

A scenic view of a waterfall cascading over rocks, with a dam structure visible in the background. The scene is framed by trees and a cloudy sky.

CITY OF
POST FALLS

The Journey to Reuse

The City's engineering consultant has long recommended that the City purchase property for future reuse.

In 2004 a local farmer called wanting to know if the City would be interested in purchasing 468 acres of land.



In order to purchase the property, the City had to go for a bond election.

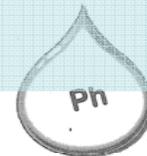
This seemed like a win-win situation.



We soon found that not everyone thought as we did.



"We will if Ordinance #1042 is passed"



Your City Council is Unsuitable Land for D

A 1995 Dept. of U.S. Ag Service Study, stated that land is not

East GreenAcres Irrigation about the proposed property Kootenai

Prairie residents vote

Many vocal foes of PF proposal can't vote in election

By BRIAN WALKER Staff writer

POST FALLS — The Concerned Citizens of the Prairie is fighting back. But they'll have to do it from the outside.

About 65 citizens, many county residents and clients of the East Greenacres Irrigation District, attended a meeting at the Cloverleaf Grange on Wednesday night to brainstorm ways they can make a difference in the Post Falls city sewer bond election without being



Werner

"I feel like a victim," Werner said. "If voters authorize sewer or

PF election ad stirs up controversy

Questions linger over city's bid to buy land for treated wastewater

By BRIAN WALKER Staff writer

POST FALLS — The debate over Post Falls' sewer bond election turned ugly on Tuesday with a controversial newspaper ad, then featured both sides calmly discussing the proposal after a forum. Whether the fall election will

Polling locations in
National Guard Armory - 5555 E.
The Kootenai County Veteran Office - 120 E.



A

FRATE TROGEN

PPCP'S

We held an open house at the treatment plant and informational meetings for the public so we could explain what we wanted to accomplish





SPECIAL CITY ELECTION INFORMATIONAL MEETING & WWTP TOUR

Planning for a better tomorrow



On Tuesday, Aug. 3, The City of Post Falls will hold a special election to vote on the question and proposition of issuing sewer revenue obligations.

On Thursday, July 29 you are invited to attend an informational meeting with a Question and Answer Session and a tour of the City's Waste Water Treatment Plant.

PUBLIC INVITED !

Special Election Informational Meeting

Thurs., July 29

Afternoon Session: 3-5 P.M.

Evening Session: 6-8 P.M.

Election Information and Q&A

Tour of the Waste Water Treatment Plant

Location: WWTP, 2002 W. Seltice Way, Post Falls

Information:

City Administrator Jim Hammond 773-3511 or jhammond@postfallsidaho.org
Public Works Superintendent Terry Werner 777-9857 or twerner@postfallsidaho.org

In the end the election passed by a 62% margin and the City closed the deal on the land.

Idaho SPOKESMAN-REVIEW

AN EDITION OF THE SPOKESMAN-REVIEW

Post Falls OKs buying farmland

Voters say city should irrigate it with treated wastewater

By Erica Curless
Staff writer

Post Falls is getting into the irrigation business.

City voters overwhelmingly approved a measure Tuesday to allow the city to spend \$9.5 million to buy up to 1,000 acres of farmland during

the next 10 years. The city wants to irrigate the land with treated wastewater, the same effluent that's currently dumped into the Spokane River.

"I'll be able to sleep tonight," Post Falls Public Works Director Terry Werner said. "I've been sweating

this." Of the 1,048 ballots cast, 656 residents voted in favor of the proposal, which won't increase residents' sewer bills.

The debate about the safety of land application exploded just days before the election, when a citizens group

began telling people that the city planned to dump raw sewage on the Rathdrum Prairie. At one point, Werner's granddaughter was told that her grandpa was going to pollute everyone's drinking water.

Citizens for the Prairie also violated state and federal campaign laws, but the city decided not to pursue charges if the group fixed the problems, such as including attribution on

fliers and reporting who was donating money and how that cash was spent.

"Bummer," said Connie Firkins of the Citizens for the Prairie group, after learning of the results. "We're still concerned about how they are going to apply it. It's a scary thing they are planning to do."

Continued: Farmland/A5

Two Different Soil Scientists have Tested the Site Soil Suitability



Where is Post Falls Today?





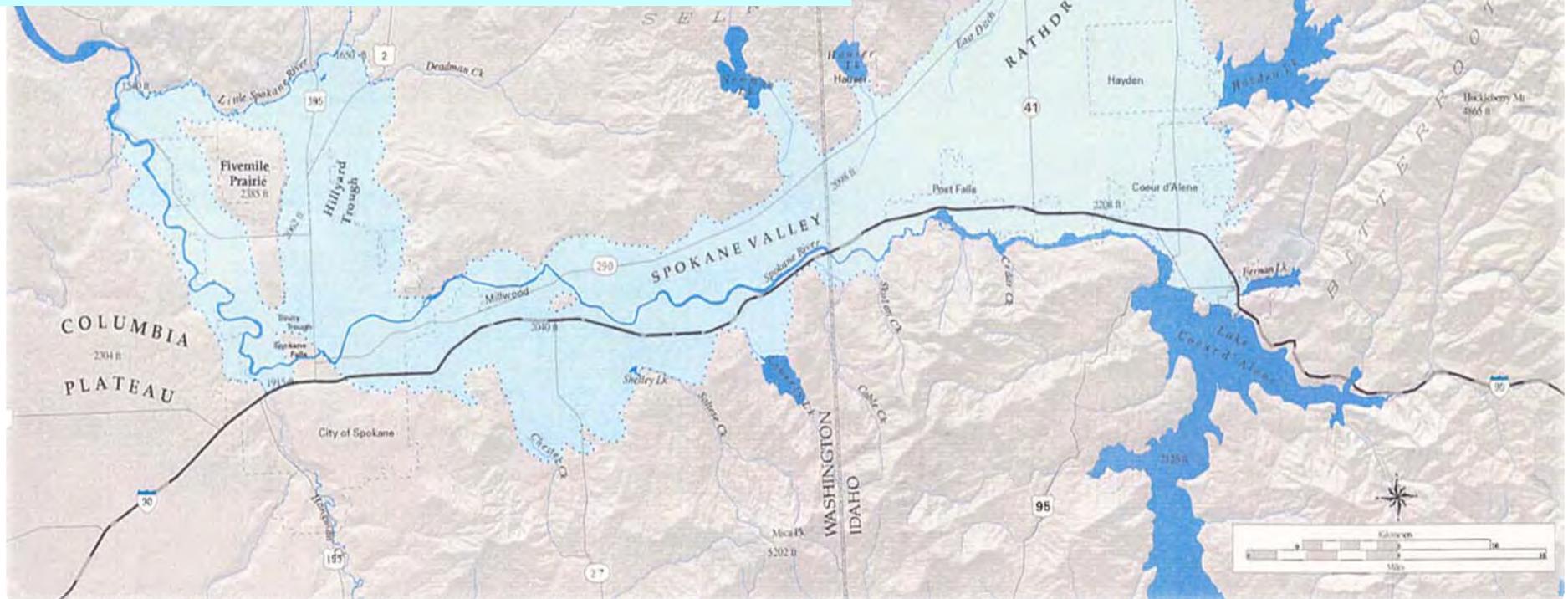
We are awaiting results from the Prairie Wastewater Master Plan which has one component to study land application on the Rathdrum Prairie Aquifer.

This study is a consolidated effort between the City of Post Falls, City of Rathdrum, City of Hayden and Kootenai County.

Wastewater Master Plan Highlights

- Aquifer protection sets the stage
- Growth and Rathdrum Prairie open space
- Competing objectives
- Rathdrum Prairie Wastewater Master Plan
 - Collection and conveyance
 - Spokane River discharge requirements
 - Treatment plant upgrades (satellite plants)
 - Wastewater reuse regulations
 - Feasibility costs

THE AQUIFER GENERALLY FLOWS
IN A SOUTHWESTERLY
DIRECTION, ORIGINATING IN
IDAHO AND FLOWING INTO
WASHINGTON.



WA STATE LINE – INVISIBLE YET DOMINANT



SOCIO-ECONOMIC SETTING

- Our lakes, topography, water supply, and soils have been attractive for over 100 years
- 500,000 people rely on the Aquifer - up from 360,000 in 1980 (1.2% annual growth)
- 1977 recognition of Aquifer's quantity, quality, and vulnerability led to:
 - "5-acre rule"
 - EPA "Sole Source" designation
- 1980 IDEQ designated RPA as "Special Resource Aquifer" (1997 Sensitive Resource Aquifer)
 - No degradation allowed
 - IDAPA 58.01.11.300 of Groundwater Quality Rule

AQUIFER–WASTEWATER CONNECTION

- Aquifer protection drove:
 - Sewer Management Agreements (SMAs) with surrounding unsewered communities
 - Complete sewerage of Hayden, Post Falls, and Rathdrum
 - Post Falls WWTP construction in 1984
 - HARSB WWTP construction in 1987
- 1995 IDEQ “Special Supplemental Guidelines for Spokane Valley – Rathdrum Prairie Aquifer Wastewater Land Application”

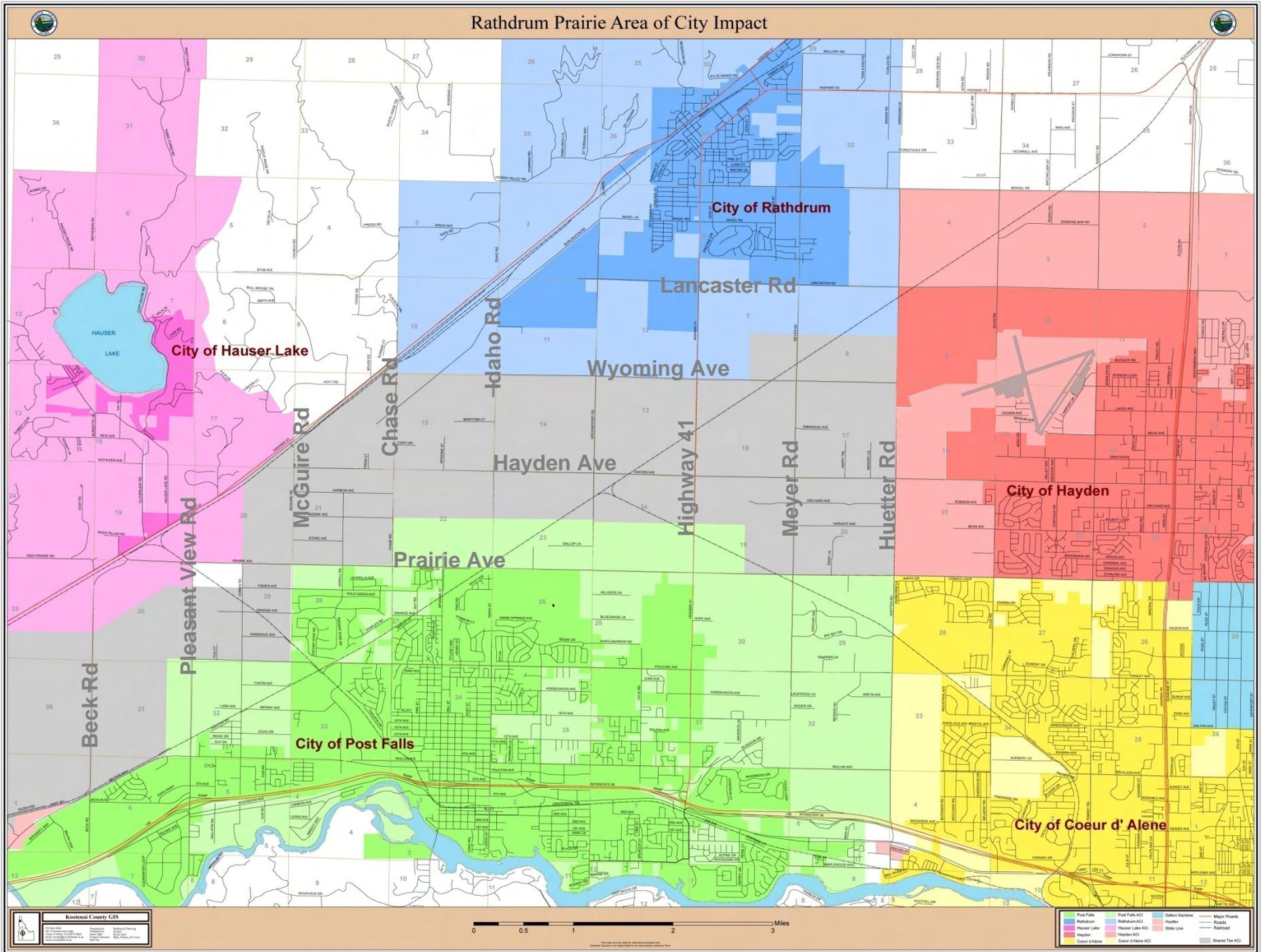
CONTROVERSY INCREASES PUBLIC SUPPORT FOR AQUIFER PLANNING

- 2000 controversial BNSF refueling depot
 - Petroleum leaks accelerated protection concern
- 2001 controversial gas-fired power plants
 - 18 mgd withdrawals generated capacity concern
- 2002 IDWR created “Rathdrum Prairie Groundwater Management Area”
 - Leads to adjudication for North Idaho
- 2003-2007 “Bi-State Study’ focused on quantity
 - <http://wa.water.usgs.gov/projects/svrp/publications>
- 2006 voters approved Aquifer Protection District

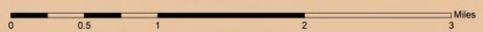
RATHDRUM PRAIRIE LAND PLANNING

- 1995 – Areas of City Impact (ACIs) established
 - Growth pressure to develop outside the ACIs
 - About 1,000 acres/year subdivided 1993-2003
 - Steering Committee highlighted need to protect 10,000 acres undeveloped Prairie remaining
- 2004 – KC Ordinances No. 339 and No. 340
 - Created 2 Tiers: Exclusive Tier for each City's ACI and Shared Tier beyond their ACIs on the Prairie
 - Interim ACI boundaries adjusted
 - No re-zoning allowed in Shared Tier
 - 5 years to allow for completion of the Wastewater Master Plan

Rathdrum Prairie Area of City Impact



Kootenai County GIS
 2011 Data
 2011 Data
 2011 Data
 2011 Data



- Post Falls
- Rathdrum
- Hauser Lake
- Hayden
- Coeur d'Alene
- Post Falls ACI
- Rathdrum ACI
- Hauser Lake ACI
- Hayden ACI
- Coeur d'Alene ACI
- Clifton Gardens
- Huetter
- State Line
- Shared Tier ACI
- Major Roads
- Road
- Railroad
- State Line
- Shared Tier ACI

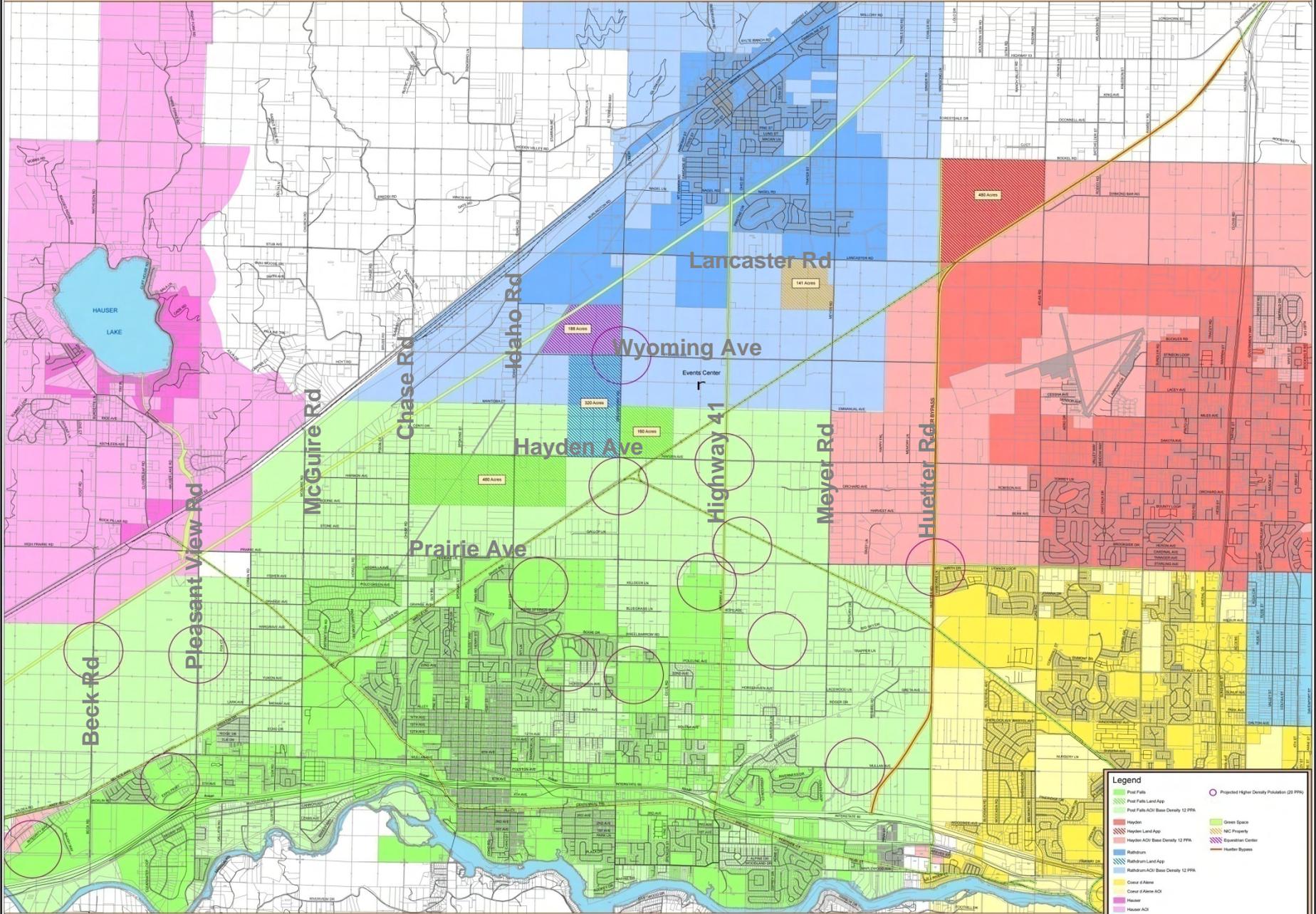
COMPETING OBJECTIVES

- Growth – we continue to attract people/business
- Open space is valued
 - Can we combine wastewater treatment with reuse?
- Aquifer protection is mandatory
 - No degradation - reuse must protect aquifer
- River discharge restrictions tightening
 - Lake Spokane identified as impaired and Spokane WWTP phosphorus reduction since 1970's
 - 1989 Spokane River Phosphorus Management Plan
 - ✓ CDA and Post Falls >75% removal
 - ✓ HARSB to land application when River < 2,000 cfs
 - 2007 Draft NPDES Permits require “state-of-the-art” phosphorus limits March through October

WASTEWATER PLANNING GOALS

- Generate a consistent, flexible, and viable approach for:
 - Collection
 - Treatment
 - Discharge
 - Reuse
- Define logical future ACIs within Shared Tier
 - Approx. 17.4 square miles (11,000 acres)
 - 1,400 acres reuse and 1,600 acres mining existing
- April 2007 meeting set potential ACI & intensity
 - 12 equivalent people per acre (about 4 residences)
 - 20 equivalent people per acre (urban / commercial)

Rathdrum Prairie



Legend

- Prud Falls
- Prud Falls Land App
- Prud Falls ACI Base Density 12 PPA
- Hayden
- Hayden Land App
- Hayden ACI Base Density 12 PPA
- Rathdrum
- Rathdrum Land App
- Rathdrum ACI Base Density 12 PPA
- Color of Adams
- Color of Adams ACI
- Hauser
- Hauser ACI
- Hauser Lake
- Other Features
- Hauser
- State Line
- Projected Higher Density Population (20 PPA)
- NCC Property
- Equipment Center
- Huettner Bypass
- Green Space

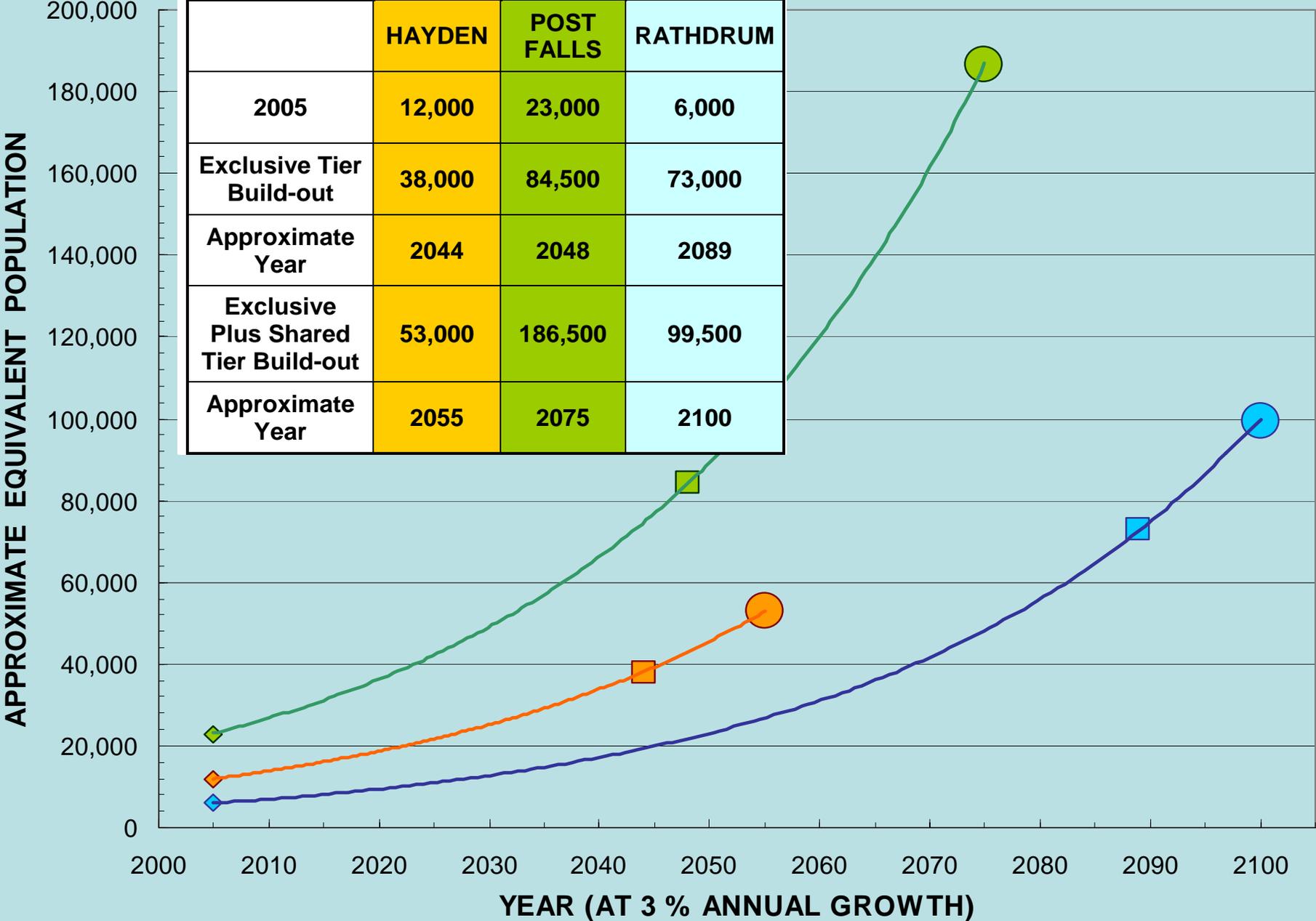
Kootenai County GIS

2018-2019
 1000 S. 1st St., Suite 100
 Coeur d'Alene, ID 83814
 Phone: 208.765.4321
 Fax: 208.765.4322
 Email: gis@kootenai.gov



This map is for informational purposes only. It is not intended to be used as a legal document. For more information, please contact Kootenai County GIS.

PROJECTED EQUIVALENT POPULATION



**RATHDRUM PRAIRIE
WASTEWATER MASTER PLAN
DRAFT**

February, 2008

GRAVITY SEWER 

FORCE MAIN 

MISCELLANEOUS

FLOW TO ENTITY 

WWTP LOCATION
AND FLOW 



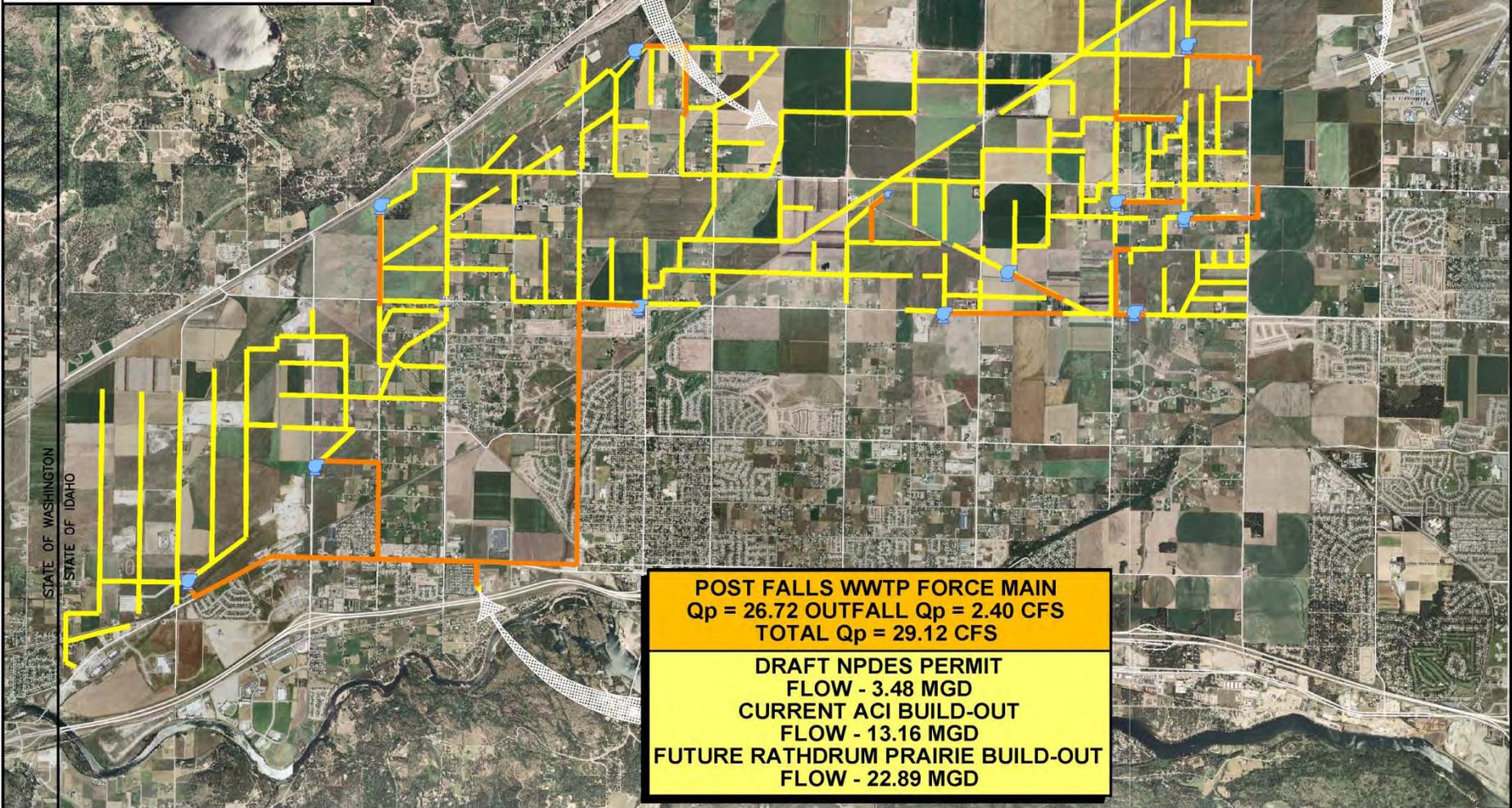
POTENTIAL SATELLITE WWTP

**RATHDRUM
RP-R-MAJOR OUTFALL
HYDRA PEAK FLOW - 4.72 CFS
OUTFALL TO POST FALLS GRAVITY**

**EXISTING RATHDRUM ACI
BUILD-OUT - 3.87 MGD
FUTURE RATHDRUM PRAIRIE FLOW
FOR RATHDRUM - 1.95 MGD**

**HAYDEN SHARED TIER
STUDY AREA $Q_p = 4.12$ CFS**

**H.A.R.S.B. WWTP DRAFT NPDES PERMIT
FLOW - 1.65 MGD
CURRENT ACI BUILD-OUT FLOW - 3.48 MGD
FUTURE RATHDRUM PRAIRIE BUILD-OUT
FLOW (MAX) 4.61 MGD**



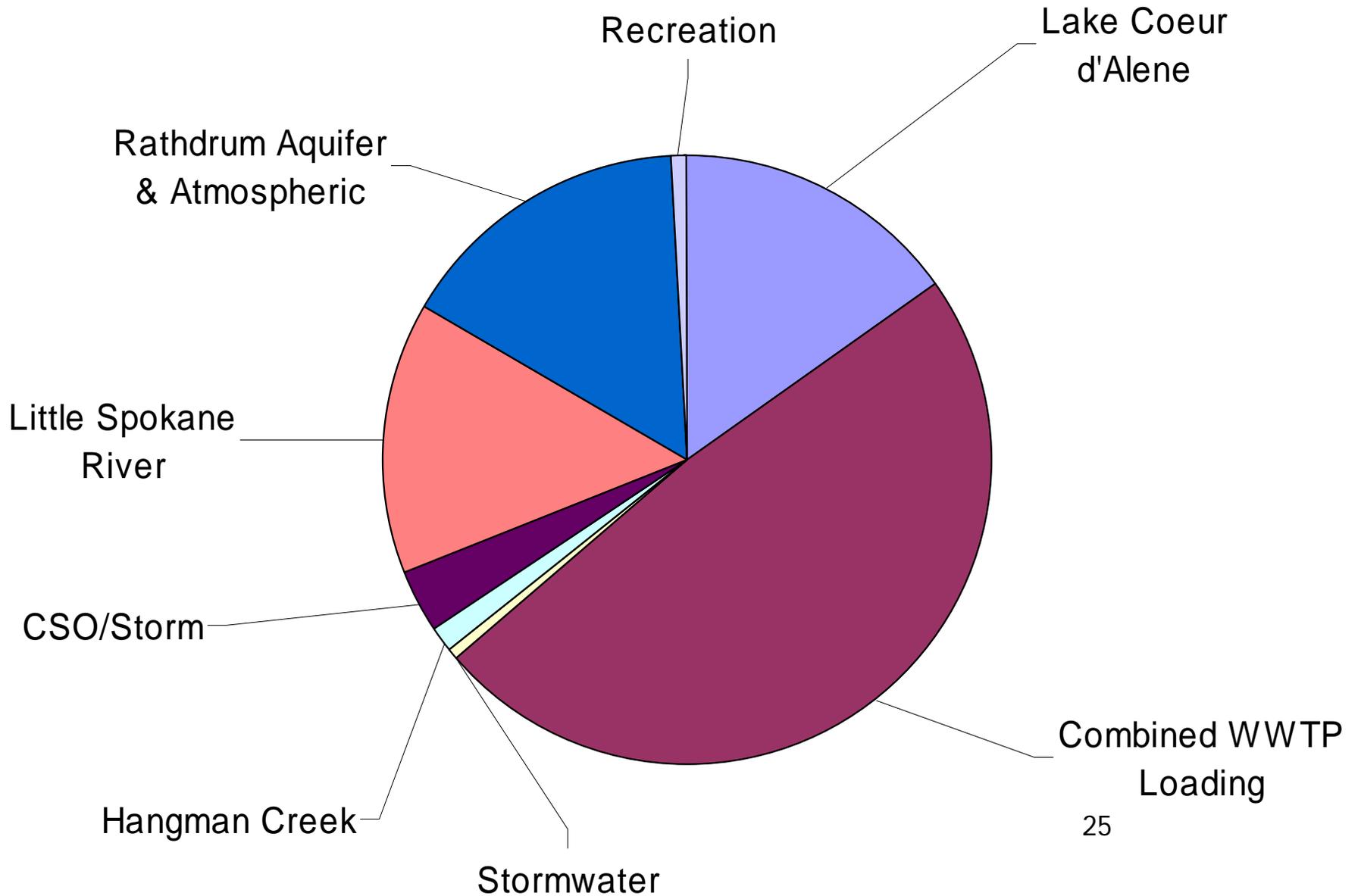
**POST FALLS WWTP FORCE MAIN
 $Q_p = 26.72$ OUTFALL $Q_p = 2.40$ CFS
TOTAL $Q_p = 29.12$ CFS**

**DRAFT NPDES PERMIT
FLOW - 3.48 MGD
CURRENT ACI BUILD-OUT
FLOW - 13.16 MGD
FUTURE RATHDRUM PRAIRIE BUILD-OUT
FLOW - 22.89 MGD**

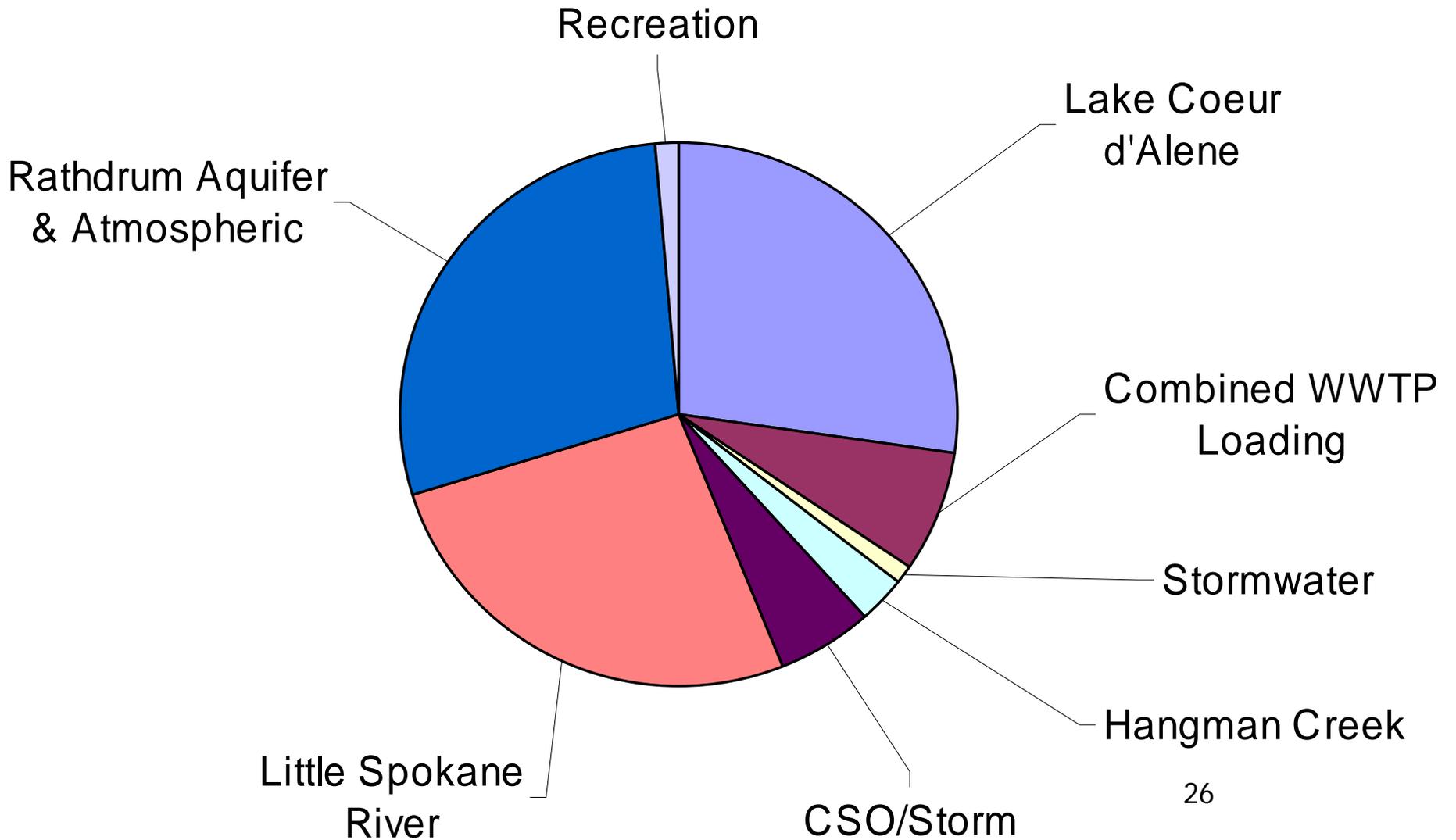
SPOKANE RIVER REGULATION DRIVES TREATMENT

- Washington State set dissolved oxygen standard
- ID can't cause violation of WA water quality standard
- Lake Spokane oxygen sags below 8.0 ppm standard
- Caused by aquatic plant growth (algae)
- EPA model - Lake Spokane to "natural" conditions
- Dissolved oxygen will still not meet standard
- TMDL will comply with Idaho's 303(d) list impairments

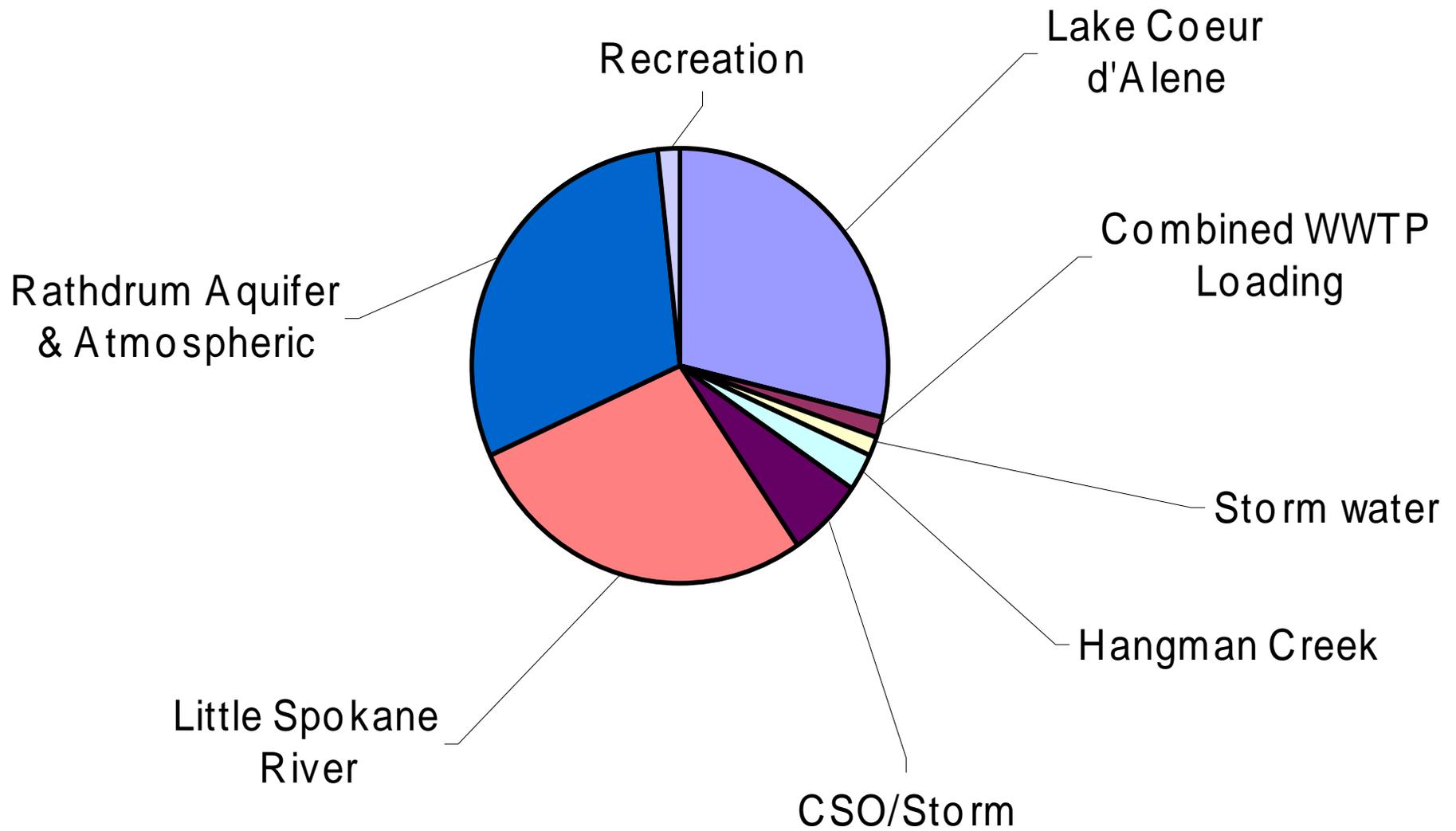
LAKE SPOKANE PHOSPHORUS LOADS WITH CURRENT WASTEWATER PLANT



LAKE SPOKANE PHOSPHORUS LOADS AT 50 PARTS PER BILLION PHOSPHORUS

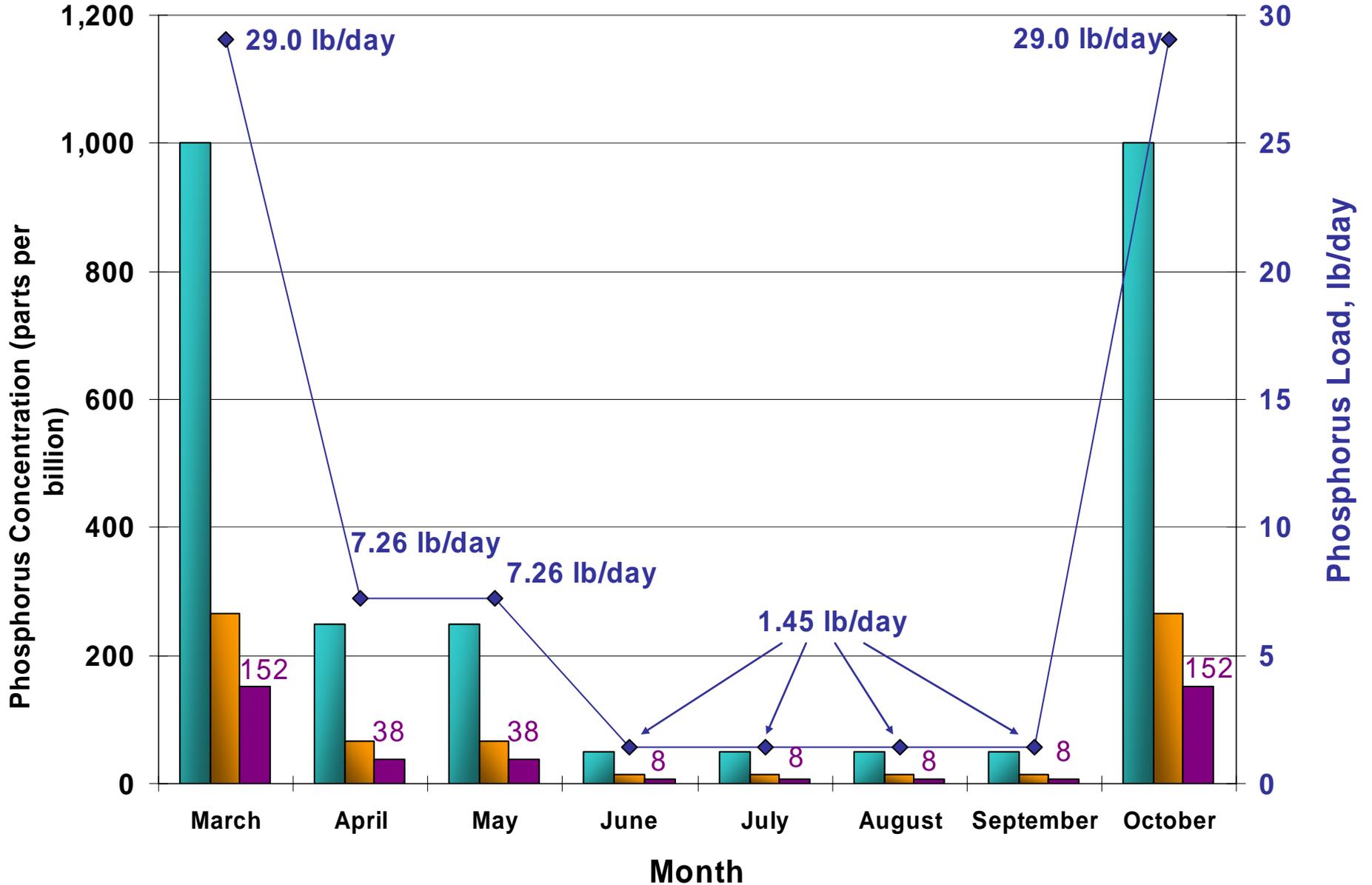


LAKE SPOKANE PHOSPHORUS LOADS AT 10 PARTS PER BILLION PHOSPHORUS



POST FALLS W/RATHDRUM TOTAL PHOSPHORUS DISCHARGE LIMITS

- Draft NPDES Permit (3.48 mgd)
- Current ACI Build-out (13.16 mgd)
- Future Shared Tier Build-out (22.89 mgd)
- Mass Loading (all flow conditions)



Rathdrum

FLOWS TO POST FALLS

EXISTING FLOW: 0.4+ MGD

ACI FLOW: 3.87 MGD

RP BUILD-OUT FLOW: 5.82 MGD

Rathdrum Prairie Shared Tier Study Area

HARSB / Hayden

CAPACITY: 1.65 MGD

EXISTING FLOW: 1.10 MGD

ACI FLOW: 3.48 MGD

RP BUILD-OUT FLOW: 4.61 MGD

Post Falls

CAPACITY: 3.1 MGD

EXISTING FLOW: 2.5 MGD

ACI FLOW: 13.16 MGD

RP BUILD-OUT FLOW 22.89 MGD

Coeur d'Alene

CAPACITY: 6.0 MGD

AVG. FLOW: 3.5 MGD

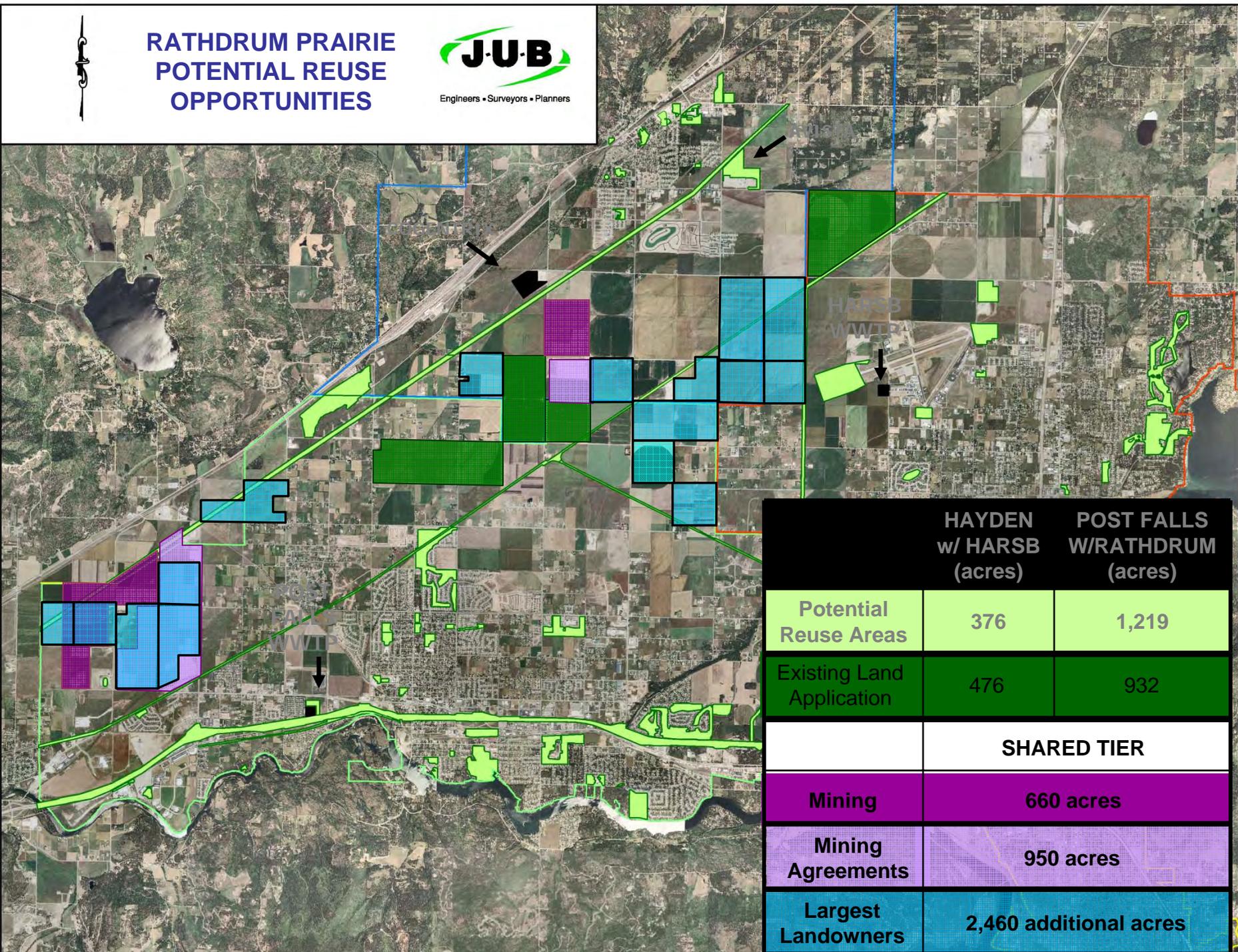
TREATMENT SCENARIO 3: NO SERVICE FOR EXPANDED REUSE OR MINING

FLOW SCENARIO 3	HARSB w/HAYDEN		POST FALLS w/RATHDRUM	
	WWTP Flow (mgd)	Additional Land Requirement (acres)	WWTP Flow (mgd)	Additional Land Requirement (acres)
Discharge Permit	1.65	NONE	3.5	NONE
Existing ACI Build-out	3.5	430	13.2	1,940
Complete Shared Tier Build-out	4.6	760	18.7	30 3,550

SCENARIO 3 RECOMMENDED

- Scenarios 1 and 2 simply require too much additional land for reuse
- Scenario 4 is too optimistic – assumes permitted loading will remain fixed and technology will improve to capture the “delta”
 - No technology proven for 24/7 operation to achieve < 25 parts per billion total phosphorus
 - Environmental groups pushing for 10 parts per billion

RATHDRUM PRAIRIE POTENTIAL REUSE OPPORTUNITIES



	HAYDEN w/ HARSB (acres)	POST FALLS W/RATHDRUM (acres)
Potential Reuse Areas	376	1,219
Existing Land Application	476	932
	SHARED TIER	
Mining	660 acres	
Mining Agreements	950 acres	
Largest Landowners	2,460 additional acres	

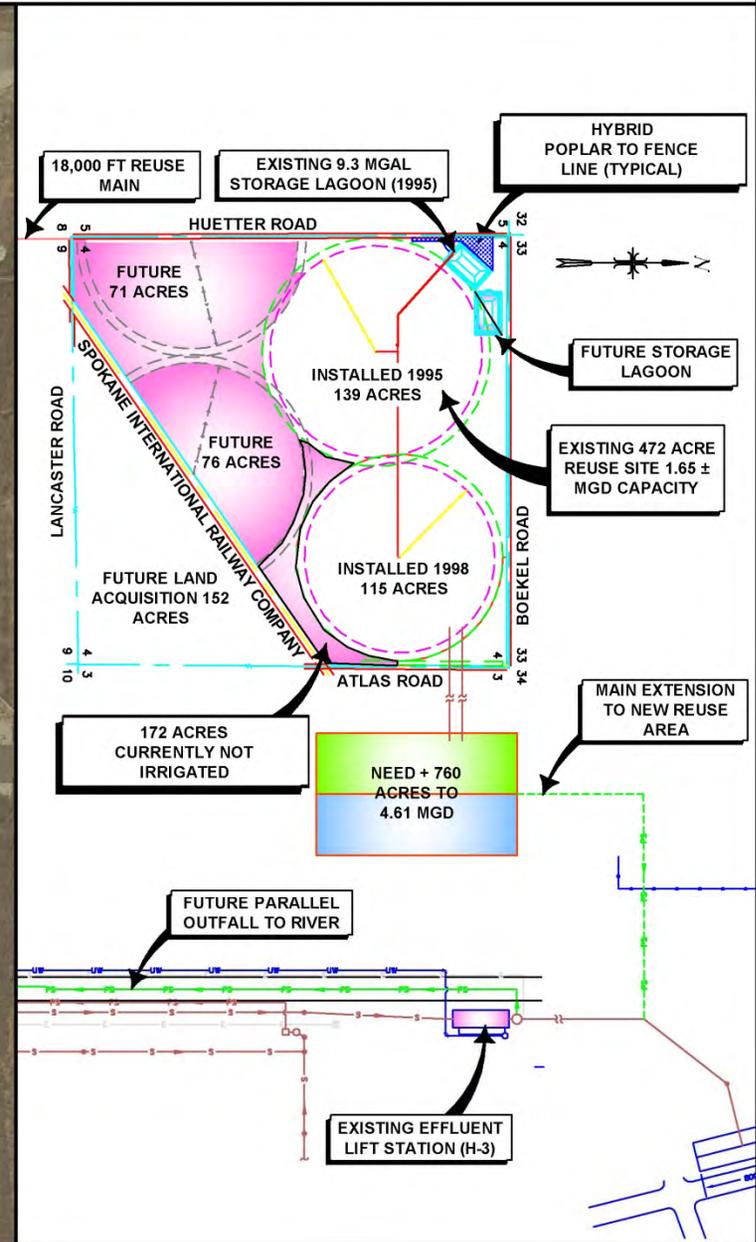
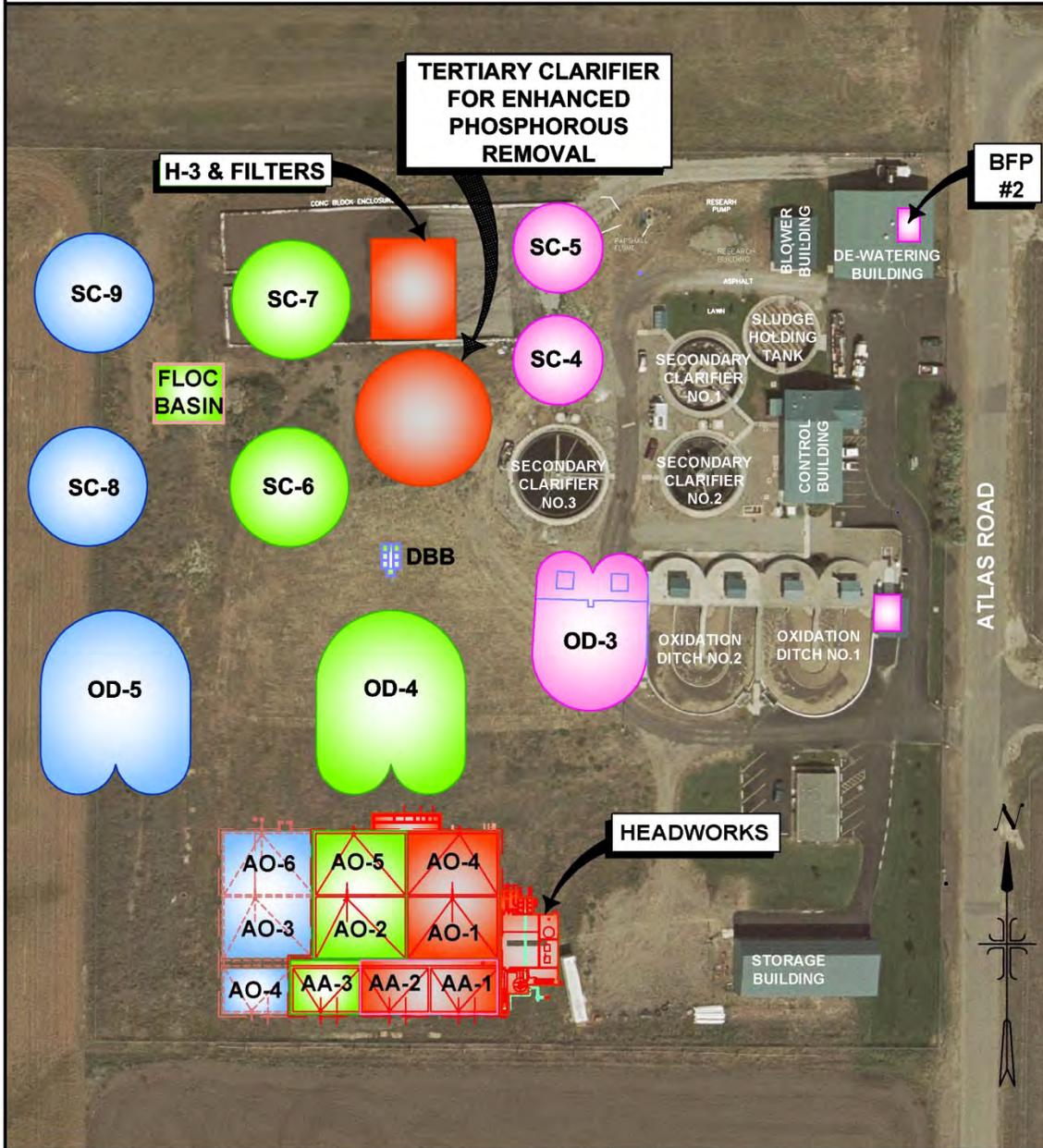
HARSB WWTP MASTER PLANNING

2.40 MGD - NO BNR STAGE 1
 (UNDER CONSTRUCTION)

2.40 MGD - BNR ADDITIVE

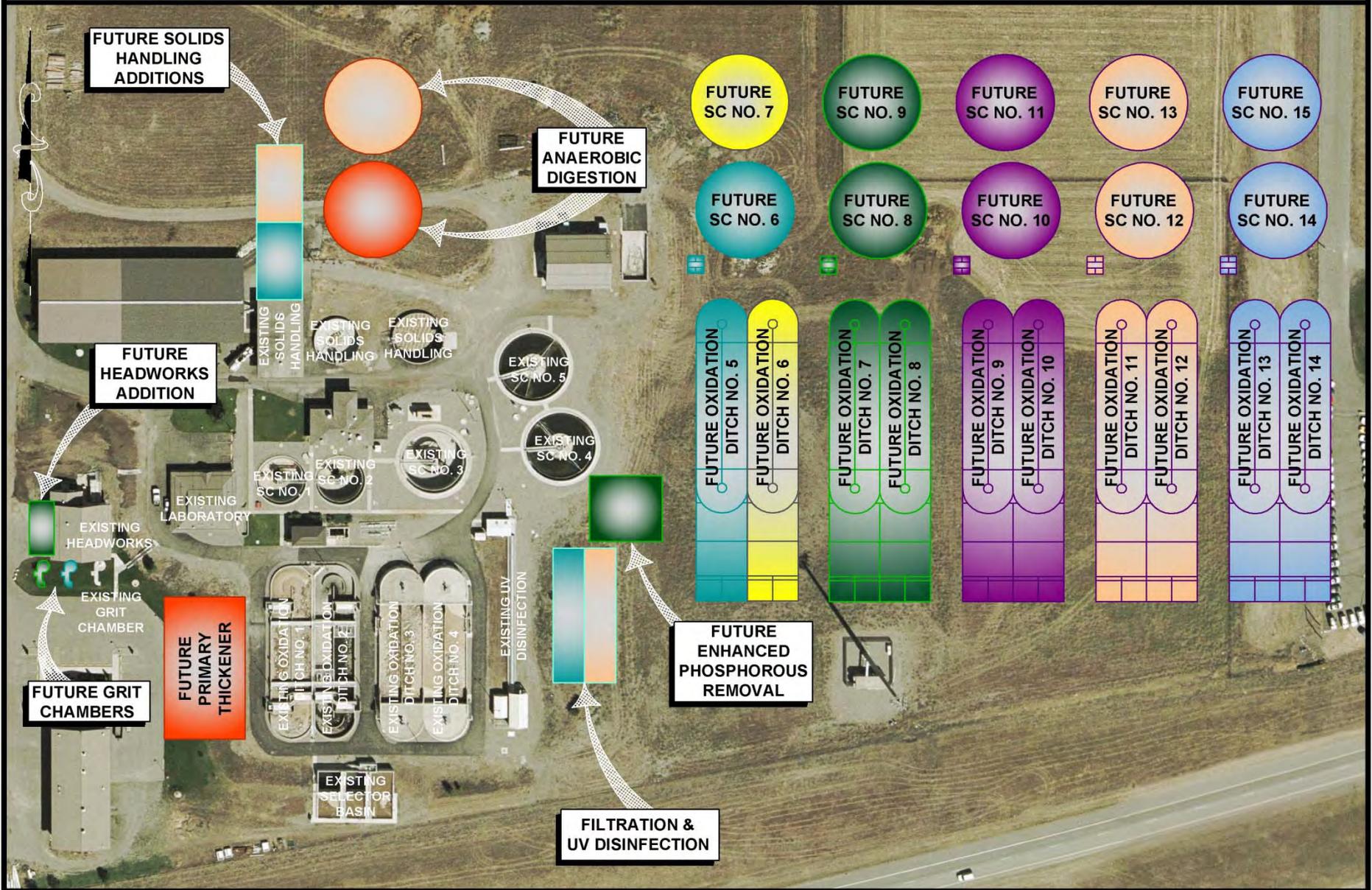
3.5 MGD - STAGE 2

4.6 MGD - STAGE 3



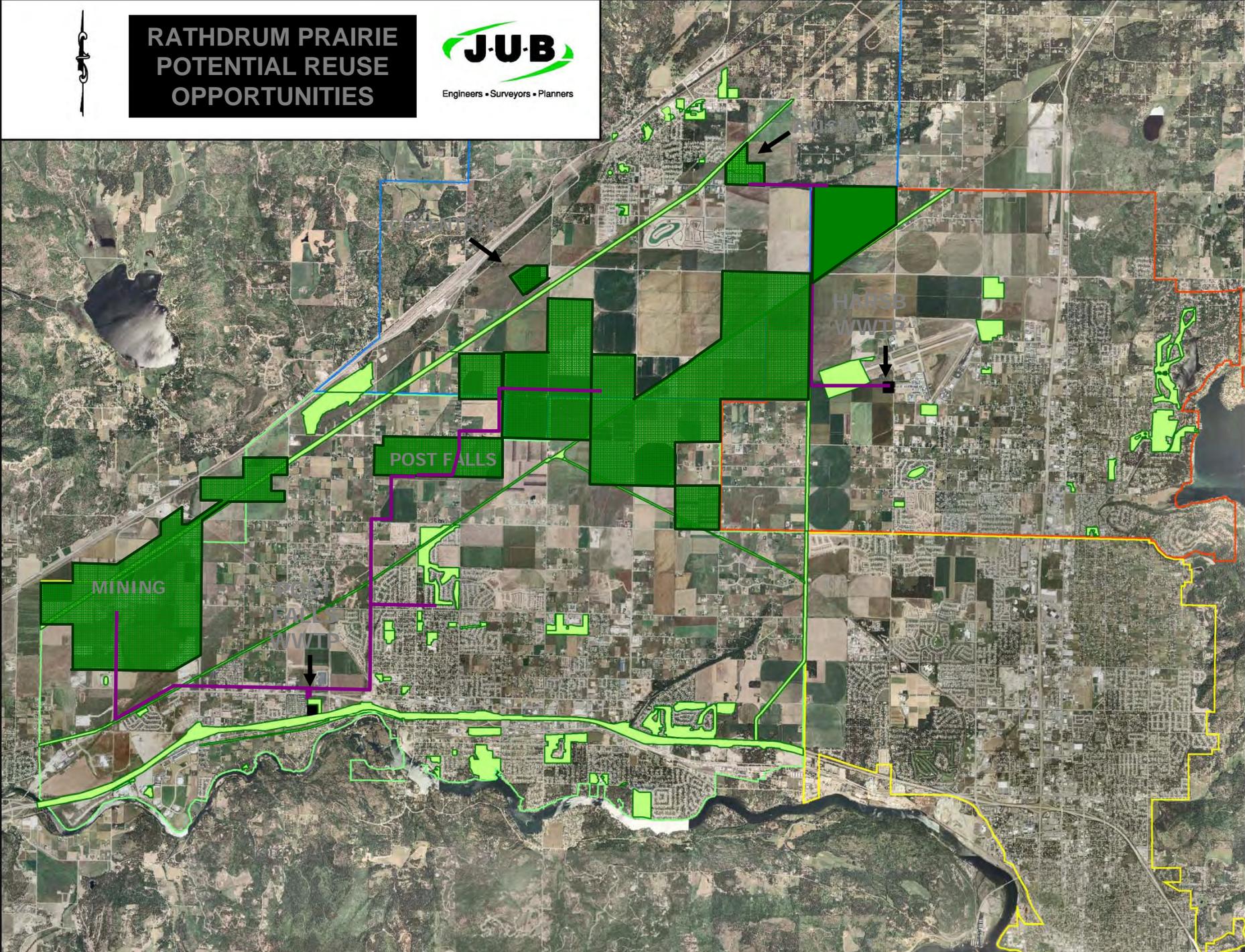
POST FALLS WWTP MASTER PLANNING

EXISTING WWTP CAPACITY = 3.1 MGD





RATHDRUM PRAIRIE POTENTIAL REUSE OPPORTUNITIES



FEASIBILITY COST SUMMARY

	HARSB w/HAYDEN	POST FALLS w/RATHDRUM
Collection and Transmission *	\$ 7 million	\$ 47 million
Treatment *	\$ 51 million	\$ 220 million
Reuse, Transmission, & Irrigation *	\$ 12 million	\$ 37 million
Land Acquisition for Land Application *	\$ 23 million	\$ 106 million
TOTAL *	\$ 93 million	\$ 410 million

* NOTE: EQUITY BUY IN AND EXCLUSIVE TIER COLLECTION SYSTEM
PREVIOUSLY PLANNED IMPROVEMENTS NOT INCLUDED

FEASIBILITY COST SUMMARY

	HARSB w/HAYDEN	POST FALLS w/RATHDRUM
TOTAL *	\$ 93 million	\$ 410 million
Existing ACI Cost (Exclusive Tier) *	\$ 54 million	\$ 230 million
Shared Tier Cost *	\$ 39 million	\$ 180 million

* NOTE: EQUITY BUY IN AND EXCLUSIVE TIER COLLECTION SYSTEM PREVIOUSLY PLANNED IMPROVEMENTS NOT INCLUDED

SATELLITE TREATMENT OR SCALPING

- Satellite Treatment Plant
 - Located on Post Falls or Rathdrum land
 - Solids processing at main WWTP
 - Operate year-round to utilize capacity
 - 0.5 mgd increments w/membrane technology
 - 2-way reuse water transmission
 - Up to about \$8 million per increment

CHALLENGES AND OPPORTUNITIES

- User rates are going up from 1990's level of <\$20/month to >\$30/month and heading toward???
- Capitalization fees are going up from <\$2,000/ER in 1990's to >\$4,000/ER and heading toward??
- Development pressure and rising construction costs are combining with regulations to “Close the Loop” on wastewater reuse
- How do we find the balance?
- What are the opportunities?

Questions and Discussions

Wastewater
Treatment
and
Reuse

IDEQ

\$

WDOE

Water Supply
and
Quality