

Owners Team:



Battelle



Design Team:



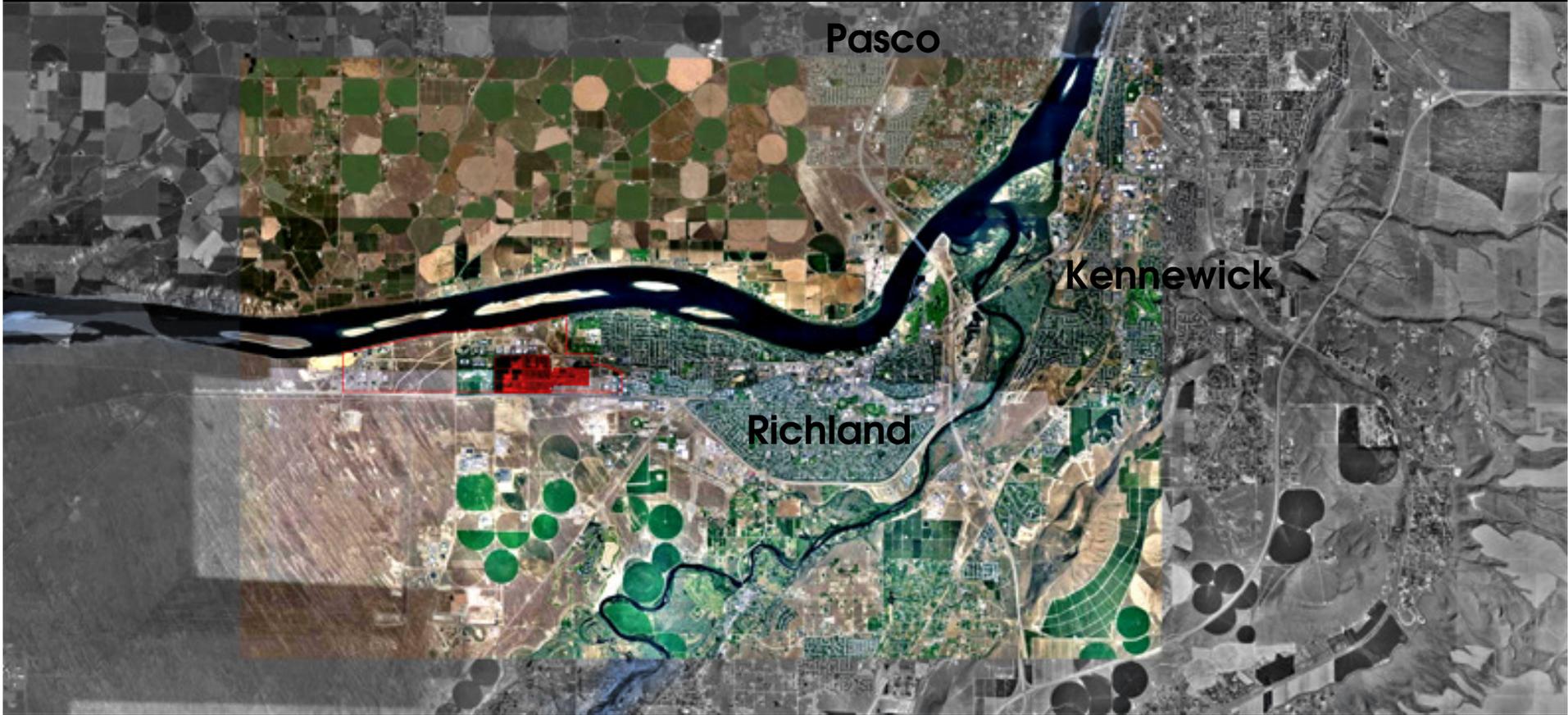
TRI-CITIES RESEARCH DISTRICT MASTER PLAN - DRAFT

TRI-CITIES RESEARCH DISTRICT

Vision and Goals

- The master plan vision is to be a world-class sustainable and socially cohesive community for companies to innovate, promote and collaborate for the advancement of science, technology and education
- The district is to promote and demonstrate its technological innovation and focus on sustainability as the main attractors for new businesses and people, retention of existing businesses and people, cultivation of young regional talent, and to foster local and regional growth

Tri-Cities Aerial and Site Context



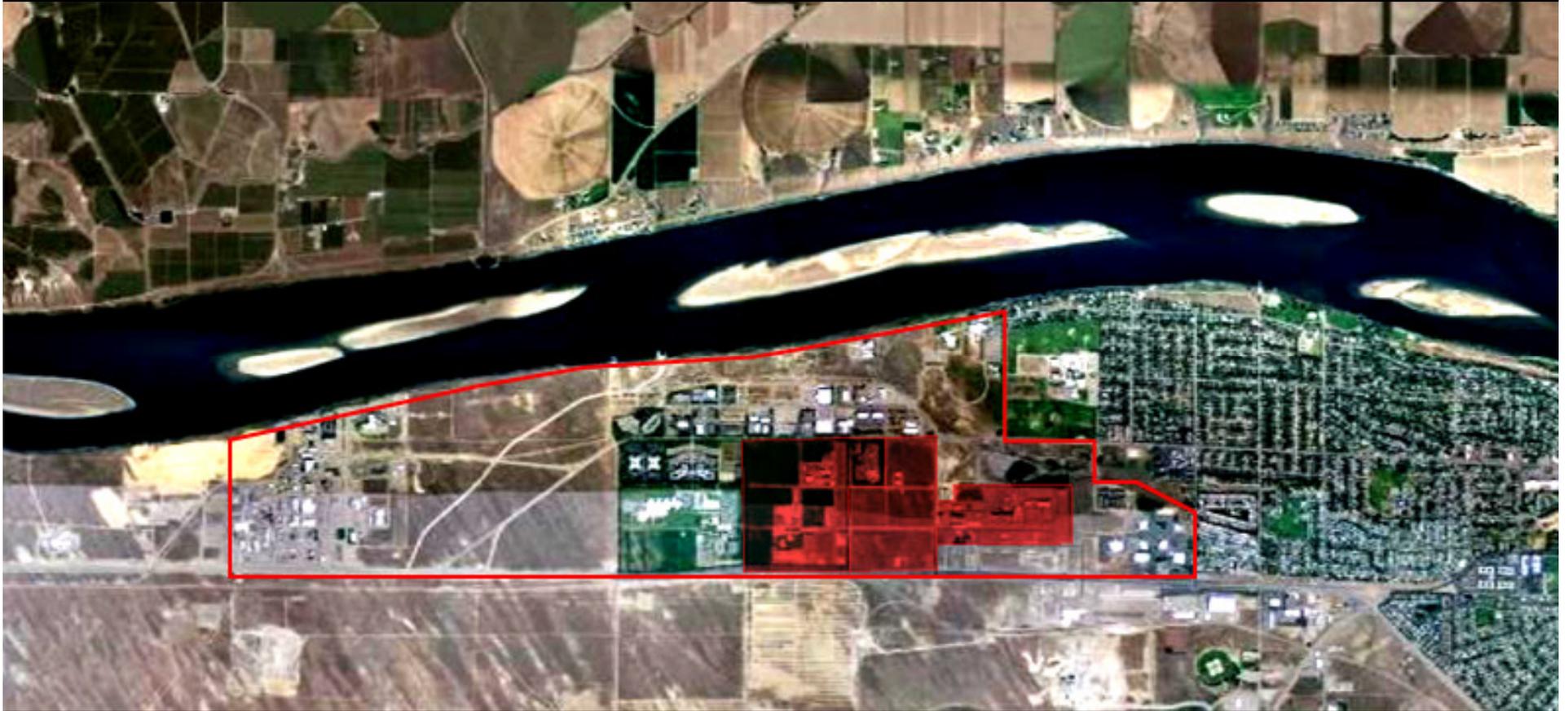
North Richland and the Tri-Cities Research District



The Research District has been reduced from 4,400 acres in the old Science and Technology Park to 1,600 acres in the new Research District



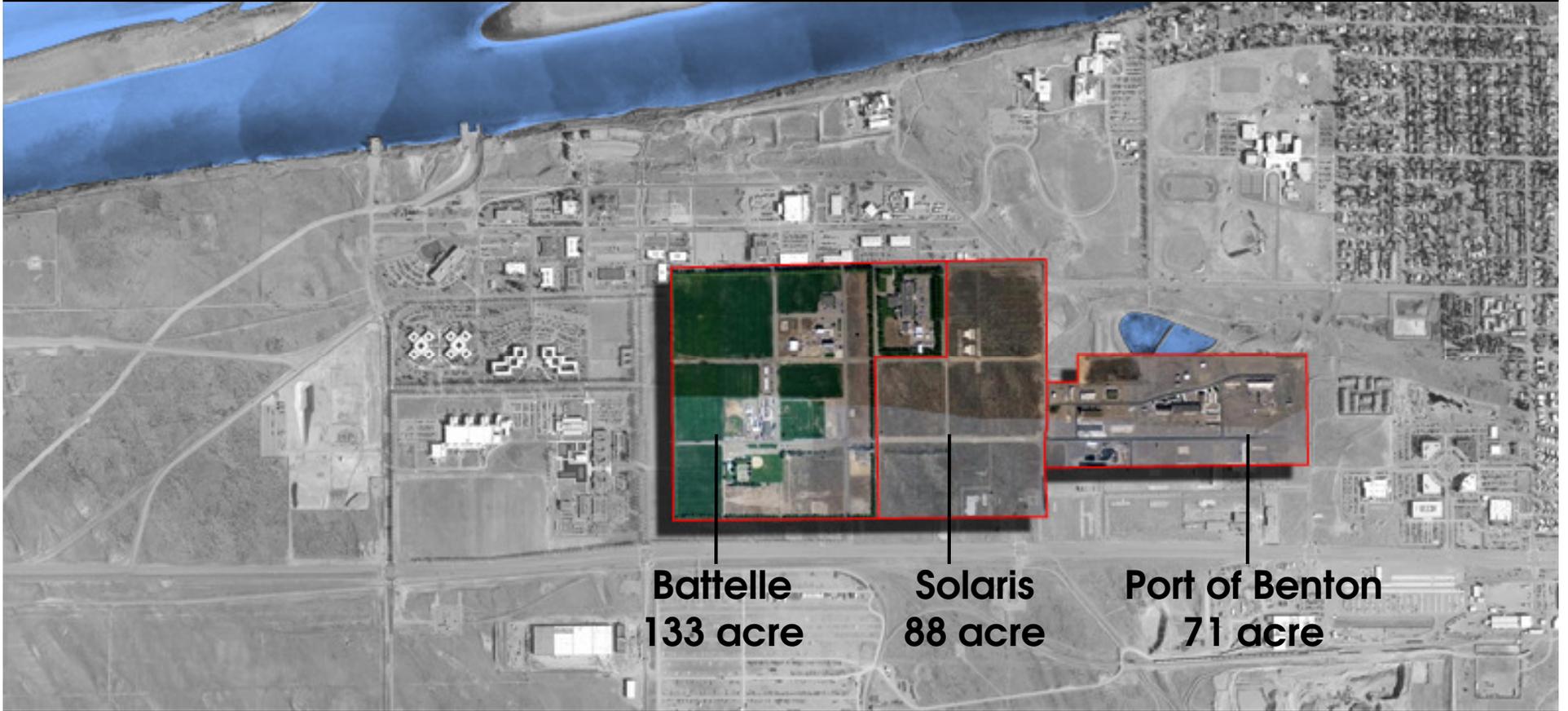
Tri-Cities Research District and the Master Plan



This Master Plan focus's on 292 acres



Master Plan - Property Owners

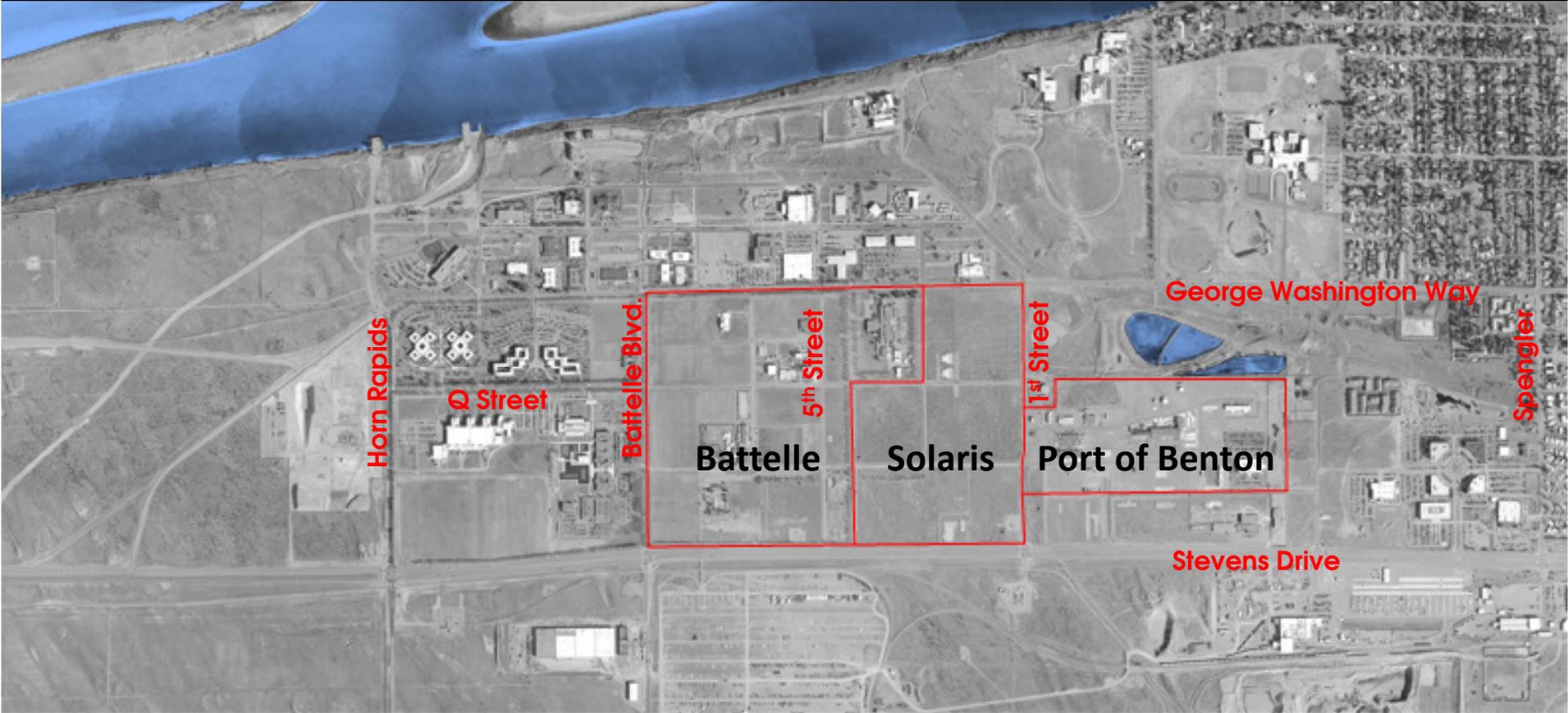


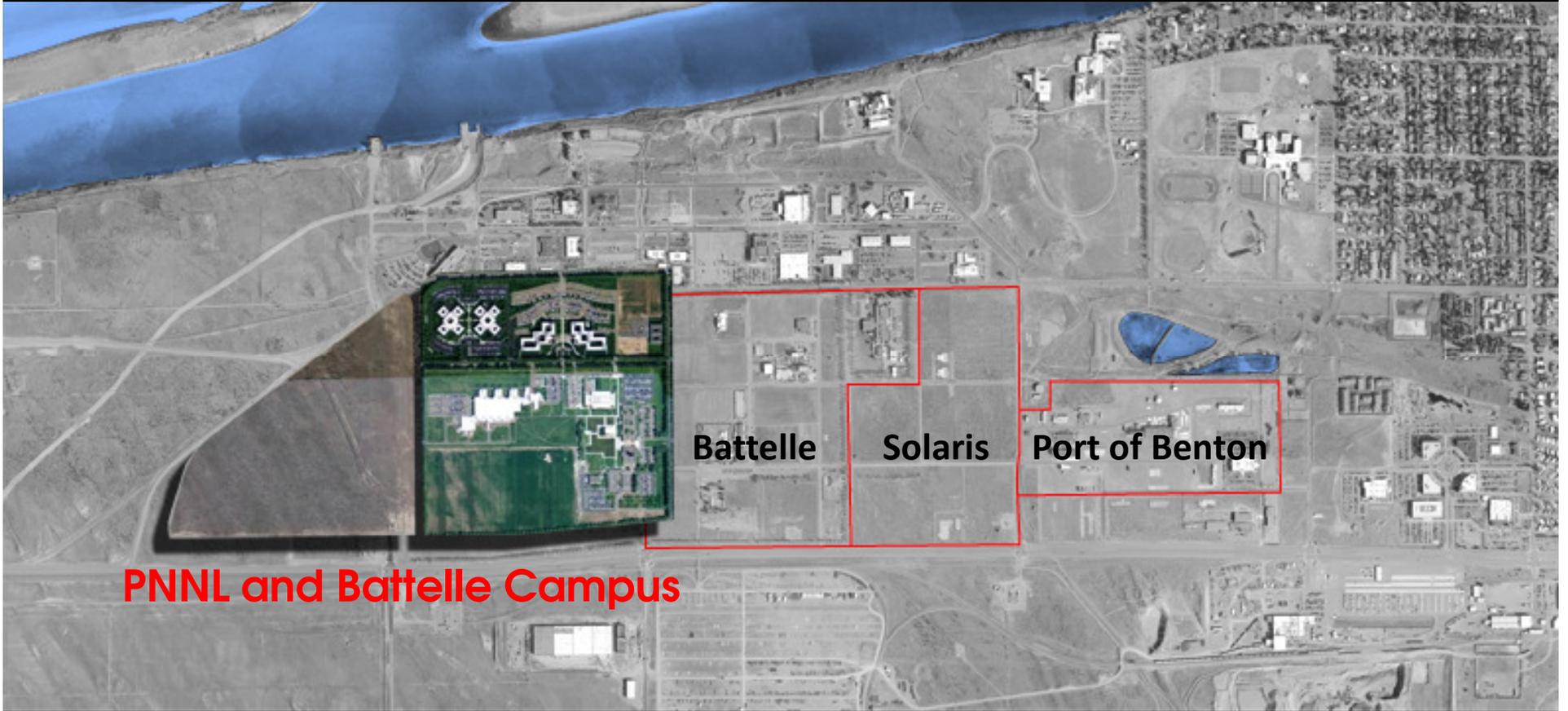
Battelle
133 acre

Solaris
88 acre

Port of Benton
71 acre







PNNL and Battelle Campus

Battelle

Solaris

Port of Benton







Port of Benton

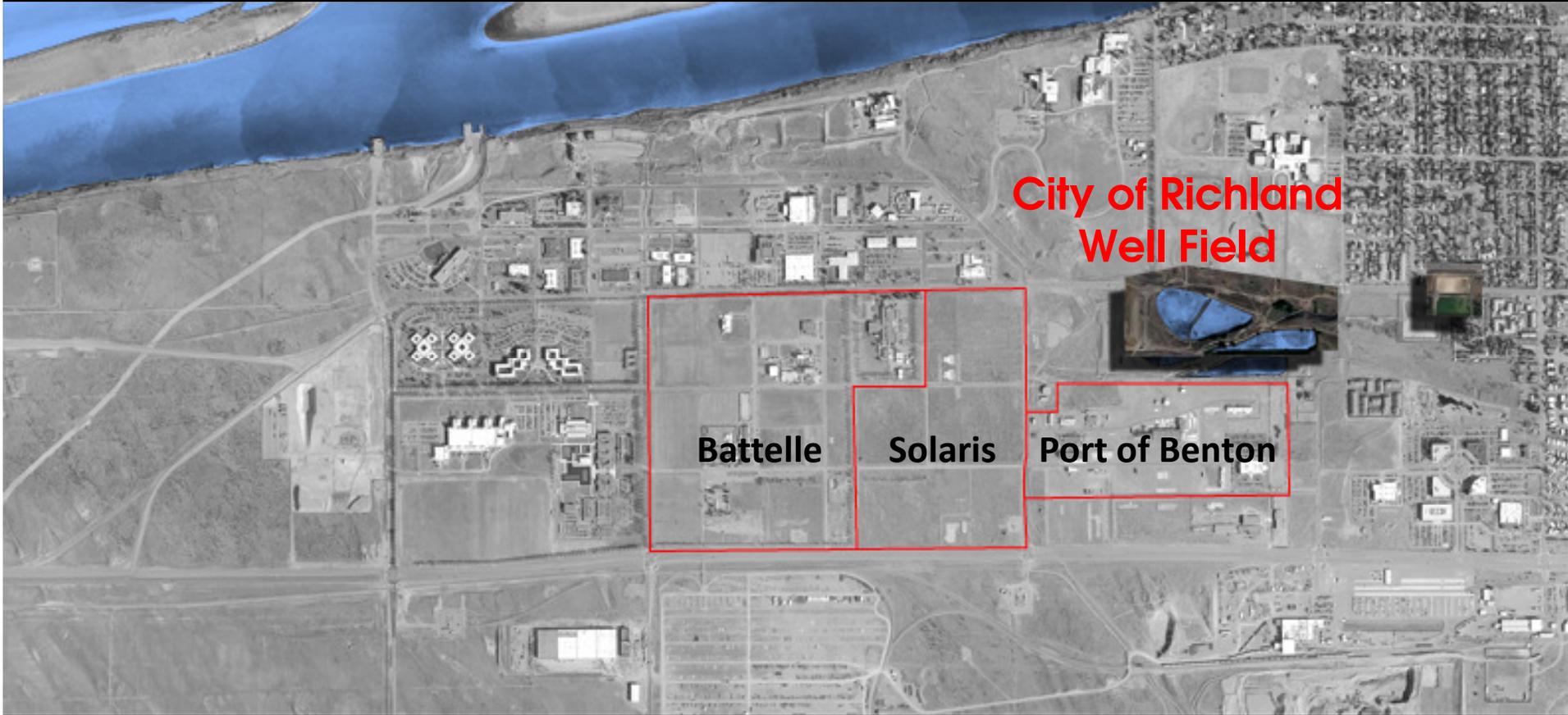
Battelle

Solaris

Port of Benton

Port of Benton





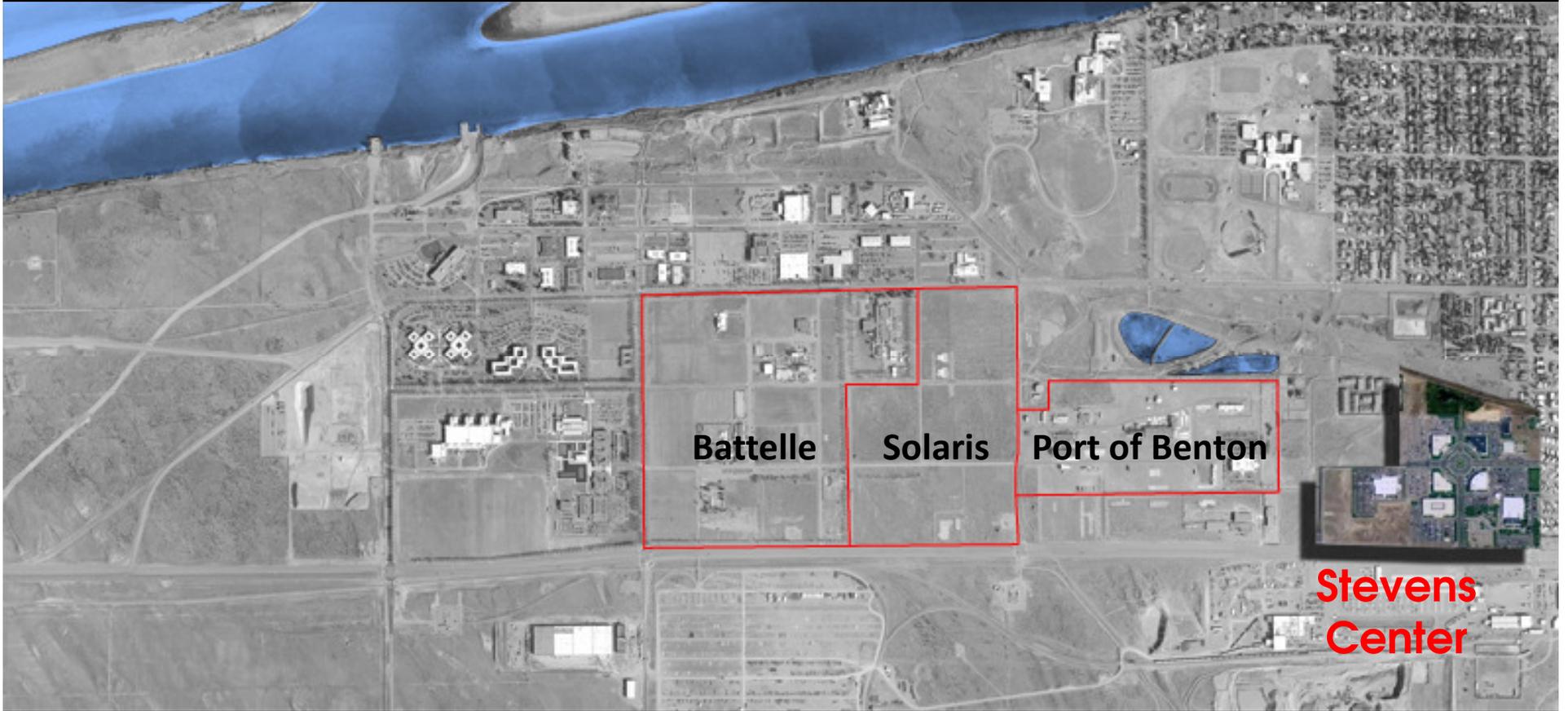
**City of Richland
Well Field**

Battelle

Solaris

Port of Benton





**Stevens
Center**





Single Family Residential

Battelle

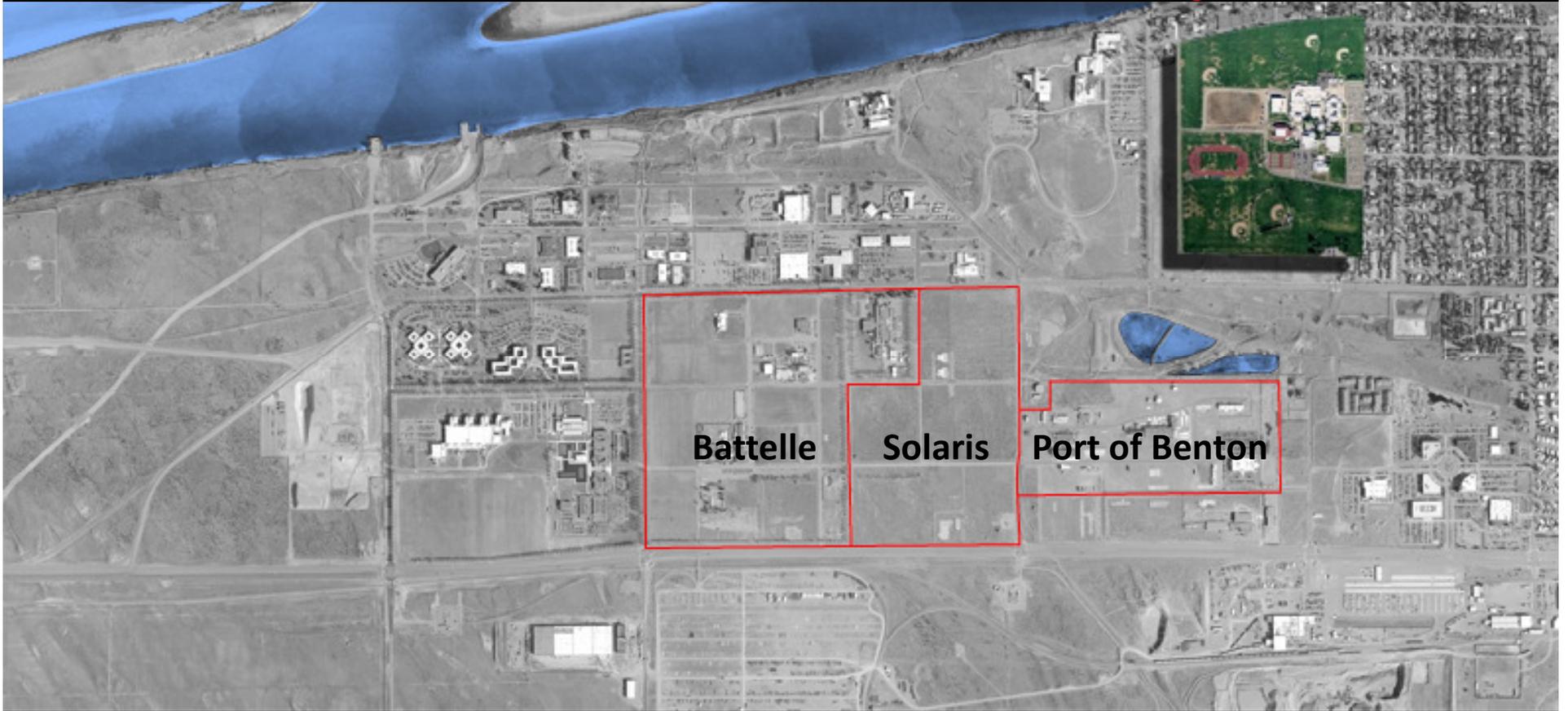
Solaris

Port of Benton

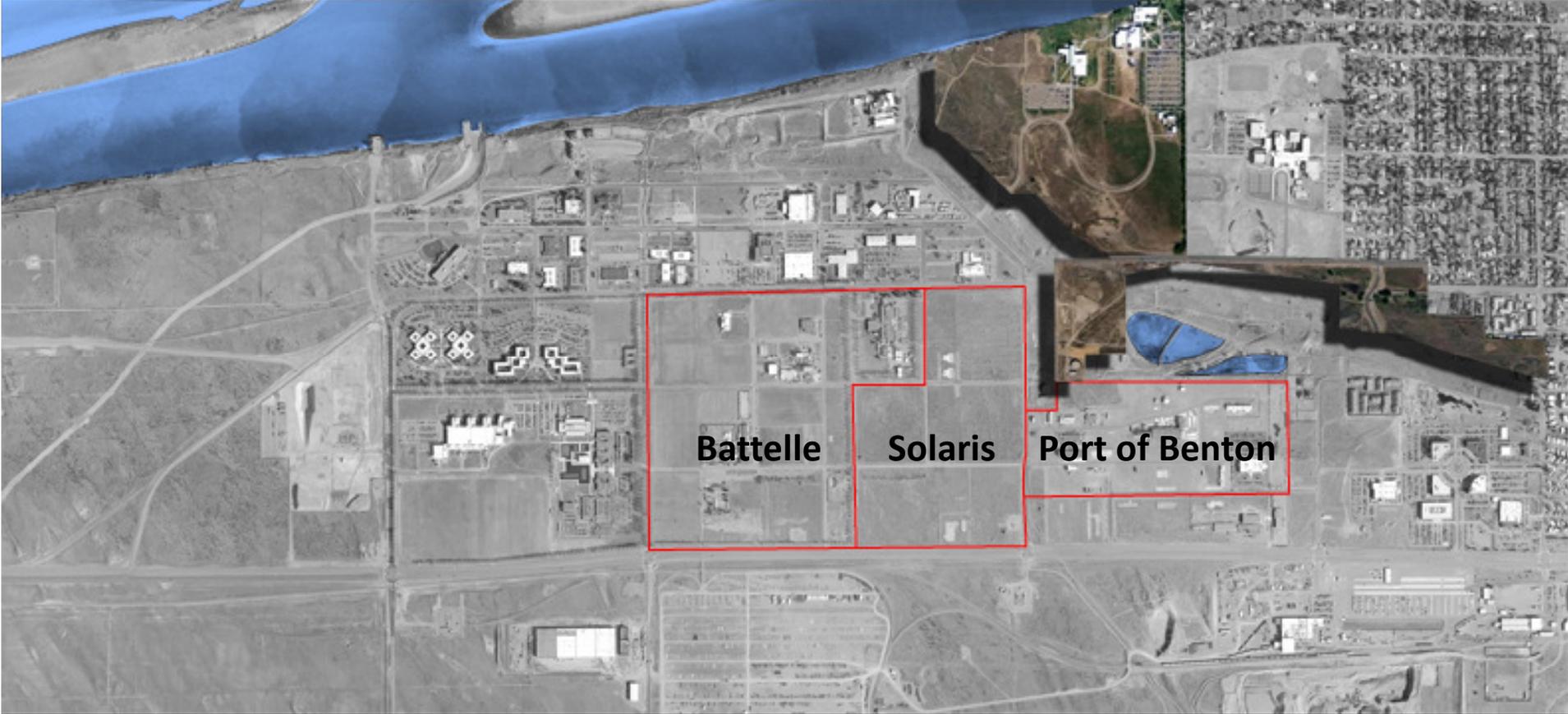
Condo



Hanford High School



WSUTC



Climate and Design

Maximize East/West Solar Orientation

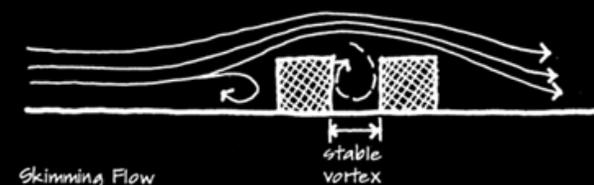
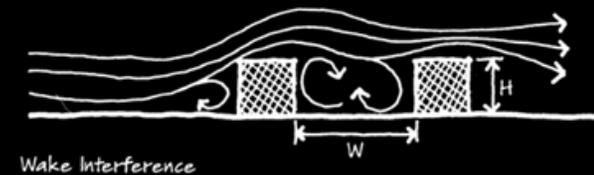
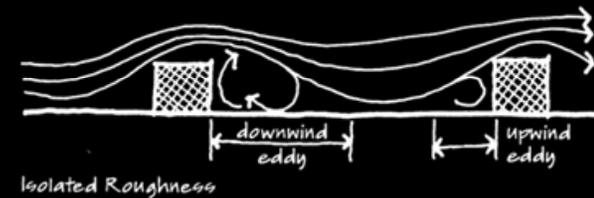
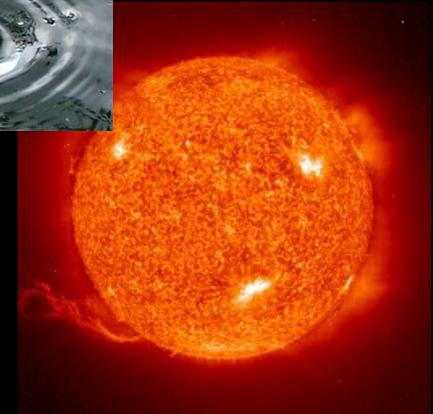
- Reduce Thermal Loads
- Natural Daylighting
- Protection via Walkway Screens and Canopies

Wind

- Accept and Direct Prevailing Winds for Passive Site Cooling
- Deter Winter Gusts
- Protection via Walkway Screens and Canopies

Water

- Precipitation – 7-8 inches per year
- Snow – 15 inches per year



Three Flow Regimes Between Buildings

Sustainability Analysis

The current primary target industries for the District are:

Biotechnology, Clean Energy, Computational Sciences, and Environmental Sciences



Sustainability Analysis

Local and Regional Technologies

Potential District Demonstration Projects Include:

Clean Energy

Solar and Wind Technologies

Plasma Enhanced Melter – (PEM)

Commercial Scale Fuel Cell

Geothermal Heat Exchange

Plug-In Hybrid Electric Vehicle (PHEV) Charging Stations

DC Mini Grid Supporting Clean On-Site Power Generation

Centralized Hot and Chilled Water Production

Bio-Mass Gasification

Water Systems

Xeriscape

Strategic storm water

Grey Water reuse

Waste water treatment

(bio-reactor, living machine, constructed wetlands)



Living Site and Infrastructure Challenge

The **Living Site and Infrastructure Challenge (LSIC)** is a comprehensive framework that exceeds LEED standards. From a marketing stand point, attempting the Challenge will create a synergy around the project and raise awareness to the Districts accomplishments

For the Master Plan, the design team will apply the LSIC as the primary rating system for the Master Plan. For the Project Build-out, the design team is recommending the **Living Building Challenge** framework

Living Site and Infrastructure Challenge - Prerequisites

Number	Category	Prerequisite
One	Site Design	Responsible Site Selection
Two	Site Design	Limits to Growth
Three	Site Design	Habitat Exchange
Four	Energy	Net Zero Energy
Five	Materials	Materials Red List
Six	Materials	Carbon Footprint
Seven	Materials	Responsible Industry
Eight	Materials	Appropriate Materials Radius
Nine	Materials	Construction Waste
Ten	Water	Net Zero Water
Eleven	Water	Sustainable Water Discharge
Twelve	Indoor Environmental Quality	Civilized Work
Thirteen	Indoor Environmental Quality	Source Control
Fourteen	Indoor Environmental Quality	Ventilation
Fifteen	Beauty & Inspiration	Design for Spirit
Sixteen	Beauty & Inspiration	Inspiration and Education
Seventeen	Beauty & Inspiration	Design for Biophilia
Eighteen	Culture	Human Scale and Humane Places



Planning Principles

1. Walkability
2. Connectivity
3. Mixed-Use Development
4. Quality Architecture and Design
5. Increased Neighborhood Density
6. Smart Transportation
7. Sustainability
8. Quality of Life and Social Diversity



District Program

District Center:

Mixed Use – Office and or Residential over Retail
Residential Mix

Condos, Walk-up, Low-rise, Live-Work
Market Rate and Student Apartments

Retail:

Specialty Market and Public Market Place
Cafés and Restaurants

- Rooftop views and outdoor seating

Convenient Banks, Real Estate, Spas and Galleries

Entertainment and Hospitality

Wineries, Brewpubs, Lounges, Music Venue

Technology and Innovation Events

Boutique and Extended Stay Hotels

Civic and Community

Discovery Center

Child Development Center

K-8 Charter School

Health/Medical/Wellness

Sport and Recreation Spaces



District Program

Research, Innovation and Development:

- Research Laboratories
- Incubator Facilities
- Corporate Complexes
- Prototyping and Production Facilities
- High Bay Spaces



District Program

Public Open Spaces:

- Community Oriented
- Recreation and Play Spaces
- Columbia River Access
- Retail Streets and Pedestrian Avenues

Water:

- Used as Way Finding through District
- Evaporative Cooling Features - Passive/Active
- Play Fountains
- Science/Technology Educational Features



Centers and Nodes



Centers and Gateways



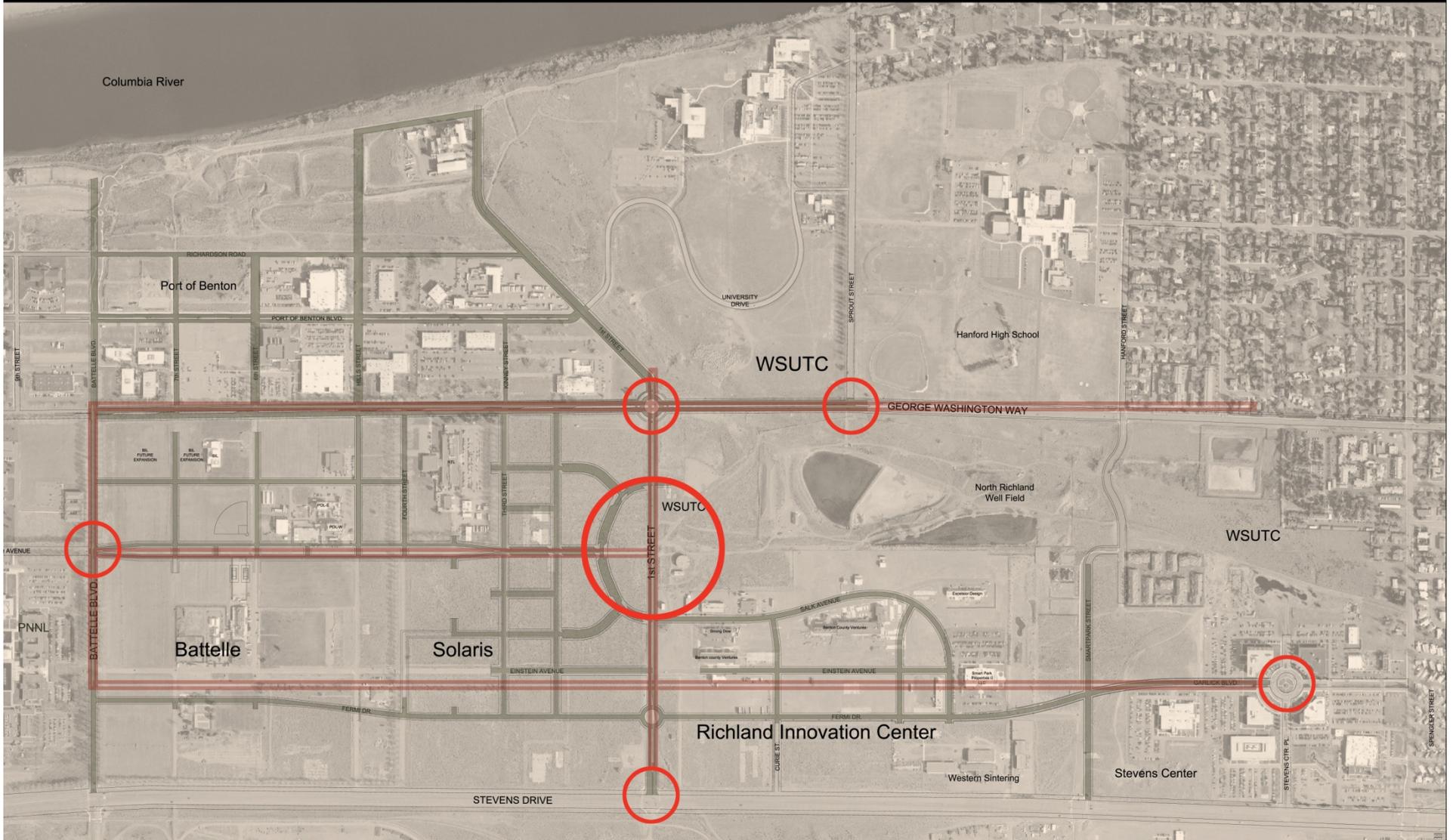
Internal Connections



New District Center



New District Center



Road Geometry



Concentrated Density



Concentrated Density



Concentrated Density - WSUTC



Distributed PV



Open and Natural Spaces



Open and Natural Spaces



Open and Natural Spaces



Open and Natural Spaces

Landscape elements and trail network



Open and Natural Spaces Amphitheater



Open and Natural Spaces

Links-style golf course



Open and Natural Spaces Park Blocks and District Center Park



Open and Natural Spaces

Battelle Outdoor Recreation Facilities



Retail and Mixed Use Buildings

retail/mixed use



Office and Lab Buildings

retail/mixed use

office/mixed use



Innovation/ R&D/Lab Buildings

retail/mixed use

office/mixed use

Innovation/r&d



University and Private/Public Partnership Opportunities

retail/mixed use

office/mixed use

Innovation/r&d

university



Vehicular Circulation and Regional Transit

retail/mixed use

office/mixed use

Innovation/r&d

university



Pedestrian and Bicycle Circulation

retail/mixed use

office/mixed use

Innovation/r&d

university



Iconic Energy Demonstration Node

retail/mixed use

office/mixed use

Innovation/r&d

university



Utilities Infrastructure

retail/mixed use

office/mixed use

Innovation/r&d

university



Demonstration Power and Water Treatment Nodes

retail/mixed use

office/mixed use

Innovation/r&d

university



Recreation Center

retail/mixed use

office/mixed use

Innovation/r&d

university



Perspective Looking Northwest



Perspective Looking Northwest



Perspective Looking South



Perspective Looking Southeast



Perspective Looking North



Questions and Comments

