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DEPARTMENT OF
WATER RESOURCES

Monitoring, Recording, and Reporting Plan Permits 63-32089 and 63-32090

Submitted by

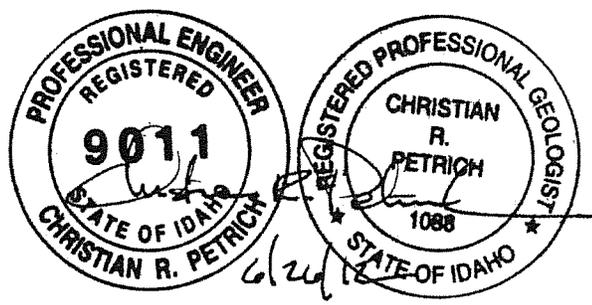
City of Eagle, Idaho



Michael Echeita, Director of Public Works
City of Eagle

Prepared by

SPF Water Engineering, LLC
300 East Mallard, Suite 350
Boise, Idaho 83706
(208) 383-4140



June 26, 2012



1. INTRODUCTION

This document outlines a monitoring plan for Permits 63-32089 and 63-32090. This document provides background information on these permits, outlines monitoring requirements, and lists specific monitoring and reporting components. This document also provides conceptual monitoring well designs.

1.1. Permits 63-32089 and 63-32090

A final order in the matter of Applications to Appropriate Water Nos. 63-32089 and 63-32090, issued on February 26, 2008, authorized the beneficial uses and flow rates listed in Table 1. Points of diversion (Figure 1) consist of a well located in the NWSE of Section 11, T4N R1W (City of Eagle Production Well No. 4, formally known as the Eaglefield Well) and in the SENW of Section 11, T4N R1W (City of Eagle Production Well No. 3, formerly known as the Legacy Well). Open intervals for these wells are 345-425 feet and 282-352 feet below ground surface, respectively.

Permit 63-32089	
Municipal	2.23 cfs
Fire Protection	1.77 cfs
Permit 63-32090	
Fire Protection	4.91 cfs
Total	8.91 cfs

Table 1: Beneficial uses and flow rates authorized under Permits 63-32089 and 63-32090.

1.2. Monitoring Requirements under Permits 63-32089 and 63-32090

The final IDWR order for Permits 63-32089 and 63-32090 lists the following monitoring requirements:

Prior to diversion of water under this right, the right holder shall construct/identify four observation wells for future monitoring. Three wells shall be located in close proximity to one or both of the production wells. One of the wells shall be completed in the shallow aquifer, one in the immediate aquifer, and one in the deep aquifer. A fourth observation well shall be located at a more remote distance from the production wells. The completion interval for the fourth well shall be in the deep aquifer. The location and design of the observation wells must be approved by the Department prior to construction or designation of the observation wells. Each observation well must be constructed so that ground water in the well is derived only from one aquifer zone, and must also be constructed so that water levels in each well can be easily measured.

Furthermore, the order requires that

Prior to diversion of water under this right, the right holder shall develop and the Department must approve a monitoring, recording, and reporting plan for the observation wells.

2. MONITORING PLAN

This monitoring plan includes collecting discharge measurements from the City of Eagle Production Wells No. 3 and No. 4, constructing a shallow monitoring well, constructing an intermediate-depth monitoring well, constructing a deep monitoring well, and measuring water levels in these wells on a periodic basis. Specifically, the monitoring plan consists of the following:

1. The City of Eagle shall record volumetric discharge readings from existing flow meters installed in the No. 3 and No. 4 wells. City of Eagle personnel currently record volume readings on a daily basis.
2. The City of Eagle shall report production from the City of Eagle Wells No. 3 and No. 4 to IDWR on an annual basis.
3. The City of Eagle shall calibrate existing flow meters in Wells No. 3 and No. 4 within the first year of monitoring. Results from meter calibration will be reported to IDWR following the calibration.
4. The City of Eagle shall construct three new wells dedicated for monitoring purposes in the SWNW of Section 11, T4N R1W (Figure 1). These wells will be approximately 1,200 feet southwest of the City of Eagle No. 3 well and approximately 1,800 feet northwest of the City of Eagle No. 4 well. The wells will include the following
 - a. A shallow well approximately 55 feet in depth;
 - b. An intermediate-depth well approximately 150 feet in depth;
 - c. A deep well extending to a sand zone approximately 350 feet below ground surface (the well will extend at least 300 feet below ground surface but no more than 400 feet).

Conceptual designs for these wells are provided in Figures 2, 3, and 4. Final designs will be based on lithology observed during drilling and geophysical log results.

5. IDWR shall continue to monitor water levels from the existing North Ada County Monitoring Well No. 3 (owned, maintained, and monitored by IDWR). This well, which is located at the corner of Highway 16 and Floating Feather Road, meets the criteria for a deep well "located at a more remote distance from the production wells."

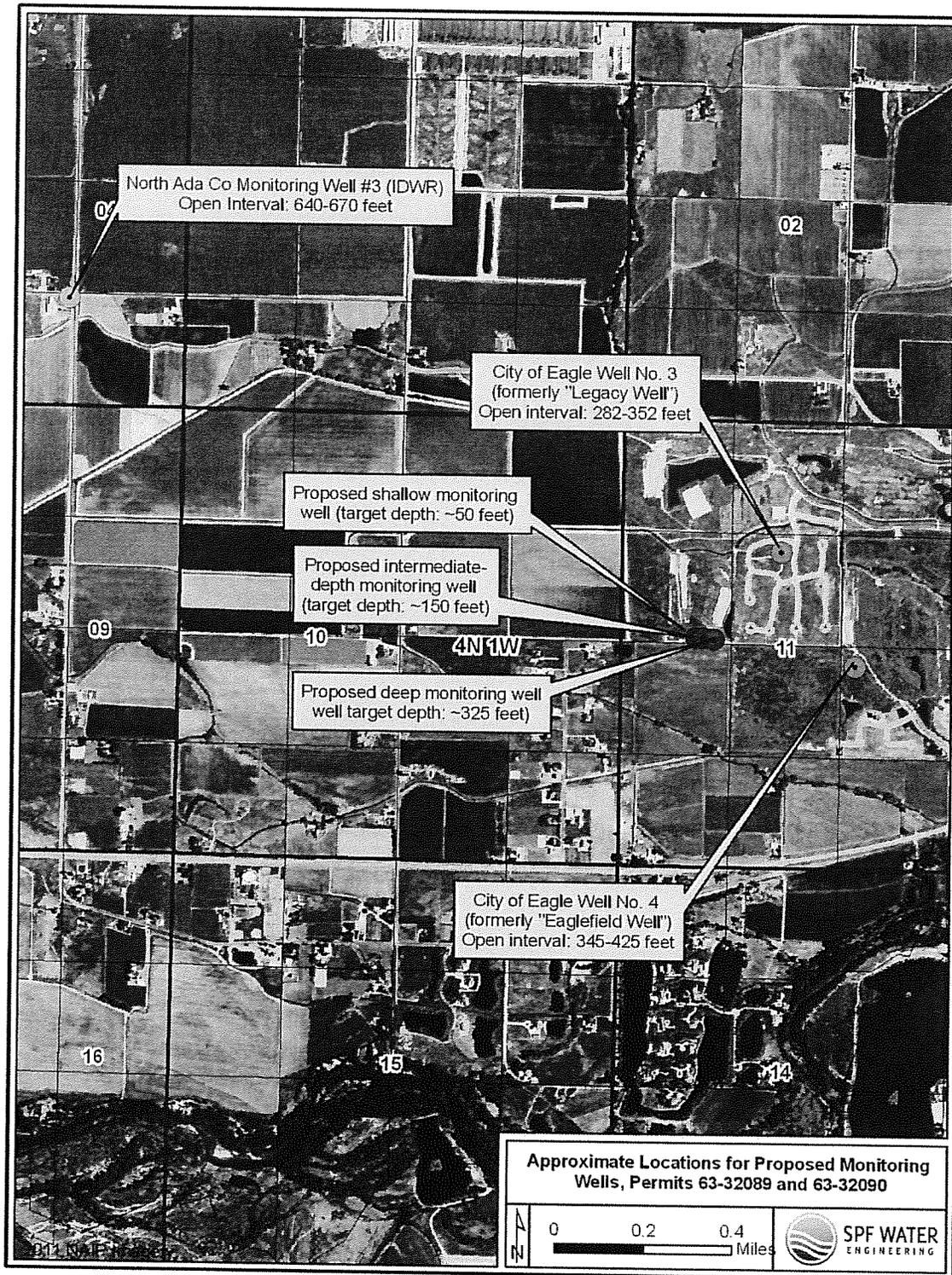
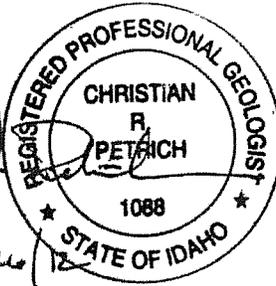
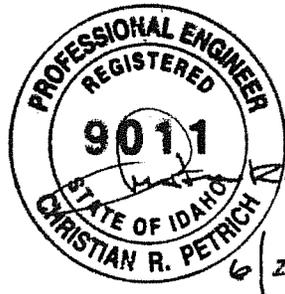
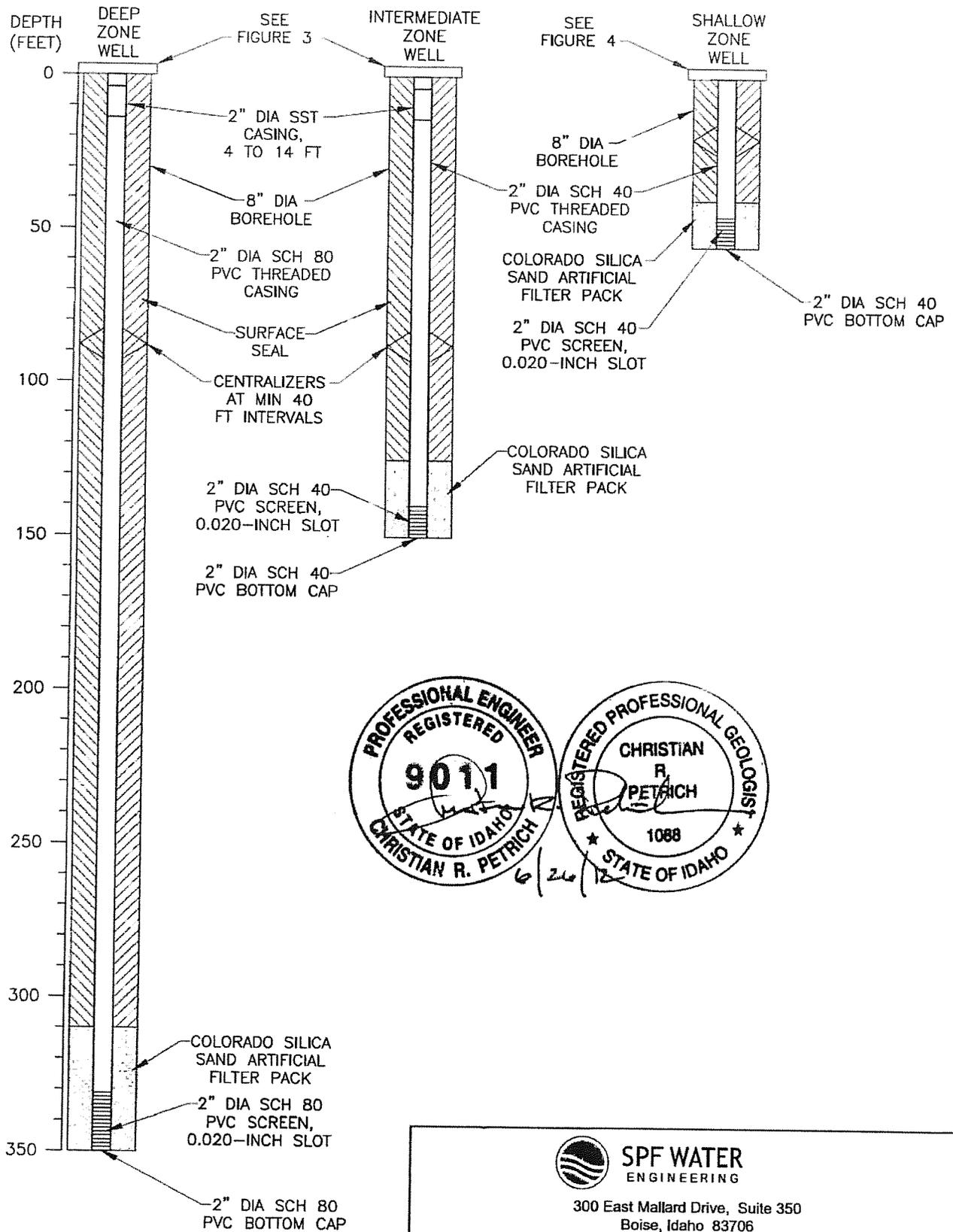


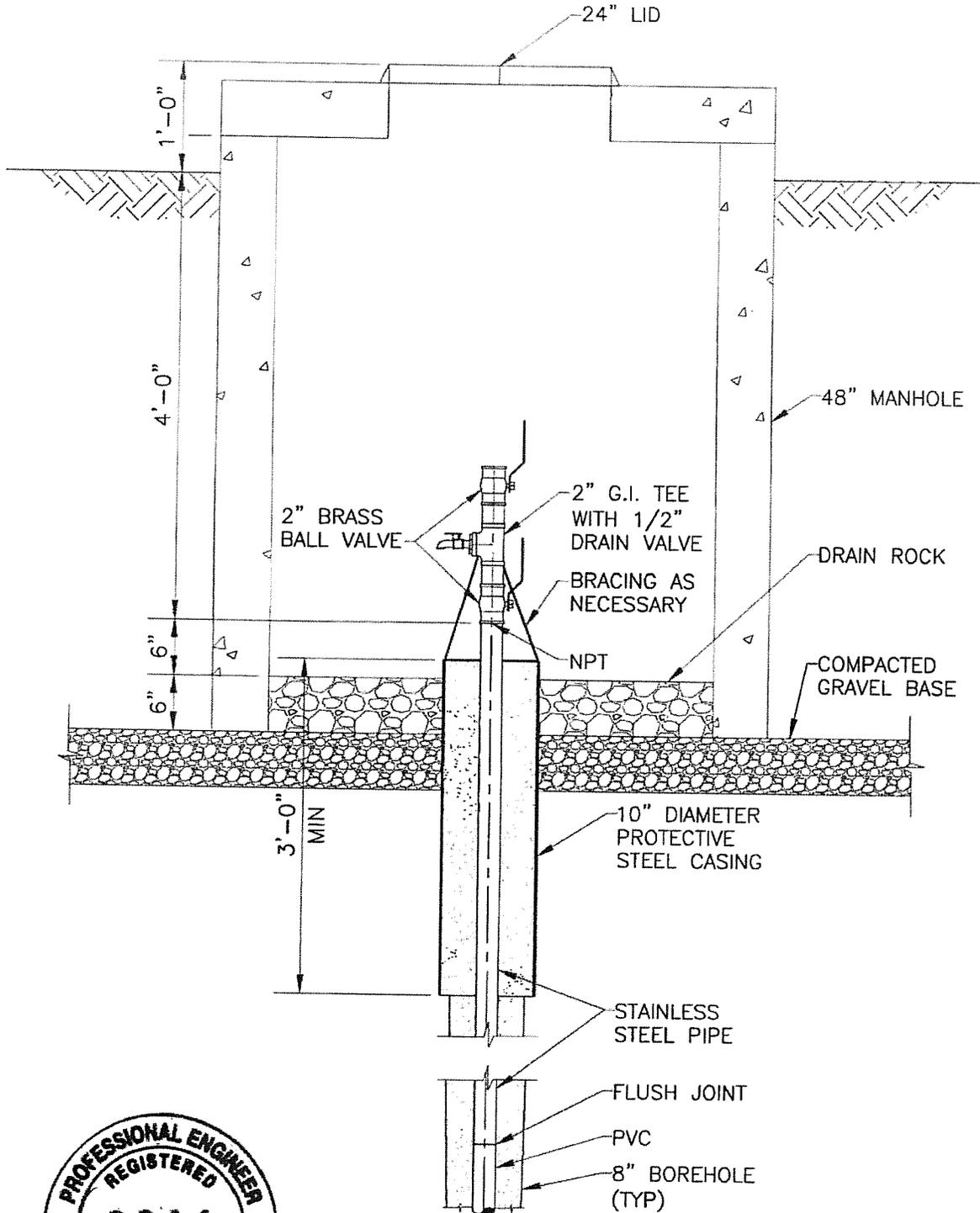
Figure 1. Proposed monitoring wells for Permits 63-32089 and 63-32090.

6. Our understanding is that IDWR will provide, install, and maintain pressure transducers and dataloggers in the three monitoring wells constructed by the City of Eagle¹. Furthermore, it is our understanding that IDWR will download data from dataloggers in these City of Eagle monitoring wells on a quarterly basis along with other IDWR monitoring wells in this area (including the North Ada County Monitoring Well No. 3 referenced above). IDWR will manually measure depths to water and/or artesian pressure on a quarterly basis at the time of downloading datalogger data for calibration purposes. Cloud Berry LLC and the City of Eagle will provide IDWR access to the monitoring well site area for collecting water-level measurements from these three monitoring wells.

¹ Dennis Owsley, personal communication, April 23, 2012.



 SPF WATER ENGINEERING	
300 East Mallard Drive, Suite 350 Boise, Idaho 83706 Tel (208) 383-4140 Fax (208) 383-4156	
CITY OF EAGLE PROPOSED MONITORING WELL DESIGNS	
SCALE: NTS DRAWN BY: SCB	FIGURE 2 PROJ.# 944.0020



SPF WATER
ENGINEERING

300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

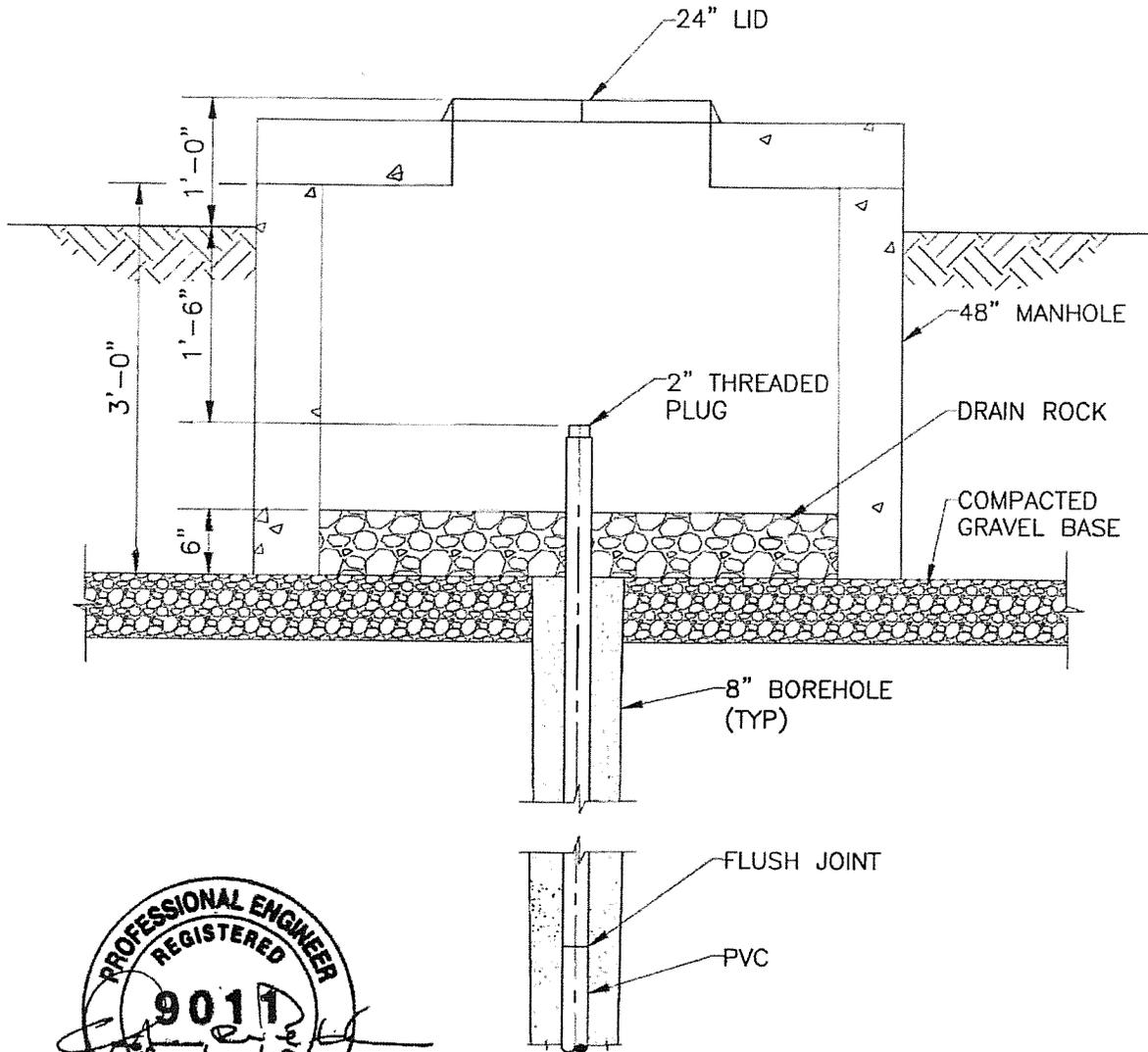
CITY OF EAGLE
WELL HEAD COMPLETION FOR DEEP AND
INTERMEDIATE ZONE MONITORING WELLS

SCALE: NTS

DRAWN BY: SCB

FIGURE 3

PROJ.# 944.0020



300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

CITY OF EAGLE
WELL HEAD COMPLETION FOR
SHALLOW ZONE MONITORING WELL

SCALE: NTS

DRAWN BY: SCB

FIGURE 4 PROJ.# 944.0020