

UPPER BRUNET DAM REHABILITATION

TOWN OF DRAPER, SAWYER COUNTY

FIELD FILE NO. 57.32
DAM SEQUENCE #198

M & P PROJECT No.: 2020-109
DECEMBER 2020

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Plan of Construction:

The following sequence of construction activities may be used by the contractor:

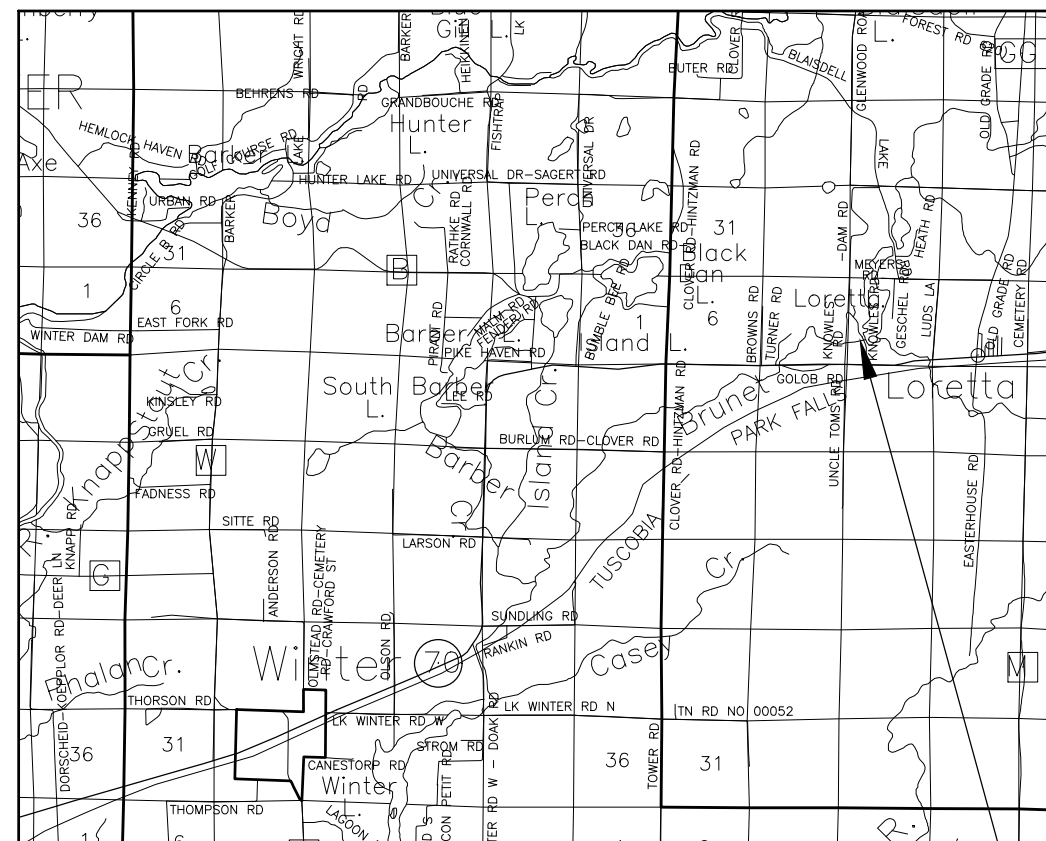
- Prepare and submit Plan of Construction.
- The DNR requires approval of all coffer dams. The DNR may require that plans be submitted to them for approval of the tailwater coffer dam/sand bags. If so the elevation of the concrete tailwater apron is 1378± and the normal tailwater elevation is less than 1380 i.e., less than 2' of depth. The stream bottom drops down at the end of the concrete apron. The coffer dam can consist of sand bags or similar devices.
- Prepare and implement the erosion control plan.
- Prepare and implement a lake dewatering plan. The stop logs shall be removed from the full height stop log bay to dewater the lake. The rate of dewatering shall be the lessor of the rate specified by the DNR or 1' per day. Normal pool is 1389± and the bottom of the stop log channel is 1378±. The project requires that all of the stop logs be removed and cleaned and the stop log channel inspected.
- 25% of base flow must pass downstream throughout construction.
- Prior to lake drawdown any active leaks shall be marked and predrilled for grouting.
- Concrete rehabilitation will be broken into 3 Phases to simplify dewatering
- Phase 1 Concrete Rehabilitation - left half: Begins when the lake level drops to elevation 1385 (bottom of stop log bay). Water is passed through bay 3, bays 1 and 2 are now dry. Install a coffer dam/sand bags from the downstream end of the full height pier past the tips of the wing walls plus across the left half of the channel. Dewater the area between the sand bags and the dam. The concrete on the left half of the dam can now be rehabilitated.
- During Phase 1 verify all plan dimensions for gate construction and complete shop drawings for the two vertical lift gates. Note: The third gate may be completed if Alternate 2 is accepted.
- Phase 2 Concrete Rehabilitation - right half: Begins when Phase 1 is completed and the lake level is at the invert of the full height stop log channel. Inspect and make any needed repairs to the steel stop log channel. Install temporary stop logs into bay 3 and cut an 18" bypass pipe into the face of the stop logs at the bottom of the first log. Extend the 18" by-pass pipe past the downstream wings. Remove the sand bags from across the left half of the dam and install them on the right half of the dam. Dewater the area between the sand bags and the right half of the dam. The by-pass pipe will keep the area dry. The concrete on the right half can now be rehabilitated.
- Phase 3 Concrete Rehabilitation - upstream concrete: Begin Phase 3 after Phase 2 is complete. Remove the downstream sand bags and by-pass pipe. Clean and re-install the stop logs in bay 3, one at a time while allowing 25% base flow to pass downstream. Complete the upstream concrete restoration.
- Install and test the two new vertical lift gates (three if the Alternate 2 is accepted).
- Install the riprap
- Site restoration

GENERAL LOCATION MAP

GENERAL NOTES

1. ALL CONSTRUCTION EQUIPMENT SHALL BE CLEANED PRIOR TO ENTERING SITE TO PREVENT SPREAD OF INVASIVE SPECIES
2. EROSION CONTROL MEASURES SHALL BE IN PLACE BEFORE CONSTRUCTION BEGINS.
3. THE CONTRACTOR SHALL MINIMIZE EROSION DURING CONSTRUCTION USING GOOD CONSTRUCTION TECHNIQUES. RUNOFF SHALL BE RELEASED FROM THE SITE IN A NUISANCE FREE MANNER.
4. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED TO PROVIDE THE LEVEL OF INTENDED SERVICE.
5. ALL STOCKPILED FILL MATERIAL SHALL BE PROTECTED WITH A SILT FENCE ENCIRCLING THE PILE AT THE TOE OF THE SLOPE. THE SURFACE SHALL BE TEMPORARILY SEEDED IF STOCKPILE REMAINS FOR 7+ DAYS.
6. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES WEEKLY AND WITHIN 24 HOURS OF ½" RAINFALL EVENT. THESE INSPECTIONS SHALL BE DOCUMENTED BY A WRITTEN LOG NOTING: DATE, TIME, ITEMS INSPECTED AND ITEMS MAINTAINED.
7. DEWATERING WILL BE PERMITTED BY PUMPS PLACED IN OPEN EXCAVATIONS. DISCHARGES MUST BE IN COMPLIANCE WITH THE PERMIT. SURFACE WATER DISCHARGES FROM EXCAVATIONS ARE NOT ALLOWED.
8. ALL DISTURBED AREAS SEEDED AS FOLLOWS:

500# / ACRE FERTILIZER (20-0 -10)	
SEEDING: HARD FESCUE	20%
RED FESCUE	20%
KENTUCKY BLUEGRASS	35%
FINE PERENNIAL RYE GRASS	25%
SEED RATE	4# / 1000 SQ. FT.
COMPANION CROP: 1-½ BU. OATS / ACRE	
EROSION MAT CLASS 1 TYPE B URBAN	
9. ALL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE BMP STANDARDS OF THE TECHNICAL STANDARDS CONSTRUCTION SITE EROSION & SEDIMENT CONTROL.
10. NO CONSTRUCTION EQUIPMENT SHALL OPERATE ON THE DAM OR WITHIN THE SOIL SURCHARGE AREAS OF THE ABUTMENTS OR WING WALLS



PROJECT LOCATION MAP

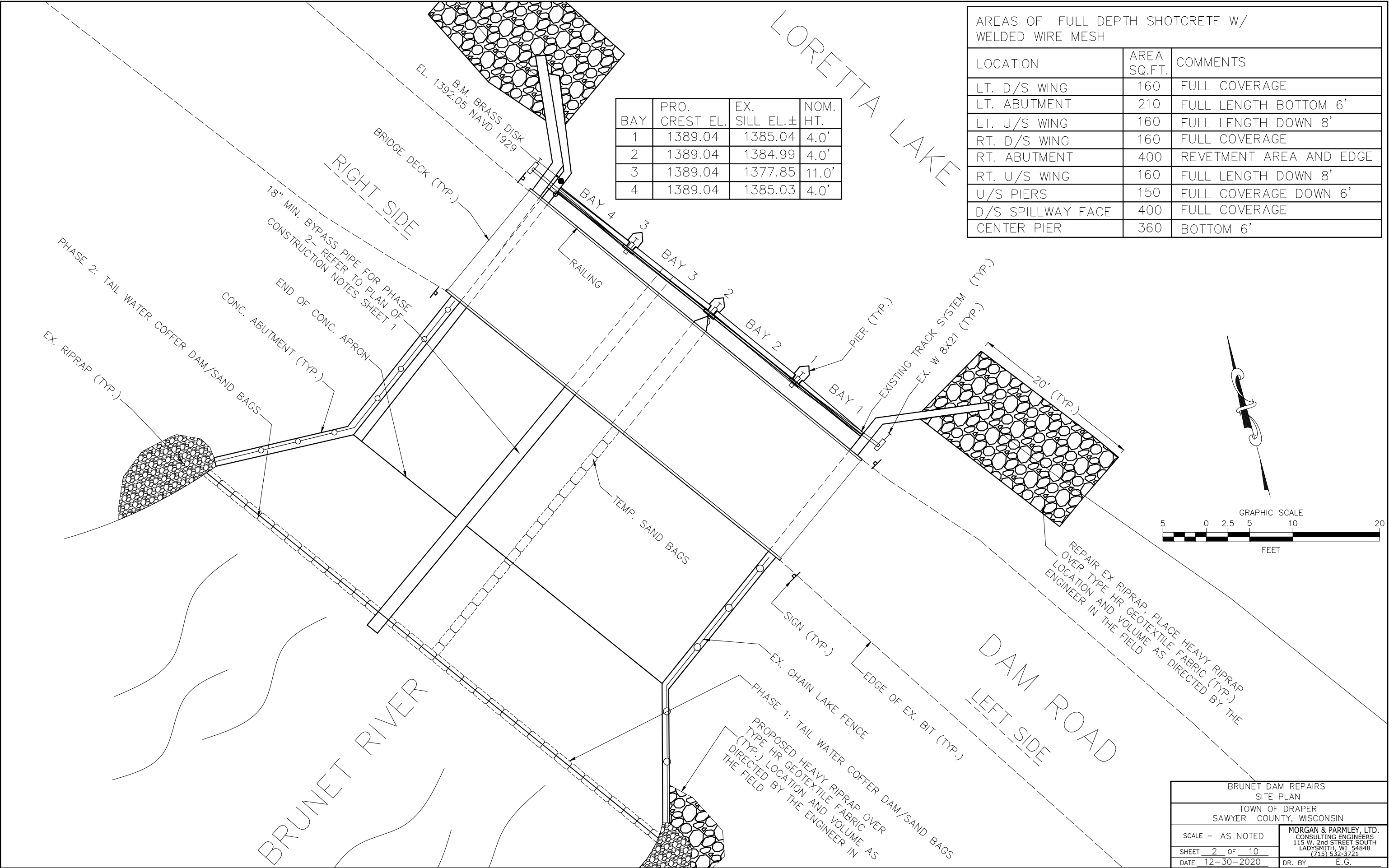
DO NOT SCALE

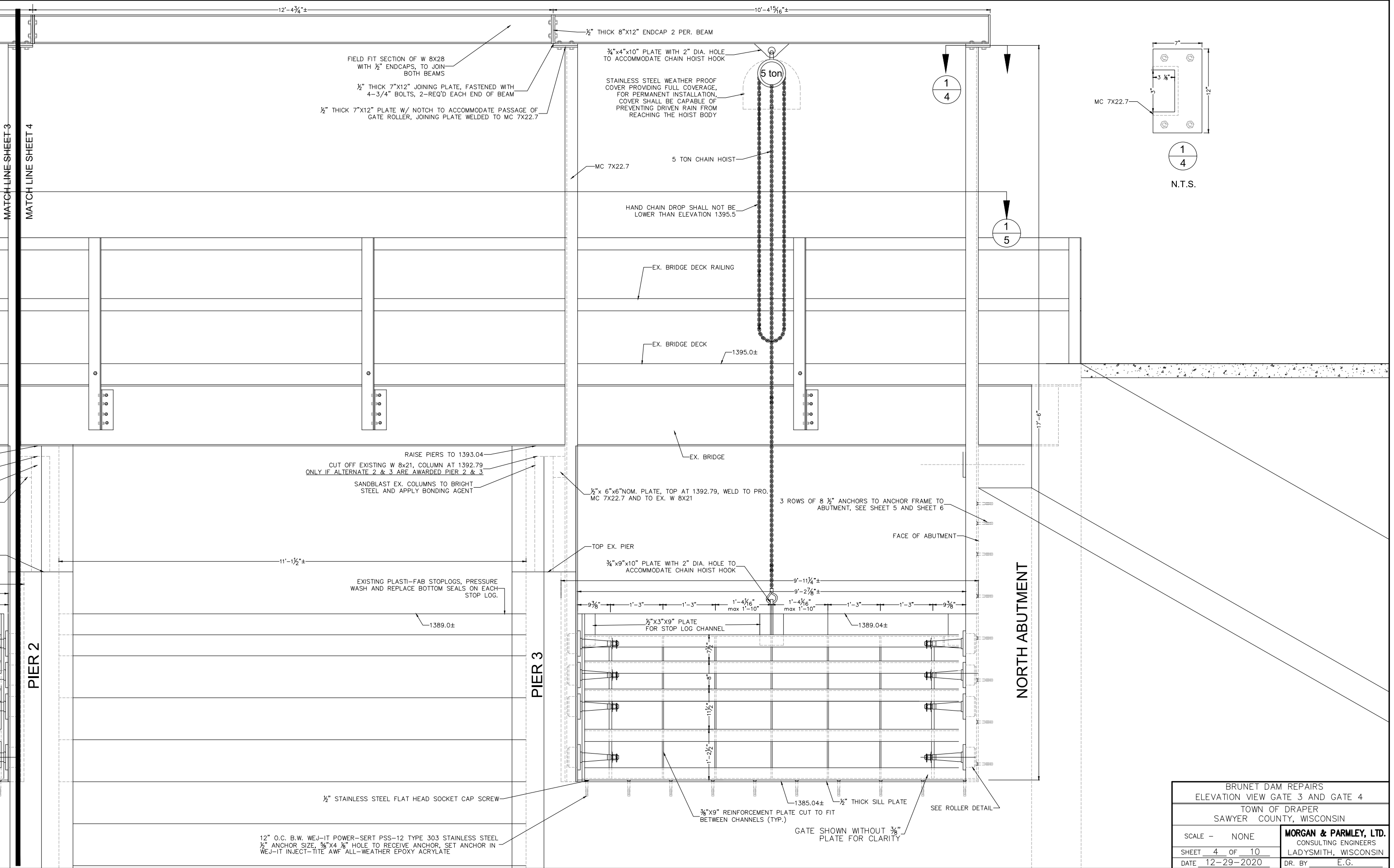
PROJECT SITE: BRUNET DAM

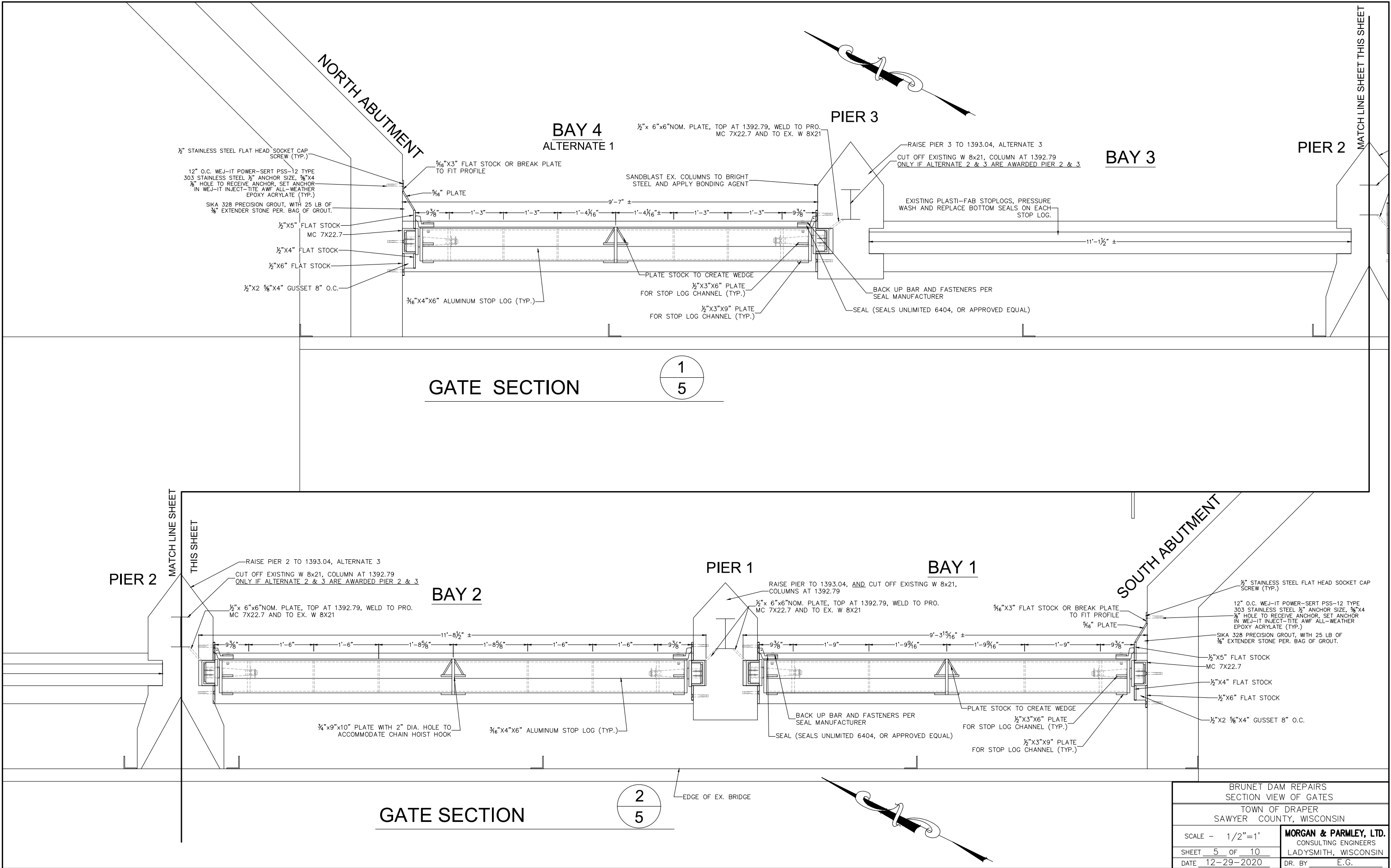
CALL-BEFORE-YOU-DIG

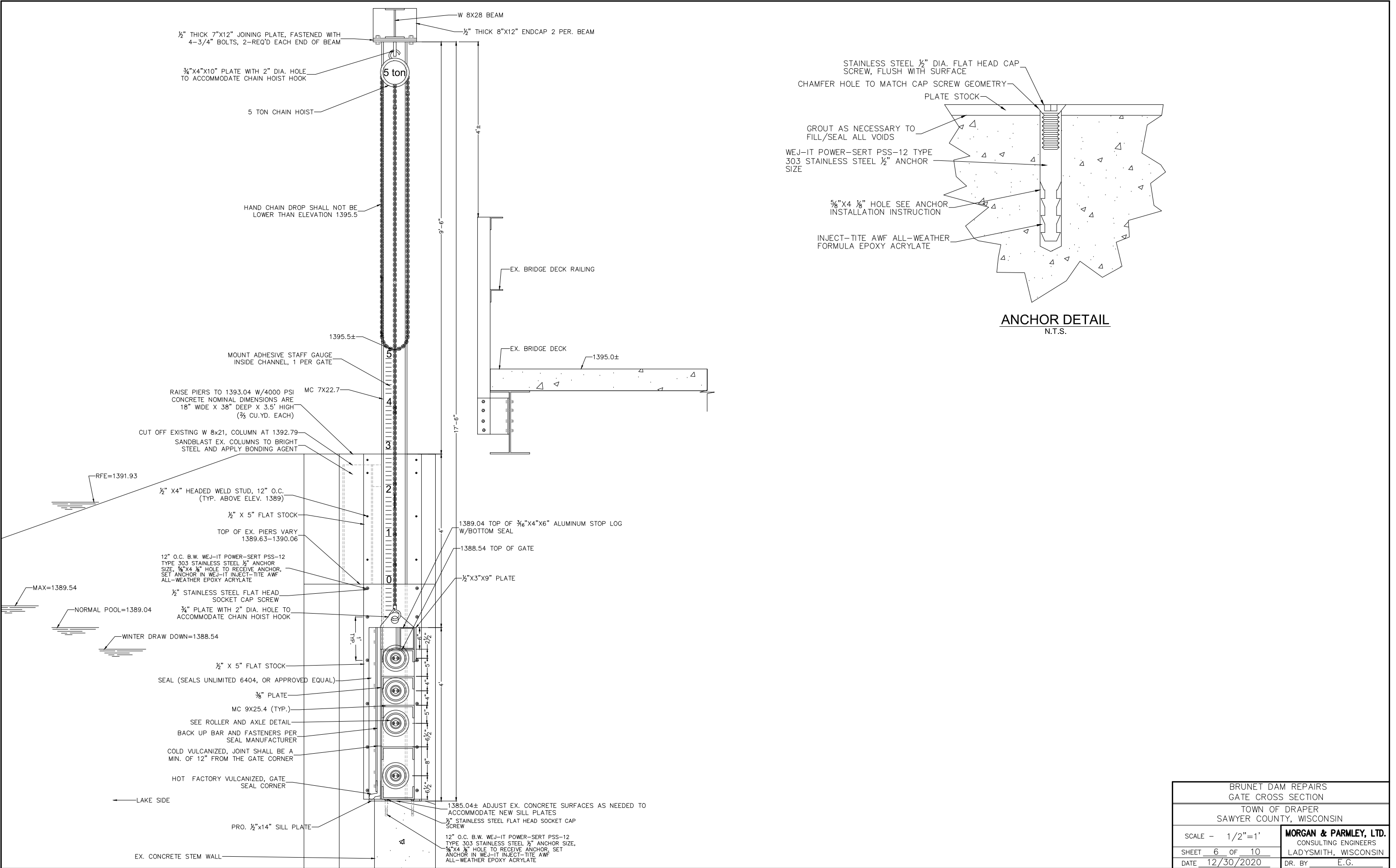
DIGGERS HOTLINE : (800) 242-8511
www.DiggersHotline.com

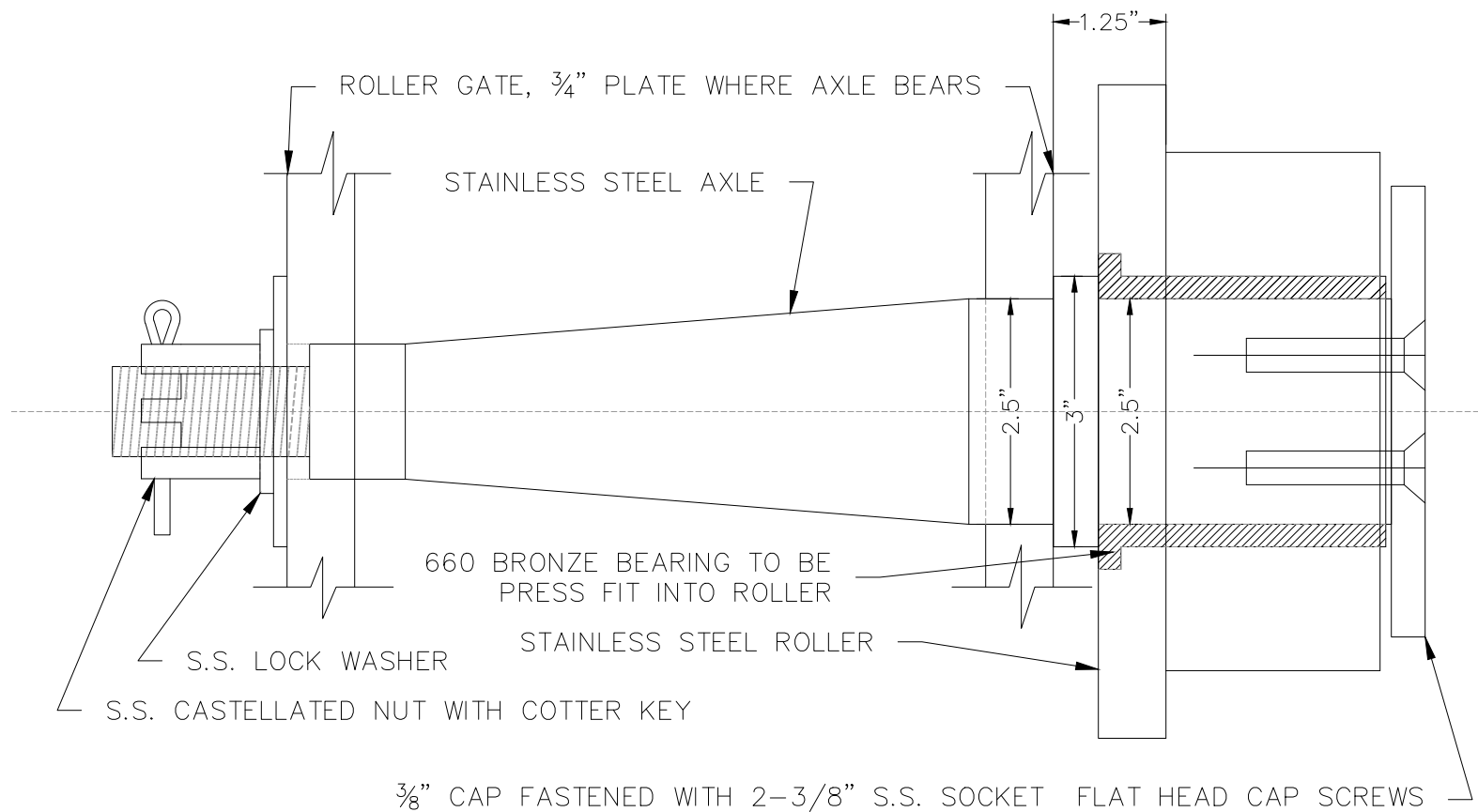
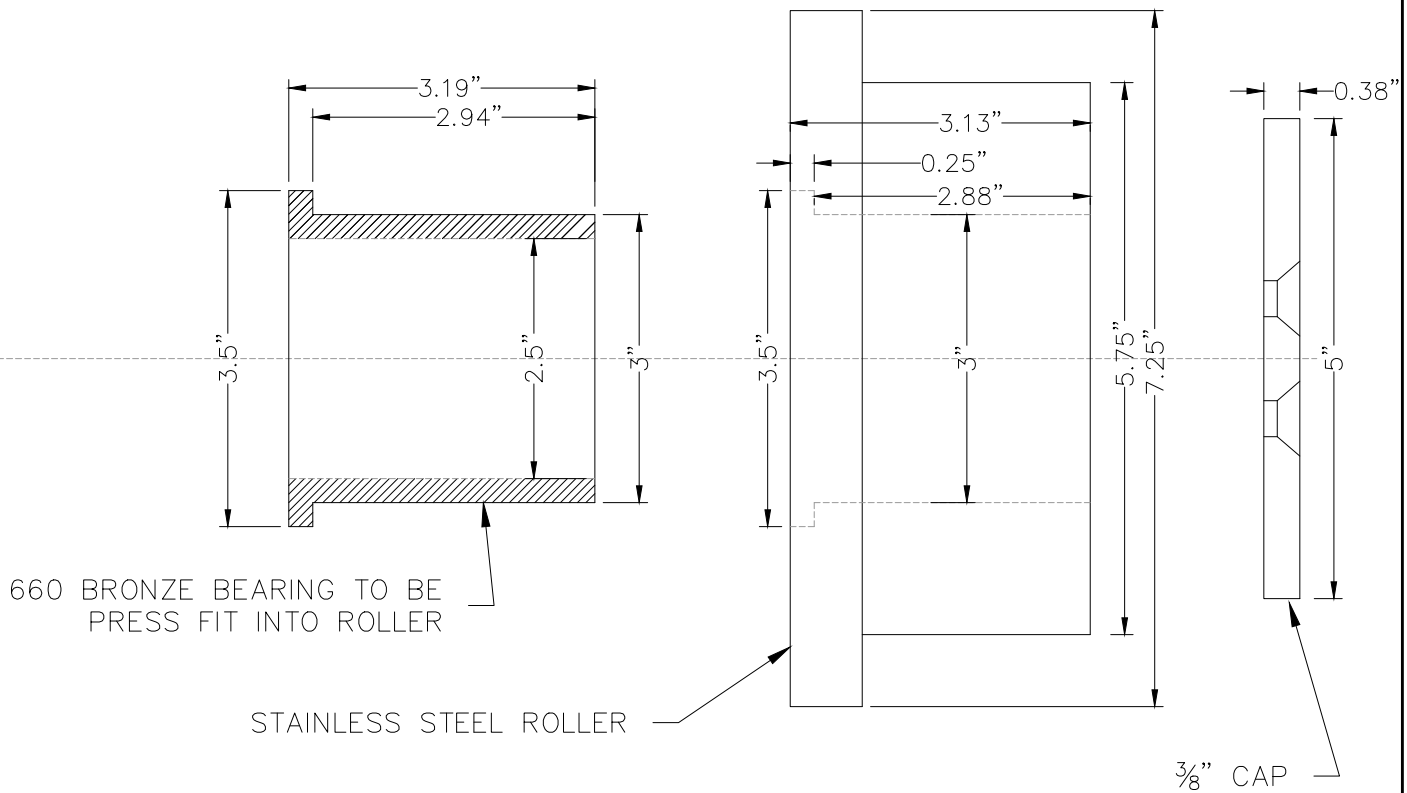
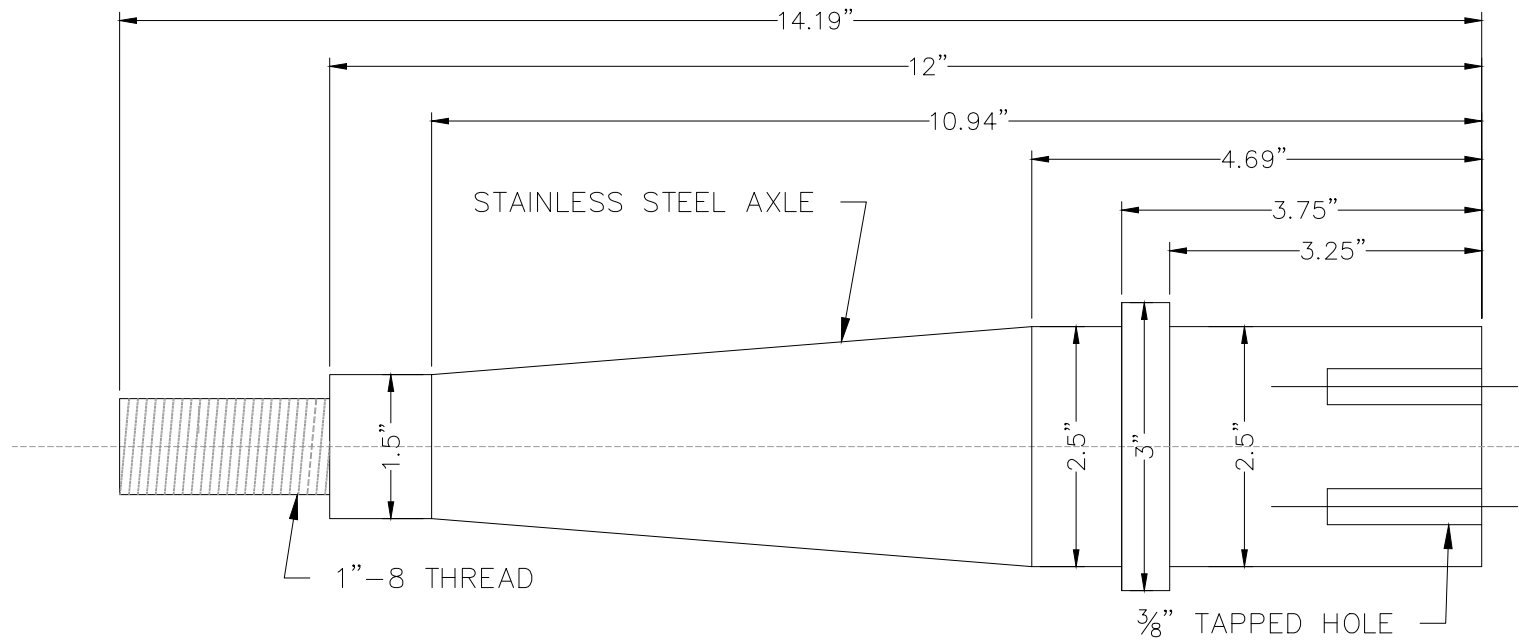
MORGAN & PARMLEY, LTD.
CONSULTING ENGINEERS
115 W. 2nd STREET SOUTH
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mpltd@centurytel.net





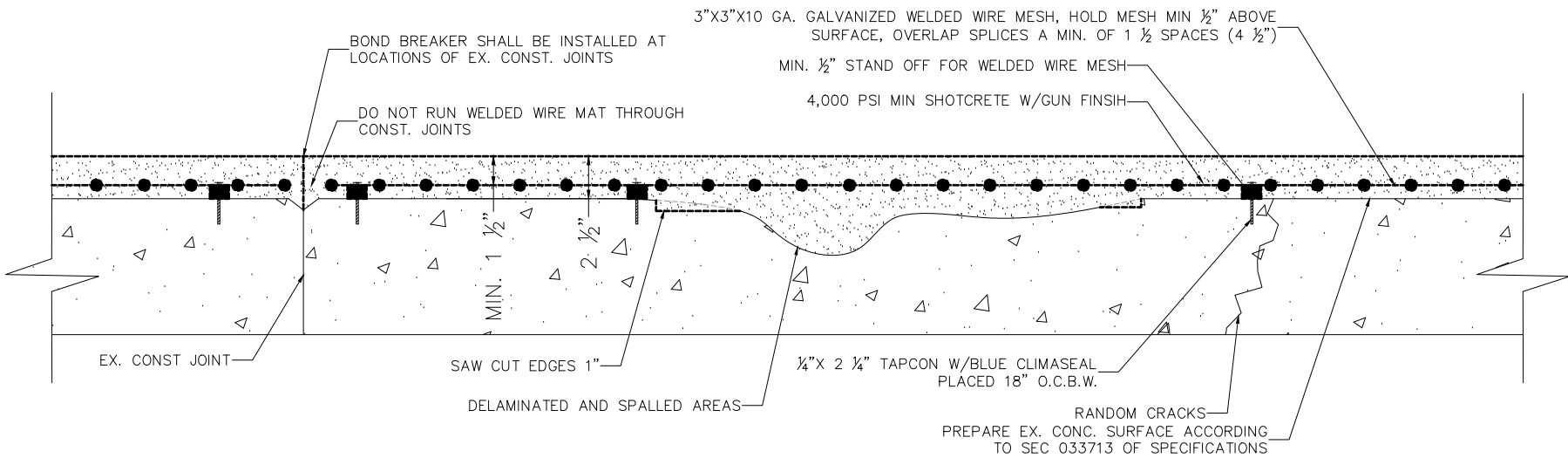




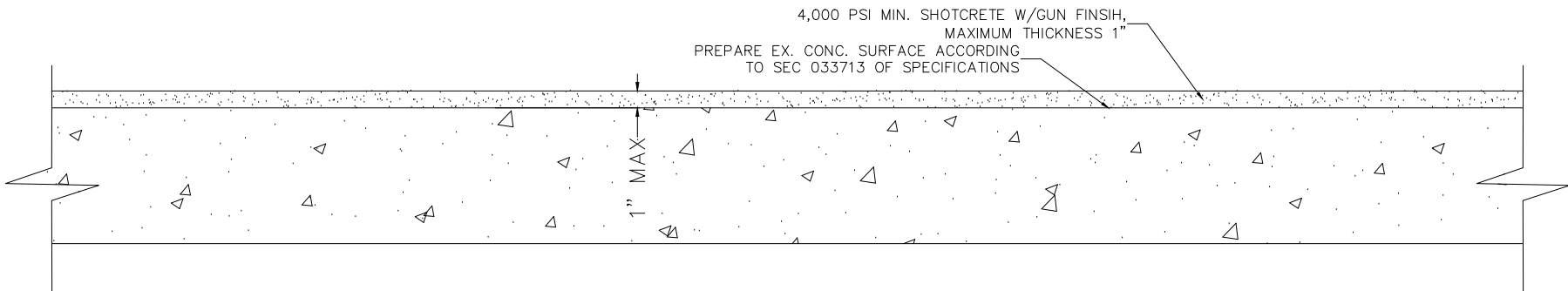


ROLLER ASSEMBLY 8 REQUIRED PER GATE

BRUNET DAM REPAIRS ROLLER ASSEMBLY	
TOWN OF DRAPER SAWYER COUNTY, WISCONSIN	
SCALE - 6"=1'	MORGAN & PARMLEY, LTD.
SHEET 7 OF 10	CONSULTING ENGINEERS
DATE 12/30/2020	LADYSMITH, WISCONSIN
	DR. BY E.G.

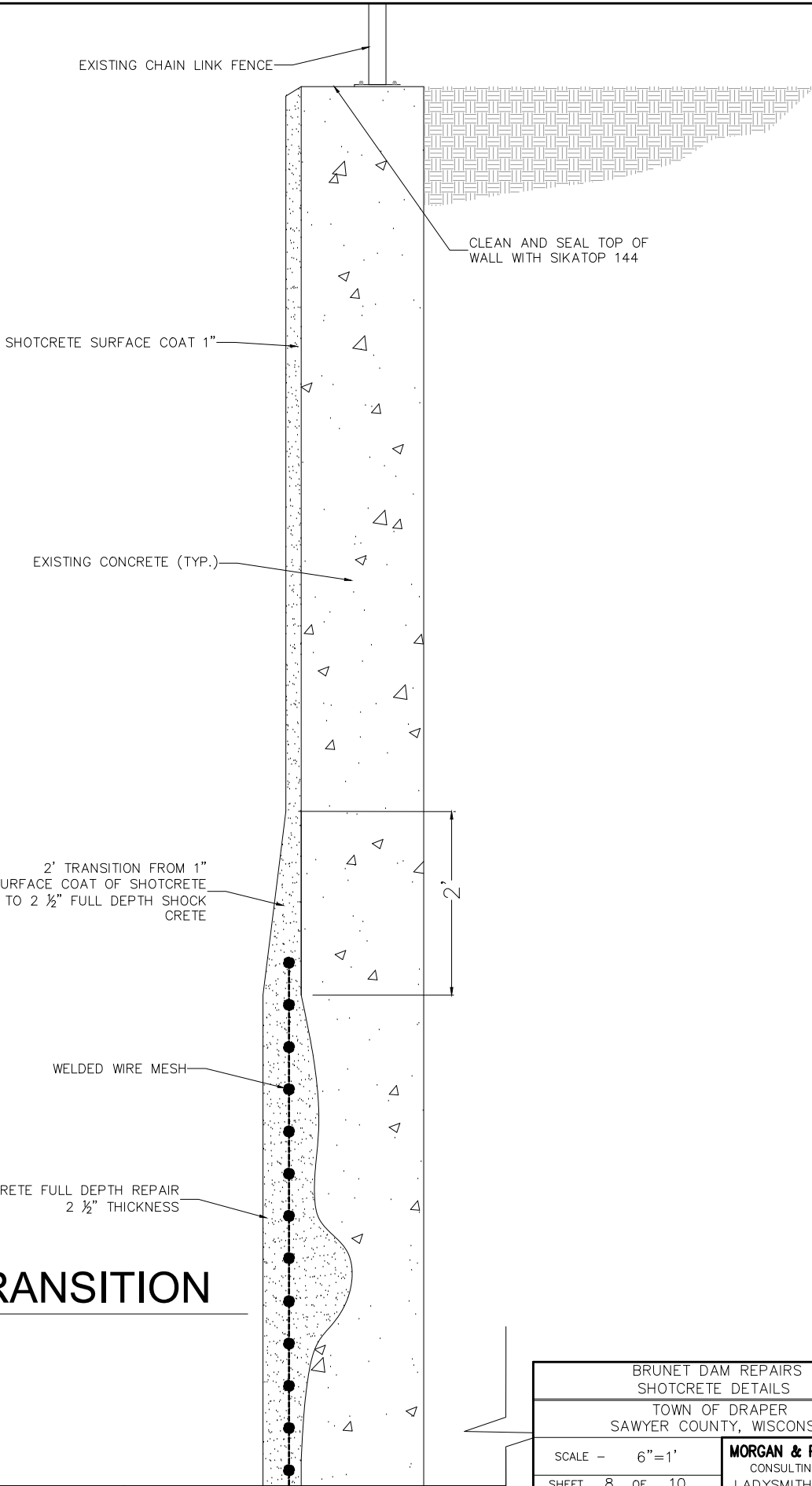


SHOTCRETE REPAIR FULL DEPTH HORIZONTAL OR VERTICAL SURFACE



1" SHOTCRETE SURFACE COAT HORIZONTAL OR VERTICAL SURFACE

SHOTCRETE TRANSITION



BRUNET DAM REPAIRS SHOTCRETE DETAILS	
TOWN OF DRAPER SAWYER COUNTY, WISCONSIN	
SCALE - 6"=1'	MORGAN & PARMLEY, LTD. CONSULTING ENGINEERS
SHEET 8 OF 10	LADYSMITH, WISCONSIN
DATE 12/30/2020	DR. BY E.G.



PROPOSED PIERS

N.T.S.

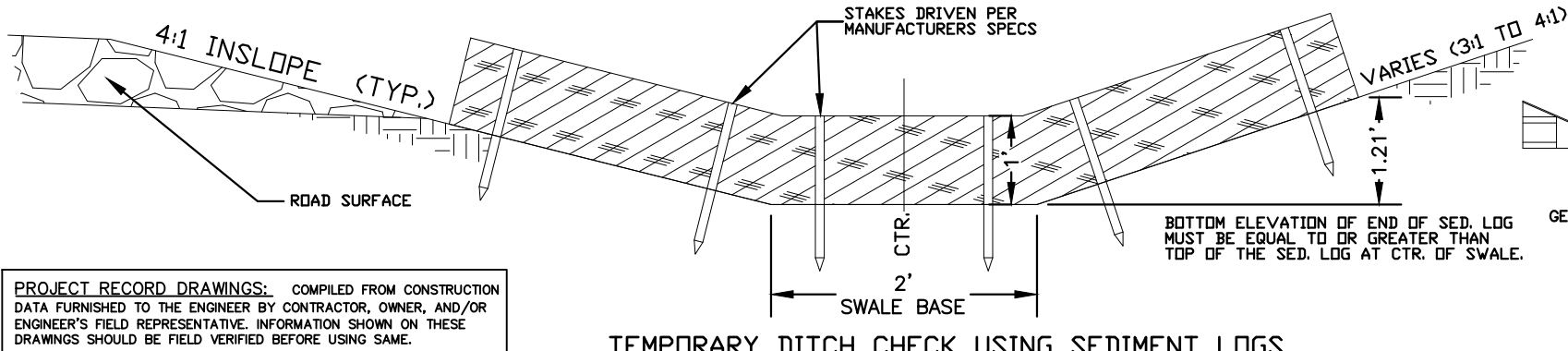
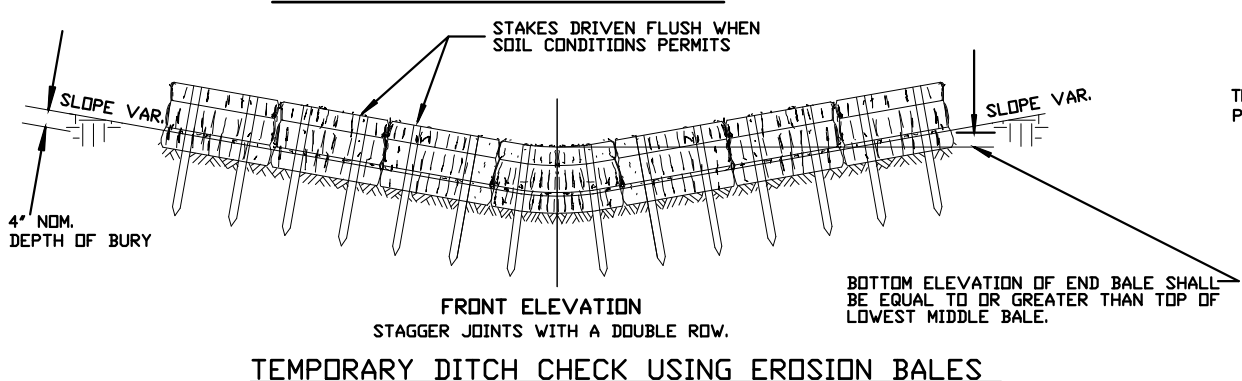
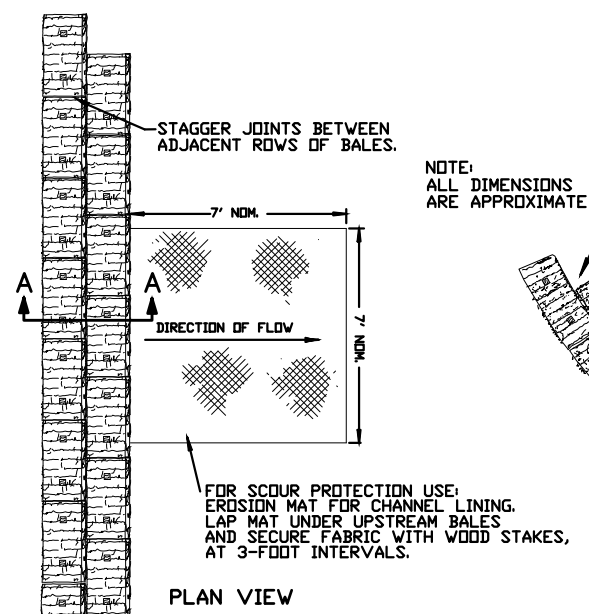
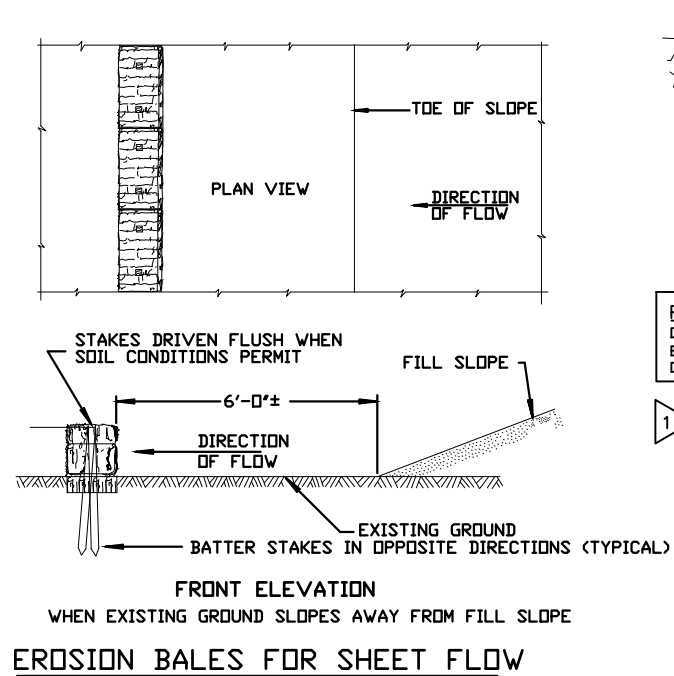


EXISTING LIFTING RAIL

N.T.S.

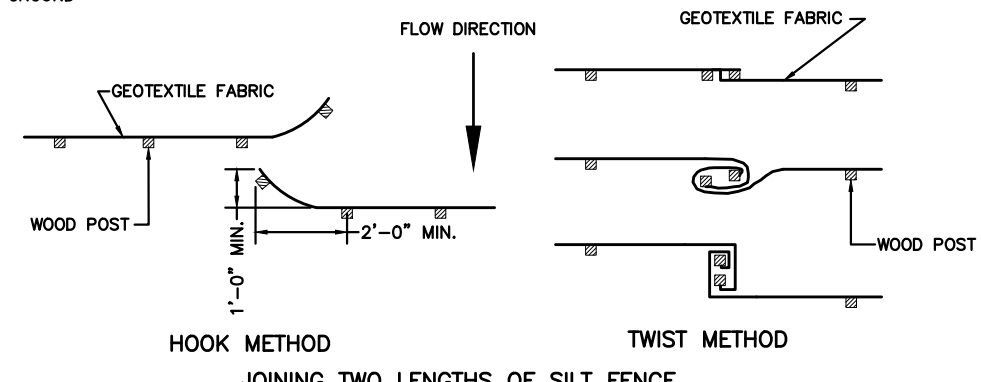
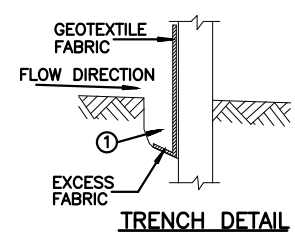
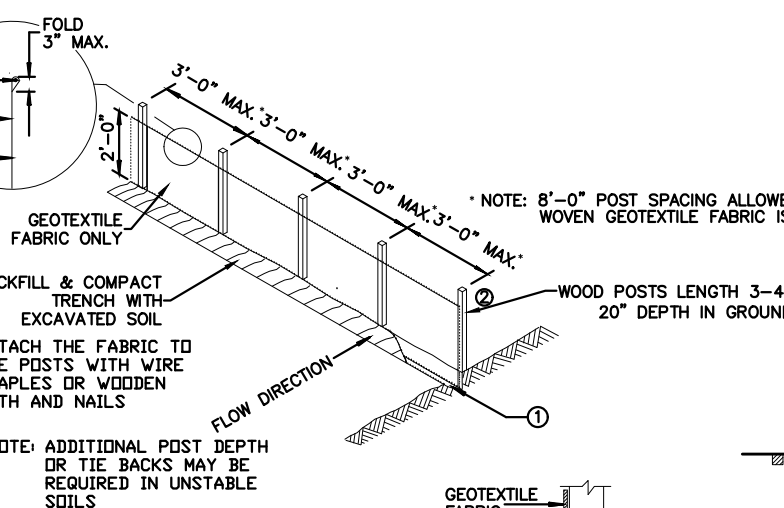
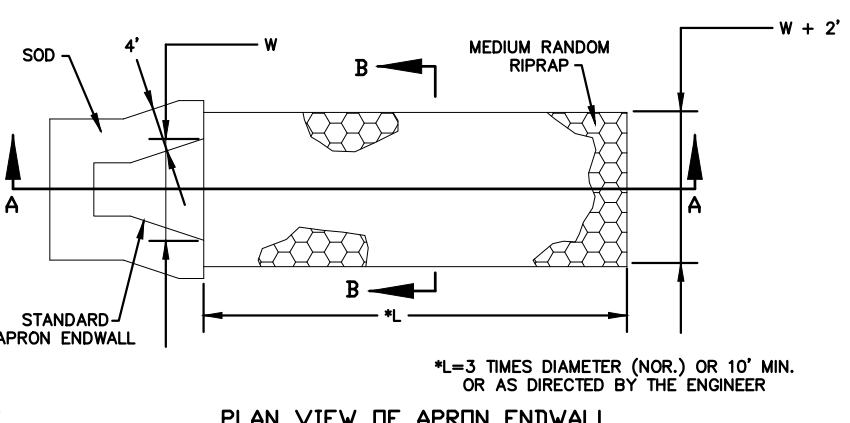
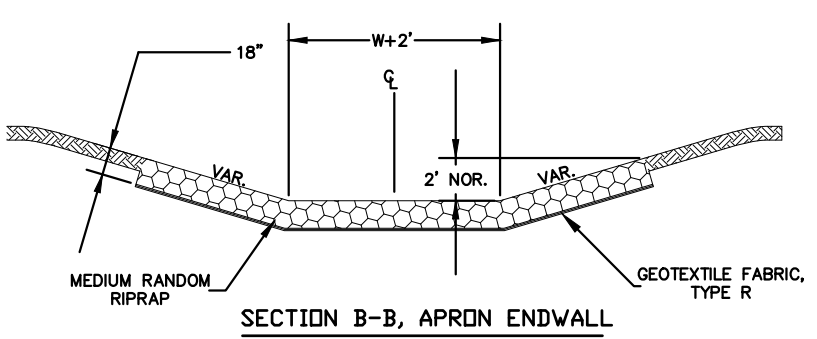
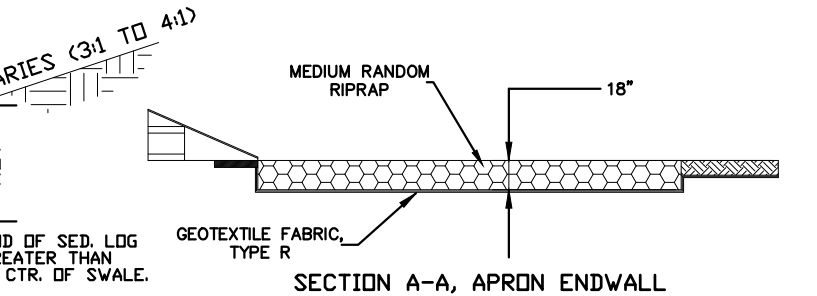
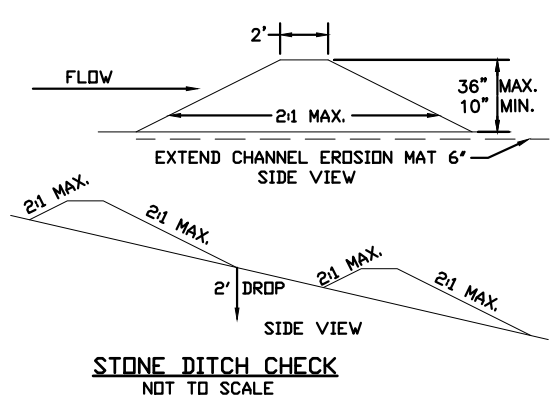
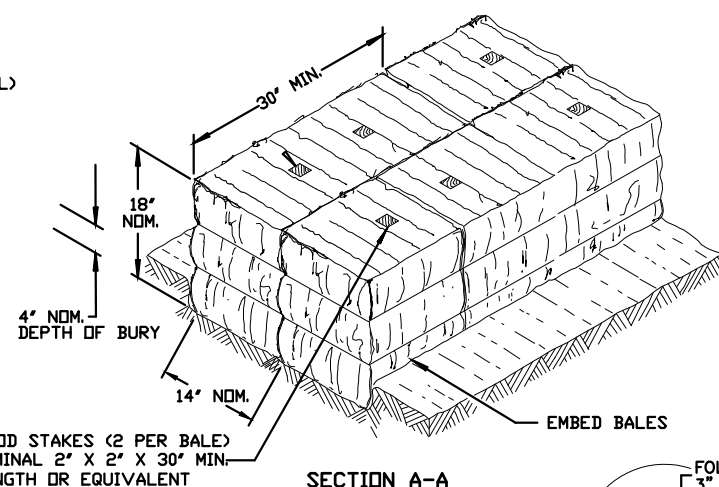
REFER TO SECTION 1010 PAGES 10-13
FOR MORE PHOTOS

BRUNET DAM REPAIRS PHOTOS	
TOWN OF DRAPER SAWYER COUNTY, WISCONSIN	
SCALE - AS NOTED	MORGAN & PARMLEY, LTD. CONSULTING ENGINEERS 115 W. 2nd STREET SOUTH LADYSMITH, WI 54848 (715) 532-3721
SHEET 9 OF 10	DR. BY E.G.
DATE 12-30-2020	



PROJECT RECORD DRAWINGS: COMPILED FROM CONSTRUCTION DATA FURNISHED TO THE ENGINEER BY CONTRACTOR, OWNER, AND/OR ENGINEER'S FIELD REPRESENTATIVE. INFORMATION SHOWN ON THESE DRAWINGS SHOULD BE FIELD VERIFIED BEFORE USING SAME.

1 ADDED AS BUILT INFORMATION, 8/28/2012, Z.G.



- GENERAL NOTES**
- 1 TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
 - 2 WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
 - 3 CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING METHODS:
A) TWIST METHOD --- OVERLAP THE END POST AND TWIST, OR ROTATE, AT LEAST 180 DEGREES.
B) HOOK METHOD --- HOOK THE END OF EACH SILT FENCE LENGTH.

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EROSION CONTROL BEST MANAGEMENT PRACTICES	
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