

**TOOTHMAN-ORTON ENGINEERING
COMPANY**

Consulting Engineers and Planners

W. 280 Prairie Ave.
Coeur d'Alene, ID 83815
PHONE: (208) 762-3644
FAX: (208) 762-3708

LETTER OF TRANSMITTAL

Date
February 16, 2007

Job No.
00109

ATTENTION
Deborah Gibson

RE:
The Spires Water Company
Permit # 96-09072

u a
RECEIVED
FEB 22 2007
DEPT. OF
WATER RESOURCES

TO:
Idaho Department of Water Resources
P.O. Box 83720
Boise, Idaho 83720-0098

WE ARE SENDING ☒ Attached ☐ Under separate cover _____ the following

☐ Shop drawings ☐ Prints ☒ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	10/7/05		The Spires PUD Water and Sewer Construction Record Drawings
1	6/29/05		The Spires PUD Utility As-built Survey Drawing
1	9/10/02		The Spires PUD Well and Access Road As-built Survey Drawing

THESE ARE TRANSMITTED as checked below

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review comment ☐ _____
☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

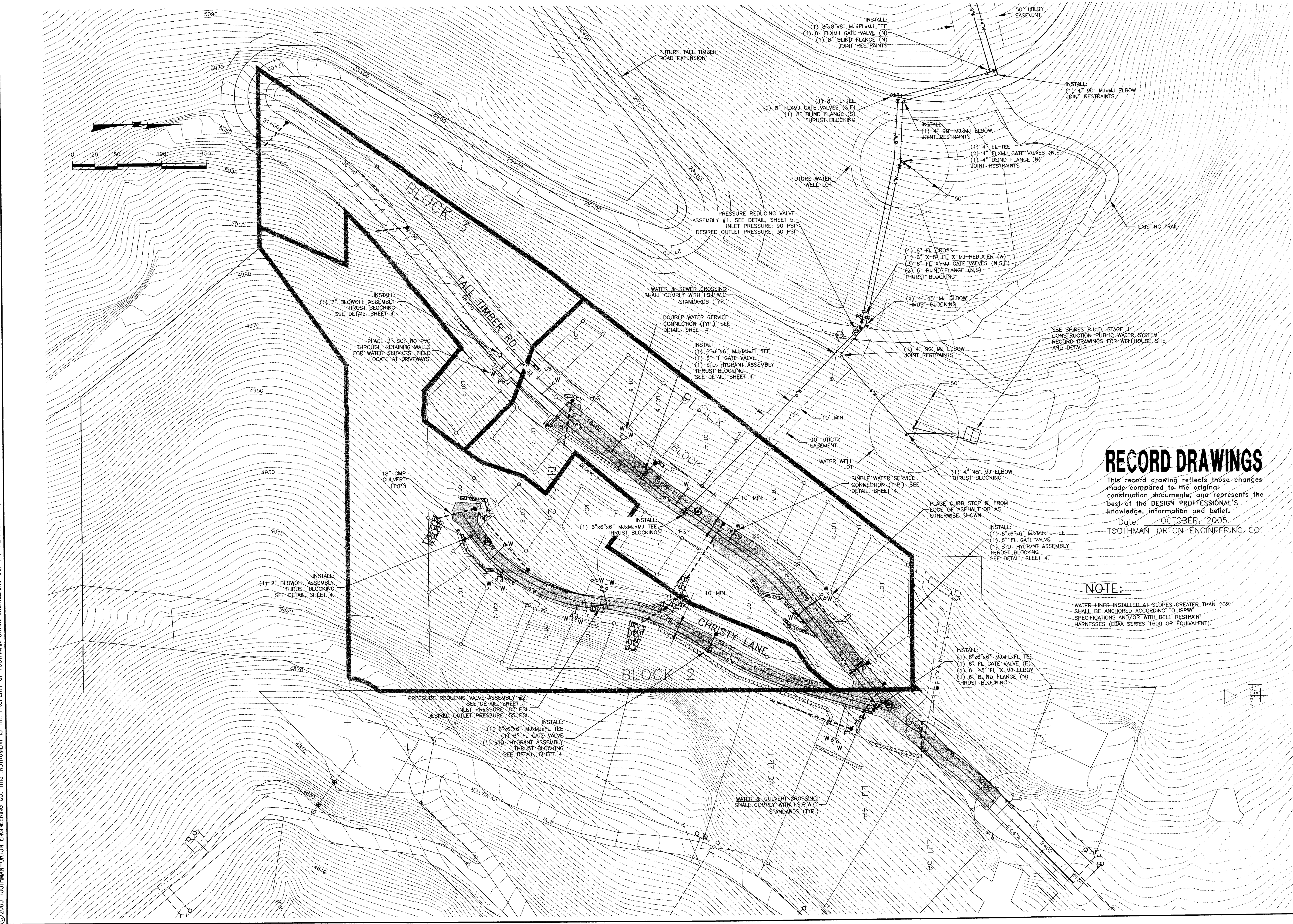
REMARKS:

Debbie:

Enclosed is a copy of the water and sewer record drawings as promised. I have also included a copy of the As-built survey drawing dated June 29, 2005 showing installation of the water distribution and sewage collection infrastructure. In addition, I am attaching the as-built survey for the wellhead and well access road. Please let me know if you need any additional information.

COPY TO File

SIGNED: Scott McNee, P.E.

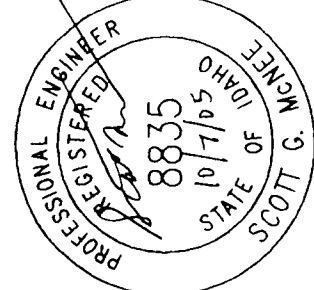


RECORD DRAWINGS

This record drawing reflects those changes made compared to the original construction documents, and represents the best of the DESIGN PROFESSIONAL'S knowledge, information and belief.
Date: OCTOBER, 2005
TOOTHMAN-ORTON ENGINEERING CO.

NOTE:

WATER LINES INSTALLED AT SLOPES GREATER THAN 20% SHALL BE ANCHORED ACCORDING TO ISPPWC SPECIFICATIONS AND/OR WITH BELL RESTRAINT HARNESSSES (EBAV SERIES 1600 OR EQUIVALENT).



E-FILE NAME		REVISIONS	
DATE	BY	NO.	ITEM
09/09/01	SM	1.	WATER SERVICE LINES AT WALLS
09/03/04	SM	2.	WATER MAIN ALIGNMENT
10/04/05	SM	3.	RECORD DRAWINGS

TOOTHMAN-ORTON ENGINEERING COMPANY

CONSULTING ENGINEERS, SURVEYORS AND PLANNERS

OFFICES IN:
BOISE, IDAHO
COLDWELL, IDAHO

W. 2800 PRINCE AVENUE
COLEUR D'ALENE, ID. 83815
(208) 762-3644
FAX (208) 762-3708

THE SPIRES P.U.D.
BONNER COUNTY, IDAHO

WATER PLAN

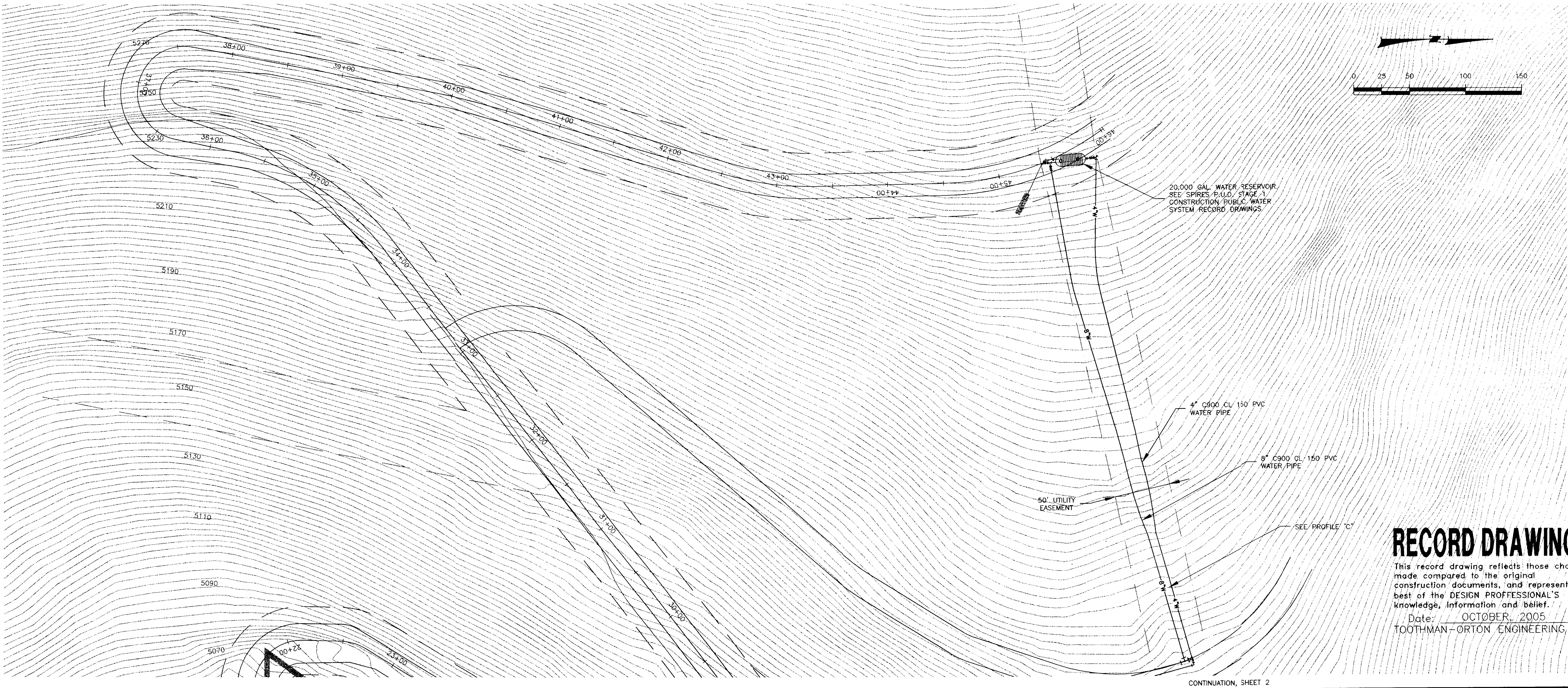
DATE: OCTOBER, 2005
PROJECT: 00109

SHEET 2 OF 9

© 2005 TOOTHMAN-ORTON ENGINEERING CO. THIS INSTRUMENT IS THE PROPERTY OF TOOTHMAN ORTON ENGINEERING CO. ANY REPRODUCTION, REUSE OR MODIFICATION OF THIS INSTRUMENT OR ITS CONTENTS WITHOUT SPECIFIC WRITTEN PERMISSION OF TOOTHMAN ORTON ENGINEERING CO. IS STRICTLY PROHIBITED.

NOTES:

1. ALL WORK SHALL CONFORM TO THE MOST CURRENT EDITION OF THE IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPMC), AND AS AMENDED, SUPPLEMENTED, OR MODIFIED HEREIN, OR IN THE CONTRACT DOCUMENTS.
2. EXISTING UTILITIES AND UNDERGROUND PIPING ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. NO GUARANTEE IS MADE OR IMPLIED THAT ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION AND LOCATION OF ALL UTILITIES AND UNDERGROUND PIPING. THE CONTRACTOR SHALL CONTACT DIGLINE AT LEAST 48 HOURS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES.
3. ALL WATER MAIN LINES SHALL BE C900 CLASS 150 PVC WATER PIPE. ALL VALVES SHALL BE RESILIENT SEAT GATE VALVES. ALL FITTINGS SHALL BE DUCTILE IRON.
4. THRUST BLOCKS SHALL BE INSTALLED AT ALL FITTINGS UNLESS OTHERWISE SPECIFIED ON THE PLANS. SEE STANDARD THRUST BLOCK DETAIL ON SHEET 5.
5. ALL WATER LINES SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH ISPMC DIVISION 400.
6. THE CONTRACTOR SHALL INSTALL TRACER (#12 DIRECT BURIED) WIRE IN THE TRENCH ON TOP OF ALL WATER LINES. WIRE SHALL BE AVAILABLE AT ALL VALVE BOXES AND STUB-OUTS.
7. WATER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF FIVE FEET AND SHALL BE PLACED IN TYPE 1 BEDDING IN ACCORDANCE WITH ISPMC. SEE TRENCH DETAIL, SHEET 4.
8. JOINT RESTRAINTS SHALL BE INSTALLED AT LOCATIONS SPECIFIED ON THE PLANS AND SHALL BE EBBA SERIES 2000 PV OR APPROVED EQUAL.
9. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY AND SHALL RESTORE ALL SURFACE TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION.
10. A MINIMUM HORIZONTAL SEPARATION OF 10' BETWEEN POTABLE AND NON-POTABLE WATER LINES SHALL BE MAINTAINED. VERTICAL SEPARATION AND/OR PROTECTION AT CROSSINGS SHALL CONFORM TO I.S.P.W.C. STANDARD DRAWING SD-407.



CONTINUATION, SHEET 2

RECORD DRAWINGS

This record drawing reflects those changes made compared to the original construction documents, and represents the best of the DESIGN PROFESSIONAL'S knowledge, information and belief.

Date: OCTOBER, 2005
TOOTHMAN-ORTON ENGINEERING CO.

THE SPIRES P.U.D.
BONNER COUNTY, IDAHO

WATER PLAN

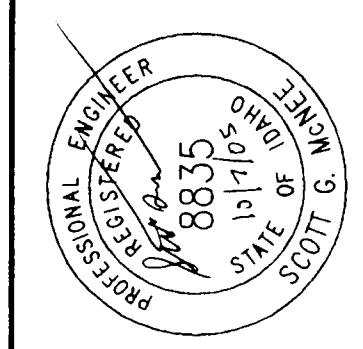
TOOTHMAN-ORTON ENGINEERING COMPANY
CONSULTING ENGINEERS, SURVEYORS AND PLANNERS

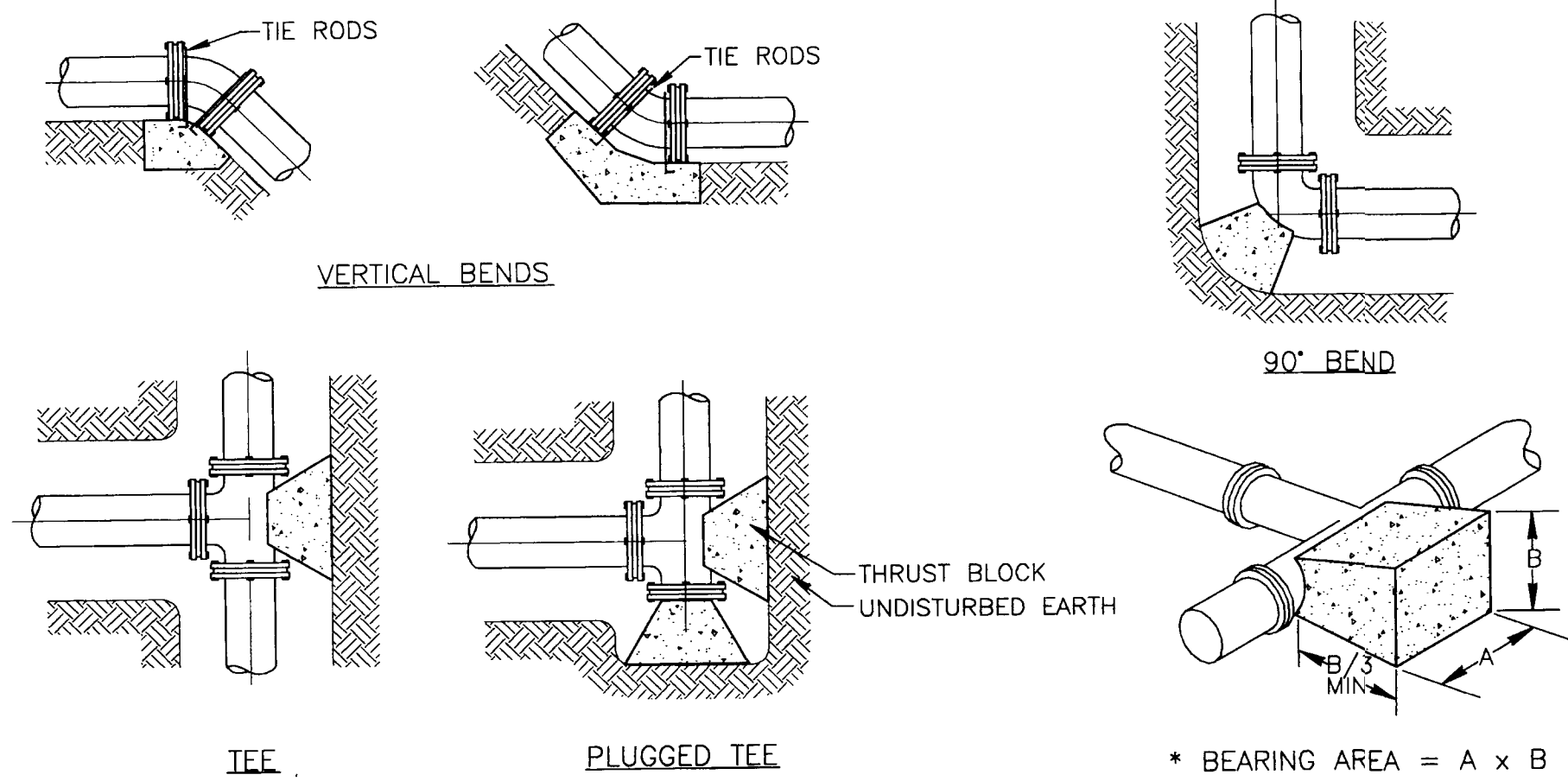
OFFICES IN:
W. 280 PRAIRIE AVENUE
COEUR D'ALENE, ID 83815
(208) 762-3644
FAX (208) 762-3708
BOISE, IDAHO
CALDWELL, IDAHO

DATE: OCTOBER, 2005
PROJECT: 00109

SHEET 3 OF 9

NO.	REVISIONS ITEM	DATE	E-FILE NAME				
			DESIGNED	DRAWN	TCB	CHECKED	APPROVED
1.	RECORD DRAWINGS	10/04/05					



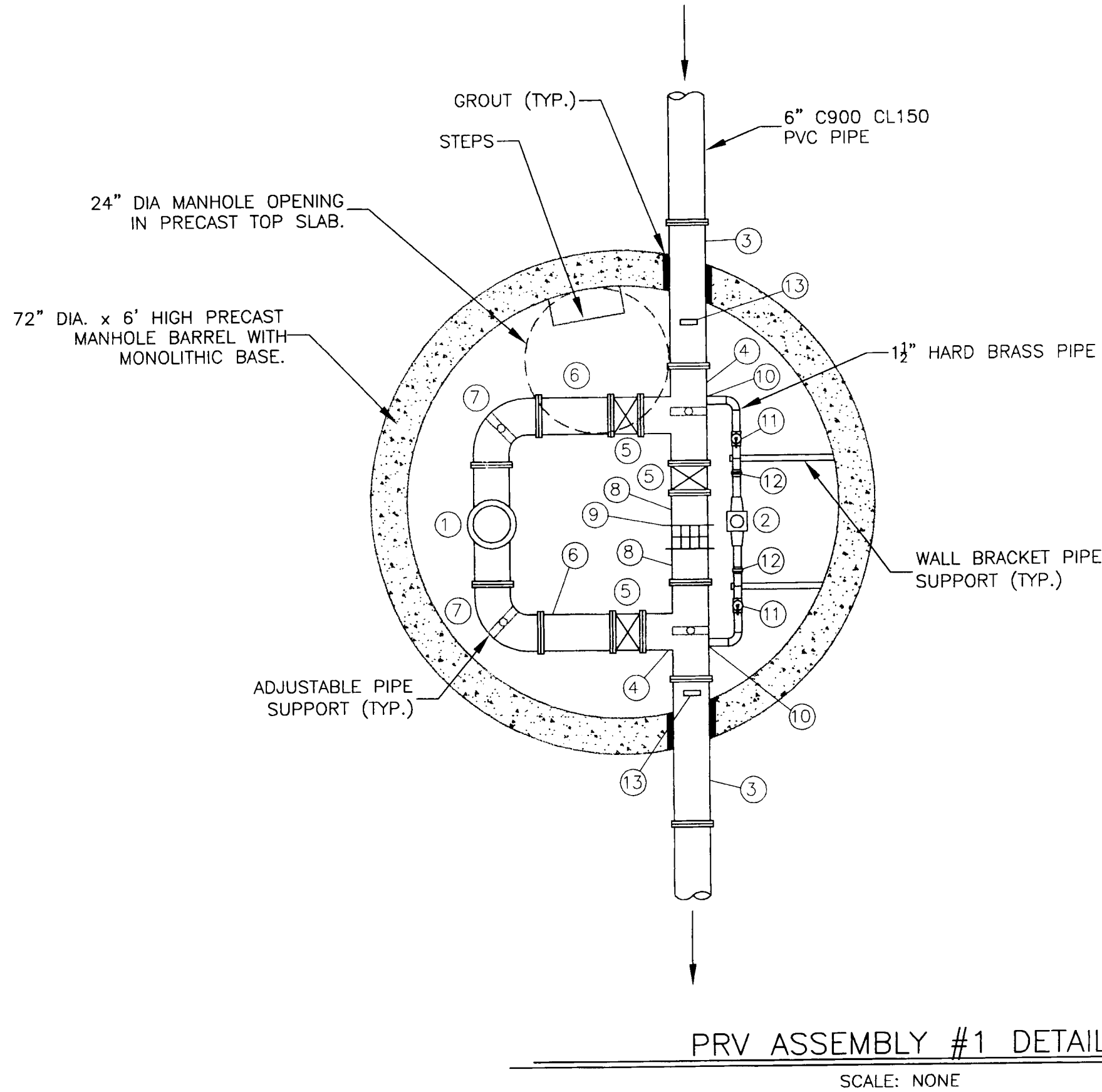


FITTING SIZES	BEARING AREA FOR THRUST BLOCKING							
	TEES & PLUGS		90° BEND		45° BEND & WYES		REDUCERS, 22-1/2" AND SMALLER BEND	
	150 PSI	200 PSI	150 PSI	200 PSI	150 PSI	200 PSI	150 PSI	200 PSI
4"	1.4	2.0	2.0	2.8	1.1	1.5	0.6	0.8
6"	2.8	3.8	4.0	5.4	2.2	3.0	1.6	2.2
8"	5.0	6.8	7.0	9.4	3.7	5.0	2.0	2.8
10"	8.0	10.8	10.3	13.8	5.6	7.5	2.9	3.9
12"	10.3	13.8	14.6	19.5	8.0	10.8	4.0	5.4

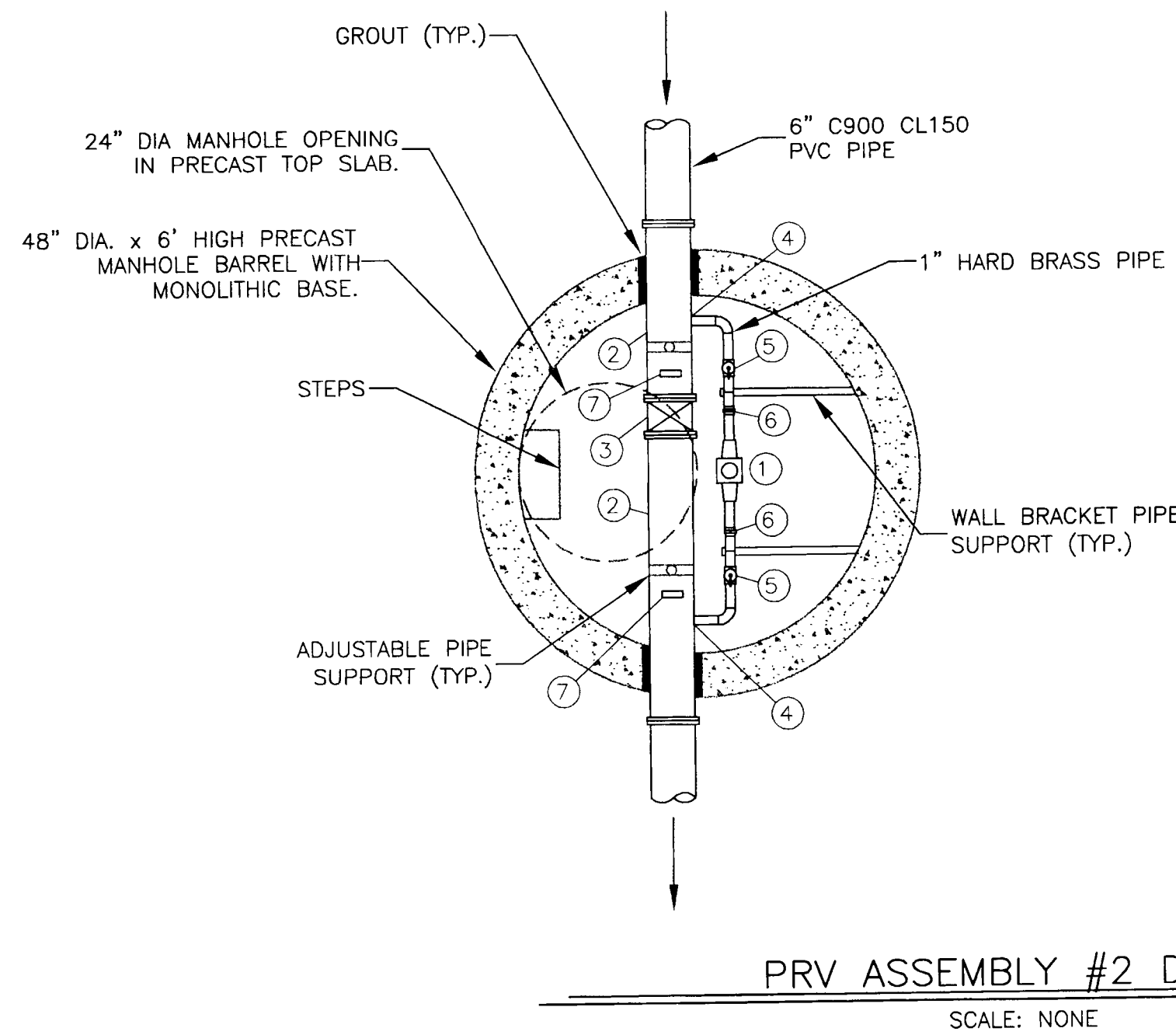
- NOTES:
- ALL THRUST BLOCKING IN AREAS WITH GROUND SURFACE ELEVATIONS OF 5300 OR LESS SHALL BE CONSTRUCTED TO 200 PSI STANDARDS. ALL OTHER THRUST BLOCKING SHALL BE TO 150 PSI STANDARD.
 - THE BEARING AREAS LISTED IN THE ABOVE TABLE ARE BASED ON 2000 P.S.F. SOIL BEARING PRESSURE. SOILS SUCH AS SILTS AND SOFT CLAYS HAVE LOWER SAFE BEARING CAPACITIES AND WILL REQUIRE LARGER THRUST BLOCKING. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO PLACING THRUST BLOCKS IN QUESTIONABLE SOILS.
 - CONCRETE THRUST BLOCKS SHALL BE 3000 PSI CONCRETE PLACED AGAINST UNDISTURBED EARTH.
 - ALL CONCRETE SHALL BE PLACED SO THAT PIPE, FITTINGS, JOINTS AND BOLTS WILL BE ACCESSIBLE FOR REPAIRS. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE BEFORE PLACING CONCRETE.

STANDARD THRUST BLOCK DETAILS

SCALE: NONE



- NOTES:
- 6" FL. CLA-VAL MODEL #90-01, GLOBE STYLE PRESSURE REDUCING VALVE. INLET PRESSURE: 90 PSI DESIRED OUTLET PRESSURE: 25 PSI
 - 1 1/2" CLA-VAL MODEL #990 PRESSURE REDUCING VALVE. INLET PRESSURE: 90 PSI DESIRED OUTLET PRESSURE: 30 PSI
 - 6" FL. D.I. SPOOL. PROVIDE "MEGA-FLANGE" JOINT RESTRAINT AT CONNECTION TO PVC PIPE.
 - 6"x6" FL. TEE
 - 6" FL. BUTTERFLY VALVE
 - 6" FL. D.I. SPOOL
 - 6" FL. 90° ELBOW
 - 6" FL.xP.E. D.I. SPOOL
 - 6" FLEXIBLE PIPE COUPLING. PROVIDE ALL-THREAD JOINT RESTRAINT (MIN. 2) ACROSS FLEX COUPLING TO NEAREST FLANGE FITTINGS, EACH SIDE.
 - 1 1/2" TAP
 - 1 1/2" BALL VALVE W/ FULL PORTED BRASS BODY AND BALL.
 - 1 1/2" UNION
 - PRESSURE GAUGE

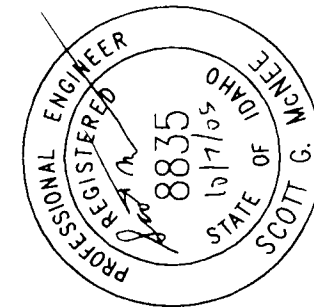


- NOTES:
- 1" CLA-VAL MODEL #990 PRESSURE REDUCING VALVE. INLET PRESSURE: 82 PSI DESIRED OUTLET PRESSURE: 55 PSI
 - 6" FL. D.I. SPOOL. PROVIDE "MEGA-FLANGE" JOINT RESTRAINT AT CONNECTION TO PVC PIPE.
 - 6" FL. BUTTERFLY VALVE
 - 1" TAP
 - 1" BALL VALVE W/ FULL PORTED BRASS BODY AND BALL.
 - 1" UNION
 - PRESSURE GAUGE

RECORD DRAWINGS

This record drawing reflects those changes made compared to the original construction documents, and represents the best of the DESIGN PROFESSIONAL'S knowledge, information and belief.

Date: OCTOBER, 2005
TOOTHMAN-ORTON ENGINEERING CO.



E-FILE NAME	DESIGNED	SCM	DATE	10/04/05	REVISIONS	ITEM	NO.	1.	RECORD DRAWINGS	APPROVED	SCM
AB-WS-Det-009											

TOOTHMAN-ORTON ENGINEERING COMPANY
CONSULTING ENGINEERS, SURVEYORS AND PLANNERS

OFFICES IN:
BOISE, IDAHO
CALDWELL, IDAHO

W. 280 PRAIRIE AVENUE
COEUR D'ALENE, ID 83815
(208) 762-3644
FAX (208) 762-3708

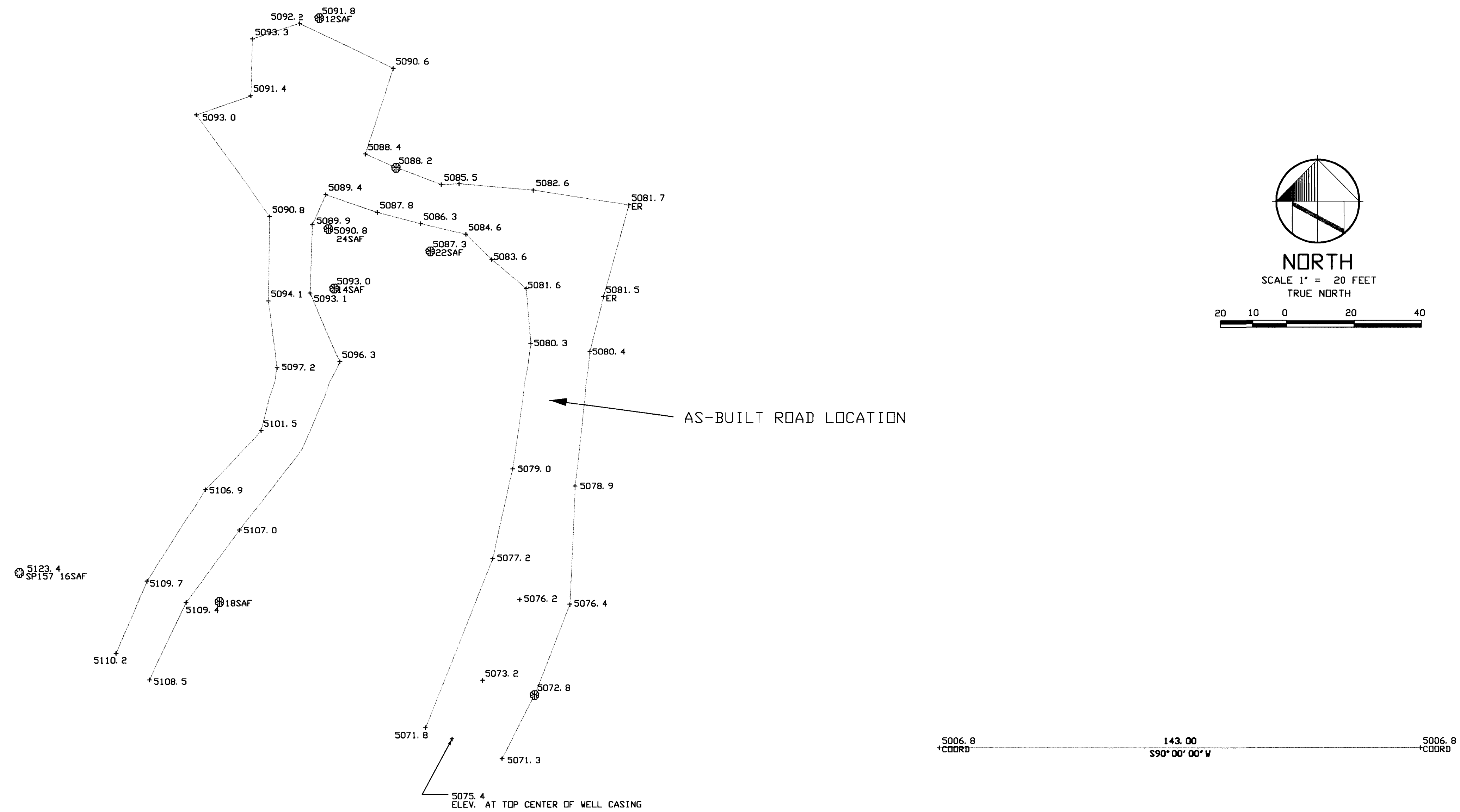
THE SPIRES P.U.D.
BONNER COUNTY, IDAHO

WATER DETAILS

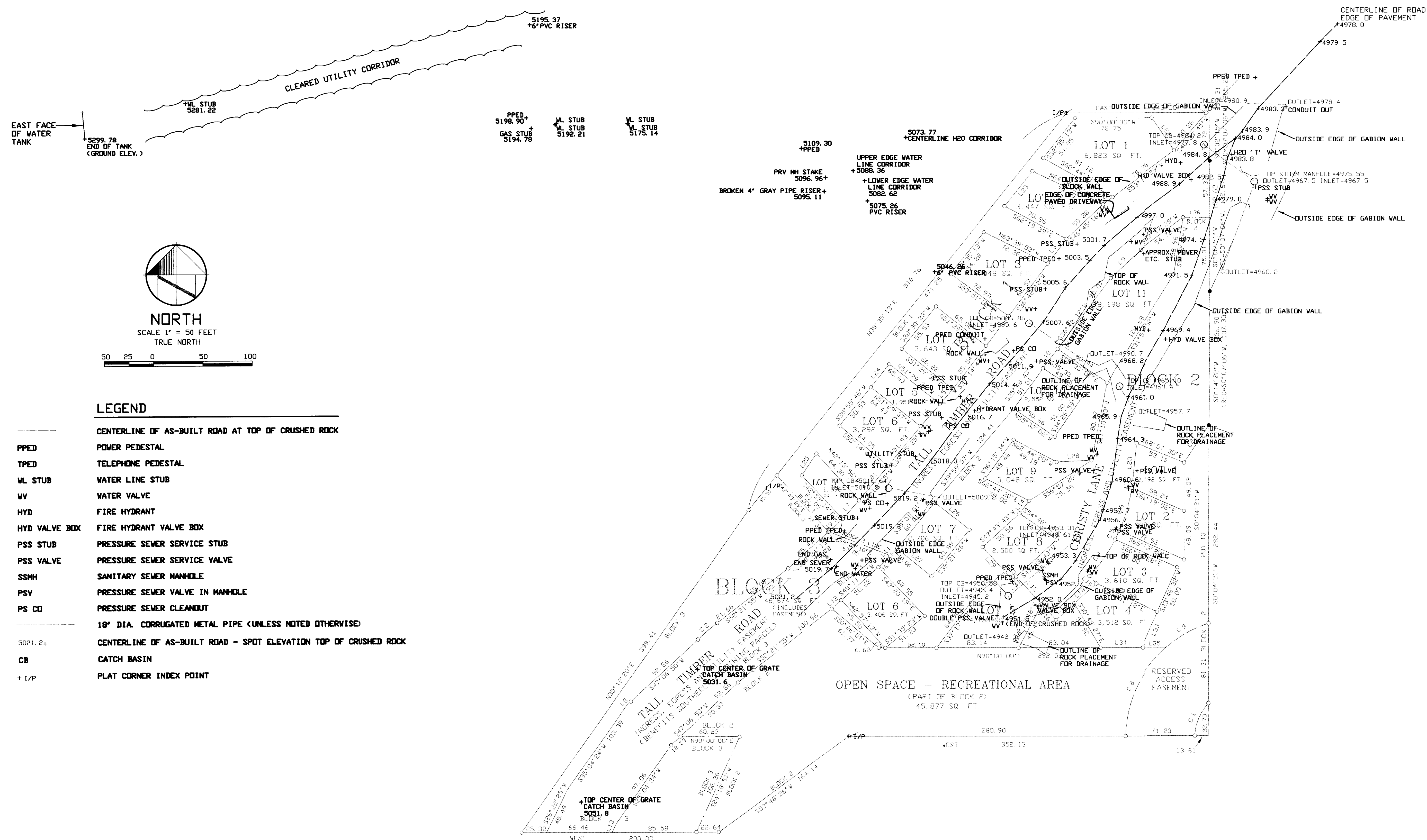
DATE: OCTOBER, 2005
PROJECT: 00109

SHEET 5 OF 9

SPIRES P. U. D. - ROAD TO WELL CASING AS SURVEYED 9-10-02



SPIRES PLANNED UNIT DEVELOPMENT AS-BUILTS 06-29-05



LANCE G. MILLER, P. L. S.

PO BOX 1507
SANDPOINT, ID. 83864
(208) 263-1533