

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

AUG 04 2010

WATER RESOURCES
WESTERN REGION**A. GENERAL INFORMATION**Permit No. 63-312431. Owner: City of Nampa Phone No.: 208-466-6000Current Address: 411 3rd St. S., Nampa, ID 836512. Accompanied by: Marcos Hernandez EXAM DATE: 6/24/2009Address: Nampa City Water Works, 24 1st St. S., Nampa, ID 83651 Phone No. 208-941-0056Relationship to Permit Holder: Water System Technician, System Manager3. Source: Ground Water tributary to _____**B. OVERLAP REVIEW**1. Other water rights with the same place of use: See Attachment B2. Other water rights with the same point of diversion: None**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

Ident No.	Gov't Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
Well 1			SW	SE	20	3N	1W	Canyon	Exam, 2006 Aerial Photo
Well 2			SW	SE	20	3N	1W	Canyon	Exam, 2006 Aerial Photo

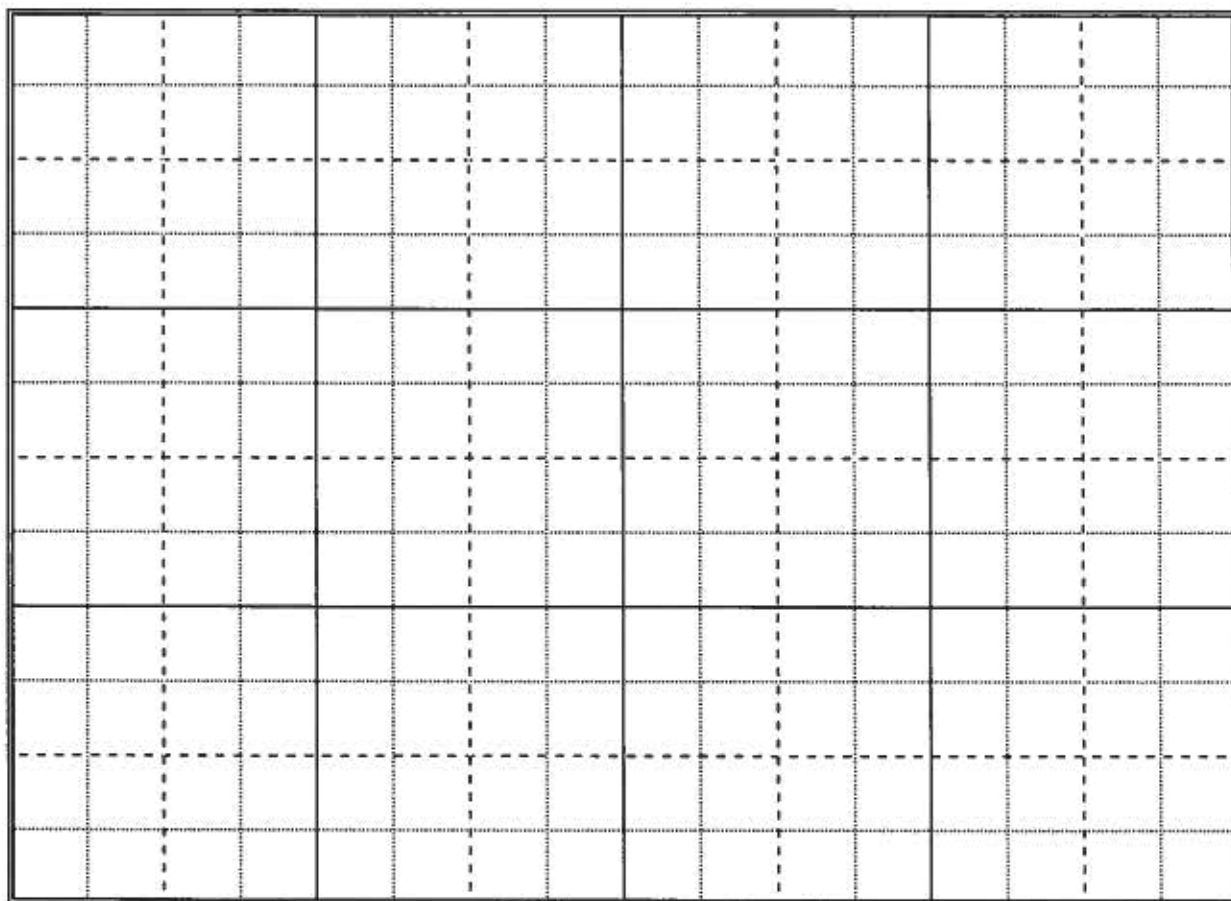
2. Place(s) of Use

Indicate Method of Determination Exam

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Municipal use within the service area for the City of Nampa currently on record with IDWR

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe id as applicable. **See Attachment C**



Scale: 1" = _____

X Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

X Aerial Photo Attached (required for irrigation of 10+ acres)

X Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Belmont Well 1 (14-inch)	US Electric	50	K03-BF75A-M S13-021	Goulds 9RCHC 7-stage	6-inch; 8-inch column pipe, 150 foot setting depth
Belmont Well 2 (12-inch)	Submersible	40		Goulds 8RJLO 4-stage	5-inch drop pipe, 160-foot setting depth

*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
Flowmeter	magnetic	ABB	VLT 8000 Aqua	02W00325	6-inch	unknown
Flowmeter	magnetic	ABB	VLT 8000 Aqua	02W00277	3-inch	unknown

2. **Measurements:** There was no location available to readily flush the system downstream from the flow meters. Therefore, a maximum flow measurement was not collected.

E. NARRATIVE/REMARKS/COMMENTS

A 40-hp submersible well pump is installed in a 12-inch diameter well and a 50-hp turbine well pump is installed in a 14-inch diameter well located on the same Lot 4, Block 1, Belmont Heights Subdivision. The pumps supply water for municipal use within the City of Nampa potable municipal water system. The 12-inch well is completed to a depth of 473 feet, with 12-inch casing to 389 feet and 6-inch casing and well screen to 473 feet. The 12-inch well is located outside of the well house, with subsurface discharge from the submersible pump through a pitless unit to the well house. The 14-inch well is completed to a depth of 285 feet, with 14-inch casing to 236 feet and 8-inch casing and well screen to 285 feet. The 14-inch well is located inside of the well house.

Water-bearing zone listed on the permit is 375 to 475 feet. The water-bearing zone actually developed was 240 to 473 feet (based on well driller's information). Recommend changing the water-bearing zone to developed zone.

The permit application was originally filed by United Water Idaho (UWID). UWID assigned the permit to the City during the development period. The City has since connected the wells to their potable municipal water system. Recommend changing the place of use to the City's municipal service area.

UWID submitted its application to develop a water right for the current and future needs of its customers. The City of Nampa acquired the permit from UWID in an ongoing effort to meet its current and future needs. Evidence of the intentions of UWID and the City is found in affidavits signed by Michael J. Fuss and Gregory P. Wyatt (attached).

Have conditions of permit approval been met? ___ yes X no (water-bearing zone exceeded)

F. FLOW CALCULATIONS

Yes Additional Computation Sheets Attached

Measured Method: (Pump Curves and Well logs, Attachment B)

40-HP Pump Curve: 455 gpm at 242 feet TDH

Static water level = 86 feet

Pumping water level @ 425 gpm = 132 feet (United Water Idaho data)

Specific capacity @ 425 gpm = $425 / (132 - 86) = 9.2$ gpm/ft

Pumping water level @ 455 gpm = $455 / 9.2 + 86 = 135$ feet

Headloss @ 425 gpm = 11 feet (300 foot equivalent length of 5" pipe @ 3.7'/100')

Discharge pressure @ 435 gpm = $242 - 135 - 11 = 96$ feet = 41 psi

50-HP Pump Curve: 710 gpm at 220 feet TDH

Static water level = 86.5 feet

Well specific capacity = $800 \text{ gpm} / (109 - 86.5) \text{ feet} = 35.6$ gpm/ft

Pumping water level @ 710 gpm = $86.5 + (710 / 35.6) = 106$ feet

Headloss @ 710 gpm = 10 feet (150' of 8"x1.19" column @ 2'/100, + 7' misc losses)

Discharge pressure @ 710 gpm = $220 - 106 - 10 = 104$ feet = 45 psi

Combined flow @ >40 psi discharge pressure = $710 + 455 = 1165$ gpm = **2.60 cfs**

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:

Not Applicable for municipal water rights

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From To	Rate of Diversion Q (cfs)	Annual Volume V (afa)
Municipal	1/1 12/31	2.60 cfs	

___ Change P.D. as reflected above ___ Add P.D. as reflected above ___ None
X Change P.U. as reflected above ___ Add P.U. as reflected above X Other (adjust water-bearing zone)

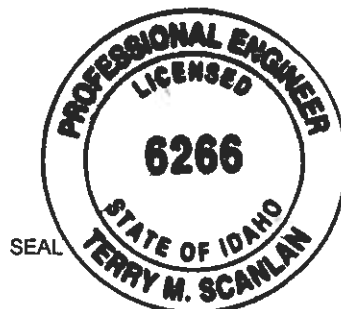
I. AUTHENTICATION

Field Examiner's Name Terry M. Scanlan, P.E., Certified Water Right Examiner 11-129 Date 7/16/10

Field Examiner's Signature

Terry M. Scanlan

Reviewer _____ Date _____



ATTACHMENT A
PERMIT RECORD AND PROOF OF BENEFICIAL USE

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

6/14/2009

WATER RIGHT NO. 63-31243

Owner Type	Name and Address
Current Owner	CITY OF NAMPA 411 3RD ST S NAMPA, ID 83651 (208) 466-6000
Original Owner	UNITED WATER IDAHO INC 8248 W VICTORY RD PO BOX 190420 BOISE, ID 83719-0420 (208)362-7358

Priority Date: 05/14/2001
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
MUNICIPAL	01/01	12/31	2.6 CFS	
Total Diversion			2.6 CFS	

Location of Point(s) of Diversion:

GROUND WATER|SESWSE|Sec. 20|Township 03N|Range 01W|CANYON County
GROUND WATER|SESWSE|Sec. 20|Township 03N|Range 01W|CANYON County

Place(s) of use:

Place of Use Legal Description: MUNICIPAL CANYON County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
03N	01W	20		NESE			NWSE			SWSE			SESE	

Conditions of Approval:

1. 26A 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 permit holder had no control.
2. 046 Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.
3. 01M 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.
4. 004 The issuance of this right does not grant any right-of-way or easement across the land of another.
5. 102 The right holder shall not provide water diverted under this right for the irrigation of land having appurtenant surface water rights as a primary source of irrigation water except when the surface water rights are not available for use. This condition applies to all land with appurtenant surface water rights, including land converted from irrigated agricultural use to other land uses but still requiring water to irrigate lawns and landscaping.
6. X59 Points of diversion are located within Lot 4, Blk. 1, Belmont Heights Subdivision, Phase I.
7. Place of use within the service area of United Water Idaho as provided for under Idaho Law. Place of use generally described as the city limits of Boise and the surrounding area.
8. X60 Initial place of use is located within Lots 5-28, 30-33, 35-51, Blk. 1, Belmont Heights Subdivision, Phase I and Phase II.
9. Water bearing zone to be appropriated is 375 to 475 feet.

Dates:

Proof Due Date: 10/01/2011

Proof Made Date:

Approved Date: 09/24/2001

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 05/14/2001

Protest Deadline Date: 07/09/2001

Number of Protests: 0

Field Exam Date::

Date Sent to State Off:

Date Received at State Off:

Other Information

State or Federal

Owner Name Connector:

Water District Number:

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Swan Falls Trust or Nontrust:

ATTACHMENT B

OTHER RIGHTS

City of Nampa Potable Water Rights (6/26/2009)

63-2779

63-2781

63-5258

63-7567

63-8324

63-9180

63-10212

63-11511

63-11729

63-12463

63-12474

63-12506

63-12543

63-12591

63-28219

63-28220

63-31243

ATTACHMENT C
WELL LOGS AND PUMP CURVES

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

2-10-78 7

Office Use Only
Inspected by _____
Twp _____ Rge _____ Sec _____
1/4 _____ 1/4 _____ 1/4 _____
Lat: _____ Long: _____

1. WELL TAG NO. D 00 18482

DRILLING PERMIT NO. _____
Other IDWR No. WATER RIGHT #63-31243

2. OWNER:
Name UNITED WATER IDAHO
Address 8248 W. VICTORY ROAD
City BOISE State ID Zip 83709

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N
W E S
Twp. 3 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 20 SE 1/4 SW 1/4 SE 1/4
Gov't Lot _____ County CANYON
Lat: _____ Long: _____

Address of Well Site 1/3 mi WEST OF
MCDERMOTT & POWER LINE City NAMPA
(Give at least name of road + Distance to Road or Landmark)

Lt. 1 Blk. 1 Sub. Name BELMONT HEIGHTS

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other REVERSE

7. SEALING PROCEDURES

SEAL/FILTER PACK		AMOUNT		METHOD
Material	From	To	Sacks or Pounds	
BENTONITE	0	236	25,000#	OVER BORE
#8-16 SAND	236	295	9450#	OVER BORE

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
14"	+2	236	.375	Steel	☒	☐	☒	☐
8"	236	240	.382	Steel	☒	☐	☒	☐
8"	240	295			☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe 5'

9. PERFORATIONS/SCREENS

Perforations _____ Method _____

Screens _____ Screen Type JOHNSON SS WIRE WRAP

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
240	265	.030		8"	S.S.	☒	☐
265	280	.035		8"	S.S.	☒	☐
280	285	.025		8"	S.S.	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

265 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: 1 1/2" PIPE ON SIDE

11. WELL TESTS:

Yield gal/min	Drawdown	Pumping Level	Time
800		109	6 1/2 hrs

Water Temp. 58° Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
22"	0	3	TOP SOIL		
	3	51	BURNT CLAY		
	51	85	SAND, GRAVEL, RIVER ROCK		
	85	101	FINE - COARSE BAN SAND		
	101	108	BAN CLAY		
	108	110	FINE - COARSE SAND		
	110	118	BAN CLAY		
	118	156	FINE - MED SAND		
	156	159	BAN CLAY		
	159	180	FINE - MED SAND		
	180	190	BAN CLAY		
	190	193	FINE SAND		
	193	205	BAN CLAY		
	205	232	FINE - COARSE SAND		
	232	234	BAN CLAY		
	234	291	FINE - COARSE SAND		
22"	291	294	SANDY CLAY		
18"	294	295	FINE WHITE SAND		

SCANNED

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DEC - 5 2001

Completed _____ Depth 290' (Measurable)
Date: Started 10-1-01 Completed 11-12-01

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name RIVERSIDE, INC. Firm No. 333

Firm Official _____ Date _____
and _____
Driller or Operator _____ Date 12-04-01
(Sign on back Firm Official & Operator)

PUMP DATA SHEET Turbine 60 Hz

Company: C.H. Spencer
Name: City of Nampa
Date: 06/26/09

Attn: Lori Graves



Pump:

Size: 9RCHC (7 stages)
Type: Lineshaft
Synch speed: 1800 rpm
Curve: E6409CCPC2
Specific Speeds: Ns: 2283
Pump Notes for Standard Sizes:
Curves are certified for water at 60°F only. Consult factory for performance with any other fluid.
Vertical Turbine:
Bowl size: 9.25 in
Max lateral: 0.88 in
Thrust K factor: 4.9 lb/ft

Search Criteria:

Flow: 500 US gpm Head: 315 ft

Fluid:

Water
Density: 62.25 lb/ft³
Viscosity: 1.105 cP
NPSHa: --- ft
Temperature: 60 °F
Vapor pressure: 0.2563 psi a
Atm pressure: 14.7 psi a

Motor:

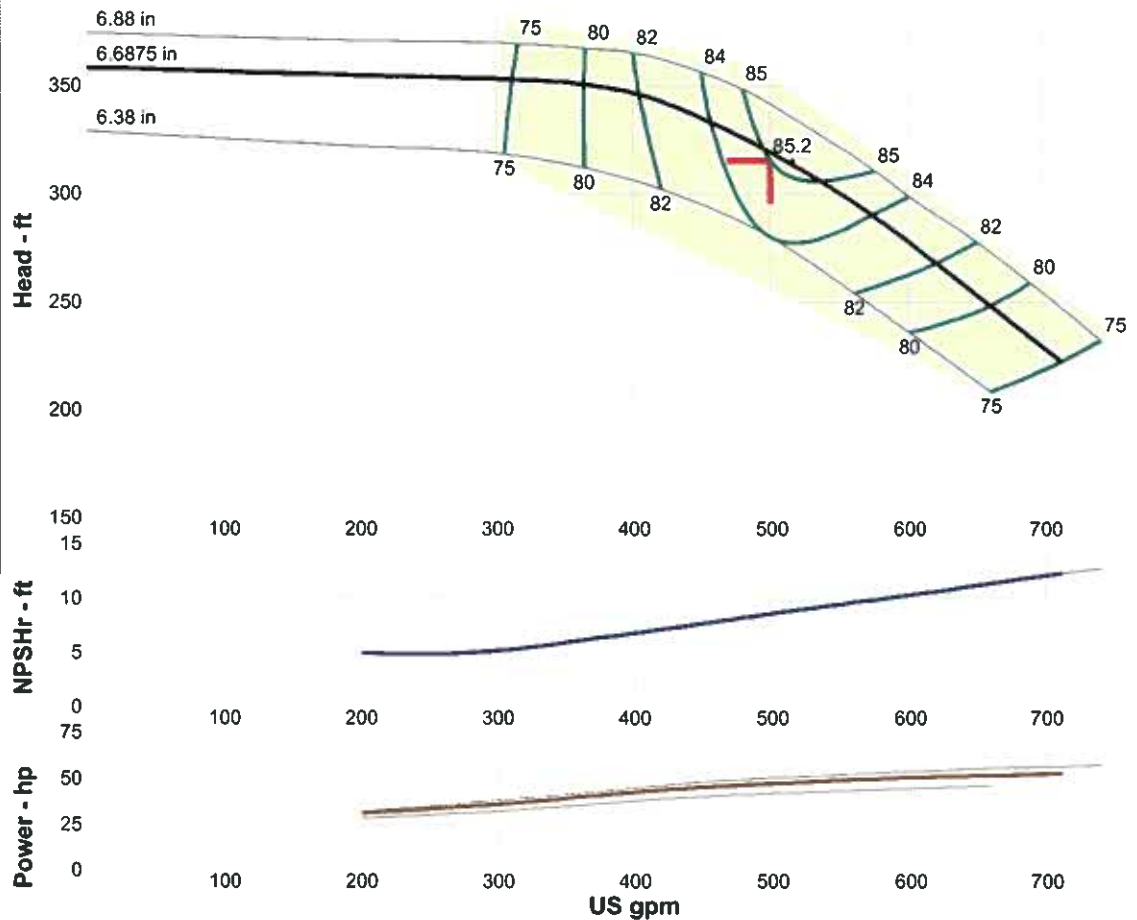
Standard: NEMA
Size: 60 hp
Speed: 1800

Sizing criteria: Max Power on Design Curve

Pump Limits for Standard Construction:

Temperature: 120 °F
Sphere size: --- in
Pressure: 400 psi g

--- Data Point ---	
Flow:	500 US gpm
Head:	319 ft
Eff:	85.1%
Power:	47.4 hp
NPSHr:	8.64 ft
-- Design Curve --	
Shutoff Head:	358 ft
Shutoff dP:	155 psi
Min Flow:	--- US gpm
BEP:	85.2% eff
	@ 516 US gpm
NOL Pwr:	53.3 hp
	@ 711 US gpm
-- Max Curve --	
Max Pwr:	57.9 hp
	@ 740 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
600	1770	277	82.8	50.7	10.3
500	1770	319	85.1	47.4	8.64
400	1770	347	81.8	42.8	6.83
300	1770	353	73.2	36.4	5.31
200	1770	355	57.2	31.3	5

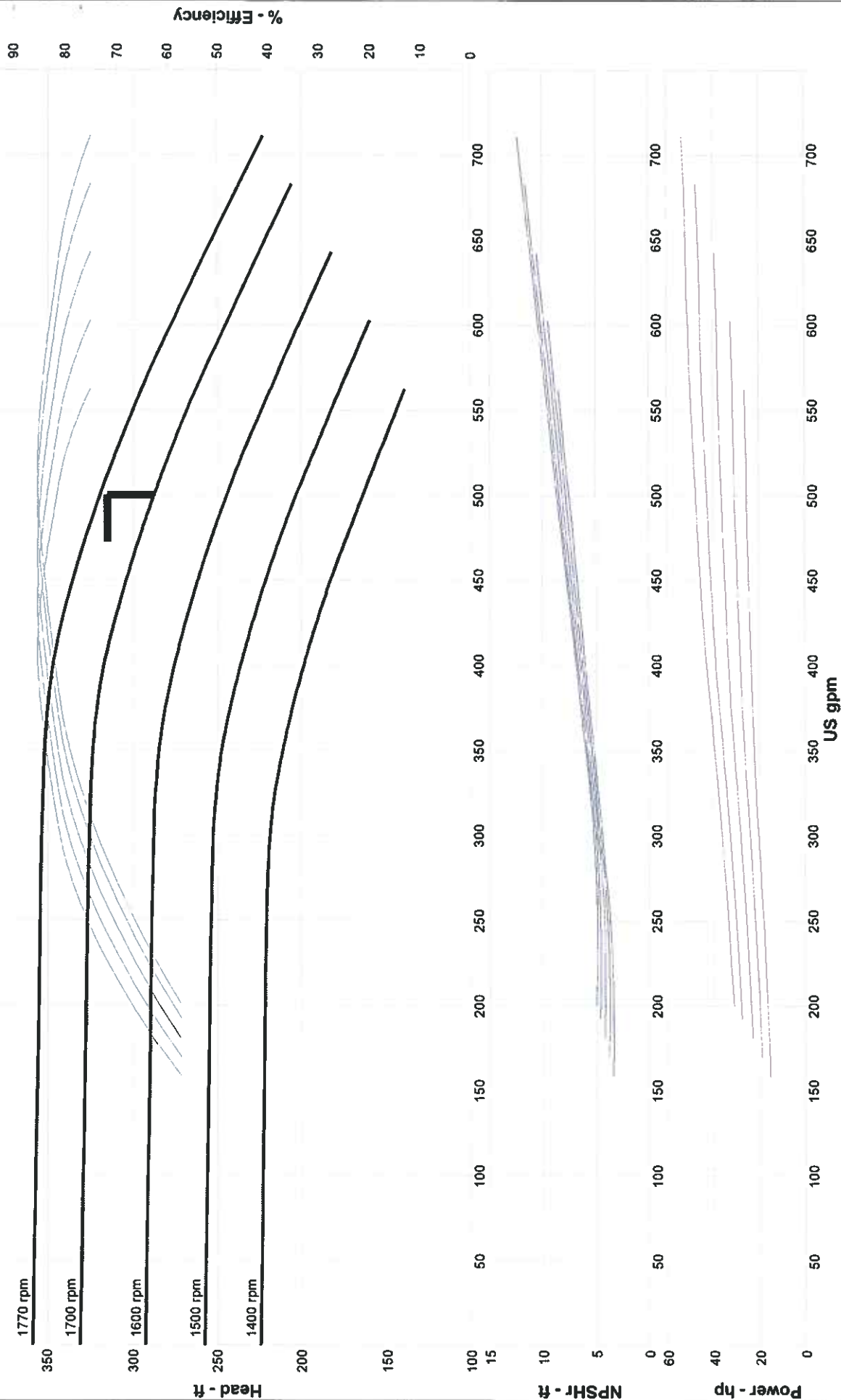


Size: 9RCHC 7 stage
Speed: 1400 - 1770 rpm
Dia: 6.6875 in
Curve: E6409CCPC2

Turbine 60 Hz
Catalog: Goulds Lineshaft 60HZ, Vers 3.27
Lineshaft - 1800

Company: C.H. Spencer
Name: City of Nampa
6/26/2009

Curves are certified for water at 60°F only. Consult factory for performance with any other fluid.



Form JAN. 7.2002 2:39PM
11/02

NO. 643 P. 4/6

868061-
T70796

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Type _____ Rgs _____ Sec _____
1/4 1/4 1/4
Let _____ Long _____
☒ Pump ☐ Baller ☐ Flowing Artesian

1. WELL TAG NO. D 0018483
DRILLING PERMIT NO. _____
Other IDWR No. Water Right # 62-31243

2. OWNER:
Name United Water Idaho
Address 8248 West Victoria
City Boise State ID Zip 83709

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location:

Map grid showing location:
Twp. 3 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 20 SW 1/4 SE 1/4
Gov'l. Lot 9 County Canyon
Lat: _____ Long: _____
Address of Well Site Belmont
Heights Subdiv. 50th City Boise

Lt. _____ Blk. _____ Sub. _____ Name _____

4. USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation:
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other Reverse

7. SEALING PROCEDURES

SEAL/FILTER PACK		AMOUNT		METHOD
Material	From	To	Scale at Feet	
Bentonite	0	390	43200	Core Drill
Bentonite	488	491	1390	Core Drill

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gages	Material	Casing	Liner	Welded	Threaded
20"	0	96 1/2	375	Steel	☒	☐	☒	☐
12"	12	389	375	Steel	☒	☐	☒	☐
6"	389	420	250	Steel	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe 5'

9. PERFORATIONS/SCREENS

Perforations		Method	
Screen	Screen Type	Screen Type	Screen Type
From	To	Slot Size	Number
420	430	0.035	
450	473	0.035	

Casing _____ Liner _____

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

86' ft. below ground Artesian pressure _____
Depth flow encountered _____ ft. Describe access port or control devices: 15' T.C. on 50'

11. WELL TESTS:

Yield gal./min.	Drawdown	Pumping Level	Time
425			1 1/2 hrs

Water Temp. 108 Bottom hole temp. _____
Water Quality test or comments: _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Base	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
210	0	2	Top Soil		
210	2	10	Hard Pan		
210	10	22	Hard Pan		
210	22	44	Hard Pan		
210	44	75	Sand - gravel - river rock		
210	75	93	Sand - gravel - river rock		
210	93	103	Gravel - river rock		
210	103	110	Gravel - river rock		
210	110	120	Gravel - river rock		
210	120	135	Gravel - river rock		
210	135	145	Gravel - river rock		
210	145	155	Gravel - river rock		
210	155	165	Gravel - river rock		
210	165	175	Gravel - river rock		
210	175	185	Gravel - river rock		
210	185	190	Gravel - river rock		
210	190	200	Gravel - river rock		
210	200	215	Gravel - river rock		
210	215	225	Gravel - river rock		
210	225	235	Gravel - river rock		
210	235	240	Gravel - river rock		
210	240	250	Gravel - river rock		
210	250	260	Gravel - river rock		
210	260	270	Gravel - river rock		
210	270	280	Gravel - river rock		
210	280	290	Gravel - river rock		
210	290	301	Gravel - river rock		
210	301	315	Gravel - river rock		
210	315	319	Gravel - river rock		
210	319	330	Gravel - river rock		
210	330	345	Gravel - river rock		
210	345	350	Gravel - river rock		
210	350	360	Gravel - river rock		
210	360	370	Gravel - river rock		
210	370	380	Gravel - river rock		
210	380	390	Gravel - river rock		
210	390	400	Gravel - river rock		
210	400	410	Gravel - river rock		
210	410	420	Gravel - river rock		
210	420	430	Gravel - river rock		
210	430	440	Gravel - river rock		
210	440	450	Gravel - river rock		
210	450	460	Gravel - river rock		
210	460	470	Gravel - river rock		
210	470	480	Gravel - river rock		
210	480	490	Gravel - river rock		
210	490	500	Gravel - river rock		

13. DRILLER'S CERTIFICATION

I/we certify that all minimum well construction standards were complied with at the time the well was completed.

Company Name Riverside Inc Firm No. 333
Firm Official Donna C Date 10/05/01
Driller's Signature Donna C Date 10/5/01
(Sign upon if Firm Official & Operator)

JAN. 7. 2002 2:38PM

NO. 643 P. 3/6

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Office Use Only			
Inspected by _____			
Type	Rge	Sec	
1/4	1/4	1/4	
City	County		
☐ Pump ☐ Bailer ☐ All ☐ Flowing Artesian			

WELL TAG NO. D _____
 DRILLING PERMIT NO. _____
 Other IDWR No. _____

2. OWNER:

Name United Water Idaho
 Address 8248 West Victory
 City Boise State ID Zip 83709

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N		E		S	
Twp. <u>3</u>		North ☒ or South ☐			
Rge. <u>1</u>		East ☐ or West ☒			
Sec. <u>20</u>		SW <u>1/4</u> SE <u>1/4</u> NE <u>1/4</u>			
Gov'l Lot <u>4</u>		County <u>Ada</u>		100 acres	
Lat: _____		Long: _____			
Address of Well Site <u>Palmer Heights</u>		City <u>Boise</u>			
(Give at least name of road or distance to road or landmark)					

Li. _____ Bk. _____ Sub. _____ Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)

☐ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT		METHOD
Material	From	To	Sacks or	Pounds	

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____

Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	430	456	28	Steel	☒	☐	☐	☐
6"	473	478	28	Steel	☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations _____ Method _____
 Screens _____ Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE

_____ ft. below ground Artesian pressure _____ lb.
 Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:

☐ Pump ☐ Bailer ☐ All ☐ Flowing Artesian

Yield gal/min	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe lithology or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water	Y	N
6"	398	408	Brown clay			
6"	408	425	fine to med. sand			
6"	425	444	fine to med. sand			
6"	444	461	fine to med. sand			
6"	461	473	fine to med. sand			
6"	473	485	fine to med. sand			
6"	485	491	fine to med. sand			
6"	491	499	blue clay			
6"	499	509	blue sand			
6"	509	515	blue sandy clay			
6"	515	525	blue sandy clay			
6"	525	535	blue sandy clay			
6"	535	545	blue sandy clay			
6"	545	555	blue sandy clay			
6"	555	565	blue sandy clay			
6"	565	575	blue sandy clay			
6"	575	585	blue sandy clay			
6"	585	595	blue sandy clay			
6"	595	605	blue sandy clay			
6"	605	615	blue sandy clay			
6"	615	625	blue sandy clay			
6"	625	635	blue sandy clay			
6"	635	645	blue sandy clay			
6"	645	655	blue sandy clay			
6"	655	665	blue sandy clay			
6"	665	675	blue sandy clay			
6"	675	685	blue sandy clay			
6"	685	695	blue sandy clay			
6"	695	705	blue sandy clay			
6"	705	715	blue sandy clay			
6"	715	725	blue sandy clay			
6"	725	735	blue sandy clay			
6"	735	745	blue sandy clay			
6"	745	755	blue sandy clay			
6"	755	765	blue sandy clay			
6"	765	775	blue sandy clay			
6"	775	785	blue sandy clay			
6"	785	795	blue sandy clay			
6"	795	805	blue sandy clay			
6"	805	815	blue sandy clay			
6"	815	825	blue sandy clay			
6"	825	835	blue sandy clay			
6"	835	845	blue sandy clay			
6"	845	855	blue sandy clay			
6"	855	865	blue sandy clay			
6"	865	875	blue sandy clay			
6"	875	885	blue sandy clay			
6"	885	895	blue sandy clay			
6"	895	905	blue sandy clay			
6"	905	915	blue sandy clay			
6"	915	925	blue sandy clay			
6"	925	935	blue sandy clay			
6"	935	945	blue sandy clay			
6"	945	955	blue sandy clay			
6"	955	965	blue sandy clay			
6"	965	975	blue sandy clay			
6"	975	985	blue sandy clay			
6"	985	995	blue sandy clay			
6"	995	1005	blue sandy clay			

RECEIVED

JAN 07 2002

WATER RESOURCES
WESTERN REGION

Completed _____ (Measurable)
 Date Started _____ Completed _____

13. DRILLER'S CERTIFICATION

We certify that all minimum well construction standards were complied with at the time the well was completed.

Company Name _____ Firm No. _____

Firm Official _____ Date _____

Driller or Operator _____ Date _____

(Sign Once as Firm Official & Operator)

BELMONT

Belmont
350 GPM pump

Goulds Turbine Pump Selection ver: 6.04
02/21/03

PUMP DATA SHEET

Goulds Turbine 60 Hz

Selection file: (untitled)

Catalog: TURB60.MPC v 1.4.5

Curve: 3003

Design Point: Flow: 350 US gpm
Head: 283 ft

Fluid: Water

Temperature: 60 °F

SG: 1

Viscosity: 1.122 cP

Vapor pressure: 0.2568 psi_a

Atm pressure: 14.7 psi_a

Pump: TURBINE - 3600 Size: 8RJLO (4 stages)
Speed: 3450 rpm Dia: 4.5 in

Limits: Temperature: --- °F Sphere size: 0.43 in
Pressure: 425 psi_g Power: --- bhp

NPSHa: --- ft

Specific Speed: Ns: 2625 Nss: ---

Piping:

System: ---

Suction: --- in

Discharge: --- in

Dimensions: Suction: 5 in Discharge: 5 in

Vertical Turbine: Bowl Dia: 7.5 in Max Lateral: 0.63 in
Thrust K Factor: 5.3

Motor: 40 hp Speed: 3600 Frame: 324TS
NEMA Standard TEFC Enclosure
sized for Max Power on Design Curve

6" Disch dia also avail.

---- Data Point ----

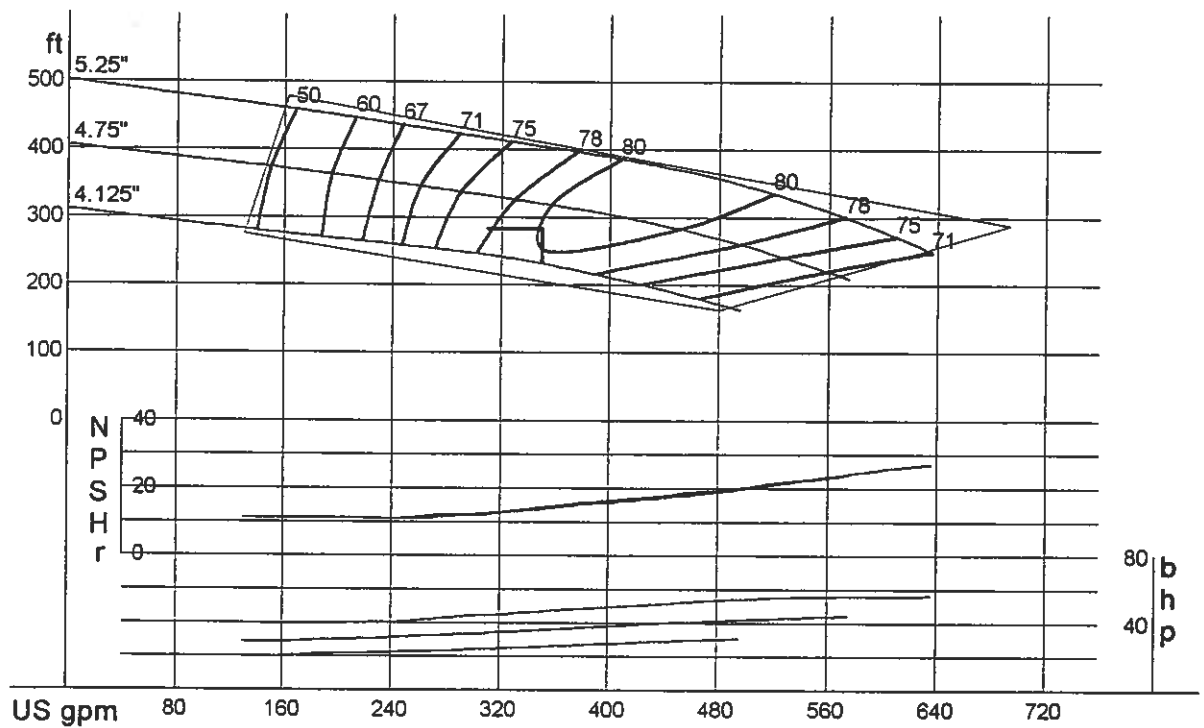
Flow: 350 US gpm
Head: 285 ft
Eff: 80%
Power: 31.4 bhp
NPSHr: 13.9 ft

-- Design Curve --

Shutoff Head: 368 ft
Shutoff dP: 159 psi
Min Flow: - US gpm
BEP: 80.2% eff
@ 388 US gpm
NOL Pwr: 38.3 bhp
@ 544 US gpm

-- Max Curve --

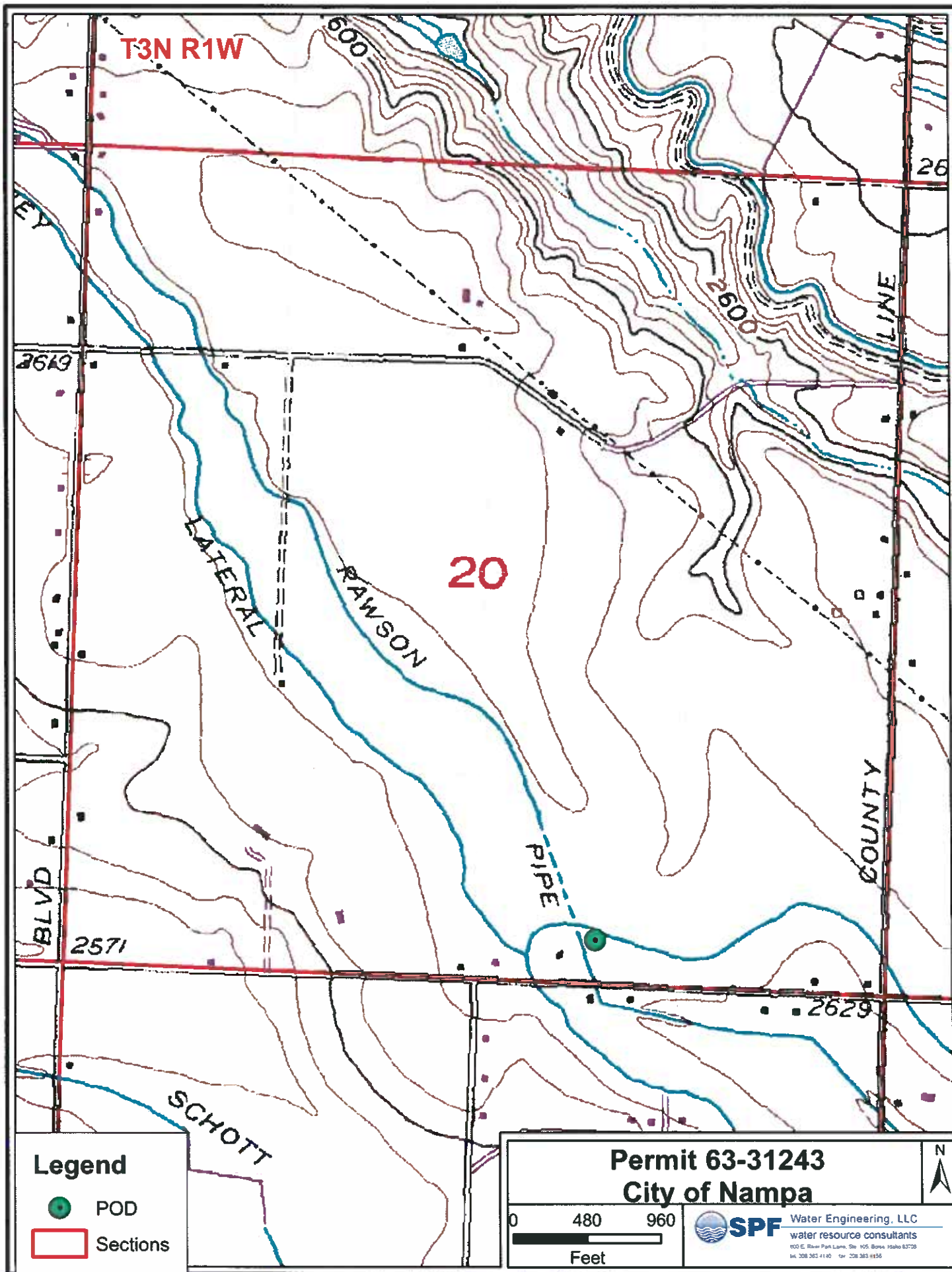
Max Pwr: 56.3 bhp
@ 636 US gpm



--- PERFORMANCE EVALUATION ---

Flow US gpm	Speed rpm	Head ft	Pump %eff	Power bhp	NPSHr ft	Motor %eff	Motor kW	Hrs/yr	Cost /kWh
420	3450	258	79.6	34.3	17				
350	3450	285	80	31.4	13.9				
280	3450	304	74.8	28.8	11.9				
210	3450	322	64	26.6	11				
140	3450	338	48.2	24.8	11				

ATTACHMENT D
TOPO MAP AND 2006 AERIAL PHOTOS



T3N R1W

2006 Photo

Legend



POD



Sections

t03n01w

Permit 63-31243

City of Nampa

0 500 1,000

Feet



SPF

Water Engineering, LLC
water resource consultants

100 E. River Park Lane, Ste 105 Boise, Idaho 83708
tel. 208.363.4140 fax 208.363.4158



T3N R1W

2006 Photo



Legend



POD



Current GIS Shape for Nampa's Service Area

Permit 63-31243
City of Nampa

0 0.5 1

Miles



SPF Water Engineering, LLC
water resource consultants

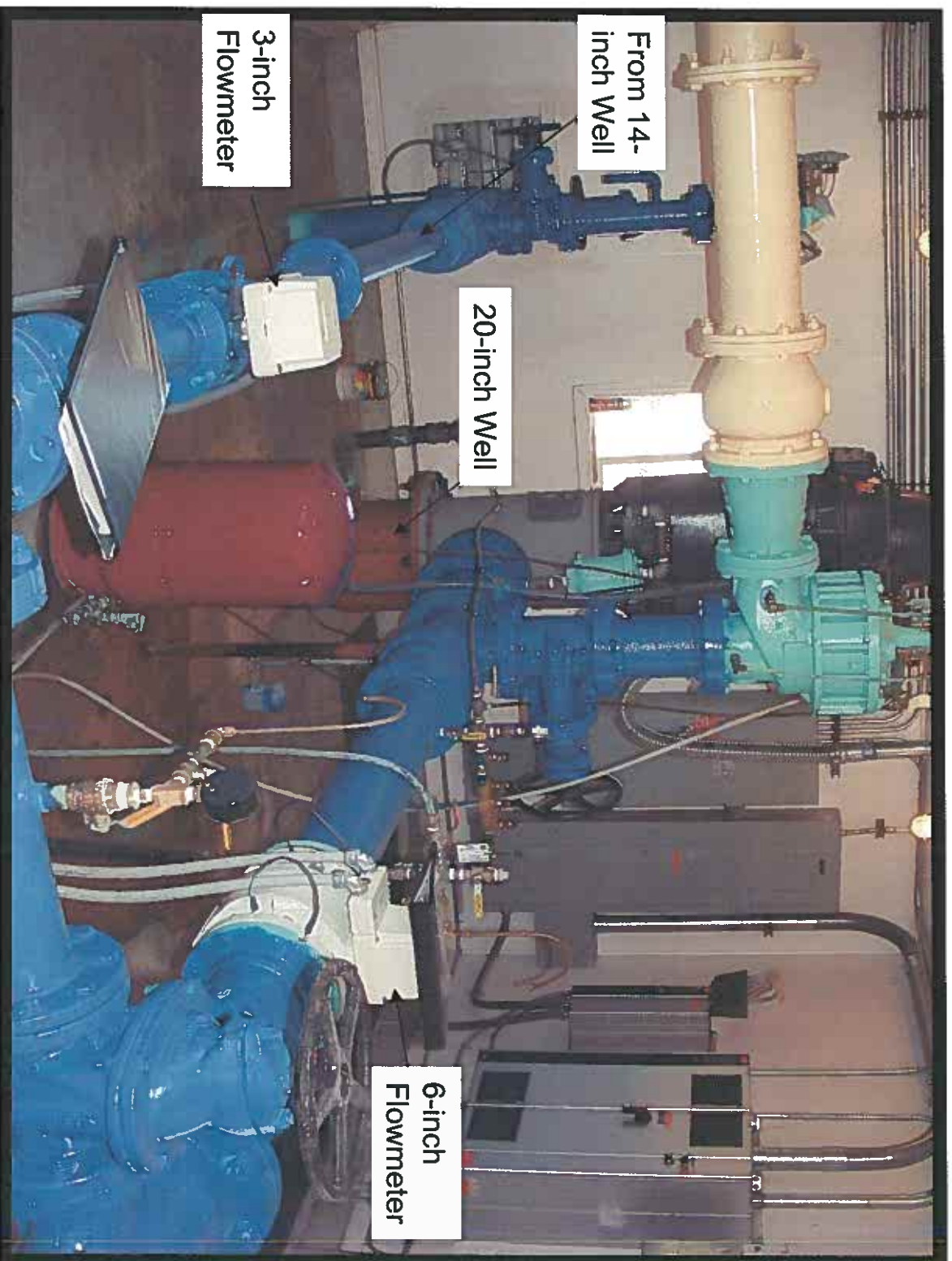
800 E. River Park Lane, Ste. 105, Boise, Idaho 83706
tel. 208 383 4140 fax 208 383 4156



ATTACHMENT E
PHOTOS



14-inch Well (Outside) and 20-inch Well and Pump House



Diversion and Controlling Works

AFFIDAVIT OF MICHAEL J. FUSS

State of Idaho)
) ss.
Canyon County)

MICHAEL J. FUSS, being first duly sworn upon oath, deposes and states:

1. I am the Director of the Public Works Department for the City of Nampa (the "City").
2. I have held that position since 2006.
3. I am responsible for the supervision and management of the City's potable and irrigation water systems.
4. I am also responsible for the supervision and management of the City's portfolio of potable and irrigation water rights.
5. As a result of my position and responsibilities as Director of the Department of Public Works, I am generally familiar with the history of the development of the City's water system and water rights.
6. I am also generally familiar with the Municipal Water Rights Act of 1996, which authorizes municipal providers to obtain water rights to be developed over a long-term planning horizon for reasonably anticipated future needs.
7. Prior to the enactment of the Municipal Water Rights Act of 1996, the City filed new permit applications from time to time without surrendering other water rights already in its portfolio.
8. In this way, the City's portfolio of water rights grew over time. That portfolio of water rights has been held and continues to be held by the City to serve its present needs as well as its reasonably anticipated future needs.
9. Subsequent to the enactment of the Municipal Water Rights Act of 1996, the City has continued to seek and acquire new permits from time to time, adding them to its portfolio of potable and irrigation water rights.

10. Until very recently, when the City has sought new municipal water right permits subsequent to the enactment of the Municipal Water Rights Act of 1996, it has not been asked by the Idaho Department of Water Resources to identify whether the application is for current or future needs. This information is not sought on the permit application form or elsewhere.

11. Nonetheless, when the City has filed permit applications, it has continued to have the expectation that those water rights would be added to the City's portfolio to serve both current and future needs within the City's expanding service area. This was the case with Water Right No. 63-12474 (Well #11).

12. The same is true with respect to water permits obtained by the City from other municipal providers, specifically Water Right Nos. 63-12506 (Coventry Place) and 63-31243 (Belmont Heights).

13. To my knowledge and best recollection, the first time the Department inquired as to whether permits filed by the City were intended to serve future needs purposes was 2009, as reflected in the letter from John Westra to the City of Nampa (Attn. Roxanne Brown) dated January 20, 2009.

14. The City responded to that January 20, 2009 letter by letter of March 5, 2009 from the City's water counsel. The March 5, 2009 letter confirmed that "the City wishes to bring all of its water rights within the protection of the 1996 Municipal Water Supply Act" and that "the City does intend to seek additional appropriations under these applications to serve RAFN [reasonably anticipated future needs]."

15. The City further responded to the January 20, 2009 letter by letter from its water counsel dated July 28, 2009. That letter included a detailed report of the same date by the City's water rights engineers, SPF Water Engineering.

16. The July 28, 2009 letter and report documented the City's planning horizon and quantified reasonably anticipated future needs through the year 2030.

17. The July 28, 2009 letter and report also quantified the City's current portfolio of potable rights for purposes of comparison to its future needs. That quantification expressly included Water Right Nos. 63-12474 (Well #11), 63-12506 (Coventry Place), and 63-31243

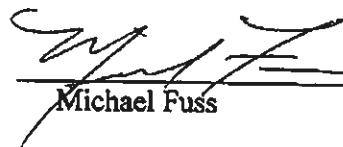
(Belmont Heights) and identified them as part of the portfolio of rights held by the City for both current and reasonably anticipated future needs.

18. That quantification described in the previous paragraph accurately noted that the the point of diversion associated with Water Right No. 63-31243 (Belmont Heights) was at that time not part of the City's integrated potable water system.

19. Subsequent to that time, the Belmont Heights well has been connected to the City's integrated potable water system.

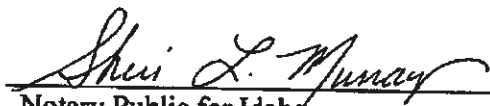
20. In sum, it is my understanding, based upon my personal experience and observation as well as what I have learned in my official capacity with the City, that the City's intent with respect to Water Right Nos. 63-12474 (Well #11), 63-12506 (Coventry Place) and 63-31243 (Belmont Heights) was to appropriate these rights and hold them as part of the City's portfolio of potable rights to serve for both current and future needs.

DATED this 14 day of June 2010.

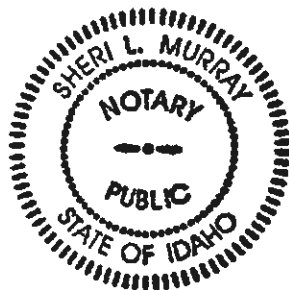


Michael Fuss

Subscribed and sworn to before me this 14th day of June 2010.



Notary Public for Idaho
Residing at Nampa
My Commission expires: 12-15-2012



AFFIDAVIT OF GREGORY P. WYATT

State of Idaho)
) ss.
Ada County)

GREGORY P. WYATT, being first duly sworn upon oath, deposes and states:

1. I am Vice President and General Manager of United Water Idaho Inc. ("UWID").
2. I have held that position since 2000.
3. I am responsible for the supervision and management of UWID's water systems.
4. I am also responsible for the supervision and management of UWID's portfolio of water rights.
5. As a result of my position and responsibilities as Vice President and General Manager, I am generally familiar with the history of the development of UWID's water system and water rights.
6. I am also generally familiar with the Municipal Water Rights Act of 1996, which authorizes municipal providers to obtain water rights to be developed over a long-term planning horizon for reasonably anticipated future needs.
7. Prior to the enactment of the Municipal Water Rights Act of 1996, UWID filed new permit applications from time to time without surrendering other water rights already in its portfolio.
8. In this way, UWID's portfolio of water rights grew over time. That portfolio of water rights has been held and continues to be held by UWID to serve its present needs as well as its reasonably anticipated future needs.
9. Subsequent to the enactment of the Municipal Water Rights Act of 1996, UWID has continued to seek and acquire new permits from time to time, adding them to its portfolio of water rights.
10. When UWID has sought new municipal water right permits subsequent to the enactment of the Municipal Water Rights Act of 1996, it has not been asked by the Idaho

Department of Water Resources to identify whether the application is for current or future needs. This information is not sought on the permit application form or elsewhere.

11. When UWID has filed recent permit applications (subsequent to the 1996 Municipal Water Rights Act), it has done so with the expectation that those new water rights would be added to UWID's portfolio to serve both current and future needs.

12. UWID has sought formal recognition of its long term planning horizon via its Integrated Municipal Application Package (IMAP). The IMAP proceeding was stayed by the Idaho Department of Water Resources.

13. UWID initially developed Water Right Nos. 63-12506 and 63-31243 with the expectation that UWID would serve the Coventry Place and Belmont Heights subdivisions, which it did at the outset.

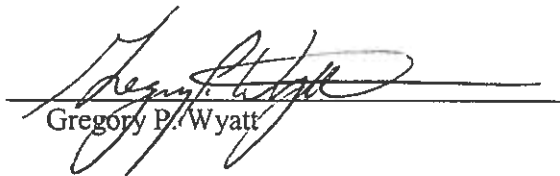
14. At that time, UWID anticipated that the service areas around Coventry Place and Belmont Heights would expand and that UWID would serve those expanding areas if called upon to do so.

15. Accordingly, the permits for Water Right Nos. 63-12506 and 63-31243 were sought with the expectation that they would be used for both current and reasonably anticipated future needs within UWID's growing service areas.

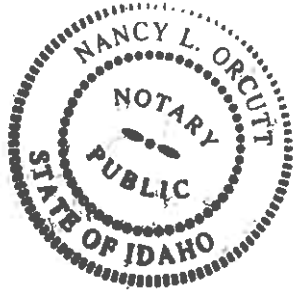
16. Subsequent to permitting of the Coventry Place and Belmont Heights rights, UWID conveyed those permits to the City of Nampa which then took over service to those subdivisions.

17. UWID believes it is appropriate for the City of Nampa to seek licensing of those permits as part of the City's portfolio of water rights to serve the City's current and reasonably anticipated future needs.

DATED this 11th day of June 2010.


Gregory P. Wyatt

Subscribed and sworn to before me this 11th day of June 2010.



Nancy L. Orcutt
Notary Public for Idaho
Residing at Boise, Idaho
My Commission expires: June 12, 2014

GIVENS PURSLEY LLP

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Amber N. Dina
Elizabeth M. Donick
Kristin Bjorkman Dunn
Thomas E. Dvorak
Jeffrey C. Fereday
Justin C. Fredin
Martin C. Hendrickson

Steven J. Hippler
Donald E. Knickrehm
Deborah K. Kristensen
Anne C. Kunkel
Jeremy G. Ladle
Michael P. Lawrence
Franklin G. Lee
David R. Lombardi
John M. Marshall
Kenneth R. McClure
Kelly Greene McConnell
Cynthia A. Melillo
Christopher H. Meyer
L. Edward Miller
Patrick J. Miller

Judson B. Montgomery
Deborah E. Nelson
Kelsey J. Nunez
W. Hugh O'Riordan, LL.M.
Angela M. Reed
Justin A. Steiner
Scott A. Tschirgi, LL.M.
J. Will Varin
Conley E. Ward
Robert B. White

RETIRED
Kenneth L. Pursley
James A. McClure
Raymond D. Givens (1917-2008)

July 28, 2009

John Westra
Manager
Western Regional Office
Idaho Department of Water Resources
2735 Airport Way
Boise, ID 83705-5082

Re: *City of Nampa – Applications for Permits # 63-32835 and # 63-33022*
(*serving RAFN*)

Dear John:

This follows up on our prior correspondence in connection with the City of Nampa's above-referenced applications for permits and our meeting in your office on July 14, 2009. Prior correspondence was initiated by your letter of January 20, 2009 addressed to Roxanne Brown of SPF Water Engineering, LLC. I responded by letter of March 5, 2009. We also exchanged emails on March 9 and 11, 2009.

Quantification effort

As we explained, we held up getting back to you while Nampa's engineering and water rights consultants completed their evaluation of the City's potable system water rights portfolio and future needs. This has been a multi-year task involving considerable effort by J-U-B Engineers, CH2M Hill, SPF Water Engineering, Taylor Planning, Givens Pursley, and City staff.

We are now in a position to provide the following key pieces of information:

- (1) a quantification of the City's portfolio of rights serving its integrated potable water delivery system (currently 43.95 cfs, increasing to 53.45 cfs with the addition of Nos. 63-33022 and 63-32835).
- (2) a quantification of the City's portfolio of rights not currently serving its integrated potable water delivery system, but which might some day serve that system (2.68 cfs).

- (3) a quantification of the City's total installed capacity for its integrated potable water delivery system (currently 45.15 cfs, increasing to 54.65 cfs with the addition of the wells associated with Nos. 63-33022 and 63-32835).
- (4) a quantification of the City's reasonably anticipated future needs ("RAFN") for its integrated potable water delivery system for a planning horizon through the year 2030 (58.38 cfs).

Current portfolio

The City's current water right portfolio for its integrated potable water delivery system is summarized on the attached spreadsheet. (These numbers correspond, as well, to the numbers set out in the attached letter report from SPF.) These rights sum to 43.95 cfs for all partial decrees, post-SRBA licensed rights, and post-SRBA permits that serve its integrated system. This number assumes that licenses ultimately will be issued for the two existing permits (Nos. 63-12474 and 63-12506) at the full permitted diversion rates. This number does not include the 9.50 cfs sought under the two applications for permit (Nos. 63-33022 and 63-32835).

Arguably, three rights totaling 2.68 cfs (excluding 0.04 cfs for stockwater) owned by the City but not currently serving the City's integrated potable water system (Nos. 63-31243, 63-11339, and 63-20264) should be included within the portfolio of rights available for RAFN. In theory, the wells served by these rights could be joined to the City's integrated delivery system in the future. Without conceding that these rights should be included, we have displayed them here nonetheless for purposes of the analysis presented with this letter. The addition of these three rights brings the City's current portfolio of potable rights to 46.63 cfs (not including Nos. 63-33022 and 63-32835).

Current installed capacity

The City's current installed capacity associated with its integrated potable water delivery system is 45.15 cfs. This number is based on the sum of the individual pumping capacities for each of the wells in the system, excluding the new well known as Coyote Springs associated with No. 63-32835 and excluding the additional capacity in Well No. 16 sought by No. 63-33022. This quantification is based on summing the capacities of each individual well. It is possible that the combined system-wide pumping capacity is somewhat less. We have not calculated that.

Future needs

In any event, the City's portfolio of potable system rights (46.63 cfs) slightly exceeds the total current installed pumping capacity based on individual wells (45.15). Thus, under the Department's draft guidance on municipal water rights, non-RAFN permits for additional flow rate would not be approved. Even if approved subject to the Department's standard condition for new municipal permits (see condition #2 on Water Right No. 63-32157 owned by the City of

Caldwell), it is unlikely that the City would be able to prove need for additional non-RAFN water rights by time of proof.

Accordingly, as we have discussed on prior occasions, the City asks that the above-referenced applications be issued as RAFN permits. This is consistent with the City's long-term water supply objectives in seeking these and other permits.

Documentation

The required documentation to support issuance of these permits for RAFN is available, thanks to the hard work done over the last several years in evaluating the City's current system and projecting its future needs. That work is discussed and explained in detail in the enclosed letter report from SPF Water Engineering. The SPF letter report is based, in turn, on work performed by J-U-B Engineers, Taylor Planning, and CH2M Hill. The bottom line is that the City will require a peak instantaneous flow of 58.38 cfs to meet maximum domestic and fire demand by the year 2030. The addition of the above-captioned permits will bring the City's total portfolio of integrated-system and non-integrated-system potable rights to 56.13 cfs, which is still less than projected demand in 2030 (58.38 cfs). Accordingly, issuance of these permits for RAFN purposes is appropriate under the Department's draft guidance.

The enclosed letter report by SPF (which also reflects the work of J-U-B, Taylor Planning, and CH2M Hill) provides the information you outlined in our meeting on July 14, 2009. Specifically:

- It documents and explains the basis for the 2030 planning horizon.
- It documents and explains the basis for quantification of RAFN over this planning horizon.
- It describes the City's planning process and its commitment to construction of infrastructure for water diversion and delivery over the course of the planning horizon.

Planning horizon

By the way, the City recognizes that the 21 years remaining before 2030 is a relatively short planning horizon. Ultimately, the City anticipates documenting its RAFN over a longer planning horizon. The present documentation of RAFN for the year 2030, however, is sufficient to form the basis for issuance of the above-captioned water right permits as RAFN.

Conclusion

On behalf of the City, I thank you and your staff for your help in processing these applications for permit. You offered to provide a draft of the condition language that would

John Westra
July 28, 2009
Page 4

accompany these permits. It is my understanding that this condition will outline considerations regarding proof in accordance with Administrative Memorandum, Application Processing No. 63. I appreciate that offer, and will look forward to seeing your proposed language.

Sincerely,


Christopher H. Meyer

Encl: Spreadsheet summarizing City of Nampa's portfolio of water rights for its integrated potable water delivery system.
July 28, 2009 letter report from SPF Water Engineering providing documentation of 2030 planning horizon and quantification of RAFN.

ec/pc: Michael J. Fuss, Director, Public Works Department
Lenard Grady, City Engineer
Fred Snoderly, Superintendent, Waterworks Division
Roxanne Brown, SPF Water Engineering, LLC
David L. Bauer and Ken Gingrich, J-U-B Engineers
Kevin Boggs, CH2M Hill

CHM:ch

4628-1_612859_6.DOC

Nampa's Potable System Water Rights (SRBA and Post-SRBA Rights)

Prepared by Chris Meyer, Givens Pursley

Row	Water Right No.	Original Well	Authorized Diversion Rate (cfs)	Current or Projected Well Capacity (cfs)	Priority	Authorized Purpose	Period of Use	Status
The following water rights and permits are part of the City's integrated potable water delivery system:								
1	63-28219	Wells #1 & #2	1.22	0.00	12/24/1937	Municipal	1/1 to 12/31	Partial decree 6-3-2009
2	63-02779	Well #3	2.00	1.56	9/2/1949	Municipal	1/1 to 12/31	Partial decree 6-3-2009
3	63-02781	Well #4	3.00	1.78	9/2/1949	Municipal	1/1 to 12/31	Partial decree 6-3-2009
4	63-28220	Well #5	1.93	1.45	12/1/1949	Municipal	1/1 to 12/31	Partial decree 6-3-2009
5	63-05258	Well #6	2.10	2.23	7/20/1954	Municipal	1/1 to 12/31	Partial decree 6-3-2009
6	63-10212	Well #7	2.23	2.23	6/28/1983	Municipal	1/1 to 12/31	Partial decree 6-3-2009
7	63-07567	Well #8	2.79	2.23	3/6/1972	Municipal	1/1 to 12/31	Partial decree 6-3-2009
8	63-08324	Well #9 (1st right)	3.00	4.46	6/1/1976	Municipal	1/1 to 12/31	Partial decree 6-3-2009
9	63-11511	Well #9 (2nd right)	1.50		3/28/1990	Municipal	1/1 to 12/31	Licensed 4-30-1994
10	63-09180	Well #10	4.00	6.69	9/27/1978	Municipal	1/1 to 12/31	Partial decree 6-3-2009
11	63-12474	Well #11	3.50	5.26	10/11/1998	Municipal	1/1 to 12/31	Permit 1-12-1999. Field exam completed by IDWR on 2-9-2000. No license yet (in backlog).
12	63-11729	Well #12	2.68	2.68	3/6/1992	Municipal	1/1 to 12/31	Licensed 4-30-1994
13	63-12591	Well #14	3.50	3.35	8/21/2000	Municipal	1/1 to 12/31	Licensed 7-28-2008
14	63-12543	Well #16 (1st right)	4.00	4.00	7/30/1999	Municipal	1/1 to 12/31	Licensed 2-1-2008
15	63-12463	Well #17	3.00	2.68	6/25/1998	Municipal	1/1 to 12/31	Licensed 8-12-2008
16	63-12506	Coventry Place	3.50	4.55	2/2/1999	Municipal	1/1 to 12/31	Permit reinstated 6-3-2009. Field exam completed by SPF but not yet submitted.
The following applications for permit will be used for the City's integrated potable water delivery system:								
17	63-33022	Well #16 (2nd right)	4.50	4.50	3/31/2008	Municipal	1/1 to 12/31	Application for permit pending.
18	63-32835	Coyote Springs	5.00	5.00	8/18/2007	Municipal	1/1 to 12/31	Application for permit pending.
The following rights were disallowed:								
19	63-2533	Wells # 1 & 2	0.00	0.00				
20	63-2782	Wells # 1 & 2	0.00	0.00				
The following water rights are not part of the City's integrated potable water delivery system:								
21	63-31243	Belmont Heights	2.60		5/14/2001	Municipal	1/1 to 12/31	Permitted 9-24-01. Field exam completed by SPF but not yet submitted.
22	63-11339	Model Airplane Club	0.04		3/26/1990	Domestic	1/1 to 12/31	Licensed 12-19-1995.
23	63-20264	Unnamed well	0.04		6/3/1925	Domestic	1/1 to 12/31	Licensed.
			0.02			Stockwater	1/1 to 12/31	
INTEGRATED SYSTEM TOTALS:								
		SRBA partial decrees	22.27					
		Licensed	14.68					
		Permits	7.00					
	Subtotal:	(SRBA+license+permit)	43.95	45.15				
		Applications for permit	9.50	9.50				
	Grand Total:	(All right, permits & apps)	53.45	54.65				
NON-INTEGRATED-SYSTEM TOTALS:								
		Potable only	2.68					
		Stockwater	0.02					
INTEGRATED AND NON-INTEGRATED TOTALS:								
	Subtotal:	(SRBA+license+permit)	46.63					
	Grand Total:	(All right, permits & apps)	56.13					



July 28, 2009

Christopher H. Meyer
Givens Pursley
Via email

Re: City of Nampa Potable Water Supply, Water Rights and Future Demands

Dear Chris,

What follows is a summary of data reviewed by SPF during the preparation of the "Potable Domestic System Water Rights Master Plan" for the City of Nampa (May 2008). We also include a summary of our analysis.

The SPF report was limited to the investigation of domestic water rights only, and did not include physical water system components such as wells, pumping facilities, or distribution piping. A separate water system master plan was prepared by CH2M Hill to evaluate the City of Nampa's water infrastructure for the municipal potable system.¹ The CH2M Hill water system master plan also documented current water demands (as of 2007), and predicted future water demands (2015 and 2030). This information was analyzed by SPF and the CH2M Hill findings were incorporated into the water rights master plan.

CH2M Hill relied on a demographics forecast prepared by J-U-B Engineers and Taylor Planning when predicting future water demands.²

The City of Nampa (the City) has gone to significant time and expense to update their water system planning for their potable municipal supply system. The CH2M Hill master plan gives specific recommendations for the construction of infrastructure over the course of the planning horizon detailed in their report (2030). SPF makes further recommendations in its water right master plan concerning the City's water right portfolio.

Water Right Analysis

The current water right portfolio for the City of Nampa integrated potable water supply includes the wells and water rights summarized in Table 1. The City of Nampa also operates several isolated wells for domestic potable use; those additional water rights are shown in Table 2.

¹ "Water Master Plan", CH2M Hill, 2008

² "Demographics Forecast and Land Use Analysis for the Nampa Study Area and South Study Area", J-U-B et al., 2008

Water Right No.	Original Well No.	Priority Date	Authorized Diversion Rate (cfs)	Water Right Status
63-28219	1,2	12/24/1937	1.22	Partial Decree issued 6-3-2009
63-02779	3	9/2/1949	2.00	Partial Decree issued 6-3-2009
63-02781	4	9/2/1949	3.00	Partial Decree issued 6-3-2009
63-28220	5	12/1/1949	1.93	Partial Decree issued 6-3-2009
63-05258	6	7/20/1954	2.10	Partial Decree issued 6-3-2009
63-10212	7	6/28/1983	2.23	Partial Decree issued 6-3-2009
63-07567	8	3/6/1972	2.79	Partial Decree issued 6-3-2009
63-08324	9	6/1/1976	3.00	Partial Decree issued 6-3-2009
63-09180	10	9/27/1978	4.00	Partial Decree issued 6-3-2009
63-11511	9	3/28/1990	1.50	License issued 4-30-1994
63-12474	11	10/1/1998	3.50	Permit issued 1-12-1999
63-11729	12	3/6/1992	2.68	License issued 4-30-1994
63-12591	14	8/21/2000	3.50	License issued 7-28-2008
63-12543	16	7/30/1999	4.00	License issued 2-1-2008
63-12463	17	6/25/1998	3.00	License issued 8-12-2008
63-12506	Coventry Place	2/2/1999	3.50	Permit reinstated 6-3-2009
		Total	43.95	

Table 1: Current Water Rights for Integrated Wells

Two permits have not been licensed to date (63-12474 and 63-12506). A field examination report was submitted in 2000 for 63-12474, and SPF will submit a report for 63-12506 on or before August 1, 2009. Authorized diversion rates shown in Table 1 for these permits are assumed to be correct based on data collected during the field examinations.

Water Right No.	Well Name	Priority Date	Authorized Diversion Rate (cfs)	Water Right Status
63-11339	Model Airplane Club	3/26/1990	0.04	Licensed 12-19-1995
63-20264	Unnamed domestic	6/3/1925	0.04 ¹	Partial Decree issued 4-3-2009
63-31243	Belmont Heights	5/14/2001	2.60	Permit issued 9-24-2001
		Total	2.68	

Table 2: Current Water Rights for Isolated Wells

¹ The partial decree was issued for domestic and stock water uses totaling 0.06 cfs. We assume that only the diversion rate for the domestic use portion of this water right can rightly be considered here.

SPF has conducted a field examination for 63-31243. The authorized diversion rate for this permit is assumed to be correct based on data collected by SPF.

Pumping Capacity

The current installed pumping capacity of the City's integrated potable supply wells is 45.15 cfs, based on the data summarized in Table 3.

Well Number	Authorized Diversion Rate (cfs)	Current Well Capacity (gpm) ¹	Current Well Capacity (cfs)
1,2	1.22	0	0
3	2.00	700	1.56
4	3.00	800	1.78
5	1.93	650	1.45
6	2.10	1,000	2.23
7	2.23	1,000	2.23
8	2.79	1,000	2.23
9	4.50	2,000	4.46
10	4.00	3,000 ²	6.69
11	3.50	2,359	5.26 ³
12	2.68	1,200	2.68
14	3.50	1,500	3.35
16	4.00	1,800	4.00
17	3.00	1,200	2.68
Coventry Place	3.50	2,045	4.55 ⁴
System Total	43.95	20,254	45.15

Notes:

¹ Estimated by CH2M Hill, unless specified otherwise.

² Estimated capacity after SPF rehabilitation of well in 2009.

³ Determined by IDWR during preparation of the "Beneficial Use Field Report".

⁴ Determined by SPF during preparation of the "Beneficial Use Field Report".

Table 3: Current Pumping Capacities

Current and Future Demands

Current and future water demands were calculated by CH2M Hill and are summarized in Table 4.

J-U-B and Taylor Planning developed population and growth estimates for the City based on regional population forecasts and historic building permit data. CH2M Hill used those estimates to calculate future water demands.

According to CH2M Hill, the population of the City in 2007 reached 81,354. As reported by J-U-B, the population is expected to reach 184,000 by 2030.¹ CH2M Hill applied a per-capita average day demand (ADD) value and peaking factor to arrive at the projections summarized in Table 4.

Year	MDD (mgd)	MDD (cfs)	MDD plus fire flow (cfs)	PHD (mgd)	PHD (cfs)
2007	11.6	17.92	27.92	16.2	25.02
2015	18.2	28.11	38.11	25.5	39.38
2030	27.0	41.70	51.70	37.8	58.38
Notes: cfs - cubic feet per second mgd - million gallons per day MDD - maximum day demand PHD - peak hour demand					

Table 4: Current and Future Water Demands

The *Idaho Rules for Public Drinking Water Systems* require the City to supply maximum day demands from well capacity. Therefore, the City must have adequate water rights and well capacity to meet the projected maximum day demand. Peak hour demands (or maximum day demands plus fire flow) can be supplied using a combination of pump capacity and storage. In other words, the City can have less water right and pump capacity than the peak hour demand, if it develops adequate storage capacity. Historically, the City has supplied peak hour demands almost entirely from well capacity.

¹ Based on "Economic and Population Forecasts for Ada and Canyon Counties in Idaho, 2007-2040", prepared for COMPASS by John Church, Idaho Economics, 2007

Summary

Whether to supply peak hour demands from developed storage capacity or the amount of well capacity (and the water right portfolio) is a decision that must be made by the City. In other words, it may be more cost effective to construct additional wells to meet peak hour demand than to construct storage reservoirs and booster pumps. For this reason, the City's water right portfolio should be maintained and enhanced to provide future peak hour demands. CH2M Hill estimates the City will require approximately 58 cfs to meet peak hour demands in 2030.

Best Regards,

A handwritten signature in cursive script, appearing to read "Roxanne Brown".

Roxanne Brown
Sr. Water Rights Specialist

SPF Job No. 270.0070