



# ***NORTH END STORMWATER PUMP STATION***

## ***Project History and Design Aspects***

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# Presentation Outline

- The New Normal
- Project Examples
- The Project
- The Electrical Building
- The Pump Station
- Downstream Calming



# The New Normal

- 500 Year Storm Base Flood Elevation (BFE) Minimum Design Criteria
- Critical Facility Consideration
- Required FFE Heights:
  - For critical structures, BFE + 2 feet
  - For non-critical structures, BFE + 1 foot



# The New Normal

**TABLE 2-1. Minimum Elevation of the Top of Lowest Floor Relative to Base Flood Elevation (BFE) or Design Flood Elevation (DFE)—Flood Hazard Areas Other Than Coastal High Hazard Areas,<sup>a</sup> Coastal A Zones,<sup>a</sup> and High Risk Flood Hazard Areas<sup>a</sup>**

Structure Category <sup>b</sup>	Minimum Elevation of Lowest Floor
I	DFE
II <sup>c</sup>	BFE + 1 ft or DFE, whichever is higher
III <sup>c</sup>	BFE + 1 ft or DFE, whichever is higher
IV <sup>c</sup>	BFE + 2 ft or DFE, whichever is higher

Reference: ASCE Standard 24-05: "Flood Resistant Design and Construction"



# Project Examples



Downer Avenue, Mantoloking, Ocean County



# Project Examples



Downer Avenue, Mantoloking, Ocean County



# Project Examples



Carteret Avenue, Seaside Heights, Ocean County



# Project Examples



5 Pump Arrangement



# Project Examples





# Project Examples



24" Discharge Piping



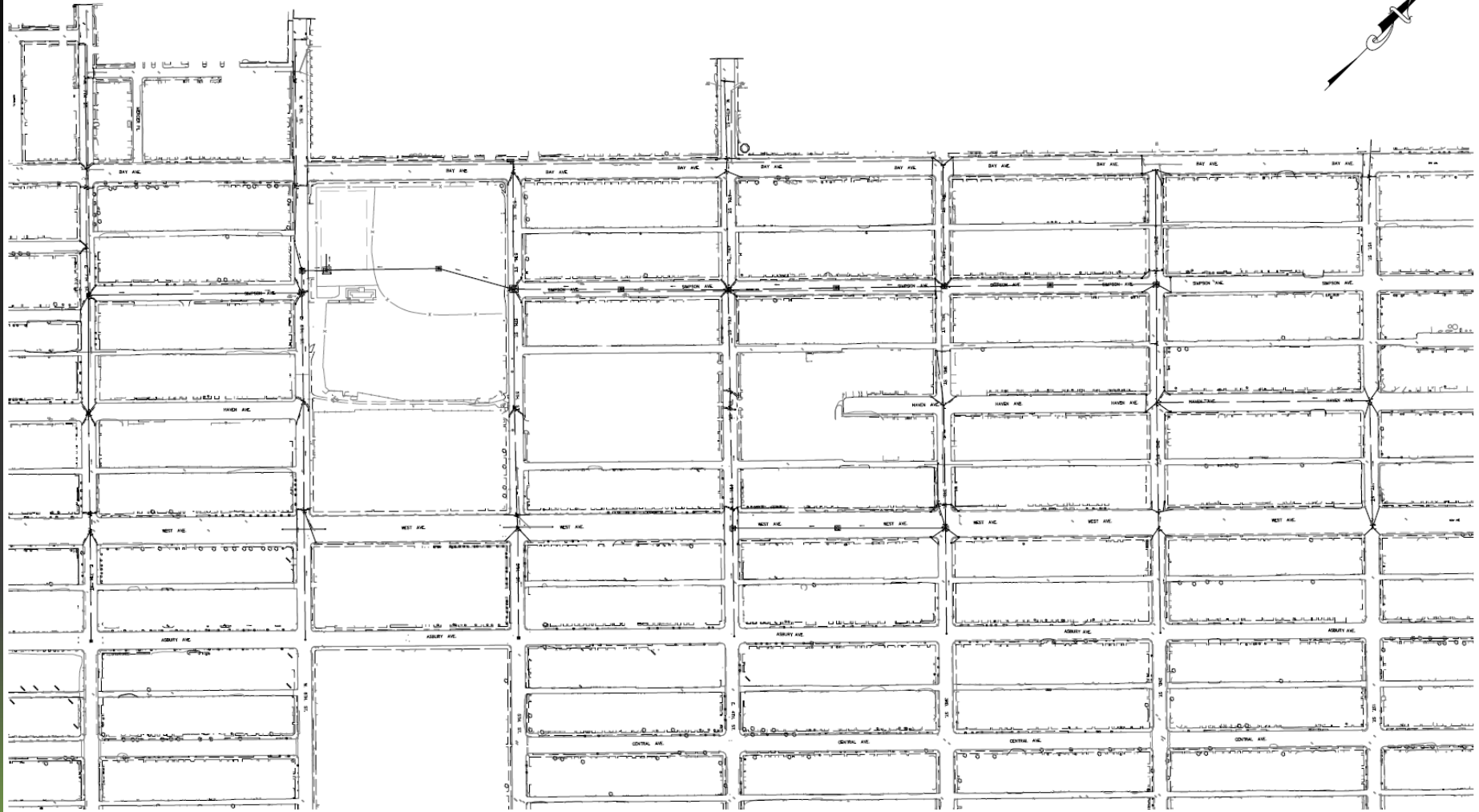
# Project Examples



Level Transducer Stilling Tube

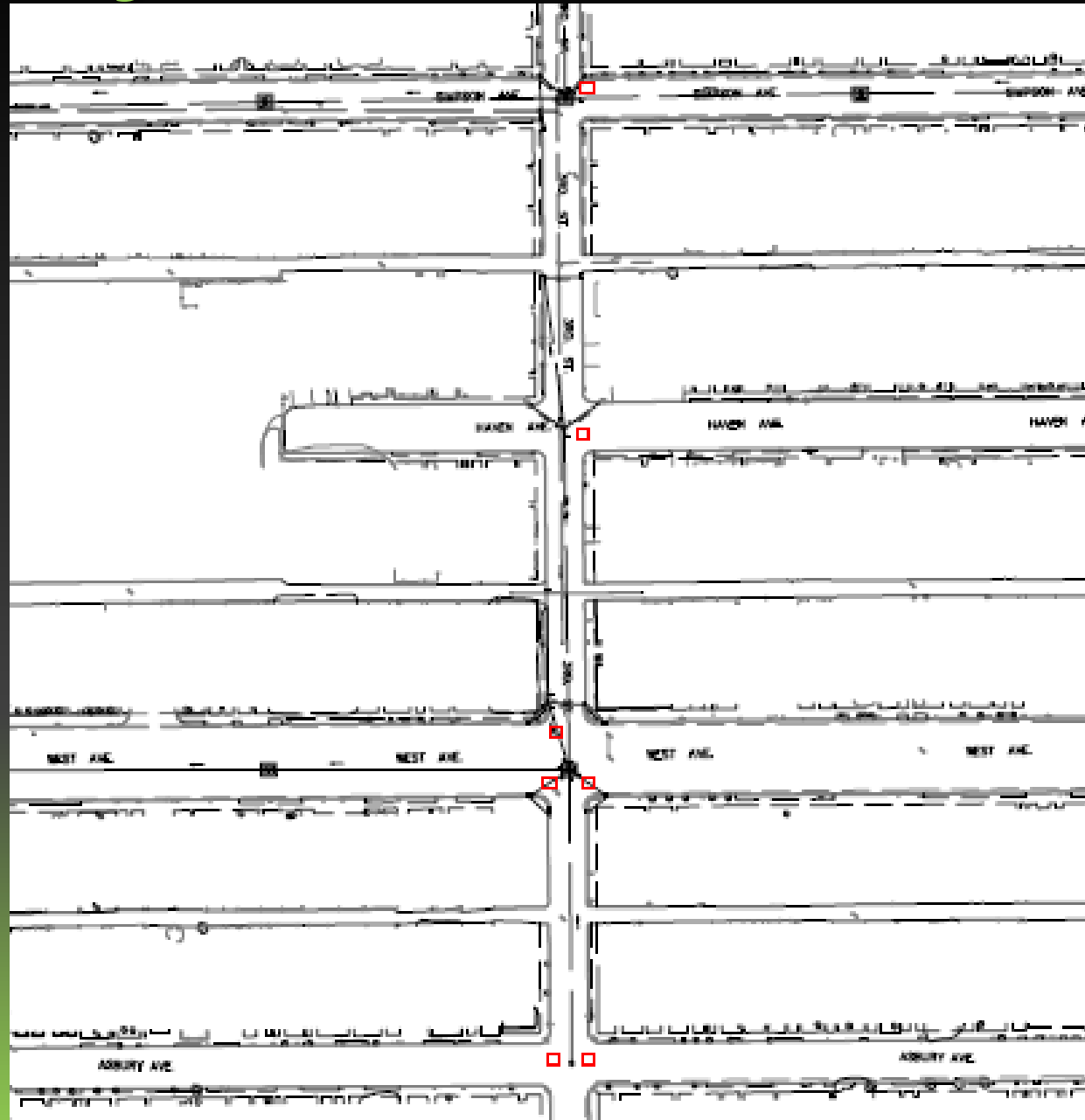


# The Project



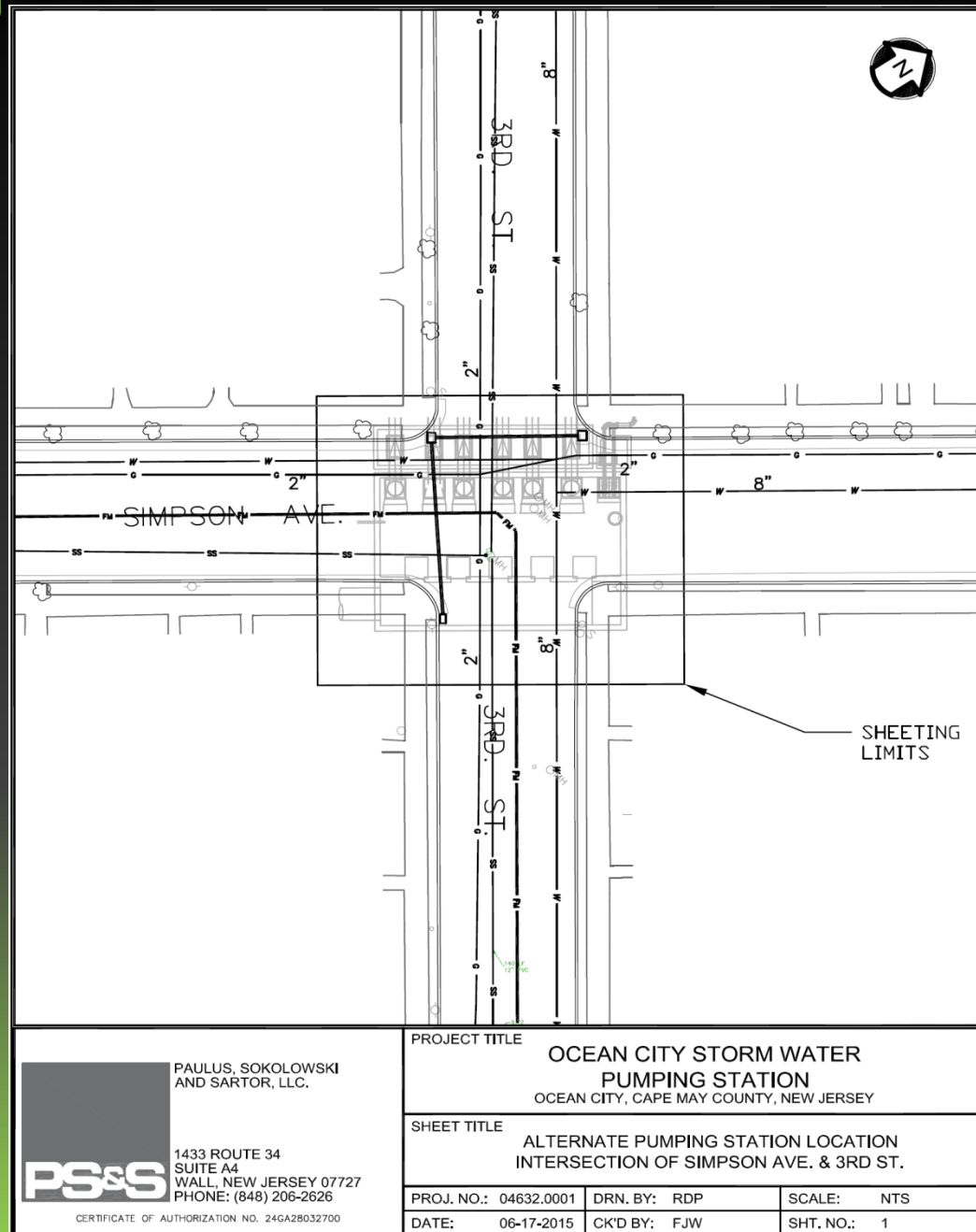


# The Project - MTDs



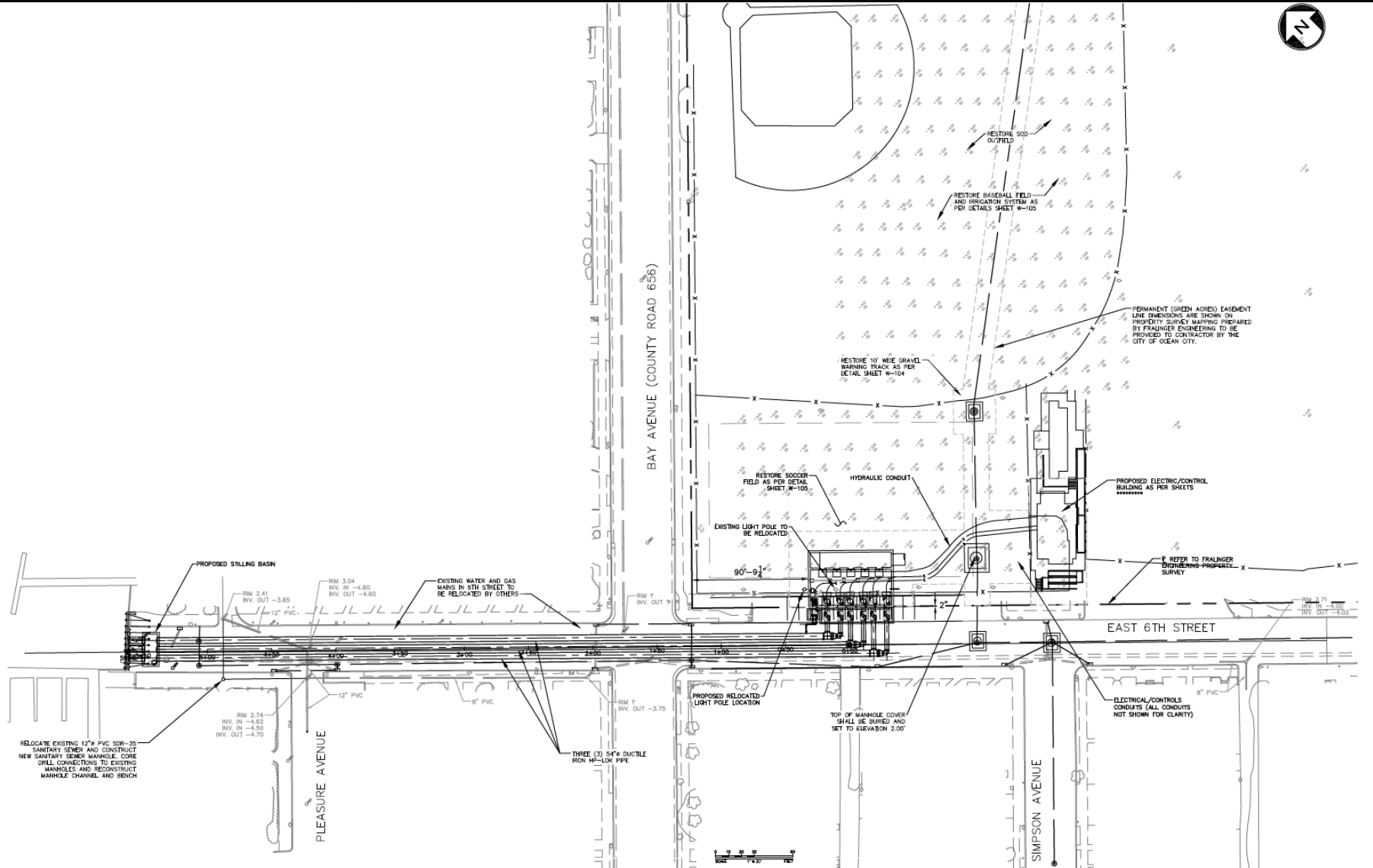


# The Project





# The Project

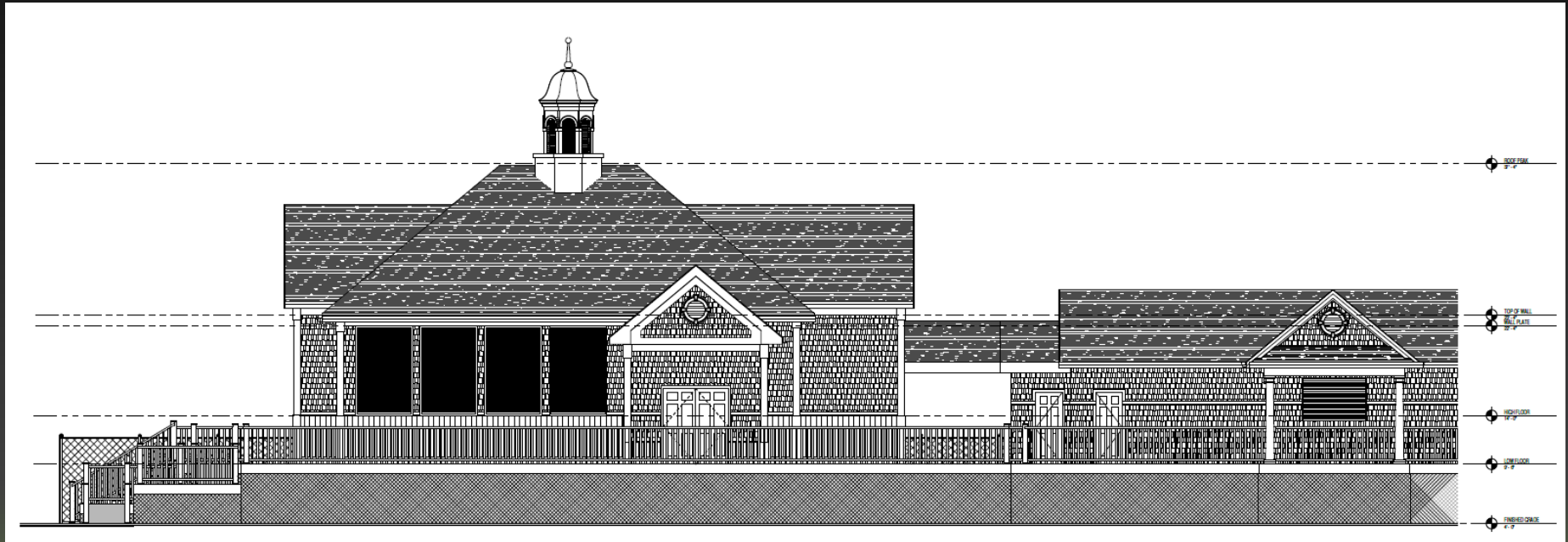




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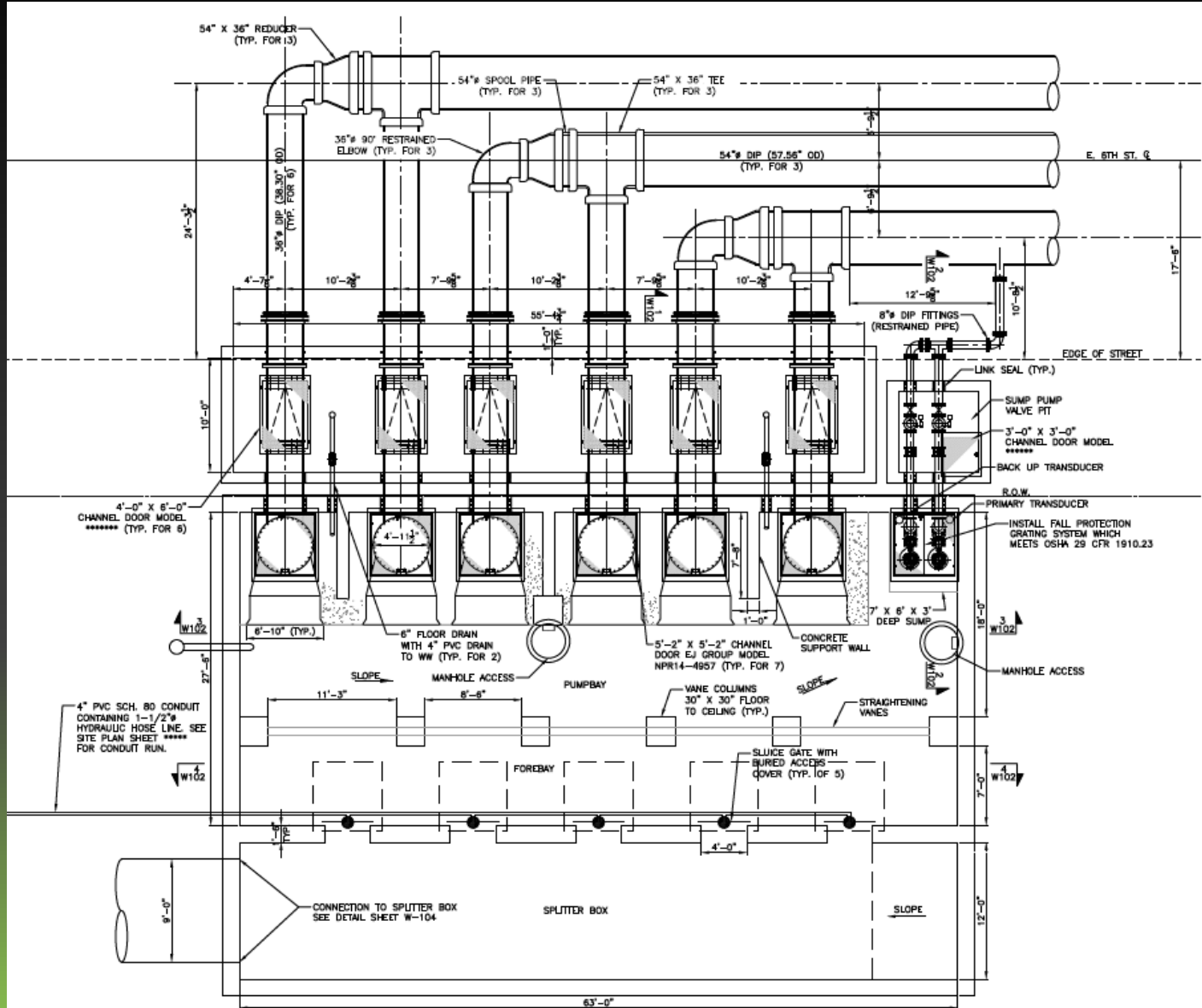


# The Electrical Building



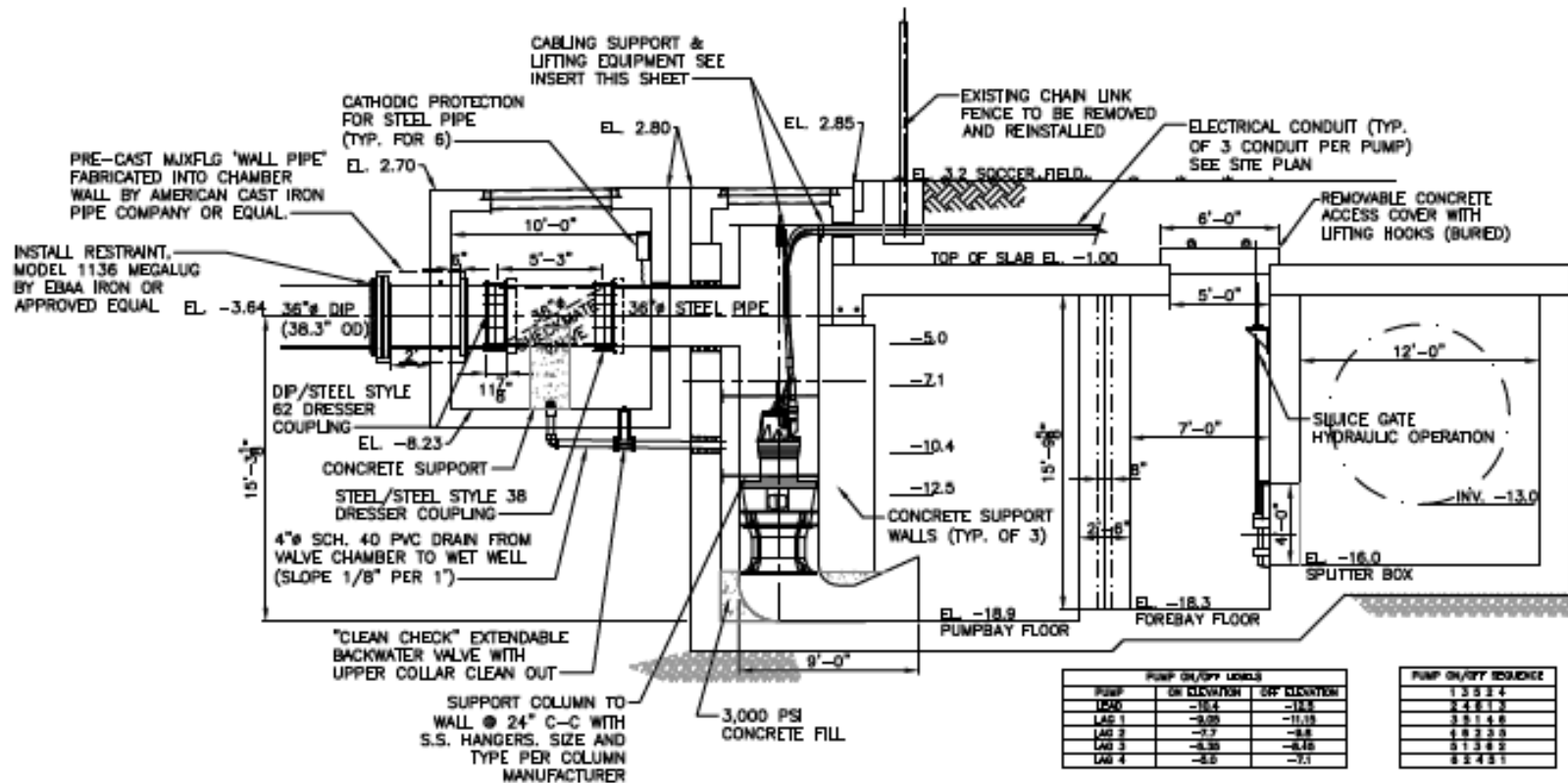


# The Pump Station





# The Pump Station

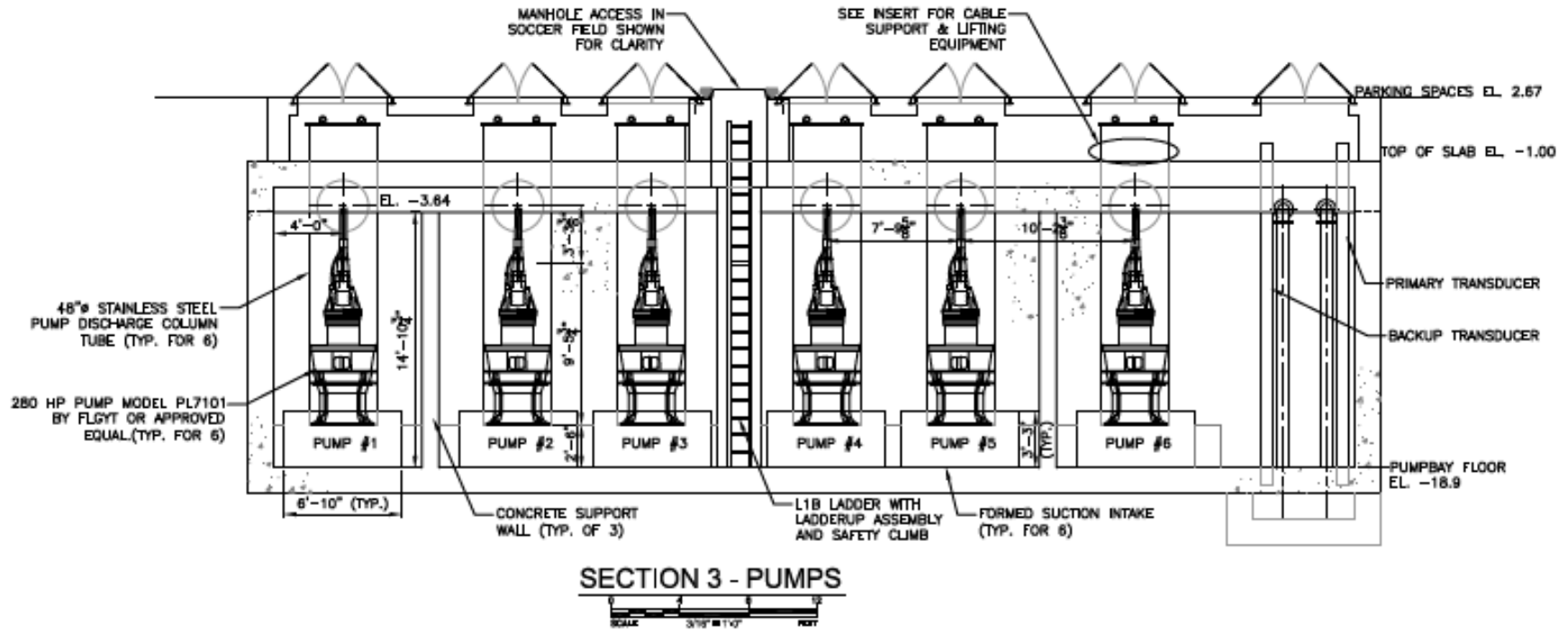


SECTION 1 - CHAMBER



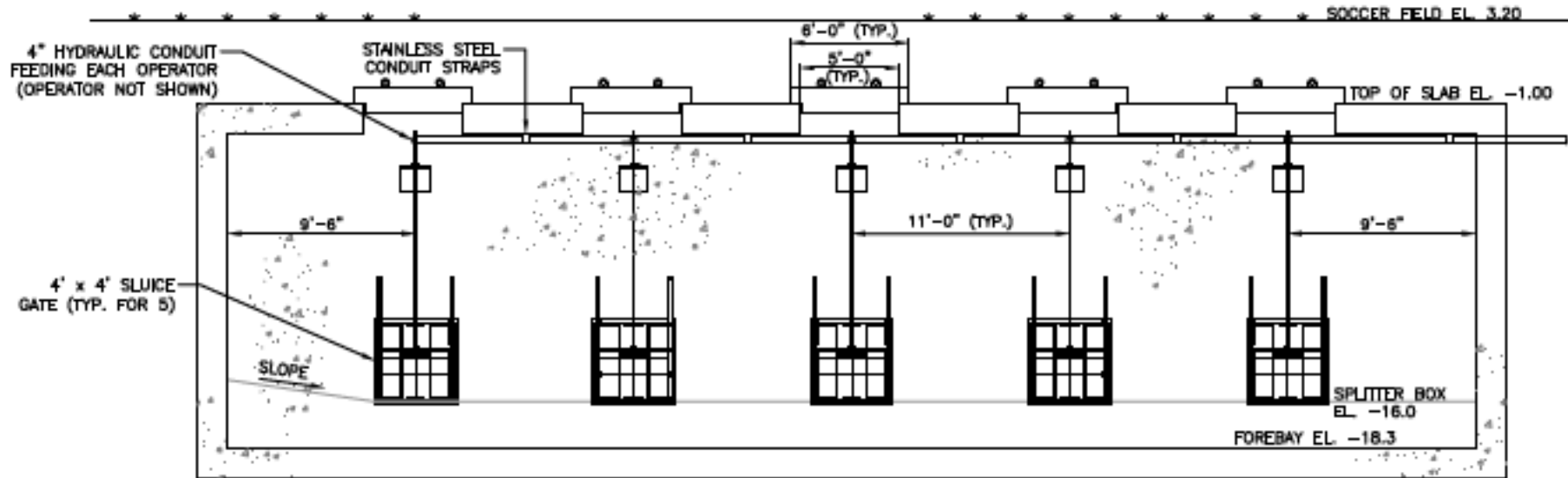


# The Pump Station





# The Pump Station



## SECTION 4 - SLUICE GATES

# Anti-Vortex Plate



# Downstream Calming





# Downstream Calming





# Downstream Calming





# Questions

Thank You!

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