WOOLPERT

DESIGN | GEOSPATIAL | INFRASTRUCTURE

STORM WATER MANAGEMENT CALCULATIONS

TXRH WEST CHESTER
WEST CHESTER TOWNSHIP, OH

Woolpert Project No. 75566

Original Date of Issue: September 7th 2016

Revised: October 17th 2016

Revised: November 3rd 2016

Revised: November 23rd 2016

Revised: January 9th 2017

Methodology

Composite curve numbers were calculated for the proposed and existing conditions. Exhibits outlining the pervious and impervious areas for the proposed and existing conditions have been included with this report. On-site observations revealed that the existing grass was in a "fair" condition. All proposed turf to be planted per the Landscaping Plan is expected to be in "good" condition. For Lot 2, the pervious area is assumed to be 10% of the "buildable area" portion of Lot 2. Refer to the included existing conditions exhibit for the extents of this buildable area. Hydrologic soil group C was determined to be the dominant condition for the site, and was used to determine the composite CN values. The NRCS soils map illustrating the extents of each soil group on-site is included with this report.

As described in the Butler County Modified Critical Storm Method, WinTR-20 software was used to determine the total runoff from a 1 (one) year frequency, 24 hour storm event for the site before and after development. The amount of runoff for the existing and proposed conditions is 1.379 and 1.619 inches, respectively. This results in a runoff volume increase of approximately 15%. Per Table D-11 of Appendix D, the critical storm is the 2-year 24-hour storm. Storm sewer conveying runoff for the site was designed using the 10-year 24-hour storm conditions. These calculations have been included with this report.

Next, WinTR-20 software was used to determine the peak runoff from the 1 (one) year, 10 year, 25 year, and 50 year storms in the site's pre-developed state . Per Butler County regulations, the proposed 10-year release rate must be below the 1-year pre-developed rate. Then, the proposed 25-year release rate must be below the pre-developed 10–year rate, and so on. The output data for the pre-developed storm conditions and the post-developed storm conditions have been included in their entirety. The expected high water levels for the two (2), 10, 25, 50, and 100-year 24-hour storms are: 863.35, 864.70, 865.36, 865.69, and 866.00, respectively. A multi-stage rate control structure with 11" and 4" orifices will be used for discharging captured stormwater runoff. The invert of the 11" orifice was set at elevation 860.00, and the supplemental 4" orifice was set at the 10-year HWL elevation of 864.70. Orifice flow calculations are included with this report. Per Butler County Regulations, an emergency spillway was designed to convey the runoff from a 100-year 24-hour storm in the pre-developed condition. The output data for the pre-developed 100-year storm conditions has been included in its entirety, along with weir flow calculations for the 8' wide emergency spillway. Please refer to sheet C300 for the location of the emergency spillway.

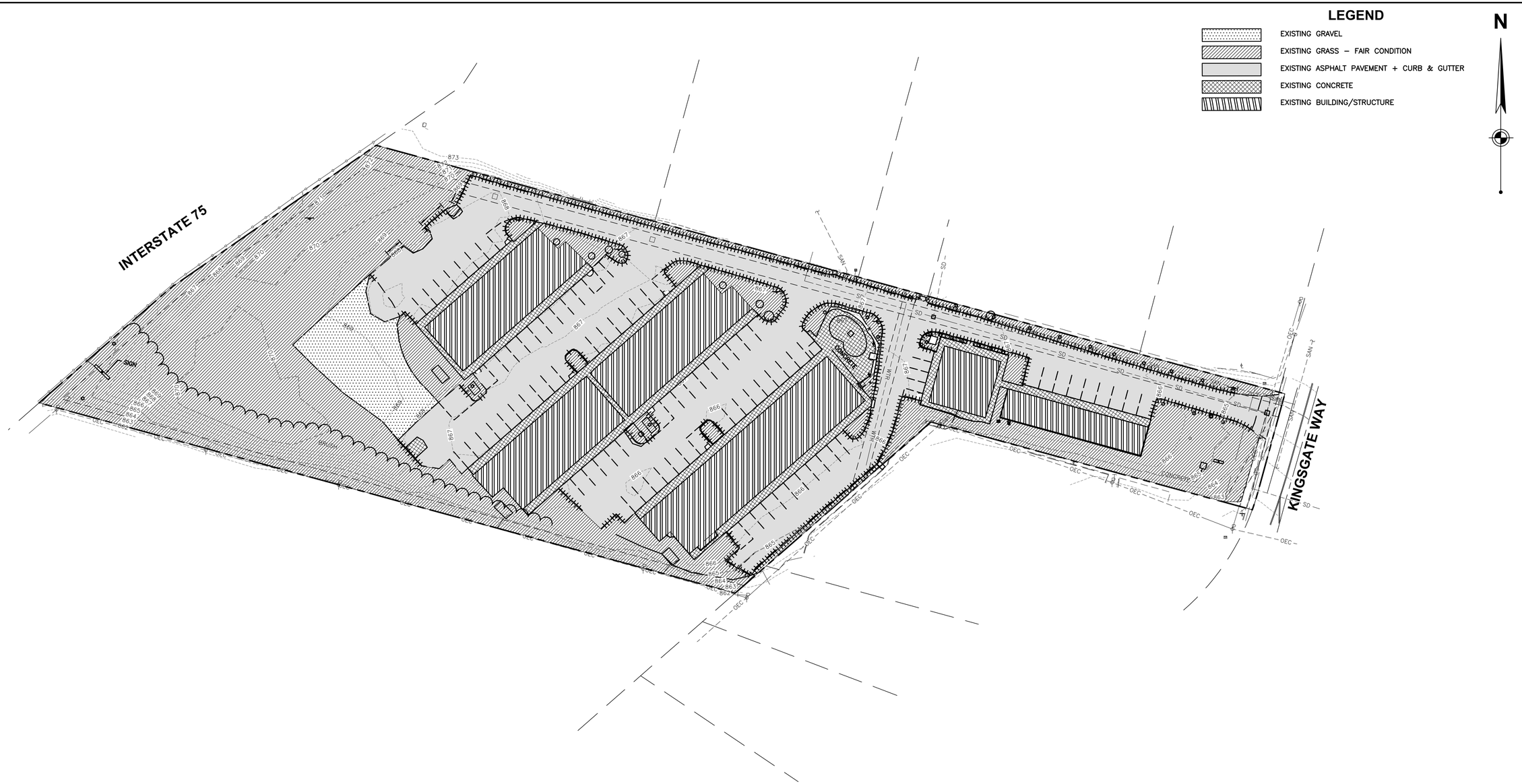
Autodesk SSA software was utilized to size the outlet pipes from the detention basin (structures 1.15 – 1.20), based on the maximum runoff resulting from the 100-year 24-hour storm (8.06 cfs) in the developed condition. The output data for the proposed 24" storm sewer are included with this report, as well as the runoff data for the existing storm sewer (running W-E along the northern drive) during the 100-year 24-storm in the pre-developed condition.

The OEPA water quality treatment requirements for the site will be met using catch basin insert products from Contech, or an approved equal.

Composite Curve Number Calculations

TXRH West Chester (EXISTING CONDITION)					
TRIBUTARY AREAS					
Tributary Area:	4.358		acres		
Dominant Soil Group:	Type C				
RUNOFF COEFFICIENT					
Impervious Area	105,651	x	98.00	=	10353798
Pervious Area (Grass - Fair Cond.)	77,114	x	79.00	=	6092006
Pervious Area (Gravel Pvmt)	7,026	x	89.00	=	625314
			Total=		17071118
			CN:		90

TXRH West Chester (PROPOSED CONDITION)					
TRIBUTARY AREAS					
Tributary Area:	4.358		acres		
Dominant Soil Group:	Type C				
RUNOFF COEFFICIENT					
Impervious Area	152,017	x	98.00	=	14897627
TXRH Pervious Area (Grass - Good Cond.)	30,155	x	74.00	=	2231470
LOT 2 Pervious Area (Grass - Good Cond.)	7,619	x	74.00	=	563836
			Total=		17692932
			CN:		93



SURVEY DATA:

THE BEARINGS OF THIS SURVEY ARE BASED UPON THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD83 (ODOT VRS). SAID BEARINGS ORIGINATED FROM SAID COORDINATE SYSTEM BY GPS OBSERVATIONS AND OBSERVATIONS OF SELECTED STATIONS IN THE NATIONAL GEODETIC SURVEY CONTINUOUSLY OPERATING REFERENCE STATIONS (NGS CORS) NETWORK. THE BEARING ON THE WEST RIGHT OF WAY LINE OF KINGSGATE WAY, BEING S15°18'15"W, IS DESIGNATED THE 'BASIS OF BEARING' FOR THIS SURVEY.

Ohio Utilities Protection Service
Call 811 before you dig

0 40 80 120
GRAPHIC SCALE IN FEET

No.	DATE	REVISION

PROJECT No: 075566
DATE 06/15/16
DES. BI
DR. BI
CKD. JG

4454 Idea Center Blvd
Dayton, OH
45430-1500
937.461.5660
FAX: 937.461.0743

WOOLPERT

SITE IMPROVEMENT PLANS
TEXAS ROADHOUSE - WEST CHESTER

7313 KINGSGATE WAY
WEST CHESTER TOWNSHIP, BUTLER COUNTY, OHIO

EXISTING PERVIOUS/IMPERVIOUS EXHIBIT

SHEET NO.
EXH

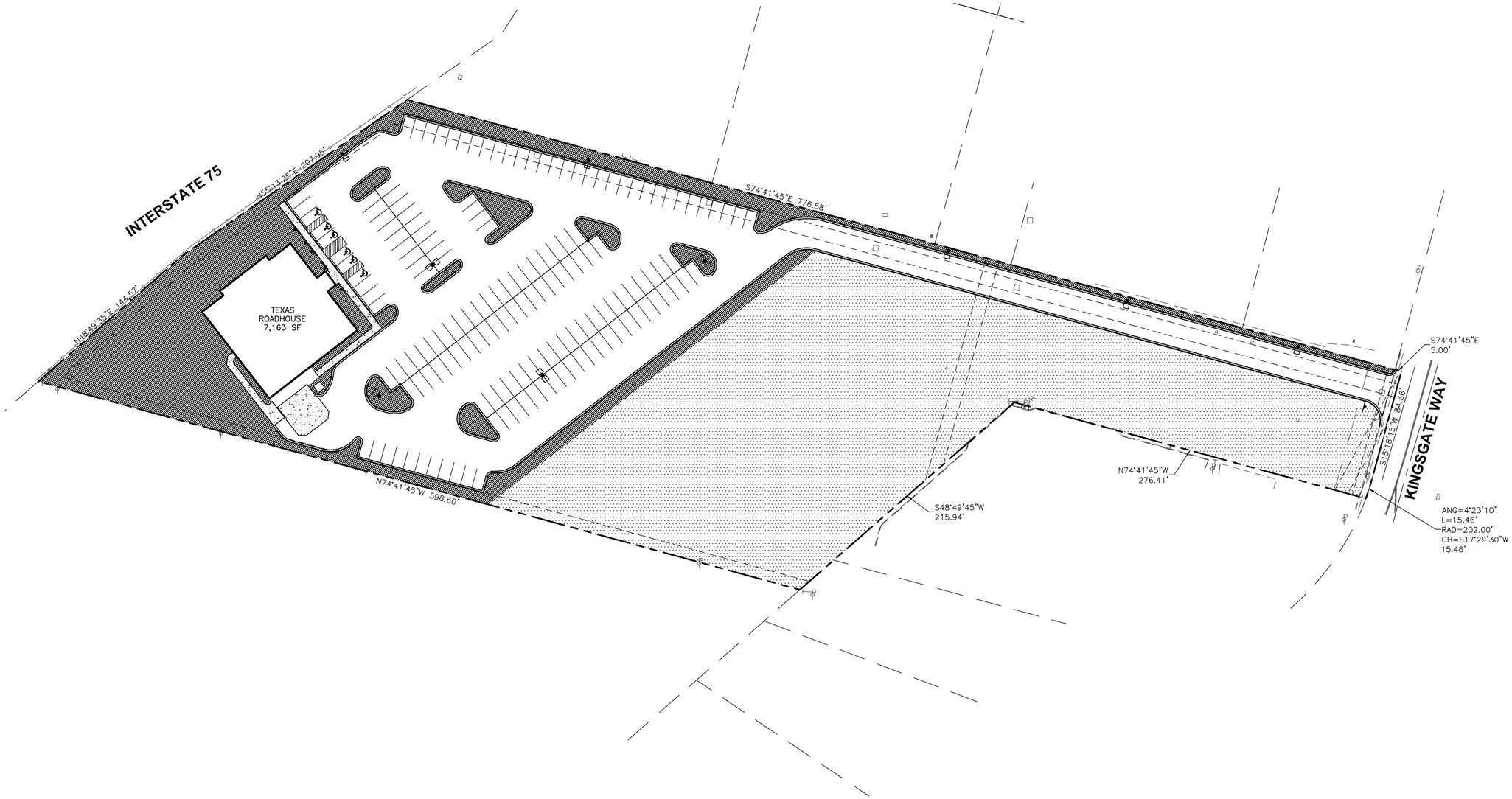
Layout Tab Name: C100 EXISTING CONDITIONS & DEMOLITION PLAN, Images: west chester aerial.jpg: , Xrefs: 075566-TBLK.dwg; 075566-P.dwg; 075566-P.dwg; 075566-X.dwg
Last Saved By:Wanuk, I.J./2016 3:03:25 PM
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Layout Tab Name: C200 SITE PLAN, Images: west chester aerial.jpg; , Xrefs: 075566-TBLK.dwg; 075566-P.dwg; 075566-X.dwg
Last Saved By:Wanuk, 11/1/2016 4:39:57 PM
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LEGEND

- PROPOSED PERVIOUS AREA (TXRH PREMISES)
- LOT 2 BUILDABLE AREA (ASSUME PERVIOUS AREA FOR LOT 2 TO BE 10% OF BUILDABLE AREA)
- PROPOSED ASPHALT PAVEMENT + CURB & GUTTER
- PROPOSED CONCRETE
- PROPERTY BOUNDARY

N



SURVEY DATA:

THE BEARINGS OF THIS SURVEY ARE BASED UPON THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD83 (ODOT VRS). SAID BEARINGS ORIGINATED FROM SAID COORDINATE SYSTEM BY GPS OBSERVATIONS AND OBSERVATIONS OF SELECTED STATIONS IN THE NATIONAL GEODETIC SURVEY CONTINUOUSLY OPERATING REFERENCE STATIONS (NGS CORS) NETWORK. THE BEARING ON THE WEST RIGHT OF WAY LINE OF KINGSGATE WAY, BEING S15°18'15"W, IS DESIGNATED THE 'BASIS OF BEARING' FOR THIS SURVEY.

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0 40 80 120
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No.	DATE	REVISION

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DATE 06/15/16
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4454 Idea Center Blvd
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WOOLPERT

SITE IMPROVEMENT PLANS
TEXAS ROADHOUSE - WEST CHESTER

7313 KINGSGATE WAY
WEST CHESTER TOWNSHIP, BUTLER COUNTY, OHIO

PROPOSED PERVIOUS/IMPERVIOUS EXHIBIT

SHEET NO.

EXH

Hydrologic Soil Group—Butler County, Ohio



Map Scale: 1:1,680 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Butler County, Ohio
Survey Area Data: Version 14, Sep 26, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 26, 2014—Oct 26, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Butler County, Ohio (OH017)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
DaB	Dana silt loam, 2 to 6 percent slopes	B	0.3	6.2%
Ud	Udorthents		0.4	10.7%
XeB	Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	C	3.5	83.1%
Totals for Area of Interest			**4.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

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WinTR-20 Printed Page File      Beginning of Input Data List
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TX Roadhouse EXISTING

SUB-AREA:
          Area 1    Outlet              0.0068078 90.       .25       YY  Y


STORM ANALYSIS:
          1yr 24hr                      2.33      TYPE II   2
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WinTR-20 Printed Page File      End of Input Data List

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                                    STORM 1yr 24hr
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Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Area 1	0.007		1.379		12.04	7.4	1094.08

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.522	0.5	0.5	0.5	0.5	0.6	0.6	0.7
11.633	0.7	0.8	0.9	1.0	1.1	1.3	1.4
11.743	1.6	1.8	2.0	2.2	2.4	2.7	3.0
11.854	3.3	3.6	4.1	4.5	5.0	5.5	5.9
11.964	6.4	6.8	7.1	7.3	7.4	7.4	7.4
12.075	7.2	6.9	6.6	6.2	5.7	5.2	4.8
12.185	4.3	3.9	3.6	3.2	2.9	2.7	2.5
12.296	2.3	2.2	2.0	1.9	1.8	1.7	1.6
12.406	1.5	1.5	1.4	1.3	1.3	1.2	1.2
12.517	1.1	1.1	1.1	1.0	1.0	1.0	0.9
12.627	0.9	0.9	0.8	0.8	0.8	0.8	0.8
12.738	0.8	0.7	0.7	0.7	0.7	0.7	0.7
12.849	0.7	0.7	0.7	0.7	0.6	0.6	0.6
12.959	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.070	0.6	0.6	0.6	0.6	0.5	0.5	0.5
13.180	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13.291	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.007		1.379		12.04	7.4	1094.08

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.522	0.5	0.5	0.5	0.5	0.6	0.6	0.7
11.633	0.7	0.8	0.9	1.0	1.1	1.3	1.4
11.743	1.6	1.8	2.0	2.2	2.4	2.7	3.0
11.854	3.3	3.6	4.1	4.5	5.0	5.5	5.9
11.964	6.4	6.8	7.1	7.3	7.4	7.4	7.4
12.075	7.2	6.9	6.6	6.2	5.7	5.2	4.8
12.185	4.3	3.9	3.6	3.2	2.9	2.7	2.5
12.296	2.3	2.2	2.0	1.9	1.8	1.7	1.6
12.406	1.5	1.5	1.4	1.3	1.3	1.2	1.2
12.517	1.1	1.1	1.1	1.0	1.0	1.0	0.9
12.627	0.9	0.9	0.8	0.8	0.8	0.8	0.8
12.738	0.8	0.7	0.7	0.7	0.7	0.7	0.7
12.849	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
12.959	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.070	0.6	0.6	0.6	0.6	0.5	0.5	0.5
13.180	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13.291	0.0						

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SUB-AREA:
          Area 1    Outlet              .0068078  93.       .25       YY  Y


STORM ANALYSIS:
          1yr 24hr                      2.33      TYPE II   2
```

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WinTR-20 Printed Page File      End of Input Data List

               TX Roadhouse - Proposed Conditions - 1year storm

                         Name of printed page file:
      C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__1yr storm.out

                                      STORM 1yr 24hr
```

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Area 1	0.007		1.619		12.03	8.6	1263.39

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.289	0.5	0.5	0.5	0.5	0.5	0.5	0.6
11.400	0.6	0.6	0.6	0.6	0.6	0.6	0.6
11.510	0.6	0.7	0.7	0.7	0.7	0.8	0.9
11.621	0.9	1.0	1.1	1.2	1.4	1.5	1.7
11.731	1.9	2.1	2.3	2.6	2.8	3.1	3.4
11.842	3.8	4.2	4.6	5.1	5.6	6.1	6.7
11.953	7.2	7.6	8.0	8.3	8.5	8.6	8.6
12.063	8.5	8.2	7.8	7.4	6.9	6.3	5.8
12.174	5.3	4.8	4.3	3.9	3.5	3.2	3.0
12.284	2.7	2.5	2.4	2.2	2.1	2.0	1.9
12.395	1.8	1.7	1.6	1.5	1.5	1.4	1.4
12.505	1.3	1.2	1.2	1.2	1.1	1.1	1.0
12.616	1.0	1.0	0.9	0.9	0.9	0.9	0.9
12.726	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12.837	0.7	0.7	0.7	0.7	0.7	0.7	0.7
12.947	0.7	0.7	0.7	0.7	0.7	0.6	0.6
13.058	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.168	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.279	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13.389	0.5	0.5	0.5	0.5	0.0		

Area or Reach	Drainage Area	Rain Gage ID or	Runoff Amount	Peak Flow Elevation	Peak Flow Time	Peak Flow Rate	Peak Flow Rate

Identifier	(sq mi)	Location	(in)	(ft)	(hr)	(cfs)	(csm)
OUTLET	0.007		1.619		12.03	8.6	1263.39

Line Start Time	Flow Values @ time increment of 0.016 hr						
(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.289	0.5	0.5	0.5	0.5	0.5	0.5	0.6
11.400	0.6	0.6	0.6	0.6	0.6	0.6	0.6
11.510	0.6	0.7	0.7	0.7	0.7	0.8	0.9
11.621	0.9	1.0	1.1	1.2	1.4	1.5	1.7
11.731	1.9	2.1	2.3	2.6	2.8	3.1	3.4
11.842	3.8	4.2	4.6	5.1	5.6	6.1	6.7
11.953	7.2	7.6	8.0	8.3	8.5	8.6	8.6
12.063	8.5	8.2	7.8	7.4	6.9	6.3	5.8
12.174	5.3	4.8	4.3	3.9	3.5	3.2	3.0
12.284	2.7	2.5	2.4	2.2	2.1	2.0	1.9

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
12.395	1.8	1.7	1.6	1.5	1.5	1.4	1.4
12.505	1.3	1.2	1.2	1.2	1.1	1.1	1.0
12.616	1.0	1.0	0.9	0.9	0.9	0.9	0.9
12.726	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12.837	0.7	0.7	0.7	0.7	0.7	0.7	0.7
12.947	0.7	0.7	0.7	0.7	0.7	0.6	0.6
13.058	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.168	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.279	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13.389	0.5	0.5	0.5	0.5	0.0		

Detention Basin Storage (PROPOSED)

Surface Ponding
Volume = (1/3)*(EL2-EL1)*[A1+A2+sqrt(A1*A2)]

DETENTION AREA ELEVATION (ft)	AREA (SF)	INCREMENTAL (SF)	INCREMENTAL VOLUME (CF)	TOTAL VOLUME (CF)	TOTAL VOLUME (AC-FT)
859.75	0.00	0.00	0.00	0.000	0.000
860.00	1087.50	1087.50	90.63	90.625	0.002
861.00	1614.77	4027.44	1342.48	1433.103	0.033
862.00	2260.39	5785.66	1928.55	3361.657	0.077
863.00	3028.06	7904.67	2634.89	5996.546	0.138
864.00	3908.85	10377.29	3459.10	9455.644	0.217
864.72	4602.39	12752.71	3060.65	12516.293	0.287
865.00	5296.09	13754.84	4584.95	14040.591	0.322
865.50	6009.12	15870.44	4126.31	16642.607	0.382
866.00	6770.64	18054.88	6018.29	20058.884	0.460

PROPOSED DETENTION BASIN VOLUME =	**0.4605**	**AC-FT**
	20058.88	**CF**

STORMWATER STORAGE

Upstream	Downstream	Material	Diameter (in)	Length (ft)	Capacity (cf)	Capacity (ac-ft)
1.9	1.5	PVC	6	87	17.1	0.0004
1.1	1.2	RCP	21	221	530.1	0.0122
1.2	1.3	RCP	24	121	379.5	0.0087
1.3	1.4	RCP	24	121	379.5	0.0087
1.4	1.5	RCP	24	201	630.4	0.0145
1.5	1.6	RCP	24	63	197.8	0.0045
1.6	1.7	RCP	24	147	460.5	0.0106
1.7	1.8	RCP	24	47	148.2	0.0034

Pipe total:	2743.20	CF
	0.0630	AC-FT

Structure #	Internal Diam (ft)	HWL or RIM	Invert	Depth (HWL-Invert)	Volume (CF)	Volume (Ac-Ft)
1.7	4	866	860.02	5.98	54.2	0.001
1.6	4	866	860.68	5.32	45.9	0.001
1.5	6	866	860.96	5.04	95.4	0.002
1.4	4	866	861.86	4.14	31.1	0.001
1.3	4	866	862.04	3.96	33.4	0.001
1.2	4	866	862.22	3.78	31.1	0.001
1.1	4	865.6	862.55	3.05	25.4	0.001

Structure Total:	316.47	CF
	0.0073	AC-FT

PIPE + STR TOTAL:	3059.67	CF
	0.0702	AC-FT

Summary

Pipe Storage	2,743 CF	0.0630 AC-FT
Structure Storage	316 CF	0.0073 AC-FT
Surface Storage	20,059 CF	0.4605 AC-FT
TOTAL PROVIDED STORAGE	23,119 CF	0.5307 AC-FT

Project Name: TXRH West Chester

STORM SEWER CALCULATION SHEET

Description: 10 YR storm event through storm pipes sized for 10 YR event

Rainfall data: Bulletin 71, Section 8

STORM EVENT 10 Year

STATION/STRUCTURE		LENGTH	DRAINAGE AREA		RUNOFF	"A" x "C"		FLOW TIME (MIN)		RAINFALL	RAINFALL	**TOTAL**	DIAMETER	DIAMETER	**CAPACITY**	VELOCITY	SLOPE	PIPE	MANNING'S
FROM	TO	FEET	INCREM. (Acres)	TOTAL (Acres)	COEFF.	INCREM	TOTAL	TO UPPER END	IN SECTION	INTENSITY "i" (IN)	INTENSITY "i" (IN/HR)	**RUNOFF Q = ciA**	PIPE INCHES	PIPE FEET	**FULL CFS**	FULL (FPS)	OF SEWER	MATERIAL	n'
1.1	1.2	220.52	1.06	1.06	0.75	0.79	0.79	10.00	1.44	0.98	5.88	**4.65**	21	1.75	**6.14**	2.55	0.0015	RCP	0.013
1.2	1.3	120.86	0.44	1.49	0.75	0.33	1.12	11.44	0.72	1.04	5.48	**6.13**	24	2.00	**8.76**	2.79	0.0015	RCP	0.013
1.3	1.4	120.86	0.289	1.78	0.75	0.22	1.34	12.16	0.72	1.07	5.29	**7.07**	24	2.00	**8.76**	2.79	0.0015	RCP	0.013
1.4	1.5	200.77	1.141	2.92	0.88	1.00	2.34	12.89	0.69	1.11	5.16	**12.08**	24	2.00	**15.18**	4.83	0.0045	RCP	0.013
1.5	1.6	63.02	0.465	3.39	0.88	0.41	2.75	13.58	0.22	1.14	5.02	**13.81**	24	2.00	**15.18**	4.83	0.0045	RCP	0.013
1.6	1.7	146.65	0.000	3.39	0.90	0.00	2.75	13.80	0.51	1.15	4.98	**13.70**	24	2.00	**15.18**	4.83	0.0045	RCP	0.013
1.7	1.8	47.2	0.000	3.39	0.90	0.00	2.75	14.30	0.17	1.17	4.92	**13.54**	24	2.00	**14.31**	4.55	0.0040	RCP	0.013
1.9	1.5	87.32	0.164	0.164	0.90	0.15	0.15	10.00	0.27	0.98	5.88	**0.87**	6	0.50	**1.05**	5.36	0.0300	HDPE	0.012

Proposed Detention Basin Release Rate

Q. = (DIA/2)^2 x C x pi (2 x g x H)^0.5
g = 32.2 FT/S
DIA. = 11 IN
C = 0.61
OUTLET ELEVATION= 860.00 FEET

Orifice Flow

WATER ELEVATION	HEAD	DISCHARGE
866.00	5.54	**7.61**
865.50	5.04	**7.25**
865.00	4.54	**6.88**
10 Year HWL 864.70	4.24	**6.65**
864.00	3.54	**6.08**
863.00	2.54	**5.15**
862.00	1.54	**4.01**
861.00	0.54	**2.38**
Restrictor Invert 860.00	0.00	**0.00**

Q. = (DIA/2)^ x C x pi
g = 32.2 FT/S
DIA. = 4 IN
C = 0.61
OUTLET ELEVATION= 864.70 FEET

Orifice Flow

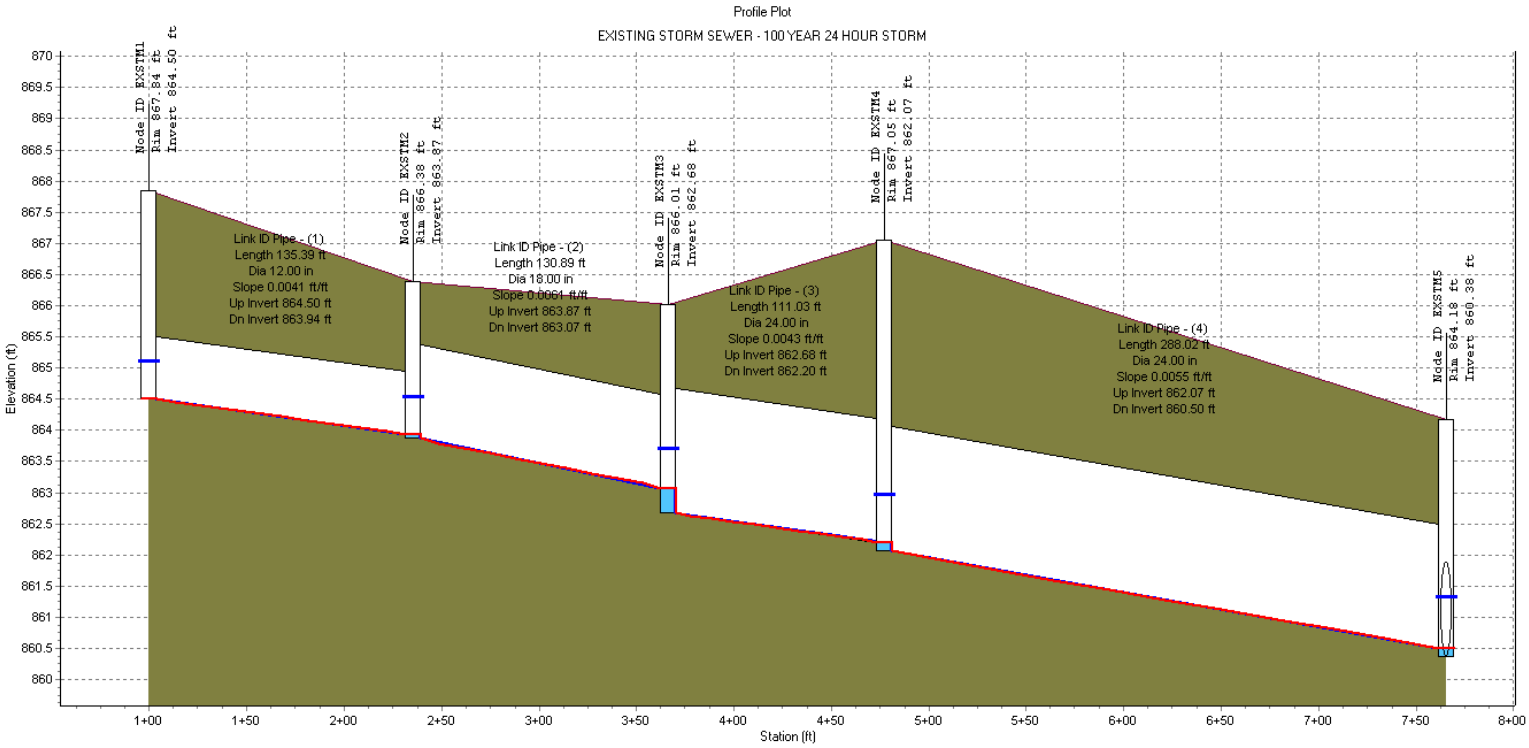
WATER ELEVATION	HEAD	DISCHARGE
866.00	1.13	**0.45**
865.50	0.63	**0.34**
865.00	0.03	**0.07**
864.70	0.00	**0.00**

Q= 3.33 x Lw x H^3/2
Lw= 8.0 ft
WEIR ELEVATION= 866.05

Weir Flow-Emergency Spillway

WATER ELEVATION	DISCHARGE
867.00	**24.67**
866.00	**0.00**

ELEV.	DISCHARGE
867.00	**24.67**
866.00	**8.06**
865.50	7.59
865.00	**6.95**
864.70	6.65
864.00	**6.08**
863.00	**5.15**
862.00	**4.01**
861.00	**2.38**
860.00	**0.00**

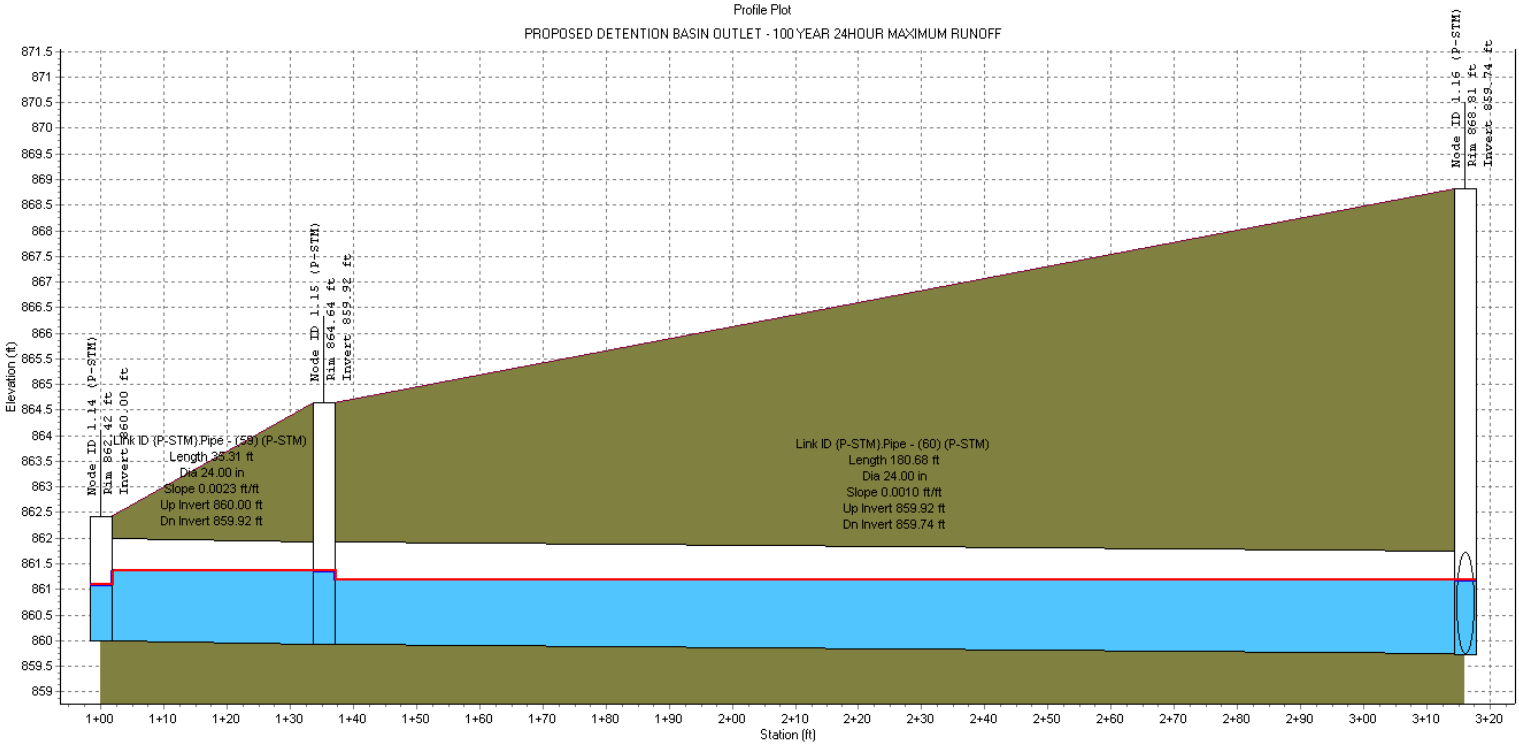


Node ID:	EXSTM1	EXSTM2	EXSTM3	EXSTM4	EXSTM5
Rim (ft):	867.84	866.38	866.01	867.05	864.18
Invert (ft):	864.50	863.87	862.68	862.07	860.38
Min Pipe Cover (ft):	2.34	1.01	1.33	2.85	1.68
Max HGL (ft):	865.11	864.54	863.70	862.96	861.33

Link ID:	Pipe - (1)	Pipe - (2)	Pipe - (3)	Pipe - (4)
Length (ft):	135.39	130.89	111.03	288.02
Dia (in):	12.00	18.00	24.00	24.00
Slope (ft/ft):	0.0041	0.0061	0.0043	0.0055
Up Invert (ft):	864.50	863.87	862.68	862.07
Dn Invert (ft):	863.94	863.07	862.20	860.50
Max Q (cfs):	1.66	3.29	4.90	6.45
Max Vel (ft/s):	4.98	4.68	4.52	5.35
Max Depth (ft):	0.60	0.63	0.76	0.82

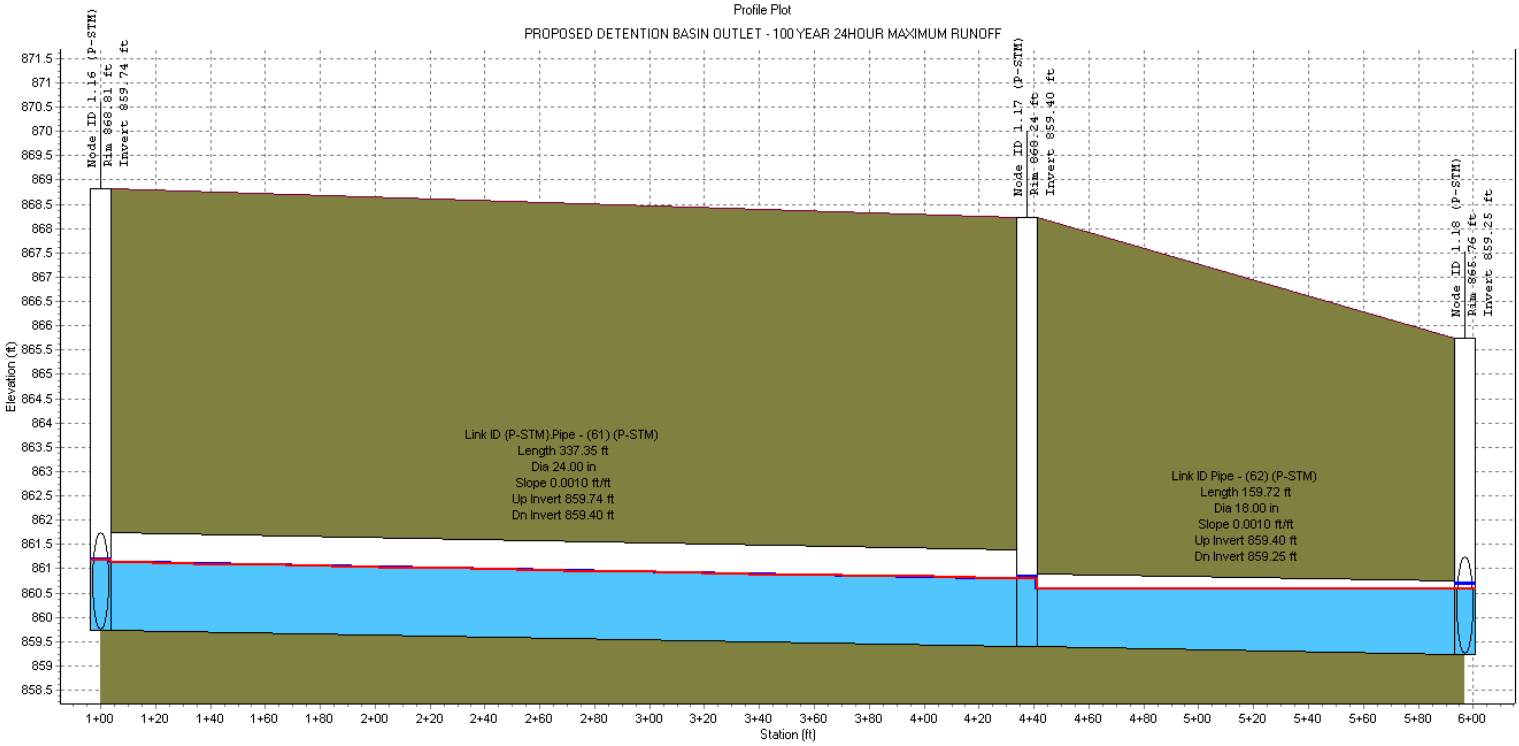
Profile Plot

PROPOSED DETENTION BASIN OUTLET - 100 YEAR 24HOUR MAXIMUM RUNOFF



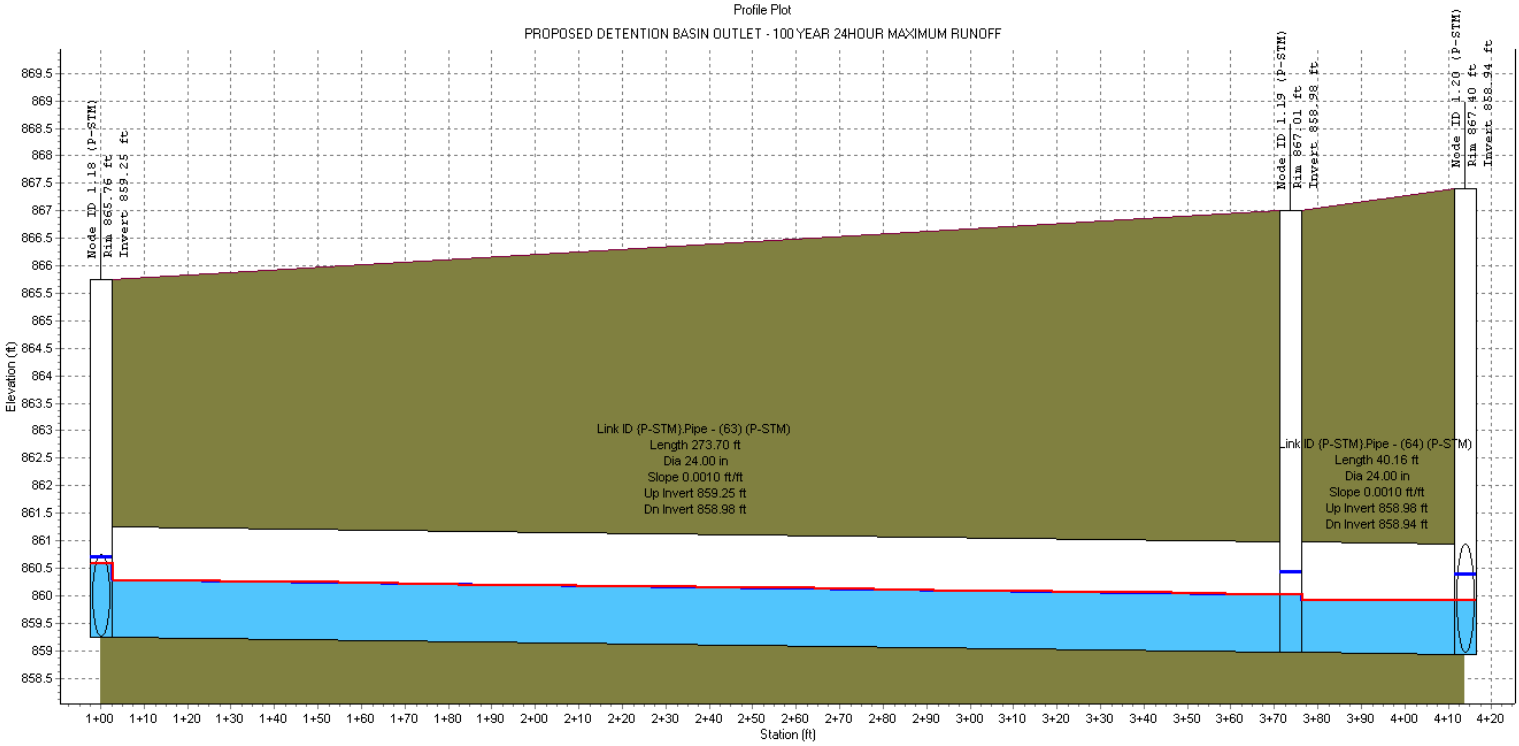
Node ID:	1.14 (P-STM)	1.15 (P-STM)	1.16 (P-STM)
Rim (ft):	862.42	864.64	868.81
Invert (ft):	860.00	859.92	859.74
Min Pipe Cover (ft):	0.42	2.72	7.07
Max HGL (ft):	861.09	861.54	861.18

Link ID:	{P-STM}.Pipe - (59) (P-STM)	{P-STM}.Pipe - (60) (P-STM)
Length (ft):	35.31	180.68
Dia (in):	24.00	24.00
Slope (ft/ft):	0.0023	0.0010
Up Invert (ft):	860.00	859.92
Dn Invert (ft):	859.92	859.74
Max Q (cfs):	8.06	8.06
Max Vel (ft/s):	4.98	3.33
Max Depth (ft):	1.09	1.44



Node ID:	1.16 (P-STM)	1.17 (P-STM)	1.18 (P-STM)
Rim (ft):	868.81	868.24	865.76
Invert (ft):	859.74	859.40	859.25
Min Pipe Cover (ft):	7.07	6.84	4.51
Max HGL (ft):	861.18	860.84	860.70

Link ID:	(P-STM).Pipe - (61) (P-STM)	Pipe - (62) (P-STM)
Length (ft):	337.35	159.72
Dia (in):	24.00	18.00
Slope (ft/ft):	0.0010	0.0010
Up Invert (ft):	859.74	859.40
Dn Invert (ft):	859.40	859.25
Max Q (cfs):	8.06	8.06
Max Vel (ft/s):	3.33	2.71
Max Depth (ft):	1.44	1.18



Node ID:	1.18 (P-STM)		1.19 (P-STM)	1.20 (P-STM)
Rim (ft):	865.76		867.01	867.40
Invert (ft):	859.25		858.98	858.94
Min Pipe Cover (ft):	4.51		6.03	6.45
Max HGL (ft):	860.70		860.43	860.38

Link ID:	{P-STM}.Pipe - (63) (P-STM)	{P-STM}.Pipe - (64) (P-STM)
Length (ft):	273.70	40.16
Dia (in):	24.00	24.00
Slope (ft/ft):	0.0010	0.0010
Up Invert (ft):	859.25	858.98
Dn Invert (ft):	858.98	858.94
Max Q (cfs):	8.06	8.06
Max Vel (ft/s):	3.30	3.32
Max Depth (ft):	1.45	1.44

SN	Element ID	Description	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Total Drop	Average Slope	Pipe Shape	Pipe Diameter or Height	Pipe Width	Manning's Roughness	Peak Flow	Time of Peak Flow Occurrence	Max Flow Velocity	Travel Time	Design Flow Capacity	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Total Time Surcharged	Max Flow Depth	Reported Condition
					(ft)	(ft)	(ft)	(ft)	(%)		(inches)	(inches)		(cfs)	(days hh:mm)	(ft/sec)	(min)	(cfs)			(min)	(ft)	
1	{P-STM}.Pipe - (59)	(P-STM) 24" SD - HDPE	1.14 (P-STM)	1.15 (P-STM)	35.31	860.00	859.92	0.08	0.2300	CIRCULAR	24.000	24.00	0.0100	8.06	0 00:01	4.98	0.12	14.00	0.58	0.57	0.00	1.09	Calculated
2	{P-STM}.Pipe - (60)	(P-STM) 24" SD - HDPE	1.15 (P-STM)	1.16 (P-STM)	180.68	859.92	859.74	0.18	0.1000	CIRCULAR	24.000	24.00	0.0100	8.06	0 00:10	3.33	0.90	9.30	0.87	0.72	0.00	1.44	Calculated
3	{P-STM}.Pipe - (61)	(P-STM) 24" SD - HDPE	1.16 (P-STM)	1.17 (P-STM)	337.35	859.74	859.40	0.34	0.1000	CIRCULAR	24.000	24.00	0.0100	8.06	0 00:34	3.33	1.69	9.30	0.87	0.72	0.00	1.44	Calculated
4	{P-STM}.Pipe - (62)	(P-STM) 18" SD - HDPE	1.17 (P-STM)	1.18 (P-STM)	159.72	859.40	859.25	0.15	0.1000	CIRCULAR	18.000	18.00	0.0100	8.06	0 00:35	2.71	0.98	8.64	0.96	0.78	0.00	1.18	Calculated
5	{P-STM}.Pipe - (63)	(P-STM) 24" SD - HDPE	1.18 (P-STM)	1.19 (P-STM)	273.70	859.25	858.98	0.27	0.1000	CIRCULAR	24.000	24.00	0.0100	8.06	0 00:36	3.30	1.38	9.30	0.87	0.72	0.00	1.45	Calculated
6	{P-STM}.Pipe - (64)	(P-STM) 24" SD - HDPE	1.19 (P-STM)	1.20 (P-STM)	40.16	858.98	858.94	0.04	0.1000	CIRCULAR	24.000	24.00	0.0100	8.06	0 00:36	3.32	0.20	9.30	0.87	0.72	0.00	1.44	Calculated
7	{P-STM}.Pipe - (65)	(P-STM) 24" SD - HDPE	1.20 (P-STM)	1.0 (P-STM)	23.62	858.94	858.92	0.02	0.1000	CIRCULAR	24.000	24.00	0.0100	8.06	0 00:36	3.35	0.12	9.30	0.86	0.72	0.00	1.43	Calculated

Conveyance Links

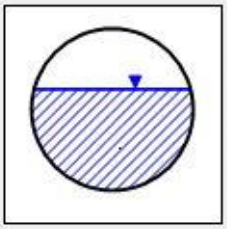
General

Link ID: Pipe - (62) (P-STM)

Description:

Add | Delete | Show | Report | Inverts...

Shape



- Open channel
- Pipe
- Culvert
- Direct

Circular

Properties

Number of barrels: 2

Diameter: 18.000 in

Physical properties

Length:	159.72	ft
Inlet invert elevation:	859.398	ft
Outlet invert elevation:	859.246	ft
Manning's roughness:	0.010	

Flap gate

Flow properties

Entrance losses:	0	
Exit/bend losses:	0	
Additional losses:	0	
Initial flow:	0	cfs
Maximum flow:	0	cfs

Analysis summary

Constructed slope:	0.0010	ft/ft	Max velocity attained:	2.71	ft/sec
Design flow capacity:	8.64	cfs	Max/design flow ratio:	0.96	
Peak flow during analysis:	8.06	cfs	Max/total depth ratio:	0.78	
Additional flow capacity:	0.37	cfs	Total time surcharged:	0	min

Connectivity

From (Inlet):	1.17 (P-STM)	Swap	Invert elevation:	859.398	ft
To (Outlet):	1.18 (P-STM)		Invert elevation:	859.246	ft

WIN TR-20 OUTPUT DATA

PRE-DEVELOPED CONDITIONS

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse EXISTING

SUB-AREA:
          Area 1    Outlet              0.0068078 90.       .25       YY  Y


STORM ANALYSIS:
          10yr 24hr                     3.99      TYPE II   2
```

```
WinTR-20 Printed Page File      End of Input Data List

                            TX Roadhouse EXISTING

                        Name of printed page file:
            C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.out

                                    STORM 10yr 24hr
```

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Area 1	0.007		2.909		12.03	15.3	2249.07

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.608	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.719	0.5	0.5	0.6	0.6	0.6	0.6	0.6
10.829	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.940	0.7	0.7	0.7	0.7	0.7	0.7	0.7
11.051	0.7	0.7	0.7	0.7	0.8	0.8	0.8
11.161	0.8	0.8	0.8	0.8	0.9	0.9	0.9
11.272	0.9	0.9	0.9	1.0	1.0	1.0	1.0
11.382	1.0	1.1	1.1	1.1	1.1	1.1	1.2
11.493	1.2	1.2	1.2	1.3	1.3	1.4	1.5
11.603	1.6	1.7	1.8	2.0	2.2	2.5	2.7
11.714	3.1	3.4	3.8	4.2	4.6	5.1	5.6
11.824	6.2	6.8	7.5	8.2	9.1	10.0	10.9
11.935	11.9	12.8	13.6	14.3	14.8	15.1	15.3
12.045	15.3	15.1	14.6	14.0	13.2	12.3	11.4
12.156	10.4	9.5	8.6	7.8	7.0	6.3	5.8
12.266	5.3	4.9	4.5	4.2	3.9	3.7	3.5
12.377	3.3	3.1	3.0	2.8	2.7	2.6	2.5
12.487	2.4	2.3	2.2	2.1	2.0	2.0	1.9
12.598	1.8	1.8	1.7	1.7	1.6	1.6	1.5
12.708	1.5	1.5	1.4	1.4	1.4	1.4	1.3
12.819	1.3	1.3	1.3	1.3	1.3	1.2	1.2
12.929	1.2	1.2	1.2	1.2	1.2	1.1	1.1
13.040	1.1	1.1	1.1	1.1	1.1	1.1	1.0
13.151	1.0	1.0	1.0	1.0	1.0	1.0	1.0

13.261	1.0	1.0	0.9	0.9	0.9	0.9	0.9
13.372	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.482	0.9	0.9	0.8	0.8	0.8	0.8	0.8
13.593	0.8	0.8	0.8	0.8	0.8	0.8	0.8
13.703	0.8	0.8	0.8	0.7	0.7	0.7	0.7
13.814	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.924	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.035	0.7	0.6	0.6	0.6	0.6	0.6	0.6
14.145	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.256	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.366	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.477	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.587	0.6	0.6	0.6	0.6	0.6	0.5	0.5
14.698	0.5	0.5	0.5	0.5	0.5	0.5	0.5
14.808	0.5	0.5	0.5	0.5	0.5	0.5	0.5
14.919	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.029	0.5	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.007		2.909		12.03	15.3	2249.07

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.608	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.719	0.5	0.5	0.6	0.6	0.6	0.6	0.6
10.829	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.940	0.7	0.7	0.7	0.7	0.7	0.7	0.7
11.051	0.7	0.7	0.7	0.7	0.8	0.8	0.8
11.161	0.8	0.8	0.8	0.8	0.9	0.9	0.9
11.272	0.9	0.9	0.9	1.0	1.0	1.0	1.0
11.382	1.0	1.1	1.1	1.1	1.1	1.1	1.2
11.493	1.2	1.2	1.2	1.3	1.3	1.4	1.5
11.603	1.6	1.7	1.8	2.0	2.2	2.5	2.7
11.714	3.1	3.4	3.8	4.2	4.6	5.1	5.6
11.824	6.2	6.8	7.5	8.2	9.1	10.0	10.9
11.935	11.9	12.8	13.6	14.3	14.8	15.1	15.3
12.045	15.3	15.1	14.6	14.0	13.2	12.3	11.4
12.156	10.4	9.5	8.6	7.8	7.0	6.3	5.8
12.266	5.3	4.9	4.5	4.2	3.9	3.7	3.5
12.377	3.3	3.1	3.0	2.8	2.7	2.6	2.5
12.487	2.4	2.3	2.2	2.1	2.0	2.0	1.9
12.598	1.8	1.8	1.7	1.7	1.6	1.6	1.5
12.708	1.5	1.5	1.4	1.4	1.4	1.4	1.3
12.819	1.3	1.3	1.3	1.3	1.3	1.2	1.2
12.929	1.2	1.2	1.2	1.2	1.2	1.1	1.1
13.040	1.1	1.1	1.1	1.1	1.1	1.1	1.0
13.151	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.261	1.0	1.0	0.9	0.9	0.9	0.9	0.9
13.372	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.482	0.9	0.9	0.8	0.8	0.8	0.8	0.8
13.593	0.8	0.8	0.8	0.8	0.8	0.8	0.8
13.703	0.8	0.8	0.8	0.7	0.7	0.7	0.7
13.814	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.924	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.035	0.7	0.6	0.6	0.6	0.6	0.6	0.6
14.145	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.256	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.366	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.477	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.587	0.6	0.6	0.6	0.6	0.6	0.5	0.5
14.698	0.5	0.5	0.5	0.5	0.5	0.5	0.5
14.808	0.5	0.5	0.5	0.5	0.5	0.5	0.5
14.919	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.029	0.5	0.5	0.5	0.5	0.5	0.5	0.0

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse EXISTING

SUB-AREA:
          Area 1    Outlet              0.0068078 90.       .25       YY  Y


STORM ANALYSIS:
          25yr 24hr                     4.7       TYPE II   2
```

```
WinTR-20 Printed Page File      End of Input Data List

                            TX Roadhouse EXISTING

                        Name of printed page file:
            C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.out

                                    STORM 25yr 24hr
```

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Area 1	0.007		3.587		12.03	18.7	2747.96

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.201	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.311	0.5	0.5	0.5	0.6	0.6	0.6	0.6
10.422	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.533	0.6	0.6	0.6	0.6	0.6	0.7	0.7
10.643	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.754	0.7	0.7	0.7	0.8	0.8	0.8	0.8
10.864	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.975	0.9	0.9	0.9	0.9	0.9	0.9	0.9
11.085	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11.196	1.1	1.1	1.1	1.1	1.1	1.2	1.2
11.306	1.2	1.2	1.3	1.3	1.3	1.3	1.4
11.417	1.4	1.4	1.4	1.5	1.5	1.5	1.5
11.527	1.6	1.6	1.7	1.8	1.9	2.0	2.2
11.638	2.4	2.6	2.9	3.2	3.5	3.9	4.4
11.748	4.8	5.4	5.9	6.5	7.1	7.9	8.6
11.859	9.5	10.4	11.4	12.5	13.7	14.9	15.9
11.969	16.8	17.6	18.2	18.6	18.7	18.6	18.3
12.080	17.7	16.9	15.9	14.7	13.6	12.4	11.3
12.190	10.2	9.2	8.3	7.5	6.9	6.3	5.8
12.301	5.4	5.0	4.7	4.4	4.2	3.9	3.7
12.411	3.6	3.4	3.2	3.1	3.0	2.9	2.7
12.522	2.6	2.5	2.4	2.4	2.3	2.2	2.1
12.633	2.1	2.0	1.9	1.9	1.8	1.8	1.8
12.743	1.7	1.7	1.7	1.6	1.6	1.6	1.6

12.854	1.6	1.5	1.5	1.5	1.5	1.5	1.4
12.964	1.4	1.4	1.4	1.4	1.4	1.3	1.3
13.075	1.3	1.3	1.3	1.3	1.2	1.2	1.2
13.185	1.2	1.2	1.2	1.2	1.2	1.2	1.1
13.296	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.406	1.1	1.1	1.1	1.0	1.0	1.0	1.0
13.517	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.627	1.0	0.9	0.9	0.9	0.9	0.9	0.9
13.738	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.848	0.9	0.9	0.8	0.8	0.8	0.8	0.8
13.959	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.069	0.8	0.8	0.8	0.8	0.8	0.7	0.7
14.180	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.290	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.401	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.511	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.622	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.733	0.7	0.6	0.6	0.6	0.6	0.6	0.6
14.843	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.954	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.064	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.175	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.285	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.396	0.6	0.6	0.6	0.6	0.6	0.5	0.5
15.506	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.617	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.727	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.838	0.5	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.007		3.587		12.03	18.7	2747.96

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.201	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.311	0.5	0.5	0.5	0.6	0.6	0.6	0.6
10.422	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.533	0.6	0.6	0.6	0.6	0.6	0.7	0.7
10.643	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.754	0.7	0.7	0.7	0.8	0.8	0.8	0.8
10.864	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.975	0.9	0.9	0.9	0.9	0.9	0.9	0.9
11.085	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11.196	1.1	1.1	1.1	1.1	1.1	1.2	1.2
11.306	1.2	1.2	1.3	1.3	1.3	1.3	1.4
11.417	1.4	1.4	1.4	1.5	1.5	1.5	1.5
11.527	1.6	1.6	1.7	1.8	1.9	2.0	2.2
11.638	2.4	2.6	2.9	3.2	3.5	3.9	4.4
11.748	4.8	5.4	5.9	6.5	7.1	7.9	8.6
11.859	9.5	10.4	11.4	12.5	13.7	14.9	15.9
11.969	16.8	17.6	18.2	18.6	18.7	18.6	18.3
12.080	17.7	16.9	15.9	14.7	13.6	12.4	11.3
12.190	10.2	9.2	8.3	7.5	6.9	6.3	5.8
12.301	5.4	5.0	4.7	4.4	4.2	3.9	3.7
12.411	3.6	3.4	3.2	3.1	3.0	2.9	2.7
12.522	2.6	2.5	2.4	2.4	2.3	2.2	2.1
12.633	2.1	2.0	1.9	1.9	1.8	1.8	1.8
12.743	1.7	1.7	1.7	1.6	1.6	1.6	1.6
12.854	1.6	1.5	1.5	1.5	1.5	1.5	1.4
12.964	1.4	1.4	1.4	1.4	1.4	1.3	1.3
13.075	1.3	1.3	1.3	1.3	1.2	1.2	1.2
13.185	1.2	1.2	1.2	1.2	1.2	1.2	1.1
13.296	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.406	1.1	1.1	1.1	1.0	1.0	1.0	1.0

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.517	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.627	1.0	0.9	0.9	0.9	0.9	0.9	0.9
13.738	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.848	0.9	0.9	0.8	0.8	0.8	0.8	0.8
13.959	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.069	0.8	0.8	0.8	0.8	0.8	0.7	0.7
14.180	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.290	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.401	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.511	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.622	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.733	0.7	0.6	0.6	0.6	0.6	0.6	0.6
14.843	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.954	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.064	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.175	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.285	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.396	0.6	0.6	0.6	0.6	0.6	0.5	0.5
15.506	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.617	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.727	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.838	0.5	0.0					

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WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse EXISTING

SUB-AREA:
          Area 1    Outlet              0.0068078 90.       .25       YY  Y


STORM ANALYSIS:
          50yr 24hr                     5.32      TYPE II   2
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WinTR-20 Printed Page File      End of Input Data List

                            TX Roadhouse EXISTING

                        Name of printed page file:
            C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.out

                                    STORM 50yr 24hr
```

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Area 1	0.007		4.185		12.03	21.6	3175.56

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.863	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.974	0.5	0.5	0.5	0.5	0.5	0.6	0.6
10.084	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.195	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.305	0.6	0.7	0.7	0.7	0.7	0.7	0.7
10.416	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.526	0.7	0.8	0.8	0.8	0.8	0.8	0.8
10.637	0.8	0.8	0.8	0.8	0.8	0.9	0.9
10.747	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.858	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.969	1.0	1.1	1.1	1.1	1.1	1.1	1.1
11.079	1.1	1.2	1.2	1.2	1.2	1.2	1.2
11.190	1.3	1.3	1.3	1.3	1.4	1.4	1.4
11.300	1.4	1.5	1.5	1.5	1.5	1.6	1.6
11.411	1.6	1.7	1.7	1.7	1.8	1.8	1.8
11.521	1.9	1.9	2.0	2.1	2.2	2.3	2.5
11.632	2.7	3.0	3.3	3.6	4.0	4.5	5.0
11.742	5.5	6.1	6.7	7.4	8.1	8.9	9.8
11.853	10.7	11.7	12.9	14.1	15.5	16.8	18.1
11.963	19.2	20.1	20.9	21.4	21.6	21.6	21.3
12.074	20.7	19.9	18.8	17.5	16.2	14.8	13.5
12.184	12.2	11.1	10.0	9.0	8.2	7.5	6.9
12.295	6.4	6.0	5.6	5.2	4.9	4.6	4.4
12.405	4.2	4.0	3.8	3.6	3.5	3.3	3.2

12.516	3.1	3.0	2.8	2.7	2.6	2.6	2.5
12.626	2.4	2.3	2.2	2.2	2.1	2.1	2.0
12.737	2.0	2.0	1.9	1.9	1.9	1.8	1.8
12.847	1.8	1.8	1.7	1.7	1.7	1.7	1.7
12.958	1.6	1.6	1.6	1.6	1.6	1.5	1.5
13.069	1.5	1.5	1.5	1.5	1.4	1.4	1.4
13.179	1.4	1.4	1.4	1.4	1.3	1.3	1.3
13.290	1.3	1.3	1.3	1.3	1.3	1.3	1.2
13.400	1.2	1.2	1.2	1.2	1.2	1.2	1.2
13.511	1.2	1.2	1.1	1.1	1.1	1.1	1.1
13.621	1.1	1.1	1.1	1.1	1.1	1.1	1.0
13.732	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.842	1.0	1.0	1.0	1.0	1.0	0.9	0.9
13.953	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.063	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.174	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.284	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.395	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.505	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.616	0.8	0.8	0.8	0.8	0.8	0.7	0.7
14.726	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.837	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.947	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.058	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.169	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.279	0.7	0.7	0.7	0.7	0.6	0.6	0.6
15.390	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.500	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.611	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.721	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.832	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.942	0.6	0.6	0.6	0.5	0.5	0.5	0.5
16.053	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.163	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.274	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.384	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.495	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.007		4.185		12.03	21.6	3175.56

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.863	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.974	0.5	0.5	0.5	0.5	0.5	0.6	0.6
10.084	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.195	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.305	0.6	0.7	0.7	0.7	0.7	0.7	0.7
10.416	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.526	0.7	0.8	0.8	0.8	0.8	0.8	0.8
10.637	0.8	0.8	0.8	0.8	0.8	0.9	0.9
10.747	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.858	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.969	1.0	1.1	1.1	1.1	1.1	1.1	1.1
11.079	1.1	1.2	1.2	1.2	1.2	1.2	1.2
11.190	1.3	1.3	1.3	1.3	1.4	1.4	1.4
11.300	1.4	1.5	1.5	1.5	1.5	1.6	1.6
11.411	1.6	1.7	1.7	1.7	1.8	1.8	1.8
11.521	1.9	1.9	2.0	2.1	2.2	2.3	2.5
11.632	2.7	3.0	3.3	3.6	4.0	4.5	5.0
11.742	5.5	6.1	6.7	7.4	8.1	8.9	9.8
11.853	10.7	11.7	12.9	14.1	15.5	16.8	18.1
11.963	19.2	20.1	20.9	21.4	21.6	21.6	21.3
12.074	20.7	19.9	18.8	17.5	16.2	14.8	13.5

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
12.184	12.2	11.1	10.0	9.0	8.2	7.5	6.9
12.295	6.4	6.0	5.6	5.2	4.9	4.6	4.4
12.405	4.2	4.0	3.8	3.6	3.5	3.3	3.2
12.516	3.1	3.0	2.8	2.7	2.6	2.6	2.5
12.626	2.4	2.3	2.2	2.2	2.1	2.1	2.0
12.737	2.0	2.0	1.9	1.9	1.9	1.8	1.8
12.847	1.8	1.8	1.7	1.7	1.7	1.7	1.7
12.958	1.6	1.6	1.6	1.6	1.6	1.5	1.5
13.069	1.5	1.5	1.5	1.5	1.4	1.4	1.4
13.179	1.4	1.4	1.4	1.4	1.3	1.3	1.3
13.290	1.3	1.3	1.3	1.3	1.3	1.3	1.2
13.400	1.2	1.2	1.2	1.2	1.2	1.2	1.2
13.511	1.2	1.2	1.1	1.1	1.1	1.1	1.1
13.621	1.1	1.1	1.1	1.1	1.1	1.1	1.0
13.732	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.842	1.0	1.0	1.0	1.0	1.0	0.9	0.9
13.953	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.063	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.174	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.284	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.395	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.505	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.616	0.8	0.8	0.8	0.8	0.8	0.7	0.7
14.726	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.837	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.947	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.058	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.169	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.279	0.7	0.7	0.7	0.7	0.6	0.6	0.6
15.390	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.500	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.611	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.721	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.832	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.942	0.6	0.6	0.6	0.5	0.5	0.5	0.5
16.053	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.163	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.274	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.384	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.495	0.0						

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse EXISTING

SUB-AREA:
          Area 1    Outlet              0.0068078 90.       .25       YY  Y


STORM ANALYSIS:
          100yr 24hr                    6.04      TYPE II   2
```

```
WinTR-20 Printed Page File      End of Input Data List

                            TX Roadhouse EXISTING

                         Name of printed page file:
           C:\Users\Iwaniuk\Desktop\TXRH West Chester__EXISTING.out

                                     STORM 100yr 24hr
```

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Area 1	0.007		4.884		12.03	25.1	3680.23

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.128	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.238	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.349	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.459	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.570	0.5	0.5	0.5	0.5	0.6	0.6	0.6
9.680	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.791	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.901	0.6	0.6	0.6	0.6	0.6	0.6	0.7
10.012	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.122	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.233	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.343	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.454	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.564	0.9	0.9	0.9	1.0	1.0	1.0	1.0
10.675	1.0	1.0	1.0	1.0	1.0	1.1	1.1
10.785	1.1	1.1	1.1	1.1	1.1	1.2	1.2
10.896	1.2	1.2	1.2	1.2	1.2	1.3	1.3
11.007	1.3	1.3	1.3	1.3	1.4	1.4	1.4
11.117	1.4	1.4	1.4	1.5	1.5	1.5	1.5
11.228	1.6	1.6	1.6	1.7	1.7	1.7	1.8
11.338	1.8	1.8	1.9	1.9	1.9	2.0	2.0
11.449	2.0	2.1	2.1	2.1	2.2	2.2	2.3
11.559	2.4	2.5	2.7	2.8	3.1	3.3	3.7

11.670	4.0	4.5	4.9	5.5	6.1	6.7	7.4
11.780	8.2	9.0	9.9	10.8	11.8	13.0	14.2
11.891	15.6	17.1	18.6	20.1	21.5	22.7	23.7
12.001	24.4	24.9	25.1	24.9	24.4	23.6	22.5
12.112	21.1	19.6	18.0	16.5	15.0	13.5	12.2
12.222	11.0	10.0	9.1	8.4	7.7	7.2	6.7
12.333	6.2	5.8	5.5	5.2	4.9	4.7	4.5
12.443	4.3	4.1	3.9	3.8	3.6	3.5	3.3
12.554	3.2	3.1	3.0	2.9	2.8	2.7	2.6
12.664	2.5	2.5	2.4	2.4	2.3	2.3	2.2
12.775	2.2	2.2	2.1	2.1	2.1	2.0	2.0
12.885	2.0	2.0	1.9	1.9	1.9	1.9	1.8
12.996	1.8	1.8	1.8	1.8	1.7	1.7	1.7
13.107	1.7	1.7	1.6	1.6	1.6	1.6	1.6
13.217	1.6	1.5	1.5	1.5	1.5	1.5	1.5
13.328	1.5	1.5	1.4	1.4	1.4	1.4	1.4
13.438	1.4	1.4	1.4	1.4	1.3	1.3	1.3
13.549	1.3	1.3	1.3	1.3	1.3	1.3	1.2

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.659	1.2	1.2	1.2	1.2	1.2	1.2	1.2
13.770	1.2	1.2	1.1	1.1	1.1	1.1	1.1
13.880	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.991	1.1	1.0	1.0	1.0	1.0	1.0	1.0
14.101	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.212	1.0	1.0	0.9	0.9	0.9	0.9	0.9
14.322	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.433	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.543	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.654	0.9	0.9	0.9	0.9	0.9	0.9	0.8
14.764	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.875	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.985	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.096	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.207	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.317	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.428	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.538	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.649	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.759	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.870	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.980	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.091	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.201	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.312	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.422	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.533	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.643	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.754	0.6	0.6	0.6	0.6	0.6	0.6	0.5
16.864	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.975	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.085	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.196	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.307	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.417	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.528	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.638	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.007		4.884		12.03	25.1	3680.23

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.128	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.238	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.349	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.459	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.570	0.5	0.5	0.5	0.5	0.6	0.6	0.6
9.680	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.791	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.901	0.6	0.6	0.6	0.6	0.6	0.6	0.7
10.012	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.122	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.233	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.343	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.454	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.564	0.9	0.9	0.9	1.0	1.0	1.0	1.0
10.675	1.0	1.0	1.0	1.0	1.0	1.1	1.1
10.785	1.1	1.1	1.1	1.1	1.1	1.2	1.2
10.896	1.2	1.2	1.2	1.2	1.2	1.3	1.3
11.007	1.3	1.3	1.3	1.3	1.4	1.4	1.4
11.117	1.4	1.4	1.4	1.5	1.5	1.5	1.5
11.228	1.6	1.6	1.6	1.7	1.7	1.7	1.8
11.338	1.8	1.8	1.9	1.9	1.9	2.0	2.0
11.449	2.0	2.1	2.1	2.1	2.2	2.2	2.3
11.559	2.4	2.5	2.7	2.8	3.1	3.3	3.7
11.670	4.0	4.5	4.9	5.5	6.1	6.7	7.4
11.780	8.2	9.0	9.9	10.8	11.8	13.0	14.2
11.891	15.6	17.1	18.6	20.1	21.5	22.7	23.7
12.001	24.4	24.9	25.1	24.9	24.4	23.6	22.5
12.112	21.1	19.6	18.0	16.5	15.0	13.5	12.2
12.222	11.0	10.0	9.1	8.4	7.7	7.2	6.7
12.333	6.2	5.8	5.5	5.2	4.9	4.7	4.5
12.443	4.3	4.1	3.9	3.8	3.6	3.5	3.3
12.554	3.2	3.1	3.0	2.9	2.8	2.7	2.6
12.664	2.5	2.5	2.4	2.4	2.3	2.3	2.2
12.775	2.2	2.2	2.1	2.1	2.1	2.0	2.0
12.885	2.0	2.0	1.9	1.9	1.9	1.9	1.8
12.996	1.8	1.8	1.8	1.8	1.7	1.7	1.7
13.107	1.7	1.7	1.6	1.6	1.6	1.6	1.6
13.217	1.6	1.5	1.5	1.5	1.5	1.5	1.5
13.328	1.5	1.5	1.4	1.4	1.4	1.4	1.4
13.438	1.4	1.4	1.4	1.4	1.3	1.3	1.3
13.549	1.3	1.3	1.3	1.3	1.3	1.3	1.2
13.659	1.2	1.2	1.2	1.2	1.2	1.2	1.2
13.770	1.2	1.2	1.1	1.1	1.1	1.1	1.1
13.880	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.991	1.1	1.0	1.0	1.0	1.0	1.0	1.0
14.101	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.212	1.0	1.0	0.9	0.9	0.9	0.9	0.9
14.322	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.433	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.543	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.654	0.9	0.9	0.9	0.9	0.9	0.9	0.8
14.764	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.875	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.985	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.096	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.207	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.317	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.428	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.538	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.649	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.759	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.870	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.980	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.091	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.201	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.312	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.422	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.533	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.643	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.754	0.6	0.6	0.6	0.6	0.6	0.6	0.5
16.864	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.975	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.085	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.196	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.307	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.417	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.528	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.638	0.0						

WIN TR-20 OUTPUT DATA

POST-DEVELOPED CONDITIONS

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__2yr storm.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse - Proposed Conditions - 2year storm

SUB-AREA:
          Area 1    Reach 1             .0068078  93.       .25       YY  Y


STREAM REACH:
          Reach 1   Outlet              Pond                           YY  Y


STORM ANALYSIS:
          2yr 24hr                      2.86      TYPE II   2



STRUCTURE RATING:
          Pond      860.
                    860.      0.        .0001
                    861.      2.38      .033
                    862.      4.01      .077
                    863.      5.15      .138
                    864.      6.08      .217
                    864.72    6.67      .287
                    865.      6.95      .322
                    865.50    7.59      .382
                    866.      8.06      .5307
```

```
WinTR-20 Printed Page File      End of Input Data List

                TX Roadhouse - Proposed Conditions - 2year storm

                          Name of printed page file:
      C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__2yr storm.out

                                       STORM 2yr 24hr

Area or    Drainage  Rain Gage     Runoff   ------------ Peak Flow ------------
 Reach       Area      ID or       Amount   Elevation   Time      Rate      Rate
Identifier (sq mi)   Location      (in)       (ft)      (hr)      (cfs)     (csm)

Area 1        0.007               2.120               12.03      11.1   1633.19

   Line
Start Time   ------------ Flow Values @ time increment of  0.016 hr ------------
      (hr)     (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)

    10.971       0.5        0.5        0.5        0.5        0.5        0.5        0.5
    11.081       0.5        0.6        0.6        0.6        0.6        0.6        0.6
    11.192       0.6        0.6        0.6        0.6        0.7        0.7        0.7
    11.302       0.7        0.7        0.7        0.7        0.8        0.8        0.8
    11.413       0.8        0.8        0.8        0.8        0.9        0.9        0.9
    11.524       0.9        0.9        1.0        1.0        1.1        1.2        1.2
    11.634       1.4        1.5        1.6        1.8        2.0        2.2        2.5
    11.745       2.8        3.1        3.4        3.7        4.1        4.5        5.0
```

11.855	5.4	6.0	6.6	7.2	7.9	8.6	9.3
11.966	9.9	10.4	10.7	11.0	11.1	11.1	10.9
12.076	10.6	10.2	9.6	9.0	8.3	7.6	6.9
12.187	6.2	5.6	5.1	4.6	4.2	3.9	3.6
12.297	3.3	3.1	2.9	2.7	2.5	2.4	2.3
12.408	2.2	2.1	2.0	1.9	1.8	1.7	1.7
12.518	1.6	1.5	1.5	1.4	1.4	1.3	1.3
12.629	1.2	1.2	1.2	1.1	1.1	1.1	1.1
12.739	1.0	1.0	1.0	1.0	1.0	1.0	0.9
12.850	0.9	0.9	0.9	0.9	0.9	0.9	0.9
12.960	0.9	0.8	0.8	0.8	0.8	0.8	0.8
13.071	0.8	0.8	0.8	0.8	0.8	0.7	0.7
13.181	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.292	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.402	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.513	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.624	0.6	0.6	0.6	0.6	0.6	0.6	0.5
13.734	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13.845	0.5	0.5	0.5	0.5	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach 1	0.007	Upstream	2.120		12.03	11.1	1633.19

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.971	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11.081	0.5	0.6	0.6	0.6	0.6	0.6	0.6
11.192	0.6	0.6	0.6	0.6	0.7	0.7	0.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.302	0.7	0.7	0.7	0.7	0.8	0.8	0.8
11.413	0.8	0.8	0.8	0.8	0.9	0.9	0.9
11.524	0.9	0.9	1.0	1.0	1.1	1.2	1.2
11.634	1.4	1.5	1.6	1.8	2.0	2.2	2.5
11.745	2.8	3.1	3.4	3.7	4.1	4.5	5.0
11.855	5.4	6.0	6.6	7.2	7.9	8.6	9.3
11.966	9.9	10.4	10.7	11.0	11.1	11.1	10.9
12.076	10.6	10.2	9.6	9.0	8.3	7.6	6.9
12.187	6.2	5.6	5.1	4.6	4.2	3.9	3.6
12.297	3.3	3.1	2.9	2.7	2.5	2.4	2.3
12.408	2.2	2.1	2.0	1.9	1.8	1.7	1.7
12.518	1.6	1.5	1.5	1.4	1.4	1.3	1.3
12.629	1.2	1.2	1.2	1.1	1.1	1.1	1.1
12.739	1.0	1.0	1.0	1.0	1.0	1.0	0.9
12.850	0.9	0.9	0.9	0.9	0.9	0.9	0.9
12.960	0.9	0.8	0.8	0.8	0.8	0.8	0.8
13.071	0.8	0.8	0.8	0.8	0.8	0.7	0.7
13.181	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.292	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.402	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.513	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.624	0.6	0.6	0.6	0.6	0.6	0.6	0.5
13.734	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13.845	0.5	0.5	0.5	0.5	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Downstream	2.119	863.35	12.20	5.5	803.62

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.129	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11.239	0.6	0.6	0.6	0.6	0.6	0.6	0.6
11.350	0.6	0.6	0.6	0.7	0.7	0.7	0.7
11.460	0.7	0.7	0.7	0.7	0.8	0.8	0.8
11.571	0.8	0.8	0.9	0.9	0.9	1.0	1.0
11.681	1.1	1.2	1.2	1.3	1.5	1.6	1.7
11.792	1.9	2.1	2.3	2.4	2.6	2.7	2.9
11.902	3.1	3.3	3.5	3.8	4.0	4.2	4.3
12.013	4.5	4.7	4.8	5.0	5.1	5.2	5.3
12.124	5.3	5.4	5.4	5.4	5.5	5.5	5.5
12.234	5.5	5.4	5.4	5.4	5.4	5.3	5.3
12.345	5.3	5.2	5.2	5.1	5.1	5.0	4.9
12.455	4.8	4.8	4.7	4.6	4.5	4.5	4.4
12.566	4.3	4.3	4.2	4.1	4.1	4.0	3.8
12.676	3.7	3.6	3.5	3.4	3.2	3.1	3.0
12.787	2.9	2.9	2.8	2.7	2.6	2.5	2.4
12.897	2.4	2.2	2.1	2.0	1.9	1.8	1.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.008	1.6	1.6	1.5	1.4	1.4	1.3	1.3
13.118	1.2	1.2	1.1	1.1	1.1	1.0	1.0
13.229	1.0	1.0	0.9	0.9	0.9	0.9	0.9
13.339	0.8	0.8	0.8	0.8	0.8	0.8	0.8
13.450	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.560	0.7	0.7	0.7	0.7	0.7	0.6	0.6
13.671	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.781	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.892	0.6	0.5	0.5	0.5	0.5	0.5	0.5
14.002	0.5	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.007		2.119		12.20	5.5	803.62

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.129	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11.239	0.6	0.6	0.6	0.6	0.6	0.6	0.6
11.350	0.6	0.6	0.6	0.7	0.7	0.7	0.7
11.460	0.7	0.7	0.7	0.7	0.8	0.8	0.8
11.571	0.8	0.8	0.9	0.9	0.9	1.0	1.0
11.681	1.1	1.2	1.2	1.3	1.5	1.6	1.7
11.792	1.9	2.1	2.3	2.4	2.6	2.7	2.9
11.902	3.1	3.3	3.5	3.8	4.0	4.2	4.3
12.013	4.5	4.7	4.8	5.0	5.1	5.2	5.3
12.124	5.3	5.4	5.4	5.4	5.5	5.5	5.5
12.234	5.5	5.4	5.4	5.4	5.4	5.3	5.3
12.345	5.3	5.2	5.2	5.1	5.1	5.0	4.9
12.455	4.8	4.8	4.7	4.6	4.5	4.5	4.4
12.566	4.3	4.3	4.2	4.1	4.1	4.0	3.8
12.676	3.7	3.6	3.5	3.4	3.2	3.1	3.0
12.787	2.9	2.9	2.8	2.7	2.6	2.5	2.4
12.897	2.4	2.2	2.1	2.0	1.9	1.8	1.7
13.008	1.6	1.6	1.5	1.4	1.4	1.3	1.3
13.118	1.2	1.2	1.1	1.1	1.1	1.0	1.0
13.229	1.0	1.0	0.9	0.9	0.9	0.9	0.9
13.339	0.8	0.8	0.8	0.8	0.8	0.8	0.8
13.450	0.7	0.7	0.7	0.7	0.7	0.7	0.7
13.560	0.7	0.7	0.7	0.7	0.7	0.6	0.6
13.671	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.781	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13.892	0.6	0.5	0.5	0.5	0.5	0.5	0.5
14.002	0.5	0.5	0.5	0.5	0.5	0.5	0.0

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__10yr storm.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse - Proposed Conditions - 10year storm

SUB-AREA:
          Area 1    Reach 1             .0068078  93.       .25       YY  Y


STREAM REACH:
          Reach 1   Outlet              Pond                           YY  Y


STORM ANALYSIS:
          10yr 24hr                     3.99      TYPE II   2



STRUCTURE RATING:
          Pond      860.
                    860.      0.        .0001
                    861.      2.38      .033
                    862.      4.01      .077
                    863.      5.15      .138
                    864.      6.08      .217
                    864.70    6.65      .287
                    865.      6.95      .322
                    865.50    7.59      .382
                    866.      8.06      .5307
```

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WinTR-20 Printed Page File      End of Input Data List

                TX Roadhouse - Proposed Conditions - 10year storm

                           Name of printed page file:
     C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__10yr storm.out

                                        STORM 10yr 24hr

Area or    Drainage  Rain Gage     Runoff   ------------ Peak Flow ------------
 Reach       Area      ID or       Amount   Elevation   Time      Rate      Rate
Identifier  (sq mi)   Location      (in)      (ft)       (hr)     (cfs)     (csm)

Area 1        0.007                3.210                12.02      16.5   2417.91

   Line
Start Time   ------------ Flow Values @ time increment of  0.016 hr ------------
      (hr)     (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)

    10.256       0.5        0.5        0.5        0.5        0.5        0.5        0.5
    10.367       0.5        0.5        0.5        0.6        0.6        0.6        0.6
    10.477       0.6        0.6        0.6        0.6        0.6        0.6        0.6
    10.588       0.6        0.6        0.6        0.6        0.6        0.6        0.7
    10.698       0.7        0.7        0.7        0.7        0.7        0.7        0.7
    10.809       0.7        0.7        0.7        0.8        0.8        0.8        0.8
    10.919       0.8        0.8        0.8        0.8        0.8        0.8        0.8
    11.030       0.9        0.9        0.9        0.9        0.9        0.9        0.9
```

11.141	0.9	1.0	1.0	1.0	1.0	1.0	1.0
11.251	1.1	1.1	1.1	1.1	1.1	1.2	1.2
11.362	1.2	1.2	1.2	1.3	1.3	1.3	1.3
11.472	1.4	1.4	1.4	1.4	1.5	1.5	1.6
11.583	1.7	1.8	1.9	2.1	2.3	2.5	2.8
11.693	3.1	3.4	3.8	4.2	4.6	5.1	5.6
11.804	6.2	6.8	7.4	8.1	8.9	9.8	10.7
11.914	11.7	12.7	13.7	14.6	15.3	15.9	16.3
12.025	16.5	16.5	16.2	15.8	15.2	14.4	13.4
12.135	12.4	11.4	10.4	9.4	8.5	7.7	6.9
12.246	6.3	5.8	5.3	4.9	4.6	4.2	4.0
12.356	3.7	3.5	3.3	3.2	3.0	2.9	2.8
12.467	2.6	2.5	2.4	2.3	2.2	2.2	2.1
12.577	2.0	1.9	1.9	1.8	1.8	1.7	1.7
12.688	1.6	1.6	1.5	1.5	1.5	1.5	1.4
12.798	1.4	1.4	1.4	1.4	1.3	1.3	1.3
12.909	1.3	1.3	1.3	1.2	1.2	1.2	1.2
13.019	1.2	1.2	1.2	1.1	1.1	1.1	1.1
13.130	1.1	1.1	1.1	1.1	1.0	1.0	1.0
13.241	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.351	1.0	0.9	0.9	0.9	0.9	0.9	0.9
13.462	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.572	0.9	0.8	0.8	0.8	0.8	0.8	0.8
13.683	0.8	0.8	0.8	0.8	0.8	0.8	0.8
13.793	0.8	0.8	0.7	0.7	0.7	0.7	0.7
13.904	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.014	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.125	0.7	0.6	0.6	0.6	0.6	0.6	0.6
14.235	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.346	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.456	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.567	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.677	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.788	0.6	0.6	0.6	0.5	0.5	0.5	0.5
14.898	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.009	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.119	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.230	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Upstream	3.210		12.02	16.5	2417.91

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.256	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.367	0.5	0.5	0.5	0.6	0.6	0.6	0.6
10.477	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.588	0.6	0.6	0.6	0.6	0.6	0.6	0.7
10.698	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.809	0.7	0.7	0.7	0.8	0.8	0.8	0.8
10.919	0.8	0.8	0.8	0.8	0.8	0.8	0.8
11.030	0.9	0.9	0.9	0.9	0.9	0.9	0.9
11.141	0.9	1.0	1.0	1.0	1.0	1.0	1.0
11.251	1.1	1.1	1.1	1.1	1.1	1.2	1.2
11.362	1.2	1.2	1.2	1.3	1.3	1.3	1.3
11.472	1.4	1.4	1.4	1.4	1.5	1.5	1.6
11.583	1.7	1.8	1.9	2.1	2.3	2.5	2.8
11.693	3.1	3.4	3.8	4.2	4.6	5.1	5.6
11.804	6.2	6.8	7.4	8.1	8.9	9.8	10.7
11.914	11.7	12.7	13.7	14.6	15.3	15.9	16.3
12.025	16.5	16.5	16.2	15.8	15.2	14.4	13.4
12.135	12.4	11.4	10.4	9.4	8.5	7.7	6.9
12.246	6.3	5.8	5.3	4.9	4.6	4.2	4.0
12.356	3.7	3.5	3.3	3.2	3.0	2.9	2.8
12.467	2.6	2.5	2.4	2.3	2.2	2.2	2.1
12.577	2.0	1.9	1.9	1.8	1.8	1.7	1.7
12.688	1.6	1.6	1.5	1.5	1.5	1.5	1.4
12.798	1.4	1.4	1.4	1.4	1.3	1.3	1.3
12.909	1.3	1.3	1.3	1.2	1.2	1.2	1.2
13.019	1.2	1.2	1.2	1.1	1.1	1.1	1.1
13.130	1.1	1.1	1.1	1.1	1.0	1.0	1.0
13.241	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.351	1.0	0.9	0.9	0.9	0.9	0.9	0.9
13.462	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.572	0.9	0.8	0.8	0.8	0.8	0.8	0.8
13.683	0.8	0.8	0.8	0.8	0.8	0.8	0.8
13.793	0.8	0.8	0.7	0.7	0.7	0.7	0.7
13.904	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.014	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.125	0.7	0.6	0.6	0.6	0.6	0.6	0.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.235	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.346	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.456	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.567	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.677	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.788	0.6	0.6	0.6	0.5	0.5	0.5	0.5
14.898	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.009	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.119	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.230	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Downstream	3.209	864.70	12.23	6.7	977.12

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.414	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.525	0.5	0.5	0.5	0.6	0.6	0.6	0.6
10.635	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.746	0.6	0.6	0.6	0.6	0.6	0.7	0.7
10.856	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.967	0.7	0.7	0.7	0.8	0.8	0.8	0.8
11.077	0.8	0.8	0.8	0.8	0.8	0.8	0.9
11.188	0.9	0.9	0.9	0.9	0.9	0.9	0.9
11.298	1.0	1.0	1.0	1.0	1.0	1.0	1.1
11.409	1.1	1.1	1.1	1.1	1.2	1.2	1.2
11.519	1.2	1.2	1.3	1.3	1.3	1.4	1.4
11.630	1.5	1.5	1.6	1.7	1.8	1.9	2.1
11.741	2.3	2.4	2.5	2.7	2.8	3.0	3.2
11.851	3.4	3.6	3.9	4.1	4.3	4.5	4.7
11.962	4.9	5.2	5.3	5.5	5.6	5.8	6.0
12.072	6.1	6.2	6.3	6.4	6.5	6.5	6.6
12.183	6.6	6.6	6.6	6.7	6.7	6.6	6.6
12.293	6.6	6.6	6.6	6.5	6.5	6.5	6.4
12.404	6.4	6.4	6.3	6.3	6.3	6.2	6.2
12.514	6.1	6.1	6.0	6.0	5.9	5.9	5.8
12.625	5.7	5.7	5.6	5.6	5.5	5.4	5.4
12.735	5.3	5.3	5.2	5.2	5.1	5.0	4.9
12.846	4.8	4.7	4.6	4.6	4.5	4.4	4.3
12.956	4.3	4.2	4.1	4.0	3.9	3.8	3.7
13.067	3.6	3.4	3.3	3.2	3.1	3.0	2.9
13.177	2.9	2.8	2.7	2.6	2.5	2.5	2.4
13.288	2.3	2.2	2.1	2.0	1.9	1.8	1.7
13.398	1.6	1.6	1.5	1.5	1.4	1.4	1.3
13.509	1.3	1.2	1.2	1.2	1.2	1.1	1.1
13.619	1.1	1.1	1.0	1.0	1.0	1.0	1.0
13.730	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.841	0.9	0.8	0.8	0.8	0.8	0.8	0.8
13.951	0.8	0.8	0.8	0.8	0.8	0.8	0.7
14.062	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.172	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.283	0.7	0.7	0.7	0.7	0.6	0.6	0.6
14.393	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.504	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.614	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.725	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.835	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.946	0.6	0.6	0.6	0.6	0.5	0.5	0.5
15.056	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.167	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.277	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.388	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.007		3.209		12.23	6.7	977.12

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.414	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.525	0.5	0.5	0.5	0.6	0.6	0.6	0.6
10.635	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.746	0.6	0.6	0.6	0.6	0.6	0.7	0.7
10.856	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.967	0.7	0.7	0.7	0.8	0.8	0.8	0.8
11.077	0.8	0.8	0.8	0.8	0.8	0.8	0.9
11.188	0.9	0.9	0.9	0.9	0.9	0.9	0.9
11.298	1.0	1.0	1.0	1.0	1.0	1.0	1.1
11.409	1.1	1.1	1.1	1.1	1.2	1.2	1.2
11.519	1.2	1.2	1.3	1.3	1.3	1.4	1.4
11.630	1.5	1.5	1.6	1.7	1.8	1.9	2.1
11.741	2.3	2.4	2.5	2.7	2.8	3.0	3.2
11.851	3.4	3.6	3.9	4.1	4.3	4.5	4.7
11.962	4.9	5.2	5.3	5.5	5.6	5.8	6.0
12.072	6.1	6.2	6.3	6.4	6.5	6.5	6.6
12.183	6.6	6.6	6.6	6.7	6.7	6.6	6.6
12.293	6.6	6.6	6.6	6.5	6.5	6.5	6.4
12.404	6.4	6.4	6.3	6.3	6.3	6.2	6.2
12.514	6.1	6.1	6.0	6.0	5.9	5.9	5.8
12.625	5.7	5.7	5.6	5.6	5.5	5.4	5.4
12.735	5.3	5.3	5.2	5.2	5.1	5.0	4.9
12.846	4.8	4.7	4.6	4.6	4.5	4.4	4.3
12.956	4.3	4.2	4.1	4.0	3.9	3.8	3.7
13.067	3.6	3.4	3.3	3.2	3.1	3.0	2.9
13.177	2.9	2.8	2.7	2.6	2.5	2.5	2.4

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.288	2.3	2.2	2.1	2.0	1.9	1.8	1.7
13.398	1.6	1.6	1.5	1.5	1.4	1.4	1.3
13.509	1.3	1.2	1.2	1.2	1.2	1.1	1.1
13.619	1.1	1.1	1.0	1.0	1.0	1.0	1.0
13.730	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.841	0.9	0.8	0.8	0.8	0.8	0.8	0.8
13.951	0.8	0.8	0.8	0.8	0.8	0.8	0.7
14.062	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.172	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.283	0.7	0.7	0.7	0.7	0.6	0.6	0.6
14.393	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.504	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.614	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.725	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.835	0.6	0.6	0.6	0.6	0.6	0.6	0.6
14.946	0.6	0.6	0.6	0.6	0.5	0.5	0.5
15.056	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.167	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.277	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.388	0.5	0.5	0.5	0.0			

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__25yr storm.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse - Proposed Conditions - 25year storm

SUB-AREA:
          Area 1    Reach 1             .0068078  93.       .25       YY  Y


STREAM REACH:
          Reach 1   Outlet              Pond                           YY  Y


STORM ANALYSIS:
          25yr 24hr                     4.70      TYPE II   2



STRUCTURE RATING:
          Pond      860.
                    860.      0.        .0001
                    861.      2.38      .033
                    862.      4.01      .077
                    863.      5.15      .138
                    864.      6.08      .217
                    864.70    6.65      .287
                    865.      6.95      .322
                    865.50    7.59      .382
                    866.      8.06      .5307
```

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WinTR-20 Printed Page File      End of Input Data List

                TX Roadhouse - Proposed Conditions - 25year storm

                           Name of printed page file:
     C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__25yr storm.out

                                        STORM 25yr 24hr

Area or    Drainage  Rain Gage     Runoff   ------------ Peak Flow ------------
 Reach       Area      ID or       Amount   Elevation   Time      Rate      Rate
Identifier (sq mi)   Location      (in)       (ft)      (hr)      (cfs)     (csm)

Area 1        0.007               3.903               12.03      19.8   2912.74

   Line
Start Time   ------------ Flow Values @ time increment of  0.016 hr ------------
      (hr)     (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)

     9.819       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     9.930       0.5        0.5        0.5        0.5        0.5        0.5        0.6
    10.040       0.6        0.6        0.6        0.6        0.6        0.6        0.6
    10.151       0.6        0.6        0.6        0.6        0.6        0.6        0.6
    10.261       0.6        0.6        0.6        0.7        0.7        0.7        0.7
    10.372       0.7        0.7        0.7        0.7        0.7        0.7        0.7
    10.482       0.7        0.7        0.7        0.7        0.8        0.8        0.8
    10.593       0.8        0.8        0.8        0.8        0.8        0.8        0.8
```

10.703	0.8	0.8	0.9	0.9	0.9	0.9	0.9
10.814	0.9	0.9	0.9	0.9	1.0	1.0	1.0
10.924	1.0	1.0	1.0	1.0	1.0	1.1	1.1
11.035	1.1	1.1	1.1	1.1	1.1	1.1	1.2
11.145	1.2	1.2	1.2	1.2	1.3	1.3	1.3
11.256	1.3	1.3	1.4	1.4	1.4	1.5	1.5
11.366	1.5	1.5	1.6	1.6	1.6	1.6	1.7
11.477	1.7	1.7	1.8	1.8	1.8	1.9	2.0
11.587	2.1	2.3	2.4	2.7	2.9	3.2	3.5
11.698	3.9	4.3	4.8	5.3	5.9	6.4	7.1
11.808	7.8	8.5	9.3	10.2	11.1	12.2	13.4
11.919	14.6	15.8	16.9	17.9	18.7	19.3	19.7
12.030	19.8	19.7	19.4	18.8	18.0	16.9	15.7
12.140	14.5	13.3	12.1	10.9	9.9	8.9	8.0
12.251	7.3	6.7	6.2	5.7	5.3	5.0	4.7
12.361	4.4	4.1	3.9	3.7	3.6	3.4	3.2
12.472	3.1	3.0	2.9	2.8	2.6	2.6	2.5
12.582	2.4	2.3	2.2	2.1	2.1	2.0	2.0
12.693	1.9	1.9	1.8	1.8	1.8	1.7	1.7
12.803	1.7	1.6	1.6	1.6	1.6	1.6	1.5
12.914	1.5	1.5	1.5	1.5	1.5	1.4	1.4
13.024	1.4	1.4	1.4	1.4	1.3	1.3	1.3
13.135	1.3	1.3	1.3	1.3	1.2	1.2	1.2
13.245	1.2	1.2	1.2	1.2	1.2	1.2	1.1
13.356	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.466	1.1	1.1	1.1	1.0	1.0	1.0	1.0
13.577	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.687	1.0	0.9	0.9	0.9	0.9	0.9	0.9
13.798	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.908	0.9	0.9	0.8	0.8	0.8	0.8	0.8
14.019	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.130	0.8	0.8	0.8	0.8	0.8	0.8	0.7
14.240	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.351	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.461	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.572	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.682	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.793	0.7	0.7	0.7	0.7	0.7	0.6	0.6
14.903	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.014	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.124	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.235	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.345	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.456	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.566	0.6	0.5	0.5	0.5	0.5	0.5	0.5
15.677	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.787	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.898	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Upstream	3.903		12.03	19.8	2912.74

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.819	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.930	0.5	0.5	0.5	0.5	0.5	0.5	0.6
10.040	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.151	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.261	0.6	0.6	0.6	0.7	0.7	0.7	0.7
10.372	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.482	0.7	0.7	0.7	0.7	0.8	0.8	0.8
10.593	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.703	0.8	0.8	0.9	0.9	0.9	0.9	0.9
10.814	0.9	0.9	0.9	0.9	1.0	1.0	1.0
10.924	1.0	1.0	1.0	1.0	1.0	1.1	1.1
11.035	1.1	1.1	1.1	1.1	1.1	1.1	1.2
11.145	1.2	1.2	1.2	1.2	1.3	1.3	1.3
11.256	1.3	1.3	1.4	1.4	1.4	1.5	1.5
11.366	1.5	1.5	1.6	1.6	1.6	1.6	1.7
11.477	1.7	1.7	1.8	1.8	1.8	1.9	2.0
11.587	2.1	2.3	2.4	2.7	2.9	3.2	3.5
11.698	3.9	4.3	4.8	5.3	5.9	6.4	7.1
11.808	7.8	8.5	9.3	10.2	11.1	12.2	13.4
11.919	14.6	15.8	16.9	17.9	18.7	19.3	19.7
12.030	19.8	19.7	19.4	18.8	18.0	16.9	15.7
12.140	14.5	13.3	12.1	10.9	9.9	8.9	8.0
12.251	7.3	6.7	6.2	5.7	5.3	5.0	4.7
12.361	4.4	4.1	3.9	3.7	3.6	3.4	3.2
12.472	3.1	3.0	2.9	2.8	2.6	2.6	2.5
12.582	2.4	2.3	2.2	2.1	2.1	2.0	2.0

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
12.693	1.9	1.9	1.8	1.8	1.8	1.7	1.7
12.803	1.7	1.6	1.6	1.6	1.6	1.6	1.5
12.914	1.5	1.5	1.5	1.5	1.5	1.4	1.4
13.024	1.4	1.4	1.4	1.4	1.3	1.3	1.3
13.135	1.3	1.3	1.3	1.3	1.2	1.2	1.2
13.245	1.2	1.2	1.2	1.2	1.2	1.2	1.1
13.356	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.466	1.1	1.1	1.1	1.0	1.0	1.0	1.0
13.577	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.687	1.0	0.9	0.9	0.9	0.9	0.9	0.9
13.798	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13.908	0.9	0.9	0.8	0.8	0.8	0.8	0.8
14.019	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.130	0.8	0.8	0.8	0.8	0.8	0.8	0.7
14.240	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.351	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.461	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.572	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.682	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.793	0.7	0.7	0.7	0.7	0.7	0.6	0.6
14.903	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.014	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.124	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.235	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.345	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.456	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.566	0.6	0.5	0.5	0.5	0.5	0.5	0.5
15.677	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.787	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.898	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach 1	0.007	Downstream	3.903	865.36	12.25	7.4	1088.70

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.961	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.072	0.5	0.5	0.5	0.5	0.5	0.5	0.6
10.182	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.293	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.403	0.6	0.6	0.6	0.6	0.7	0.7	0.7
10.514	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.624	0.7	0.7	0.7	0.7	0.8	0.8	0.8
10.735	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.845	0.8	0.8	0.9	0.9	0.9	0.9	0.9
10.956	0.9	0.9	0.9	0.9	0.9	1.0	1.0
11.066	1.0	1.0	1.0	1.0	1.0	1.0	1.1

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.177	1.1	1.1	1.1	1.1	1.1	1.1	1.2
11.287	1.2	1.2	1.2	1.2	1.3	1.3	1.3
11.398	1.3	1.3	1.4	1.4	1.4	1.4	1.5
11.508	1.5	1.5	1.5	1.6	1.6	1.6	1.7
11.619	1.8	1.8	1.9	2.0	2.1	2.3	2.4
11.730	2.5	2.6	2.8	2.9	3.1	3.3	3.5
11.840	3.8	4.0	4.2	4.4	4.6	4.8	5.1
11.951	5.3	5.4	5.6	5.8	6.1	6.2	6.4
12.061	6.5	6.6	6.8	6.9	7.0	7.1	7.2
12.172	7.3	7.3	7.4	7.4	7.4	7.4	7.4
12.282	7.4	7.4	7.3	7.3	7.3	7.2	7.2
12.393	7.2	7.1	7.1	7.0	7.0	6.9	6.9
12.503	6.8	6.8	6.8	6.7	6.7	6.6	6.6
12.614	6.5	6.5	6.4	6.4	6.3	6.3	6.2
12.724	6.2	6.1	6.1	6.0	6.0	5.9	5.8
12.835	5.8	5.7	5.7	5.6	5.5	5.5	5.4
12.945	5.3	5.3	5.2	5.2	5.1	5.0	4.9
13.056	4.8	4.7	4.7	4.6	4.5	4.4	4.4
13.166	4.3	4.2	4.1	4.1	4.0	3.9	3.7
13.277	3.6	3.5	3.4	3.3	3.2	3.1	3.0
13.387	2.9	2.8	2.7	2.7	2.6	2.5	2.4
13.498	2.4	2.3	2.1	2.0	2.0	1.9	1.8
13.608	1.7	1.7	1.6	1.5	1.5	1.4	1.4
13.719	1.4	1.3	1.3	1.2	1.2	1.2	1.2
13.830	1.1	1.1	1.1	1.1	1.1	1.0	1.0
13.940	1.0	1.0	1.0	1.0	1.0	0.9	0.9
14.051	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.161	0.9	0.8	0.8	0.8	0.8	0.8	0.8
14.272	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.382	0.8	0.8	0.8	0.8	0.7	0.7	0.7
14.493	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.603	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.714	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.824	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.935	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.045	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.156	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.266	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.377	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.487	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.598	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.708	0.6	0.6	0.6	0.5	0.5	0.5	0.5
15.819	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.930	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.040	0.5	0.5	0.5	0.5	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.007		3.903		12.25	7.4	1088.70

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.961	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10.072	0.5	0.5	0.5	0.5	0.5	0.5	0.6
10.182	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.293	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.403	0.6	0.6	0.6	0.6	0.7	0.7	0.7
10.514	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.624	0.7	0.7	0.7	0.7	0.8	0.8	0.8
10.735	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.845	0.8	0.8	0.9	0.9	0.9	0.9	0.9
10.956	0.9	0.9	0.9	0.9	0.9	1.0	1.0
11.066	1.0	1.0	1.0	1.0	1.0	1.0	1.1
11.177	1.1	1.1	1.1	1.1	1.1	1.1	1.2
11.287	1.2	1.2	1.2	1.2	1.3	1.3	1.3
11.398	1.3	1.3	1.4	1.4	1.4	1.4	1.5
11.508	1.5	1.5	1.5	1.6	1.6	1.6	1.7
11.619	1.8	1.8	1.9	2.0	2.1	2.3	2.4
11.730	2.5	2.6	2.8	2.9	3.1	3.3	3.5
11.840	3.8	4.0	4.2	4.4	4.6	4.8	5.1
11.951	5.3	5.4	5.6	5.8	6.1	6.2	6.4
12.061	6.5	6.6	6.8	6.9	7.0	7.1	7.2
12.172	7.3	7.3	7.4	7.4	7.4	7.4	7.4
12.282	7.4	7.4	7.3	7.3	7.3	7.2	7.2
12.393	7.2	7.1	7.1	7.0	7.0	6.9	6.9
12.503	6.8	6.8	6.8	6.7	6.7	6.6	6.6
12.614	6.5	6.5	6.4	6.4	6.3	6.3	6.2
12.724	6.2	6.1	6.1	6.0	6.0	5.9	5.8
12.835	5.8	5.7	5.7	5.6	5.5	5.5	5.4
12.945	5.3	5.3	5.2	5.2	5.1	5.0	4.9
13.056	4.8	4.7	4.7	4.6	4.5	4.4	4.4
13.166	4.3	4.2	4.1	4.1	4.0	3.9	3.7
13.277	3.6	3.5	3.4	3.3	3.2	3.1	3.0
13.387	2.9	2.8	2.7	2.7	2.6	2.5	2.4
13.498	2.4	2.3	2.1	2.0	2.0	1.9	1.8
13.608	1.7	1.7	1.6	1.5	1.5	1.4	1.4
13.719	1.4	1.3	1.3	1.2	1.2	1.2	1.2
13.830	1.1	1.1	1.1	1.1	1.1	1.0	1.0
13.940	1.0	1.0	1.0	1.0	1.0	0.9	0.9
14.051	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.161	0.9	0.8	0.8	0.8	0.8	0.8	0.8
14.272	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.382	0.8	0.8	0.8	0.8	0.7	0.7	0.7
14.493	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.603	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.714	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.824	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.935	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.045	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.156	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.266	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.377	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.487	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.598	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.708	0.6	0.6	0.6	0.5	0.5	0.5	0.5
15.819	0.5	0.5	0.5	0.5	0.5	0.5	0.5
15.930	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.040	0.5	0.5	0.5	0.5	0.0		

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__50yr storm.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse - Proposed Conditions - 50year storm

SUB-AREA:
          Area 1    Reach 1             .0068078  93.       .25       YY  Y


STREAM REACH:
          Reach 1   Outlet              Pond                           YY  Y


STORM ANALYSIS:
          50yr 24hr                     5.32      TYPE II   2



STRUCTURE RATING:
          Pond      860.
                    860.      0.        .0001
                    861.      2.38      .033
                    862.      4.01      .077
                    863.      5.15      .138
                    864.      6.08      .217
                    864.70    6.65      .287
                    865.      6.95      .322
                    865.50    7.59      .382
                    866.      8.06      .5307
```

```
WinTR-20 Printed Page File      End of Input Data List

                TX Roadhouse - Proposed Conditions - 50year storm

                           Name of printed page file:
     C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__50yr storm.out

                                        STORM 50yr 24hr

Area or    Drainage  Rain Gage     Runoff   ------------ Peak Flow ------------
 Reach       Area      ID or       Amount   Elevation   Time      Rate      Rate
Identifier  (sq mi)   Location      (in)      (ft)       (hr)     (cfs)     (csm)

Area 1        0.007                4.512                12.03      22.7   3339.13

   Line
Start Time   ------------ Flow Values @ time increment of  0.016 hr ------------
      (hr)     (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)

     9.066       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     9.176       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     9.287       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     9.398       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     9.508       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     9.619       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     9.729       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     9.840       0.6        0.6        0.6        0.6        0.6        0.6        0.6
```

9.950	0.6	0.6	0.6	0.7	0.7	0.7	0.7
10.061	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.171	0.7	0.7	0.7	0.7	0.7	0.7	0.8
10.282	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.392	0.8	0.8	0.8	0.8	0.8	0.9	0.9
10.503	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.613	0.9	0.9	1.0	1.0	1.0	1.0	1.0
10.724	1.0	1.0	1.0	1.0	1.1	1.1	1.1
10.834	1.1	1.1	1.1	1.1	1.1	1.2	1.2
10.945	1.2	1.2	1.2	1.2	1.2	1.3	1.3
11.055	1.3	1.3	1.3	1.3	1.3	1.4	1.4
11.166	1.4	1.4	1.5	1.5	1.5	1.5	1.6
11.276	1.6	1.6	1.6	1.7	1.7	1.7	1.8
11.387	1.8	1.8	1.9	1.9	1.9	2.0	2.0
11.498	2.0	2.1	2.1	2.2	2.3	2.4	2.5
11.608	2.7	2.9	3.2	3.5	3.8	4.2	4.7
11.719	5.2	5.8	6.3	7.0	7.7	8.4	9.2
11.829	10.1	11.0	12.1	13.2	14.4	15.8	17.2
11.940	18.5	19.8	20.8	21.7	22.3	22.6	22.7
12.050	22.5	22.0	21.3	20.2	19.0	17.6	16.2
12.161	14.7	13.4	12.1	10.9	9.9	8.9	8.1
12.271	7.5	6.9	6.4	6.0	5.6	5.2	4.9
12.382	4.7	4.4	4.2	4.0	3.8	3.7	3.5
12.492	3.4	3.2	3.1	3.0	2.9	2.8	2.7
12.603	2.6	2.5	2.4	2.3	2.3	2.2	2.2
12.713	2.1	2.1	2.0	2.0	2.0	1.9	1.9
12.824	1.9	1.8	1.8	1.8	1.8	1.8	1.7
12.934	1.7	1.7	1.7	1.6	1.6	1.6	1.6
13.045	1.6	1.6	1.5	1.5	1.5	1.5	1.5
13.155	1.5	1.4	1.4	1.4	1.4	1.4	1.4
13.266	1.4	1.3	1.3	1.3	1.3	1.3	1.3
13.376	1.3	1.3	1.3	1.2	1.2	1.2	1.2
13.487	1.2	1.2	1.2	1.2	1.2	1.2	1.1

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.598	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.708	1.1	1.1	1.1	1.0	1.0	1.0	1.0
13.819	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.929	1.0	1.0	1.0	0.9	0.9	0.9	0.9
14.040	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.150	0.9	0.9	0.9	0.9	0.9	0.8	0.8
14.261	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.371	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.482	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.592	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.703	0.8	0.8	0.8	0.8	0.8	0.8	0.7
14.813	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.924	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.034	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.145	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.255	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.366	0.7	0.7	0.7	0.7	0.6	0.6	0.6
15.476	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.587	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.698	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.808	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.919	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.029	0.6	0.6	0.5	0.5	0.5	0.5	0.5
16.140	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.250	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.361	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.471	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.582	0.5	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Upstream	4.512		12.03	22.7	3339.13

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.066	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.176	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.287	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.398	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.508	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.619	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.729	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.840	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.950	0.6	0.6	0.6	0.7	0.7	0.7	0.7
10.061	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.171	0.7	0.7	0.7	0.7	0.7	0.7	0.8
10.282	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.392	0.8	0.8	0.8	0.8	0.8	0.9	0.9

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.503	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.613	0.9	0.9	1.0	1.0	1.0	1.0	1.0
10.724	1.0	1.0	1.0	1.0	1.1	1.1	1.1
10.834	1.1	1.1	1.1	1.1	1.1	1.2	1.2
10.945	1.2	1.2	1.2	1.2	1.2	1.3	1.3
11.055	1.3	1.3	1.3	1.3	1.3	1.4	1.4
11.166	1.4	1.4	1.5	1.5	1.5	1.5	1.6
11.276	1.6	1.6	1.6	1.7	1.7	1.7	1.8
11.387	1.8	1.8	1.9	1.9	1.9	2.0	2.0
11.498	2.0	2.1	2.1	2.2	2.3	2.4	2.5
11.608	2.7	2.9	3.2	3.5	3.8	4.2	4.7
11.719	5.2	5.8	6.3	7.0	7.7	8.4	9.2
11.829	10.1	11.0	12.1	13.2	14.4	15.8	17.2
11.940	18.5	19.8	20.8	21.7	22.3	22.6	22.7
12.050	22.5	22.0	21.3	20.2	19.0	17.6	16.2
12.161	14.7	13.4	12.1	10.9	9.9	8.9	8.1
12.271	7.5	6.9	6.4	6.0	5.6	5.2	4.9
12.382	4.7	4.4	4.2	4.0	3.8	3.7	3.5
12.492	3.4	3.2	3.1	3.0	2.9	2.8	2.7
12.603	2.6	2.5	2.4	2.3	2.3	2.2	2.2
12.713	2.1	2.1	2.0	2.0	2.0	1.9	1.9
12.824	1.9	1.8	1.8	1.8	1.8	1.8	1.7
12.934	1.7	1.7	1.7	1.6	1.6	1.6	1.6
13.045	1.6	1.6	1.5	1.5	1.5	1.5	1.5
13.155	1.5	1.4	1.4	1.4	1.4	1.4	1.4
13.266	1.4	1.3	1.3	1.3	1.3	1.3	1.3
13.376	1.3	1.3	1.3	1.2	1.2	1.2	1.2
13.487	1.2	1.2	1.2	1.2	1.2	1.2	1.1
13.598	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.708	1.1	1.1	1.1	1.0	1.0	1.0	1.0
13.819	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.929	1.0	1.0	1.0	0.9	0.9	0.9	0.9
14.040	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.150	0.9	0.9	0.9	0.9	0.9	0.8	0.8
14.261	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.371	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.482	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.592	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.703	0.8	0.8	0.8	0.8	0.8	0.8	0.7
14.813	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14.924	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.034	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.145	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.255	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.366	0.7	0.7	0.7	0.7	0.6	0.6	0.6
15.476	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.587	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.698	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.808	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.919	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.029	0.6	0.6	0.5	0.5	0.5	0.5	0.5
16.140	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.250	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.361	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.471	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.582	0.5	0.5	0.5	0.5	0.5	0.5	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Downstream	4.511	865.69	12.27	7.8	1141.21

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.255	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.366	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.476	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.587	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.698	0.5	0.5	0.5	0.6	0.6	0.6	0.6
9.808	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.919	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.029	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.140	0.6	0.7	0.7	0.7	0.7	0.7	0.7
10.250	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.361	0.7	0.7	0.7	0.8	0.8	0.8	0.8
10.471	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.582	0.8	0.8	0.8	0.9	0.9	0.9	0.9
10.692	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.803	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.913	1.0	1.0	1.1	1.1	1.1	1.1	1.1
11.024	1.1	1.1	1.1	1.2	1.2	1.2	1.2
11.134	1.2	1.2	1.2	1.3	1.3	1.3	1.3
11.245	1.3	1.4	1.4	1.4	1.4	1.4	1.5
11.355	1.5	1.5	1.5	1.6	1.6	1.6	1.6
11.466	1.7	1.7	1.7	1.8	1.8	1.8	1.9
11.576	1.9	1.9	2.0	2.1	2.2	2.3	2.4
11.687	2.5	2.6	2.7	2.8	3.0	3.1	3.3
11.798	3.6	3.8	4.0	4.2	4.4	4.6	4.8
11.908	5.0	5.3	5.5	5.7	5.9	6.1	6.3
12.019	6.5	6.6	6.8	7.0	7.2	7.4	7.5
12.129	7.6	7.7	7.7	7.7	7.7	7.7	7.8
12.240	7.8	7.8	7.8	7.8	7.8	7.8	7.7
12.350	7.7	7.7	7.7	7.7	7.7	7.7	7.7
12.461	7.6	7.6	7.6	7.6	7.5	7.5	7.4
12.571	7.3	7.3	7.2	7.1	7.1	7.0	7.0
12.682	6.9	6.9	6.8	6.8	6.7	6.7	6.6
12.792	6.6	6.5	6.5	6.4	6.4	6.3	6.3
12.903	6.2	6.2	6.1	6.1	6.0	5.9	5.9
13.013	5.8	5.7	5.7	5.6	5.5	5.5	5.4
13.124	5.4	5.3	5.2	5.2	5.1	5.0	4.9
13.234	4.8	4.8	4.7	4.6	4.5	4.4	4.4

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.345	4.3	4.2	4.2	4.1	4.0	3.9	3.8
13.455	3.6	3.5	3.4	3.3	3.2	3.1	3.0
13.566	2.9	2.9	2.8	2.7	2.6	2.6	2.5
13.676	2.4	2.3	2.2	2.1	2.0	1.9	1.9
13.787	1.8	1.7	1.6	1.6	1.5	1.5	1.4
13.898	1.4	1.4	1.3	1.3	1.3	1.2	1.2
14.008	1.2	1.2	1.1	1.1	1.1	1.1	1.1
14.119	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.229	1.0	0.9	0.9	0.9	0.9	0.9	0.9
14.340	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.450	0.9	0.9	0.8	0.8	0.8	0.8	0.8
14.561	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.671	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.782	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.892	0.8	0.8	0.8	0.8	0.8	0.7	0.7
15.003	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.113	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.224	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.334	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.445	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.555	0.7	0.7	0.7	0.6	0.6	0.6	0.6
15.666	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.776	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.887	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.998	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.108	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.219	0.6	0.5	0.5	0.5	0.5	0.5	0.5
16.329	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.440	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.550	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.661	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.771	0.5	0.5	0.5	0.5	0.5	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.007		4.511		12.27	7.8	1141.21

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.255	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.366	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.476	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.587	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.698	0.5	0.5	0.5	0.6	0.6	0.6	0.6
9.808	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.919	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.029	0.6	0.6	0.6	0.6	0.6	0.6	0.6
10.140	0.6	0.7	0.7	0.7	0.7	0.7	0.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10.250	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.361	0.7	0.7	0.7	0.8	0.8	0.8	0.8
10.471	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.582	0.8	0.8	0.8	0.9	0.9	0.9	0.9
10.692	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.803	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.913	1.0	1.0	1.1	1.1	1.1	1.1	1.1
11.024	1.1	1.1	1.1	1.2	1.2	1.2	1.2
11.134	1.2	1.2	1.2	1.3	1.3	1.3	1.3
11.245	1.3	1.4	1.4	1.4	1.4	1.4	1.5
11.355	1.5	1.5	1.5	1.6	1.6	1.6	1.6
11.466	1.7	1.7	1.7	1.8	1.8	1.8	1.9
11.576	1.9	1.9	2.0	2.1	2.2	2.3	2.4
11.687	2.5	2.6	2.7	2.8	3.0	3.1	3.3
11.798	3.6	3.8	4.0	4.2	4.4	4.6	4.8
11.908	5.0	5.3	5.5	5.7	5.9	6.1	6.3
12.019	6.5	6.6	6.8	7.0	7.2	7.4	7.5
12.129	7.6	7.7	7.7	7.7	7.7	7.7	7.8
12.240	7.8	7.8	7.8	7.8	7.8	7.8	7.7
12.350	7.7	7.7	7.7	7.7	7.7	7.7	7.7
12.461	7.6	7.6	7.6	7.6	7.5	7.5	7.4
12.571	7.3	7.3	7.2	7.1	7.1	7.0	7.0
12.682	6.9	6.9	6.8	6.8	6.7	6.7	6.6
12.792	6.6	6.5	6.5	6.4	6.4	6.3	6.3
12.903	6.2	6.2	6.1	6.1	6.0	5.9	5.9
13.013	5.8	5.7	5.7	5.6	5.5	5.5	5.4
13.124	5.4	5.3	5.2	5.2	5.1	5.0	4.9
13.234	4.8	4.8	4.7	4.6	4.5	4.4	4.4
13.345	4.3	4.2	4.2	4.1	4.0	3.9	3.8
13.455	3.6	3.5	3.4	3.3	3.2	3.1	3.0
13.566	2.9	2.9	2.8	2.7	2.6	2.6	2.5
13.676	2.4	2.3	2.2	2.1	2.0	1.9	1.9
13.787	1.8	1.7	1.6	1.6	1.5	1.5	1.4
13.898	1.4	1.4	1.3	1.3	1.3	1.2	1.2
14.008	1.2	1.2	1.1	1.1	1.1	1.1	1.1
14.119	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.229	1.0	0.9	0.9	0.9	0.9	0.9	0.9
14.340	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.450	0.9	0.9	0.8	0.8	0.8	0.8	0.8
14.561	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.671	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.782	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.892	0.8	0.8	0.8	0.8	0.8	0.7	0.7
15.003	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.113	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.224	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.334	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.445	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.555	0.7	0.7	0.7	0.6	0.6	0.6	0.6
15.666	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.776	0.6	0.6	0.6	0.6	0.6	0.6	0.6
15.887	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.998	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.108	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.219	0.6	0.5	0.5	0.5	0.5	0.5	0.5
16.329	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.440	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.550	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.661	0.5	0.5	0.5	0.5	0.5	0.5	0.5
16.771	0.5	0.5	0.5	0.5	0.5	0.0	

```
WinTR-20 Printed Page File      Beginning of Input Data List
C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__100yr storm.inp

WinTR-20: version 3.10                  0         0         .01       0
TX Roadhouse - Proposed Conditions - 100year storm

SUB-AREA:
          Area 1    Reach 1             .0068078  93.       .25       YY  Y


STREAM REACH:
          Reach 1   Outlet              Pond                           YY  Y


STORM ANALYSIS:
          100yr 24hr                    6.04      TYPE II   2



STRUCTURE RATING:
          Pond      860.
                    860.      0.        .0001
                    861.      2.38      .033
                    862.      4.01      .077
                    863.      5.15      .138
                    864.      6.08      .217
                    864.70    6.65      .287
                    865.      6.95      .322
                    865.5     7.59      .382
                    866.      8.06      .5307
```

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WinTR-20 Printed Page File      End of Input Data List

               TX Roadhouse - Proposed Conditions - 100year storm

                          Name of printed page file:
     C:\Users\Iwaniuk\Desktop\TXRH West Chester__PROPOSED__100yr storm.out

                                       STORM 100yr 24hr

Area or    Drainage  Rain Gage     Runoff   ------------ Peak Flow ------------
 Reach       Area      ID or       Amount   Elevation   Time      Rate      Rate
Identifier (sq mi)   Location      (in)       (ft)      (hr)      (cfs)     (csm)

Area 1        0.007               5.222               12.03      26.1   3833.19

   Line
Start Time   ------------ Flow Values @ time increment of  0.016 hr ------------
      (hr)     (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)      (cfs)

     8.651       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     8.762       0.5        0.5        0.5        0.5        0.5        0.5        0.5
     8.873       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     8.983       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     9.094       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     9.204       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     9.315       0.6        0.6        0.6        0.6        0.6        0.6        0.6
     9.425       0.6        0.6        0.6        0.6        0.6        0.6        0.6
```

9.536	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.646	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.757	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.867	0.7	0.7	0.7	0.7	0.7	0.8	0.8
9.978	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.088	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.199	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.309	0.9	0.9	0.9	0.9	1.0	1.0	1.0
10.420	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.530	1.0	1.1	1.1	1.1	1.1	1.1	1.1
10.641	1.1	1.1	1.1	1.2	1.2	1.2	1.2
10.751	1.2	1.2	1.2	1.3	1.3	1.3	1.3
10.862	1.3	1.3	1.3	1.4	1.4	1.4	1.4
10.973	1.4	1.4	1.5	1.5	1.5	1.5	1.5
11.083	1.5	1.6	1.6	1.6	1.6	1.6	1.7
11.194	1.7	1.7	1.8	1.8	1.8	1.8	1.9
11.304	1.9	2.0	2.0	2.0	2.1	2.1	2.1
11.415	2.2	2.2	2.2	2.3	2.3	2.4	2.4
11.525	2.4	2.5	2.6	2.7	2.9	3.1	3.3
11.636	3.6	3.9	4.3	4.8	5.3	5.9	6.5
11.746	7.2	7.9	8.7	9.5	10.4	11.4	12.5
11.857	13.6	14.9	16.3	17.8	19.4	21.0	22.4
11.967	23.7	24.7	25.4	25.9	26.1	25.9	25.5
12.078	24.6	23.5	22.1	20.5	18.9	17.3	15.7
12.188	14.2	12.8	11.6	10.4	9.5	8.7	8.0
12.299	7.4	6.9	6.5	6.1	5.7	5.4	5.1
12.409	4.9	4.6	4.4	4.2	4.0	3.9	3.7
12.520	3.6	3.4	3.3	3.2	3.1	3.0	2.9
12.630	2.8	2.7	2.6	2.5	2.5	2.4	2.4
12.741	2.3	2.3	2.2	2.2	2.2	2.1	2.1
12.851	2.1	2.1	2.0	2.0	2.0	2.0	1.9
12.962	1.9	1.9	1.9	1.8	1.8	1.8	1.8
13.073	1.8	1.7	1.7	1.7	1.7	1.7	1.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
13.183	1.6	1.6	1.6	1.6	1.6	1.6	1.5
13.294	1.5	1.5	1.5	1.5	1.5	1.5	1.4
13.404	1.4	1.4	1.4	1.4	1.4	1.4	1.4
13.515	1.4	1.3	1.3	1.3	1.3	1.3	1.3
13.625	1.3	1.3	1.3	1.2	1.2	1.2	1.2
13.736	1.2	1.2	1.2	1.2	1.2	1.2	1.2
13.846	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.957	1.1	1.1	1.1	1.1	1.1	1.0	1.0
14.067	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.178	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.288	1.0	0.9	0.9	0.9	0.9	0.9	0.9
14.399	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.509	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.620	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.730	0.9	0.9	0.9	0.9	0.9	0.9	0.8
14.841	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.951	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.062	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.173	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.283	0.8	0.8	0.8	0.8	0.8	0.8	0.7
15.394	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.504	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.615	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.725	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.836	0.7	0.7	0.7	0.7	0.7	0.7	0.6
15.946	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.057	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.167	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.278	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.388	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.499	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.609	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.720	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.830	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.941	0.6	0.6	0.6	0.5	0.5	0.5	0.5
17.051	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.162	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.273	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.383	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.494	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.604	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.715	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach 1	0.007	Upstream	5.222		12.03	26.1	3833.19

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.651	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8.762	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8.873	0.6	0.6	0.6	0.6	0.6	0.6	0.6
8.983	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.094	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.204	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.315	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.425	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.536	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.646	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.757	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.867	0.7	0.7	0.7	0.7	0.7	0.8	0.8
9.978	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.088	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.199	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.309	0.9	0.9	0.9	0.9	1.0	1.0	1.0
10.420	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.530	1.0	1.1	1.1	1.1	1.1	1.1	1.1
10.641	1.1	1.1	1.1	1.2	1.2	1.2	1.2
10.751	1.2	1.2	1.2	1.3	1.3	1.3	1.3
10.862	1.3	1.3	1.3	1.4	1.4	1.4	1.4
10.973	1.4	1.4	1.5	1.5	1.5	1.5	1.5
11.083	1.5	1.6	1.6	1.6	1.6	1.6	1.7
11.194	1.7	1.7	1.8	1.8	1.8	1.8	1.9
11.304	1.9	2.0	2.0	2.0	2.1	2.1	2.1
11.415	2.2	2.2	2.2	2.3	2.3	2.4	2.4
11.525	2.4	2.5	2.6	2.7	2.9	3.1	3.3
11.636	3.6	3.9	4.3	4.8	5.3	5.9	6.5
11.746	7.2	7.9	8.7	9.5	10.4	11.4	12.5
11.857	13.6	14.9	16.3	17.8	19.4	21.0	22.4
11.967	23.7	24.7	25.4	25.9	26.1	25.9	25.5
12.078	24.6	23.5	22.1	20.5	18.9	17.3	15.7
12.188	14.2	12.8	11.6	10.4	9.5	8.7	8.0
12.299	7.4	6.9	6.5	6.1	5.7	5.4	5.1
12.409	4.9	4.6	4.4	4.2	4.0	3.9	3.7
12.520	3.6	3.4	3.3	3.2	3.1	3.0	2.9
12.630	2.8	2.7	2.6	2.5	2.5	2.4	2.4
12.741	2.3	2.3	2.2	2.2	2.2	2.1	2.1
12.851	2.1	2.1	2.0	2.0	2.0	2.0	1.9
12.962	1.9	1.9	1.9	1.8	1.8	1.8	1.8
13.073	1.8	1.7	1.7	1.7	1.7	1.7	1.6
13.183	1.6	1.6	1.6	1.6	1.6	1.6	1.5
13.294	1.5	1.5	1.5	1.5	1.5	1.5	1.4
13.404	1.4	1.4	1.4	1.4	1.4	1.4	1.4
13.515	1.4	1.3	1.3	1.3	1.3	1.3	1.3
13.625	1.3	1.3	1.3	1.2	1.2	1.2	1.2
13.736	1.2	1.2	1.2	1.2	1.2	1.2	1.2
13.846	1.1	1.1	1.1	1.1	1.1	1.1	1.1
13.957	1.1	1.1	1.1	1.1	1.1	1.0	1.0
14.067	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.178	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.288	1.0	0.9	0.9	0.9	0.9	0.9	0.9

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.399	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.509	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.620	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.730	0.9	0.9	0.9	0.9	0.9	0.9	0.8
14.841	0.8	0.8	0.8	0.8	0.8	0.8	0.8
14.951	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.062	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.173	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.283	0.8	0.8	0.8	0.8	0.8	0.8	0.7
15.394	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.504	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.615	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.725	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.836	0.7	0.7	0.7	0.7	0.7	0.7	0.6
15.946	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.057	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.167	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.278	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.388	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.499	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.609	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.720	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.830	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.941	0.6	0.6	0.6	0.5	0.5	0.5	0.5
17.051	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.162	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.273	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.383	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.494	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.604	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.715	0.5	0.5	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach 1	0.007	Downstream	5.221	866.00	12.28	8.1	1183.51

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.809	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8.920	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.030	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.141	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.251	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.362	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.473	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.583	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.694	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.804	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.915	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.025	0.7	0.7	0.7	0.7	0.8	0.8	0.8
10.136	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.246	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.357	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.467	0.9	0.9	0.9	0.9	1.0	1.0	1.0
10.578	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.688	1.0	1.1	1.1	1.1	1.1	1.1	1.1
10.799	1.1	1.1	1.2	1.2	1.2	1.2	1.2
10.909	1.2	1.2	1.2	1.3	1.3	1.3	1.3
11.020	1.3	1.3	1.3	1.4	1.4	1.4	1.4
11.130	1.4	1.4	1.5	1.5	1.5	1.5	1.5
11.241	1.6	1.6	1.6	1.6	1.6	1.7	1.7
11.351	1.7	1.8	1.8	1.8	1.8	1.9	1.9
11.462	1.9	2.0	2.0	2.0	2.1	2.1	2.1
11.573	2.2	2.3	2.3	2.4	2.4	2.5	2.6
11.683	2.7	2.8	2.9	3.1	3.2	3.5	3.7
11.794	3.9	4.1	4.3	4.5	4.7	4.9	5.2
11.904	5.3	5.5	5.8	6.0	6.2	6.4	6.6
12.015	6.8	7.0	7.3	7.6	7.7	7.7	7.8
12.125	7.8	7.9	7.9	8.0	8.0	8.0	8.0
12.236	8.0	8.1	8.1	8.1	8.1	8.1	8.0
12.346	8.0	8.0	8.0	8.0	8.0	8.0	8.0
12.457	8.0	7.9	7.9	7.9	7.9	7.9	7.9
12.567	7.8	7.8	7.8	7.8	7.8	7.7	7.7
12.678	7.7	7.7	7.6	7.6	7.6	7.6	7.5
12.788	7.4	7.3	7.3	7.2	7.1	7.1	7.0
12.899	6.9	6.9	6.8	6.8	6.7	6.7	6.6
13.009	6.6	6.5	6.5	6.4	6.4	6.3	6.3
13.120	6.2	6.2	6.1	6.1	6.0	5.9	5.9
13.230	5.8	5.7	5.7	5.6	5.5	5.5	5.4
13.341	5.4	5.3	5.2	5.2	5.1	5.0	4.9
13.451	4.9	4.8	4.7	4.6	4.5	4.5	4.4
13.562	4.3	4.2	4.2	4.1	4.0	3.9	3.8
13.673	3.7	3.6	3.4	3.3	3.2	3.1	3.1
13.783	3.0	2.9	2.8	2.7	2.6	2.6	2.5
13.894	2.4	2.4	2.3	2.2	2.1	2.0	1.9
14.004	1.8	1.8	1.7	1.6	1.6	1.5	1.5
14.115	1.4	1.4	1.4	1.3	1.3	1.3	1.2
14.225	1.2	1.2	1.2	1.2	1.1	1.1	1.1
14.336	1.1	1.1	1.1	1.1	1.0	1.0	1.0
14.446	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.557	1.0	1.0	1.0	0.9	0.9	0.9	0.9
14.667	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.778	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.888	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.999	0.9	0.8	0.8	0.8	0.8	0.8	0.8
15.109	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.220	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.330	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.441	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.551	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
15.662	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.773	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.883	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.994	0.7	0.7	0.7	0.7	0.7	0.7	0.7
16.104	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.215	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.325	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.436	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.546	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.657	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.767	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.878	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.988	0.6	0.6	0.6	0.6	0.6	0.6	0.6
17.099	0.6	0.6	0.6	0.5	0.5	0.5	0.5
17.209	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.320	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.430	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.541	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.651	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.762	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.873	0.5	0.5	0.5	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.007		5.221		12.28	8.1	1183.51

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
8.809	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8.920	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9.030	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.141	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.251	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.362	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.473	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.583	0.6	0.6	0.6	0.6	0.6	0.6	0.6
9.694	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.804	0.7	0.7	0.7	0.7	0.7	0.7	0.7
9.915	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10.025	0.7	0.7	0.7	0.7	0.8	0.8	0.8
10.136	0.8	0.8	0.8	0.8	0.8	0.8	0.8
10.246	0.8	0.8	0.8	0.8	0.8	0.8	0.9
10.357	0.9	0.9	0.9	0.9	0.9	0.9	0.9
10.467	0.9	0.9	0.9	0.9	1.0	1.0	1.0
10.578	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10.688	1.0	1.1	1.1	1.1	1.1	1.1	1.1
10.799	1.1	1.1	1.2	1.2	1.2	1.2	1.2
10.909	1.2	1.2	1.2	1.3	1.3	1.3	1.3

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.020	1.3	1.3	1.3	1.4	1.4	1.4	1.4
11.130	1.4	1.4	1.5	1.5	1.5	1.5	1.5
11.241	1.6	1.6	1.6	1.6	1.6	1.7	1.7
11.351	1.7	1.8	1.8	1.8	1.8	1.9	1.9
11.462	1.9	2.0	2.0	2.0	2.1	2.1	2.1
11.573	2.2	2.3	2.3	2.4	2.4	2.5	2.6
11.683	2.7	2.8	2.9	3.1	3.2	3.5	3.7
11.794	3.9	4.1	4.3	4.5	4.7	4.9	5.2
11.904	5.3	5.5	5.8	6.0	6.2	6.4	6.6
12.015	6.8	7.0	7.3	7.6	7.7	7.7	7.8
12.125	7.8	7.9	7.9	8.0	8.0	8.0	8.0
12.236	8.0	8.1	8.1	8.1	8.1	8.1	8.0
12.346	8.0	8.0	8.0	8.0	8.0	8.0	8.0
12.457	8.0	7.9	7.9	7.9	7.9	7.9	7.9
12.567	7.8	7.8	7.8	7.8	7.8	7.7	7.7
12.678	7.7	7.7	7.6	7.6	7.6	7.6	7.5
12.788	7.4	7.3	7.3	7.2	7.1	7.1	7.0
12.899	6.9	6.9	6.8	6.8	6.7	6.7	6.6
13.009	6.6	6.5	6.5	6.4	6.4	6.3	6.3
13.120	6.2	6.2	6.1	6.1	6.0	5.9	5.9
13.230	5.8	5.7	5.7	5.6	5.5	5.5	5.4
13.341	5.4	5.3	5.2	5.2	5.1	5.0	4.9
13.451	4.9	4.8	4.7	4.6	4.5	4.5	4.4
13.562	4.3	4.2	4.2	4.1	4.0	3.9	3.8
13.673	3.7	3.6	3.4	3.3	3.2	3.1	3.1
13.783	3.0	2.9	2.8	2.7	2.6	2.6	2.5
13.894	2.4	2.4	2.3	2.2	2.1	2.0	1.9
14.004	1.8	1.8	1.7	1.6	1.6	1.5	1.5
14.115	1.4	1.4	1.4	1.3	1.3	1.3	1.2
14.225	1.2	1.2	1.2	1.2	1.1	1.1	1.1
14.336	1.1	1.1	1.1	1.1	1.0	1.0	1.0
14.446	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.557	1.0	1.0	1.0	0.9	0.9	0.9	0.9
14.667	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.778	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.888	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14.999	0.9	0.8	0.8	0.8	0.8	0.8	0.8
15.109	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.220	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.330	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.441	0.8	0.8	0.8	0.8	0.8	0.8	0.8
15.551	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.662	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.773	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.883	0.7	0.7	0.7	0.7	0.7	0.7	0.7
15.994	0.7	0.7	0.7	0.7	0.7	0.7	0.7
16.104	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.215	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.325	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.436	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.546	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.657	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Line Start Time (hr)	Flow Values @ time increment of 0.016 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.767	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.878	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16.988	0.6	0.6	0.6	0.6	0.6	0.6	0.6
17.099	0.6	0.6	0.6	0.5	0.5	0.5	0.5
17.209	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.320	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.430	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.541	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.651	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.762	0.5	0.5	0.5	0.5	0.5	0.5	0.5
17.873	0.5	0.5	0.5	0.0			

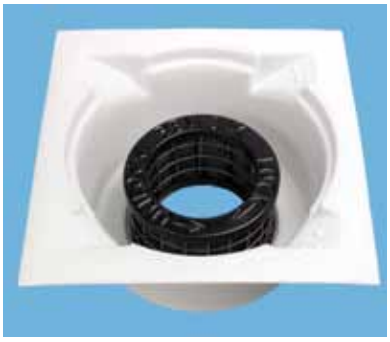
TRITON CATCH BASIN INSERTS

Triton Drop Inlet

The Triton Drop Inlet insert traps hydrocarbons and other contaminants such as metals sand and silt from stormwater runoff. It is installed below the grate of storm drain inlets.

Specifications

- Easy to install in new and existing catch basins
- Meets best available technology for use in stormwater best management practices (BMP)
- Round, square, rectangular, low profile and custom models
- Non-reactive high density polyethylene (HDPE) plastic construction, with U.V. inhibitors
- Media-Pak cartridges available for the removal of sediments, hydrocarbons, and litter
- Quick and easy servicing made available by replaceable Media-Paks





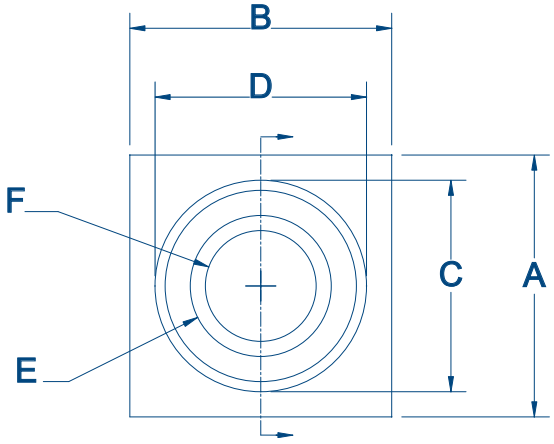
Standard Dimensions (in inches)

Model #	A*	B*	C	D	E	F	G**	# cartridges	H***	Basin Type
TR1212	15.0	15.0	11.0	11.0	6.75	3.50	6.0	1 Short	4.5	HDPE
TR12RD	Ø15.0		Ø11.0		6.75	3.5	6.0	1 Short	4.5	HDPE
TR1616	20.0	20.0	14.0	14.0	6.75	3.5	10.5	1 Std	8.5	HDPE
TR16RD	Ø20.0		Ø11.0		6.75	3.5	6.0	1 Short	4.5	HDPE
TR1818	24.0	24.0	18.0	18.0	10.0	6.25	10.5	1 Std	8.5	HDPE
TR18RD	Ø24.0		Ø16.5		6.75	3.5	10.5	1 Std	8.5	HDPE
TR1824	19.0	25.0	18.0	18.0	10.0	6.25	10.5	1 Std	8.5	HDPE
TR2024	21.0	25.0	18.0	18.0	10.0	6.25	10.5	1 Std	8.5	HDPE
TR24SR	27.0	27.0	23.5	23.5	14.0	10.0	13.0	1 Std	8.5	HDPE
TR24RD	Ø28.0		Ø21.0		14.0	10.0	13.0	1 Std	8.5	HDPE
TR2436	32.0	40.0	22.0	29.0	14.0	10.0	21.0	1 Tall	16.5	HDPE
TR3030	34.0	34.0	22.0	29.0	14.0	10.0	21.0	1 Tall	16.5	HDPE
TR36SR	36.0	36.0	33.0	33.0	14.0	10.0	22.0	1 Tall	16.5	FIBRG
TR36RD	Ø36.0		Ø33.0		14.0	10.0	22.0	1 Tall	16.5	FIBRG
TR42RD	Ø42.0		Ø33.0		14.0	10.0	22.0	1 Tall	16.5	FIBRG
TR4848	48.0	48.0	42.0	42.0	24.0	19.75	22.0	1 Tall	17.5	FIBRG
TR48RD	Ø48.0		Ø33.0		14.0	10.0	22.0	1 Tall	16.5	FIBRG

* Dimenions "A" and "B" can be adjusted to suit varying sizes of each basins.
** Dimension "G" is basin depth.
*** Dimension "H" is cartridge height.

Notes:

1. All dimenions are in inches
2. Units are constructed from HDPE plastic with U.V. inhibitors
3. Media cartridges can be interchanged with Geotrap series as site conditions change
4. Low profile cartridges are also available for shallow catch basins
5. Custom sizes are available to fit most applications
6. Optional trash and debris guard available
7. Dual stage and dual capacity cartridges also available



First line of defense against trash in storm drain systems

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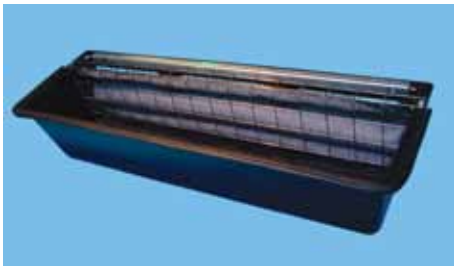
TRITON CATCH BASIN INSERTS

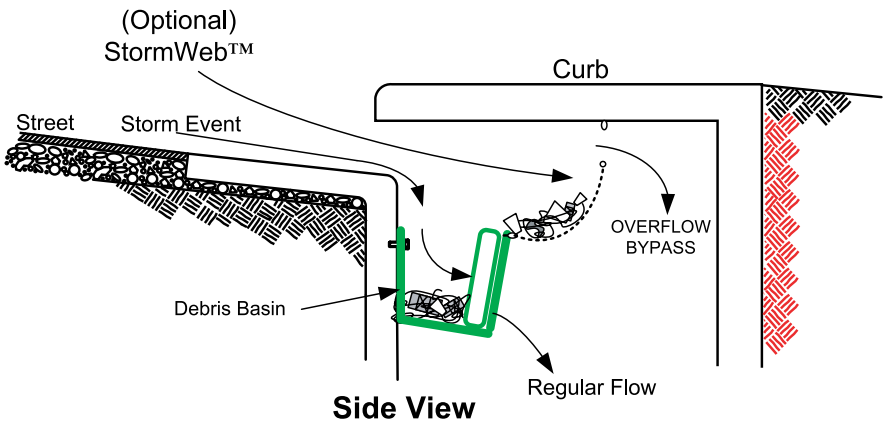
Triton Curb Inlet

The Triton Curb Inlet is designed to be inserted below the street/curb opening of storm drain inlets. It attaches to sides of catch basin using hardware supplied by manufacturer. Flow is designed to bypass insert in large storm events.

Specifications

- Easy to install in new and existing curb inlets
- Meets best available technology for use in stormwater best management practices (BMP)
- Non-reactive high impact polystyrene plastic construction with U.V. inhibitors. Over 40 percent of the plastic used comes from recycled content.
- Media-Paks cartridges available for the removal of sediments, hydrocarbons and litter
- Disposable Media-Pak is constructed from durable geotextile, polypropylene fabric
- Optional StormWeb™ system designed to assist in the removal of trash and debris, in compliance with TMDL requirements.
- Media-Pak may be removed through the curb opening for ease of maintenance





Side View

Standard Dimensions (in feet)

Model	A (curb opening)
TRC2	2.00
TRC2.5	2.50
TRC3	3.00
TRC3.5	3.50
TRC4	4.00
TRC5	5.00
TRC6	6.00
TRC7	7.00
TRC8	8.00
TRC9	9.00
TRC10	10.0
TRC12	12.00
TRC14	14.00
TRC21	21.00
TRC28	28.00

Notes:

1. All dimensions are in feet. Custom sizes also available.
2. Product is constructed of High Impact Polystyrene Plastic, with U.V. inhibitors. Over 40% recycled content.
3. Disposable Media-Pak is constructed of durable geotextile fabric, woven with perforated poly-propylene.
4. Media-Pak cage is constructed using 8 gauge Type 304 Stainless Steel.
5. Insert body is secured to inside wall using (2) 1/4" thick brackets per section, attached using 3/8" x 3" expansion anchor bolts.
6. Optional StormWeb™, designed for capturing larger trash and debris.
7. Media is non-hazardous per EPA and OSHA standards.
8. Insert shall be installed and maintained in accordance with manufacturer recommendations.

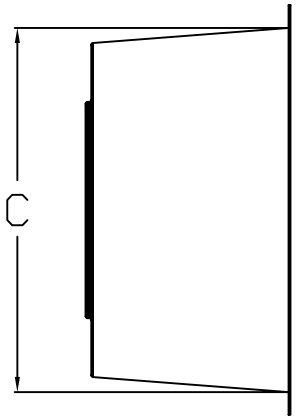
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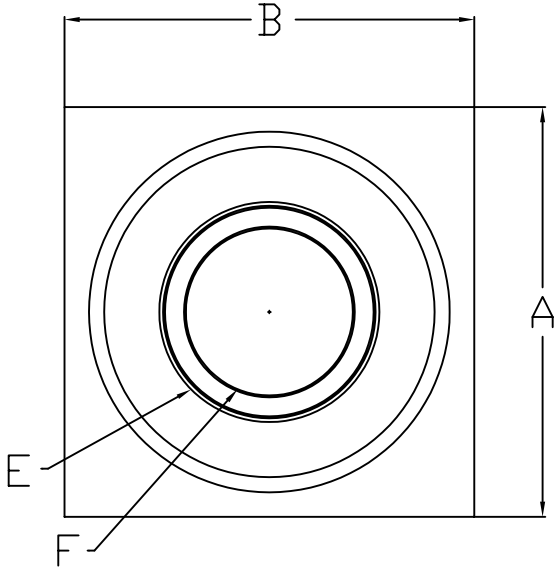
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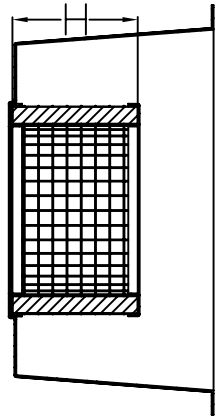
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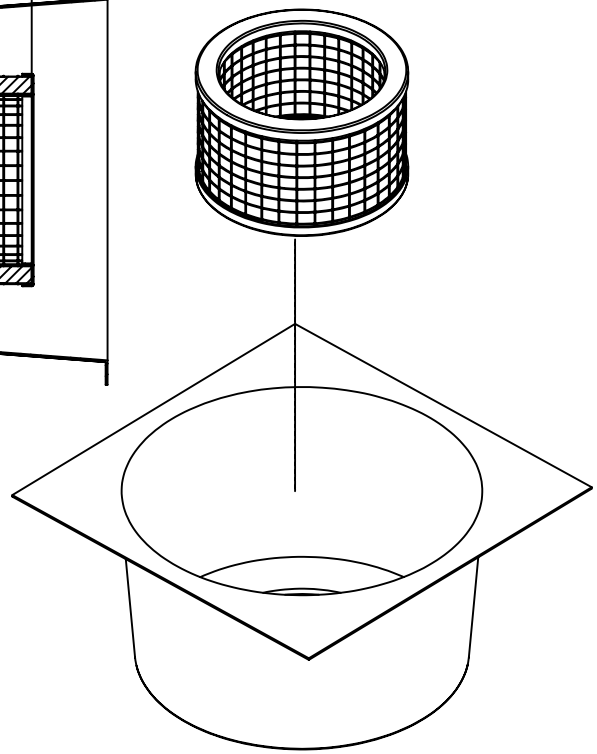
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NOTES
1. ALL DIMENSION ARE IN INCHES UNLESS OTHERWISE NOTED
2. UNITS ARE CONTRUCTED FROM HIGH DENSITY POLYETHYLENE PLASTIC WITH UV INHIBITORS OR FIBERGLASS HAVING ISOPHTHALIC POLYESTER RESINS THAT ARE GEL COATED WITH ISO?NPG
3. MEDIA CARTRIDGES CAN BE INTERCHANGED WITH GEOTRAP SERIES AS SITE CONDITIONS CHANGE.
4. LOW PROFILE FILTER ARE ALSO AVAILABLE FOR SHALLOW CATCH BASINS.
5. CUSTOM SIZES ARE AVAILABLE TO FIT MOST APPLICATIONS. PLEASE CALL A LOCAL CONTECH OFFICE NEAR YOU FOR DETAILS.
6. OPTIONAL TRASH GUARD AVAILABLE.
7. DUAL STAGE AND DUAL CAPACITY FILTERS ALSO AVAILABLE FOR LARGER DEBRIS CAPACITIES
8. * DIMENSIONS "A" AND "B" SUPPORT FLANGES CAN BE ADJUSTED TO SUITE VARYING SIZES OF CATCH BASINS
9. CUSTOM INSTALL BRACKETS ARE AVAILABLE AS NEEDED.

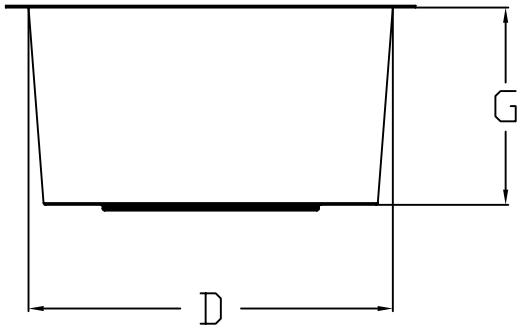








MODEL #	A*	B*	C	D	E	F	G	# CARTRIDGES	H	BASIN TYPE
TR1212	15.00	15.00	11.00	11.00	6.75	3.50	6.0	1 SHORT	4.5	HDPE
TR12RD	Ø15.00		Ø11.00		6.75	3.50	6.0	1 SHORT	4.5	HDPE
TR1616	20.00	20.00	14.00	14.00	6.75	3.50	10.5	1 STD	8.5	HDPE
TR16RD	Ø20.00		Ø11.00		6.75	3.50	6.0	1 SHORT	4.5	HDPE
TR1818	24.00	24.00	18.00	18.00	10.0	6.25	10.5	1 STD	8.5	HDPE
TR18RD	Ø24.00		Ø16.50		6.75	3.50	10.5	1 STD	8.5	HDPE
TR1824	19.00	25.00	18.00	18.00	10.0	6.25	10.5	1 STD	8.5	HDPE
TR2024	21.00	25.00	18.00	18.00	10.0	6.25	10.5	1 STD	8.5	HDPE
TR24SR	27.00	27.00	23.50	23.50	14.0	10.0	13.0	1 STD	8.5	HDPE
TR24RD	Ø28.00		Ø21.00		14.0	10.0	13.0	1 STD	8.5	HDPE
TR2436	32.00	40.00	22.00	29.00	14.0	10.0	21.0	1 TALL	16.5	HDPE
TR3030	34.00	34.00	22.00	29.00	14.0	10.0	21.0	1 TALL	16.5	HDPE
TR36SR	36.00	36.00	33.00	33.00	14.0	10.0	22.0	1 TALL	16.5	FIBRG
TR36RD	Ø36.00		Ø33.00		14.0	10.0	22.0	1 TALL	16.5	FIBRG
TR42RD	Ø42.00		Ø33.00		14.0	10.0	22.0	1 TALL	16.5	FIBRG
TR4848	48.00	48.00	42.00	42.00	24.0	19.75	22.0	1 TALL	17.5	FIBRG
TR48RD	Ø48.00		Ø33.00		14.0	10.0	22.0	1 TALL	16.5	FIBRG



TYPICAL DETAIL FOR DROP INLET STYLE
TRITON CATCHBASIN INSERTS BY CONTECH

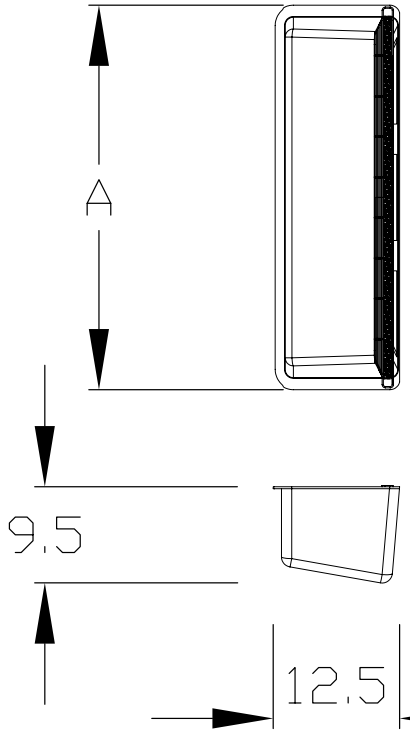
REVISIONS	
REV	DESCRIPTION

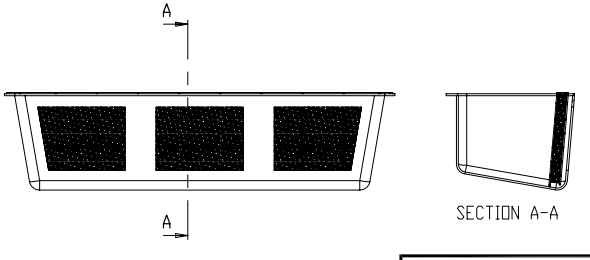
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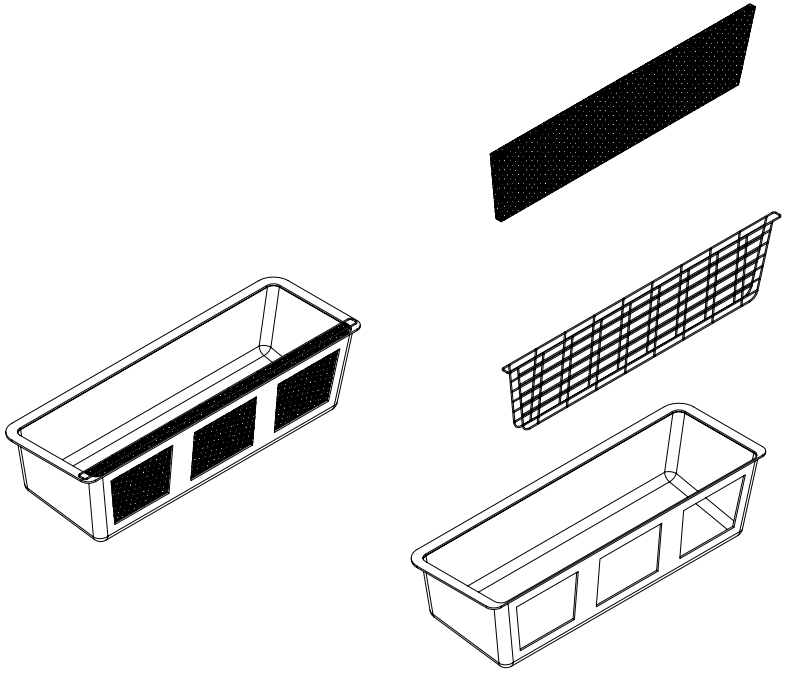
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CHECKED: WSG
FILE NAME: TYPTBLTCBI
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NOTES
1. ALLDIMENSION ARE IN FEET. CUSTOM SIZES ALSO AVAILABLE
2. UNITS ARE CONSTRUCTED FROM HIGH DENSITY POLYETHYLENE PLASTIC WITH UV INHIBITORS. OVER 40% RECYCLED CONTENT.
3. DISPOSABLE MEDIA-PAK IS CONSTRUCTED OF DURABLE GEOTEXTILE FABRIC, WOVEN WITH PERFORATED POLYPROPYLENE.
4. MEDIA-PAK CAGE IS CONSTRUCTED USING 8 GAUGE TYPE 304 STAINLESS STEEL.
5. FILTER BODY IS SECURED TO INSIDE WALL USING (2) 1/4" THICK BRACKETS PER SECTION, ATTACHED USING 3/8" X 3" EXPANSION ANCHOR BOLTS.
6. OPTIONAL STORMWEB, DESIGNED FOR CAPTURING LARGER TRASH AND DEBRIS.
7. FILTER MEDIA IS NON-HAZARDOUS PER EPA AND OSHA STANDARDS.
8. FILTER SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
9. PLEASE REFER TO MANUFACTURER RECOMMENDATIONS FOR AN APPROVED MAINTENANCE PROGRAM.

STANDARD DIMENSIONS	
MODEL #	A*
TRC2	2.00
TRC2.5	2.50
TRC3	3.00
TRC3.5	3.50
TRC4	4.00
TRC5	5.00
TRC6	6.00
TRC7	7.00
TRC8	8.00
TRC9	9.00
TRC10	10.00
TRC12	12.00
TRC14	14.00
TRC21	21.00
TRC28	28.00







TYPICAL DETAIL WITH SIZING TABLE
CURB INLET
TRITON

REVISIONS	
REV	DESCRIPTION

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SCALE: NONE
DRAWN: JBS
CHECKED: WSG
FILE NAME: TYPTBLTCIF
DATE: 4/10/07