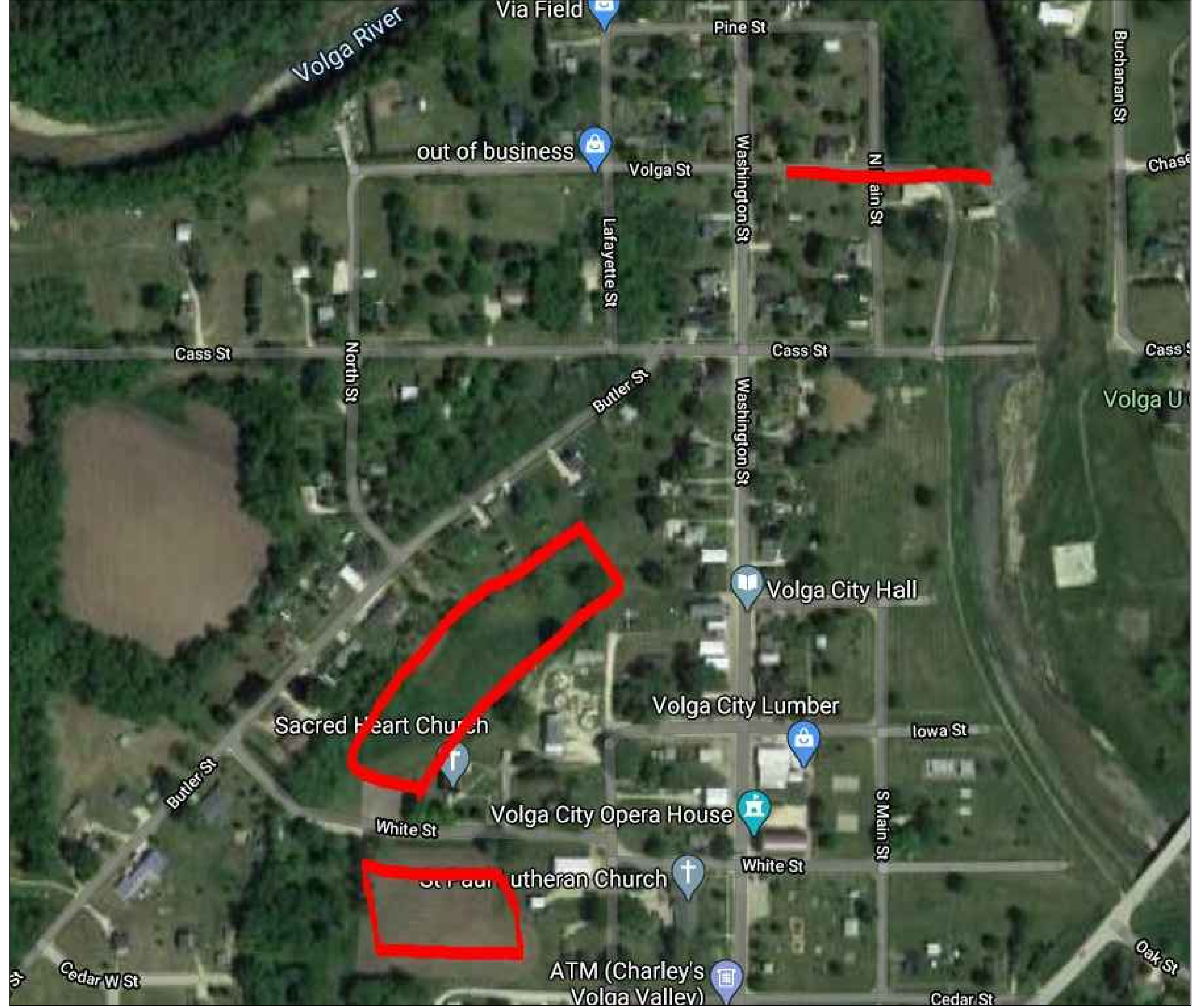


Civil Site Construction Drawings

Stormwater Improvements

Prepared For

City of Volga, Iowa



MLM Consultants

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McKenna Mintz
Zachery Mousel

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Sheet Index	
C0.0	Cover
C1.0	South Wetland Site Plan
C1.1	South Wetland Grading Plan
C1.2	South Wetland Plant Plan
C1.3	South Wetland Outlet
C2.0	North Pump Notes
C2.1	North Pump Site Plan
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C2.4	Tile Plan and Profile
C2.5	Pipe System Plan and Profile
C2.6	North Pump Grading Plan
C3.0	Volga St Site Plan
C3.1	Volga St Plan and Profile
C3.2	Details

PROJECT:	CEE: 4850
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REVISION:	

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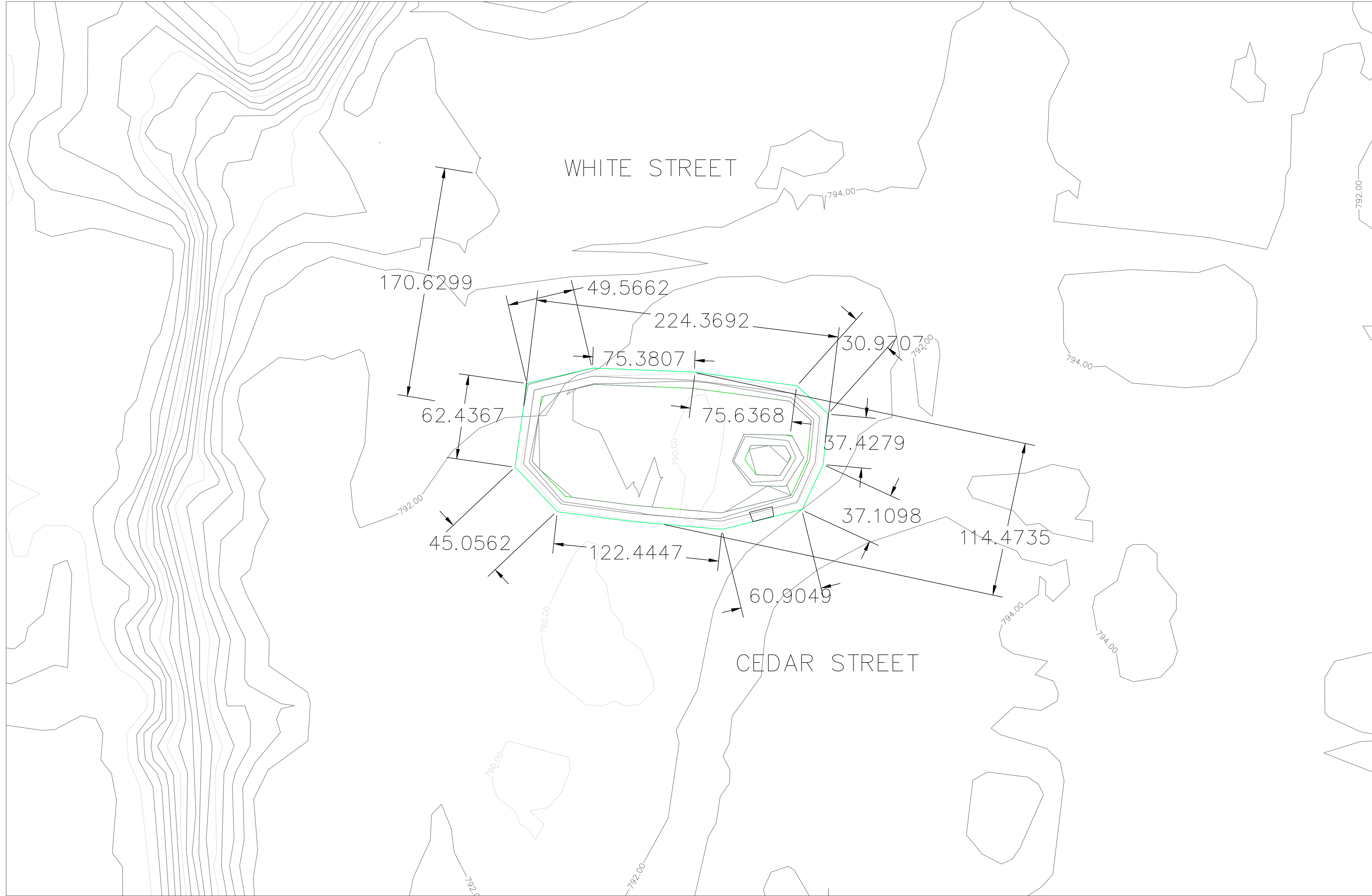


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Stormwater Redirection

City of Volga
Clayton County, IA 52077

SHEET NAME	Cover Sheet
SHEET NO.	C0.0



- 2930 CY needs to be excavated for this wetland
- bentonite layer is possible – soil test needs to be completed

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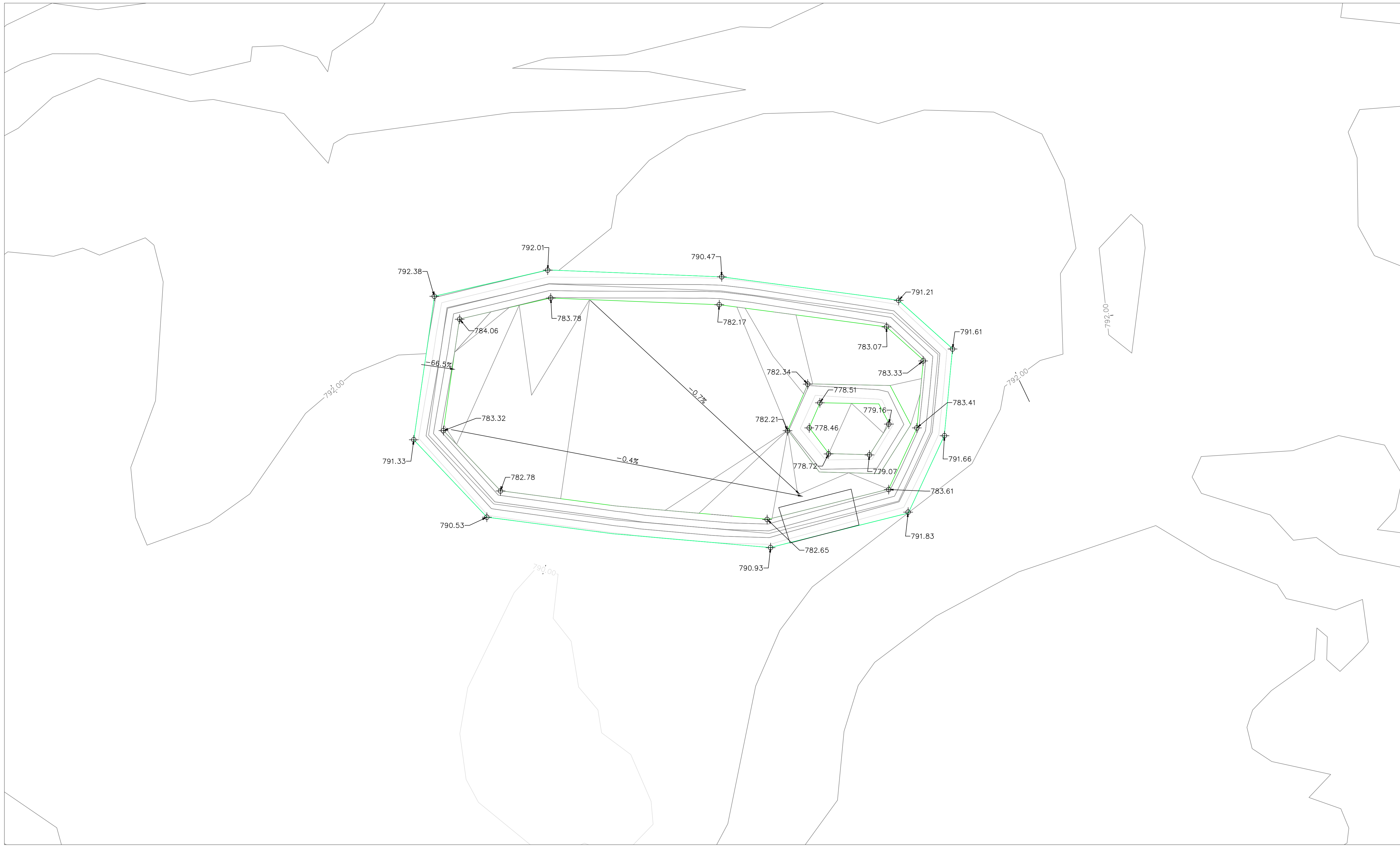
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SHEET NAME
 Wetland Site Plan

SHEET NO.
C1.0



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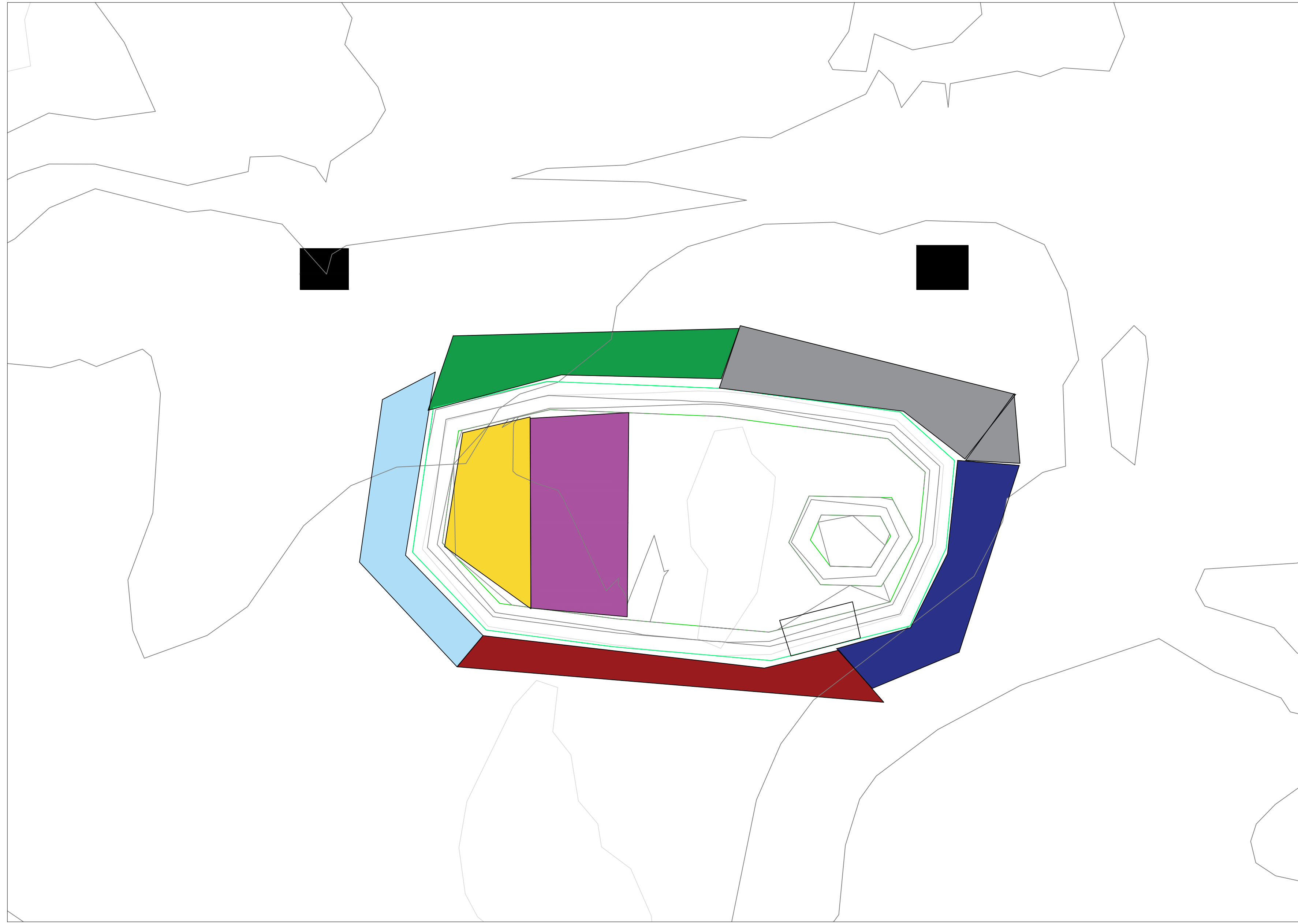
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SHEET NAME
 Wetland Grading

SHEET NO.
C1.1

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Legend	
	Scripus Pungen
	Mertensia Virginica
	Acorus Calamus
	Carex Comosa
	Cassia Hebecarpa
	Liatris Pycnostachya
	Lythrum Alatum
	Bat Houses

All plants were found on Ion Exchange, a local nursery provider of wetland plants for northeast Iowa

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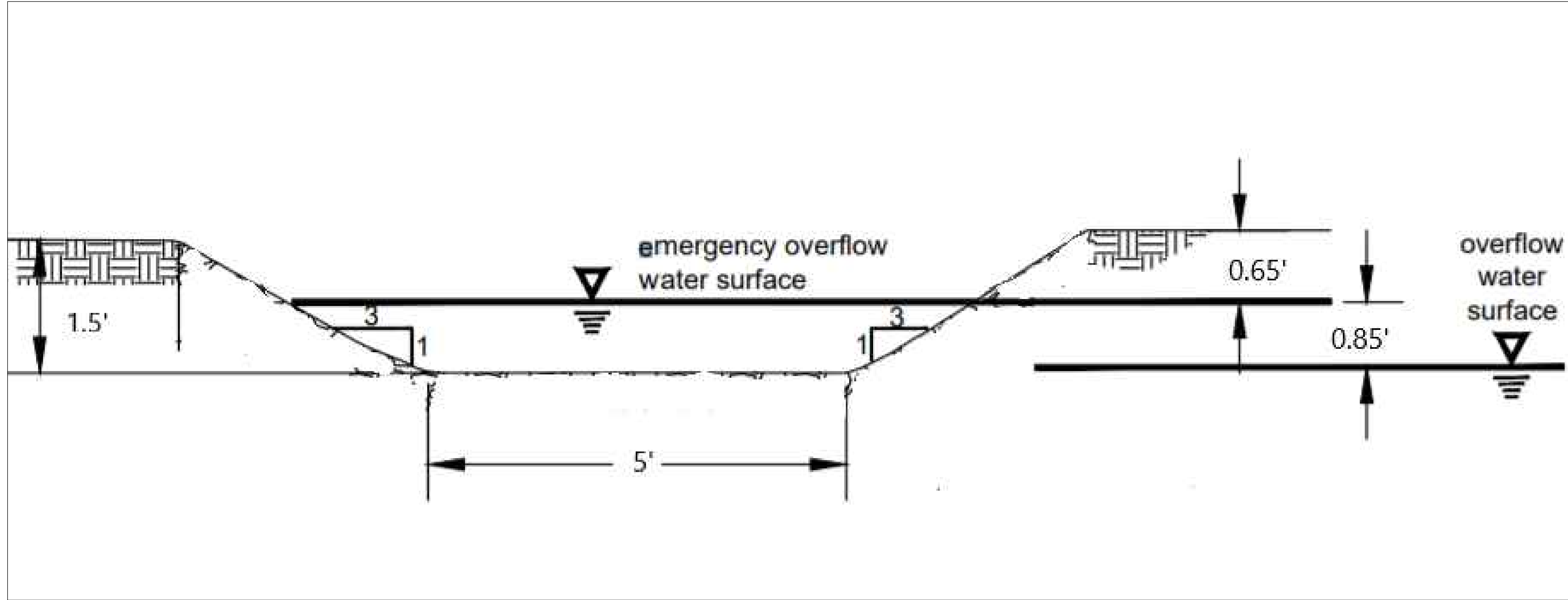
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City of Volga
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SHEET NAME
 Plants

SHEET NO.
C1.2



- Weir leads to turf spillway
- Proposed spillway is 5 ft wide and 100 ft long leading to ditch alongside the road
- Not necessarily needed and can be moved to a different place

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SHEET NAME
 Wetland Outlet

SHEET NO.
C1.3

Notes

Manhole

Top at 788' with bottom at 782', 4' deep with additional room for sub-grade and rim.
 Flat top with 27" beehive grate.
 SUDAS design SW-401.

Tile

4" diameter, single perforated drainage pipe.
 Starts 2.5' below surface level.
 Ends 1' from bottom of the manhole.

Manhole to pump

4" diameter, ductile iron pipe.
 Starts 6" from bottom of the manhole.
 Ends at surface level to add a 2' ductile iron pipe extension with coupler for pump use.

Path between couplers

Gravel path: 12' wide, 6" thick, and 130' long.
 Helps provide easy access for fire truck, or mobile pump, to be attached to couplers.

Pump to culvert

4" diameter, ductile iron pipe.
 Starts above surface level with 2' ductile pipe extension and coupler for pump use.
 Ends at street level to enter culvert.

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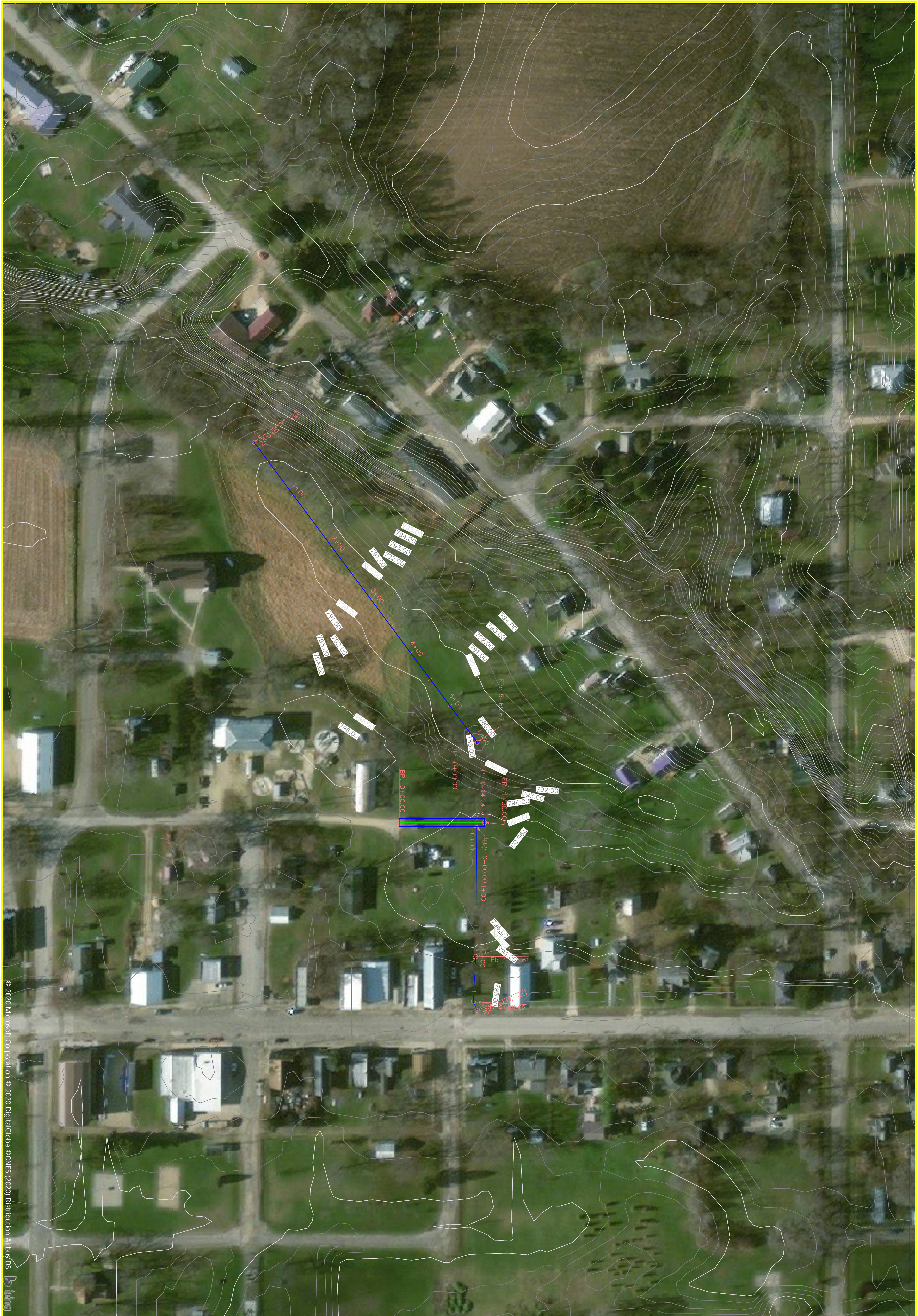
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City of Volga

SHEET NAME
 North Region
 Notes

SHEET NO.

C2.1



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C2.
SHEET NO.

SHEET NAME
North Region
Site Plan

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City of Volga

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C21

SHEET NO.
 SHEET NAME
 North Region
 Pumping Rot

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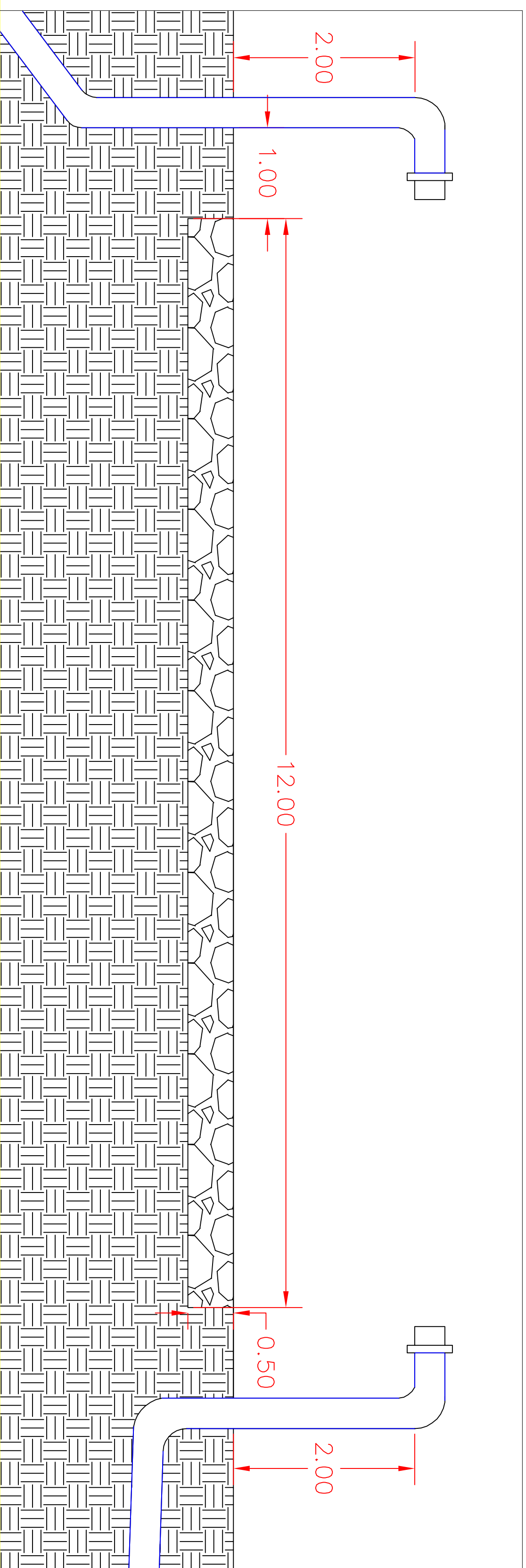
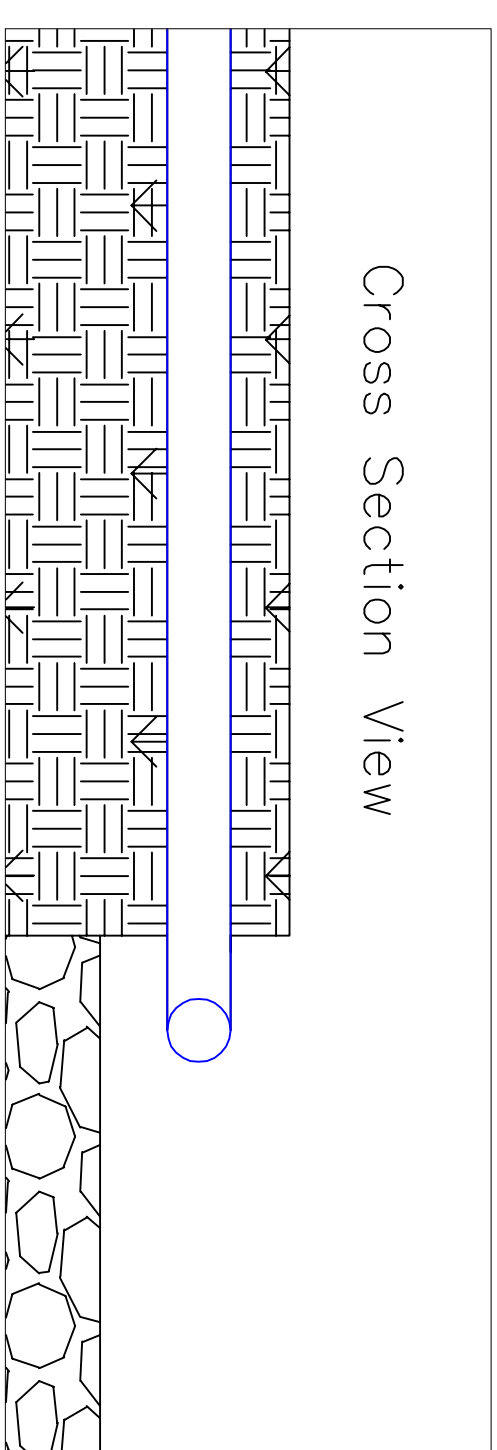
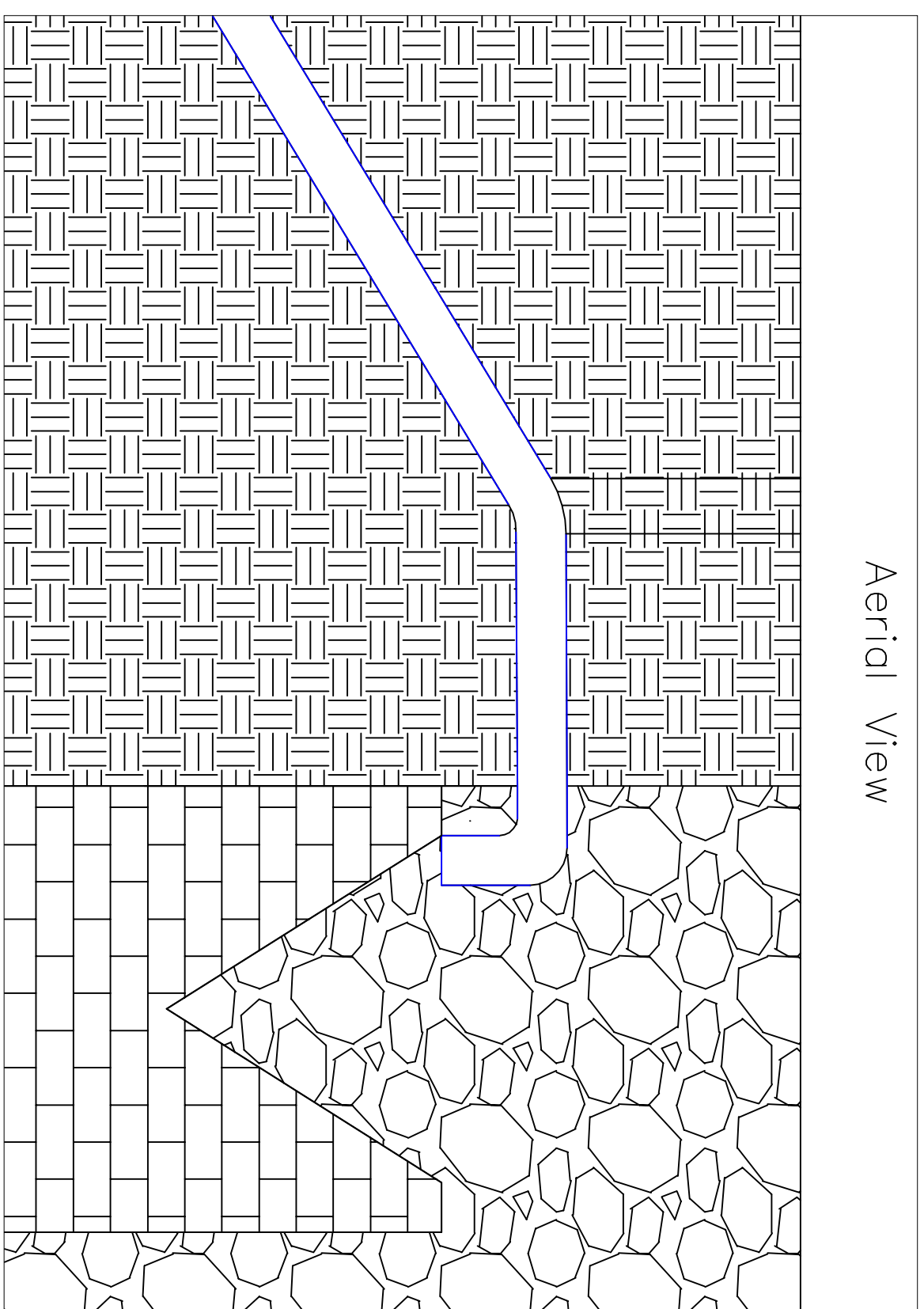
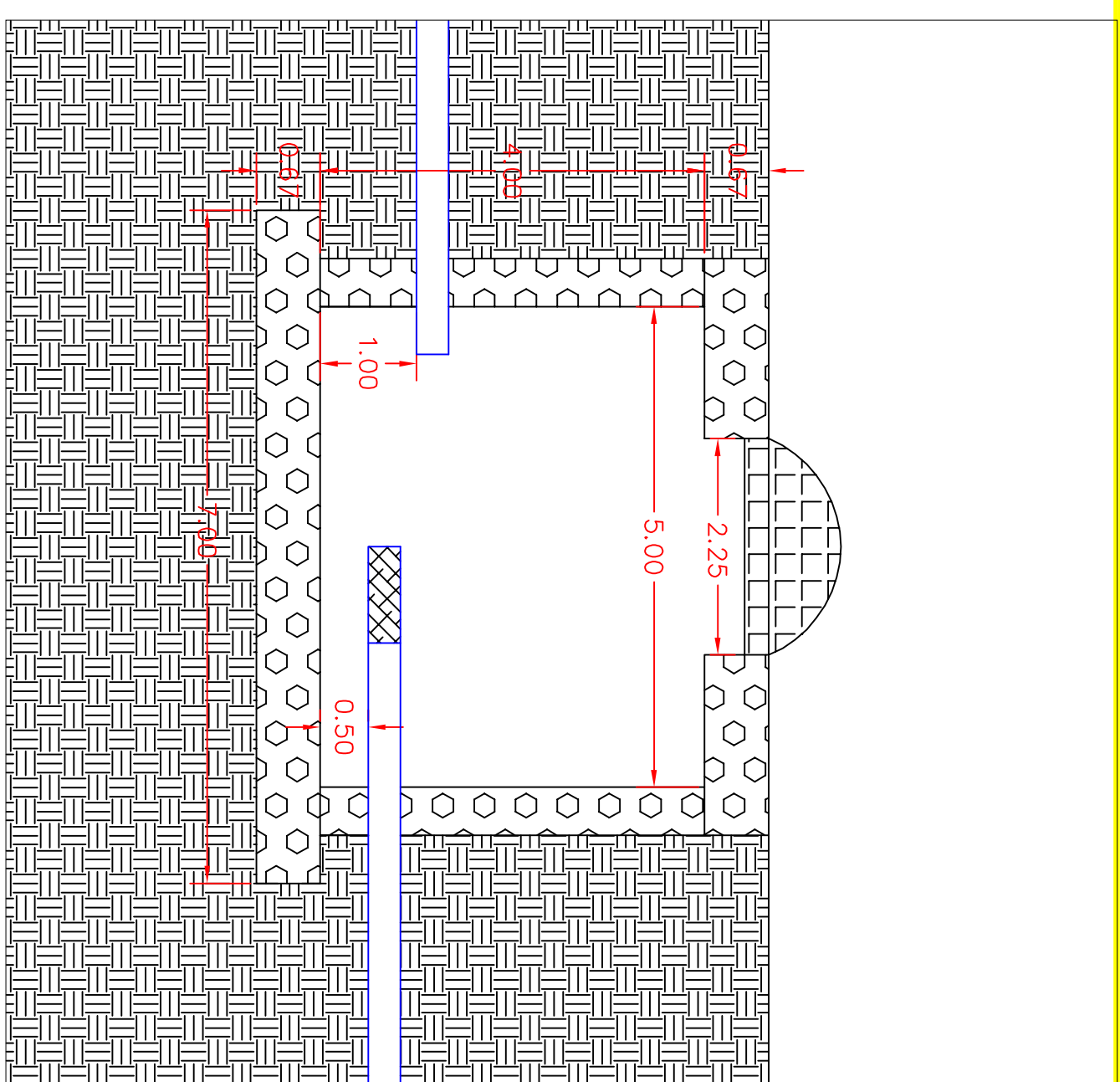
Details:

Manhole
 Top of manhole concrete at 788'.
 Sub-grade must be at least 8" thick.
 Effective height of 4' and effective diameter of 5'.
 Flat top with 27" conventional beehive grate.
 Outlet pipe from manhole should have a filter or screen to help prevent sediment from entering the pipes.
 Inlet pipe (left) is 4" drainage tile.
 Outlet pipe (right) is 4" ductile iron pipe, should start towards the center of manhole to help with draining.
 Both pipes should have positive fall to prevent water from freezing.

Pipe to Box Culvert
 Surface elevation at 793', pipe discharges at 792.5'.
 4" ductile iron pipe used.
 Box culvert is 3' wide.
 Pipe must have positive fall to outlet to prevent freezing.
 A removable rodent guard should be attached to the end of the outlet pipe when not in use.

Couplers for Pump Attachment
 Couplers are extended 2' above ground for easy access.
 Both pipes are 4" ductile iron.
 Separated by 12' wide, 6" thick gravel road for fire truck.
 Pipes exit ground 1' from the gravel road.
 Threaded caps added to couplers for protection when not in use.

Legend	
Earth	
Manhole	
Manhole Cover	
Pipe Filter	
Road	
Culvert	



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Stormwater Improvements

City of Volga

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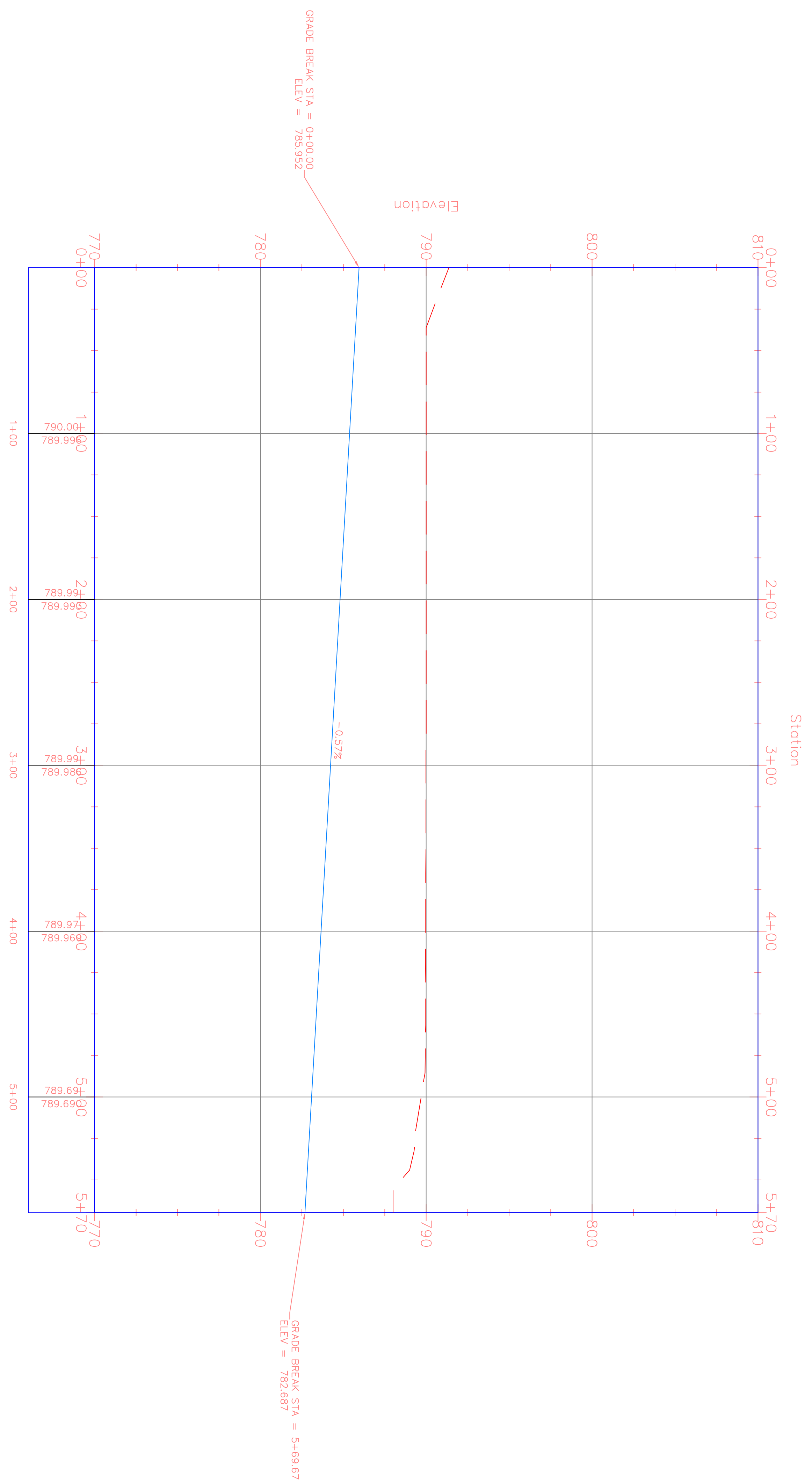
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 Structure Del

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Tile PROFILE



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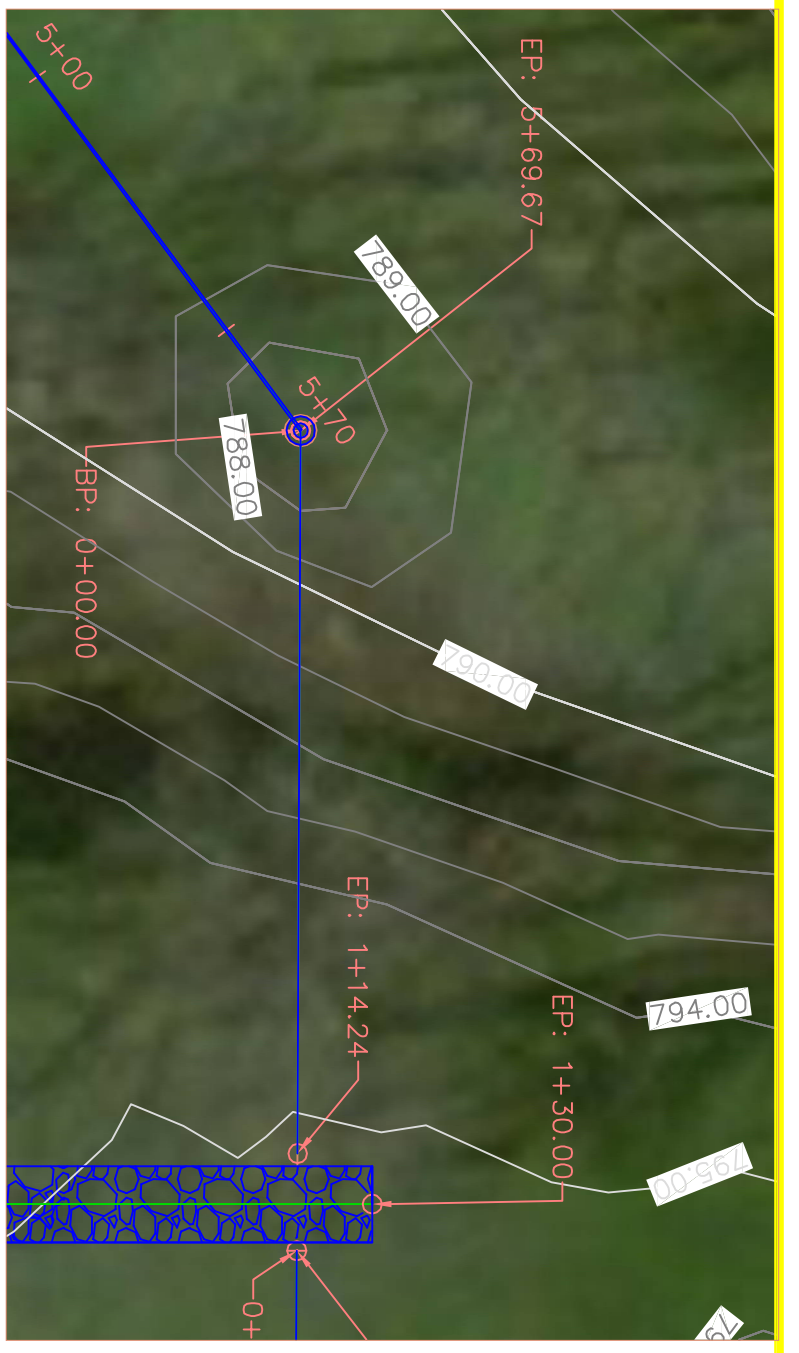
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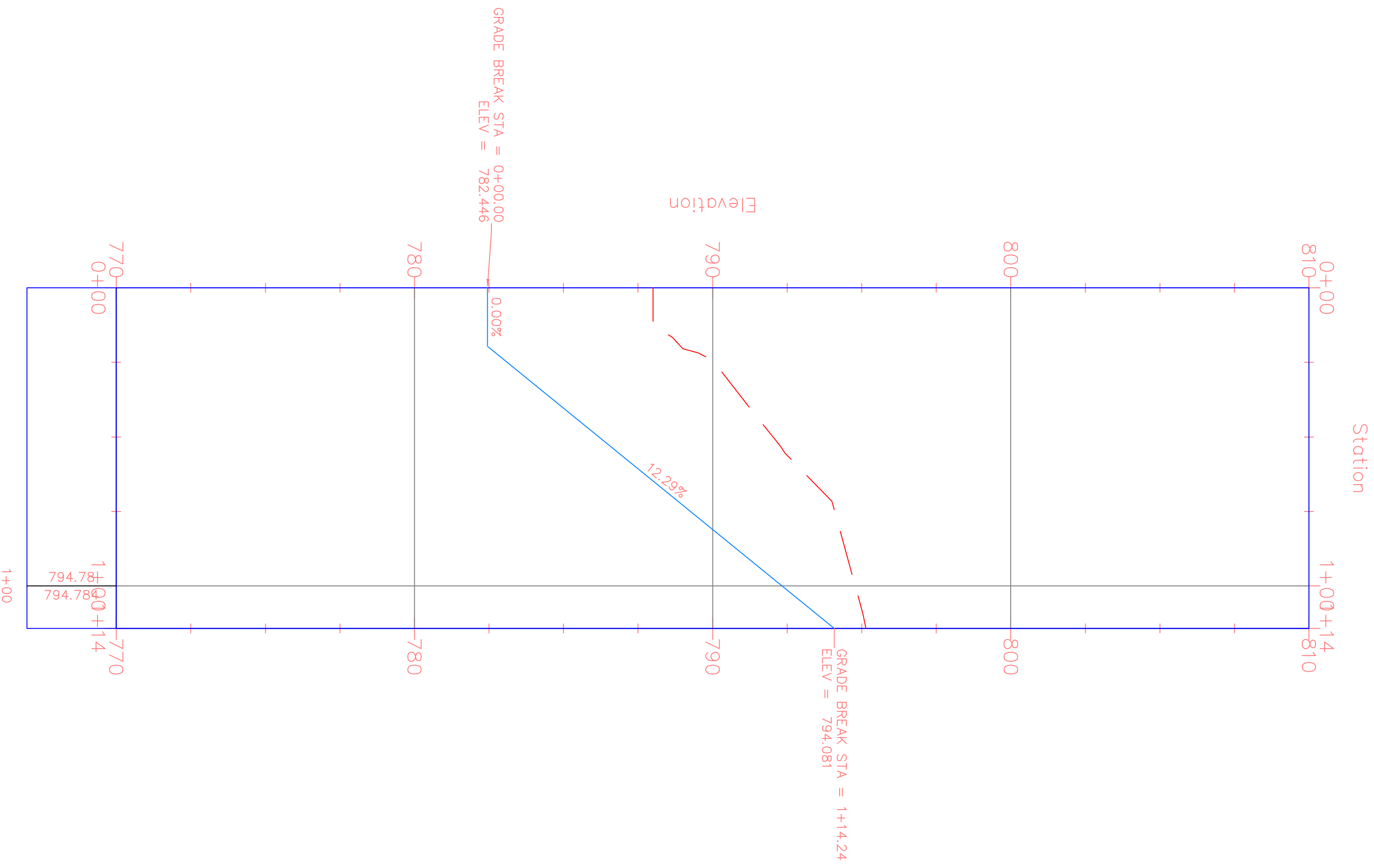
North Region
Plan Profile c

SHEET NO.

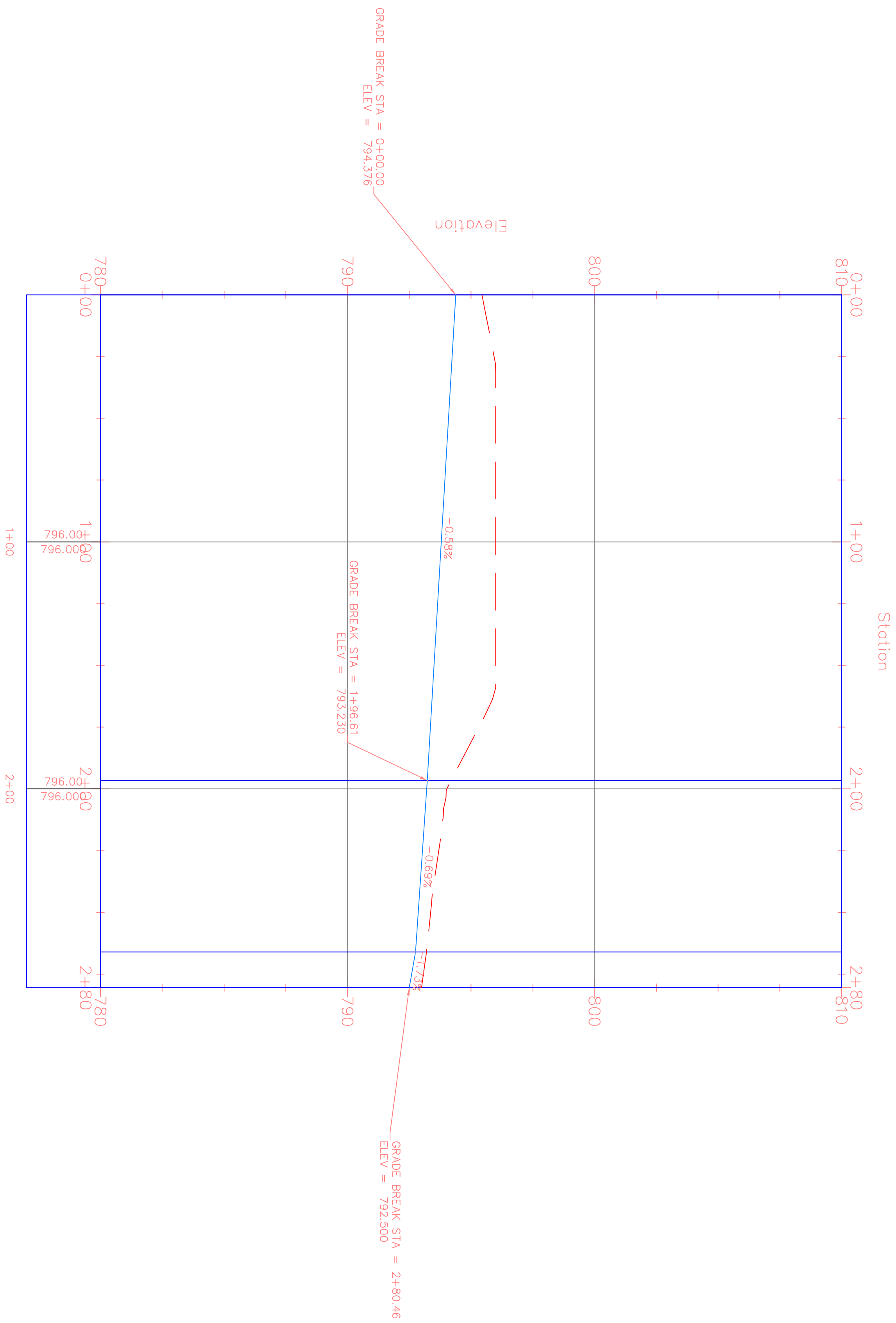
C2.1



Manhole to Pump PROFILE



Pump to Culvert PROFILE



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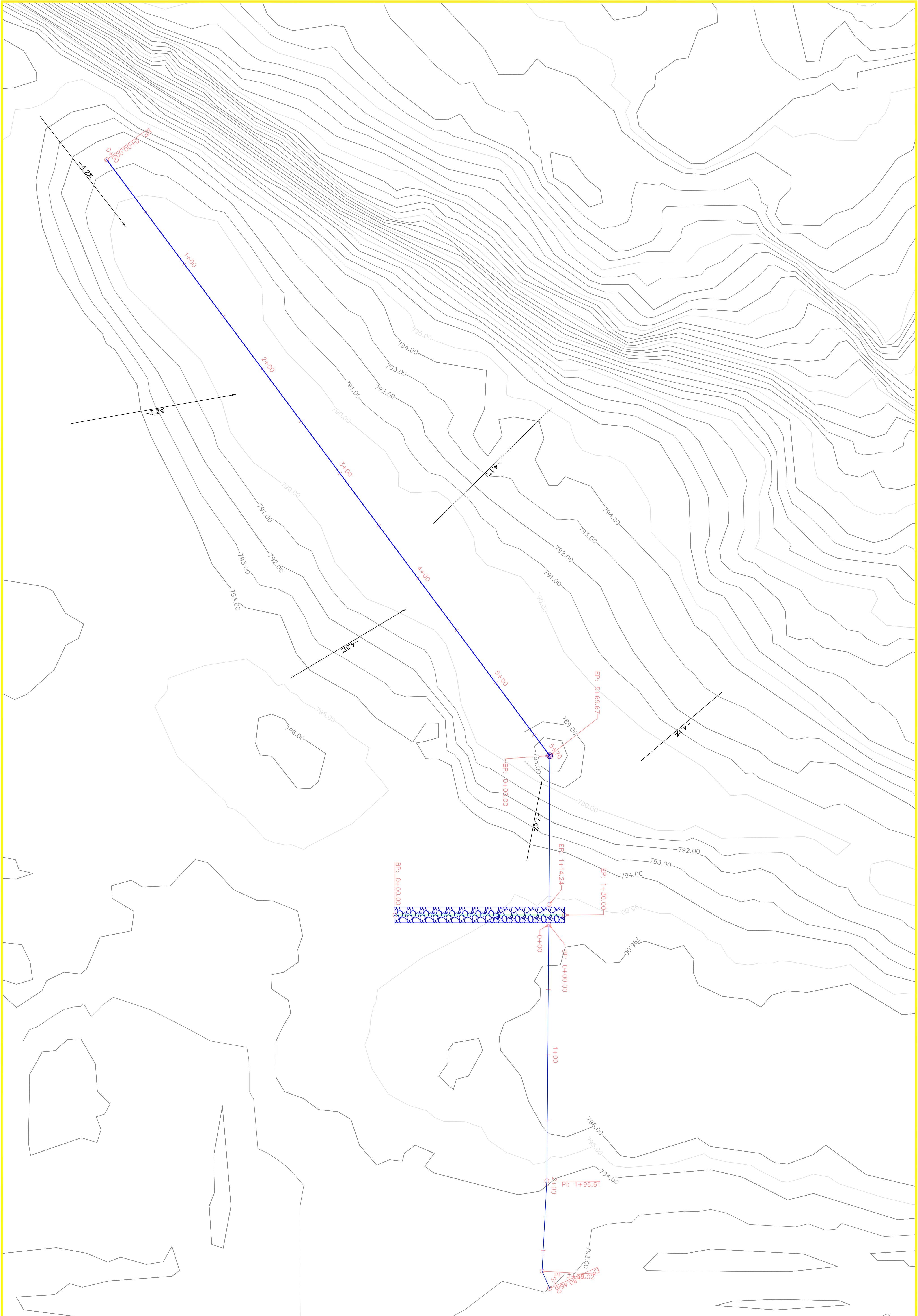
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SHEET NAME

North Region
 Pipe Network

SHEET NO.

C21



C2.1

SHEET NO.

SHEET NAME
North Region
Grading Plan

Stormwater Improvements

City of Volga

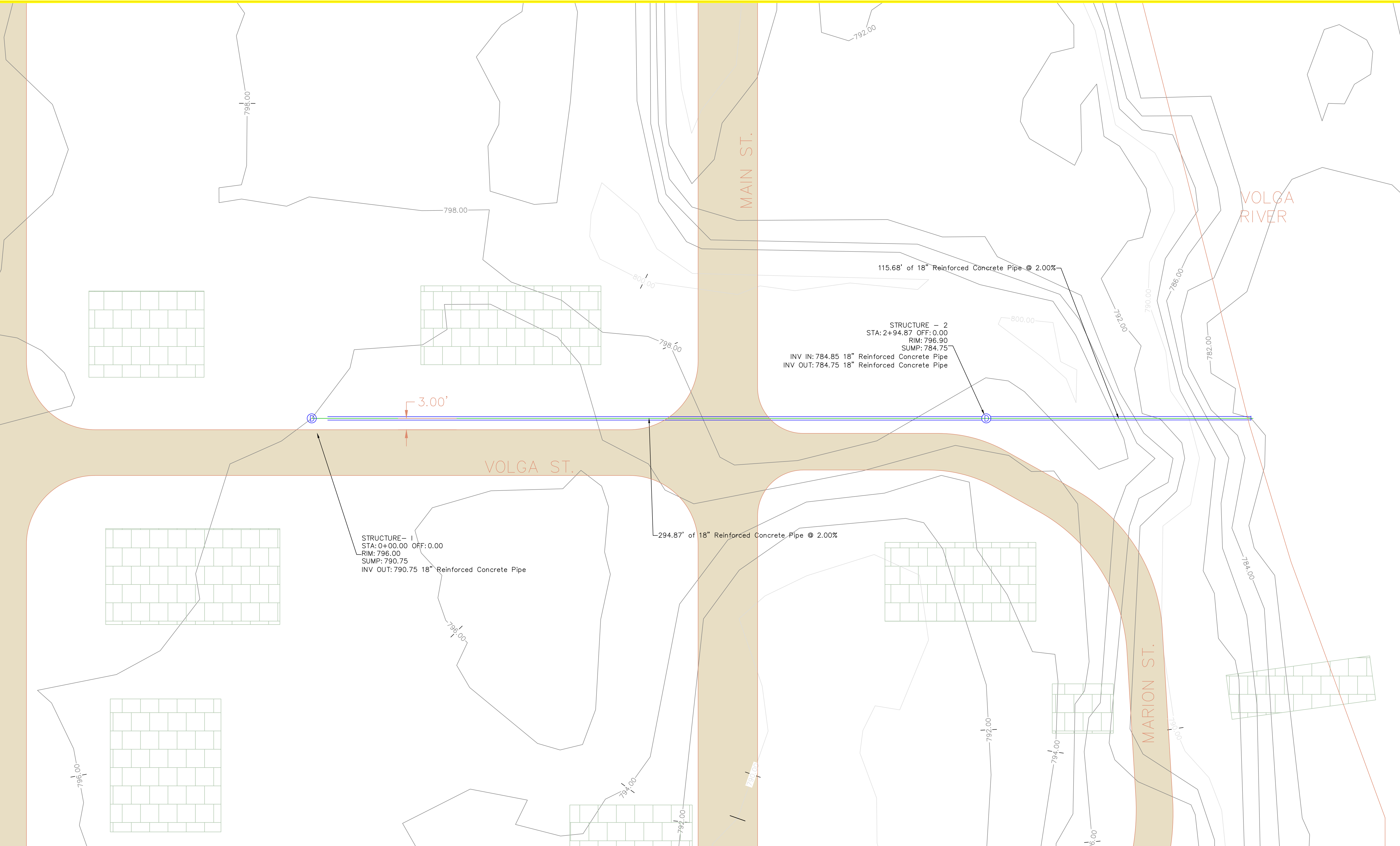
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NOTES:

BACKFLOW PREVENTER FLAP-GATE TO BE INSTALLED AT THE OUTLET

TIE LAST 3 SECTIONS OF SEWER SYSTEM TO PREVENT LEAKING NEAR THE OUTLET

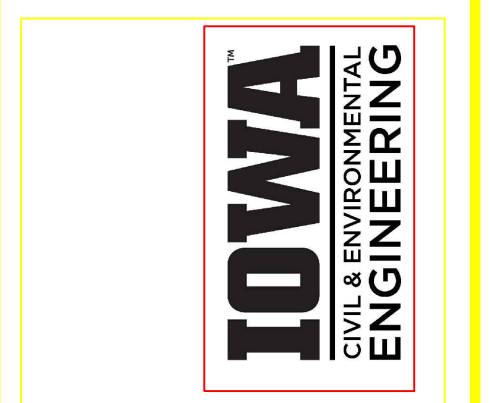
SOIL AND SOD TO BE RETURNED TO THEIR CURRENT CONDITION

LEGEND

- EXISTING ROAD
- EXISTING BUILDING

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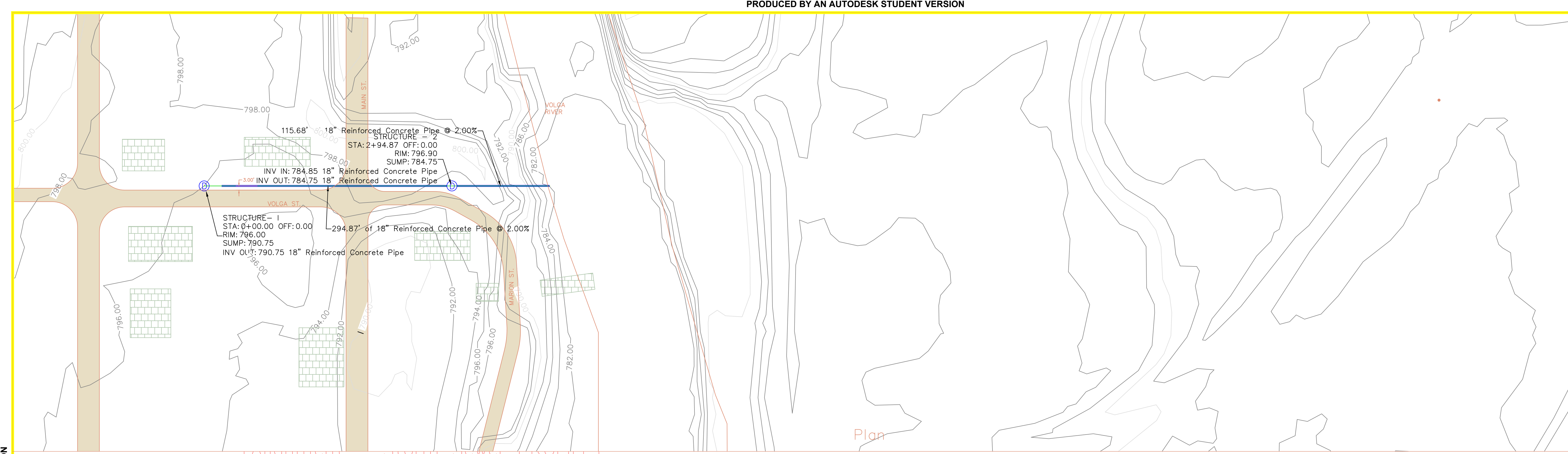


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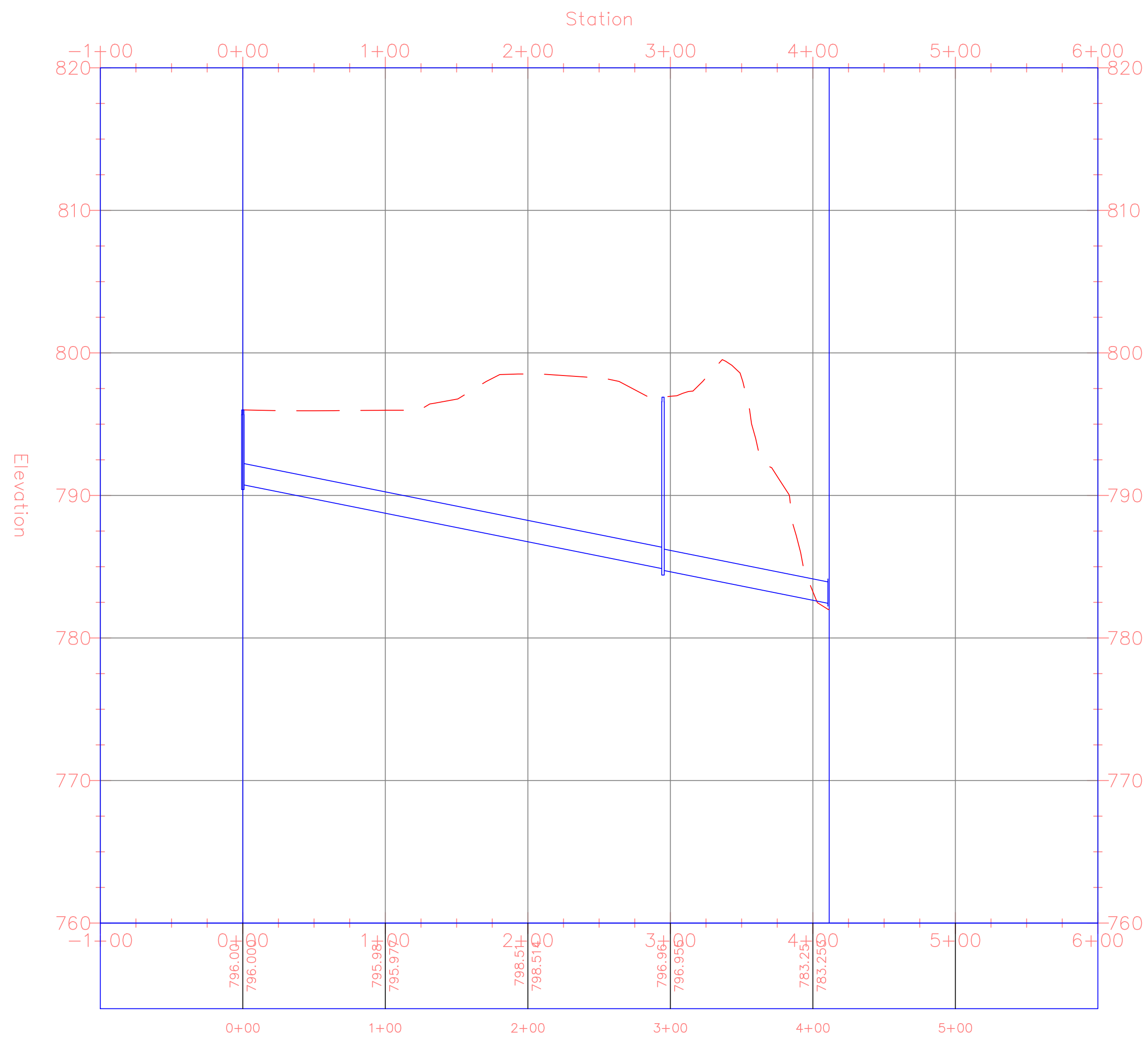
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SHEET NAME
 Volga Street
 Site Plan

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C3.0



Plan



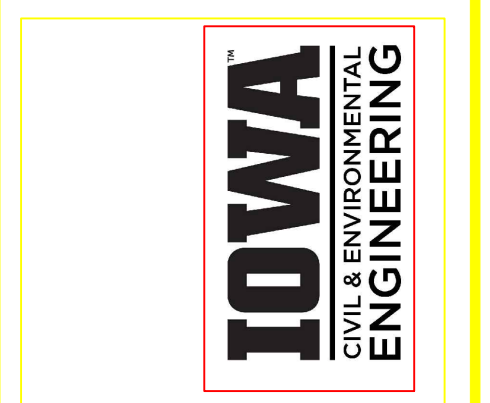
Profile

I cannot figure out how to make the bottom smaller scale so top isn't so small, emailed Hanley

STRUCTURE TABLE			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
Structure - 2	15" RIM = 796.90 SUMP = 784.8 INV IN = 784.85 INV OUT = 784.75	Pipe - (2), 18" REINFORCED CONCRETE PIPE INV IN =784.85	Pipe - (3), 18" REINFORCED CONCRETE PIPE INV OUT =784.75
Structure- 1	15" RIM = 796.00 SUMP = 790.8 INV OUT = 790.75		Pipe - (2), 18" REINFORCED CONCRETE PIPE INV OUT =790.75

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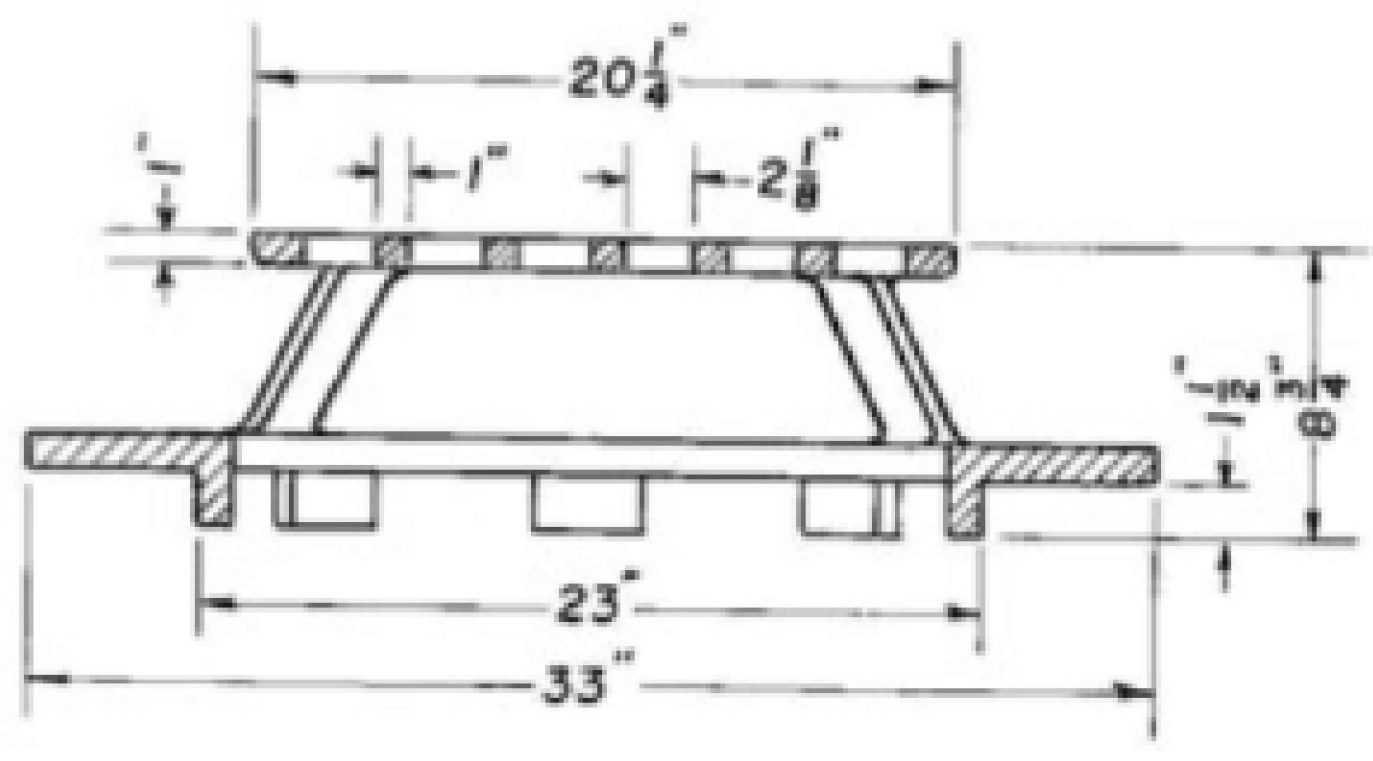


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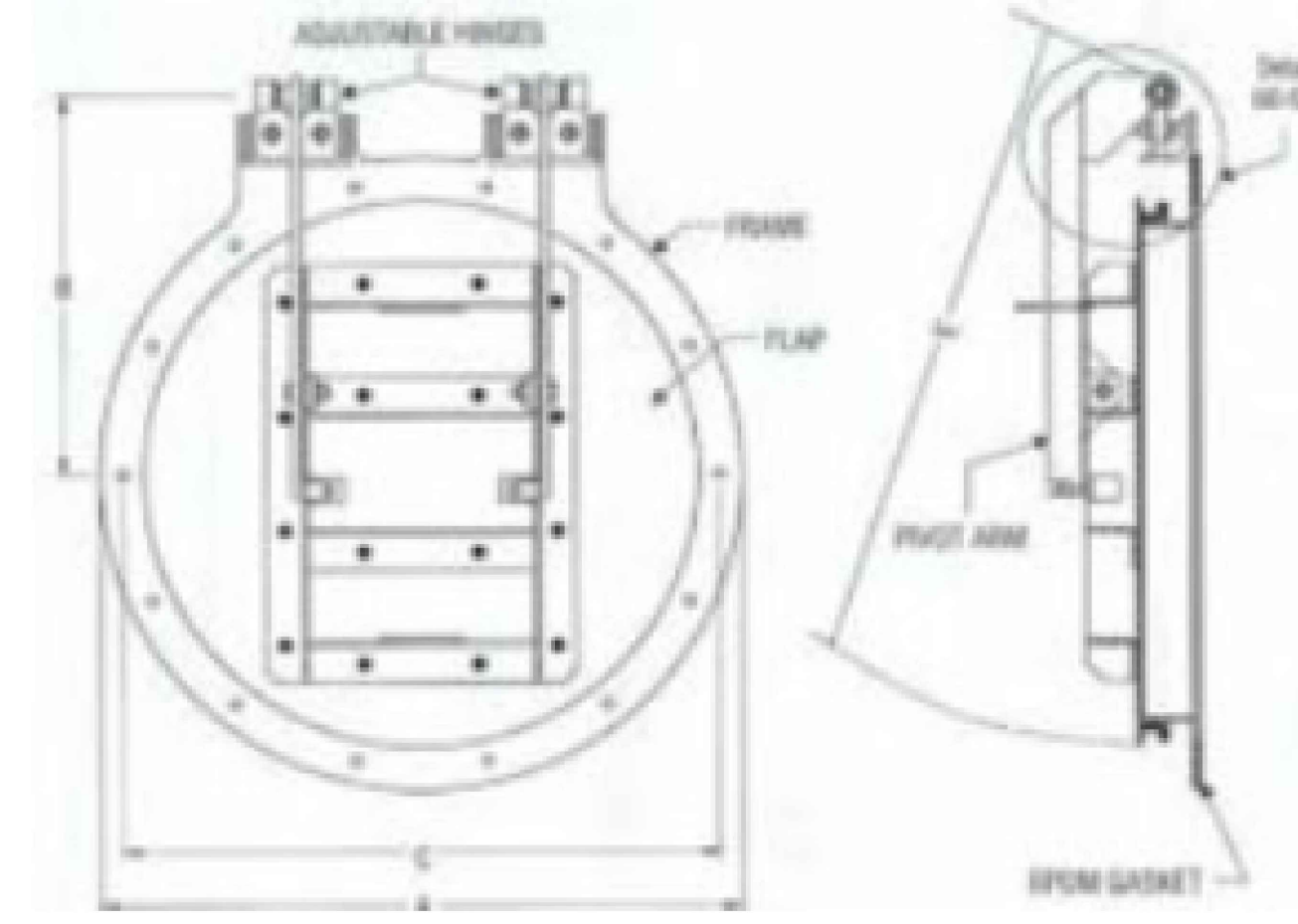
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SHEET NAME
 Plan and Profile

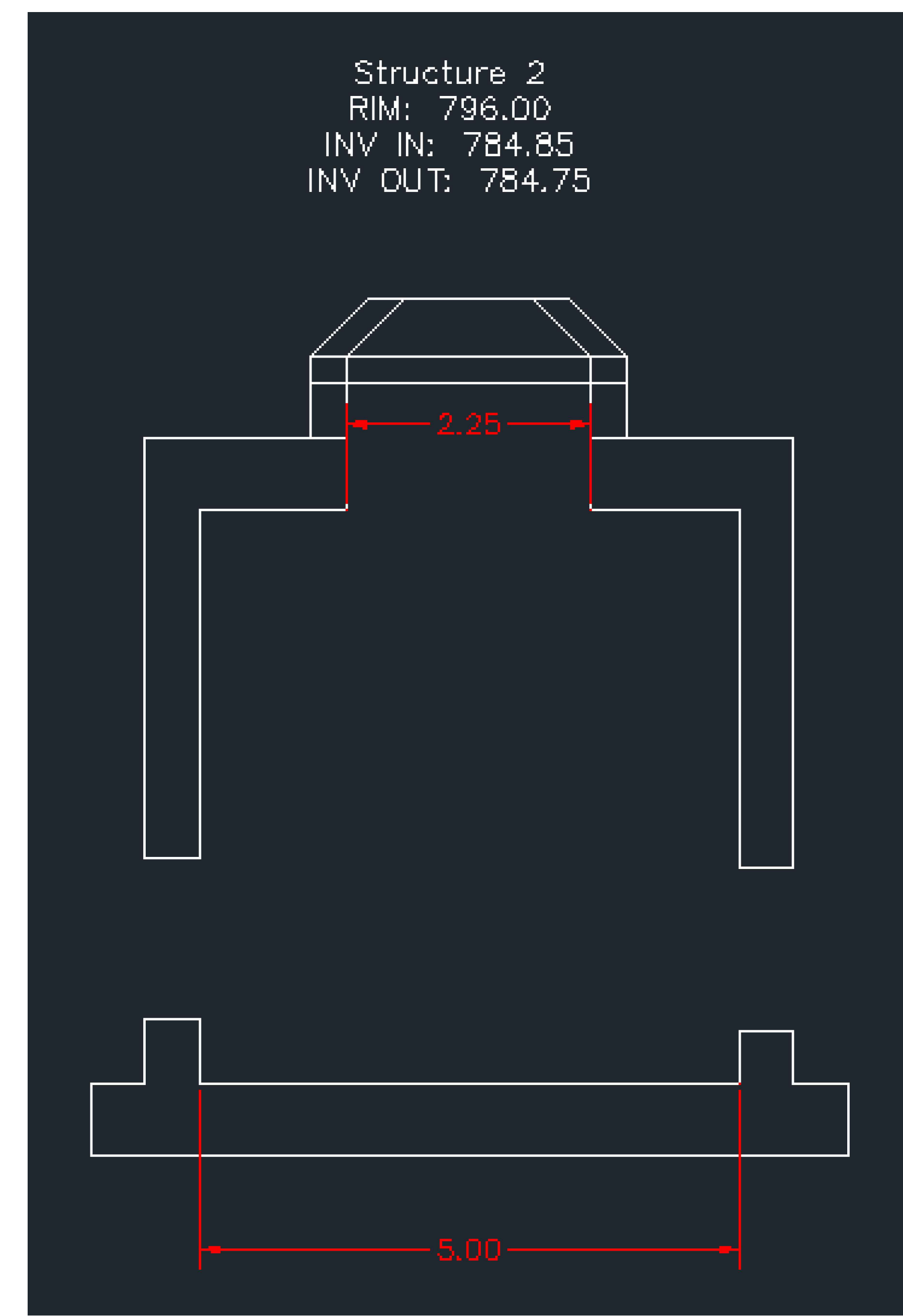
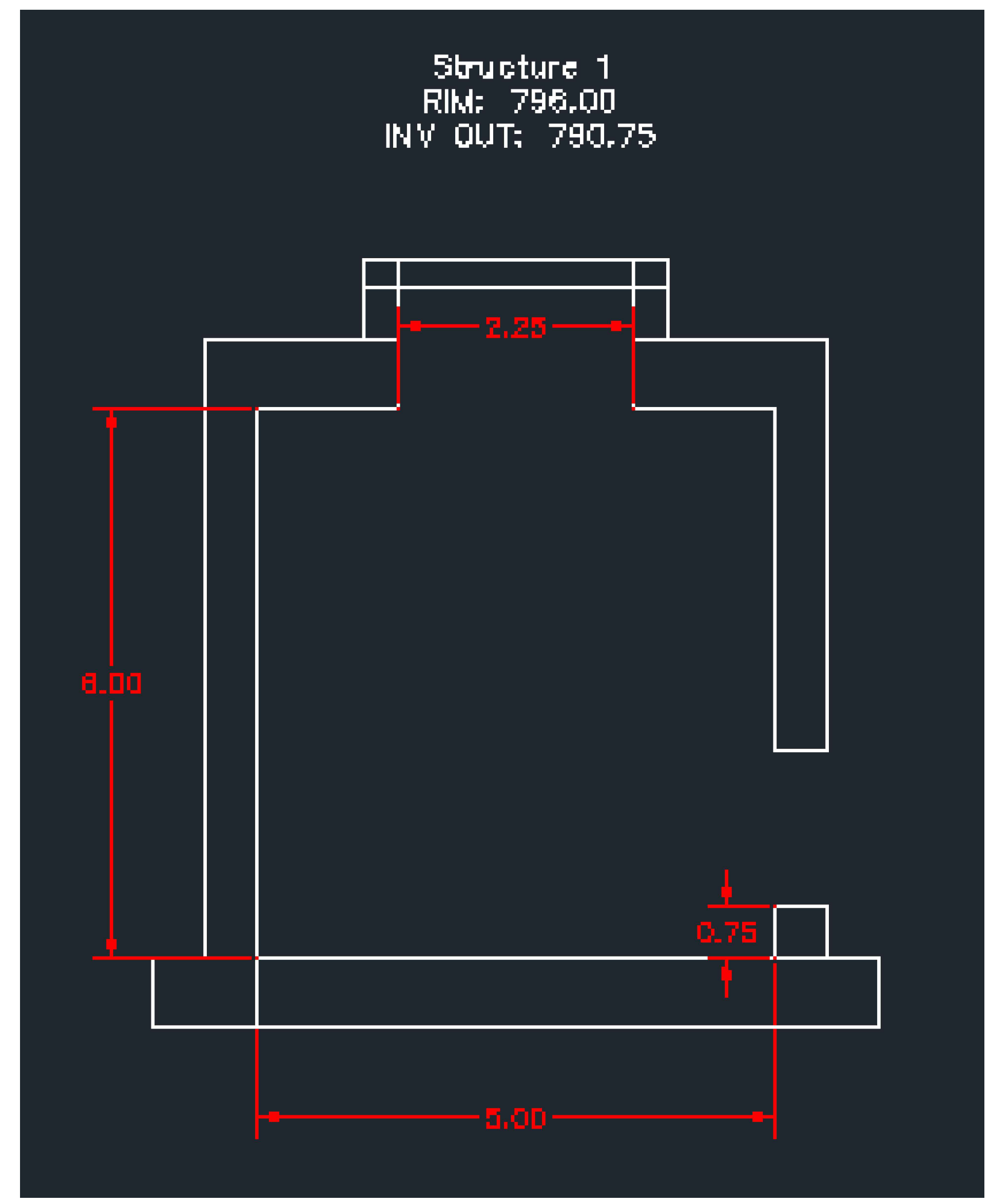
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Stool-type ditch detail and grate, Neenah Foundry R-4341-A

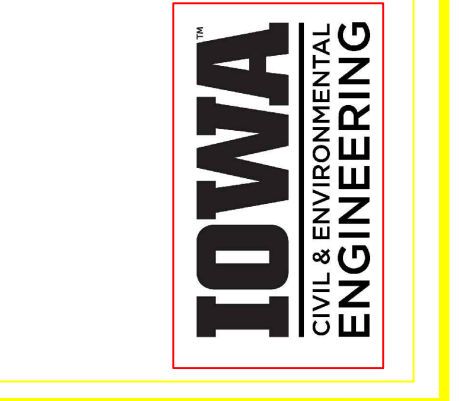


Backflow Preventer Flap-Gate



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SHEET NAME
 Volga Street Details

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