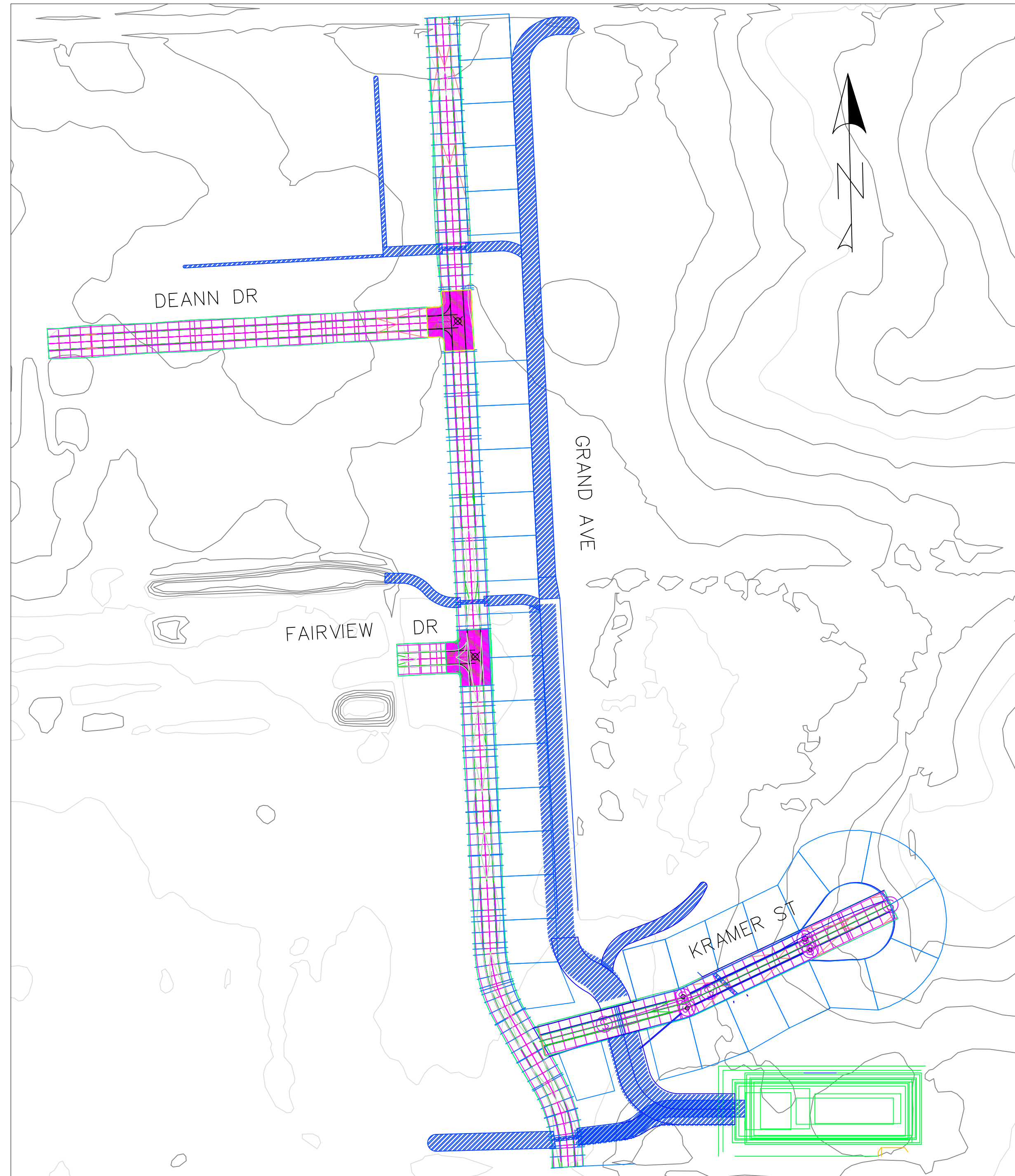


Stormwater Management and Subdivision Design

For the City of Manchester

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Road and Storm Sewer Plan and Profile	3
Road Cross Section	8
Water Main and Sanitary Sewer Plan and Profile	9
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Subdivision Design	35



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	ALEX MERTEN
REVISION:	

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 IOWA CITY, IOWA 52242
 PHONE: 319.335.5647
 FAX: 319.335.5660
 EMAIL: civil-hawks@iowa.edu

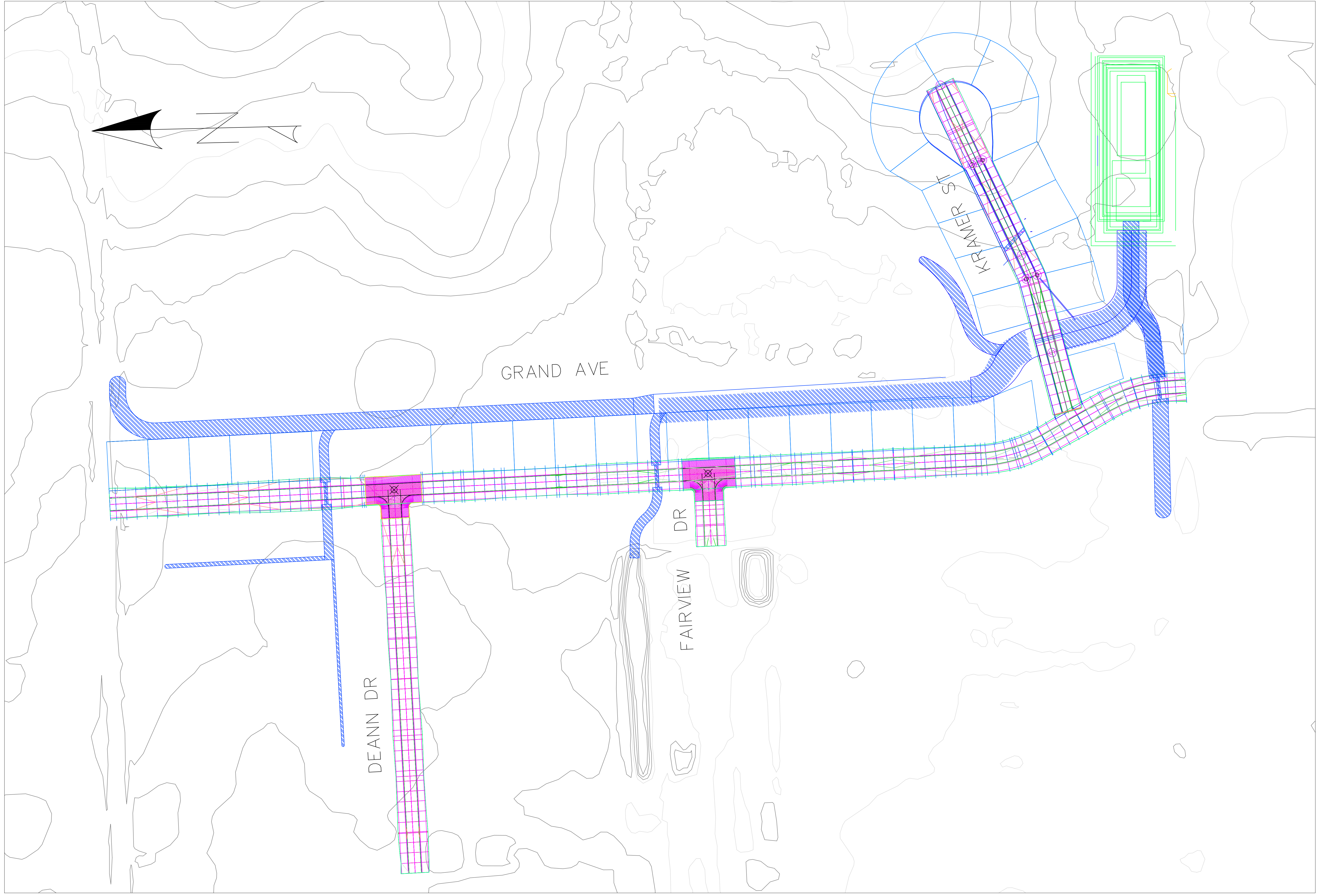


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STORMWATER QUANTITY
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SHEET NAME
 COVER SHEET

SHEET NO.
01



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	ALEX MERTEN
REVISION:	

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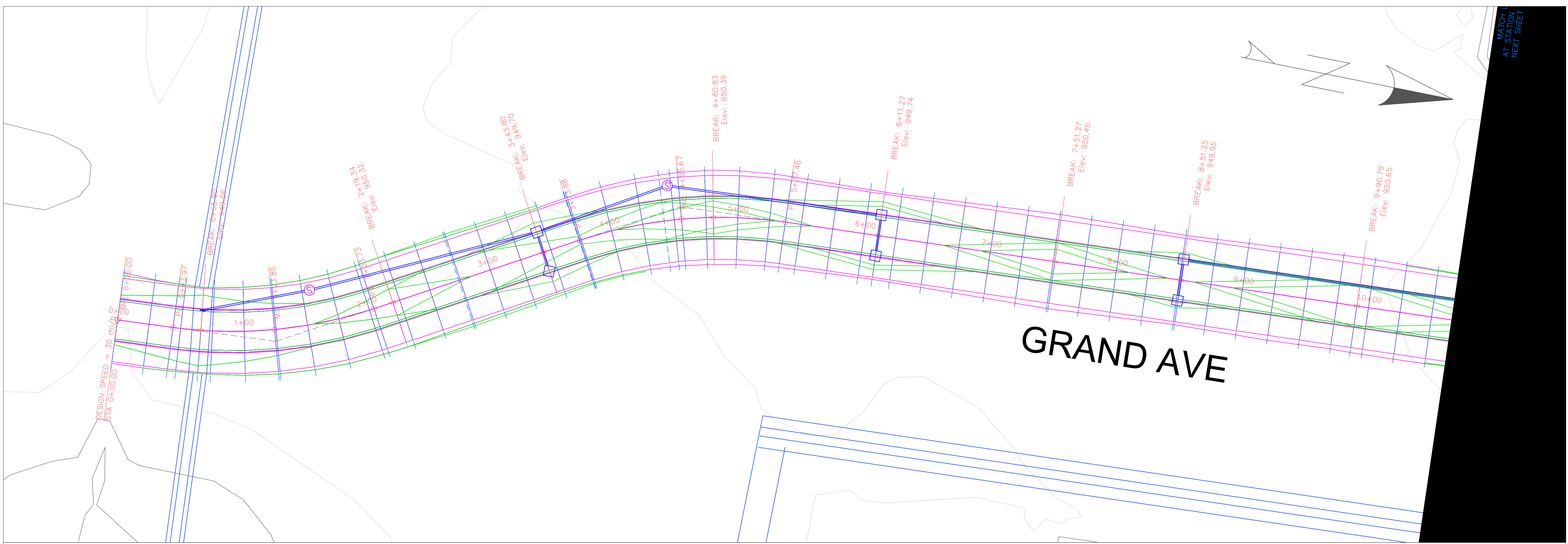
MANCHESTER, IA

SHEET NAME
 SITE PLAN

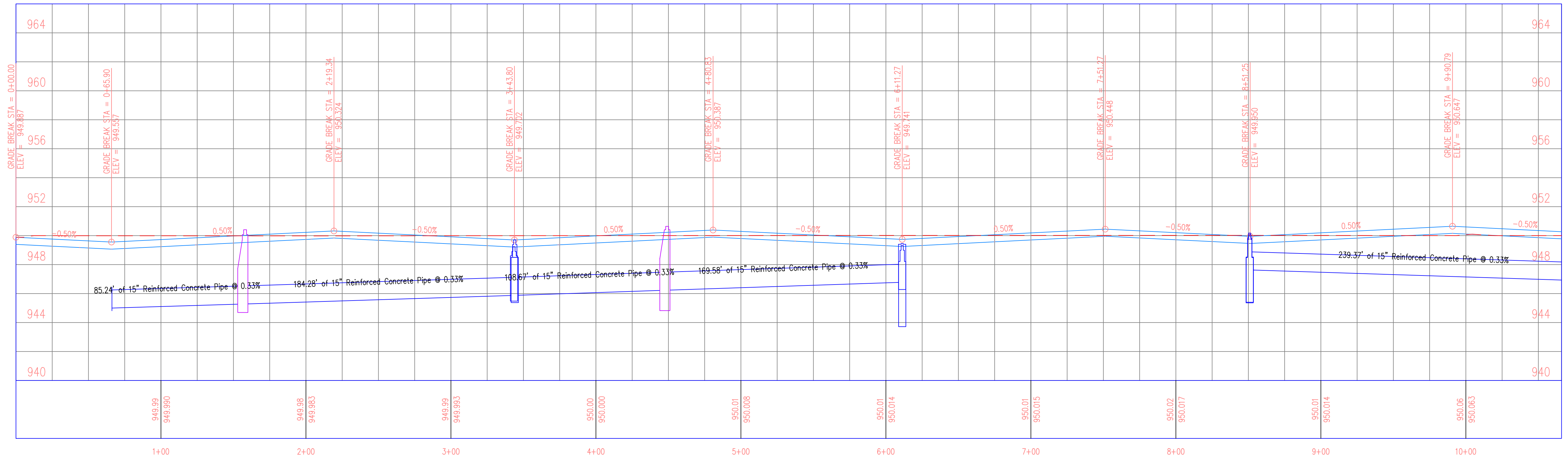
SHEET NO.
02

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Grand Ave PROFILE



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	ALEX MERTEN
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SHEET NAME
GRAND AVENUE
PLAN & PROFILE

SHEET NO.
03

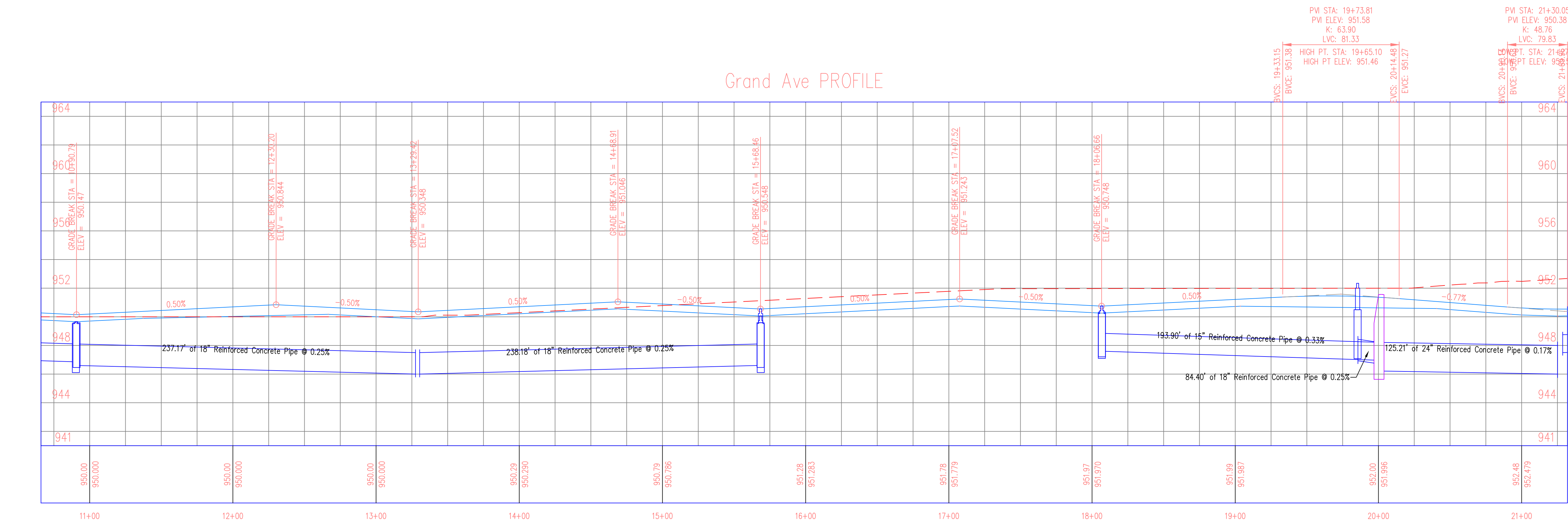
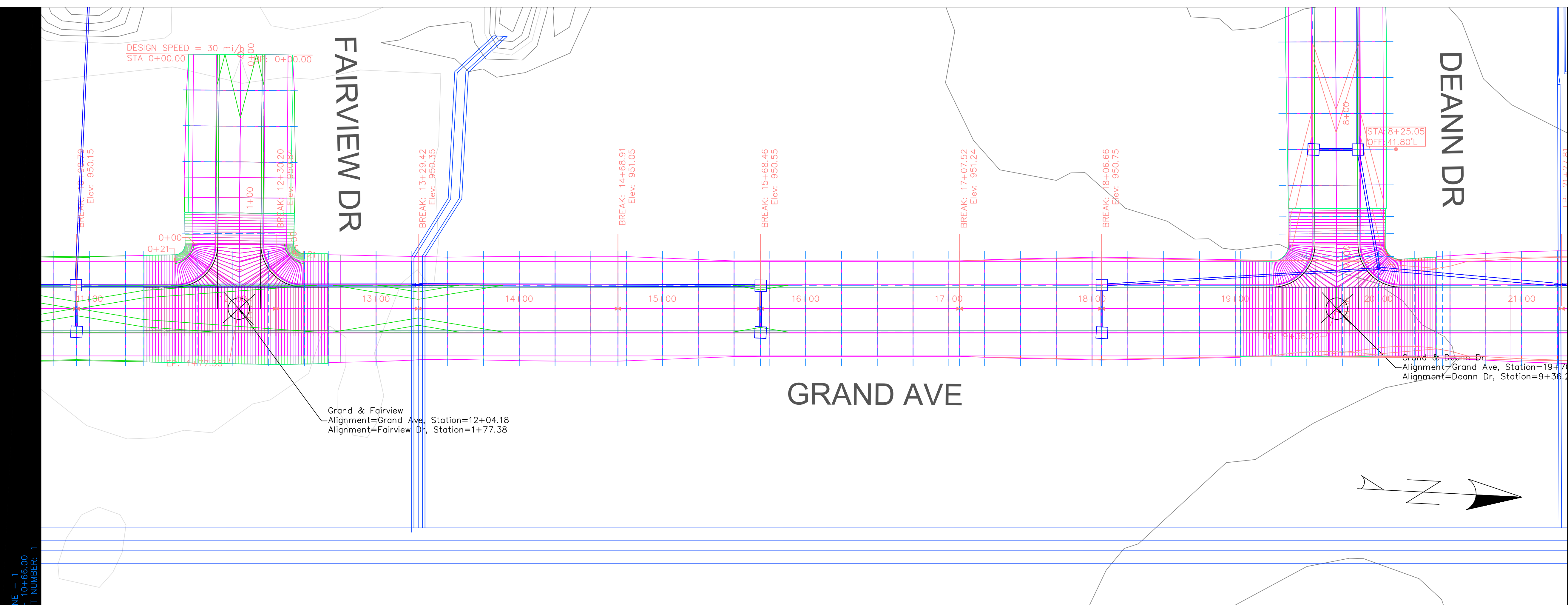
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MATCH 1
AT STATION
NEXT SHEET

PROJECT: CEE: 4850
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DRAWN BY: ALEX MERTEN
REVISION:

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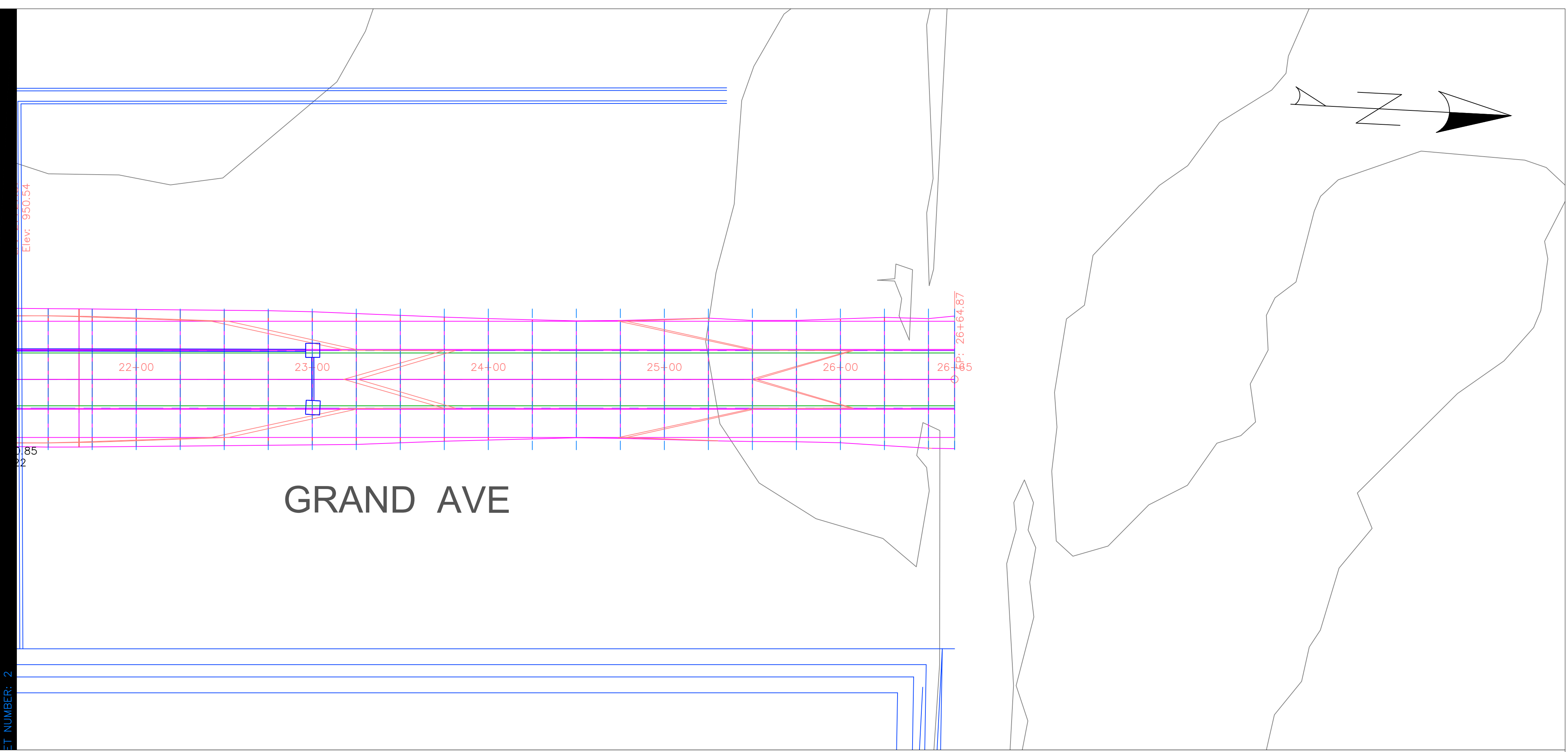
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MANCHESTER, IA

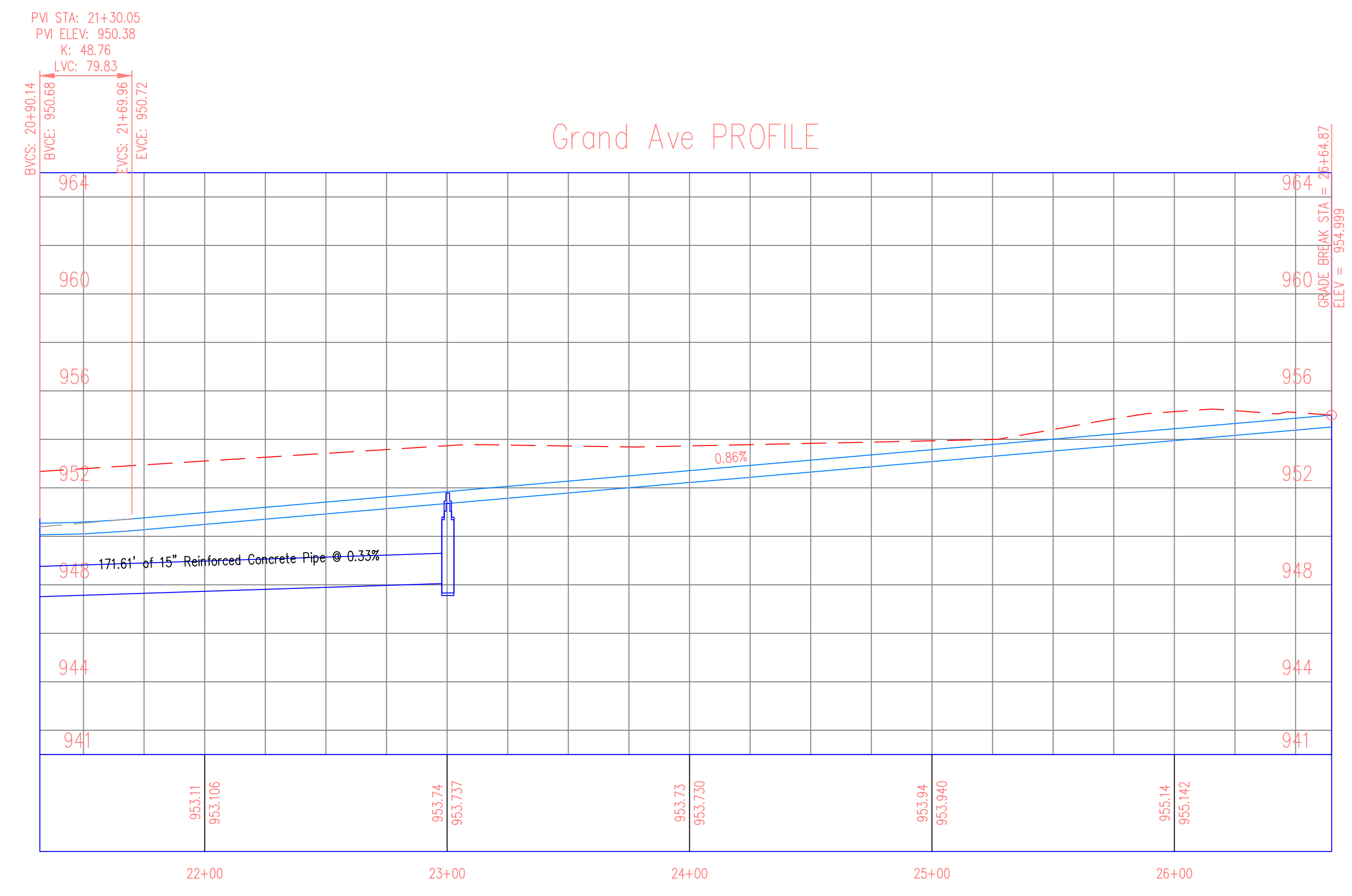
SHEET NAME
GRAND AVENUE
PLAN & PROFILE

SHEET NO.
04

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LINE: 2
 START: 21+32.00
 END: 26+64.87
 NUMBER: 2



PROJECT:	CEE: 4850
DATE :	05/08/20
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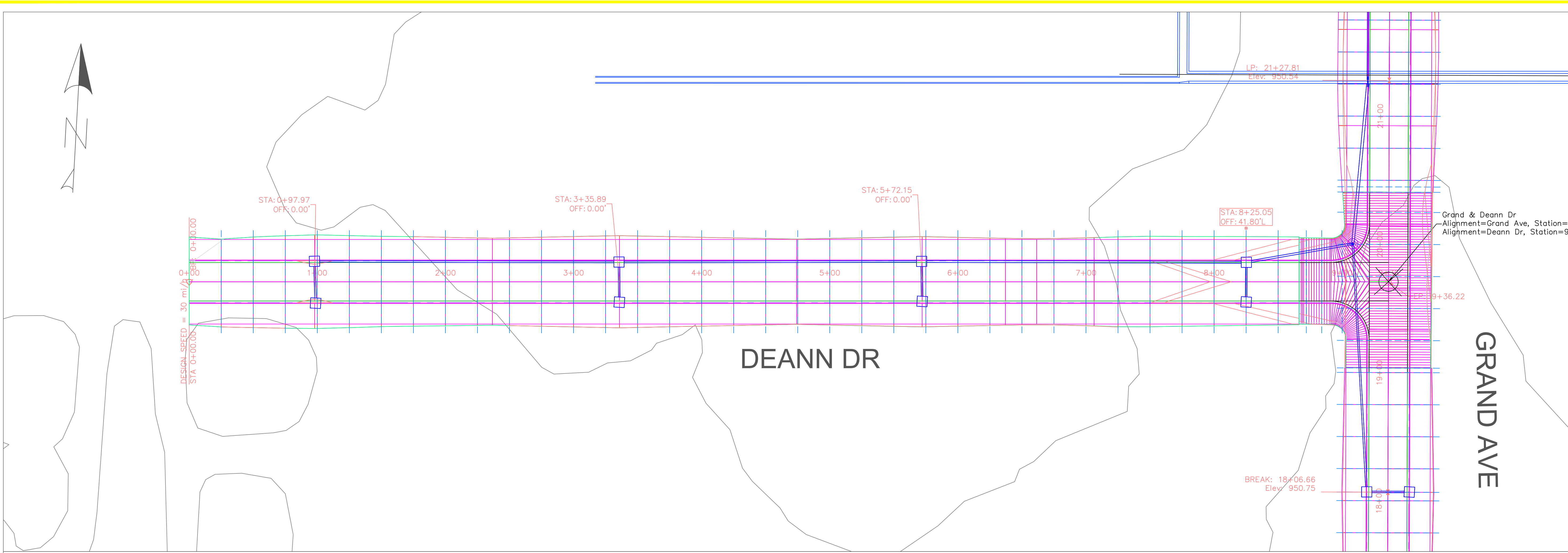
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STORMWATER QUANTITY

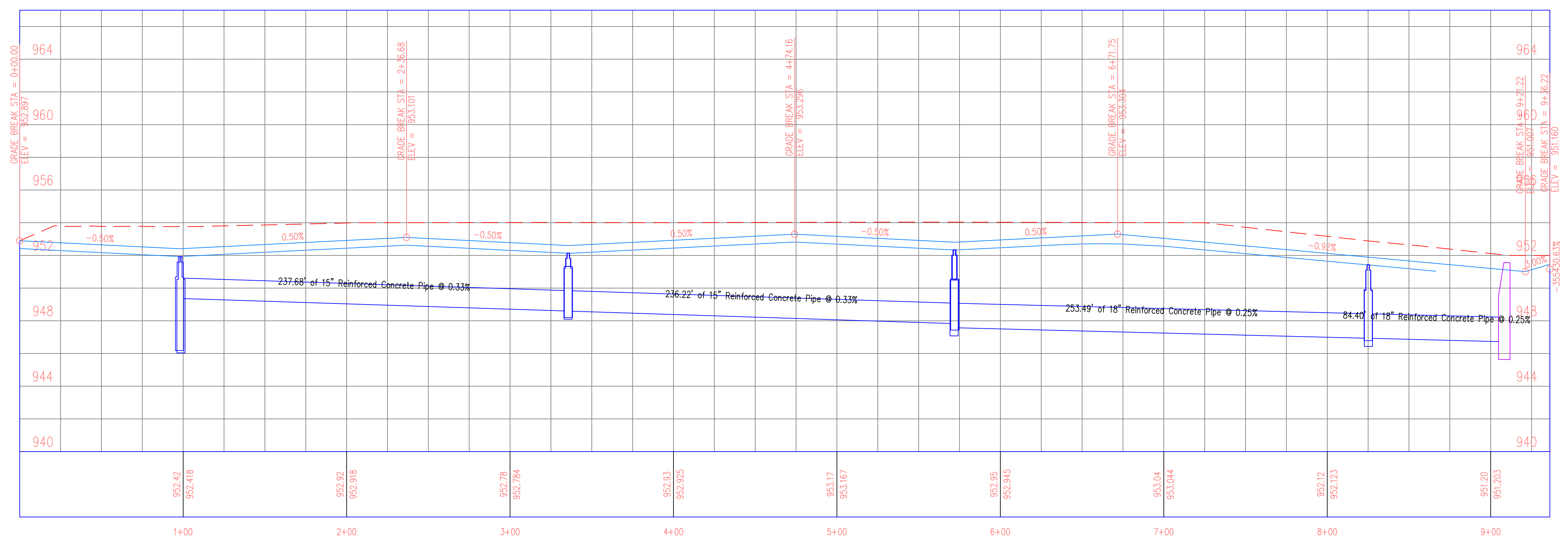
MANCHESTER, IA

SHEET NAME
 GRAND AVENUE
 PLAN & PROFILE

SHEET NO.
05



Deann Dr PROFILE



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	ALEX MERTEN
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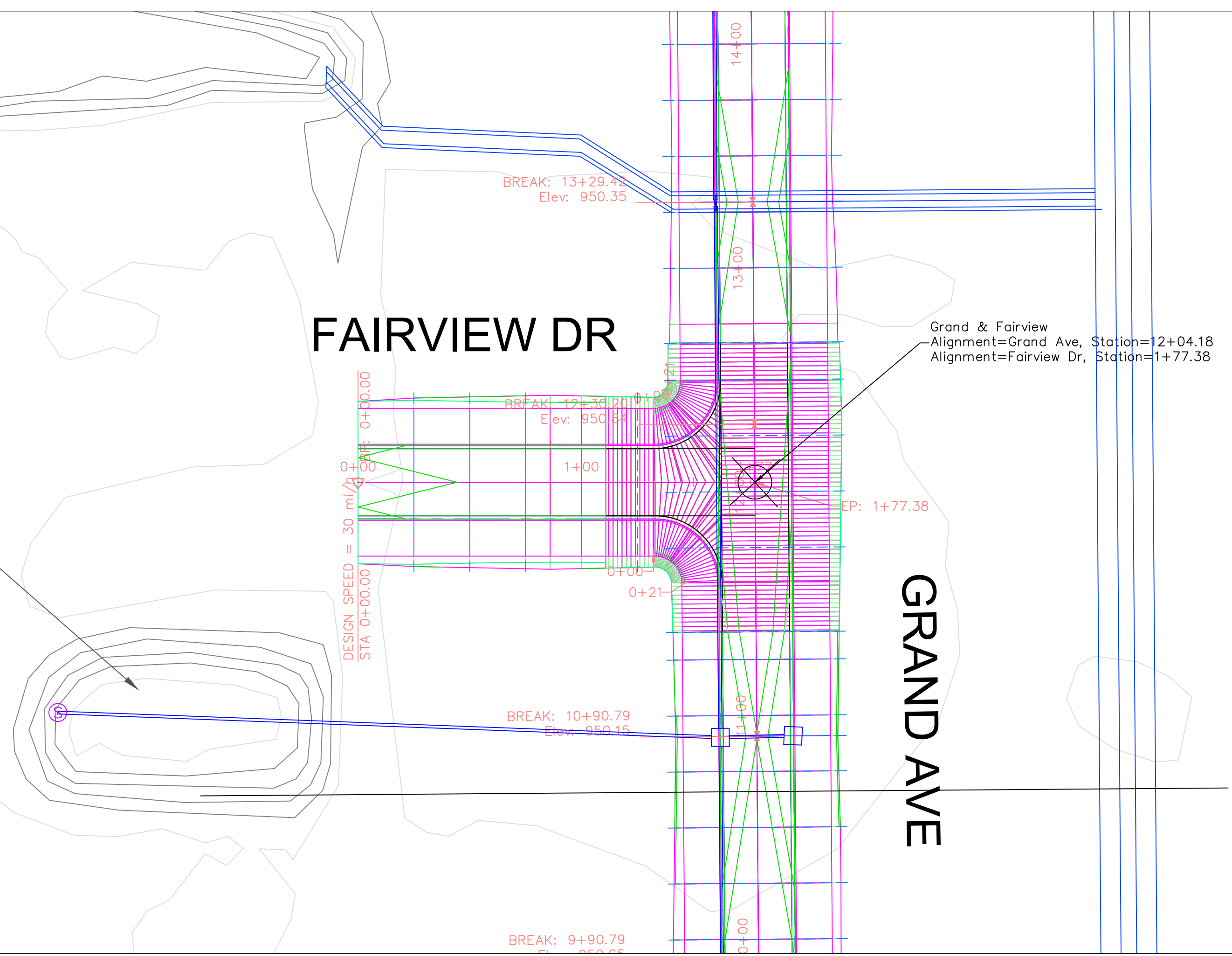
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MANCHESTER, IA

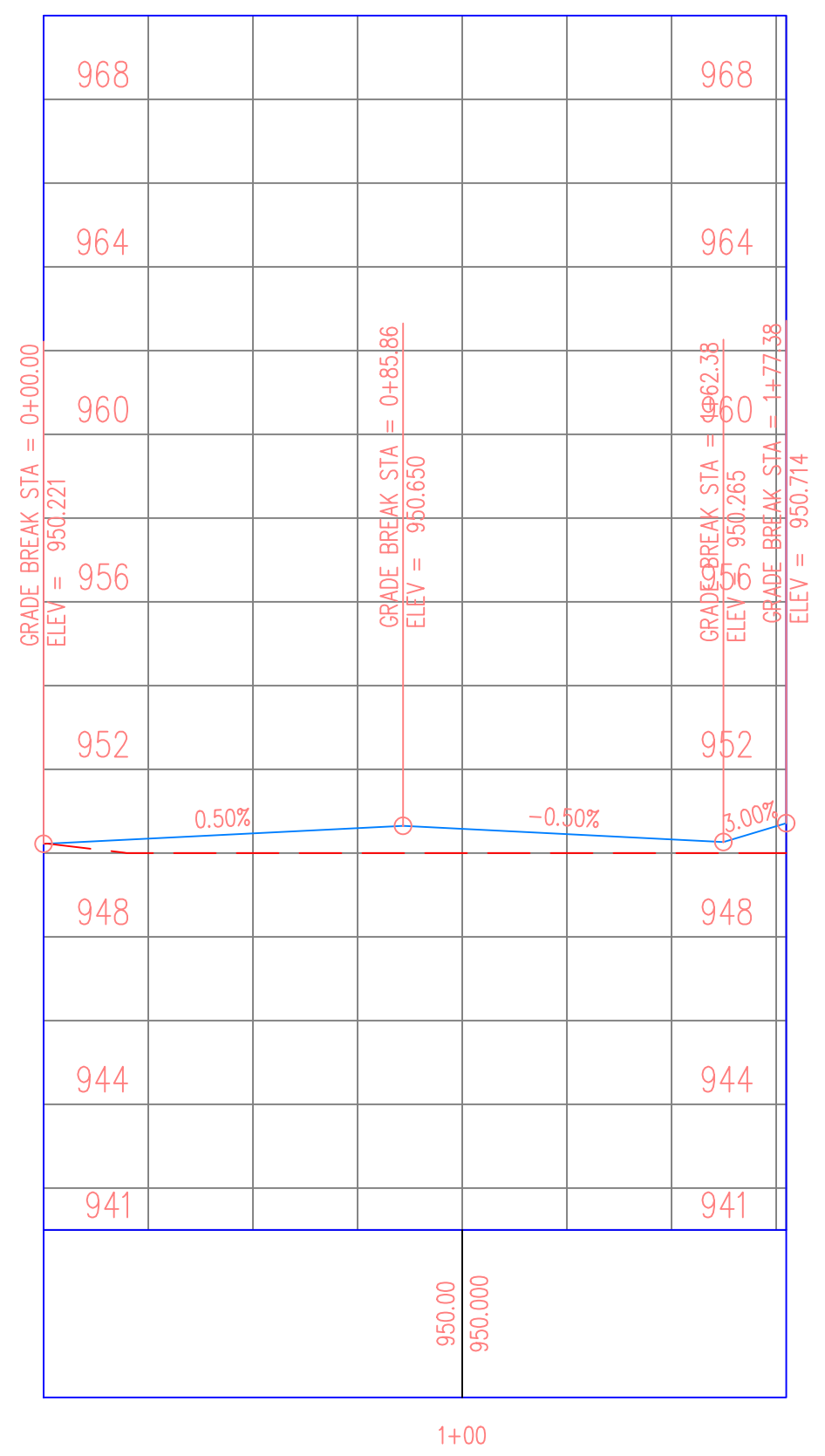
SHEET NAME
DEANN DRIVE
PLAN & PROFILE

SHEET NO.
06

CONNECTION TO GRAND AVE STORM SEWER SYSTEM ALLOWS BASIN SOUTH OF FAIRVIEW TO BE FILLED IN



Fairview Dr PROFILE



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	ALEX MERTEN
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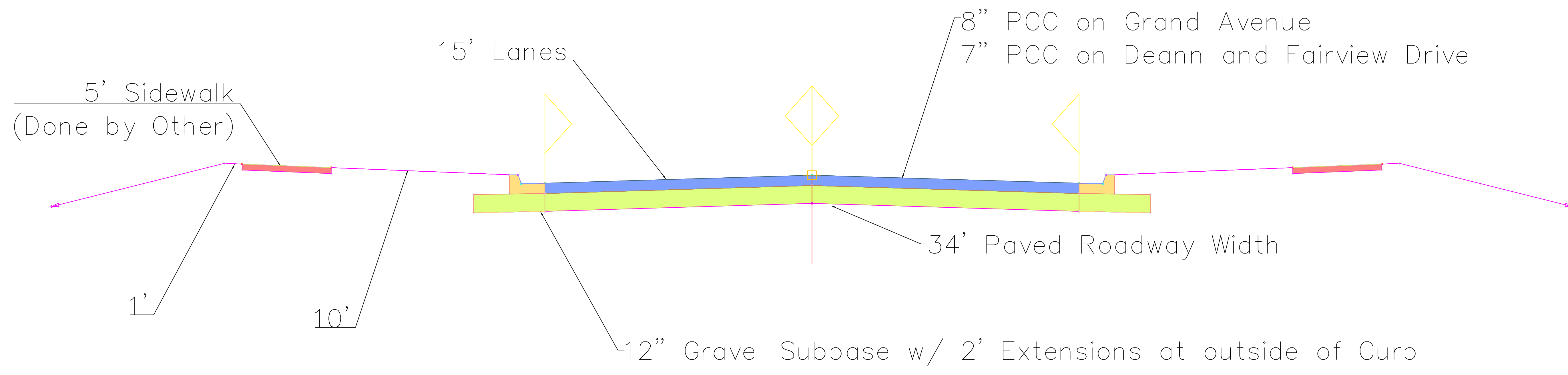
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SHEET NAME
 FAIRVIEW DRIVE PLAN & PROFILE

SHEET NO.
07



PROJECT:	CEE: 4850
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DRAWN BY:	ALEX MERTEN
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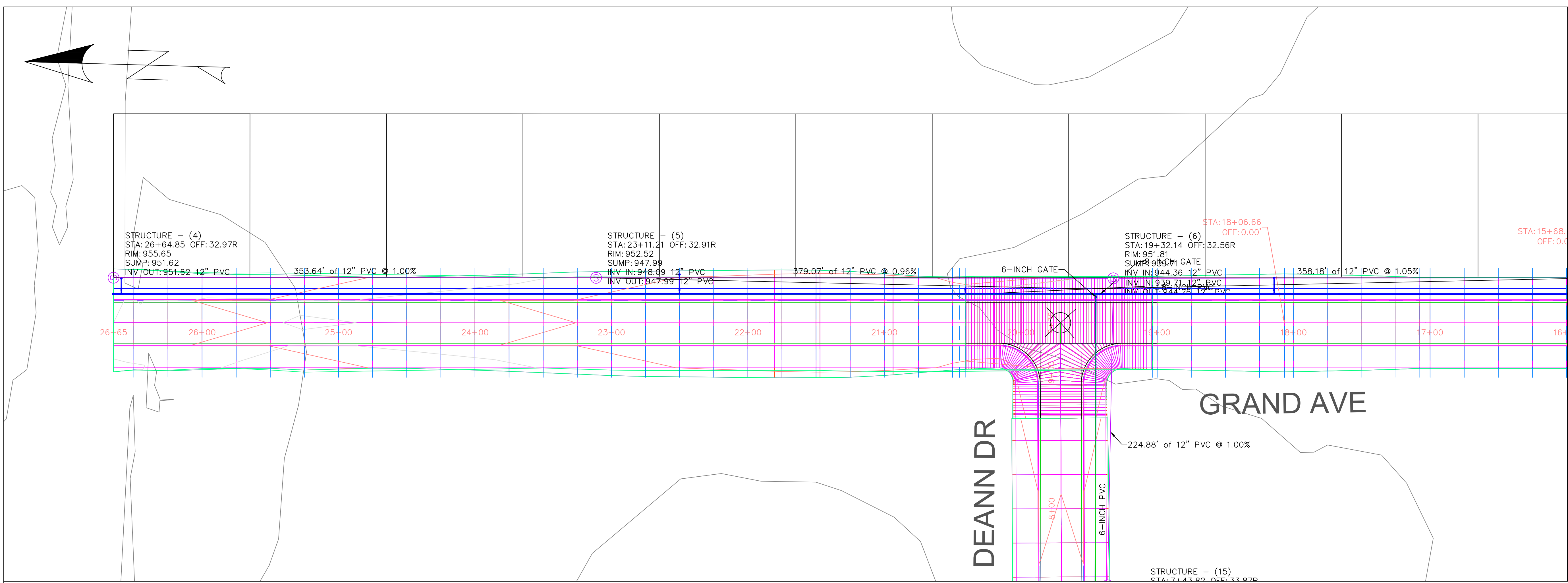
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STORMWATER QUANTITY

MANCHESTER, IA

SHEET NAME
 RIGHT OF WAY
 CROSS SECTION

SHEET NO.
08



MATCH
AT STATION
NEXT SHEET

PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	REBECCA EWING
REVISION:	

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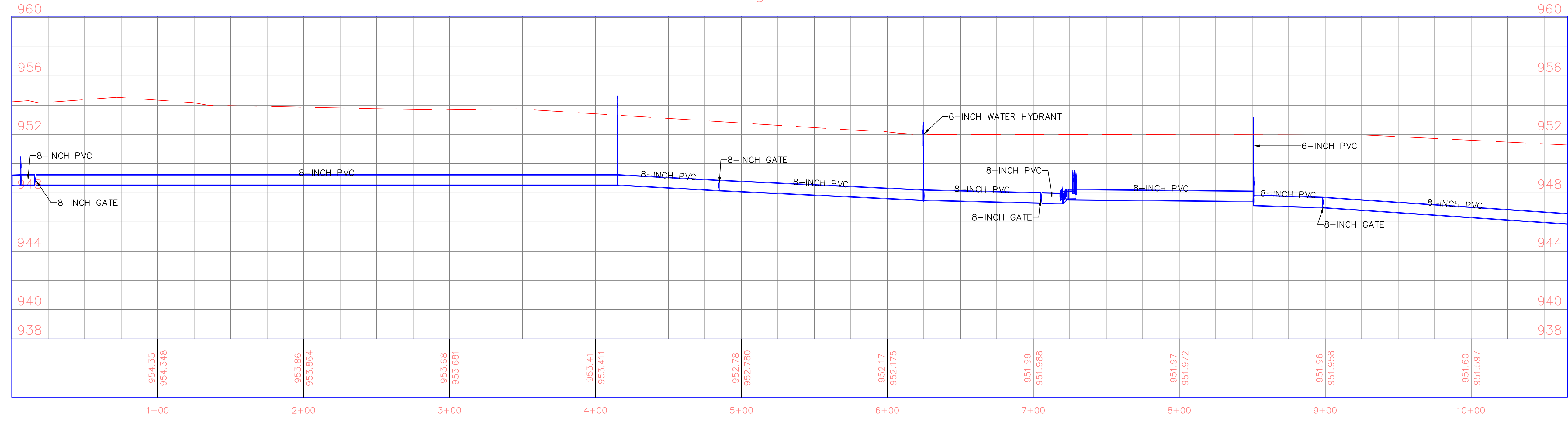
STORMWATER QUANTITY

MANCHESTER, IA

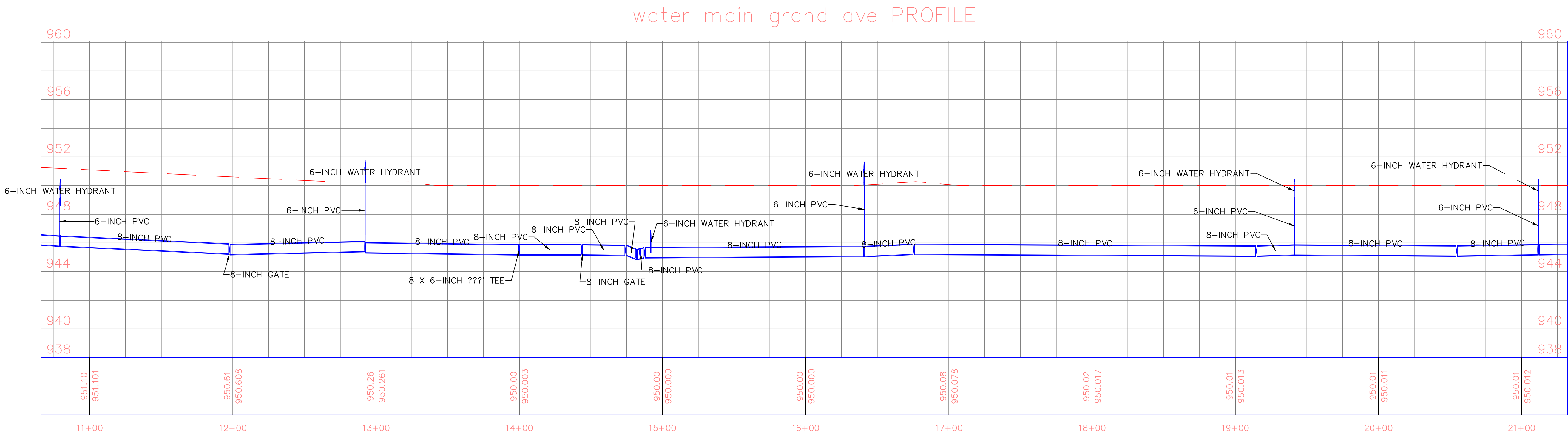
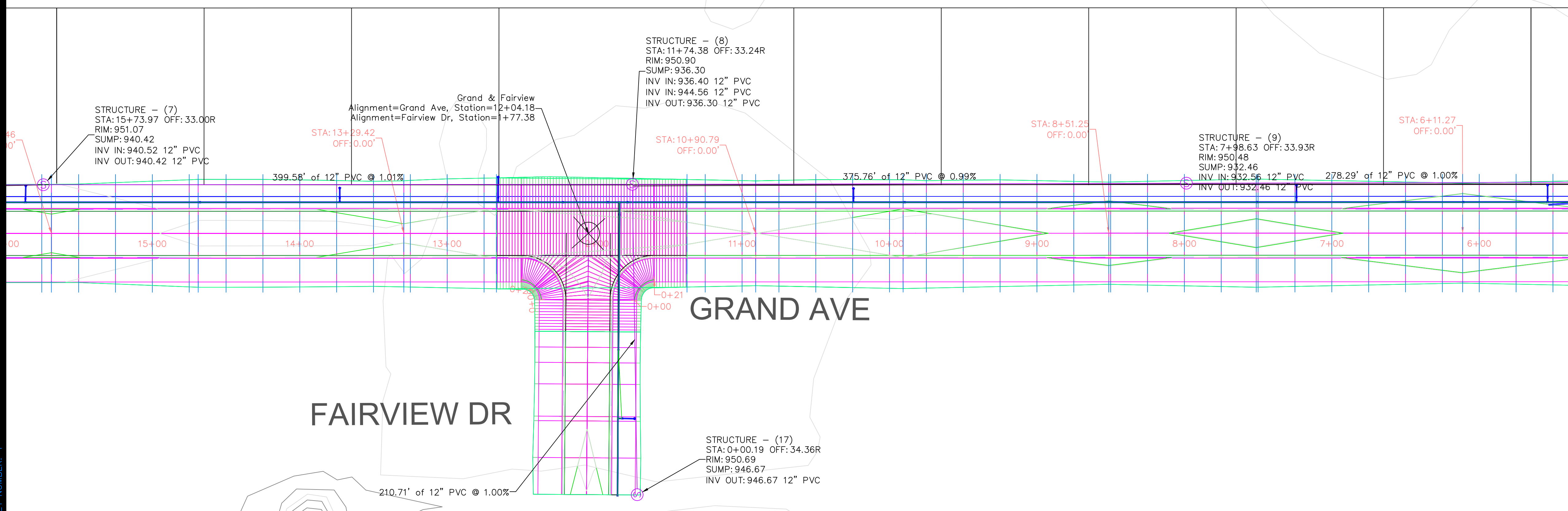
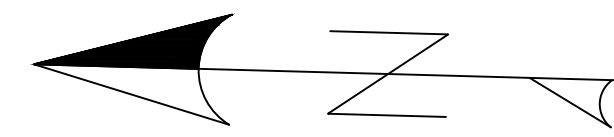
SHEET NAME
WATER MAIN & SANITARY P&P

SHEET NO.
09

water main grand ave PROFILE



*ELEVATION OF WATER MAIN WILL BE ADJUSTED TO MAINTAIN MINIMUM CLEARANCE AND FROST PROTECTION



* ELEVATION OF WATER MAIN WILL BE ADJUSTED TO MAINTAIN MINIMUM CLEARANCE AND FROST PROTECTION

PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	REBECCA EWING
REVISION:	

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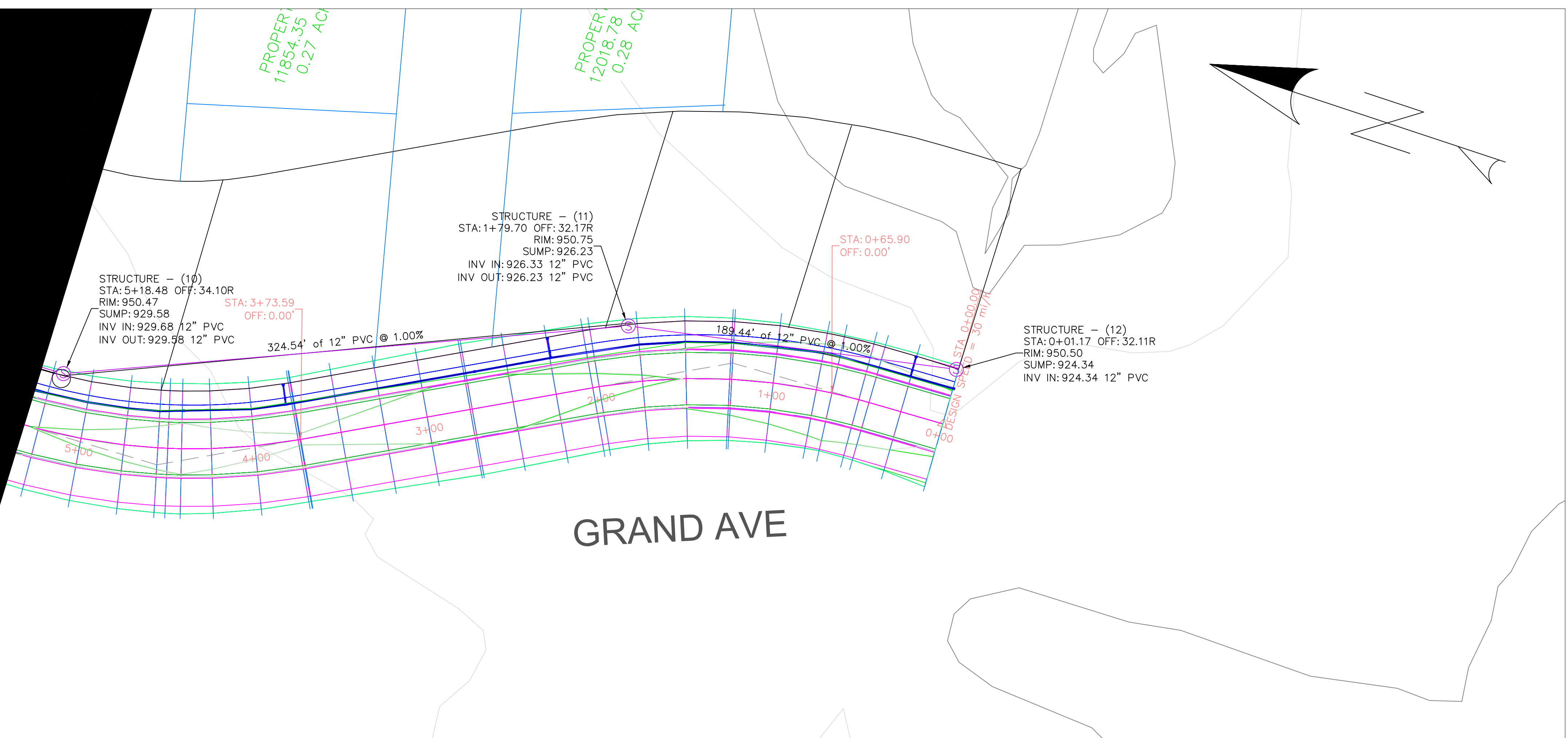
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SHEET NAME
WATER MAIN & SANITARY P&P

SHEET NO.
10

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LINE - 2
- 21+32.00
T NUMBER: ###

PROJECT:	CEE: 4850
DATE:	05/08/20
DRAWN BY:	REBECCA EWING
REVISION:	

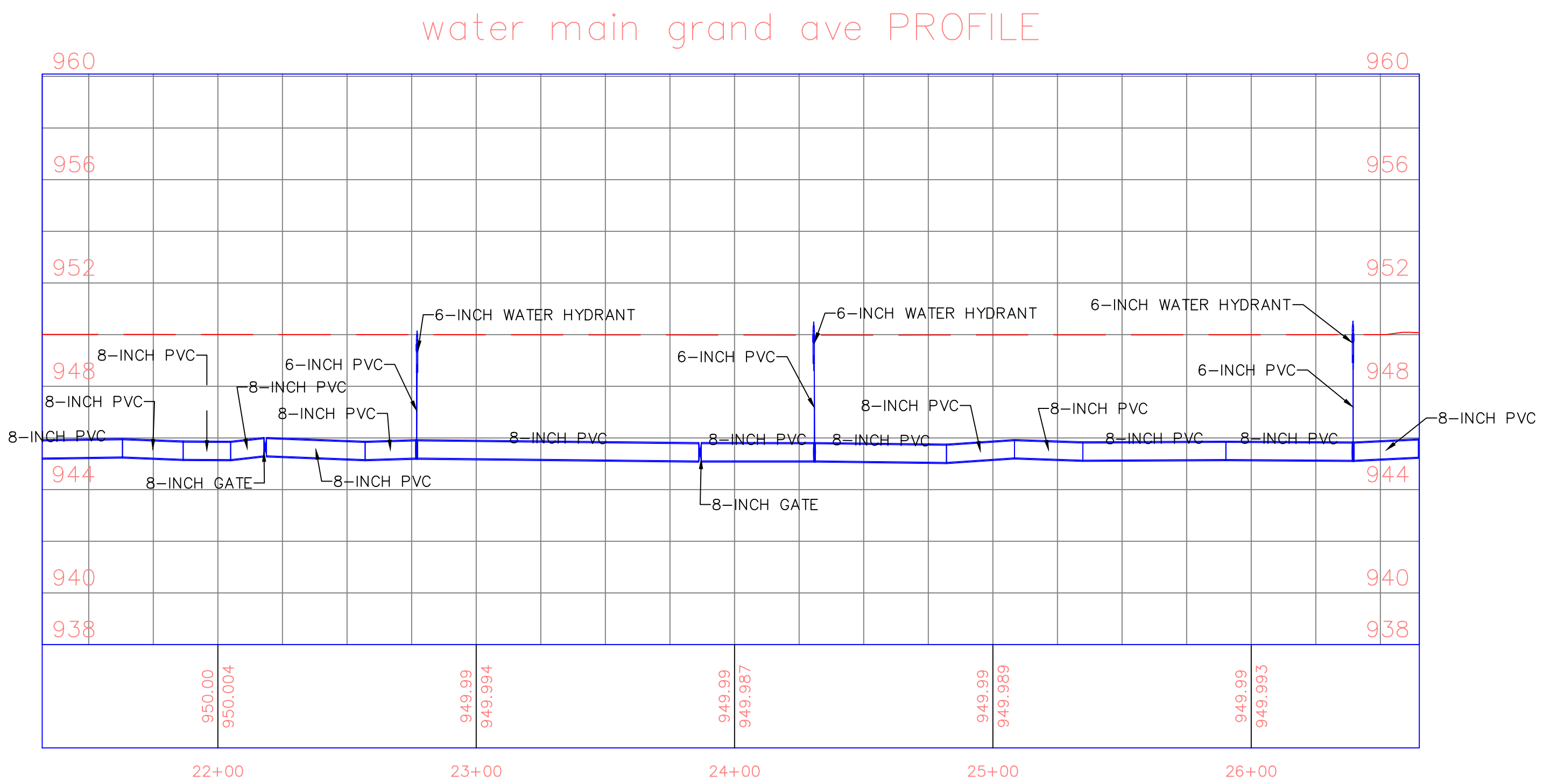
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STORMWATER QUANTITY

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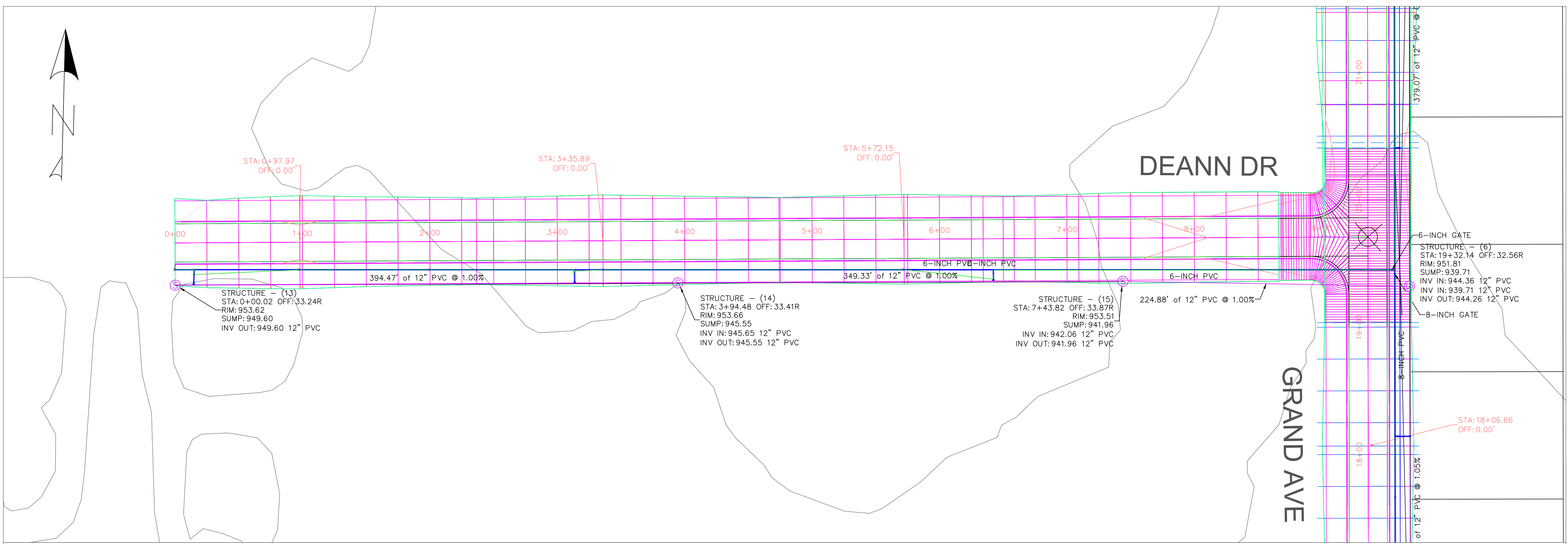


* ELEVATION OF WATER MAIN WILL BE ADJUSTED TO MAINTAIN MINIMUM CLEARANCE AND FROST PROTECTION

SHEET NAME
WATER MAIN & SANITARY P&P

SHEET NO.
11

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PROJECT:	CEE: 4850
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 PHONE: 319.335.5647
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 EMAIL: civil-hawks@iowa.edu

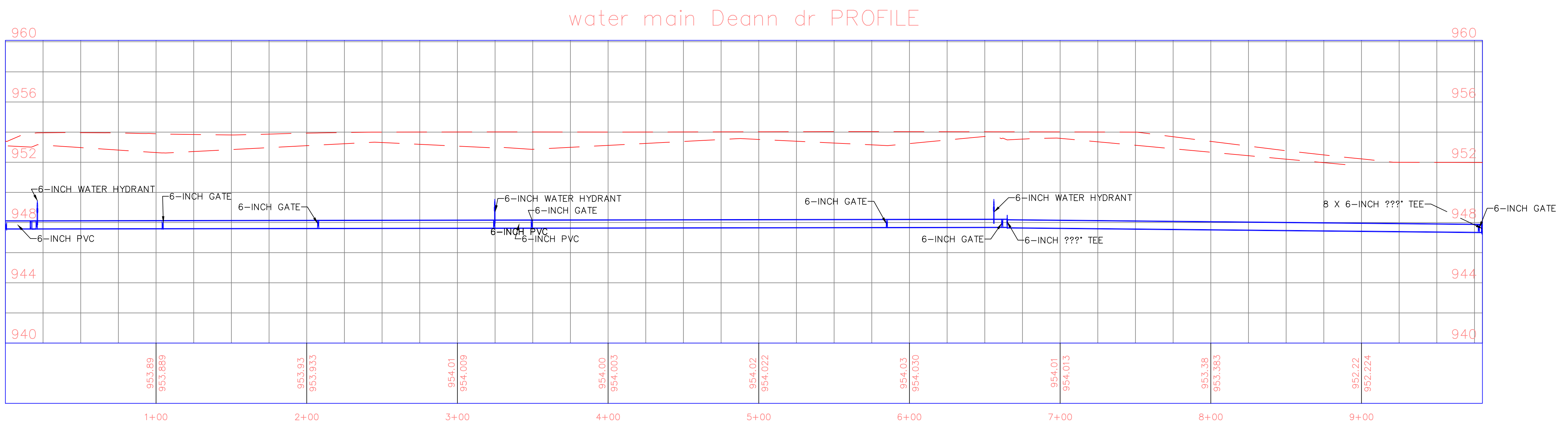


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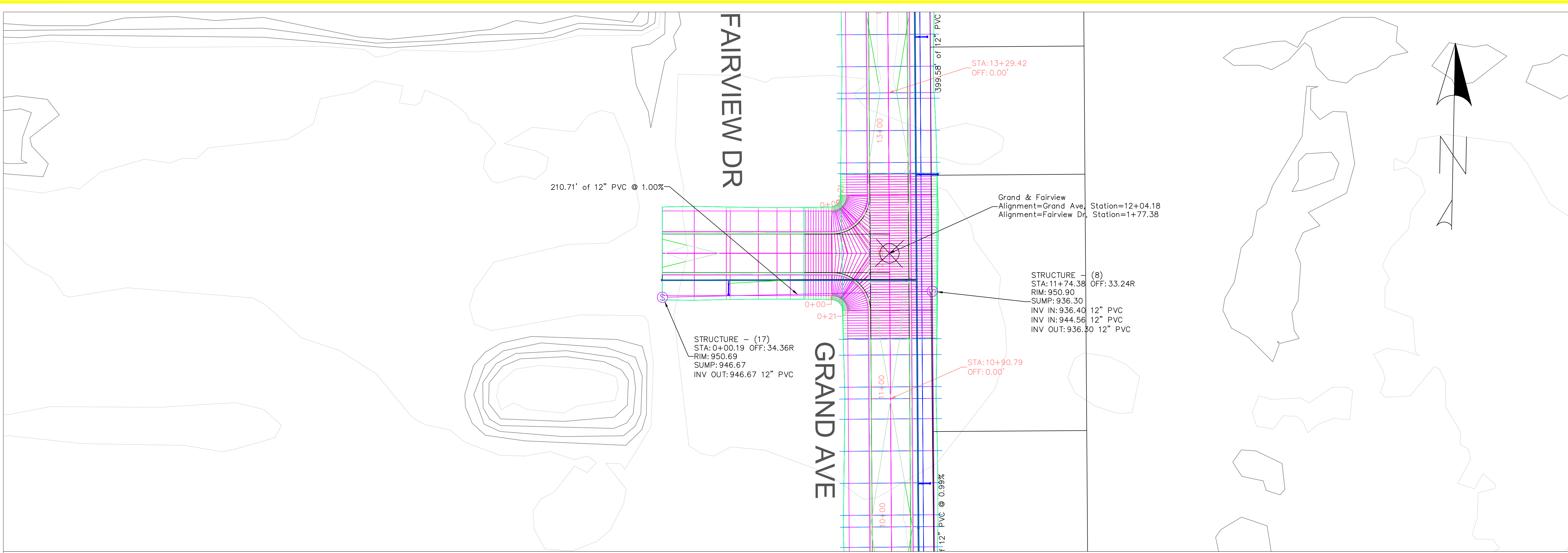
STORMWATER QUANTITY
 MANCHESTER, IA

SHEET NAME
WATER MAIN & SANITARY P&P

SHEET NO.
12



* ELEVATION OF WATER MAIN WILL BE ADJUSTED TO MAINTAIN MINIMUM CLEARANCE AND FROST PROTECTION



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	REBECCA EWING
REVISION:	

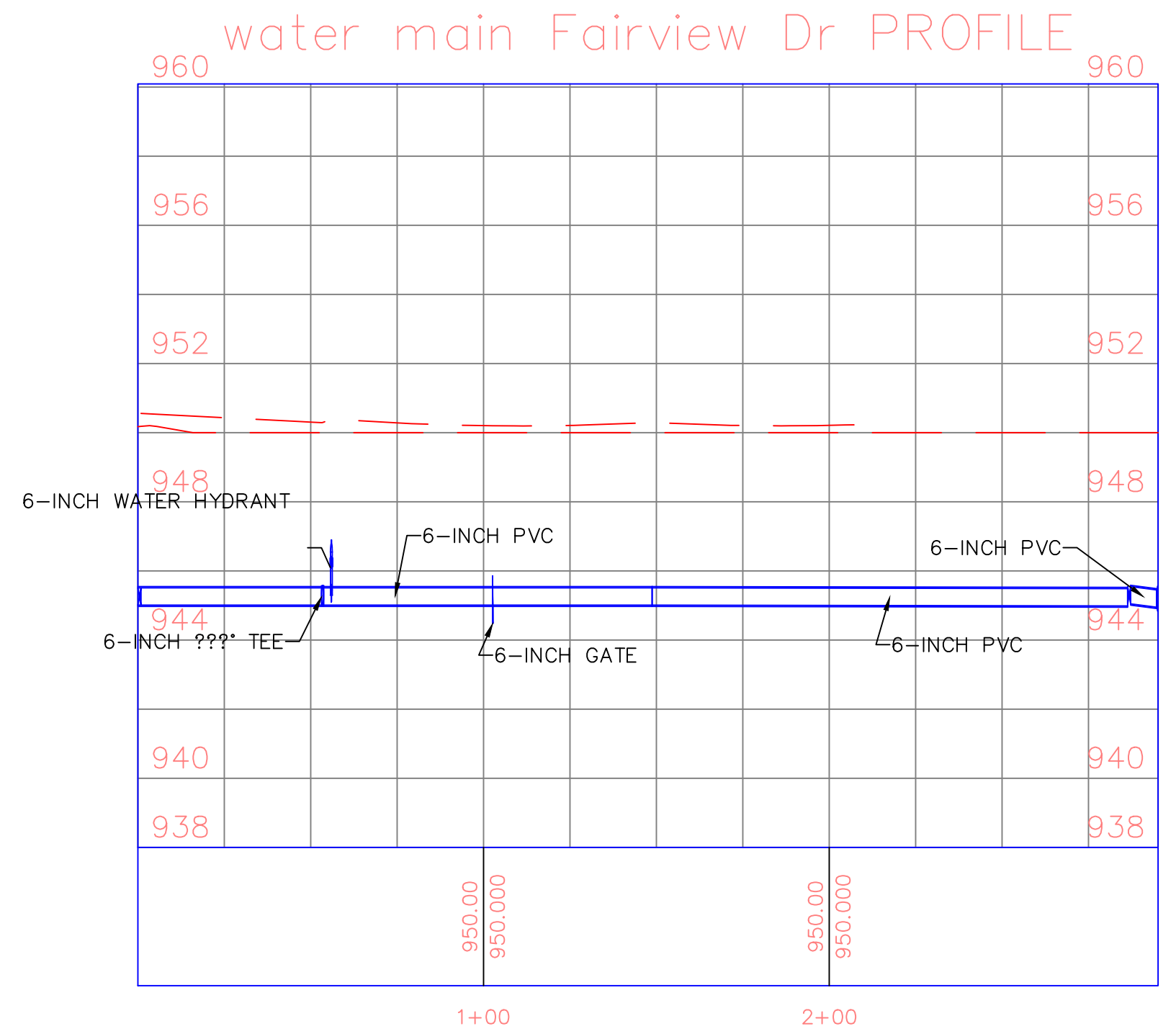
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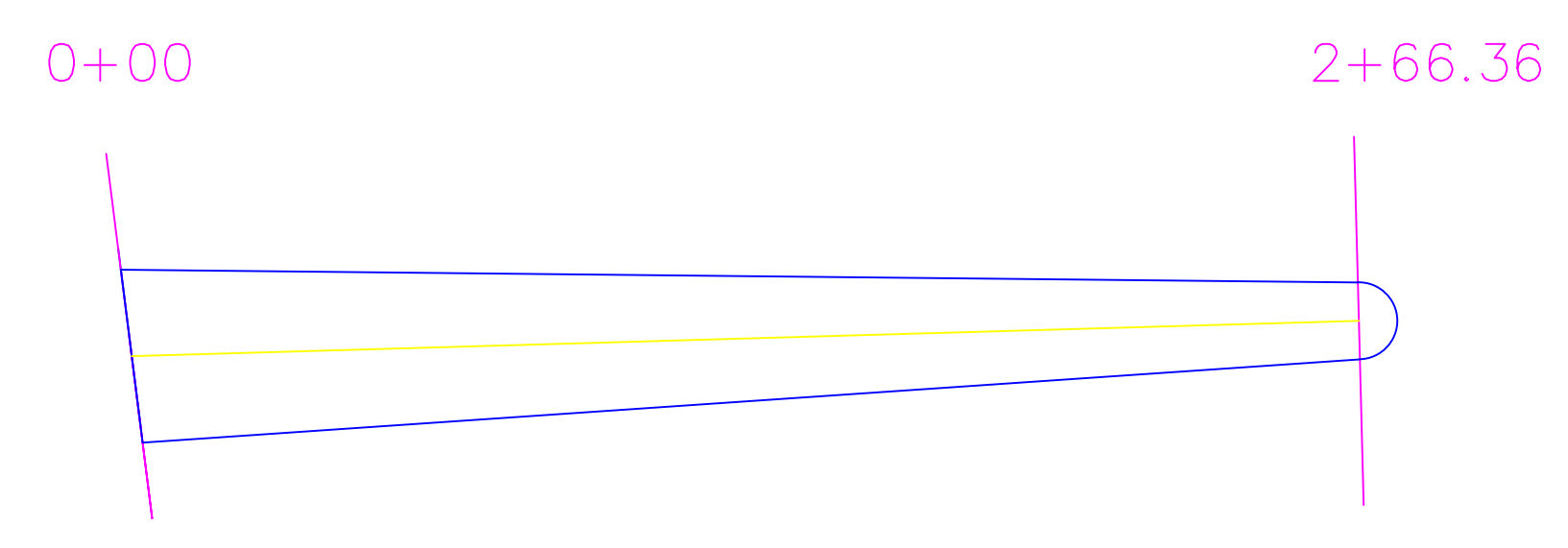


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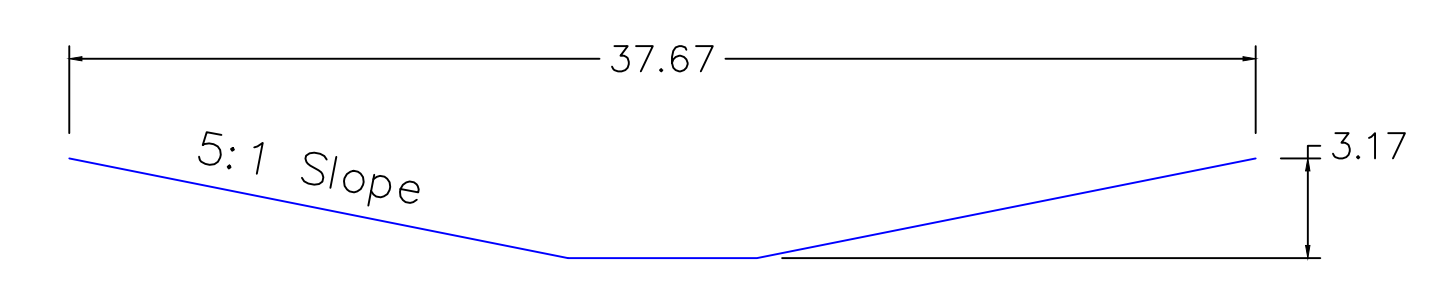
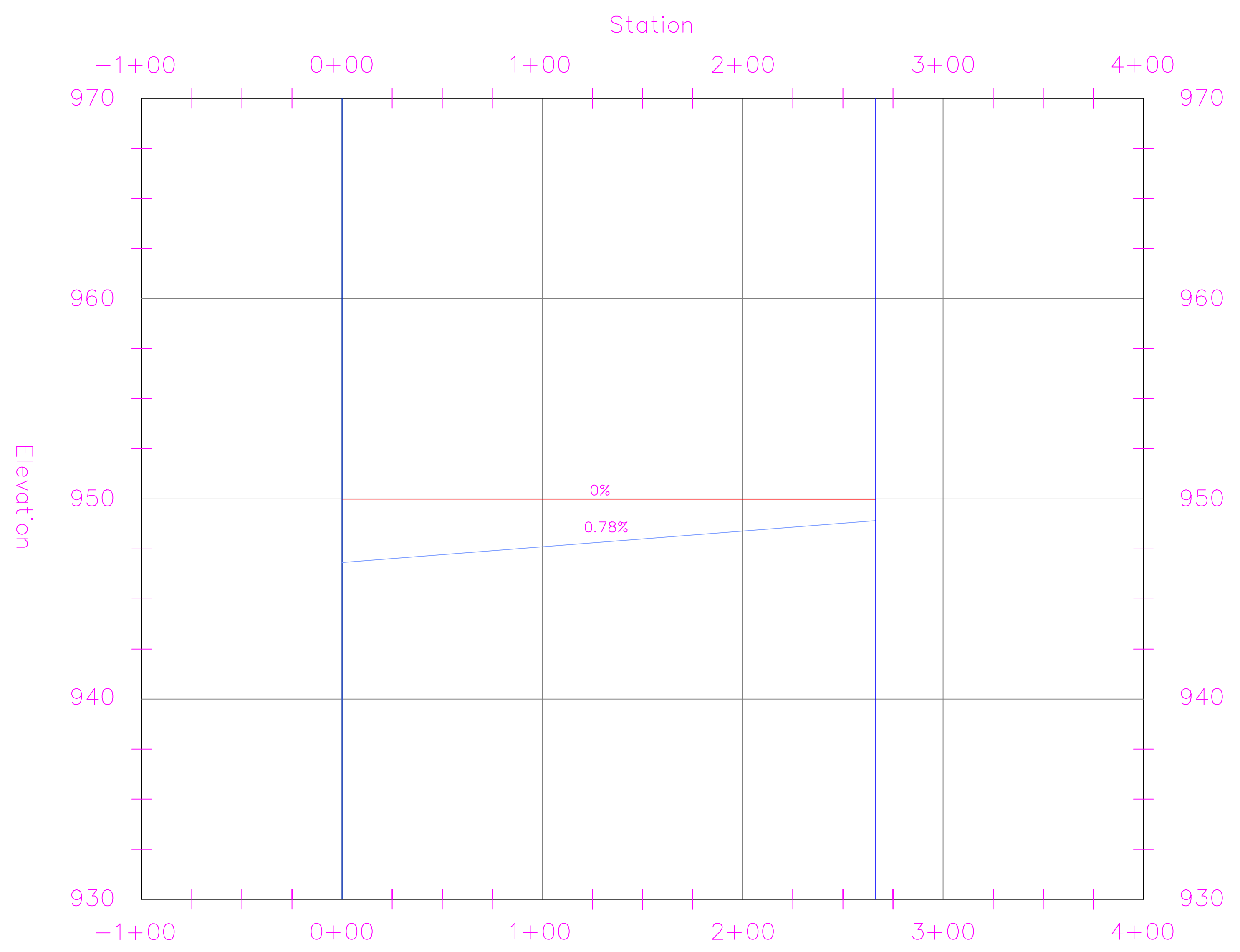
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WATER MAIN & SANITARY P&P

SHEET NO.
13

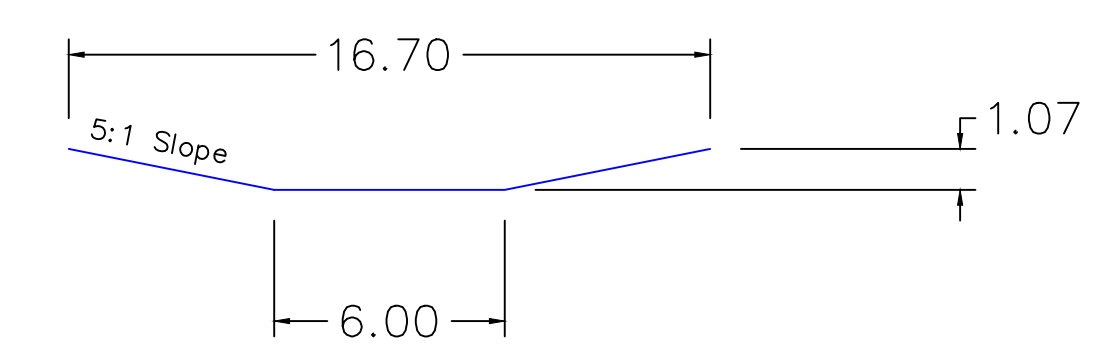
Westward at STA: 0+65.09 on Grand Avenue



Station 0+00



Station 2+66.36



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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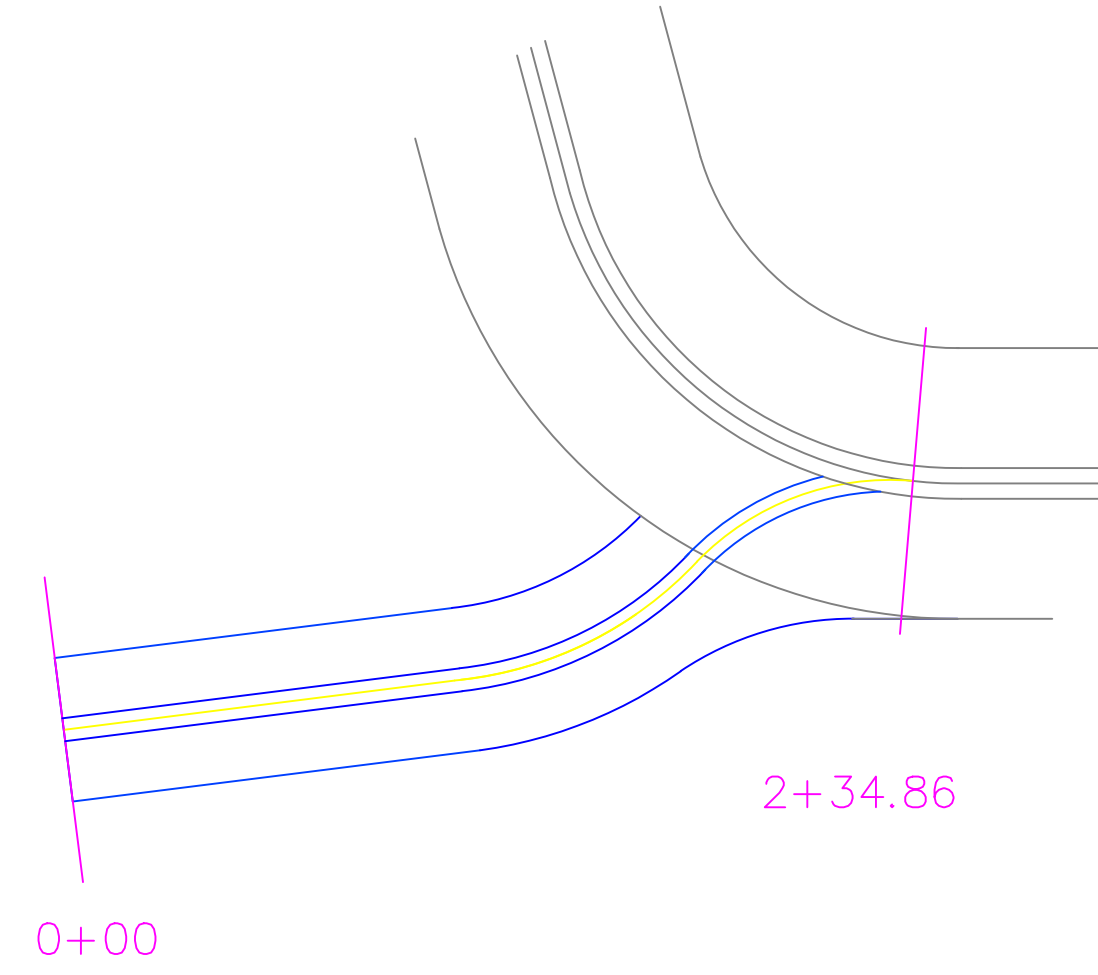
STORMWATER QUANTITY

MANCHESTER, IA

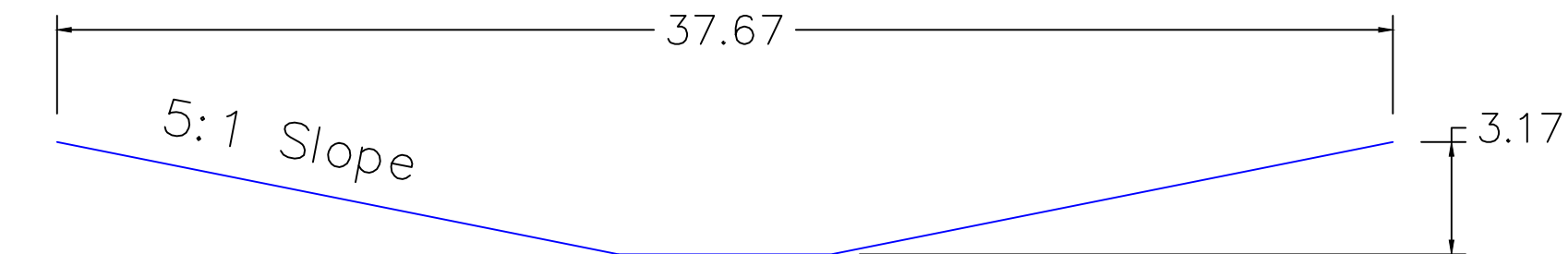
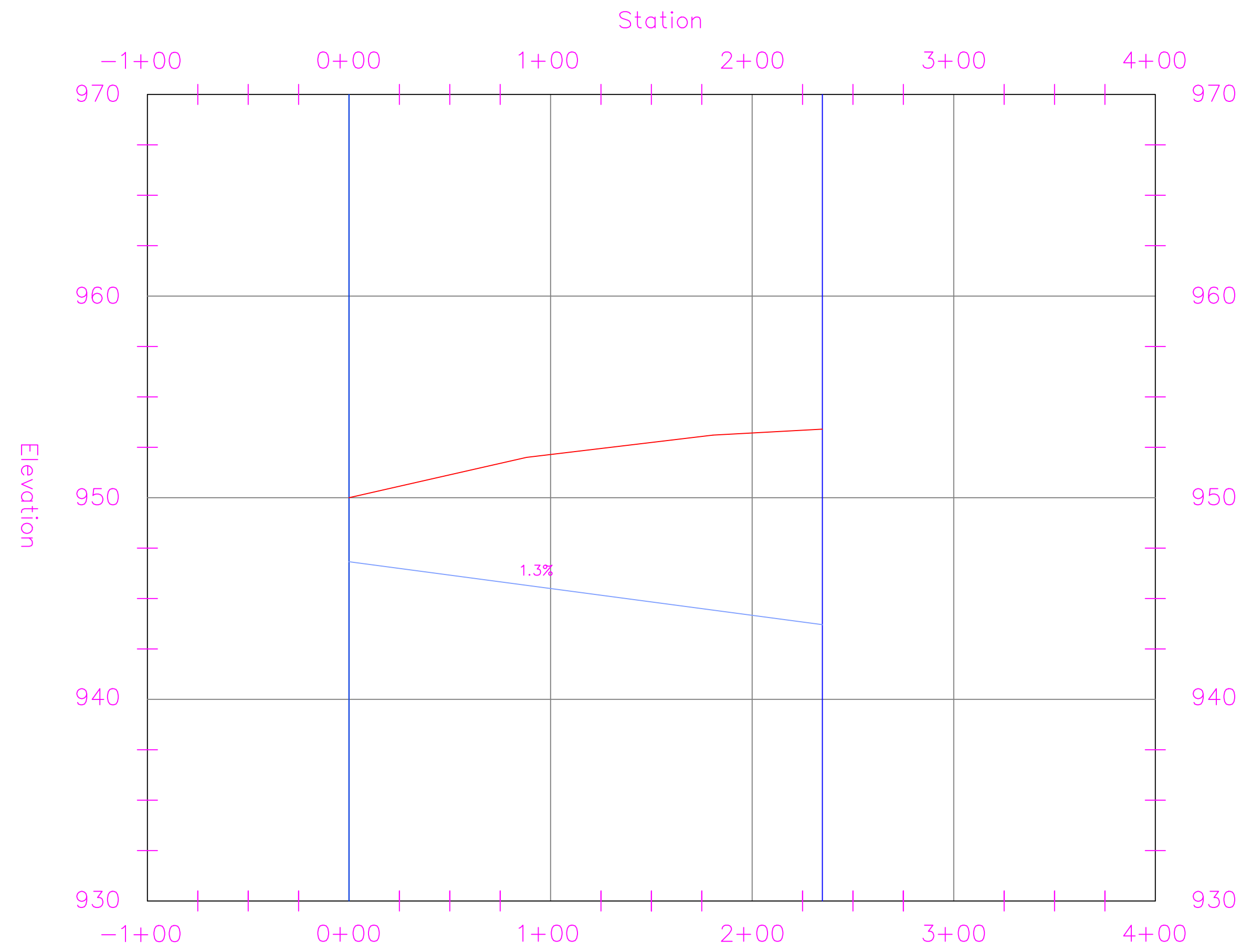
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
14

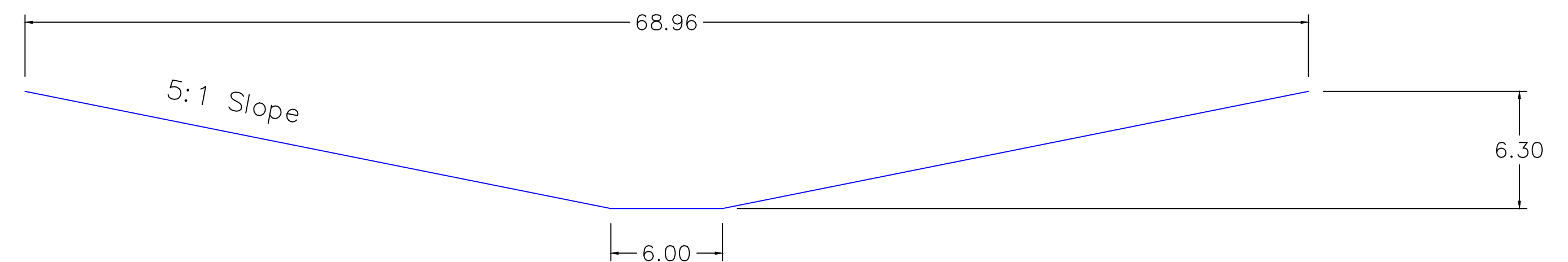
Eastward at STA: 0+65.09 on Grand Avenue



Station 0+00



Station 2+34.86



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
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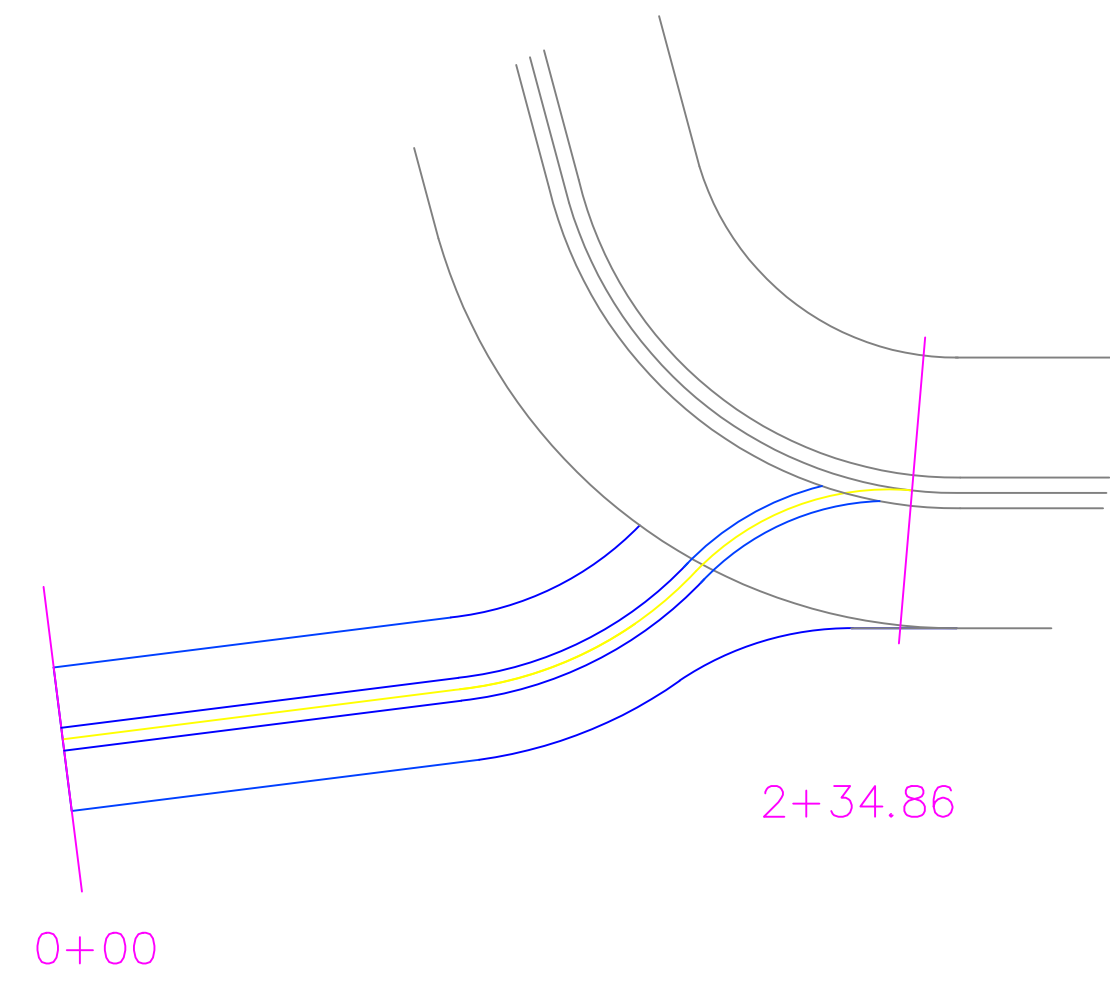
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STORMWATER QUANTITY
 MANCHESTER, IA

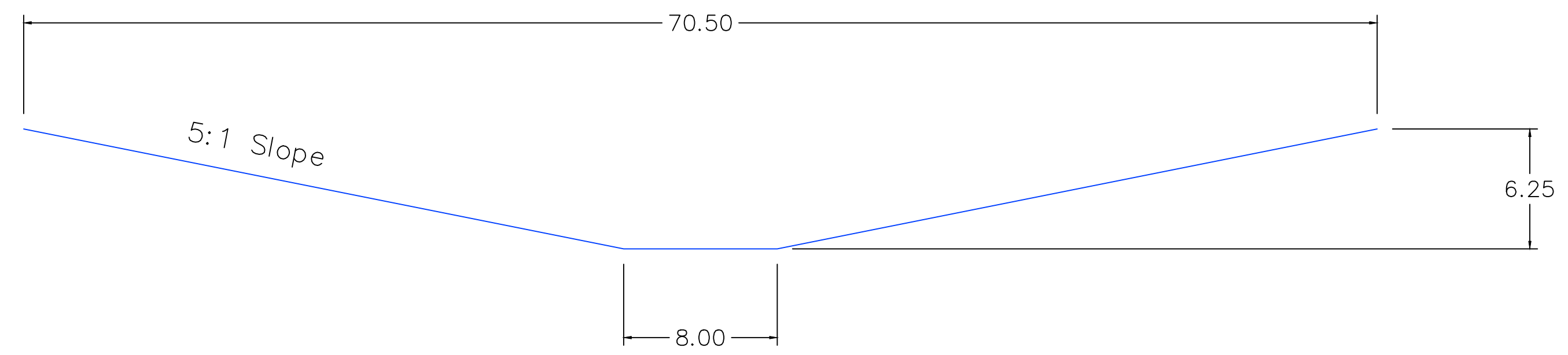
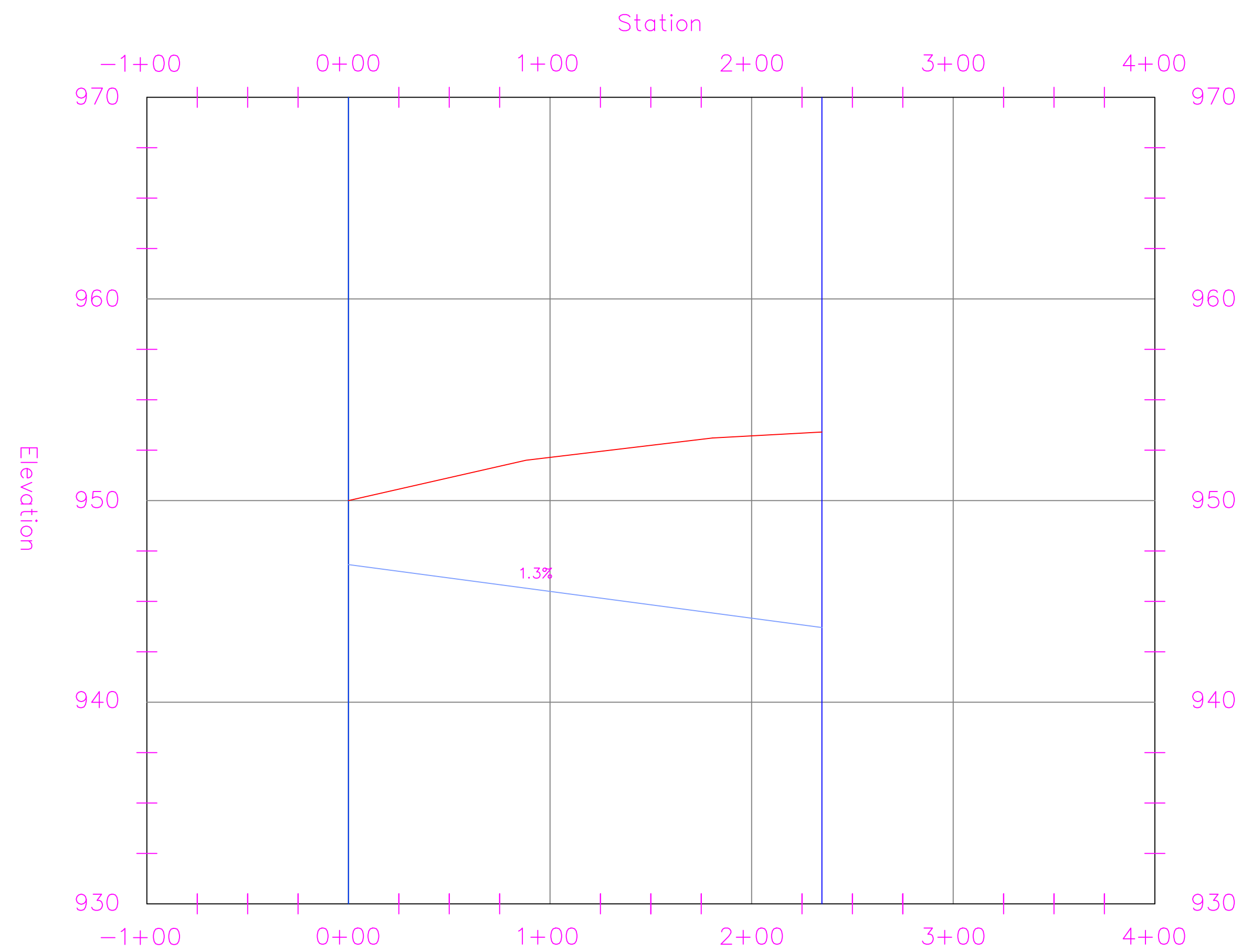
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
15

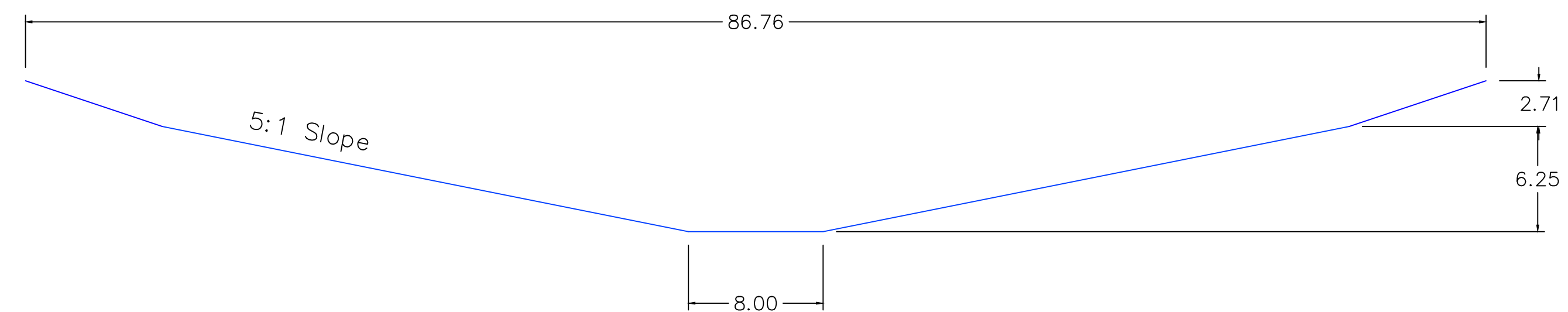
Southward at STA: 1+88.7 on Kramer Drive



Station 0+00



Station 3+60.88



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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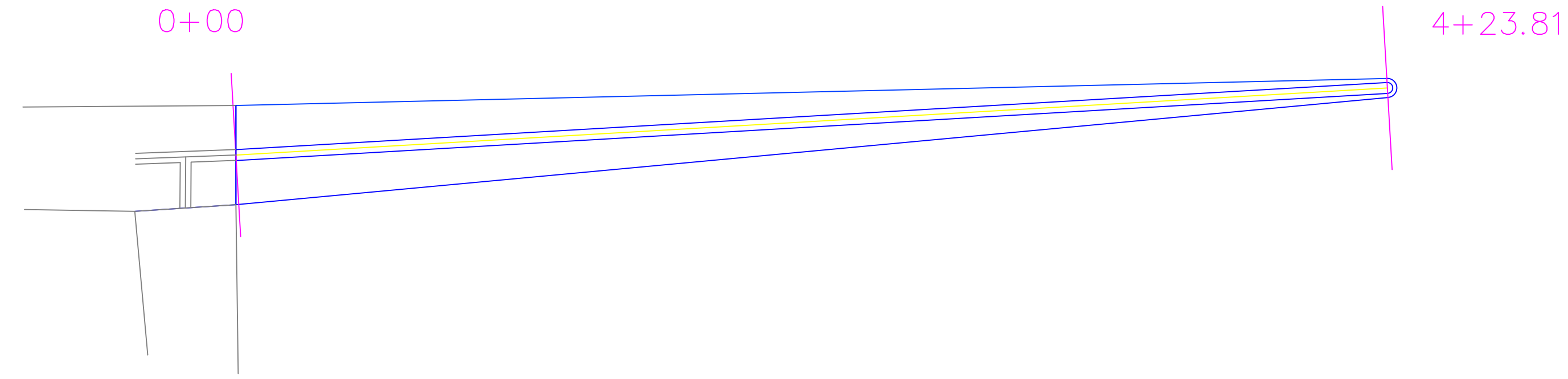
STORMWATER QUANTITY

MANCHESTER, IA

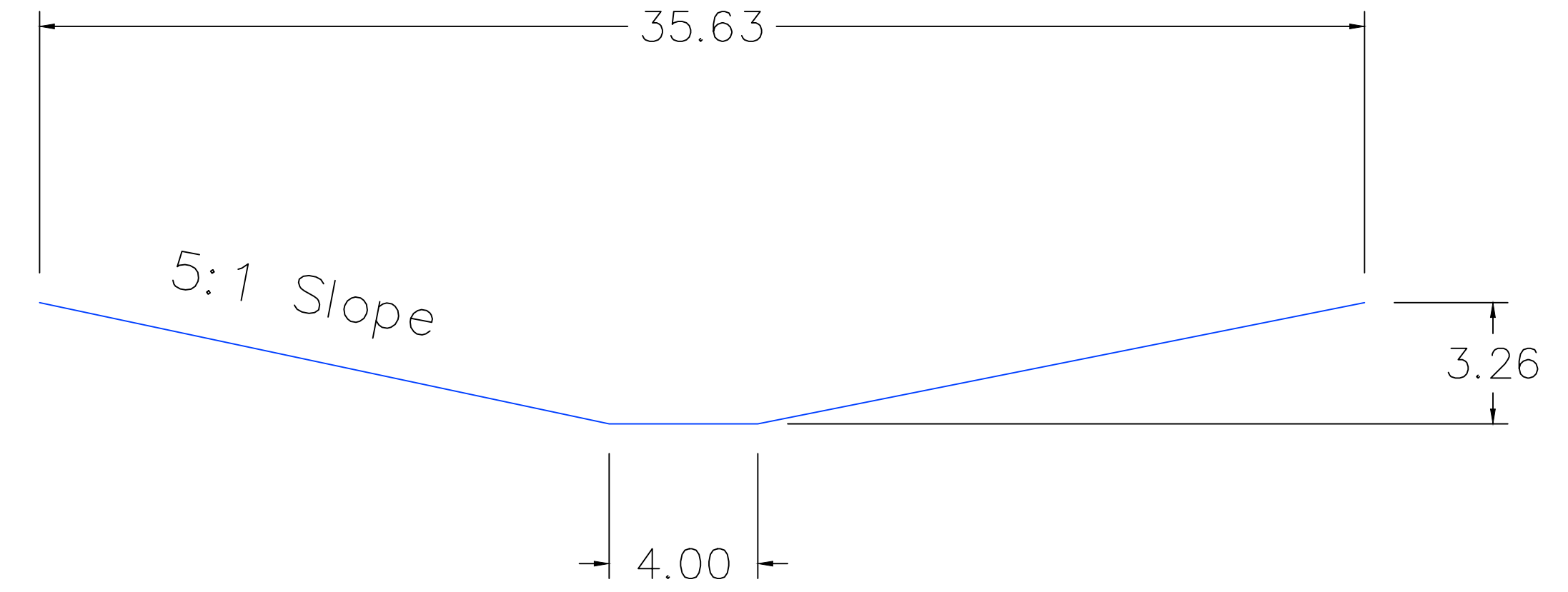
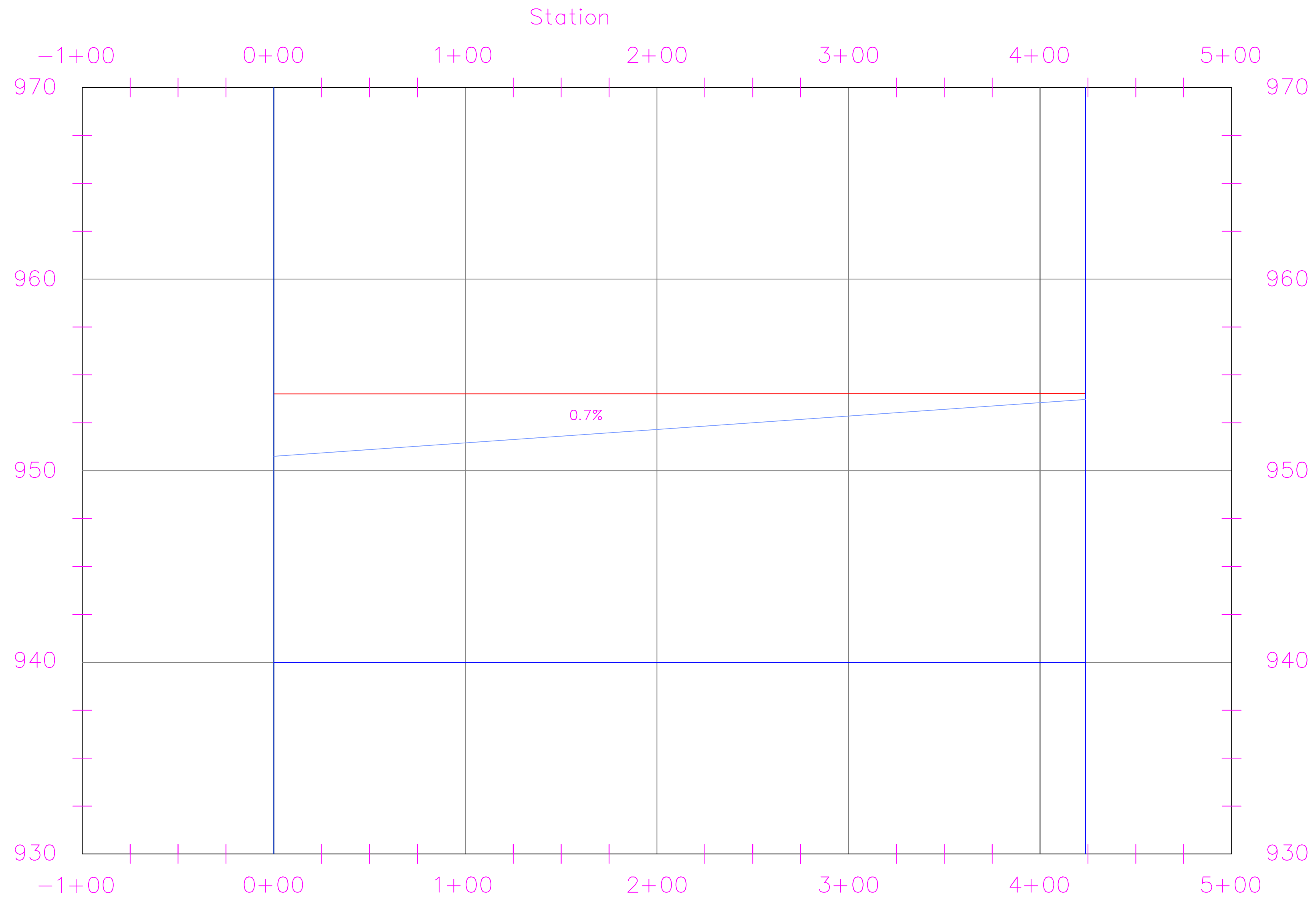
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
16

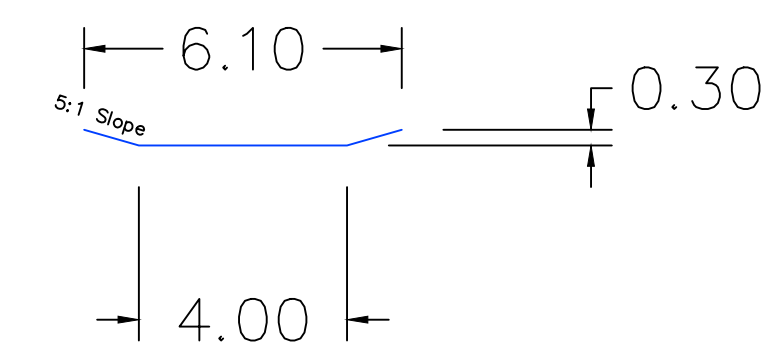
Westward Extension



Station 0+00



Station 4+23.81



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
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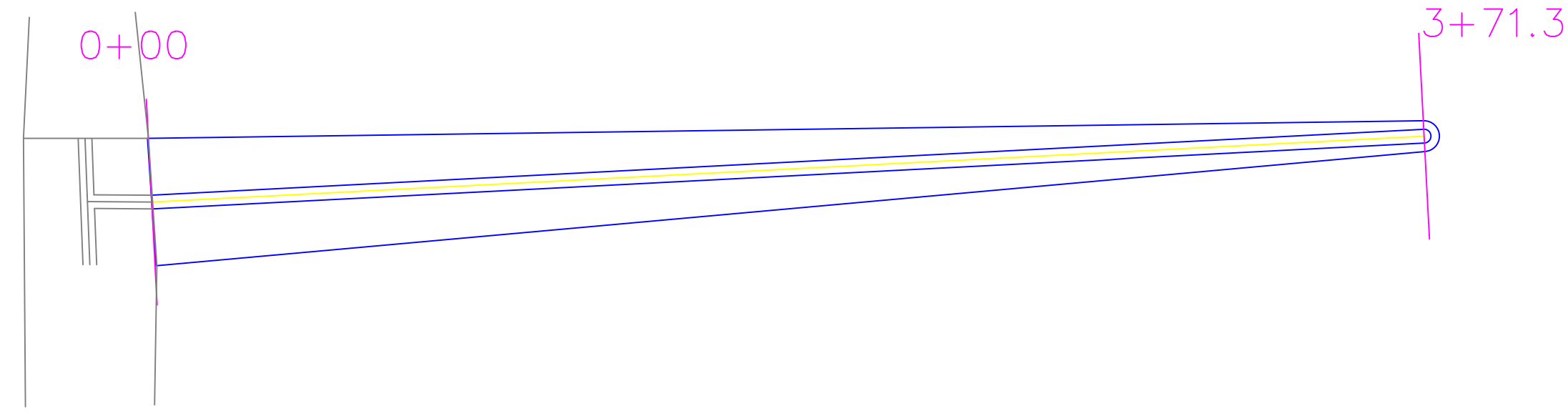
STORMWATER QUANTITY

MANCHESTER, IA

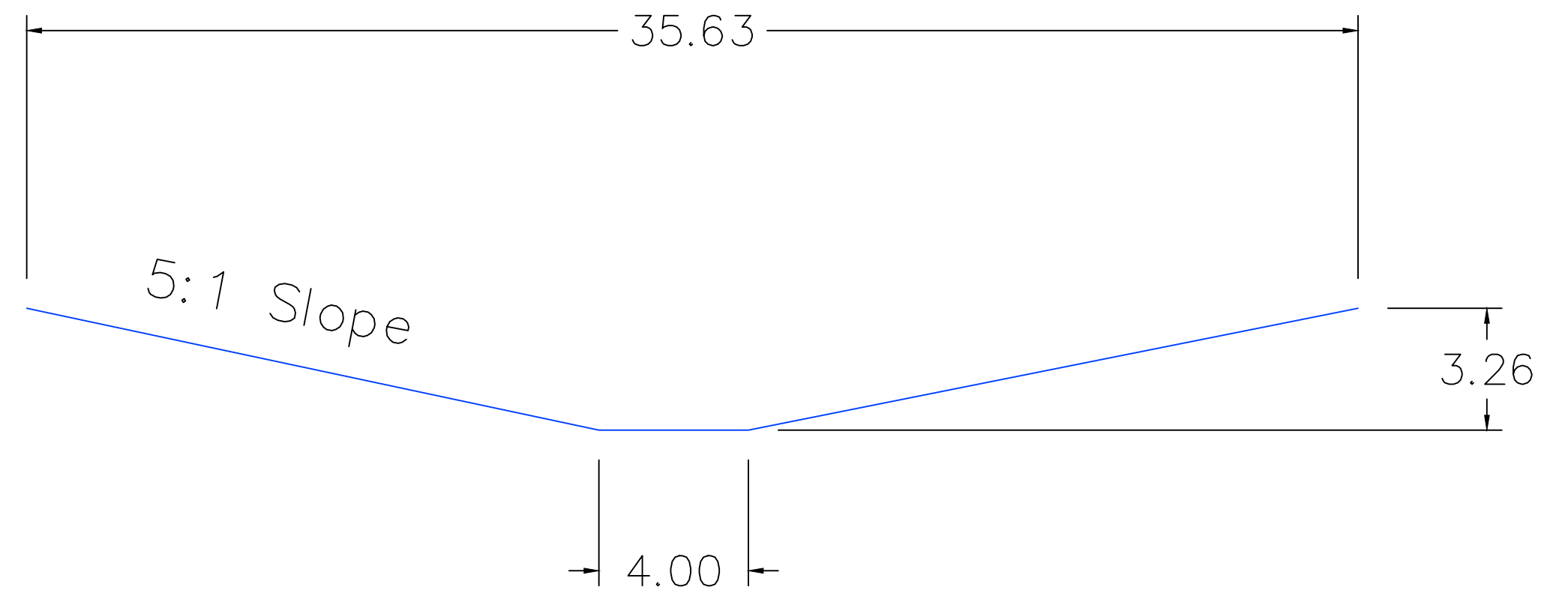
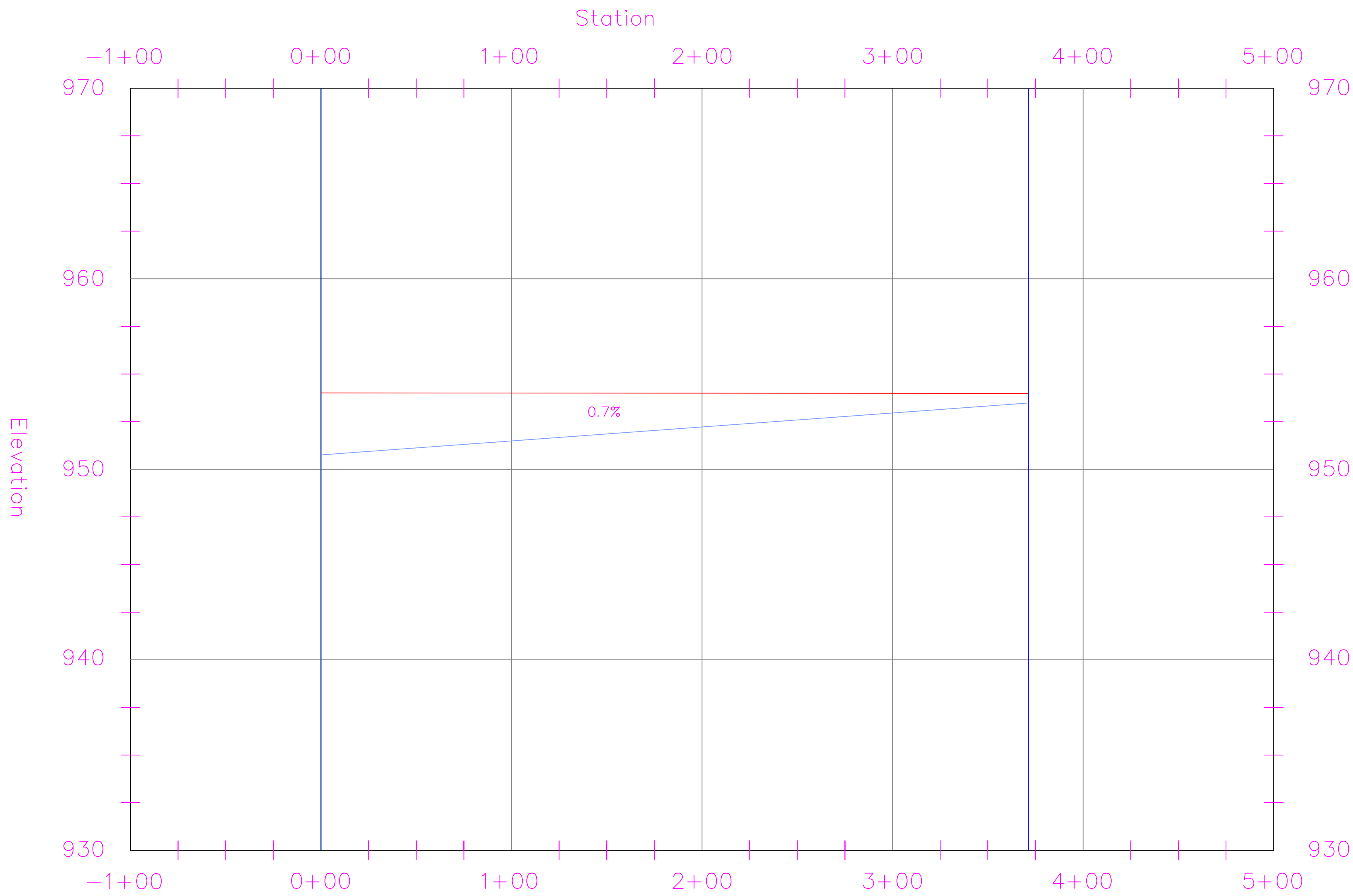
SHEET NAME
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 PROFILE & CS

SHEET NO.
17

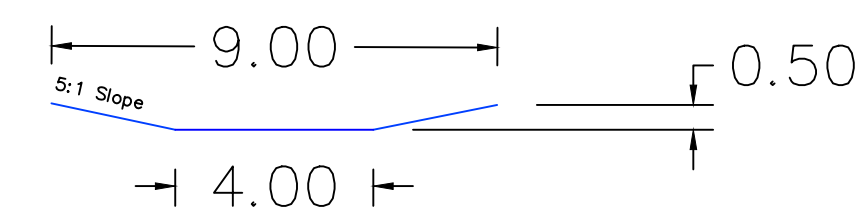
Northward Extension



Station 0+00



Station 3+71.3



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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STORMWATER QUANTITY

MANCHESTER, IA

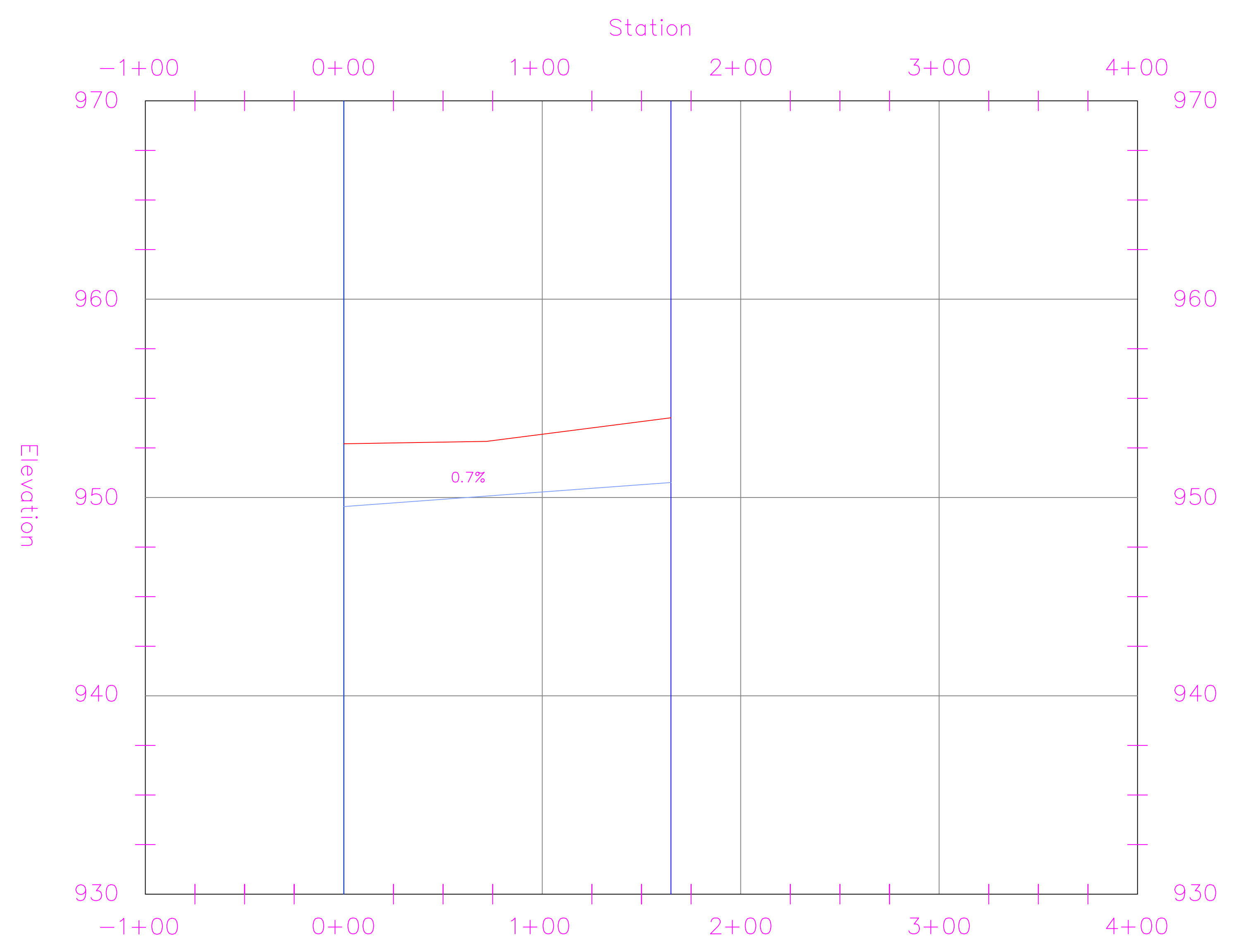
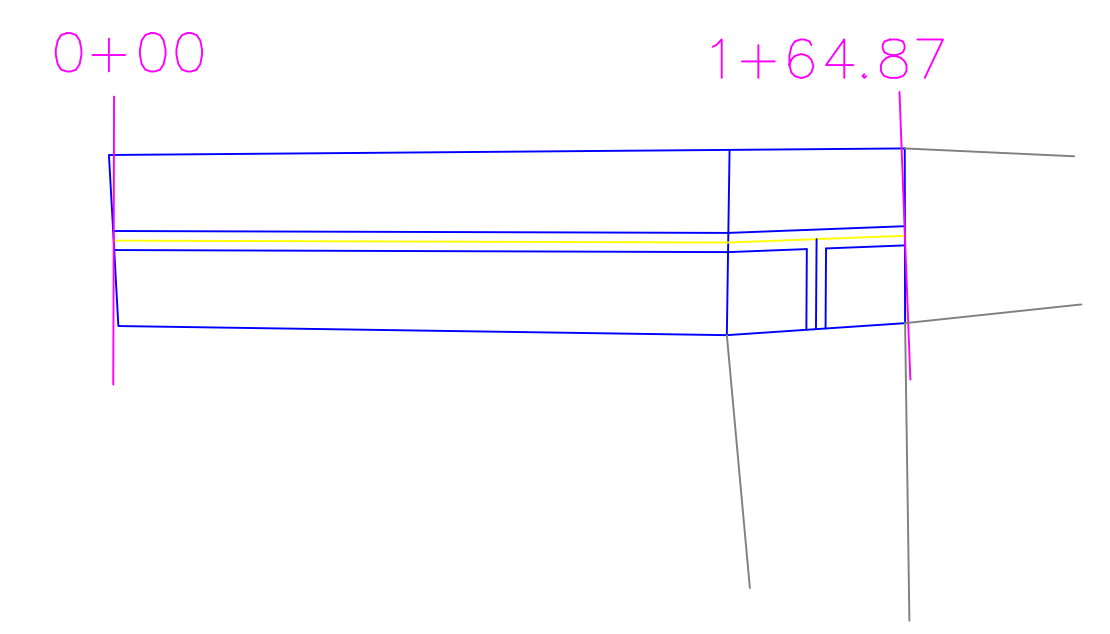
SHEET NAME

CHANNEL PLAN
PROFILE & CS

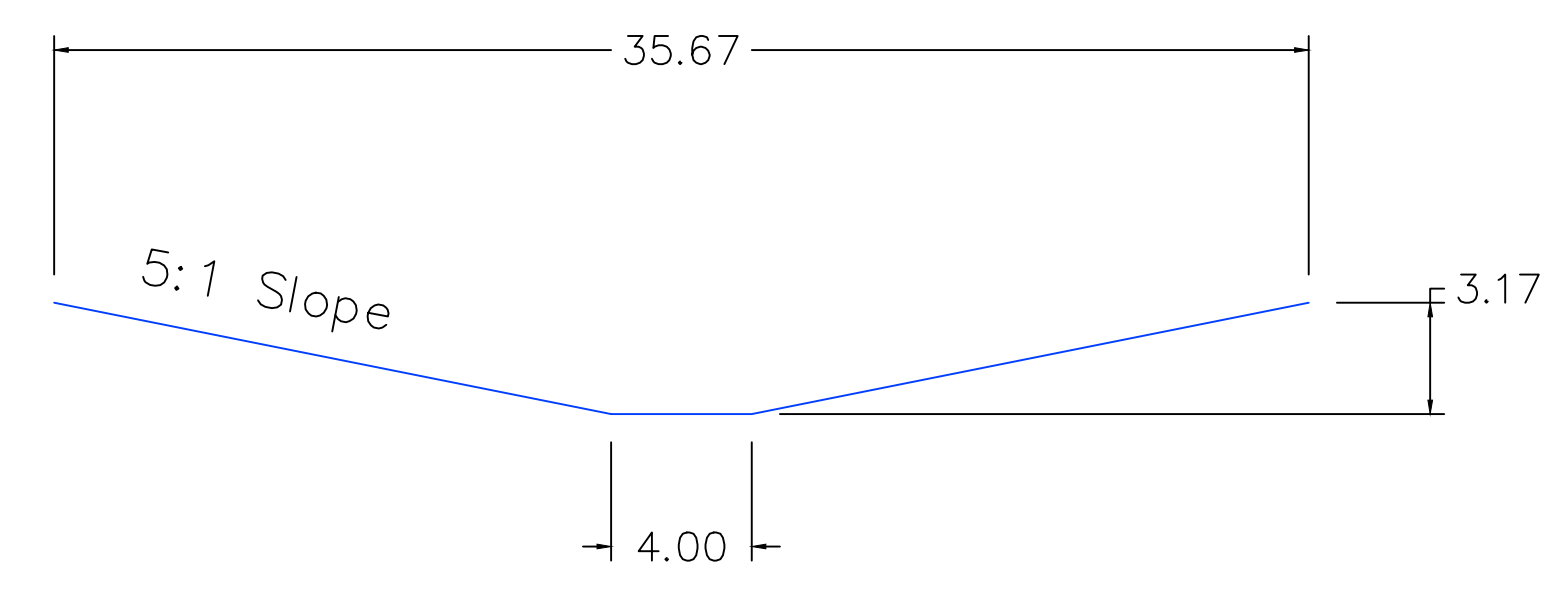
SHEET NO.

18

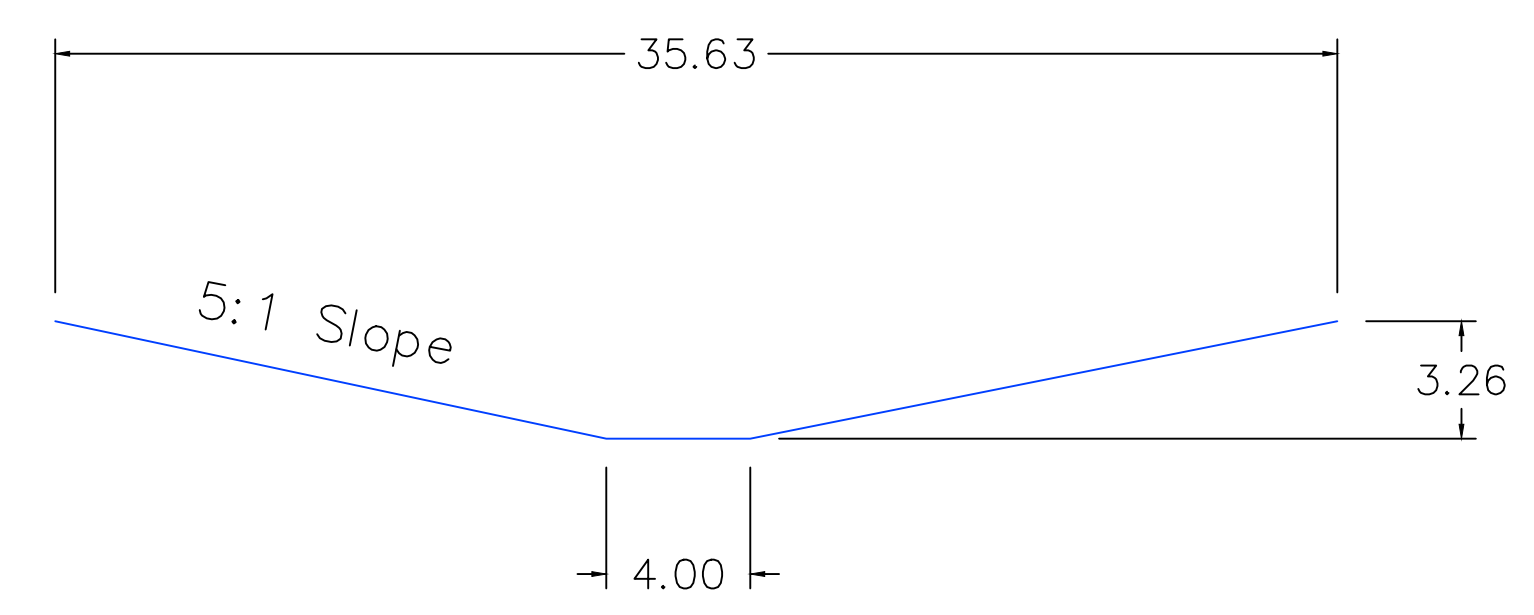
Westward of STA: 21+37.05
on Grand Avenue



Station 0+00



Station 1+64.87



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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 IOWA CITY, IOWA 52242
 PHONE: 319.335.5647
 FAX: 319.335.5660
 EMAIL: civil-hawks@iowa.edu



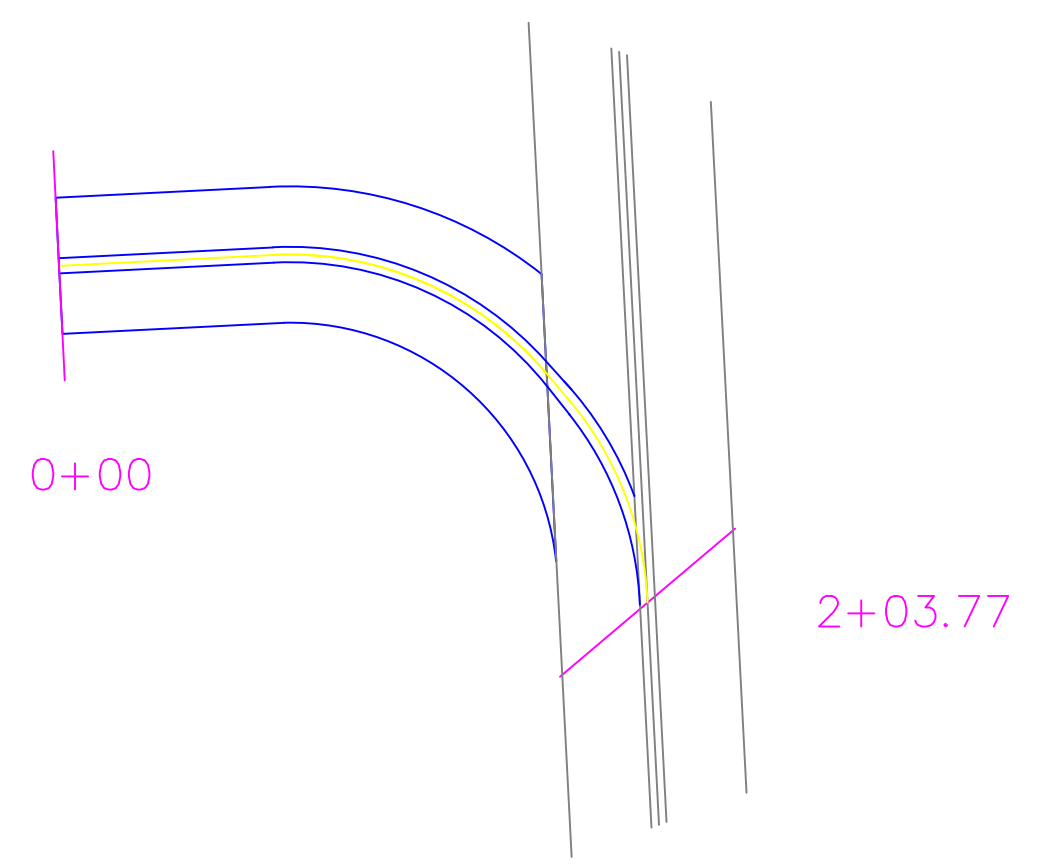
EDUCATIONAL - NOT FOR CONSTRUCTION

STORMWATER QUANTITY
MANCHESTER, IA

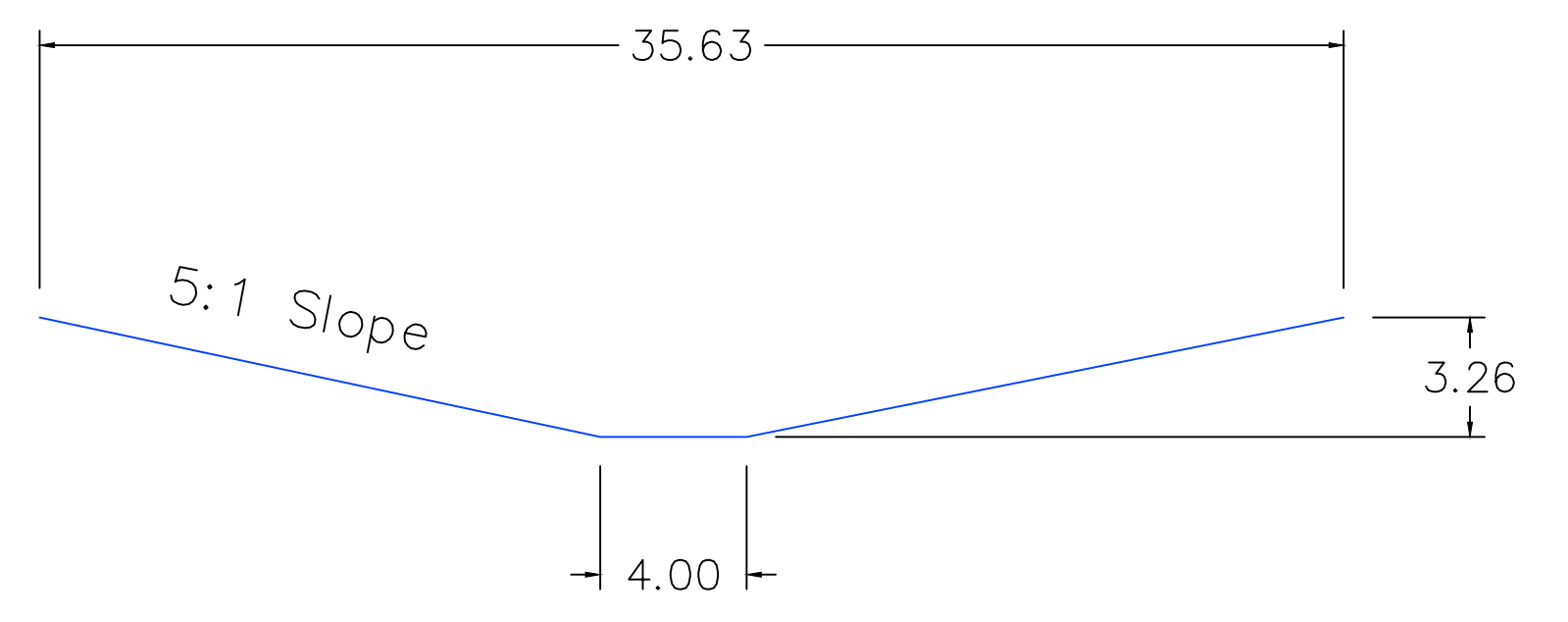
SHEET NAME
CHANNEL PLAN
PROFILE & CS

SHEET NO.
19

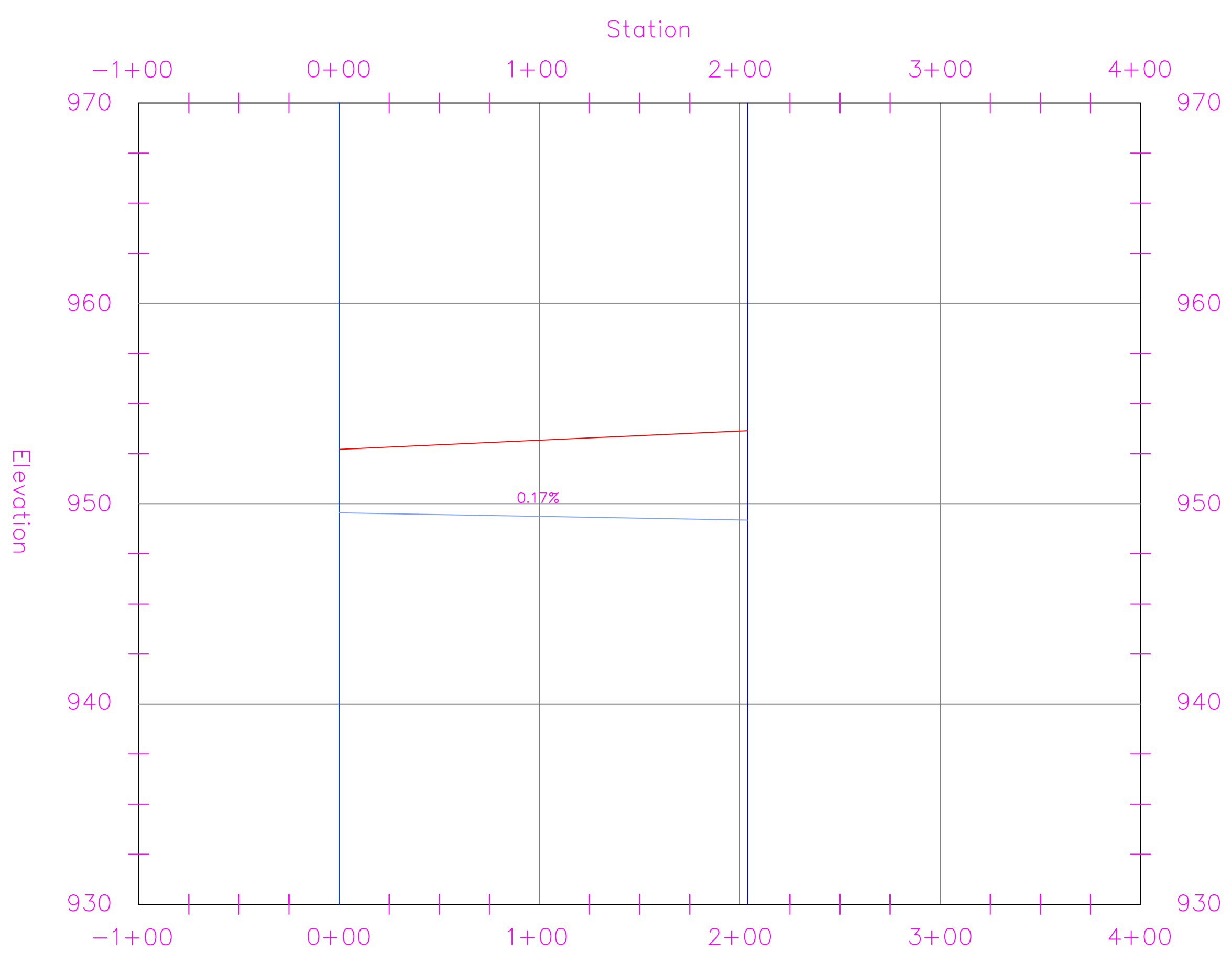
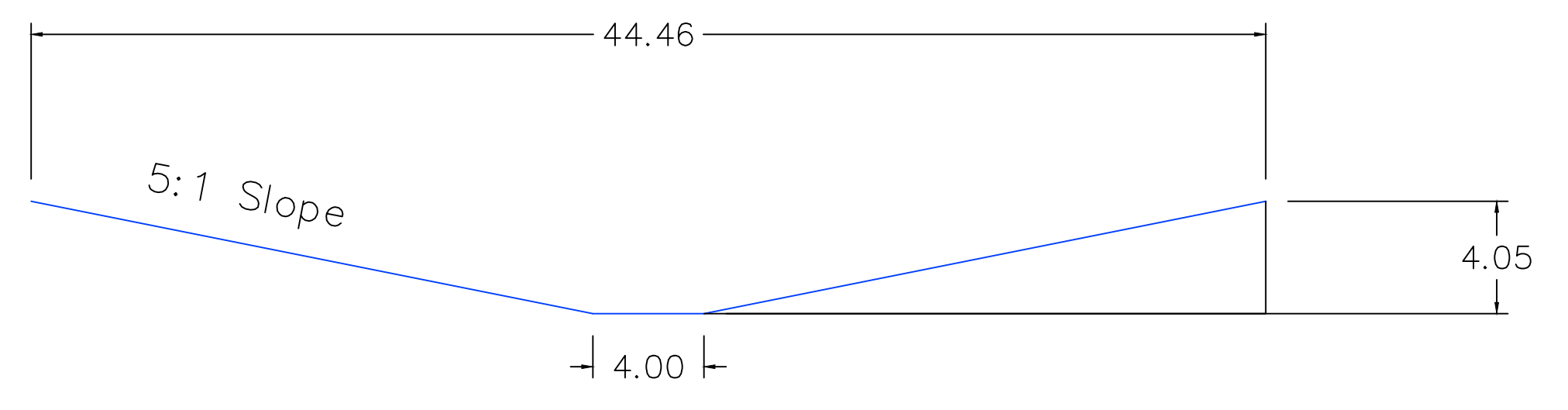
Eastward of STA: 21+37.05 on Grand Avenue



Station 0+00



Station 2+03.77



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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MANCHESTER, IA

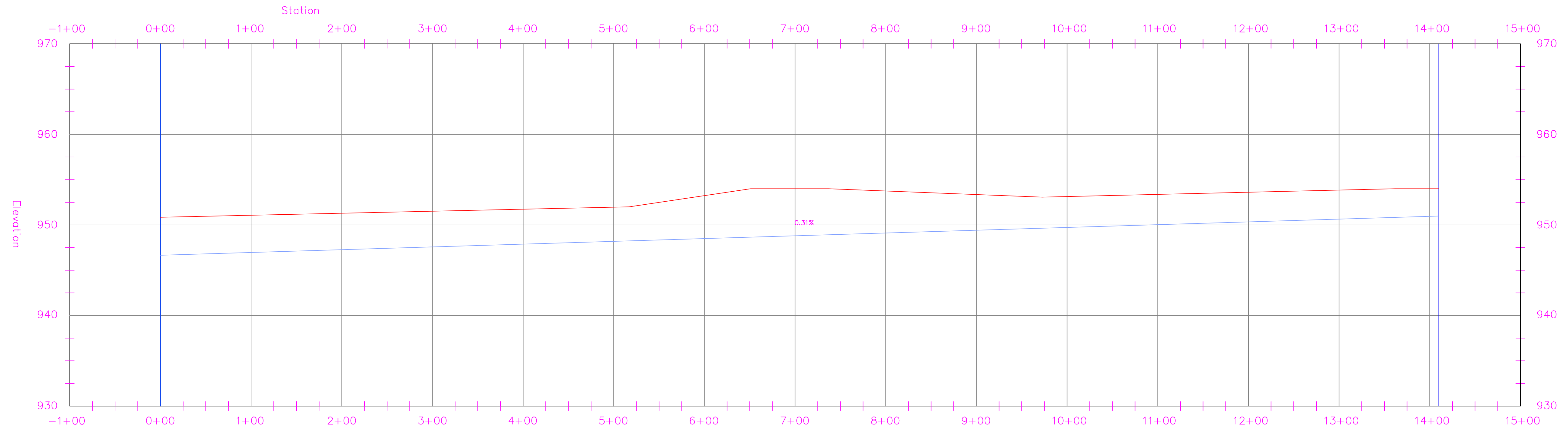
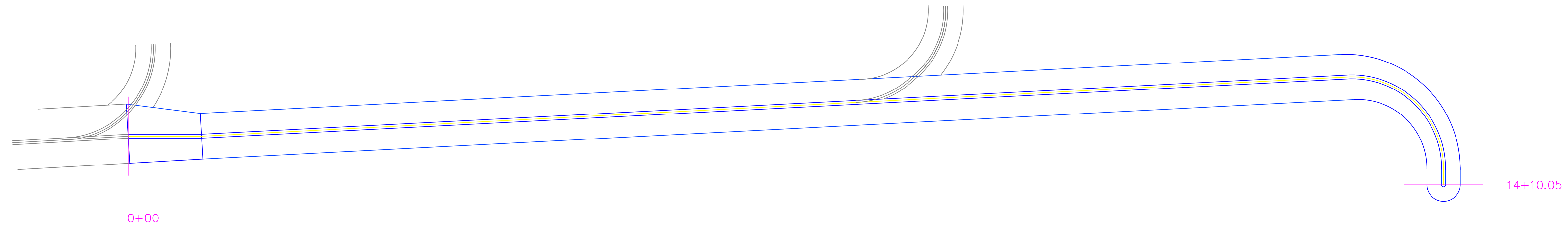
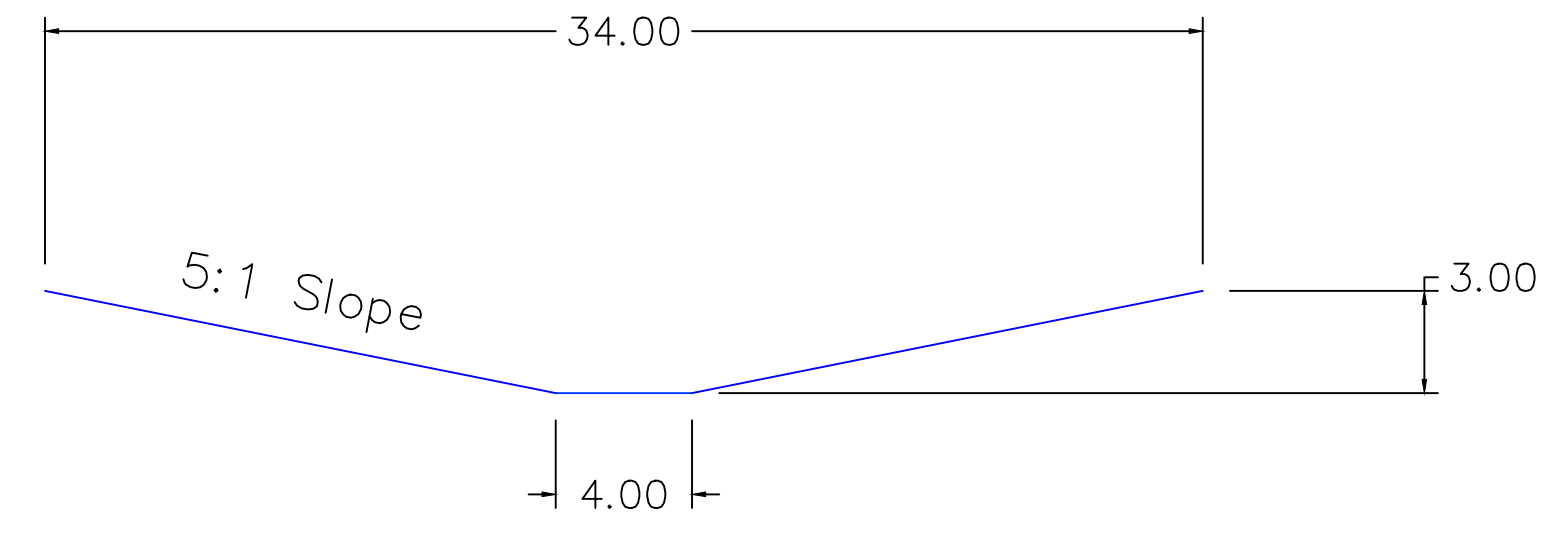
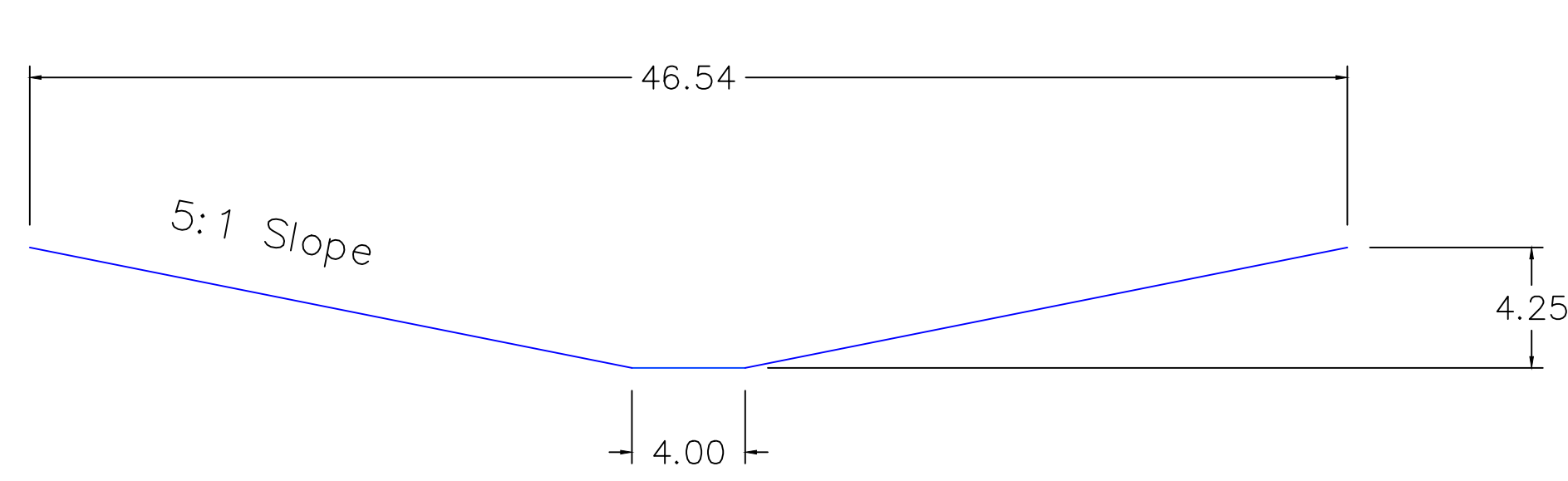
SHEET NAME
CHANNEL PLAN
PROFILE & CS

SHEET NO.
20

Station 0+00

Station 14+10.05

Eastward of STA: 0+65.09



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
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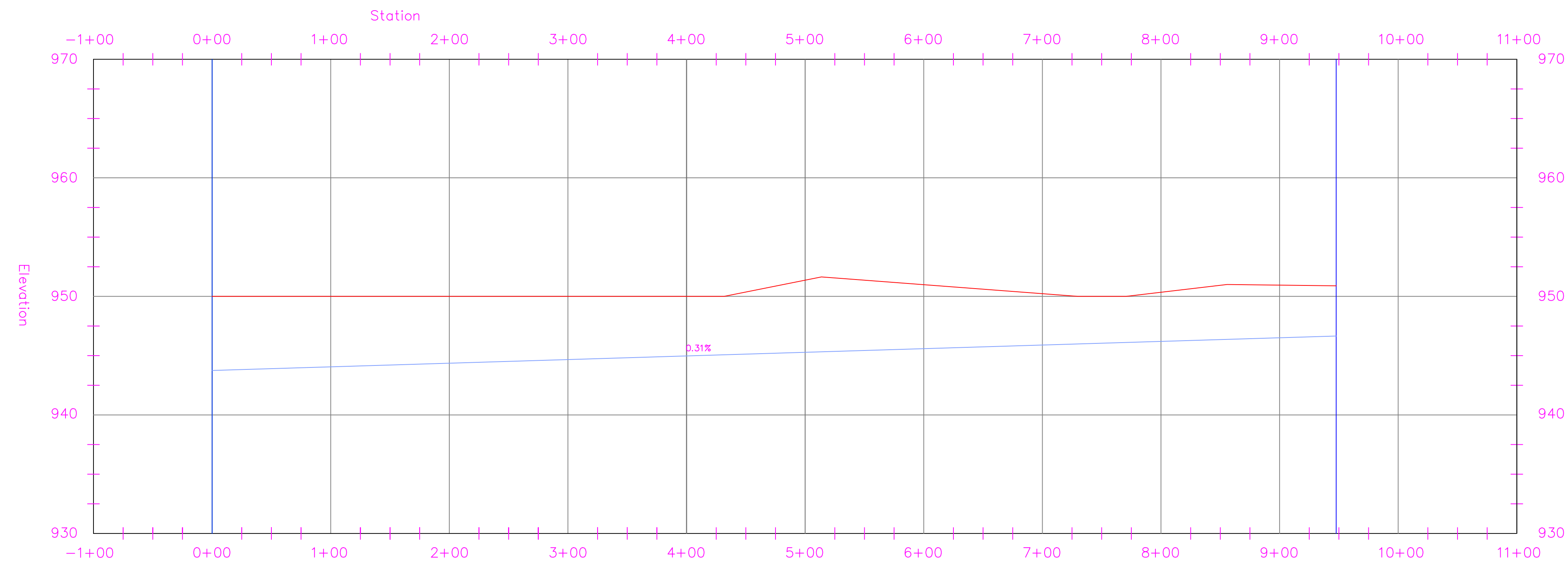
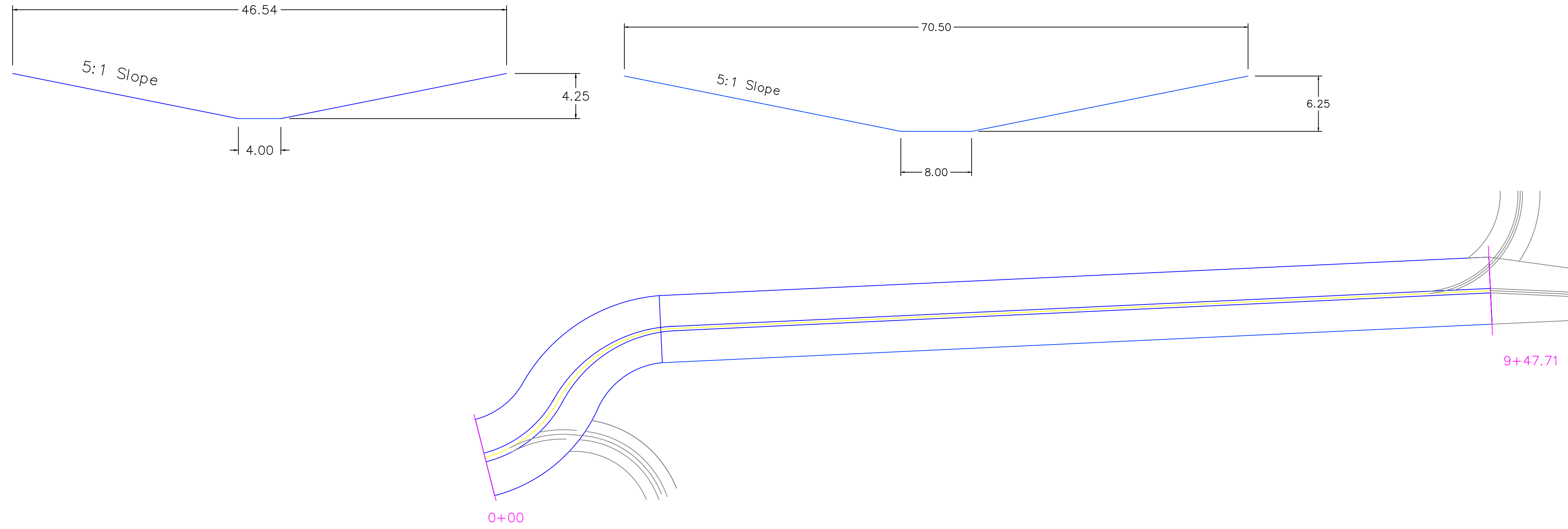
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
21

Station 0+00

Station 9+47

Northward at STA: 1+88.7
on Kramer Drive



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
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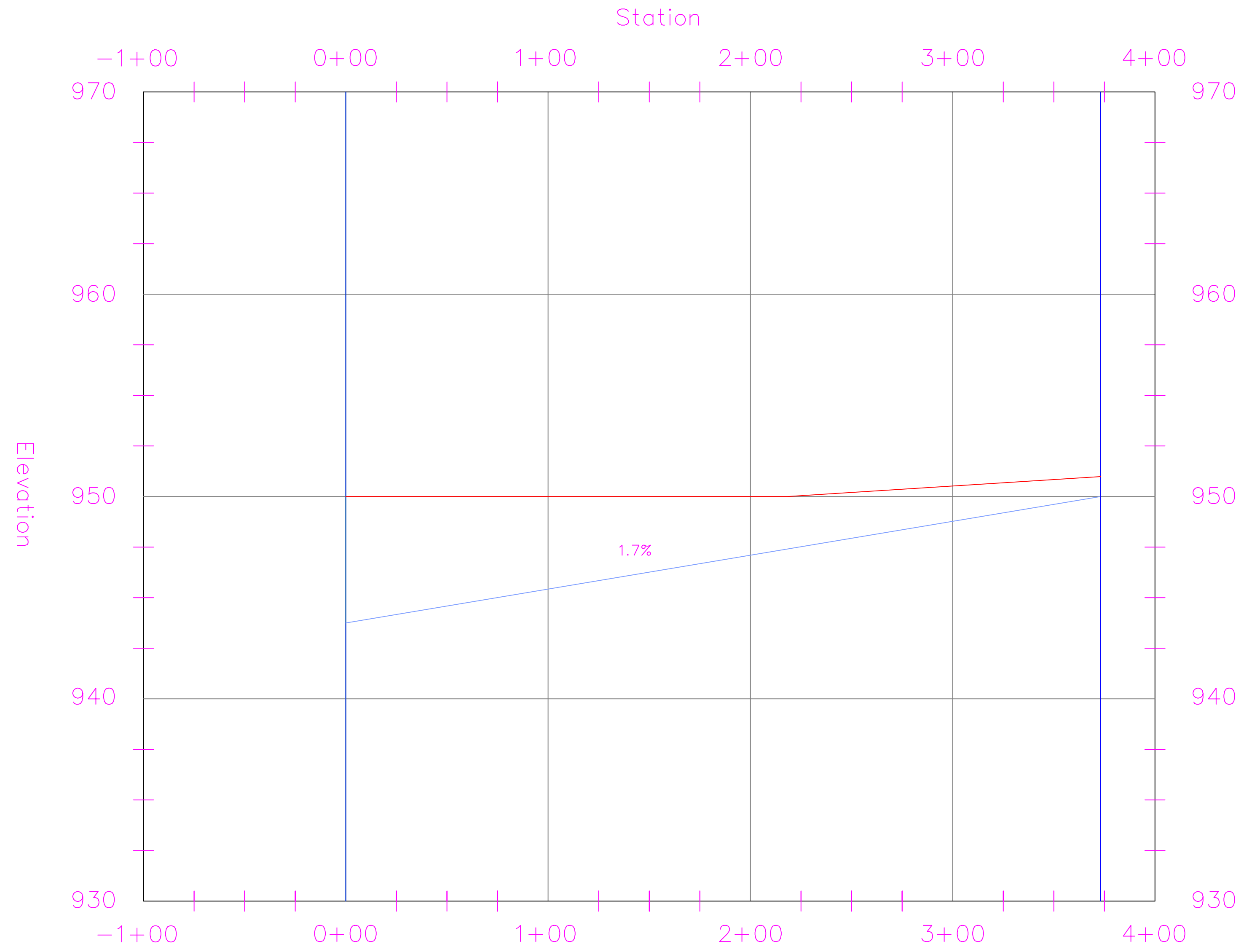
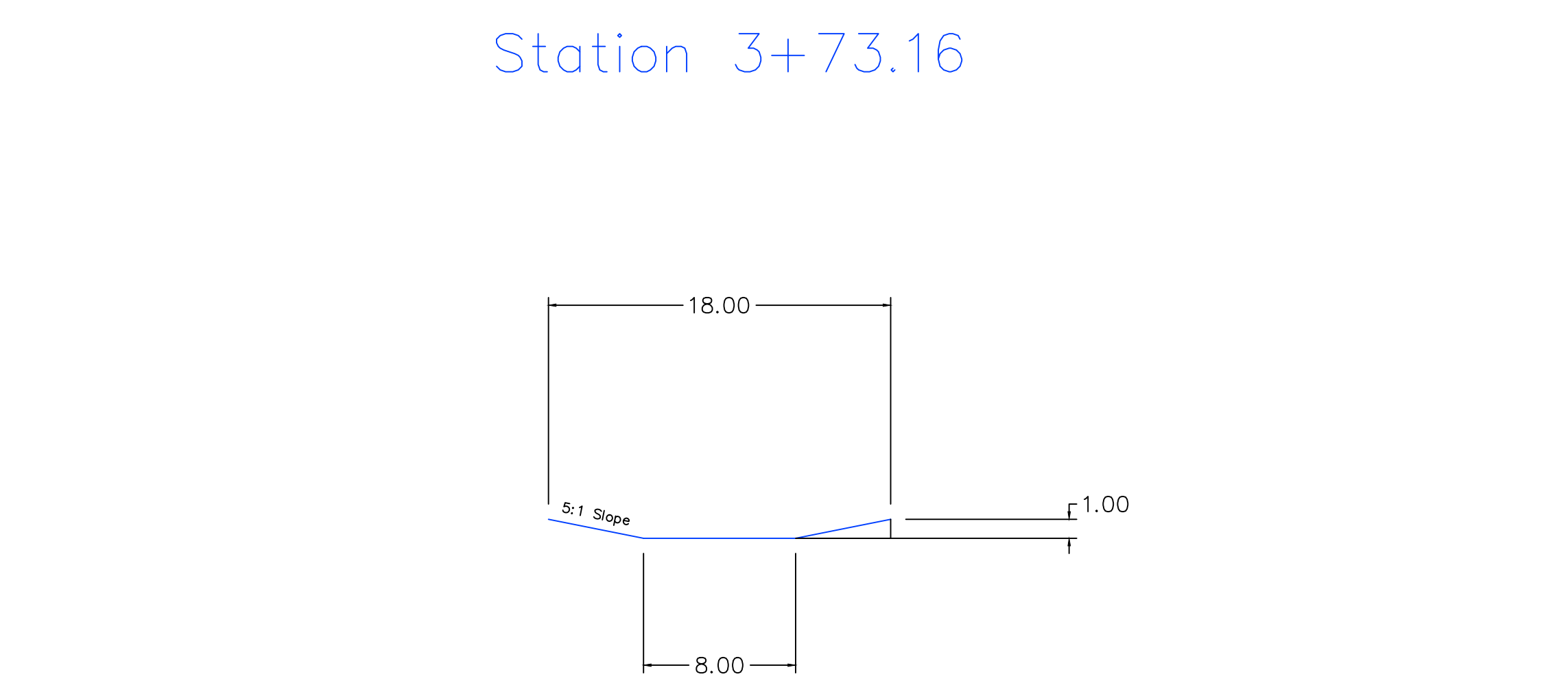
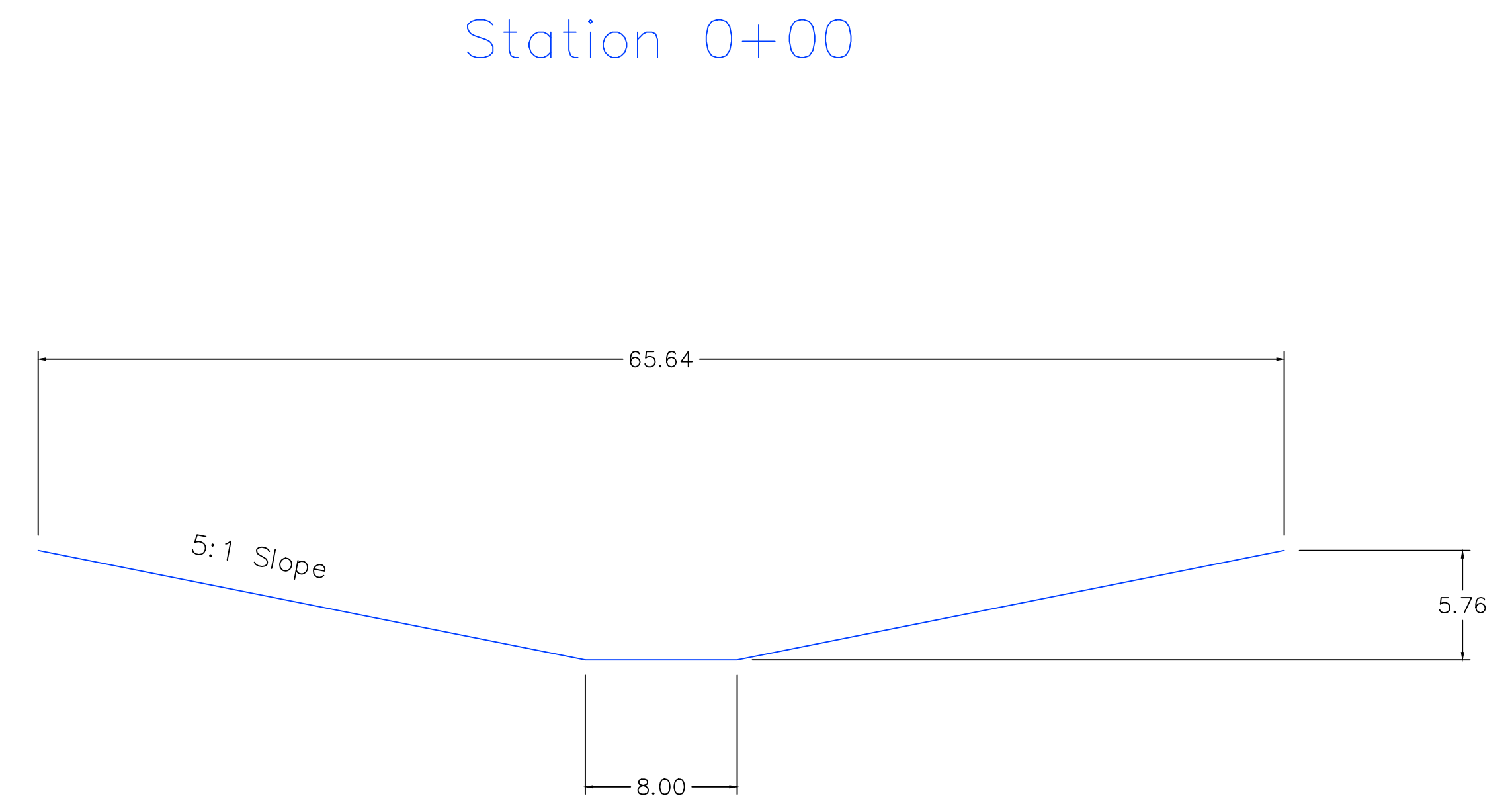
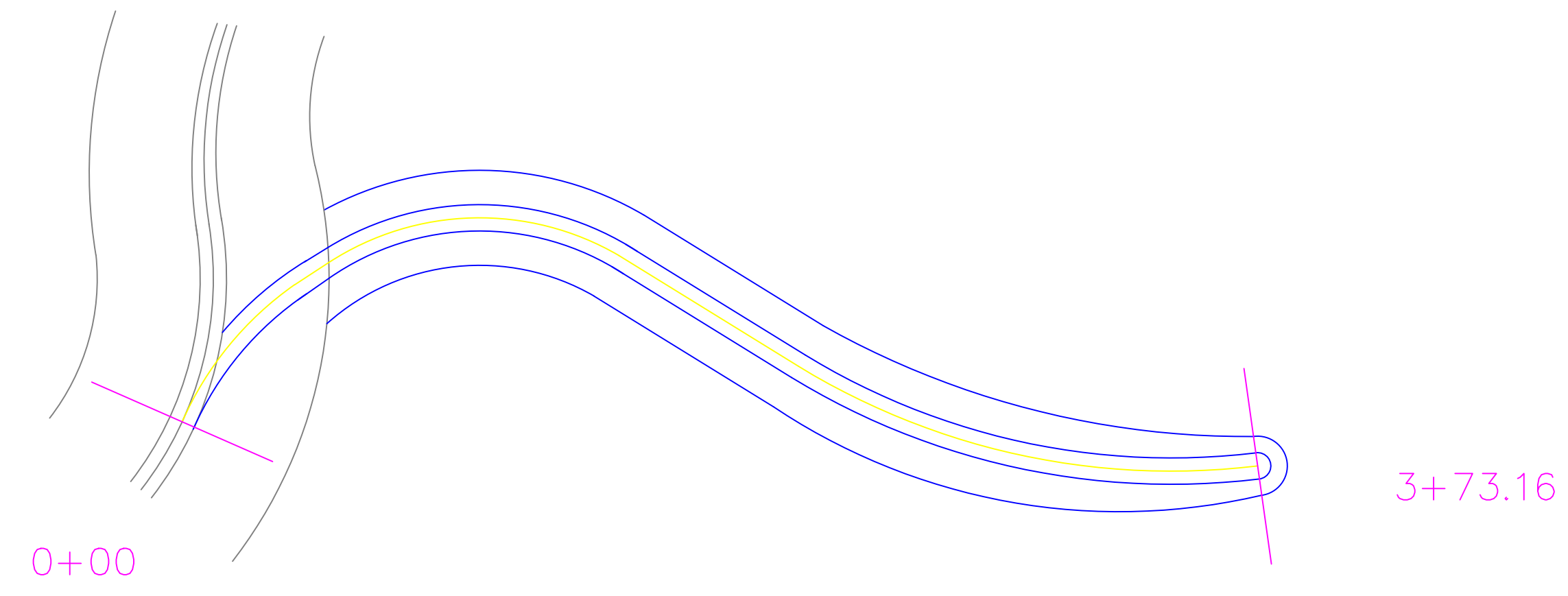
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STORMWATER QUANTITY
 MANCHESTER, IA

SHEET NAME
CHANNEL PLAN
PROFILE & CS

SHEET NO.
22

Marsh extension STA: 0+26



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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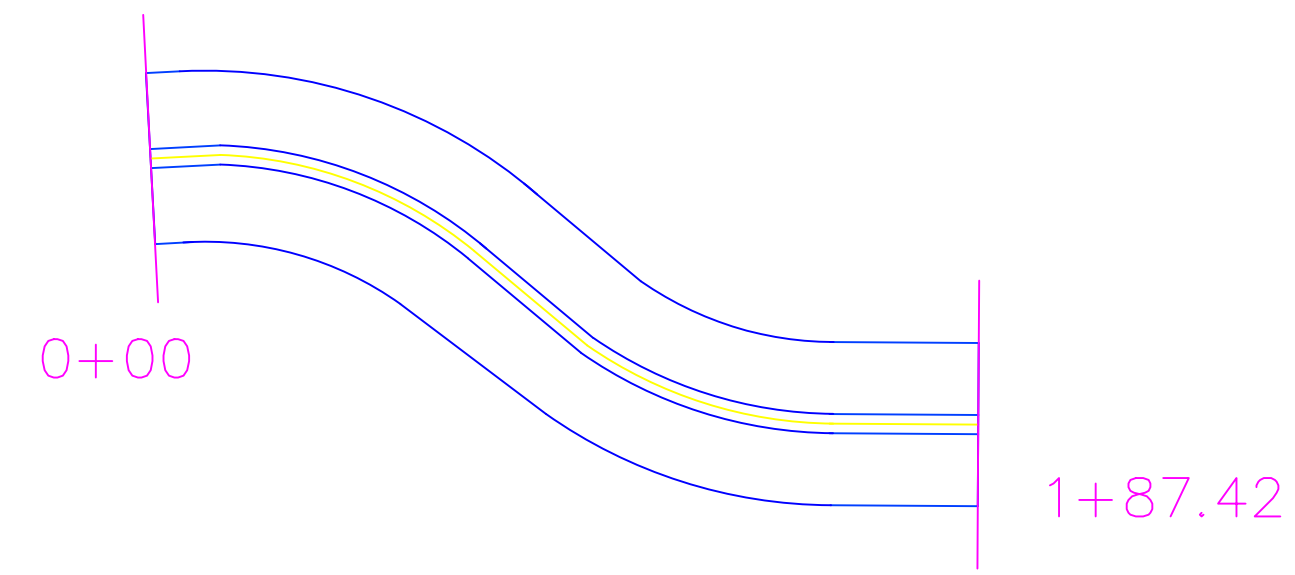
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STORMWATER QUANTITY
 MANCHESTER, IA

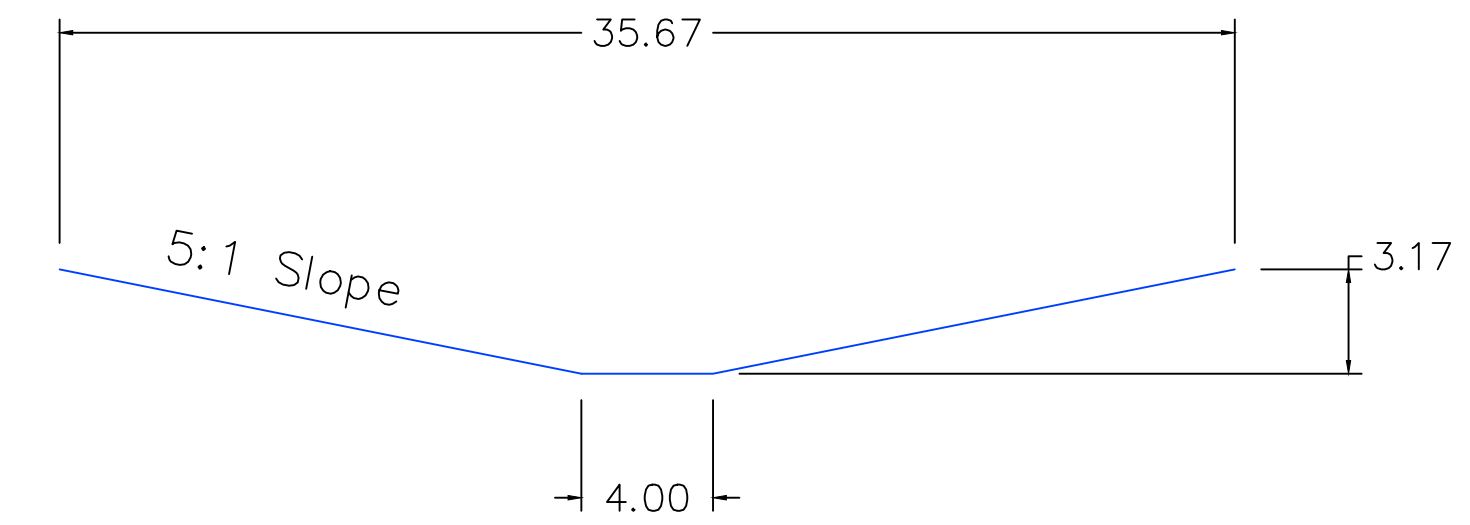
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
23

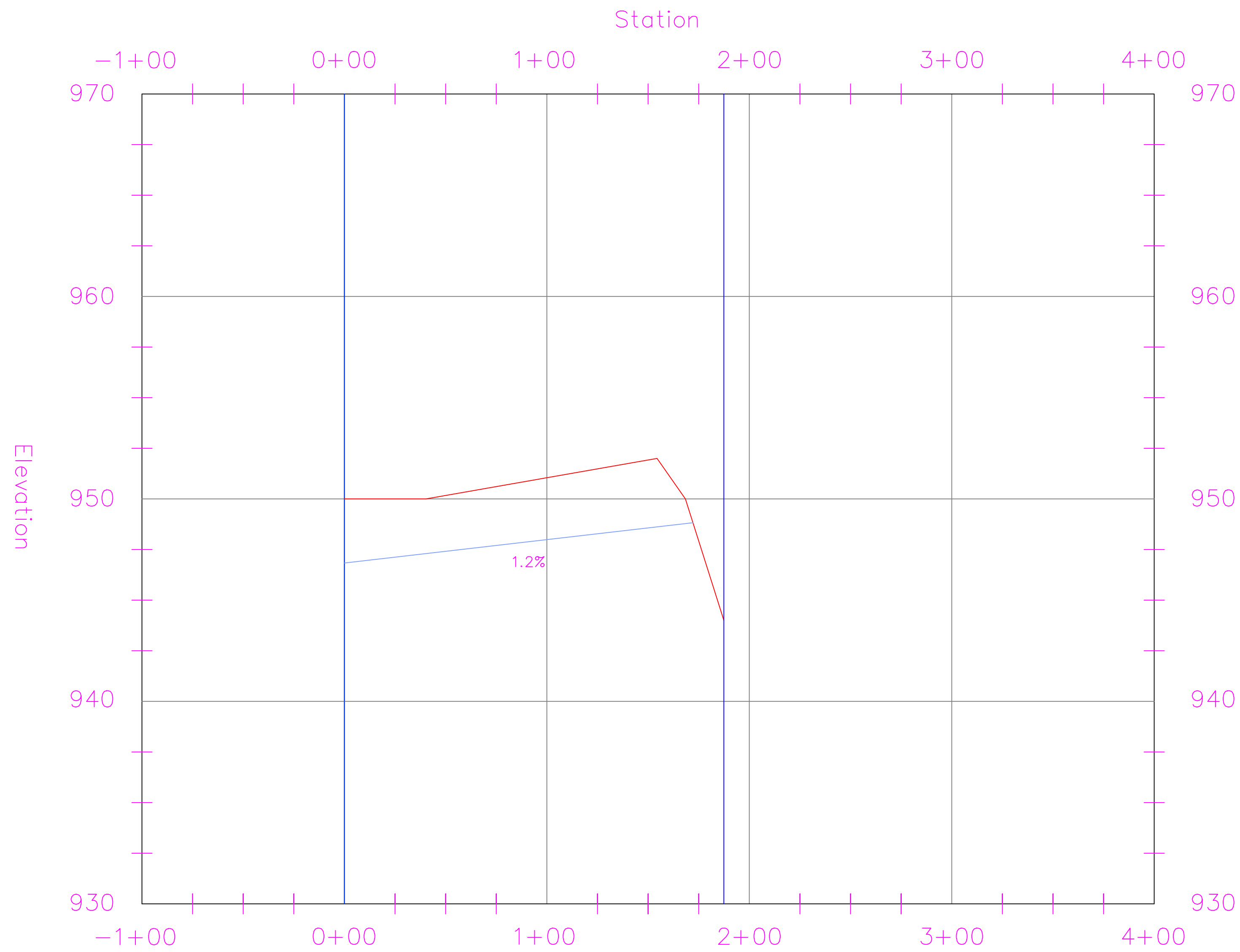
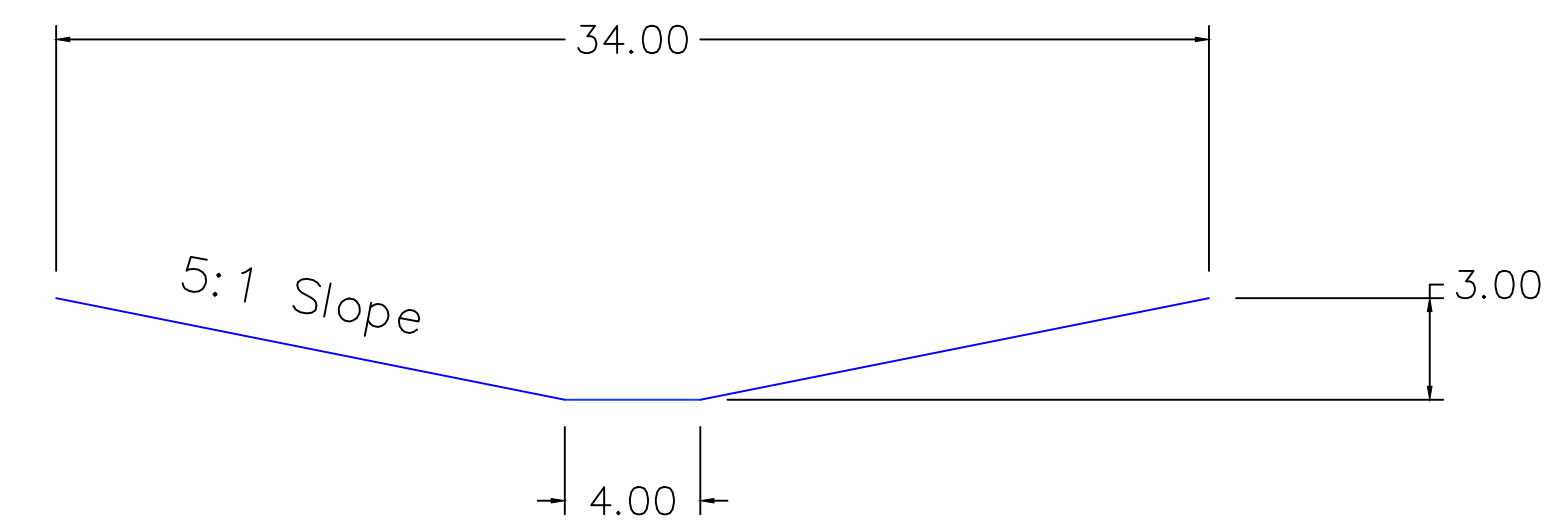
Westward of STA: 13+29.42 on Grand Avenue



Station 0+00



Station 1+87.42



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
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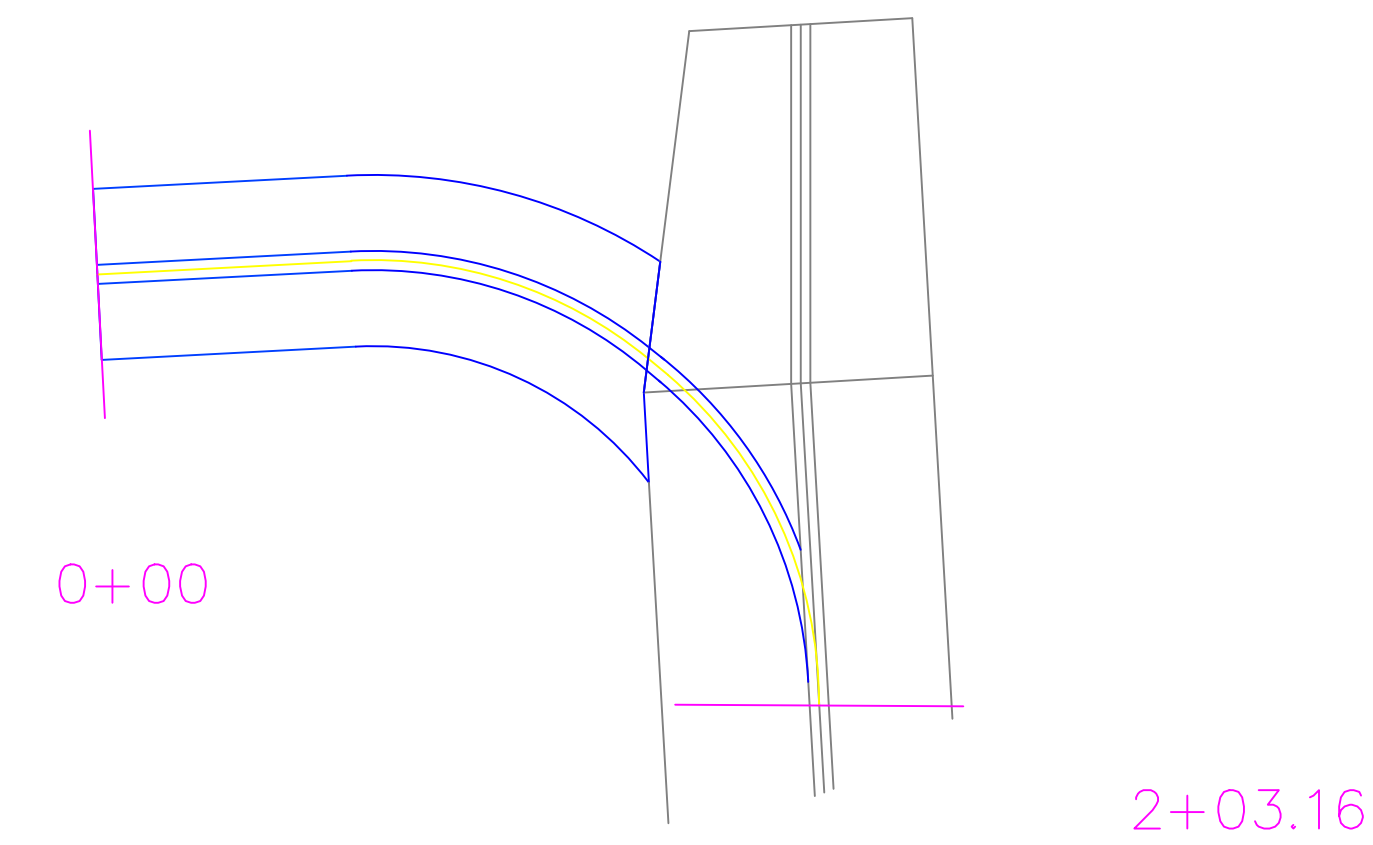
EDUCATIONAL - NOT FOR CONSTRUCTION

STORMWATER QUANTITY
 MANCHESTER, IA

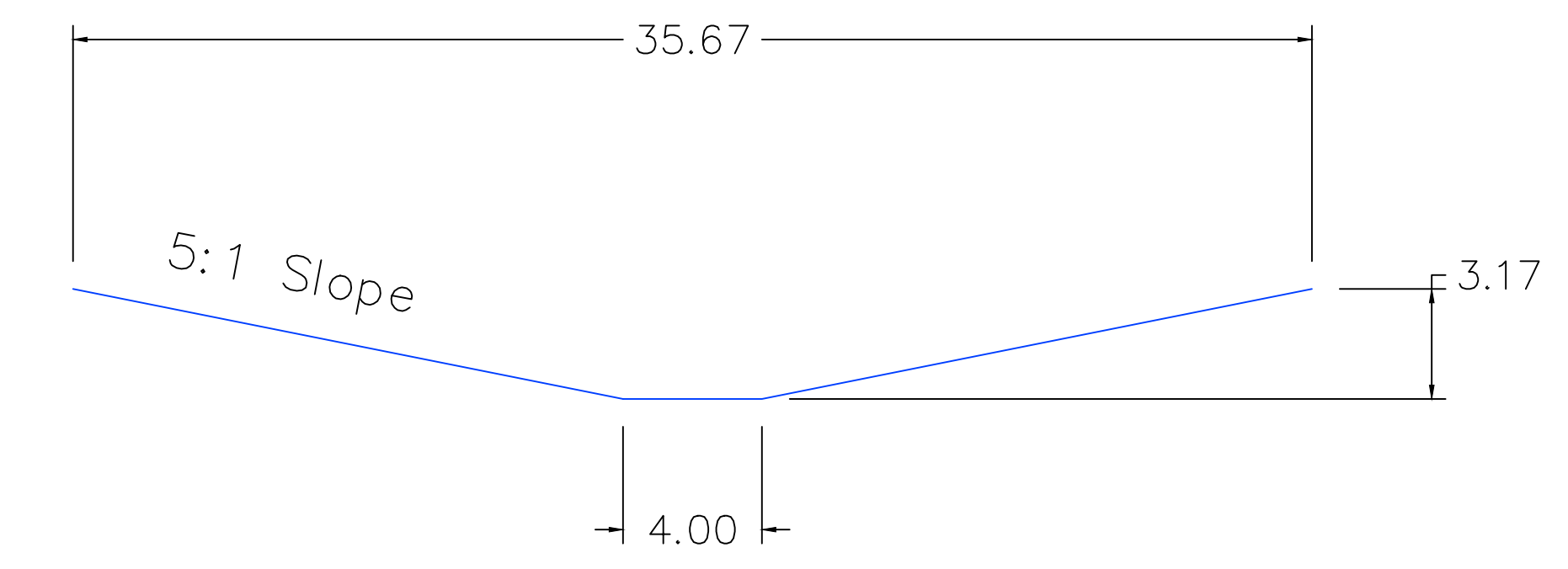
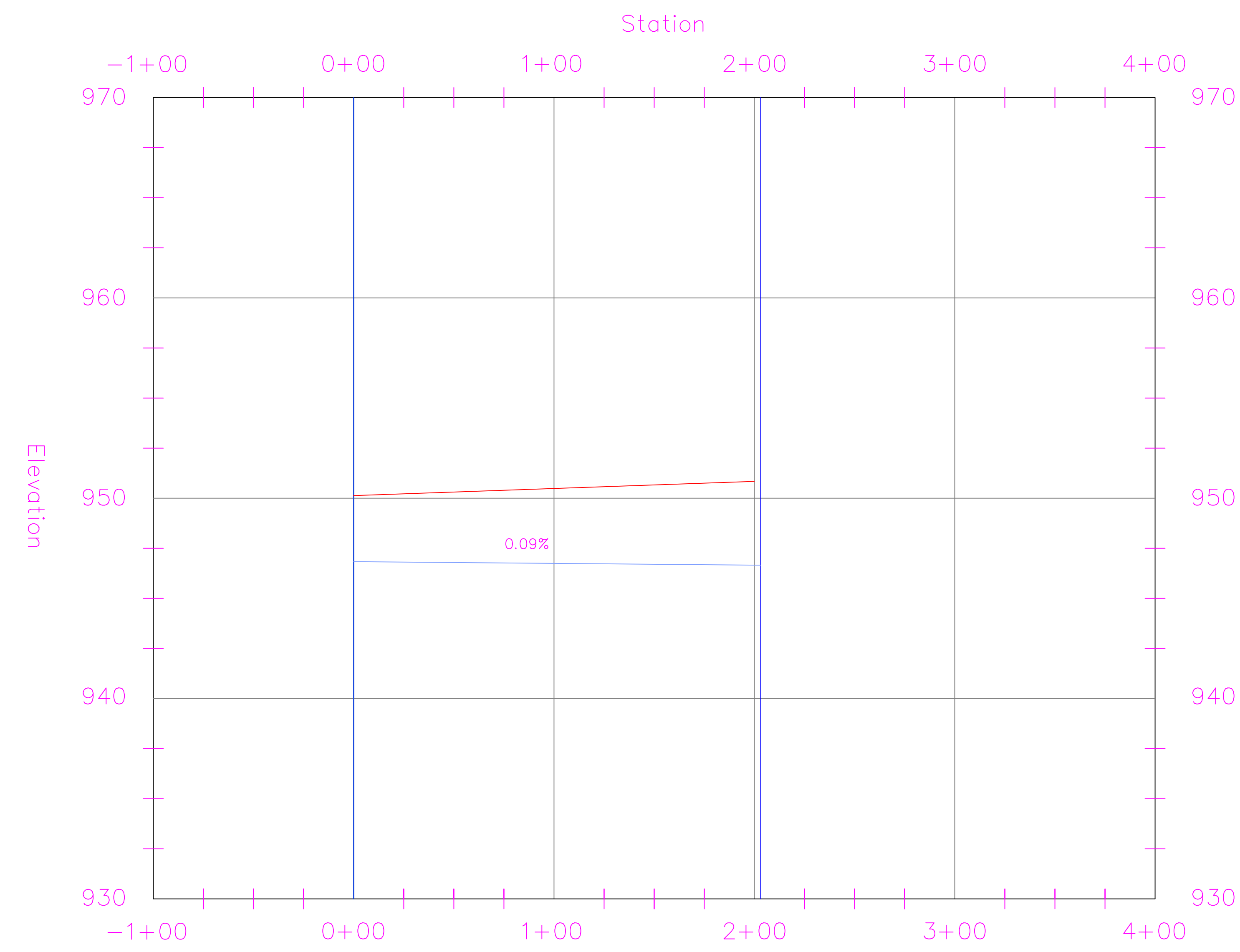
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
24

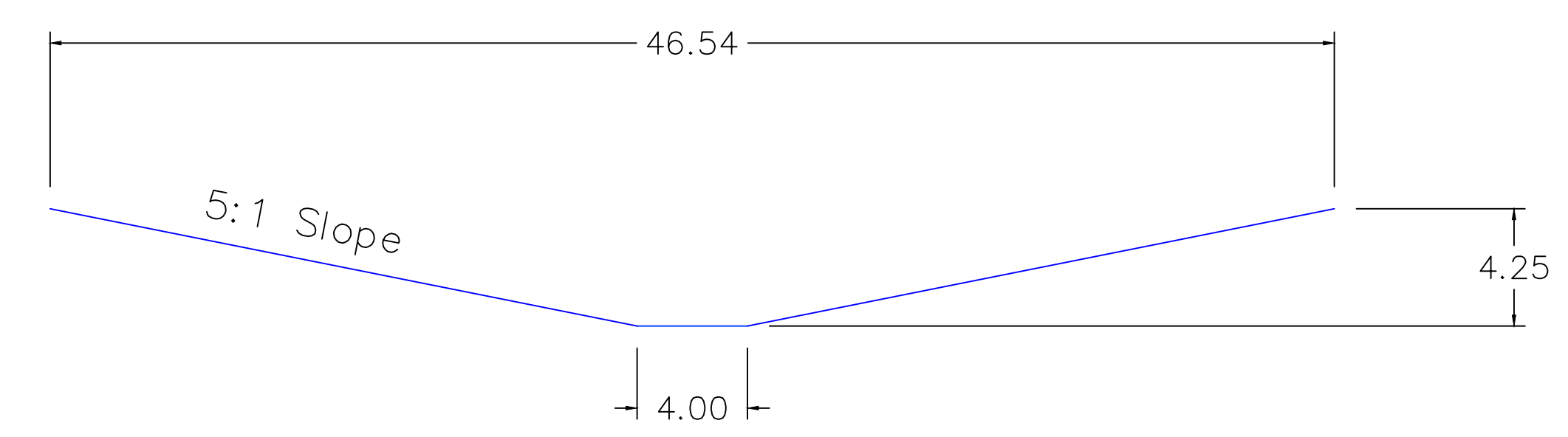
Eastward of STA: 13+29.42 on Grand Avenue



Station 0+00



Station 2+03.16



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
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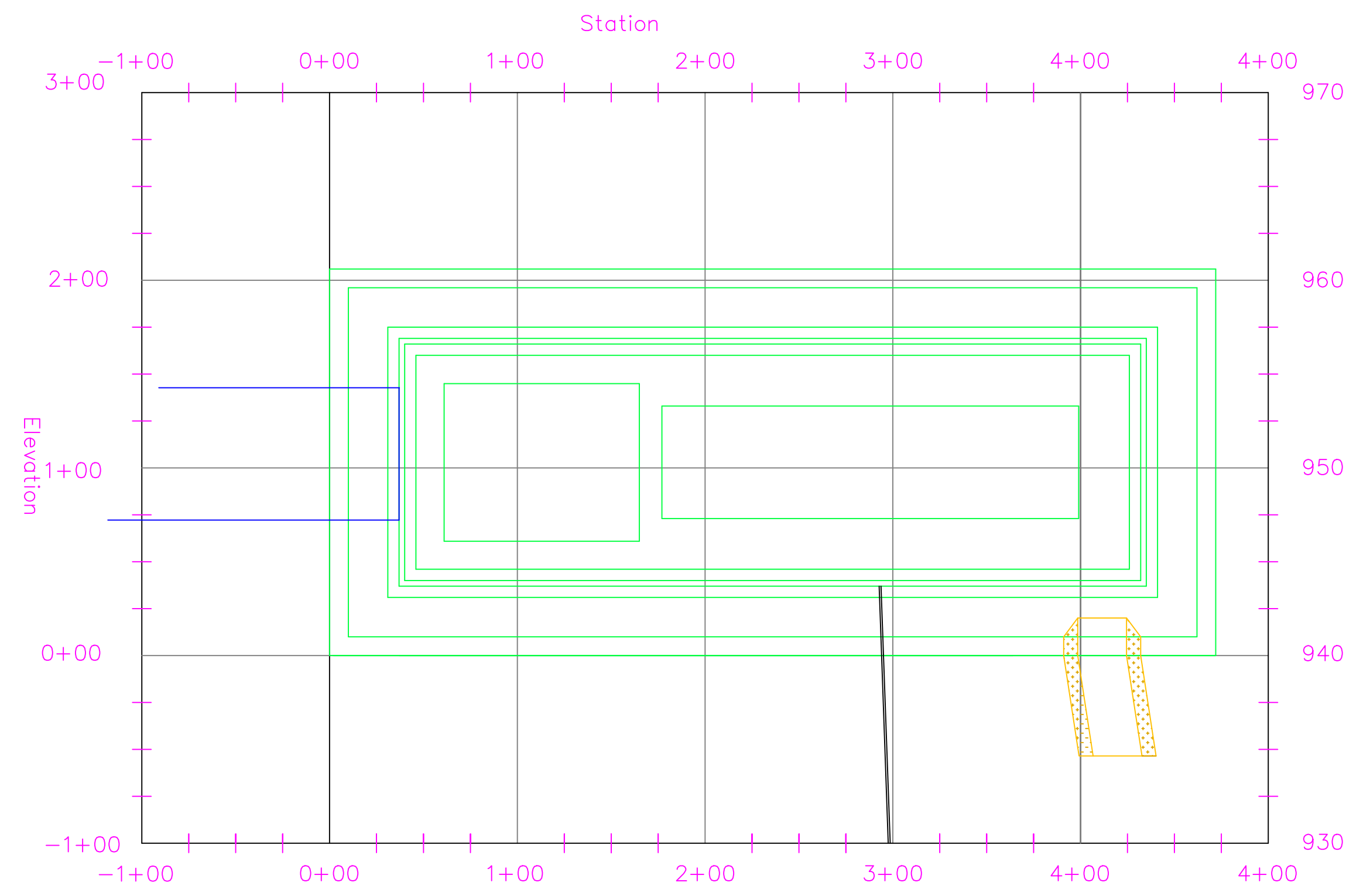
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STORMWATER QUANTITY
 MANCHESTER, IA

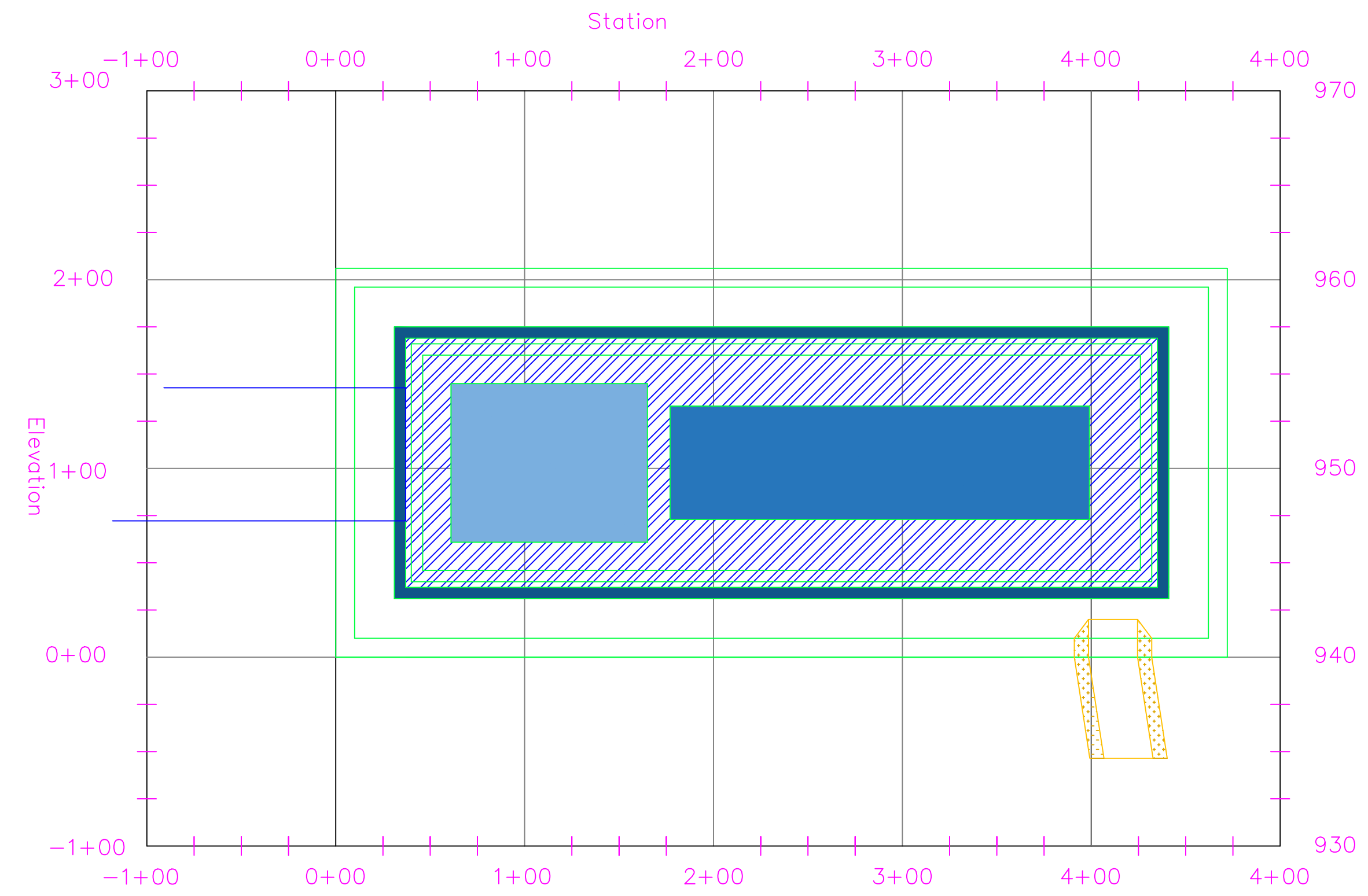
SHEET NAME
 CHANNEL PLAN
 PROFILE & CS

SHEET NO.
25

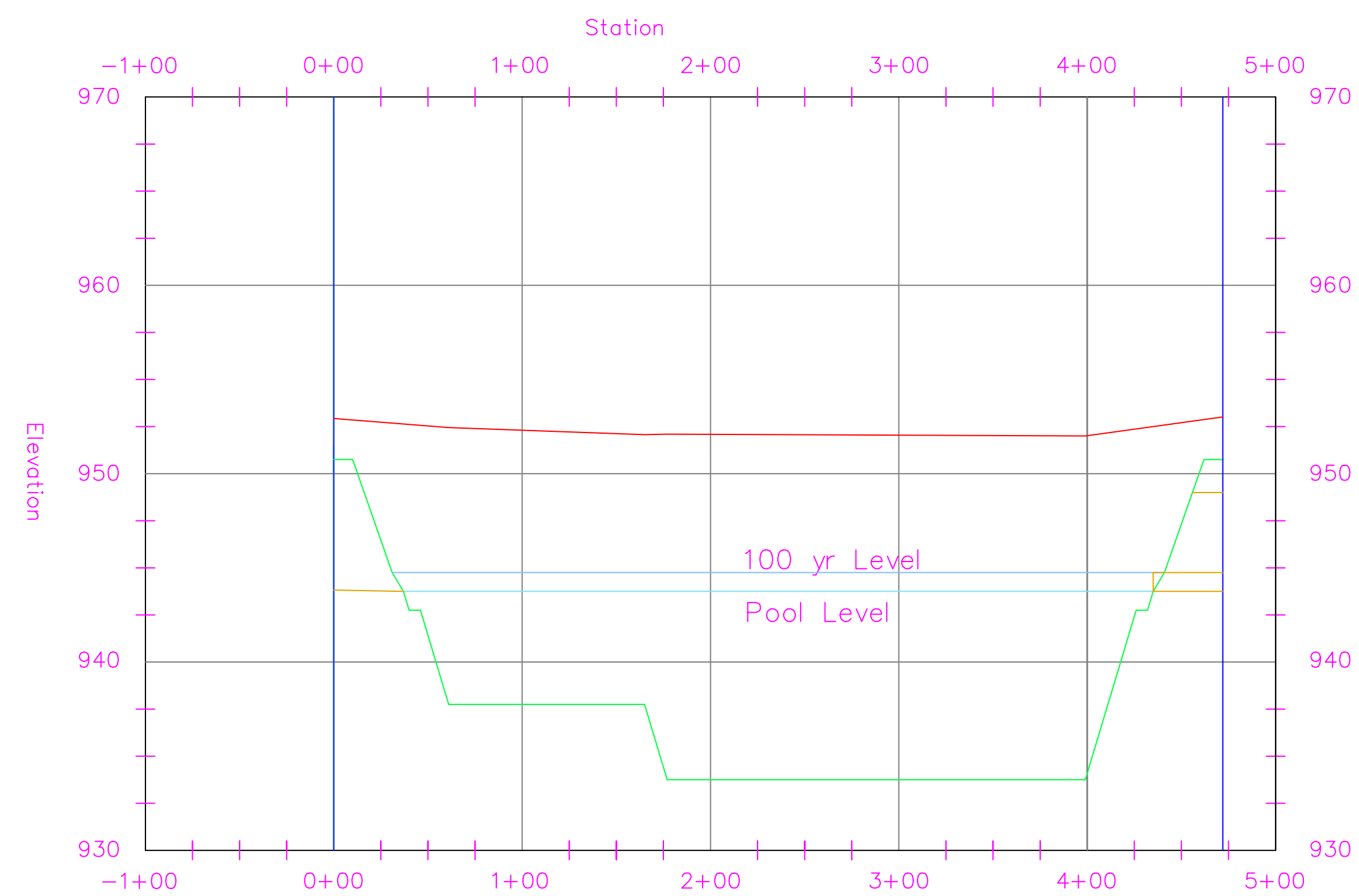
Permanent Pool Plan



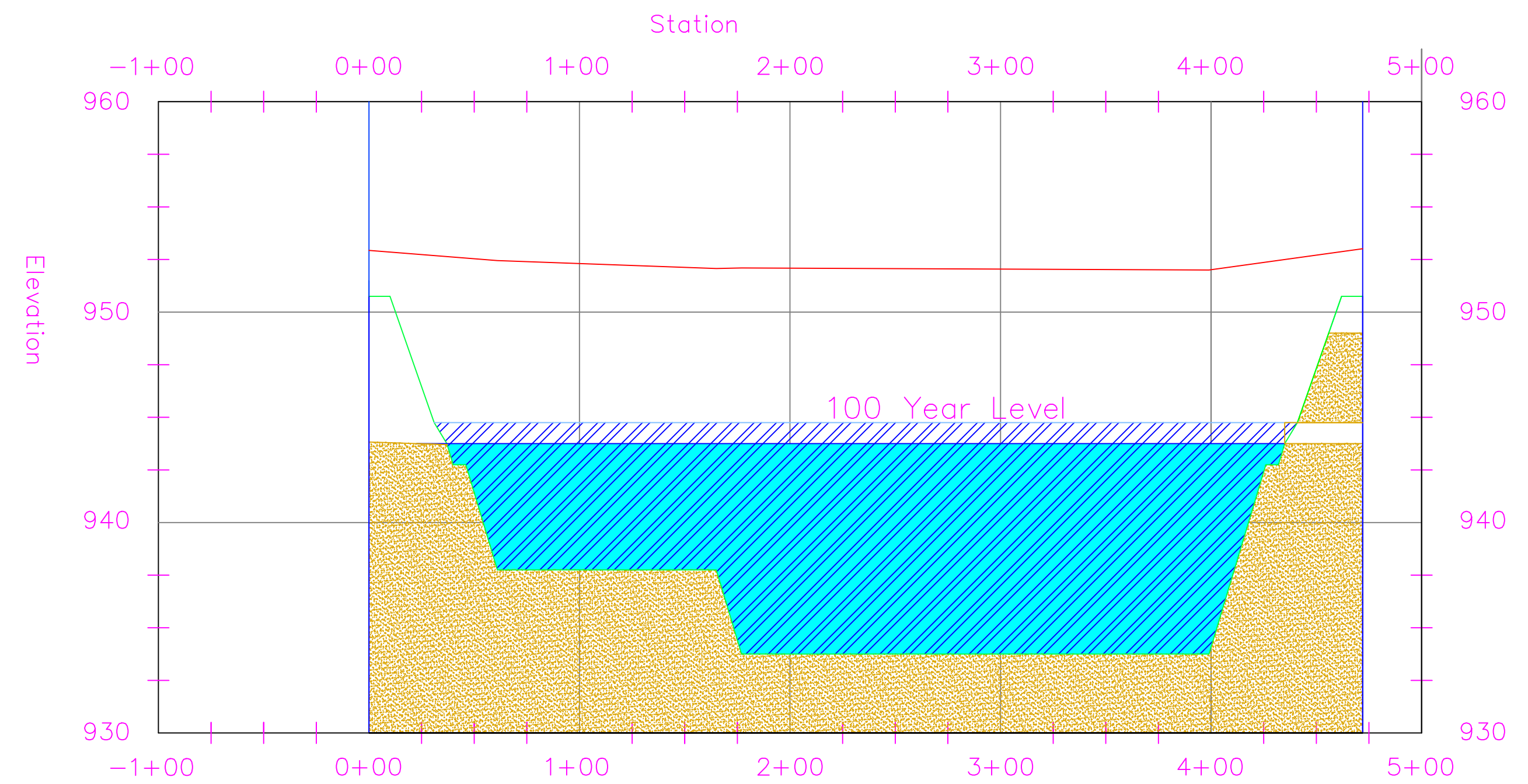
Permanent Pool Plan



Permanent Pool PROFILE



Permanent Pool PROFILE



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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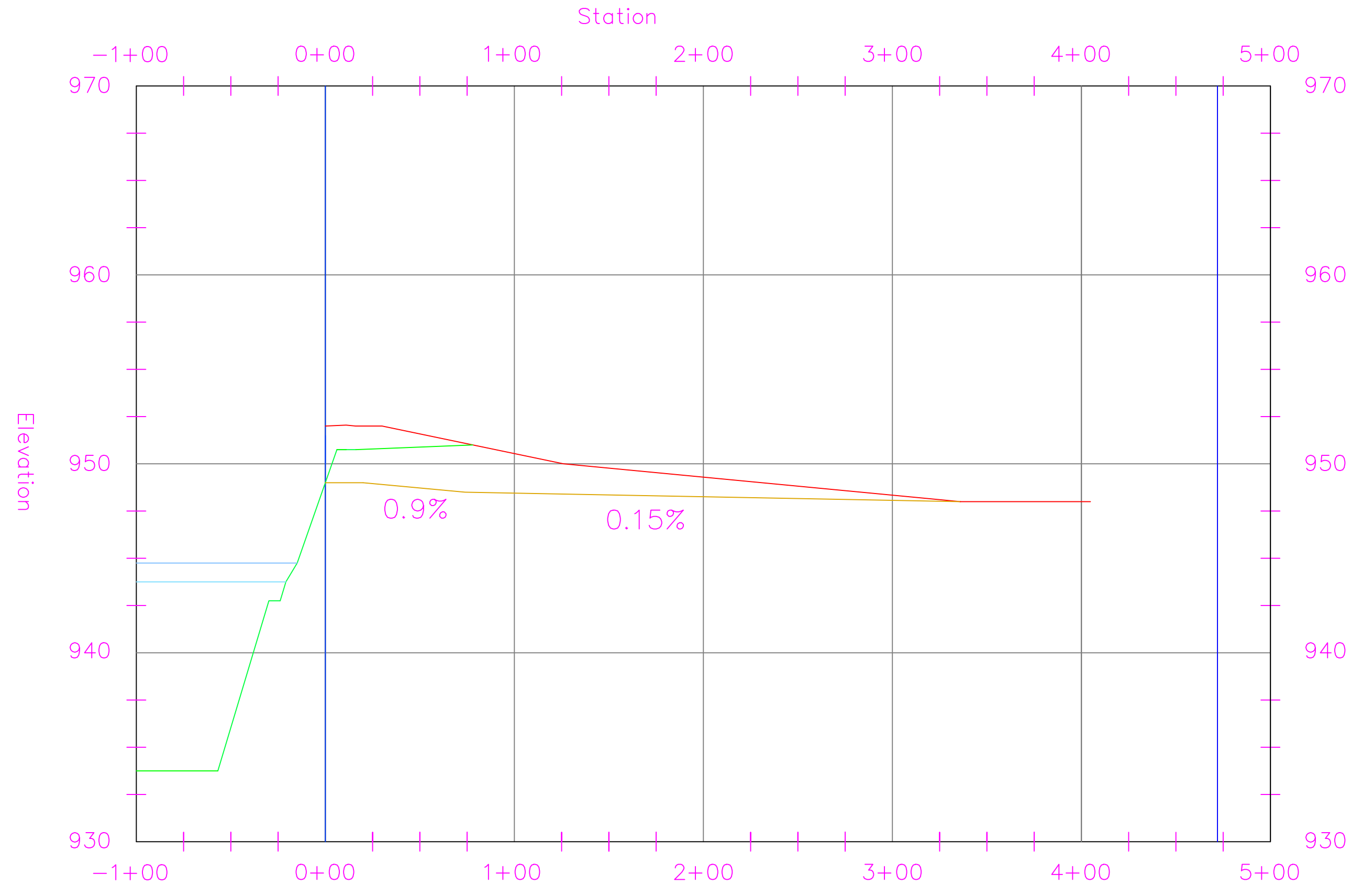
EDUCATIONAL - NOT FOR CONSTRUCTION

STORMWATER QUANTITY
 MANCHESTER, IA

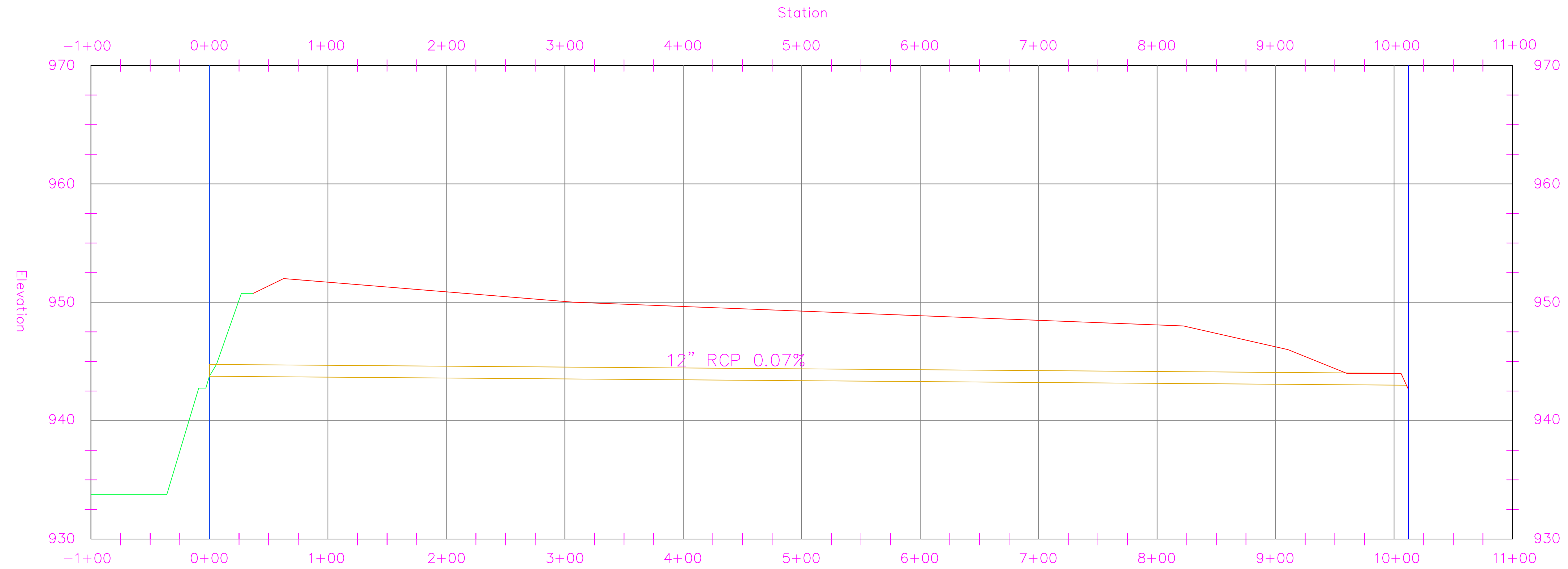
SHEET NAME
 Permanent Pool
 Plan & Profile

SHEET NO.
26

Emergency Spillway PROFILE



Primary Spillway PROFILE



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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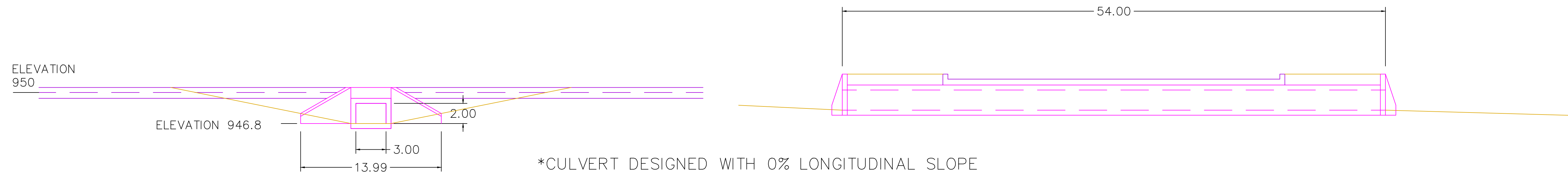
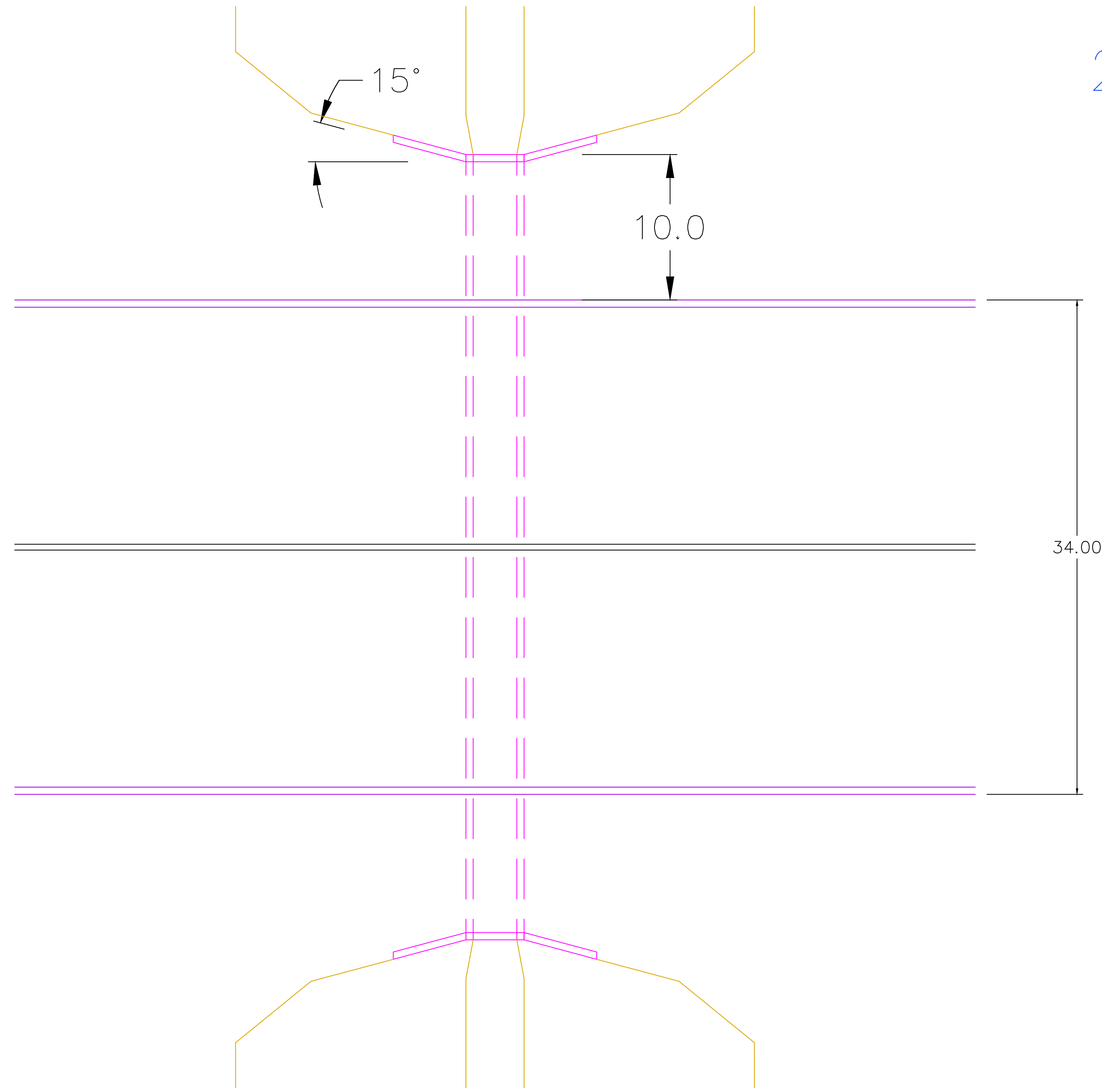
STORMWATER QUANTITY

MANCHESTER, IA

SHEET NAME
 POOL SPILLWAY
 PROFILES

SHEET NO.
27

2' X 3' Culvert along Grand Avenue STA: 13+29.42



PROJECT: CEE: 4850

DATE : 05/08/20

DRAWN BY: CHARLTON RODRIGUEZ

REVISION:

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STORMWATER QUANTITY

MANCHESTER, IA

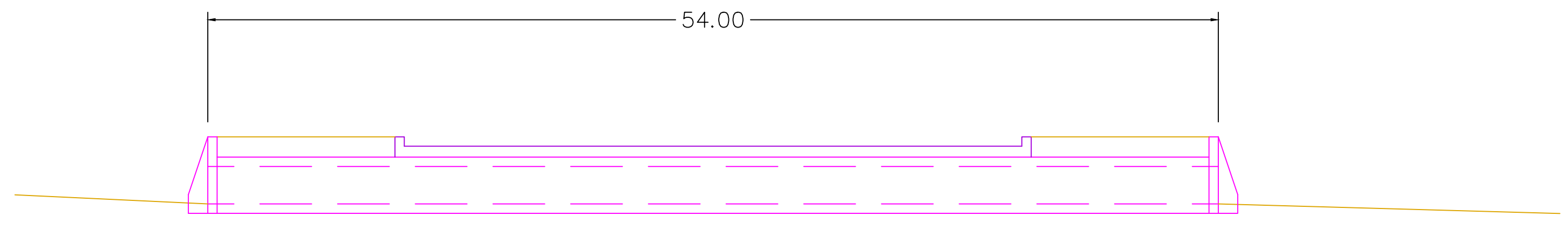
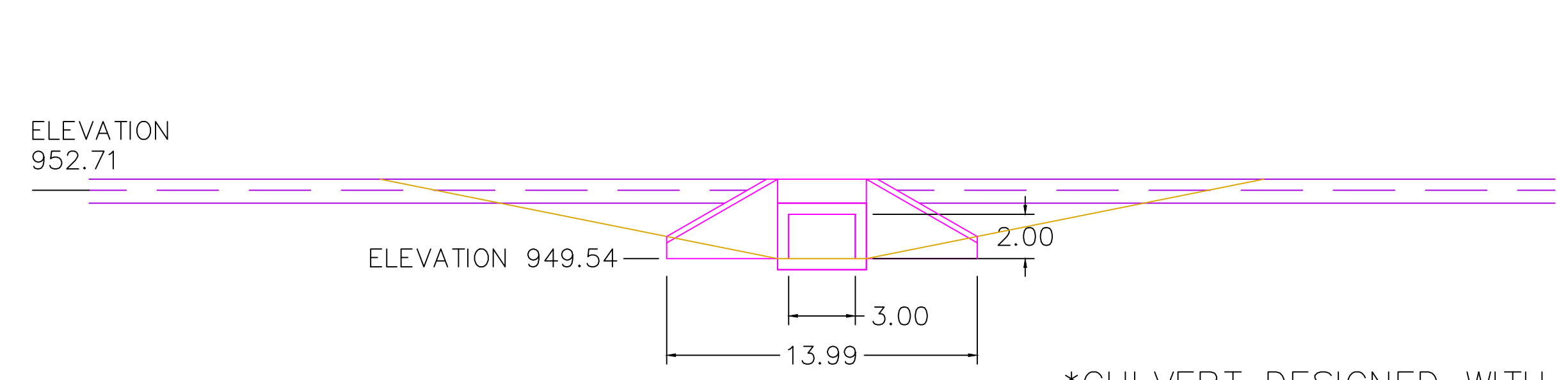
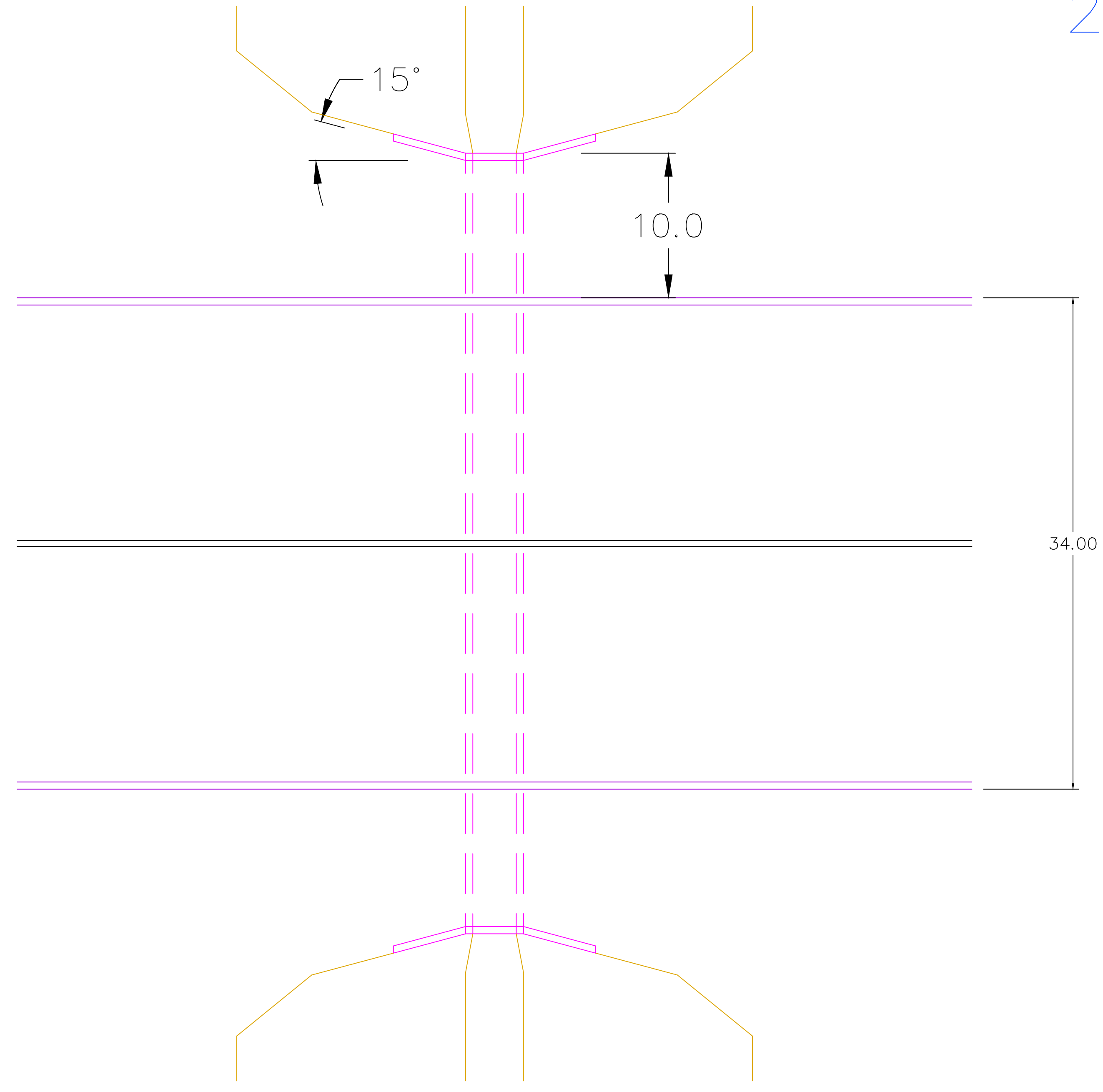
SHEET NAME

CULVERT
DETAILS

SHEET NO.

28

2' X 3' Culvert along Grand Avenue STA: 21+37.05



*CULVERT DESIGNED WITH 0% LONGITUDINAL SLOPE

PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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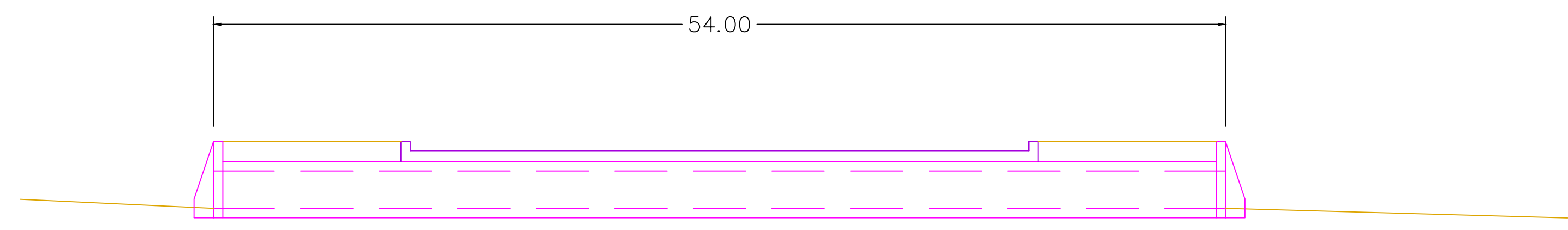
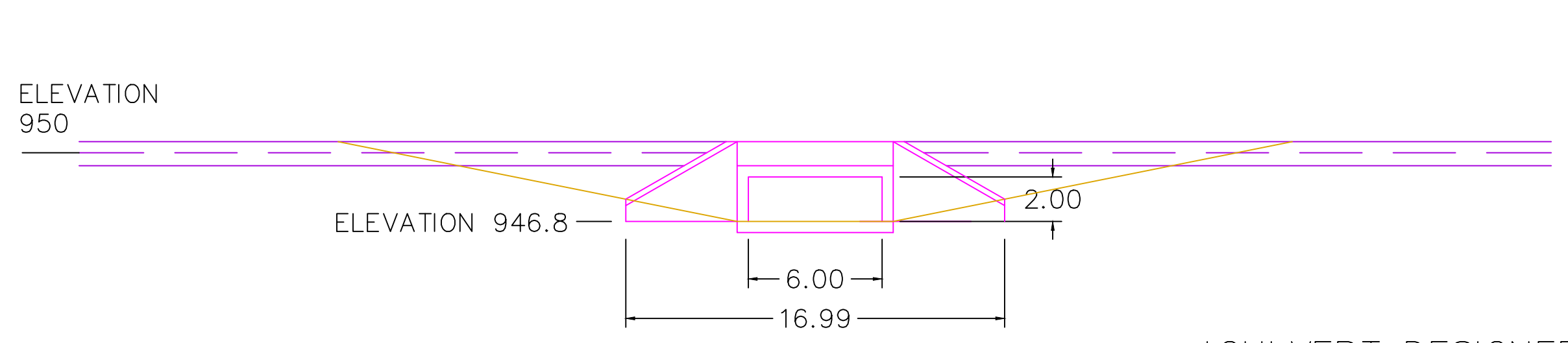
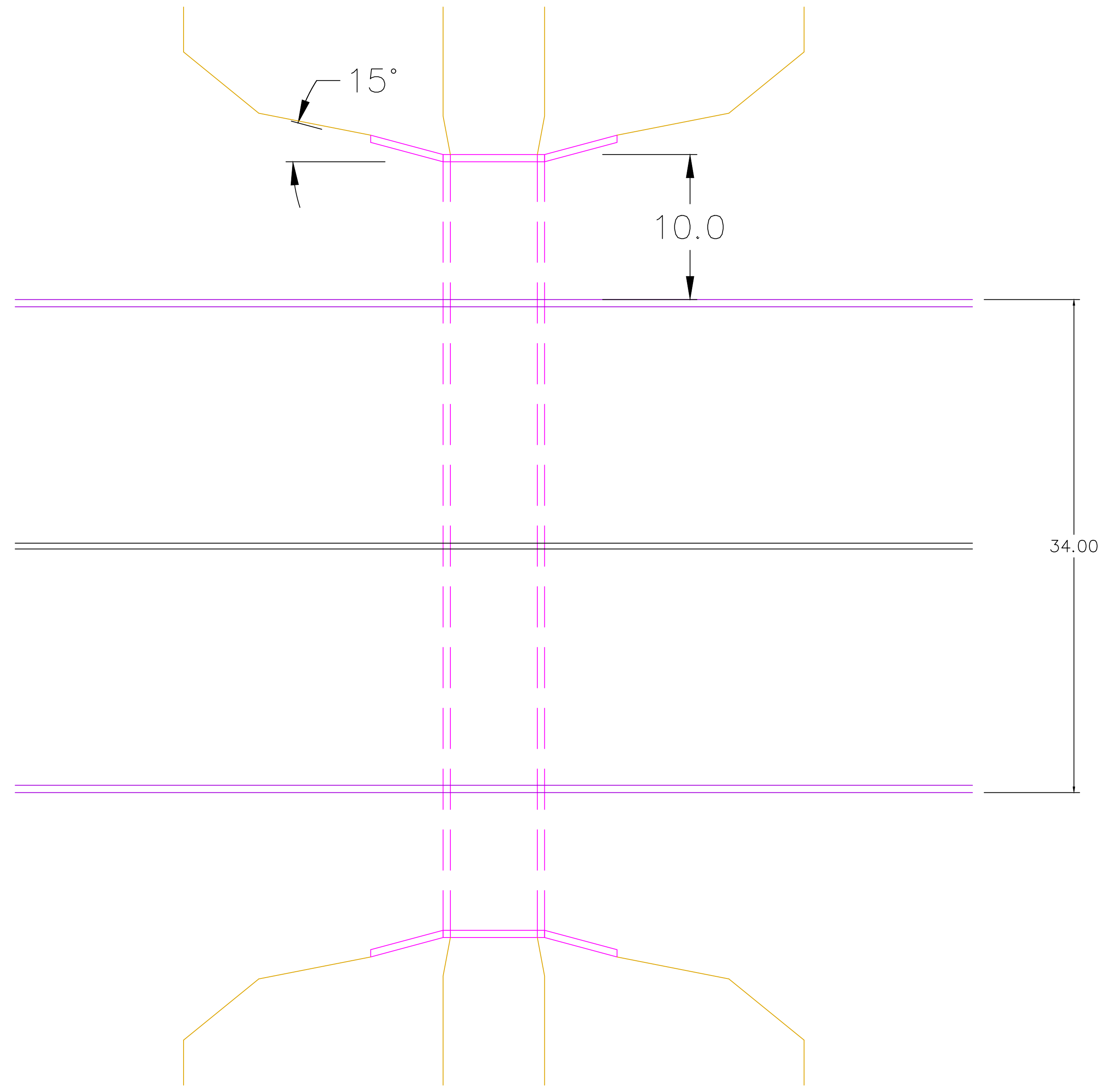
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STORMWATER QUANTITY
 MANCHESTER, IA

SHEET NAME
CULVERT DETAILS

SHEET NO.
29

2' X 6' Culvert along Grand Avenue STA: 0+65.9



*CULVERT DESIGNED WITH 0% LONGITUDINAL SLOPE

PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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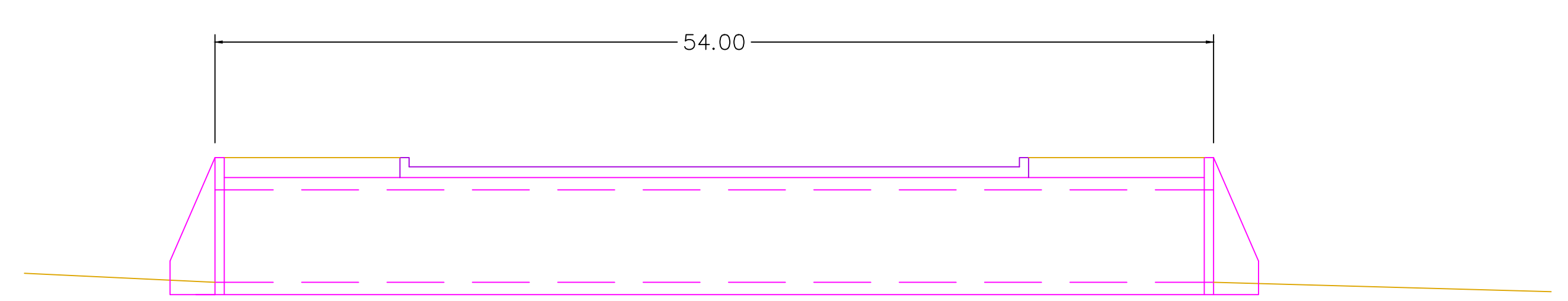
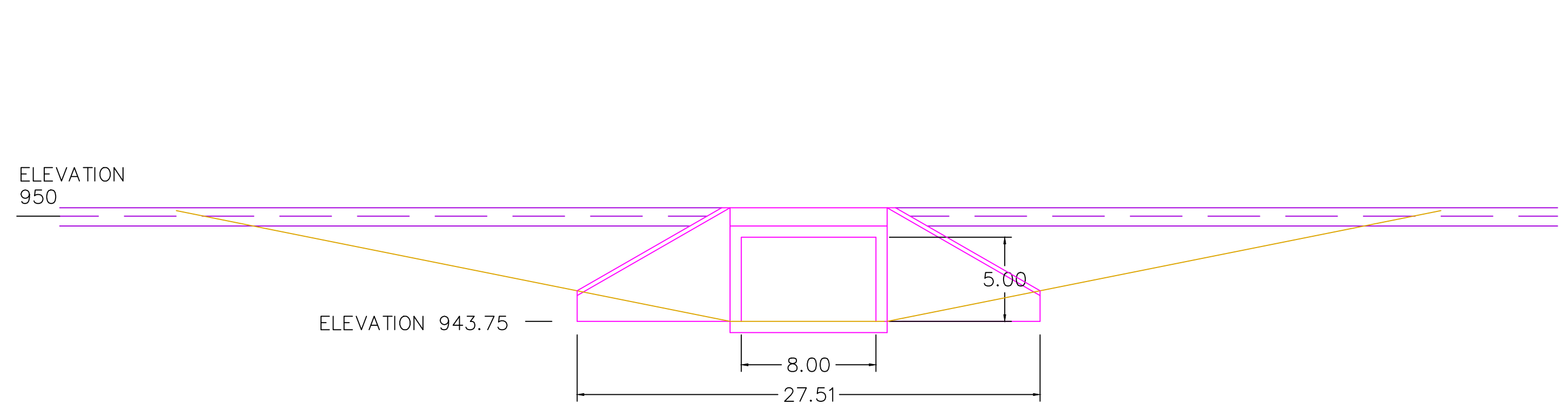
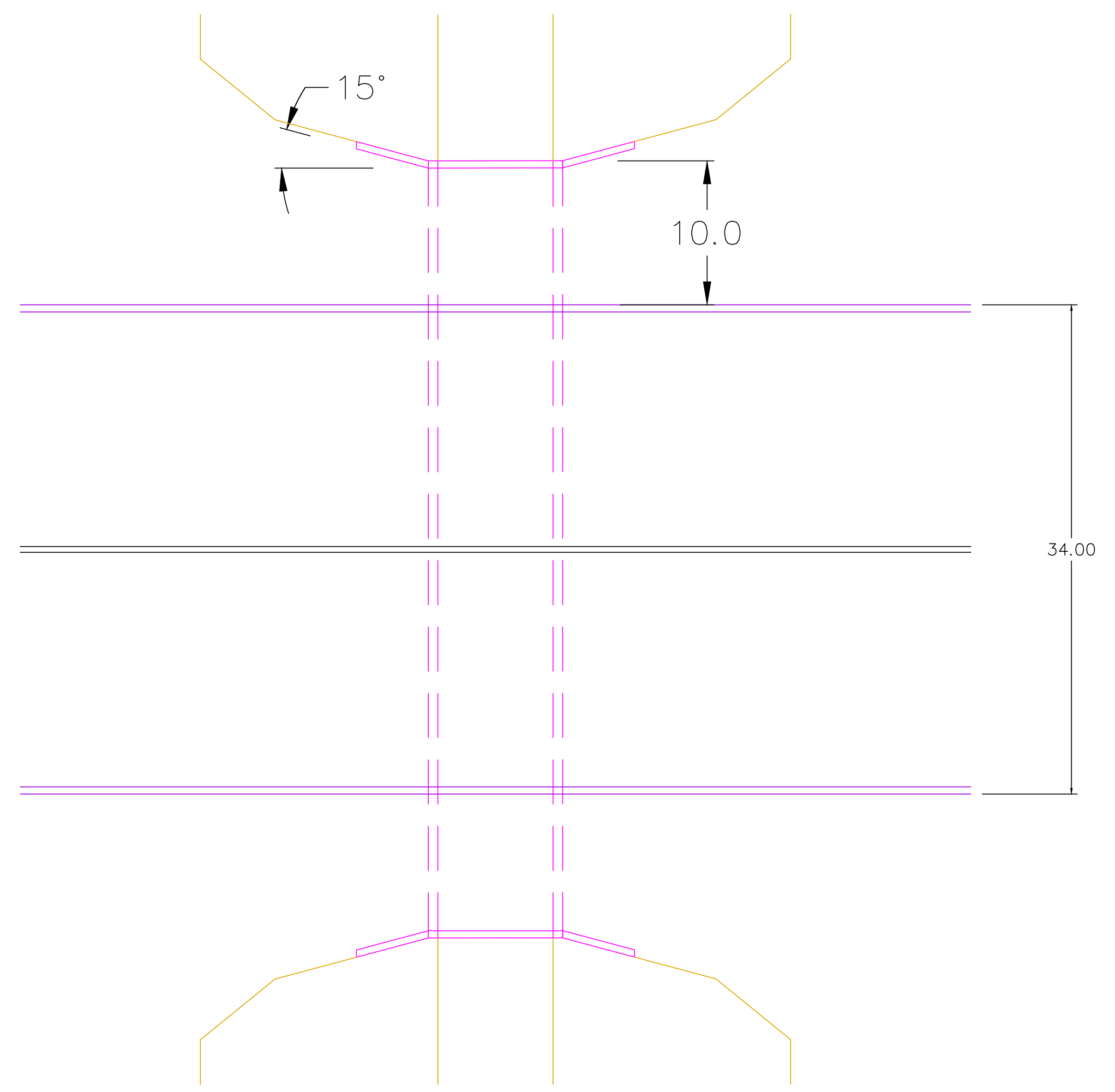
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STORMWATER QUANTITY
 MANCHESTER, IA

SHEET NAME
 CULVERT
 DETAILS

SHEET NO.
30

5' X 8' Culvert along Kramer Street STA: 1+88.17



*CULVERT DESIGNED WITH 0% LONGITUDINAL SLOPE

PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHARLTON RODRIGUEZ
REVISION:	

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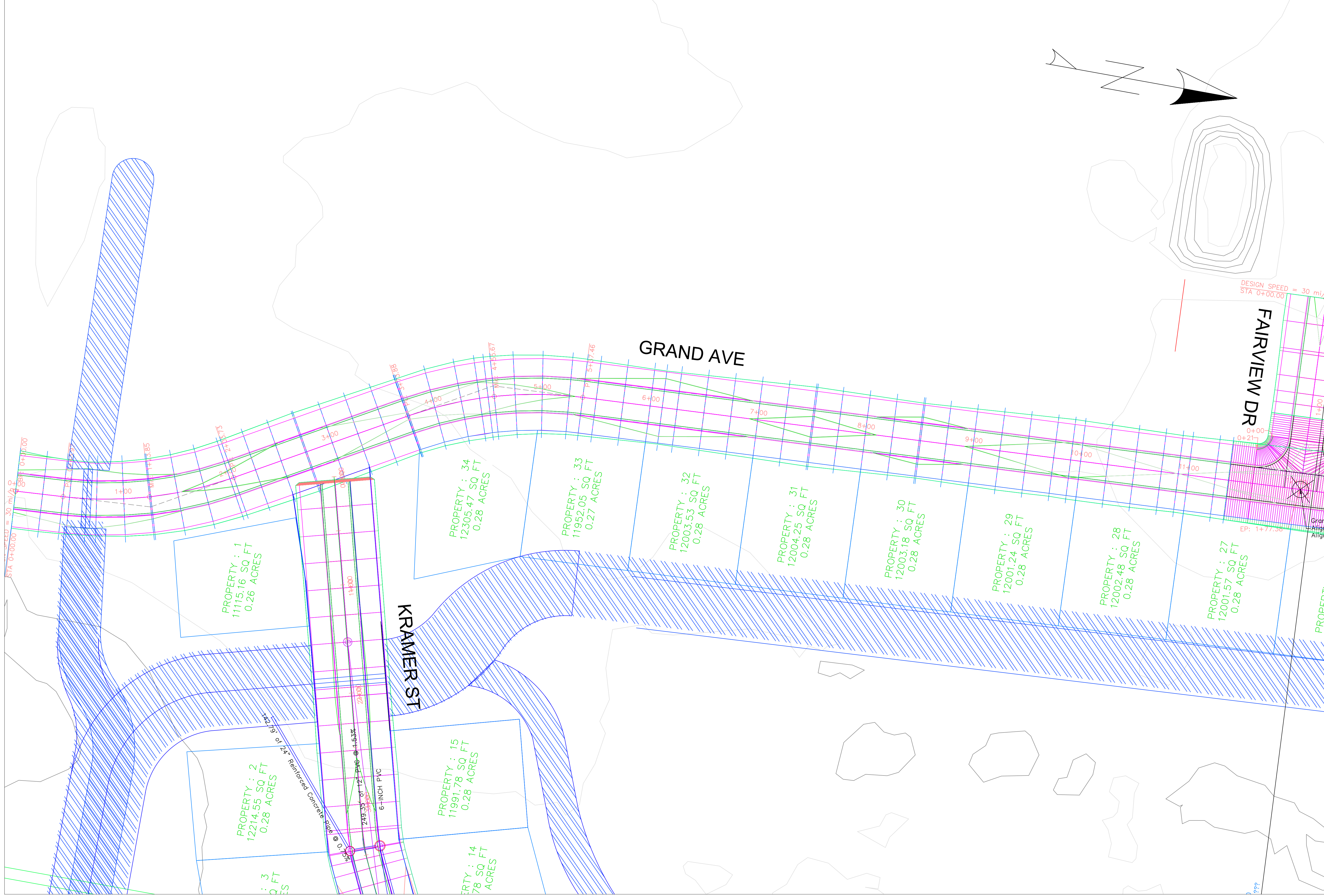
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STORMWATER QUANTITY

MANCHESTER, IA

SHEET NAME
 CULVERT
 DETAILS

SHEET NO.
31



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHANTAL DEGROOTE
REVISION:	

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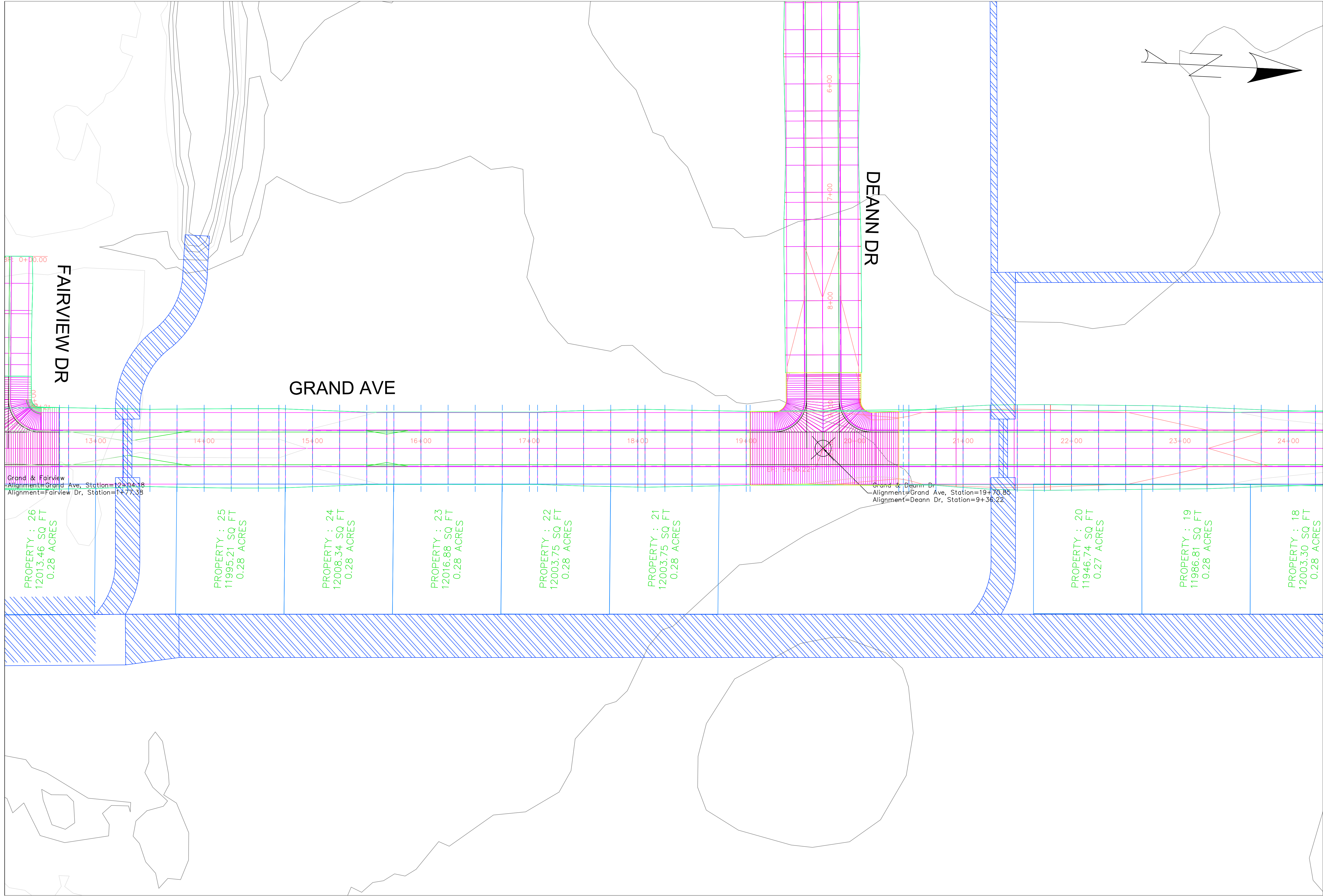
EDUCATIONAL - NOT
 FOR CONSTRUCTION

STORMWATER QUANTITY

MANCHESTER, IA

SHEET NAME
 GRAND AVENUE
 DEVELOPMENT

SHEET NO.
32



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHANTAL DEGROOTE
REVISION:	

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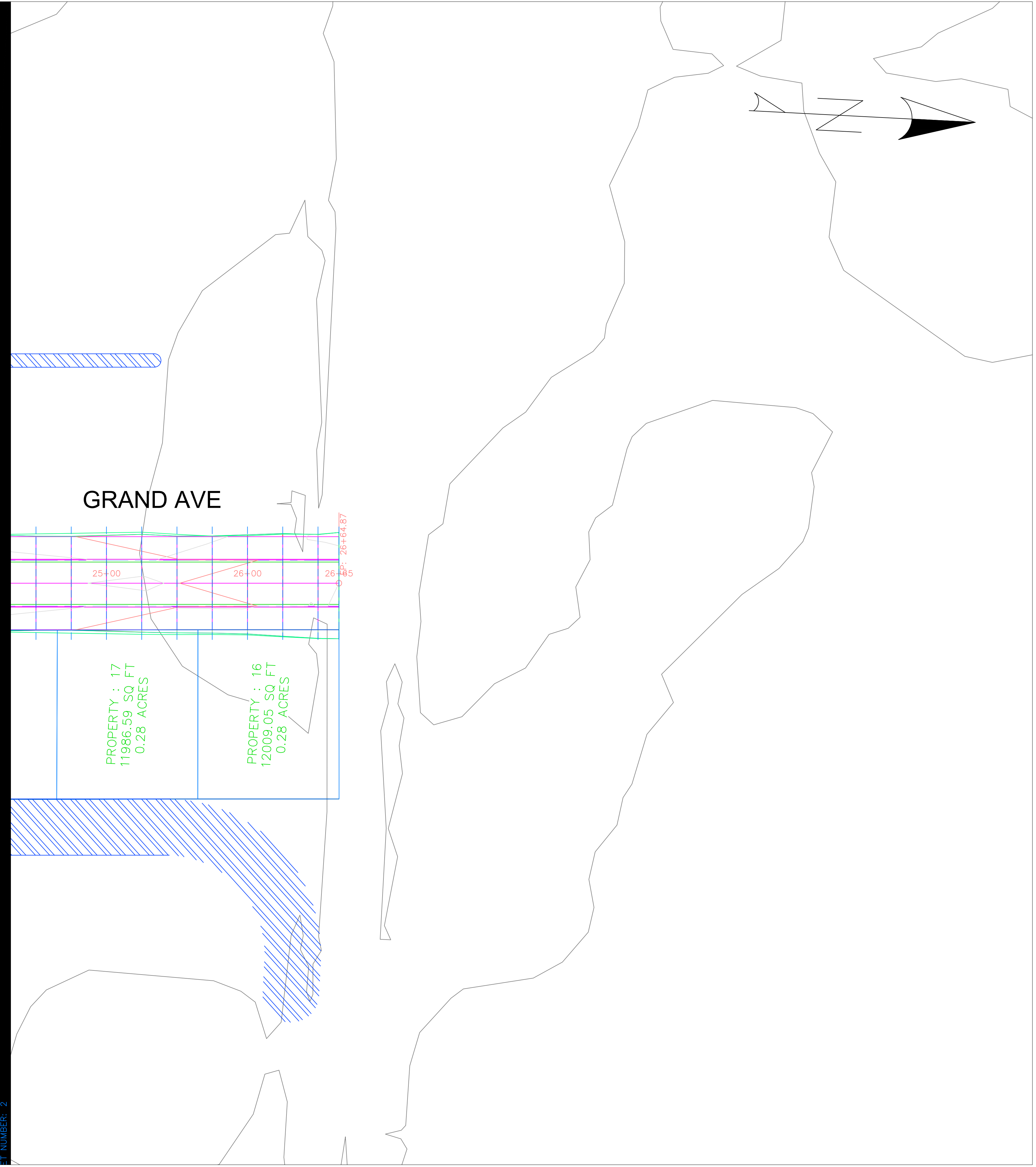
STORMWATER QUANTITY

MANCHESTER, IA

SHEET NAME
 GRAND AVENUE DEVELOPMENT

SHEET NO.
33

LINE - 2
24+52.00
ST NUMBER: 2



PROJECT:	CEE: 4850
DATE :	05/08/20
DRAWN BY:	CHANTAL DEGROOTE
REVISION:	

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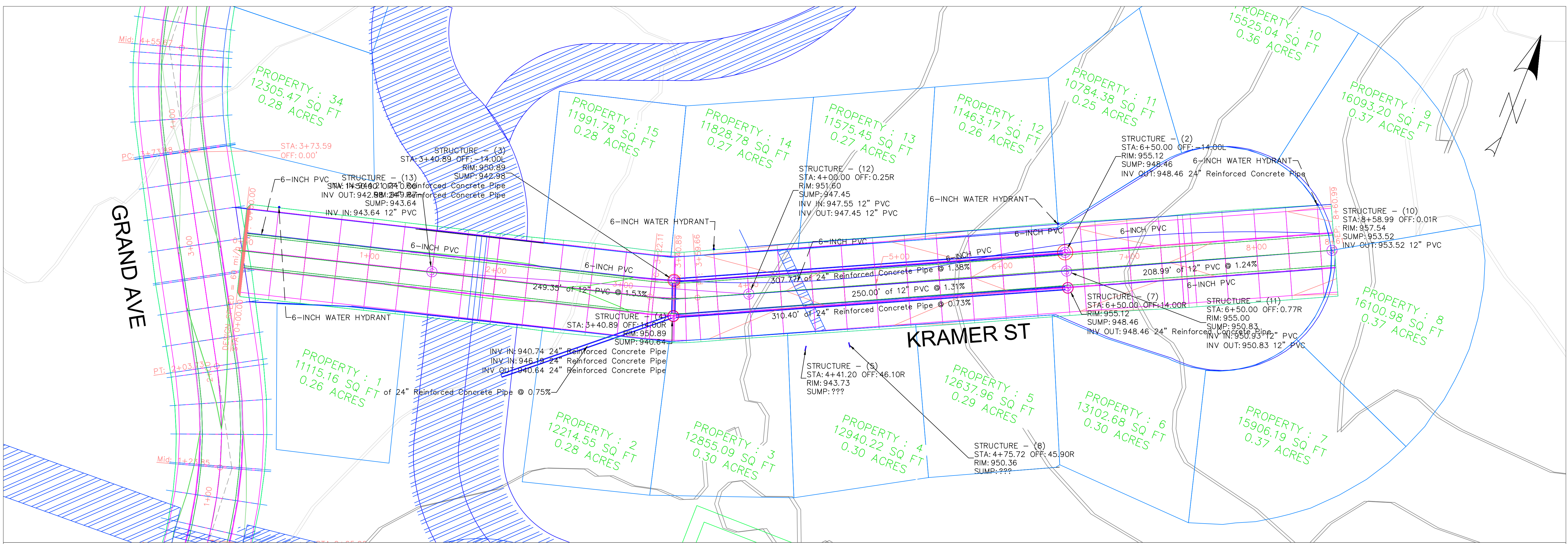
EDUCATIONAL - NOT FOR CONSTRUCTION

STORMWATER QUANTITY

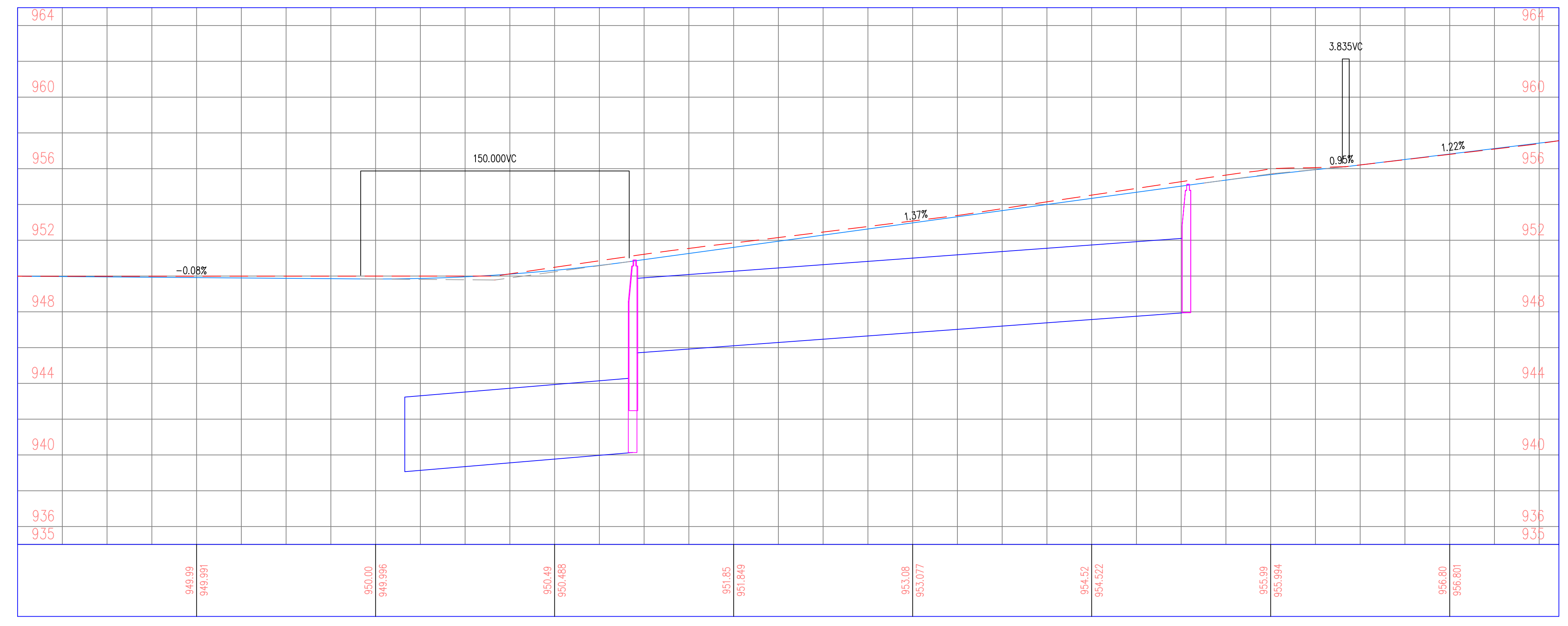
MANCHESTER, IA

SHEET NAME
GRAND AVENUE DEVELOPMENT

SHEET NO.
34



Kramer Street (1) PROFILE



*STORM SEWER SYSTEM DISPLAYED IN BOTH PLAN AND PROFILE
 SANITARY SEWER AND WATER MAIN ONLY DISPLAYED IN PLAN VIEW

PROJECT: CEE: 4850
 DATE: 05/08/20
 DRAWN BY: CHANTAL DEGROOTE
 REVISION:

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STORMWATER QUANTITY
 MANCHESTER, IA

SHEET NAME
 KRAMER STREET
 PLAN & PROFILE

SHEET NO.
35