

# PRIMITIVE CAMPGROUND PROJECT

3900 N 3RD ST, CLINTON, IA 52732

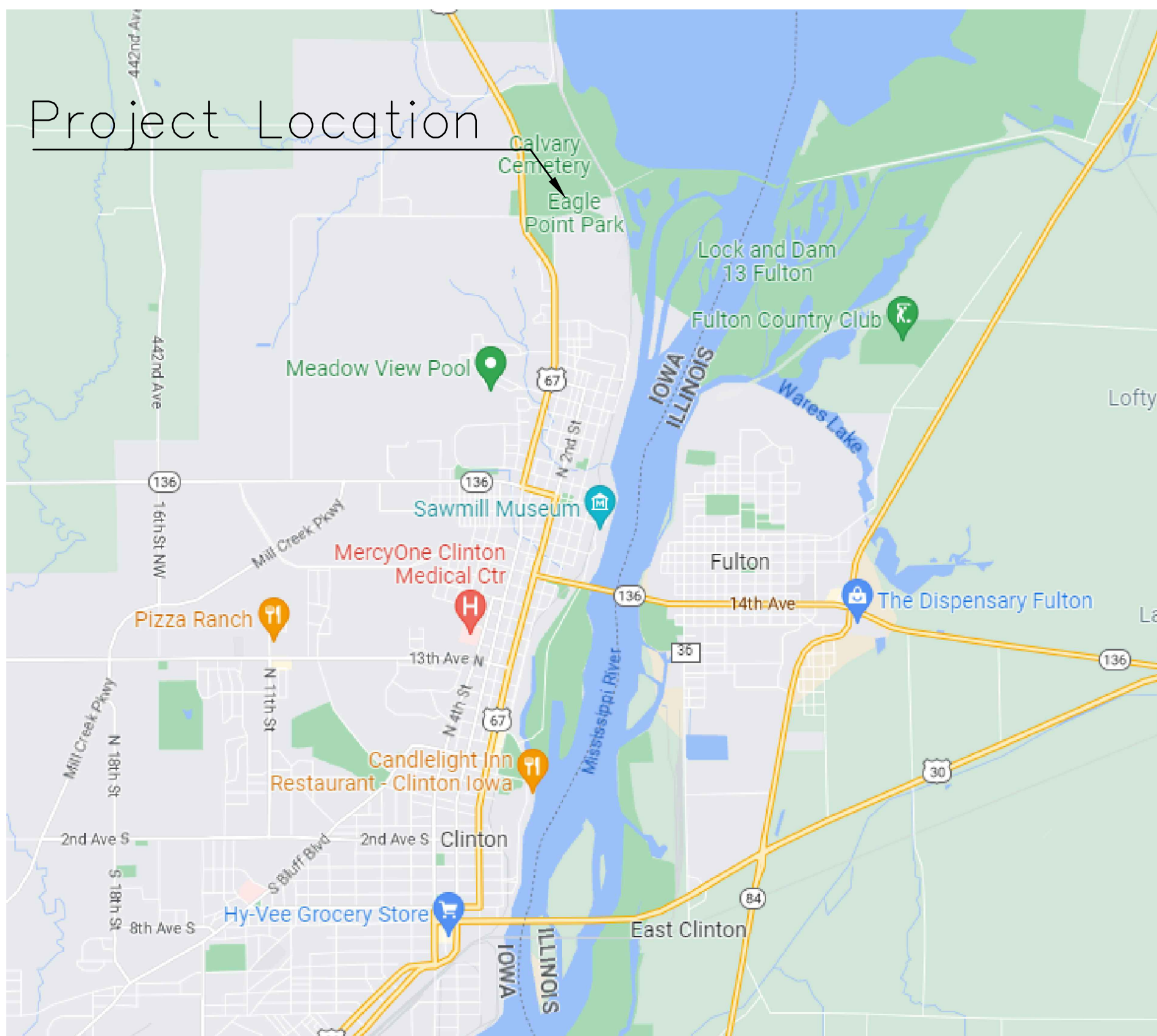
UNIVERSITY OF IOWA, COLLEGE OF ENGINEERING

DEPARTMENT OF CEE, SENIOR DESIGN 2023

## DRAWING INDEX

1. COVER SHEET
2. GENERAL INFORMATION
3. GENERAL LAYOUT
4. PLAN & PROFILE
5. SECTION VIEWS
6. TYPICAL SECTIONS
7. RESTROOM/STORM SHELTER

BEGIN STA. 0+00  
 END STA. 10+21.50  
 DESIGN SPEED 10 MPH



PROJECT:	Iowa CEE Senior Design
DATE :	3/21/2023
DRAWN BY:	Andrew Klinkrodt
REVISION:	

**THE UNIVERSITY OF IOWA**  
**CIVIL AND ENVIRONMENTAL ENGINEERING**  
 4105 SEAMANS CENTER FOR THE  
 ENGINEERING ARTS AND SCIENCES  
 103 S CAPITOL ST  
 IOWA CITY, IOWA 52242  
 PHONE: 319.335.5647  
 FAX: 319.335.5660  
 EMAIL: civil-hawks@iowa.edu

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**Clinton Campground**

3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
 Cover Sheet

SHEET NO.  
**1**



## General Information

- The road going through the site will be a single lane road 14 feet in width with 1 foot shoulders. The traffic on the road will go counterclockwise around the campground. The road will be made of 8" thick gravel and will maintain a 2% cross slope for the entirety of the road.
- Each site will be 50 feet long and 30 feet wide. There will be a 20'x20' parking area with covered gravel that will be graded off the road for parking for each site. Sites 6, 7, and 8 will be made as walk in sites with no parking areas. Parking for these sites will be available near the existing access road. Access to sites 6, 7, and 8 will be made possible by a grass walking path graded off of the campground road. Each individual campsite shall be graded so the tent areas are on the high ground.
- Recommended placing for each campsite is shown in the General Layout sheet. Each site shall be graded off the road to allow for easy vehicle access to the parking areas. Each site will have one fire ring and on table as recommended in the plans.
- Existing water pipes are located at the pavilion east of the site and electric is located in the lodge south of the site. Water pipes shall be branched off of the existing and be placed 50" below the top soil. 1" PEX A shall be used for the water pipes. Electric lines shall be a minimum of 18" below the topsoil.
- Water will be piped to a water spigot south of the restroom facility
- Electric lines will go to the new restroom facility for lights outside and inside the building
- The restroom facility was designed for no running water, but in the case that sinks are wanted, gray water can run into the hillside. The restrooms were designed to be gender neutral and ADA compliant. There is a built in storm shelter connected to the restrooms, with entrances on the North and South sides of the building.
- A trash area was included in sheet 6-3. This shall be placed where seen best fit near the restroom facility to allow easy access for disposal.
- After completion of grading, topsoil and grass seeding should be placed to allow grass to grow back. Near the campsites, urban grass seeds shall be used. Other areas should use rural grass seeds.

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SHEET NAME  
General Information

SHEET NO.  
**2**





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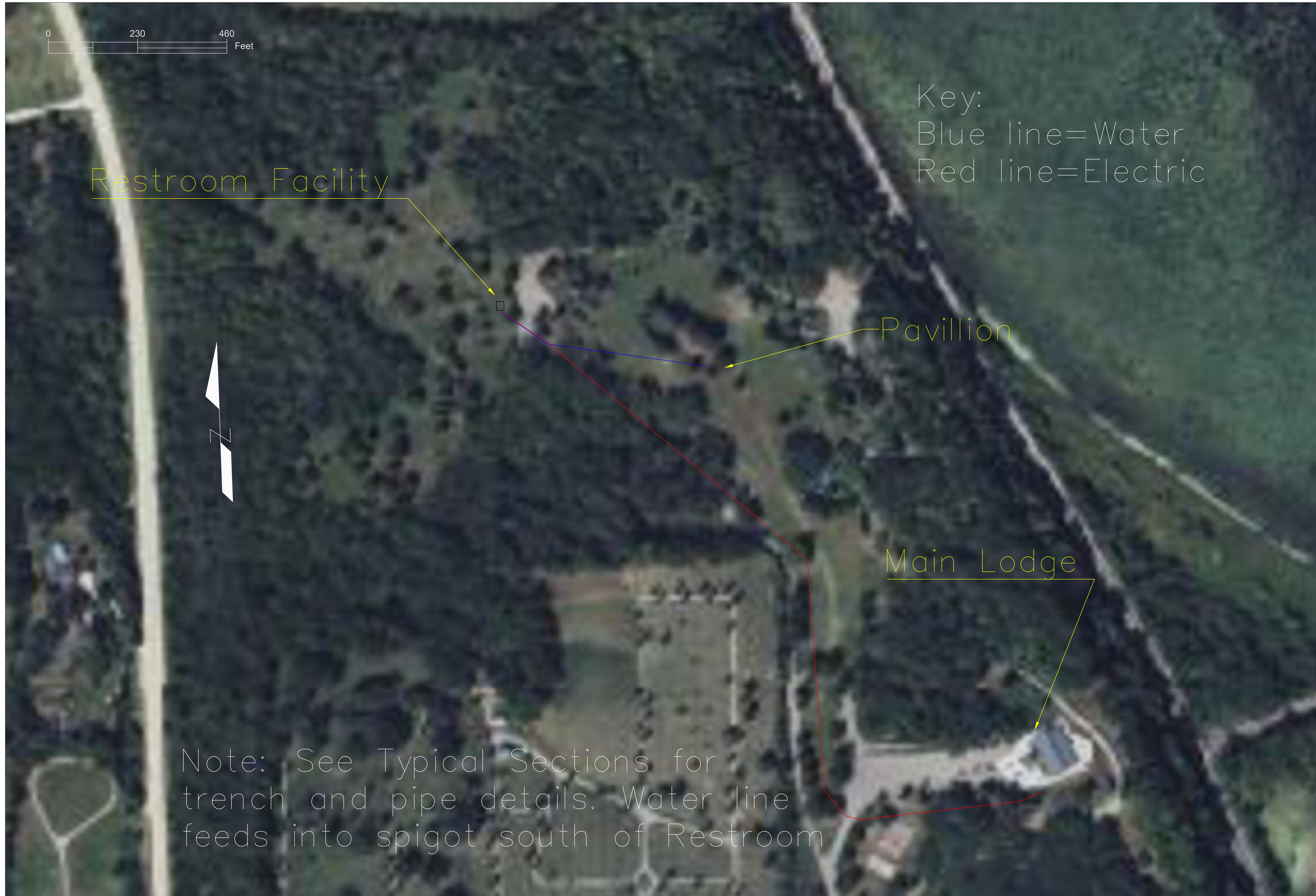
SHEET NAME  
 Campsite Layout

SHEET NO.  
**3-1**









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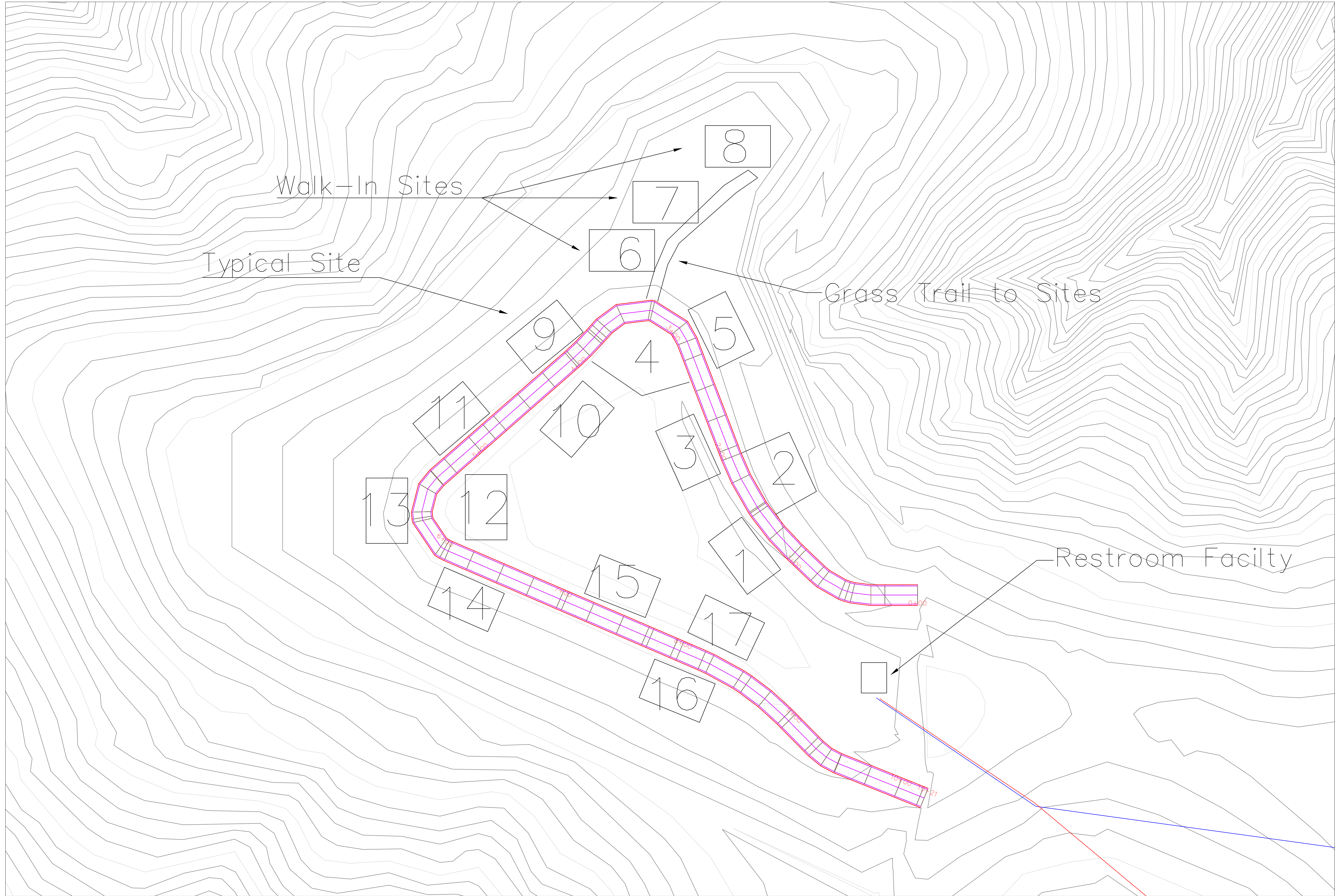
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SHEET NAME  
 Utility Locations

SHEET NO.  
**3-3**





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SHEET NAME  
 Campsite Layout  
 Grayscale

SHEET NO.  
**3-4**





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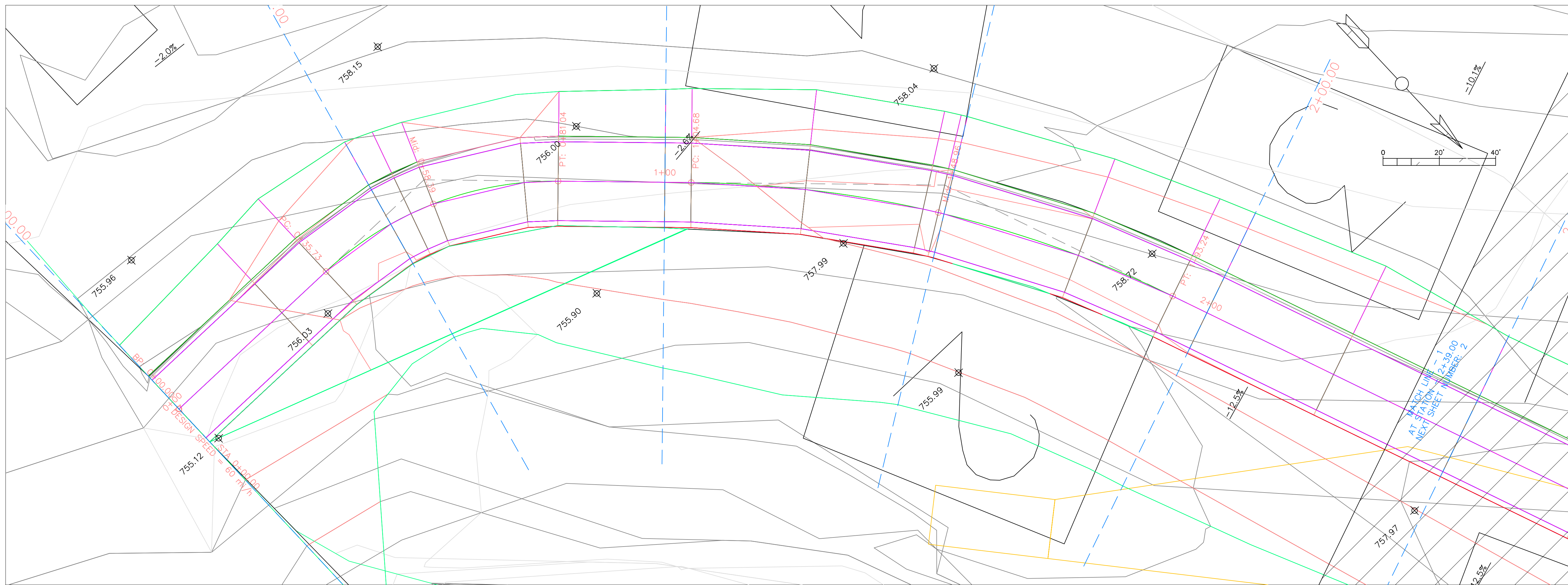
**Clinton Campground**

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SHEET NAME  
 Disc Golf  
 Course Overlay

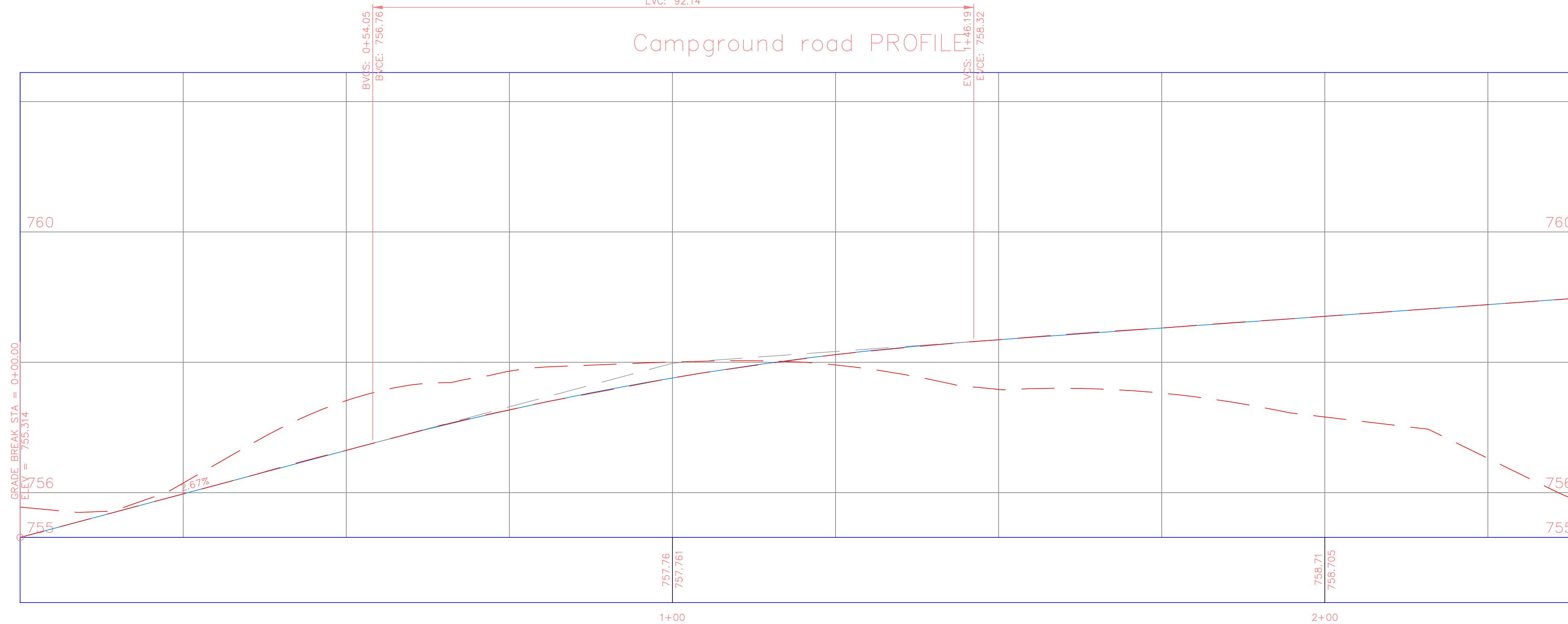
SHEET NO.  
**3-5**





PVI STA: 1+00.11  
 PVI ELEV: 757.99  
 K: 47.20  
 LVC: 92.14

Campground road PROFILE



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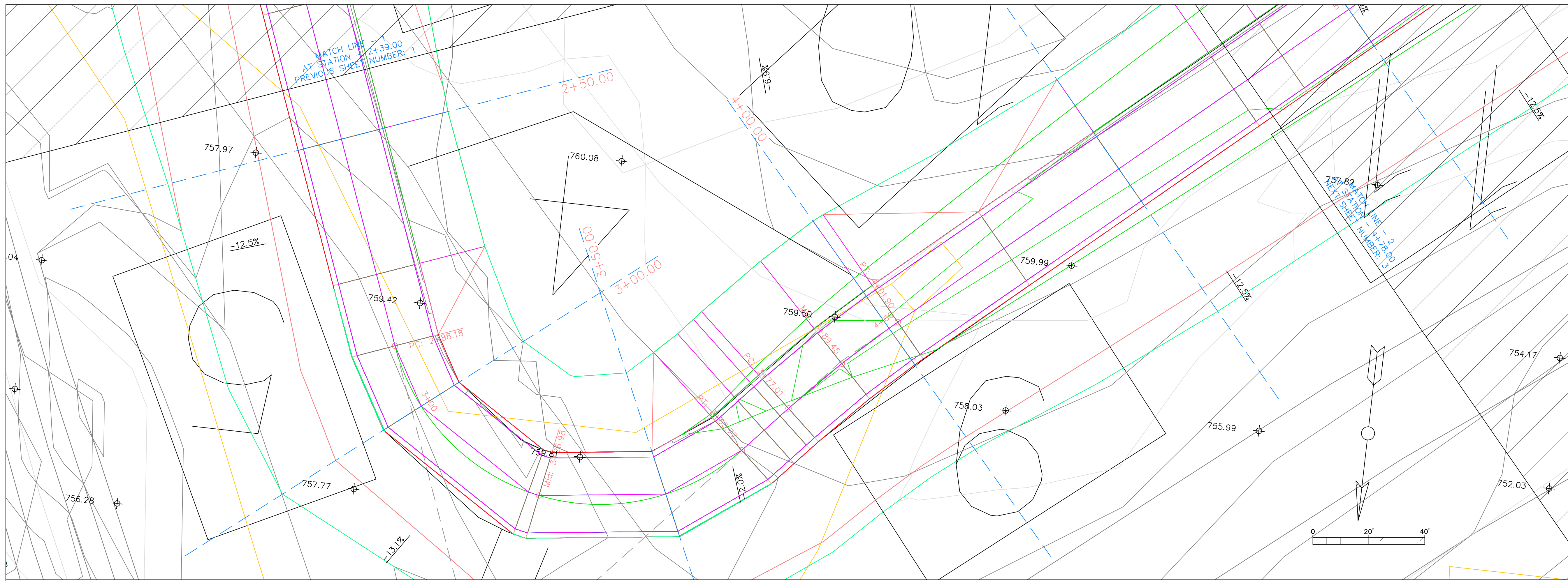
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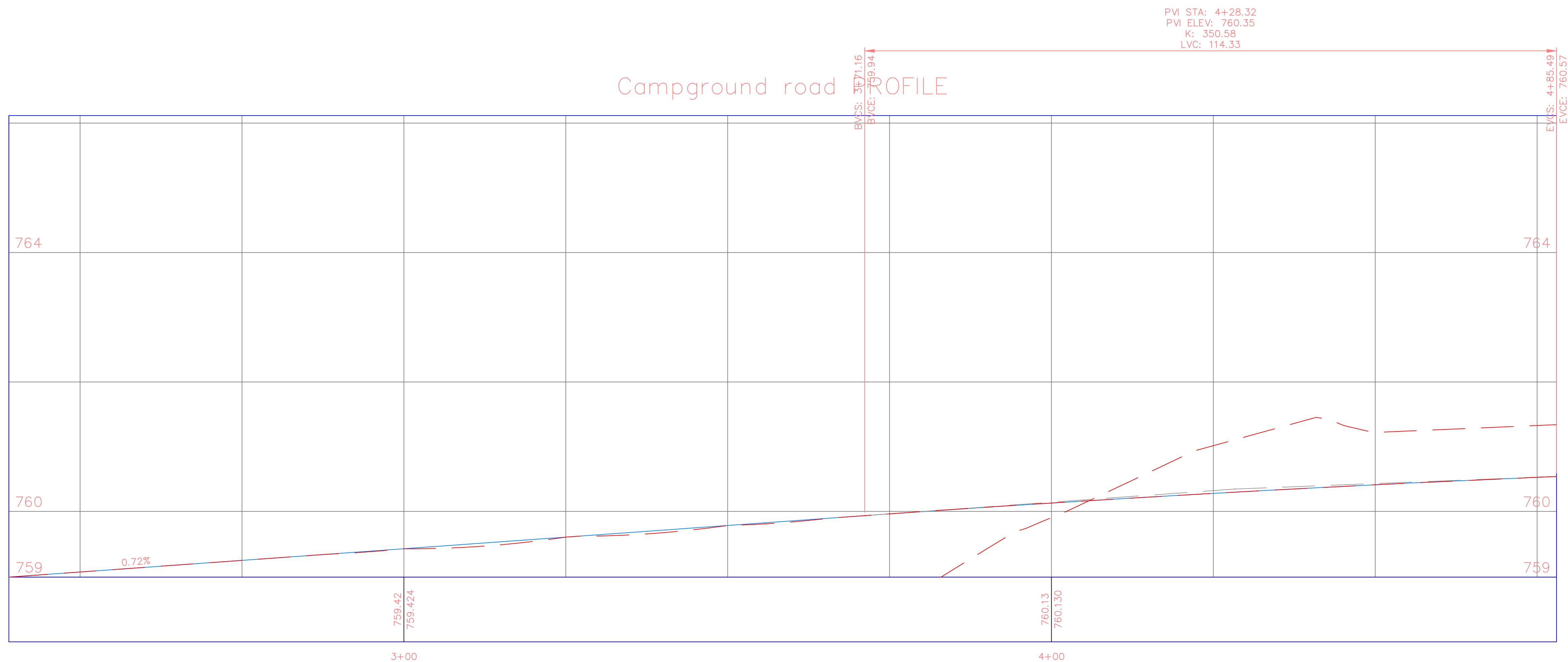
SHEET NAME  
 Plan and Profile View  
 0+00 to 2+50

SHEET NO.  
**4-1**





Campground road PROFILE



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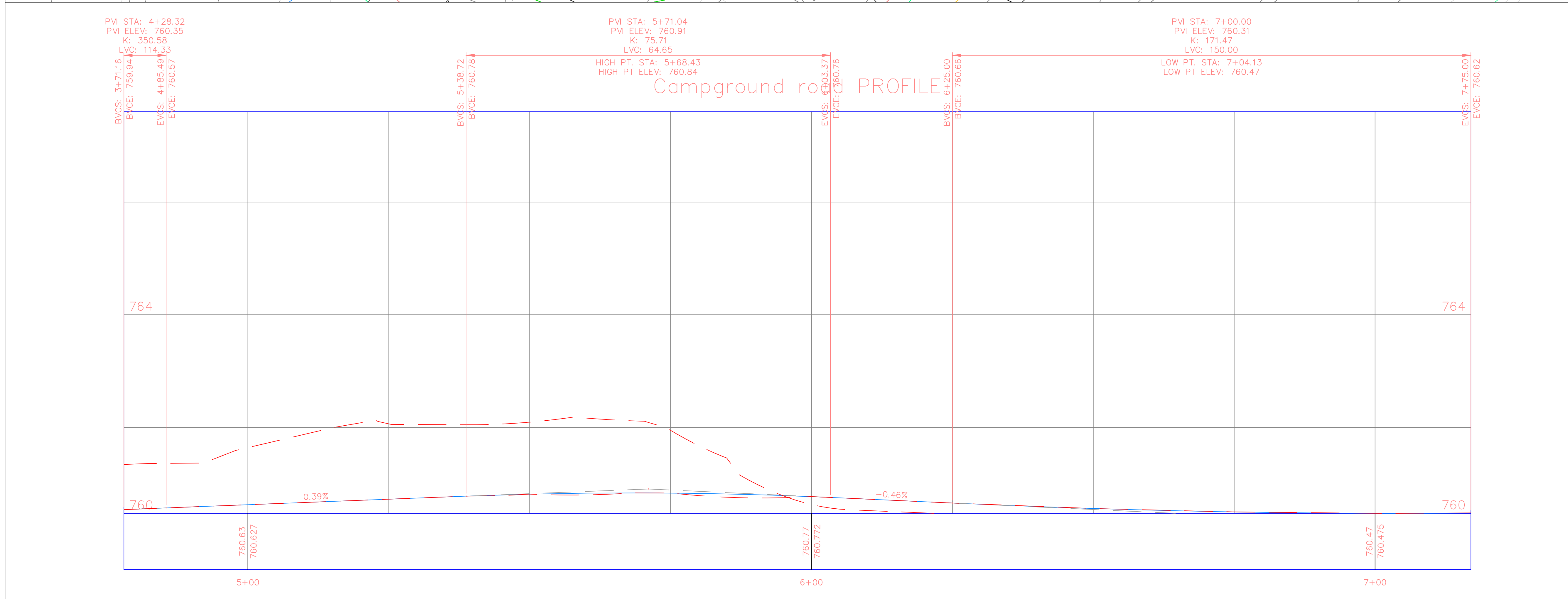
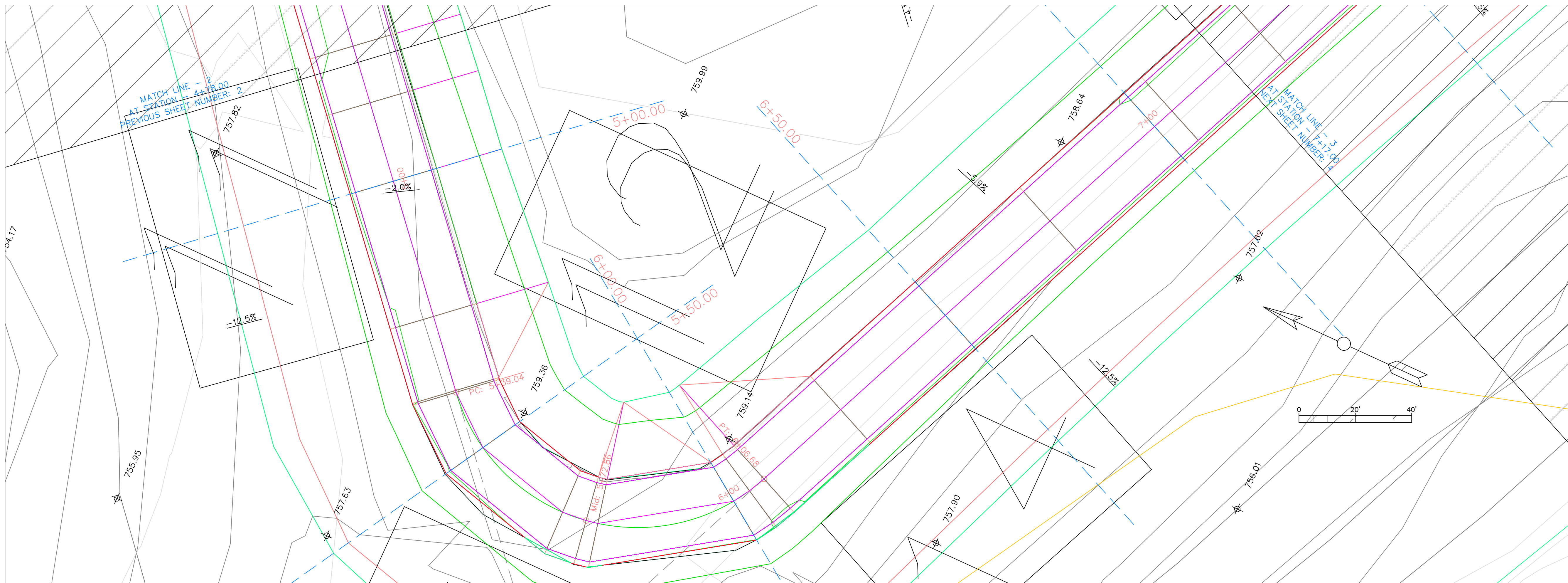
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SHEET NAME  
 Plan and Profile View  
 2+50 to 4+75

SHEET NO.  
**4-2**





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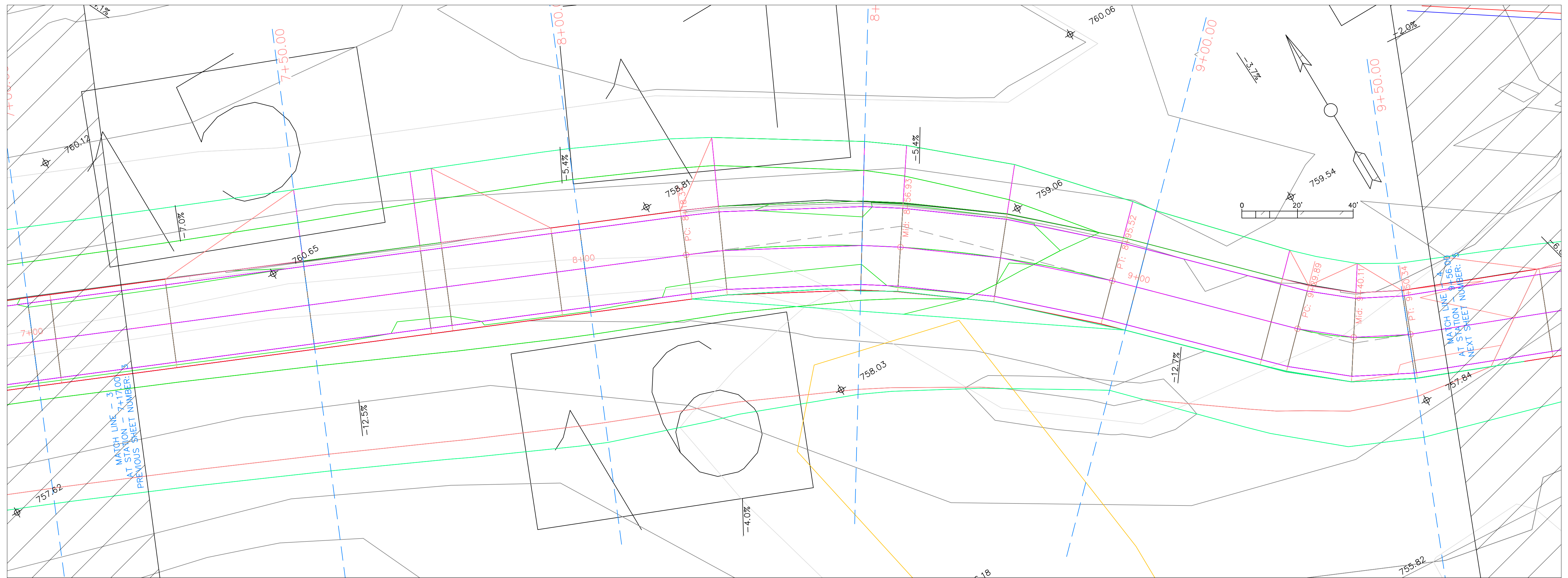
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SHEET NAME  
 Plan and Profile View  
 4+75 to 7+25

SHEET NO.  
**4-3**

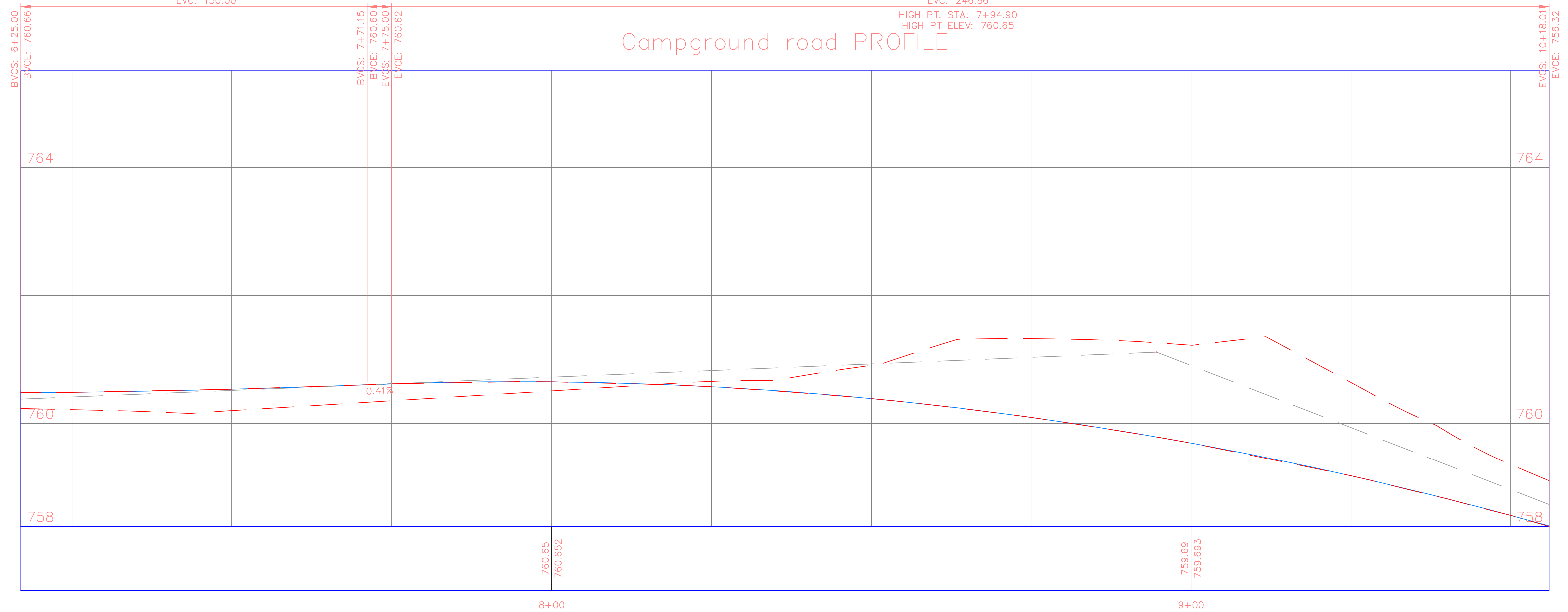




PVI STA: 7+00.00  
 PVI ELEV: 760.31  
 K: 171.47  
 LVC: 150.00

PVI STA: 8+94.63  
 PVI ELEV: 761.12  
 K: 57.42  
 LVC: 246.86  
 HIGH PT. STA: 7+94.90  
 HIGH PT. ELEV: 760.65

### Campground road PROFILE



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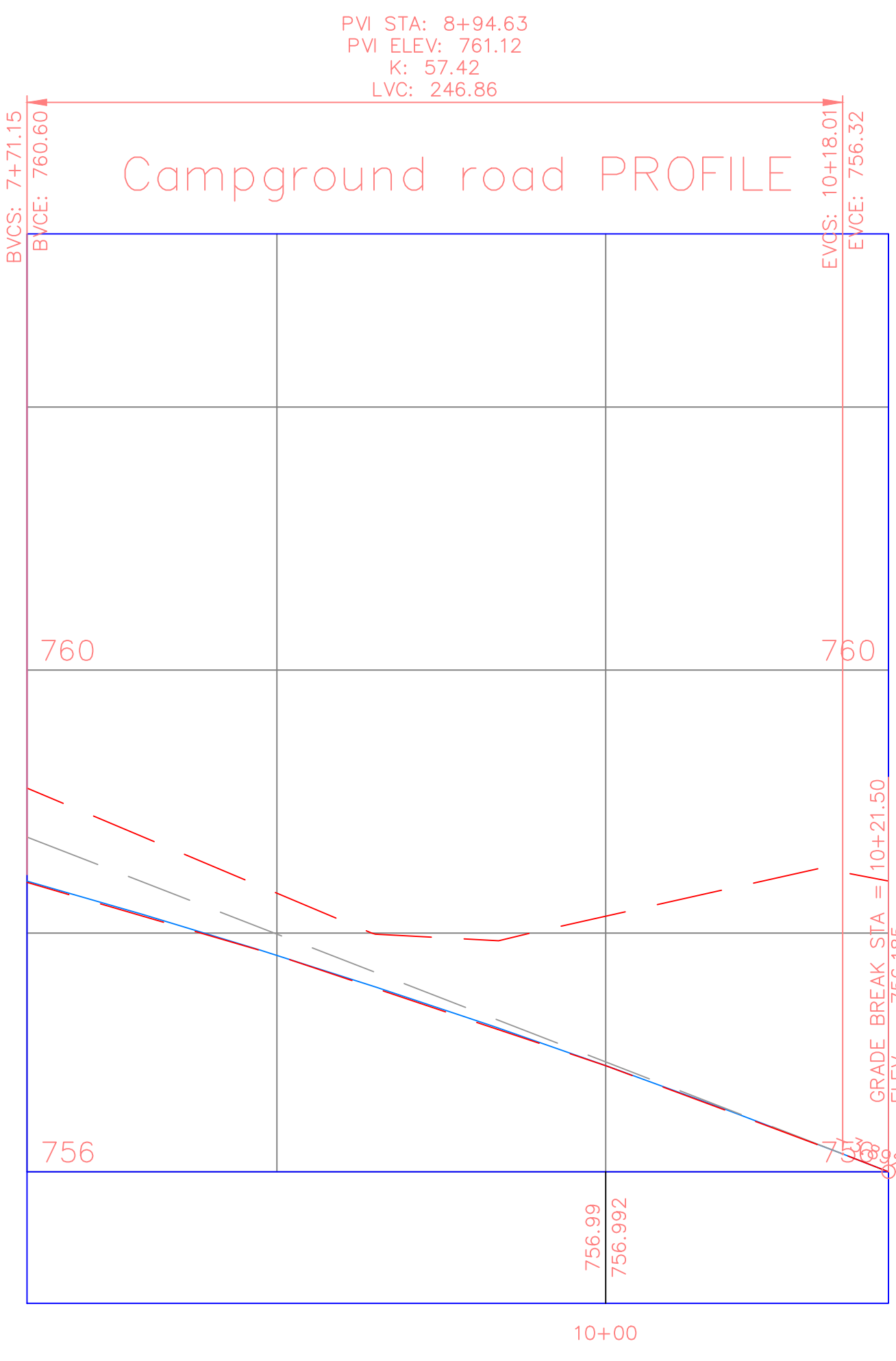
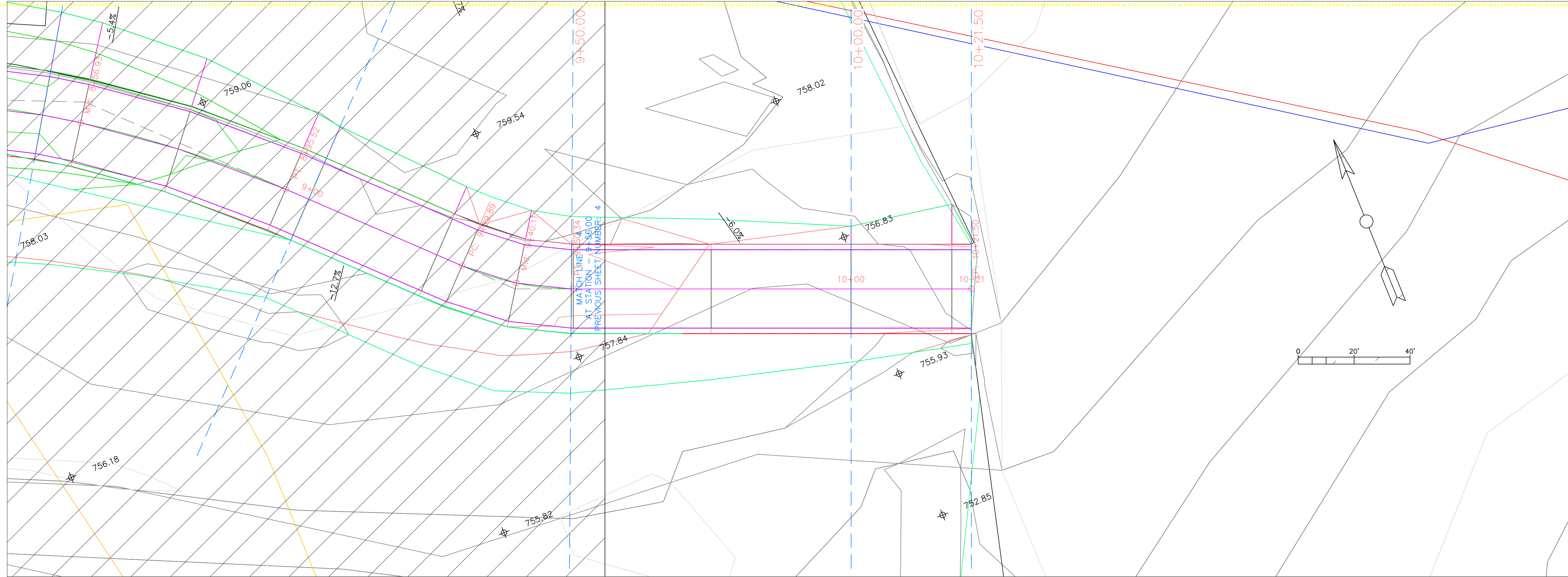
## Clinton Campground

3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
 Plan and Profile View  
 7+25 to 9+50

SHEET NO.  
**4-4**





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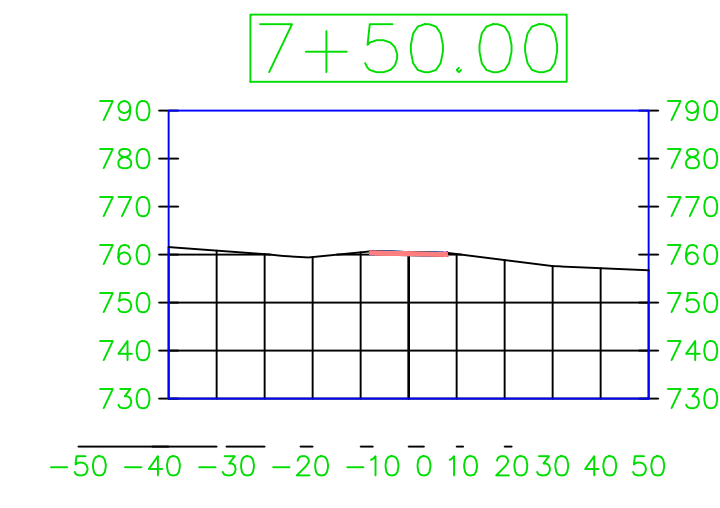
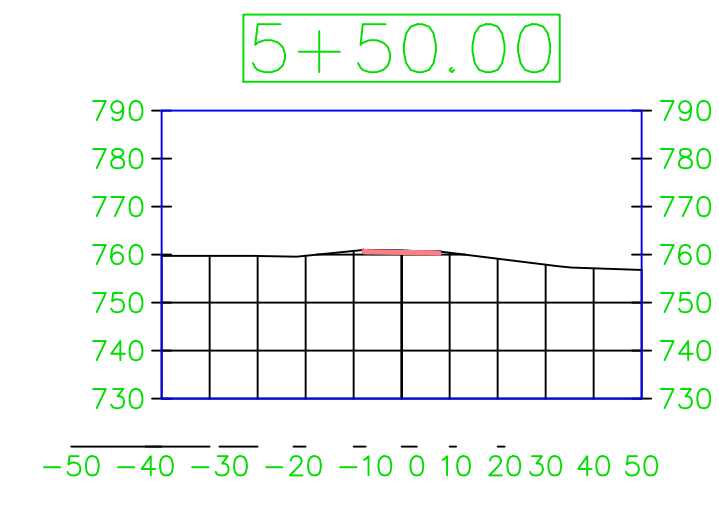
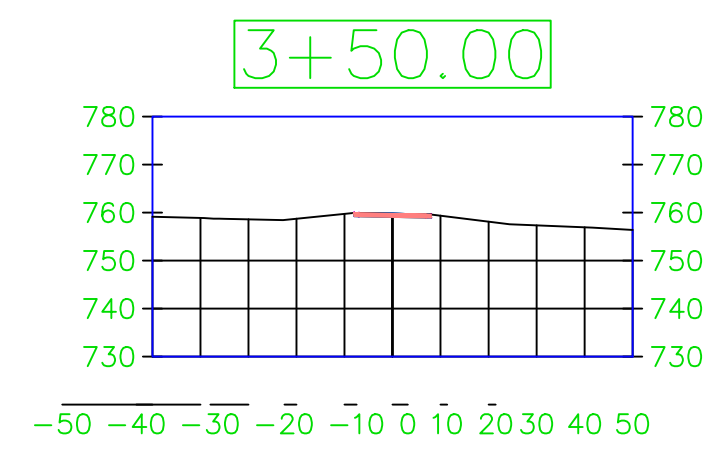
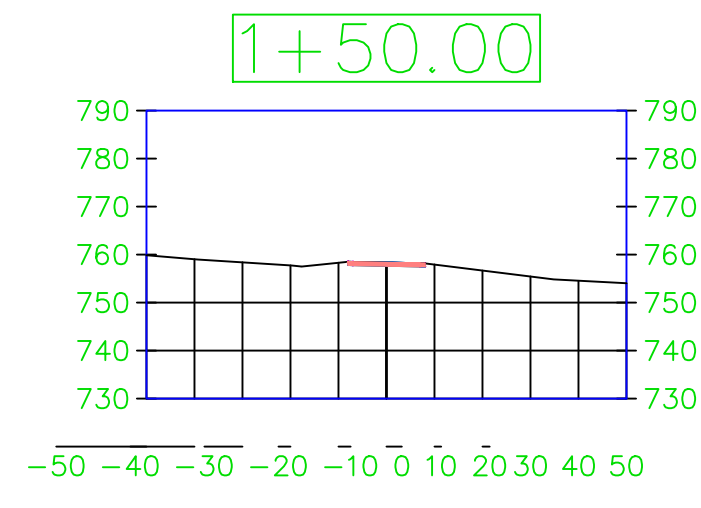
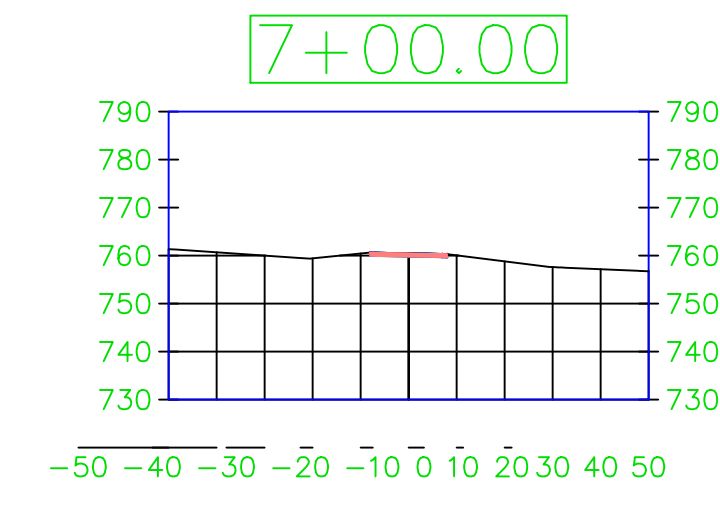
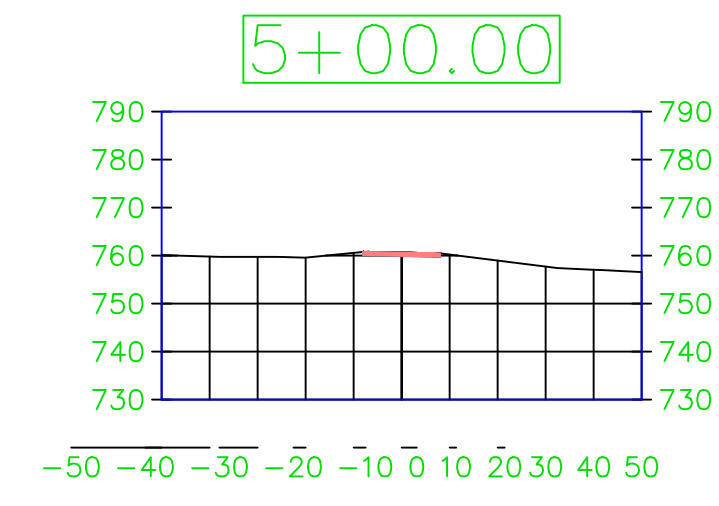
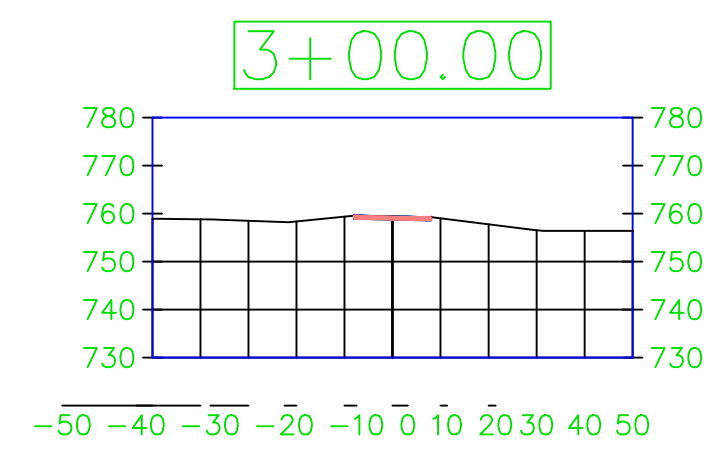
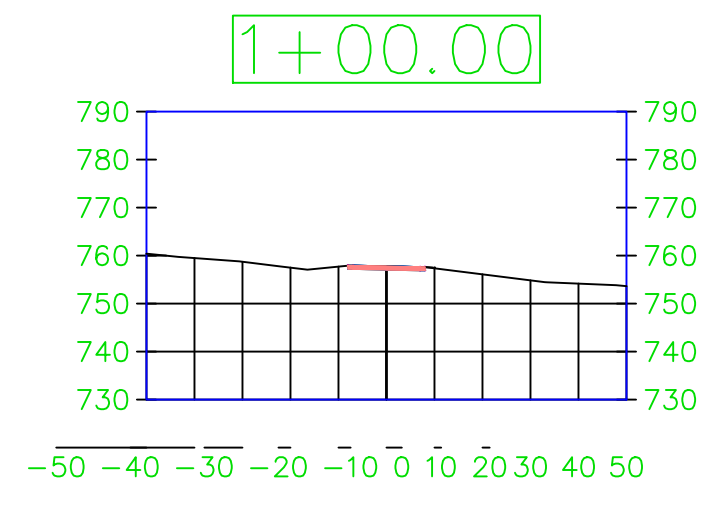
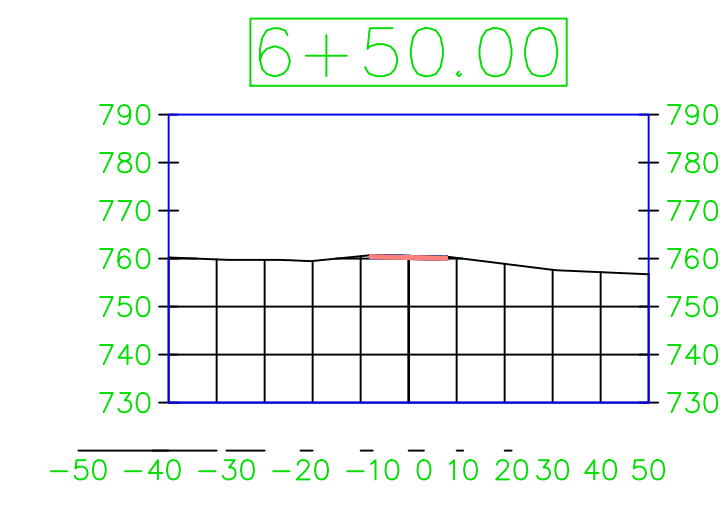
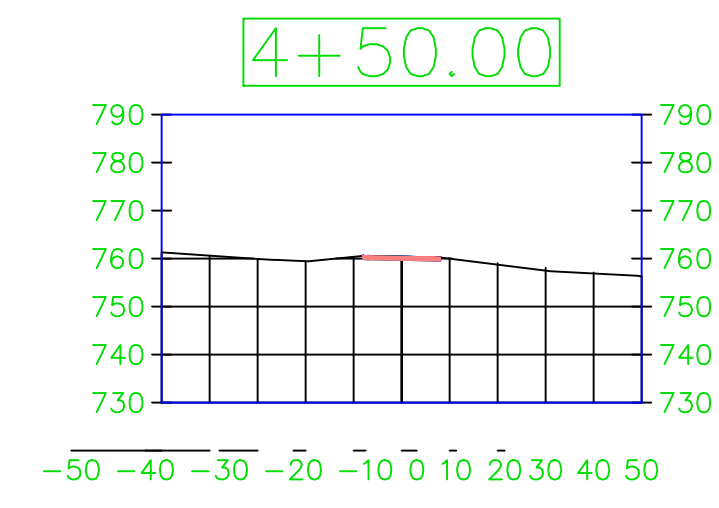
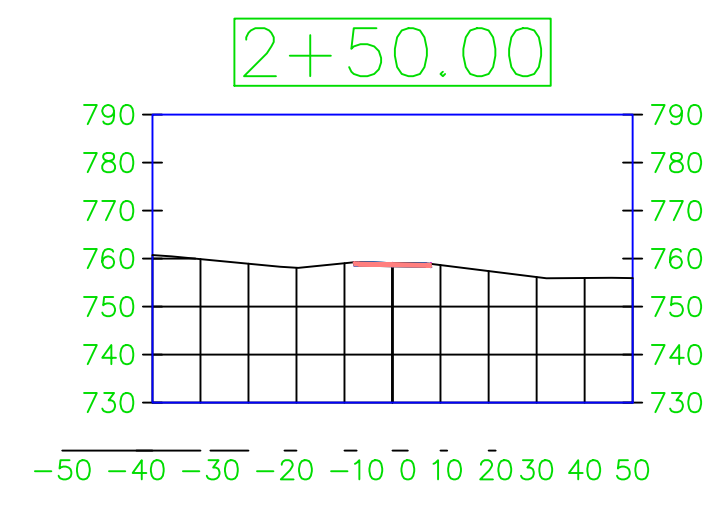
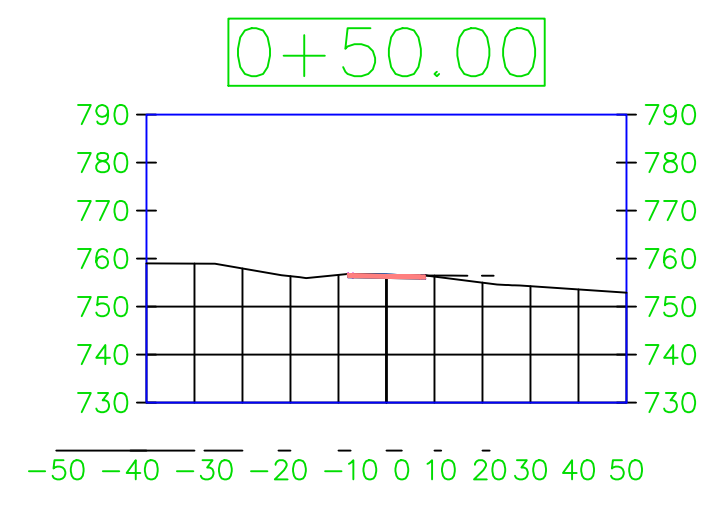
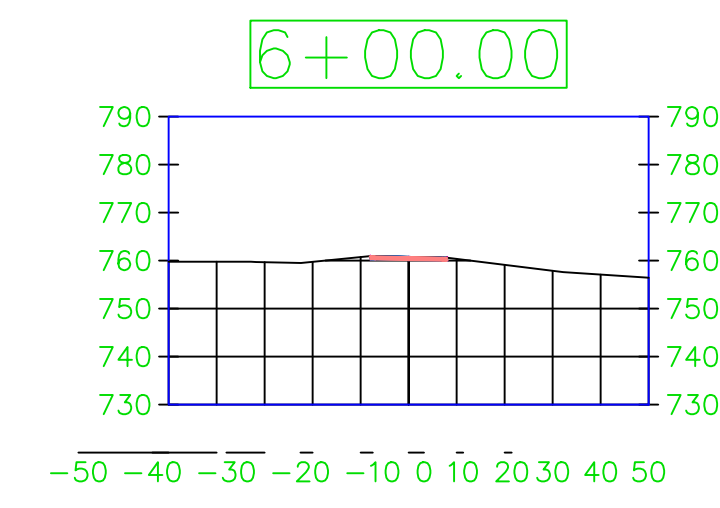
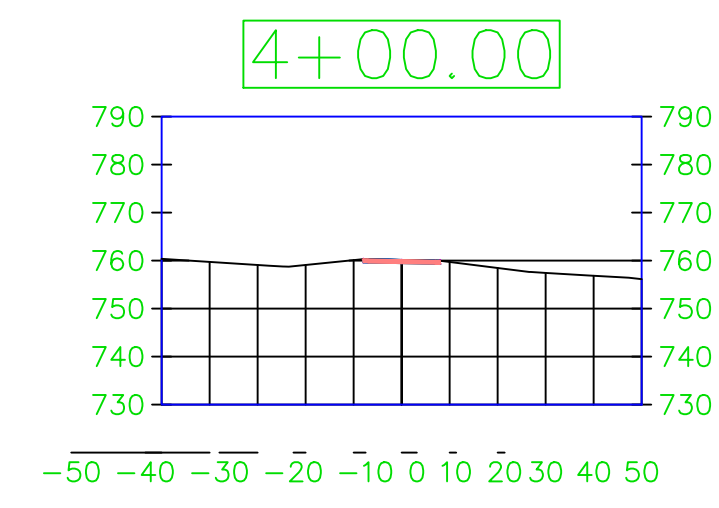
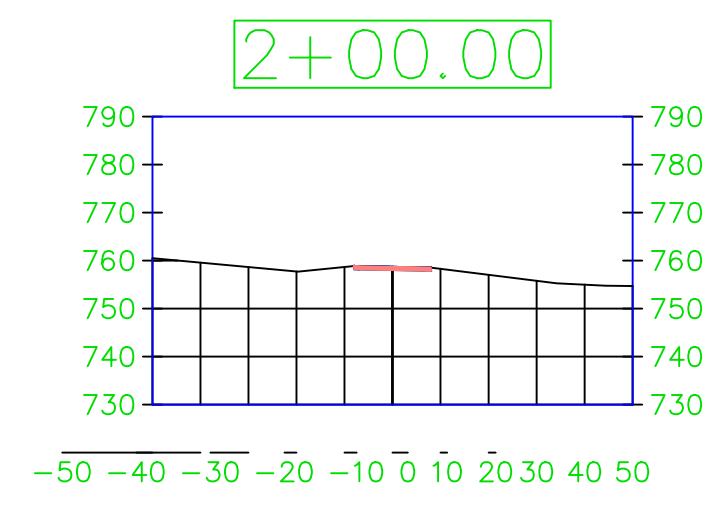
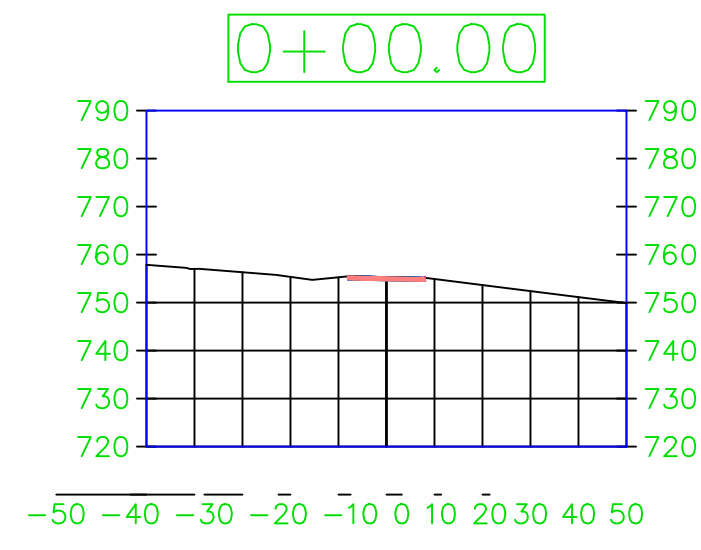
**Clinton Campground**

3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
Plan and Profile View  
9+50 to 10+50

SHEET NO.  
**4-5**





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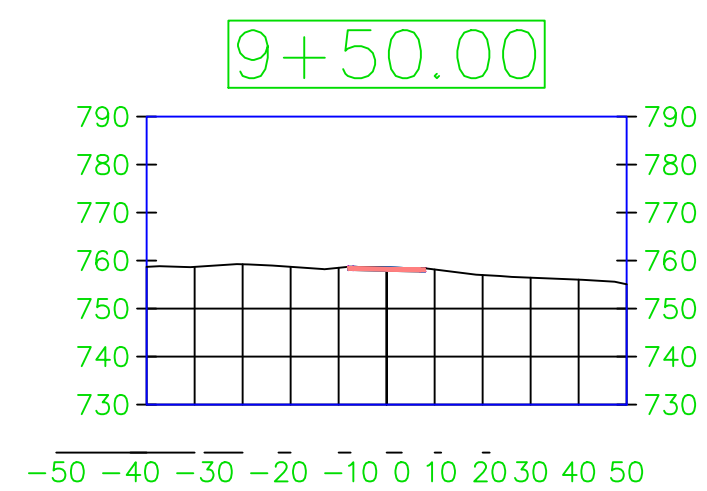
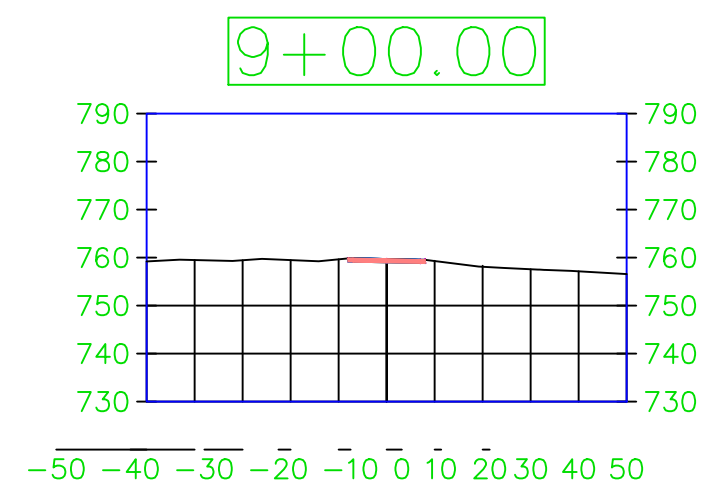
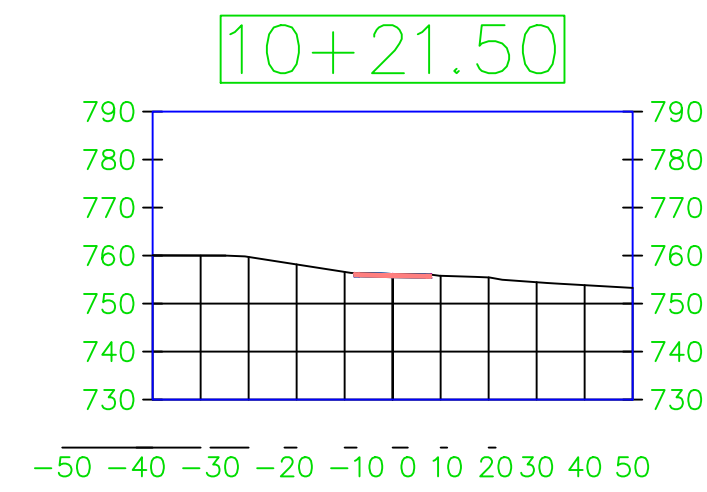
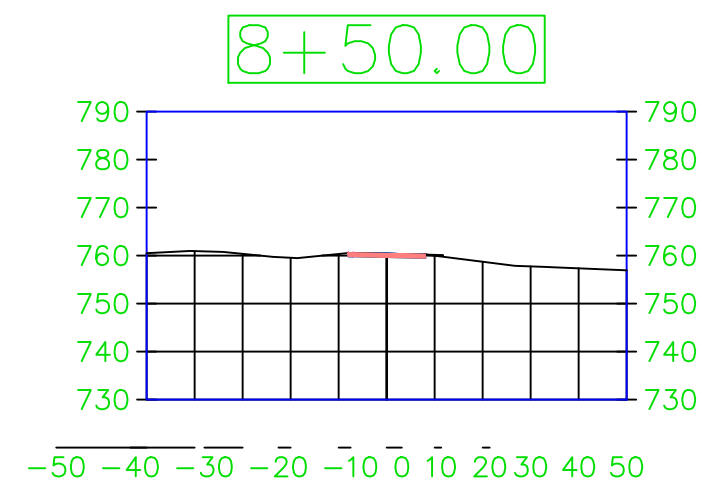
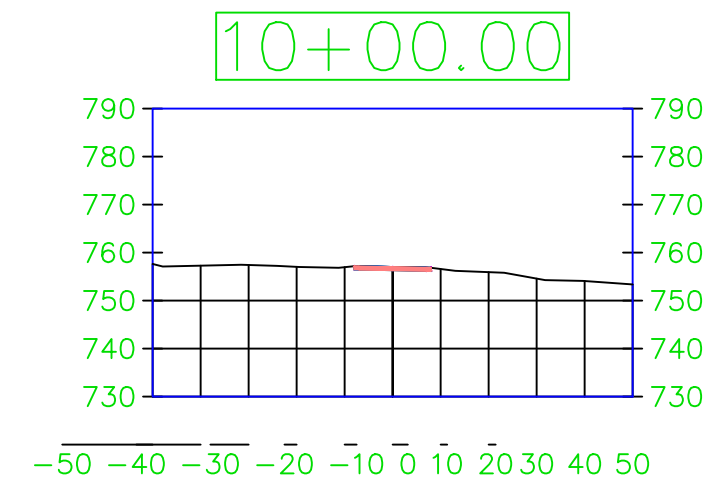
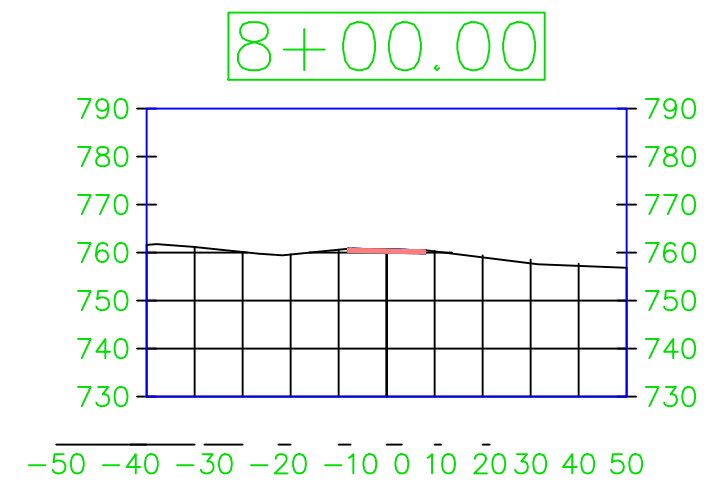
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 3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
 Section Views  
 0+00 to 7+50

SHEET NO.  
**5-1**





Note: There will be no ditches on the left side of the road. Grading of dirt and gravel parking stalls should be done to the edge of the shoulder with no low spots.

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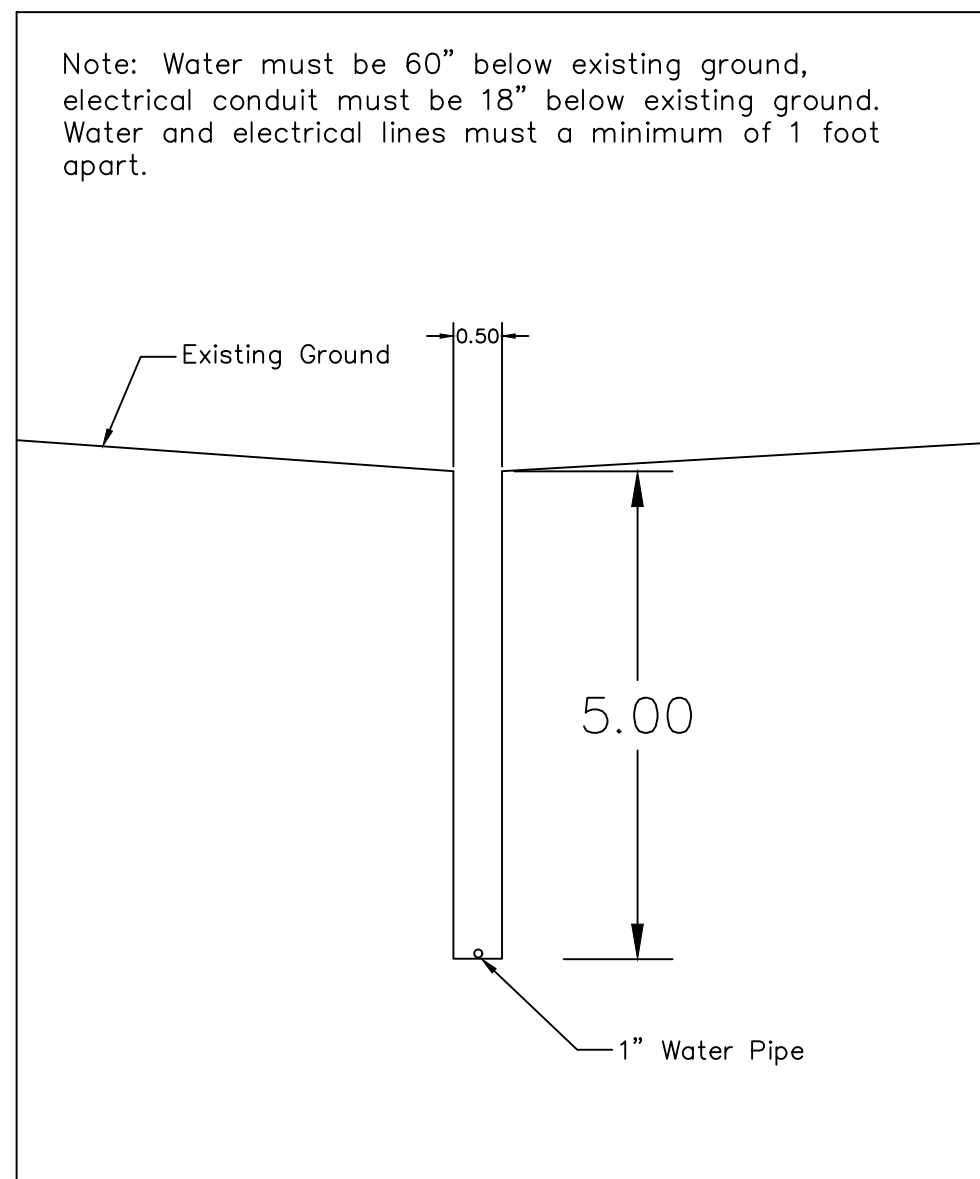
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SHEET NAME  
 Section Views  
 8+00 to 10+50

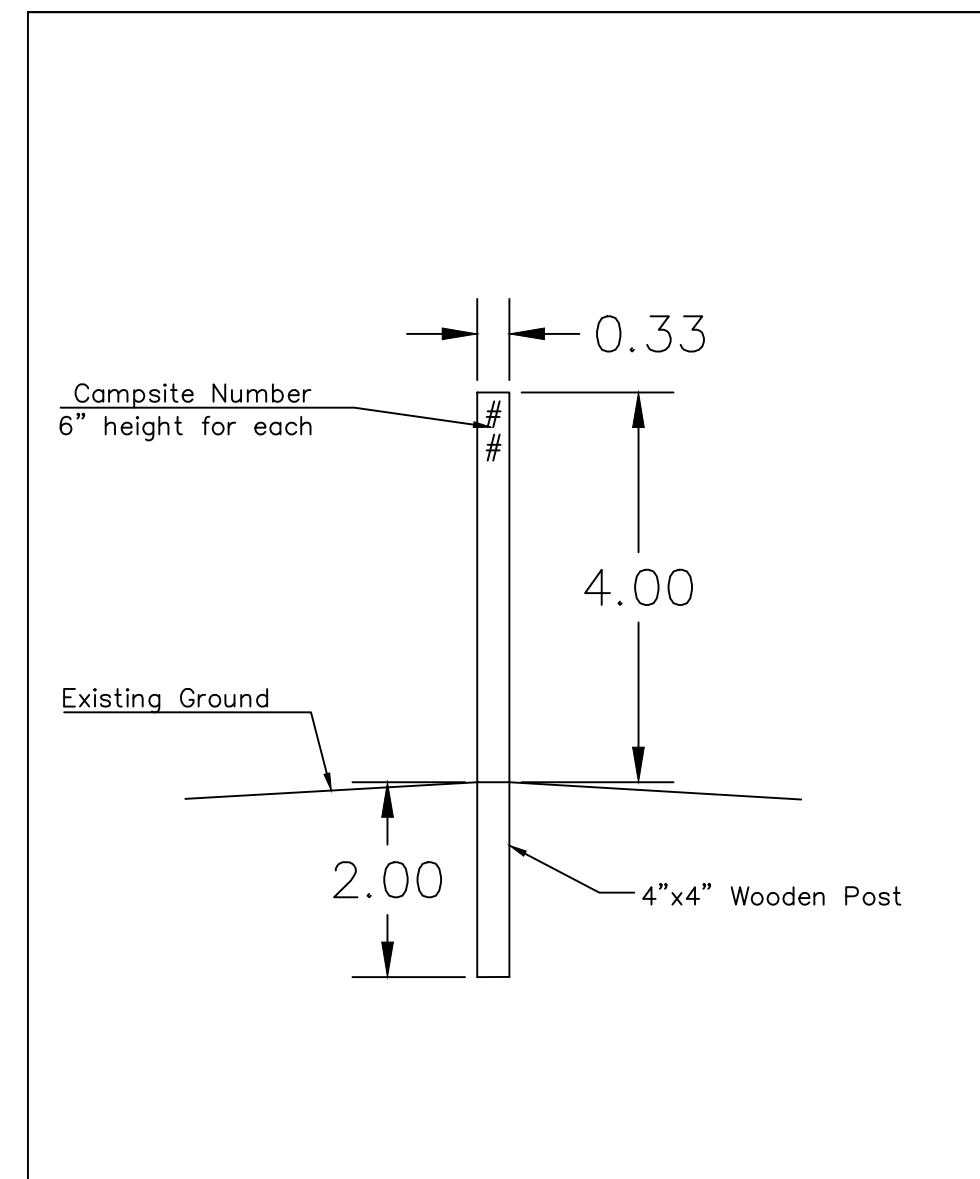
SHEET NO.  
**5-2**



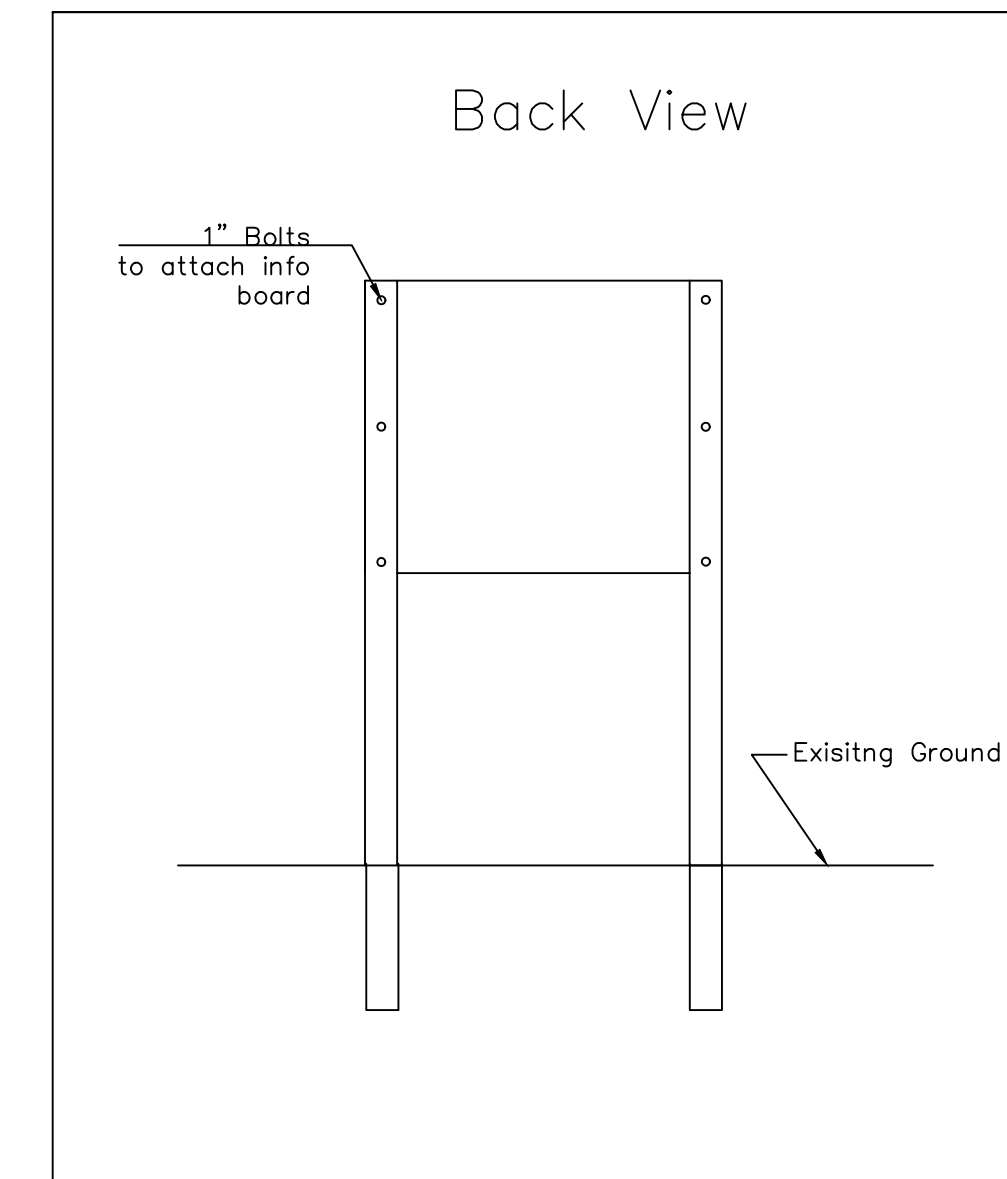
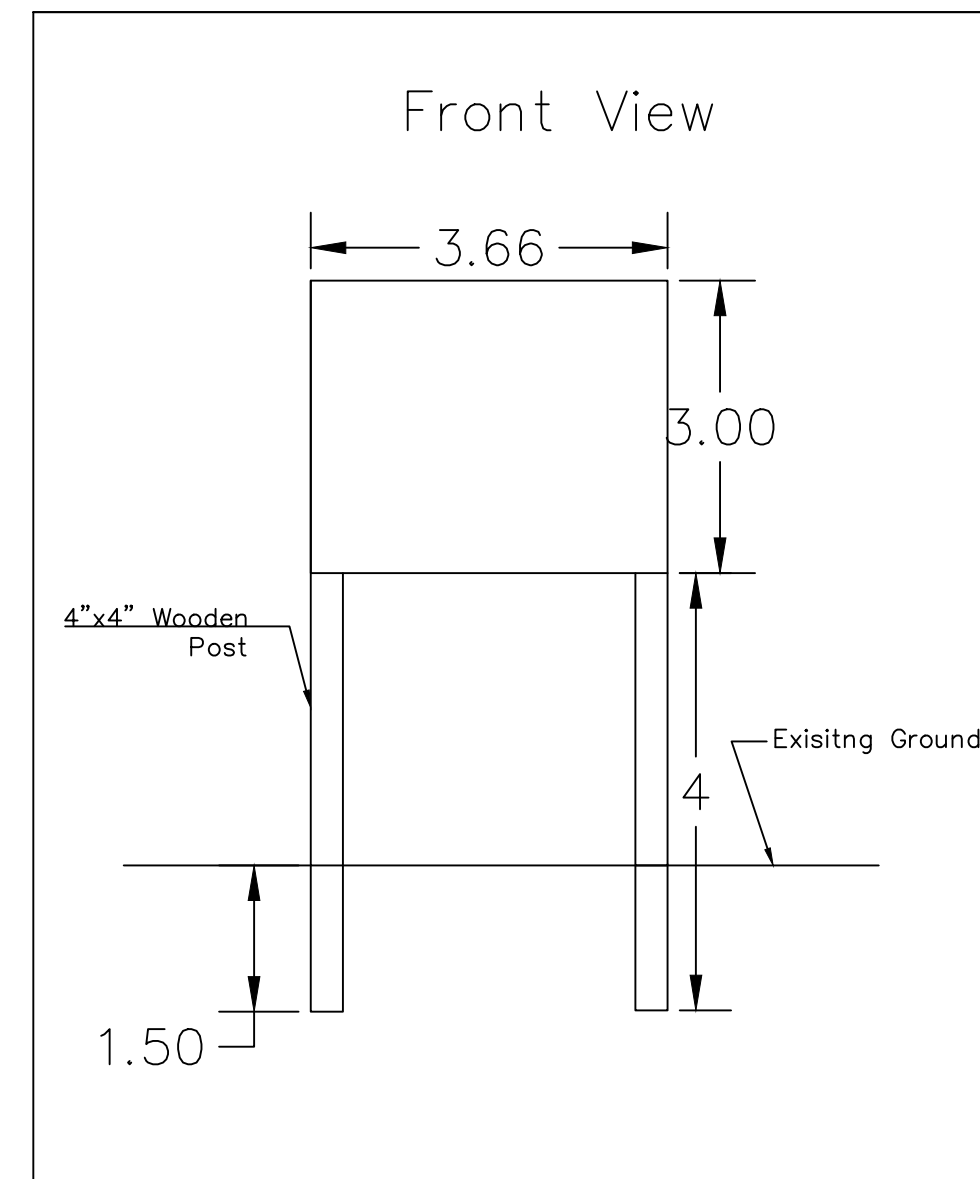
# Trench



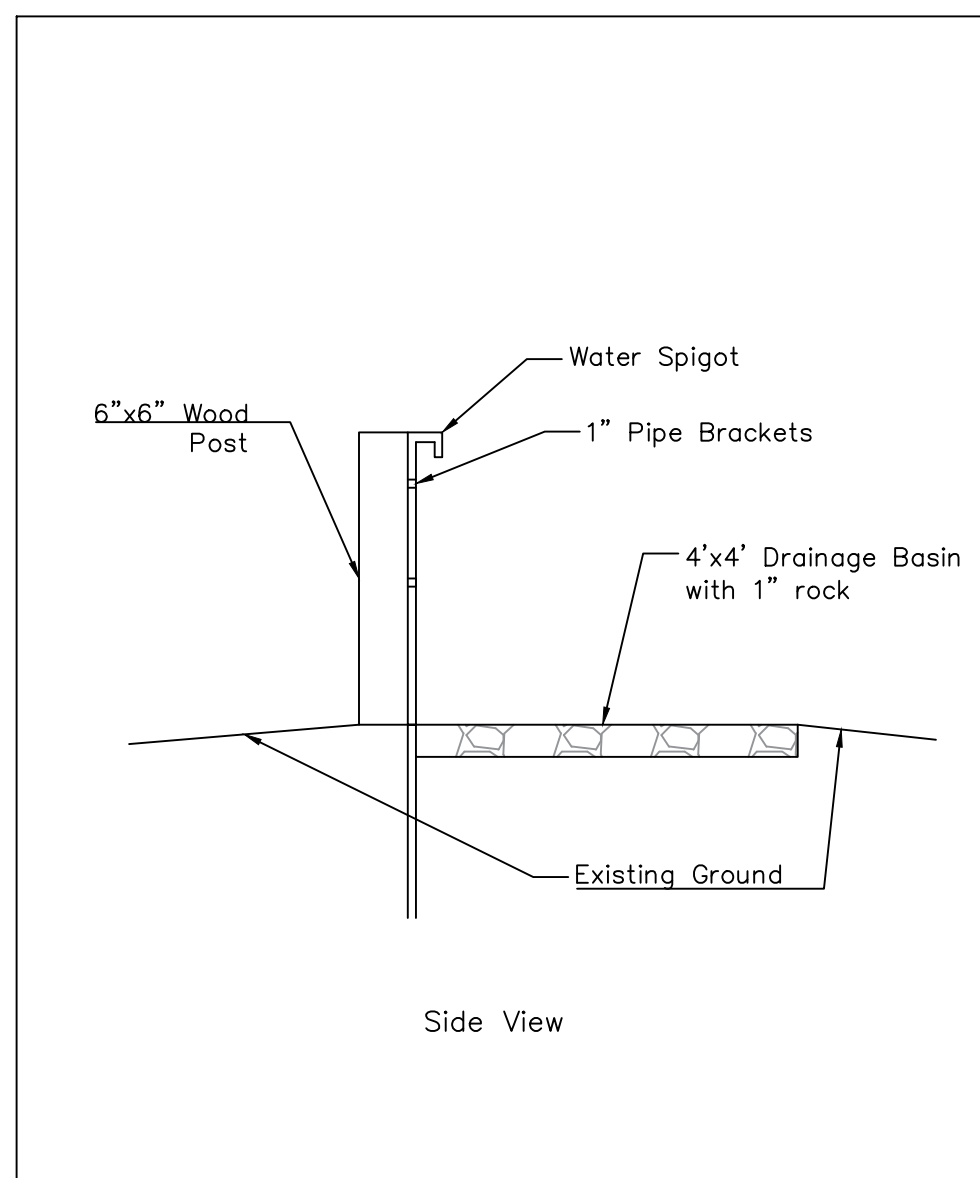
# Campsite Sign



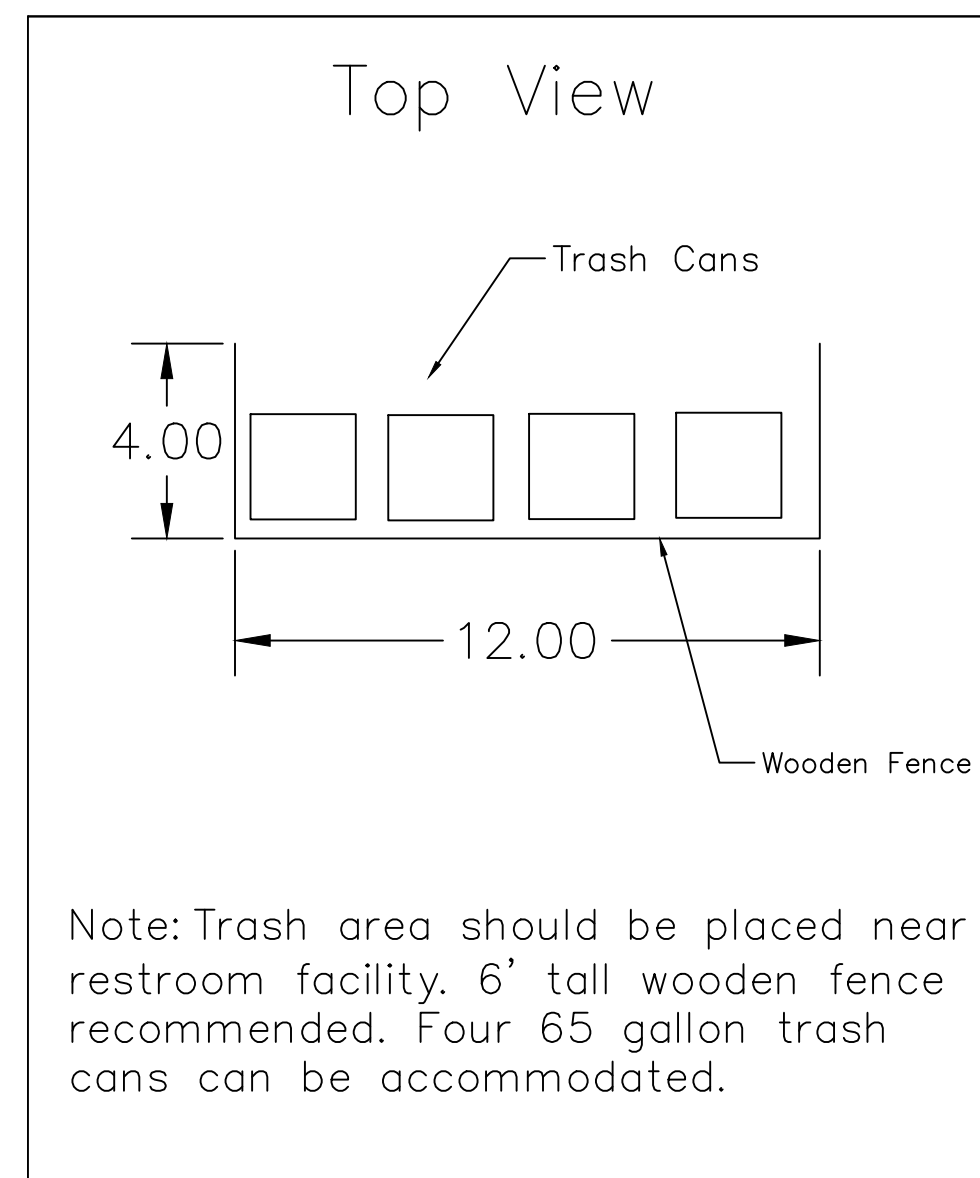
# Information Board



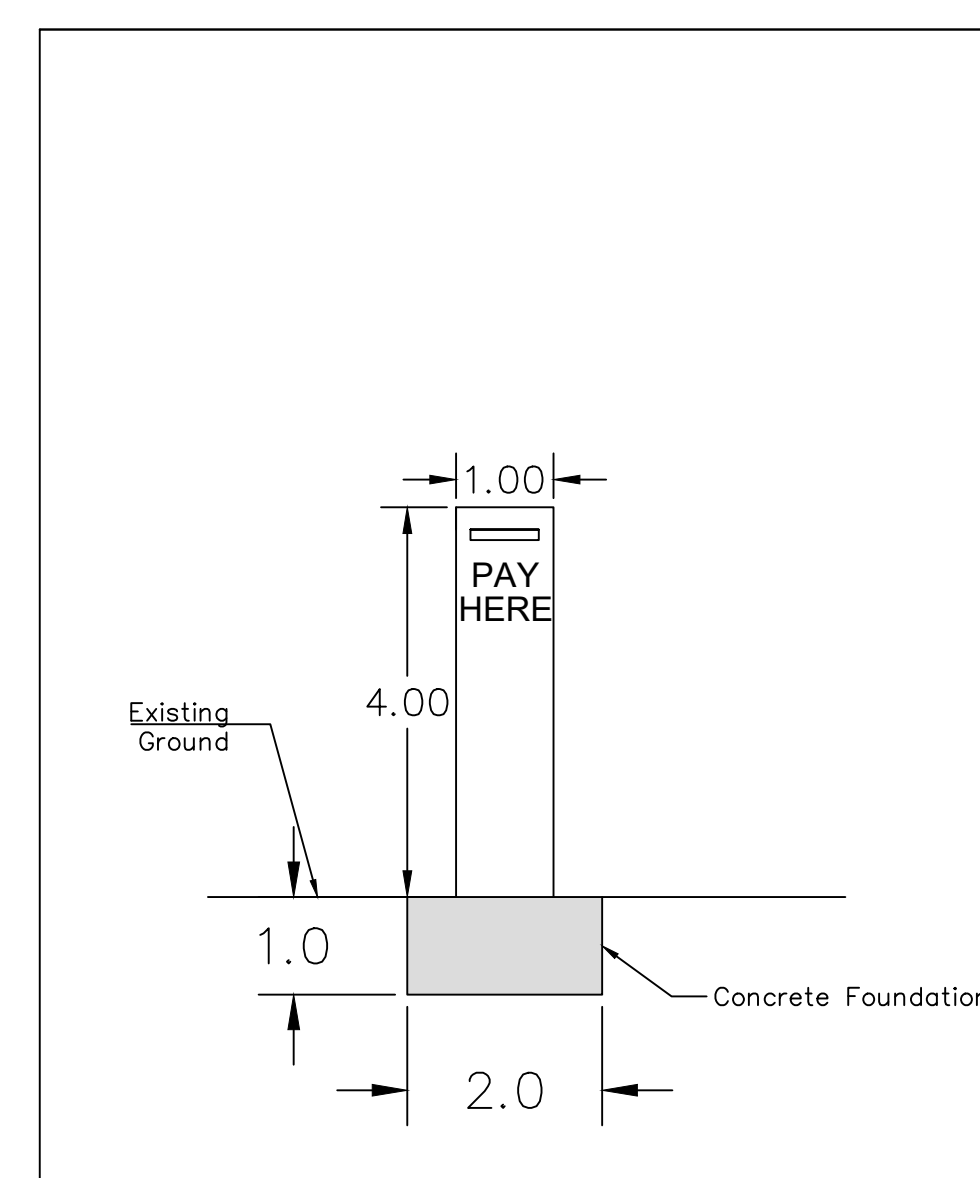
# Water Spigot



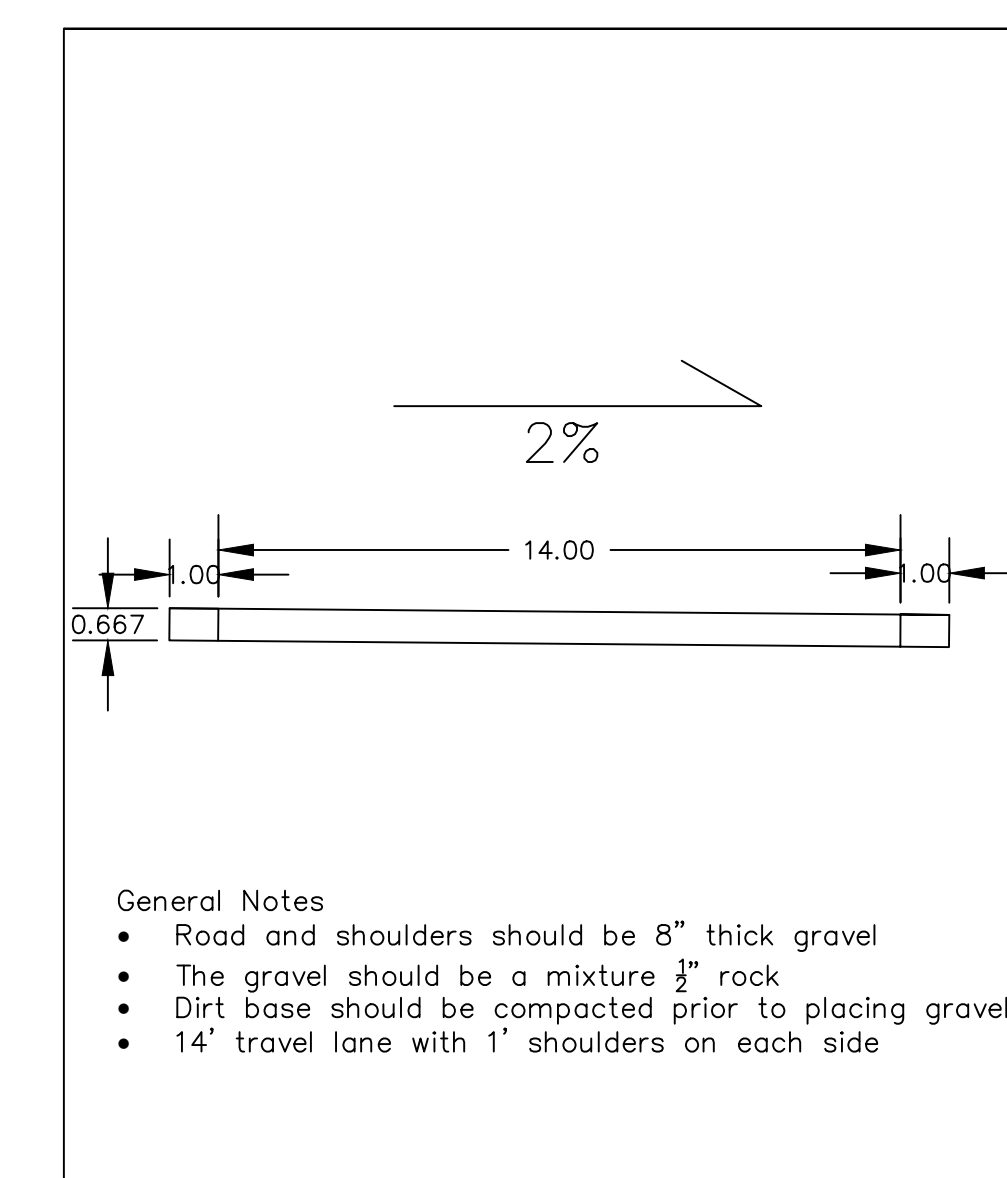
# Trash Area



# Deposit Box



# Road Assembly



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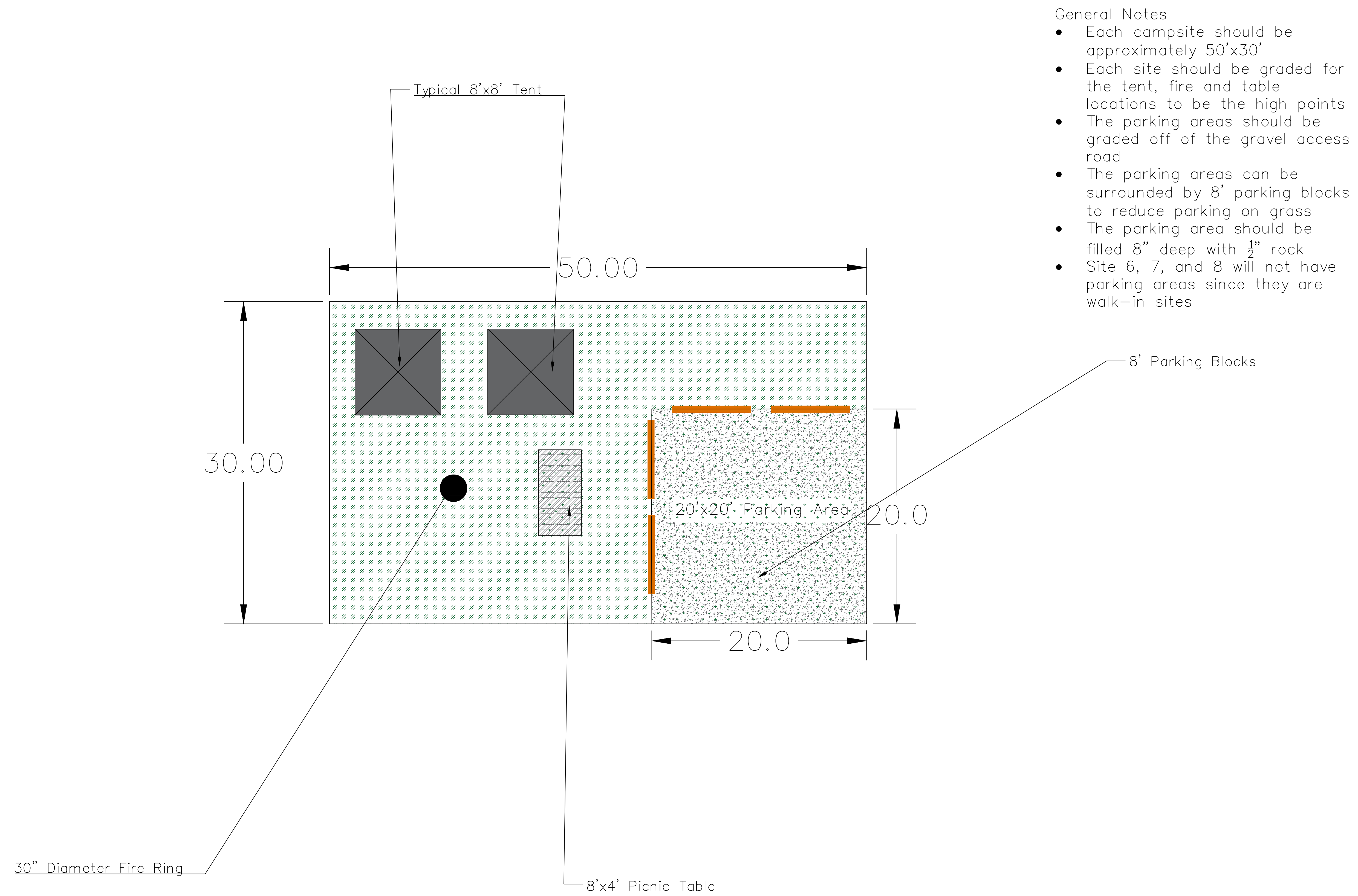
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SHEET NAME  
Typical Sections  
Typical Sections

SHEET NO.  
**6-1**





- General Notes
- Each campsite should be approximately 50'x30'
  - Each site should be graded for the tent, fire and table locations to be the high points
  - The parking areas should be graded off of the gravel access road
  - The parking areas can be surrounded by 8' parking blocks to reduce parking on grass
  - The parking area should be filled 8" deep with  $\frac{1}{2}$ " rock
  - Site 6, 7, and 8 will not have parking areas since they are walk-in sites

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**Clinton Campground**  
 3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
 Typical Sections  
 Typical Campsite

SHEET NO.  
**6-2**



## Gravel Required for Road (CY)

Material Table			
Station	Area	Volume	Cumulative Volume
0+00.00	10.72	0.00	0.00
0+50.00	10.72	19.85	19.85
1+00.00	10.72	19.85	39.70
1+50.00	10.72	19.85	59.55
2+00.00	10.72	19.85	79.40
2+50.00	10.72	19.85	99.25
3+00.00	10.72	19.85	119.10
3+50.00	10.72	19.85	138.95
4+00.00	10.72	19.85	158.80
4+50.00	10.72	19.85	178.66
5+00.00	10.72	19.85	198.51
5+50.00	10.72	19.85	218.36
6+00.00	10.72	19.85	238.21
6+50.00	10.72	19.85	258.06
7+00.00	10.72	19.85	277.91
7+50.00	10.72	19.85	297.76
8+00.00	10.72	19.85	317.61
8+50.00	10.72	19.85	337.46
9+00.00	10.72	19.85	357.31
9+50.00	10.72	19.85	377.16
10+00.00	10.72	19.85	397.01
10+21.50	10.72	8.54	405.55

## Gravel Required for Sites (CY)

Material Table		
Site	Volume	Cumulative Volume
1	9.88	9.88
2	9.88	19.75
3	9.88	29.63
4	9.88	39.51
5	9.88	49.39
6	9.88	59.26
7	9.88	69.14
8	9.88	79.02
9	9.88	88.89
10	9.88	98.77
11	9.88	108.65
12	9.88	118.52
13	9.88	128.40
14	9.88	138.28
15	9.88	148.16
16	9.88	158.03
17	9.88	167.91

## Cut/Fill for Entire Site (CY)

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Cutfillsite	full	1.000	1.000	291400291.67	7826.62	8217.96	391.34<Fill>

PROJECT: Iowa CEE Senior Design  
 DATE : 3/21/2023  
 DRAWN BY: Andrew Klinkrodt  
 REVISION:

**THE UNIVERSITY OF IOWA**  
**CIVIL AND ENVIRONMENTAL ENGINEERING**  
 4105 SEAMANS CENTER FOR THE  
 ENGINEERING ARTS AND SCIENCES  
 103 S CAPITOL ST  
 IOWA CITY, IOWA 52242  
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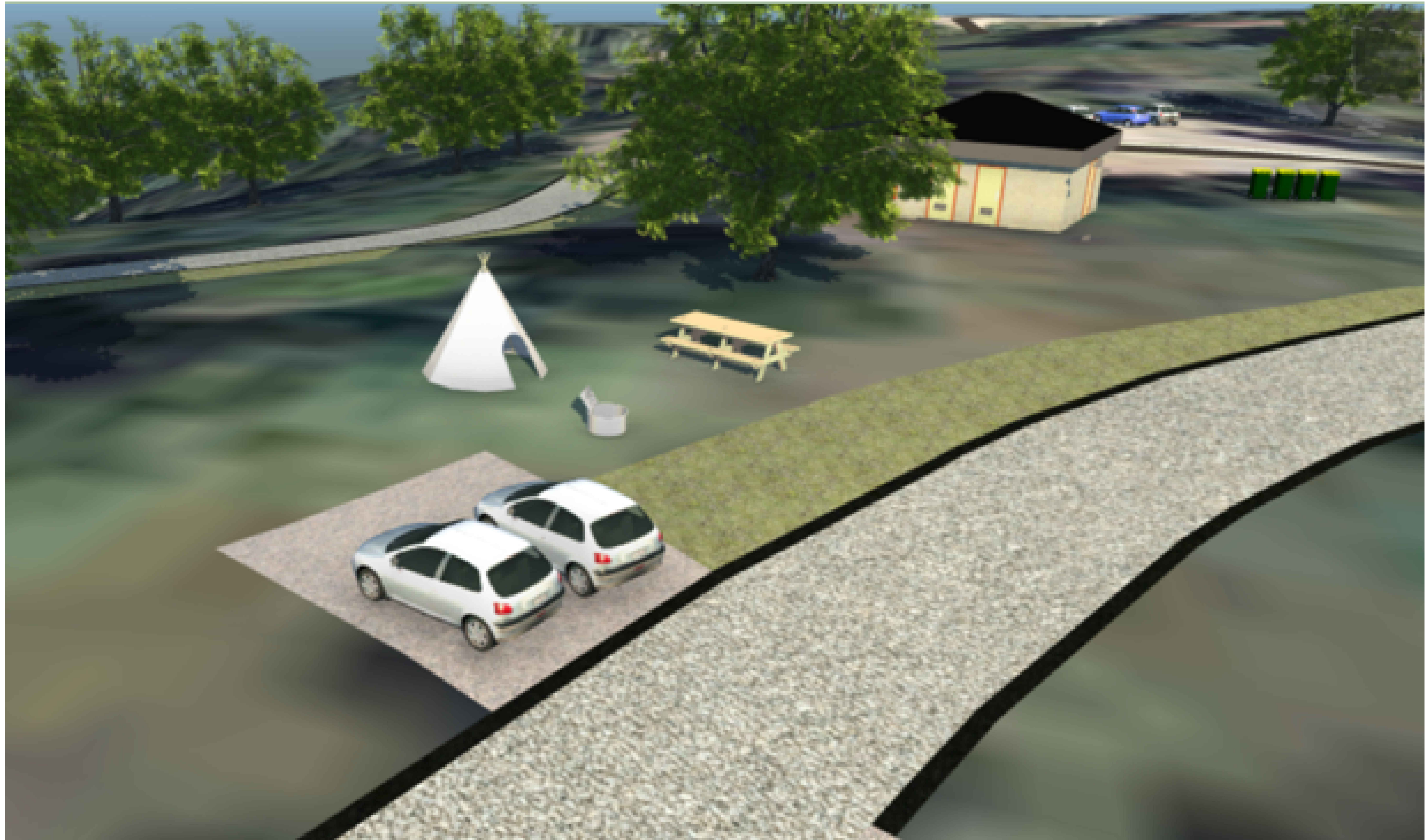
**Clinton Campground**

3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
 Typical Sections  
 Material Tables

SHEET NO.  
**6-3**





PROJECT: Iowa CEE Senior Design  
DATE: 3/21/2023  
DRAWN BY: Andrew Klinkrodt  
REVISION:

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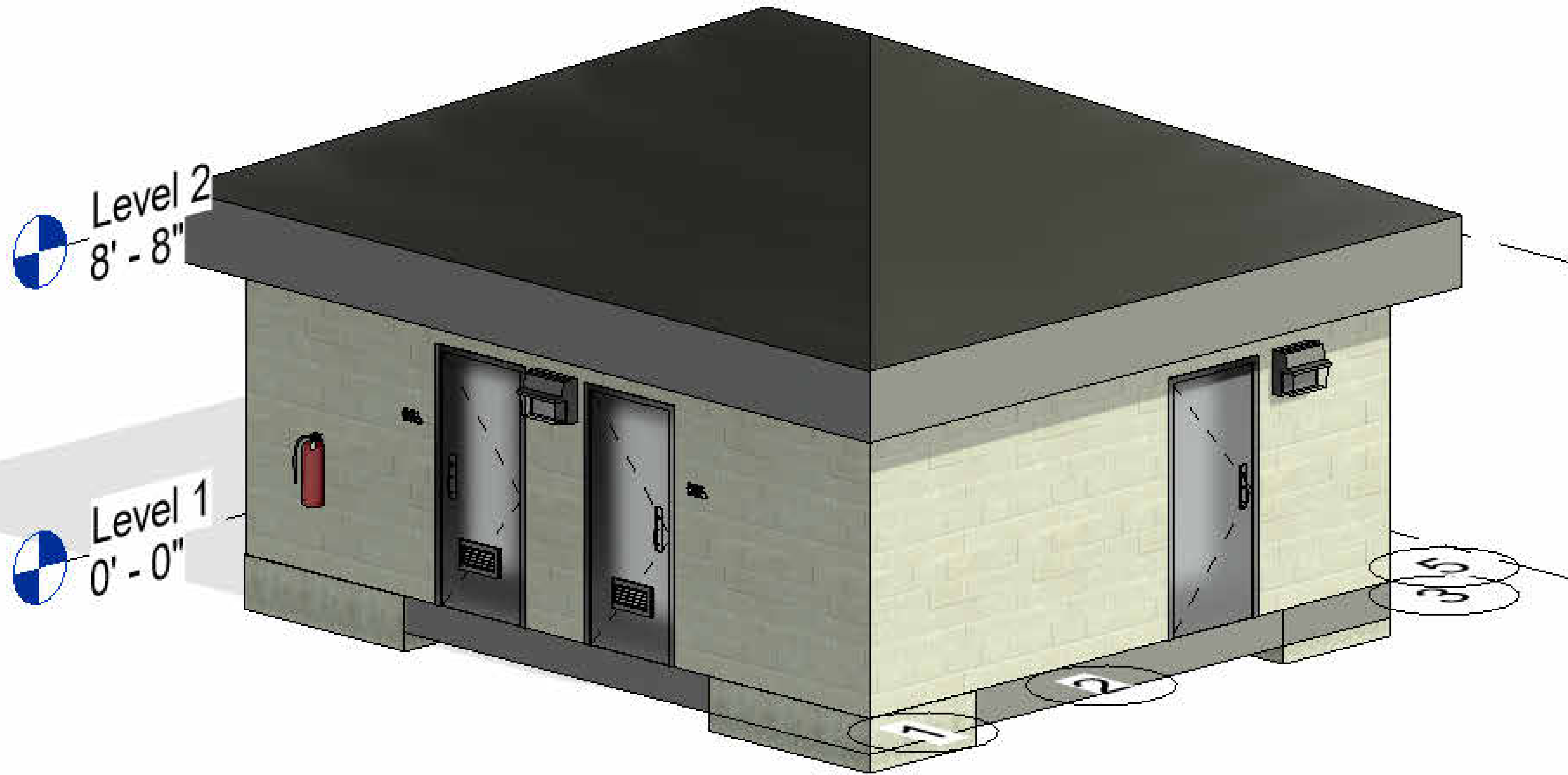
## Clinton Campground

3900 N 3rd St, Clinton, IA 52732

SHEET NAME  
Typical Layout  
Campsite

SHEET NO.  
**6-4**





PROJECT: CEE-4850 Senior Design Project  
 DATE: 3/23/2023  
 DRAWN BY: ADB  
 REVISION:

**THE UNIVERSITY OF IOWA**  
**CIVIL AND ENVIRONMENTAL ENGINEERING**  
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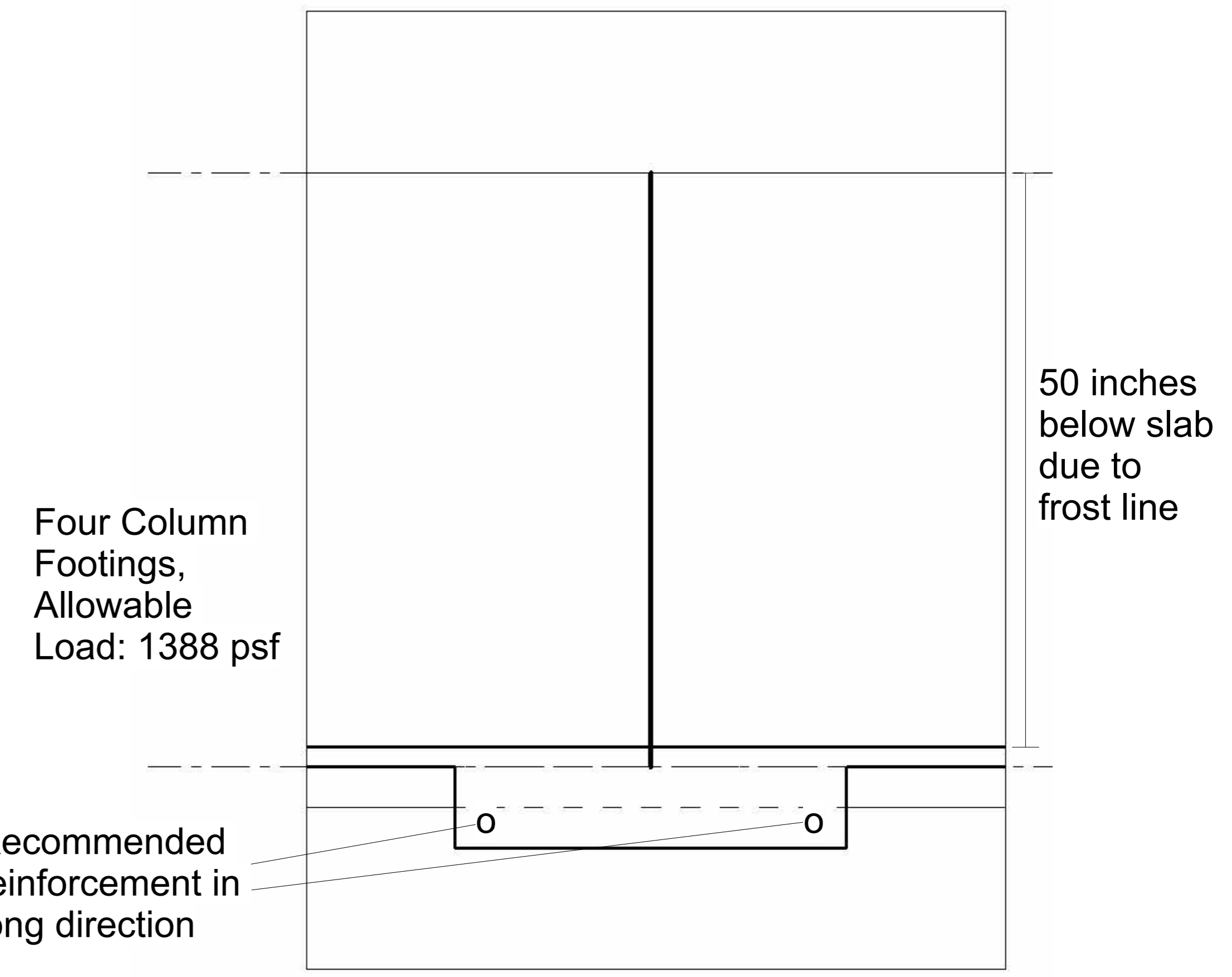
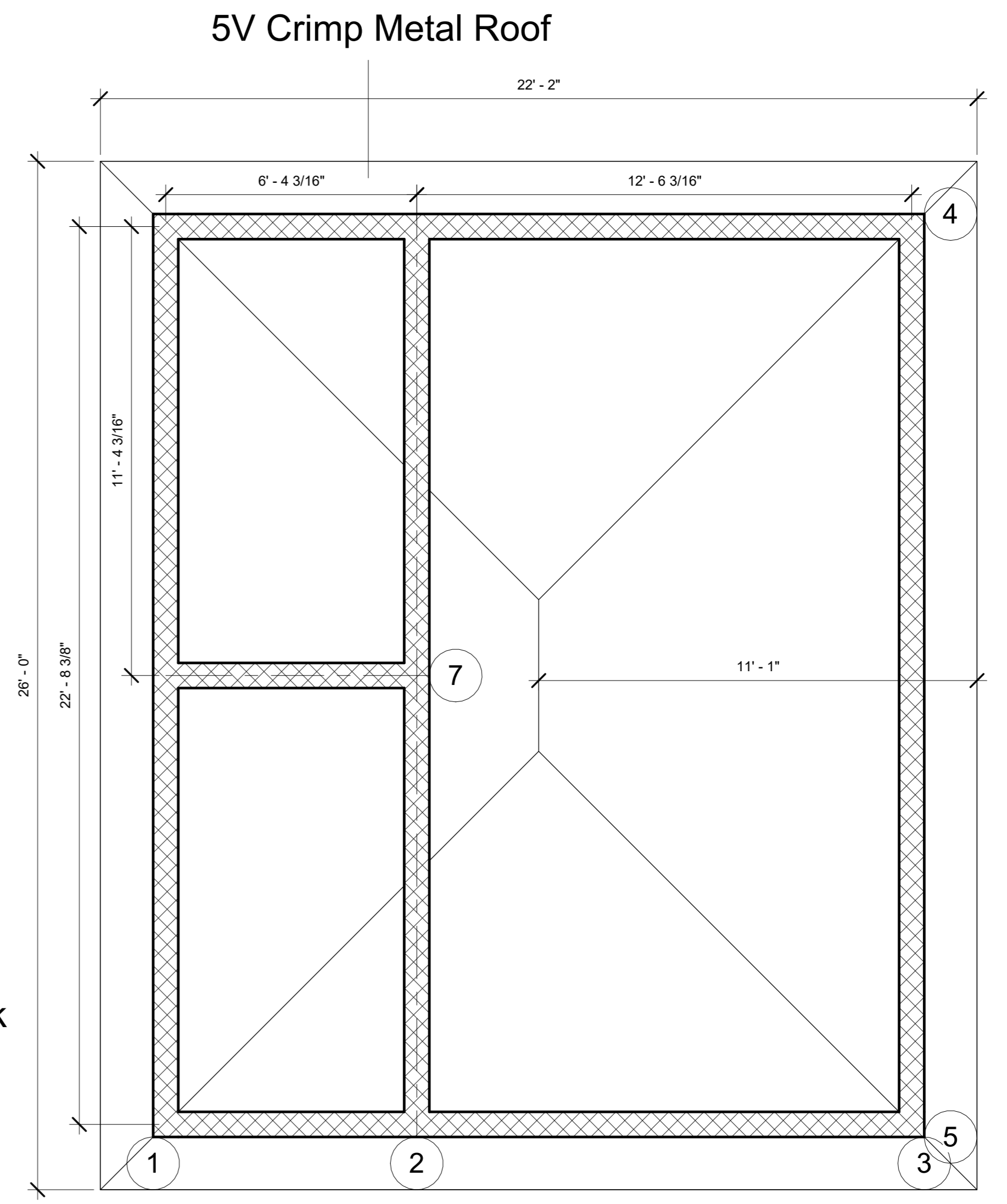
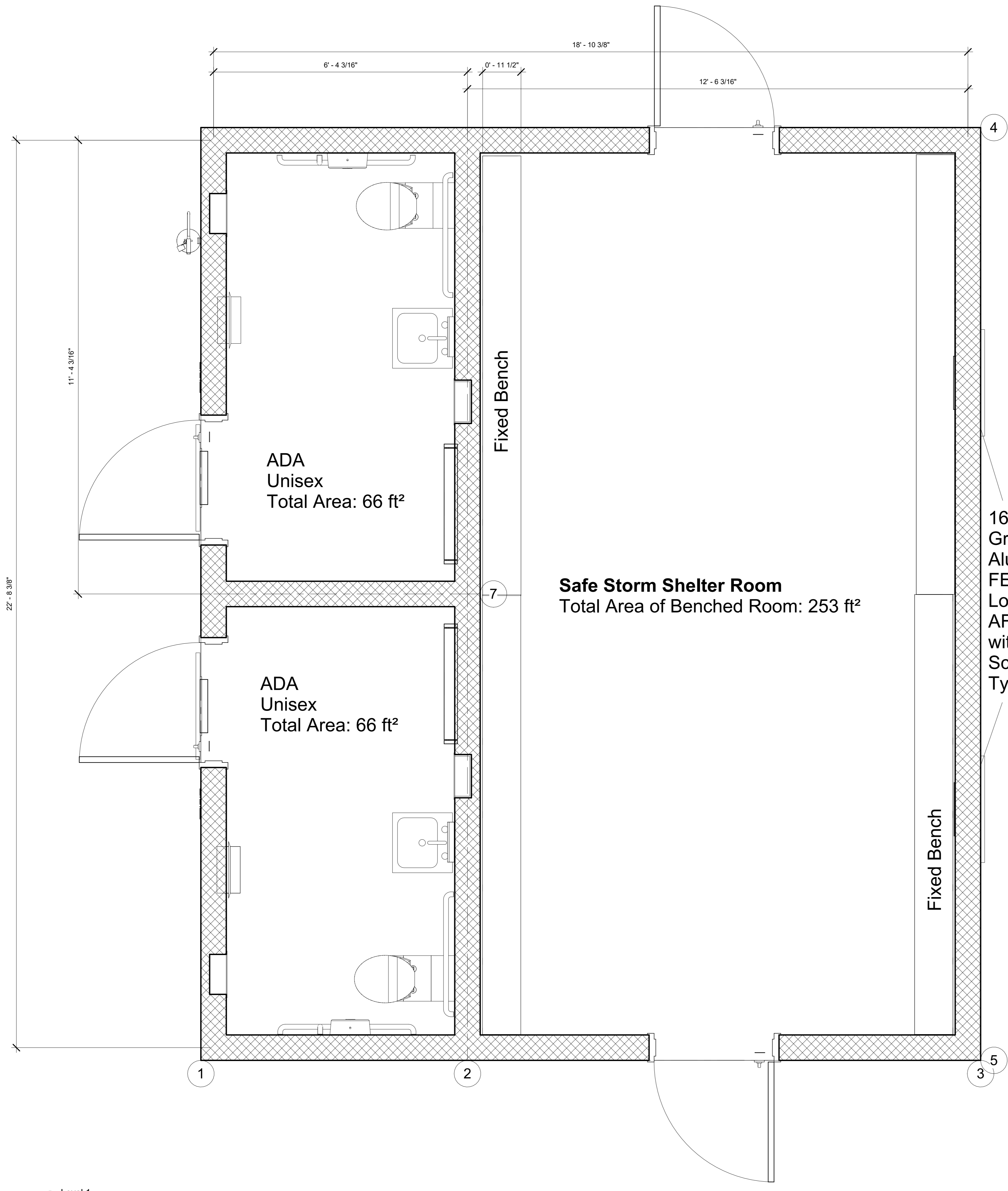
**Eagle Point Park Campground**

3923 N 3rd St.  
 Clinton, IA 52732

SHEET NAME  
 ARCHITECTURAL  
 VIEW

SHEET NO.  
**7.1**





PROJECT: CEE-4850 Senior Design Project  
 DATE: 3/23/2023  
 DRAWN BY: ADB  
 REVISION:

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**Eagle Point Park Campground**

3923 N 3rd St.  
 Clinton, IA 52732

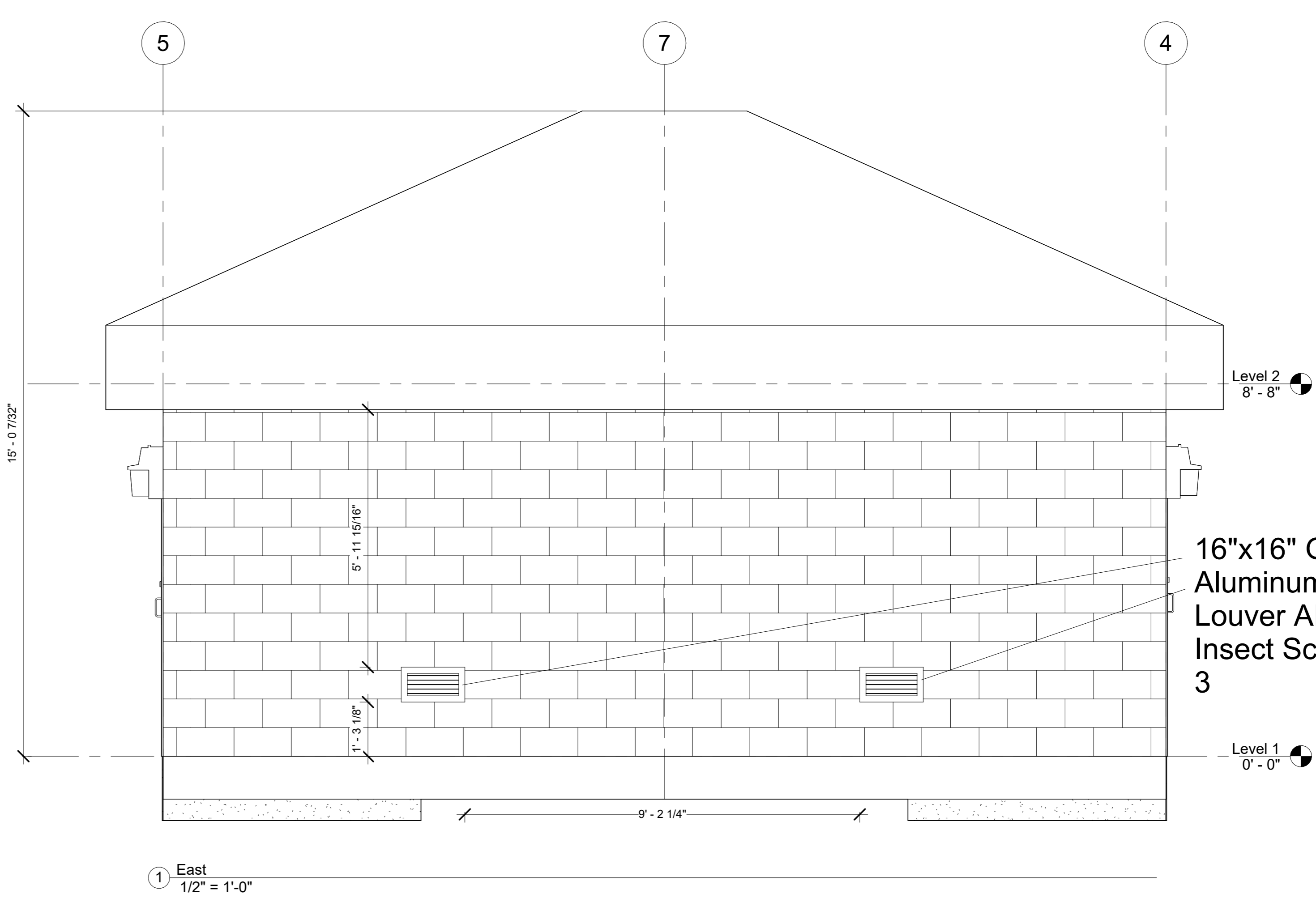
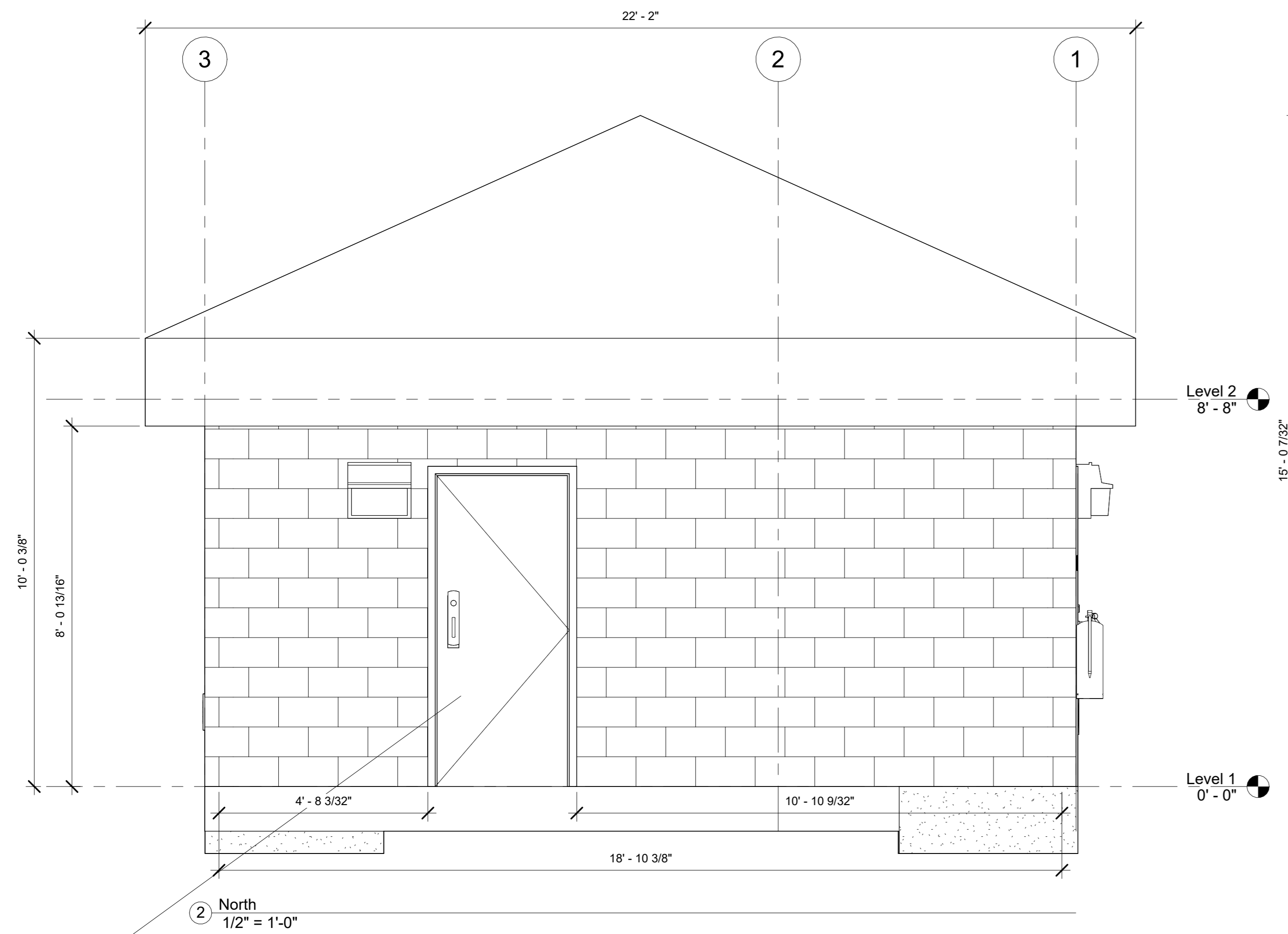
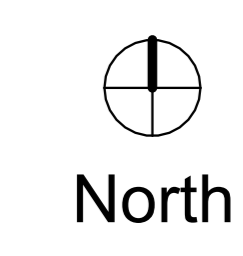
SHEET NAME  
 LAYOUT VIEW

SHEET NO.

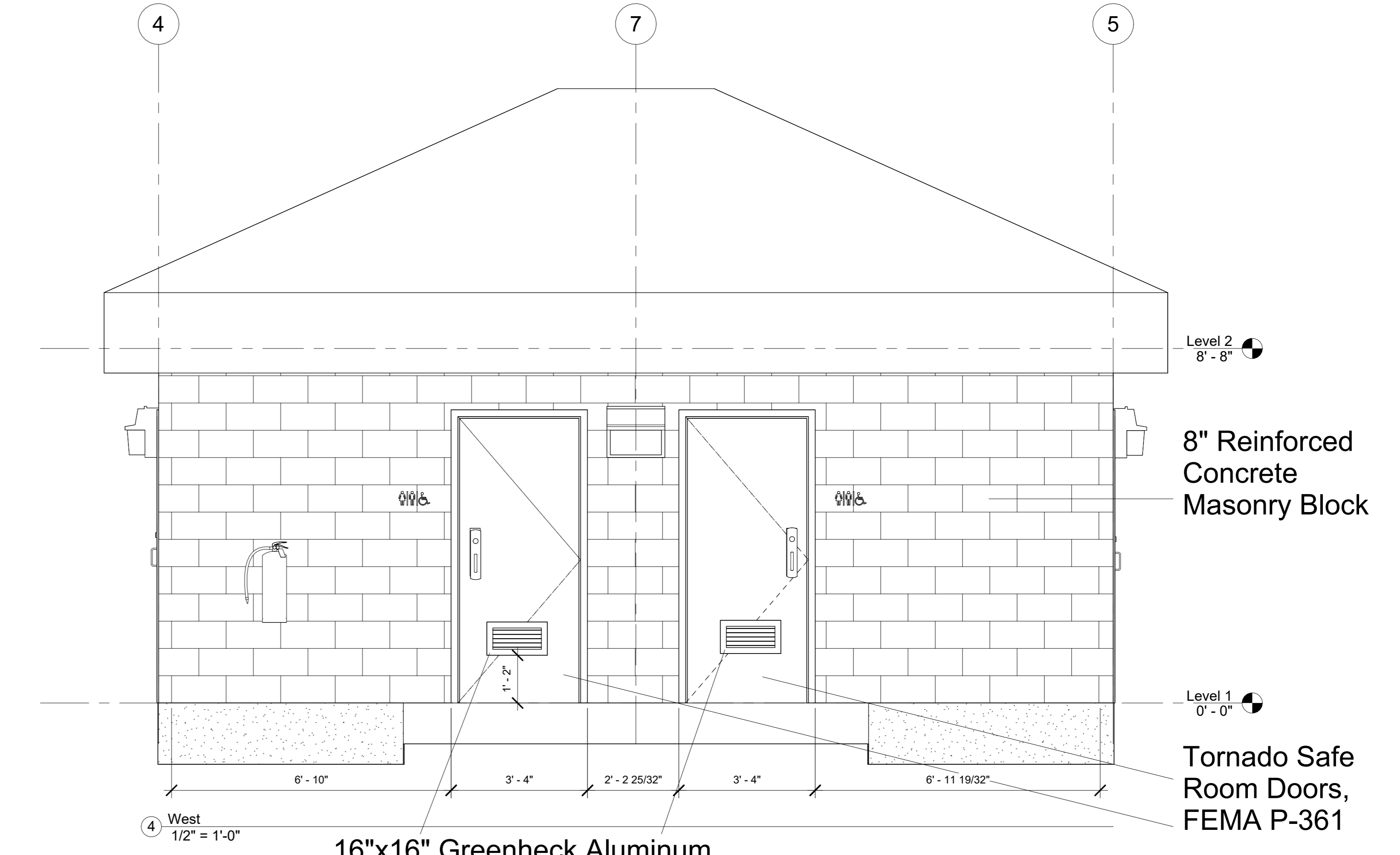
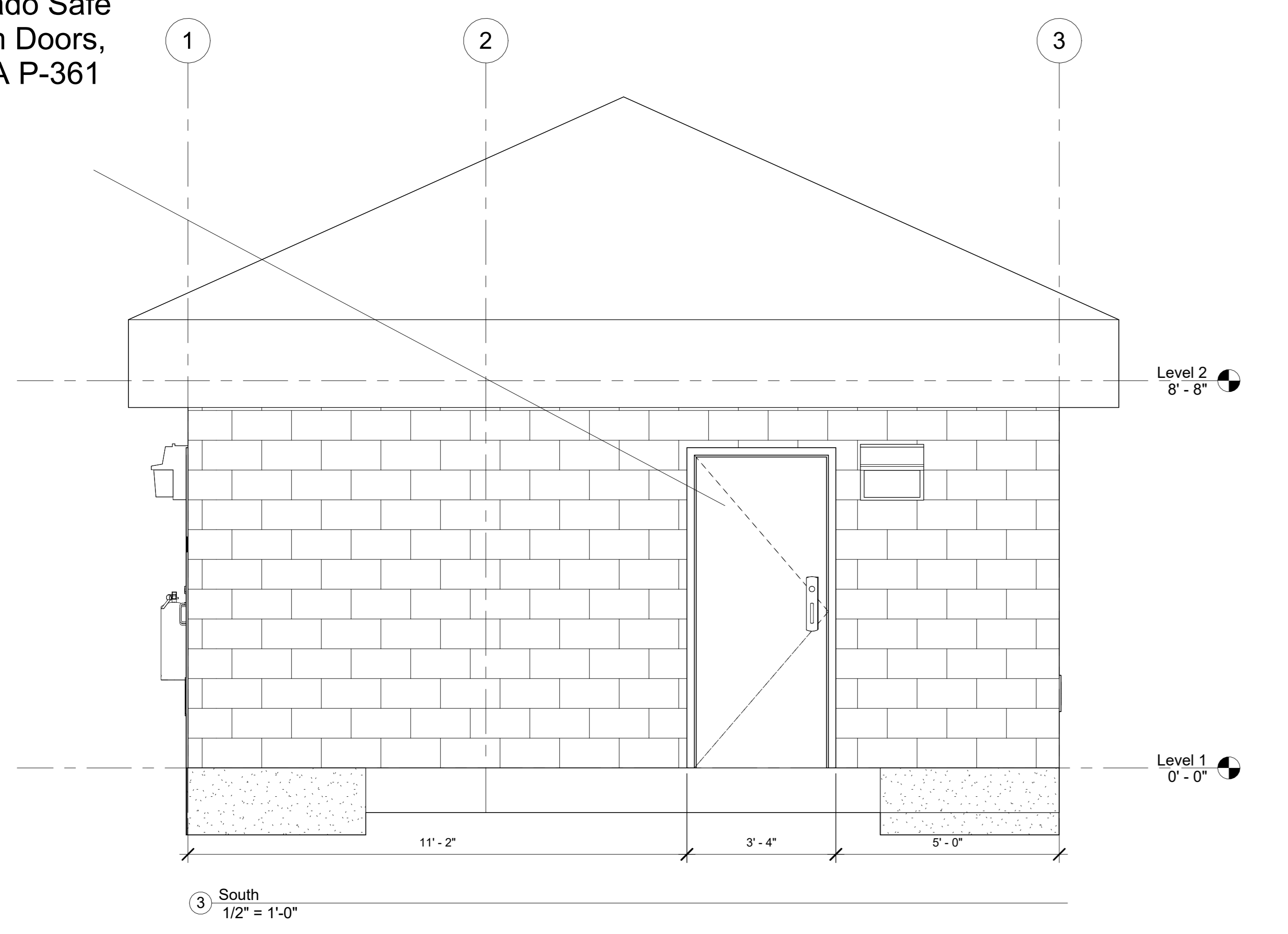
**7.2**

1 Level 1  
 3/4" = 1'-0"





Tornado Safe Room Doors, FEMA P-361



PROJECT: CEE-4850 Senior Design Project  
 DATE: 3/23/2023  
 DRAWN BY: ADB  
 REVISION:

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Eagle Point Park Campground

SHEET NAME  
 ELEVATION VIEWS  
 SHEET NO.

7.3

3923 N 3rd St.  
 Clinton, IA 52732

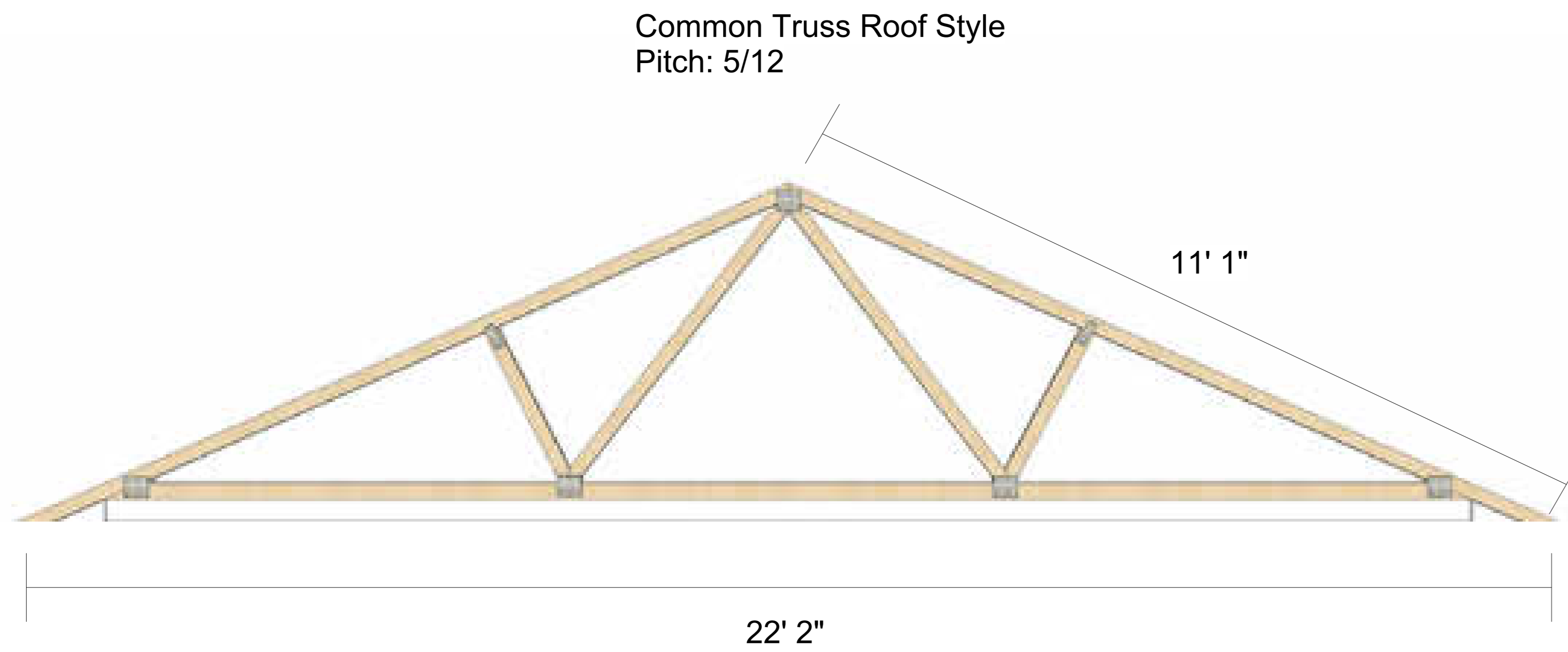
16"x16" Greenheck Aluminum FEMA 361 Louver AFL-501 with Insect Screen, Type 3

16"x16" Greenheck Aluminum FEMA 361 Louver AFL-501 with Insect Screen, Type 3

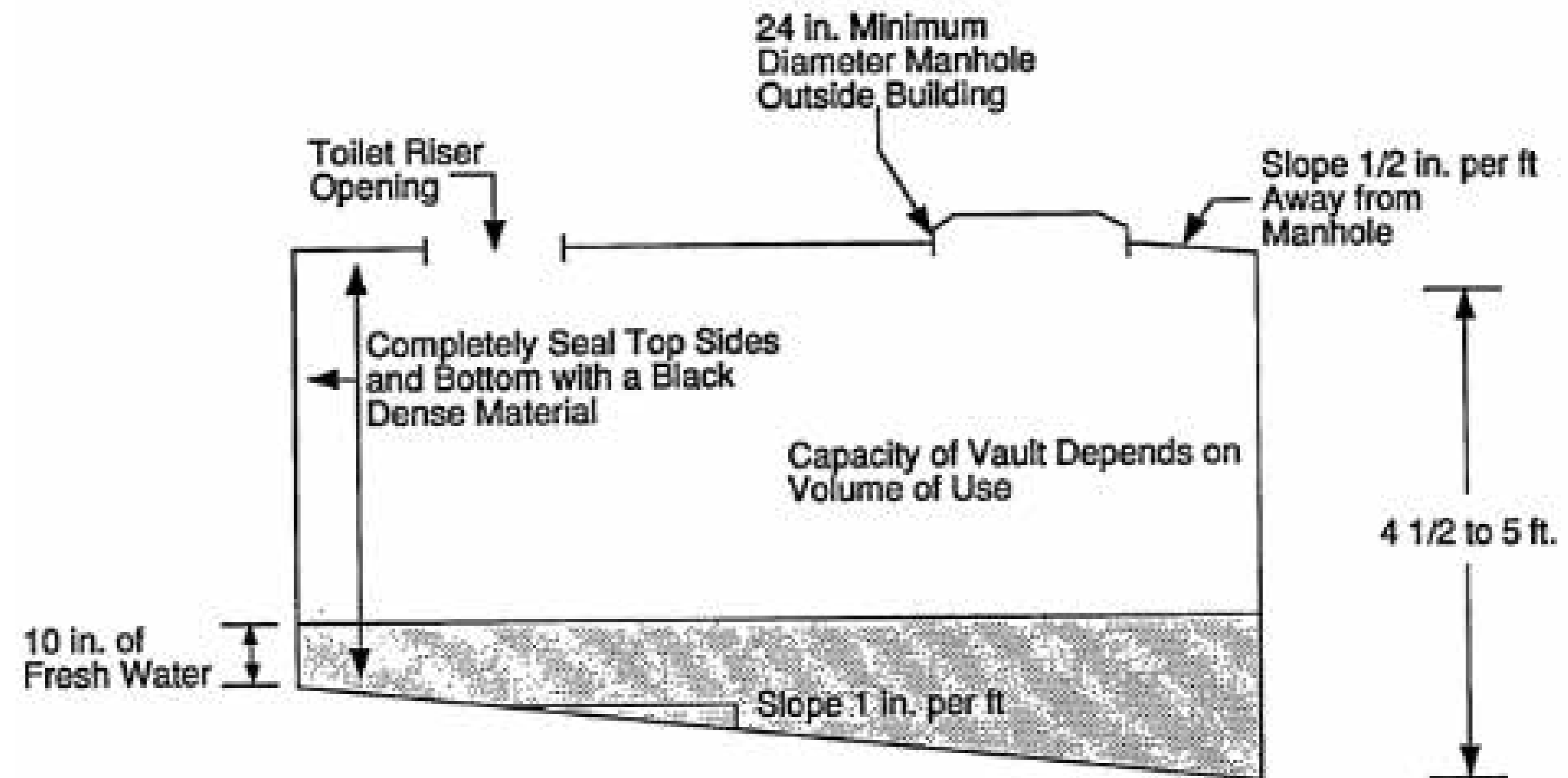
8" Reinforced Concrete Masonry Block

Tornado Safe Room Doors, FEMA P-361





Vault Toilet Cross Section Pit, QTY 2



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