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JUL 06 2012

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JUL 05 2012

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

WATER RESOURCES
WESTERN REGION**A. GENERAL INFORMATION**

Corporation of the Presiding Bishop
1. Owner of the Church of Jesus Christ of Latter Day Saints

Permit No. 63-12442Phone No. 801-240-4074Current address 50 East North Temple Street, Salt Lake City, UT 841502. Examiner's name Terry Scanlan (Examiner No. 129) and Lori Graves EXAM DATE 5/23/20123. Accompanied by Mike Floyd Email floyd.michael@yahoo.com

Address _____

Relationship to permit holder Building Manager Phone No. 208-573-06394. Source Gound Water tributary to _____**B. OVERLAP REVIEW**1. Other water rights with the same place of use Boise-Kuna Irrig. Dist. surface water for landscape irrigation2. 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
D0001550			NE	NE	28	2N	1W	Ada	Exam, 2011 Photo

2. Place(s) of Use: Method of determination Exam, 2011 Photo

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
2N	1W	28	D																
			FP																

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

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.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
		3		StaRite	30 Series
		5		Flint & Walling	55 Series

*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
Pump Curves						

2. **Measurements:**

None. Capacity estimated from pump curves

E. NARRATIVE/REMARKS/COMMENTS

Ground water diverted from a 6-inch diameter well is used for domestic and fire protection at a Church facility, aka the Kuna Stake Center #60. Domestic uses include a kitchen with two sinks, six drinking fountains and several restrooms encompassing a total of 16 toilets and 10 sinks. Ground water from the well also supplements surface water from Boise-Kuna Irrigation District for up to 1/2 acre irrigation of surrounding landscape.

At the time of proof, the well was reportedly equipped with two submersible pumps; a 3-hp pump set at 167 feet and a 5-hp set at 157 feet. The pumps can discharge into (1) the domestic water system serving the church, (2) a 330,000 gallon storage tank for fire protection, or (3) the sprinkler mainline for supplemental landscape irrigation. Surface water from Boise-Kuna Irrigation District serves as the primary irrigation source.

A 125-hp vertical turbine pump and a 5-hp vertical turbine pump are located in the well house. These pumps are used to boost water from the storage tank to three fire hydrants and the fire sprinkler system inside the church.

As indicated on the pump curves included in Attachment C, the the two pumps can produce up to 0.21 cfs at 60 psi and up to 0.25 cfs at 20 psi when pumping to the fire storage tank

Attachment A: copy of the permit and proof of beneficial use

Attachment B: Well Driller's Report

Attachment C: pump curves and system capacity/flow calculations

Attachment D: aerial photo and topographical map

Attachment E: photos of the place of use and well

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

F. FLOW CALCULATIONS

Additional computation sheets attached

Measured Method: Calculation

Static water level is 92 feet (well driller's report). Assume an approximate pumping water level of 120 feet.

Pump curves (Attachment C) indicate that the 5-hp pump can produce 53 gpm at 60 psi and 70 gpm at 20 psi, and that the 3-hp pump can produce 34.7 gpm at 60 psi and 39.8 gpm at 20 psi, for a total capacity of 88 gpm (0.20 cfs) at 60 psi and 110 gpm (0.25 cfs)

Theoretical: $\text{gpm} = (\text{hp} \times \text{eff} \times 3960) / \text{TDH} = (8 \text{ hp} \times .63 \text{ eff} \times 3960) / (120' \text{ pwl} + 10' \text{ friction} + 20 \text{ psi}) = 113 \text{ gpm}$
 113 gpm = 0.25 cfs

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I,R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{10cm}}$$
$$V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{\hspace{10cm}}$$
$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses:

Potential: $0.04 \times 1.9835 \times 365 = 29 \text{ afa}$

Limited: $2,500 \text{ gpd} \times 365 \text{ dys} / 325850 = 2.8 \text{ afa}$

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Domestic	1/1	12/31	0.04	2.8 afa
Fire Protection	1/1	12/31	0.25	n/a
Totals:			0.25	2.8 afa

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

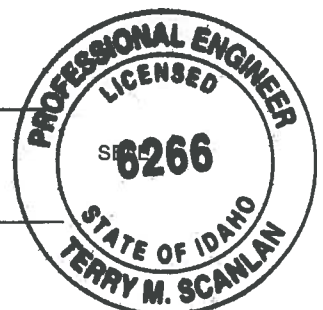
I. AUTHENTICATION

Field Examiner's Signature Jerry M. Fowler

Date 6-2-12

Reviewer

Date _____



ATTACHMENT A

PERMIT RECORD AND PROOF OF BENEFICIAL USE

[Close](#)IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

5/11/2012

WATER RIGHT NO. 63-12442

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	CORP OF THE PRESIDING BISHOP CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS REAL ESTATE SERVICES DIV 50 E NORTH TEMPLE ST SALT LAKE CITY, UT 84150-6320 (801) 240-4657

Priority Date: 03/08/1998
Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
DOMESTIC	1/01	12/31	0.04 CFS	
FIRE PROTECTION	1/01	12/31	0.33 CFS	
Total Diversion			0.33 CFS	

Location of Point(s) of Diversion:

GROUND WATER|NENE|Sec. 28|Township 02N|Range 01W|ADA County

Place(s) of use:

Place of Use Legal Description: DOMESTIC ADA County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
02N	01 W	28		NENE										

Place of Use Legal Description: FIRE PROTECTION same as DOMESTIC

Conditions of Approval:

1. 046 Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.
2. The daily diversion volume for the domestic use authorized under this right shall not exceed 2,500 gallons per day. Domestic use is for a church. Water bearing zone to be appropriated is 270 to 310 feet.

3.077 Water shall not be diverted for fire protection use under this right except to fight or repel an existing fire.

Dates:

Proof Due Date: 07/01/2002

Proof Made Date: 05/29/2002

Approved Date: 06/25/1998

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 02/04/1998

Protest Deadline Date:

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:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

[Close](#)

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MAY 29 2002

FOR OFFICE USE ONLY
Amt. of Fee \$: 100.00
Receipt No. 6042330
Receipt By: [Signature]
Date Received: 5-29-02

STATE OF IDAHO
Department of Water Resources
DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee, when necessary, or be accompanied by a completed field examination report prepared by a certified water right examiner.

1. Permit No. 63-12442 Telephone No. 801-240-5721
 2. Name of Permit Holder(s): Church of Jesus Christ of Latter Day Saints
 3. Mailing Address: Real Estate Division, 12th Floor, 50 E N Temple Street
City Salt Lake City State UT Zip 84150-0012
 4. Source of Water: groundwater If GROUNDWATER (well), Date Drilled: mo. 01 / yr. 1998
Well Driller: Can Ada Well & Pump Drilling Permit Number: 731793
 5. Use(s) (as authorized by the water right permit):
Domestic (No. of households): Church Stockwater (No. and type of stock): _____
Irrigation (No. of acres): _____ Other: fire protection
 6. Total rate of diversion and/or volume for which proof is submitted: 0.25 cfs OR _____ acre-feet
 7. Measuring Device Requirement: (refer to the approval conditions on your permit and respond accordingly)
(This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)
Measuring Device: Is a measuring device required? Yes _____ or No X
Has the measuring device been installed? Yes _____ or No X
 8. Fee Enclosed: \$ 100.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)
 9. Person to contact to accompany the Department representative during field examination of the water system.
Name: Terry Scanlan Telephone Number: 208-383-4140
Address: 600 E. River Park Lane, Suite 105, Boise, ID 83706
 10. The information given on this form is my true statement of the extent to which the above numbered permit has been developed and water has been diverted. I agree to relinquish any undeveloped portion of the permit to the State of Idaho.
- Signature of permit holder: Terry M Scanlan Date: 5/26/02
(include your title, if on behalf of company or organization)



MICROFILMED

JUN 11 2002

ATTACHMENT B
WELL DRILLERS' REPORT

WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

1. DRILLING PERMIT NO. D0001550

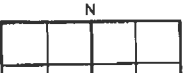
Other JPWR No. _____

2. OWNER:

2. OWNER: **LDS Church**
Name _____
Address **2710 Sunrise Rim**
City **Boise** State **Id** Zip **83705**

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.



Twp. 2 North ☒ or South ☐
 Rge. 1 East ☐ or West ☒
 Sec. 28 **NE** ☒ **NE** ☐
 Gov't Lot _____ County Ada ^{10 acres} ^{40 acres} ^{160 acres}
 Lat. : : : Long: : :
 Address of Well Site Blackcat & Kuna Rd.
 City Kuna

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_____

7. SEALING PROCEDURES

SEAL/FILTER PACK		AMOUNT		METHOD
Material	From	To	Sacks or Pounds	
Bentonite	0	126	46 sacks	Overbore

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

~~8~~ CASING/LINER:

Diameter	From	Gauge	Material	Casing	Liner	Welded	Threaded
8"	1	295	200 Steel	☐	☐	☒	☐
				☐	☐	☐	☐
				☐	☐	☐	☐
		31.0					

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☐ Perforations Method _____

☒ Screens Screen Type **Houston**

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
295	305	16/10		5"		☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

Depth flow encountered _____ ft. Describe access port or control devices: **Sanitary Well Cap**

11. WELL TESTS:

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
150		300	4

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

_____ Depth first Water Encountered _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment) _____ Water _____

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
10"	0	5	Top Soil	No	
10"	5	8	Clay	No	
10"	8	11	Hard Pan	No	
10"	11	38	Lava	No	
10"	38	50	Lava/strips of cinder	No	
10"	50	100	Lava/ ~~little water~~	Yes	M
10"	100	120	Cracked Lava/little water	Yes	
6"	120	150	Gravel/75 gpm	Yes	
6"	150	190	Sand/tight packed	Yes	
6"	190	193	Clay	No	
6"	193	248	Sand/very dirty 75 gpm	Yes	
6"	248	252	Clay	No	
6"	252	271	Sand/ 50 gpm	Yes	
6"	271	276	Clay	No	
6"	276	284	Sand.50 gpm	Yes	
6"	284	295	Clay	No	
6"	295	305	Sand	Yes	
6"	305		Clay	No	

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JAN 21 1968 WATER RESOURCES
FILM WESTERN REGION

Department of Wildlife Resources
Completed Depth: 305' (Measurable)
Date Started: 12/22/97 Completed: 1/9/98

13. DRILLER'S CERTIFICATION

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

Firm Name **Can-Ada Well & Pump** Firm No **304**

Firm Official Earl Krueger Date 1/14/98

and

Supervisor or Operator [Signature] Date 1/14/98

(Sign once if Firm Official & Operator)

ATTACHMENT C

PUMP CURVES & SYSTEM CAPACITY CALCS

Sta-Rite
10, 15, 20, and 30 GPM
4" Submersible Pumps
30 GPM

Signature
2000
Design Series

Pump Performance
 30 GPM

1 1/2" pipe with no strainer
30 GPM set at 167 ft. 10 ft. below 5 HP

Series	PSI	Pumping Depth in Feet															
		20'	40'	60'	80'	100'	125'	150'	175'	200'	250'	300'	350'	400'	500'	600'	700'
1	30	0	44.0	42.5	40.9	39.1	36.8	32.5	26.0	8.0							
		20	40.4	38.8	36.0	32.4	27.7	13.3									
		30	38.0	35.3	31.7	26.3	14.3										
		40	35.0	31.4	25.9	12.1											
		50	30.2	24.0	3.0												
		60	21.9														
1-1/2	30	0	44.2	43.1	41.9	39.9	37.5	34.1	30.9	26.9	17.0						
		20	41.2	39.1	36.5	34.0	31.5	27.8	21.5								
		30	38.9	36.1	33.8	31.0	27.9	21.8									
		40	36.0	33.5	30.8	27.7	20.2										
		50	32.9	30.1	26.9	21.5											
		60	29.5	25.9	18.1												
2	30	0	44.9	43.9	43.0	41.3	40.5	38.8	36.8	34.7	31.6	23.7					
		20	42.7	41.3	40.1	38.7	37.1	34.9	32.1	29.0	24.8						
		30	41.2	40.0	38.5	37.0	35.0	32.2	29.1	24.9	15.2						
		40	39.9	38.3	36.6	34.8	32.7	29.8	25.1	16.1							
		50	36.0	36.8	34.5	32.1	30.0	26.3	17.5								
		60	36.0	34.0	31.9	29.1	26.0	18.0									
3	30	0	45.0	44.5	44.0	43.2	42.7	41.6	40.1	39.6	38.2	35.5	32.0	27.3			
		20	43.8	43.0	42.4	41.5	41.0	39.8	38.5	37.1	35.7	32.1	28.0	18.5			
		30	42.9	42.2	41.3	40.6	39.9	38.7	37.2	35.8	34.2	30.3	24.9	6.0			
		40	42.1	41.2	40.4	39.7	38.8	37.3	35.9	34.5	32.6	28.3	19.9				
		50	41.1	40.3	39.5	38.5	37.4	36.0	34.6	32.7	31.0	25.2	9.5				
		60	40.2	39.3	38.3	37.2	36.1	34.7	32.8	31.0	28.5	20.5					
5	30	0	—	44.9	44.6	44.8	44.0	43.1	42.0	41.3	40.8	39.3	37.8	36.0	32.0	26.1	3.5
		20	44.5	44.2	44.0	43.4	43.1	42.7	42.0	41.3	40.8	39.3	37.8	36.0	32.0	26.1	3.5
		30	44.1	43.9	43.4	43.0	42.8	42.1	41.4	40.8	40.1	38.7	37.0	35.1	30.8	24.0	
		40	43.8	43.4	43.0	42.7	42.1	41.5	40.9	40.2	39.4	37.9	36.1	34.1	29.4	21.3	
		50	43.3	43.0	42.6	42.0	41.5	41.0	40.2	39.5	38.8	37.1	35.2	33.2	28.1	17.7	
		60	42.9	42.5	42.0	41.4	41.1	40.3	39.7	38.9	38.0	36.2	34.2	32.1	26.5	11.0	

CAUTION: DO NOT use pump at flow rates indicated by the symbol —.
 To do so can cause premature failure of unit. Pump warranty void when failure occurs under these conditions.

Tested and rated in accordance with Water Systems Council standards.

NOTE: Pumps installed with a CON-AIRE[®] tank require a 100 PSI relief valve. Pumps installed with a conventional tank require a 75 PSI relief valve. Relief valve must be capable of relieving entire flow of pump at relief pressure.

MICROFILM

1987

IHW 4" 55 GPM • 1 1/2 thru 7 1/2 HP • 3450 RPM • 60 C

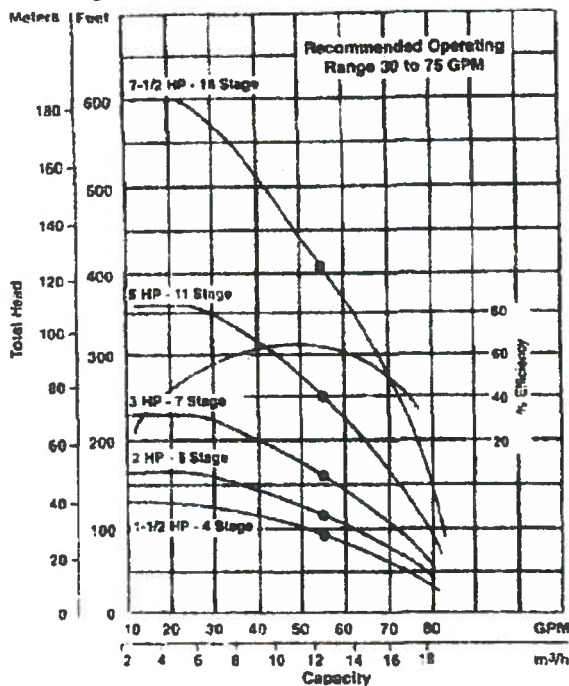
Heat & Xuno rd. Stake Centers

SWL 94 ft
57 ft. 2
H.P. 55 gpm

Kline Rd. <i>Francis Center</i>				DEPTH TO WATER LEVEL IN FEET-CAPACITIES IN GALLONS PER MINUTE																										Maximum Pressure		
HP Pump Model No. Stages	Phase	Shipping Weight		Discharge Pressure PSI																											Ft	Psi
		Pump End	Motor End		20	40	60	80	100	120	140	160	180	200	220	240	260	300	350	400	450	500	550									
<i>1 1/2 HP</i> 4F55A15 4F55S15	1	12	26	0 20 40 60	78 70 62 48	78 70 62 48	71 63 55 42	62 54 46 33	50 42 34 21	36																					135	58
		12	26																													
2 HP 4F55A20 4F55S20	5	14	30	0 20 40 60	80 74 66 56	76 68 60 50	68 60 52 43	61 53 45 34	51 43 35 24	42	29																				155	71
		14	28																													
3 HP 4F55A30 4F55S30	7	16	32	0 20 40 60	79 75 67 49	75 70 62 45	66 58 50 37	58 50 42 30	48 40 32 21	38	26																				235	101
		16	43																													
5 HP 4F55A50 4F55S50	11	19	68	0 20 40 60	78 72 66 50	78 72 66 50	70 64 56 43	62 56 48 35	52 46 38 25	42	30																				365	158
		19	53																													
7 1/2 HP 4F55A75 4F55S75	18	28	69	0 20 40 60	77 72 66 50	77 72 66 50	70 64 56 43	62 56 48 35	52 46 38 25	42	30																				600	259

NOTE: Pipe friction loss in drop pipe is not included in chart above

55 GPM • 1 1/2-7 1/2 HP



● Best efficiency point

Stainless Steel

2" NPT

Cast Iron

2" NPT



← 3 1/4" → ← 3 1/4" →

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JUN 11 2002

Wagner Bros. Inc.

SCANLAN ENGINEERING

Groundwater and Environmental Engineering

May 26, 2002

RECEIVED

MAY 29 2002

Deborah J. Gibson, Administrative Assistant
Water Allocation
Idaho Department of Water Resources
1301 North Orchard Street
Boise, ID 83706

Idaho Department of Water Resources

Subject: Proof of Beneficial Use 63-12442

Dear Ms. Gibson:

On behalf of the Church of Jesus Christ of Latter Day Saints Real Estate Division, Scanlan Engineering is please to provide the enclosed proof of beneficial use for water right permit 63-12442.

The permit authorizes diversion of groundwater for domestic (0.04 cfs) and fire protection (0.33 cfs) uses. The diversion works (well and pumps) have been completed and are operating. The well was completed on January 9, 1998 by Can Ada Well Drilling. According to information in the Department's well log database, the well is 305 feet deep and completed with 6-inch casing to 295 feet. Static water level is 92 feet. The permit number listed in the database is 731793.

The well is currently equipped with two pumps. The pumps discharge into the domestic water system serving the Church. The pumps can also discharge water into a tank for fire protection. The fire protection storage tank is equipped with a float valve to automatically fill if the tank water level drops. The pumps are described below. Pump curves are attached.

- One of the pumps is a 3-hp submersible (StaRite 30 Series) set at 167 feet. This pump can produce approximately 35 gpm (0.08 cfs) at 60 psi for domestic use. The pump can also produce 40 gpm (0.0891 cfs) at 0 psi when pumping to the fire protection storage tank.
- The other pump is a 5-hp submersible (Flint and Walling 55 Series) set at 157 feet. This pump is rated to produce approximately 74 gpm (0.165 cfs) at 0 psi when pumping to the fire storage tank.

In combination, the two pumps appear to be capable of producing 0.25 cfs for fire protection and more than 0.04 cfs for domestic use.

A \$100 check for the examination fee is enclosed.

MICROFILMED

600 East River Park Lane, Suite 105
Boise, Idaho 83706

Telephone (208) 383-4140
Facsimile (208) 383-4156

ATTACHMENT D

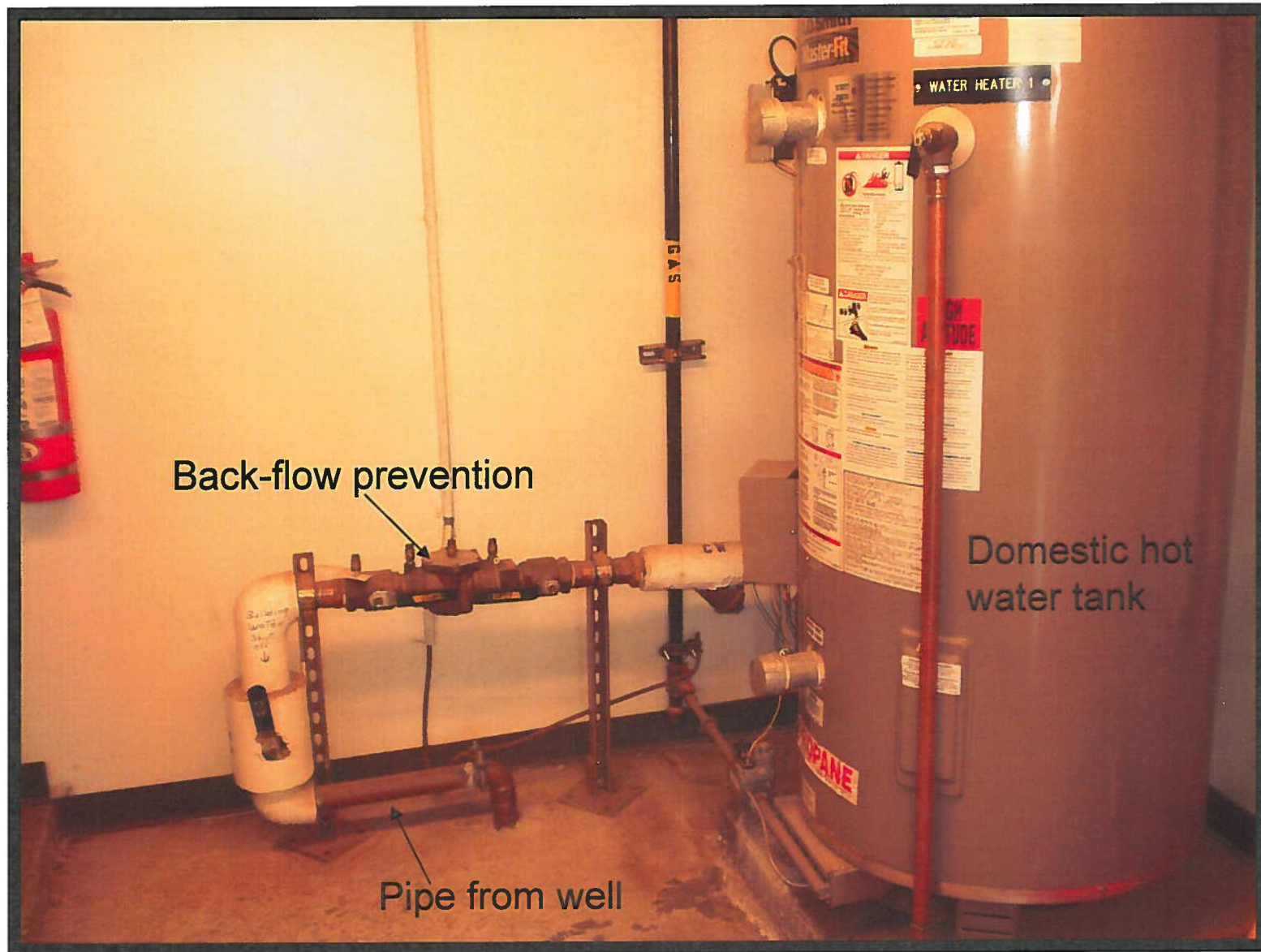
AERIAL PHOTO, TOPO MAP & SYSTEM DIAGRAM



One of three fire hydrants



Place of use



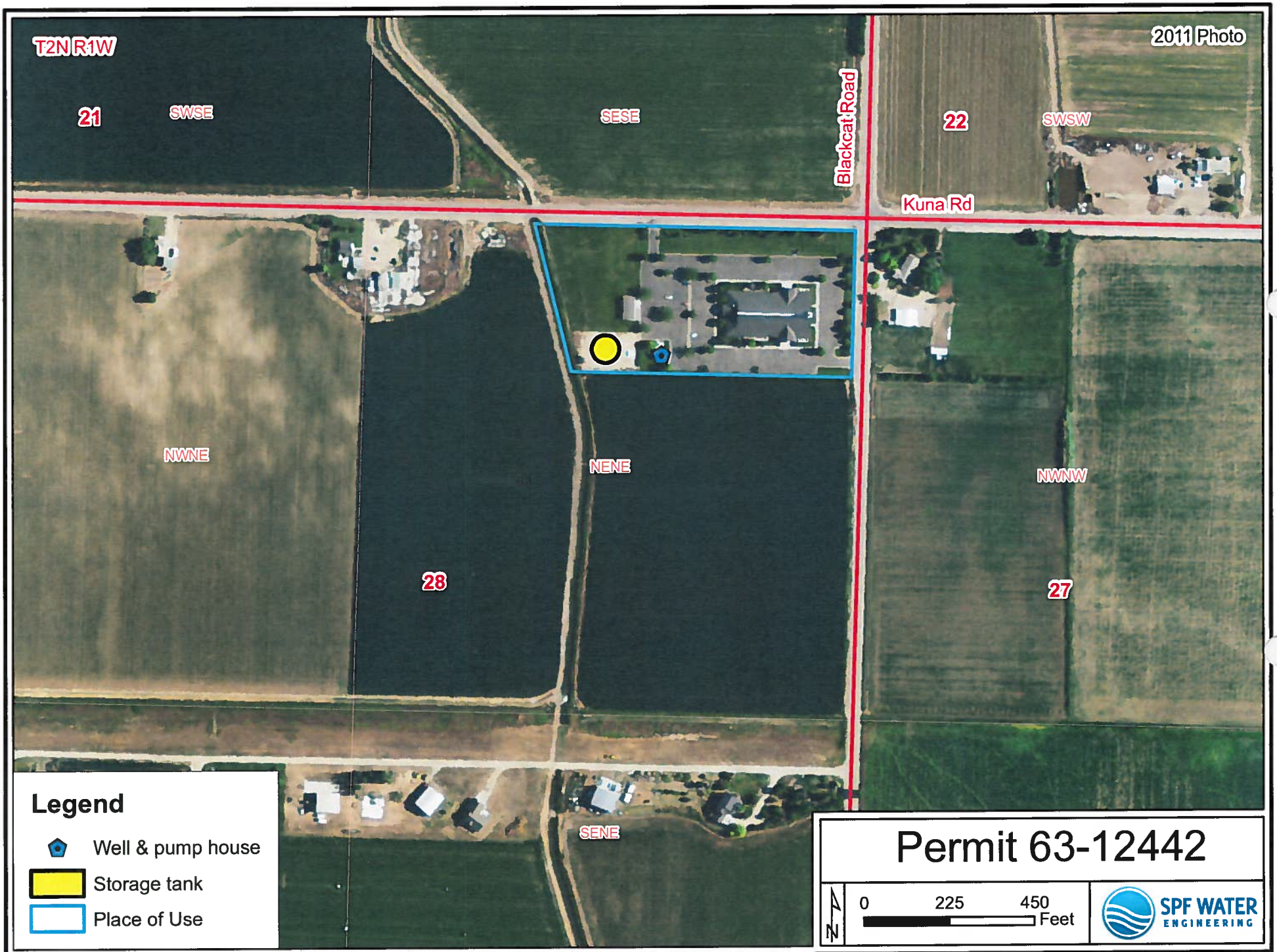
Domestic works inside church building



Two of six fountains



Church kitchen



T2N R1W

21

SWSE

SESE

22

SWSW

2684

Kuna Rd

Blackcat Road

NWNE

63

NENE

NWNW

28

27

SENE

Legend

 Well & pump house

 Storage tank

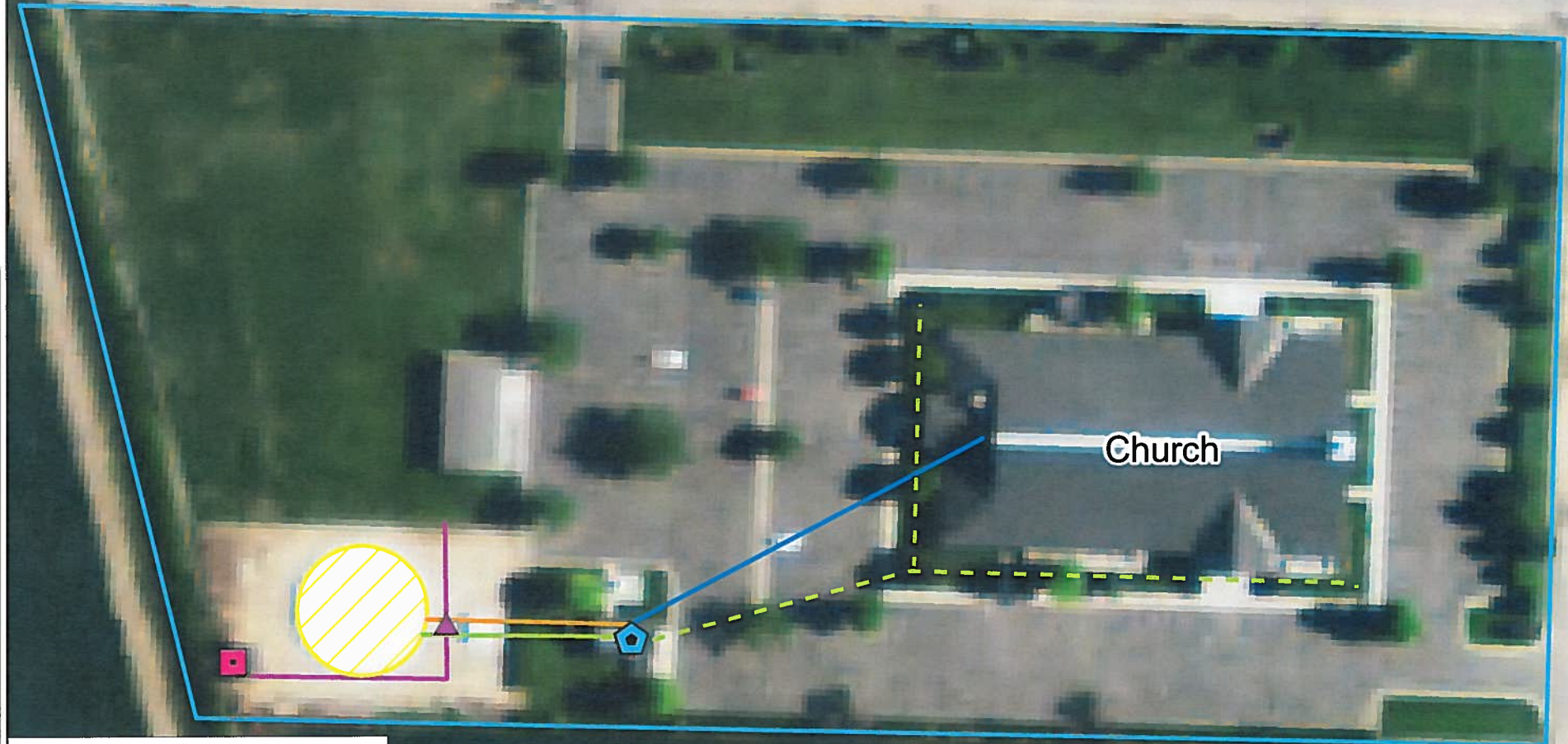
 Place of Use

Permit 63-12442



T2N R1W

2011 Photo



Church

Legend

-  Well & pump house
-  Domestic line to church
-  Line to tank or sprinkler irrig. system
-  Storage tank
-  Surface water pump house
-  Sprinkler line
-  Back-flow prevention valve
-  Fire line from tank to boosters
-  Fire line to hydrants and church

Permit 63-12442
System Diagram



0 50 100
Feet



ATTACHMENT E
PHOTOS

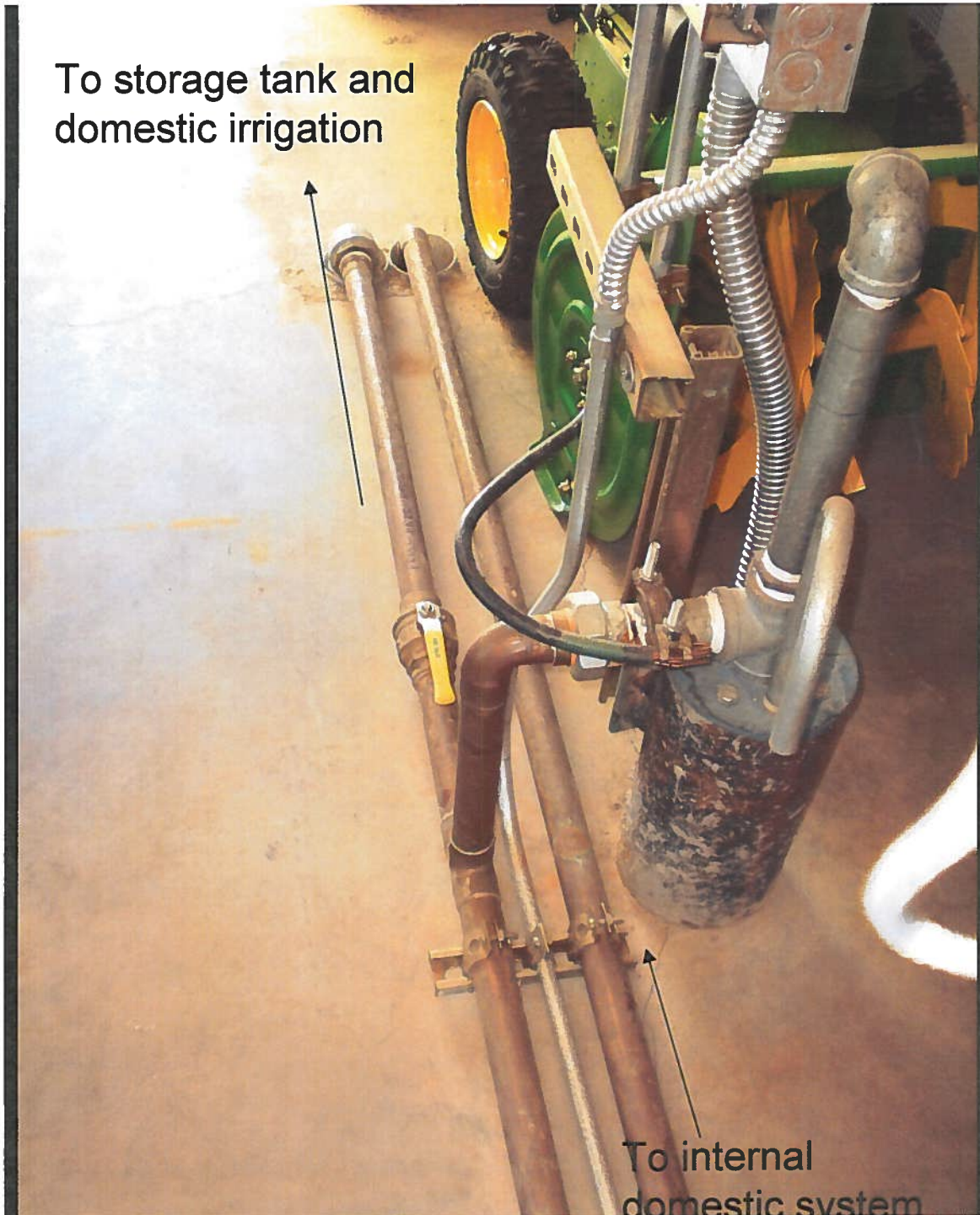


Well and pump house

To storage tank and
domestic irrigation

Point of diversion

To internal
domestic system





Domestic
system
controls



Domestic system pressure tanks



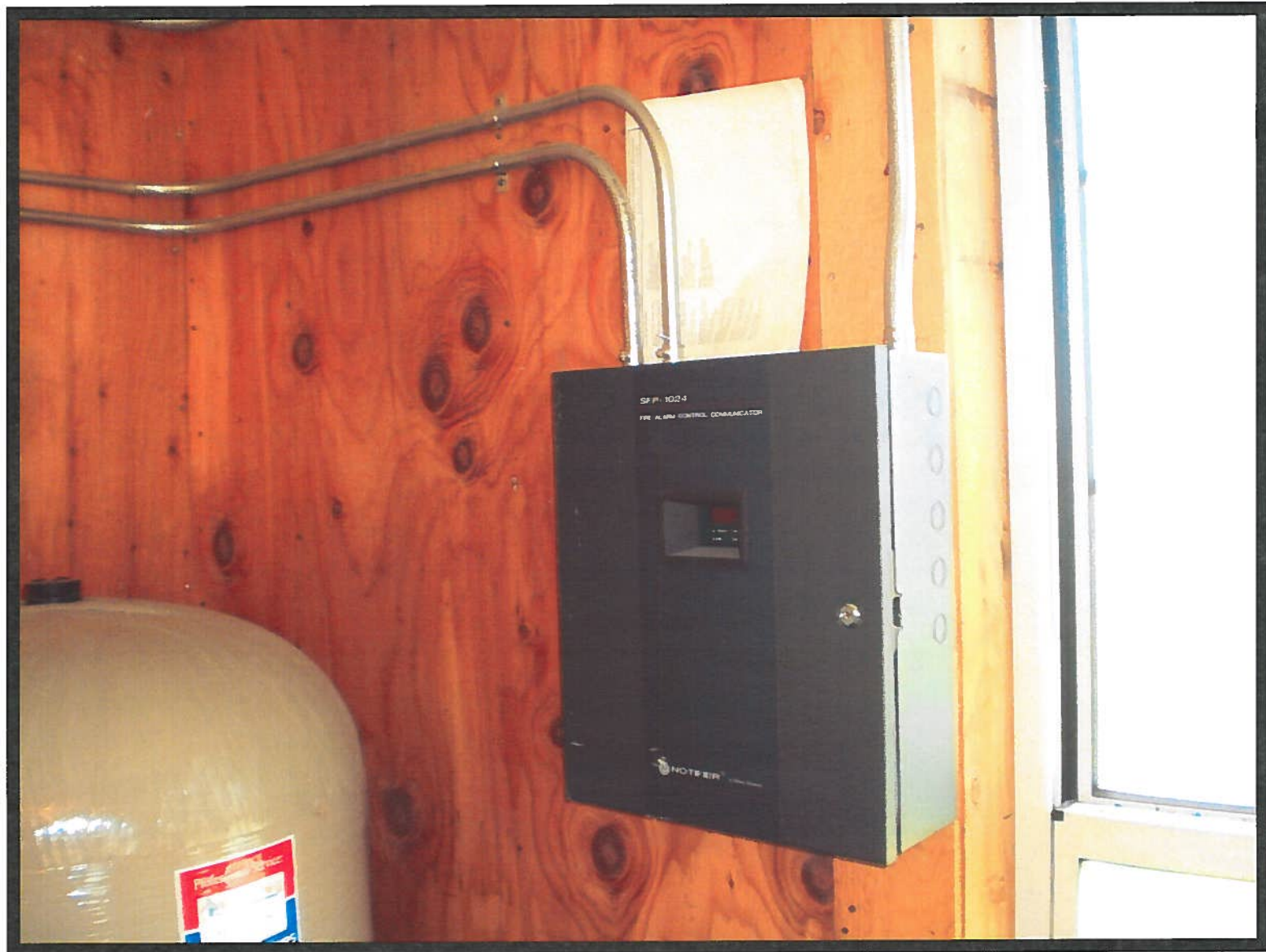
Fire protection storage tank



Fire system booster pumps



Fire
system
controls



Fire alarm control monitor