

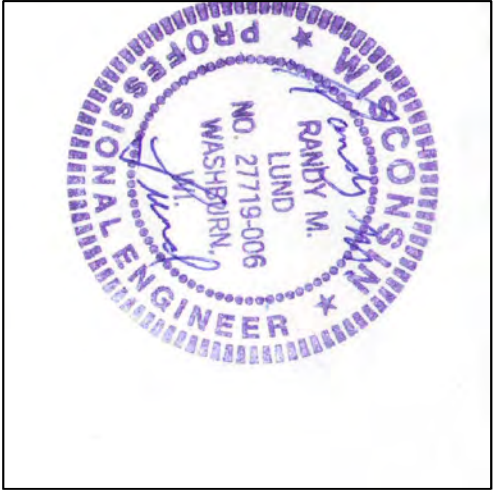
PBSD LOWER LS
FORCE MAIN PROJECT

BAYFIELD COUNTY
SEC 22, T50N, R04W



SHEET INDEX

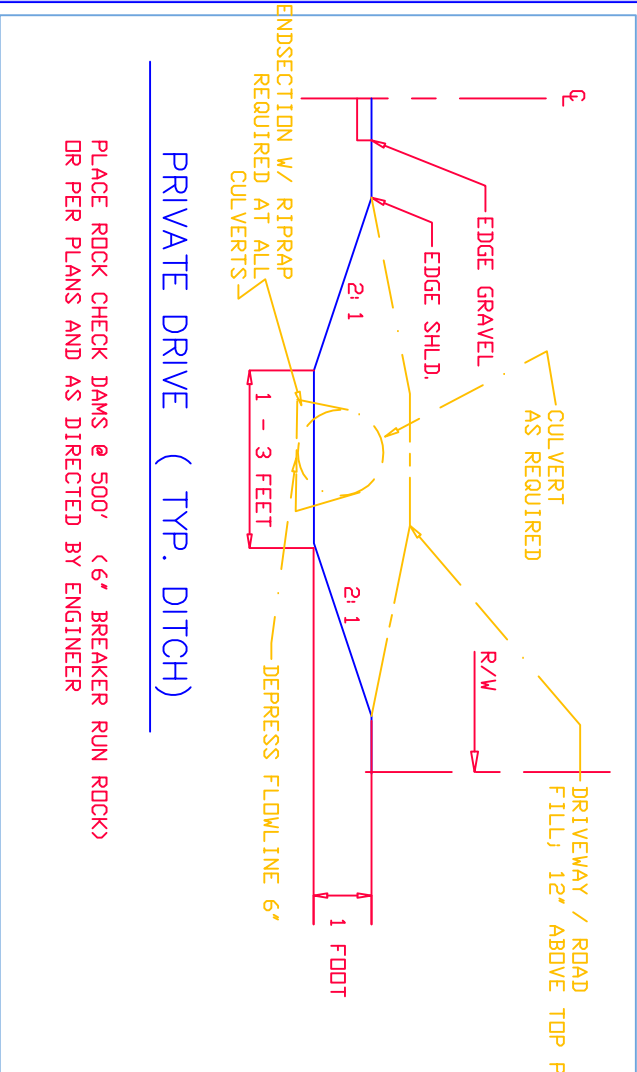
- 1) TITLE -SHEET 1
- 2-3) DETAILS 2a, 2b
- 4) PLAN OVERALL X200
- 5) PLAN OVERALL AIR
- 6-8) PLAN; 3A, 3B, 3C
X100
- 9-11) PLANS 3.1, 3.2, 3.3
X50
- 12) PROFILE PLAN



LUND ENGINEERING

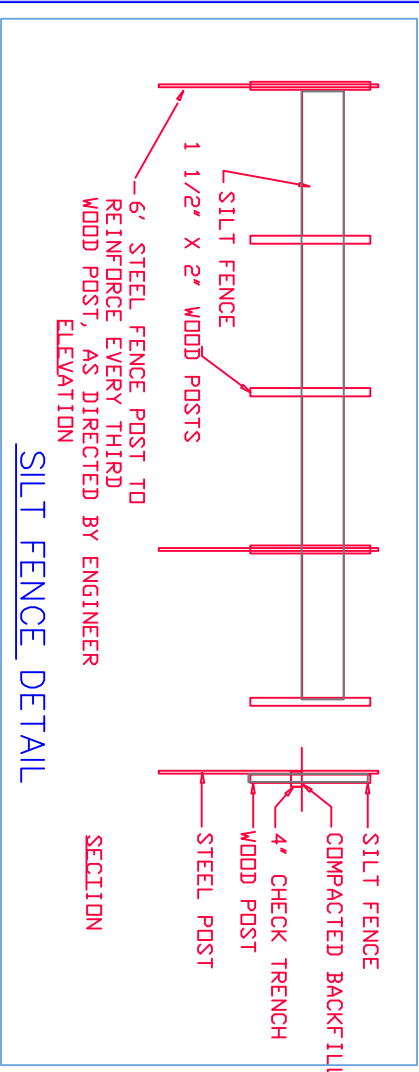
RANDY M. LUND, PE

PROJ. NO. PBSD SEP2021		BAYFIELD		PROJECT PIKES BAY SANITARY DISTRICT LOWER LS -FORCE MAIN PROJECT		SHEET DESCRIPTION TITLE SHEET FORCE MAIN PROJECT		SHEET NUMBER 1	
DRAWN BY RML		CHECKED BY RML							
DATE 10JAN23		REVISIONS							

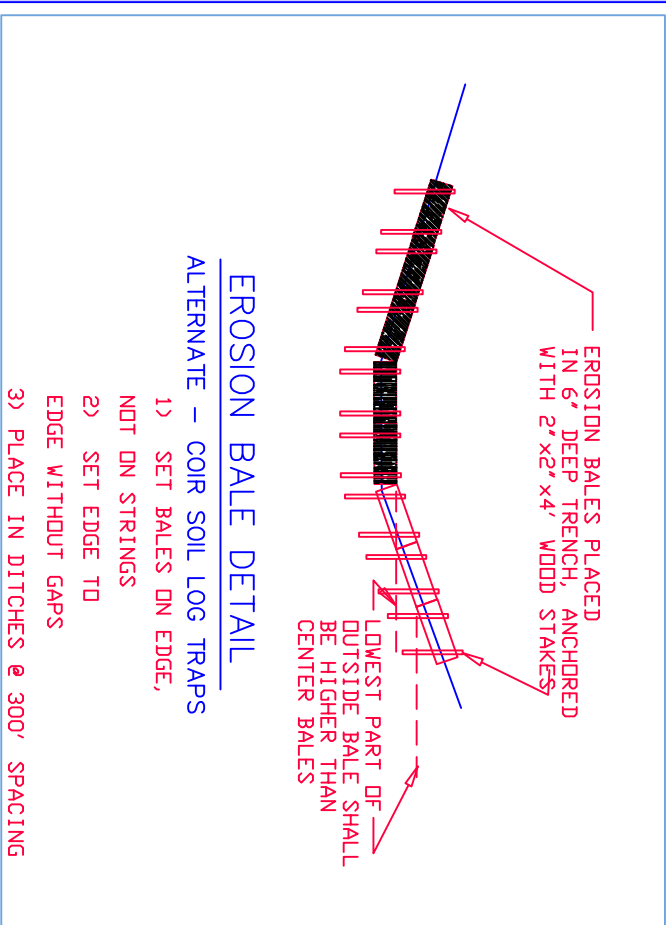


PLACE ROCK CHECK DAMS @ 500' (6' BREAKER RUN ROCK)
OR PER PLANS AND AS DIRECTED BY ENGINEER

PRIVATE DRIVE (TYP. DITCH)



SILT FENCE DETAIL



EROSION BALE DETAIL

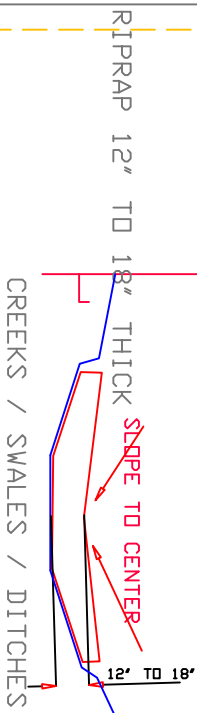
ALTERNATE – COIR SOIL LOG TRAPS

- 1) SET BALES ON EDGE, NOT ON STRINGS
- 2) SET EDGE TO EDGE WITHOUT GAPS
- 3) PLACE IN DITCHES @ 300' SPACING

GENERAL NOTES

- 1) CONTRACTOR TO VERIFY UTILITIES
- 2) UTILITIES SHOWN MAY NOT BE COMPLETE
- 3) CONTRACTOR TO CALL "DIGGER'S HOTLINE" PRIOR TO CONSTRUCTION
- 4) ENGINEER TO BE NOTIFIED OF ANY PLAN DISCREPANCIES
- 5) ENGINEER TO BE NOTIFIED OF POTENTIAL CHANGE ORDERS
- 6) ENGINEER TO VERIFY ANY CHANGED CONDITIONS
- 7) DEWATERING BY CONTRACTOR TO MEET STATE LAWS
- 8) SURFACE WATER DIVERSION'S TO COMPLY WITH STATE LAW
- 9) ALL CONSTRUCTION DEBRIS TO BE DISPOSED OF, BY CONTRACTOR
- 10) CONTRACTOR TO NOTIFY ENGINEER, 3 DAYS BEFORE TESTING
- 11) CONTRACTOR TO NOTIFY ENGINEER, 3 DAYS BEFORE STAKING
- 12) ALL SIGNS SHALL BE REMOVED AND REPLACED BY CONTRACTOR
- 13) TRAFFIC CONTROL TO BE PLACED BY CONTRACTOR
- 14) CONTRACTOR TO MAINTAIN USE OF ALL MAIL BOXES
- 15) CONTRACTOR TO MAINTAIN TRAFFIC FLOW
- 16) AT WETLAND CROSSINGS; ALL WETLAND MATERIAL TO BE SALVAGED
- 17) REPLACE WETLAND MATERIAL 18-24" THICK @ UTILITY CROSSINGS, AS REQUIRED
- 18) CONTRUCTION MUST AVOID USE OF WETLAND AREAS
- 19) ALL EROSION CONTROL TO BE IN PLACE AT START
- 20) CONTRACTOR SHALL USE TRACKING PADS TO LIMIT MUD ON STREETS
- 21) CONTRACTOR TO CONTROL ALL SITE RUNOFF
- 22) CONTRACTOR TO RECORD ALL UNDERGROUND DATA
- 23) CONTRACTOR TO MEET ALL COUNTY REQUIREMENTS
- 24) WI DNR, DSPS, PBSD, DOT, COMPLIANCE AS REQUIRED
- 25) MEET WI DOT STD. SPEC. (HIGHWAY& STRUCT. CONST.)--2019
- 26) MEET STD. SPEC. FOR SEWER & WATER CONST. IN WI-6TH ADDITION
- 27) MINIMUM BURY = 8.0 FEET FOR PVC WATERMAIN / 7' FOR SEWER
- 28) WASHED STONE TRACKING PAD - REQUIRED AT SITE EXITS
- 29) TRACER WIRE 10 GAGE; REQUIRED FOR ALL NON-METALIC PIPE
- 30) ROADS & DRIVES TO BE REPLACED IN KIND / 3' MIN. ASPHALT
- 31) CONTRACTOR TO FOLLOW DNR TECH SPEC'S FOR EROSION CONTROL
- 32) CONTRACTOR TO MARK ALL MH'S & VALVES; WITH 6' STEEL POSTS
- 33) ANY UTILITIES, DAMAGED, MUST BE REPAIRED TO ENGINEER'S SATISFACTION

ROCK CHECK DAM – TEMPORARY/ PERMANENT



LEGEND

- EXIST STORM MANHOLE
- PROPOSED STORM MANHOLE
- EXIST INLET
- PROPOSED CATCHBASIN
- UTILITY MANHOLE
- EXIST HYDRANT
- PROPOSED HYDRANT
- EXIST SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- LIGHT
- EXIST WATER VALVE
- PROPOSED WATER VALVE
- WATER SERVICE VALVE (EX. / PRO.)
- TEL PEDESTAL
- SURVEY MONUMENT'S
- SOIL BORING
- CONTROL POINT
- BENCHMARK
- IRON PIPE / PIN / ROD
- GAS VALVE
- DECIDUOUS TREE < 6"
- DECIDUOUS TREE > 6"
- EVERGREEN TREE < 6"
- EVERGREEN TREE > 6"
- SHRUB
- UTILITY POLE
- CENTERLINE
- REFERENCE LINE
- EDGE OF PAVEMENT
- DRAINAGE SWALE
- SIGNS
- HIGHWAY
- MARSH



LUND ENGINEERING

715-209-0367 rmlund1@charter.net
WASHBURN WI 54891

DETAILS – EROSION CONTROL

LEGEND / NOTES

2A

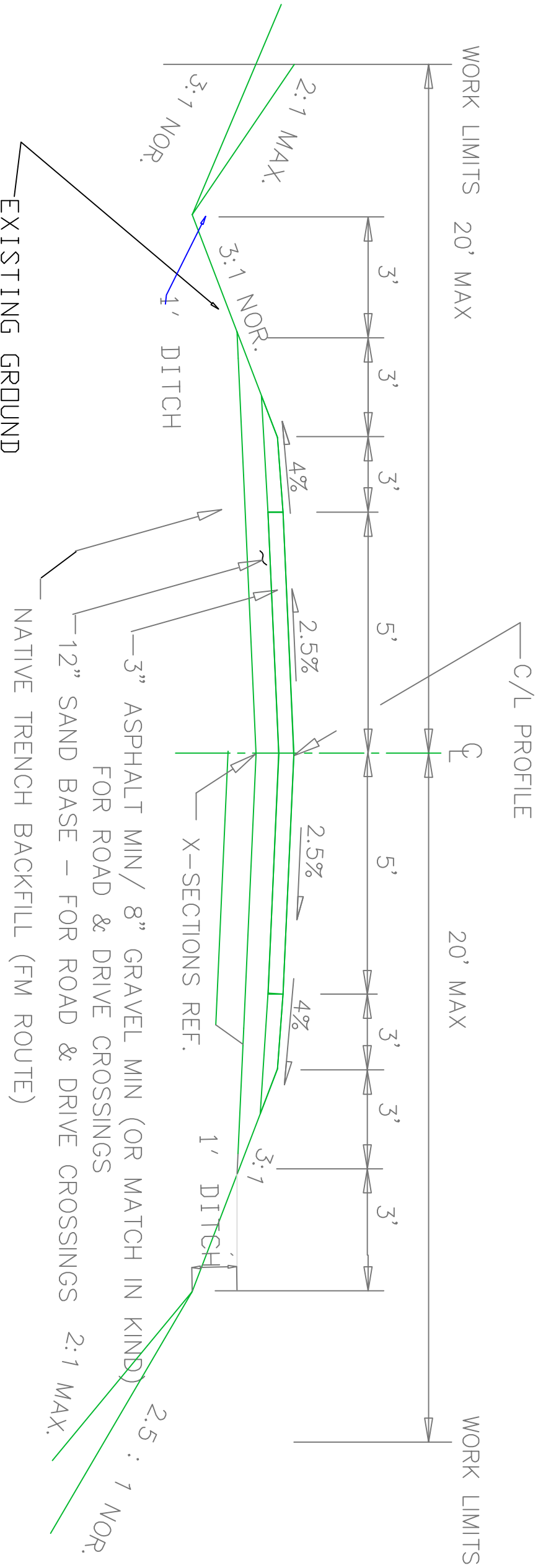
PBSD LOW LS FM PROJECT 2021

PLACE SILT FENCE ON DOWNHILL SIDE OR WORKING AREA – IN ALL DRAINAGE PATHS & SWALES
SALVAGE EXISTING TOPSOIL (SEED & MULCH)
PLACE FORCE MAIN AT 7’ DEPTH
STOCKPILE MATERIAL ON UPLAND SLOPE
RESTORE TRENCHES TO EXISTING CONDITION
ALL MH’S TO HAVE RIM SET TO SURFACE PLUS 12”
ALL MH’S TO HAVE 18” SUMP
MH DEPTH TO BE 10’ (RIM TO INV, INCLUDES CASTING) FORCE MAIN TO PLACED IN 20’ WIDE PERMANENT EASEMENT

PROPD. FILL
12" TO RIM

EX GRD

MH
18" SUMP



ALL POTENTIAL WETLAND CROSSINGS TO BE MINIMIZED AND TOP 12” OF WETLANDS SOILS TO BE SEPARATED FOR REPLACEMENT
ALL ACTIVITY (INCLUDES STOCKPILES) IN POTENTIAL WETLAND AREAS TO BE ON CONSTRUCTION PADS OR MATS (FABRIC AND ROCK OR LOG MATS)
MH’S & LATERALS TO BE MARKED IN THE FIELD BY ENGINEER
EASEMENTS 20’ PERMANENT ABOUT C/L OF FM
EASEMENTS 40’ TEMPORARY ABOUT C/L OF FM
ALL TREES TO BE SAVED – ENGINEER MUST APPROVE TREE REMOVAL IF OVER 3” IN DIAMETER
ALL INFRASTRUCTURE AND LAND OWNER AMENITIES TO BE SAVED OR MOVED AND REPLACED

SCALE		PROJ. NO.	PROJECT		SHEET DESCRIPTION		SHEET NUMBER
PBSD SOUTH NOV2022		222	PIKES BAY SANITARY DISTRICT		DETAILS		2
DRAWN BY		CHECKED BY	LOWER LS FORCE MAIN PROJECT		LEGEND / NOTES		B
RML		RML					
DATE		REVISIONS					
09NOV22							

PLAN SHEET 3 - OVERALL

PBSD LOWER FORCE MAIN PROJECT

PBSD LOWER FORCE MAIN PROJECT

PIKES BAY SANITARY DISTRICT #1
LOWER LIFT STATION FORCE MAIN PROJECT

Dated: 23 AUG 22

SCALE: ONE INCH = 200 FEET

LUND ENGINEERING
415 EAST 3RD STREET PH. 715-209-0367
E-MAIL: RMLUND1@CHARTER.NET
WASHBURN WI 54891

PLAN SHEET 3A

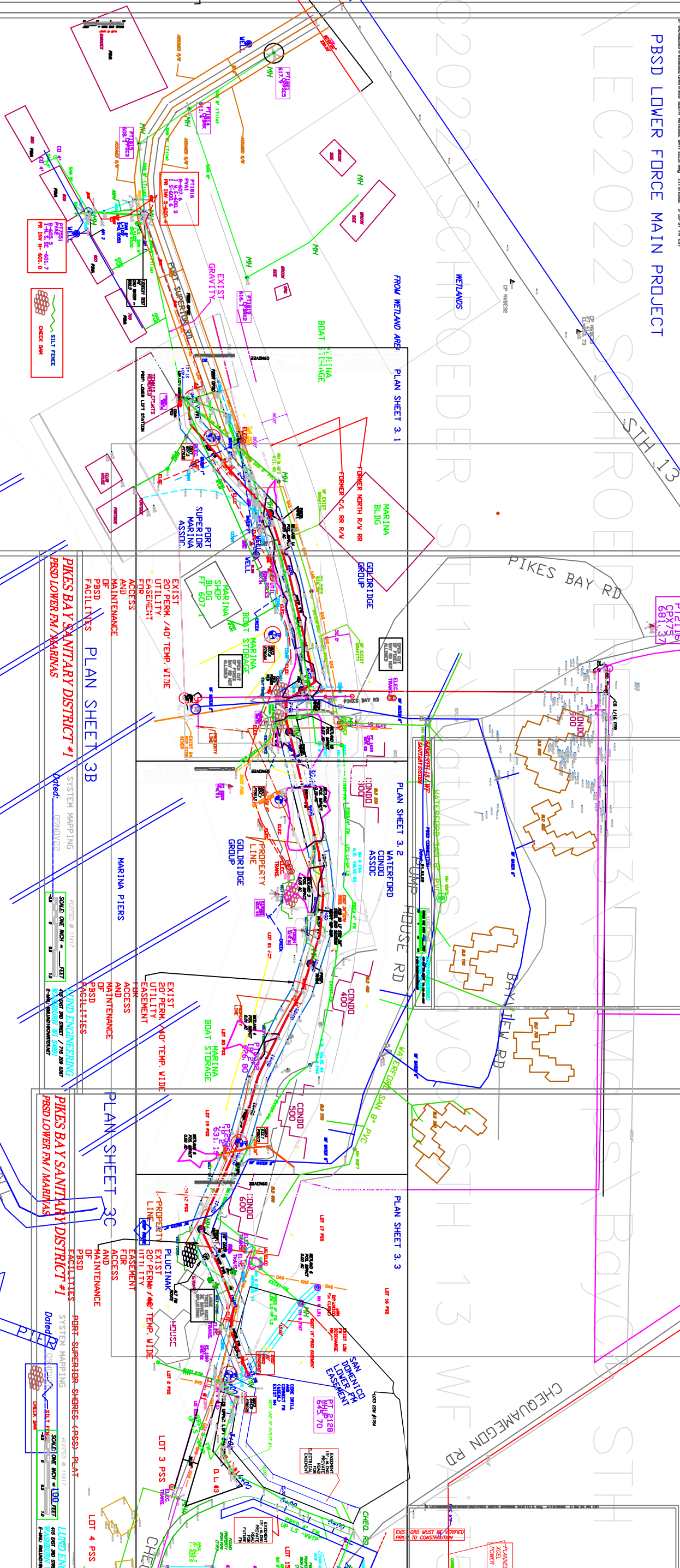
PIKES BAY SANITARY DISTRICT #1
PBSD LOWER FM / MARINAS

SYSTEM MAPPING
Dated: 09/01/22

SCALE ONE INCH = 100 FEET
415 EAST 3RD STREET / 715-209-0367
LUND ENGINEERING
E-MAIL: RMLUND1@CHARTER.NET

TOTAL
WETLAND
POSSIBLE
IMPACT 0.46
AC

PROJECT DESIGN ALLOWS OPEN CUT
EXCEPT FOR PIKES BAY RD CROSSING
DIRECTIONAL BORING ALSO ALLOWED



SILT FENCE
CHECK DAM

SILT FENCE
CHECK DAM

PBSD LOWER FORCE MAIN PROJECT

LEC 2022 / SCHEDULE

CP NWBE23
PT 411
EL=653.73

WETLANDS

FROM WETLAND AREA PLAN SHEET 3.1

MARINA
BLDG

~~FORMER NORTH R/W RE~~

~~FORMER C/L RR R/W~~



PORT
SUPERIOR
MARINA
ASSOC.

PORTSIDE

1

Y



VI 54891
HARTER.NET

PLAN SHEET 3A

PIKES BAY SANITARY DISTRICT #1
PBSD LOWER FM / MARINAS

SYSTEM MAPPING

Dated: 09NOV22

PLOTTED @ 11X17

SCALE: ONE INCH = 100 FEET

LUND ENGINEERING

415 EAST 3RD STREET / 715 209 0367

WASHBURN WI 54891
E-MAIL: BMLUND1@QUARTER.NET

E-MAIL: RMLUNDY@CHARTER.NET

84340 STH 13

PBSD LOWER FORCE MAIN PROJECT

PT 1054
CPX4
686.27
PT2116
CPX75
681.37

PIKES BAY RD

BAYVIEW RD

WATERFORD SAN 8" PVC
PBSD CONNECTION
Dated: 21JUL22

SCALE: ONE INCH = 50 FEET
415 EAST 2ND STREET / PH 715-209-0367
E-MAIL: RMLUND1@CHARTER.NET

PLAN SHEET 3.2

WATERFORD
CONDO
ASSOC

GOLDRIDGE
GROUP

PROPERTY
LINE
GOLDRIDGE
GROUP

MARINA
BOAT
STORAGE

MARINA
SHOP
BLDG
FF 607.1

EXIST
20' PERM. / 40' TEMP. WIDE
UTILITY
EASEMENT
FOR
ACCESS
AND
MAINTENANCE
OF
PBSD
FACILITIES

EXIST
20' PERM. / 40' TEMP. WIDE
UTILITY
EASEMENT
FOR
ACCESS
AND
MAINTENANCE
OF
PBSD
FACILITIES

PIKES BAY SANITARY DISTRICT #1
PBSD LOWER FM / MARINAS

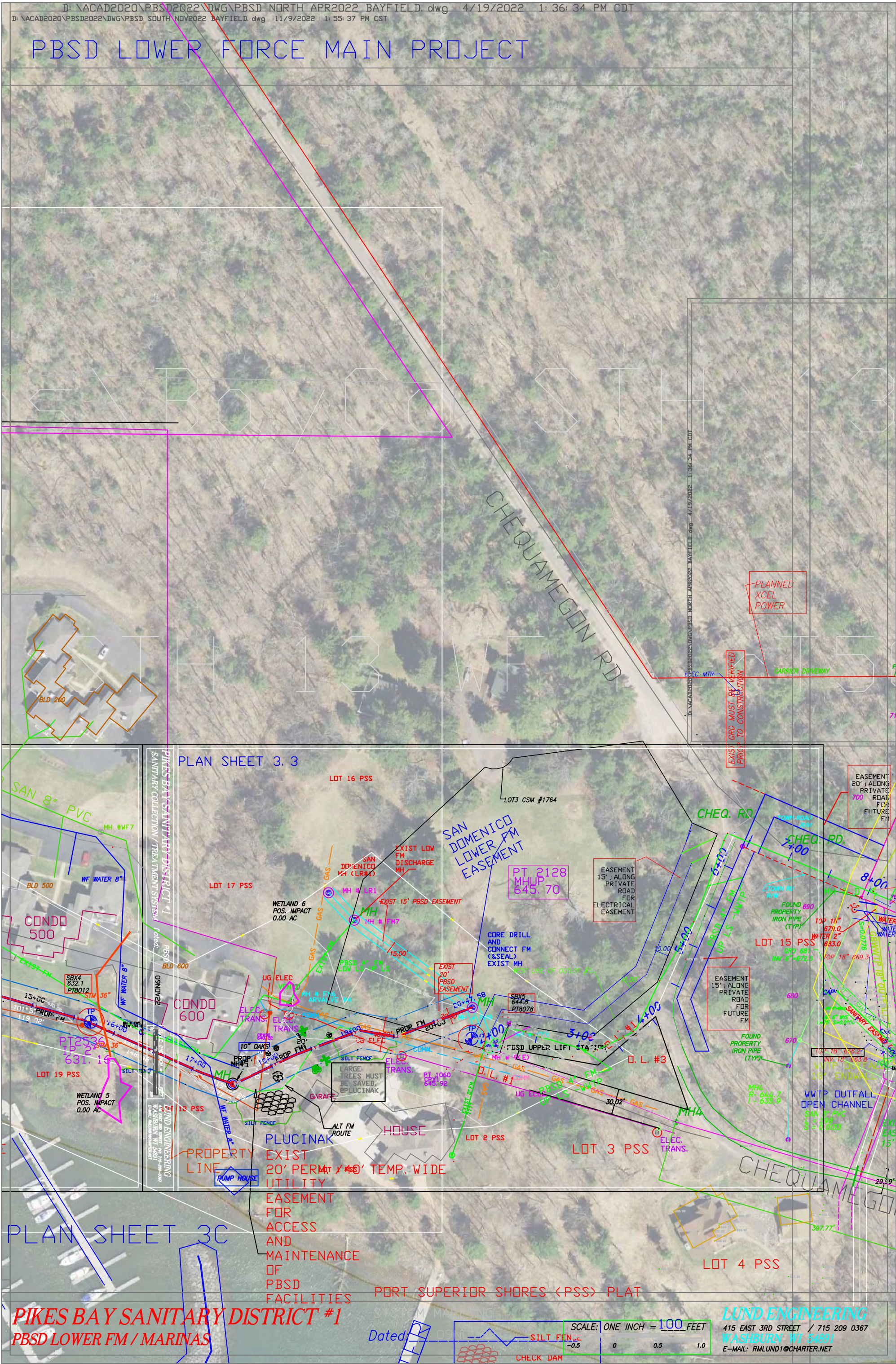
PLAN SHEET 3B

SYSTEM MAPPING
Dated: 09NOV22

SCALE: ONE INCH = 50 FEET
-0.5 0 0.5 1.0

LUND ENGINEERING
415 EAST 3RD STREET / 715 209 0367
WASHBURN WI 54801
E-MAIL: RMLUND1@CHARTER.NET

PBSD LOWER FORCE MAIN PROJECT



WATERFORD
COND
ASSOC

BLD 300
COND

EXIST FM
PBSD 4" FM
A.R. VALVE #3
LW LS-UP LS

PBSD 4" FM

EXIST 36" STM
ADD 20 LF STM 36"
STEEL END SECTION

HEAVY RIP RAP

EXIST FM

BLD 400
COND

A.R. VALVE #4
MH # FM4

BLD 500
COND

WF WATER 8"

MH #WF7

PROPERTY
LINE
GOLDRIDGE
GROUP

SBX3
604.7
PT8013

WETLAND 2
POS. IMPACT
0.10 AC

WETLAND 3
POS. IMPACT
0.03 AC

PT2524
IP2
629.50

LOT 21 PSS
(CREEK DRAINAGE)

WETLAND 4
POS. IMPACT
0.01 AC

PT2532
IP2
626.80

LOT 20 PSS

MARINA
BOAT STORAGE

LOT 19 PSS

PT2536
IP2
631.16

WETLAND 5
POS. IMPACT
0.00 AC



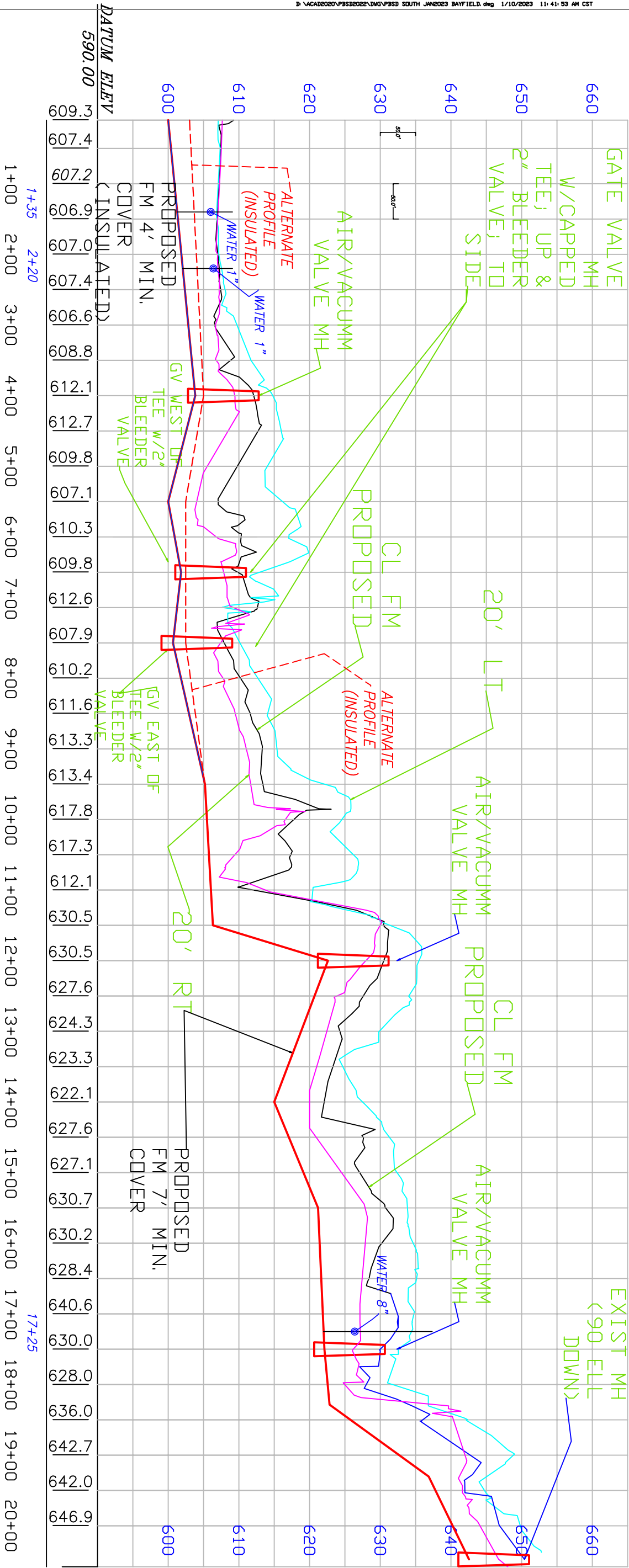
LUND ENGINEERING
115 EAST 980 STREET PM 715-JPM-0387
KASHBURN WI 54991
FAX: 920-838-0387

EXIST
20' PERM. 40' TEMP. WIDE
UTILITY
EASEMENT
END

PLOT SCALE AT 11X17
H: 1"=150' V: 1"=15

MH'S TO INCLUDE:
18" SUMP,
CASTING
N-1550 OR
EQUAL;
CHIMNEY
SEALS AND
PIPES BOOT
SEALS, AND
GRDUTING

STA 0+00 TO 9+50
ALTERNATE TO ALLOW 4' COVER WITH 4" INSULATION 4' WIDE 6" ABOVE PIPE
GROUNWATER WAS MEASURED AT ~ 602.4 (SB1), 602.0 (SB2), 601.3 (SB3) ON AUG 03, 2022
NOAA COOPS WATER LEVEL DATA AVE 602.8 (DULUTH, ONTONOGAN, GRAND MARAIS)
WATER X-ING (1+35, 2+20, 17+25) - MAINTAIN 18" MIN. VERTICAL CLEARANCE TO PROP. FM
WATER X-ING / UTILIZE WATERTIGHT JOINTS ON SANITARY WITHIN 10' OF WATER, HORIZONTALLY
FM DOES NOT CROSS CREEK
CORE DRILL
EXIST MH
(90 ELL
DOWN)



607.6	607.1
607.5	607.3
607.3	607.1
607.0	606.9
607.0	607.2
607.2	608.0
606.7	609.7
606.8	611.7
609.4	614.8
608.5	616.0
605.5	614.0
604.0	616.2
606.8	617.1
607.8	612.9
609.2	607.7
607.4	610.1
607.7	612.7
609.5	614.1
611.1	615.4
611.7	622.1
616.6	624.6
609.4	626.2
613.8	620.5
630.0	631.4
628.0	635.5
623.9	634.0
625.1	629.9
625.7	624.7
626.3	627.5
626.3	631.3
626.7	632.4
627.9	633.8
627.9	634.7
627.4	635.1
627.1	634.7
626.2	632.6
625.0	631.7
640.3	642.3
642.0	648.8
641.6	644.7
644.1	649.8
648.0	