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	206	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	306-309	4000/1000	PROP
A	311	1500 *	PROP
B	312/314		
	315/316	4200/1000	EX/PROP
C	403/404	2500*	FUTURE
C	406	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

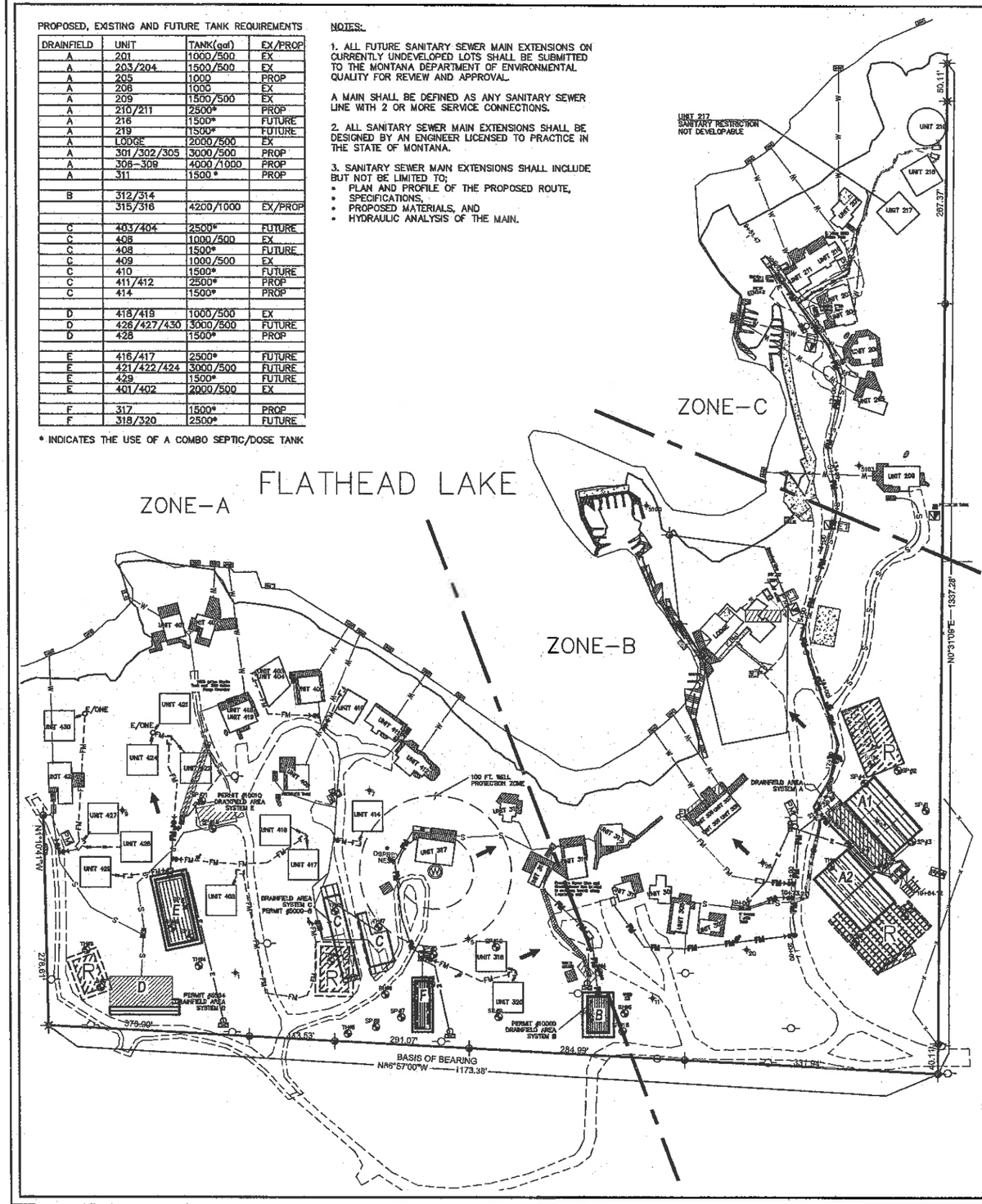
NOTES:

1. 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.

2. ALL SANITARY SEWER MAIN EXTENSIONS SHALL BE DESIGNED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF MONTANA.

3. 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) WATER SERVICE
- (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
- (P) FORCEMAIN
- (P) GRAVITY SEWER SERVICE
- (F) FORCEMAIN
- (F) GRAVITY SEWER SERVICE

(E) = EXISTING
(P) = PROPOSED
(F) = FUTURE

NOTE:
NOT ALL FEATURES SHOWN IN LEGEND AND SYMBOLS APPEAR IN DRAWING.

NORTH
80 0 80 160
SCALE IN FEET

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
- SP# EXISTING SOIL PROFILE
- EXISTING CONTROL POINT
- (P) CHECK VALVE
- (P) AIR RELEASE VALVE
- (P) DRAINFIELD
- (P) SEPTIC/DOSE TANK
- (P) ISOLATION GATE VALVE
- (F) SEPTIC

EQ15-1971
APPROVED
Montana Department of Environmental Quality
Permitting and Compliance Division
Reviewed by Emily Hellyer 9-2-16
DEQ

RECEIVED
SEP 02 2016
Department of Environmental Quality
Kalispell Regional Office

MONTANA
KURTIS M. HAFFERMAN
10457PE
REGISTERED PROFESSIONAL ENGINEER

REVISIONS			
DATE:	DESCRIPTION:	BY	
8.19.16	REVISE PER DEQ COMMENT	RAN	

DRAWN BY: NJE | APPROVED BY: KMH

TIMBRSHOR WASTEWATER TREATMENT SYSTEM IMPROVEMENTS
FOR
TIMBRSHOR HOMEOWNERS ASSOCIATION
SECTION 7, T.20N., R.19W., P.M., M., LAKE COUNTY, MONTANA

HAFFERMAN ENGINEERING, INC.
56 SOUTH MAIN, SUITE B
KALISPELL, MT. 59901
PHONE: (406) 257-8708
FAX: (406) 257-8758
EMAIL: info@hfllmayor.com
ONLINE: http://www.hfllmayor.com

DRAWING TITLE:
TIMBRSHOR AT FINLEY POINT LOT LAYOUT

SCALE: AS SHOWN

DATE: MAY 2016 | PROJECT NO: T.58.1

DRAWING NUMBER: 1 OF 2

T-58-01-SDS MASTER.DWG

Title:	PROPOSED WWTS SYSTEM A				
Area	Unit#	Design #Bdrms	Design Flow (gpd)	System Components	Status D=developed-ND = not developed
A	201	3	250	Units 201, 203, 204, 205, 206, 210, 211, 216 & 219 Gravity drain to central dose chamber	D-2
A	203	3	250		D-2
A	204	3	250		D-2
A	205	5	250		D-5
A	206	3	250		D-3
A	209	3+loft	250	Gravity drain system to system A forcemain	D-3.5
A	210	3	250		D-2
A	211	3	250		D-1
A	216	3	250		ND
A	219	3	250		ND
A	Lodge	4	250	STEP/Individual forcemain to system A	D-4
A	301	3	250	Gravity drain to STEP/Dose to system A forcemain	D-3
A	302	3	250		D-2
A	305	3	250		D-3
A	306	3	250	E-one grider pump to STEP/Dose to System A	D-2
A	307	3	250		D-2
A	308	3	250		D-2
A	309	3	250		D-2
A	311	3	250	Step/individual forcemain to system A forcemain	D-2.5
Totals	19				
Title:	PROPOSED WWTS SYSTEM B				
Area	Unit#	Design #Bdrms	Design Flow (gpd)	System Components	Status D=developed-ND = not developed
B	312	3	300	Existing lift station to STEP/Dose to System B	D-3
B	314	3	300		D-2
B	315	3	300		D-2
B	316	3	300		D-2
Total Units	4				
Title:	PROPOSED WWTS SYSTEM C				
Area	Unit#	Design #Bdrms	Design Flow (gpd)	System Components	Status D=developed-ND = not developed
C	403/404	3	300	STEP/FM to exisitng system C Forcemain	ND
C	406	3	300	Existing STEP/FM to system C forcemain	D-3
C	408	3	300	STEP/FM to existing siphon dose chamber	ND
C	409	3	300	Existing STEP/FM to system C forcemain	D-3
C	410	3	300	STEP/FM to system C forcemain	ND
C	411	3	300	STEP/Connect to existing FM to system C forcemain	D-3
C	412	3	300		D-3
C	414	3	300	STEP/FM to system C forcemain	ND
Total Units	8				
Title:	PROPOSED WWTS SYSTEM D				
Area	Unit#	Design #Bdrms	Design Flow (gpd)	System Components	Status D=developed-ND = not developed
D	418/419	3	300	Exisitng STEP/Existing FM to siphon dose	D-3
D	426	3	300	STEP/Forcemain to exisitng system D Forcemain and siphon dose	ND
D	427	3	300		ND
D	428	3	300	STEP/Conect to existin system D Forcemain	D-3
D	430	3	300	E-one/FM to STEP/FM to Existing system D FM	ND
Total Units	5				
Title:	PROPOSED WWTS SYSTEM E				
Area	Unit#	Design #Bdrms	Design Flow (gpd)	System Components	Status D=developed-ND = not developed
E	417	3	300	STEP/FM to system E Forcemain	ND
E	416	3	300		ND
E	421	3	300	E-One grider pump to STEP/Dose to System E	ND
E	422	3	300	Gravity drain to STEP/Dose to system E	ND
E	424	3	300	See Unit 421	ND
E	429	3	300	STEP/Dose to system E	ND
E	401	3	300	Existing grinder pump/FM to existing STEP/Dose to system E	D-3
E	402	3	300		D-3
Total Units	8				
Title:	PROPOSED WWTS SYSTEM E				
Area	Unit#	Design #Bdrms	Design Flow (gpd)	System Components	Status D=developed-ND = not developed
F	317	4	350	STEP/FM to system F	D-4
F	318	3	300		ND
F	320	3	300	STEP/FM to system F	ND
Total Units	3				

Abreviations FM Forcemain
STEP Sewage Treatment Effluent Pump

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APPROVED
Montana Department of
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Permitting and Compliance Division
Reviewer Date 9-2-16

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Kalispell Regional Office

REVISIONS
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DRAWN BY: NJF | APPROVED BY: KMH

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FOR
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DRAWING TITLE:
TIMBRSHOR
AT FINLEY POINT
LOT LAYOUT

SCALE:
AS SHOWN

DATE: July 2016
PROJECT NO: T.58.1

DRAWING NUMBER:
2 OF 2

T-58-01-SDS MASTER.DWG