

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

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A. GENERAL INFORMATION

Permit No. 95-09320

1. Owner Harbor View Estates Water and Sewer District Phone No. (208)964-0131

Current address 296 W. Sunset Blvd. Suite 11, Coeur d'Alene, ID 83815

2. Examiner's name Necia Maiani, P.E./Sam Brown(Welch Comer Engineers) EXAM DATE 05/13/2011

3. Accompanied by George Ford, District Superintendent Email gfordhvehoa@aol.com

Address 296 W. Sunset Blvd. Suite 11, Coeur d'Alene, ID 83815

Relationship to permit holder Employee Phone No. (208)964-0131

4. Source Coeur d'Alene Lake tributary to Spokane River

B. OVERLAP REVIEW

1. Other water rights with the same place of use 95-08447

2. Other water rights with the same point of diversion 95-08447

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion: See Attachment 1

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks

2. Place(s) of Use: Method of determination _____

Also refer to Place of Use Map- Attachment #2

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
49N	03W	6						M											
	04W	1	M	M			M												
50N	04W	35	M	M	M	M					M			M	M	M	M	M	
	04W	36						M				M	M						

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3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate pipe size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.

See Attachment #3-
System Diagram

Scale: 1" = _____

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☐ Aerial photo attached (required for irrigation of 10+ acres)
☐ Photo of diversion and system attached

4. See Attachment #4

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size

*Code to correspond with no. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Measurement of volume						
increase in sand filter. (Refer to Section E)						

2. Measurements: See Table #2 in Section E

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E. Narrative/Remarks/Comments

System Background

Harbor View Estates Water and Sewer District owns and operates the water system that serves the Harbor View Estates area (approximately 90 current connections and approximately 181 connections at buildout). The system diverts water from Coeur d'Alene Lake to a slow sand filtration system. The raw water intake structure consists of one 16 inch intake screen and six submersible intake pumps (three 15 horsepower pumps and three 10 horsepower pumps) housed in a PVC and steel manifold structure. The intake pumps divert water from the lake through a 6 inch transmission main (approximately 1,500 linear feet) to the sandfilter (consisting of six filter bays). Treated water from the sandfilter is transferred into two existing storage tanks by two transfer pumps (5 horsepower pumps rated for 400 gallons per minute each). The storage tanks provide gravity feed to the distribution network.

Water Right Summary

Table 1 below provides a summary of the water rights currently held by Harbor View Estates Water and Sewer District.

Table 1 – Summary of Current Water Rights for the Harbor View Estates Place of Use

Water Right No.	Basis	Beneficial Use	Diversion (cfs)	AFA
95-08447	License	Municipal ¹	0.39	255.6
95-09320	Permit	Municipal	0.42	-
Total			0.81	200 ²

1. The license for water right 95-08447 lists the beneficial use as domestic and irrigation. The District has since filed an adjudication claim changing the use to Municipal.

2. Condition number 6 for permit 95-09320 states that when the two water rights are combined the total maximum diversion shall not exceed 200 AFA.

Examinations

In order to determine the capacity of each intake pump, Filter Bay No. 4 was isolated and allowed to drain to sand level. Each pump was then individually operated by hand for a period of 5 minutes. The water level in Filter Bay No. 4 was measured before each pump was turned on and immediately following the 5 minute run period. Based on the area of the filter bay (413 square feet), it was determined that one vertical foot of water in the filter equates to 3,089 gallons. Thus, the capacity of each pump was determined by multiplying the change in water level (in feet) by 3,089 gallons per vertical foot of filter and dividing by the pumping duration of 5 minutes. Table 2 below provides this calculation for each of the six intake pumps.

Table 2 – Water Right Examination Measurements

Pump No.	Level at Start (ft)	Level at Stop (ft)	Level Change (ft)	Duration (min)	Measured Flow Rate (gpm)	Measured Flow Rate (cfs)
1	4.21	4.09	0.12	5	74	0.17
2	4.09	3.98	0.11	5	68	0.15
3	3.66	3.54	0.12	5	74	0.17

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4	3.28	3.2	0.08	5	49	0.11
5	3.48	3.38	0.1	5	62	0.14
6	3.38	3.28	0.1	5	62	0.14

Total Diversion Capacity (cfs): 0.87

Have conditions of permit approval been met?

Condition number 8 of this permit states that the approach velocity shall not exceed 0.5 feet per second. Based on the available information (from record drawings and Operator knowledge), we can not determine the approach velocity at this time. However, all other conditions of this permit have been met.

F. FLOW CALCULATIONS

Additional computation sheets attached Refer to Attachment #5

Measured Method:

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G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{I,R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____
 $V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____
 $V = \text{Smaller of } V_{I,R} \text{ and } V_{D,R} =$ _____

2. Volume Calculations for Other Uses: See Table #3 in Section E

H. RECOMMENDATIONS

1. Recommended Amounts (Permit 95-09320)

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Municipal	01/01	12/31	0.42	
Totals:			0.42	

2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☒ Add P.D. as reflected on page 1 ☐ None
☒ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

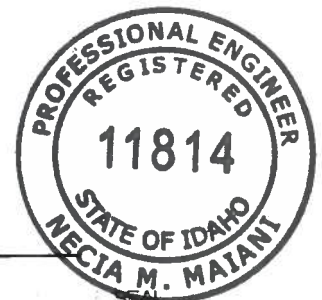
I. AUTHENTICATION

Field Examiner's Signature Necia M. Maiani

Date 5/19/11

Reviewer _____

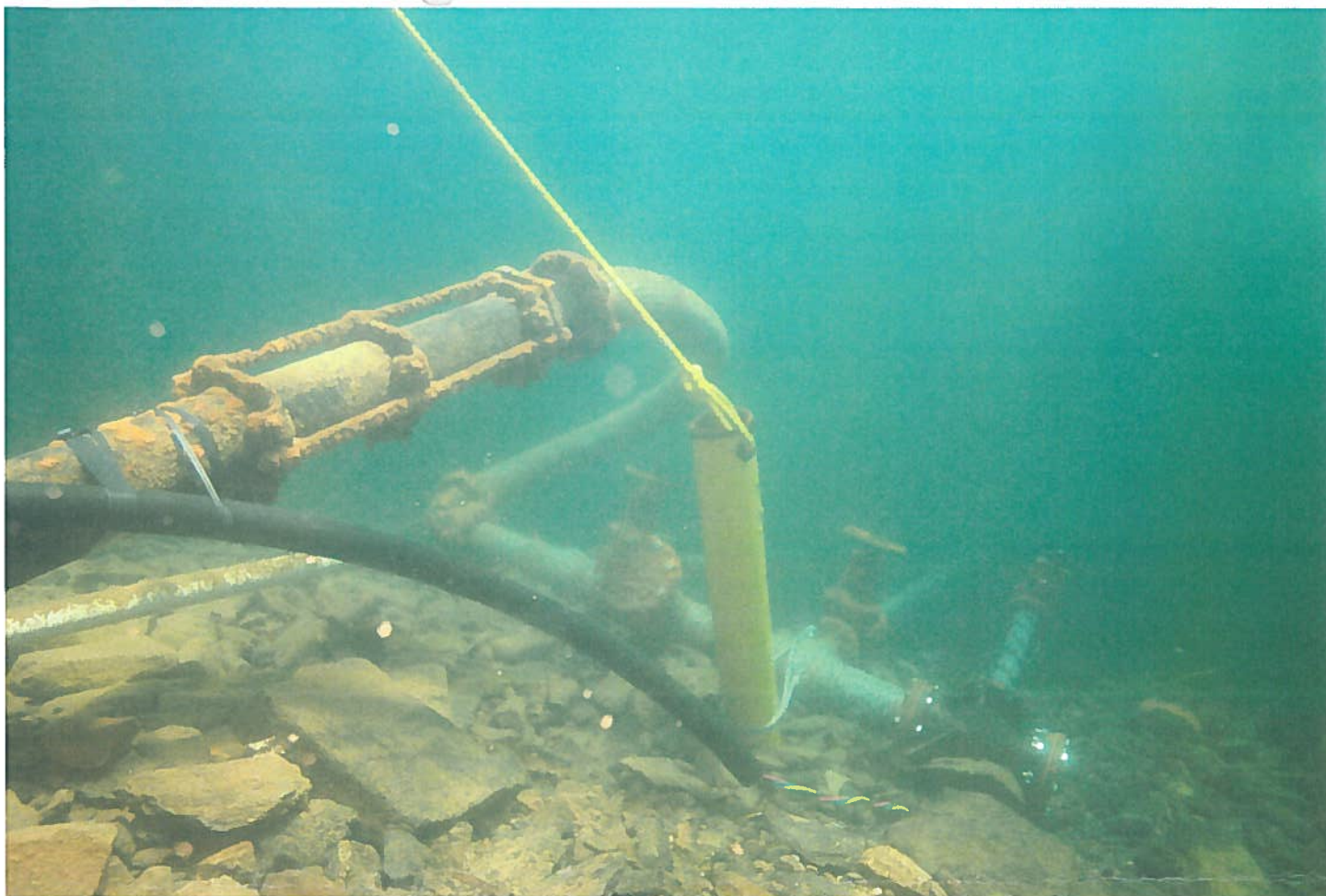
Date _____



12-189

Attachment 1: POD No. 1							
Pump No.	HP	Gov't Lot	1/4 1/4	Section	Township	Range	County
1	15	5	NWNW	6	49N	03W	Kootenai
2	15	5	NWNW	6	49N	03W	Kootenai
3	15	5	NWNW	6	49N	03W	Kootenai
4	10	5	NWNW	6	49N	03W	Kootenai
5	10	5	NWNW	6	49N	03W	Kootenai
6	10	5	NWNW	6	49N	03W	Kootenai

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Raw Water Intake Pump Manifold (2005 - prior to expansion)

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Raw Water Intake Pump Manifold Extension Under Construction (2008)

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Looking Out Toward Intake

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Looking Out Toward Intake

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Looking Out Toward Intake

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11900
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HaborViewParcels 11x17.mxd

Attachment #4							
Well or Diversion Identification No.	Pump No.	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size	Notes
POD #1 (raw water intake)	1	Franklin	15	unknown	Grundfos	6 inch	Submersible
	2	Franklin	15	unknown	Grundfos	6 inch	Submersible
	3	Franklin	15	unknown	Grundfos	6 inch	Submersible
	4	Franklin	10	unknown	Grundfos	6 inch	Submersible
	5	Franklin	10	unknown	Grundfos	6 inch	Submersible
	6	Franklin	10	unknown	Grundfos	6 inch	Submersible

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Attachment 5 Theoretical Diversion

Equation: $Q = HP \times 3956 \times \text{Eff.} / H$

Point of Diversion Identification No.	Pump No.	Discharge to:	H = Design Discharge Head (Approximate) feet	Pump Horse Power (HP)	Assumed Pump Efficiency (Eff)	Discharge (Q) gpm
POD #1 (raw water intake)	1	Slowsand Filter	500	15	0.75	89
	2		500	15	0.75	89
	3		500	15	0.75	89
	4		500	10	0.75	59
	5		500	10	0.75	59
	6		500	10	0.75	59
					Total	445.05 gpm
				0.99 cfs		

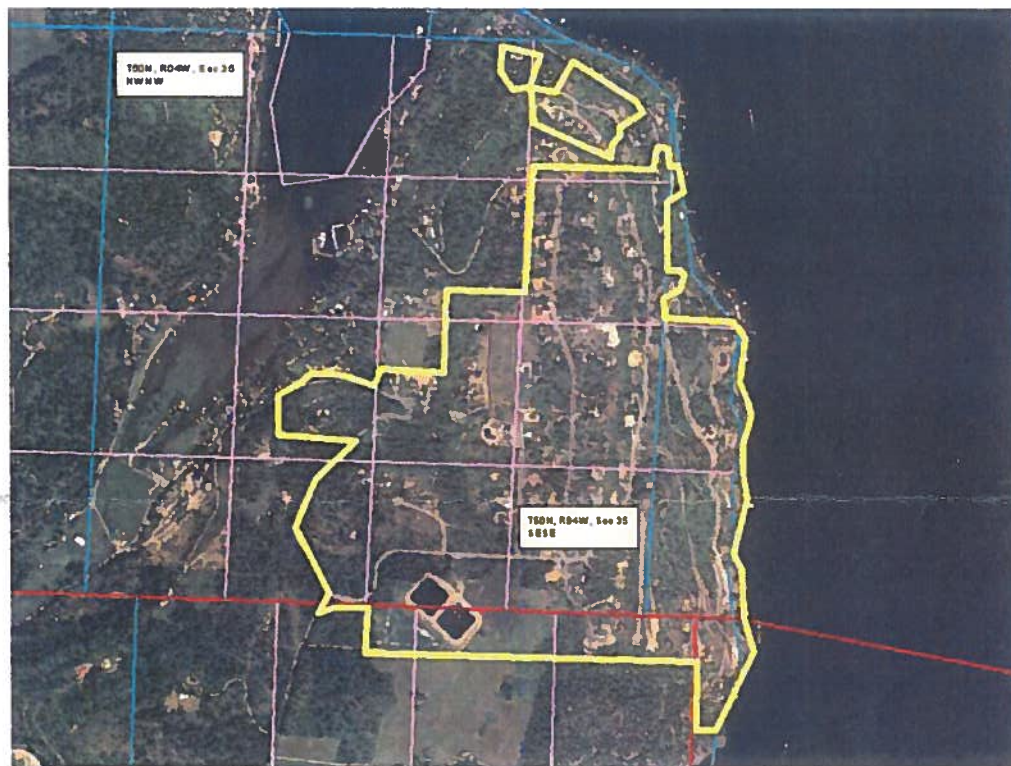
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State of Idaho
Department of Water Resources
Permit to Appropriate Water

NO. 95-09320

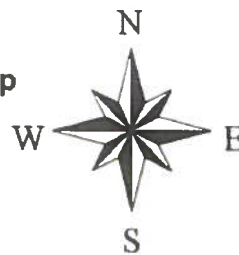
Digital Boundary for Harbor View Estates Water and Sewer District

June 12, 2006



0.3 0 0.3 0.6 Miles

-  Place of use boundary - harbor view estates.shp
-  Township/Range
-  Sections
-  QQ



State of Idaho
Department of Water Resources
Permit to Appropriate Water

NO. 95-09320

Priority: December 01, 2005

Maximum Diversion Rate: 0.42 CFS

This is to certify, that HARBOR VIEW ESTATES WATER AND SEWER DISTRICT
C/O HOA ADMINISTRATION
296 W SUNSET BLVD SUITE 11
COEUR D ALENE ID 83815

has applied for a permit to appropriate water from:

Source: COEUR D ALENE LAKE **Tributary:** SPOKANE RIVER

and a permit is APPROVED for development of water as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>
MUNICIPAL	01/01 to 12/31	0.42 CFS

LOCATION OF POINT(S) OF DIVERSION:

COEUR D ALENE LAKE	L5 (NW¼ NW¼) Sec. 6, Twp 49N, Rge 03W, B.M.	KOOTENAI County
COEUR D ALENE LAKE	L5 (NW¼ NW¼) Sec. 6, Twp 49N, Rge 03W, B.M.	KOOTENAI County
COEUR D ALENE LAKE	L5 (NW¼ NW¼) Sec. 6, Twp 49N, Rge 03W, B.M.	KOOTENAI County

CONDITIONS OF APPROVAL

1. Proof of application of water to beneficial use shall be submitted on or before **June 01, 2011**.
2. Subject to all prior water rights.
3. This right does not grant any right-of-way or easement across the land of another.
4. After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to determine the amount of water diverted from power records and shall annually report the information to the Department.
5. Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which the permit holder had no control.
6. Rights 95-09320 and 95-8447 when combined shall not exceed a total annual maximum diversion volume of 200 af.
7. A fish screen of 1/4 inch or smaller mesh shall be installed and maintained at the point of diversion.
8. The approach velocity at the point of diversion shall not exceed 0.5 feet per second.
9. Place of use is within the service area of Harbor View Estates Water and Sewer District as provided for under Idaho law. The place of use is generally located within Section 6, Township 49N, Range 3W; Section 1, Township 49N, Range 4W; Sections 35 and 36, Township 50N, Range 4W.

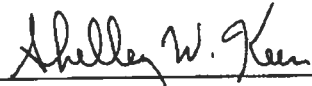
State of Idaho
Department of Water Resources

Permit to Appropriate Water

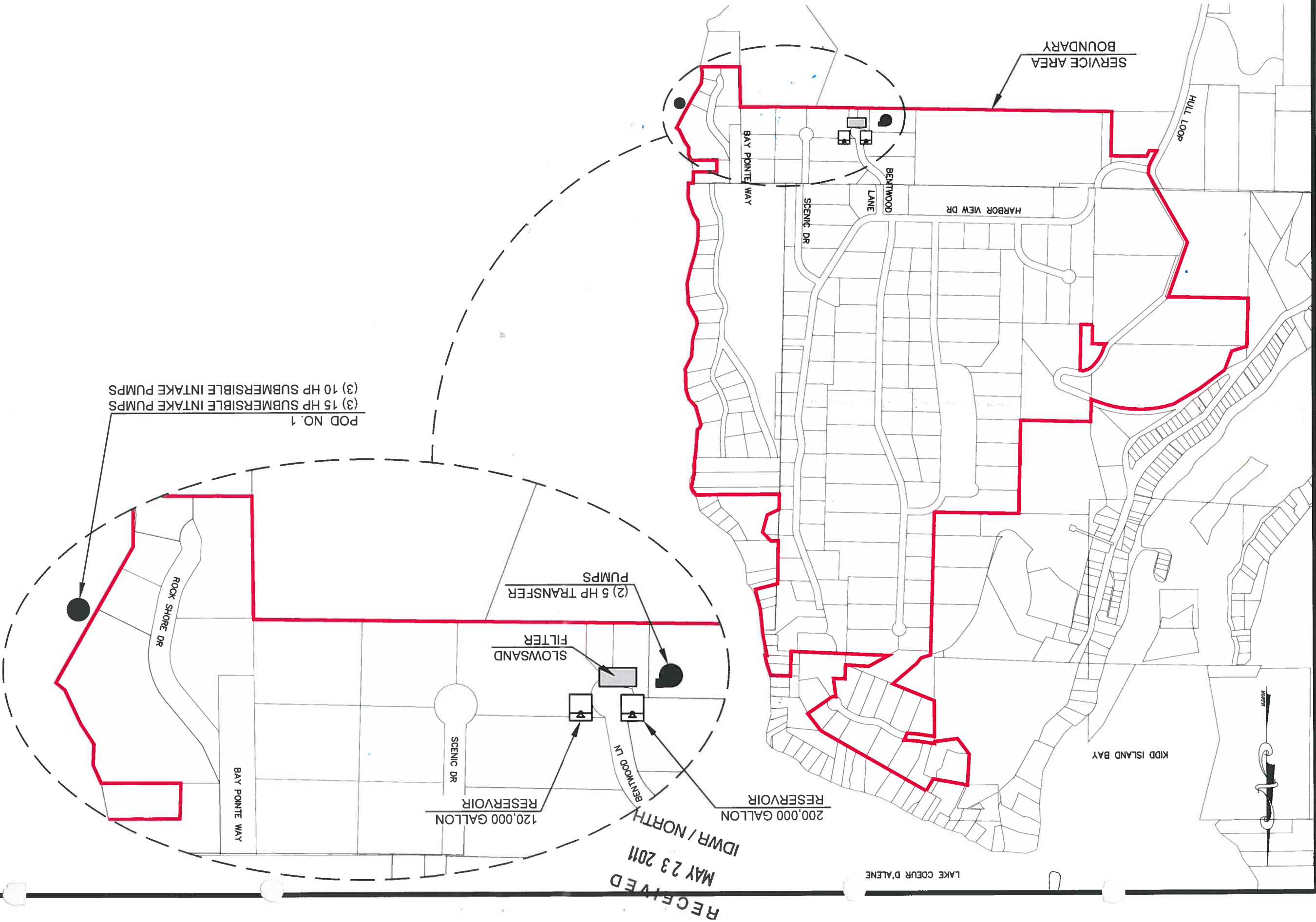
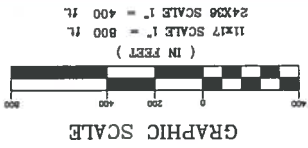
NO. 95-09320

10. A map depicting the place of use boundary for this water right at the time of this approval is attached to this document for illustration purposes.
11. Water shall not be diverted under this right when flows in the Spokane River are below established minimum flow amounts.
12. The diversion and use of water described in this right may be subject to additional conditions and limitations agreed to by the protestant(s) and the right holder under separate agreement to which the Department is not a party and which may be enforceable by a court of law.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this 19th day of June, 2006.



FOR KARL J DREHER, Director



ATTACHMENT NO. 3

PROJECT NO.: 11900
DESIGNED BY: KJO
DRAWN BY: SDS
CHECKED BY:
DWG NAME: 11900SDS03.DWG
DATE: 05-17-11
SHEET NO:

HARBOR VIEW ESTATES
WATER AND SEWER DISTRICT
WATER RIGHT EXAMINATION
(PERMIT NO. 95-09320)
ATTACHMENT NO. 3 - SYSTEM DIAGRAM



www.welchcomer.com
350 E. Kathleen Ave.
Coeur d'Alene, ID 83815

208-664-9382
(toll free) 877-815-5672
(fax) 208-664-5946

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