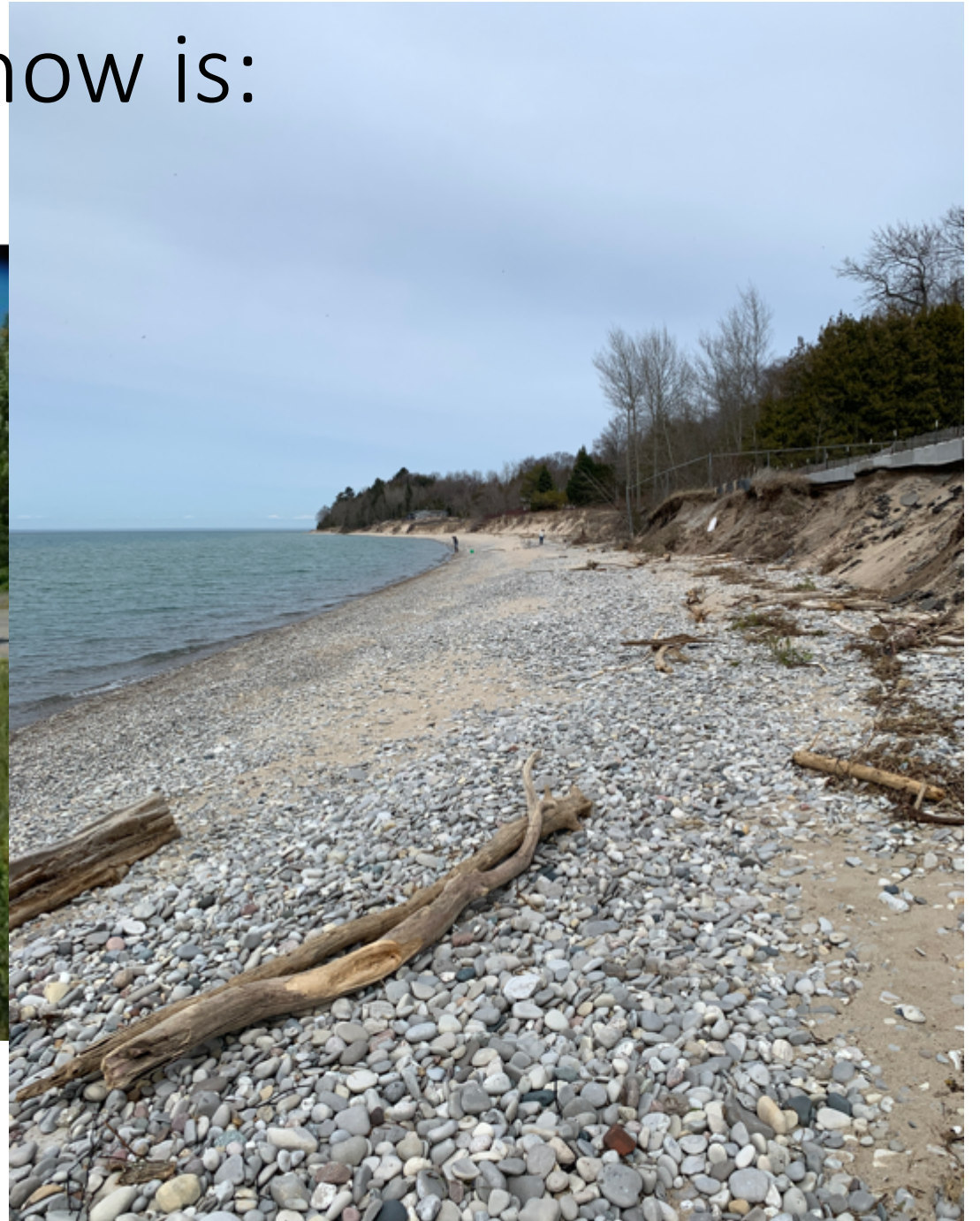


Christmas Cove Project (Proposal)



What was,.....now is:



The Immediate Problem:

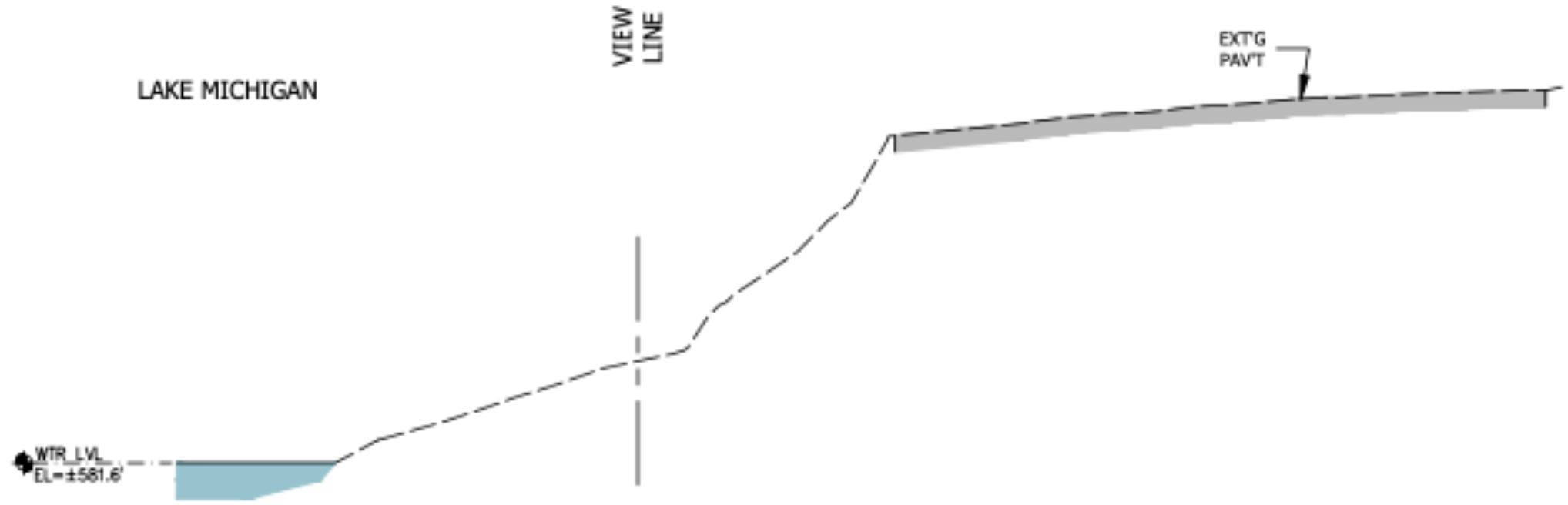


EXISTING

Dune and Parking Lot Edge

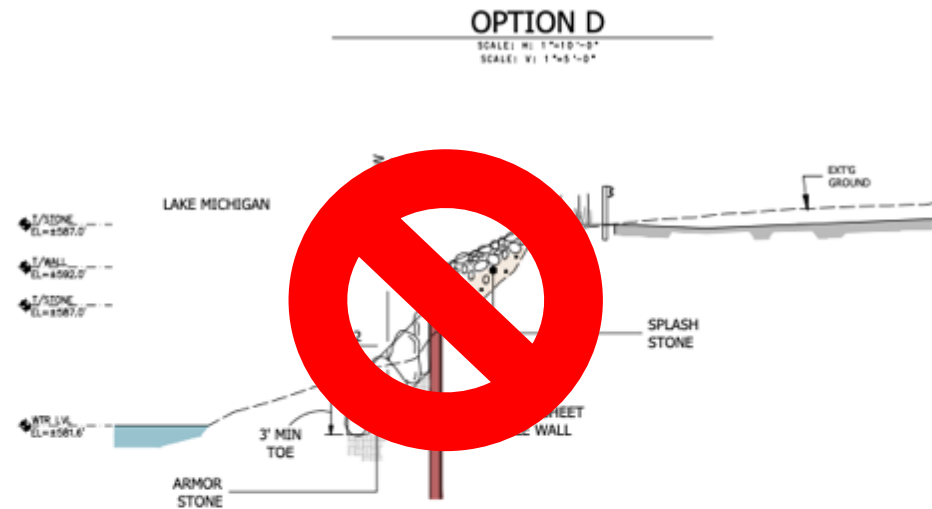
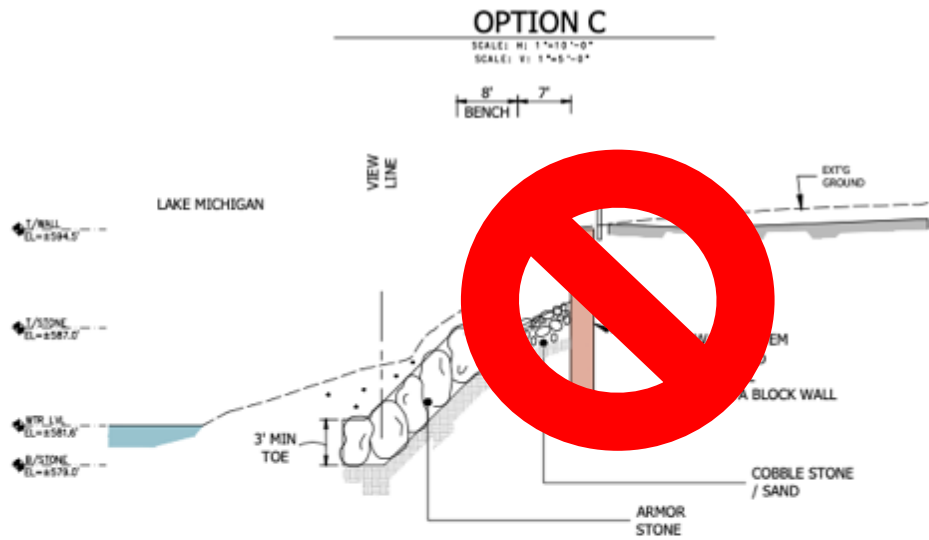
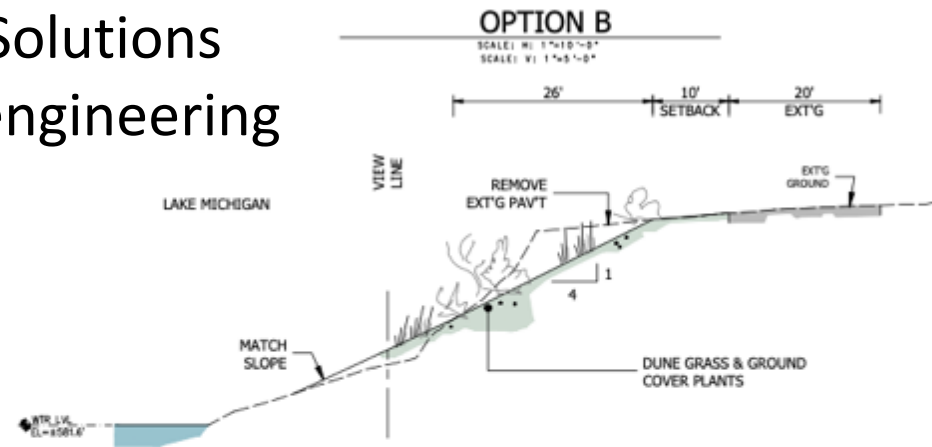
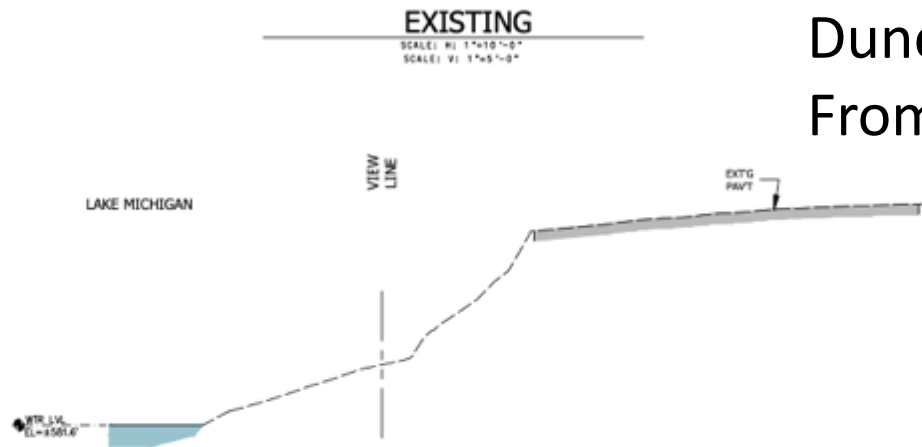
SCALE: H: 1"=10'-0"

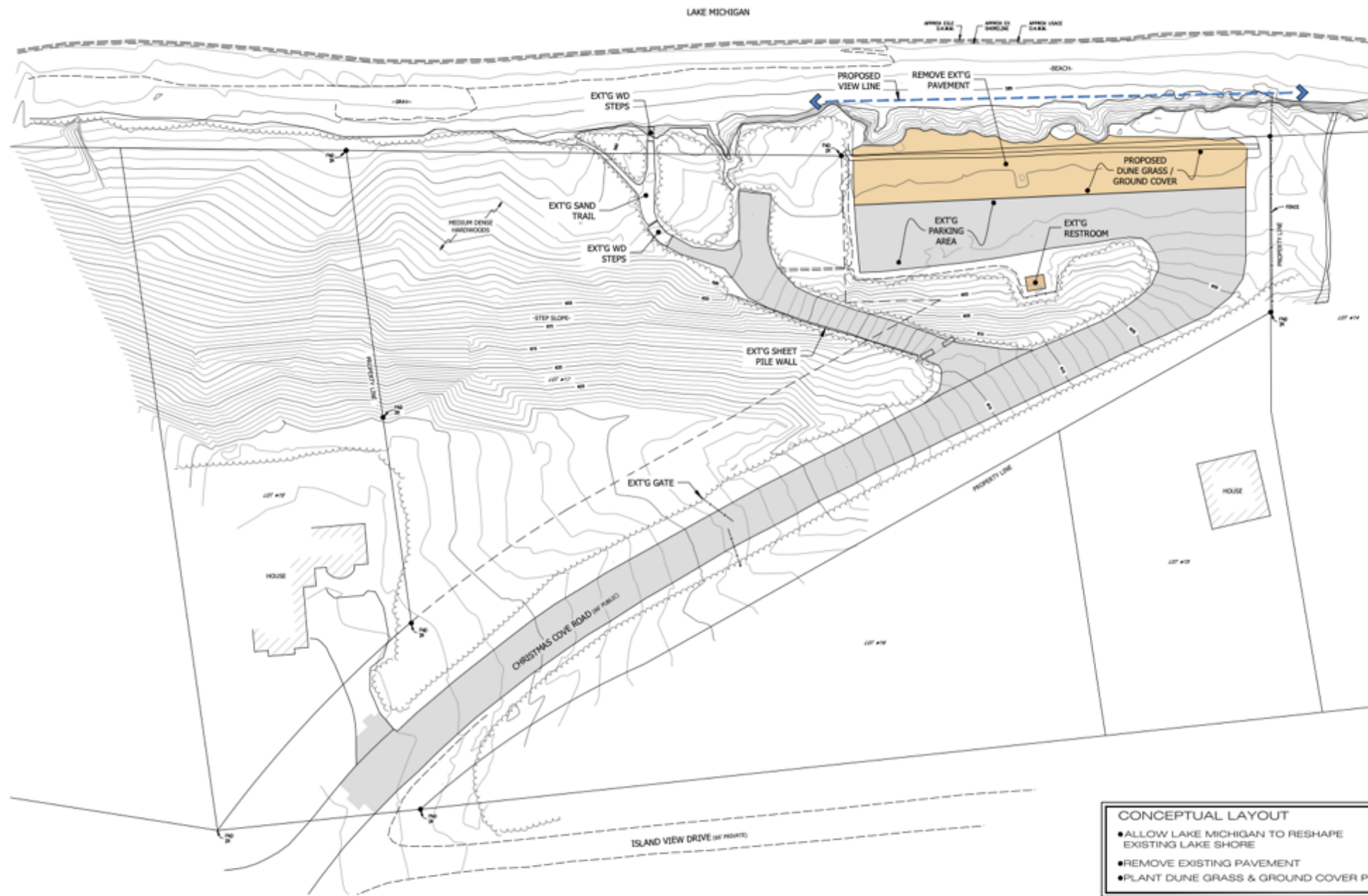
SCALE: V: 1"=5'-0"



The next 5 slides show the 4 proposals (A, B, C, & D) from Machin Engineering. Proposal D was approved last year. There is a strong desire for an affordable solution that does not include hardscape near the shore line. We are proposing features from Plans A and B using a “phased approach” to manage costs. There are some desirable features in Plans C & D that could be addressed in later phases (i.e. ADA access to the beach)

Dune Slope & Solutions From Machin engineering





- CONCEPTUAL LAYOUT**
- ALLOW LAKE MICHIGAN TO RESHAPE EXISTING LAKE SHORE
 - REMOVE EXISTING PAVEMENT
 - PLANT DUNE GRASS & GROUND COVER PLANTS

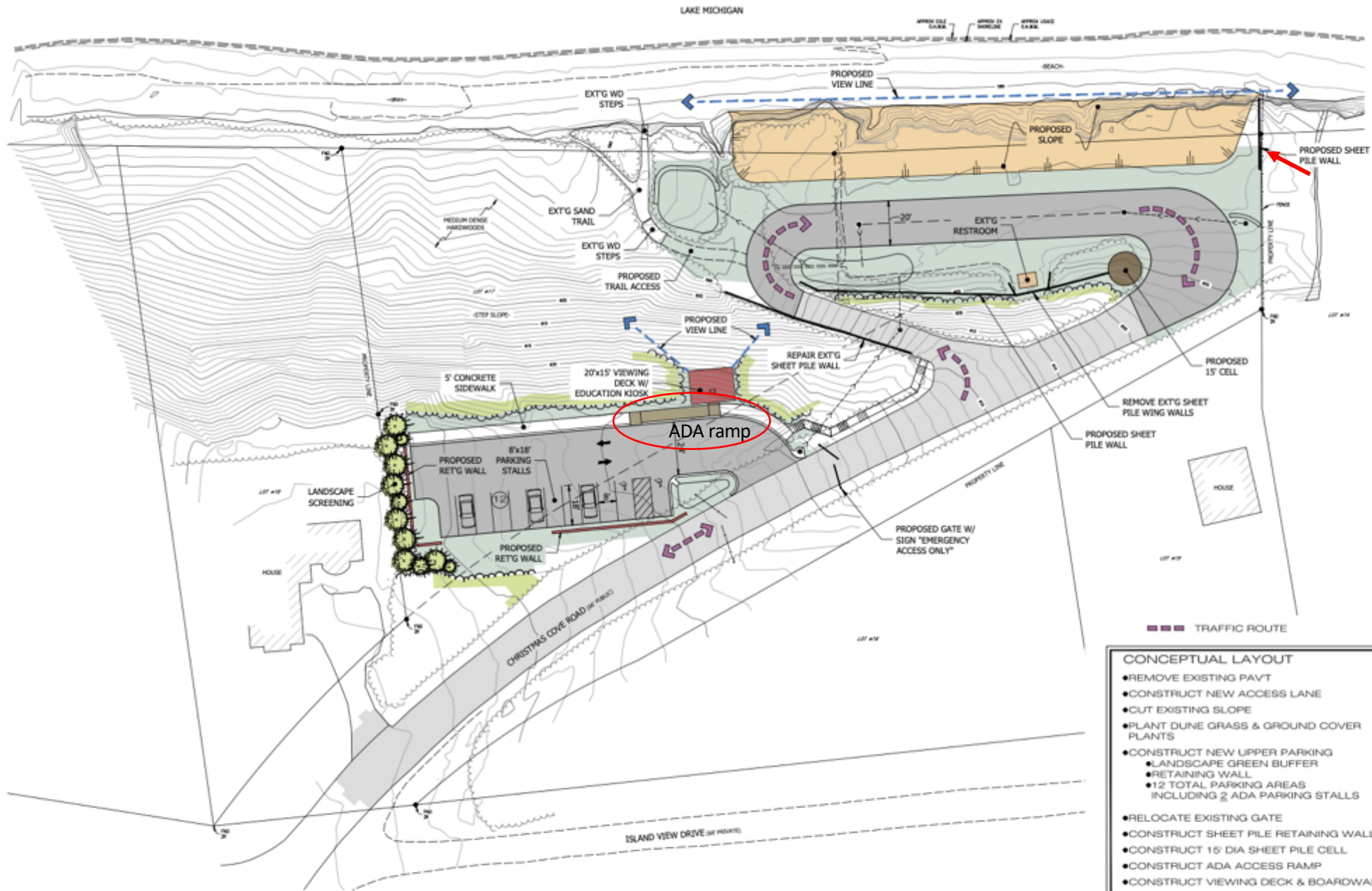
PROPOSED CONCEPTUAL - OPTION A
 LEELANAU TOWNSHIP, MI



TAVISE CITY, MI PH 231.935.1530
 LUDINGTON, MI www.machinengineering.com



PROJECT: 19210 DATE OF PLAN: 02-04-2020



ADA ramp

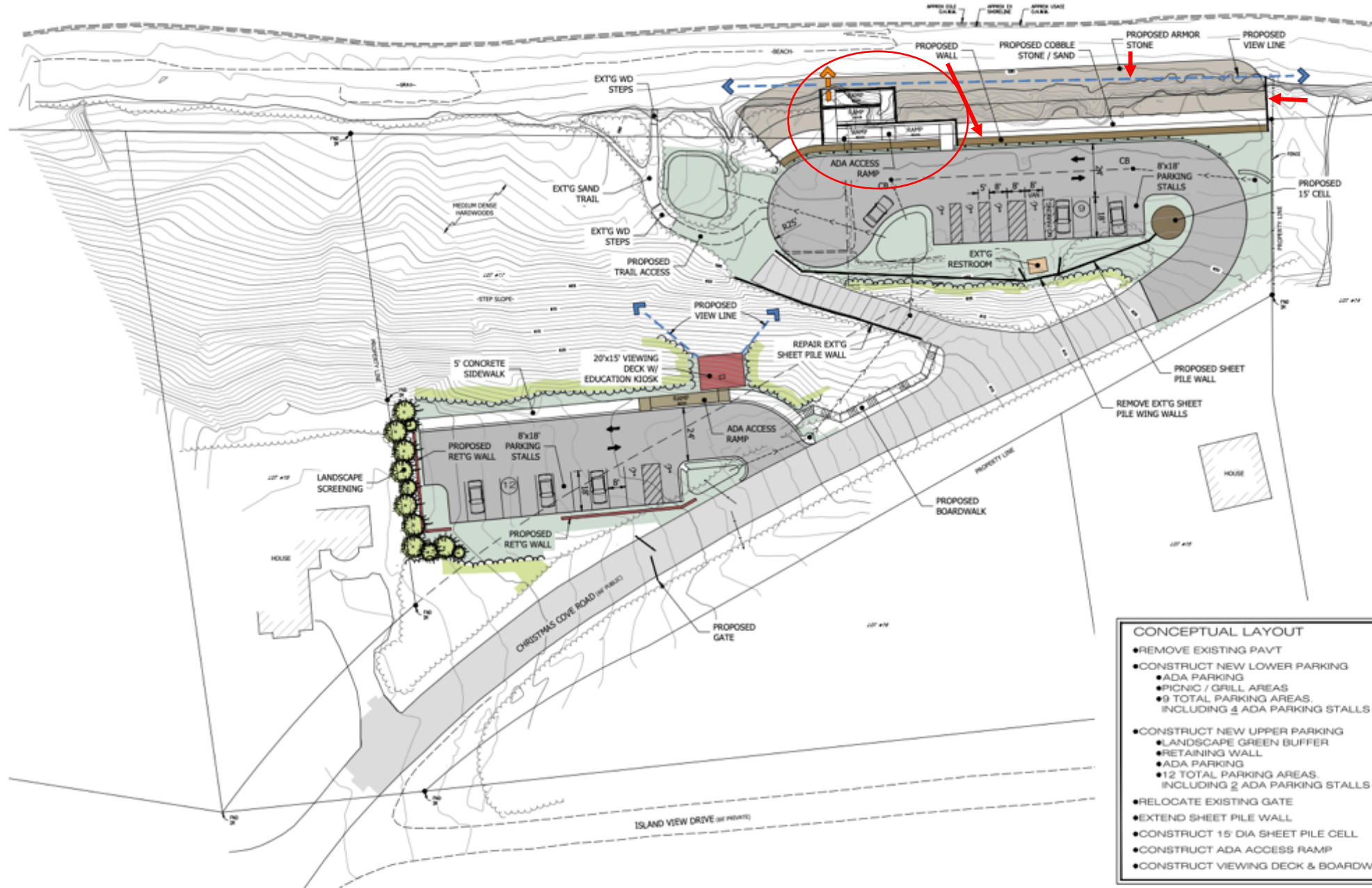
- CONCEPTUAL LAYOUT
- REMOVE EXISTING PAVT
 - CONSTRUCT NEW ACCESS LANE
 - CUT EXISTING SLOPE
 - PLANT DUNE GRASS & GROUND COVER PLANTS
 - CONSTRUCT NEW UPPER PARKING
 - LANDSCAPE GREEN BUFFER
 - RETAINING WALL
 - 12 TOTAL PARKING AREAS INCLUDING 2 ADA PARKING STALLS
 - RELOCATE EXISTING GATE
 - CONSTRUCT SHEET PILE RETAINING WALL
 - CONSTRUCT 15' DIA SHEET PILE CELL
 - CONSTRUCT ADA ACCESS RAMP
 - CONSTRUCT VIEWING DECK & BOARDWALK

PROPOSED CONCEPTUAL - OPTION B

LEELANAU TOWNSHIP, MI



GRAPHIC SCALE: 1 inch = 20 feet
0 10 20 30



- CONCEPTUAL LAYOUT**
- REMOVE EXISTING PAVT
 - CONSTRUCT NEW LOWER PARKING
 - ADA PARKING
 - PICNIC / GRILL AREAS
 - 9 TOTAL PARKING AREAS, INCLUDING 4 ADA PARKING STALLS
 - CONSTRUCT NEW UPPER PARKING
 - LANDSCAPE GREEN BUFFER
 - RETAINING WALL
 - ADA PARKING
 - 12 TOTAL PARKING AREAS, INCLUDING 2 ADA PARKING STALLS
 - RELOCATE EXISTING GATE
 - EXTEND SHEET PILE WALL
 - CONSTRUCT 15' DIA SHEET PILE CELL
 - CONSTRUCT ADA ACCESS RAMP
 - CONSTRUCT VIEWING DECK & BOARDWALK

PROPOSED CONCEPTUAL - OPTION C

LEELANAU TOWNSHIP, MI

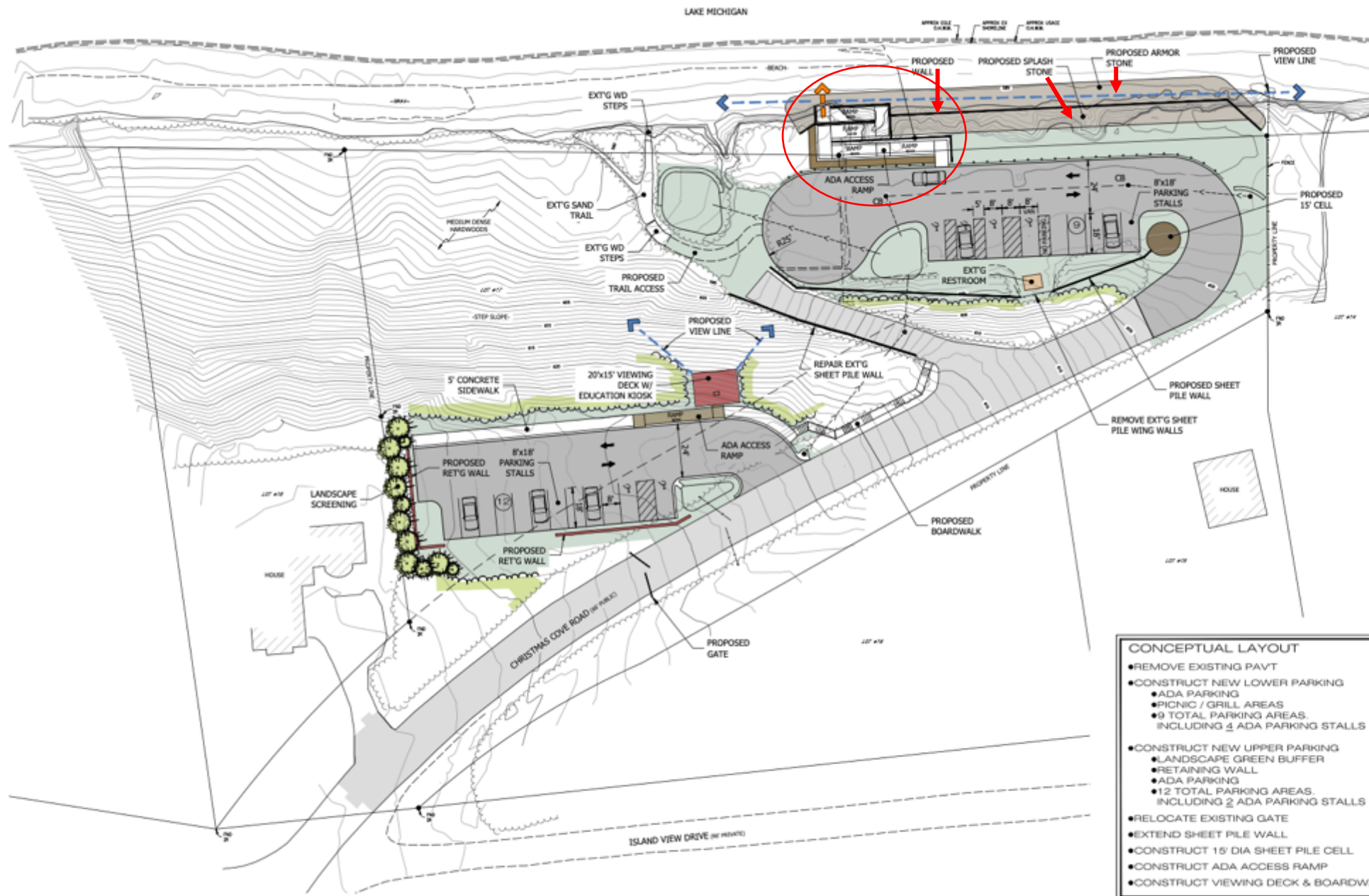


TRAVERSE CITY, MI PH 231.935.1330
LUDINGTON, MI



GRAPHIC SCALE 1" = 20' 0"





- CONCEPTUAL LAYOUT**
- REMOVE EXISTING PAVT
 - CONSTRUCT NEW LOWER PARKING
 - ADA PARKING
 - PICNIC / GRILL AREAS
 - 9 TOTAL PARKING AREAS, INCLUDING 4 ADA PARKING STALLS
 - CONSTRUCT NEW UPPER PARKING
 - LANDSCAPE GREEN BUFFER
 - RETAINING WALL
 - ADA PARKING
 - 12 TOTAL PARKING AREAS, INCLUDING 2 ADA PARKING STALLS
 - RELOCATE EXISTING GATE
 - EXTEND SHEET PILE WALL
 - CONSTRUCT 15' DIA SHEET PILE CELL
 - CONSTRUCT ADA ACCESS RAMP
 - CONSTRUCT VIEWING DECK & BOARDWALK

PROPOSED CONCEPTUAL - OPTION D
LEELANAU TOWNSHIP, MI



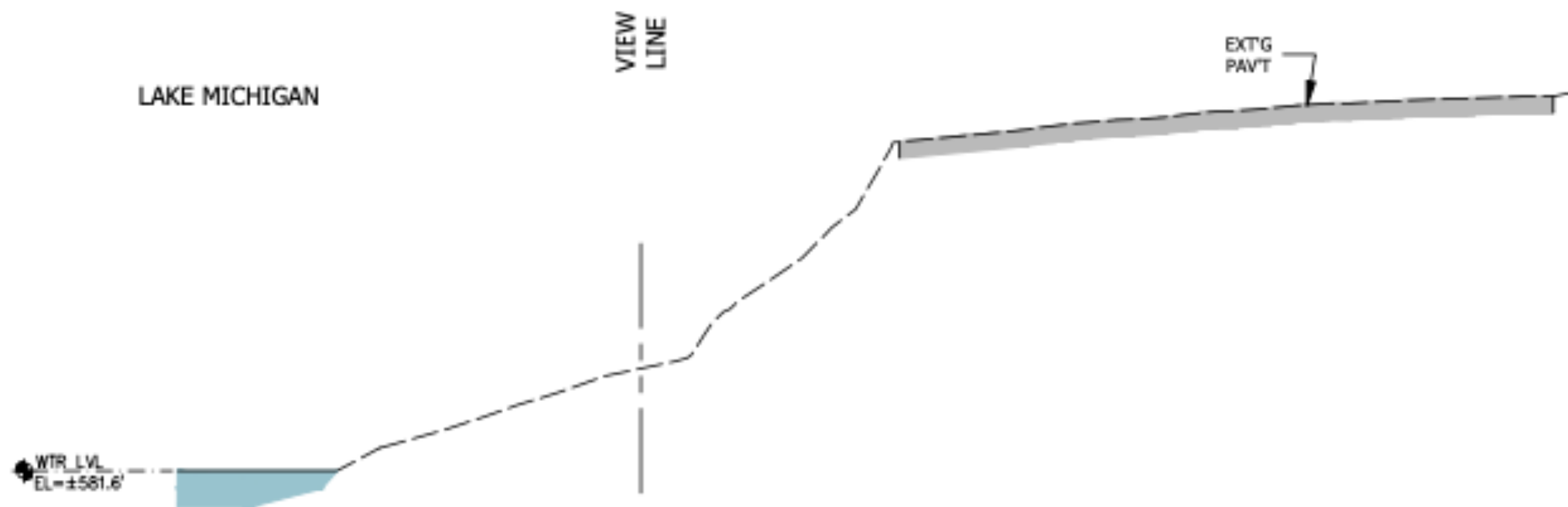
Phase I:



EXISTING

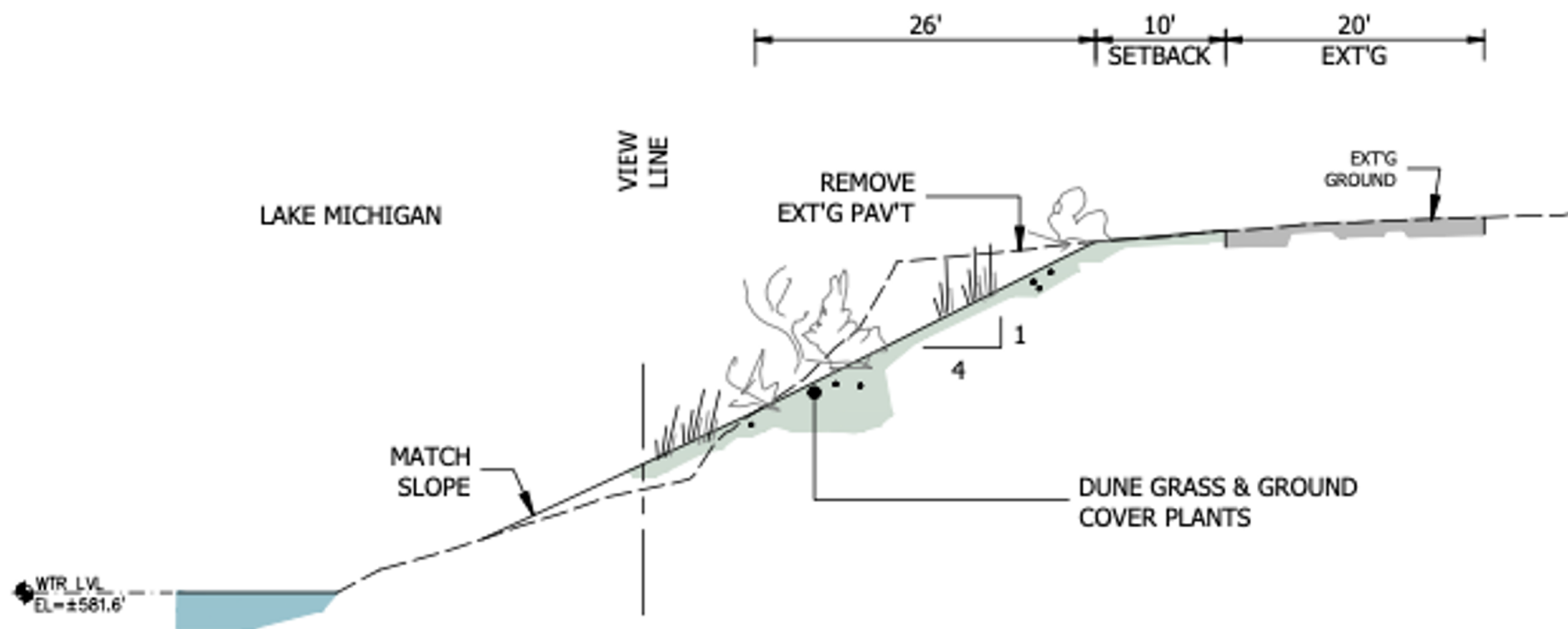
SCALE: H: 1"=10'-0"

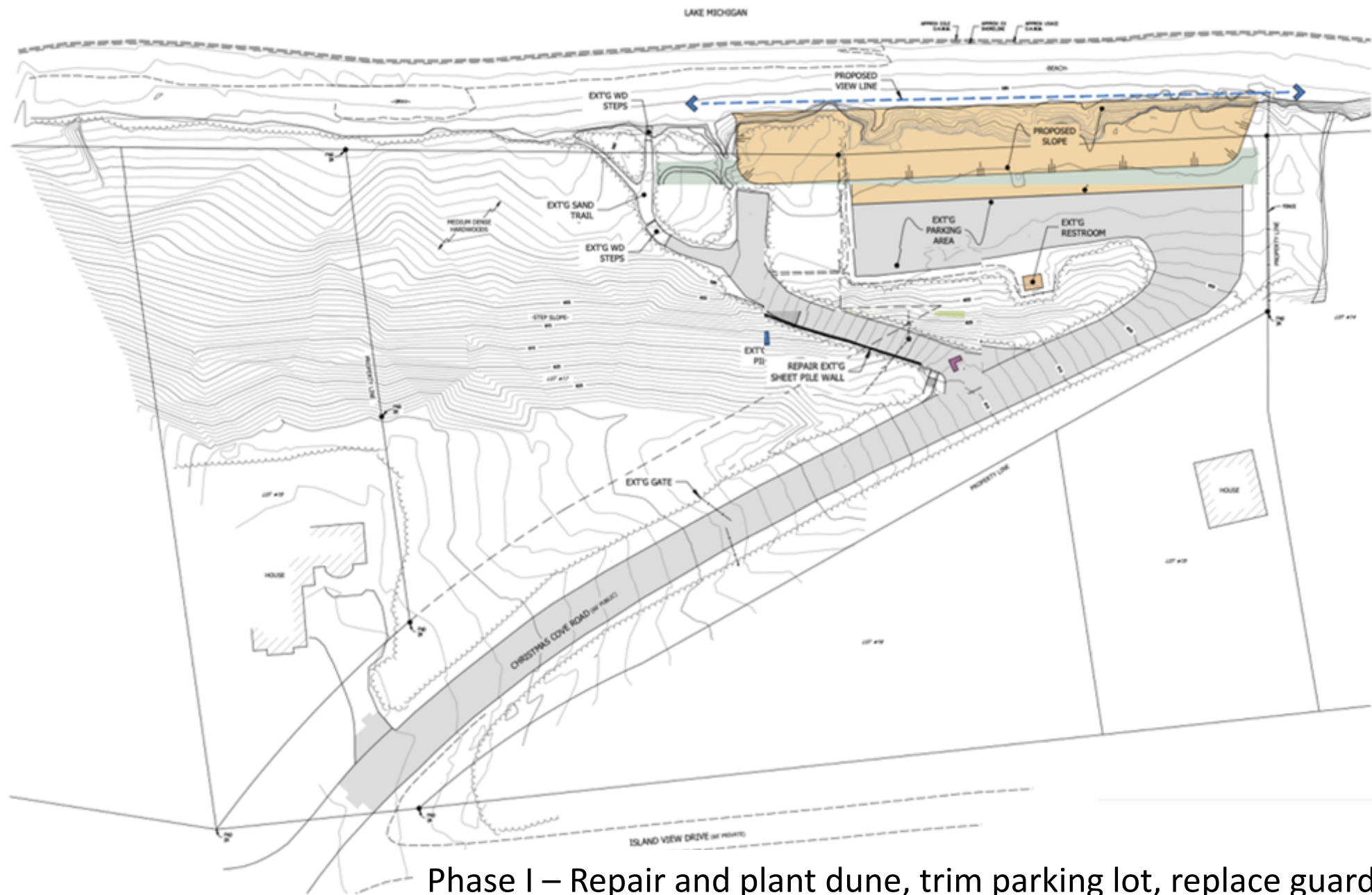
SCALE: V: 1"=5'-0"



Phase I Dune Repair

SCALE: H: 1"=10'-0"
SCALE: V: 1"=5'-0"





PROPOSED CONCEPT I
LEELANAU TOWNSHIP, MI

Phase I – Repair and plant dune, trim parking lot, replace guard rail, add burm in front of asphalt to absorb run off, possibly add drainage. Repair existing walkway and sheet pile wall (if needed)

KAL EXCAVATING CO.

P.O. Box 92 Omena, MI 49674

Telephone: (231) 386-5321

Fax: (231) 386-9059

Date: March 5, 2021

Leelanau Township
119 E Nagonaba St
Northport, MI 49670

Project: Christmas Cove

- Saw-cut asphalt along west edge of concrete barriers.
- Remove concrete barriers.
- Slope existing soil from saw-cut asphalt to beach on a 2/1-3/1 slope.
- Import and spread fill material as needed for slope.
- Import and spread 4" of topsoil on slope.
- Seed and mulch slope.
- Re-install guardrail, does not include materials or hardware.

Estimate: \$19,500

PAYMENT DUE immediately upon its delivery of an invoice outlining the work provided and amount due. A time differential of 1.5% per month shall be imposed upon all invoices unpaid after 15 days.

This proposal may be withdrawn by us if not accepted within 60 days.

We appreciate being given the opportunity to quote on this project.

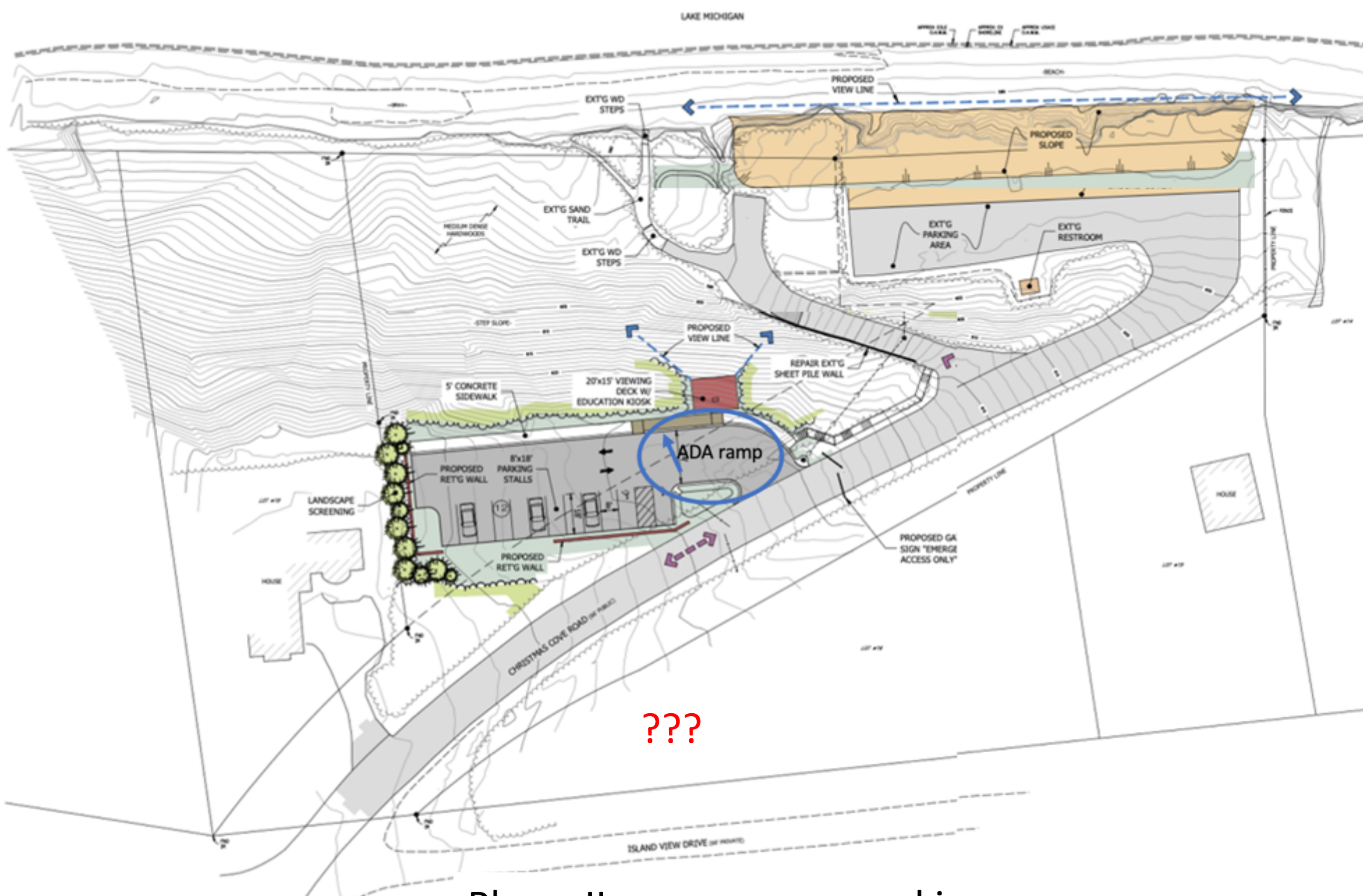
All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from these specifications will become an extra charge over and above the estimate. We are fully covered by Commercial Liability and Worker's Compensation insurance.


Joel Voss, Project Manager/Estimator

ACCEPTANCE OF PROPOSAL: The prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

Signature

Date



PROPOSED CONCEPT
LEELANAU TOWNSHIP, MI

Phase II – new upper parking area,
observation deck, ADA ramp to deck