

Timbrshor Subdivision Public Water Supply

Well 4 PWS Well System

Design Report

Prepared for;

The Timbrshor Homeowners Association

Prepared by:

Kurtis M. Hafferman P.E.

Hafferman Engineering Inc.

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1.1 Design Report: Timbrshor Subdivision Well 4 PWS Well System

This design report is for a new PWS Well System. The Timbrshor Subdivision was originally approved as the Borchers of Finley Point Water Certificate of Subdivision Approval (COSA) dated July 22, 1977. The subdivision is approximately 20 acres and is classified as a Condominium Subdivision based on Chapter VI of the Lake County Subdivision Regulations. There are currently 47 units within the subdivision that will require a water service connection. The subdivision is seasonally occupied and consists of approximately forty-four (44) seasonally (approximately June 1st to September 1st yearly) units and three (3) year around occupied units.

Of the 47 units in the subdivision, seventeen (17) units were constructed prior to the approval of the COSA and it has been determined that these units may remain served by individual surface water systems. The remaining thirty (30) lots were originally approved to connect to a community surface water supply system and are a combination of built units and vacant non-built lots. In a January 9, 2018 letter to the Timbrshor Homeowners Association (THOA), Emily Gillespie, P.E. of the Montana DEQ stated that all of the 30 units, whether built or non-built must seek an appropriate solution to their water supply. Individual surface water intakes from Flathead Lake are not allowed by the current DEQ subdivision laws and the approved plans for the Community public water supply system from 1977 have expired. Therefore, a new water supply system plan prepared by a professional engineer was required. It was required to have the well locations and water supply system plans submitted to DEQ for review and approval as a community public water supply system.

Hafferman Engineering Inc. (HEI) has been retained to prepare the water supply system plans. HEI has supplied the MDEQ PWS-5 and PWS-6 reports to the MDEQ for a Proposed New Water Supply. It has been determined that all of the water supply systems within the Timbrshor Subdivision are Transient non-community (TNC) public water supply systems because they are not a community water system and do not regularly serve at least 25 of the same persons for at least 6 months a year.

The Timbrshor Subdivision lies within the boundaries of the Confederated Salish and Kootenai Tribal (CSKT) reservation. Currently the CSKT water rights compact, which governs water right administration and new use distribution on the reservation has not been resolved. In order to be able to construct a water supply system that would not require issuance of a State of Montana or CSKT permit the THOA determined that a TNC water supply system needed to be designed to supply domestic water and served by groundwater wells that will pump less than 35 gallons a minute (gpm) and use less than 10 acre feet of water per year when. By developing these types of flow and volume regulated systems, when these wells are completed, each of the individual existing units, or individual vacant units when they complete construction and connect to the system, can obtain a protected right in the use of the water by each of them filing a Montana DNRC Notice of Completion of Groundwater Development.

Although the 17 existing units that do not require compliance with a COSA, they have all elected to receive a connection from the TNC groundwater system. Therefore, HEI has designed a series of four (4) water systems to serve the 47 units within the Timbrshor Subdivision.

The Well 4 PWS Well System is one of the four wells systems in the Timbrshor Subdivision. This report will present information to the extent it applies to the Well 4 PWS Well System improvements projects.

This report is intended to follow the guidelines of Circular DEQ 3 Standards For Small Water Systems August 8, 2014 Edition, Chapter 1 Section 1.1 Design Report. As such, the report is presented in both report and outline format.

1.1.1 General information:

- a. Existing water works and sewage facilities.
The existing units that will be served by Well 4 unit uses a COSA non-compliant surface water source, Flathead Lake. Each unit has developed their own or may share a diversion point with another unit owner. All units that use surface water are considered as COSA non-compliant and must be corrected. See the attached MDEQ letter of January 9, 2018 in Appendix 1 of this report.

Currently all existing and planned future Timbrshor Subdivision units have an approved WWTS. The Well 4 system is connected to three Timbrshor WWTS systes, Drainfield C, Drainfield D and Drainfield E. A copy of the MDEQ approved plan for EQ#-1971 WWTS for the Timbrshor subdivision that shows the Drainfield systems used by the Well 4 unit owners as installed is provided in Appendix 2 to this report.

- b. Identification of the municipality or area served.
The area served is the Timbrshor Subdivision also known as the Borchers of Finley Point, located in the SW ¼ of the NW ¼ of Section 7 of Township 23 N., Range 19 W. and contains 20 acres more or less. There is a total of forty-seven (47) COSA approved service connection location is the total Timbrshor Subdivision. Of the total units in the Timbrshor Subdivision, there are six (6) of the developed COSA non-compliant water service connections in the Well 4 system two (2) COSA compliant and twelve (12) COSA non-compliant not developed units.

The name and mailing address of the owner, who is the developer and will be the official custodian of the Well 4 water system is

Timbrshor Homeowners Association
Timbrshor Lake County Water and Sewer District Entity 102414
C/o Blake Johnson Chairman
30371 Osprey Land
Polson, Montana 59860

1.1.2 Extent of Well 4 Water system

- a. Nature and extent of the area or facility to be served.
The Well 4 Public Water System (PWS) will serve twenty (20) units within the Timbrshor subdivision.

There are no provisions for extending the water works system to include additional facilities.

The future requirements for service will include developing a new well, constructing a new water control building structure, adding storage tanks to meet peak demand flows adding new pressure tanks and pressure regulation system and installing a pipeline and distribution system.

1.1.3 Alternate Plans

The areas available for well development within the subdivision are extraordinarily restricted. After more than a year of site investigation, there was only one (1) viable location for a well to serve these units within the Timbrshor subdivision.

1.1.4 Water Use data:

- a. The population served by the developed Well 4 water system will be twenty (20) service connections. It is assumed that each unit will have an average of 2.46 persons¹. Therefore the total population served is assumed to be 50 persons.
- b. Water consumption for the twenty (20) developed and non-developed units is based on allowable wastewater usage per day at 300 gpd per unit or 6,000 gpd. The average daily flow rate based on wastewater system discharge is 4.2 gpm. The present peak instantaneous flow rate is assumed to be 3 gpm per unit. The projected peak instantaneous flow rate for the Well 4 system is 60 gpm. The present yield of the McCarthy well which is near by the Well 4 system, and other wells researched in the adjacent area is 15 gpm. Therefore it is assumed that Well 4 will produce at least 15 gpm and will be able to meet the average daily flow rate. The well will need to pump for approximately 7 hours each day to refill 6,000 gallons. Three (8) 1,800 gallon buried storage tanks will be used to store a sufficient volume each day. Two pumps will be installed in the storage tanks that will be designed to discharge 30 gpm each to meet peak demand.

1.1.5 Flow requirements:

- a. Hydraulic analyses based on flow demands shows that the Well 4 pump will need to produce 15 gpm at a total of dynamic head of 102 ft. to be able to fill the storage tanks.

Hydraulic analyses based on flow demands and pressure for the pipeline system from the storage tanks show that the storage tanks pumps will need to produce 30 gpm peak flow demand from each pump. The total dynamic head based on friction losses and elevation changes is 190 ft.

1. Maximum vertical lift from the storage tanks to the highest point in the system is 20 ft. of maximum elevation from the storage tank to the ceiling of the highest elevation structure
2. The total dynamic head includes a 60 psi maximum delivery pressure.

1.1.6 Sources of water supply:

- a. Proposed source or sources of water supply to be developed:
Alternative sites were fully analyzed in the PWS 5 and PWS 6 process. There are no other well sites within the Timbrshor subdivision.
b. The advantages of the site selected is that the well site has been approved by MDEQ per EQ#20-1440;
The elevation of the Well 4 well and surrounding elevations are;
Well 4 Well - 2993 ft.
Highest Point East 3003 ft.
Highest point South 2996 ft.
Lowest Delivery point 2923 ft.
- b. The potential sources of possible contamination are the existing sewage treatment and disposal facilities. There are no other nearby sources of potential contamination.

¹ US Census Bureau Quick Facts Persons Per Household 2014-2018

- c. The PWS 5 and PWS 6 Reports have been completed and the well locations were approved by MDEQ per EQ# 20-1440.

1.1.7 Sewage system available

There is an existing sewage collection system and sewage treatment works. The nearby system is new in 2017 and consists of septic tanks, effluent collection system, Level II treatment system and elevated sand mound pressure dosed drainfield. The system associated to the Well 4 system and all of the Timbrshor subdivision wastewater treatment systems were approved by MDEQ per EQ# 15-1971.

1.2 Plans

Plans for water works improvements provide the following sheets;

- a. Cover with Title Timbrshor Subdivision Well 4 Well System that shows;
 - a. Timbrshor Lake County Water and Sewer District Entity 102414
 - b. Area to be served.
 - c. Scale, in feet
 - d. North Arrow
 - e. Date and name of the designer Hafferman Engineering Inc.
 - f. Location of existing Well 4 well
- b. Site Plan
 - a. Pipeline distribution and unit location details
 - b. Location of the existing Well 4 wells
 - c. Location of planned well control building
 - d. Location of existing wastewater treatment facility, existing and proposed individual septic tanks and effluent lines and the drainfield mixing zone;
 - e. Location of existing access roads
 - f. Elevations
 - g. Location of Water Sampling Tap
- c. Water Control Building Details
 - a. Pressure tank and pressure control details
 - b. Inlet and outlet piping details
 - c. Door and window locations
 - d. Other details as necessary
- d. Water Distribution System Details
 - a. Typical pipeline burial depths and requirements
 - b. Water and effluent line crossing details
 - c. Unit connection details
 - d. Other details as necessary
- e. Well 4 Well Construction Details

1.3 Specifications

Specifications for the project are shown on the cover sheet and the individual drawing sheets as needed for the proposed project.

1.4 Deviations from Standards

Deviations from the mandatory requirements of these standards were applied for during the submission of the PWS 6 reports and were granted by MDEQ. Reference is made to the records and files within the approved PWS 6 MDEQ EQ# 20-1440 in which deviations were requested and granted. A copy of the Proposed new Public Water Supply Wells-Conditional Approval EQ#- 20-1440 is attached in Appendix 3 to this report.

Appendix 1 COSA Non-compliant Units MDEQ letter of January 9, 2018

TO: Jim Cole, Timbrshor Association President (electronic only)

CC: Kurt Hafferman, PE, Hafferman Engineering (electronic only)

Diana Luke, Lake County Sanitarian (electronic only)

FROM: Emily Gillespie, PE

DATE: January 9, 2018

SUBJECT: **Timbrshor Association (Borchers at Finley Point)
Water System Compliance**

As we previously discussed, I extend my gratitude to the Timbrshor Association for your completion of the wastewater improvements on site.

Additionally, Tim Cole recently inquired about compliance for the water systems onsite. The intent of this memo is to outline the units which are currently in compliance with the original approval and those that are not. For the ones out of compliance, I have listed a few options for coming into compliance.

Units currently in compliance (17): Units 203, 204, 205, 210, 211, 306, 307, 308, 309, 311, 312, 314, 315, 316, 401, 402 and the lodge were outlined as having individual water systems that predated the 24-77-K902 Borchers at Finley Point Water Certificate of Subdivision Approval (dated July 22, 1977). Hence, these lots may remain served by individual water systems.

Units currently out of compliance (38 original, 30 current units): Units 201, 202*, 206, 209, 216, 217**, 219, 301, 302, 305, 317***, 318, 319, 320, 403/404, 406, 408, 409, 410, 411, 412, 413, 414, 416, 417, 418/419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430 were approved to be connected to a Community water supply system. All of these units, whether built or non-built, must seek an approvable solution to their water supply. Individual surface water intakes are not allowed by current DEQ Subdivision laws.

***Shaded units** are no longer approved for construction per the "Restriction on Development Lots" agreed to by the Lake County Commissioners on April 16, 2015.

****Unit 217** currently has sanitary restrictions placed on it.

*****Unit 317** was inadvertently left off 1977 Water COSA, but shows up in the 1977 Wastewater COSA

Options for compliance:

- (1) The 1977 COSA pertaining to water could remain in place. However, since the approved plans for the Community Public Water Supply (PWS) system have expired, new water system plans (prepared by a Professional Engineer) would need to be submitted to DEQ for review and approval as a Community PWS system. This Community PWS system could be served by either groundwater wells or surface water, with appropriate treatment. By not changing the 1977 COSA, the PWS system plans do not require water rights verification. Therefore, compliance with water rights could be delayed until the Salish Kootenai Compact has been resolved.
 - a. It is also possible that a Community PWS system designed to supply domestic water only could be served by two (or more) groundwater wells that pump less than 35 gpm and use less than 10 acre-feet volume per year. In that case, simple Notice of Completion water rights certificates could be submitted to DRNC Water Resources Division.
- (2) The 1977 COSA could be re-written to allow for individual, shared or multi-user water systems that could be served by groundwater wells that pump less than 35 gpm and 10 acre-feet volume per year. In this scenario, simple Notice of Completion water rights certificates could be submitted to DRNC Water Resources Division for each well.
- (3) The 1977 COSA could be re-written to allow for individual or shared cisterns to be filled by a water hauler (or potentially hauled by individual unit owners). No water rights are involved with this scenario.

If you have any questions, please contact me at 406-755-8979 or egillespie@mt.gov.

Appendix 2 MDEQ Approved Plan for EQ#-1971 WWTS

PROPOSED, EXISTING AND FUTURE TANK REQUIREMENTS

DRAINFIELD	UNIT	TANK(gal)	EX/PROP
A	201	1000/500	EX
A	203/204	1500/500	EX
A	205	1000	PROP
A	208	1000	EX
A	209	1500/500	EX
A	210/211	2500*	PROP
A	216	1500*	FUTURE
A	219	1500*	FUTURE
A	LODGE	2000/500	EX
A	301/302/305	3000/500	PROP
A	308-309	4000/1000	PROP
A	311	1500*	PROP
B	312/314		
B	315/316	4200/1000	EX/PROP
C	403/404	2500*	FUTURE
C	408	1000/500	EX
C	408	1500*	FUTURE
C	409	1000/500	EX
C	410	1500*	FUTURE
C	411/412	2500*	PROP
C	414	1500*	PROP
D	418/419	1000/500	EX
D	426/427/430	3000/500	FUTURE
D	428	1500*	PROP
E	416/417	2500*	FUTURE
E	421/422/424	3000/500	FUTURE
E	429	1500*	FUTURE
E	401/402	2000/500	EX
F	317	1500*	PROP
F	318/320	2500*	FUTURE

* INDICATES THE USE OF A COMBO SEPTIC/DOSE TANK

NOTES:

- ALL FUTURE SANITARY SEWER MAIN EXTENSIONS ON CURRENTLY UNDEVELOPED LOTS SHALL BE SUBMITTED TO THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY FOR REVIEW AND APPROVAL.
- A MAIN SHALL BE DEFINED AS ANY SANITARY SEWER LINE WITH 2 OR MORE SERVICE CONNECTIONS.
- ALL SANITARY SEWER MAIN EXTENSIONS SHALL BE DESIGNED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF MONTANA.
- SANITARY SEWER MAIN EXTENSIONS SHALL INCLUDE BUT NOT BE LIMITED TO:
 - PLAN AND PROFILE OF THE PROPOSED ROUTE,
 - SPECIFICATIONS,
 - PROPOSED MATERIALS, AND
 - HYDRAULIC ANALYSIS OF THE MAIN.

SYSTEM CONFIGURATION:

- SYSTEM A**
- 19 UNITS
 - 4,750 GALLONS PER DAY BASED ON CIRCULAR DEQ 4, 2013 EDITION WHERE 10 OR MORE UNITS ALLOW FOR A FLOW OF 250 GPD/UNIT
 - STANDARD TRENCHES
 - LEVEL II TREATMENT FOR SIZE REDUCTION
 - 2, MULTI-ZONE DRAINFIELDS; (DRAINFIELD A1 & A2)
 - ZONE A1A, 8 LATERALS, 31 FEET EACH,
 - ZONE A1B, 8 LATERALS, 31 FEET EACH,
 - ZONE A1C, 8 LATERALS, 31 FEET EACH,
 - ZONE A2A, 6 LATERALS, 46.5 FEET EACH,
 - ZONE A2B, 6 LATERALS, 46.5 FEET EACH,
 - ZONE A2C, 6 LATERALS, 46.5 FEET EACH.
 - ADVANTEX ADVANCED TREATMENT SYSTEM
 - (2) AX-100 TREATMENT PODS
 - (2) 3000GAL RECIRCULATION TANKS
 - (1) 3000GAL DOSE TANK
- SYSTEM B**
- 4 UNITS
 - 1,200 GALLONS PER DAY BASED ON CIR DEQ4, 2013 EDITION
 - ELEVATED SAND MOUND (ESM)
 - ESM BED=30'X46'=1518SF>1500SF REQUIRED
 - SINGLE ZONE
 - (8) LATERALS AT 45LF EACH
 - 1000 GAL SINGLE COMPARTMENT DOSE TANK
 - EXISTING 4200GAL SEPTIC TANK W/LIFT STATION
- SYSTEM C**
- 8 UNITS
 - 2,400 GALLONS PER DAY BASED ON DEQ-4, 2013 EDITION
 - STANDARD TRENCHES
 - SINGLE ZONE
 - EXISTING DRAINFIELD ADJUSTMENT
 - AREA TO BE REMOVED FROM WELL PROTECTION ZONE
 - EXISTING 1000 GAL DUAL SIPHON DOSE TANK
- SYSTEM D**
- 5 UNITS
 - 1,500 GALLONS PER DAY BASED ON DEQ-4, 2013 EDITION
 - ALTERNATIVE SYSTEM
 - SINGLE ZONE
 - EXISTING DRAINFIELD ADJUSTMENT
 - ADDITIONAL LATERAL ADDED TO EXISTING SYSTEM AS INDICATED IN ORIGINAL PERMITS #5584/5912.
 - EXISTING 1000GAL DUAL SIPHON DOSE TANK
- SYSTEM E**
- 8 UNITS
 - 2,400 GALLONS PER DAY BASED ON DEQ-4, 2013 EDITION
 - ELEVATED SAND MOUND (ESM)
 - ESM BED=85'X31'=2635SF>2625SF REQUIRED
 - SINGLE ZONE
 - 1500 GAL SINGLE COMPARTMENT DOSE TANK
- SYSTEM F**
- 3 UNITS
 - 950 GALLONS PER DAY BASED ON CIR DEQ4, 2013 EDITION
 - ELEVATED SAND MOUND
 - LEVEL II TREATMENT
 - 25% REDUCTION, CIR DEQ4 6.7.1 (B)
 - SINGLE ZONE
 - (5) LATERALS AT 60LF EACH
 - ADVANTEX ADVANCED TREATMENT SYSTEM
 - (2) AX-20 TREATMENT PODS
 - (1) 1500GAL RECIRCULATION/500GAL DOSE COMBO TANK
 - ESM BED=15'X60'=900SF>890SF REQUIRED

BORE HOLE LEGEND

- BH#5 BORE HOLE BY HAFFERMAN ENGINEERING, INC. (2013)
- SP#16 BORE HOLE BY ROLAND ENVIRONMENTAL CONSULTING, INC.
- TH#5 BORE HOLE BY TD&H (1976)



LEGEND

- (E) PROPERTY BOUNDARY
- (E) ADJACENT PROPERTY BOUNDARY
- (E) LOT LINE
- (E) EASEMENT
- (E) WATER LINE
- (E) SEWER LINE
- (E) SEWER SERVICE
- (E) SEWER FORCE MAIN
- (E) SEWER FORCE MAIN SERVICE
- (E) FENCE LINE
- (E) MAJOR CONTOUR
- (E) MINOR CONTOUR
- (E) GRAVEL ROAD
- (E) CONCRETE
- (F) FORCEMAIN
- (S) (F) GRAVITY SEWER SERVICE
- (FM) (F) FORCEMAIN
- (SS) (F) GRAVITY SEWER SERVICE
- (E) = EXISTING
- (P) = PROPOSED
- (F) = FUTURE

SYMBOLS

- (E) SEPTIC TANK
- (E) DRAINFIELD
- (E) WELL
- (E) TELEPHONE JUNCTION BOX
- (E) ELECTRICAL TRANSFORMER
- (E) POWER METER
- (E) POWER POLE
- SET 5/8" X 24" REBAR WITH 1 1/4" YPC STAMPED "M. CARSTENS 5940LS"
- FOUND AS NOTED.
- FOUND 2" BRASS CAP
- FOUND PVC PIPE
- FOUND PROPANE TANK
- EXISTING BUILDING
- EXISTING SOIL PROFILE
- EXISTING CONTROL POINT
- (F) CHECK VALVE
- (F) AIR RELEASE VALVE
- (F) DRAINFIELD
- (F) SEPTIC/DOSE TANK
- (F) ISOLATION GATE VALVE
- (F) SEPTIC

EQ15-1971
APPROVED
Montana Department of
Environmental Quality
Permitting and Compliance Division
Kurtis M. Hafferman
9-2-16

RECEIVED

SEP 02 2016

Department of
Environmental Quality
Kalispell Regional Office



DATE	DESCRIPTION	BY
8/19/16	REVISE PER DEQ COMMENT 8.18.16	DM

DRAWN BY: NJE | APPROVED BY: KMH

TIMBRSHOR WASTEWATER
TREATMENT SYSTEM IMPROVEMENTS
FOR
TIMBRSHOR HOMEOWNERS ASSOCIATION



HAFFERMAN ENGINEERING, INC.
85 SOUTH MAIN STREET
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ENGINEERING, INC.

DRAWING TITLE:
TIMBRSHOR
AT FINLEY POINT
LOT LAYOUT

SCALE:
AS SHOWN

DATE: MAY 2016 PROJECT NO: T.58.1

DRAWING NUMBER:
1 OF 2

Appendix 3 Public Water Supply Wells-Conditional Approval EQ#- 20-1440



April 15, 2020

Kurt Hafferman, PE
P.O. Box 1891
Kalispell, MT 59903

Re: **Timbrshr HOA
Lake County
Proposed new Public Water Supply Wells - Conditional Approval
EQ# 20-1440**

Dear Mr. Hafferman:

Thank you for the well drilling specifications, site map, design report and Source Water Delineation and Assessment Report (SWDAR) pertaining to the proposed Public Water Supply (PWS) wells, proposed to serve the existing Timbrshr HOA as a new Public Water Supply system, located on the east short of Flathead Lake on Finley Point, north of Polson, MT, received October 30, 2019 – March 16, 2020. The proposed PWS wells were reviewed in accordance with Circular Design Standards DEQ-3, 2014 Edition, based on the seasonal population.

The location and drilling specifications for the proposed Timbrshor HOA PWS groundwater wells designated #4, #5, #6, #9, received March 16, 2020, are hereby approved with the conditions listed below. One copy of the approved well location site plan and well drilling specifications bearing the approval stamp of the Department of Environmental Quality is enclosed. A second set will be retained as Department Record.

Note: The Well #8 location was not approved for PWS use given the proposed sewer line proximity. The deviation request from DEQ-3 Section 3.2.3.1 pertaining to the proposed Well #8 location was denied.

The location of the existing McCarthy well located within the Timbrshor development, is hereby approved for Multi-User Water System use with the conditions listed below, as well as the additional requirement that this well be sampled for Nitrate and Total Coliform bacteria on the same frequency as the PWS wells, during months of use. Such results must be maintained by the owner and made available to DEQ upon request.

The proposed PWS Wells are designed to serve a number of existing residential units (utilized as seasonal homes). The Timbrshr HOA condominium community is comprised of 49 units, which are built or allowed to be built. The exact number of homes proposed for connection to each well is not yet known. Due to water rights constraints, the peak withdrawal rate from the wells is 35 gpm. Actual production will be determined from aquifer testing.

Due to the seasonal nature of the residential units, the proposed PWS water system(s) are expected to be Transient PWS systems.

The proposed PWS wells (#4, #5, #6, and #9) will be constructed of 6-inch diameter permanent steel casing. Grouting of the well will be performed with a 10-inch diameter temporary, oversized conductor casing providing a minimum bentonite cement grout thickness of 1.5 inches, to extend a minimum of 25 feet below ground surface. A total depth of approximately 400 feet is estimated.

As a part of this project, deviations were requested and granted from Circular DEQ-3 Section 3.2.3.2 (continued well protection) for Well #4, #5, #8 and #9 allowing the wells in the locations proposed without protection zone easements from neighboring property.

As a part of this project, a deviation was requested and granted from Circular DEQ-3 Section 3.2.3.1 (well location) for the McCarthy well (GWIC), allowing the existing well to be utilized as a Multi-User well for a maximum of 4 unit (home) connections, conditioned upon this well maintaining the same sampling as the Transient PWS wells for Nitrate and Total Coliform bacteria during the months of operation. Such records shall be maintained by the owner and made available to DEQ upon request.

Condition One: Prior to connecting the PWS wells to the future PWS system, plans and specifications for the connection detail, pressure control system and distribution piping must be submitted to DEQ review and approval. Prior to connecting additional connections to the McCarty well plans and specifications for the connection detail, pressure control system and distribution piping must be submitted to DEQ review and approval.

Condition Two: Following drilling of the PWS wells and prior to connection of the wells to the PWS system, the following submittals must be made to DEQ for review and approval:

1. Documentation that the well, to be classified as Public Water Supply sources, were constructed by a Montana licensed well driller and installation complied with ARM Title 36, Chapter 21 and DEQ-3 subsection 3.2.5 General well construction.
2. A copy of the completed well log (DEQ-3, Standard 3.2.4.3) with supplemental grout form.
3. Yield and Drawdown Test results demonstrating compliance with DEQ-3, Standard 3.2.4.1. These results must be submitted in the DNRC format (available on their website) both in hardcopy and electronically. The proposed well will be test pumped at 53 gpm (1.5 times 35 gpm) for 24 hours or at 35 gpm for 72 hours, or until stabilized drawdown has been reached for 8 hours.
4. As a proposed "Transient" Public Water Supply well, provide Water Quality sample results demonstrating compliance with DEQ-3, Standard 3.2.2.1 Microbiological quality, and DEQ-3, Standard 3.2.2.2 Physical and chemical quality. Specifically, water quality parameters shall include the following:
 - Coliform bacteria (2 tests minimum)
 - Nitrate, Nitrite
 - Conductivity

5. Calculations regarding the pump selection and TDH of the water system and the design of the well screen prior to purchase and installation of the permanent components.
6. Documentation that the continued protection zone has been provided through zoning, easements, deed notices or leasing. Easements or Deed Restrictions must be recorded with the County Clerk and Recorders Office, within the boundary of the Timbrshor property. (DEQ-3, Standard 3.2.3.2).
7. Once the well has been placed into use, submit a Form 602 Notice of Completion Water Certificate to the DNRC Water Resources Division. Please contact Kathy Olsen with DNRC Water Resources at 406-752-2706 with any questions about the water rights application process.

Approval is given with the understanding that any deviation from the approved well location and specifications will be submitted to the Department for reappraisal and approval.

It is further understood that well construction will be completed within three years of this date. If more than three years elapse before completing well construction, plans and specifications must be resubmitted and approved before construction begins. This three-year expiration period does not extend any compliance schedule requirements pursuant to a Department enforcement action against a public water or sewage system.

Department approval of this project covers only those portions of the plans and specifications that are subject to the Department's review authority under the Public Water Supply Laws (MCA 75-6) and the Administrative Rules promulgated thereunder (ARM 17.38). This approval does not cover items found within the plans and specifications that are outside of the Department's review authority, including but not limited to: electrical work, architecture, site grading or water and sewer service connections.

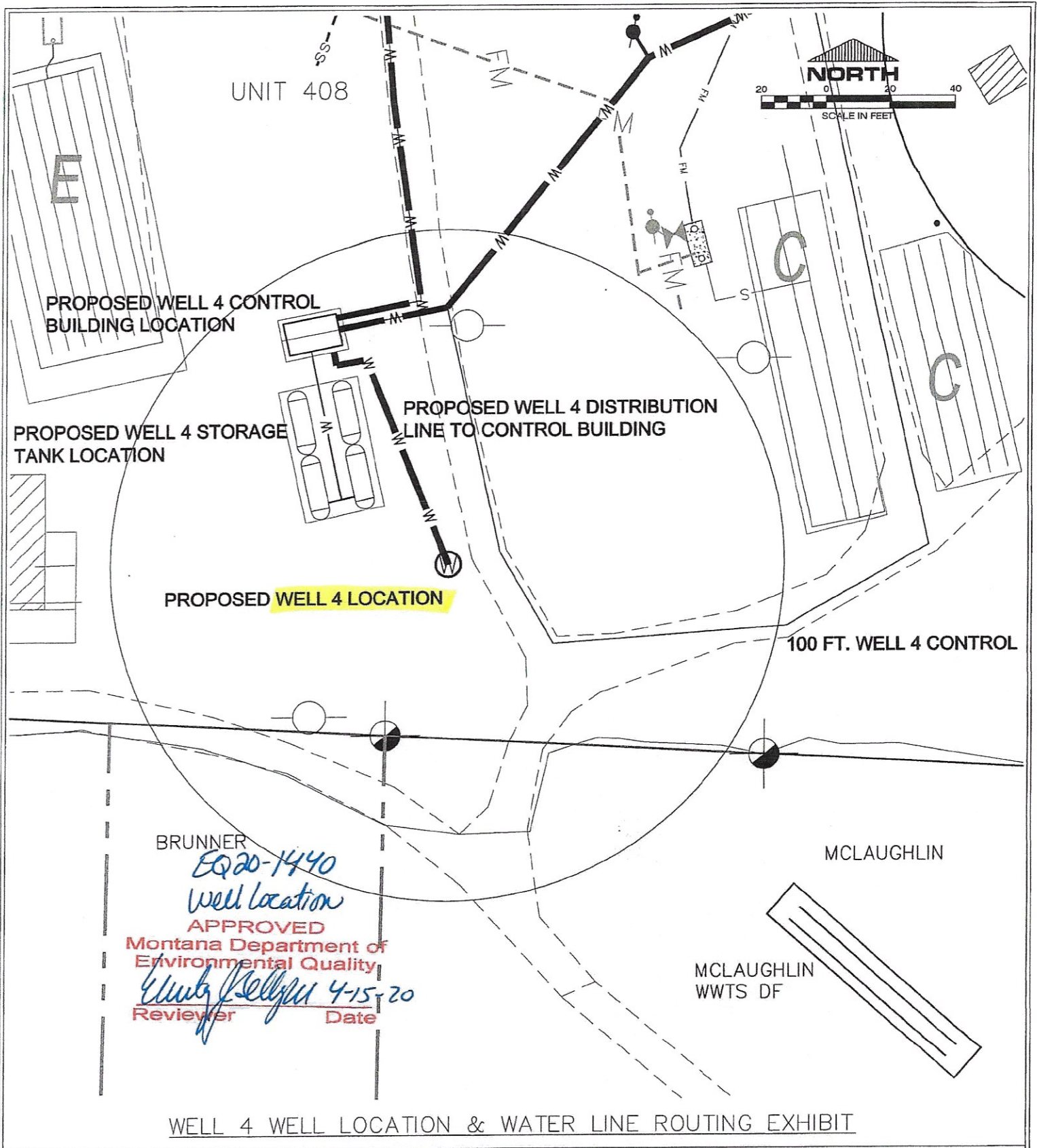
Thank you for your efforts regarding this submittal. If you have any questions, please contact me at (406) 755-8979 or egillespie@mt.gov.

Sincerely,



Emily J. Gillespie, P.E.
Engineering Bureau

cc: Blake Johnson, Timbrshr HOA (electronic)
Diana Luke, Lake County Sanitarian
Kathy Olsen, DNRC/WRD/KRO (electronic only)
Carolyn DeMartino, DEQ Source Water Protection (electronic only)
PWS Plan Review File



HAFFERMAN ENGINEERING, INC.
 P.O. BOX 1891
 KALISPELL, MT 59901-1891
 PHONE: 406-257-8708
 FAX: 406-257-8710
 EMAIL: info@billmayer.com
 ONLINE: www.billmayer.com

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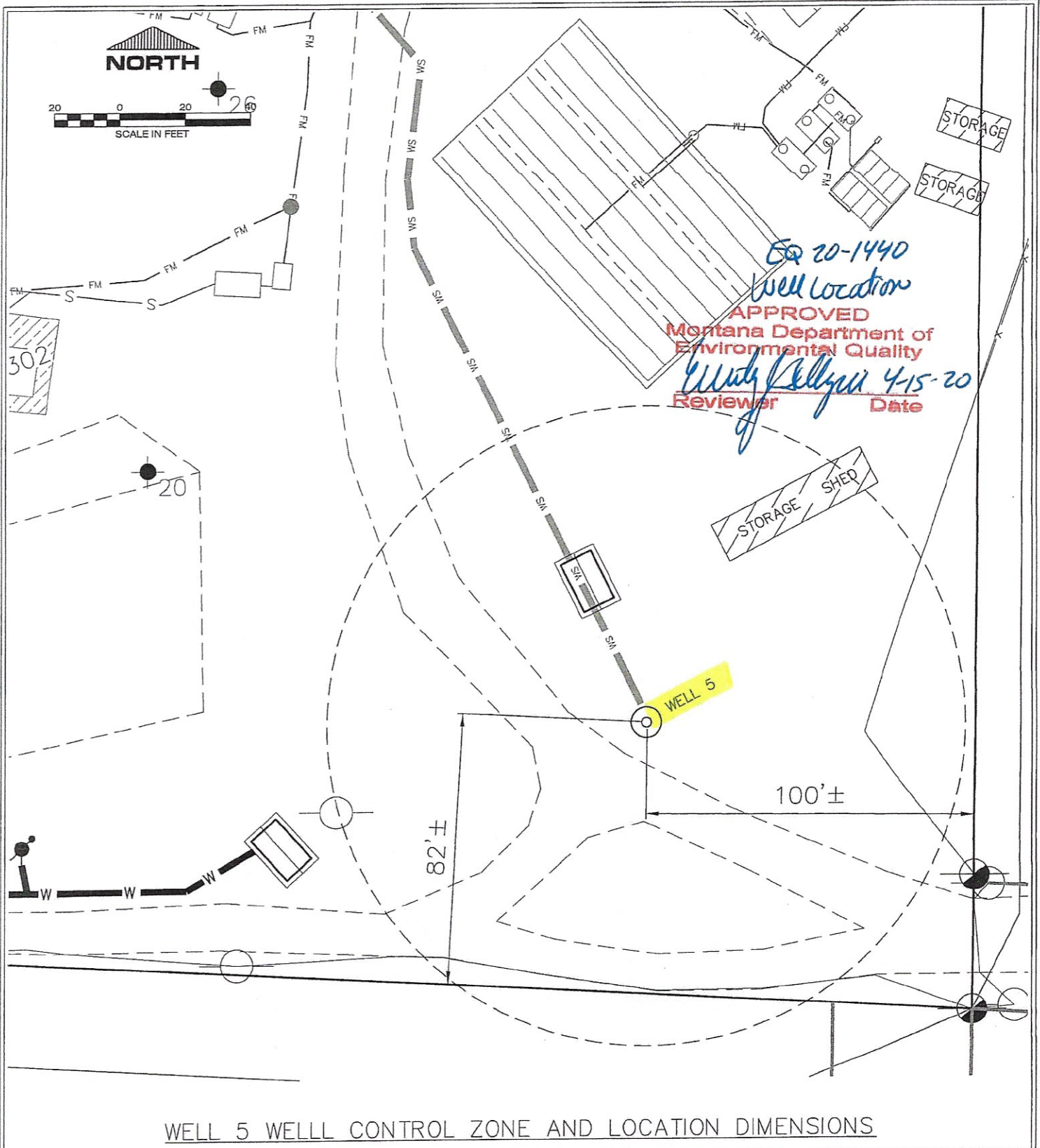
MAR 16 2020

Department of
 Environmental Quality
 Kalispell Regional Office

DRAWING TITLE:
TIMBRSHOR WELL 4 WELL CONTROL ZONE
 FOR
TIMBRSHOR HOA
 SECTION 7
 T23N, R 19W, PM, M., LAKE COUNTY, MONTANA

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DATE: MARCH 15, 2020	PROJECT NUMBER: T.58.2	SCALE: AS SHOWN	SHEET: 1 OF 1
FILE LOCATION: S:\LAND PROJ...T.58.2\DWG	DRAWN BY: KMH	APPROVED BY: KMH	



WELL 5 WELL CONTROL ZONE AND LOCATION DIMENSIONS



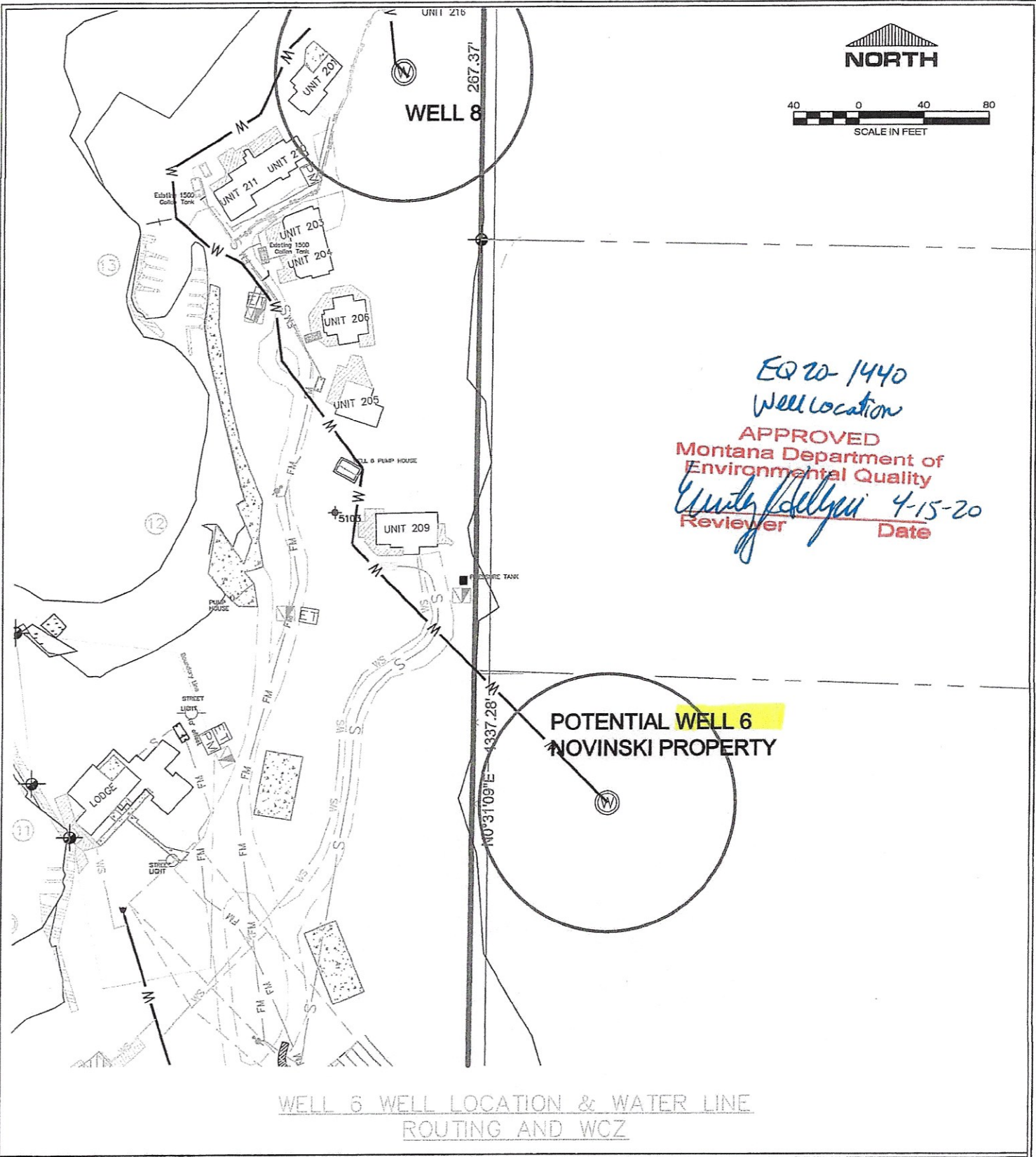
HAFFERMAN ENGINEERING, INC.
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DATE: MARCH 14, 2020	PROJECT NUMBER: T.58.2	SCALE: AS SHOWN	SHEET: 1 OF 1
FILE LOCATION: S:\LAND PRO...IT.58.2\DWG	DRAWN BY: KMH	APPROVED BY: KMH	



WELL 6 WELL LOCATION & WATER LINE ROUTING AND WCZ



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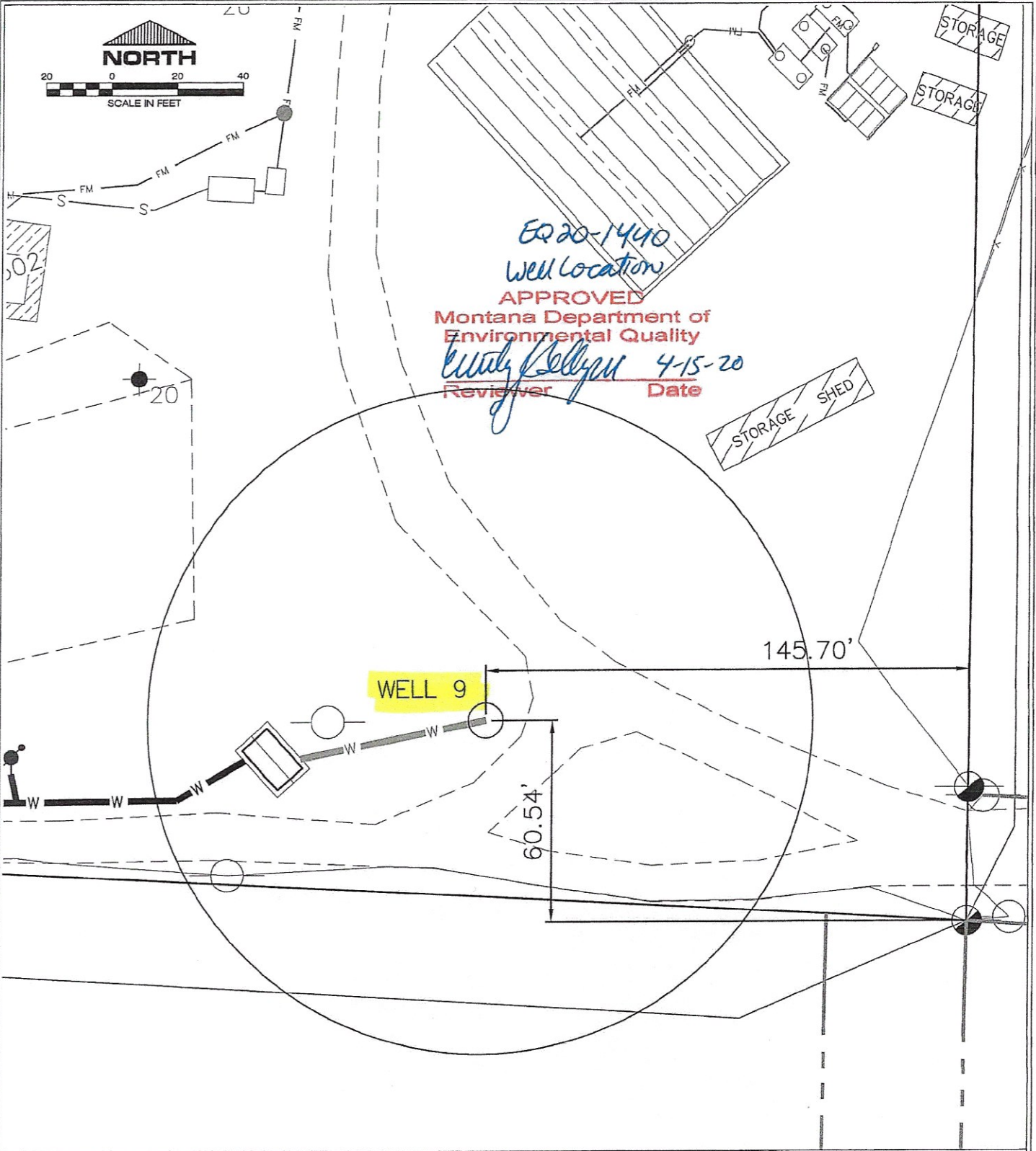
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OCT 30 2019
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DRAWING TITLE:
TIMBRSHOR WELL 6 PROTECTION ZONE
 FOR
TIMBRSHOR HOA
 SECTION 7
 T23N, R 19W, PM, M., LAKE COUNTY, MONTANA

DATE: DEC 6, 2018	PROJECT NUMBER: T.58.2	SCALE: AS SHOWN	SHEET: 2 OF 2
FILE LOCATION: S:\LAND PROC...T.58.2.DWG	DRAWN BY: NJF	APPROVED BY: KMH	



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DRAWING TITLE:			
WELL 9 WELL CONTROL ZONE FOR TIMBRSHOR HOA SECTION 7 T23N, R 19W, PM, M., LAKE COUNTY, MONTANA			
DATE:	PROJECT NUMBER:	SCALE:	SHEET:
MARCH 9, 2020	T.58.2	1"=40'	1 OF 1
FILE LOCATION:	DRAWN BY:	APPROVED BY:	
S:\LAND PRO...T.58.2.DWG	KMH	KMH	

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FUTURE 414 TANK LOCATION

UNIT 414

UNIT 316

UNIT 317

OSPREY NEST

59.8 FT.

MCCARTHY WELL

FUTURE 318-320 TANK LOCATION

UNIT 318

WASH HOUSE

APPROVED *
Montana Department of
Environmental Quality

Wally Kelly
Reviewer Date 4-15-20

RECEIVED

OCT 30 2019

Department of
Environmental Quality
Kalispell Regional Office

291.07'

**with conditions
of ongoing Nitrate
+ TC bacteria sampling*

MCCARTHY WELL CONTROL ZONE



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DRAWING TITLE:
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FOR
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SECTION 7
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DATE: NOV 19, 2018	PROJECT NUMBER: T.58.2	SCALE: AS SHOWN	SHEET: 1 OF 2
FILE LOCATION: S:\LAND PRO...T.58.2\DWG	DRAWN BY: NJF	APPROVED BY: KMH	

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MAR 16 2020

Department of Environmental Quality
Kalispell Regional Office

NO.	DESCRIPTION	DATE
1	CONTRACT REVISIONS	10/27/15
2	CONTRACT REVISIONS	10/27/15
3	CONTRACT REVISIONS	10/27/15
4	CONTRACT REVISIONS	10/27/15
5	CONTRACT REVISIONS	10/27/15
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THE TIMBRSHOR HOA
FOR
WATER SYSTEM IMPROVEMENTS
TIMBRSHOR HOA



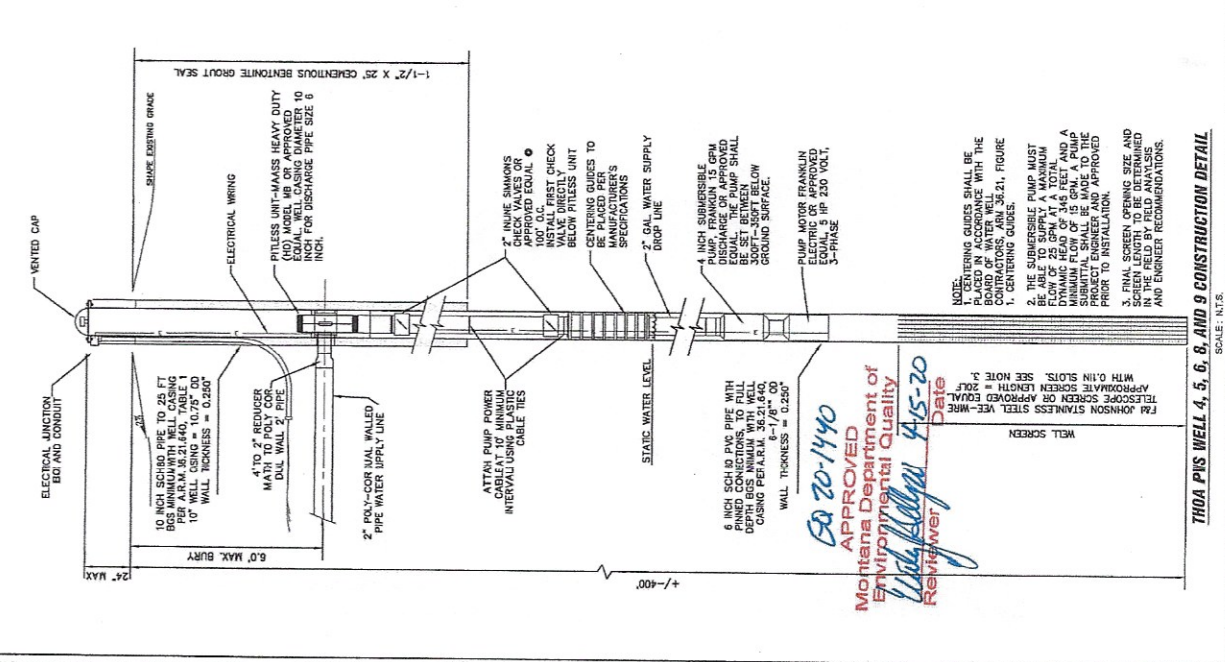
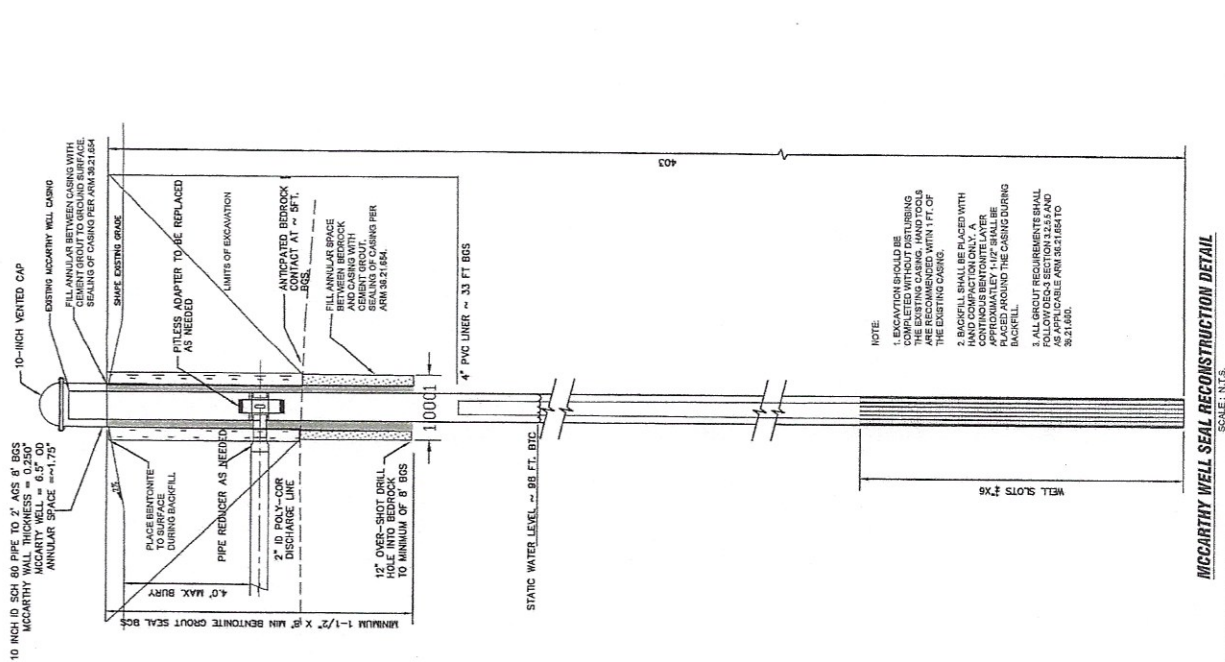
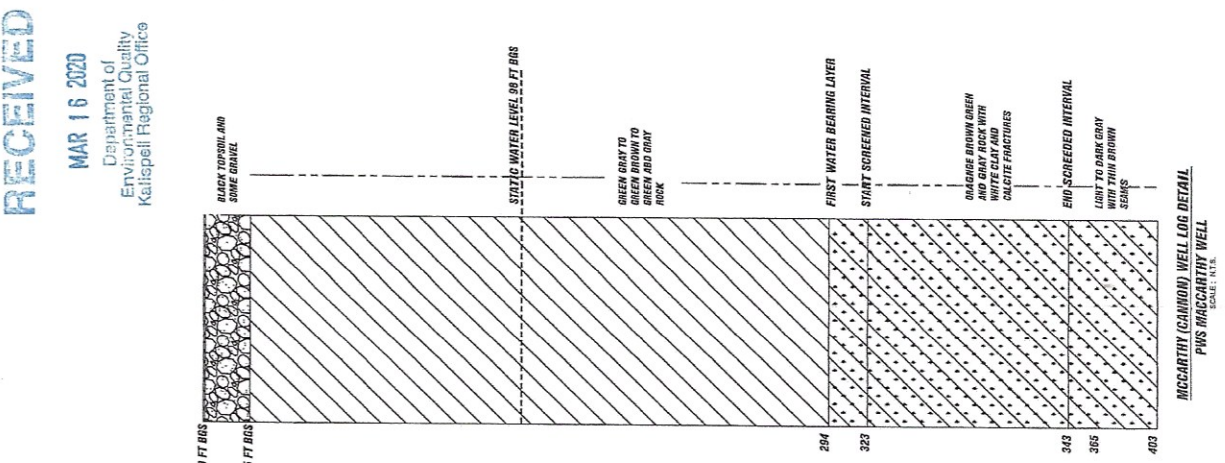
HARTMAN ENGINEERING, INC.
1000 W. 10TH STREET, SUITE 200
MONTANA 59402-2178
PHONE: (406) 231-7100
FAX: (406) 231-7100
WWW.HARTMANENGINEERING.COM

CONTRACT NO. 19-0000000000
ALL DRAWINGS AND SPECIFICATIONS
SHALL BE SUBJECT TO THE TERMS AND
CONDITIONS OF THE CONTRACT AND THE
GENERAL CONDITIONS OF CONTRACT
FOR THE EXPANSION WATER
SYSTEM OF THE TIMBRSHOR HOA, INC.

DATE: MARCH 2020
PROJECT NO.:
DRAWING NUMBER:
SCALE: AS SHOWN

DRAWING TITLE: WELL DETAILS
SCALE: AS SHOWN

1 OF 1
SCALE: N.T.S.



APPROVED
Montana Department of Environmental Quality
4/15/20
Date

THOA PWS WELL 4, 5, 6, 8, AND 9 CONSTRUCTION DETAIL
SCALE: N.T.S.