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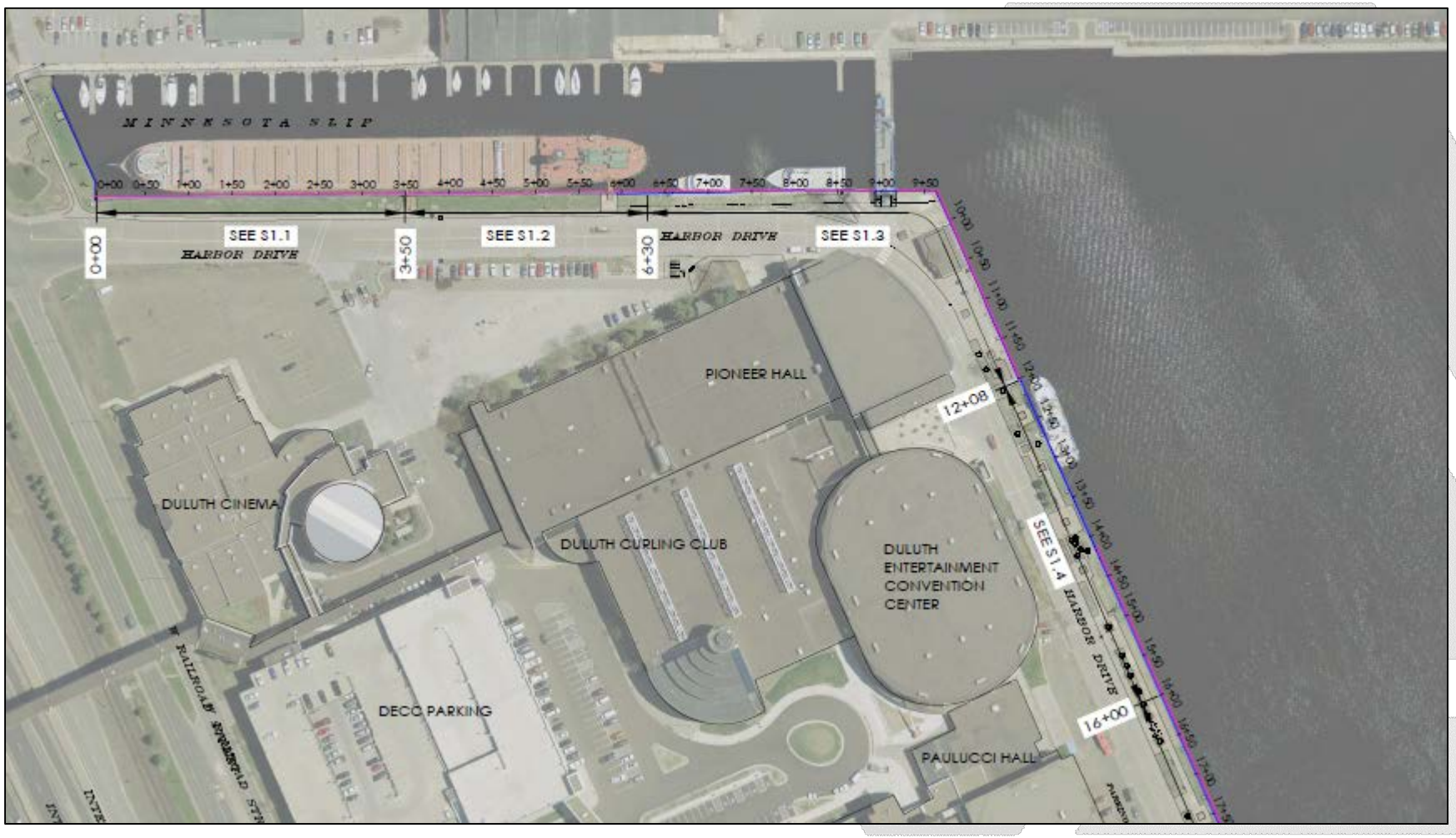
DECC SEAWALL PROJECT

Duluth, MN



CHAD SCOTT, PE

CHASE DEWHIRST, PE

AMI Consulting Engineers, PA - Multidiscipline Engineering Firm

Marine | Civil | Structural | Mechanical | Environmental

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OWNER

- City of Duluth / DECC

ENGINEER:

- Civil, Marine, Mechanical, Environmental – AMI
- Electrical – Gausman & Moore

THE CITY OF DULUTH MINNESOTA

DECC Duluth Entertainment Convention Center

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Gausman & Moore
Mechanical and Electrical Engineers

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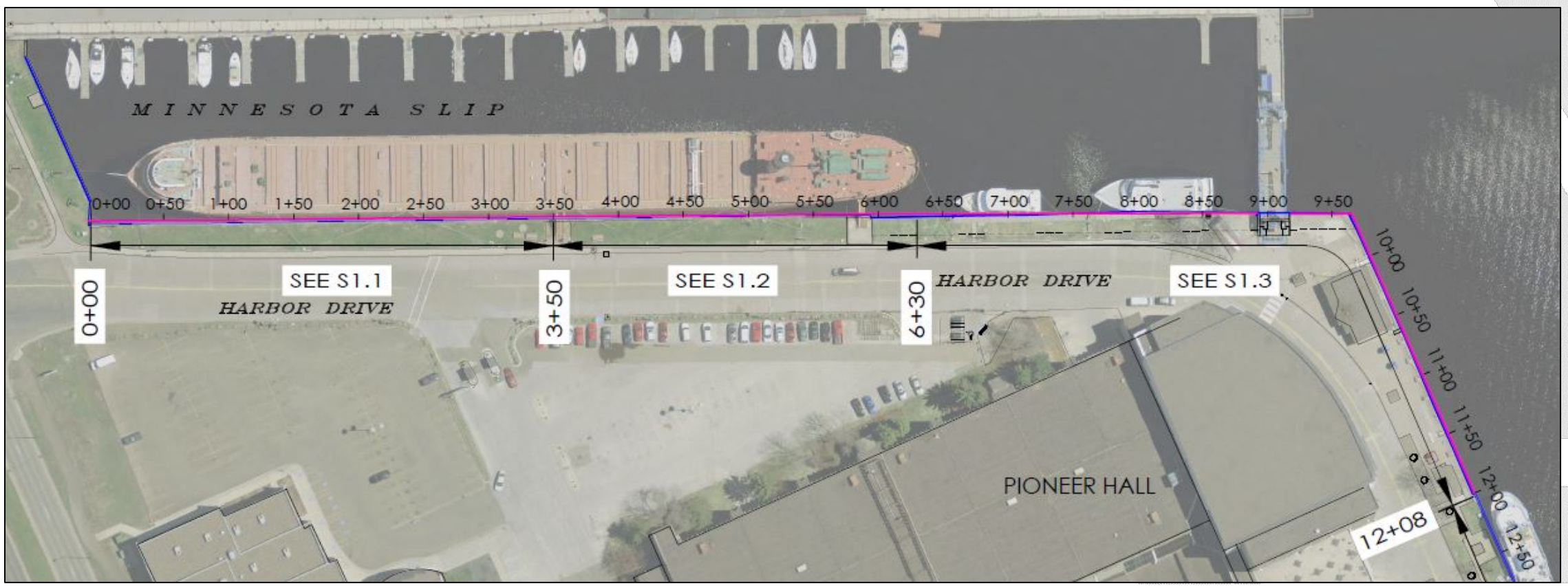

Limits of Construction: Inner End of MN Slip & STA 0+00 to 12+08

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GENERAL CONSTRUCTION OVERVIEW

- Install New Epoxy Coated Seawall – 54,810 SF
  - 1,218 LF x 45' Length SSP
  - C12x30 Double Wale
  - 1-3/4" Tierods
  - Timber Rub Rails
- Install New Tieback System – 1,140 LF
  - HP10x42 Piling
  - W14x120 Transfer Beam
  - Design Helical Anchors
- Install New Bollards & Foundations – 8 EA
- Design & Install Camel System – 1 LS
- Demo portions of existing seawall
- Demo Vista Fleet Building
- Demo Vista Temporary Platform
- Civil / Mechanical / Electrical Work
- Alternatives
  - #1 – Curb & Gutter / Bike Path
  - #2 – Remaining Concrete Flatwork & Sidewalks
  - #3 – Mechanical Material Installation
  - #4 – Electrical Installation
  - ***BIDS DUE 11/8/17***

GENERAL CONSTRUCTION OVERVIEW/CONT

- ADDENNDUMS
  - Bid form to include Electrical & Updated Quantities
  - Documentation further explaining what is included in each bid item
  - Final Construction Documents
  - Historical Documents

OWNER FURNISHED MATERIALS

- Two Request For Bids Currently Out
  - Structural Steel (Bid Opening 10/31/17)
    - Steel Sheet Pile
    - HP10x42 Steel Piling for Tieback System
    - W14x120 Steel Transfer Beam for Tieback System
    - 3/8" Bent Steel Cap
  - Application of High-Performance Coating (Bid Opening 11/7/17)

***All Owner furnished materials are based on Neat Line Quantities per the Bid Form. The Contractor is responsible for any additional materials including the installation of a high-performance coating on the steel sheet piling per the technical specifications.

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SITE CONDITIONS & GENERAL INFORMATION

- Scope of Work Limits
  - MN Slip Inner End, and STA 0+00 to 12+08
- Schedule
  - Substantial Completion by June 1, 2018
  - Final Completion by June 15, 2018
- Liquidated Damages
  - $1,000 per Day after June 1, 2018
- Vista Fleet Building
  - Asbestos
  - Underground Storage Tank
  - Electronics
- Contaminated Soils
- Tight Work Area
  - May need to shore roadway during Helical Anchor Installation
  - Work restricted within 30’ of existing retaining structure
    - Wood Relieving Platform
    - One lane closure Harbor Drive

SITE CONDITIONS & GENERAL INFORMATION/CONT.

- Winter Work
- Staging Areas
  - On-site – DECC
  - Off-site
- Permits
  - MPCA
  - Building Demo
  - Lane Closures
  - DNR, USACE – Pending

OWNER FURNISHED MATERIAL SCHEDULE

- City Council Meeting: November 20, 2017
- Steel Sheet Piling & Cap, H Piling, W Beams
  - FOB DECC: December 18, 2017
- High-Performance Coating on Steel Sheet Piling
  - FOB DECC: February 2, 2018

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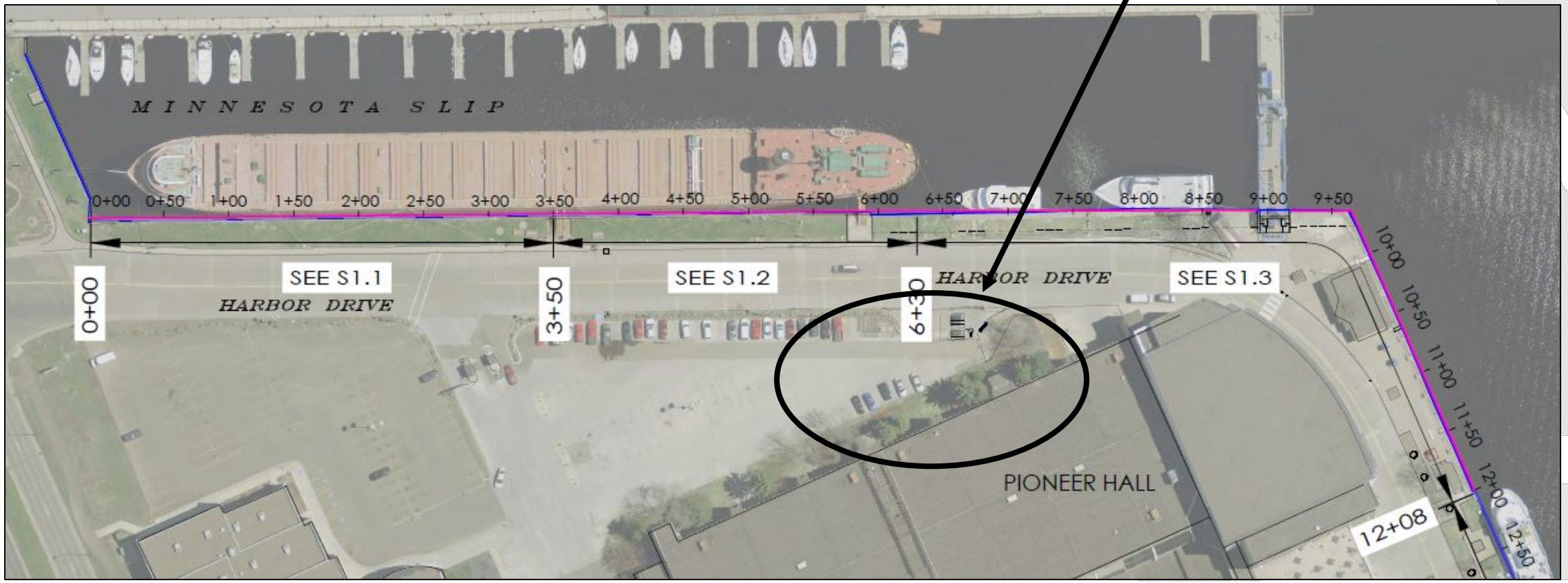

Limits of Construction: Inner End of MN Slip & STA 0+00 to 12+08

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MARINE WORK

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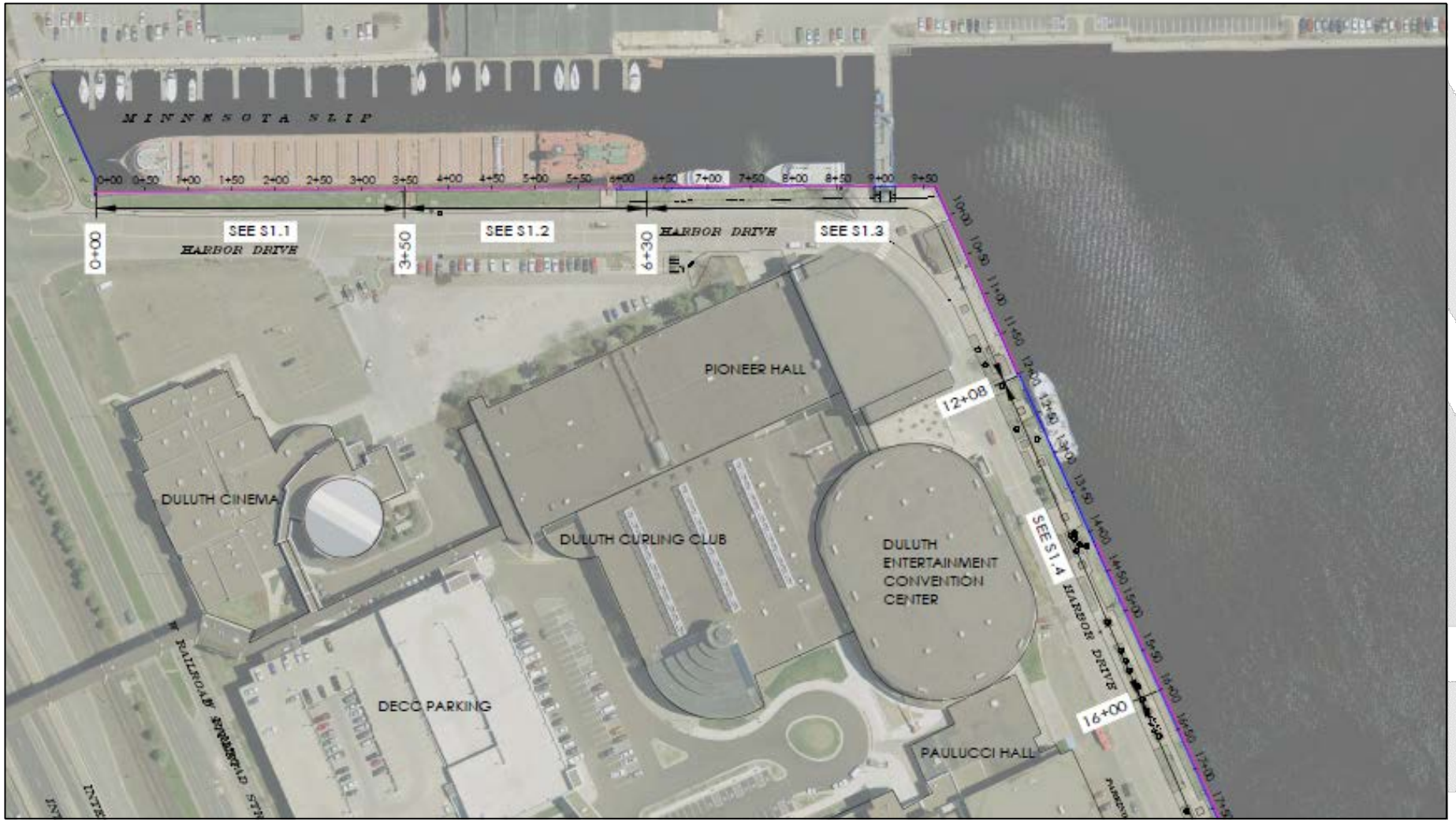
MN SLIP INNER END

- Existing Steel Sheet Pile
- New Steel Sheet Pile Cap



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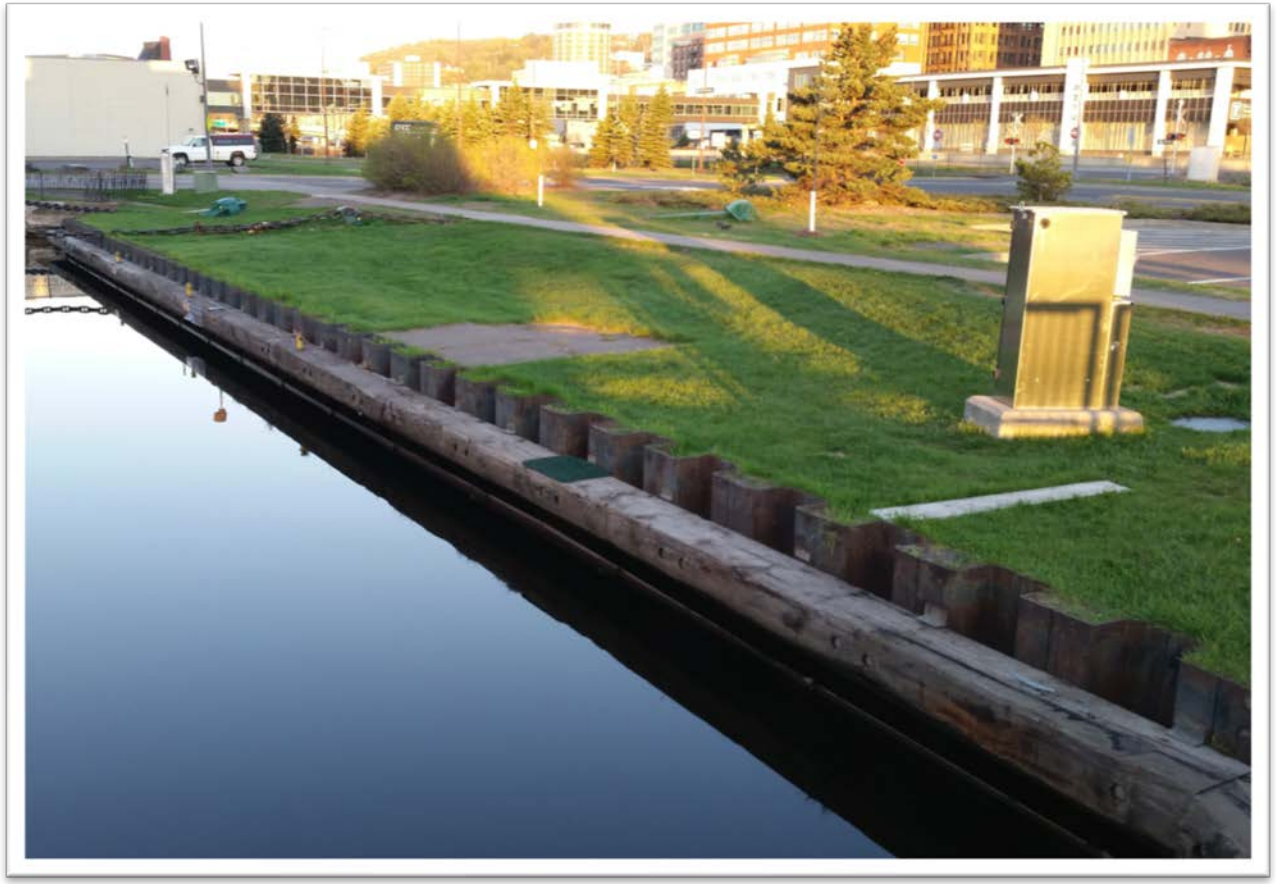
MN SLIP INNER END – Existing Steel Sheet Pile



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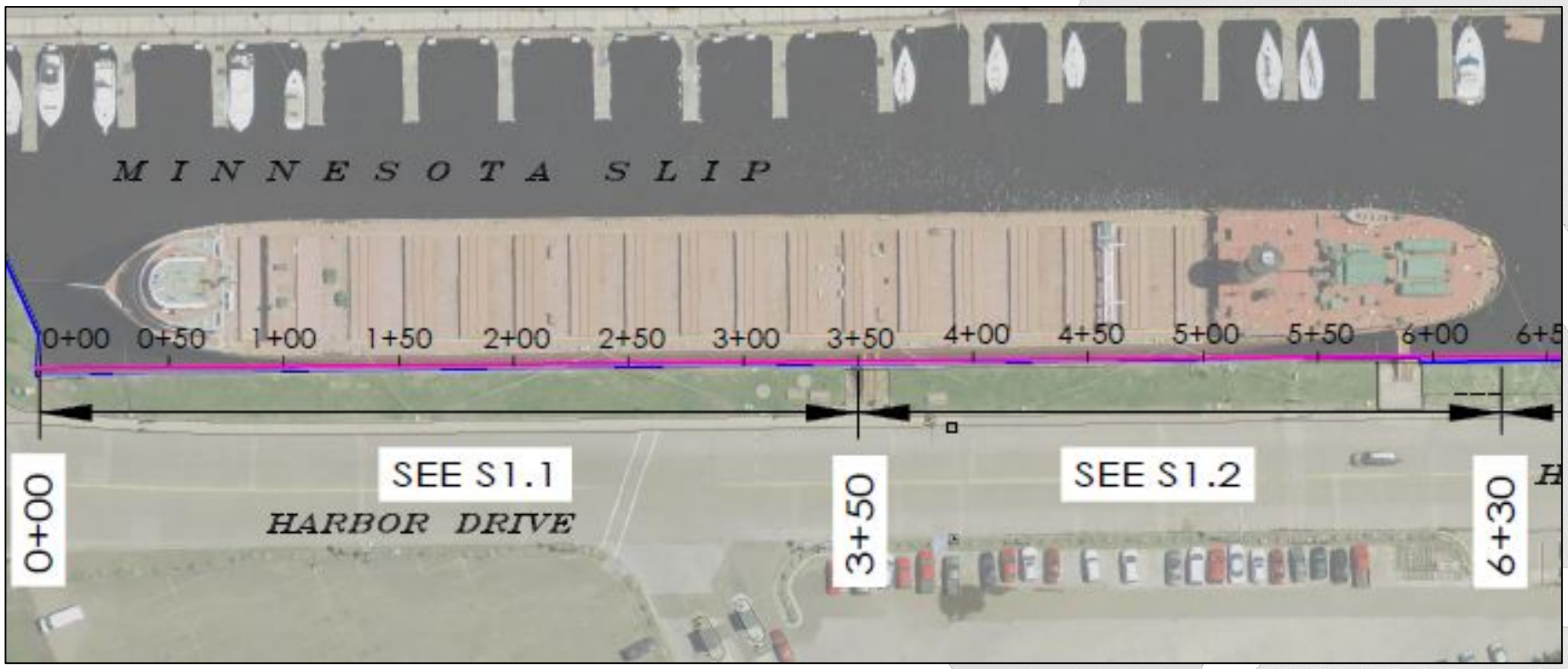
STA 0+00 to 6+02

- Wakefield Piling
- Pile Supported Concrete Dock Cap



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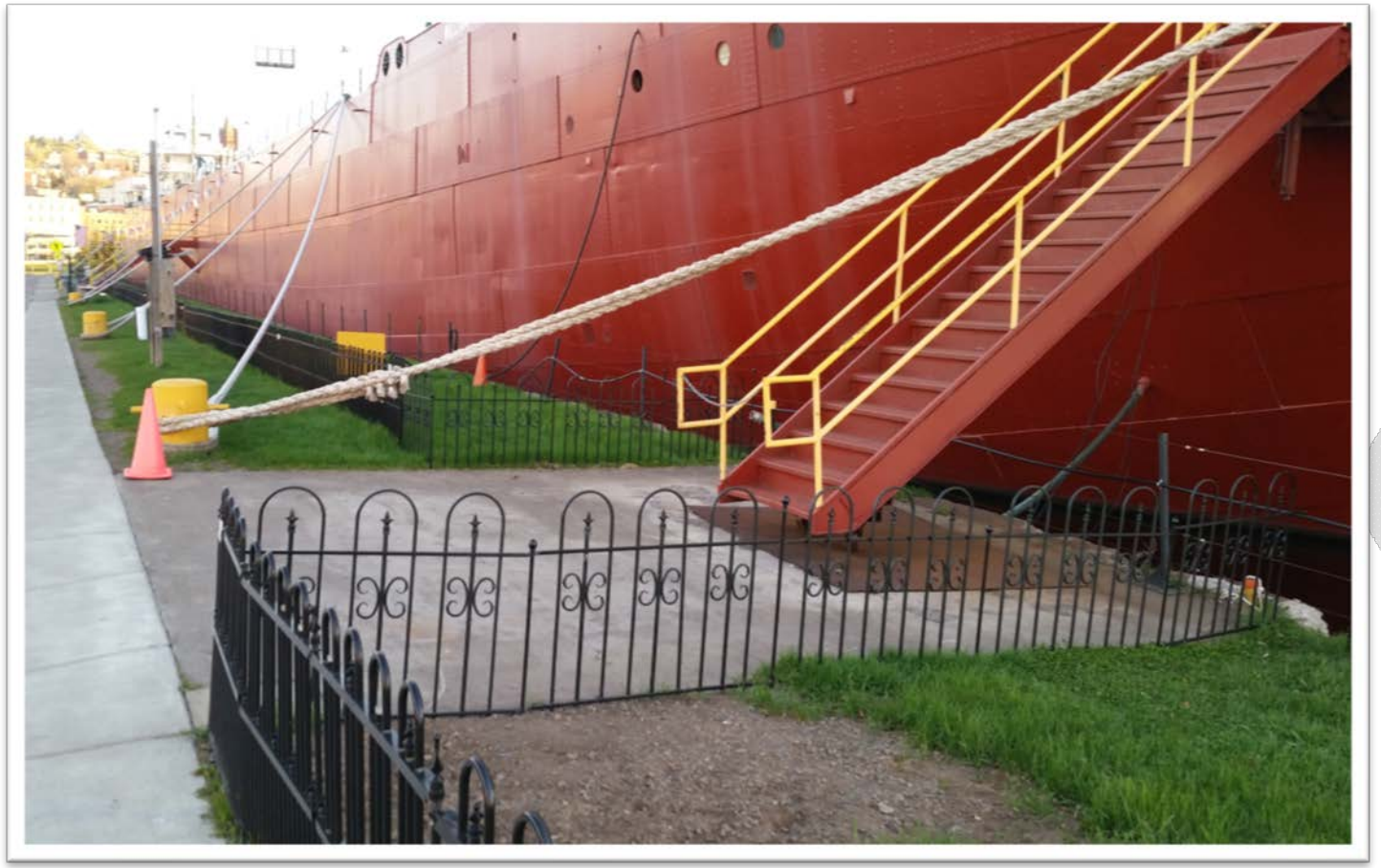
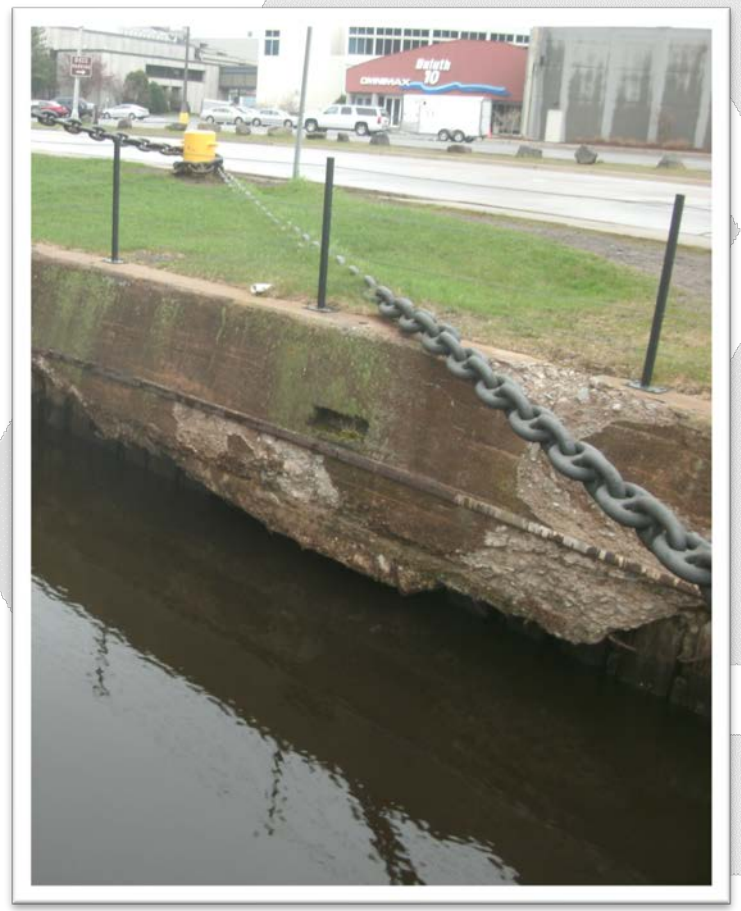
STA 0+00 to 6+02 – Wakefield Piling





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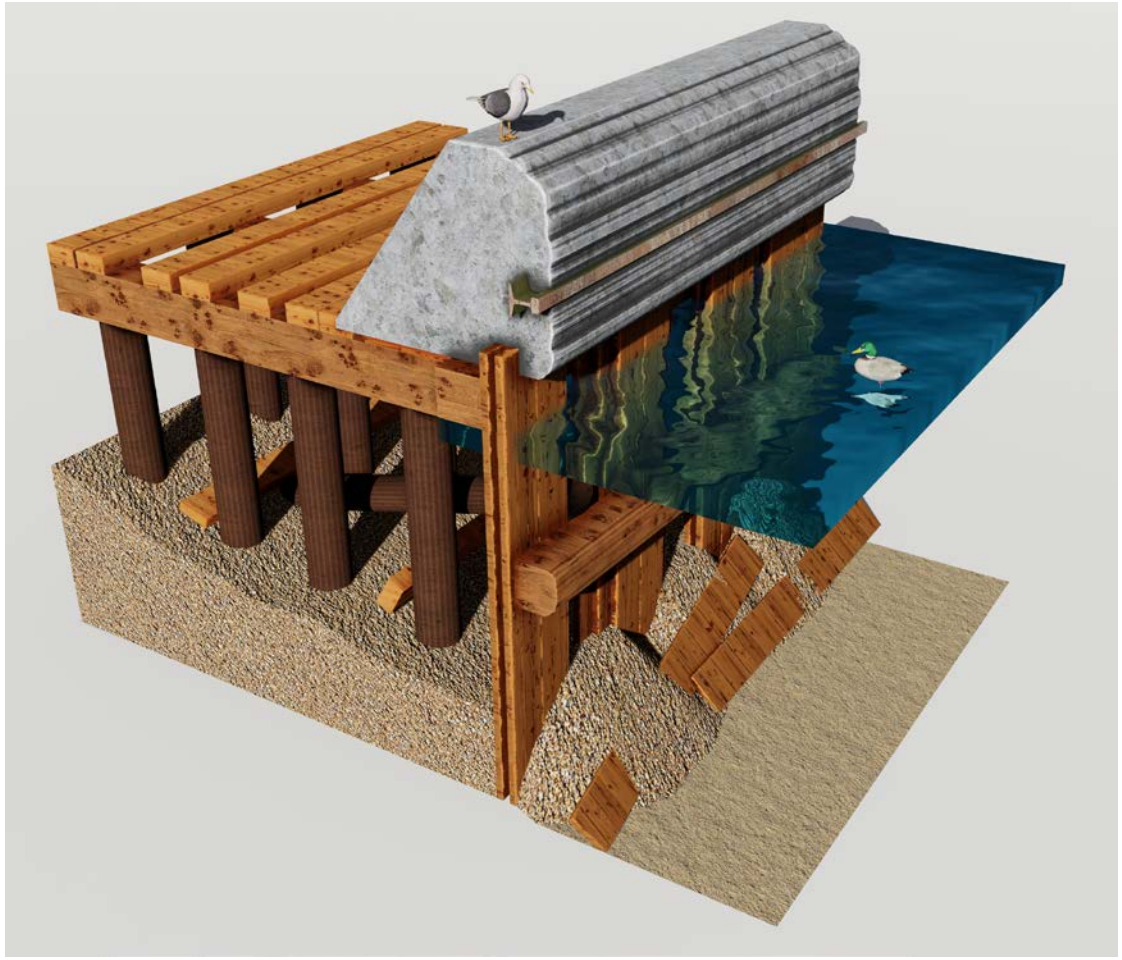
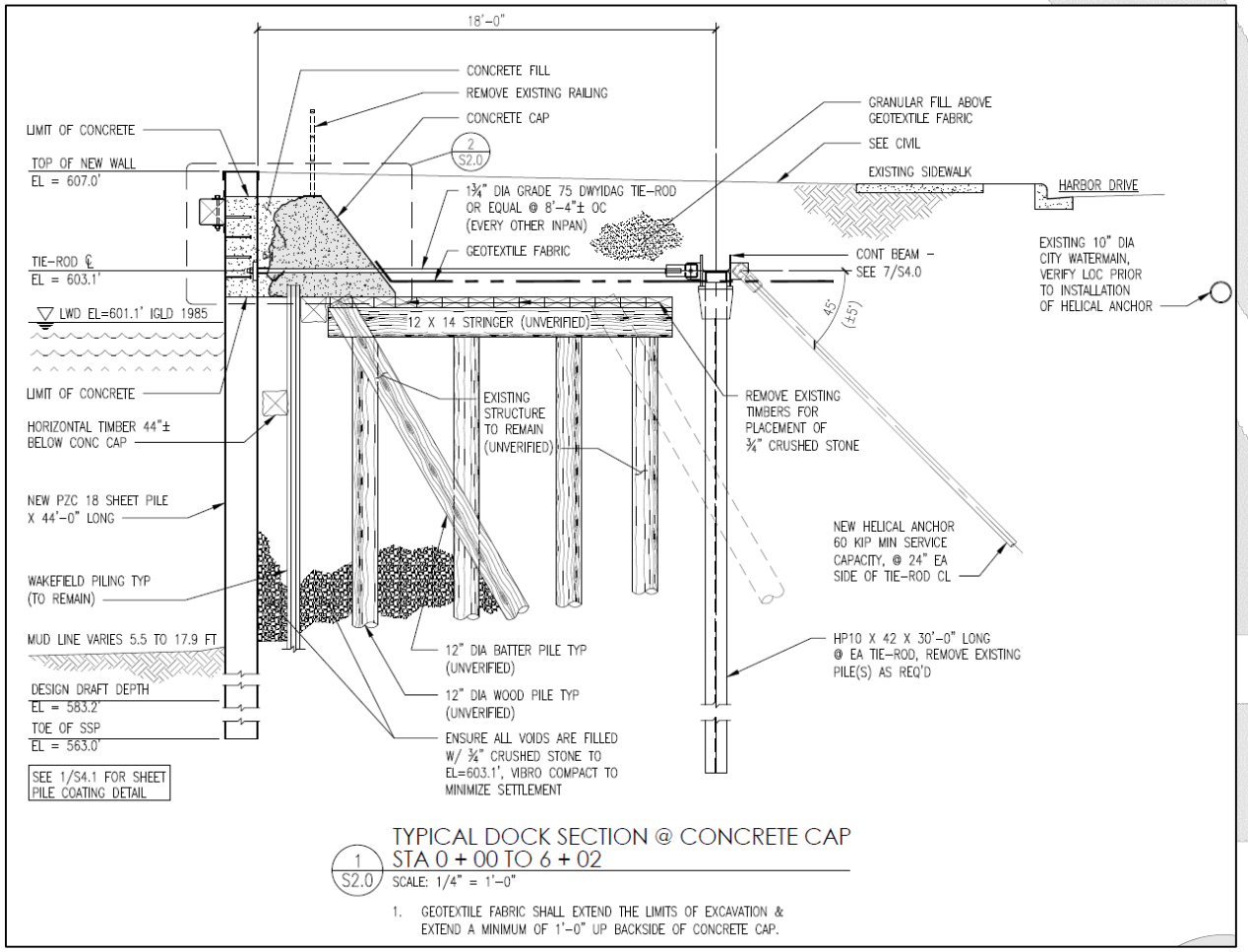
STA 0+00 to 6+02 – Pile Supported with Wakefield Piling





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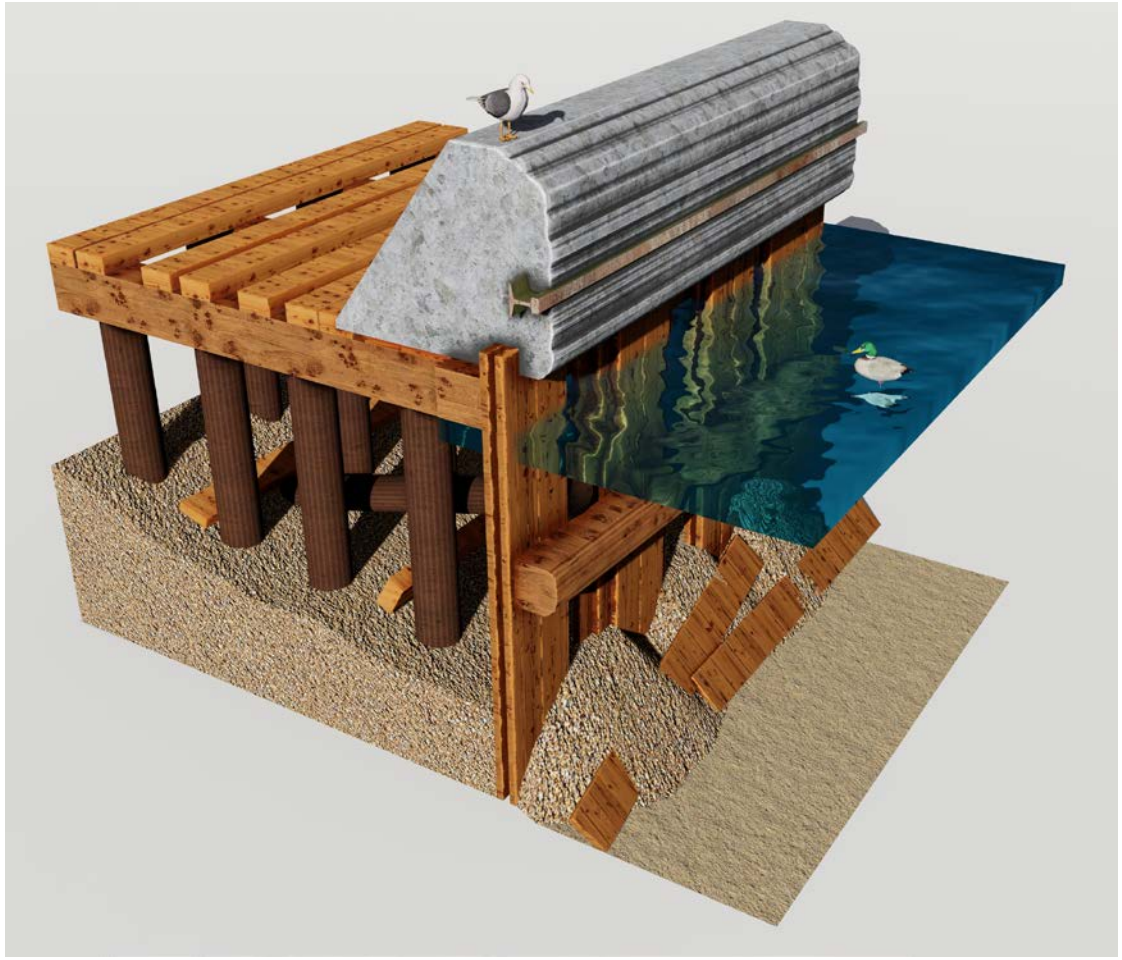
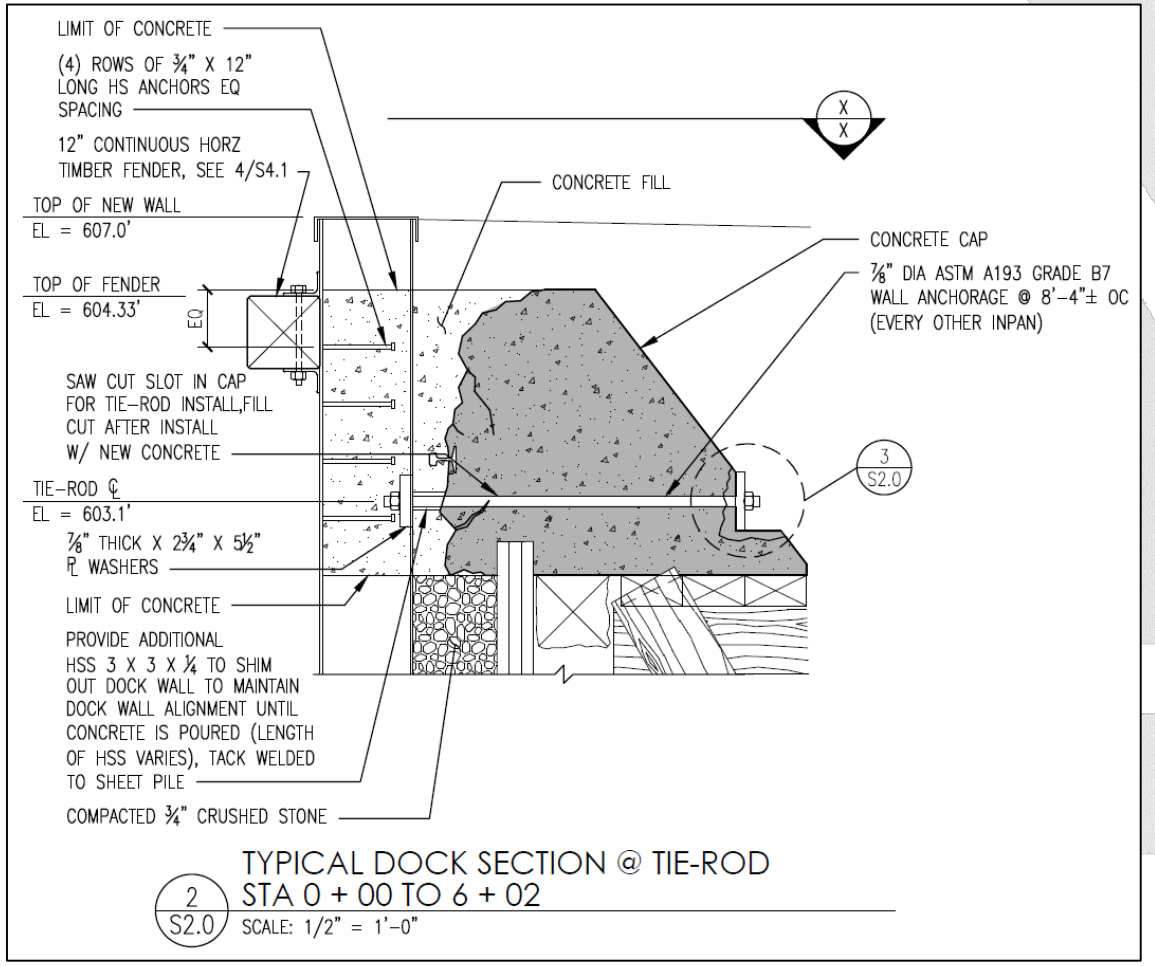
STA 0+00 to 6+02 – Pile Supported with Wakefield Piling





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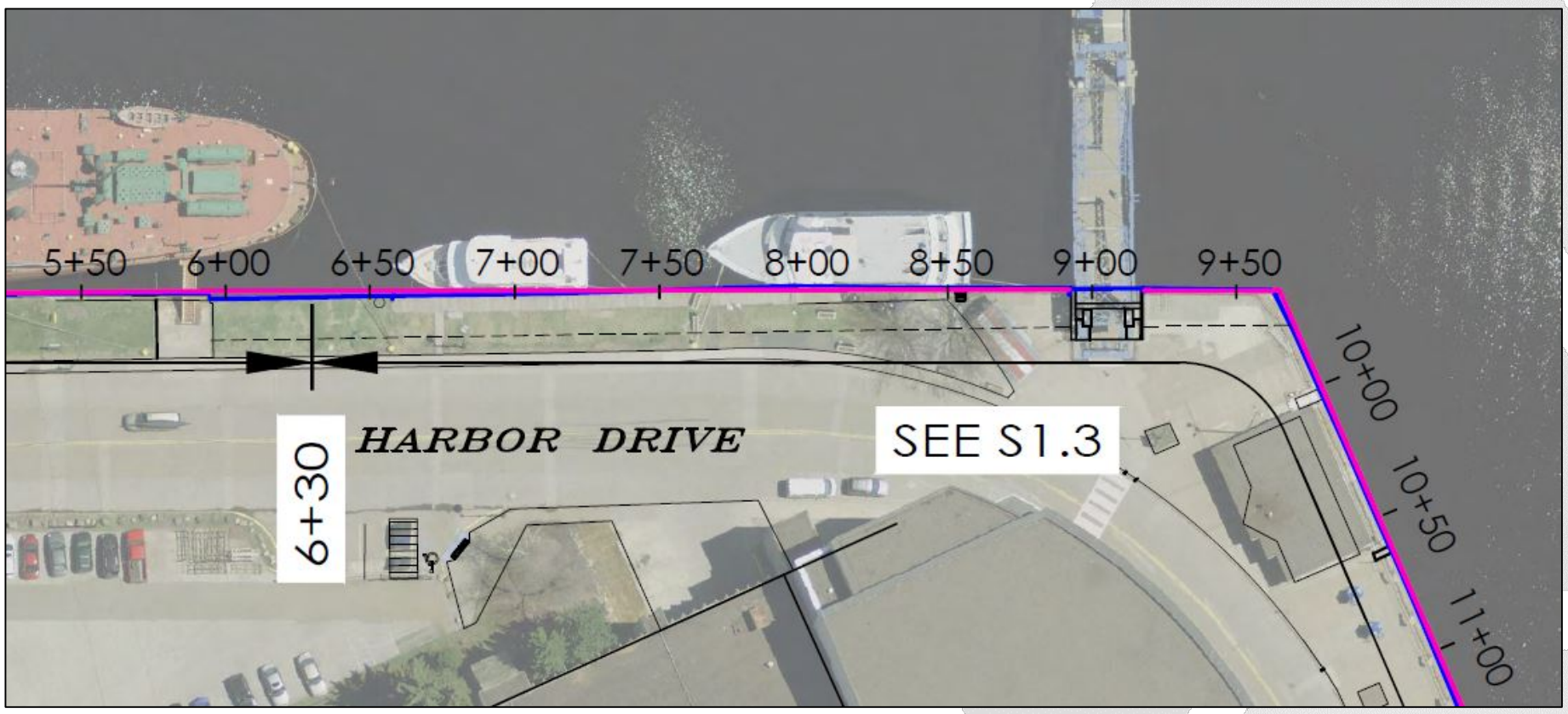
STA 6+02 to 9+00 &
9+25 to 9+85

- Wood Relieving Platform
- Partial Wall Demolition



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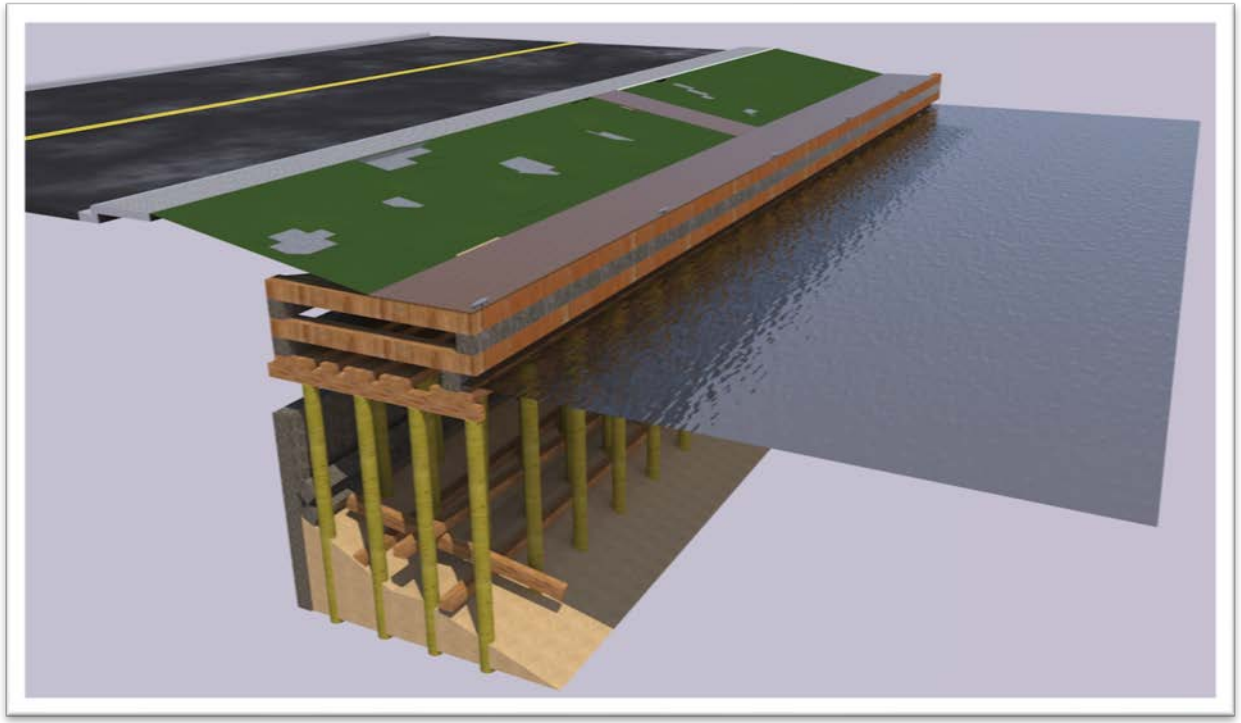
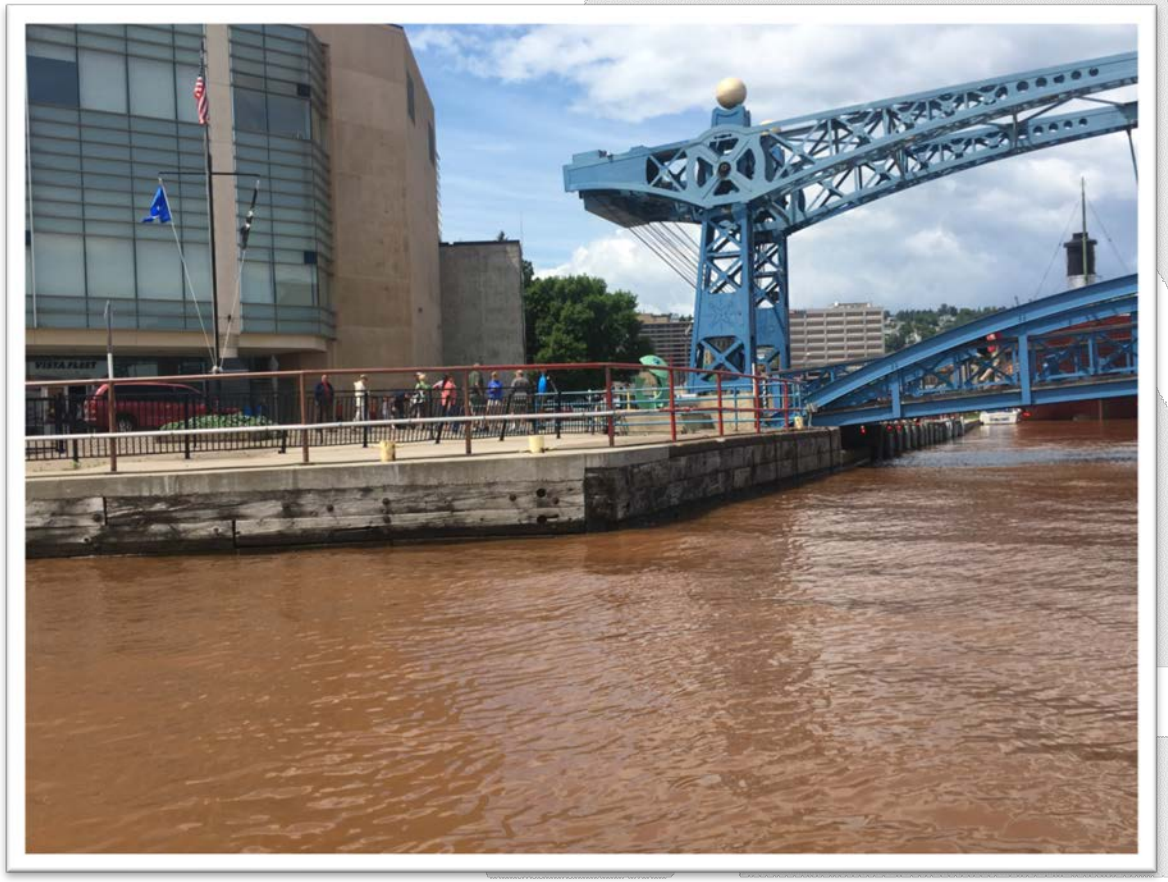
STA 6+02 to 9+00 & 9+25 to 9+85 – Wood Relieving Platform





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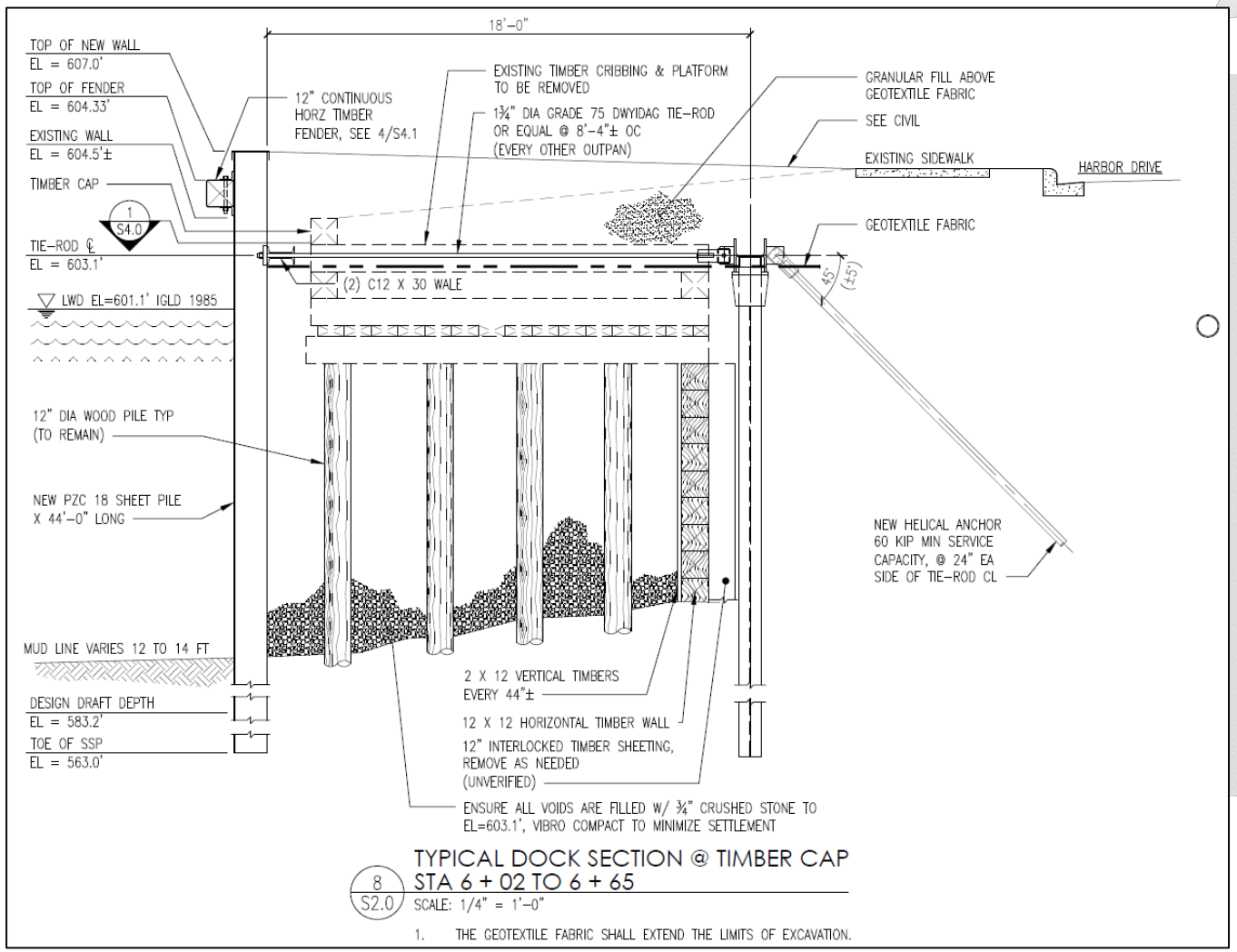
STA 6+02 to 9+00 & 9+25 to 9+85 – Wood Relieving Platform



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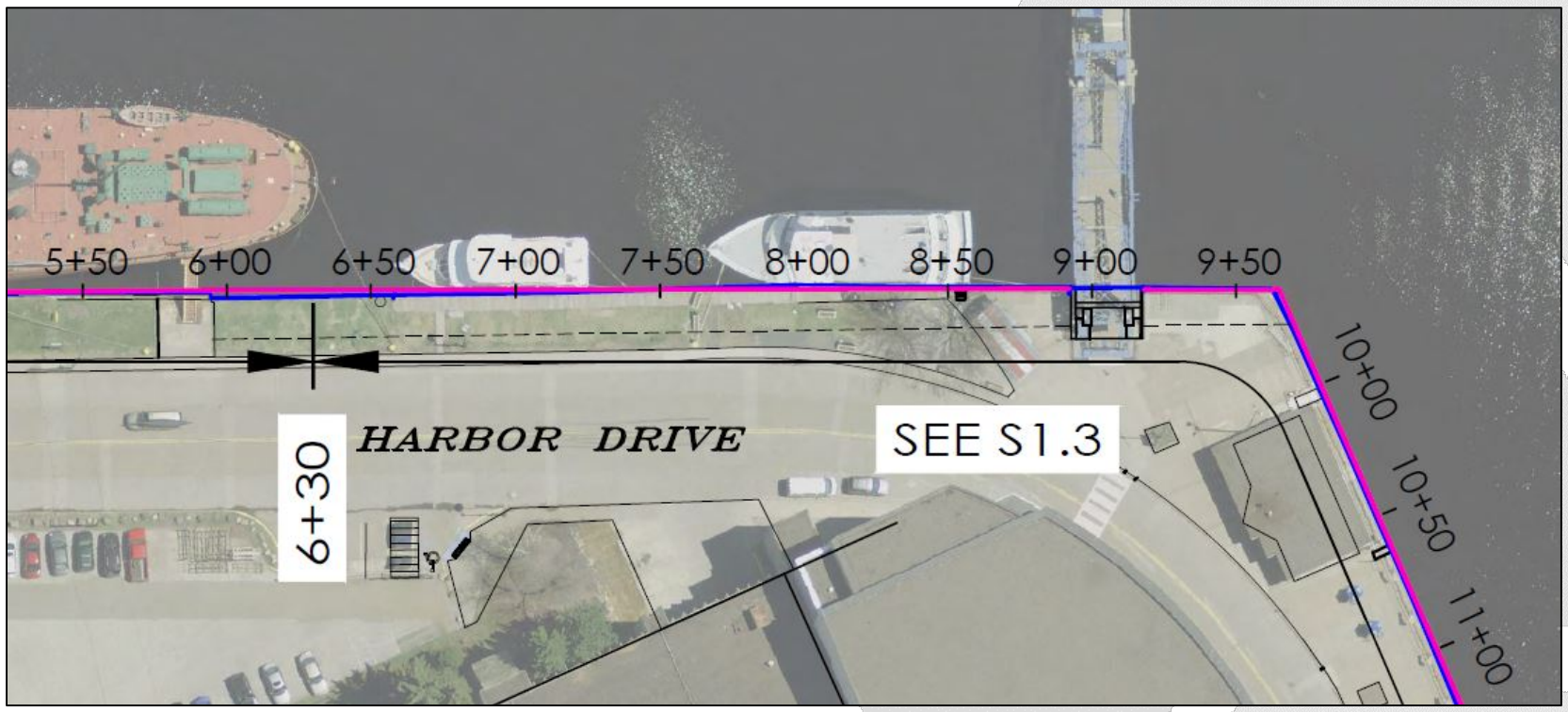
DOCK WALL DEMOLITION

- Demo Temporary Vista Platform
- Remove wood platform, Vertical Piling, portions of wall, and misc. debris as noted.



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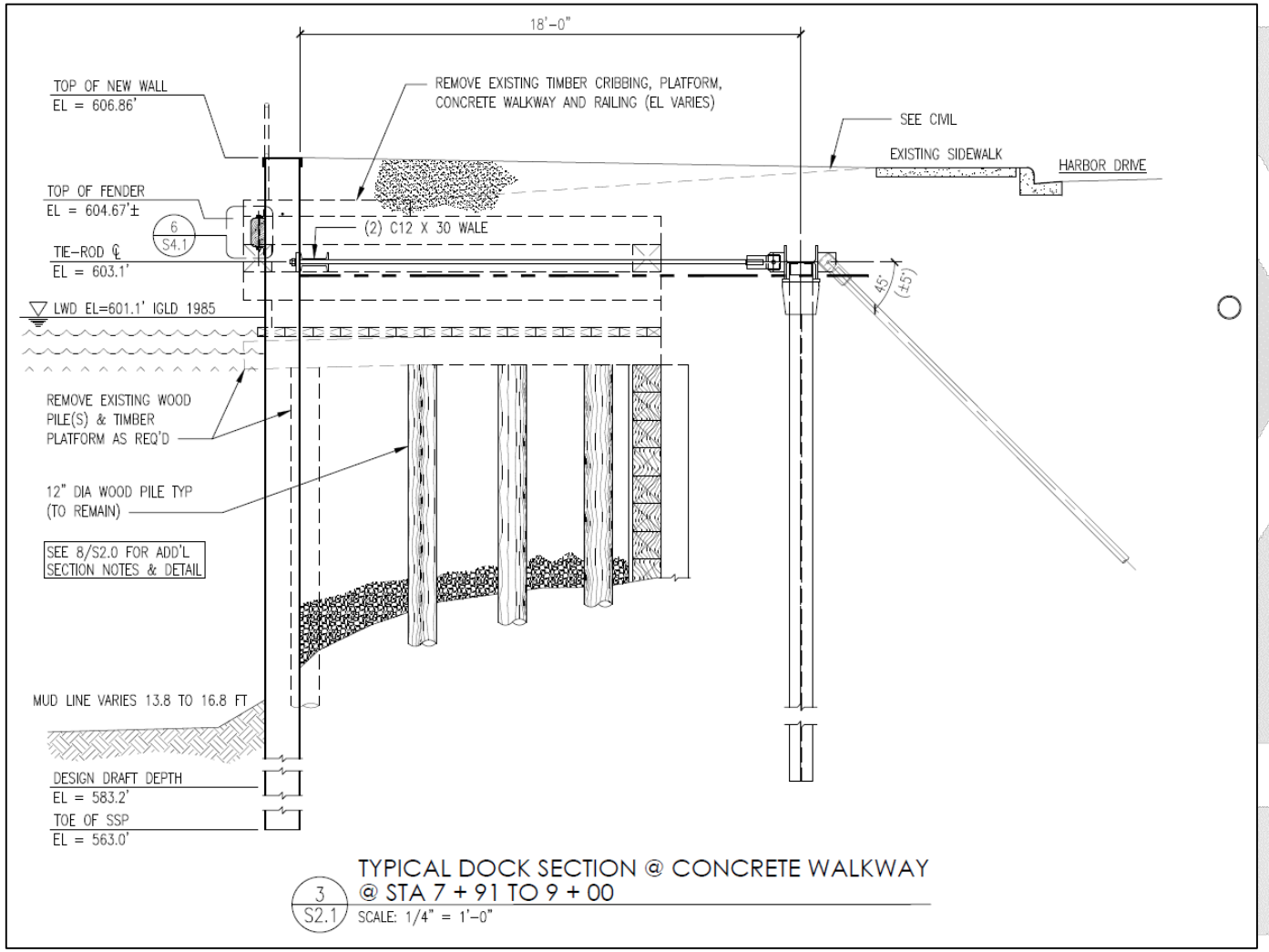

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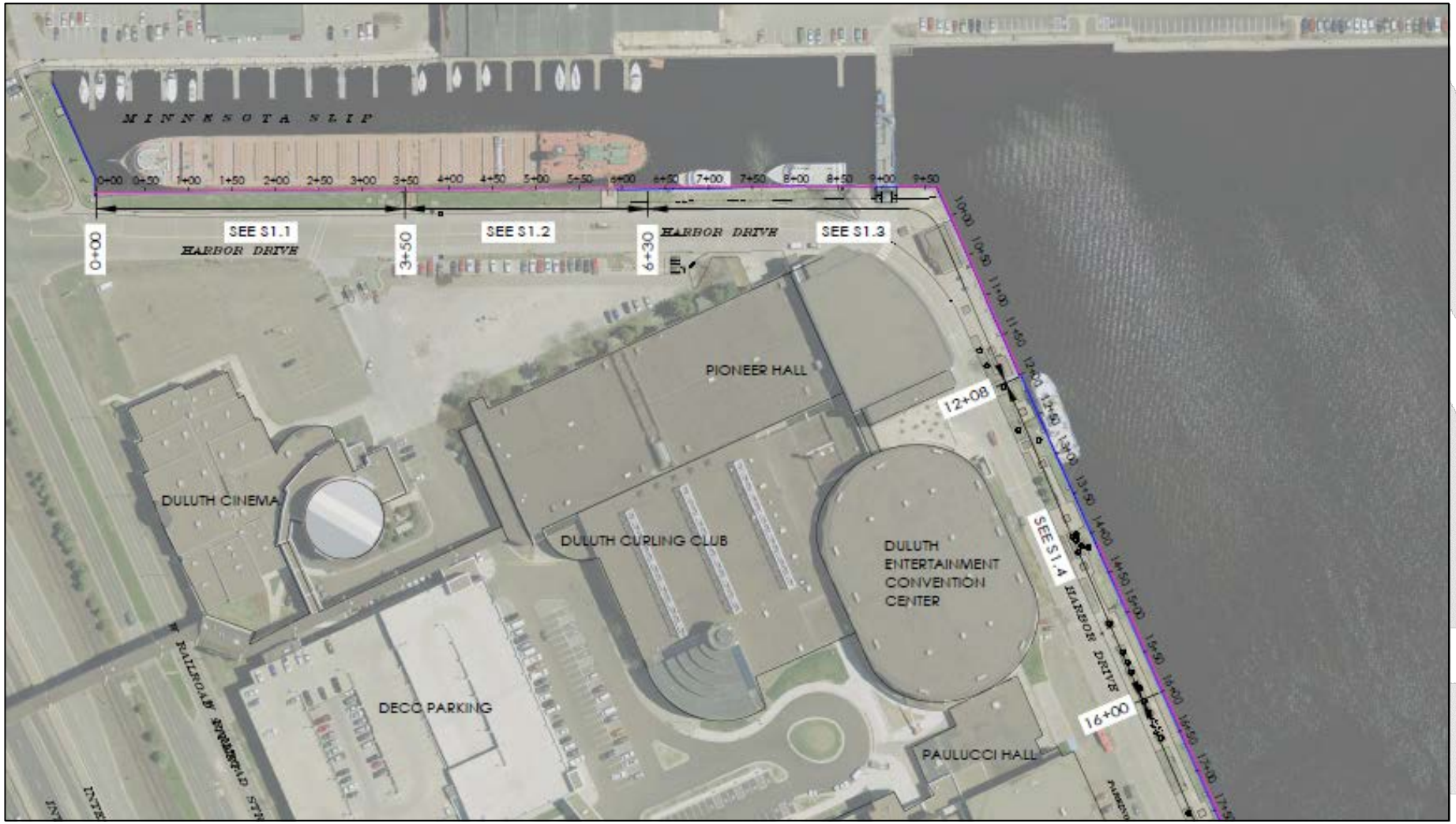
STA 9+00 to 9+25

- Slip Bridge Abutment



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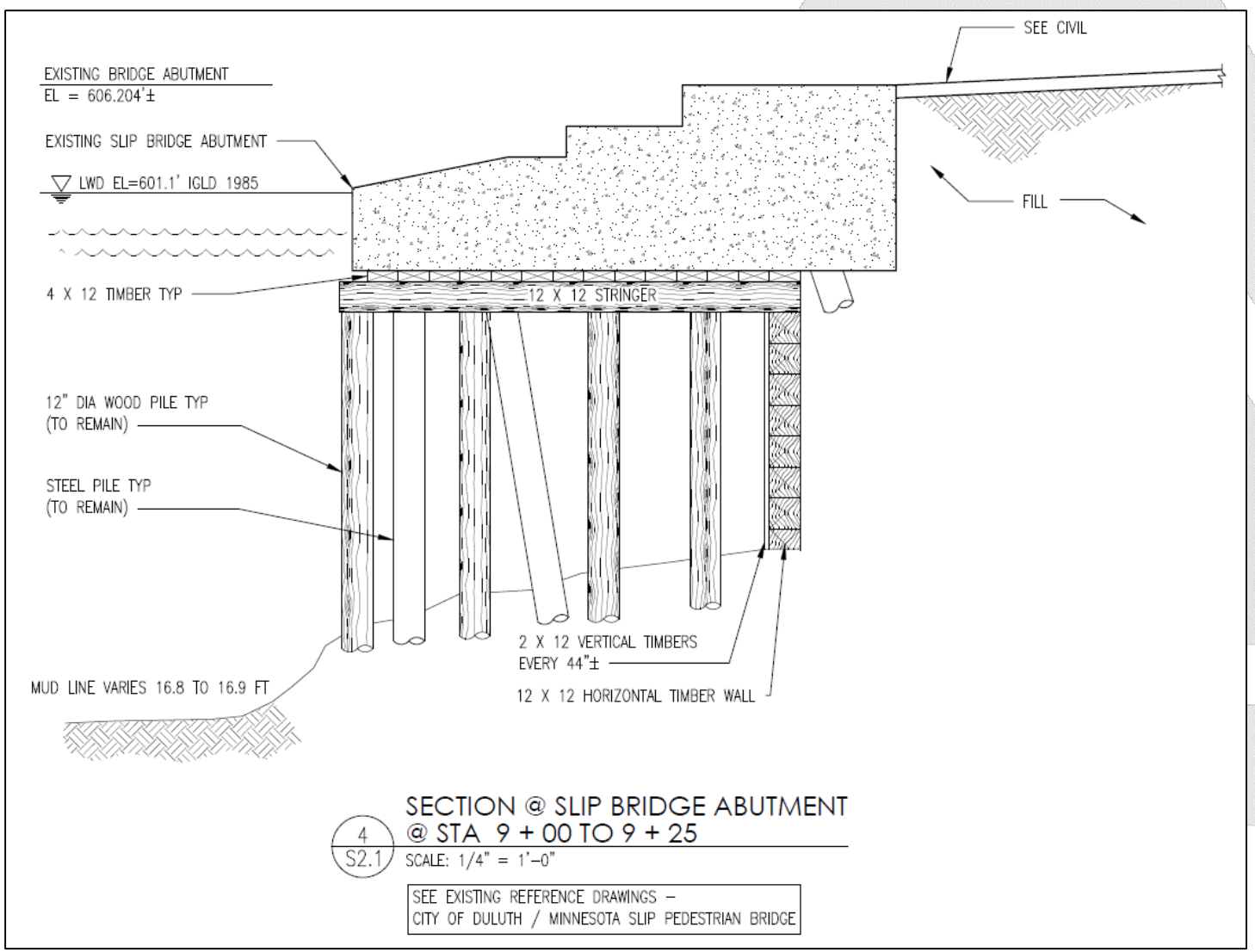
STA 9+00 to 9+25 – Slip Bridge Abutment



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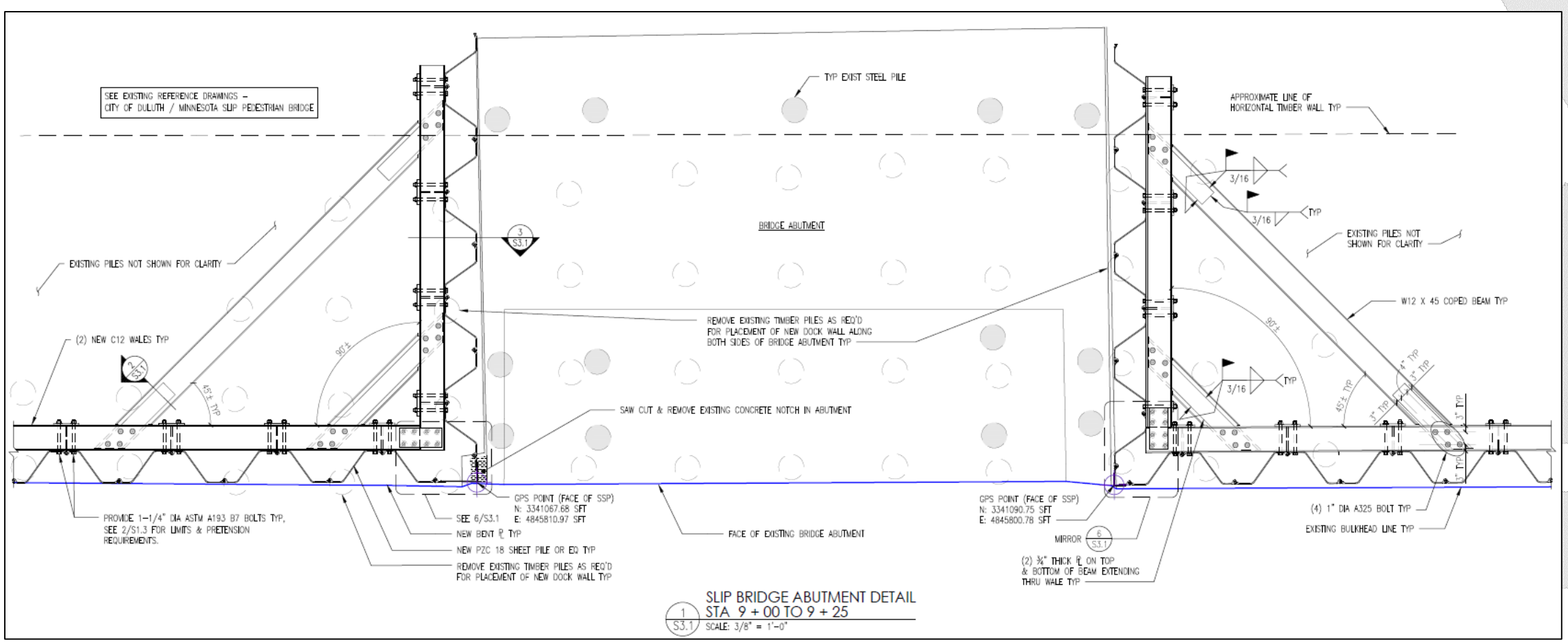
STA 9+00 to 9+25 – Slip Bridge Abutment



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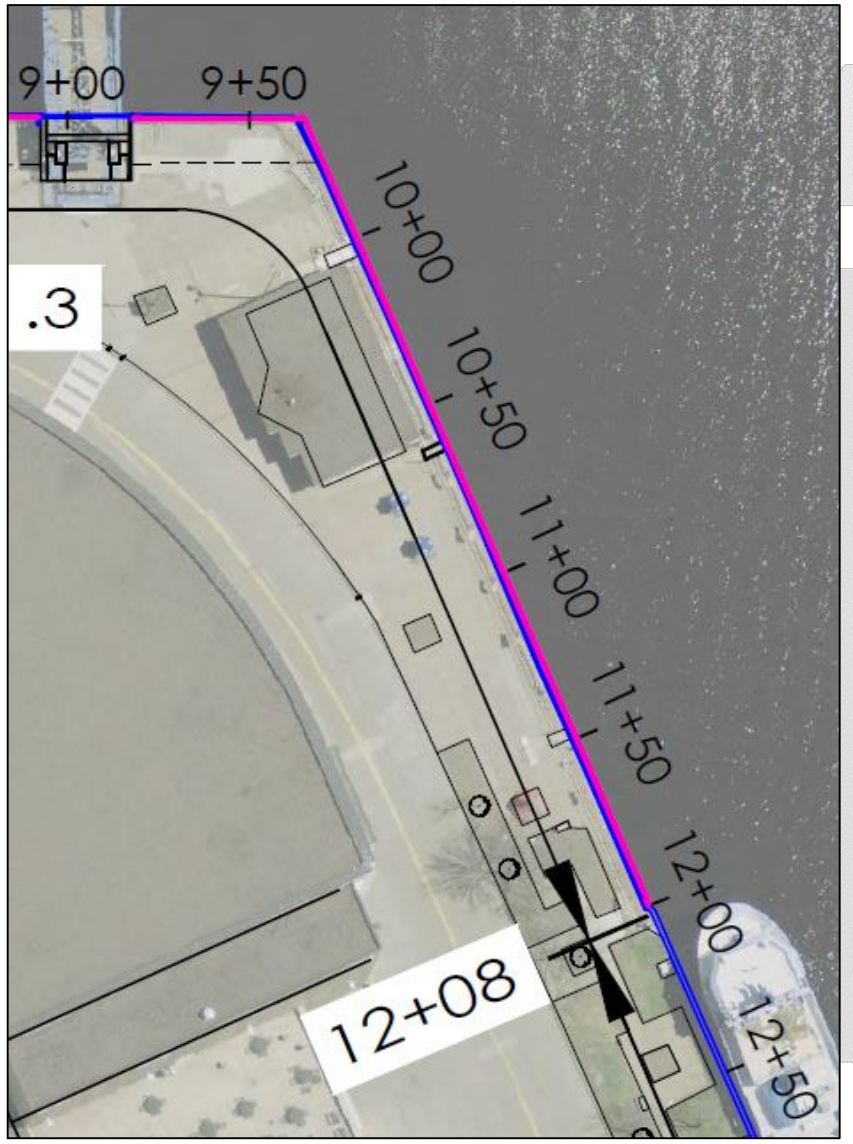
STA 9+85 to 12+08

- Crib Dock Wall



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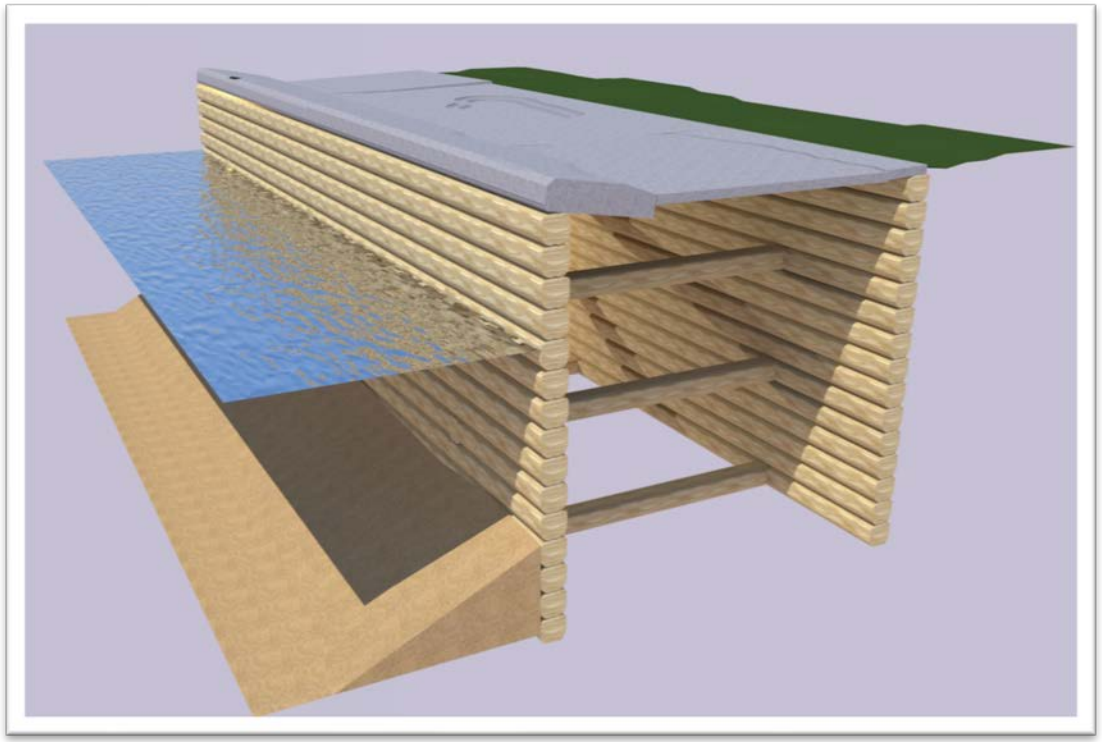
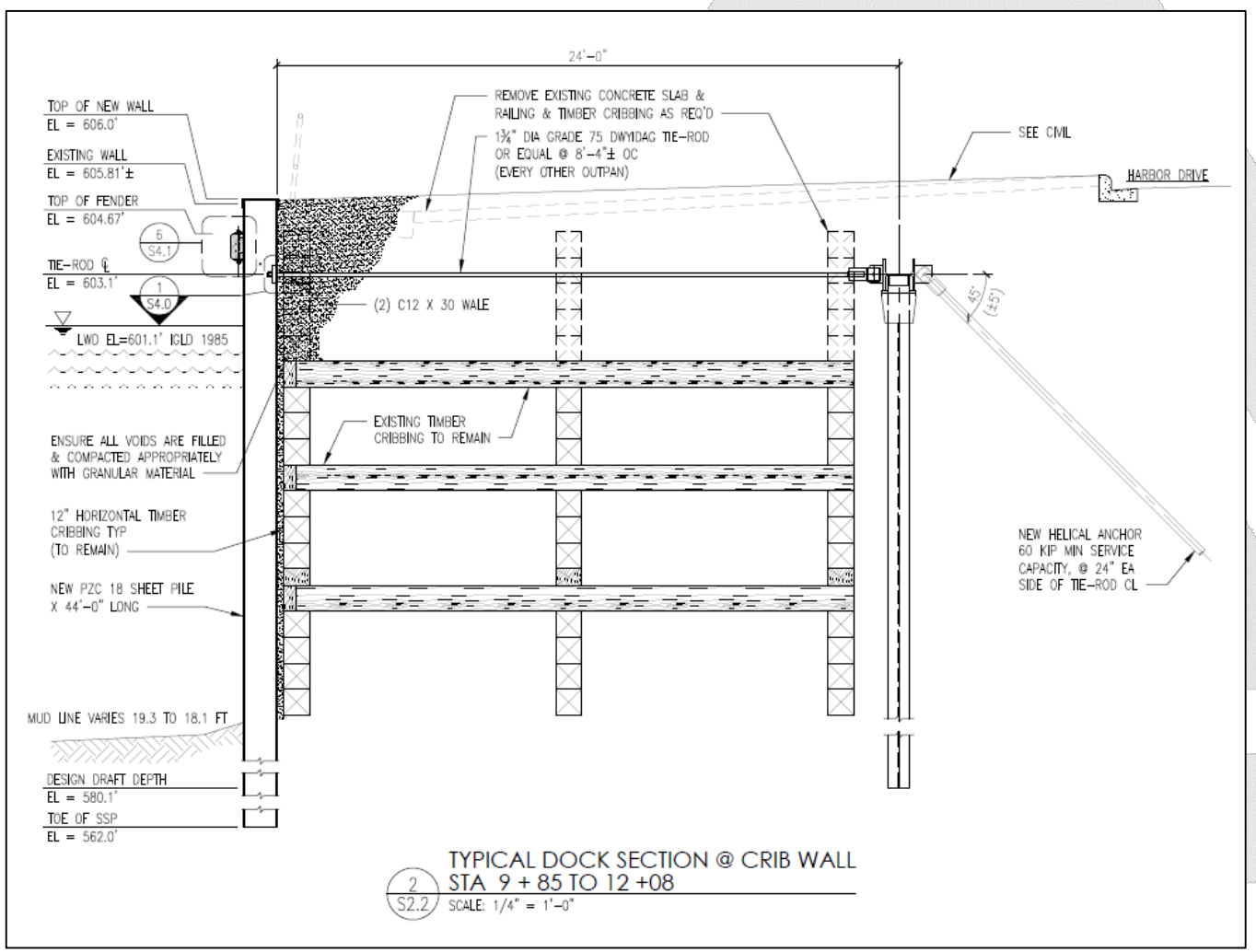
STA 9+85 to 12+08 – Crib Supported Concrete Structure





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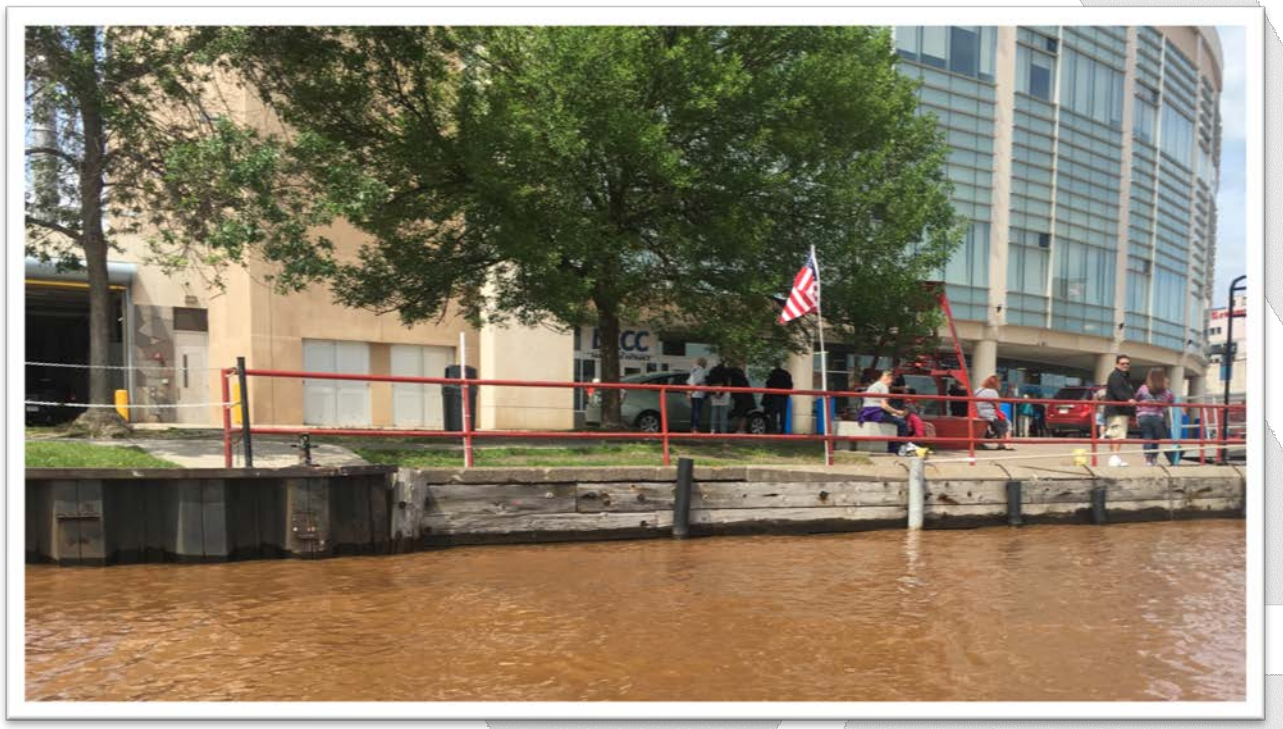
STA 9+85 to 12+08 – Crib Supported Concrete Structure



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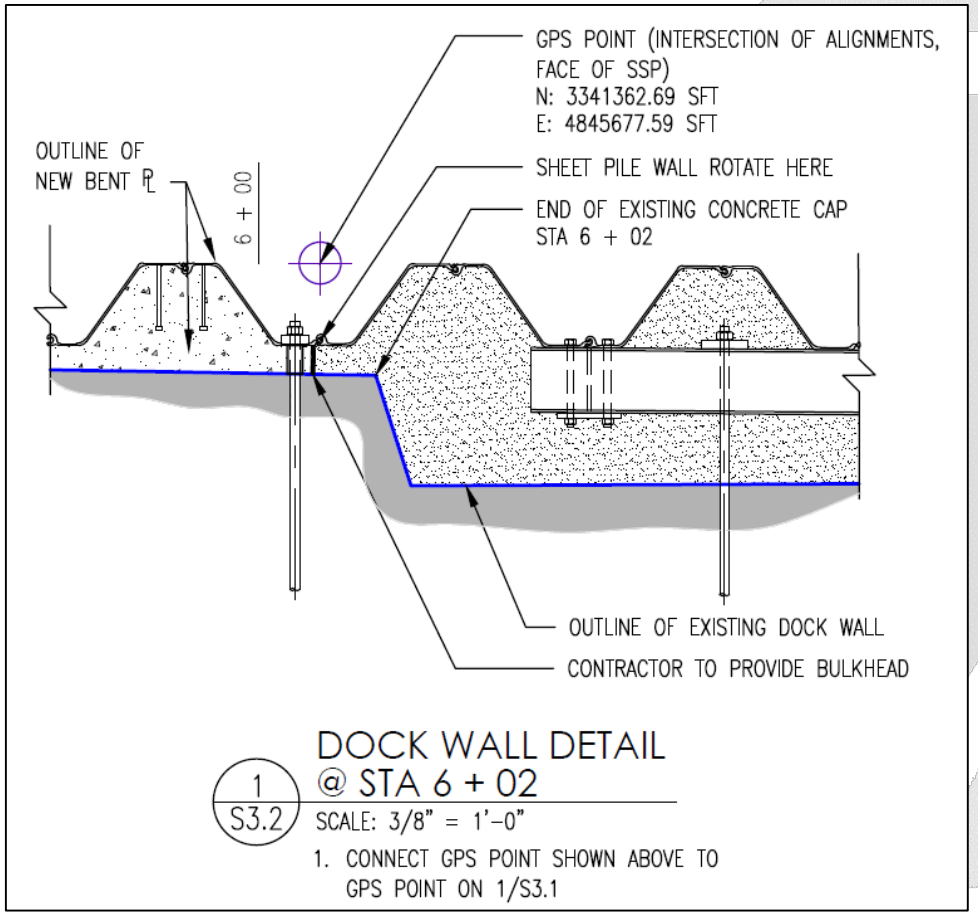
OTHER REMARKS

- Survey GPS Points for Seawall
  - Example Shown at STA 6+02
- Key Submittals
  - Driving Logs & Alignment Checks – SSP (Daily)
  - Driving Logs & Alignment Checks – H Piles (Daily)
  - Experienced Surveyor
  - Helical Anchor Design
  - Camel System Design
- Irvin Cannot Leave Slip Prior to Dock Wall Rehabilitation
- AMI Full Time Project Management



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QUESTIONS ON MARINE?

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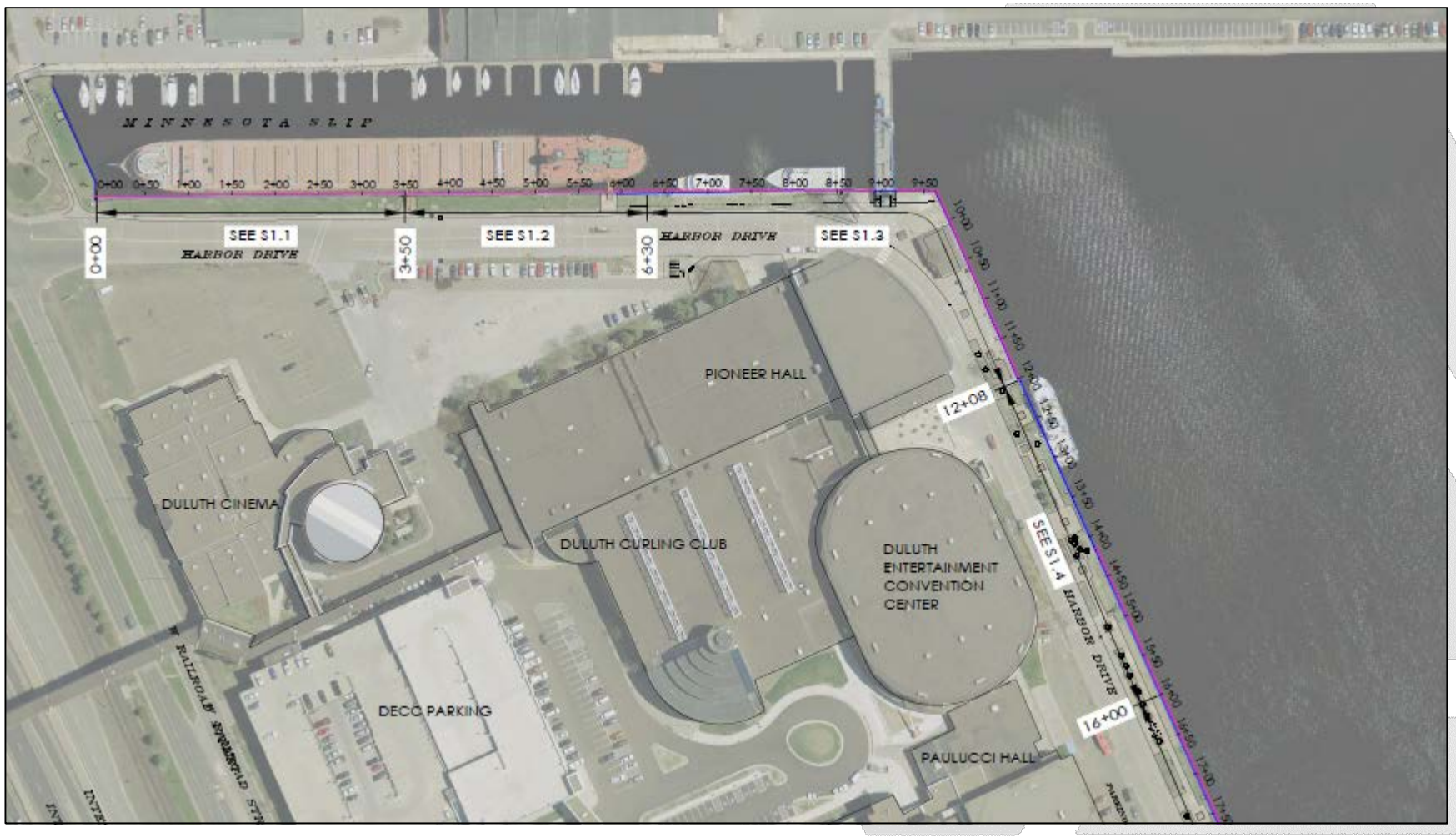
CIVIL / ENVIRONMENTAL

- Demolition
- Grading
- Concrete Flatwork
- Concrete Sidewalks
- Bike Path



ELI RUPNOW, PE

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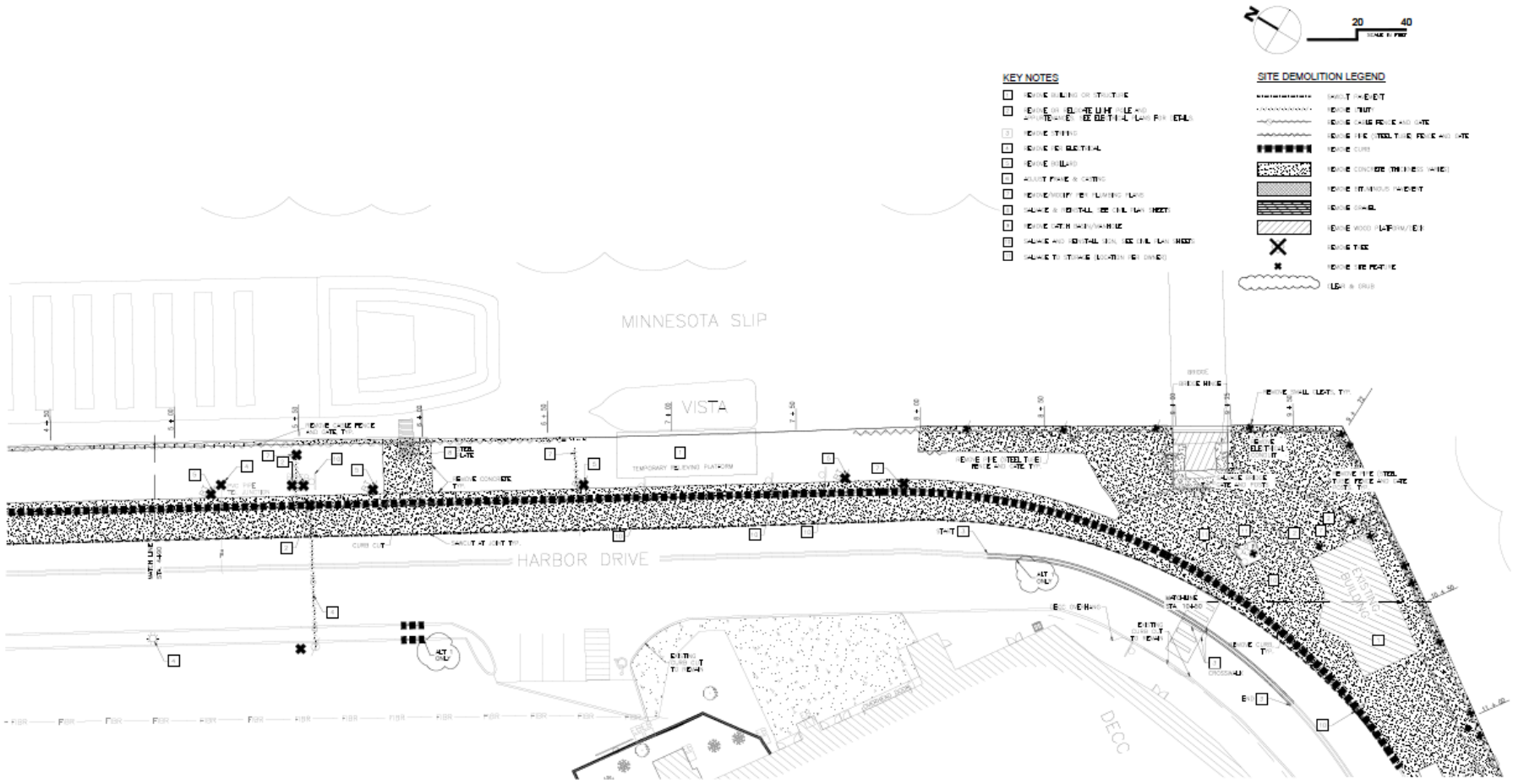
CIVIL / ENVIRONMENTAL

- Demolition
  - Base
    - ❖ Vista Fleet Building
    - ❖ Irving Loading Platforms
    - ❖ Concrete flatwork, bollards, signage, and other misc. Items



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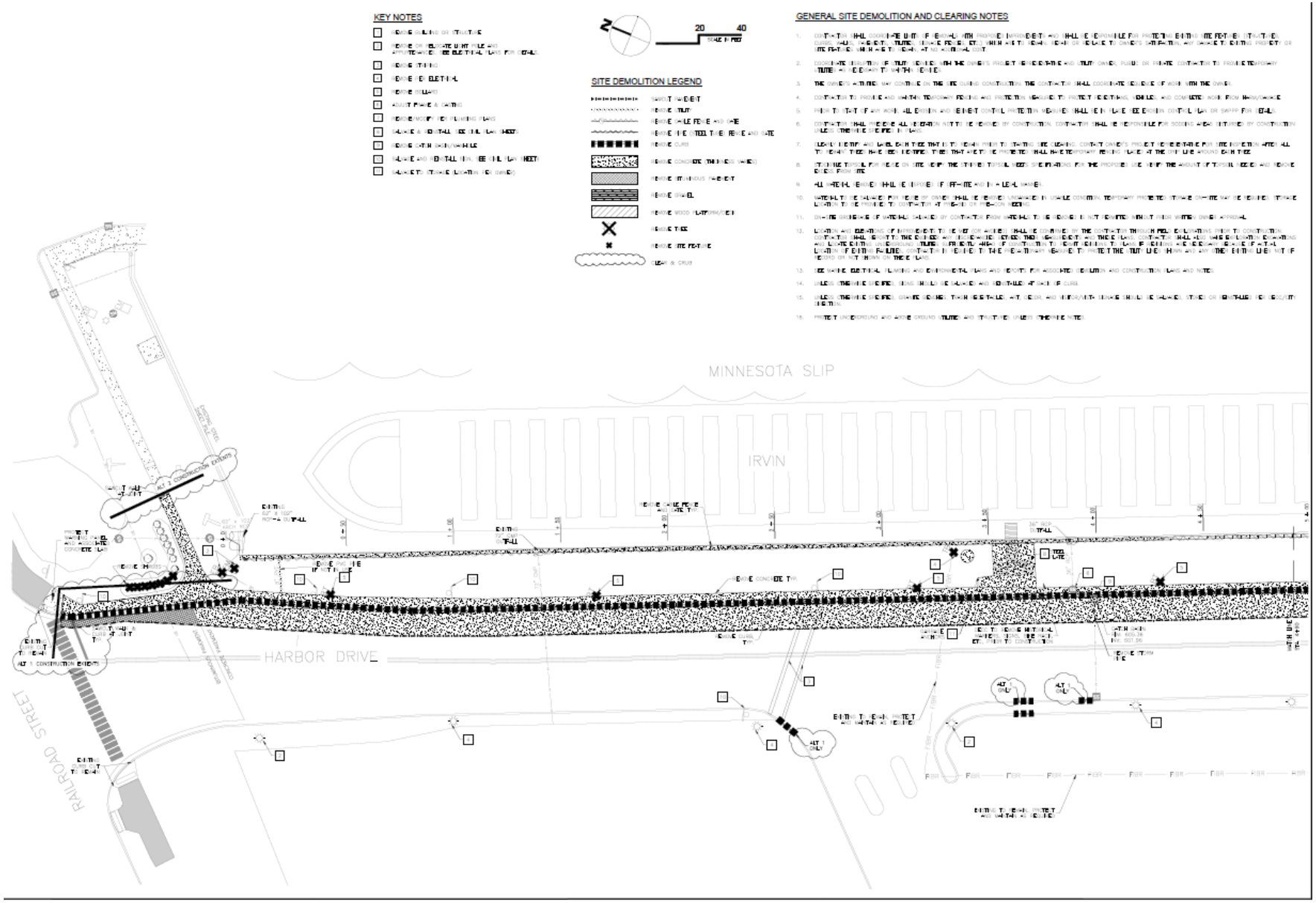
CIVIL / ENVIRONMENTAL

- Demolition
  - Add Alt 1
    - ❖ 1167 LF of Curb and Gutter
    - ❖ 1200 SY of Concrete Pavement
    - ❖ Remove Storm Structure and Adjust Frame and Casting
  - Add Alt 2
    - Concrete Walks
      - 400 SF



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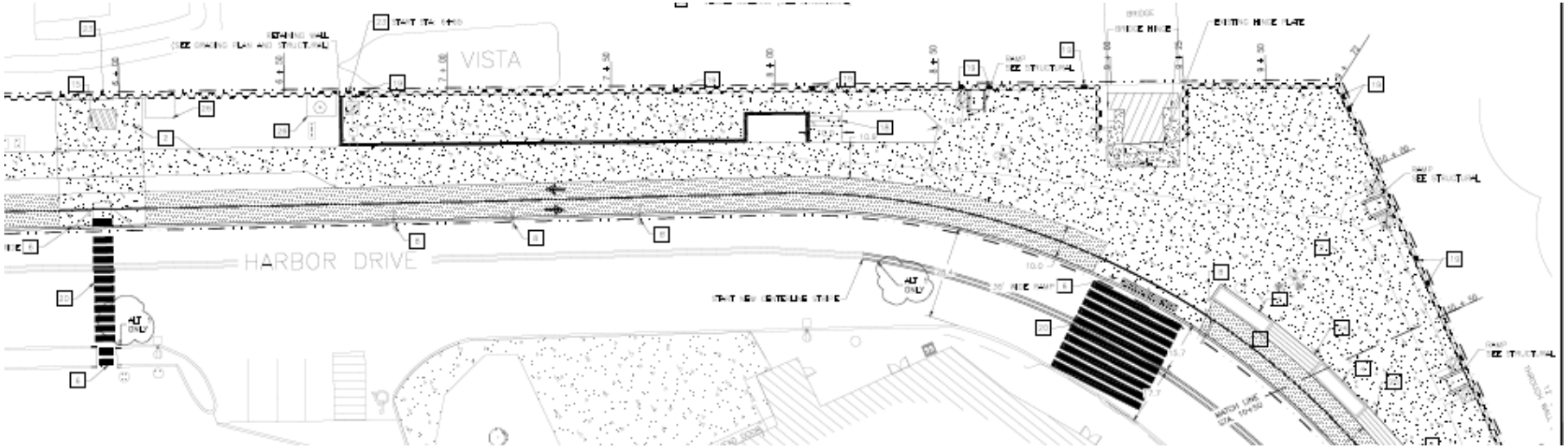
CIVIL / ENVIRONMENTAL

- Site
  - Base
    - ❖ Vista Loading Ramps and Platform
    - ❖ Planter Boxes and Stairs
    - ❖ Irving Loading Platforms



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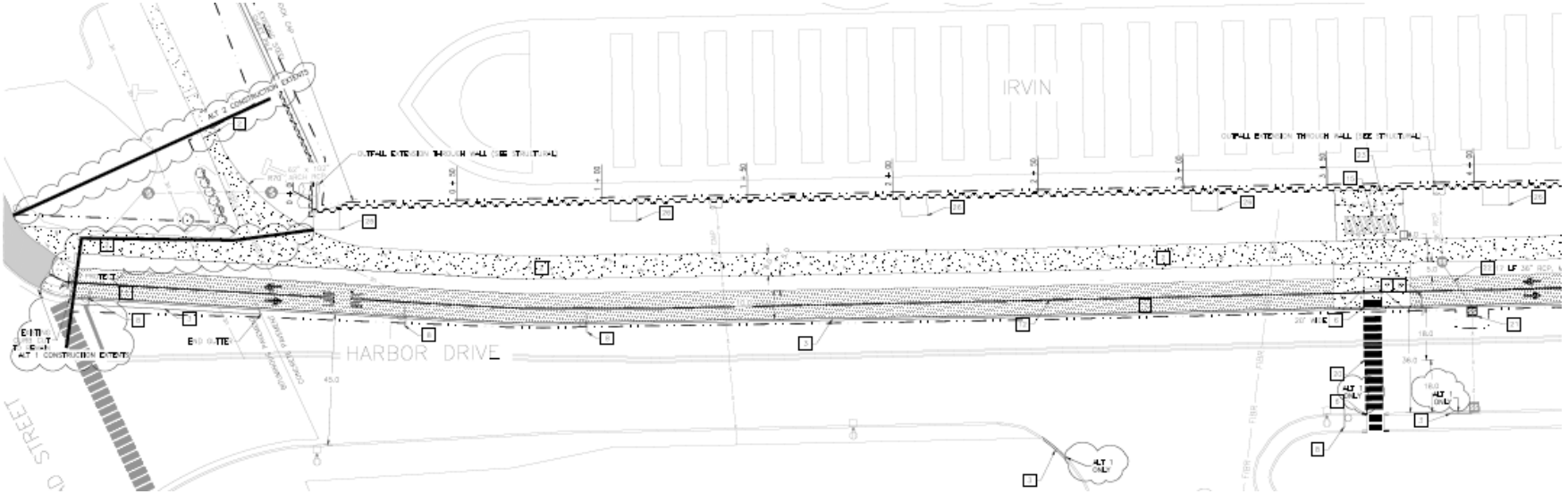
CIVIL / ENVIRONMENTAL

- Site
  - Add Alt 1
    - 1098 ft 8 in Curb
    - 1208 LF of 10 ft Wide Bike Trail
    - 6 Pedestrian Ramps
    - Storm Structure



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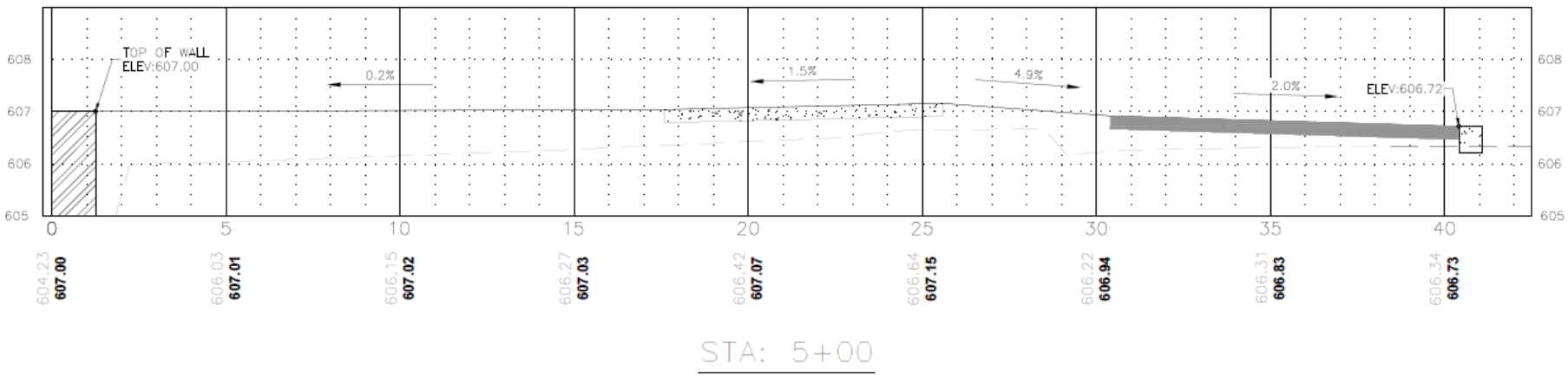
CIVIL / ENVIRONMENTAL

- Site
  - Add Alt 2
    - ❖ 10100 SF Concrete Sidewalk



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QUESTIONS ON CIVIL?

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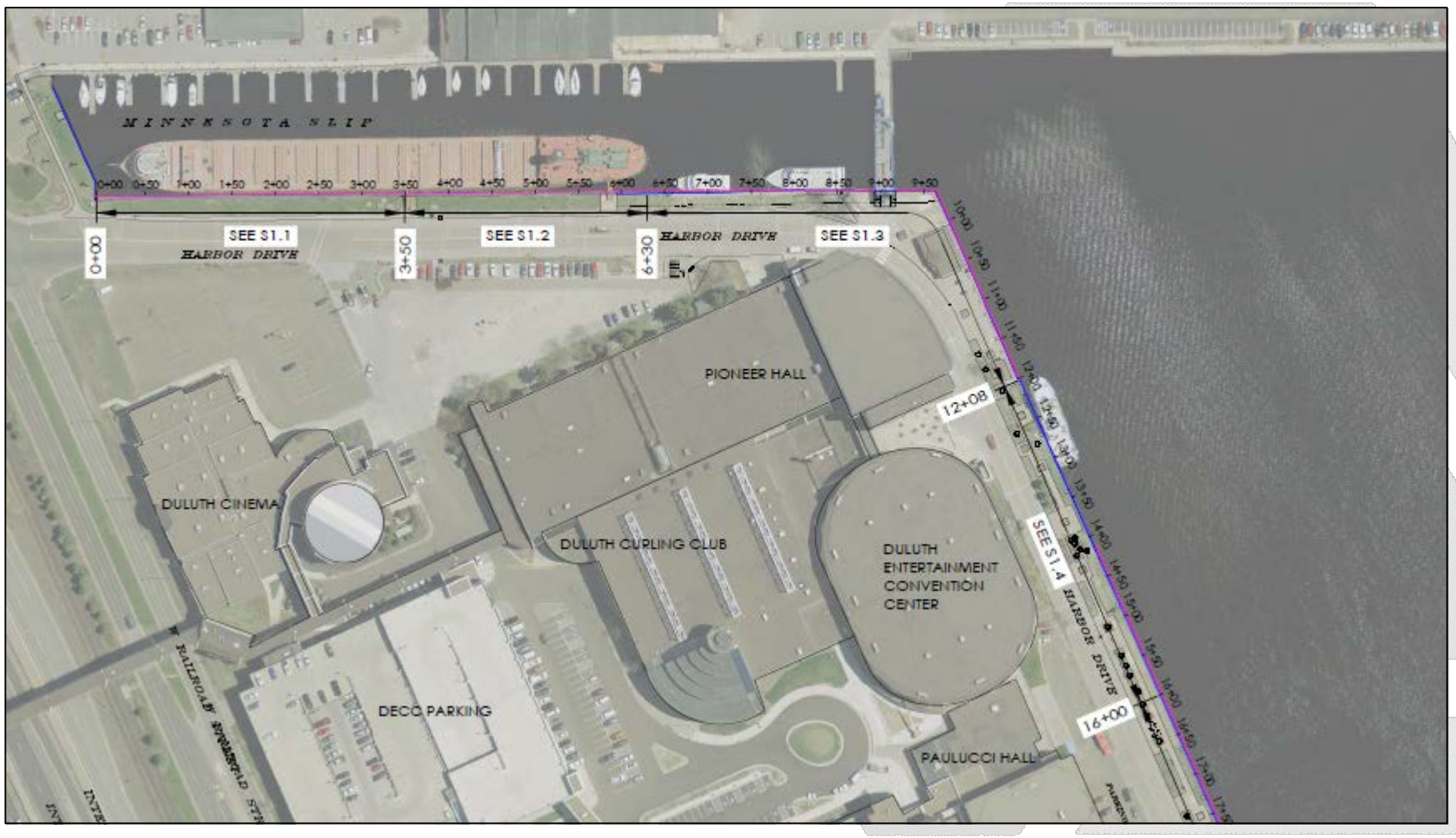
MECHANICAL



ADAM MARKSTEINER, PE
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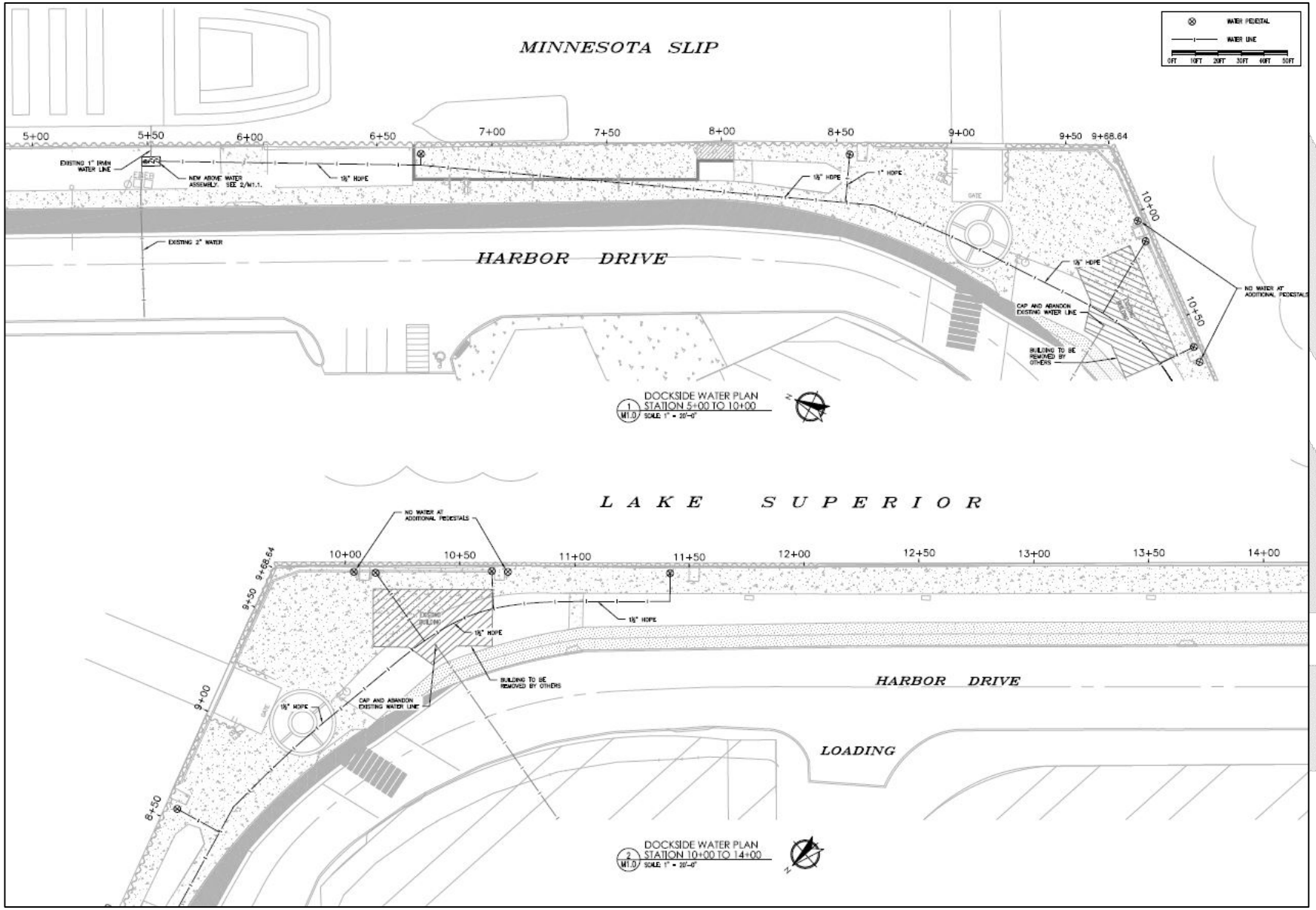
MECHANICAL

- Installation



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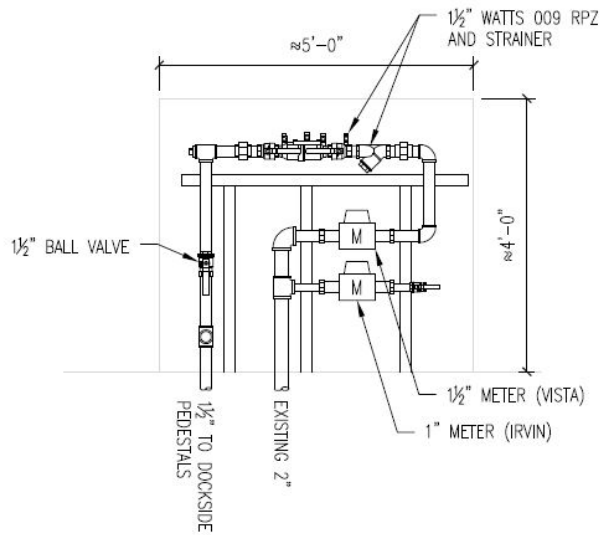
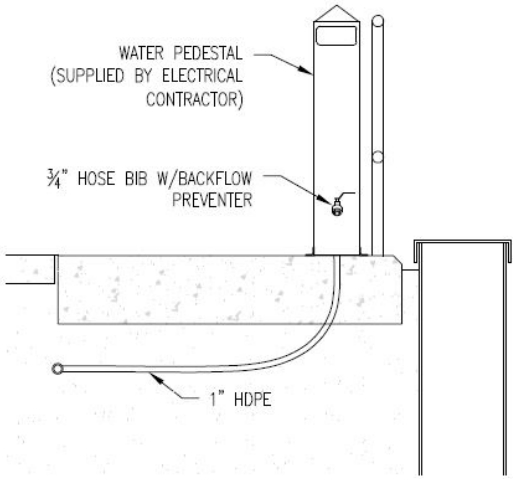
MECHANICAL

- Installation



2 / M1.1 WATER RISER DETAIL
SCALE: 1/2" = 1'-0"



3 / M1.1 TYPICAL PEDESTAL INSTALLATION DETAIL
SCALE: 1/2" = 1'-0"

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QUESTIONS ON MECHANICAL?

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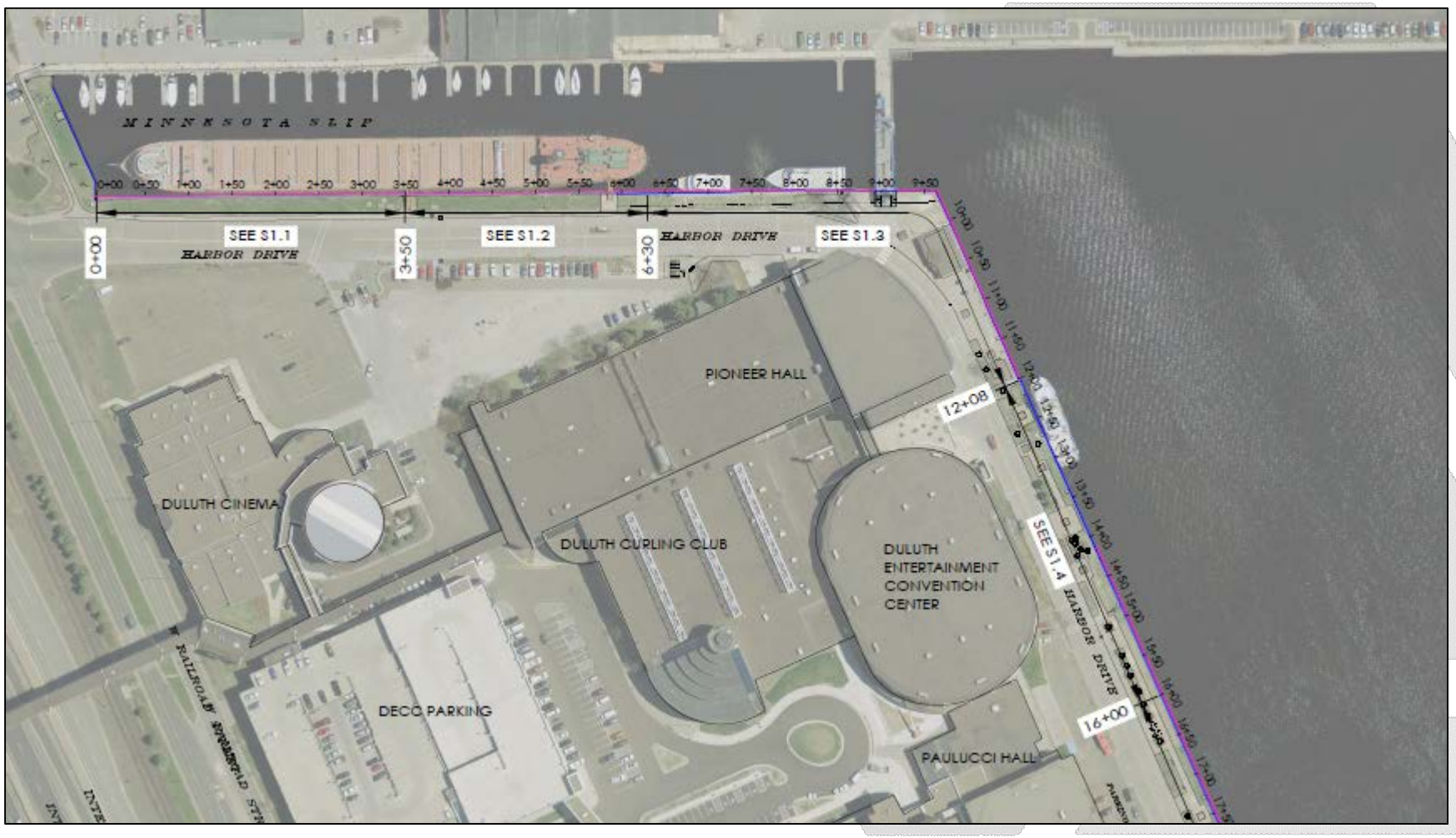
Mechanical and Electrical Engineers

ELECTRICAL

- Demolition
- Installation

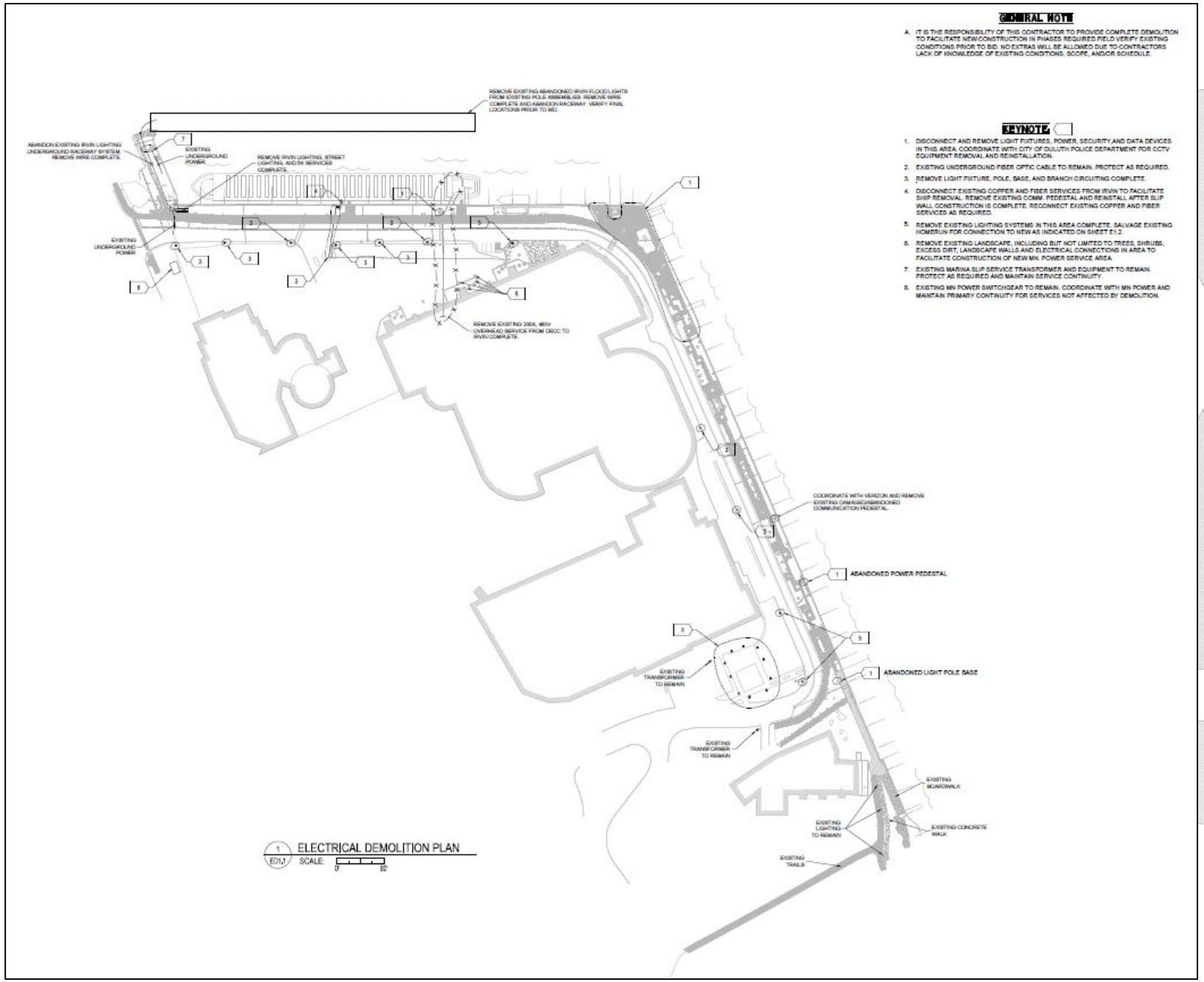


SCOTT HAEDTKE
Gausman & Moore

Gausman &Moore
Mechanical and Electrical Engineers

ELECTRICAL

- Demolition

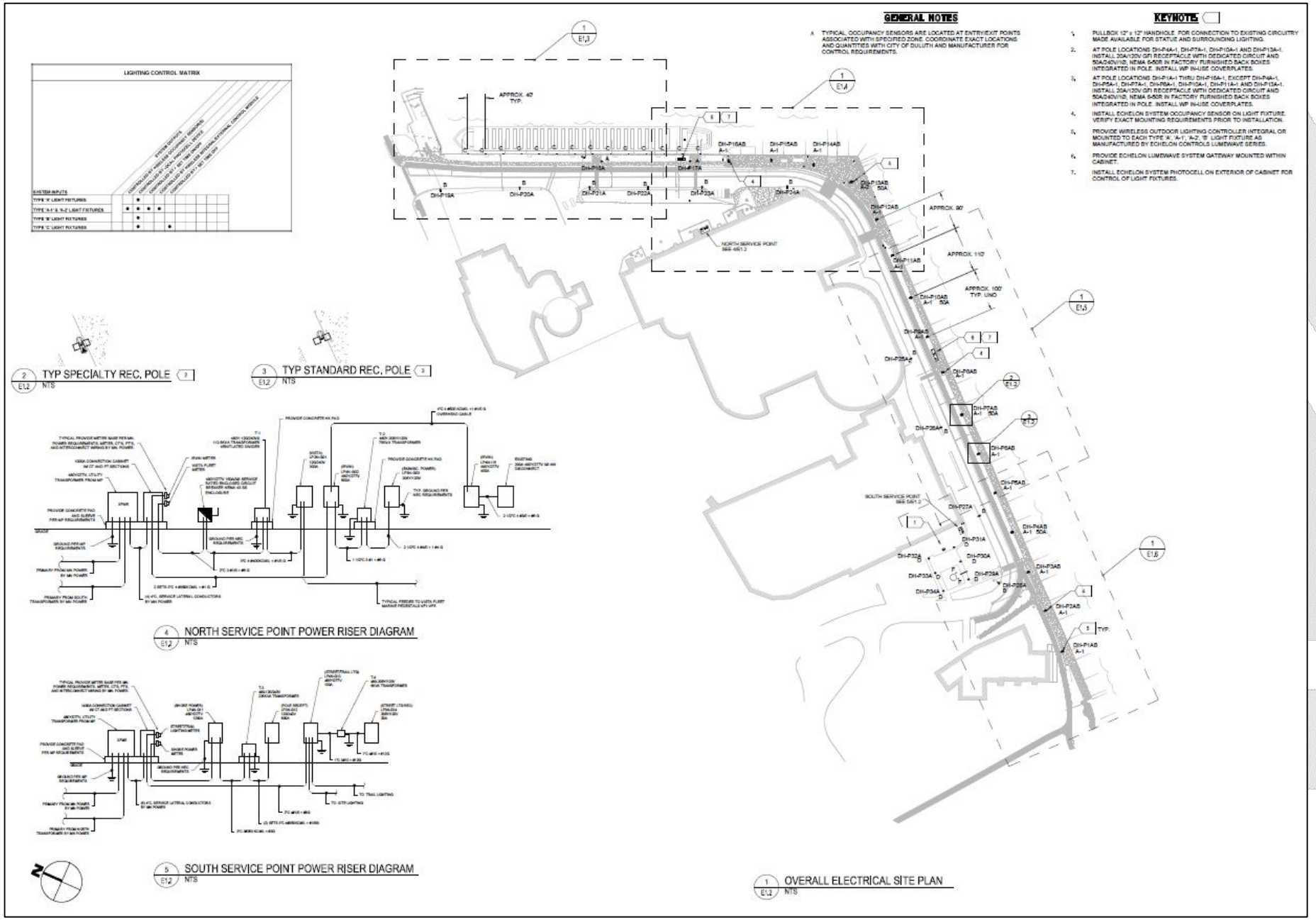


Gausman & Moore

Mechanical and Electrical Engineers

ELECTRICAL

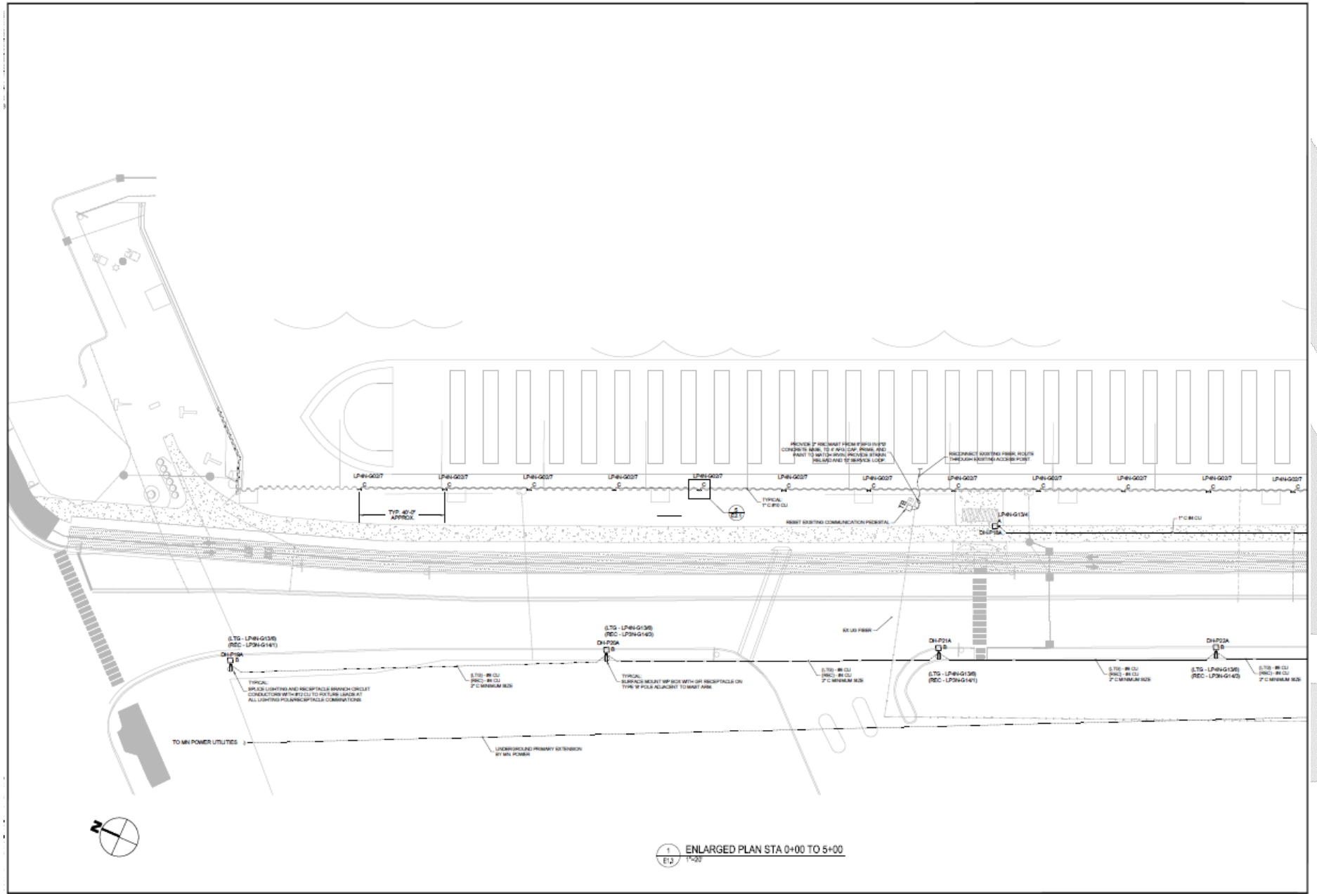
- Installation



Gausman &Moore
Mechanical and Electrical Engineers

ELECTRICAL

- Installation

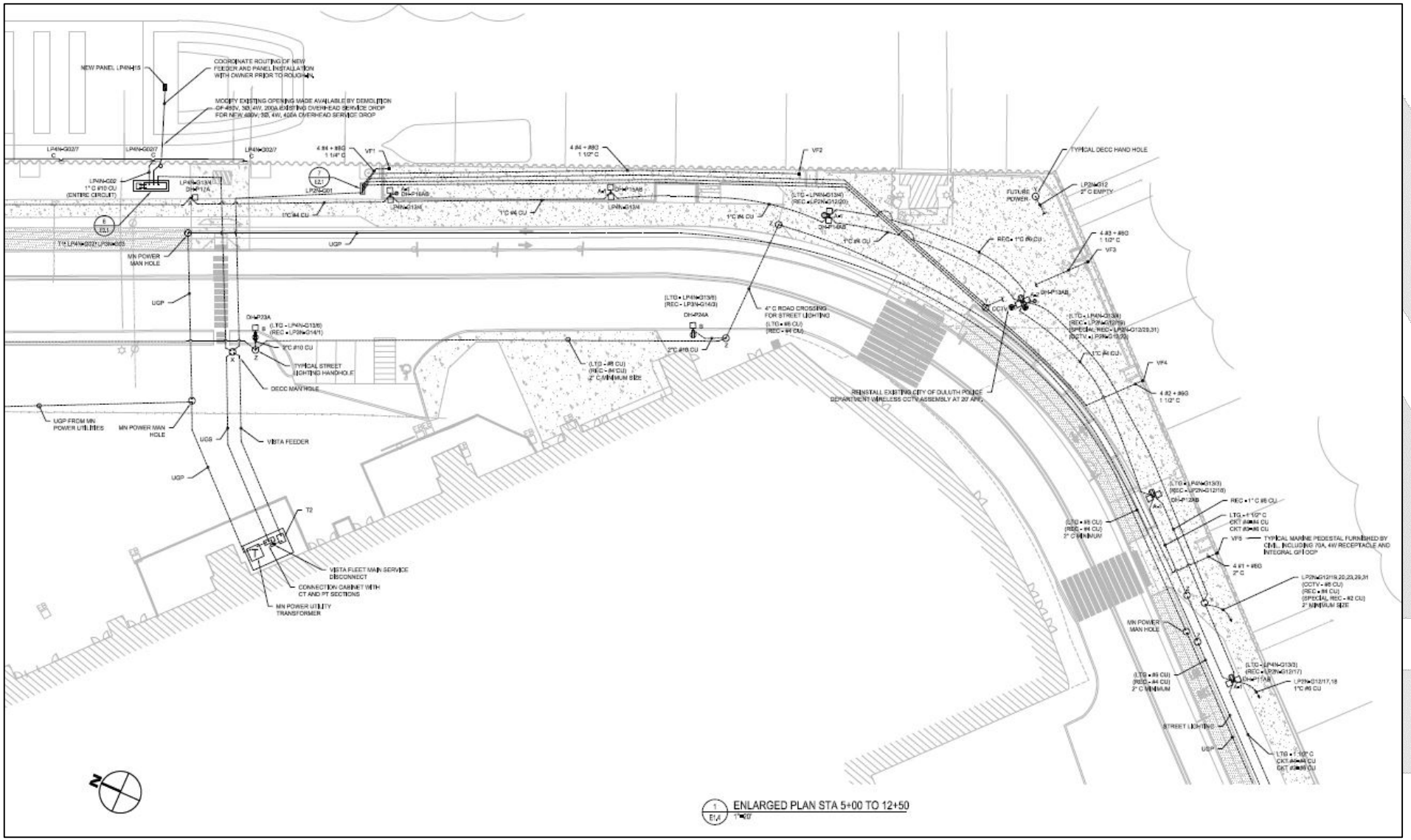


Gausman &Moore

Mechanical and Electrical Engineers

ELECTRICAL

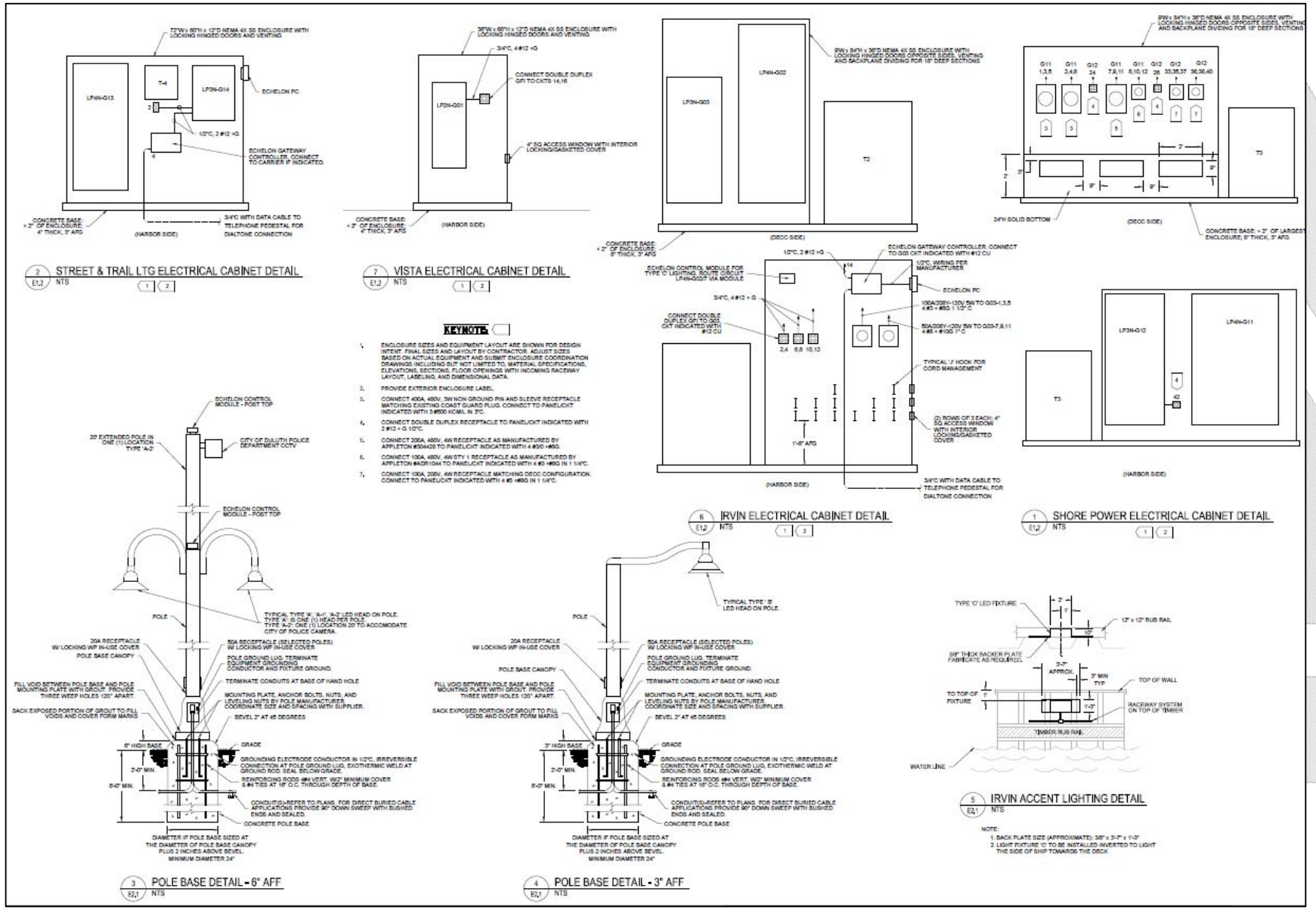
- Installation



Gausman & Moore
Mechanical and Electrical Engineers

ELECTRICAL

- Installation Details



Gausman &Moore
Mechanical and Electrical Engineers

QUESTIONS ON ELECTRCAL?

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QUESTIONS

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