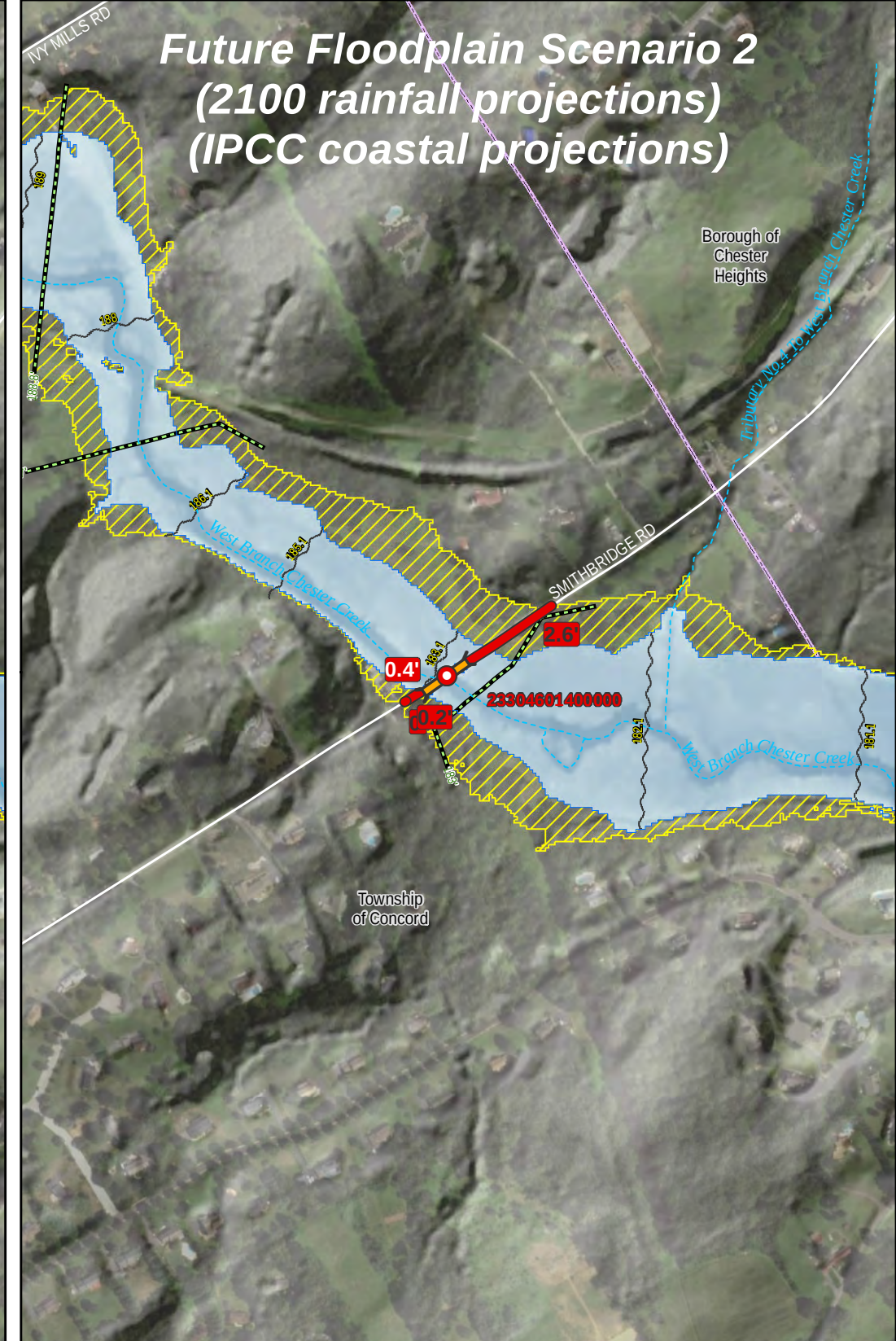
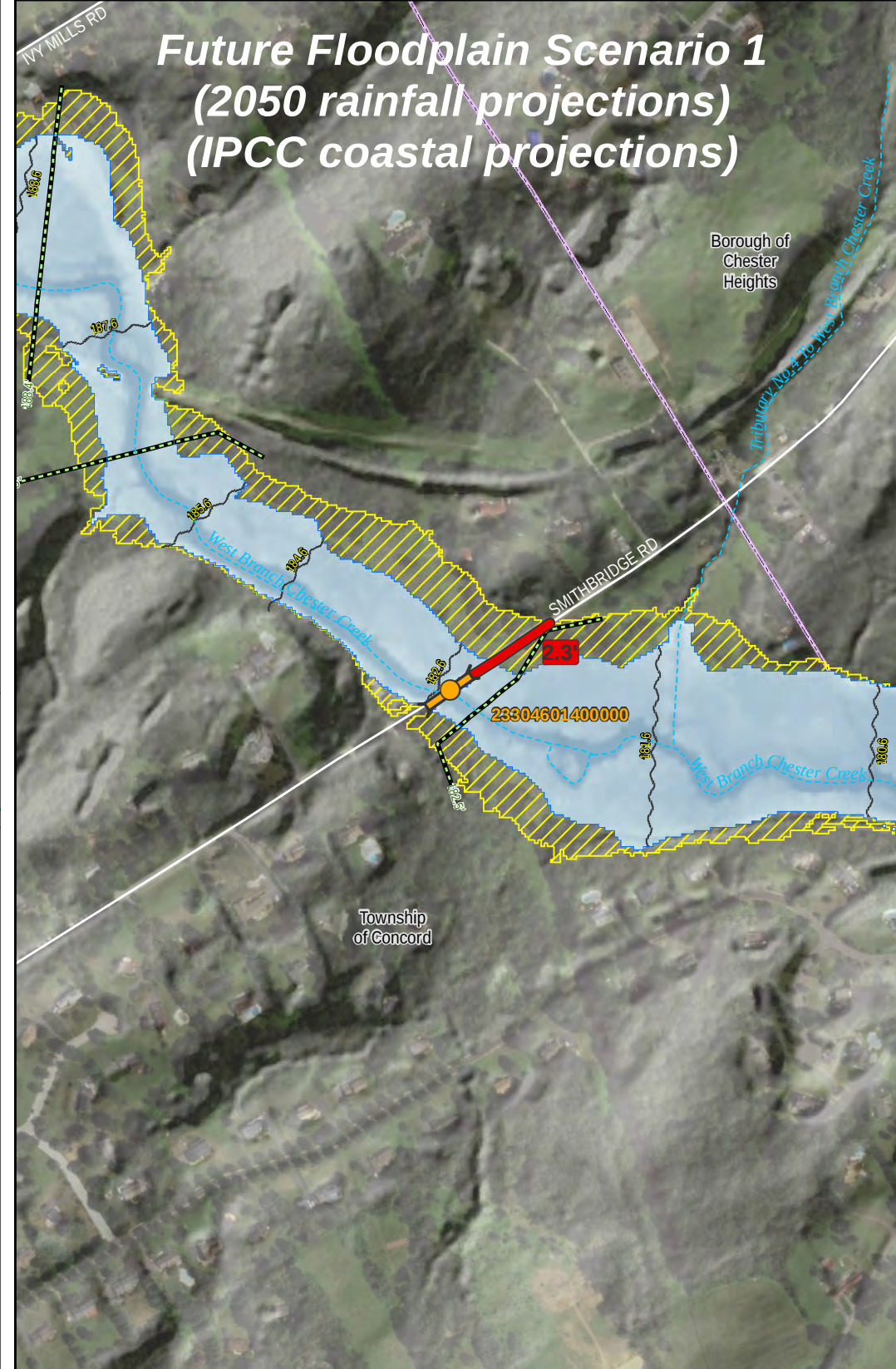
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 66 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

0 Feet 1,000

November 22, 2016

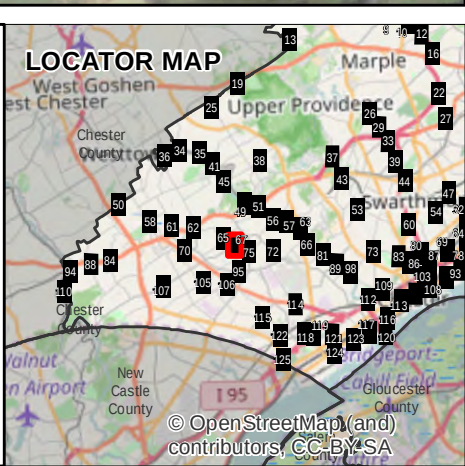
Flood Vulnerability Analysis Delaware County, PA

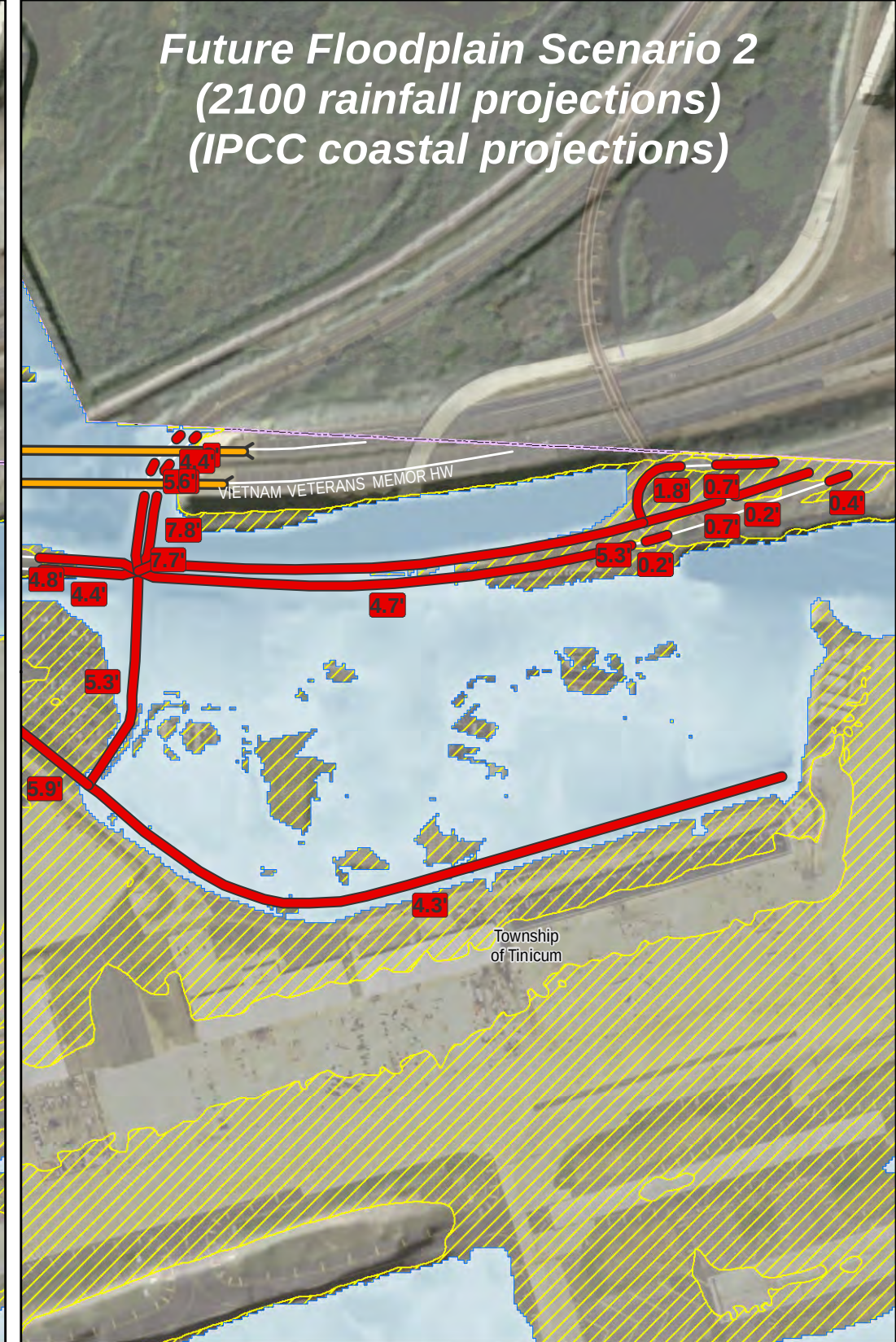
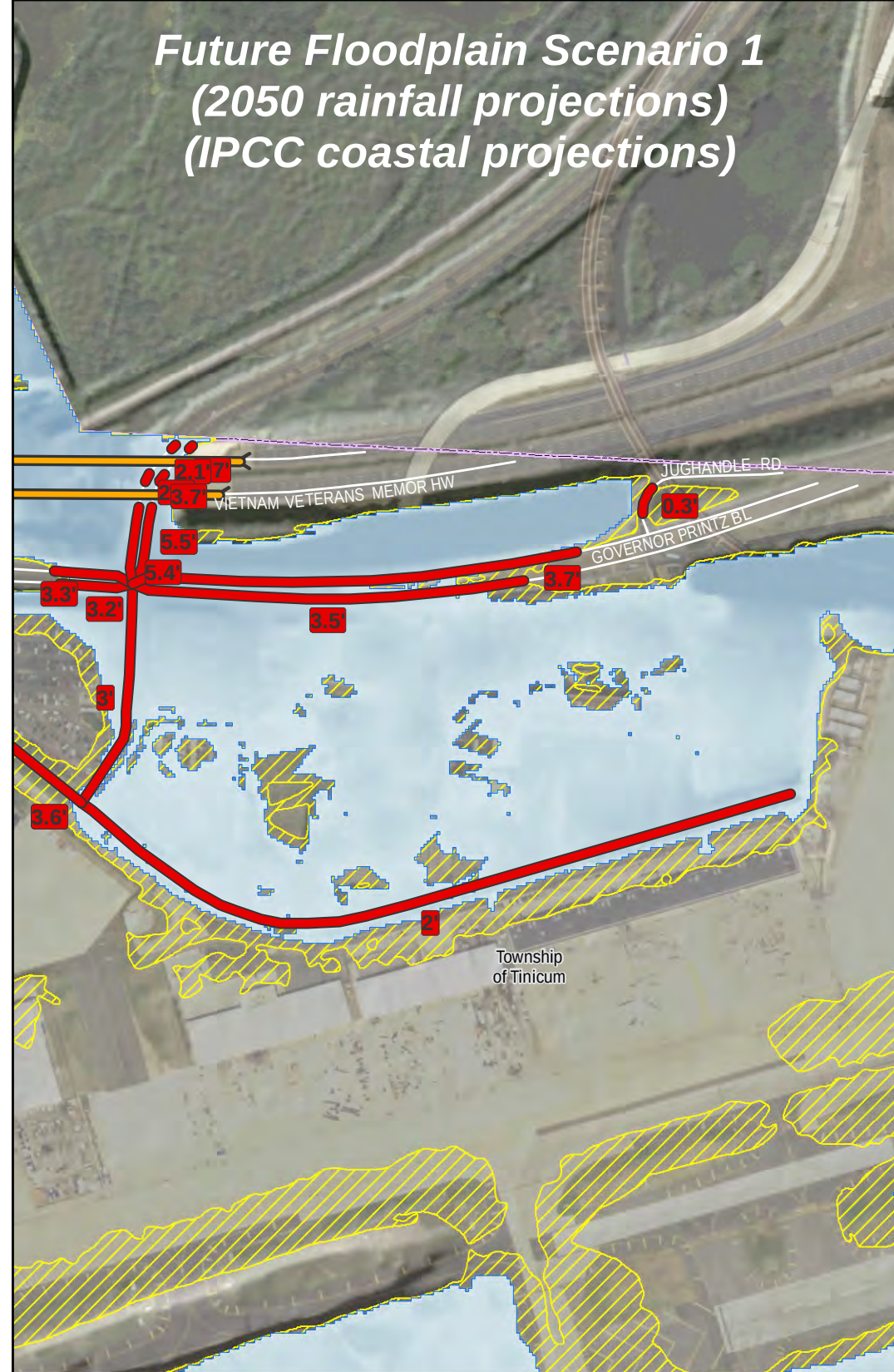
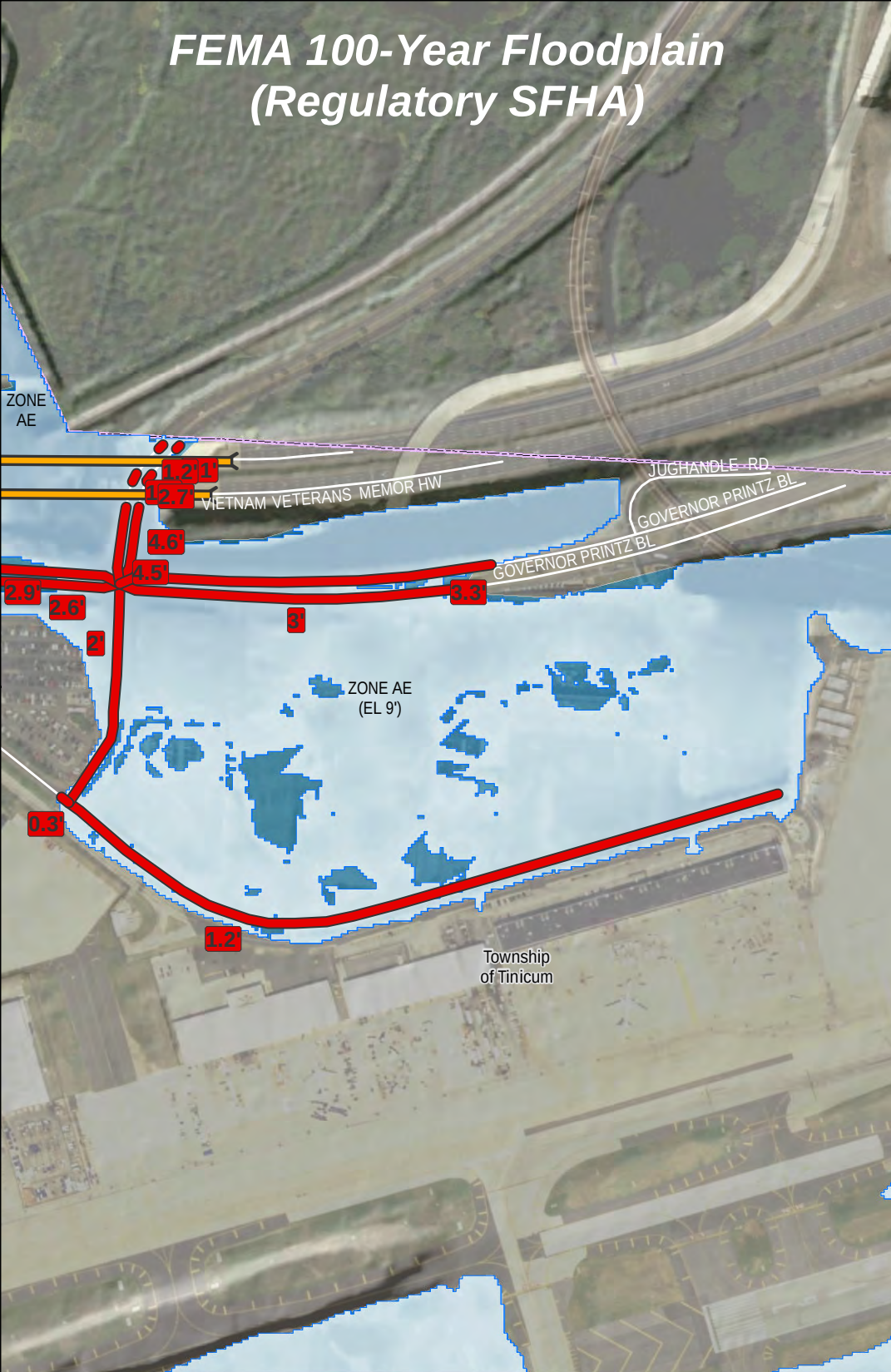
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 67 of 125

DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

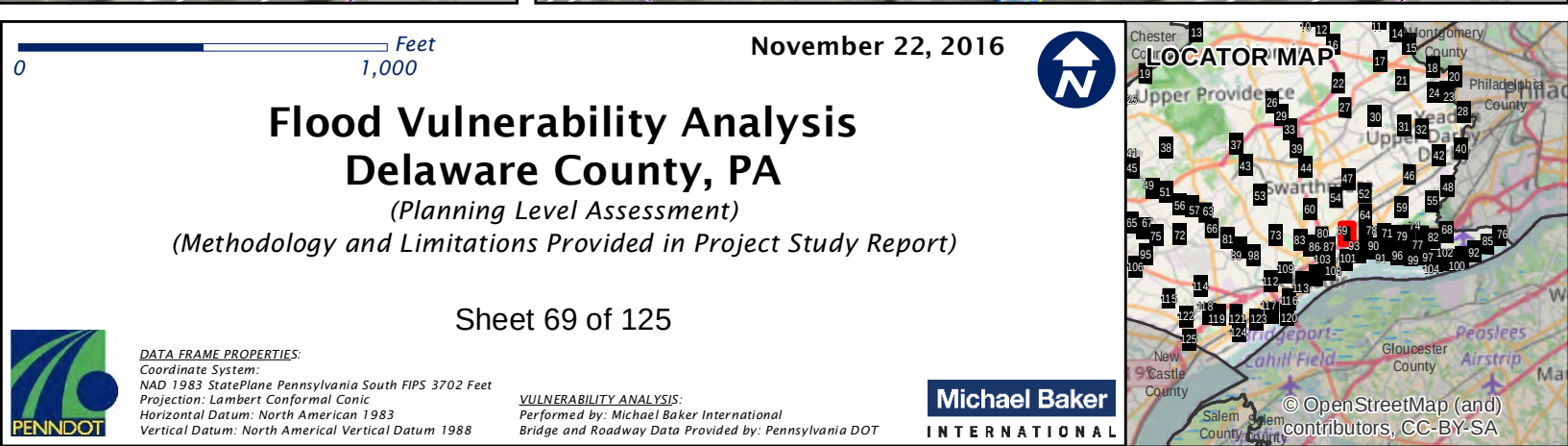
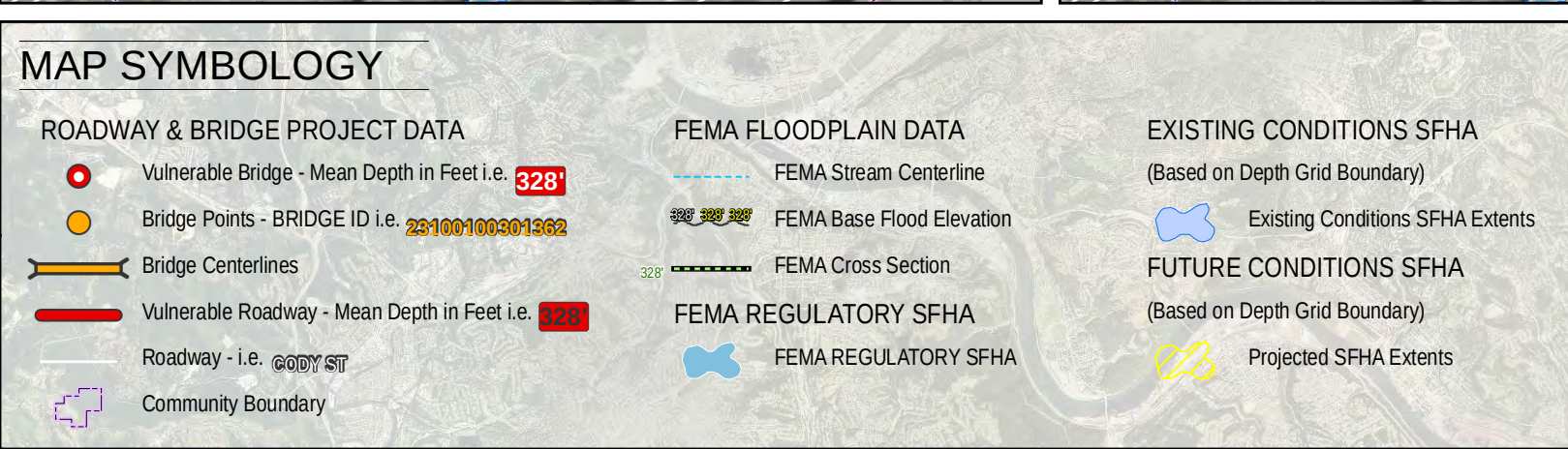
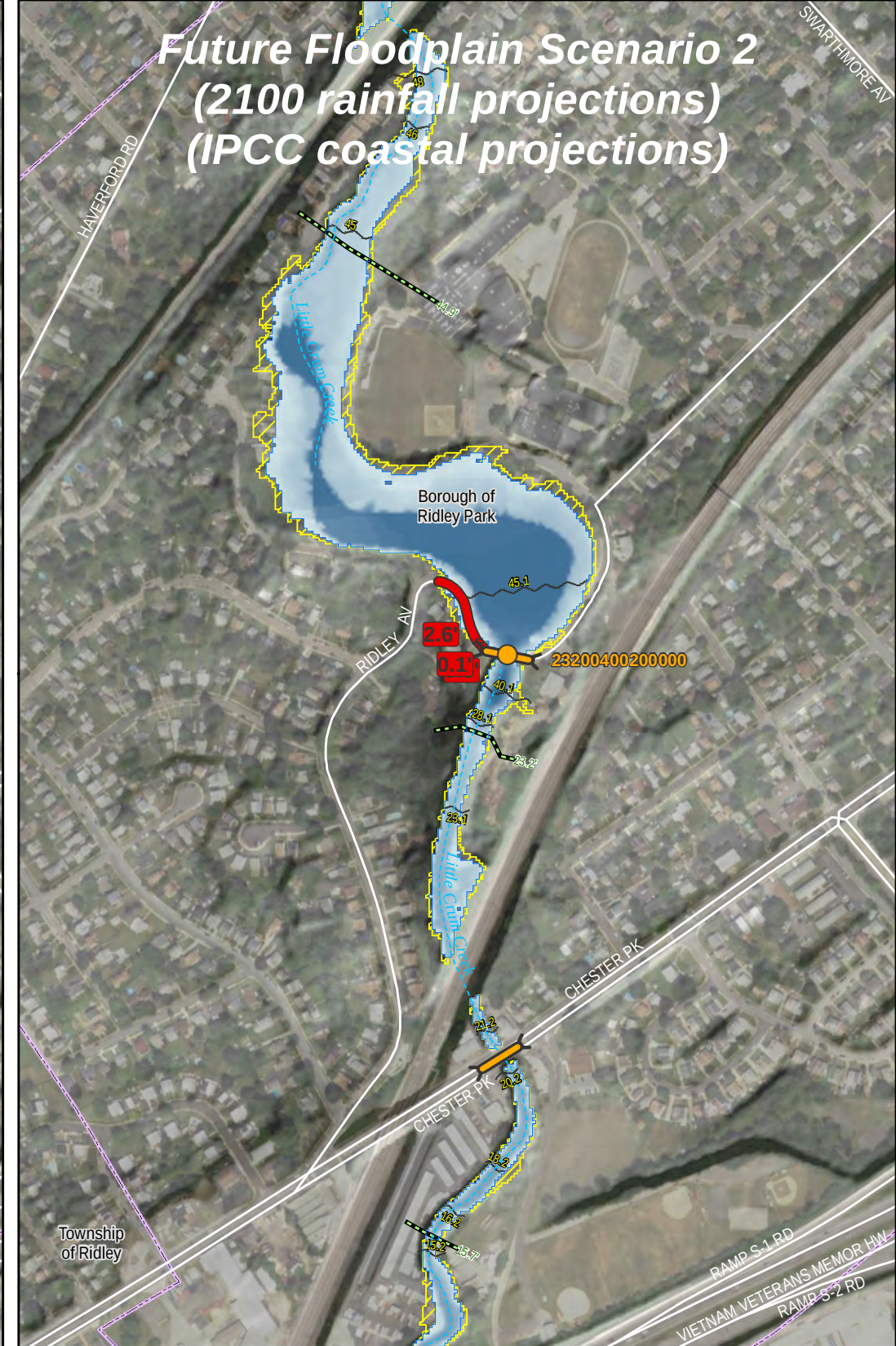
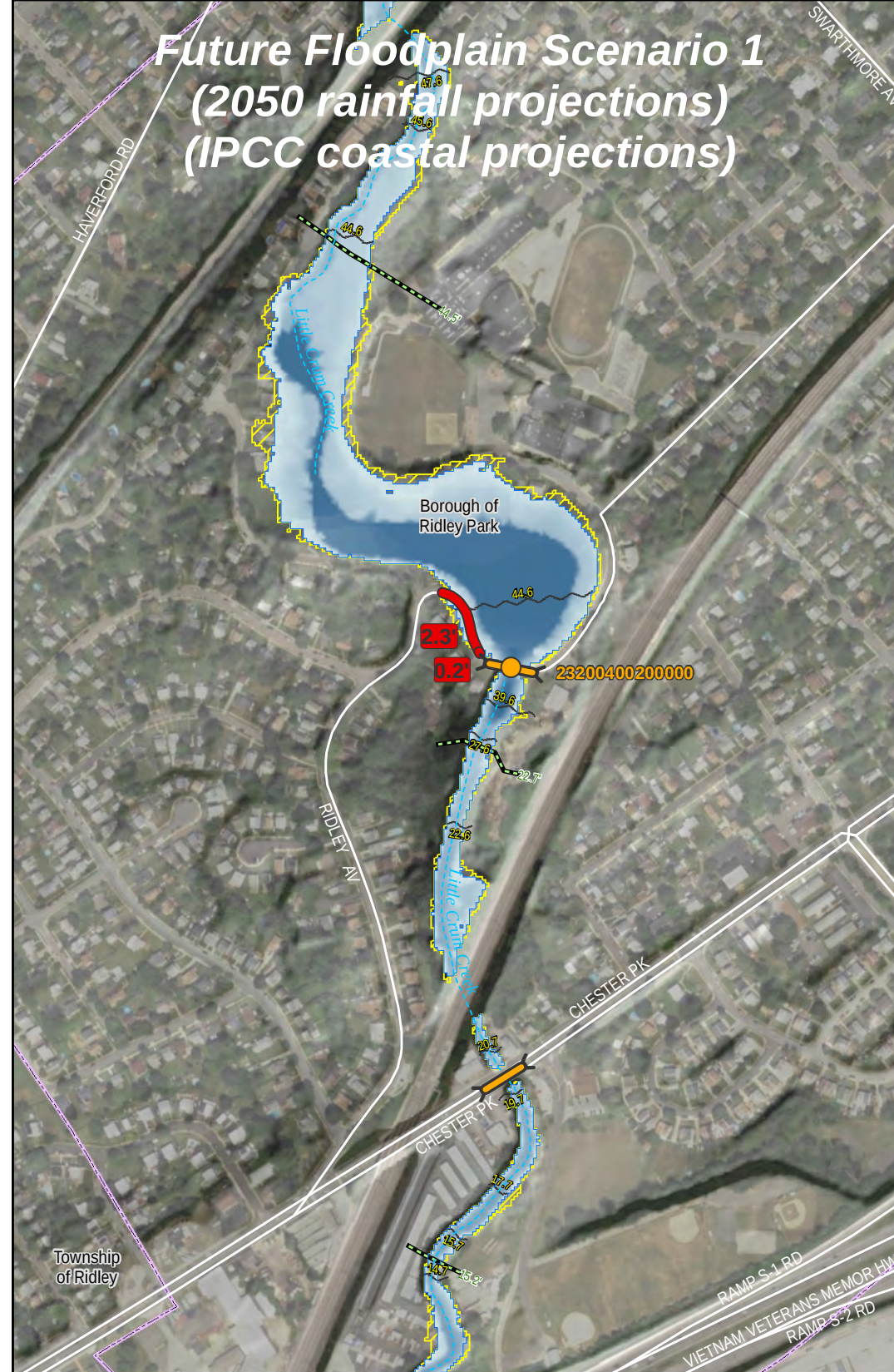
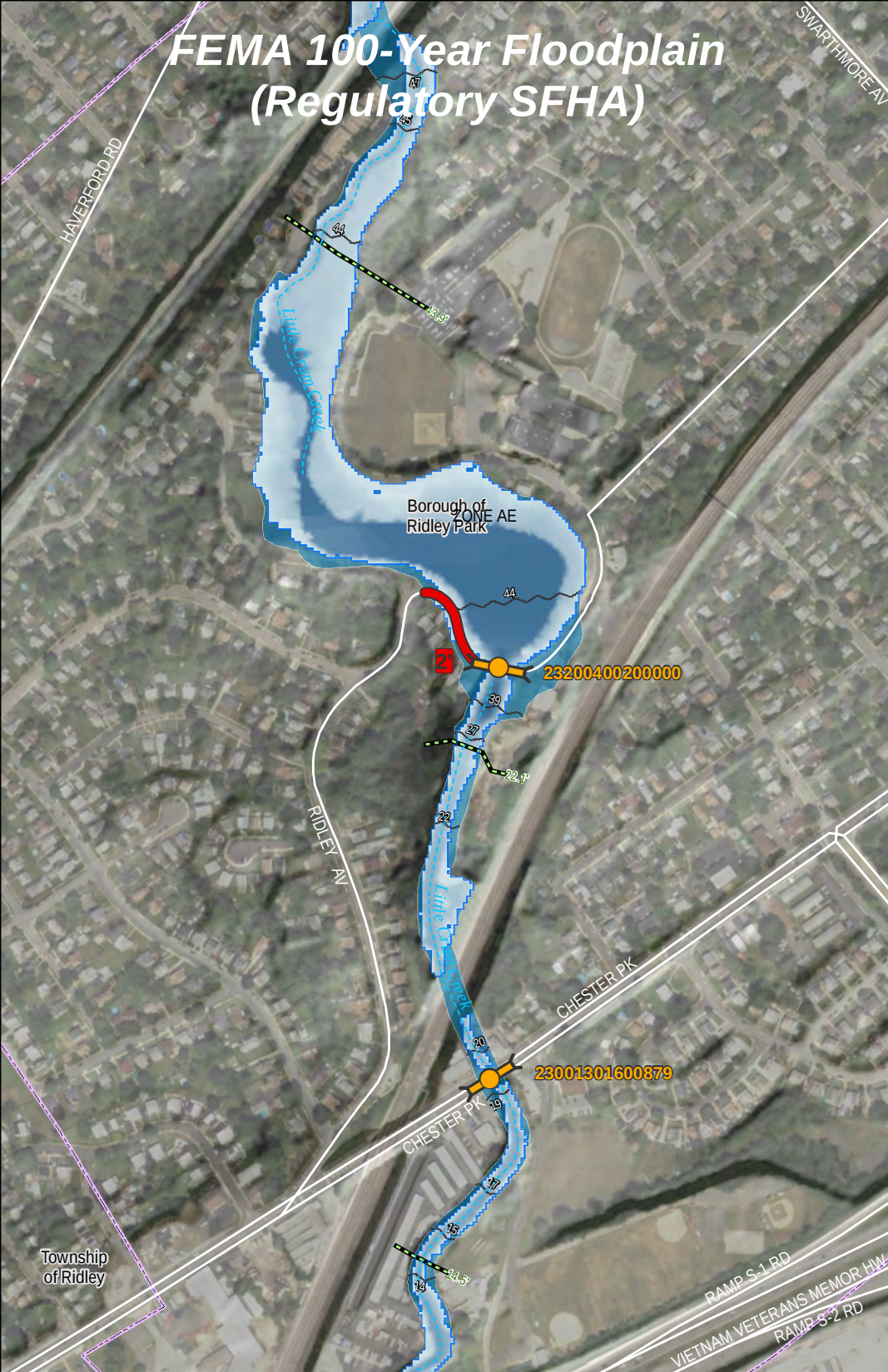
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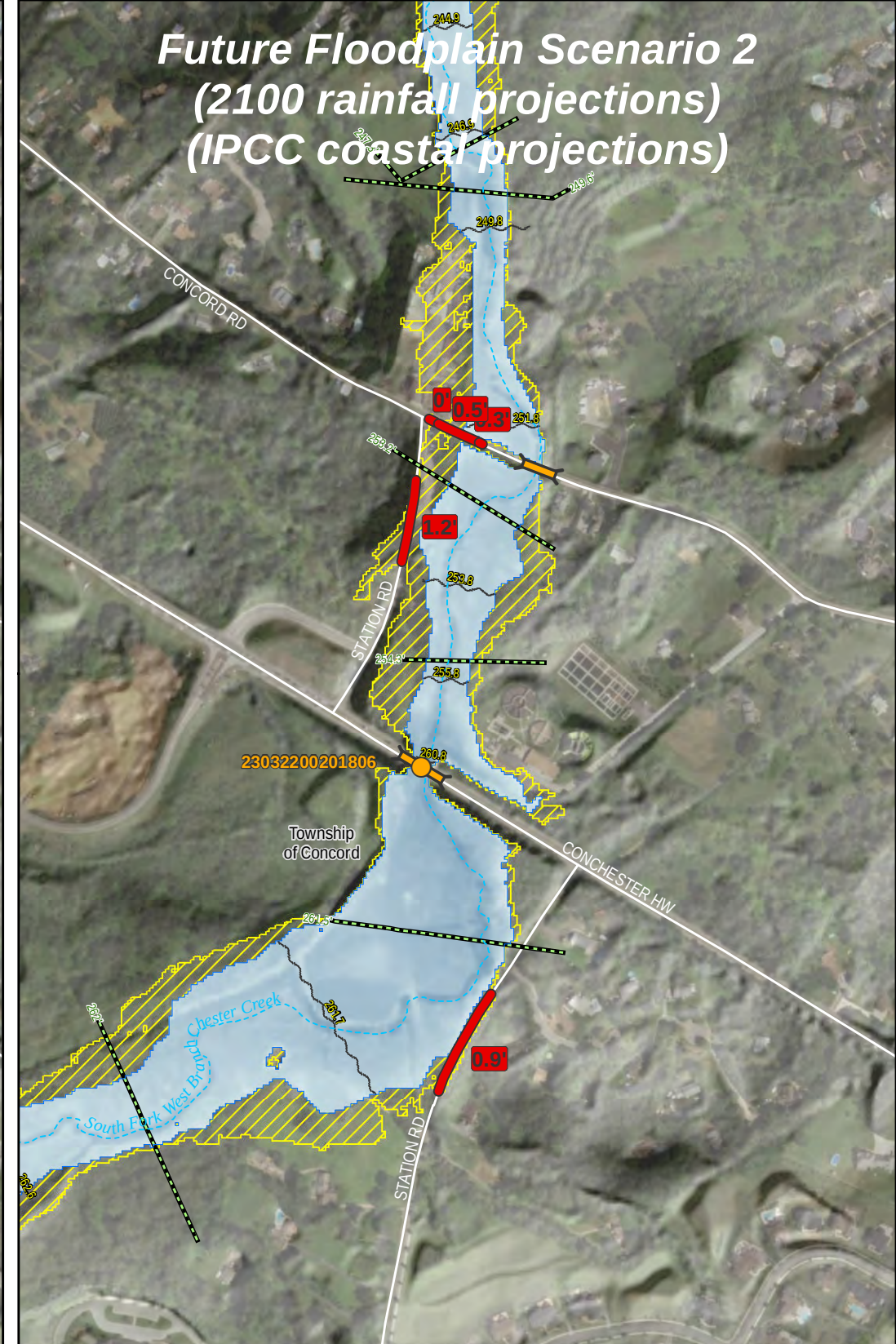
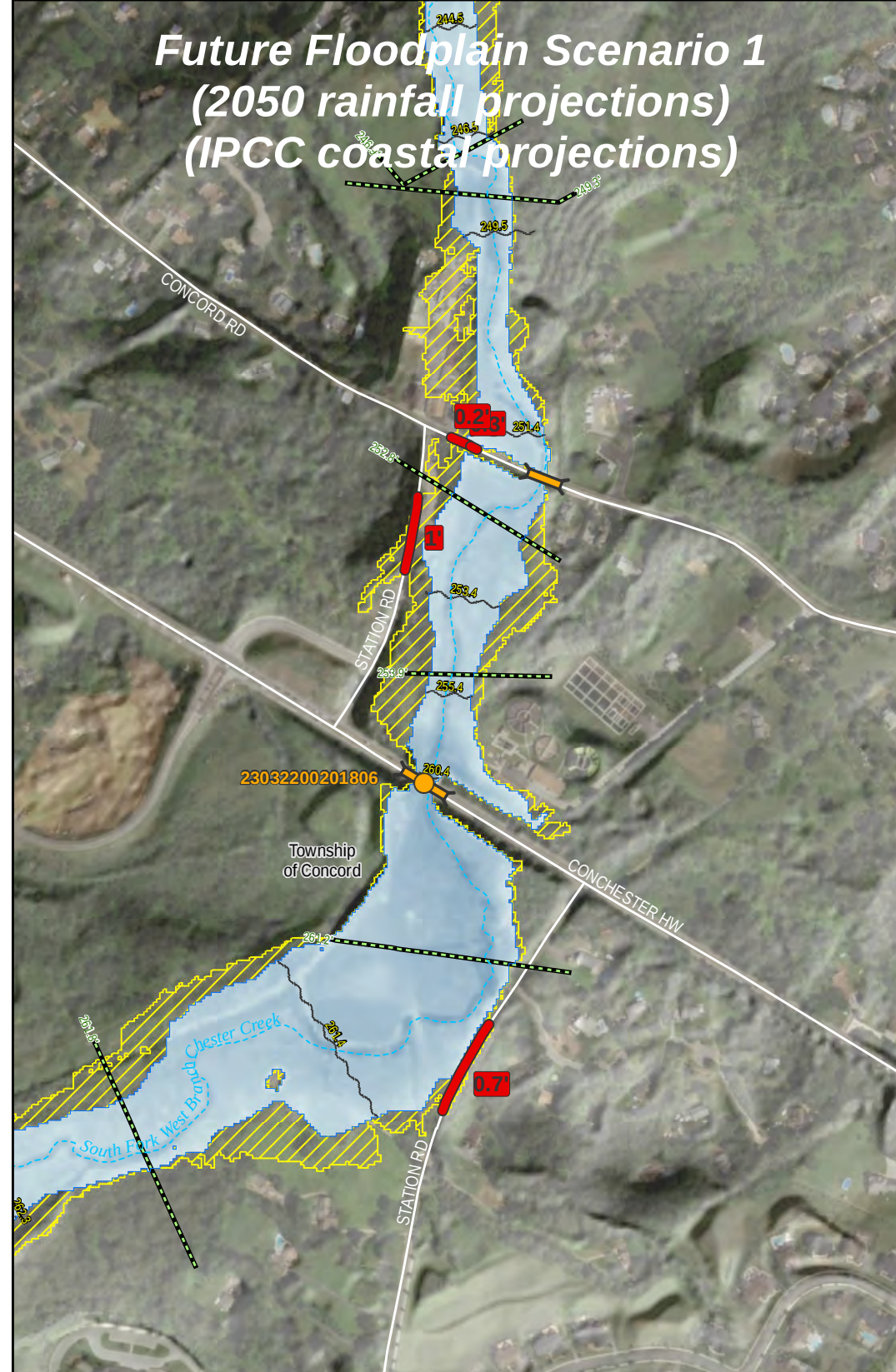
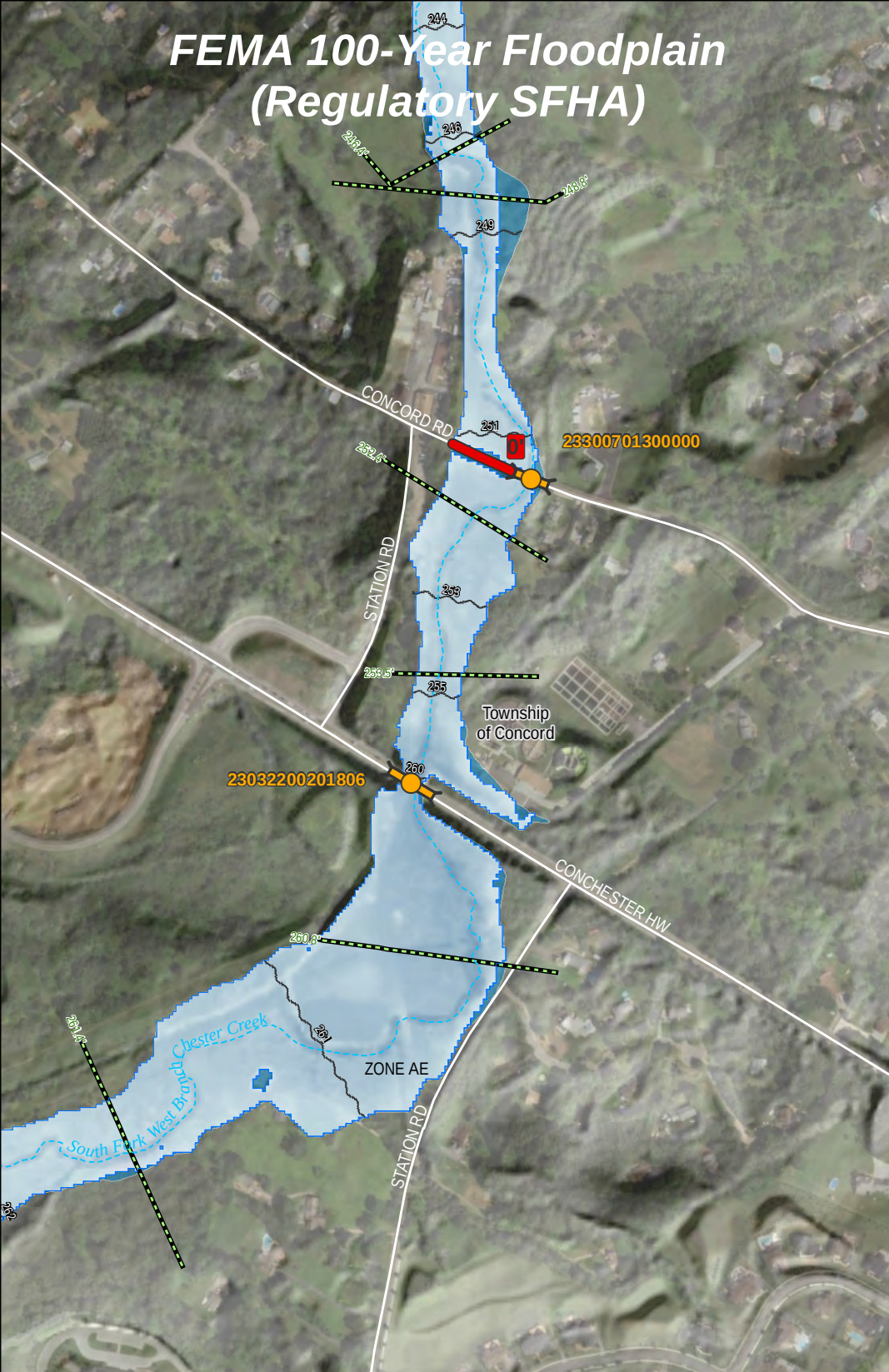
DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. 600Y ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

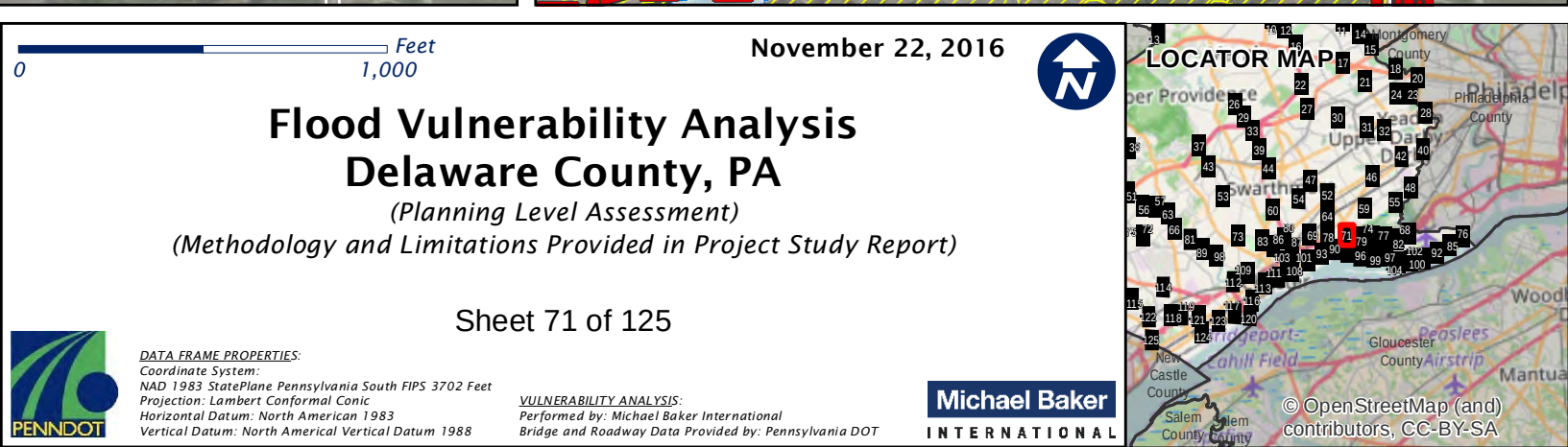
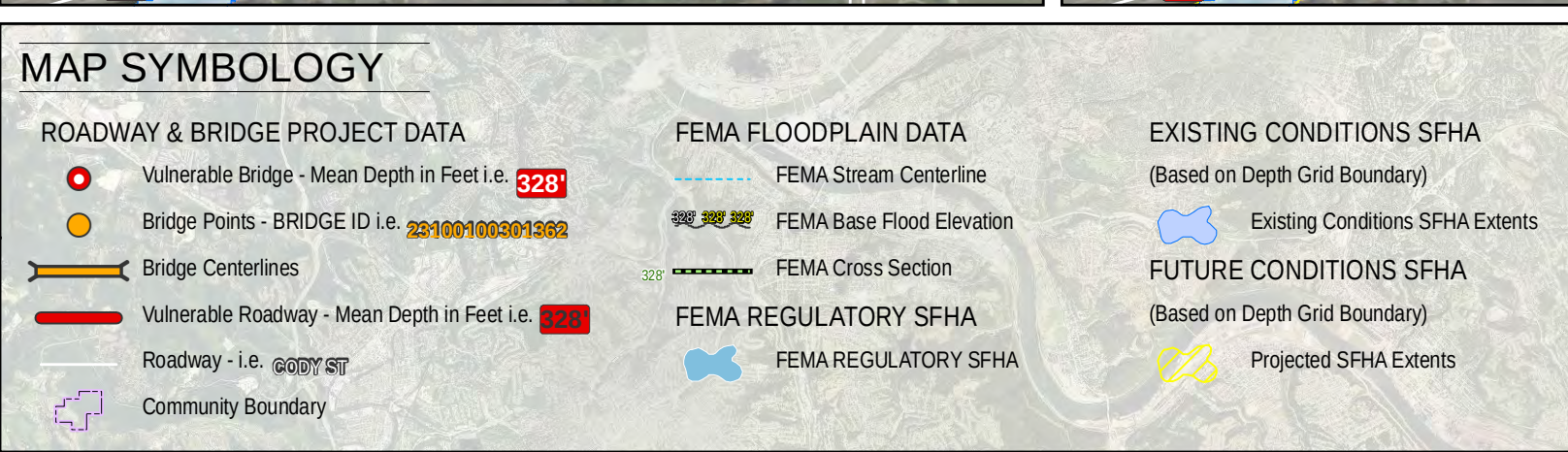
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 70 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23302300200000**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CONCORD RD**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0

1,000

Feet

November 22, 2016

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Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)

(Methodology and Limitations Provided in Project Study Report)

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PENNDOT

DATA FRAME PROPERTIES:

Coordinate System:
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Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:

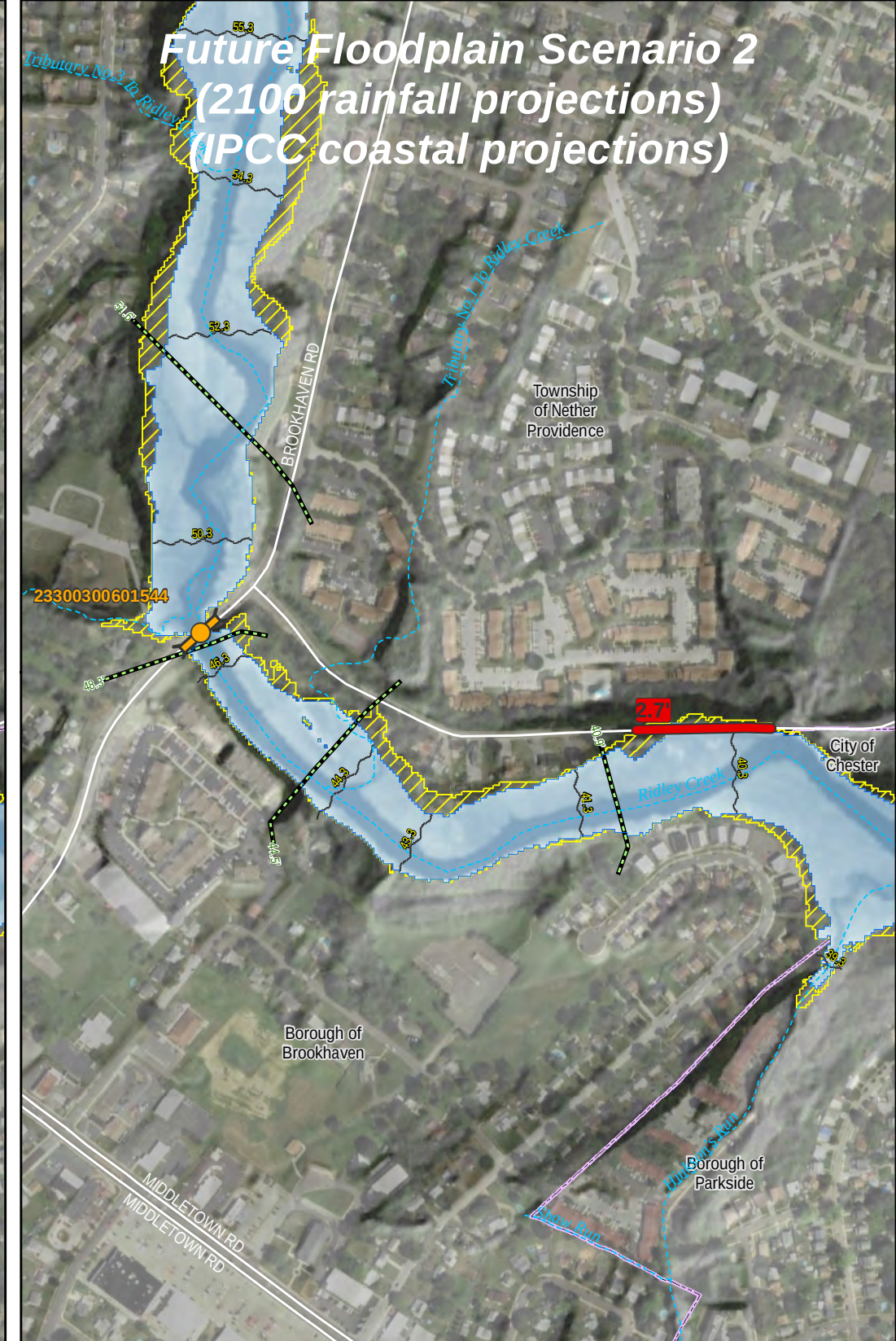
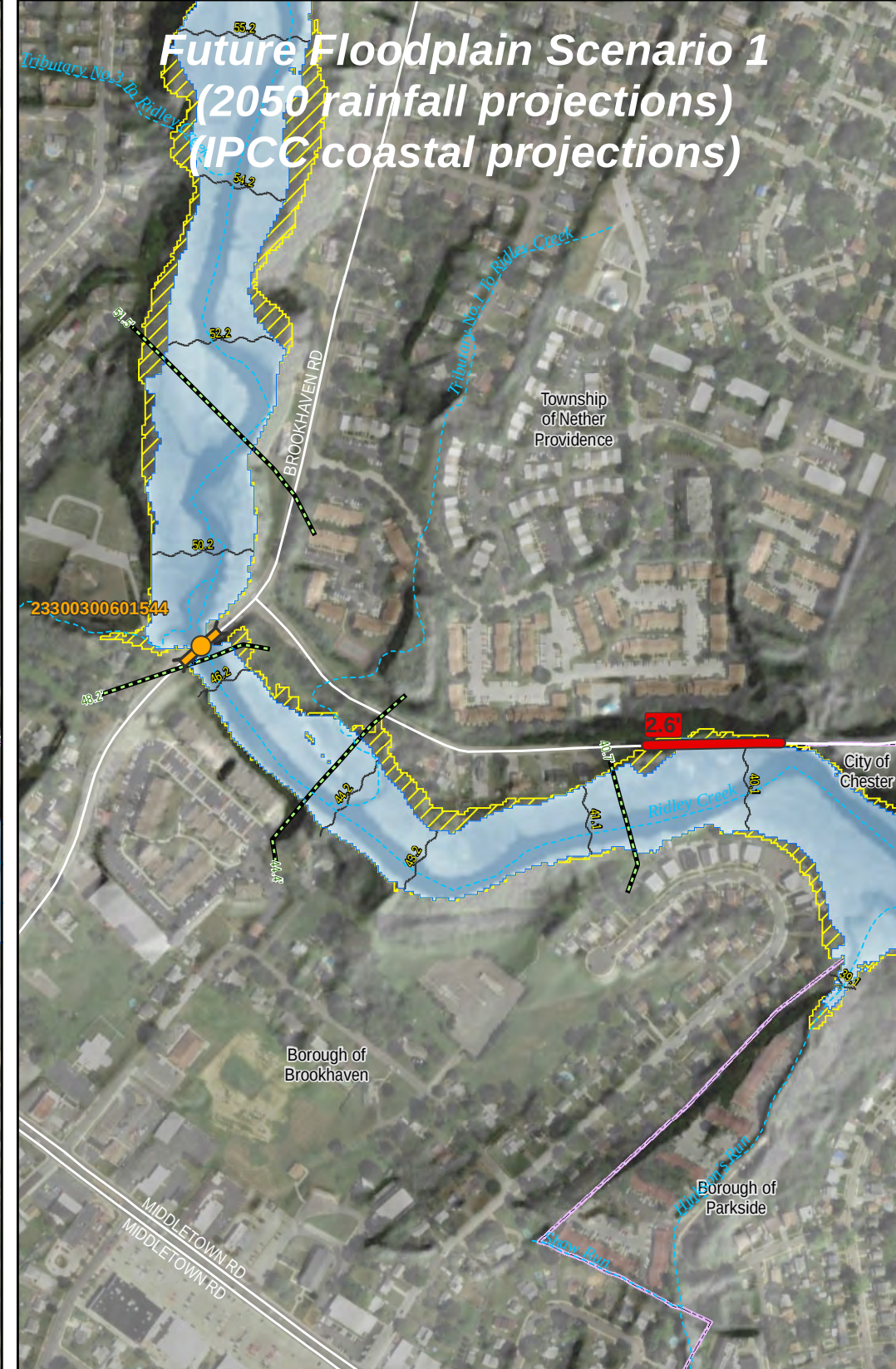
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

Michael Baker

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LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA		FEMA FLOODPLAIN DATA		EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'		FEMA Stream Centerline		Existing Conditions SFHA Extents
	Bridge Points - BRIDGE ID i.e. 23100100301362		FEMA Base Flood Elevation		FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
	Bridge Centerlines		FEMA Cross Section		Projected SFHA Extents
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'		FEMA REGULATORY SFHA		
	Roadway - i.e. CODY ST				
	Community Boundary				

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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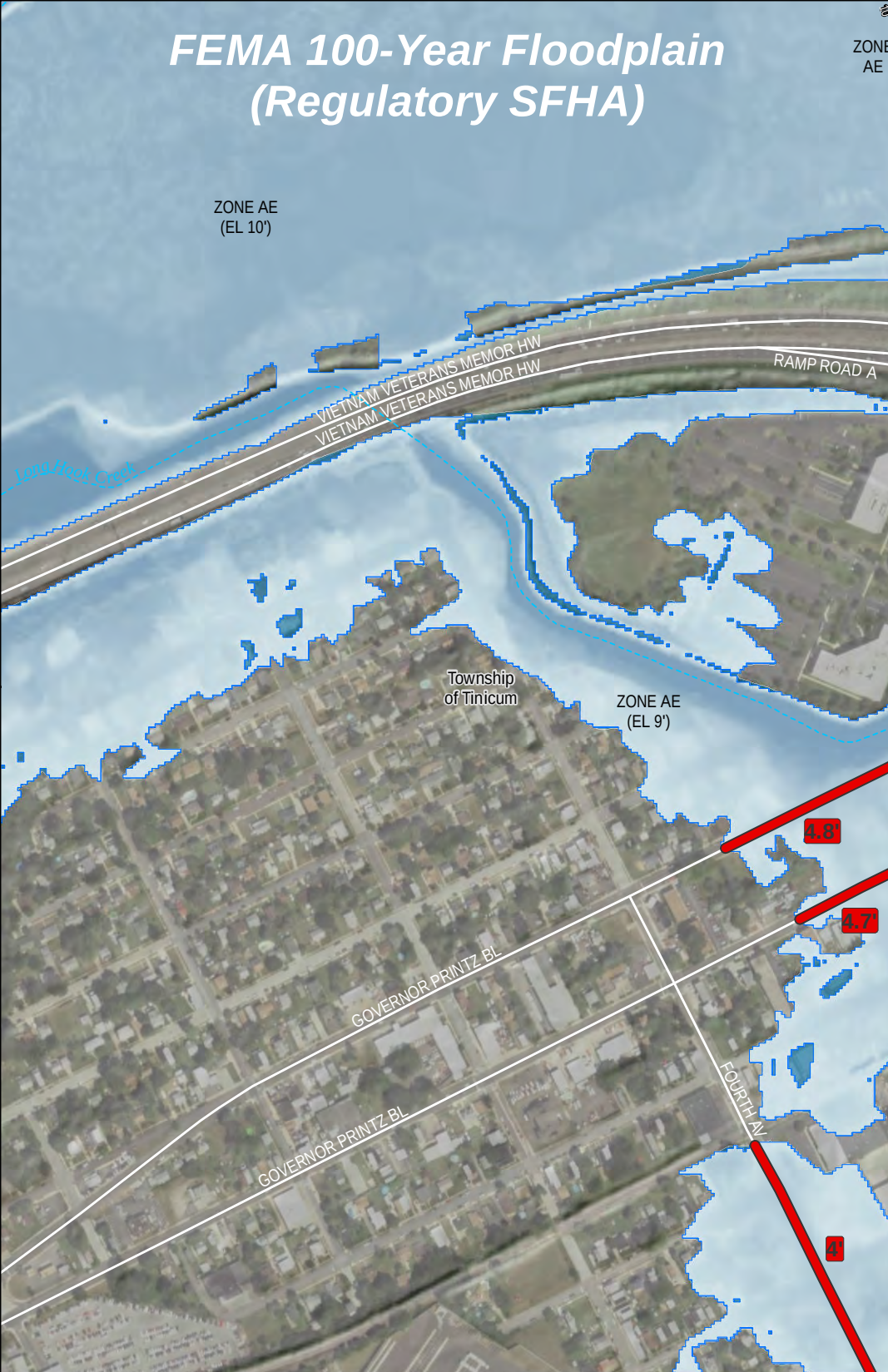
LOCATOR MAP

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

- ROADWAY & BRIDGE PROJECT DATA**
- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
 - Bridge Points - BRIDGE ID i.e. **23100100301362**
 - Bridge Centerlines
 - Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
 - Roadway - i.e. **CODY ST**
 - Community Boundary

- FEMA FLOODPLAIN DATA**
- FEMA Stream Centerline
 - FEMA Base Flood Elevation
 - FEMA Cross Section
 - FEMA REGULATORY SFHA**

- EXISTING CONDITIONS SFHA**
(Based on Depth Grid Boundary)
- Existing Conditions SFHA Extents
- FUTURE CONDITIONS SFHA**
(Based on Depth Grid Boundary)
- Projected SFHA Extents

0 1,000 Feet

November 22, 2016



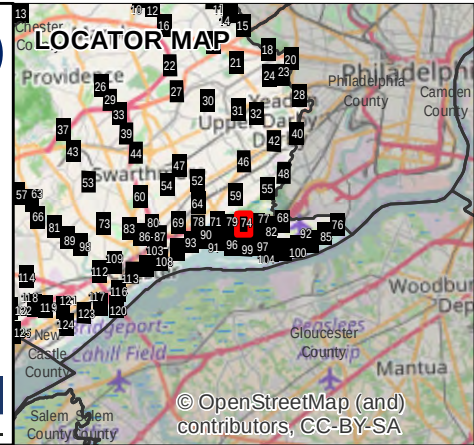
Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
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Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

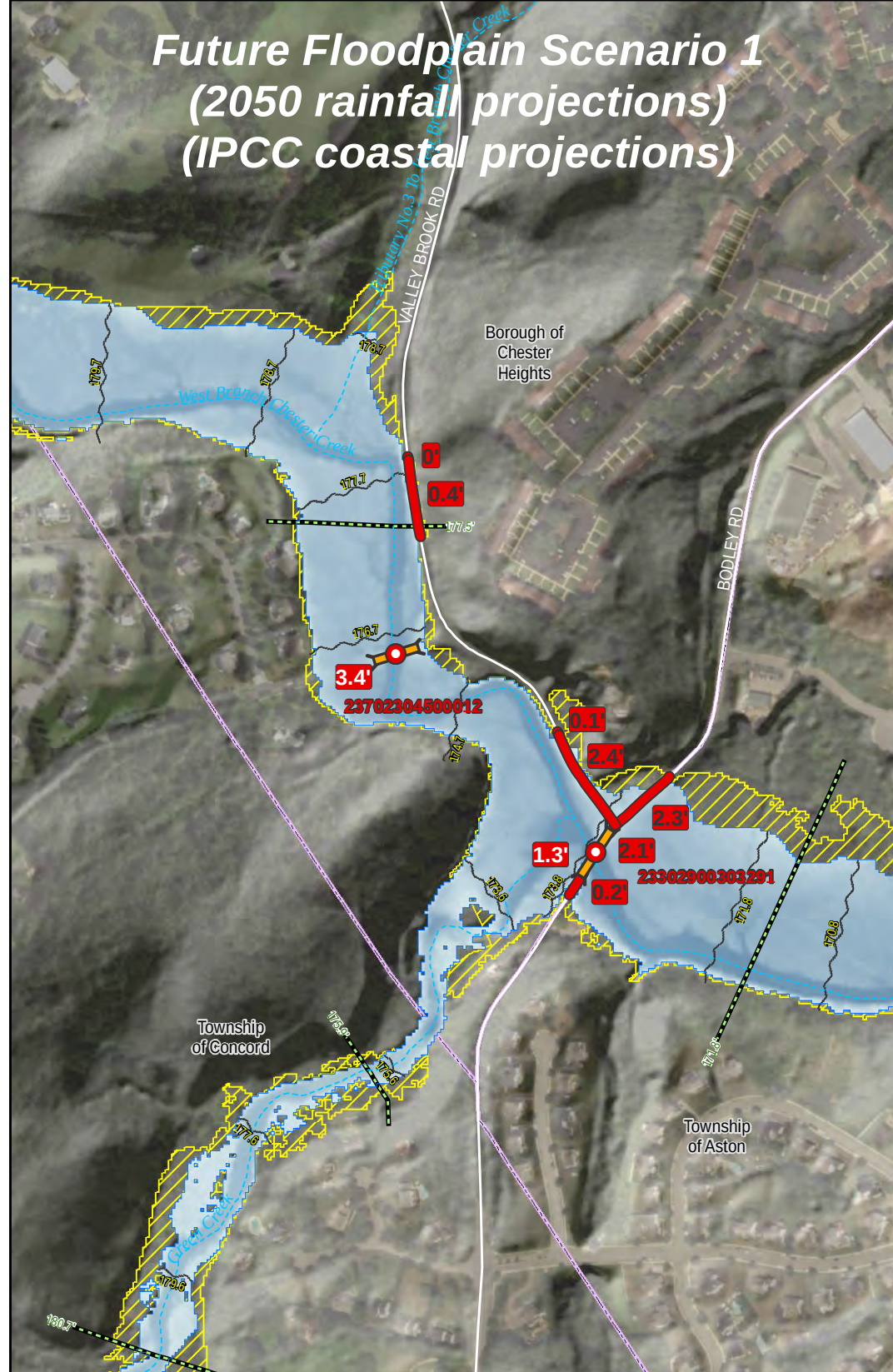
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Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



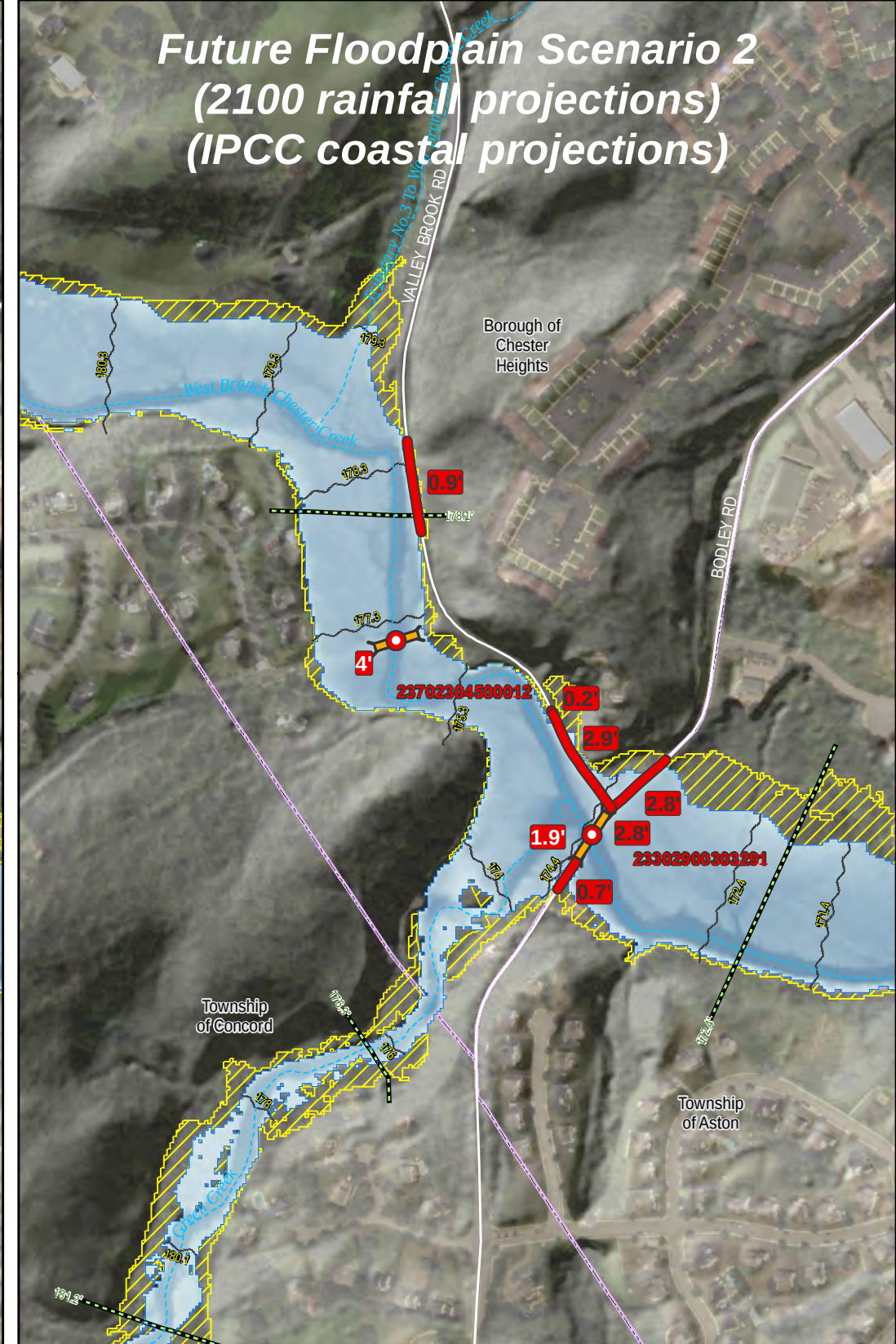
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
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Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

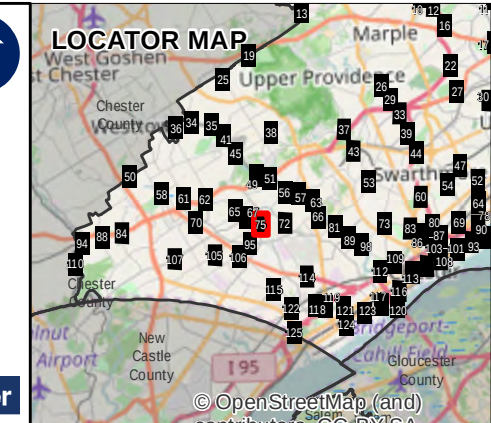
Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents
- FUTURE CONDITIONS SFHA
(Based on Depth Grid Boundary)
- Projected SFHA Extents

0 1,000 Feet

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

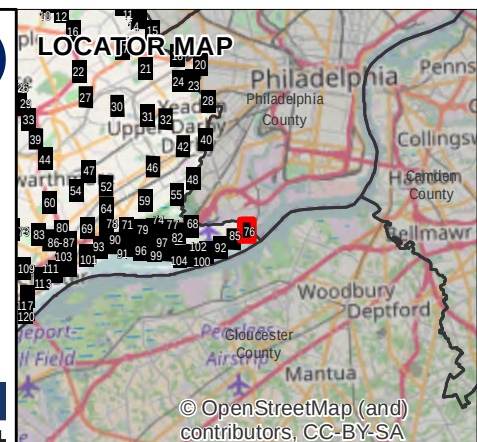
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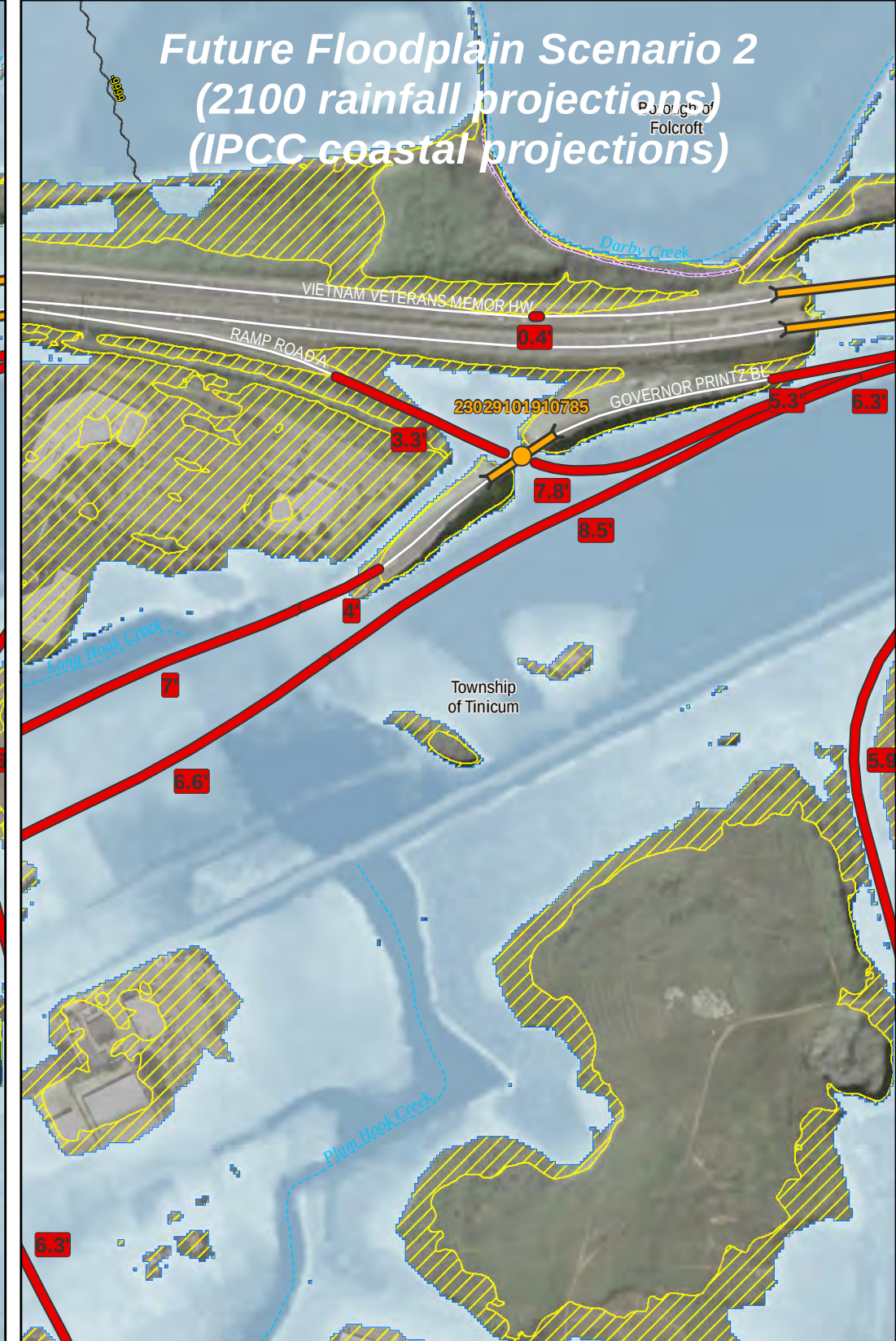
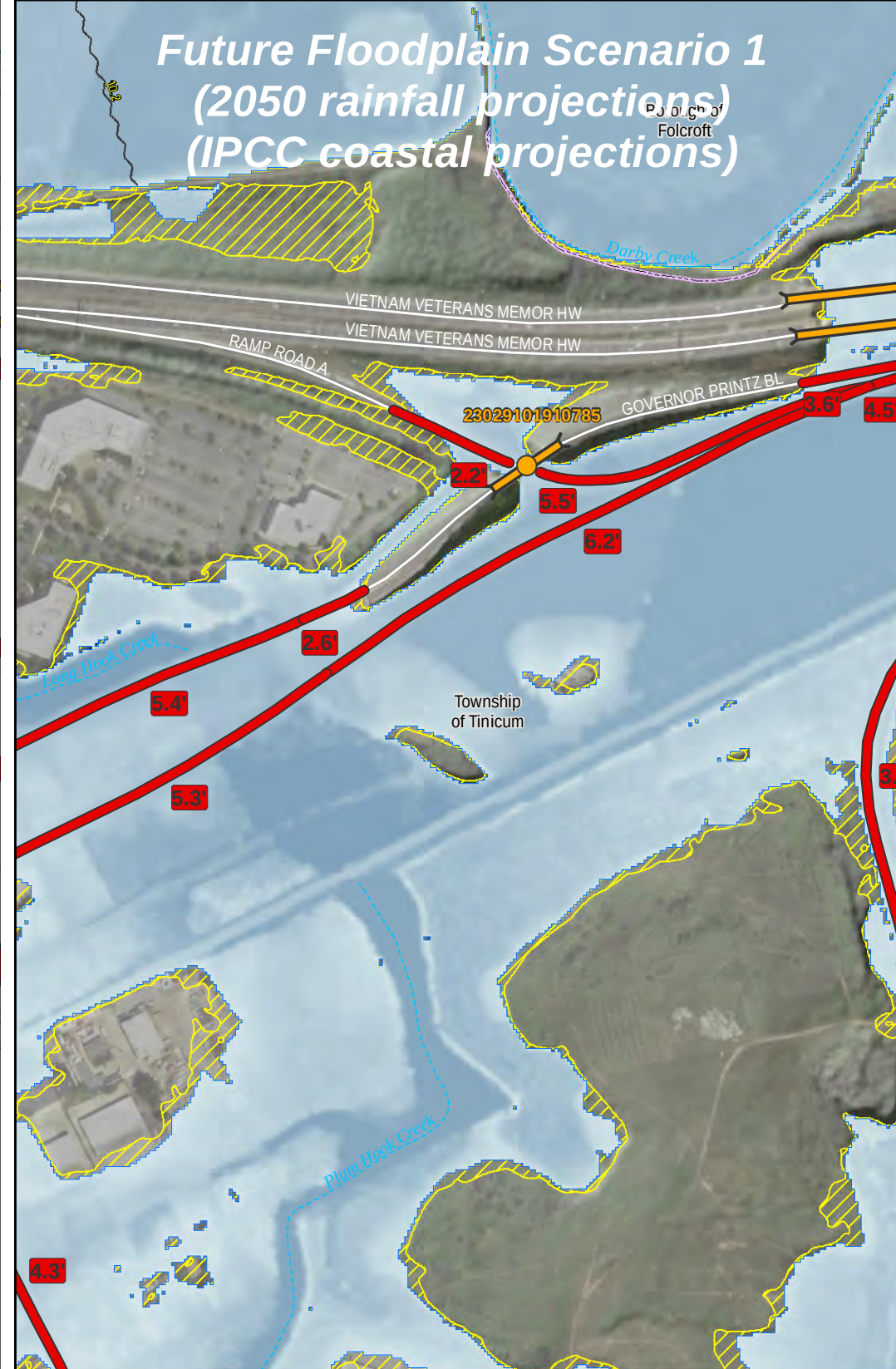
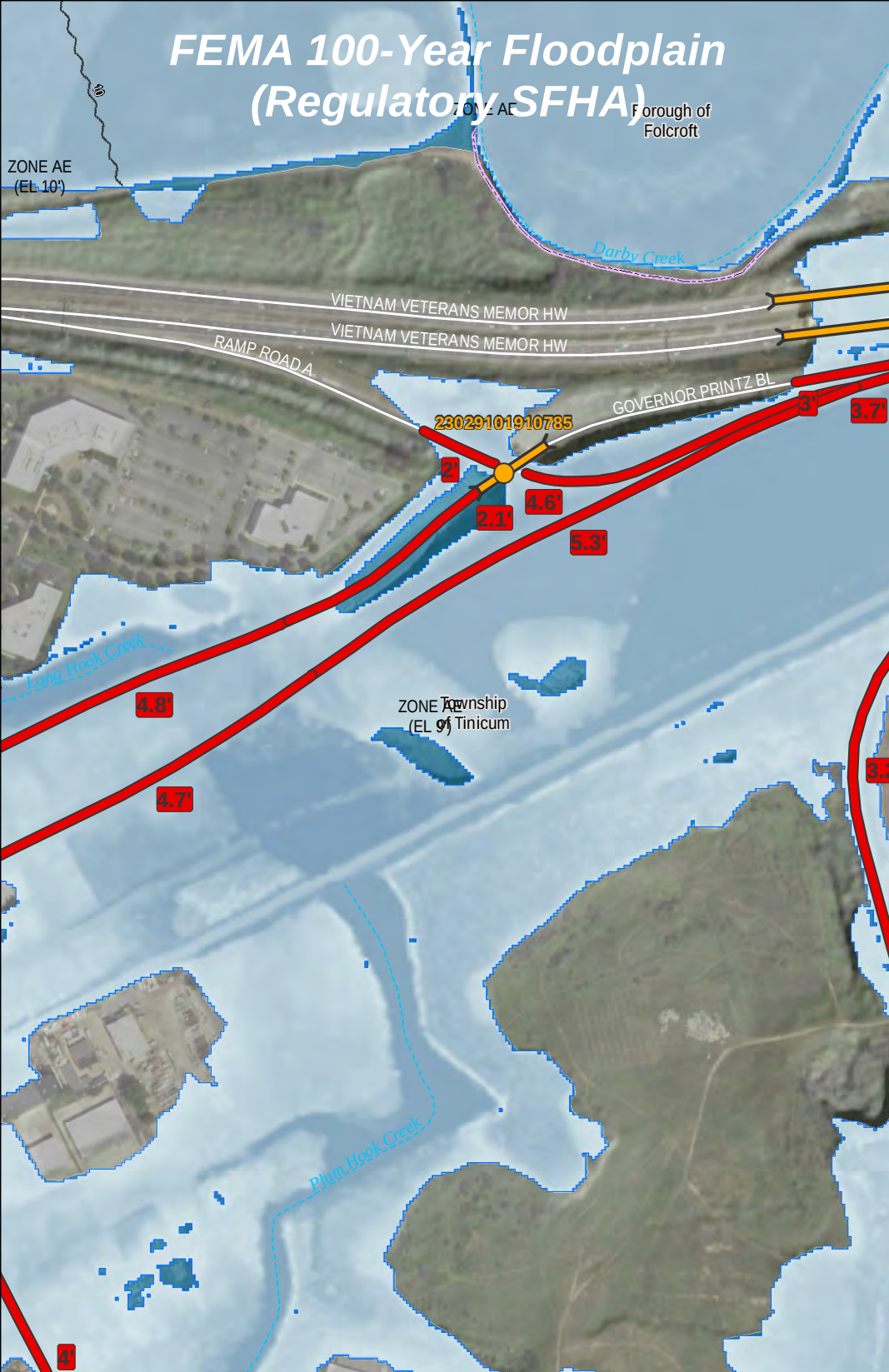
DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

0 1,000 Feet

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

November 22, 2016

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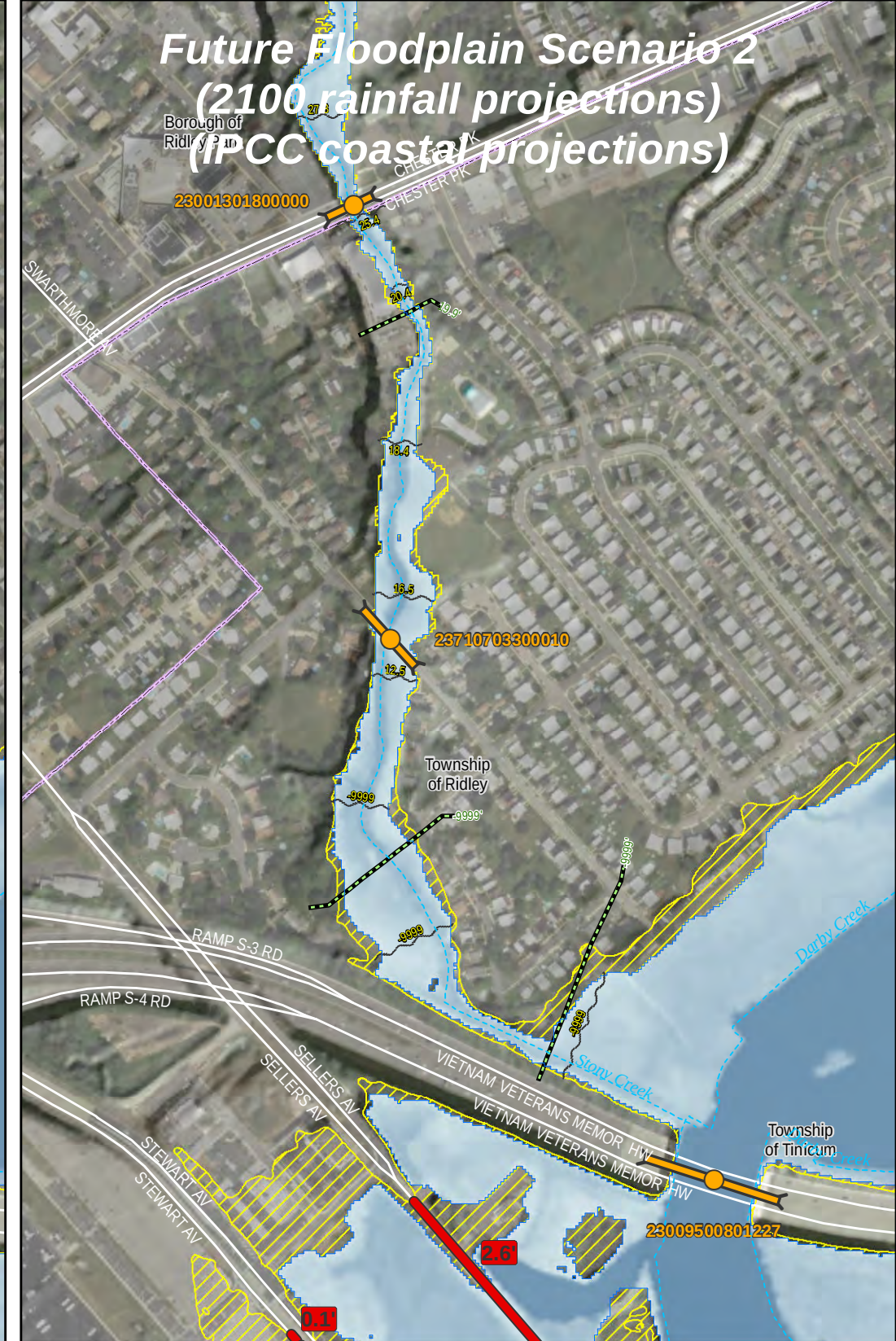
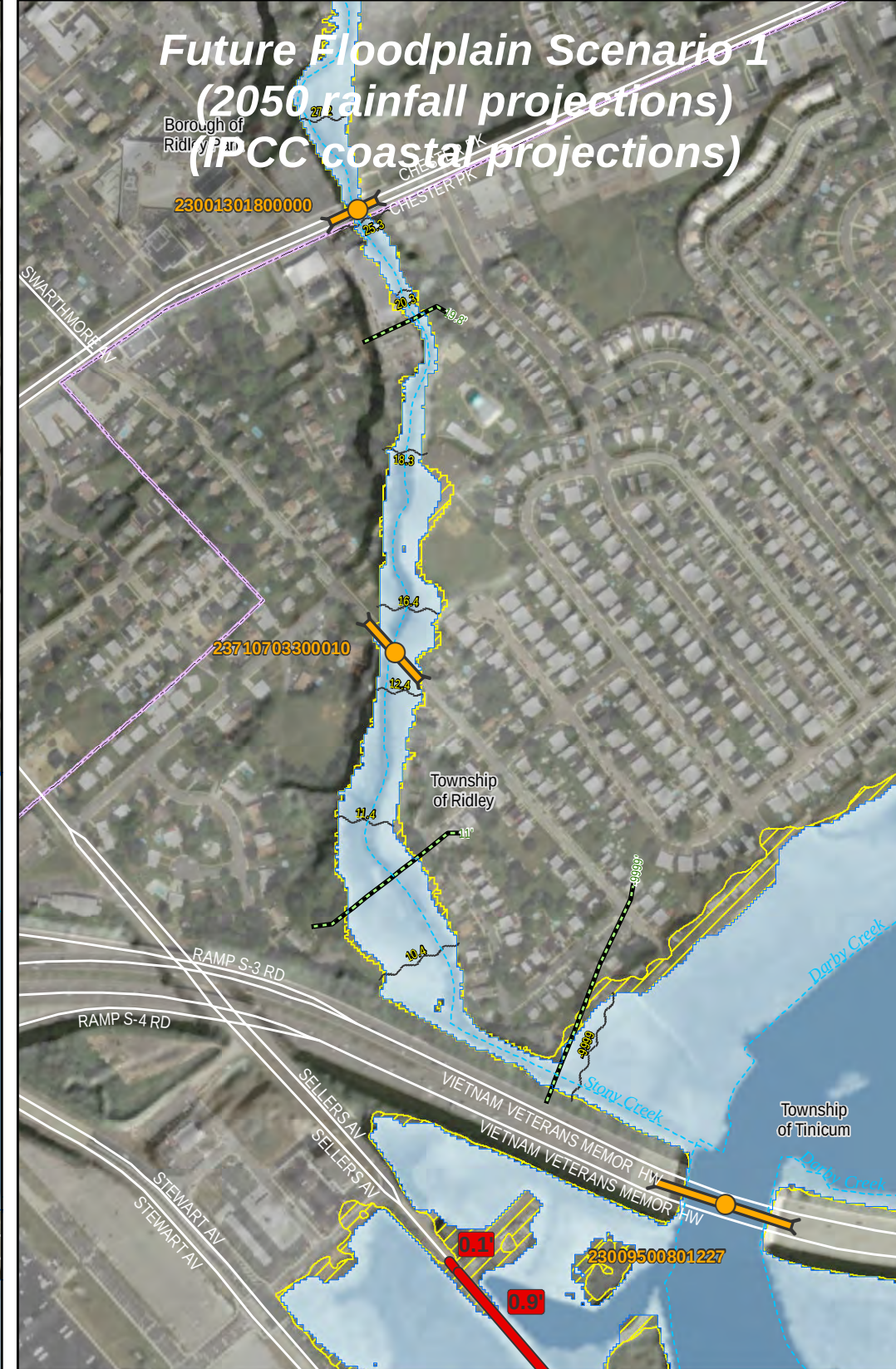
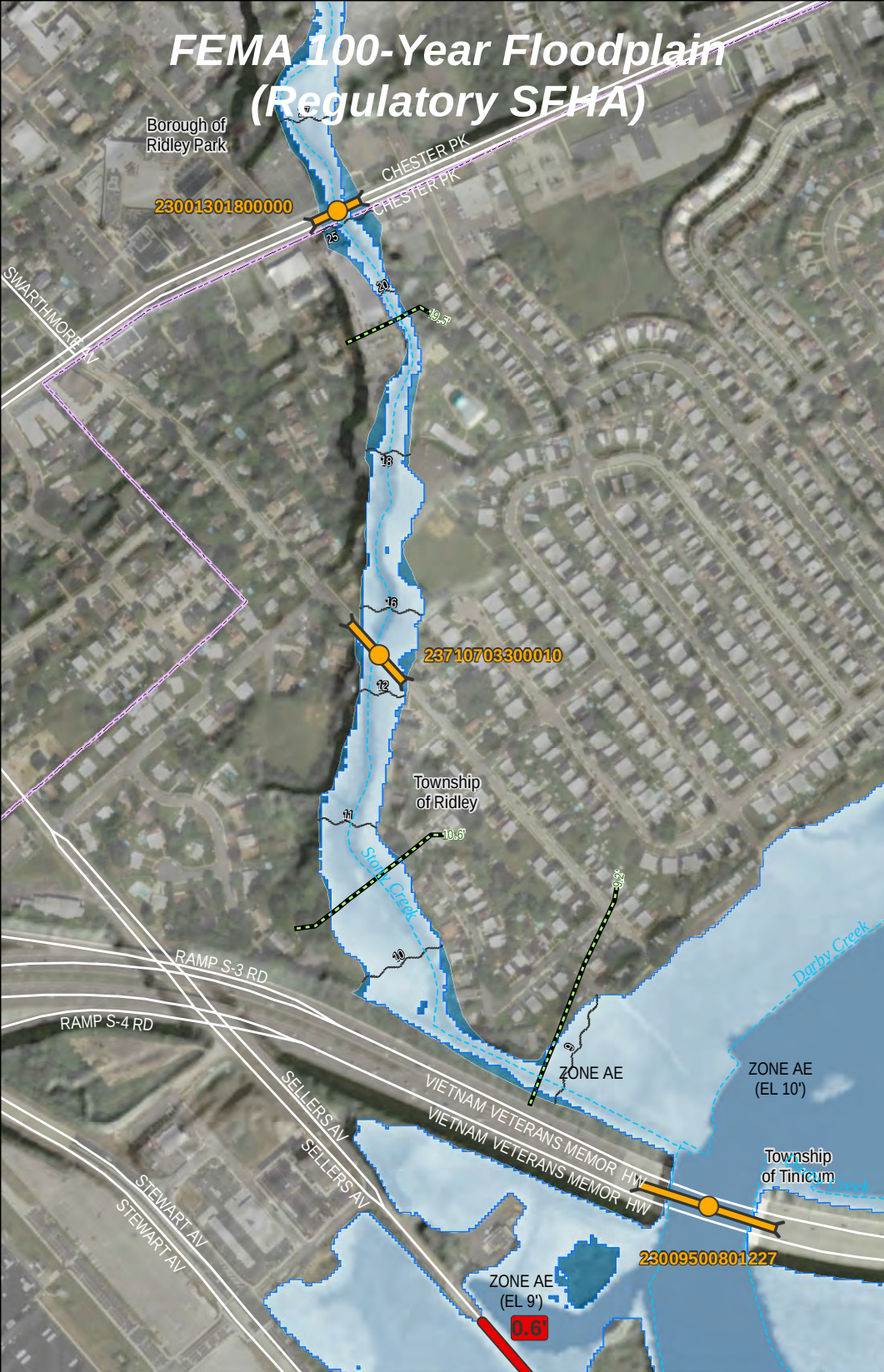
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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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VULNERABILITY ANALYSIS:
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LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
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Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

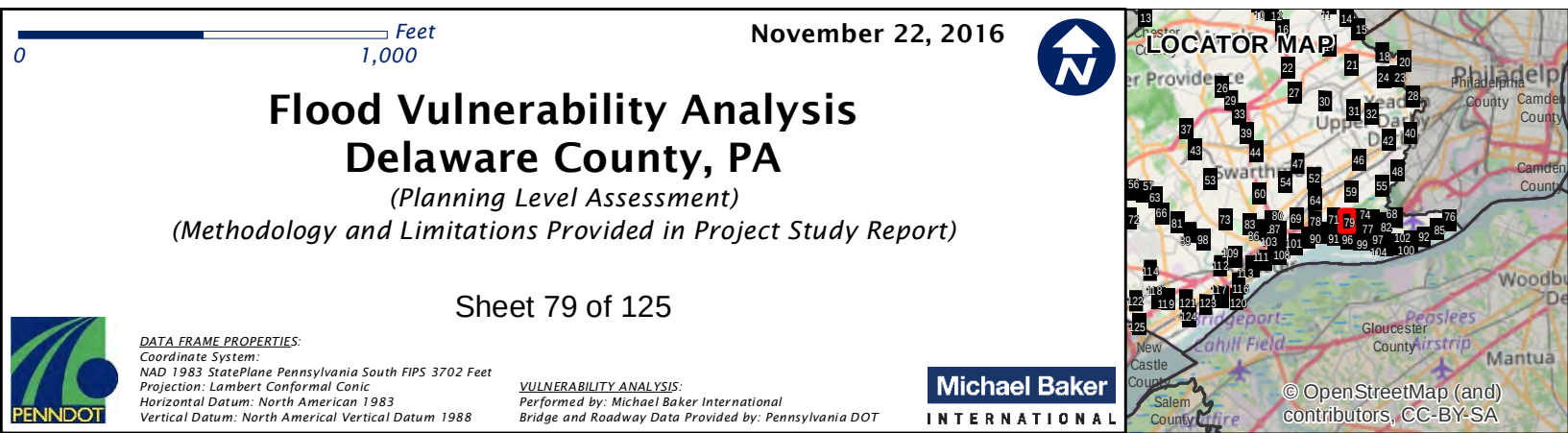
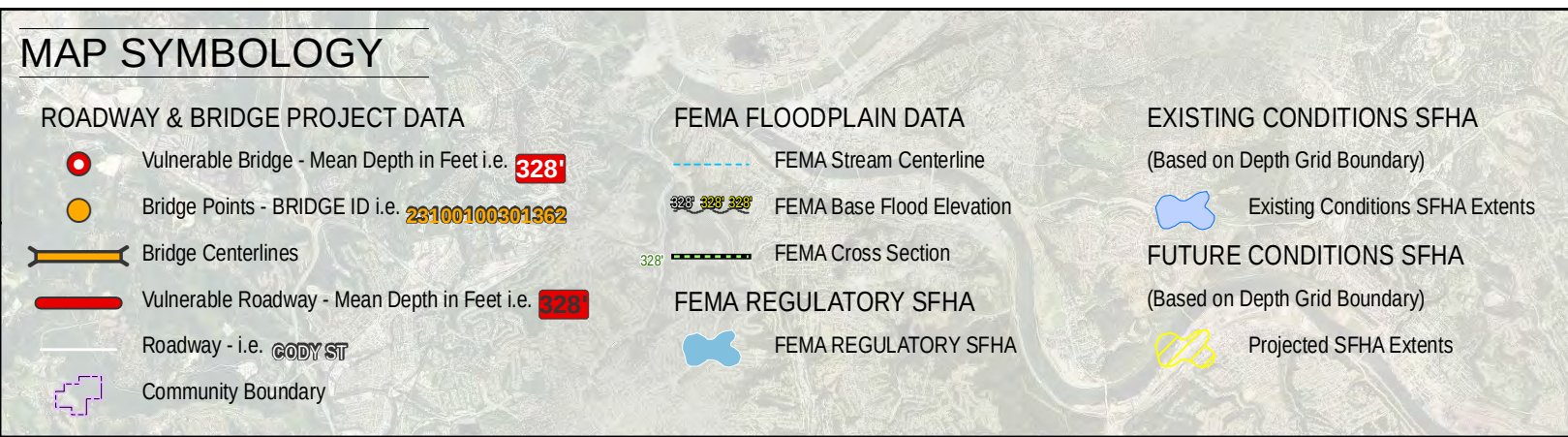
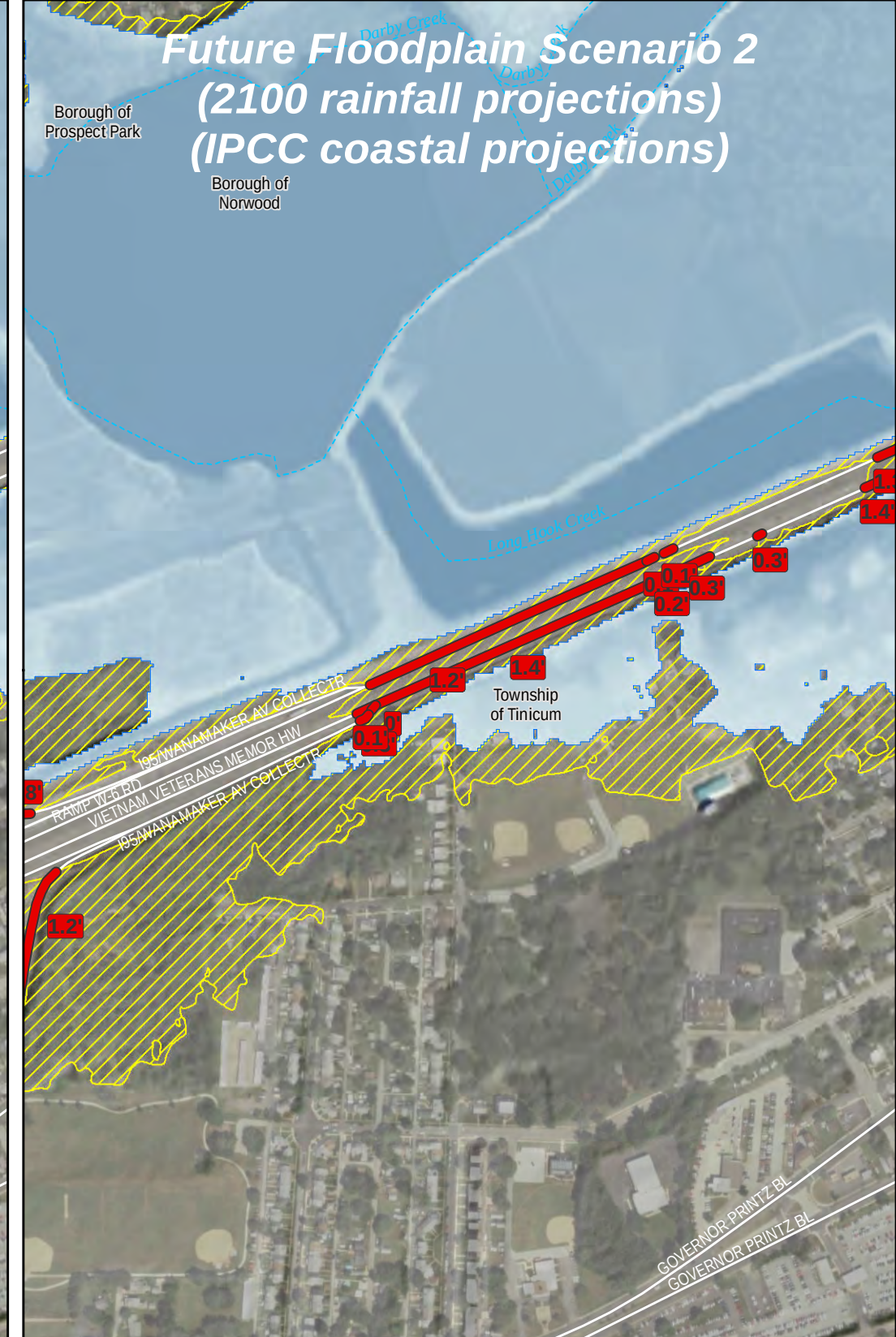
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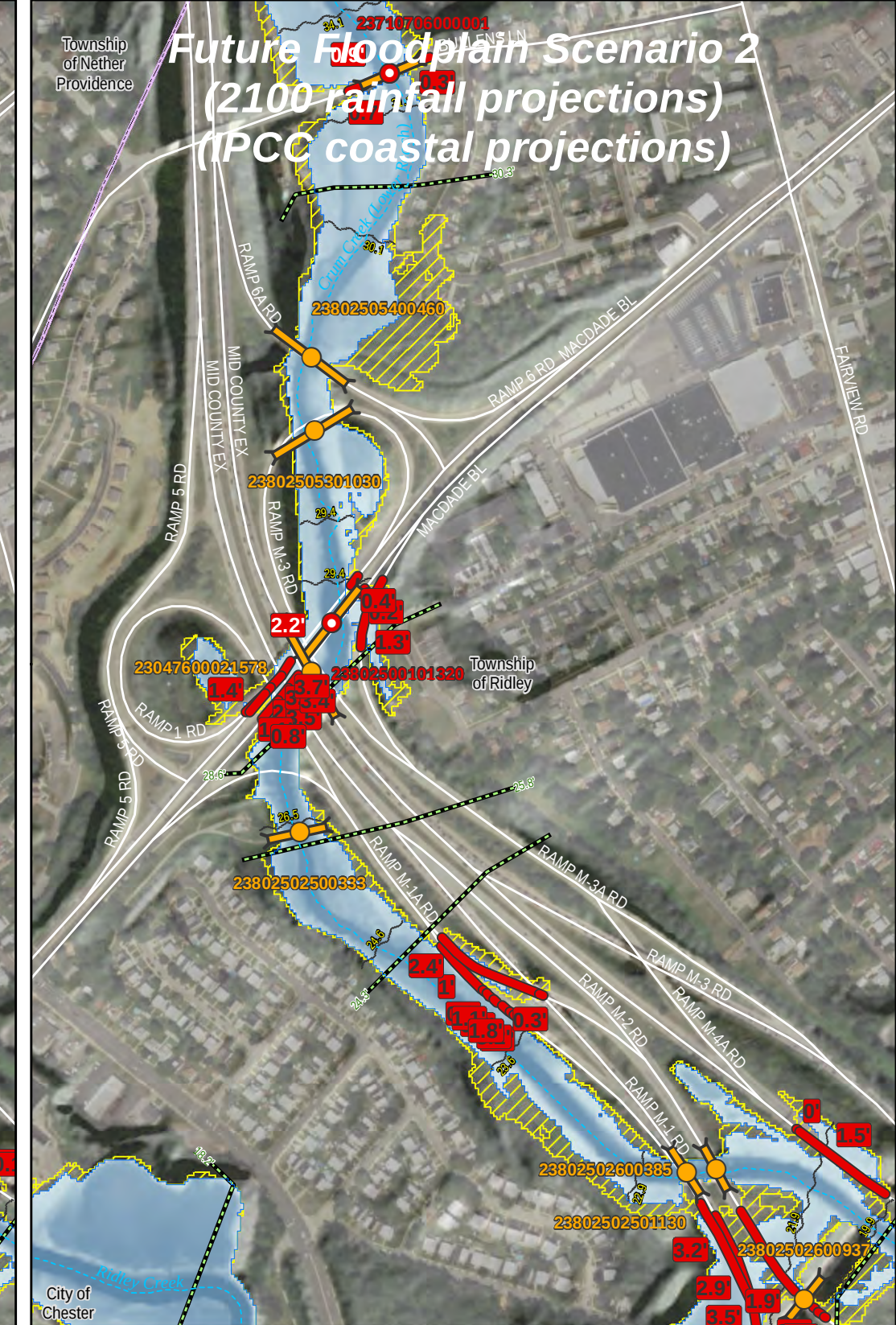
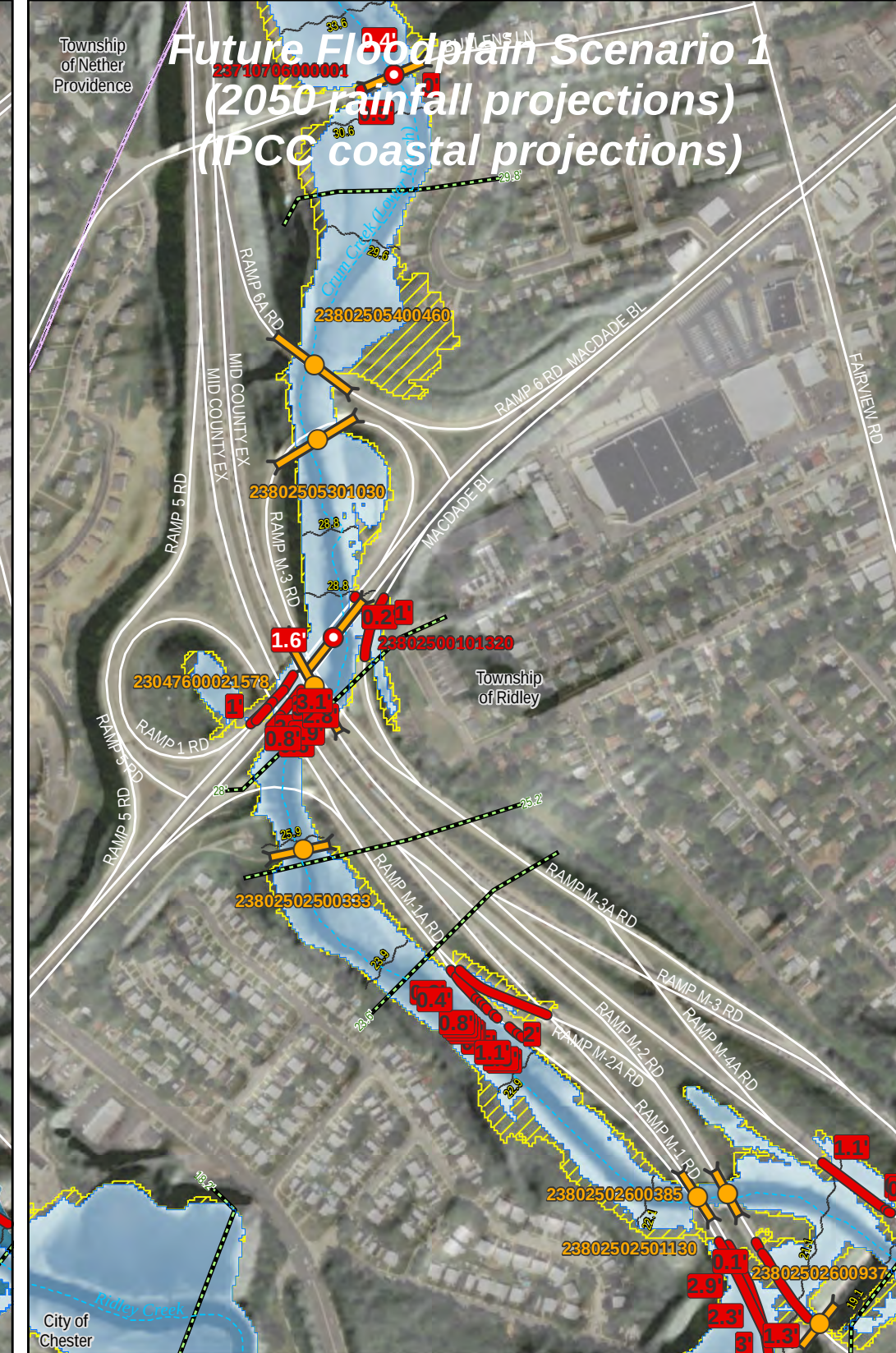
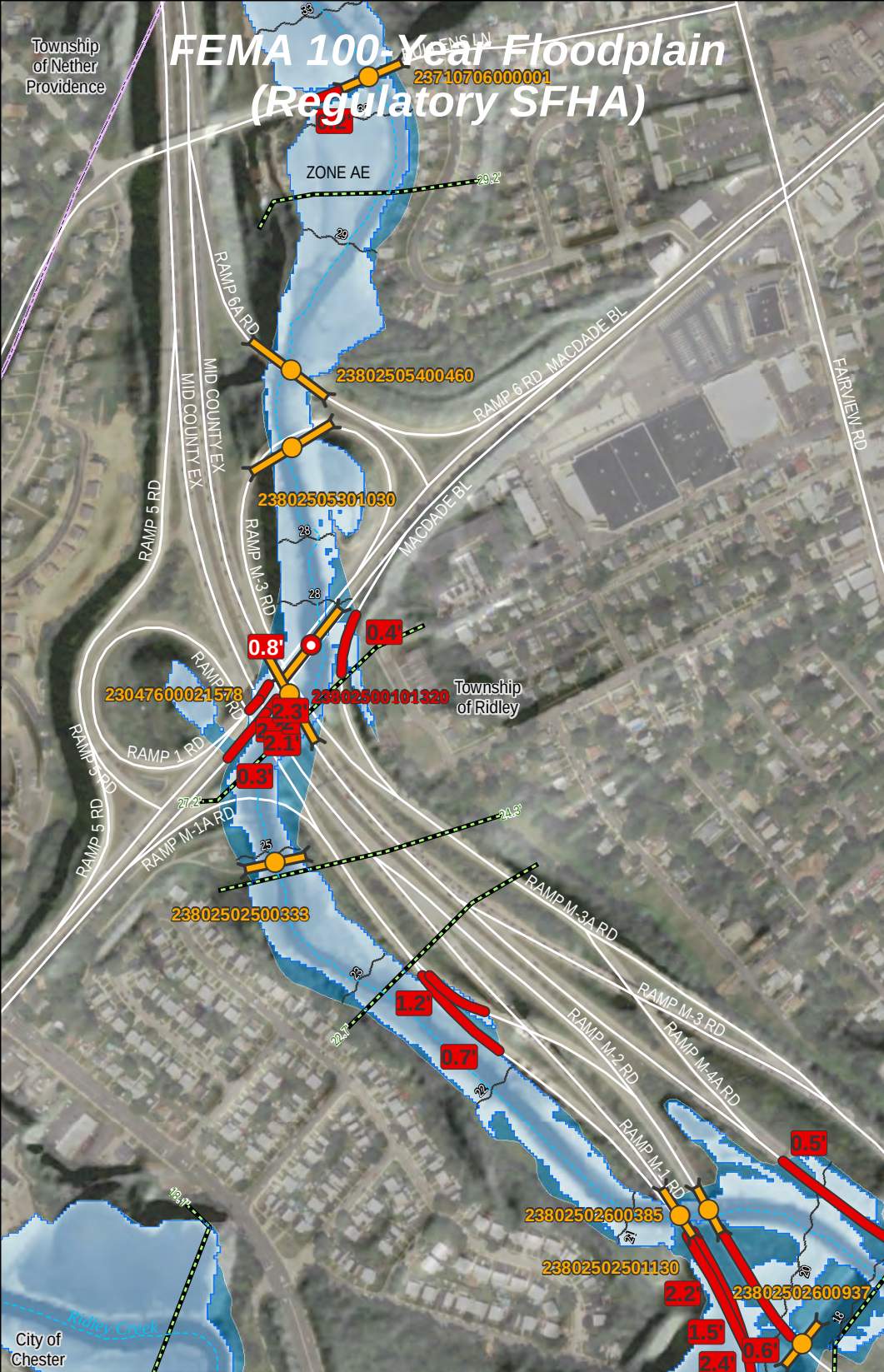
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LOCATOR MAP

DATA FRAME PROPERTIES:
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VULNERABILITY ANALYSIS:
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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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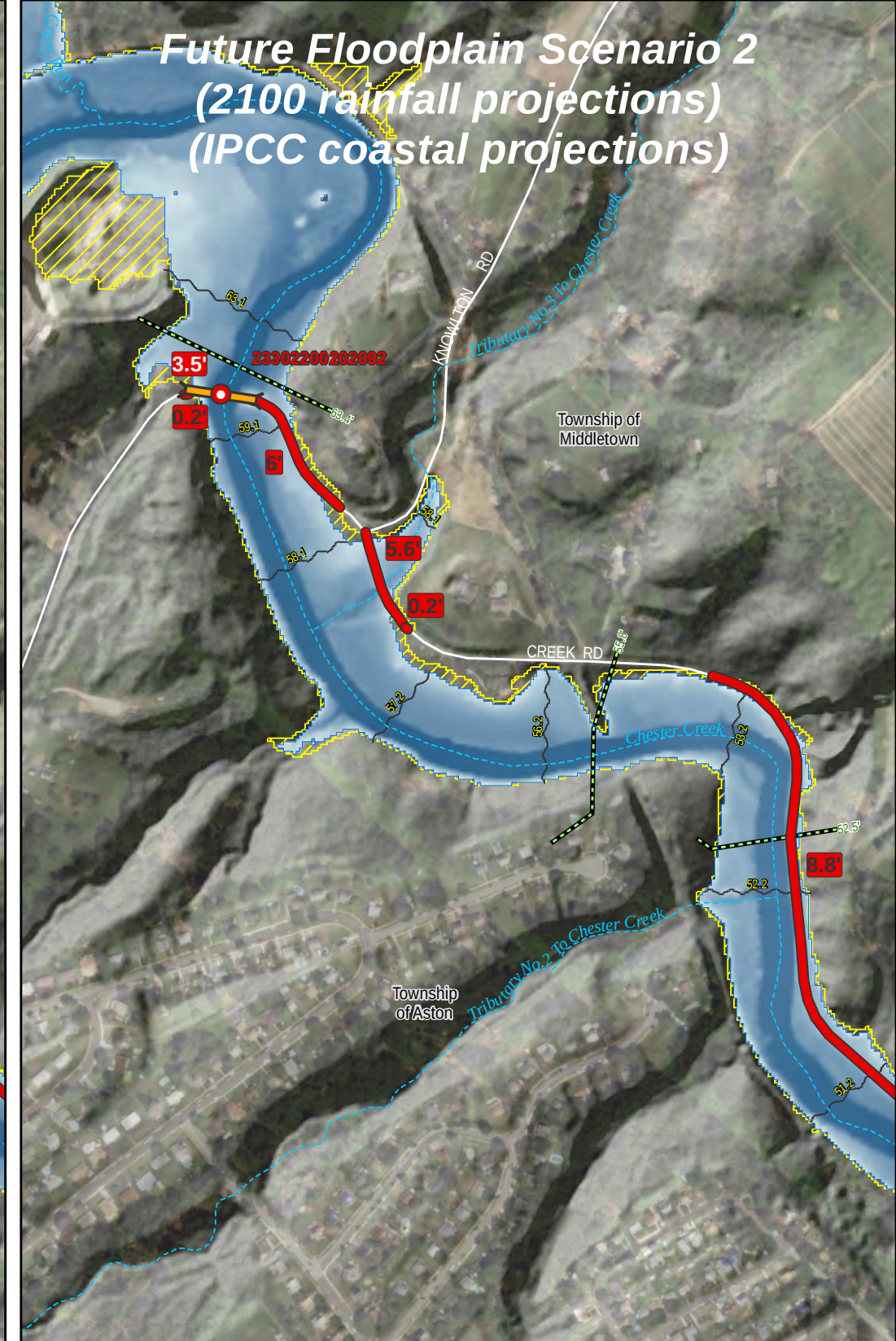
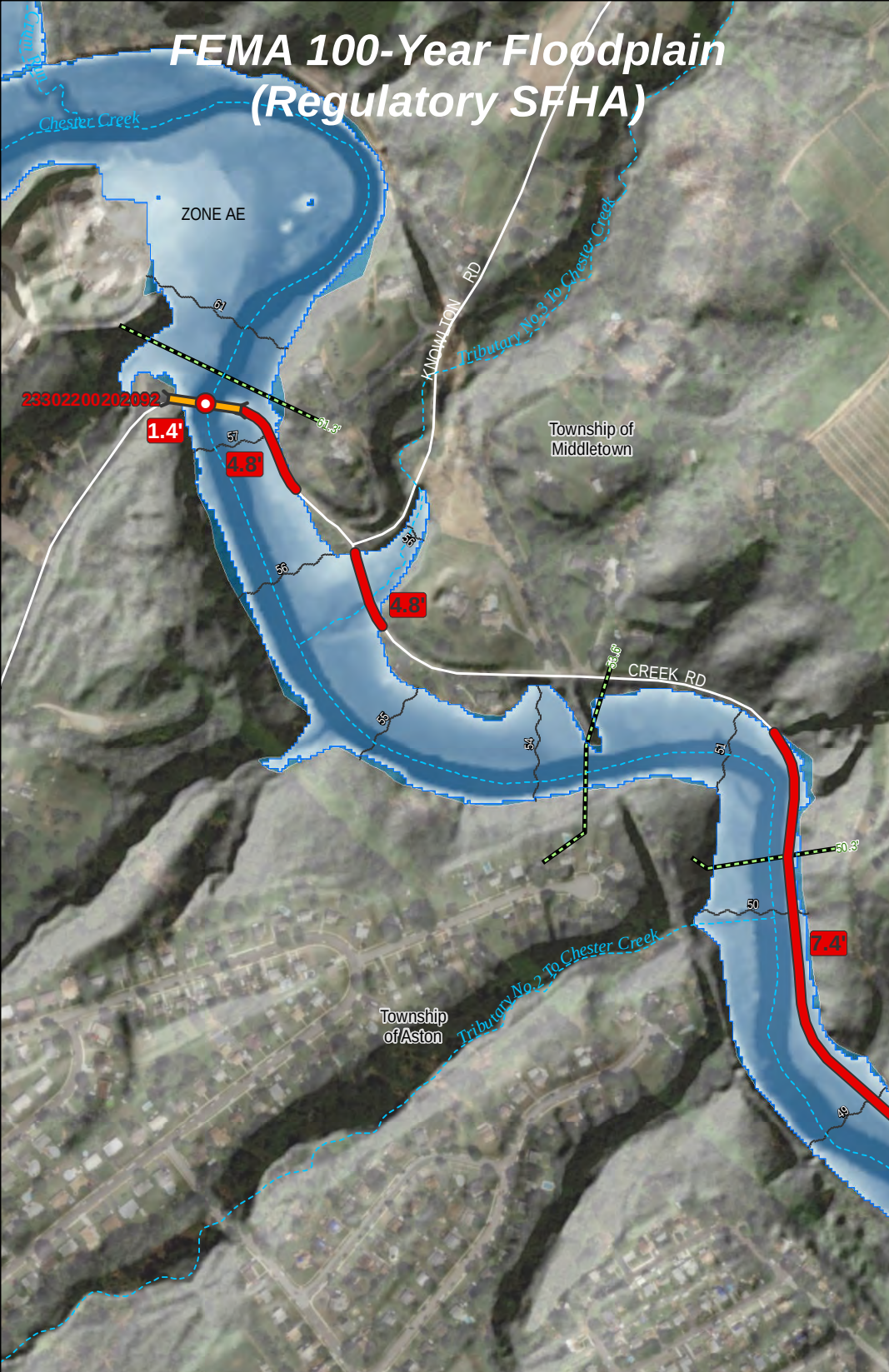
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DATA FRAME PROPERTIES:
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VULNERABILITY ANALYSIS:
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LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

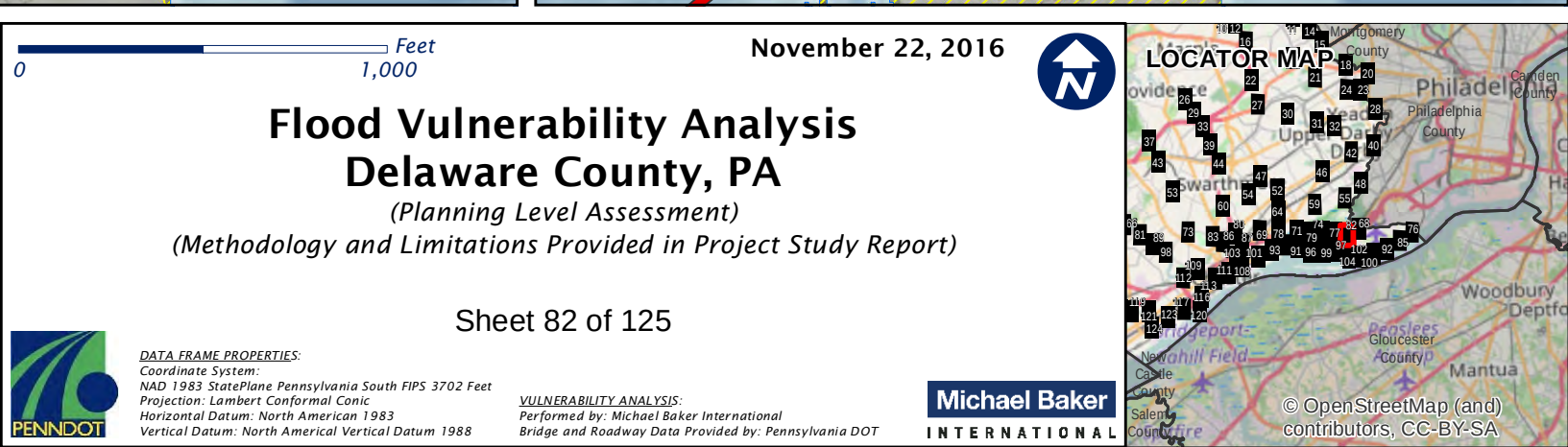
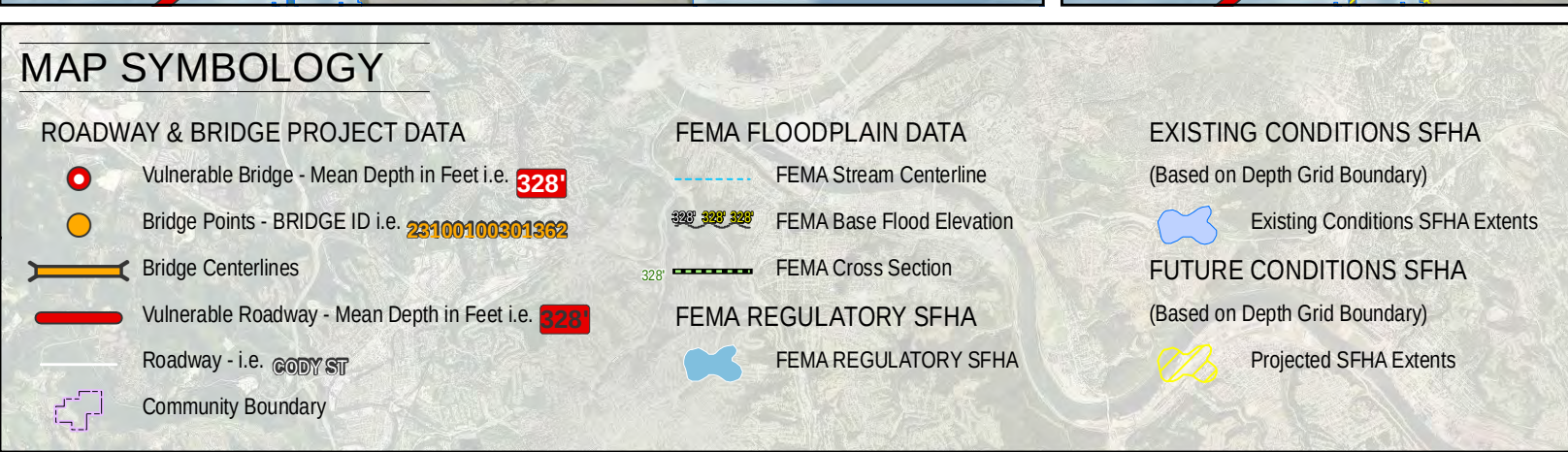
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

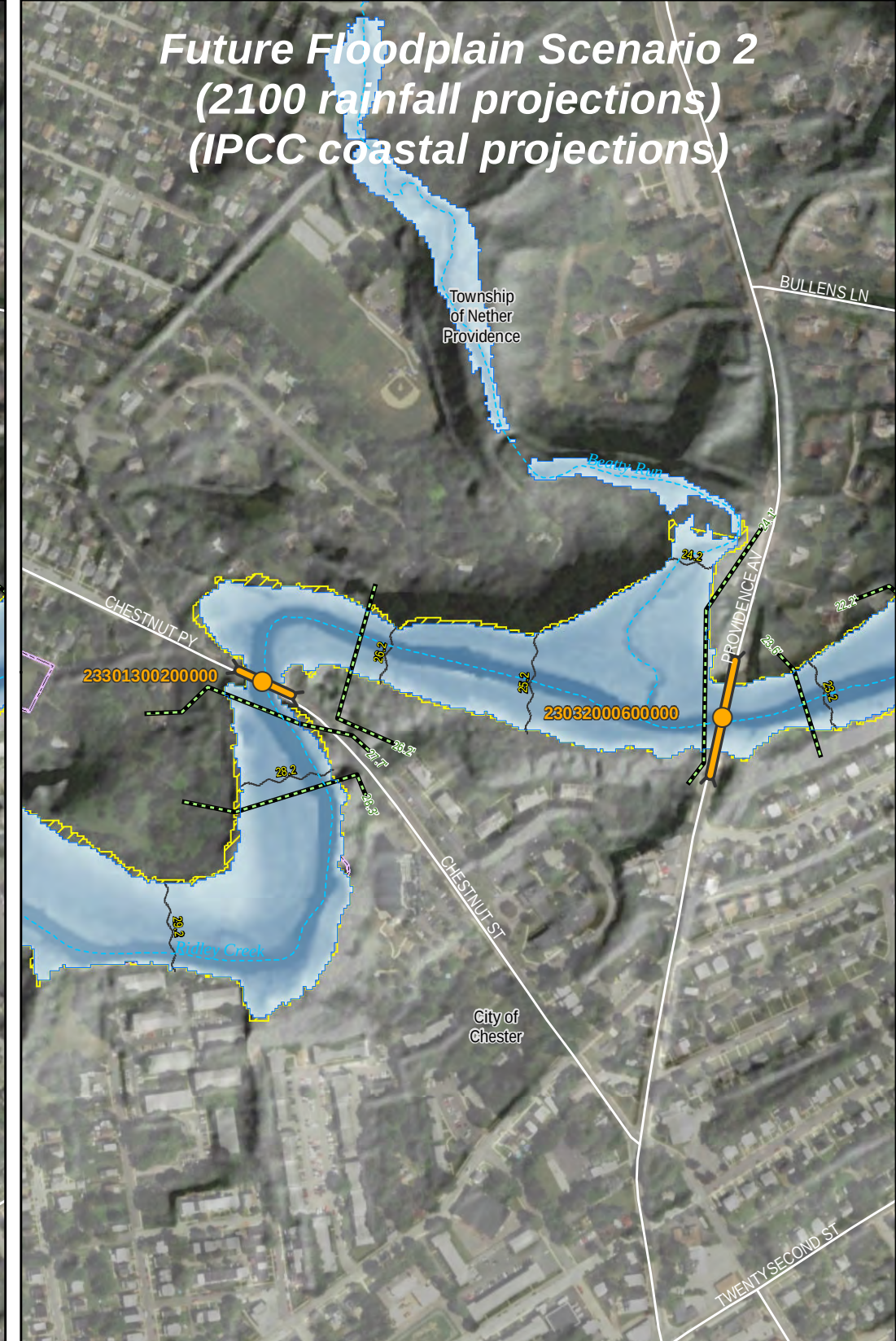
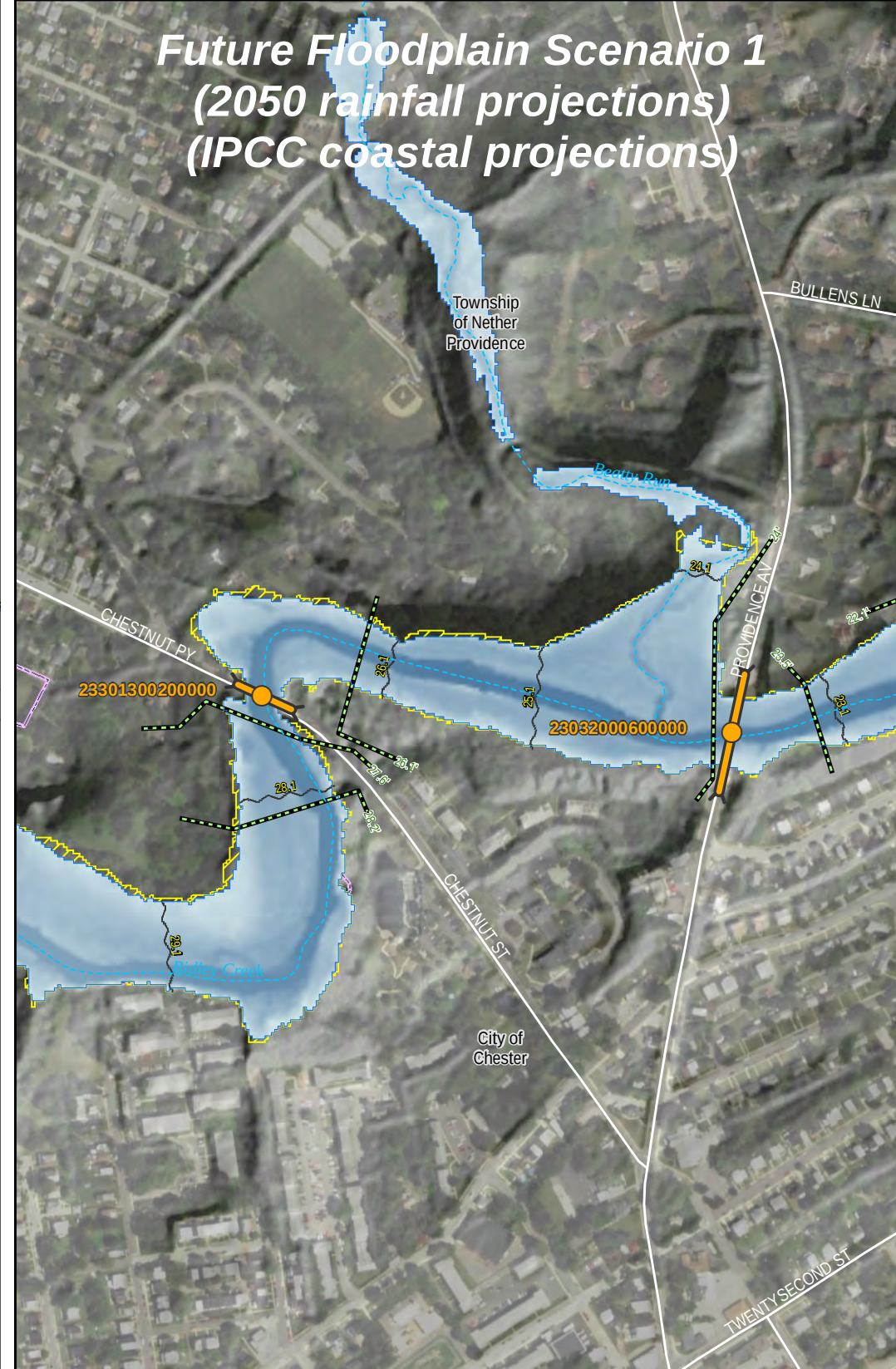
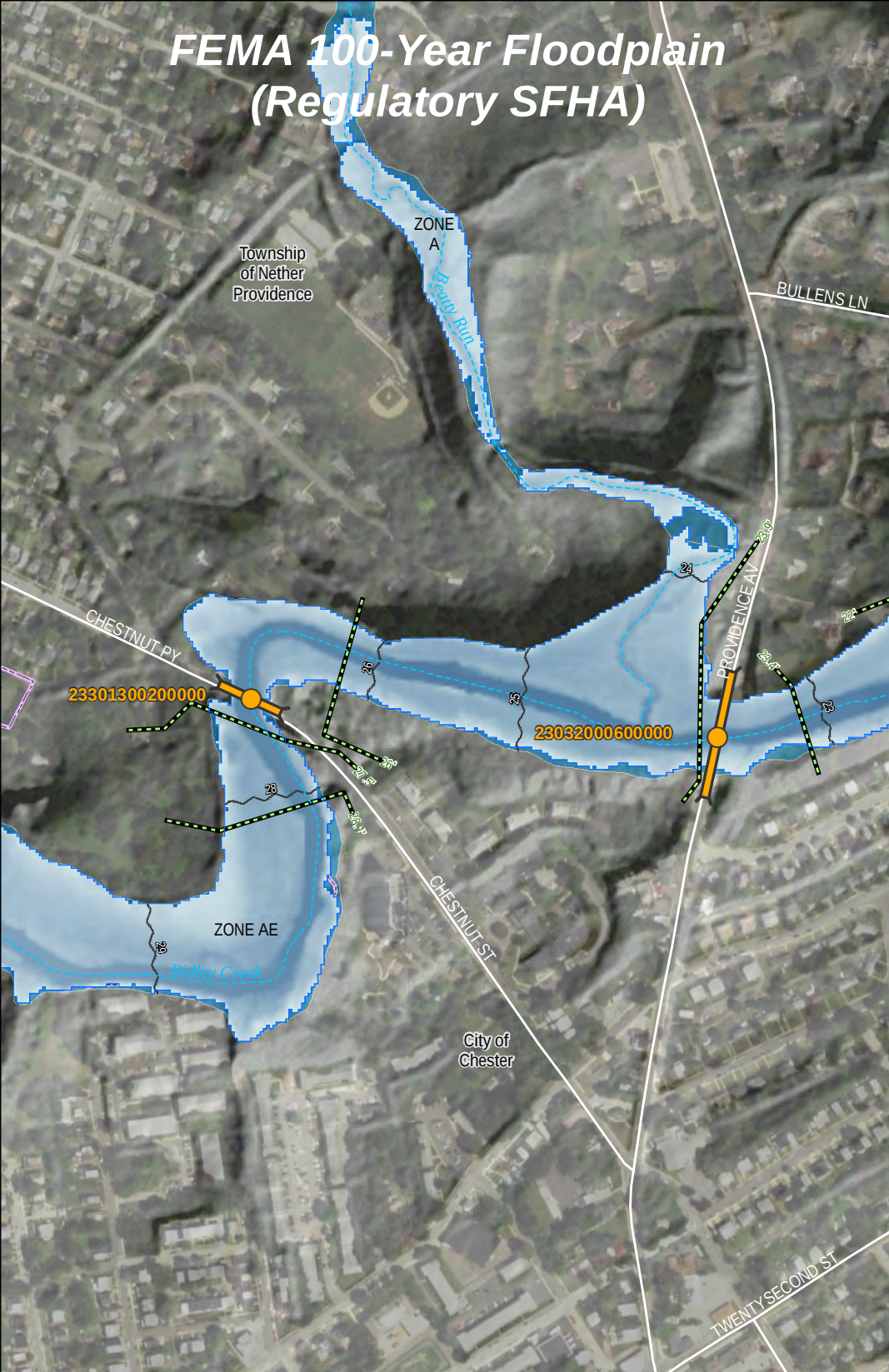
Sheet 81 of 125

DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
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Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
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Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

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Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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VULNERABILITY ANALYSIS:
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Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation 328' 325' 324'	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section 328'	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

0 1,000 Feet

November 22, 2016

**Flood Vulnerability Analysis
Delaware County, PA**
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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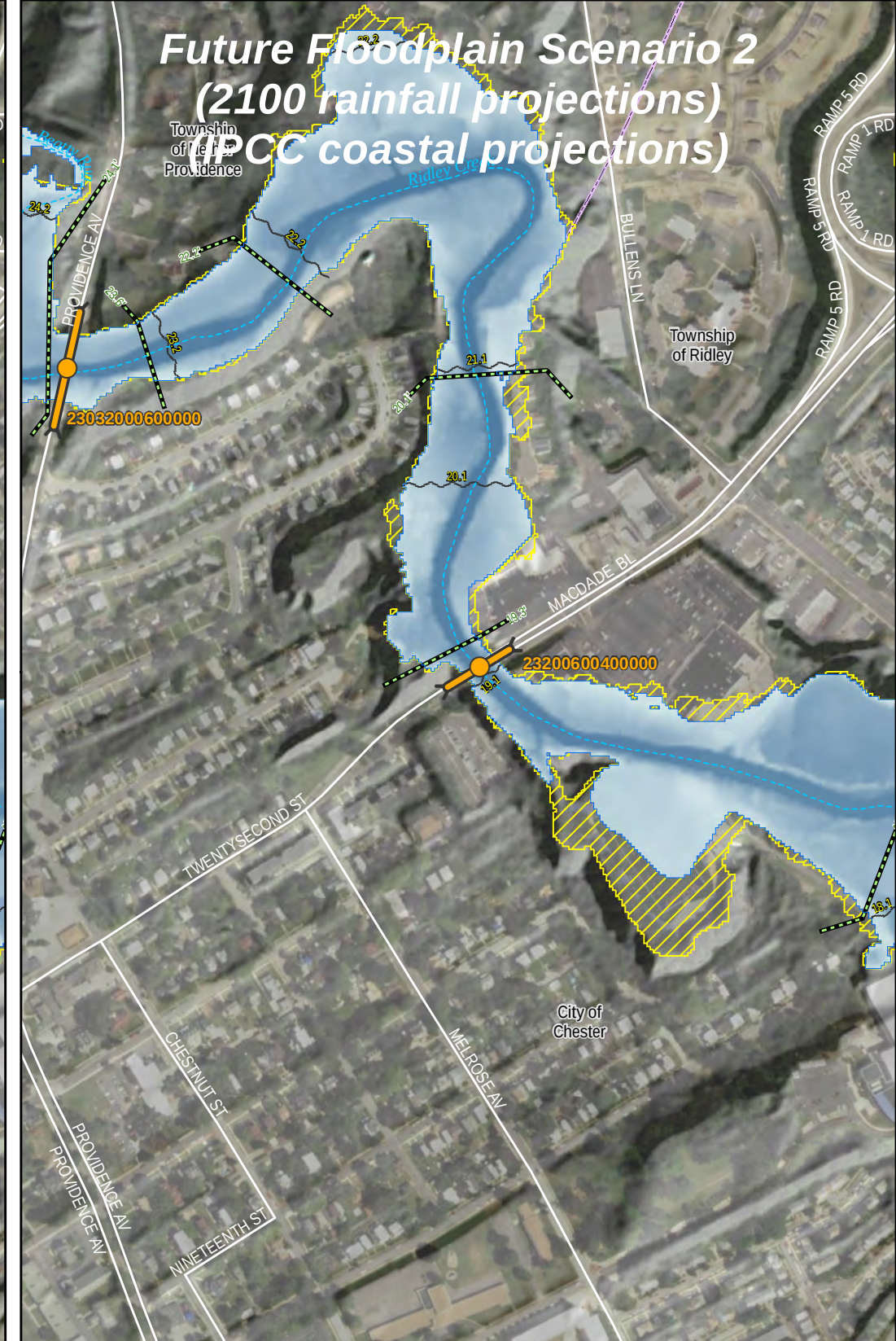
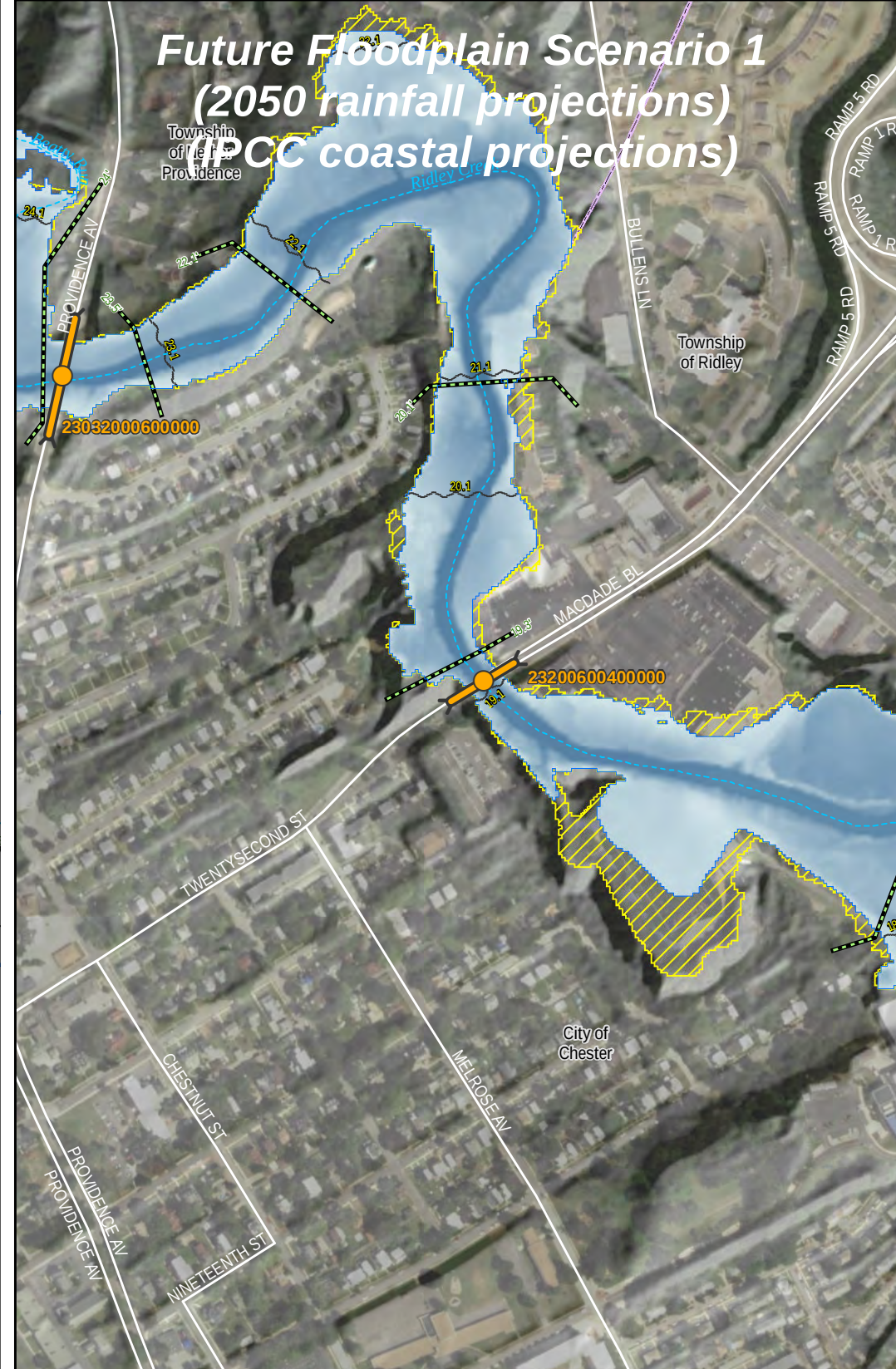
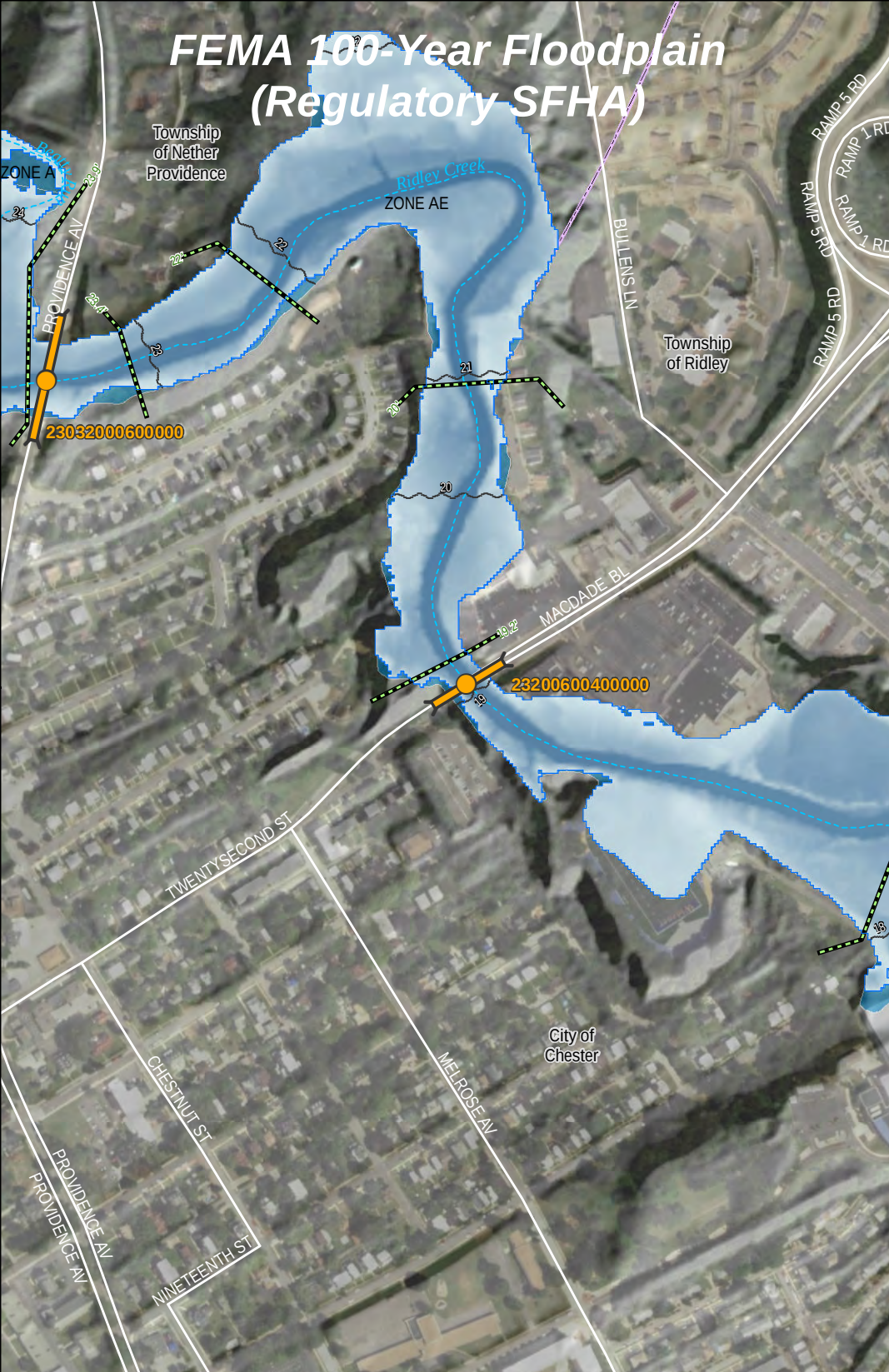
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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
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Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

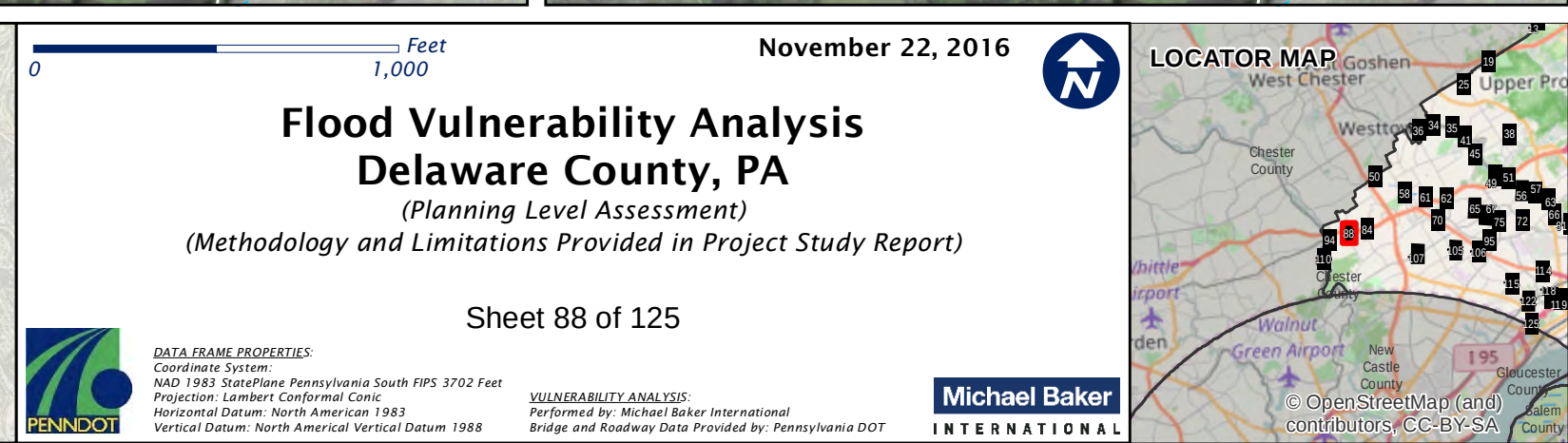
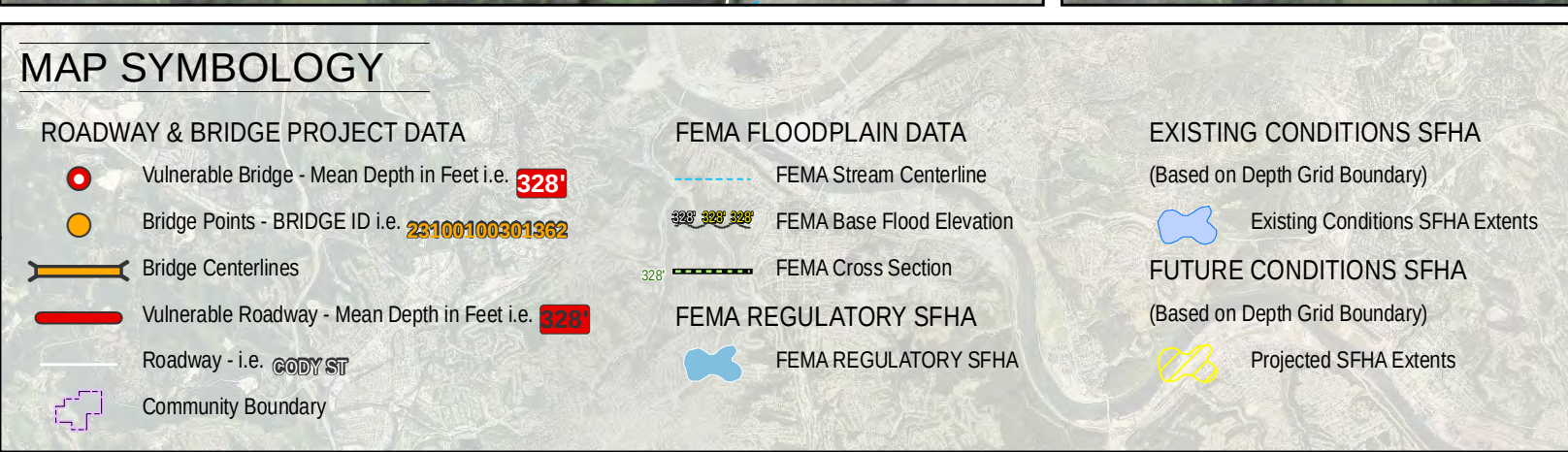
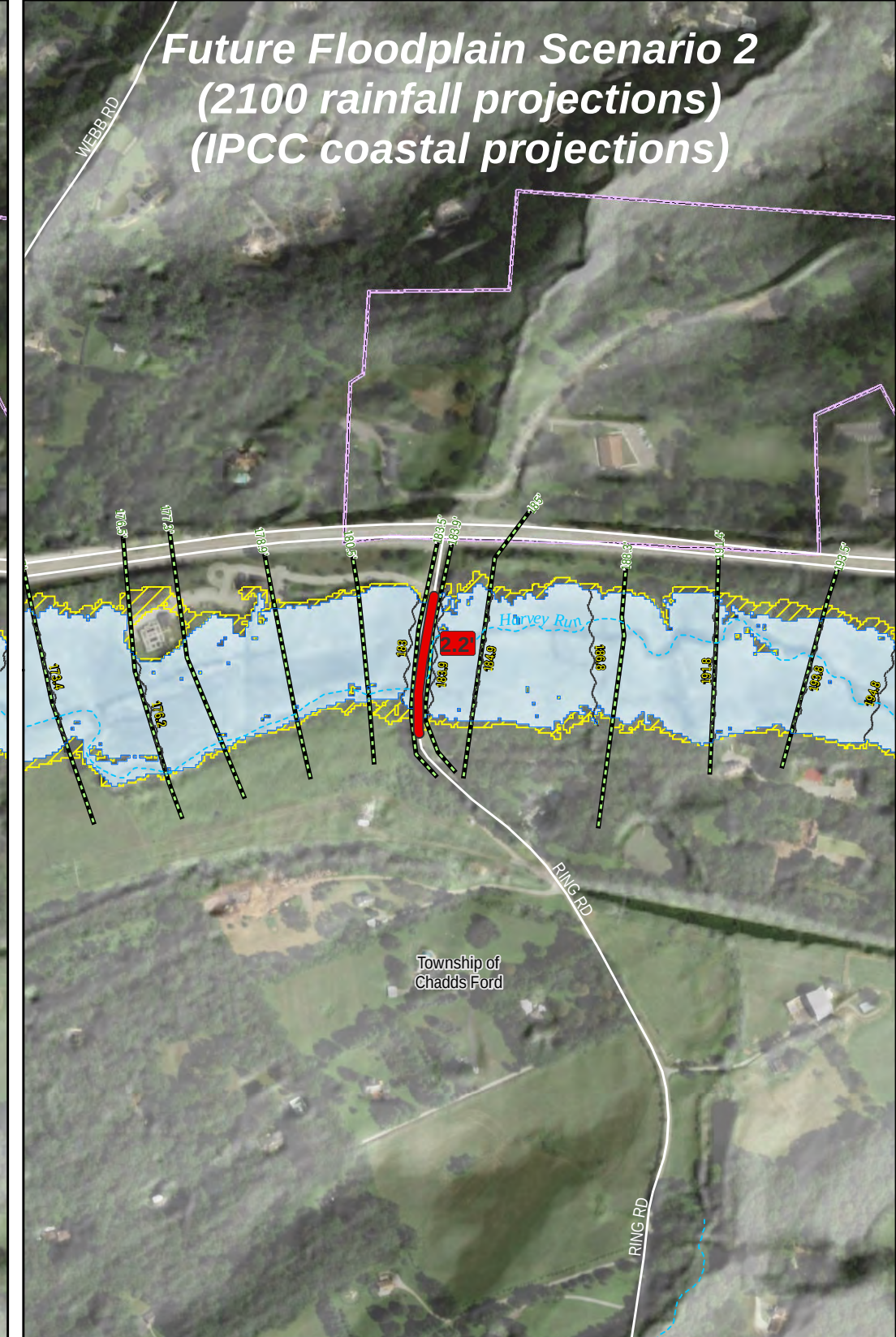
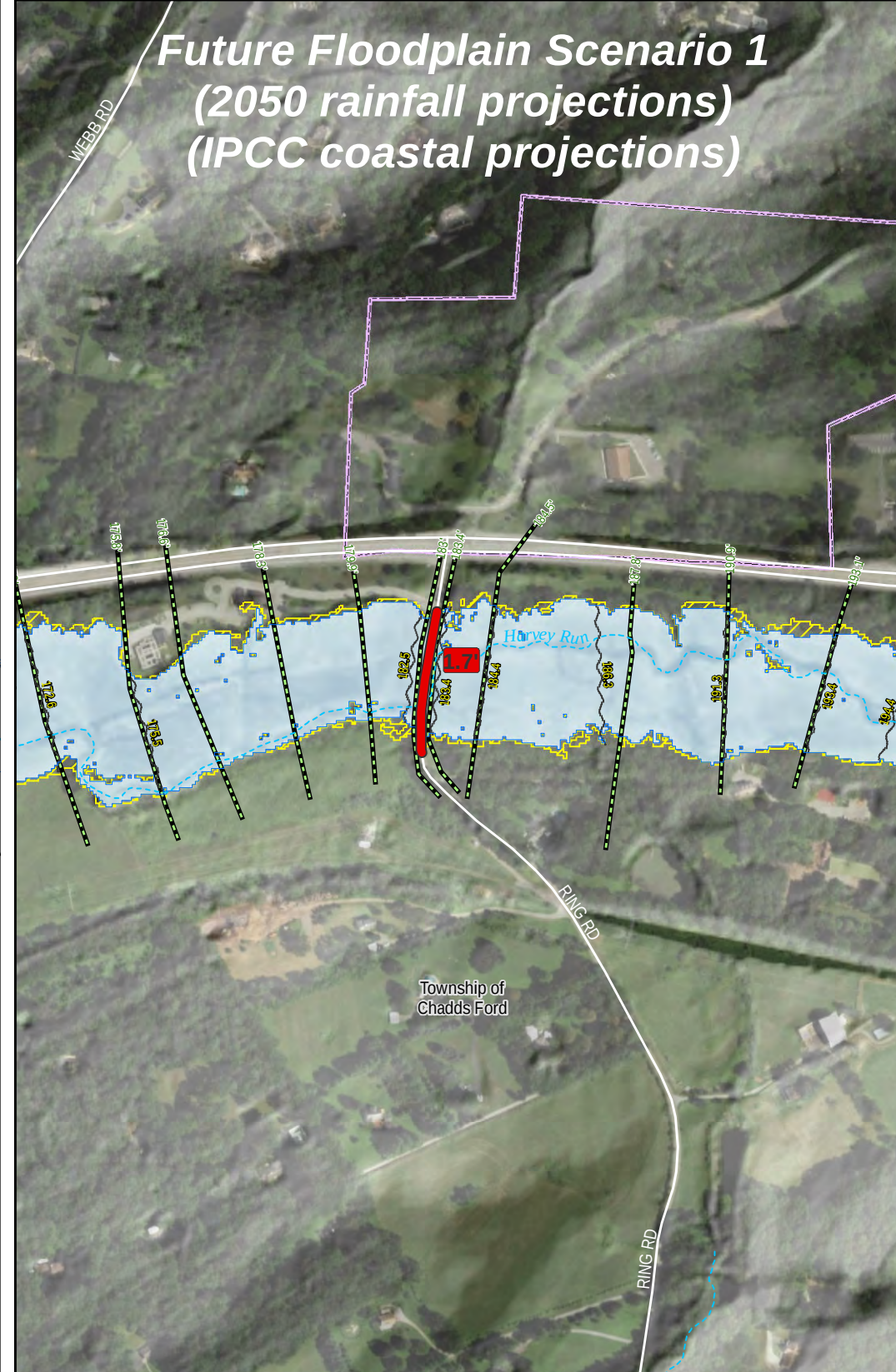
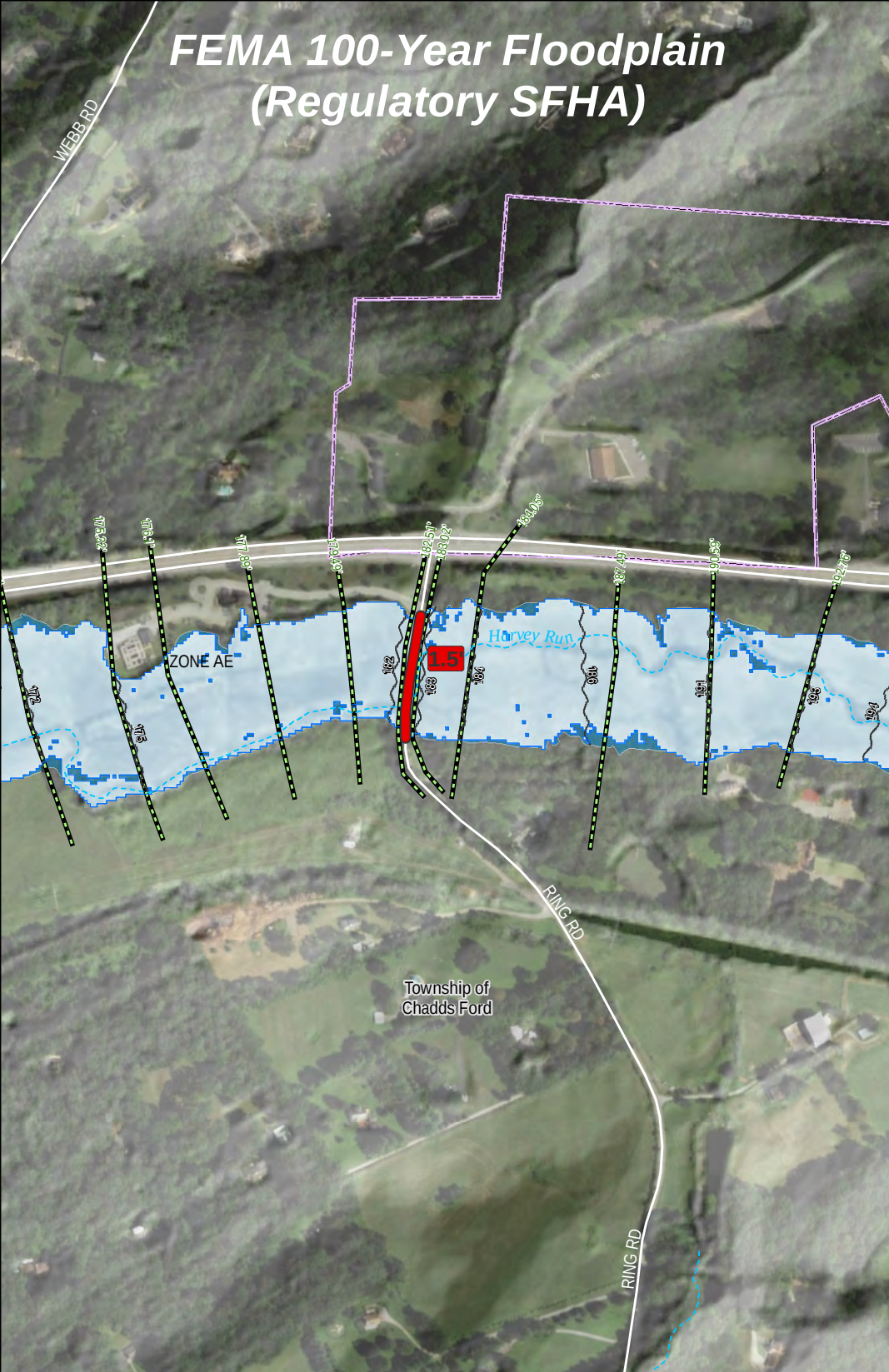
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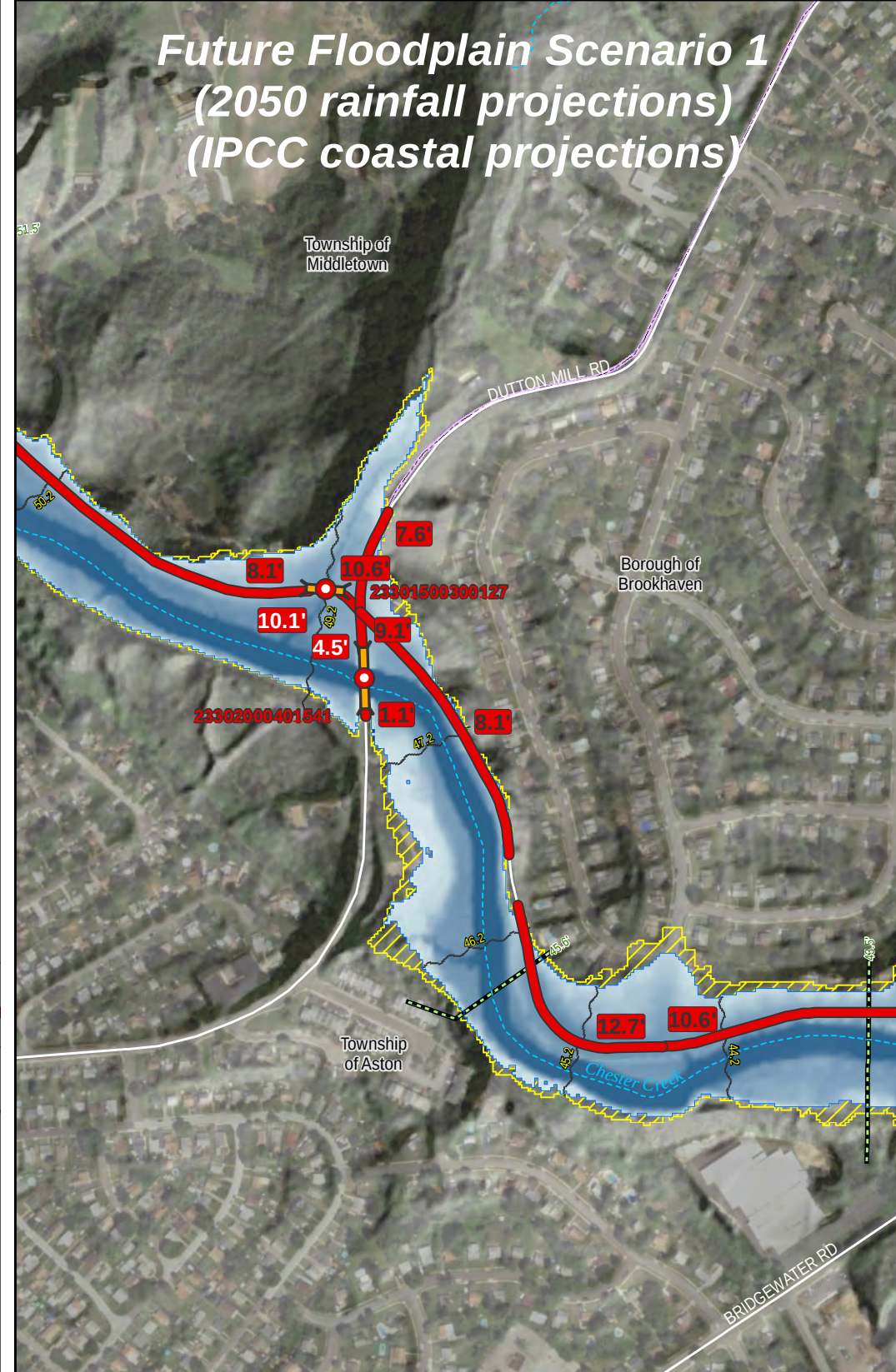
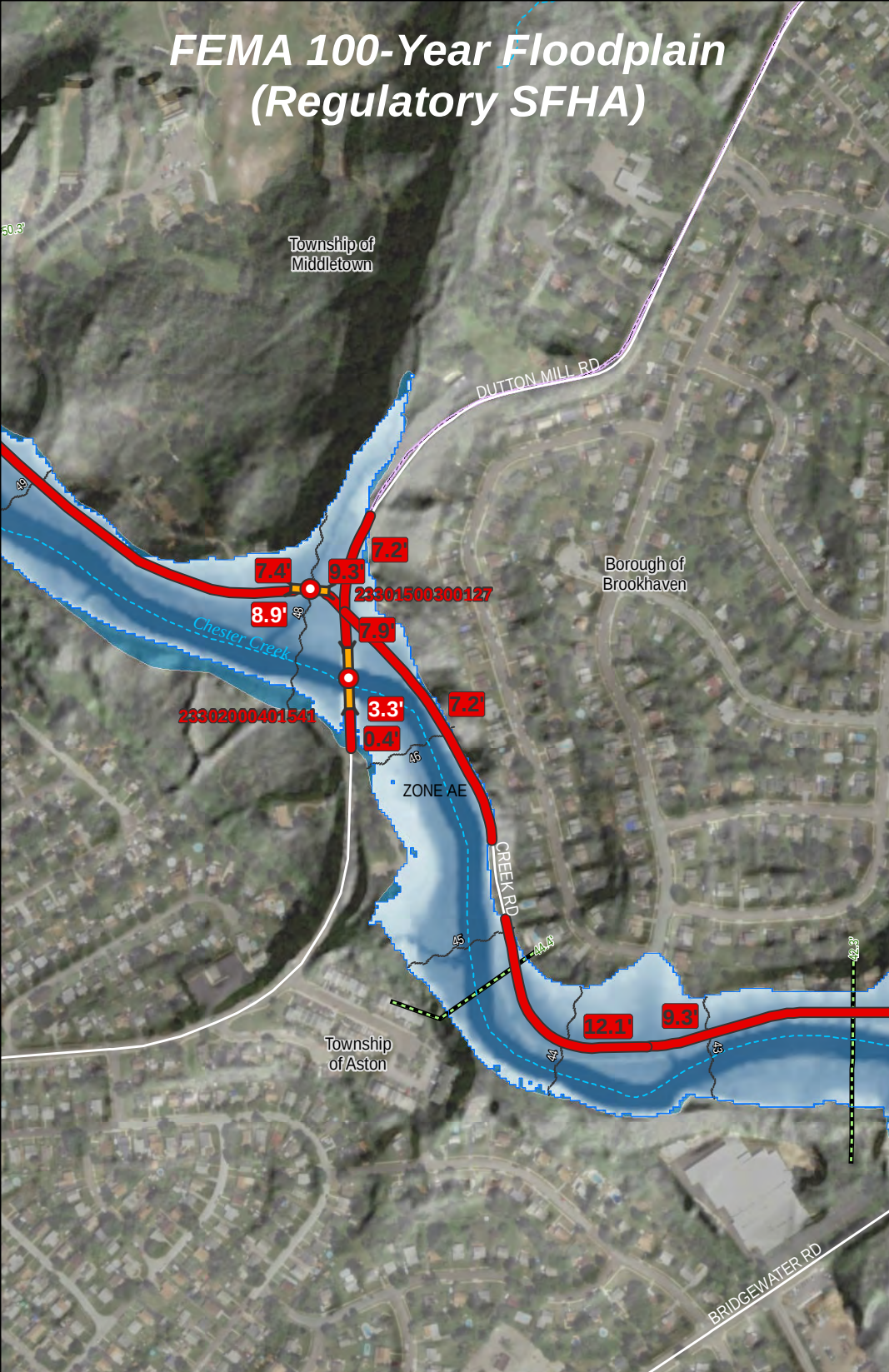
DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
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Bridge and Roadway Data Provided by: Pennsylvania DOT

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

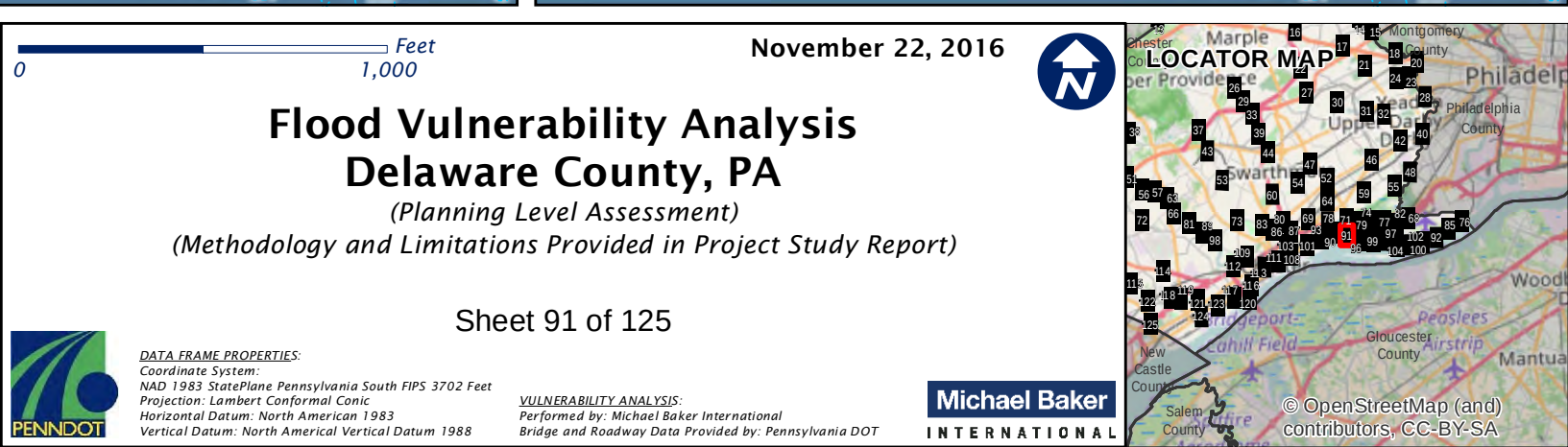
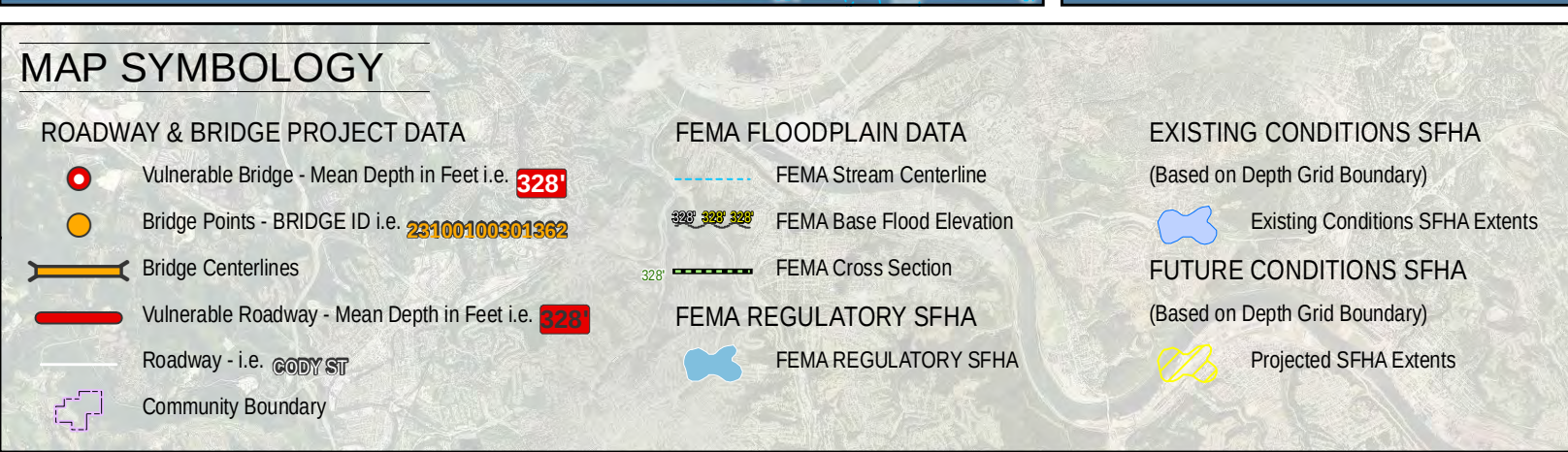
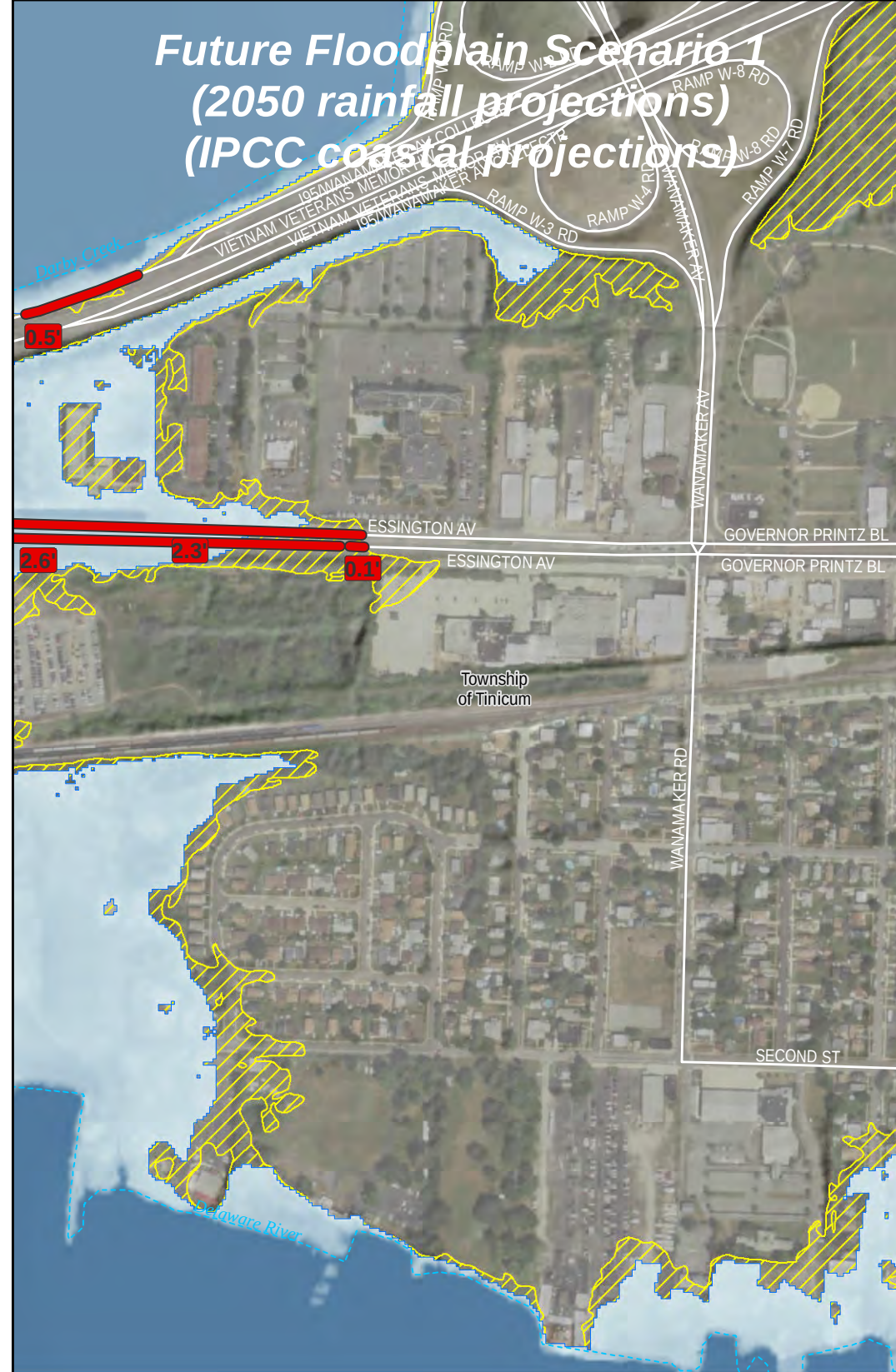
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(Methodology and Limitations Provided in Project Study Report)

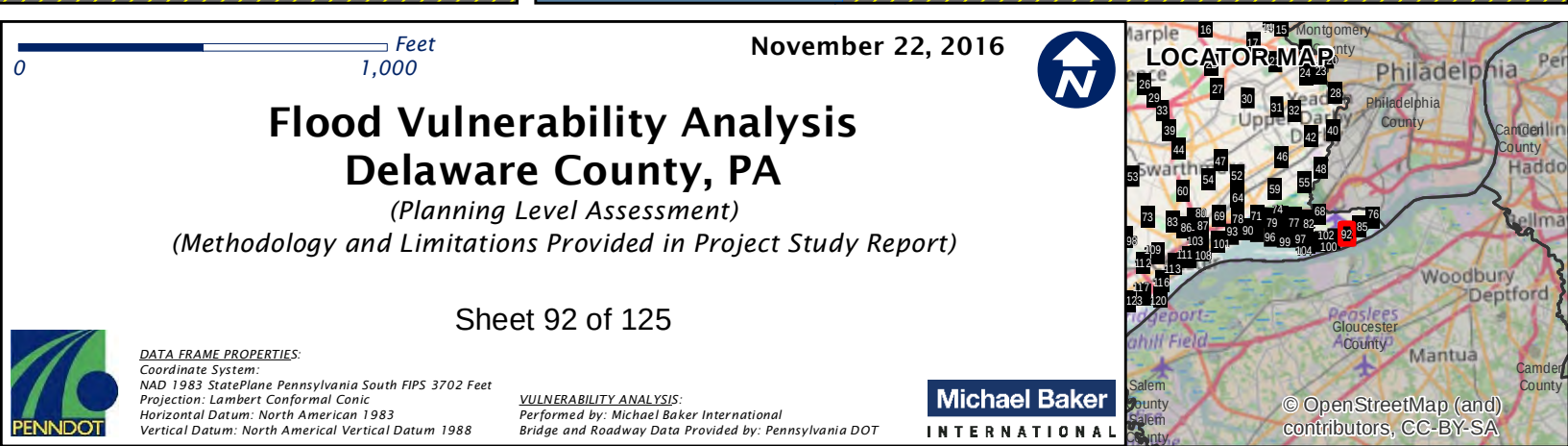
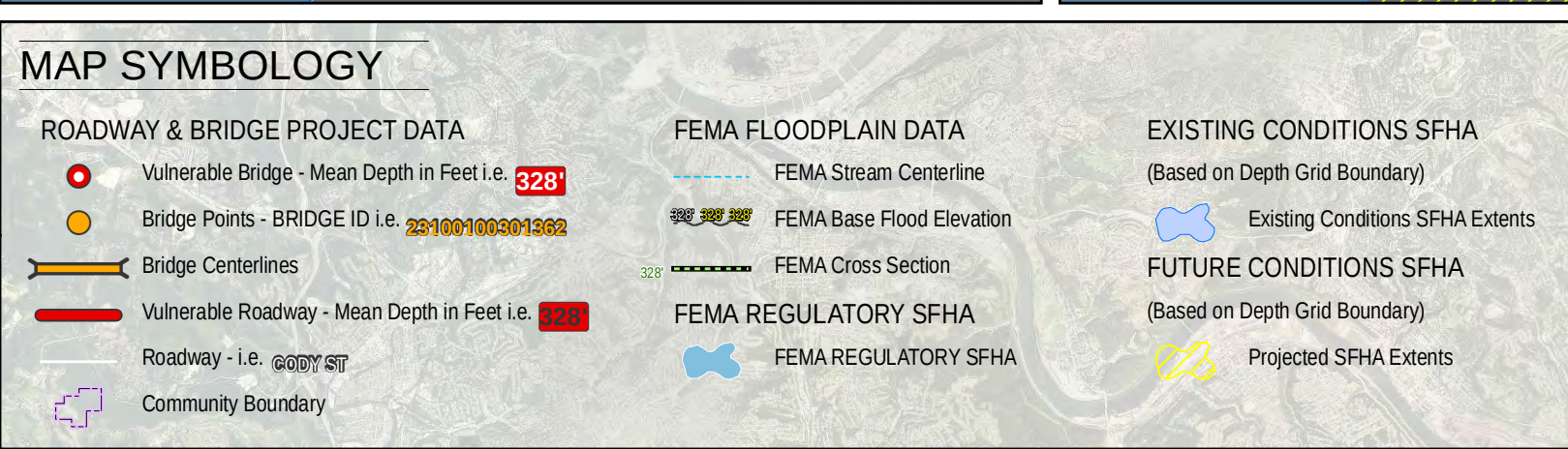
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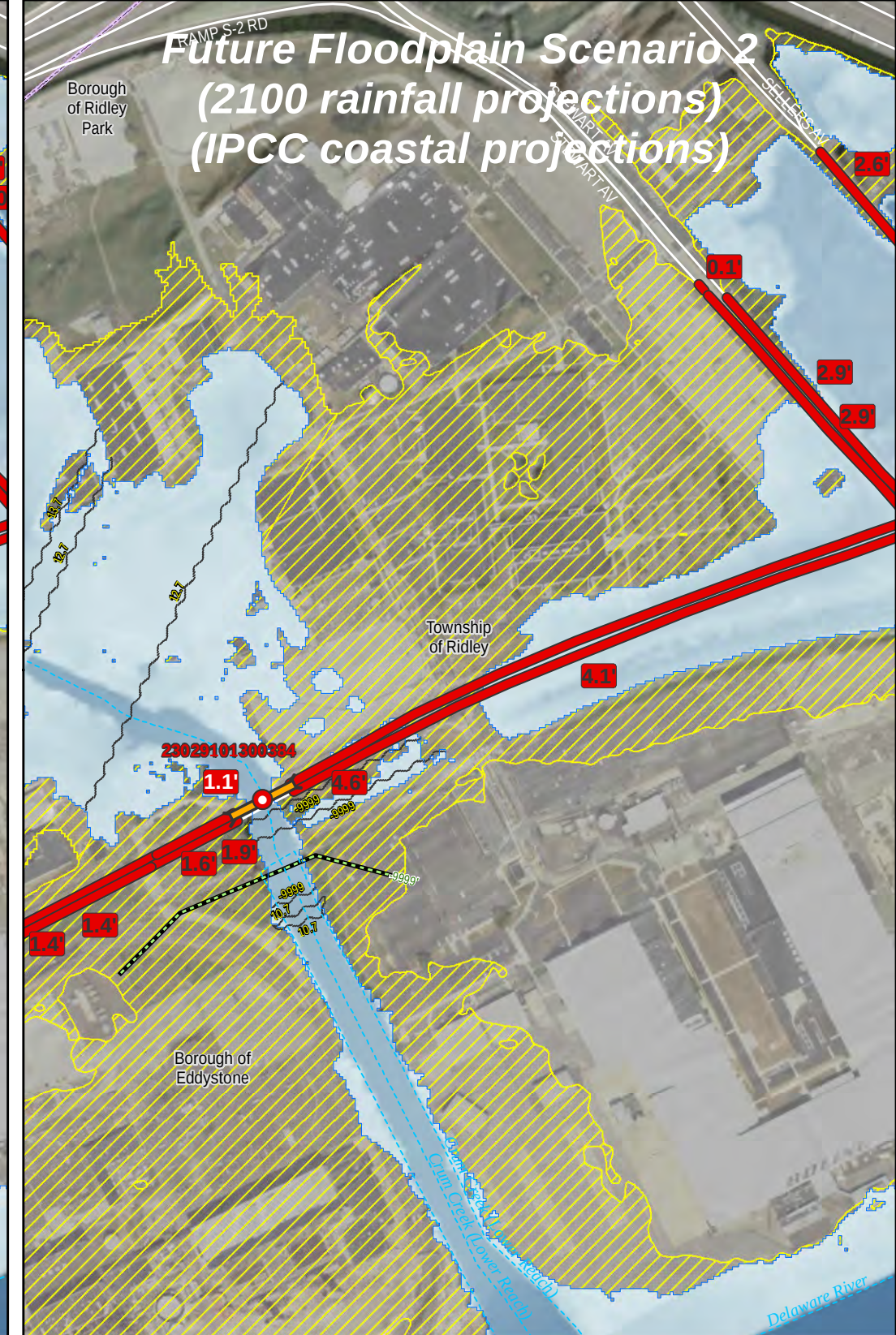
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MAP SYMBOLLOGY

ROADWAY & BRIDGE PROJECT DATA

-  Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
 Bridge Points - BRIDGE ID i.e. **23100100301362**
 Bridge Centerlines
 Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
 Roadway - i.e. **GODY ST**
 Community Boundary

FEMA FLOODPLAIN DATA

-
- FEMA Stream Centerline
 FEMA Base Flood Elevation
 FEMA Cross Section
 FEMA Regulatory SFHA
 FEMA Regulatory SFHA

EXISTING CONDITIONS SFHA

- (Based on Depth Grid Boundary)
-  Existing Conditions SFHA Extents
- FUTURE CONDITIONS SFHA**
- (Based on Depth Grid Boundary)
-  Projected SFHA Extents



November 22, 2016



Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

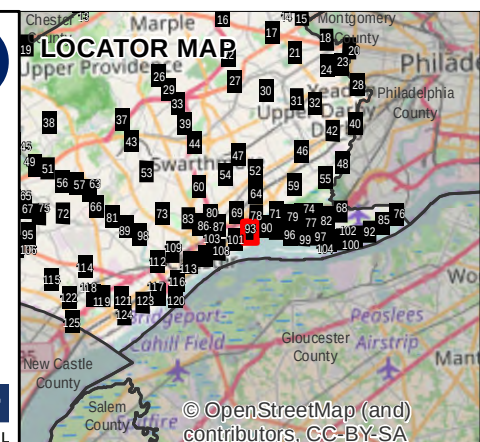
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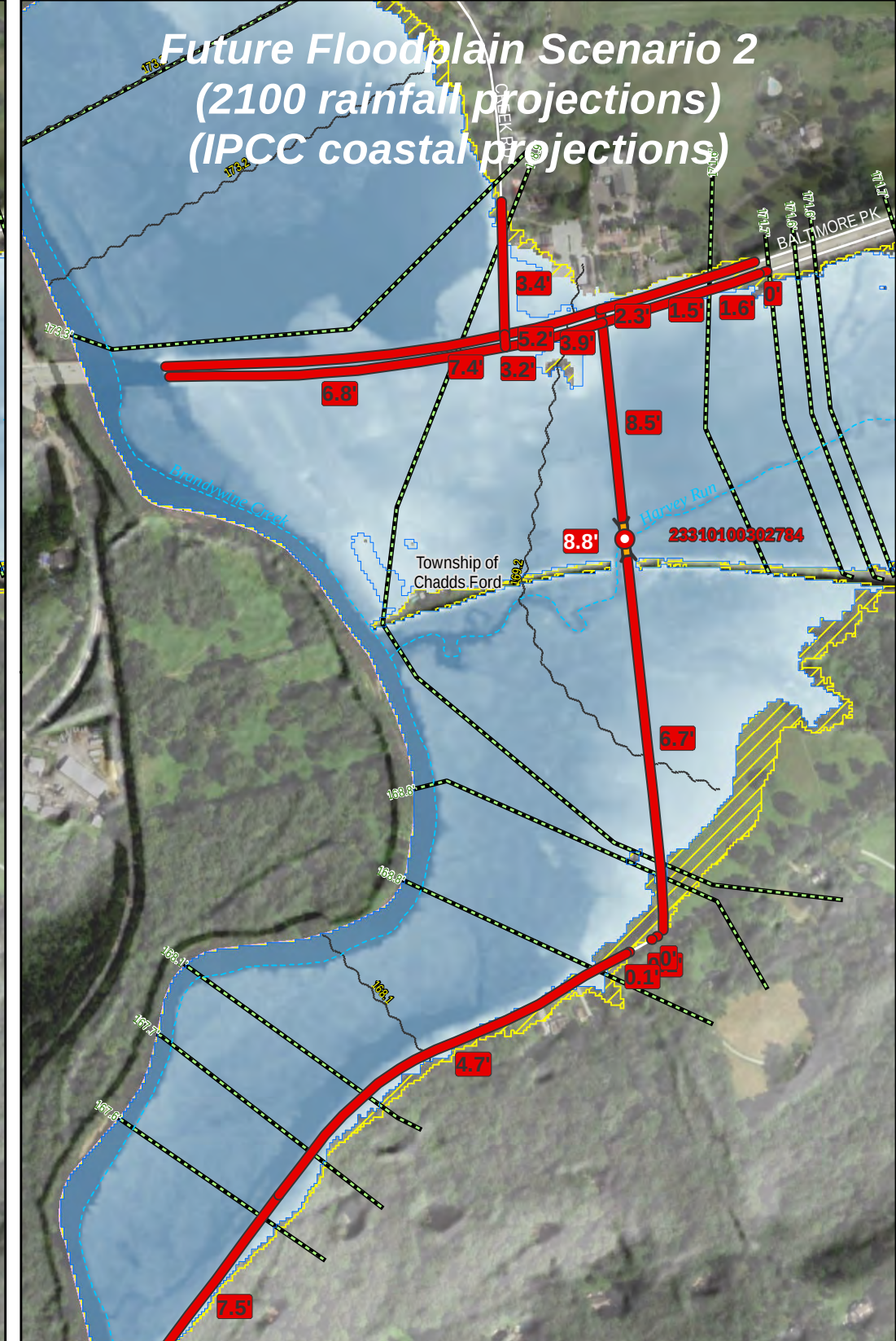
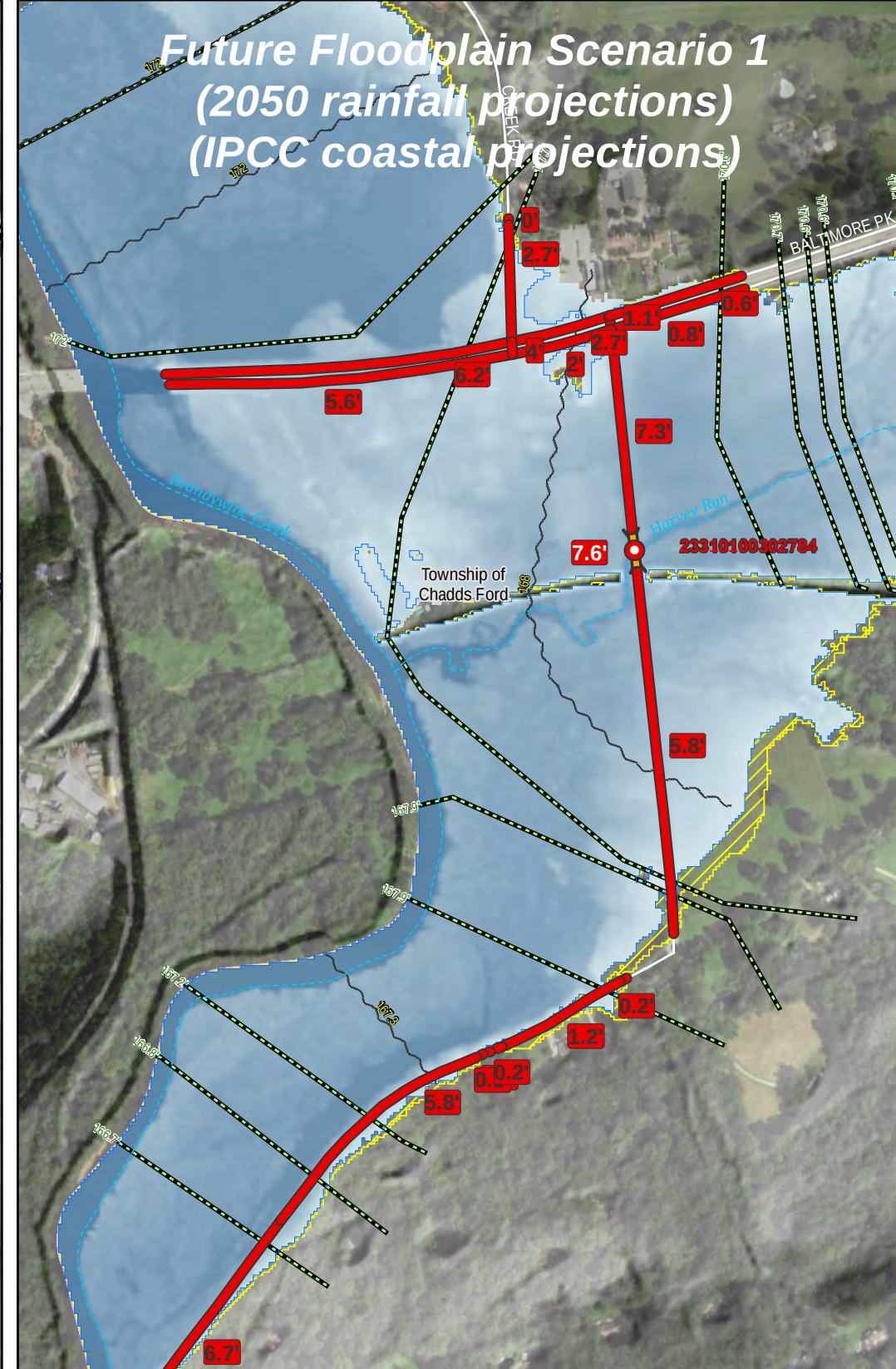
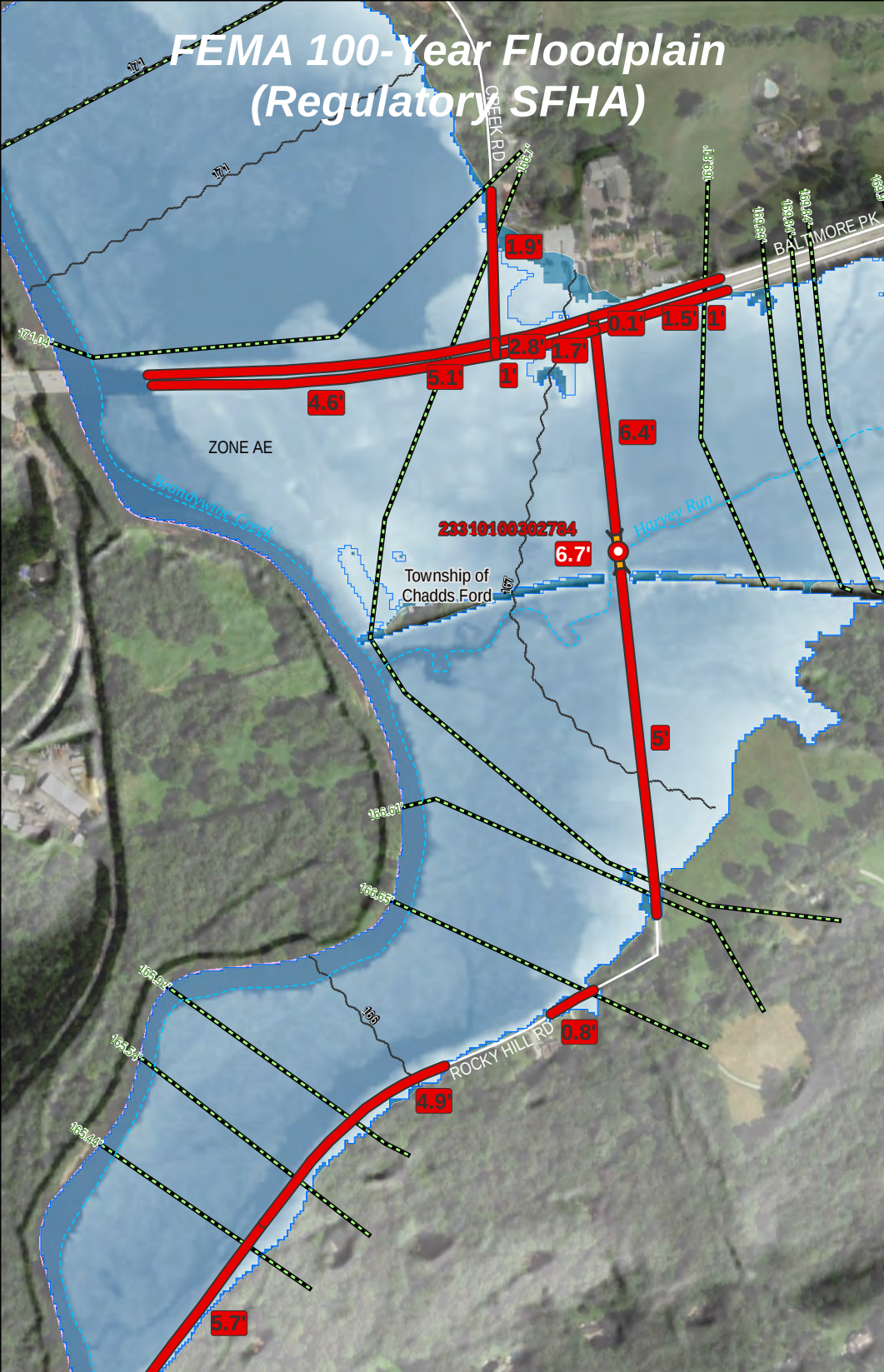


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MAP SYMBOLOGY

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November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

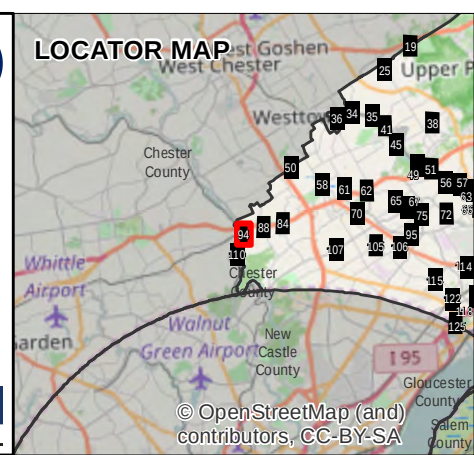
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

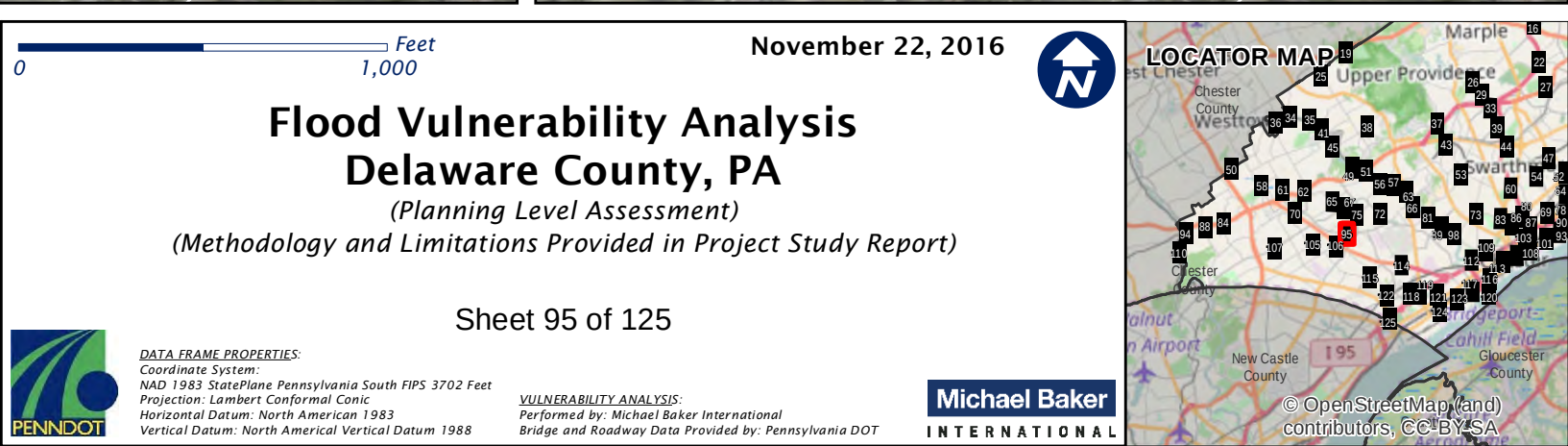
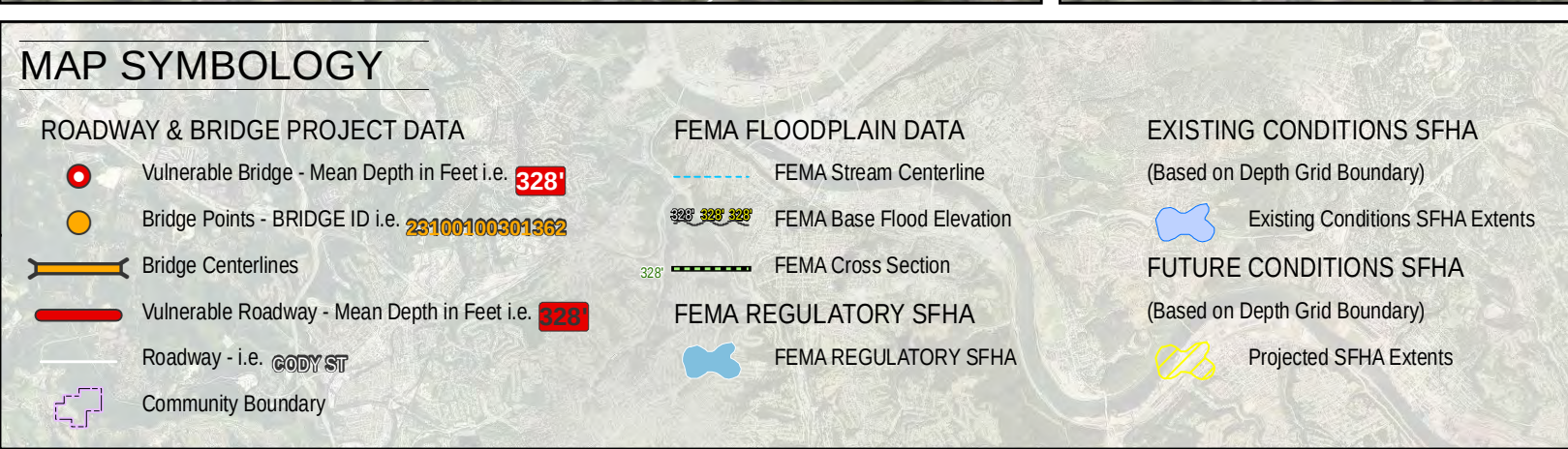
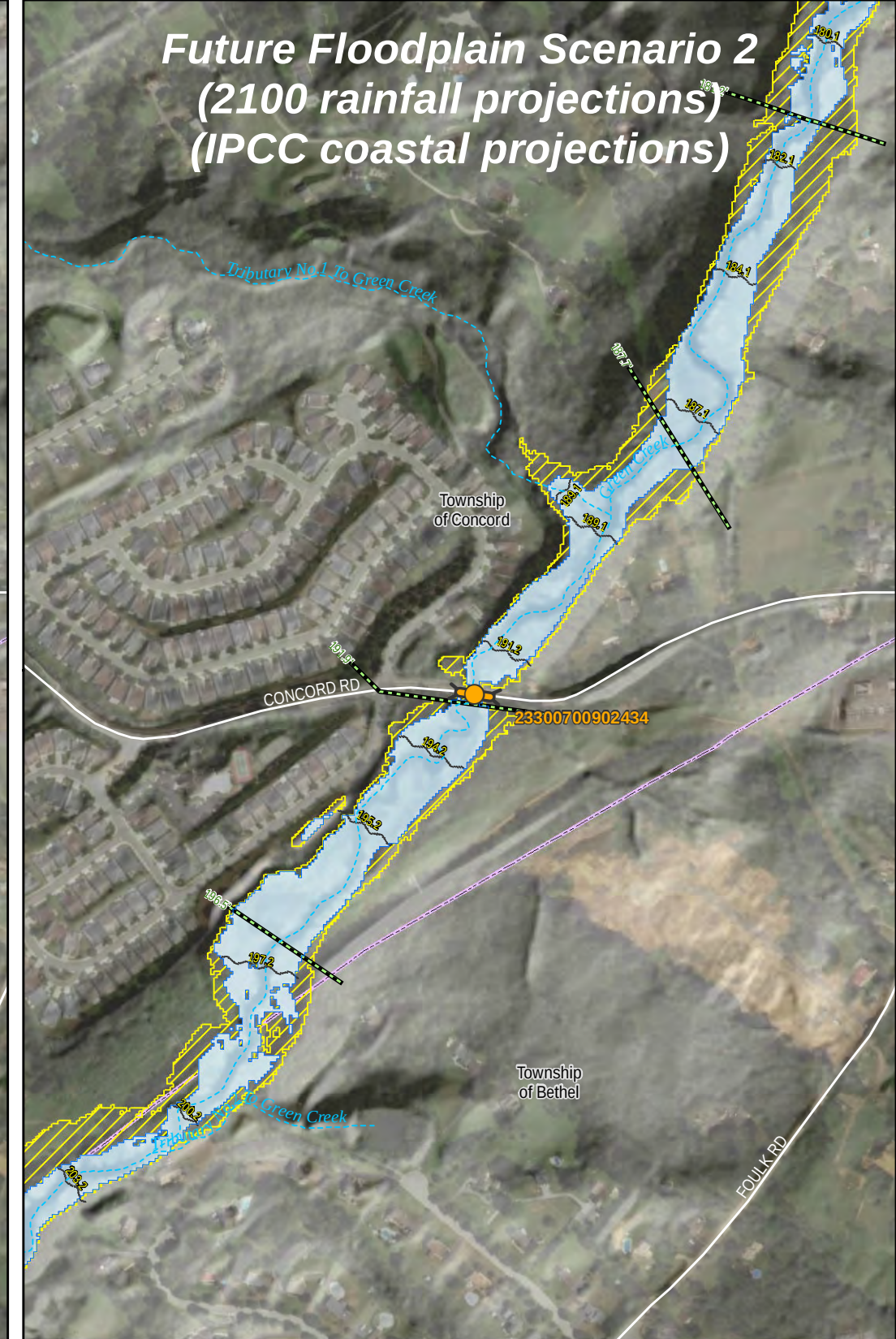
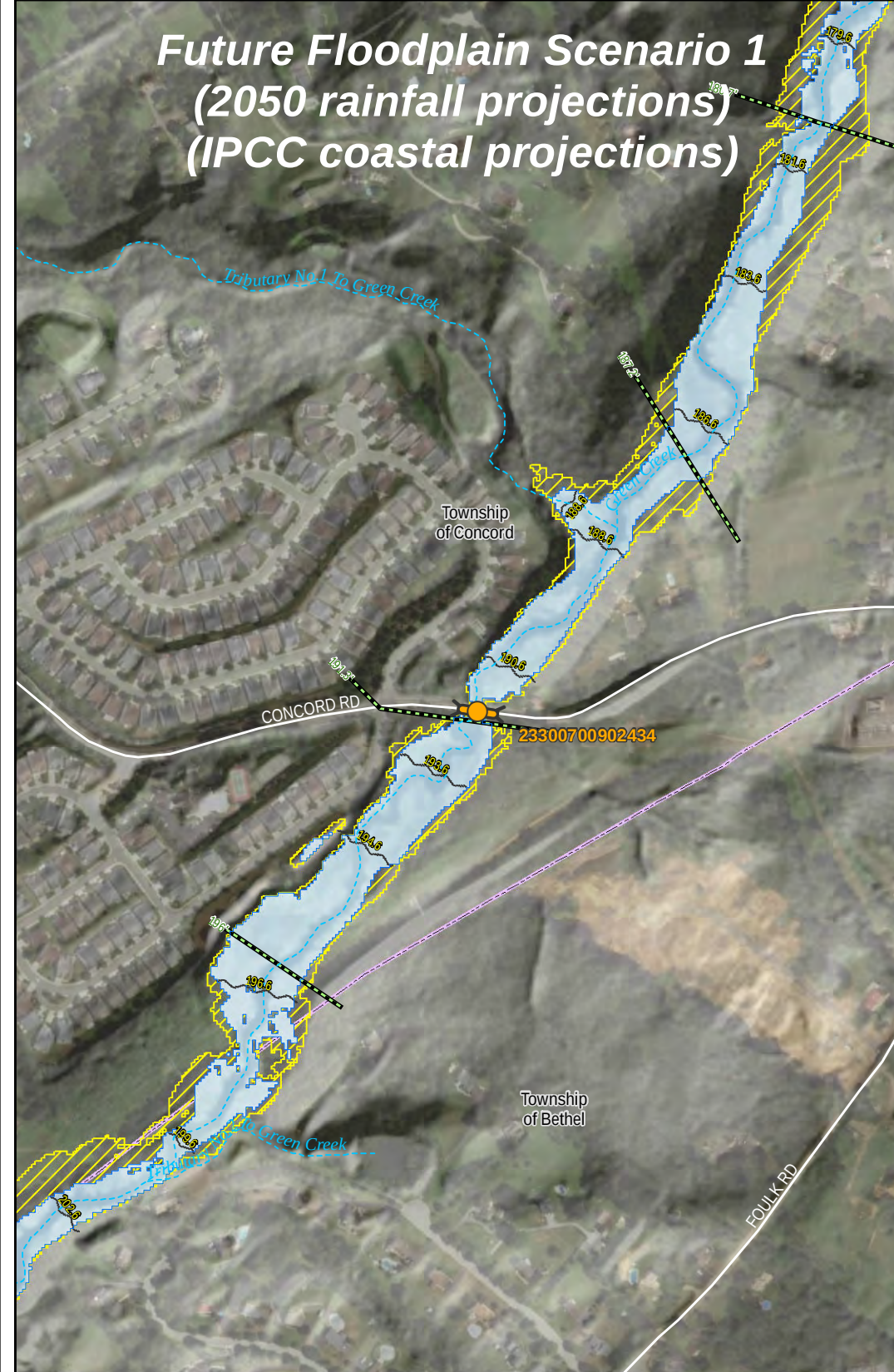
Sheet 94 of 125

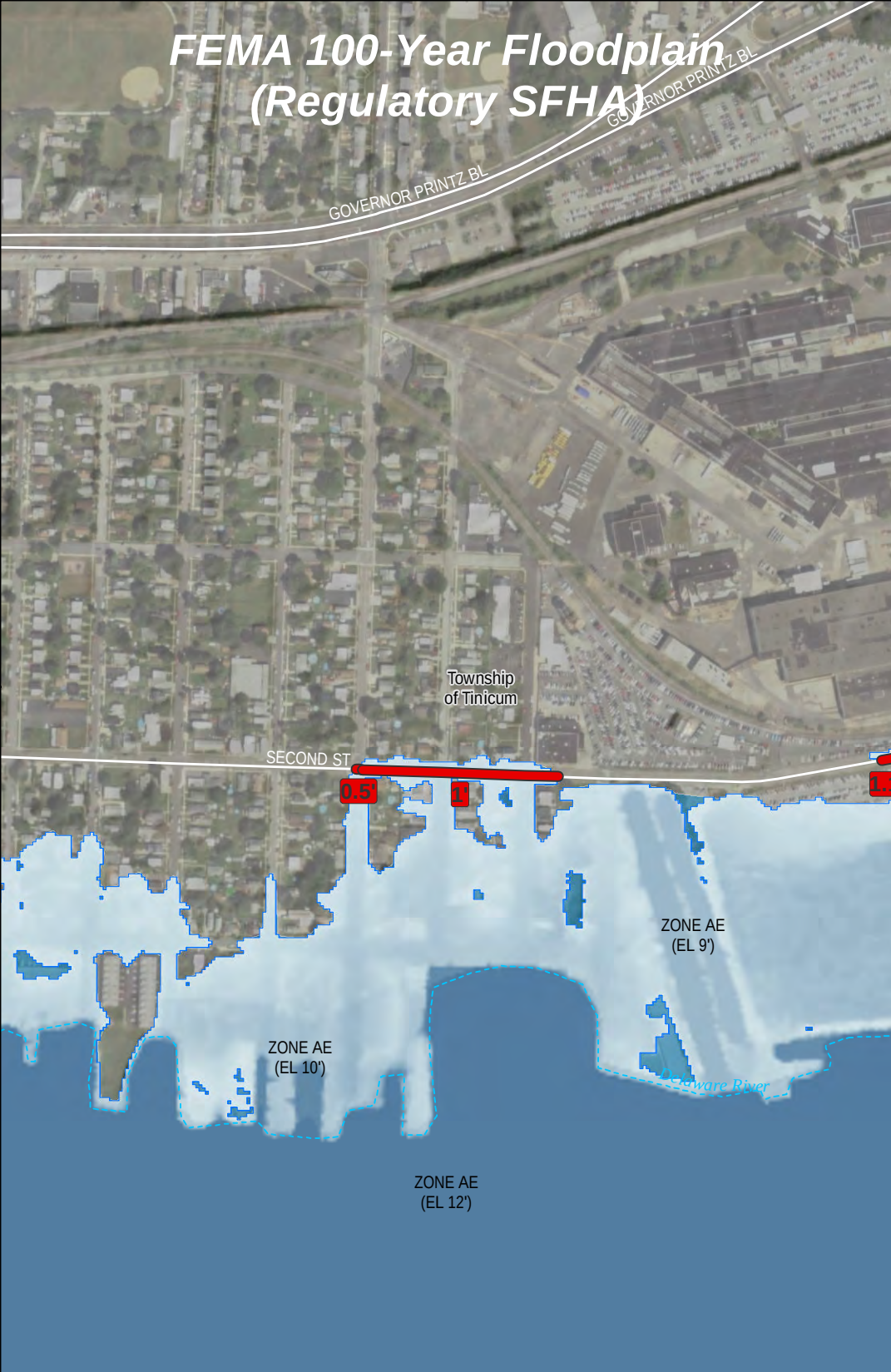
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Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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PENNDOT

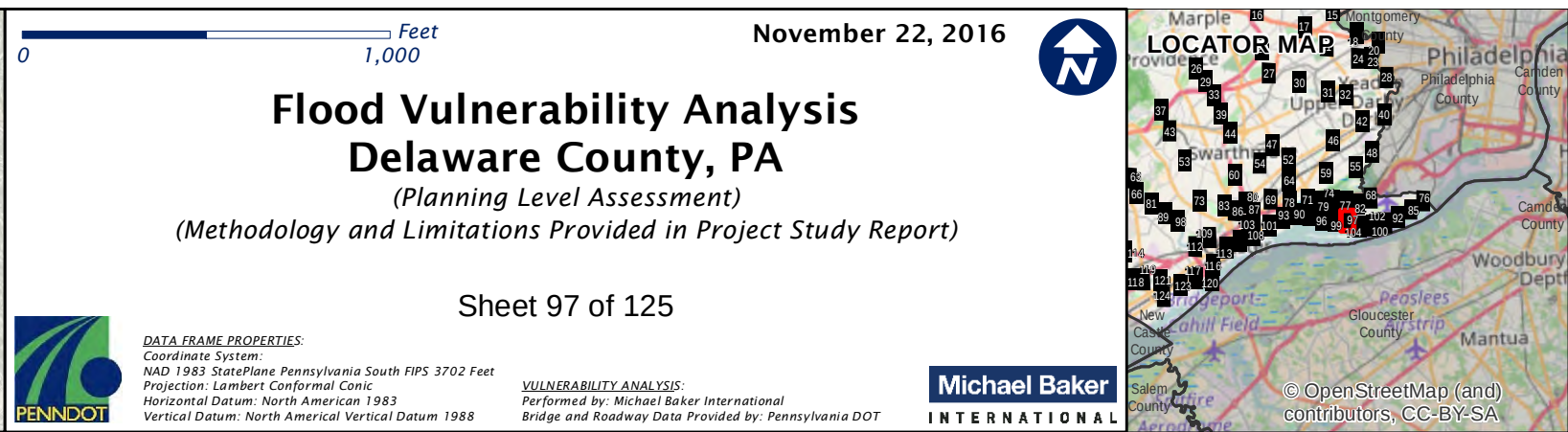
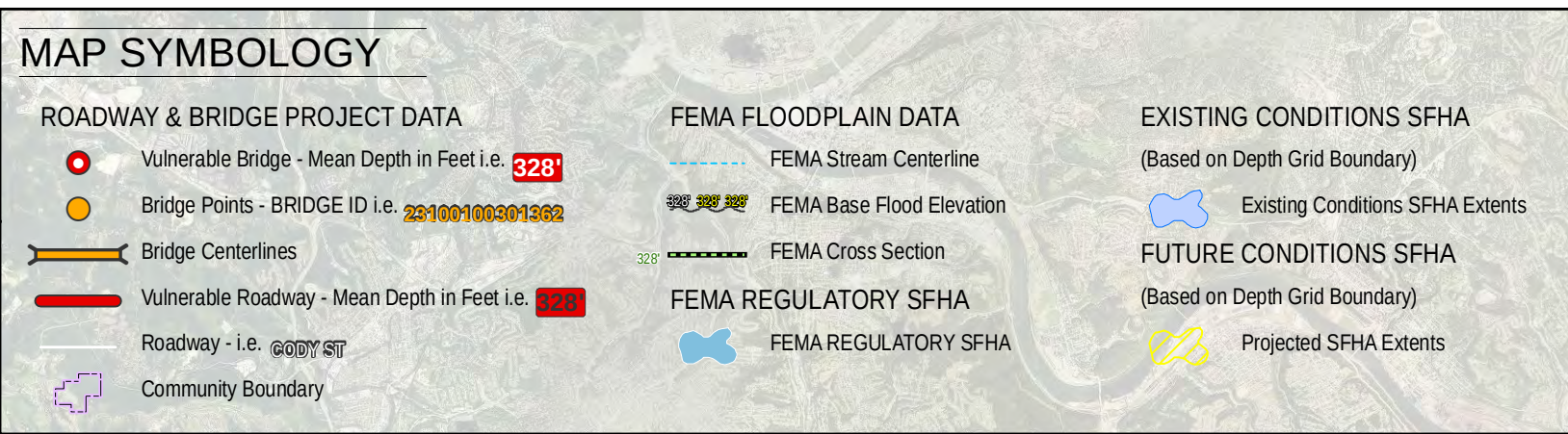
Michael Baker INTERNATIONAL

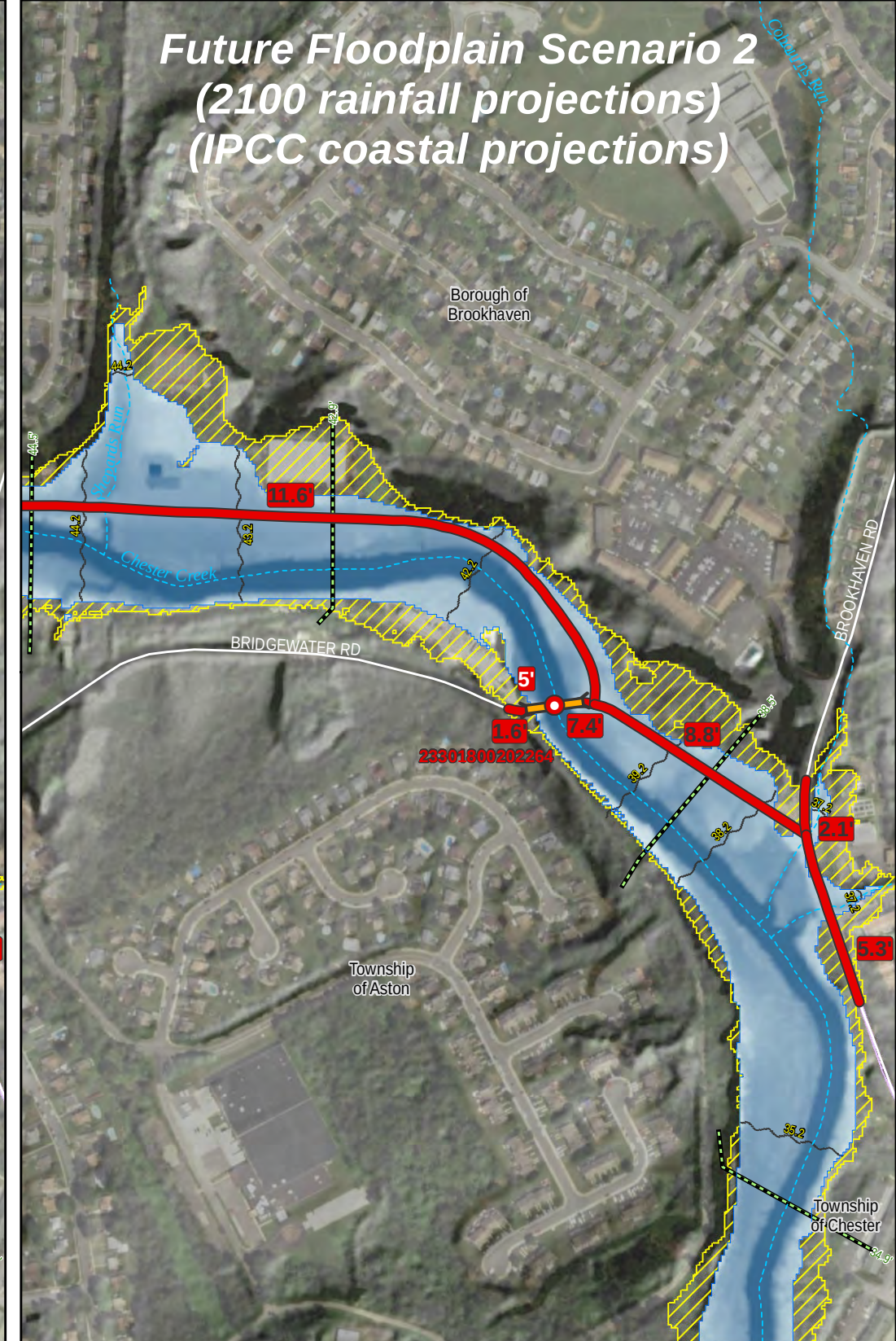
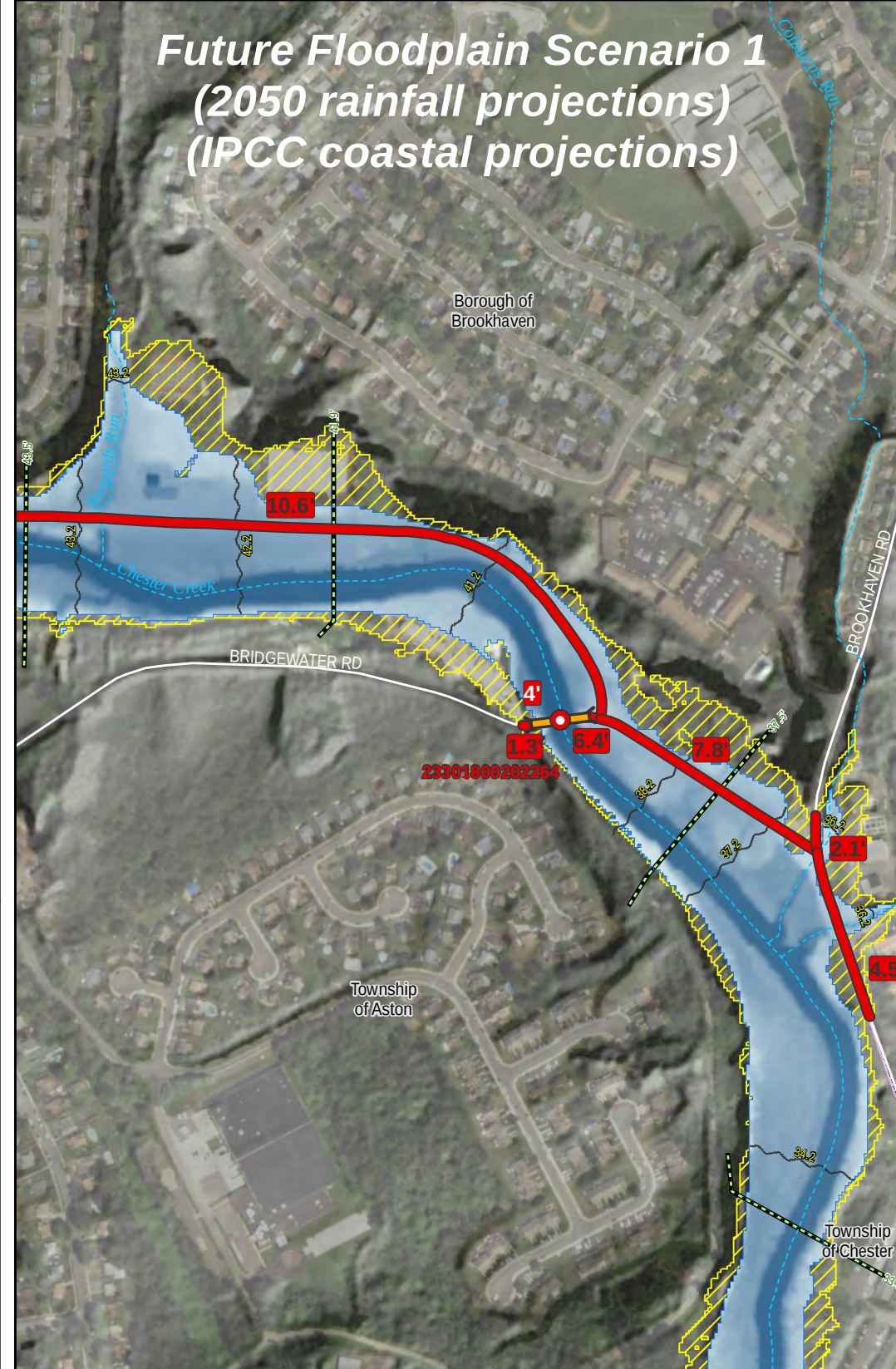
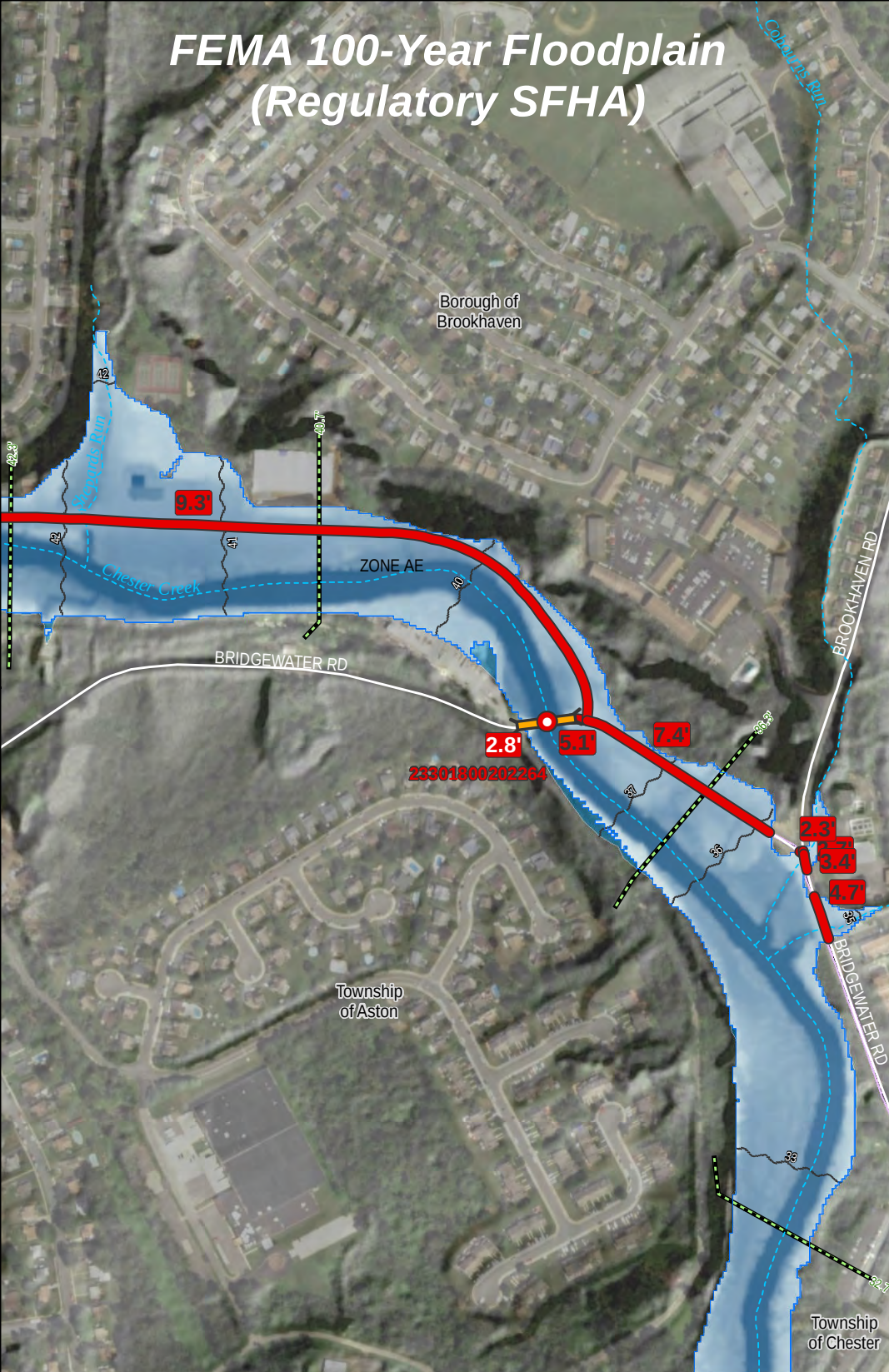
LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

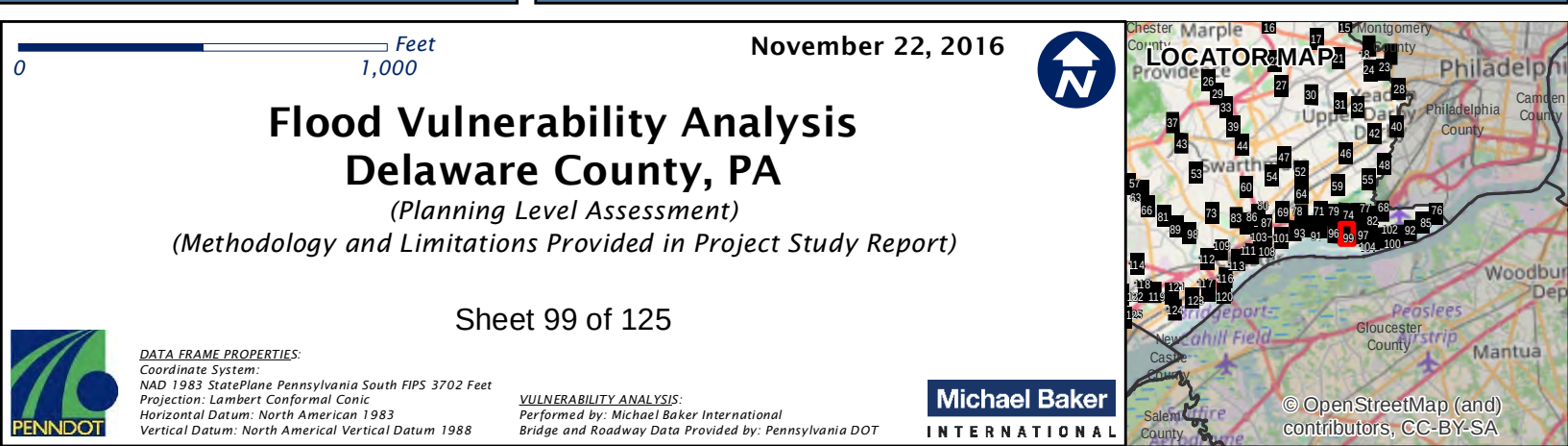
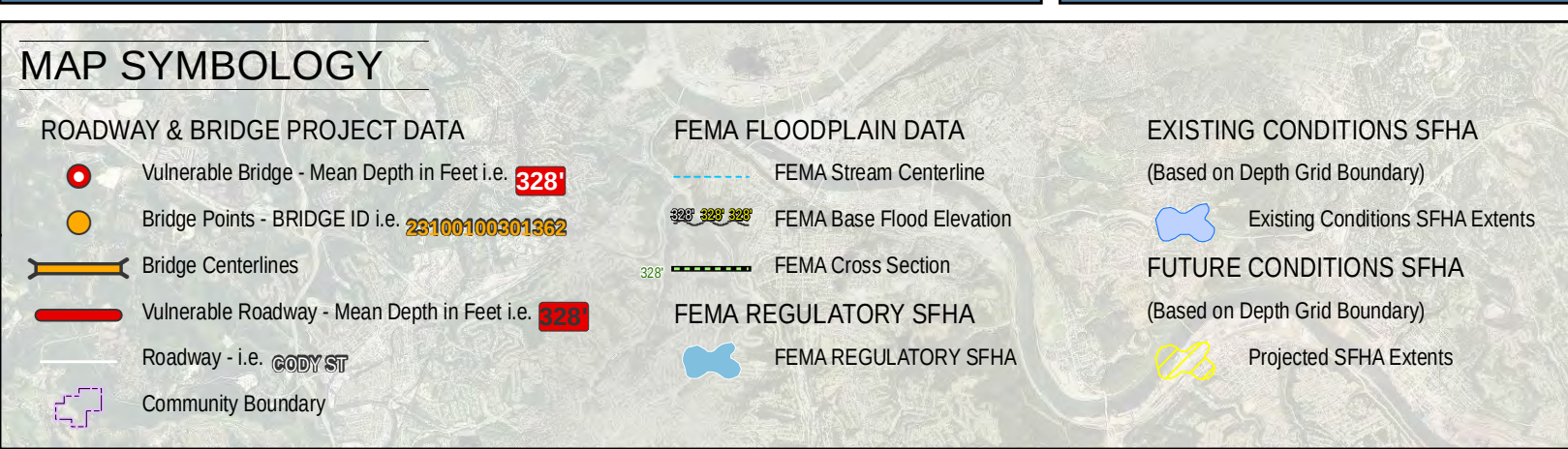
Sheet 98 of 125

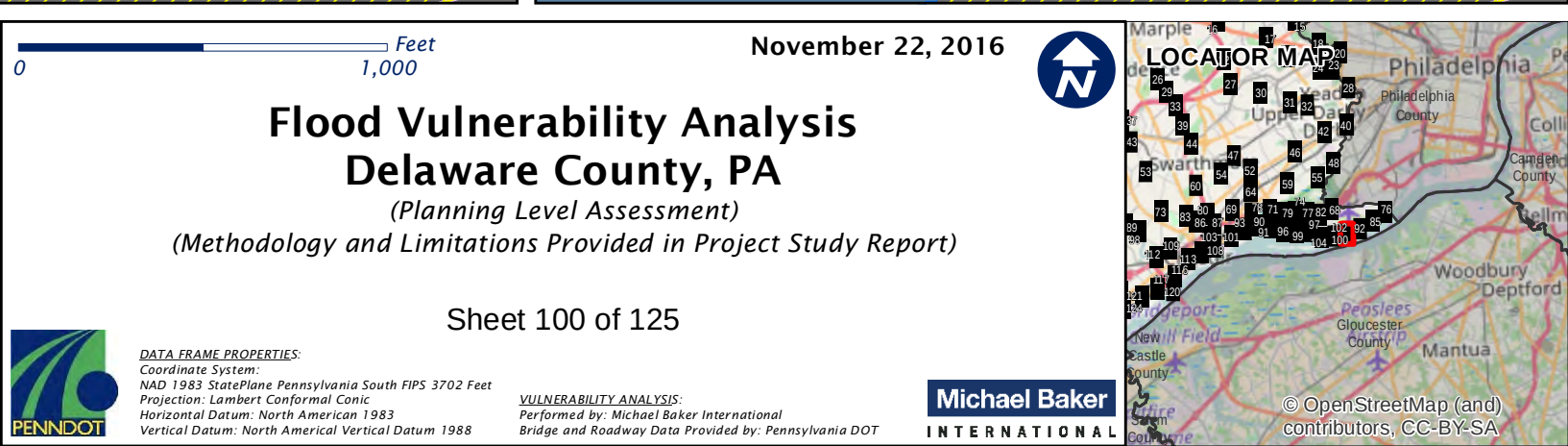
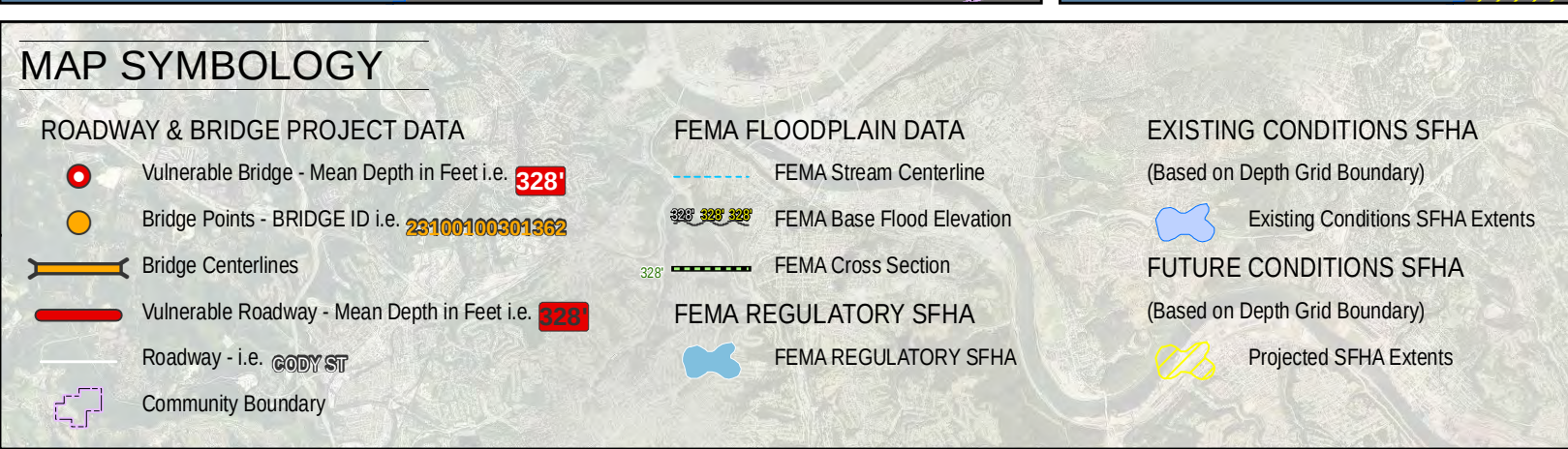
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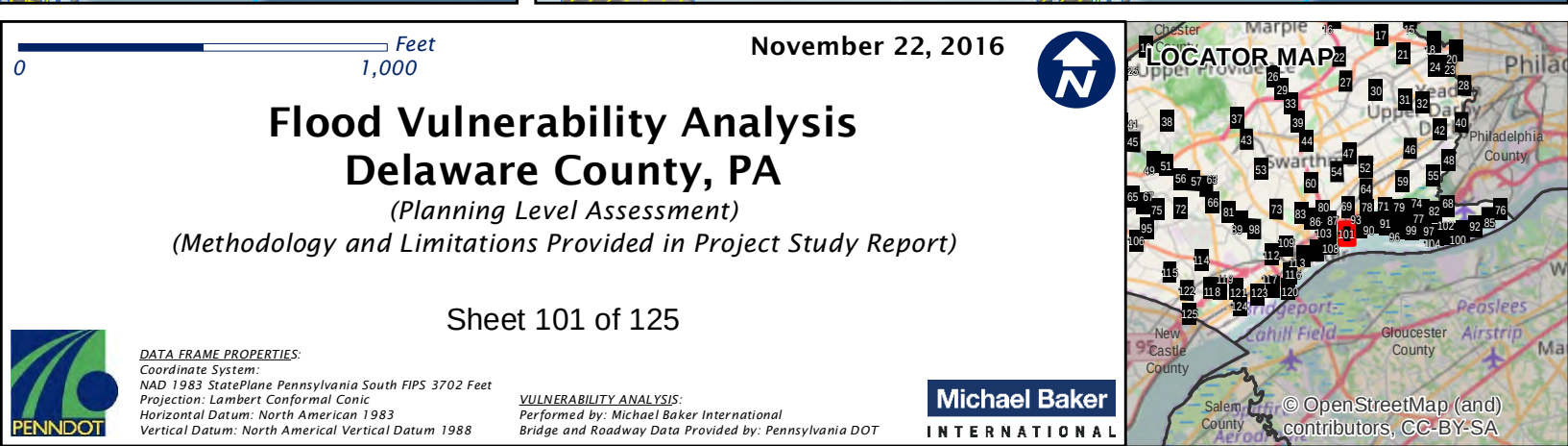
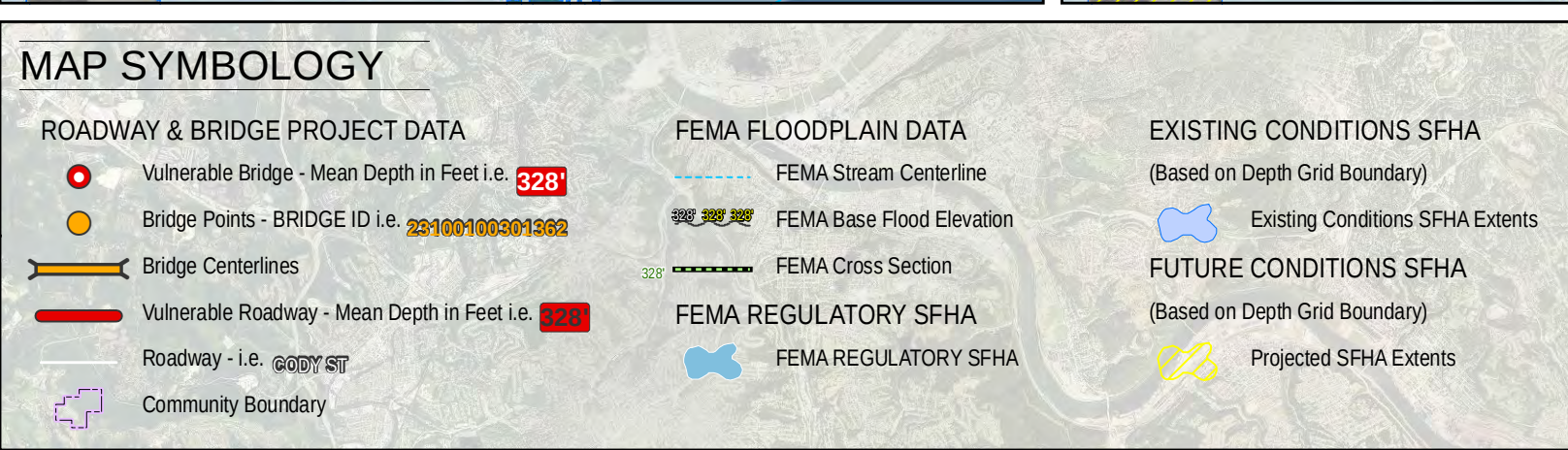
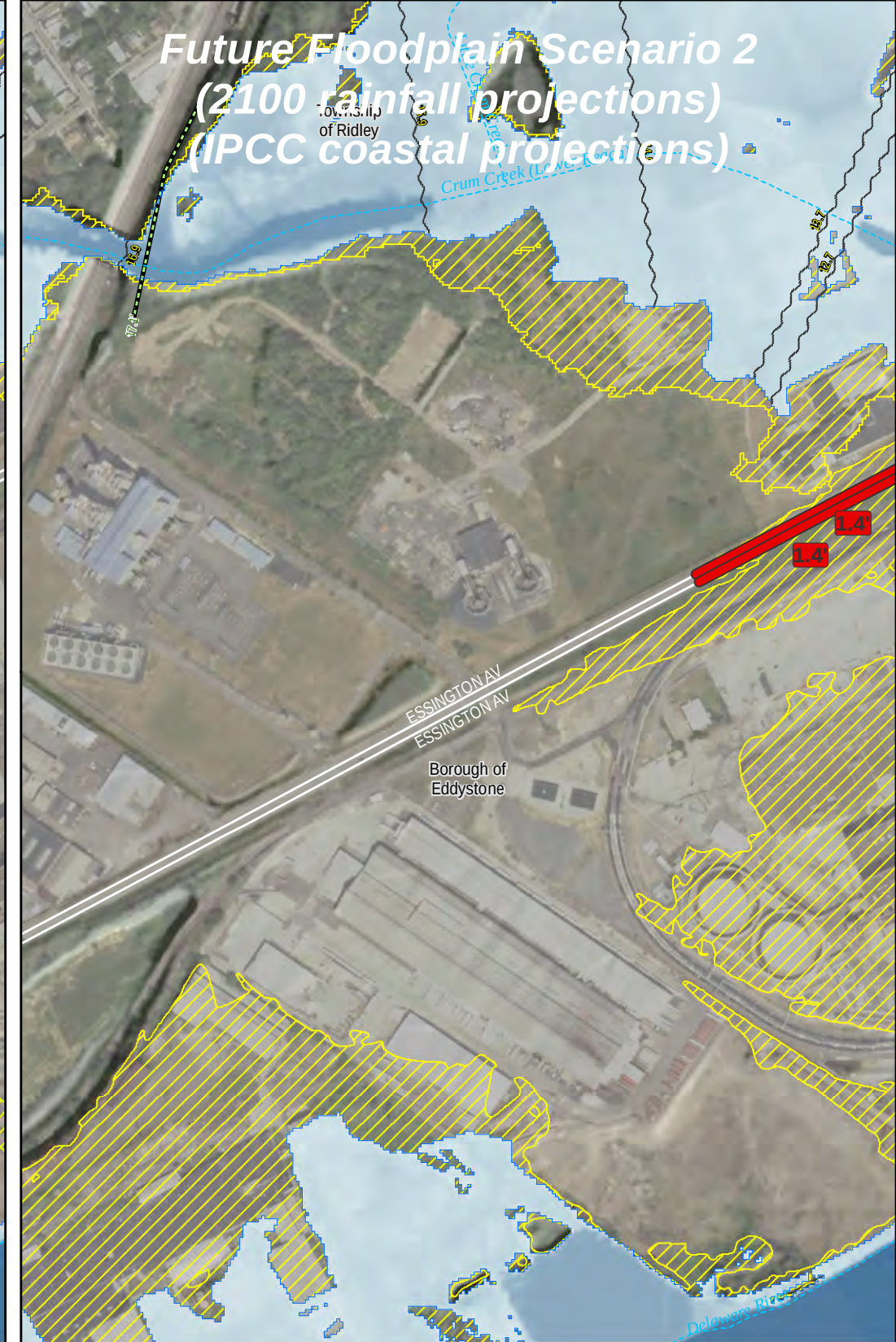
LOCATOR MAP

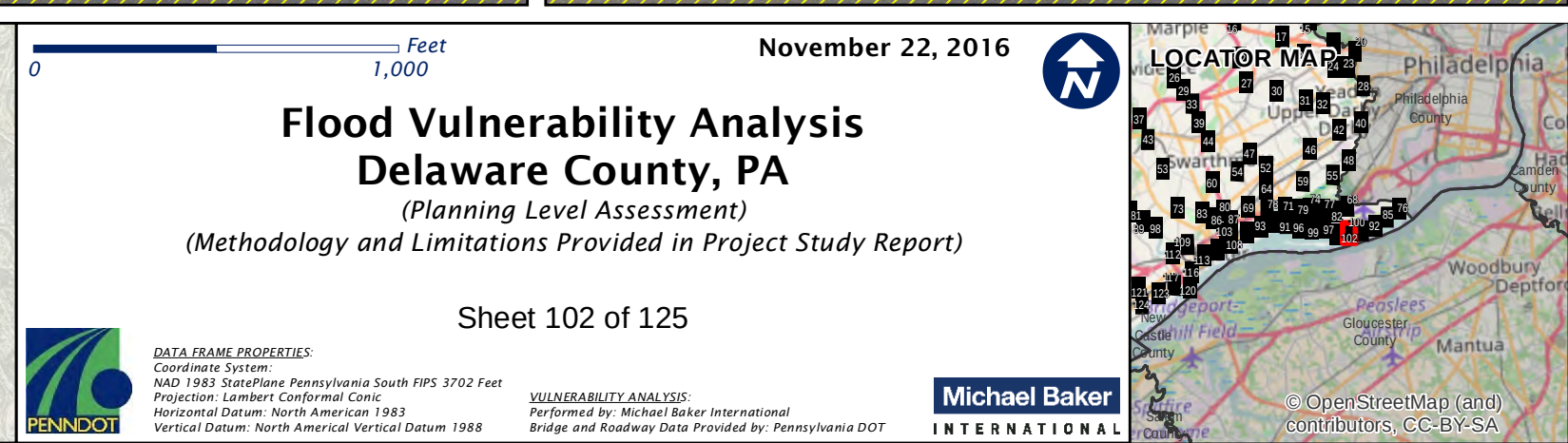
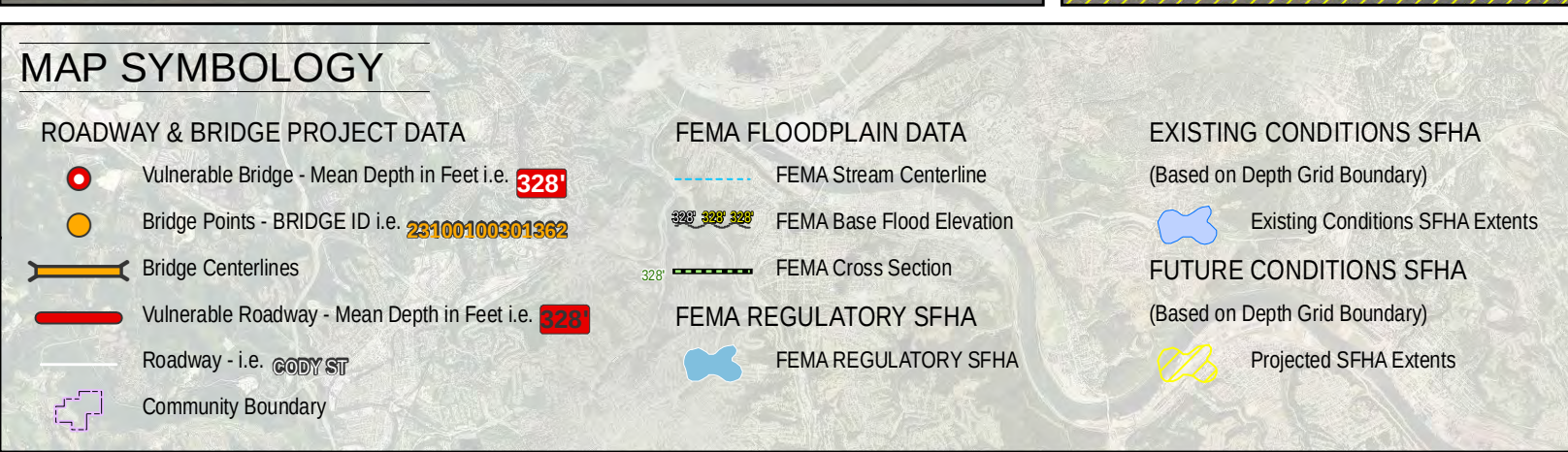
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Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

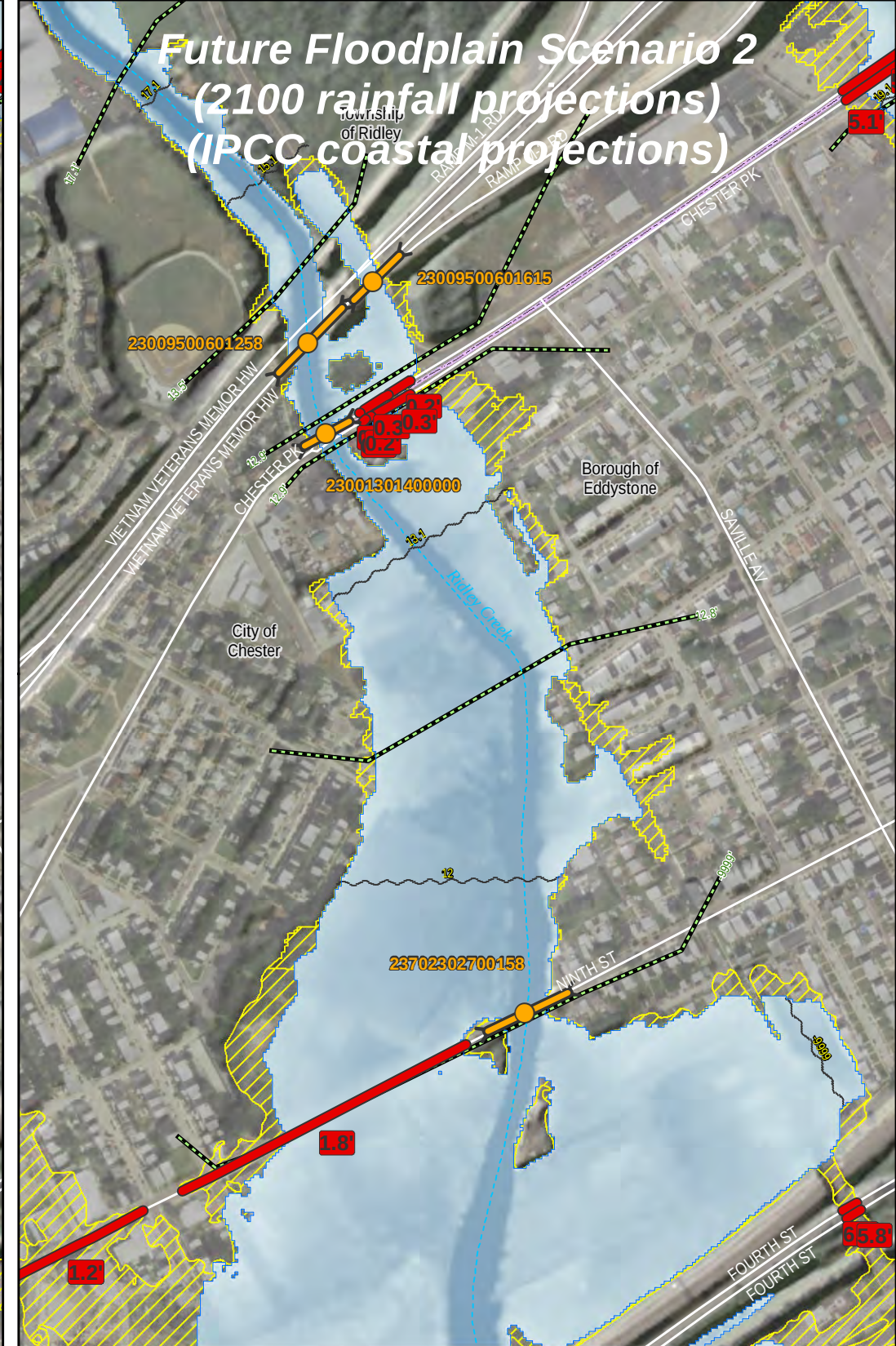
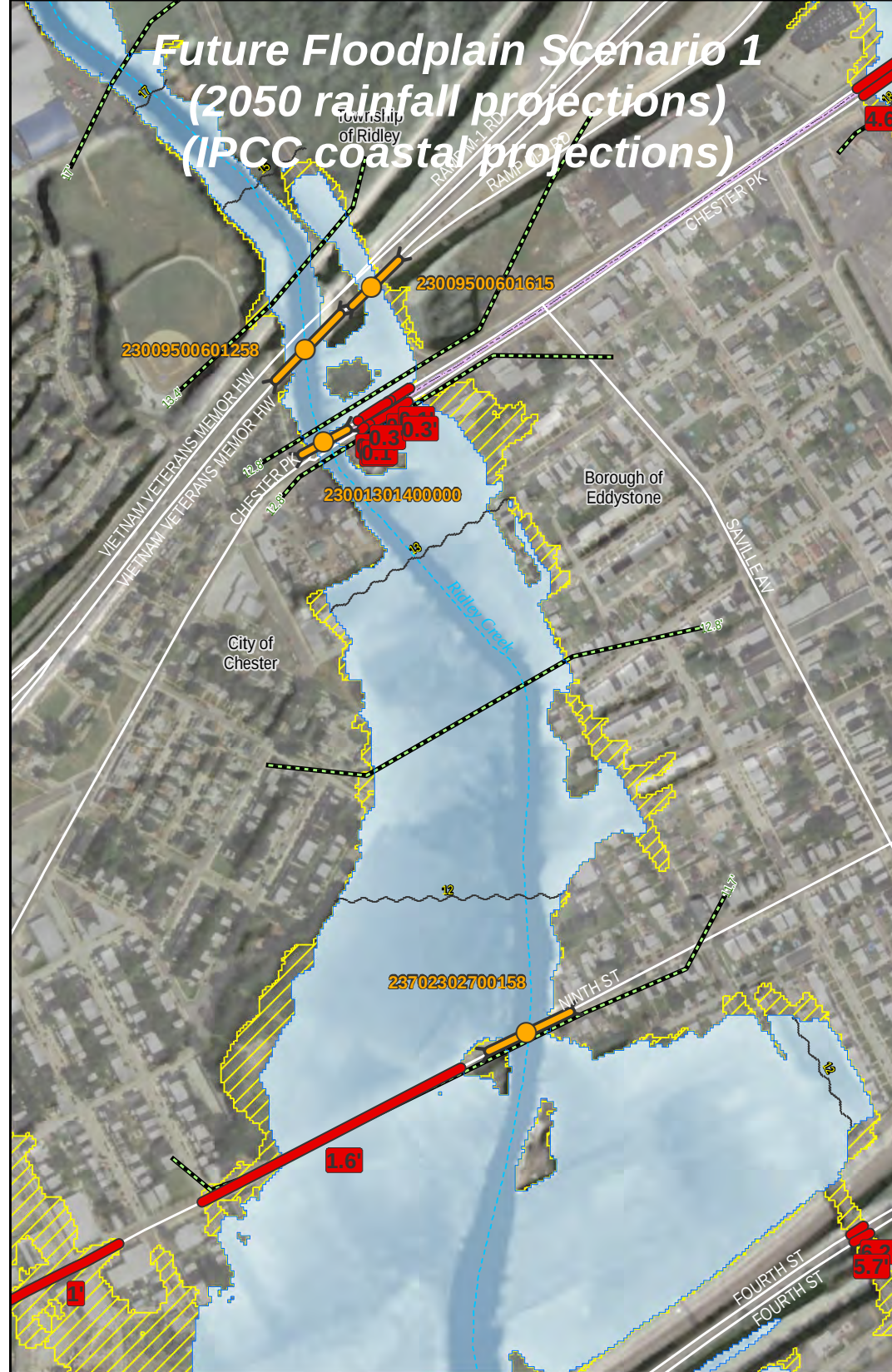
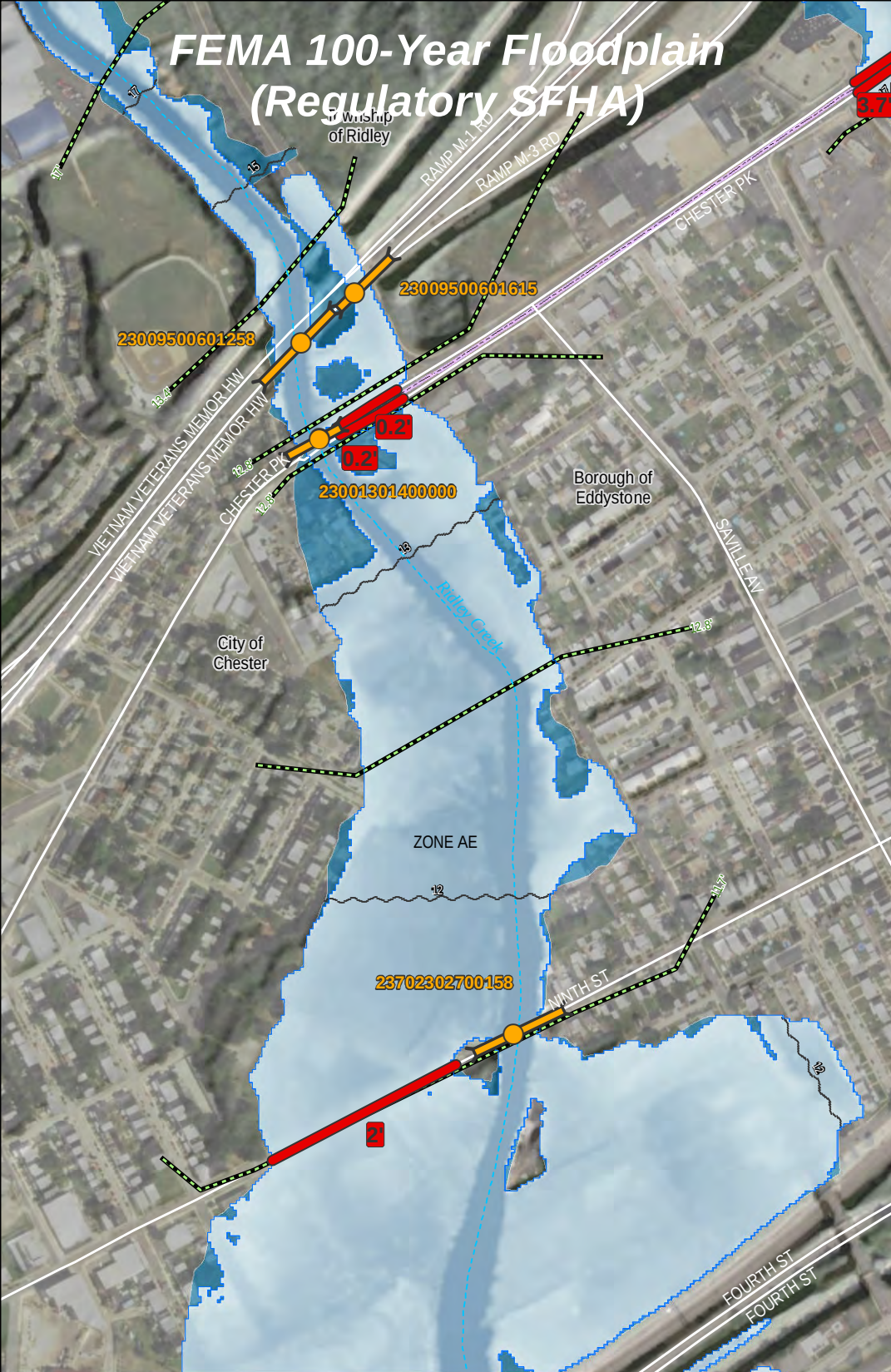
VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT











MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

**Flood Vulnerability Analysis
Delaware County, PA**
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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November 22, 2016

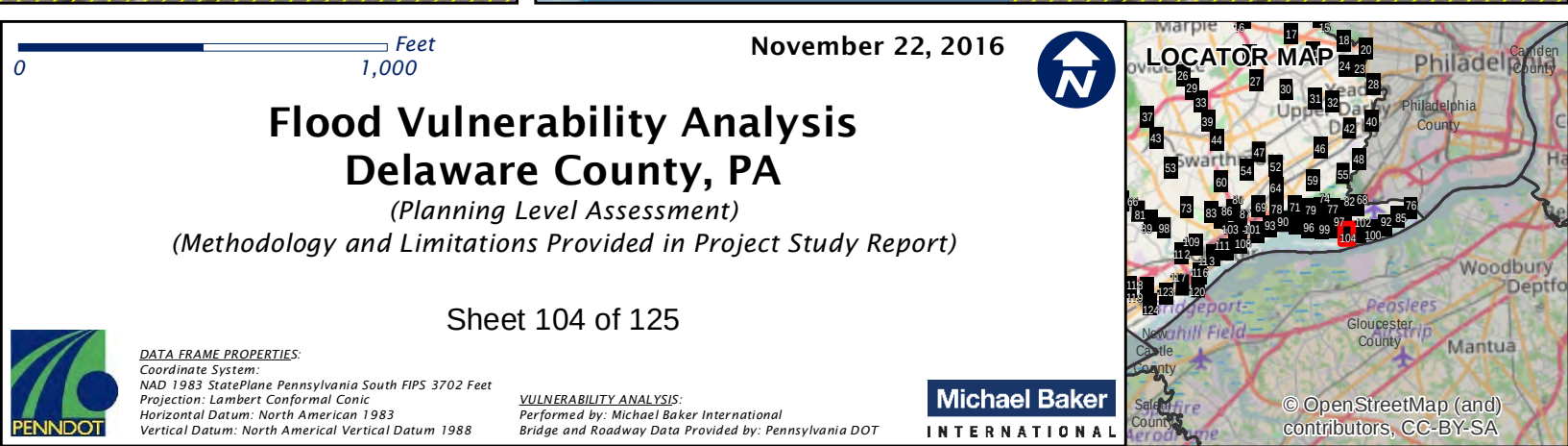
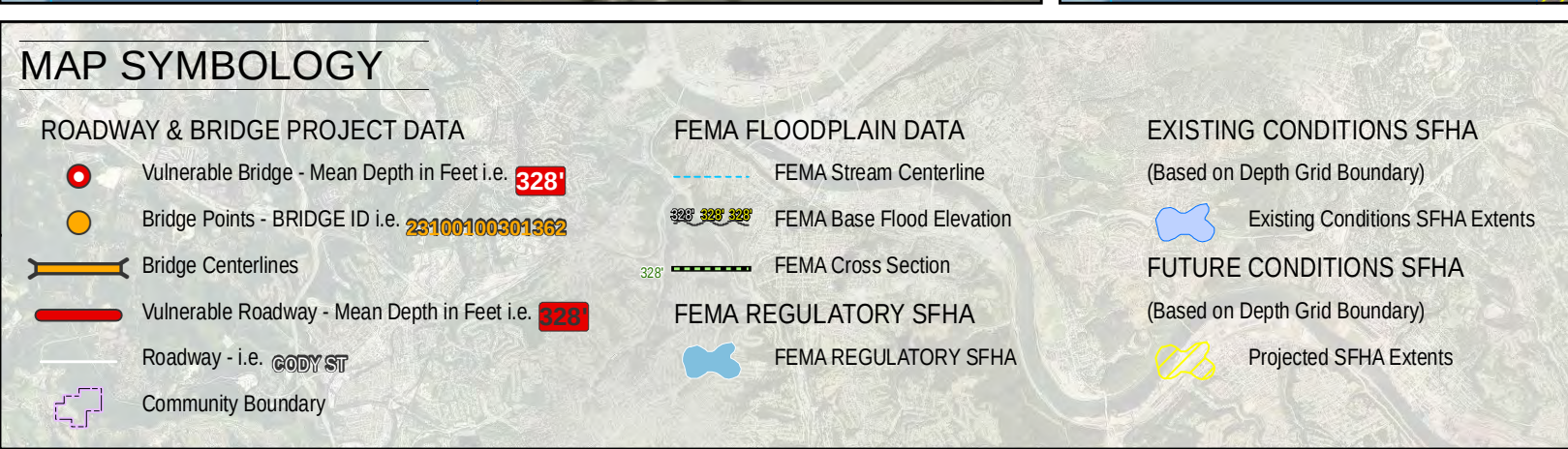
**Michael Baker
INTERNATIONAL**

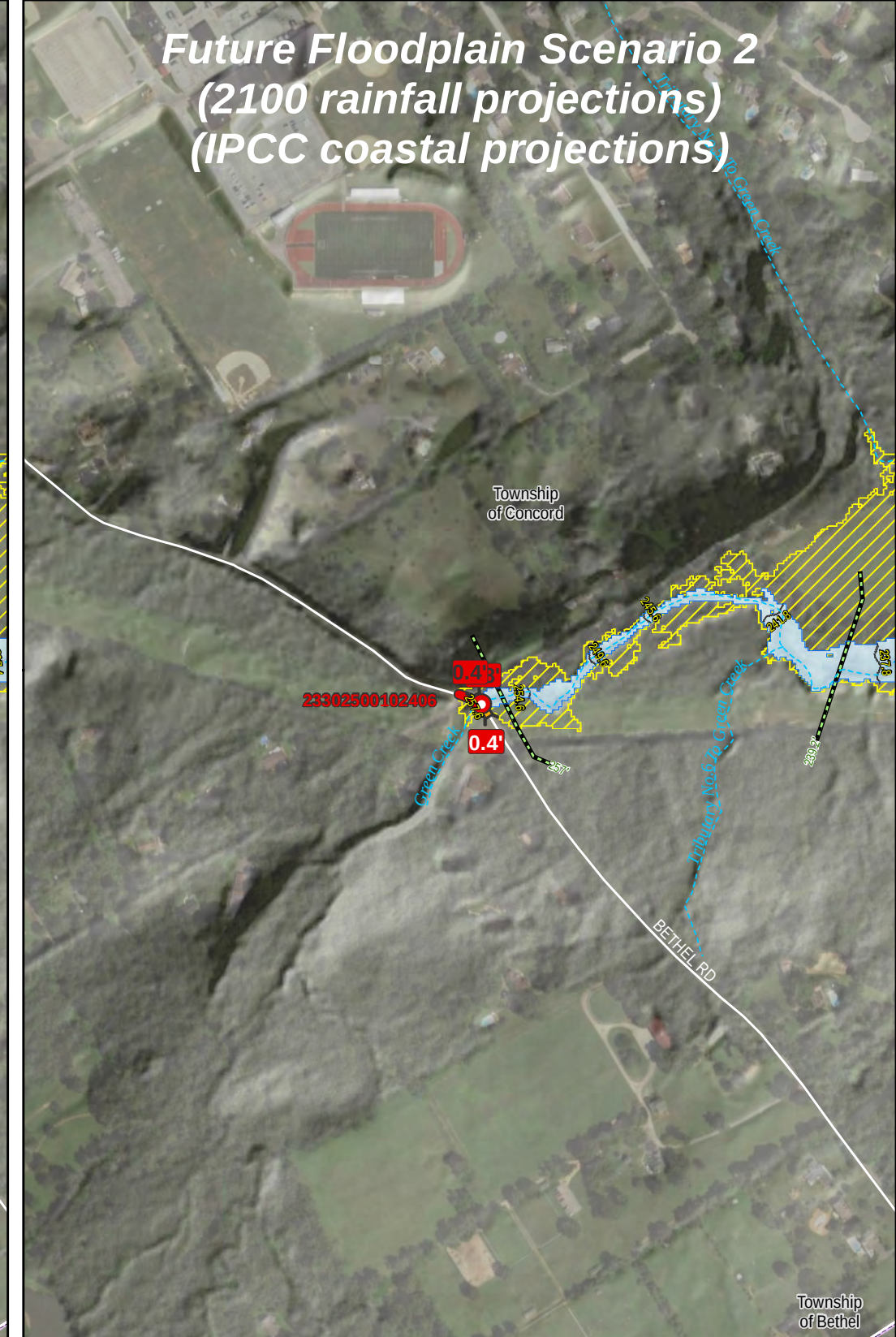
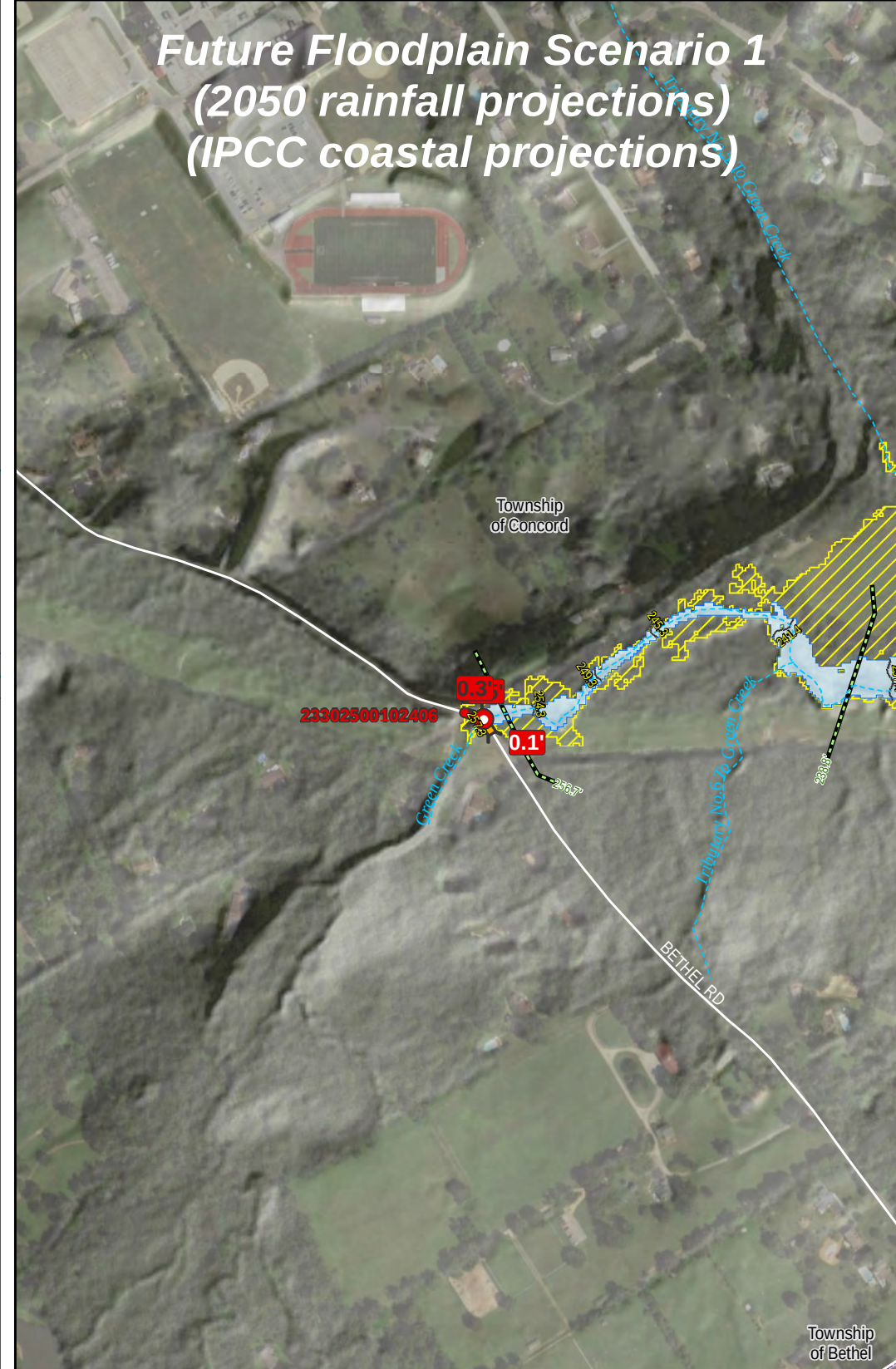
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Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

Feet
0 1,000

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

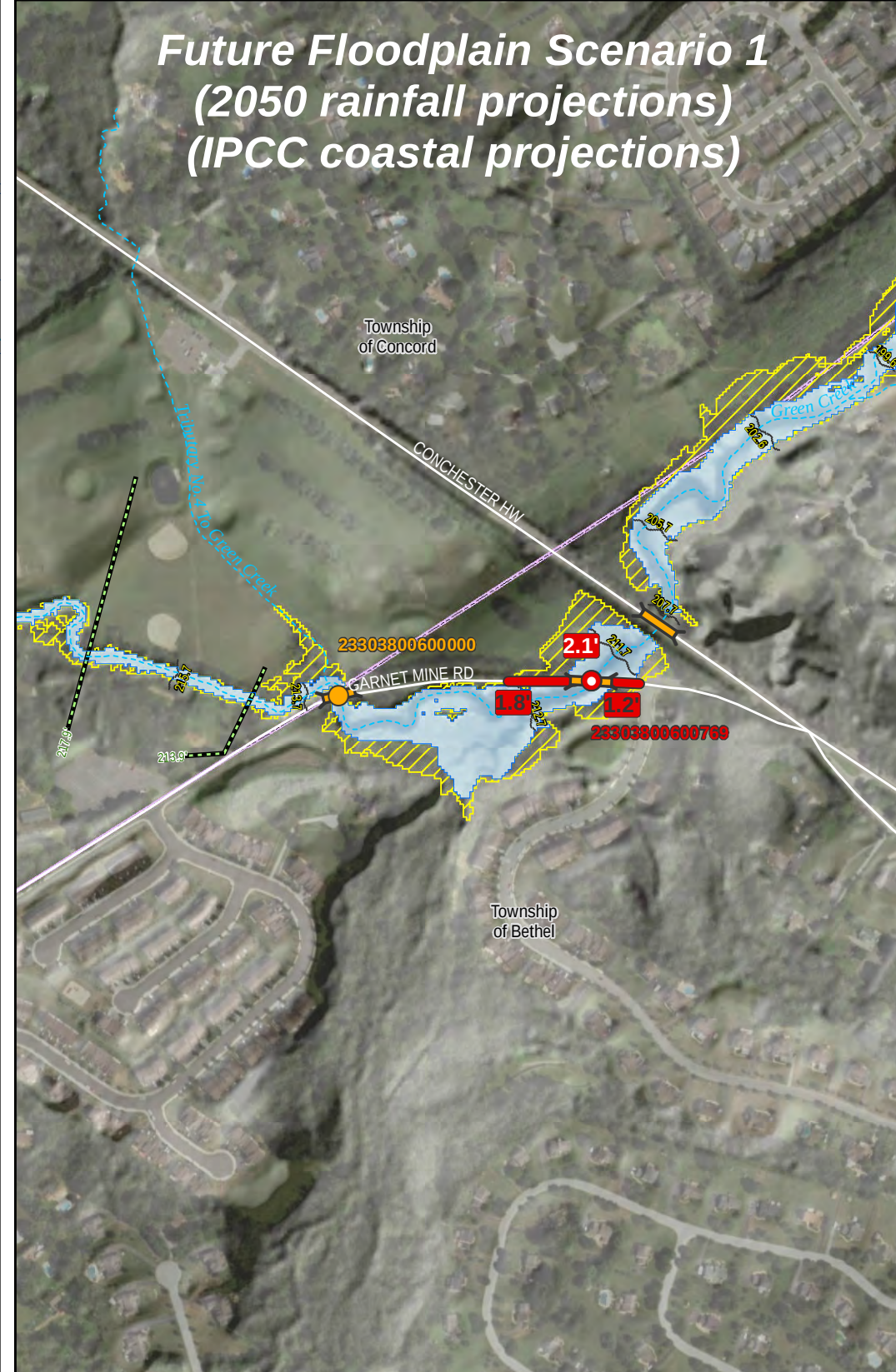
**Michael Baker
INTERNATIONAL**

LOCATOR MAP

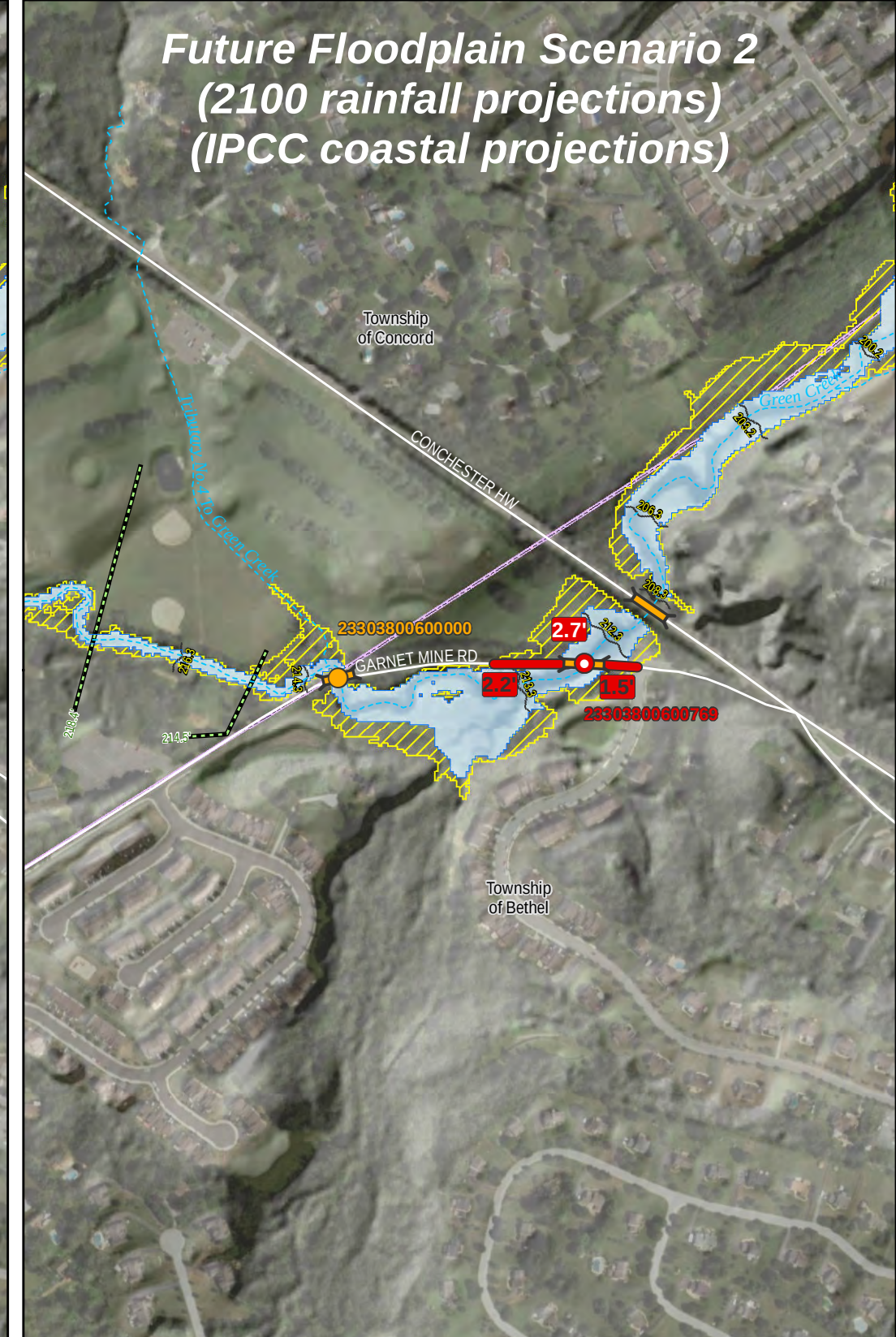
FEMA 100-Year Floodplain (Regulatory SFHA)



Future Floodplain Scenario 1 (2050 rainfall projections) (IPCC coastal projections)



Future Floodplain Scenario 2 (2100 rainfall projections) (IPCC coastal projections)



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **60DY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA

- Existing Conditions SFHA Extents
- FUTURE CONDITIONS SFHA
- Projected SFHA Extents

0 1,000 Feet

November 22, 2016



Flood Vulnerability Analysis Delaware County, PA (Planning Level Assessment) (Methodology and Limitations Provided in Project Study Report)

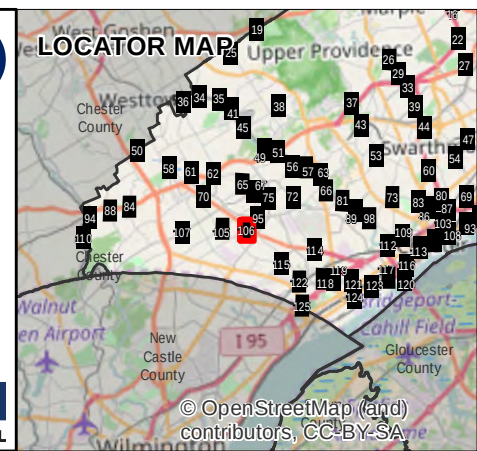
Sheet 106 of 125

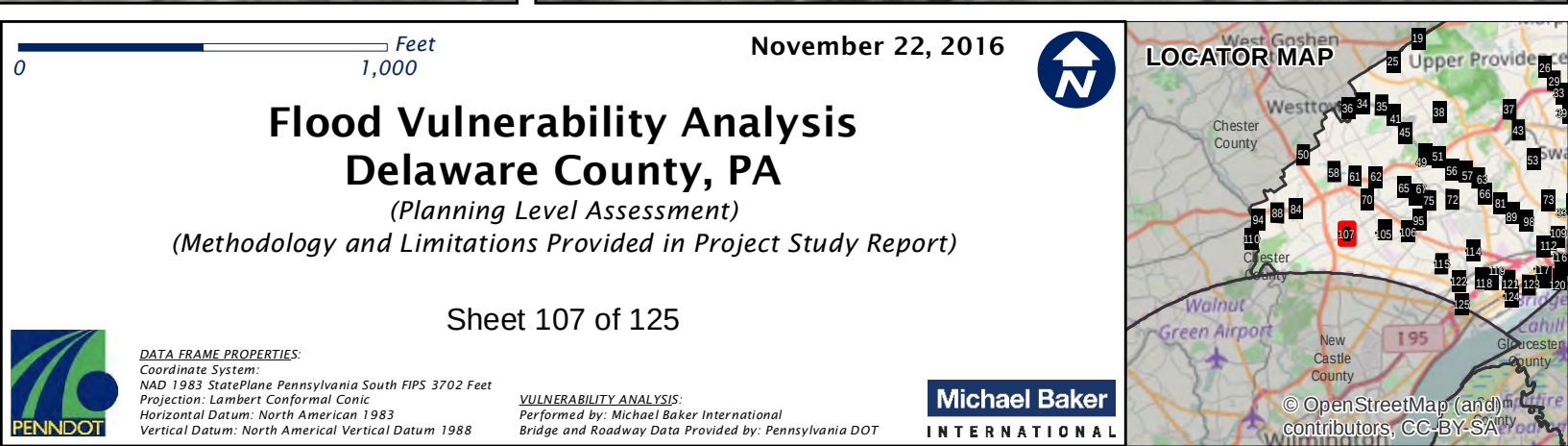
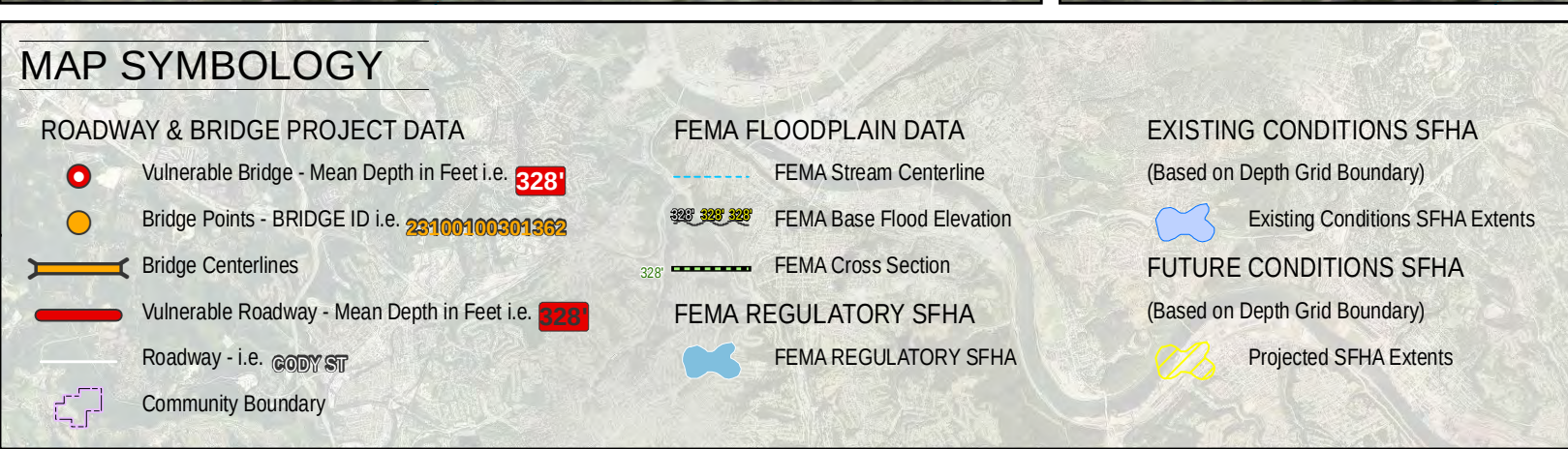
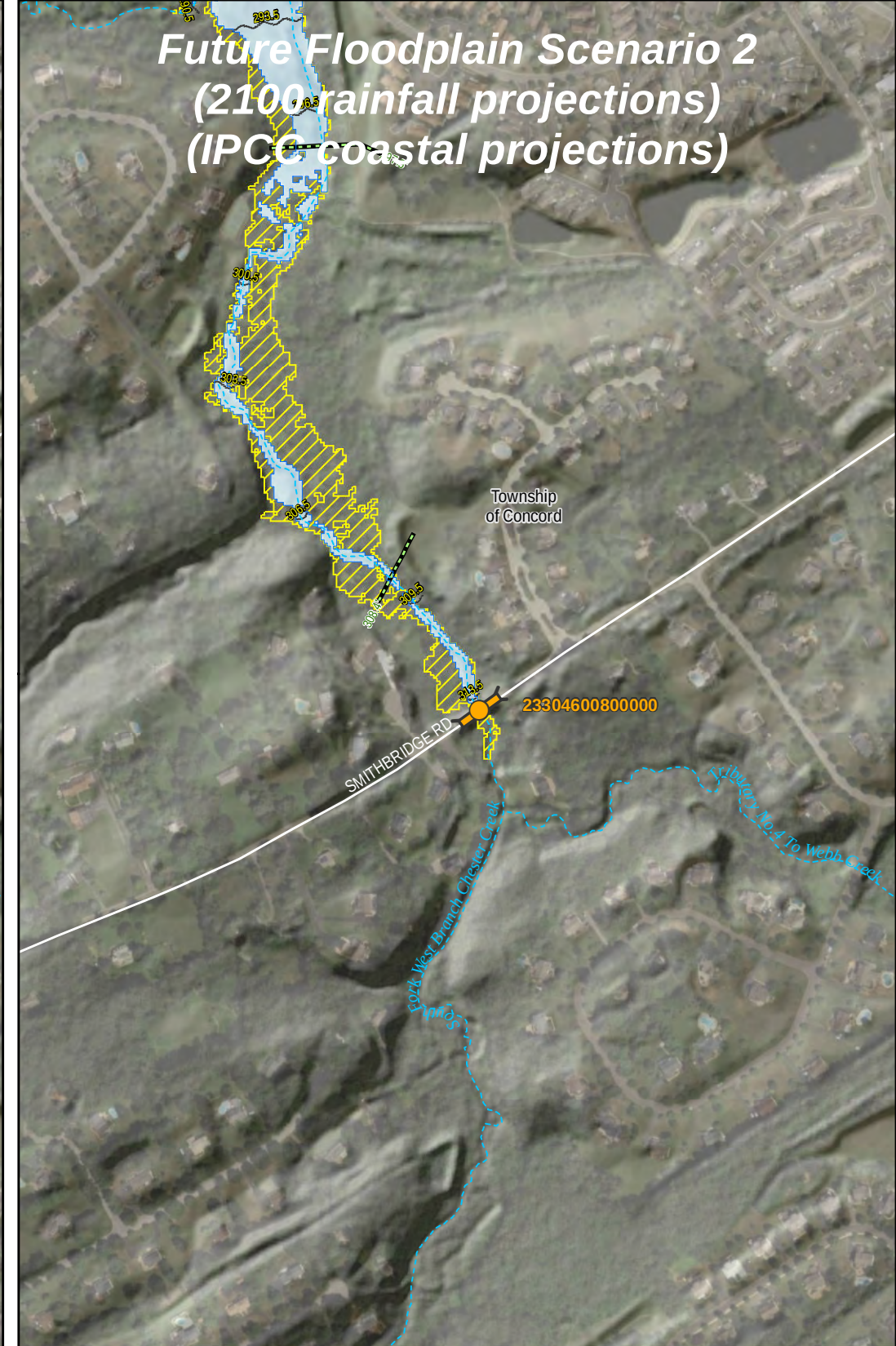
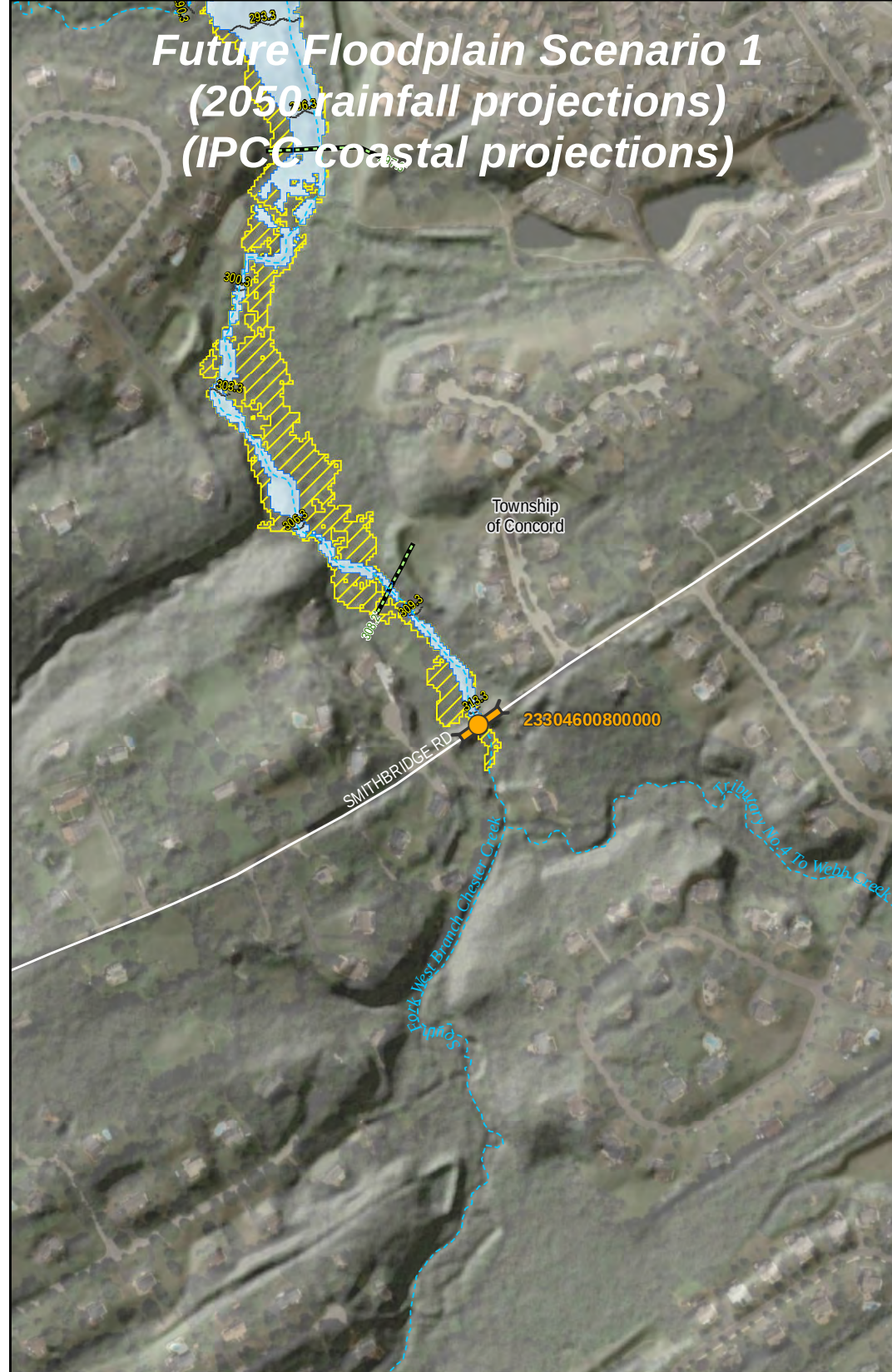
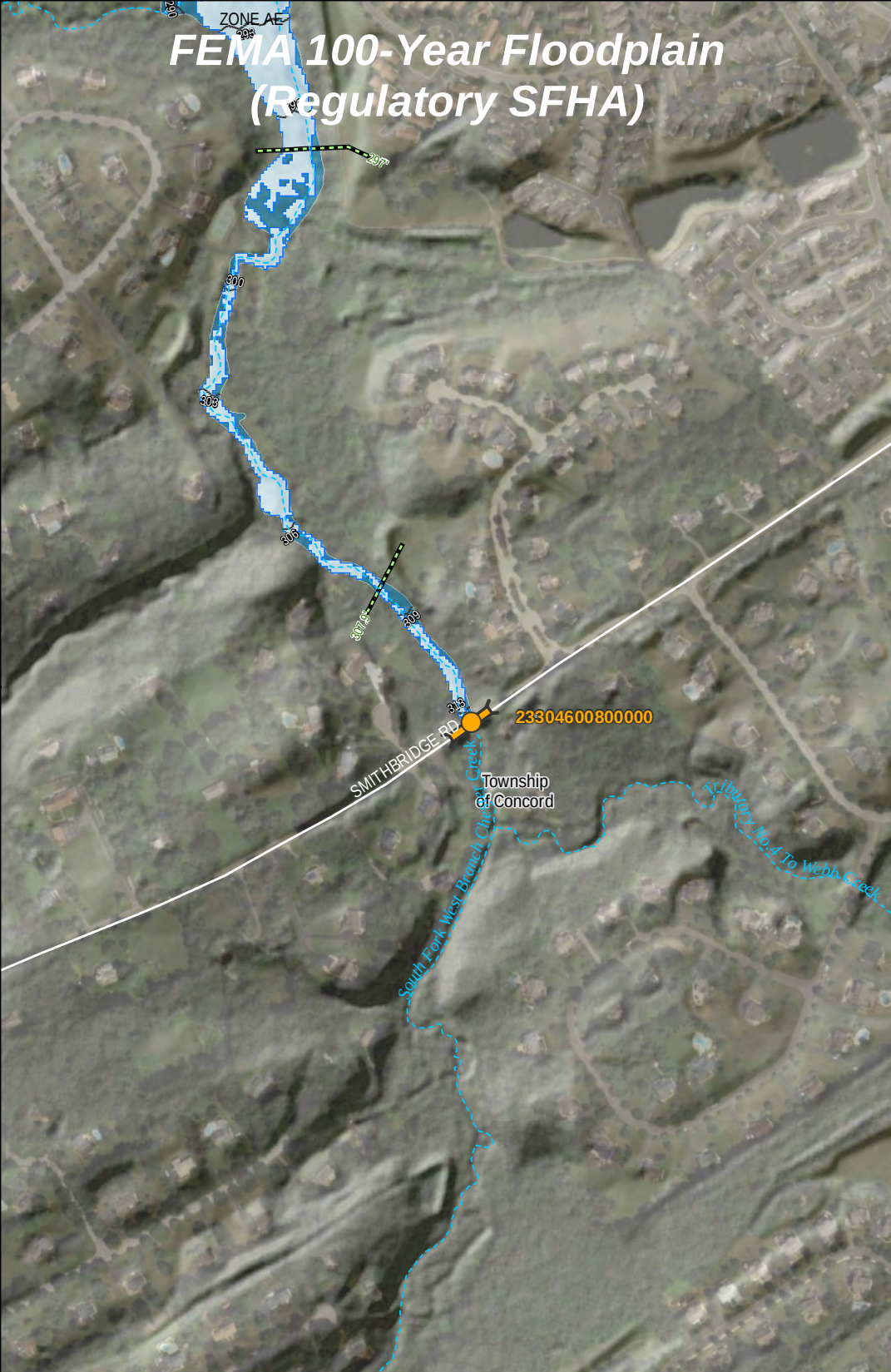


DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

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INTERNATIONAL







MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

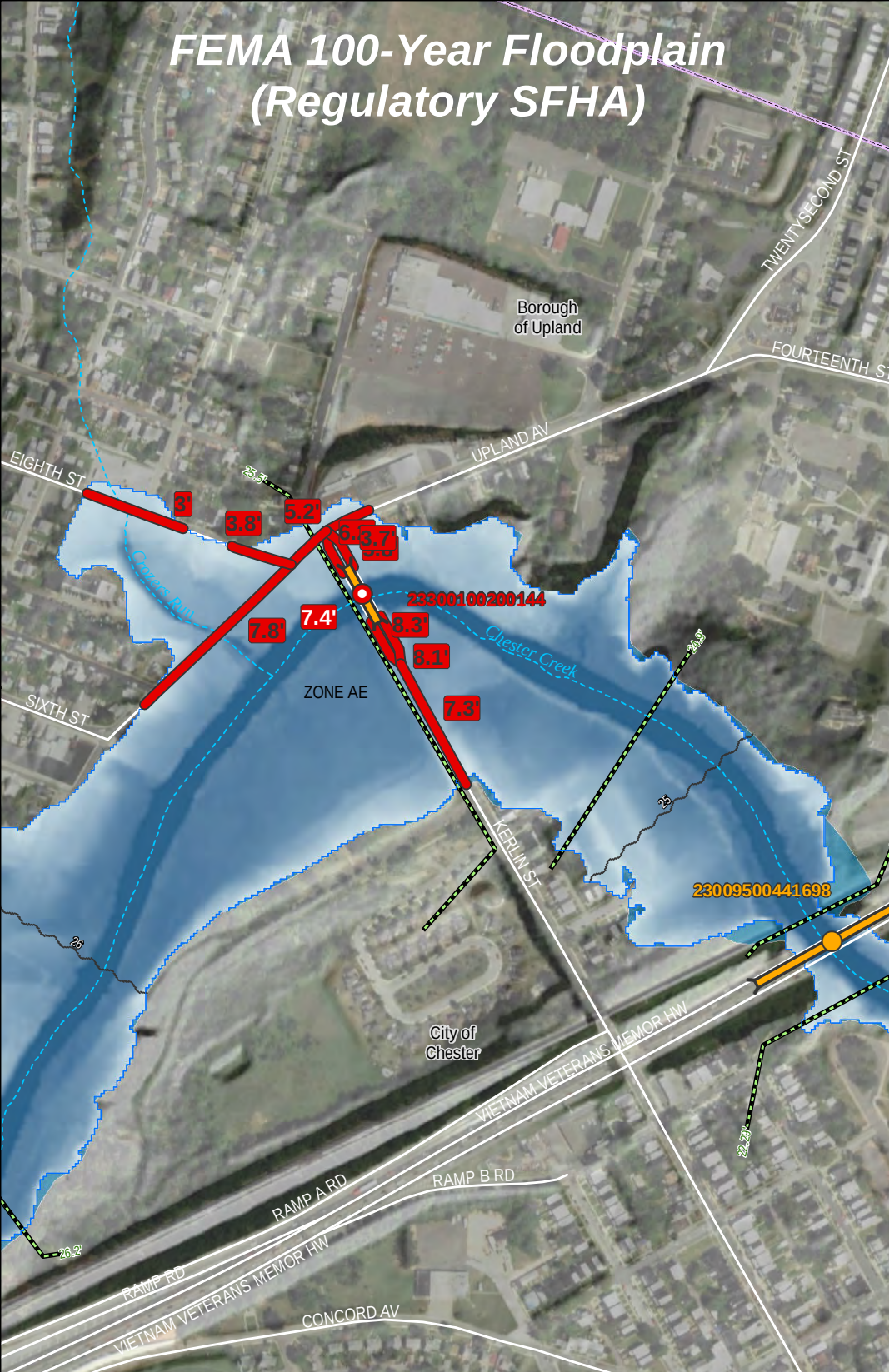
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

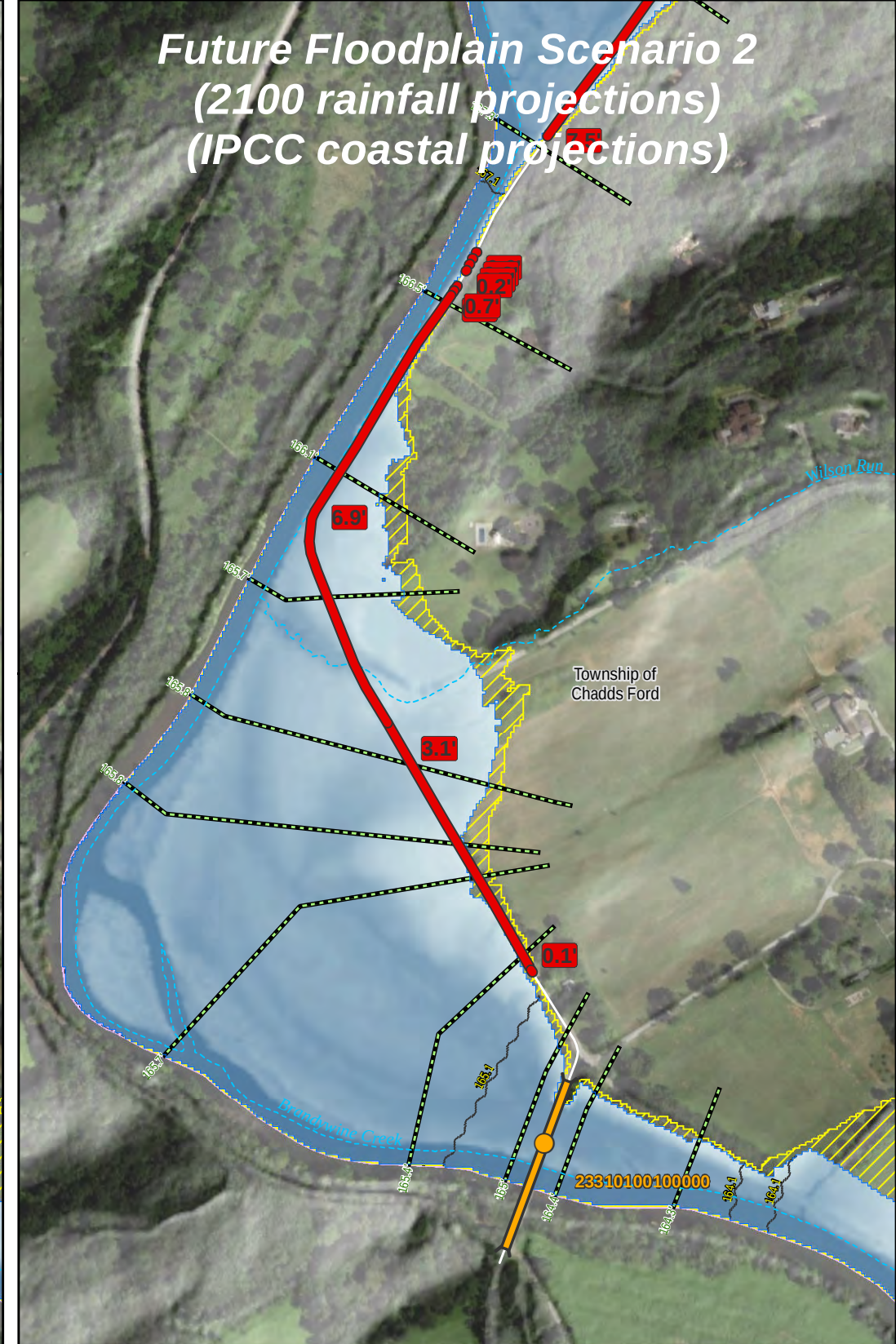
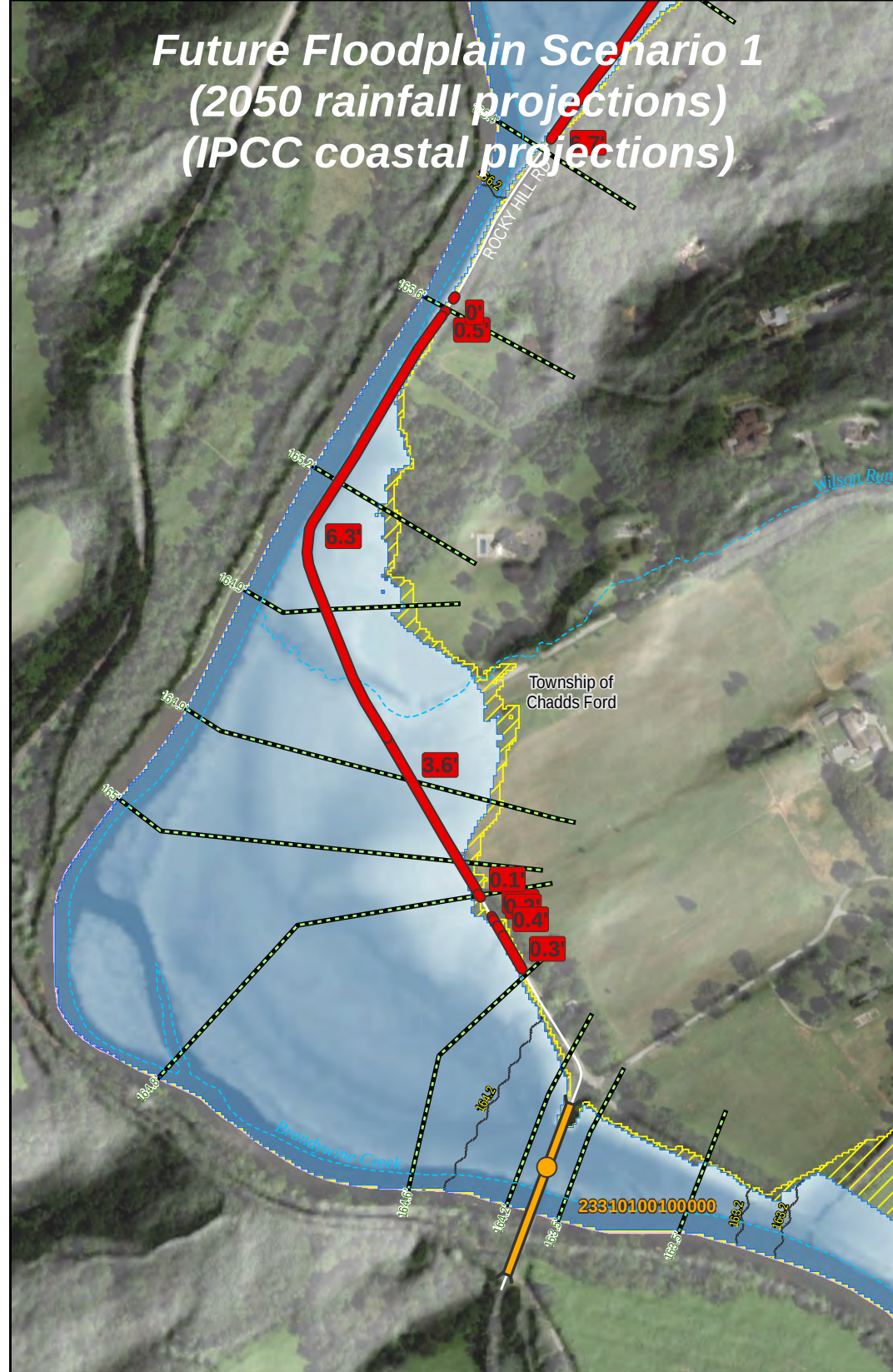
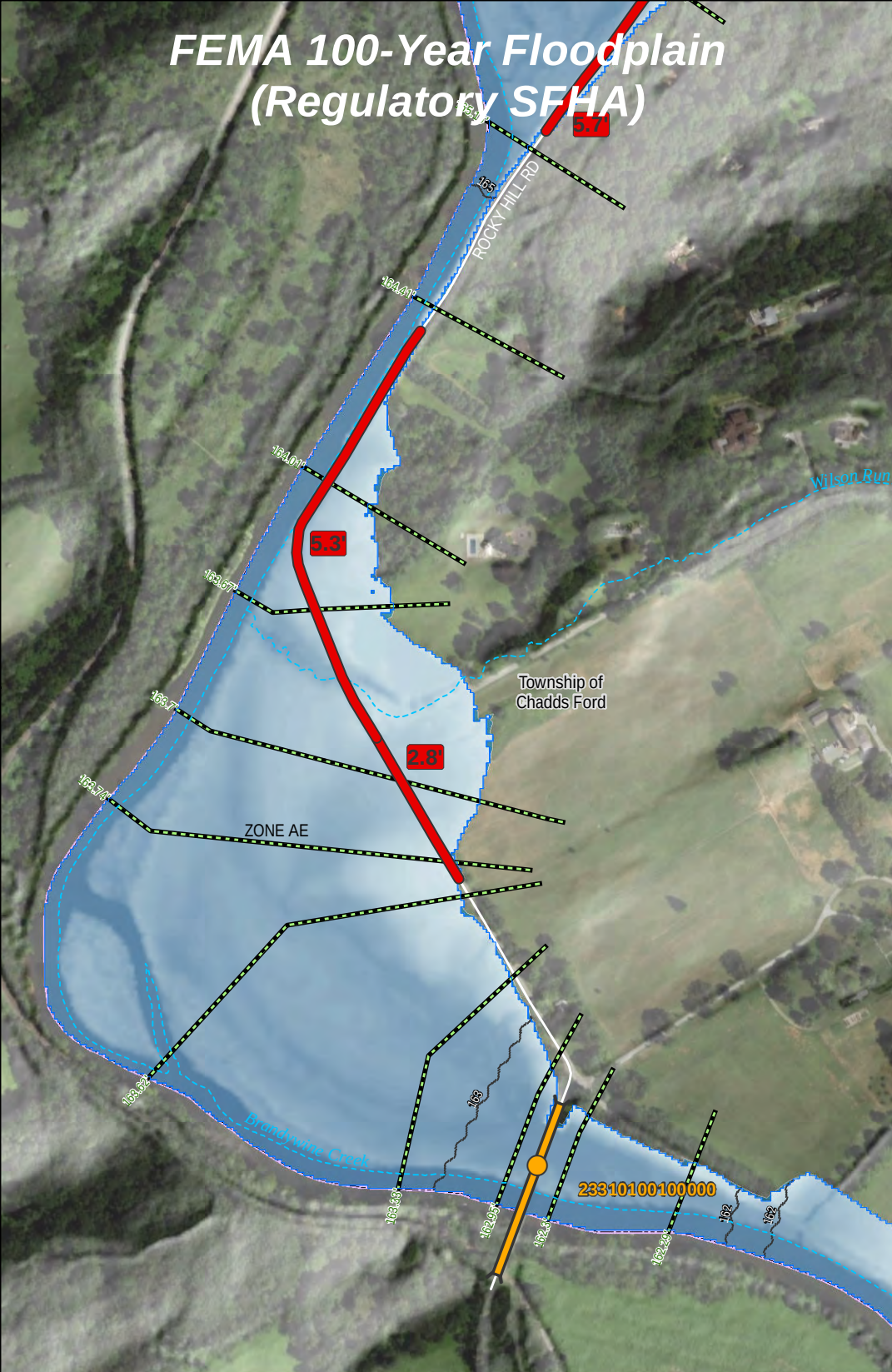
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 109 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 233100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 110 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis

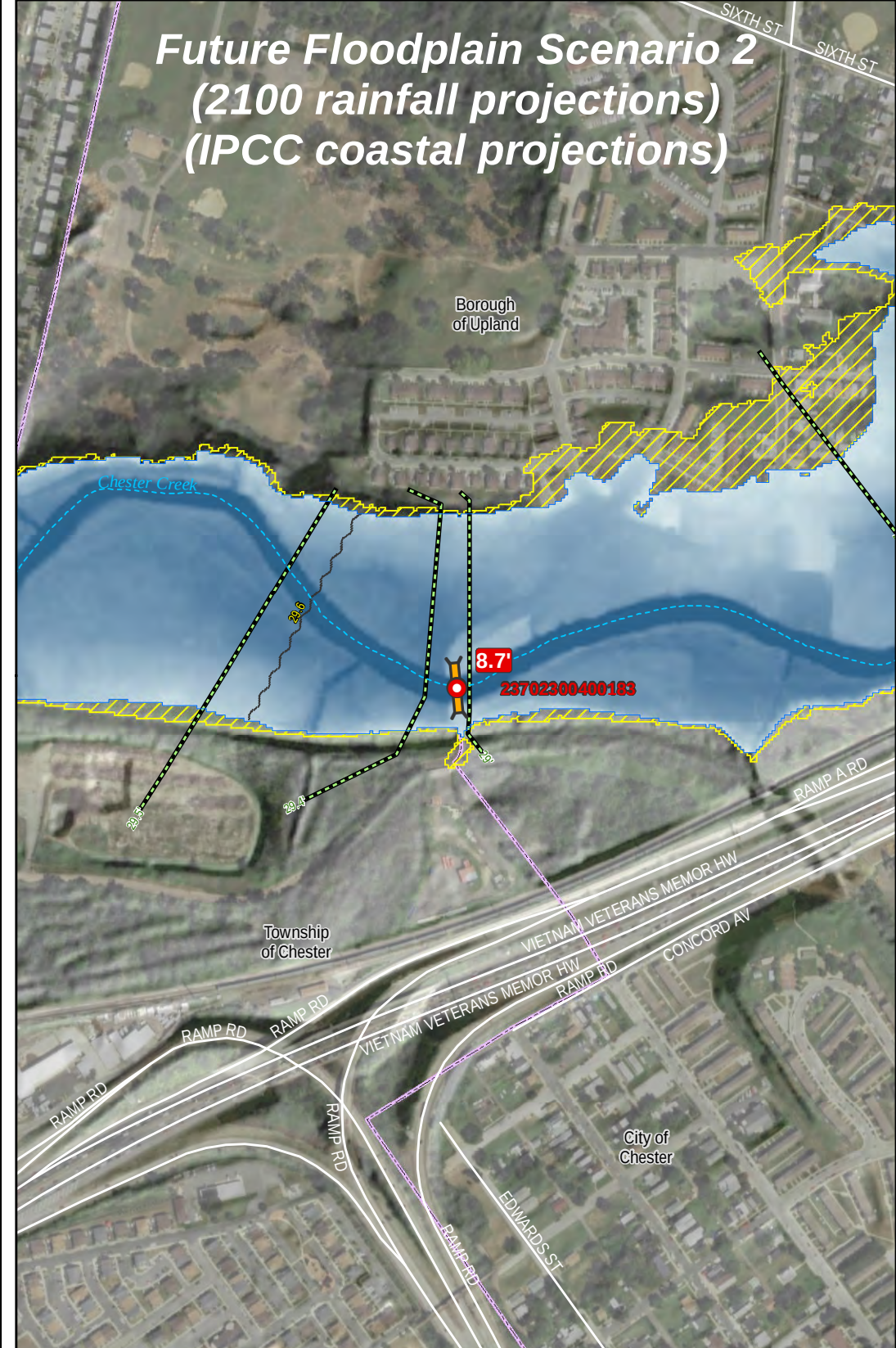
Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

Sheet 111 of 125

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. 600Y ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

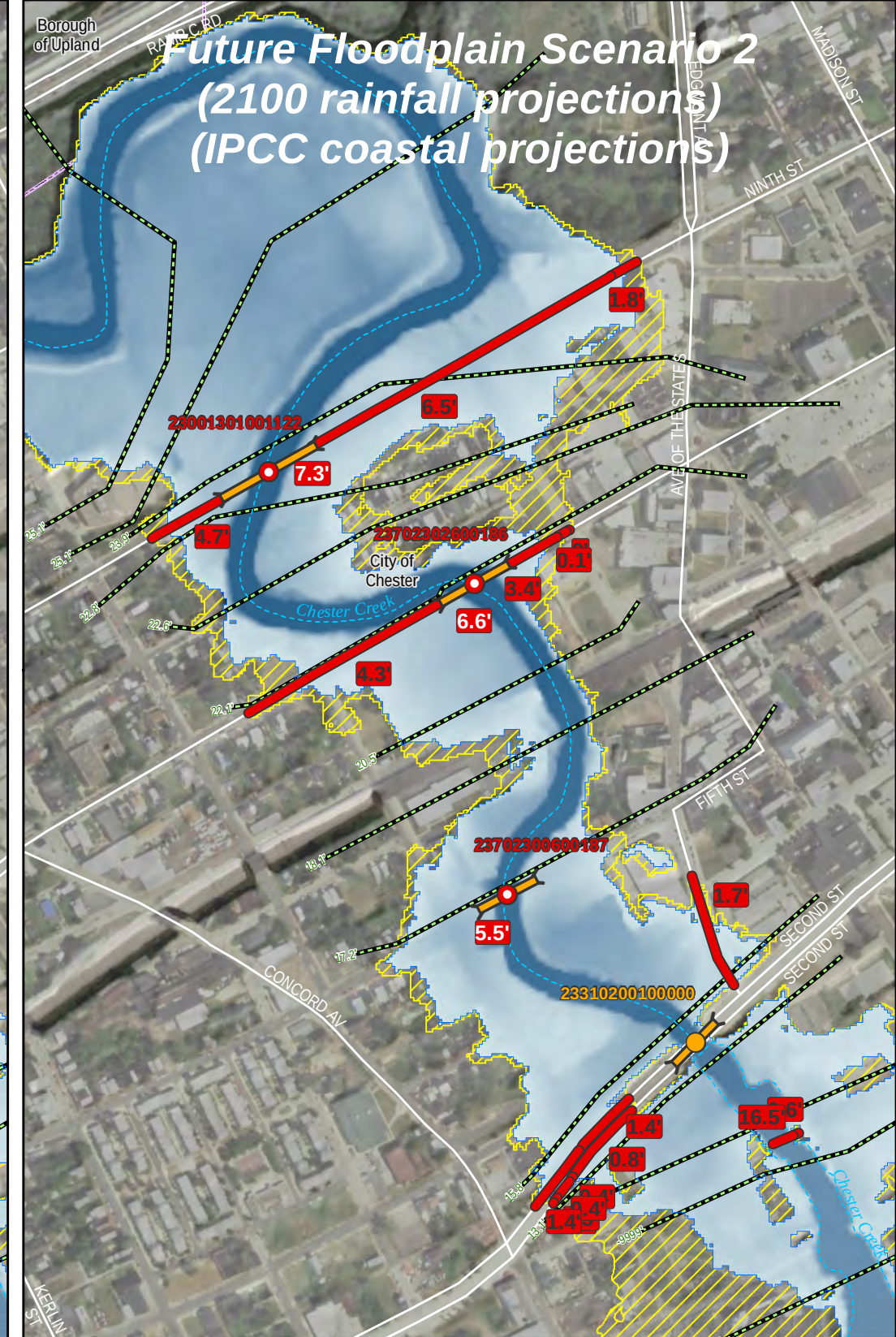
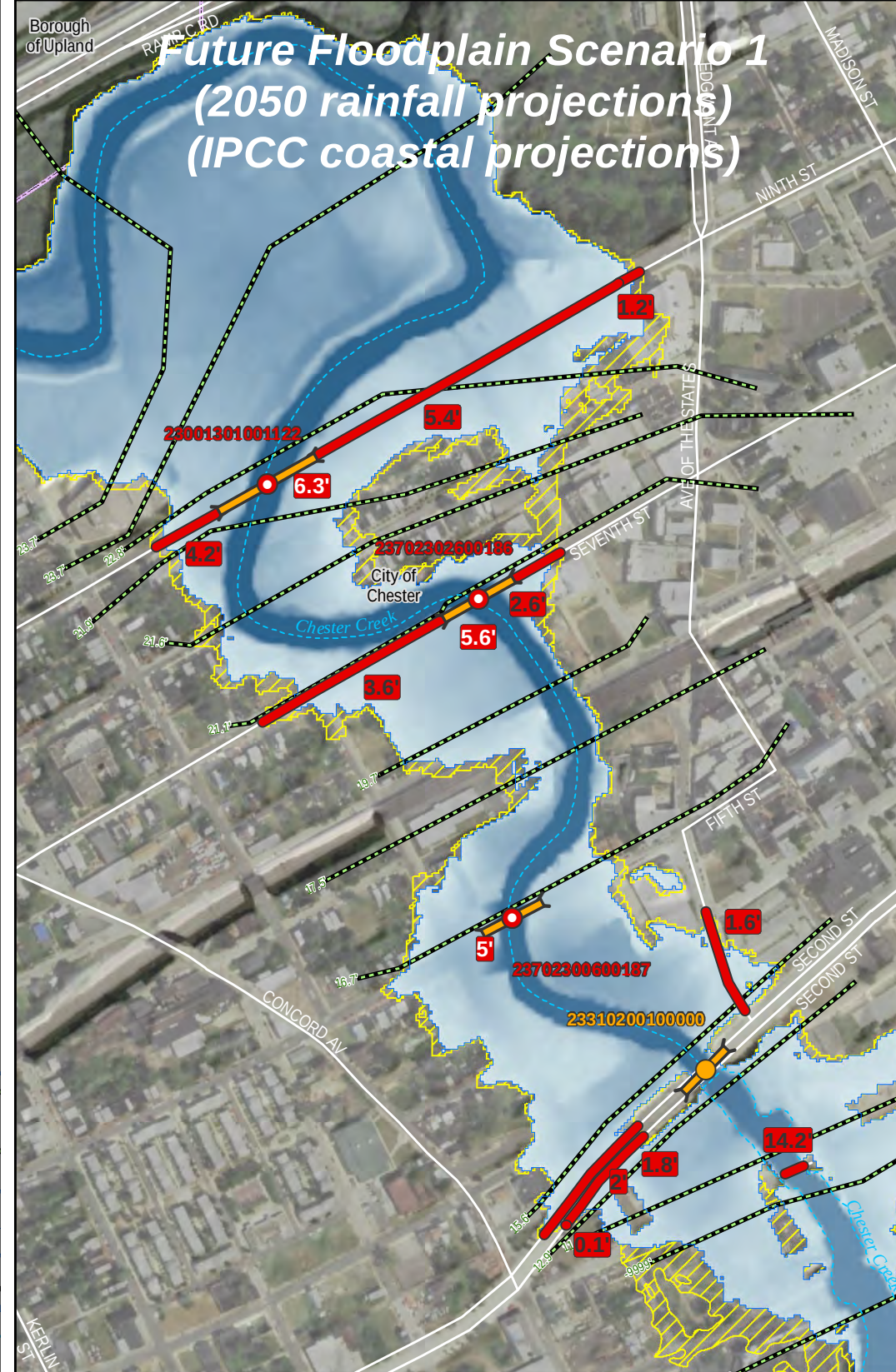
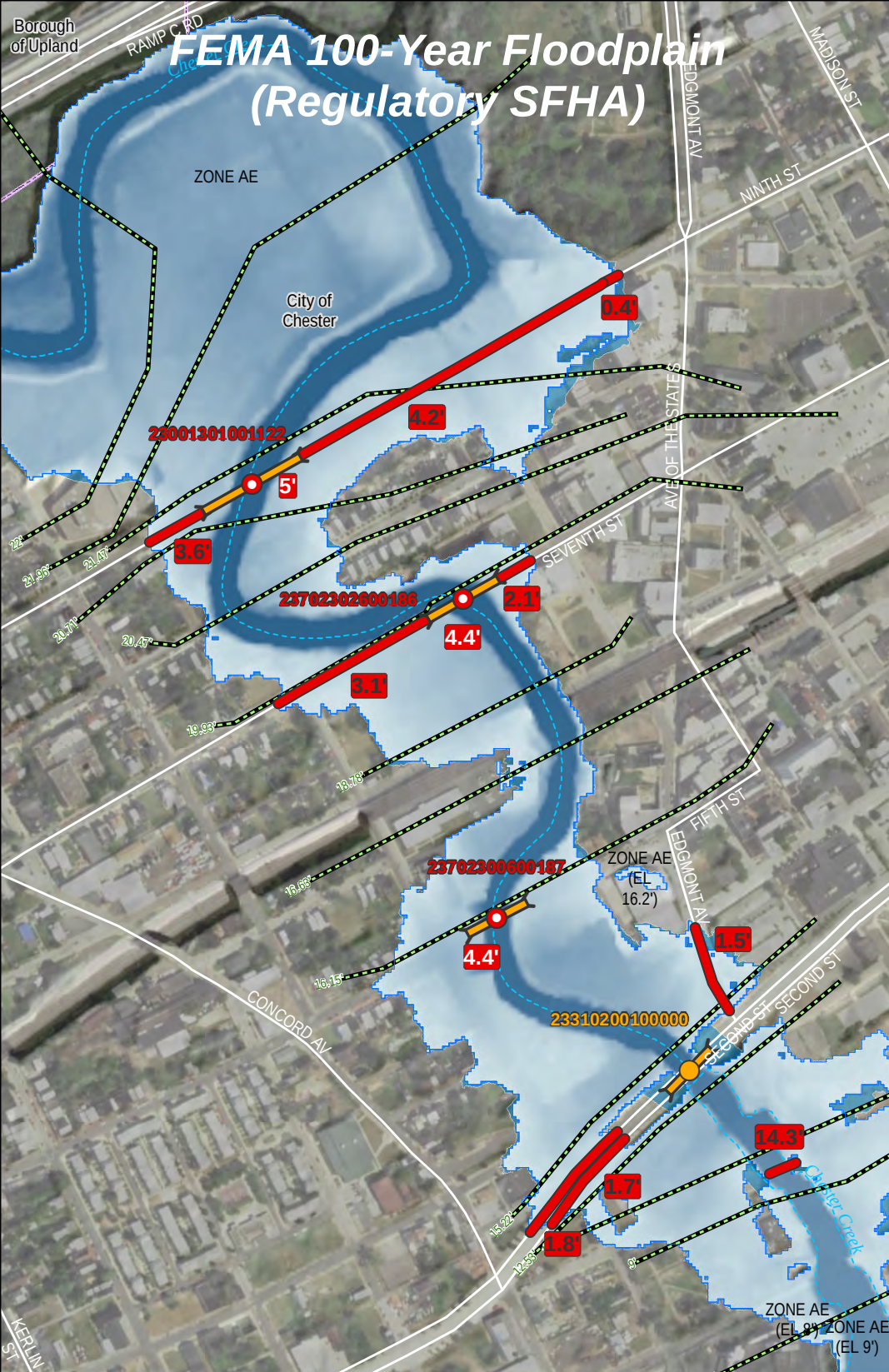
Sheet 112 of 125

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LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CONCORD ST	FEMA REGULATORY SFHA	
Community Boundary		

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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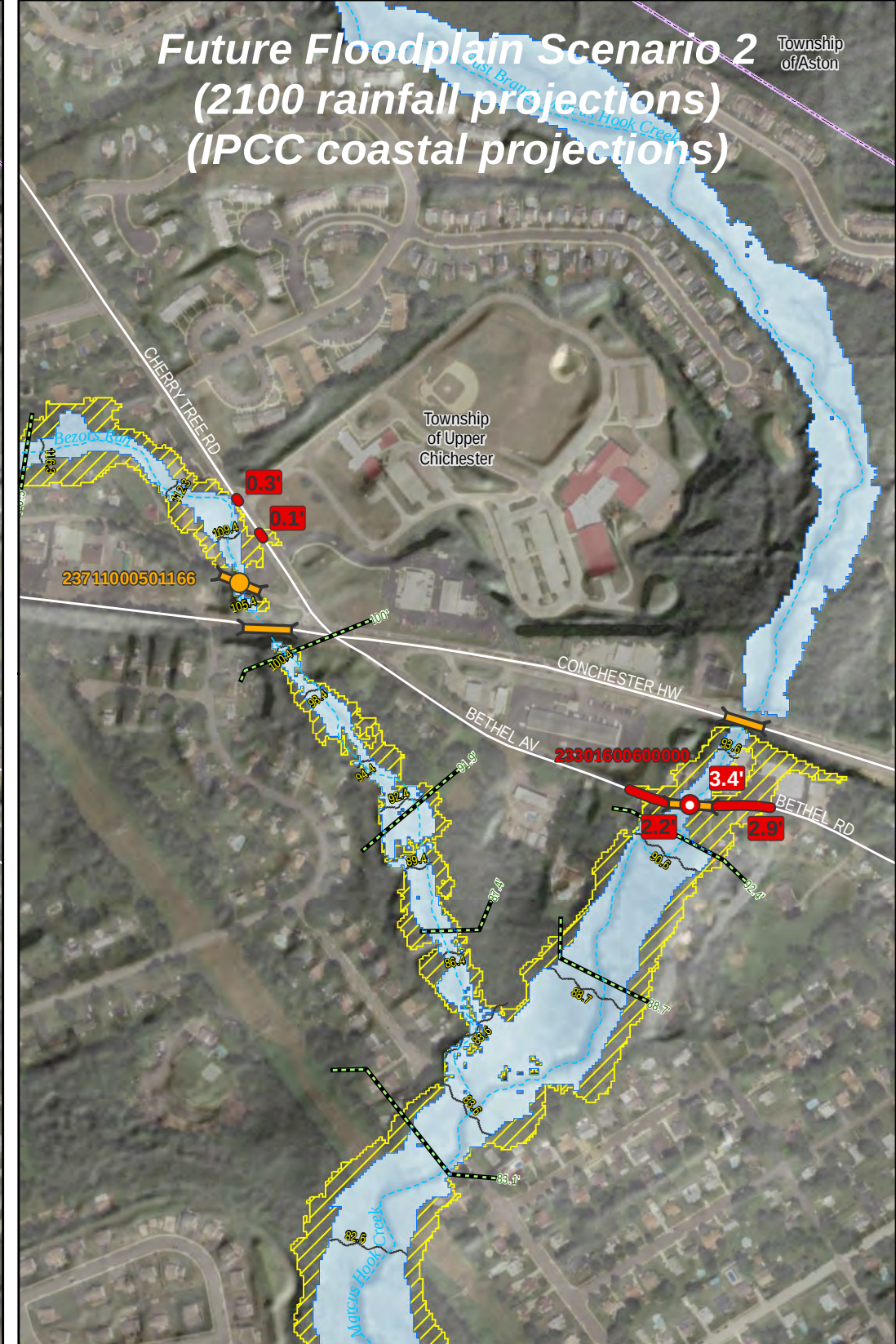
Michael Baker INTERNATIONAL

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP

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MAP SYMBOLOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

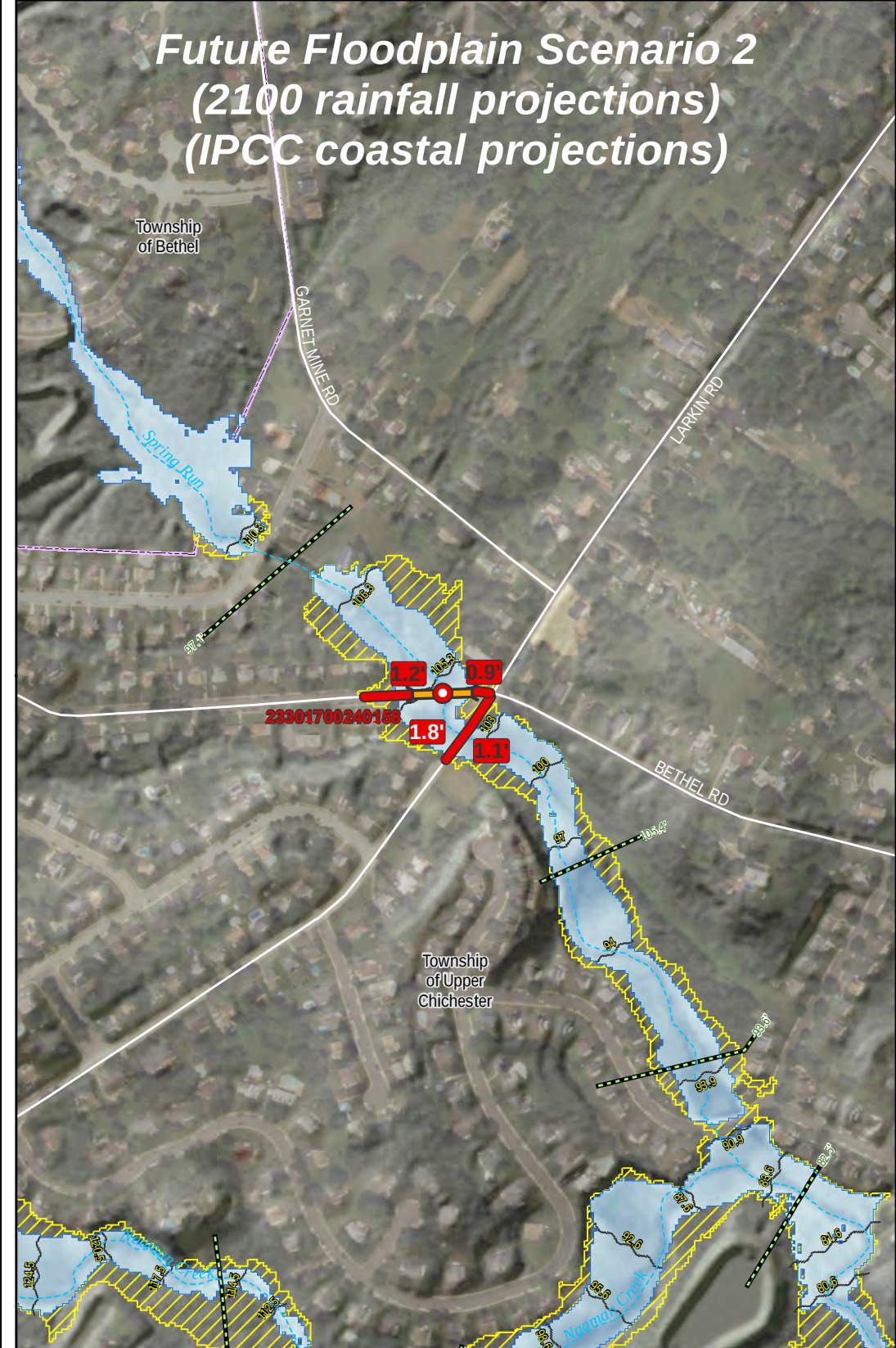
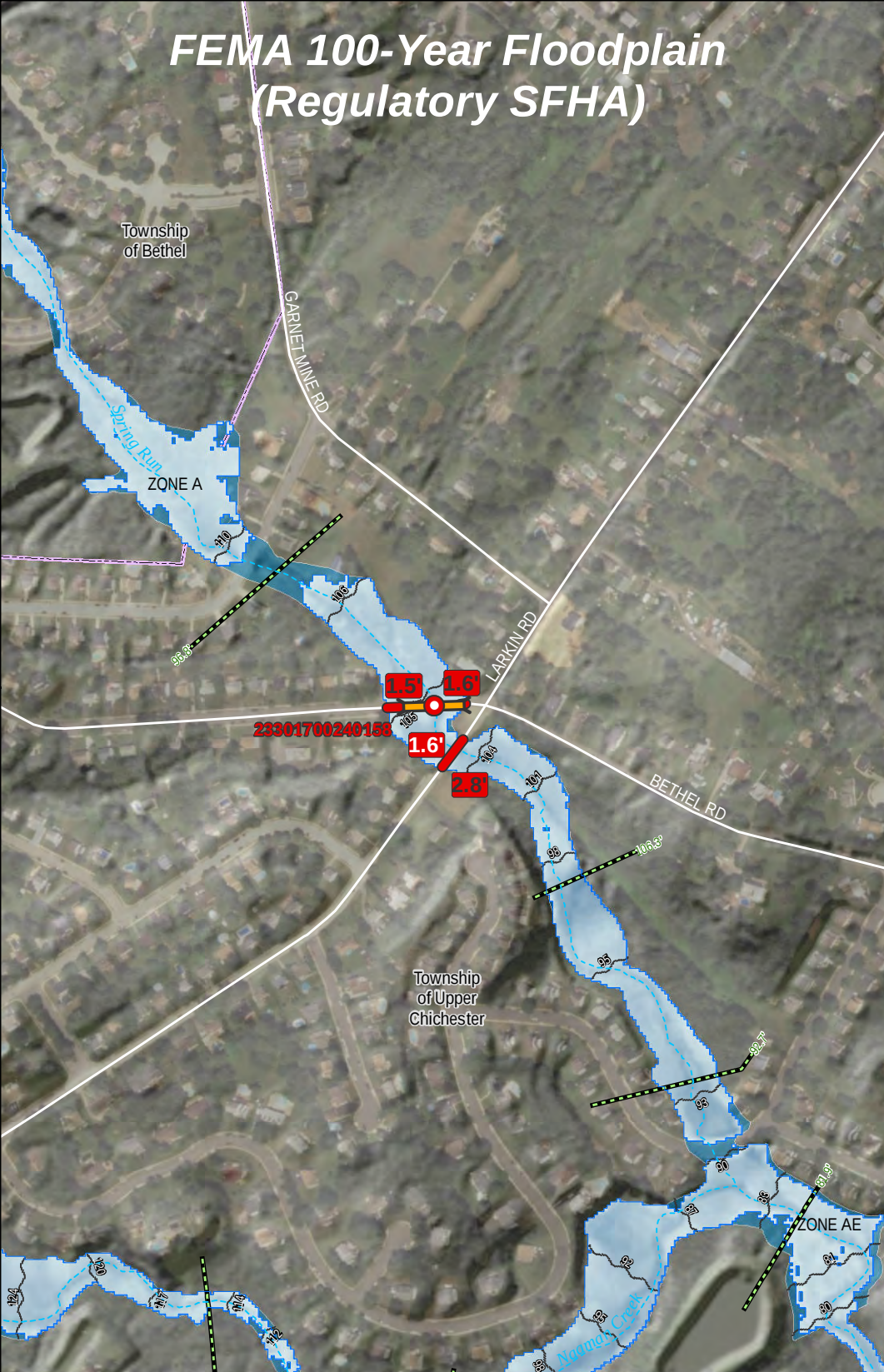
Sheet 114 of 125

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LOCATOR MAP

DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

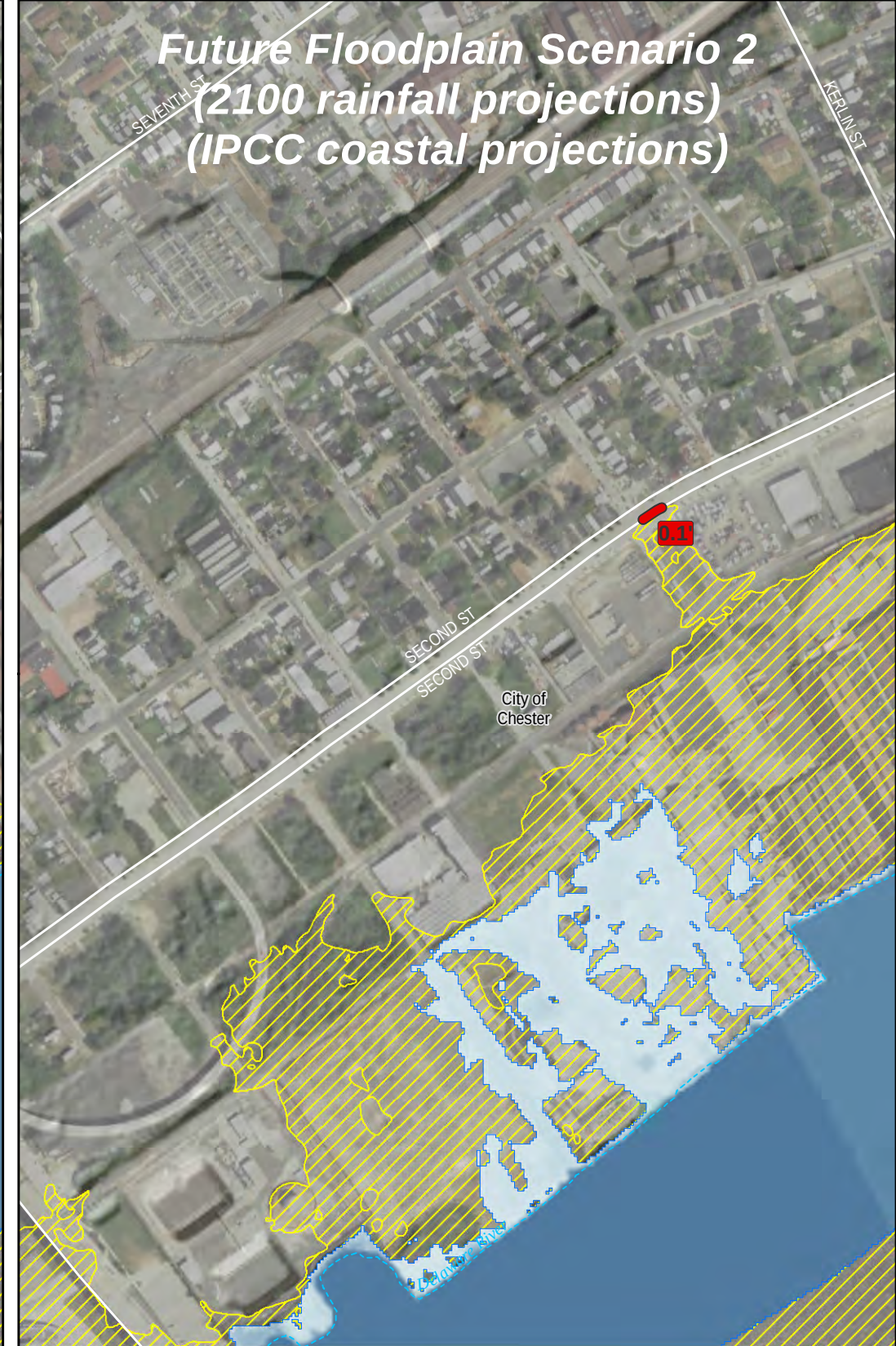
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

Feet
0 1,000

November 22, 2016

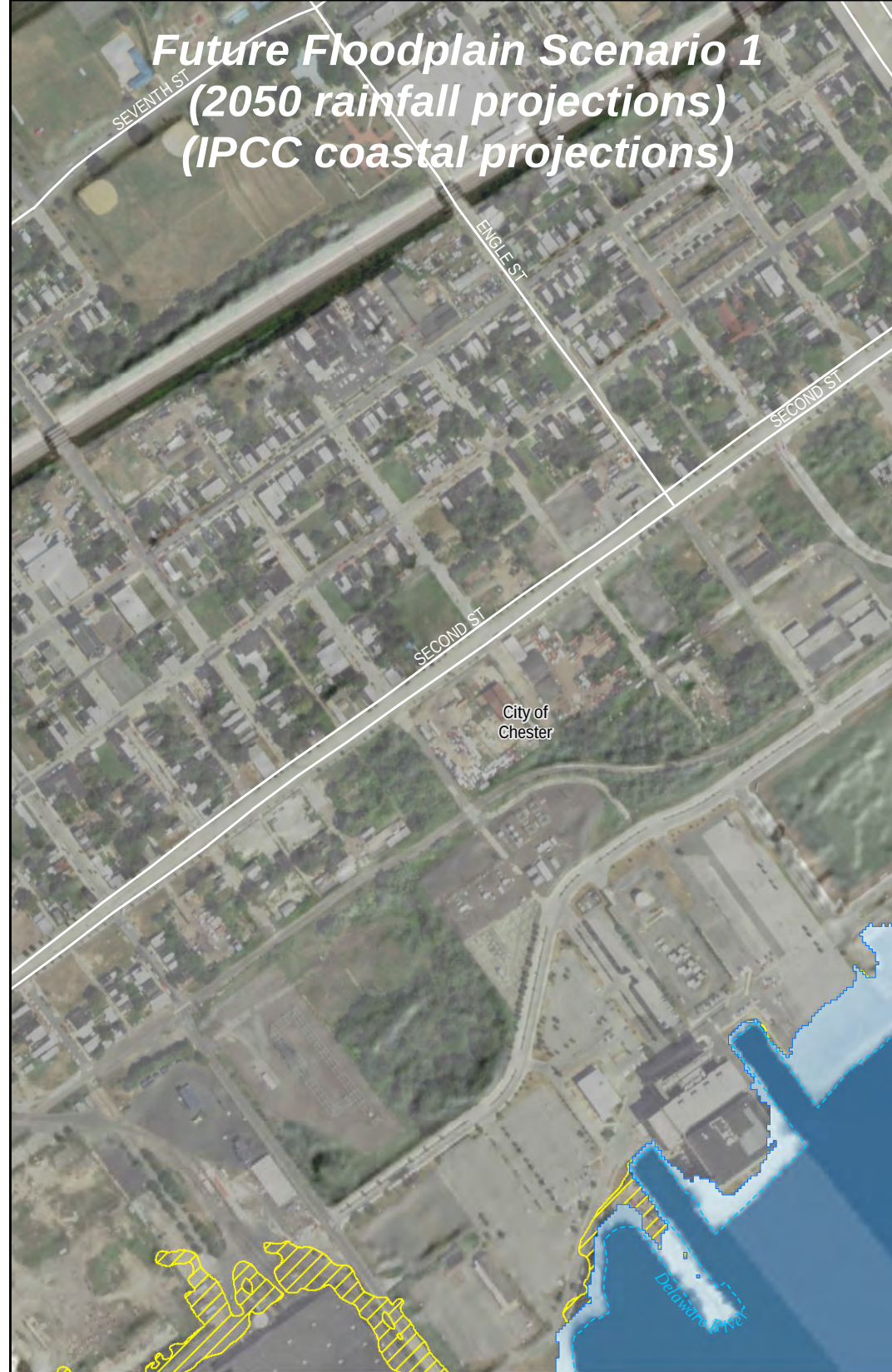
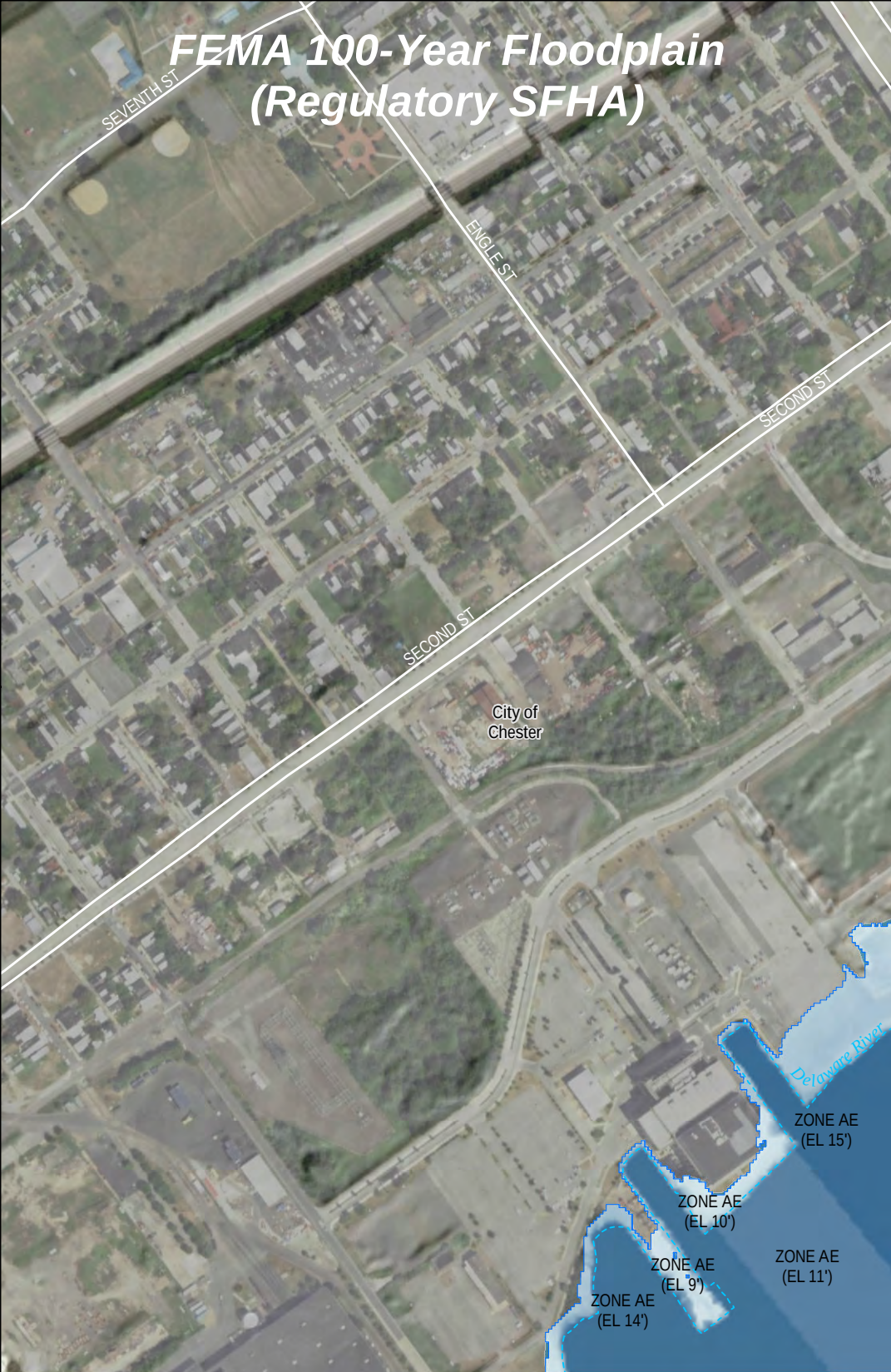
Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

- Vulnerable Bridge - Mean Depth in Feet i.e. **328'**
- Bridge Points - BRIDGE ID i.e. **23100100301362**
- Bridge Centerlines
- Vulnerable Roadway - Mean Depth in Feet i.e. **328'**
- Roadway - i.e. **CODY ST**
- Community Boundary

FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section
- FEMA REGULATORY SFHA**

**EXISTING CONDITIONS SFHA
(Based on Depth Grid Boundary)**

- Existing Conditions SFHA Extents

**FUTURE CONDITIONS SFHA
(Based on Depth Grid Boundary)**

- Projected SFHA Extents

0

1,000

Feet

November 22, 2016

Flood Vulnerability Analysis

Delaware County, PA

(Planning Level Assessment)

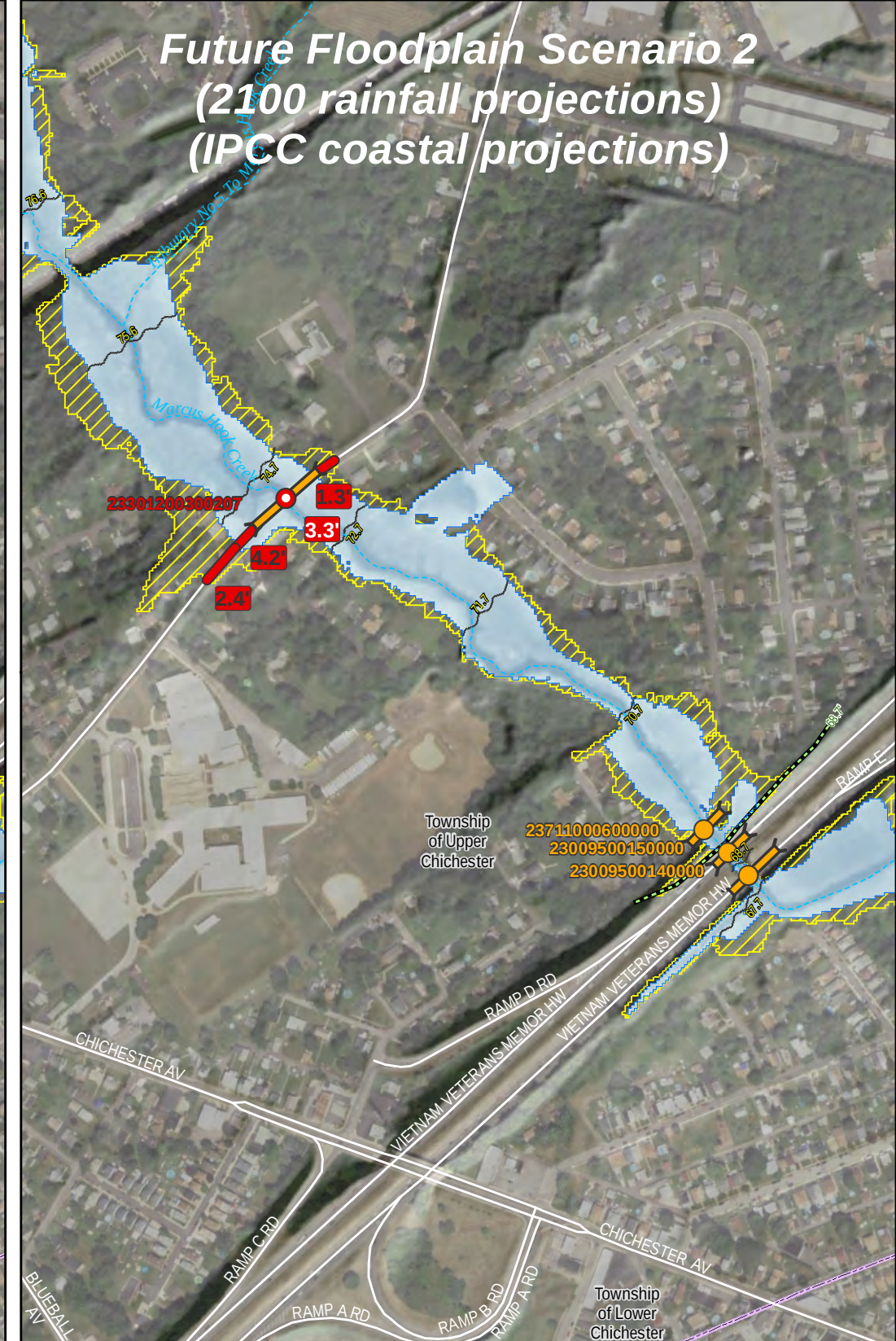
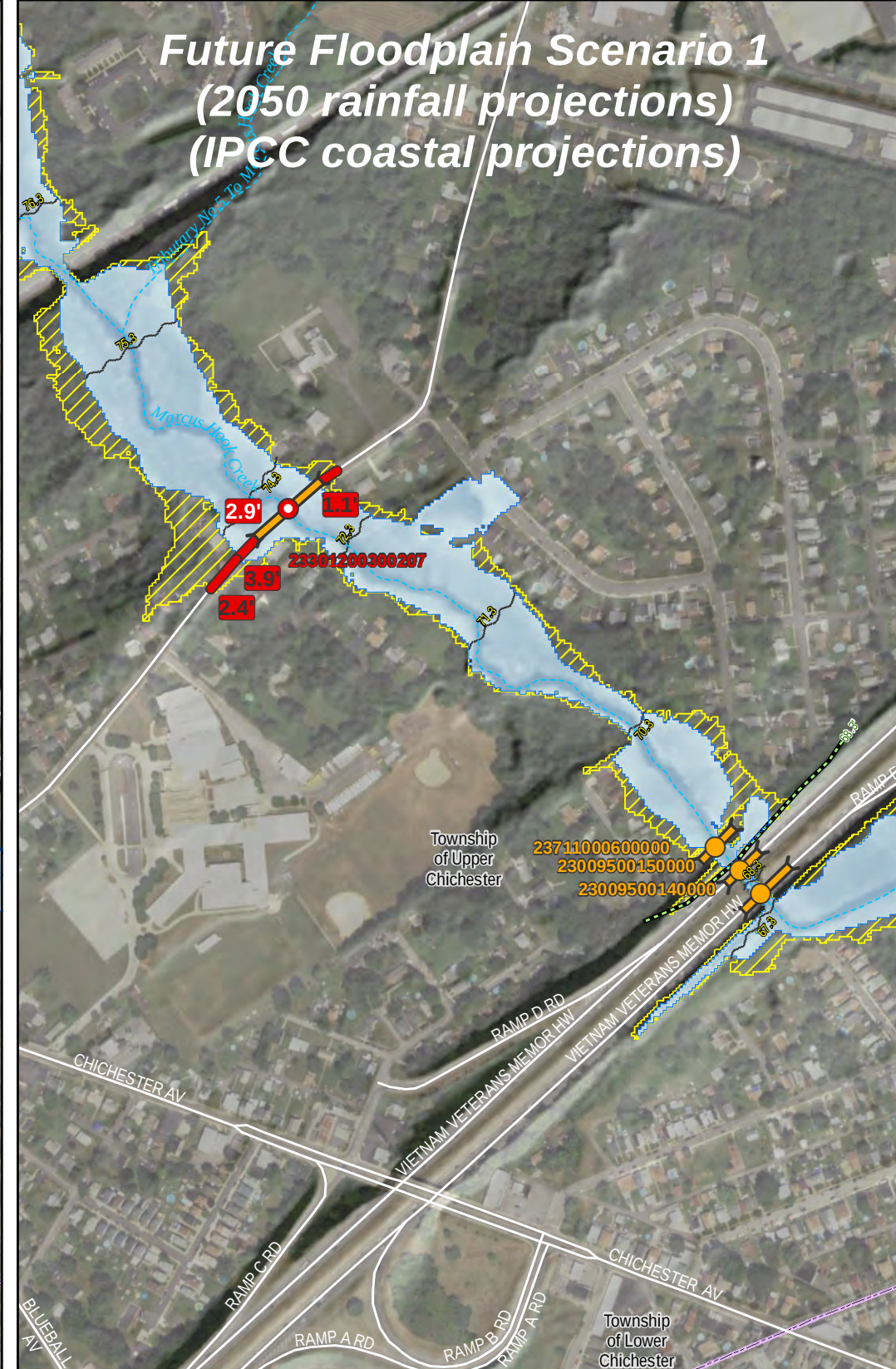
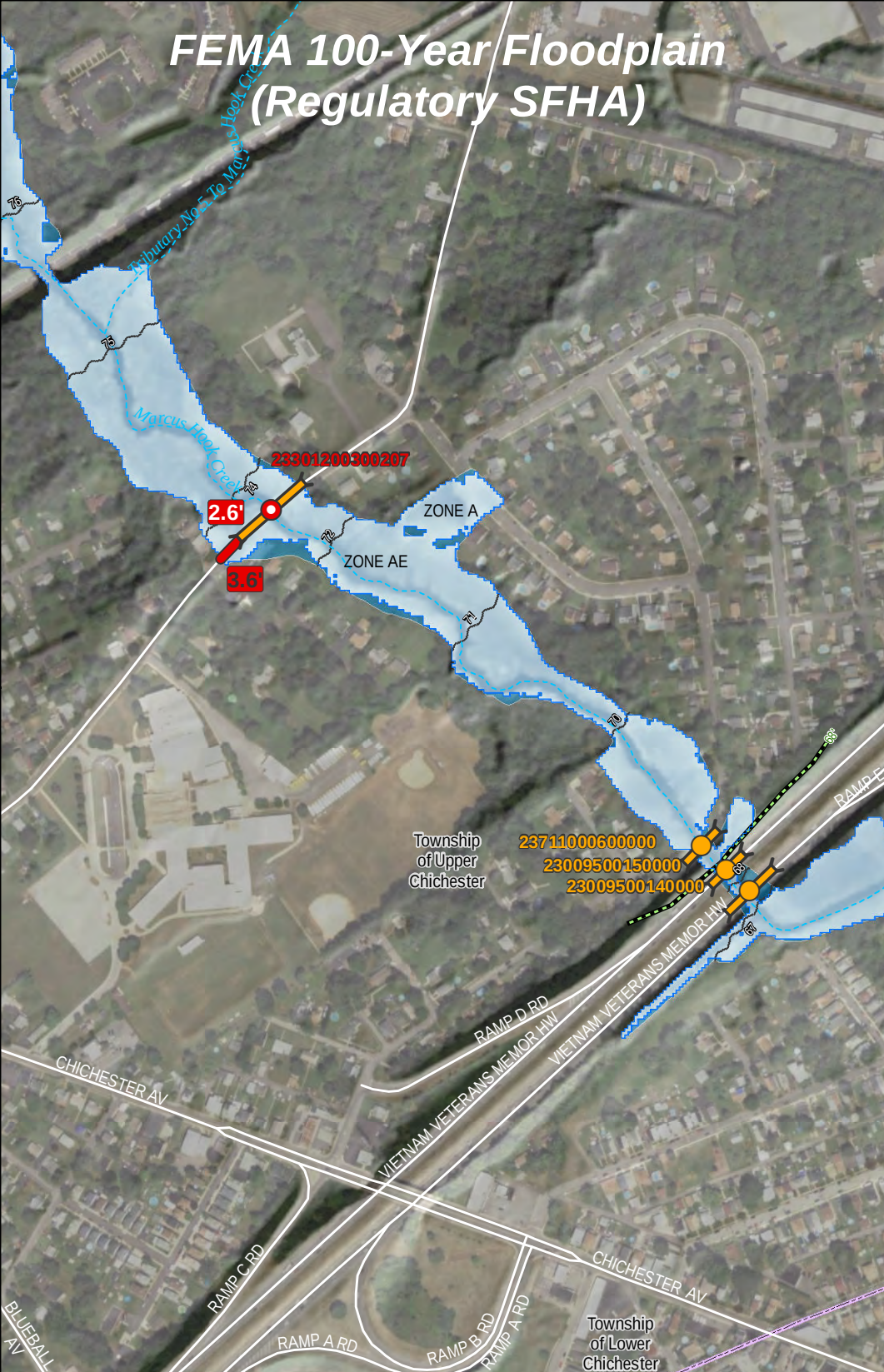
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	FEMA FLOODPLAIN DATA	EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)
Vulnerable Bridge - Mean Depth in Feet i.e. 328'	FEMA Stream Centerline	Existing Conditions SFHA Extents
Bridge Points - BRIDGE ID i.e. 23100100301362	FEMA Base Flood Elevation	FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. CODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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PENNDOT

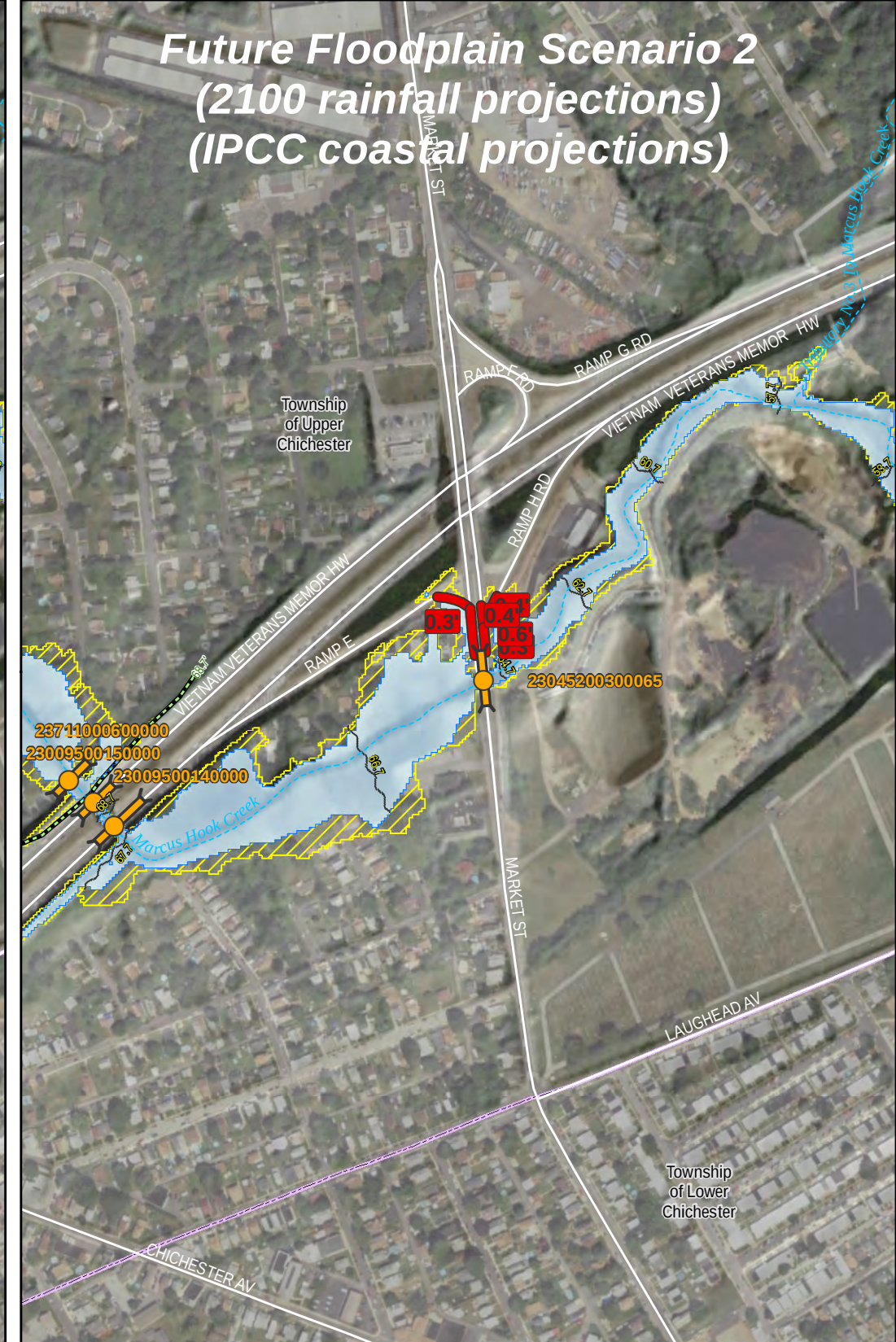
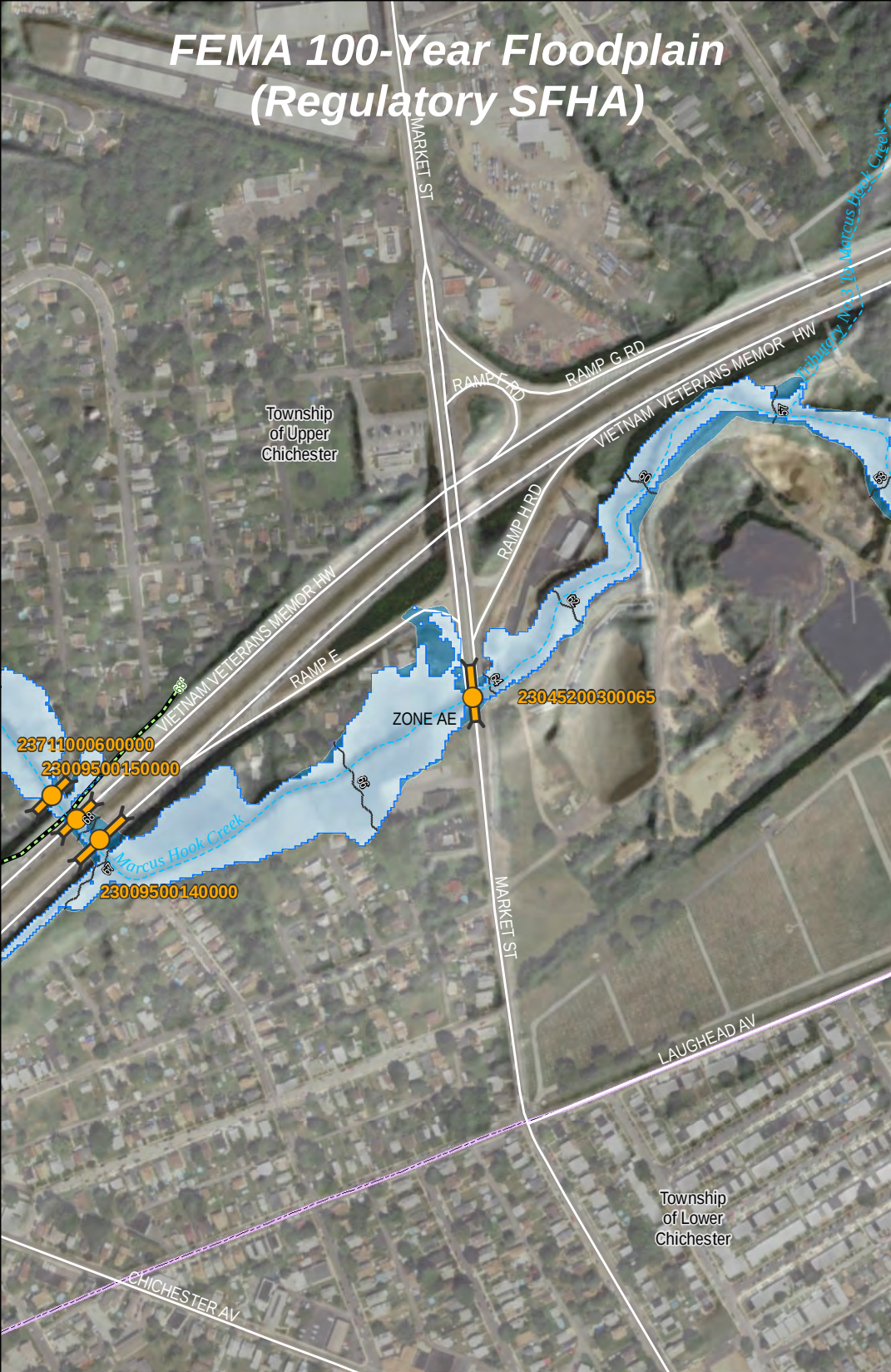
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Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Vertical Datum: North American Vertical Datum 1988

VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

**Michael Baker
INTERNATIONAL**

LOCATOR MAP

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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

Feet
0 1,000

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

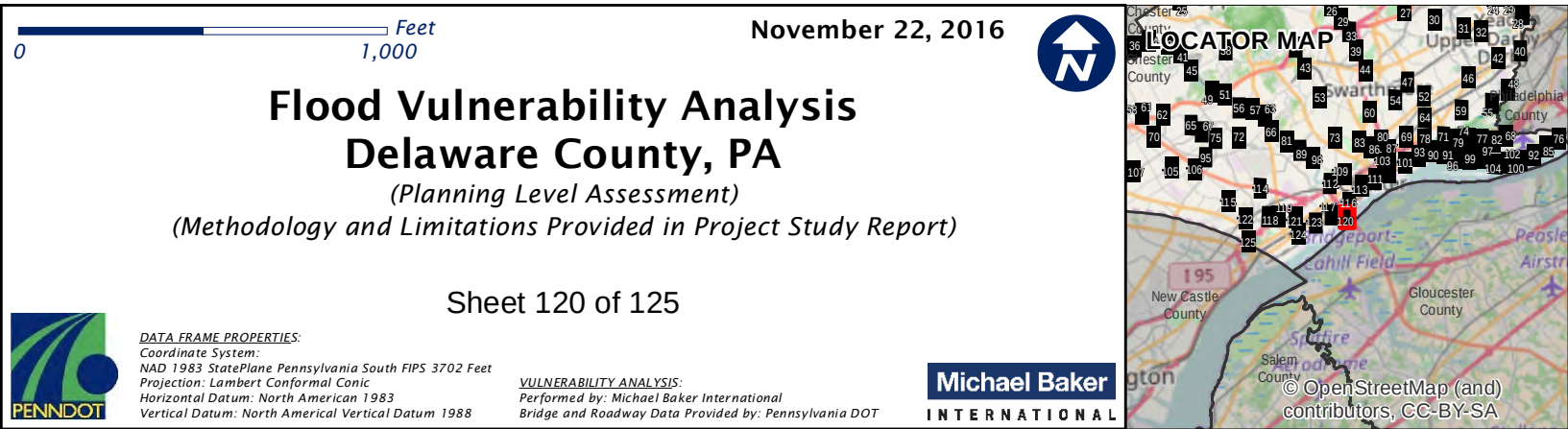
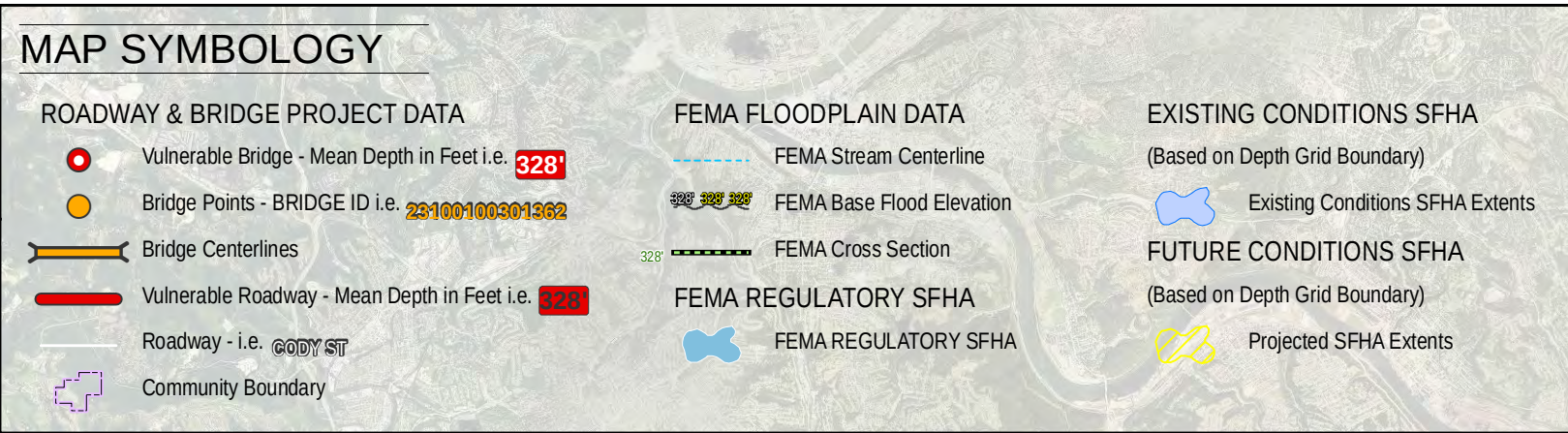
Sheet 119 of 125

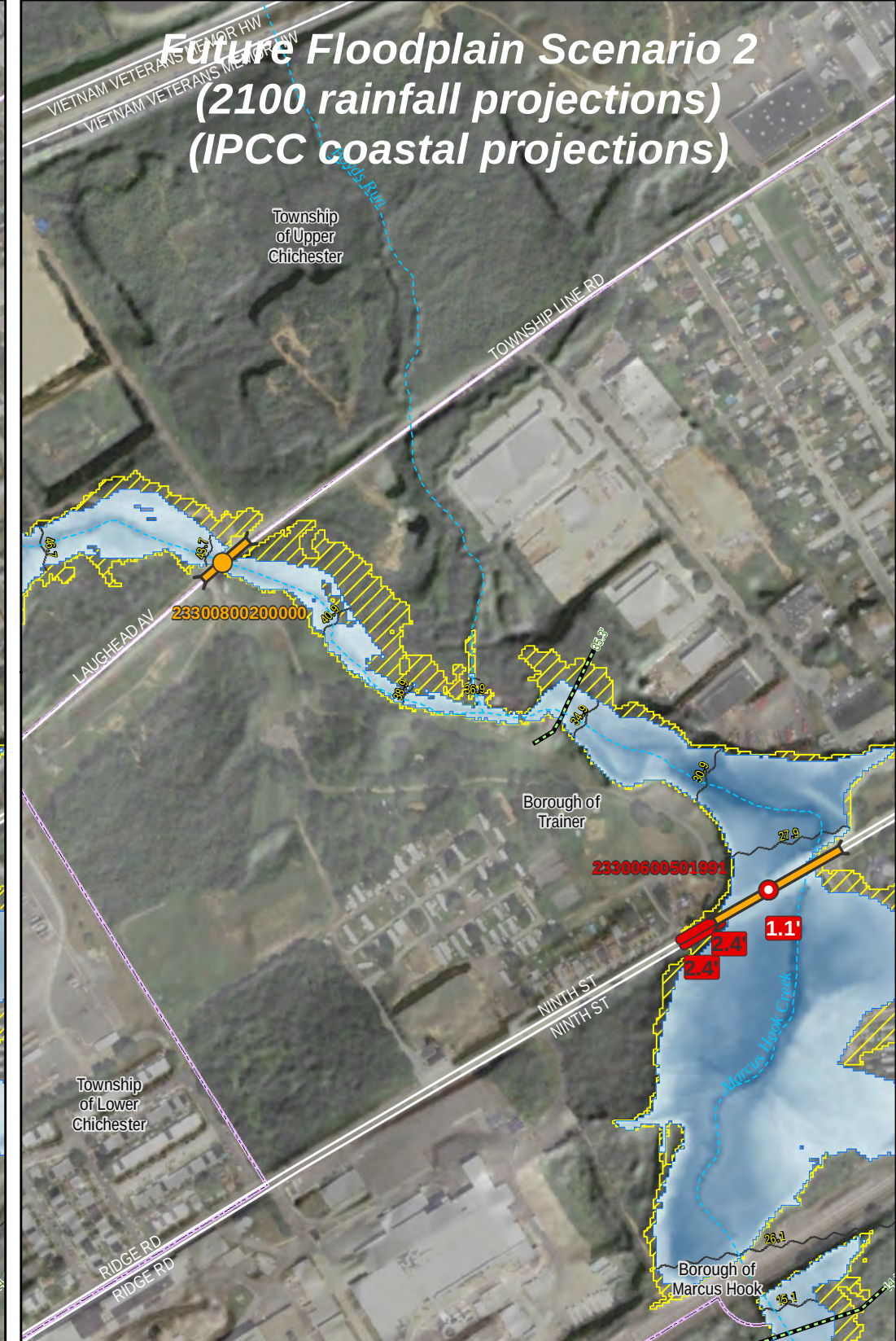
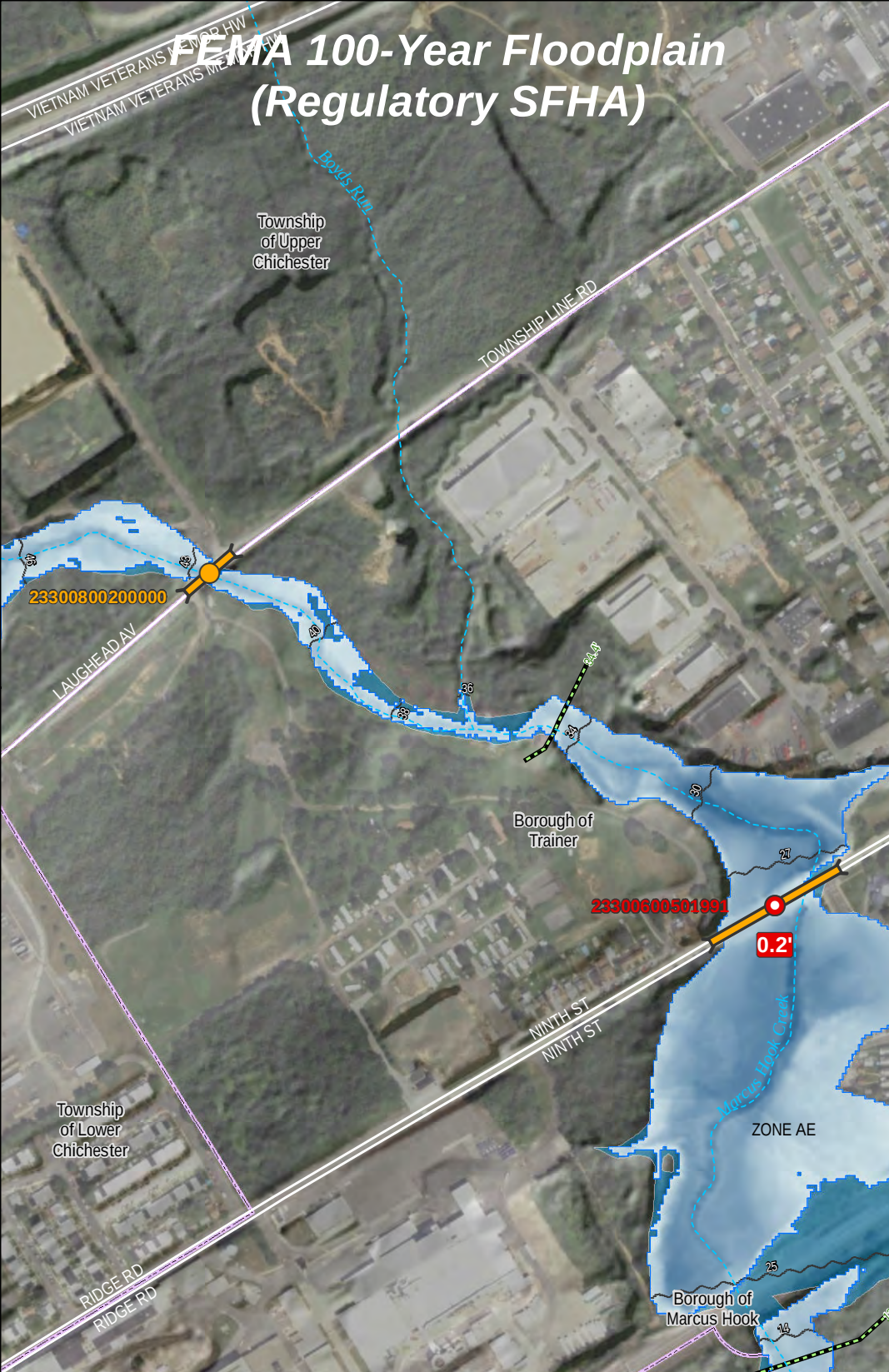
DATA FRAME PROPERTIES:
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Performed by: Michael Baker International
Bridge and Roadway Data Provided by: Pennsylvania DOT

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INTERNATIONAL**

LOCATOR MAP





MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA		FEMA FLOODPLAIN DATA		EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'		FEMA Stream Centerline		Existing Conditions SFHA Extents
	Bridge Points - BRIDGE ID i.e. 23100100301362		FEMA Base Flood Elevation		FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)
	Bridge Centerlines		FEMA Cross Section		Projected SFHA Extents
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'		FEMA REGULATORY SFHA		
	Roadway - i.e. CODY ST				
	Community Boundary				

November 22, 2016

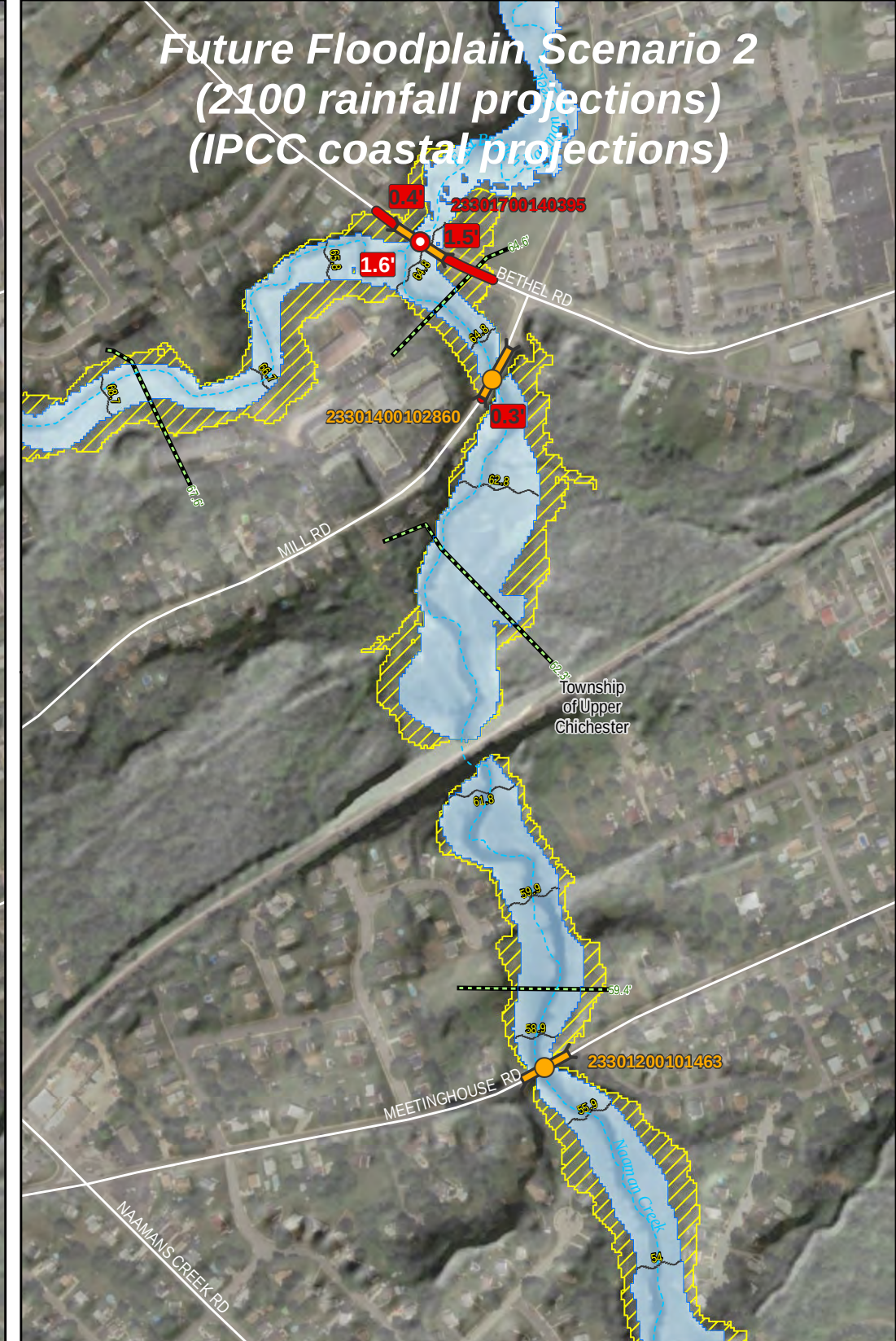
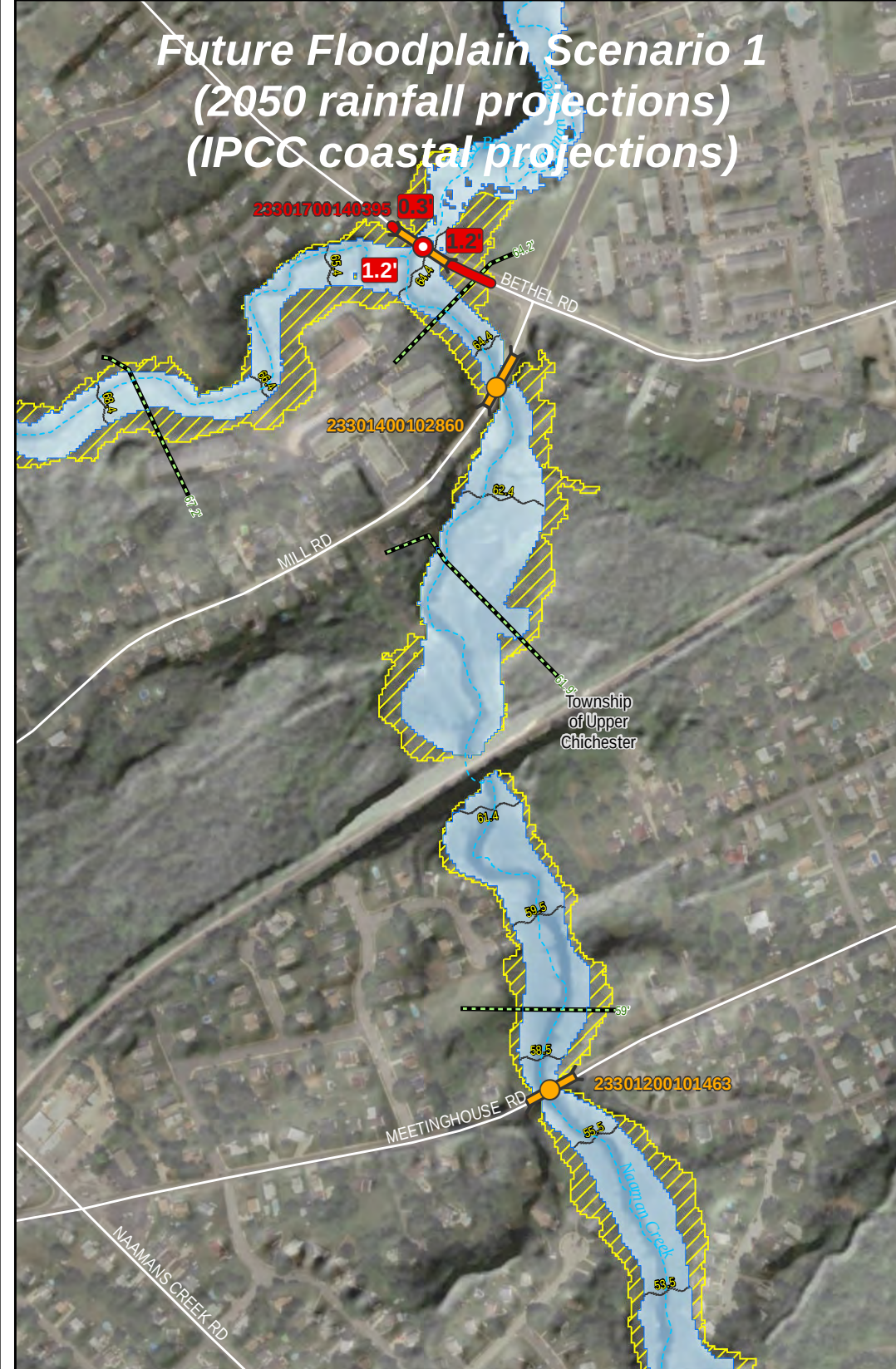
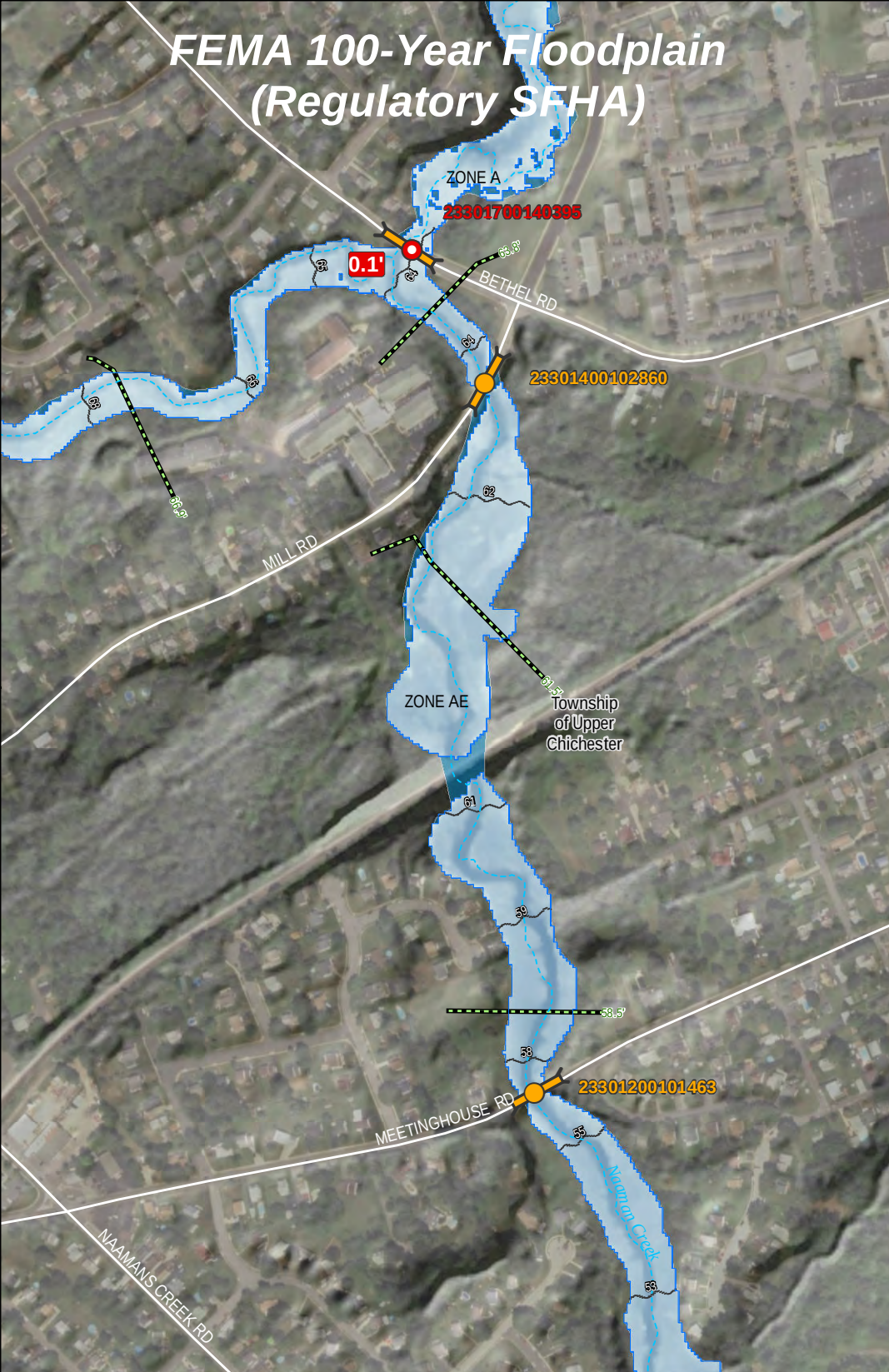
Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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VULNERABILITY ANALYSIS:
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MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA

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- Roadway - i.e. **CODY ST**
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FEMA FLOODPLAIN DATA

- FEMA Stream Centerline
- FEMA Base Flood Elevation
- FEMA Cross Section

FEMA REGULATORY SFHA

- FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)

- Existing Conditions SFHA Extents

FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)

- Projected SFHA Extents

0 1,000 Feet

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

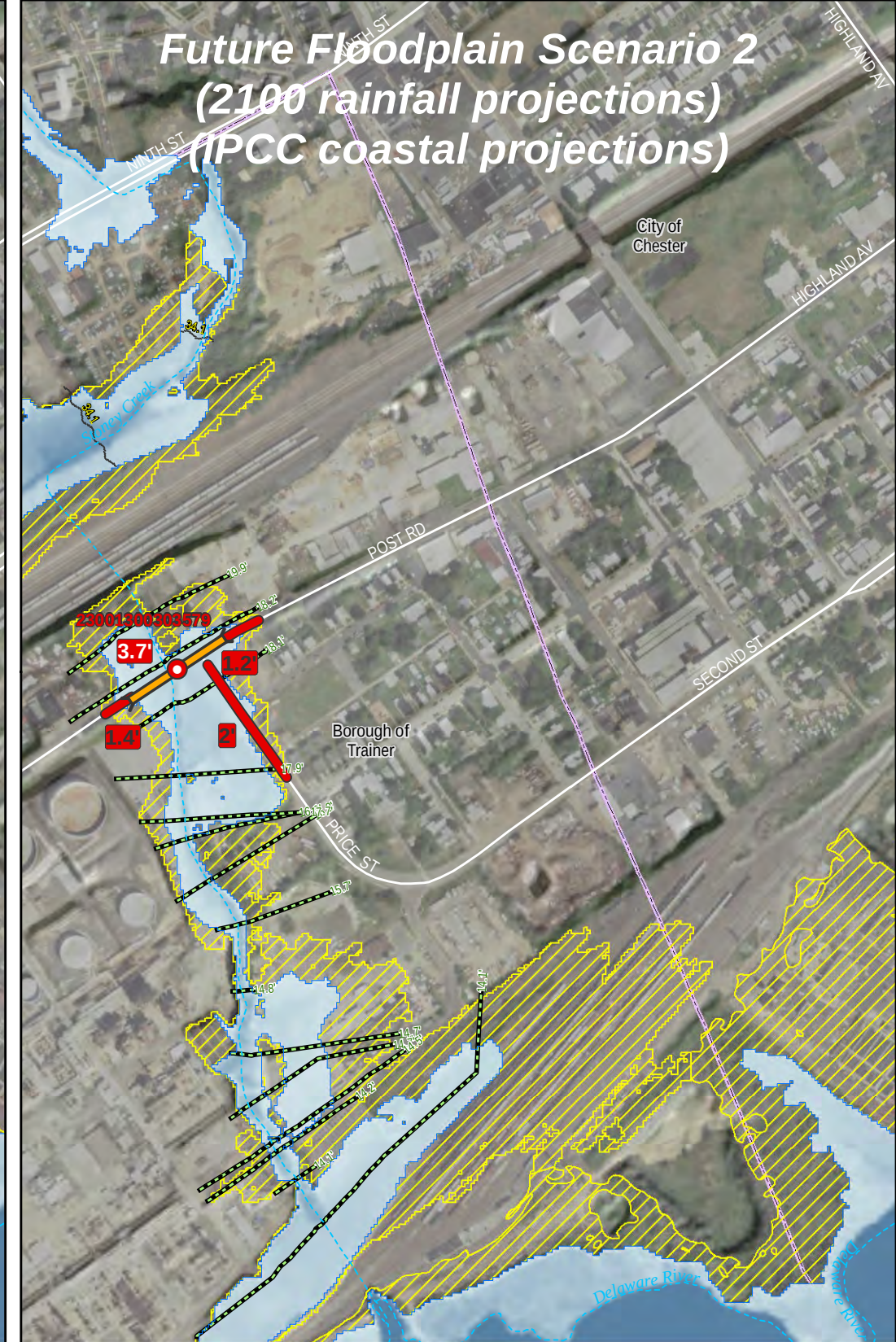
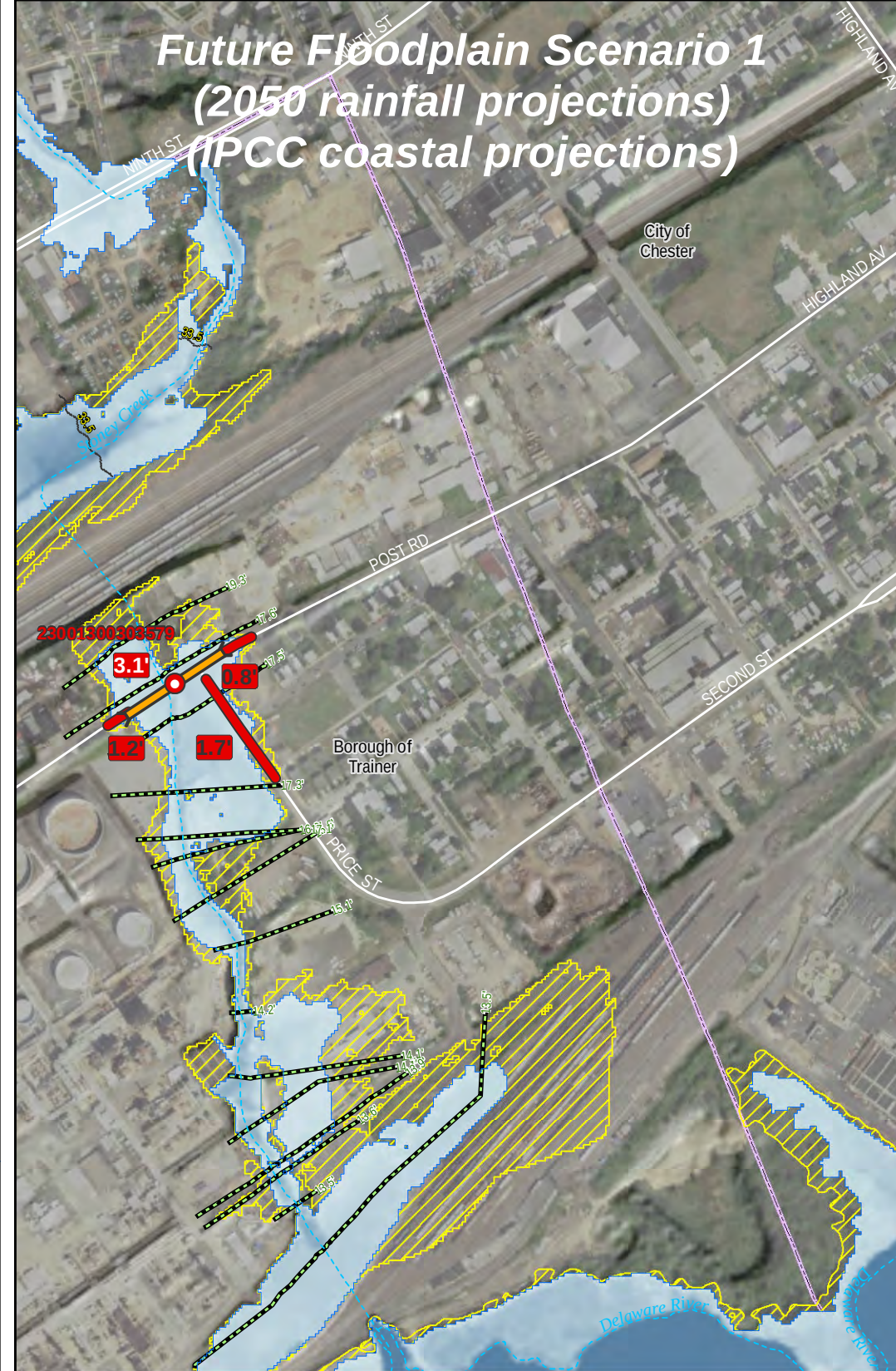
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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DATA FRAME PROPERTIES:
Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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VULNERABILITY ANALYSIS:
Performed by: Michael Baker International
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LOCATOR MAP



MAP SYMBOLOGY

ROADWAY & BRIDGE PROJECT DATA	
	Vulnerable Bridge - Mean Depth in Feet i.e. 328'
	Bridge Points - BRIDGE ID i.e. 23100100301362
	Bridge Centerlines
	Vulnerable Roadway - Mean Depth in Feet i.e. 328'
	Roadway - i.e. CODY ST
	Community Boundary

FEMA FLOODPLAIN DATA	
	FEMA Stream Centerline
	FEMA Base Flood Elevation
	FEMA Cross Section
FEMA REGULATORY SFHA	
	FEMA REGULATORY SFHA

EXISTING CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Existing Conditions SFHA Extents
FUTURE CONDITIONS SFHA (Based on Depth Grid Boundary)	
	Projected SFHA Extents

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

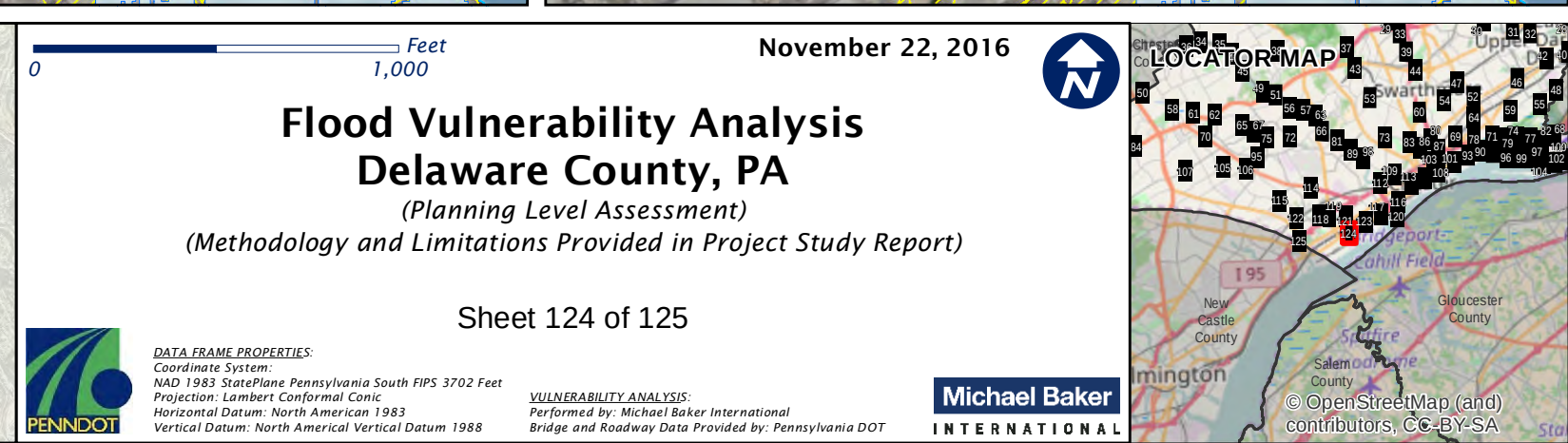
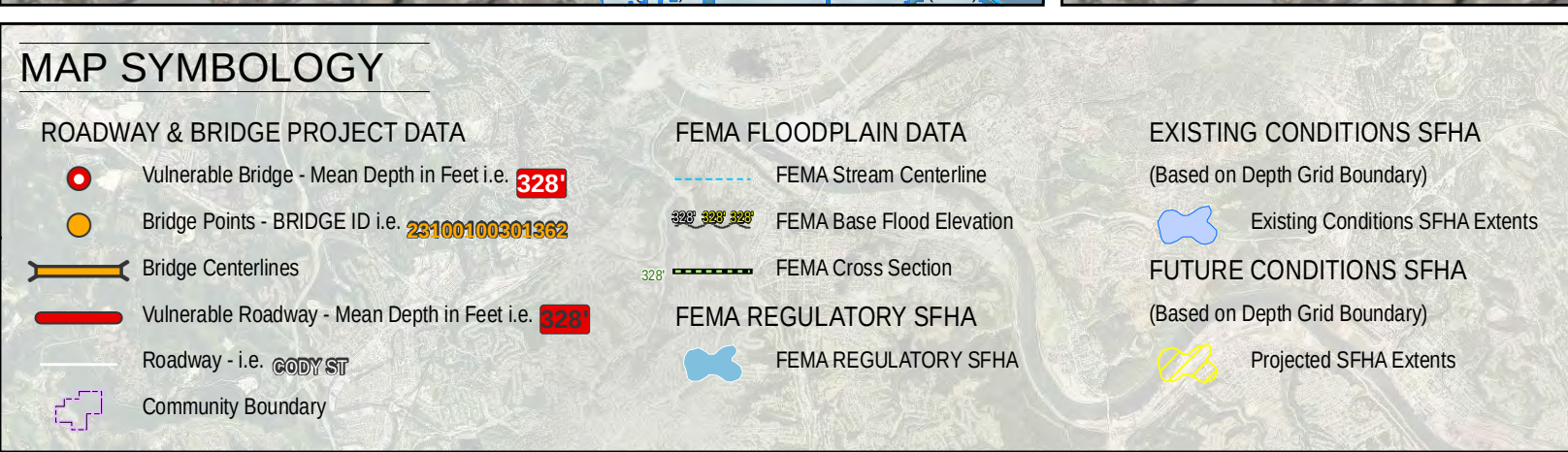
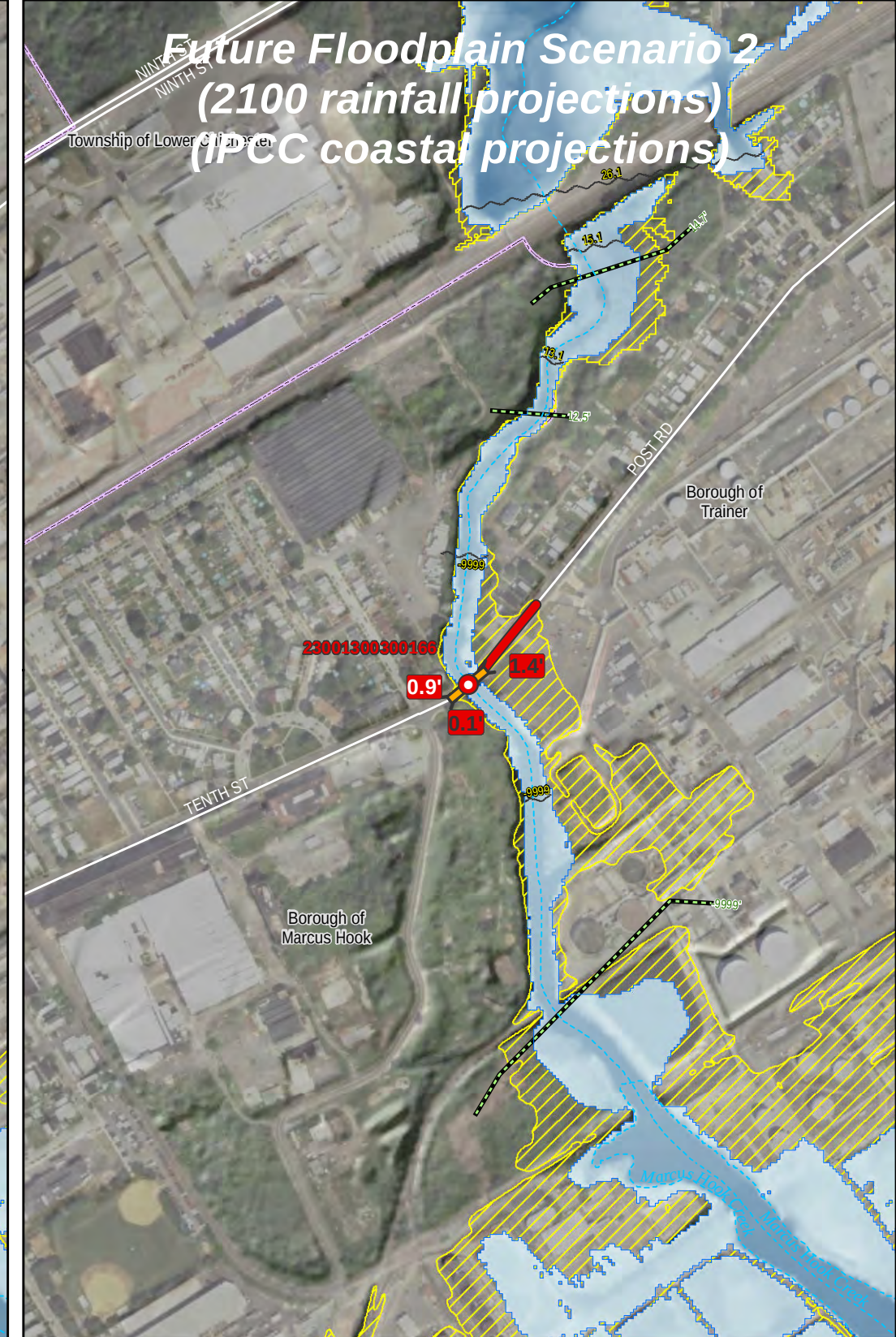
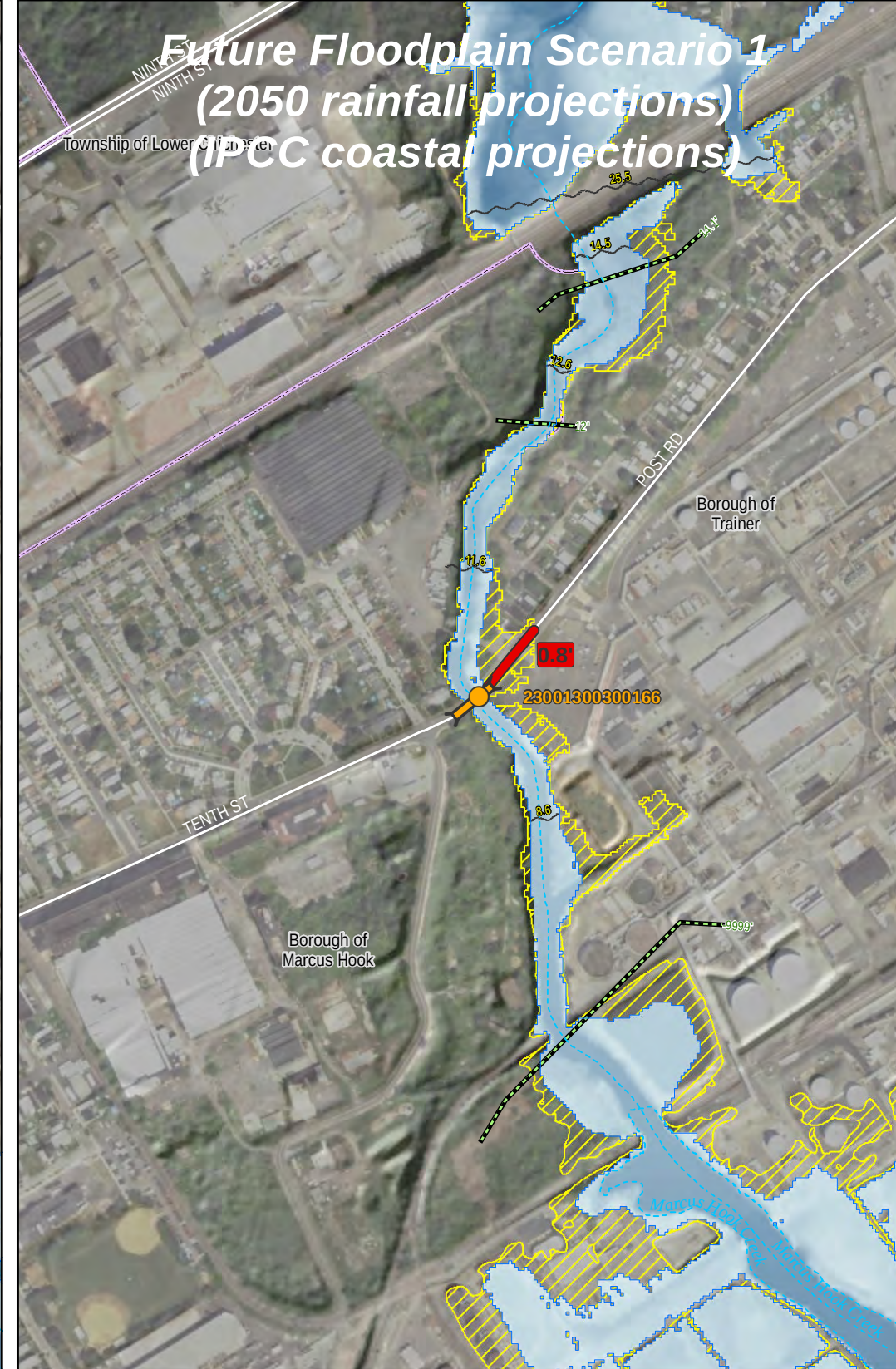
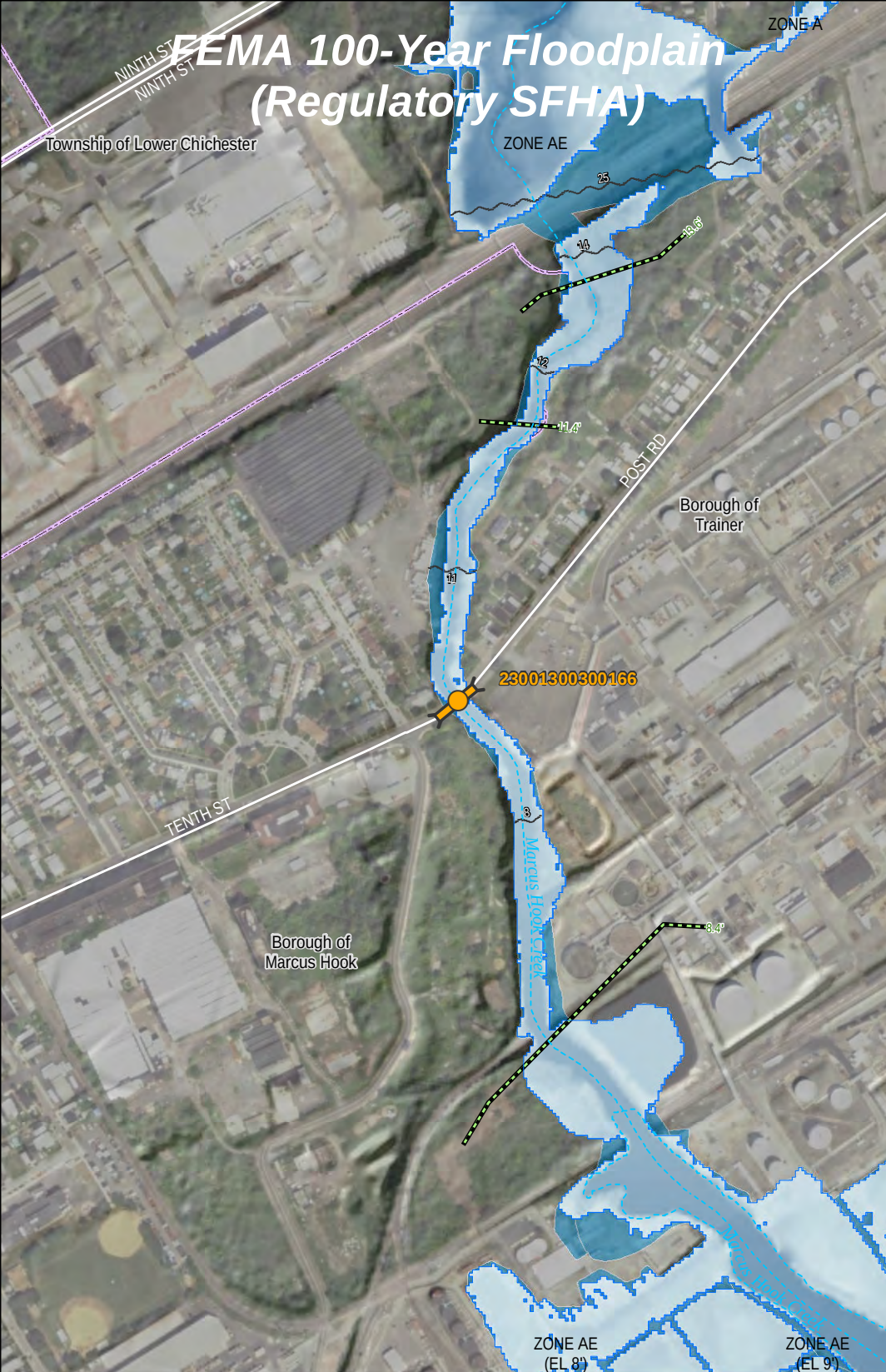
(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

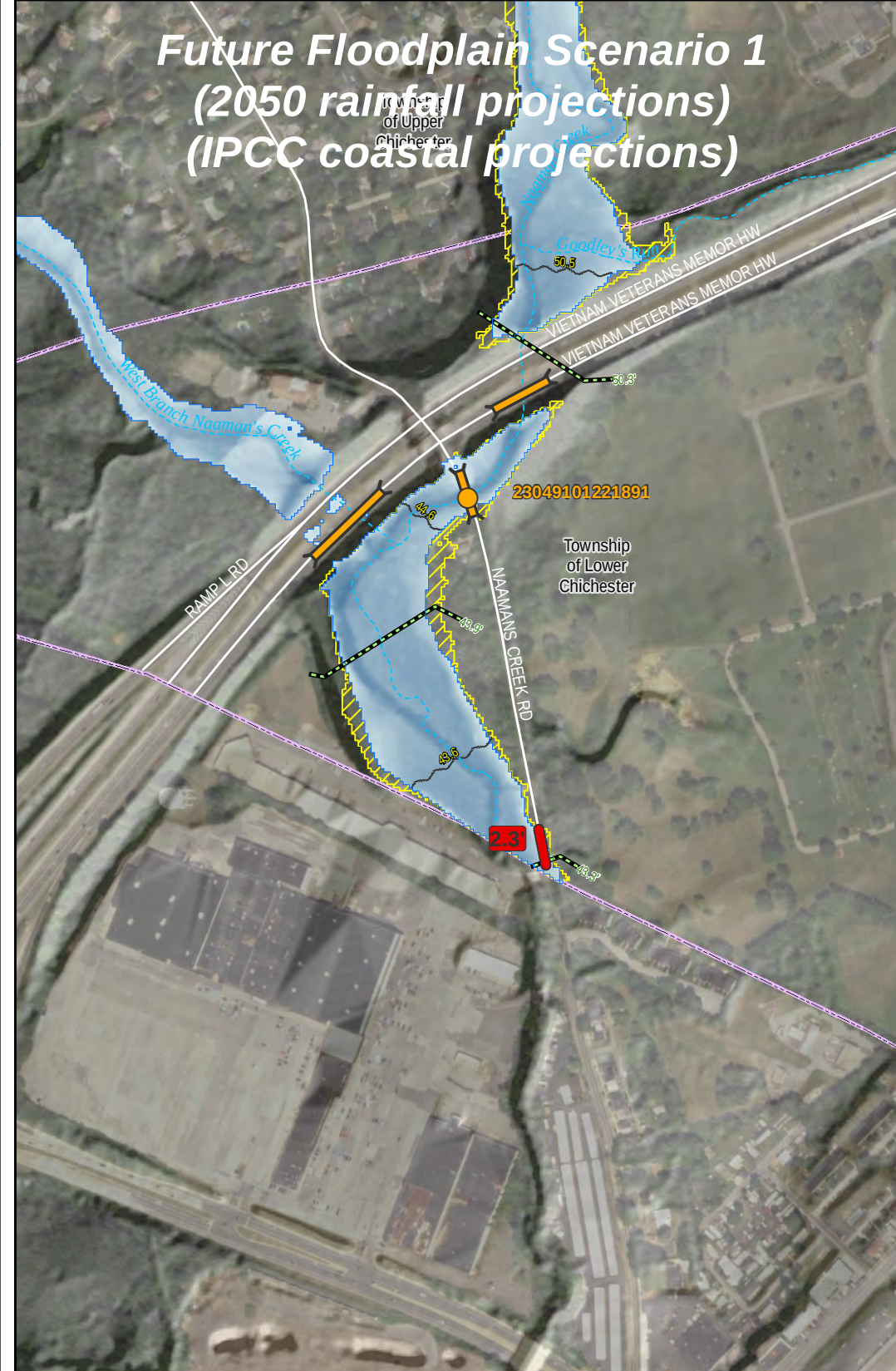
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DATA FRAME PROPERTIES:
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MAP SYMBOLOGY

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Bridge Centerlines	FEMA Cross Section	Projected SFHA Extents
Vulnerable Roadway - Mean Depth in Feet i.e. 328'	FEMA REGULATORY SFHA	
Roadway - i.e. GOODY ST	FEMA REGULATORY SFHA	
Community Boundary		

November 22, 2016

Flood Vulnerability Analysis Delaware County, PA

(Planning Level Assessment)
(Methodology and Limitations Provided in Project Study Report)

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LOCATOR MAP

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