

Hydraulic Analysis Report

Project Data

Project Title: CUY-00480-06.120

Designer:

Project Date: Thursday, July 18, 2024

Project Units: U.S. Customary Units

Notes:

Curb and Gutter Analysis: STA 9+10 LT

Notes:

Gutter Input Parameters

Longitudinal Slope of Road: 0.0068 ft/ft

Cross-Slope of Pavement: 0.0160 ft/ft

Uniform Gutter Geometry

Manning's n: 0.0150

Gutter Width: 1.0000 ft

Design Flow: 0.1630 cfs

Gutter Result Parameters

Width of Spread: 4.4042 ft

Gutter Depression: 0.0000 in

Area of Flow: 0.1552 ft²

E_o (Gutter Flow to Total Flow): 0.4972

Gutter Depth at Curb: 0.8456 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Grate

Grate Type: P - 1-7/8

Grate Width: 0.6000 ft

Grate Length: 1.5000 ft

Local Depression: 0.0000 in

Inlet Result Parameters

Intercepted Flow: 0.0747 cfs

Bypass Flow: 0.0883 cfs

Approach Velocity: 1.0504 ft/s

Splash-over Velocity: 6.9924 ft/s

Efficiency: 0.4581

Curb and Gutter Analysis: STA 9+20 LT

Notes:

Gutter Input Parameters

Longitudinal Slope of Road: 0.0068 ft/ft

Cross-Slope of Pavement: 0.0160 ft/ft

Uniform Gutter Geometry

Manning's n: 0.0150

Gutter Width: 1.0000 ft

Design Flow: 0.1160 cfs

Gutter Result Parameters

Width of Spread: 3.8767 ft

Gutter Depression: 0.0000 in

Area of Flow: 0.1202 ft²

Eo (Gutter Flow to Total Flow): 0.5491

Gutter Depth at Curb: 0.7443 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Grate

Grate Type: P - 1-7/8

Grate Width: 0.6000 ft

Grate Length: 1.5000 ft

Local Depression: 0.0000 in

Inlet Result Parameters

Intercepted Flow: 0.0586 cfs

Bypass Flow: 0.0574 cfs

Approach Velocity: 0.9648 ft/s

Splash-over Velocity: 6.9924 ft/s

Efficiency: 0.5049

Curb and Gutter Analysis: STA 9+30 LT

Notes:

Gutter Input Parameters

Longitudinal Slope of Road: 0.0068 ft/ft

Cross-Slope of Pavement: 0.0160 ft/ft

Uniform Gutter Geometry

Manning's n: 0.0150

Gutter Width: 1.0000 ft

Design Flow: 0.0840 cfs

Gutter Result Parameters

Width of Spread: 3.4348 ft

Gutter Depression: 0.0000 in

Area of Flow: 0.0944 ft²

E_o (Gutter Flow to Total Flow): 0.6010

Gutter Depth at Curb: 0.6595 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Grate

Grate Type: P - 1-7/8

Grate Width: 0.6000 ft

Grate Length: 1.5000 ft

Local Depression: 0.0000 in

Inlet Result Parameters

Intercepted Flow: 0.0463 cfs

Bypass Flow: 0.0377 cfs

Approach Velocity: 0.8900 ft/s

Splash-over Velocity: 6.9924 ft/s

Efficiency: 0.5511

Curb and Gutter Analysis: STA 11+20 LT

Notes:

Gutter Input Parameters

Longitudinal Slope of Road: 0.0068 ft/ft

Cross-Slope of Pavement: 0.0160 ft/ft

Uniform Gutter Geometry

Manning's n: 0.0150

Gutter Width: 1.0000 ft

Design Flow: 0.5730 cfs

Gutter Result Parameters

Width of Spread: 7.0567 ft

Gutter Depression: 0.0000 in

Area of Flow: 0.3984 ft²

E_o (Gutter Flow to Total Flow): 0.3350

Gutter Depth at Curb: 1.3549 in

Inlet Input Parameters

Inlet Location: Inlet on Grade

Inlet Type: Grate

Grate Type: P - 1-7/8

Grate Width: 0.6000 ft

Grate Length: 1.5000 ft

Local Depression: 0.0000 in

Inlet Result Parameters

Intercepted Flow: 0.1768 cfs

Bypass Flow: 0.3962 cfs

Approach Velocity: 1.4383 ft/s

Splash-over Velocity: 6.9924 ft/s

Efficiency: 0.3086