Boulder Park Project

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Long-term Biosolids Program Since 1991

King County

BOULDER PARK BPI INC.

Background

- Started in 1991 as demonstration
- Formed joint partnership between
  King County & Douglas County local sponsors
- Other agencies

Long-term Biosolids Program Since 1991

Local Vested Partners

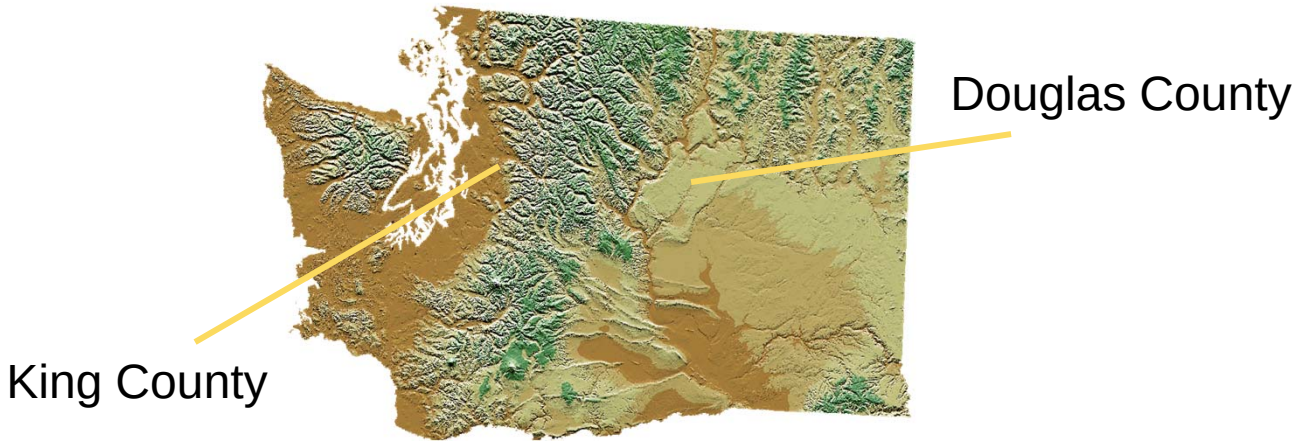
- Qualified local sponsors
  - well-respected, well-liked
  - active in community
  - willing spokesperson for project
- Three local sponsors/farmers
- Formed their own company – Boulder Park Inc.

BOULDER PARK BPI INC.

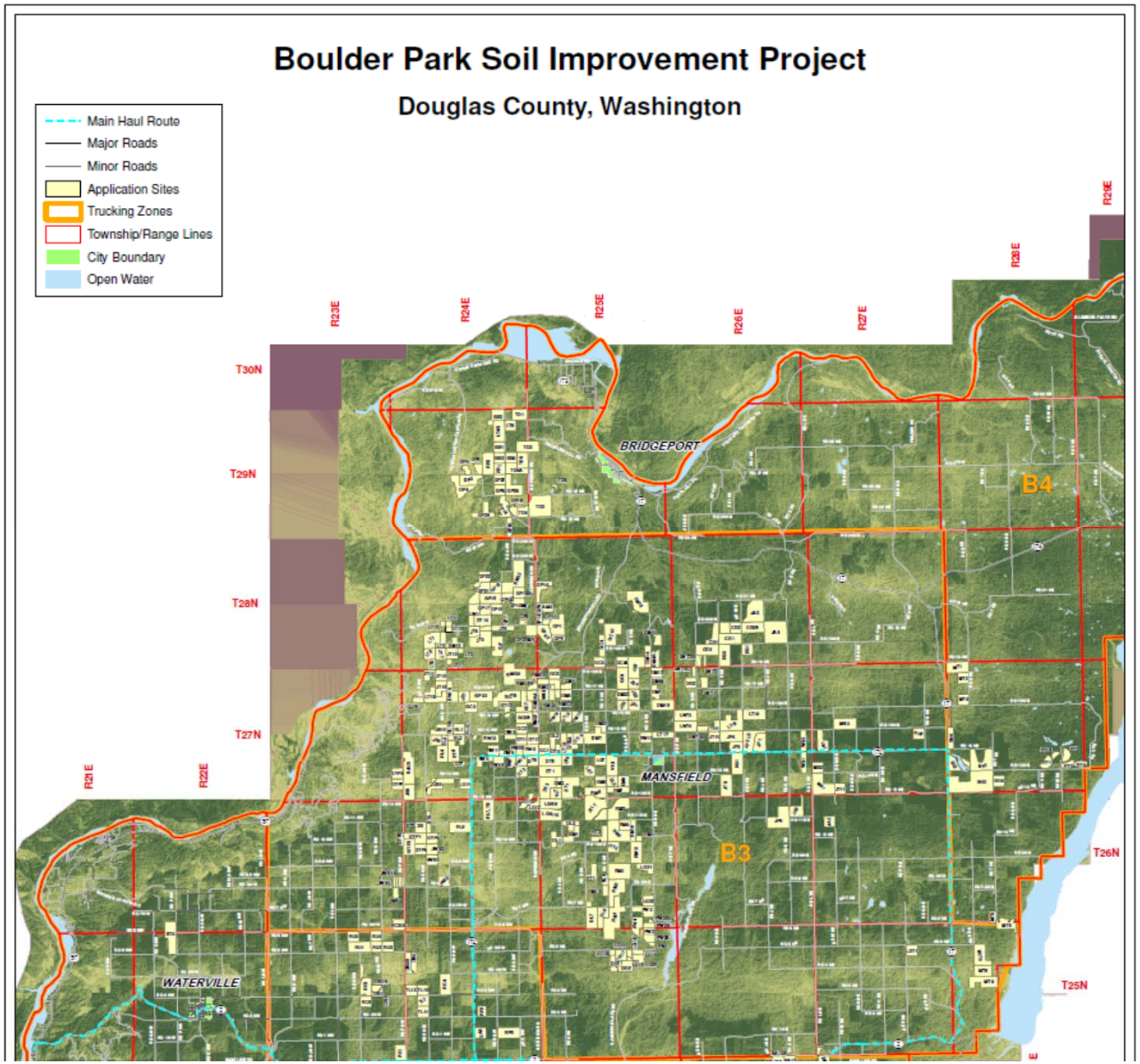
Long-term Biosolids Program Since 1991

Successful Partnerships

- King County-Boulder Park Inc.
- 3-party contracts with other cities and sewer districts
- Western and Eastern Washington



Long-term Biosolids Program Since 1991



Long-term Biosolids Program Since 1991

Project Growth

- 3 - 130 Farmers and landowners
- 5 - 60,000 Permitted Acres
- 150% of Capacity
- Reliable, year-round operation

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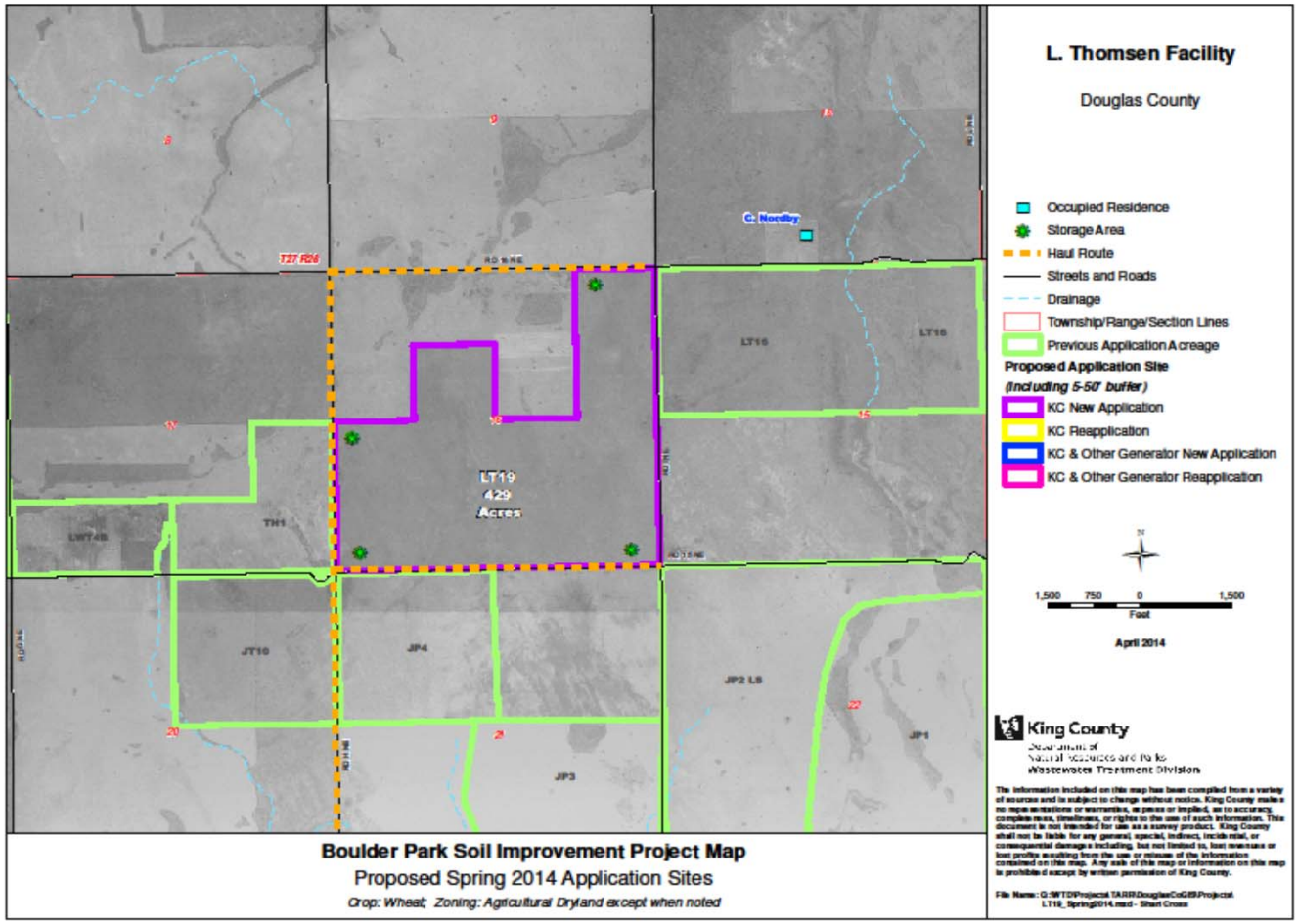
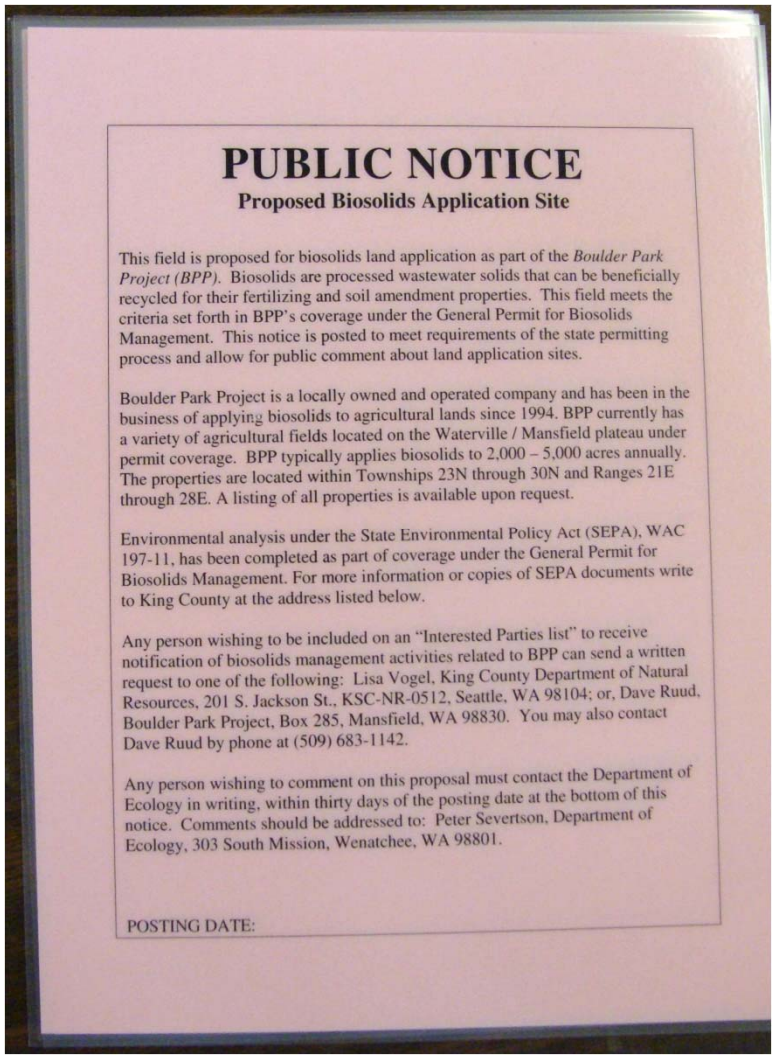
Permitting



Boulder Park Soil Improvement Project Map
Proposed Spring 2014 Application Sites
Crop: Wheat; Zoning: Agricultural Dryland except when noted

Long-term Biosolids Program Since 1991

Boulder Park Soil Improvement Project



PUBLIC NOTICE

Proposed Biosolids Application Site

This field is proposed for biosolids land application as part of the *Boulder Park Project (BPP)*. Biosolids are processed wastewater solids that can be beneficially recycled for their fertilizing and soil amendment properties. This field meets the criteria set forth in BPP's coverage under the General Permit for Biosolids Management. This notice is posted to meet requirements of the state permitting process and allow for public comment about land application sites.

Boulder Park Project is a locally owned and operated company and has been in the business of applying biosolids to agricultural lands since 1994. BPP currently has a variety of agricultural fields located on the Waterville / Mansfield plateau under permit coverage. BPP typically applies biosolids to 2,000 – 5,000 acres annually. The properties are located within Townships 23N through 30N and Ranges 21E through 28E. A listing of all properties is available upon request.

Environmental analysis under the State Environmental Policy Act (SEPA), WAC 197-11, has been completed as part of coverage under the General Permit for Biosolids Management. For more information or copies of SEPA documents write to King County at the address listed below.

Any person wishing to be included on an "Interested Parties list" to receive notification of biosolids management activities related to BPP can send a written request to one of the following: Lisa Vogel, King County Department of Natural Resources, 201 S. Jackson St., KSC-NR-0512, Seattle, WA 98104; or, Dave Ruud, Boulder Park Project, Box 285, Mansfield, WA 98830. You may also contact Dave Ruud by phone at (509) 683-1142.

Any person wishing to comment on this proposal must contact the Department of Ecology in writing, within thirty days of the posting date at the bottom of this notice. Comments should be addressed to: Peter Severtson, Department of Ecology, 303 South Mission, Wenatchee, WA 98801.

POSTING DATE:

Long-term Biosolids Program Since 1991

Pre-application soil test

soiltest farm consultants, inc.
2925 Driggs Dr., Moses Lake, Wa 98837 · www.soiltestlab.com
Office: (509)765-1622 · Fax:(509)765-0314 · (800)764-1622

BOULDER PARK INC.
BOX 285

Mansfield , WA 98830
Laboratory #: S14-13415

Date Received: 6/18/2014
Grower: BPI
Sampled By:
Field: LT19
Customer Account #:
Customer Sample ID:

Phosphorus	Olsen	mg/kg	7
Potassium	Olsen	mg/kg	289

Soil Test Results

pH 1:1			7.0	
E.C. 1:1		m.mhos/cm		
Est Sat Paste E.C.		m.mhos/cm		
Effervescence				
				Lbs/Acre
Ammonium - N		mg/kg	2.3	7
Organic Matter W.B.		%	1.7	ENR: 34

Depth	Nitrate-N		Sulfate-S	Moisture
inches	mg/kg	lbs/acre	mg/kg	Inches
0 - 12	2.1	7	1	1.2
13 - 24	0.5	2	2	1.1
Totals	**2.6**	**9**	**3**	**2.3**

Sum of Tested N: 50 lbs/acre N

Other Tests:

Long-term Biosolids Program Since 1991

Soil Sampler

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Boulder Park Biosolids Application Calculations **Spring 2014 (10)**

Biosolids Source	FIELD NAME	SOIL DEPTH INCHES	SOIL NO3-N (INORG-N) LBS/A (1)	SOIL TKN EST. OF (ORG. N) RELEASE (2)	SOIL TOTAL EST. PROFILE N LBS/A (3)	ESTIMATED CROP YIELD BU/A (4)	CROP N REQT. LBS/A (5)	CROP FERTLZ. N REQT. LBS/A (6)		BIOSOLIDS AVAIL. N LBS N/DT (7)	BIOSOLIDS APPLIC. RATE DT/A (8)	BIOSOLIDS APPLIC. RATE WT/A (9)
KC West Point, South Plant & Brightwater 2014	RM 13	Total	20.6	28.0	48.6	70	189	140	West Point	39.2	3.6	12.7
						55	149	100			2.5	9.0
		0-12	12.48						South Plant	43.2	3.3	13.7
		12-24	8.07								2.3	9.7
									Brightwater	48.6	2.9	14.2
											2.1	10.1
KC West Point, South Plant & Brightwater 2014	LT 19	Total	5.0	34.0	39.0	70	189	150	West Point	39.2	3.8	13.6
						55	149	109			2.8	9.9
		0-12	4.04						South Plant	43.2	3.5	14.6
		12-24	1.00								2.5	10.6
									Brightwater	48.6	3.1	15.1
											2.3	11.0
KC West Point, South Plant & Brightwater 2014	BS 4	Total	23.1	36.0	59.1	70	189	130	West Point	39.2	3.3	11.7
						55	149	89			2.3	8.1
		0-12	13.58						South Plant	43.2	3.0	12.6
		12-24	9.54								2.1	8.7
									Brightwater	48.6	2.7	13.1
											1.8	9.0

All wheat is the **variety Eltan** unless noted

reapp - indicates this field was applied in the past and usually two-three crops have been planted since that application.

(1) NO3-N lbs/Acre = (NO3 ppm - %clay fraction) x 3.67, for each foot interval. Subtract 1 mg/kg from first and second foot and 0.3 from third foot. (Bulk density of 1.35 g/cm3, averaged over the top five feet, was used to determine the 3.67 factor to convert ppm to lbs/Acre)

(2) Assumes 20 lbs Org. N release rate x % organic matter

(3) Total est. profile N = column 1 + column 2

(4) Projected yield for Eltan soft white winter wheat, based on WSU Cooperative Extension

(5) CROP N REQT. = Column 4 X 2.7 lb N/Bu

(6) Fert. N Reqt = column 5 - column 3

(7) for example: 39.2 lbs N/dry ton (WP) and 43.2 lbs N/dry ton (SP) using 30% mineralization rate and 50% volatilization rate (see attached sheets).

(8) Application rate dry ton/acre = column 6 / column 7

(9) for example: application rate wet ton/acre = column 8/28.2% Total Solids West Point / or 23.8% for South Plant (see attached sheets).

(Soil analyses performed by Soiltest of Moses Lake. Please contact King County for copies of raw data, if needed.)

Long-term Biosolids Program Since 1991

Operations

- Equipment
- Deliveries
- Application
- Incorporation
- 30-day posting

Long-term Biosolids Program Since 1991

Equipment

- Well-maintained fleet

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More Equipment

- Snow plows

Winter in Douglas County

- 24/7, 365 days per year

Long-term Biosolids Program Since 1991

Deliveries

- Separate storage piles
- Clearly signed

- Good housekeeping

Long-term Biosolids Program Since 1991

Storage Area

- No co-mingling of different biosolids
- 25+ agencies

- Winter & summer
- Haul truck assistance

Long-term Biosolids Program Since 1991

Water Tanker

- Crucial element of operation
- Road maintenance

Long-term Biosolids Program Since 1991

Applications

Long-term Biosolids Program Since 1991

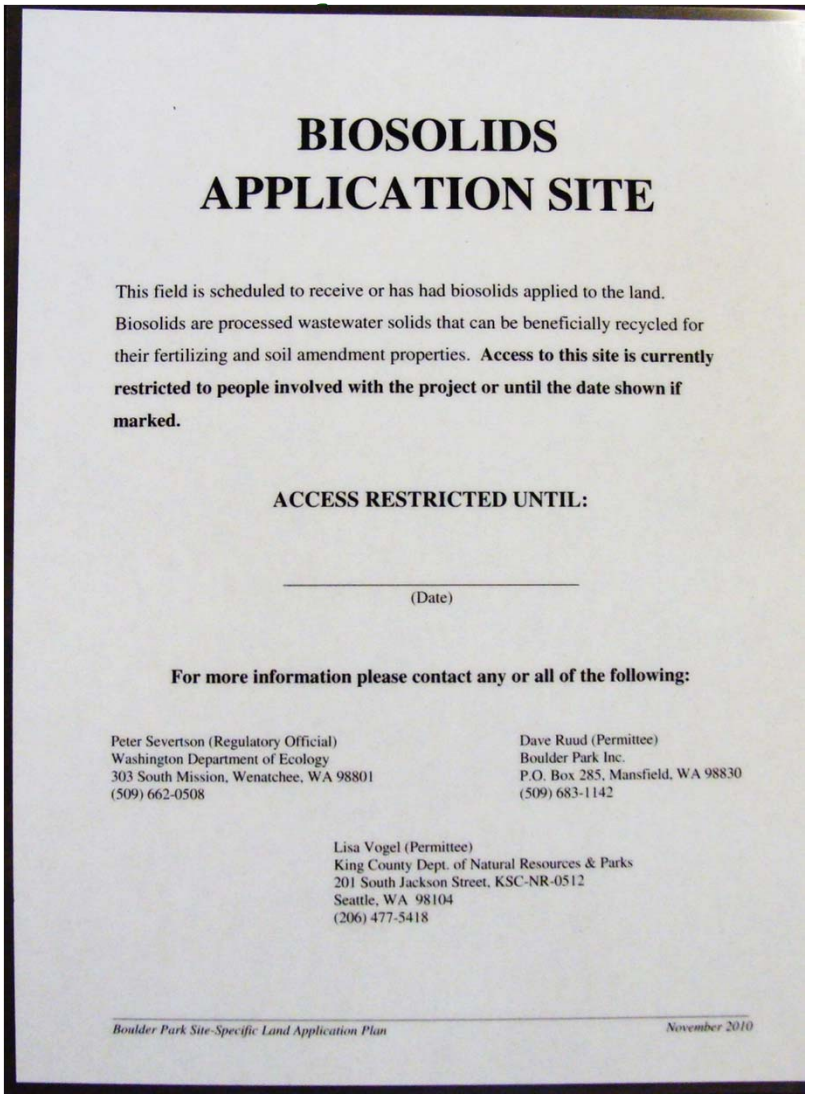
Incorporation

- Farmer does incorporation

- Trending toward no-till

Long-term Biosolids Program Since 1991

Boulder Park Soil Improvement Project



BIOSOLIDS APPLICATION SITE

This field is scheduled to receive or has had biosolids applied to the land. Biosolids are processed wastewater solids that can be beneficially recycled for their fertilizing and soil amendment properties. **Access to this site is currently restricted to people involved with the project or until the date shown if marked.**

ACCESS RESTRICTED UNTIL:

_____
(Date)

For more information please contact any or all of the following:

Peter Severtson (Regulatory Official)
Washington Department of Ecology
303 South Mission, Wenatchee, WA 98801
(509) 662-0508

Dave Ruud (Permittee)
Boulder Park Inc.
P.O. Box 285, Mansfield, WA 98830
(509) 683-1142

Lisa Vogel (Permittee)
King County Dept. of Natural Resources & Parks
201 South Jackson Street, KSC-NR-0512
Seattle, WA 98104
(206) 477-5418

Boulder Park Site-Specific Land Application Plan *November 2010*

Long-term Biosolids Program Since 1991

Public Involvement Activities

- Preliminary meetings with local stakeholders
- Develop public involvement plan
- Conduct public meetings
- Field tours

Long-term Biosolids Program Since 1991

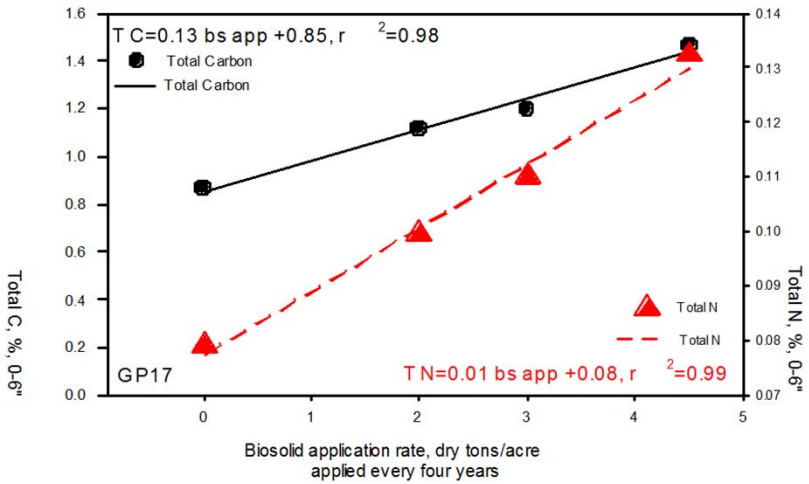
University Research

- Long-term, 20-year research plots
- UW – carbon accounting
- WSU – fine-tune application rates, carbon sequestration

Long-term Biosolids Program Since 1991

Biosolids Benefits

- Improved soil quality
- Carbon sequestration
- Sustainability
- Reduced erosion



Long-term Biosolids Program Since 1991

Wheat Harvest

- Increased grain yields

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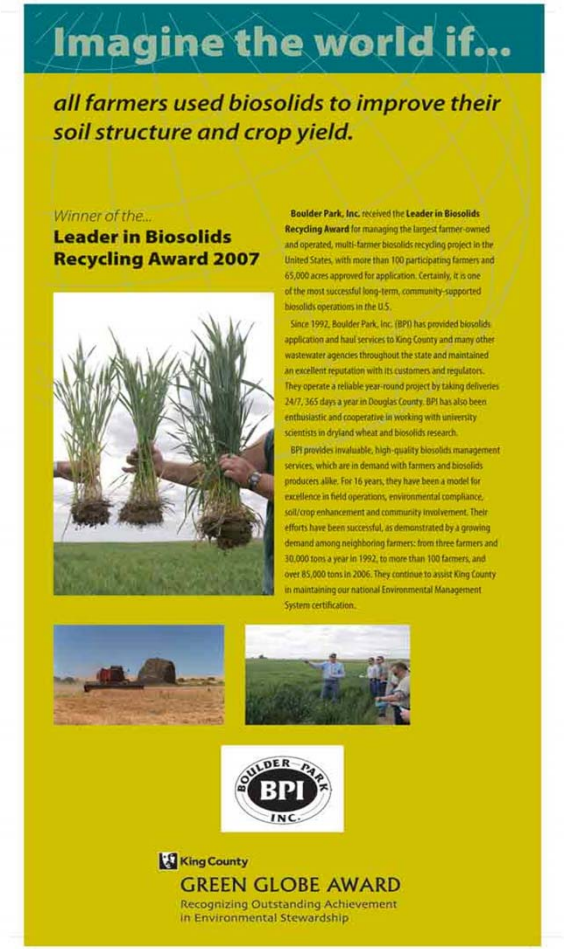
Other Benefits

- Increased straw

Long-term Biosolids Program Since 1991

Award winning - Proactive



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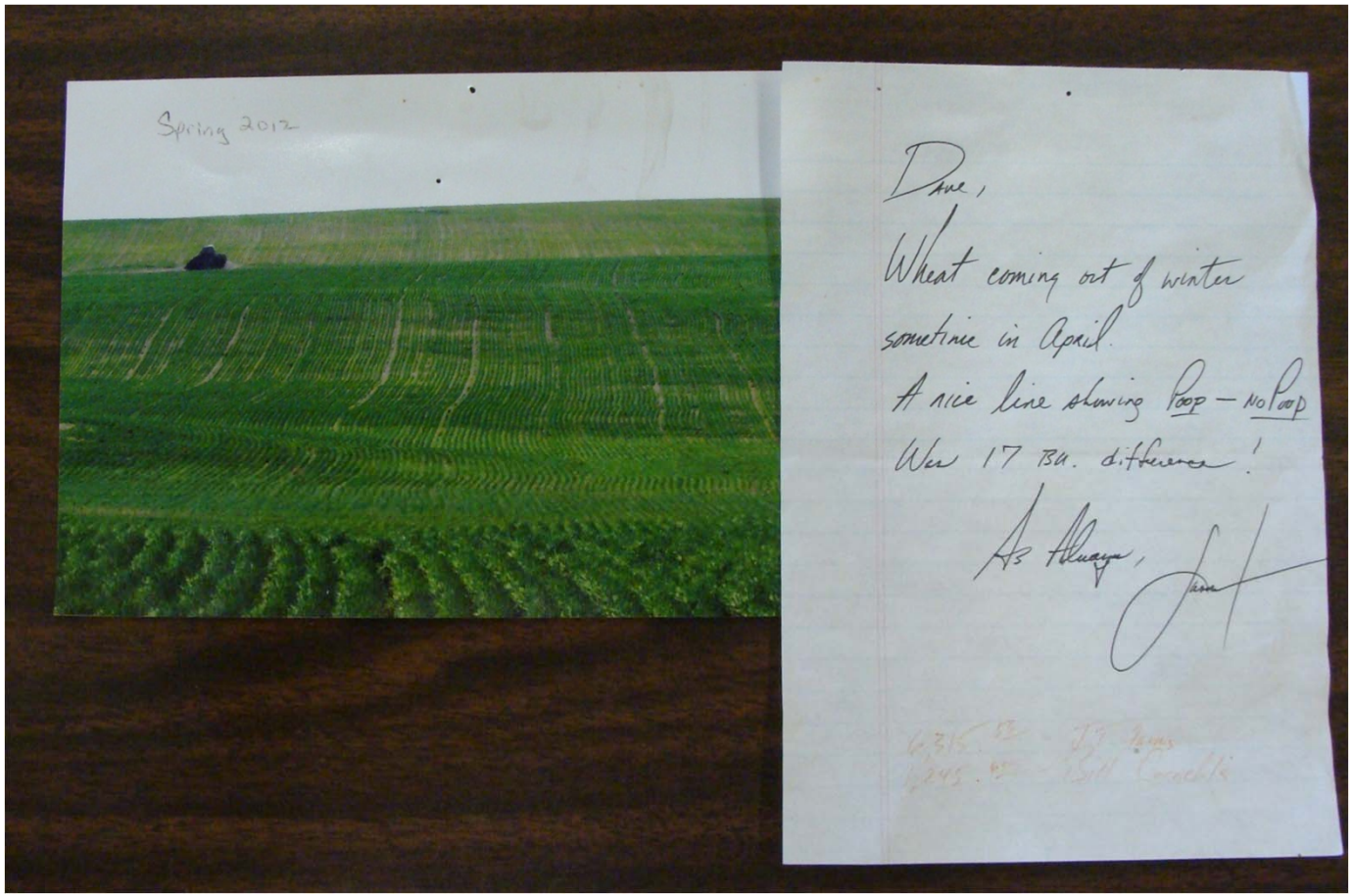
Customer Testimonial



Long-term Biosolids Program Since 1991

Summary

- Proven, long-term, reliable - 150% of capacity
- 24/7, 365 operation
- Revenue - Over $ 1.6 Million
- Partnerships
- Sustainability - Economic and Environmental
- Land application – best option
- Willing to go above and beyond

Long-term Biosolids Program Since 1991

Any Questions

Long-term Biosolids Program Since 1991

King County

BOULDER PARK BPI INC.