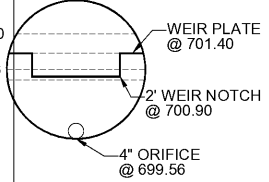
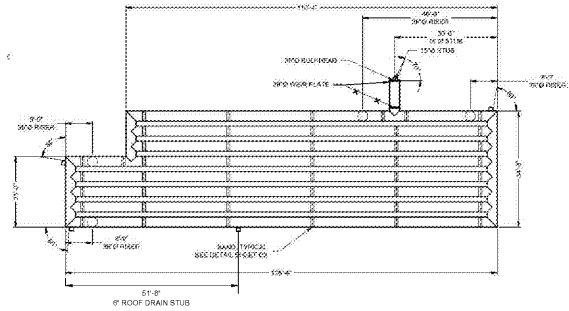


100YR WSE @ 701.90
 10-YR WSE @ 701.41
 2-YR WSE @ 701.06
 1-YR WSE @ 700.84



WEIR PLATE DETAIL
 NOT TO SCALE

- THE UNDERSIGNED HEREBY APPROVES THE ATTACHED DRAWINGS INCLUDING THE FOLLOWING:
- PIPE STORAGE = 7.98 CU FT
 - MANHOLE PIPE GAGE = 16"
 - WALL TYPE = SOLID
 - DIAMETER = 36"
 - FINISH = ALZ
 - CORRUGATION = 2.25x12"



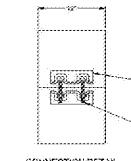
ASSEMBLY
 N.T.S.
 PIPE STORAGE = 7.98 CU FT
 LOADING = H20
 PIPE INV. = 699.54'

- ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.
- ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.
- ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.



36"Ø UNDERGROUND DETENTION SYSTEM - 604704-010
 O'REILLY AUTO PARTS - STRASBURG
 STRASBURG, VA
 SITE DESIGNATION:

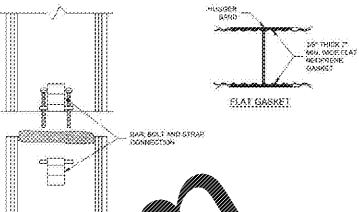
NO.	DESCRIPTION	DATE	BY	CHKD.



PLAIN END CMP RISER PIPE

- DELIVERED BASE STYLE AND FINISH TYPE SHALL VARY BY FABRICATION PLANT.
- CONNECTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.
- MANHOLE PIPE GAGE SHALL BE 16 INCHES.
- IF MANHOLE HAS A HEIGHT OF 10 FT OR MORE, USE A 4 INCH ORIFICE.
- MANHOLE AND MANHOLE FITTINGS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.
- ALL MANHOLE FITTINGS SHALL BE FREE ASSEMBLED.
- MANHOLE FITTINGS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.
- MANHOLE FITTINGS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, 2008 EDITION, WITH THE LATEST REVISIONS.

12" RISER BAND DETAIL
 NOT TO SCALE

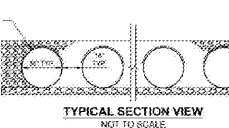


H12 HUGER BAND DETAIL
 NOT TO SCALE

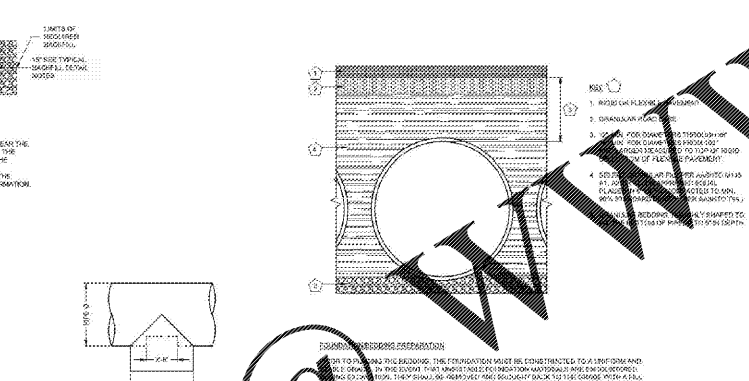


36"Ø UNDERGROUND DETENTION SYSTEM - 604704-010
 O'REILLY AUTO PARTS - STRASBURG
 STRASBURG, VA
 SITE DESIGNATION:

NO.	DESCRIPTION	DATE	BY	CHKD.



TYPICAL SECTION VIEW
 NOT TO SCALE



PLAN
 NOT TO SCALE

FRONT
 NOT TO SCALE

TYPICAL MANHOLE DETAIL
 NOT TO SCALE

BACKFILL DETAIL
 NOT TO SCALE

PLAN
 NOT TO SCALE

FRONT
 NOT TO SCALE

TYPICAL MANHOLE DETAIL
 NOT TO SCALE

BACKFILL DETAIL
 NOT TO SCALE

PLAN
 NOT TO SCALE

FRONT
 NOT TO SCALE

TYPICAL MANHOLE DETAIL
 NOT TO SCALE

BACKFILL DETAIL
 NOT TO SCALE

PLAN
 NOT TO SCALE

FRONT
 NOT TO SCALE

TYPICAL MANHOLE DETAIL
 NOT TO SCALE

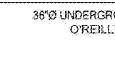
BACKFILL DETAIL
 NOT TO SCALE

PLAN
 NOT TO SCALE

FRONT
 NOT TO SCALE

TYPICAL MANHOLE DETAIL
 NOT TO SCALE

BACKFILL DETAIL
 NOT TO SCALE



36"Ø UNDERGROUND DETENTION SYSTEM - 804704-010
 O'REILLY AUTO PARTS - STRASBURG
 STRASBURG, VA
 SITE DESIGNATION:

NO.	DESCRIPTION	DATE	BY	CHKD.

GEOTECHNICAL RECOMMENDATIONS

We anticipate that a pond liner will be necessary due to the impermeable nature of the onsite soils, the shallow nature of the basins within the site development boundaries, and as a land mitigation measure. The onsite residual soils may be suitable for liner material. It may be possible to compact the pond bottom to create a liner, which should be based on on-site observations by the Geotechnical Engineer of Record (GER) during construction. We recommend that the soils be further explored during construction to determine if the existing soils are suitable for the pond bottom. The following section describes the pond liner.

We recommend that the proposed liner be extended up to the 10-year flood elevation level along the sides of the proposed embankment. The proposed liner should consist of 2-foot thick of material in the bottom of the facility. The liner should consist of soil with a minimum of 90% clay particles, by weight. The material should also have a minimum Plasticity Index of 10 and a minimum Liquid Limit of 60. Generally, a soil material classified as CLAY (CE) or FAT CLAY (CF) per ASTM D2492 should meet this requirement. We recommend that the liner have a maximum permeability of 1×10^{-10} cm/sec and should be compacted to a minimum of 95% of the maximum dry density as determined by the Standard Proctor Method (ASTM D 698). We also recommend that the soils be further explored during construction to determine if the existing soils are suitable for the pond bottom. The following section describes the pond liner.

The liner material should be kept moist during and after installation to reduce the potential for shrinkage and cracking. Sufficient amounts of clayey materials may be present on the site; however, if they are not available then 1-foot of the on-site fine grained clay soils (CL) should be placed and compacted in accordance with the criteria previously outlined. This should be followed by 1-foot of soil (CL) bennete mix to create an artificial clay liner. The soil-bennete mix should be prepared by adding equipment such as a cross 200 mixer and compacted as outlined previously. Further recommendations for the soil bennete mix can be provided should this option be chosen; however, we anticipate the onsite lean CLAY (CL) soils will be more economical than creating the artificial liner.

STORMWATER DETENTION FACILITY DETAILS

- NOTE:
- CONTRACTOR TO REVIEW SHOP DRAWINGS FOR WEIR PLATE PRIOR TO INSTALLATION.
 - CONTRACTOR TO SUBMIT PROJECT GEOTECHNICAL REPORT AND FOLLOW RECOMMENDATIONS FOR IMPERMEABLE LINERS THAT WILL EXTEND UP TO THE 10-YEAR STORM ELEVATION SEE RECOMMENDATIONS, THIS SHEET.

Contech® CMP Detention Inspection and Maintenance Guide

The purpose of this guide is to provide information on the inspection and maintenance of Contech® CMP Detention Systems. This guide is intended for use by facility owners, engineers, and maintenance personnel. It provides detailed instructions on how to inspect and maintain these systems to ensure they are operating properly and safely.

Inspection

Regular inspections are required to ensure the proper operation of CMP Detention Systems. Inspections should be performed at least once a year, or more frequently if there are signs of wear or damage. The inspection should include a visual check of the structure, a check of the water level, and a check of the flow rate. If any problems are identified, they should be addressed immediately.

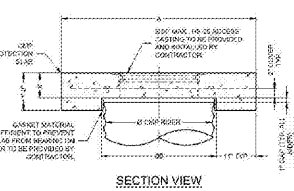
Maintenance

Regular maintenance is essential to keep CMP Detention Systems in good working order. This includes cleaning the structure, checking the flow rate, and ensuring that the structure is properly sealed. If any parts are damaged or worn, they should be replaced as soon as possible.

Order Plans

For more information on Contech® CMP Detention Systems, please visit our website at www.contech-engineering.com. You can also contact our sales department at (811) 811-8111.

CMP DETENTION MAINTENANCE GUIDE



SECTION VIEW
 NOT TO SCALE

ROUND OPTION PLAN VIEW
 NOT TO SCALE

SQUARE OPTION PLAN VIEW
 NOT TO SCALE

REINFORCING TABLE

Ø CMP RISER	A	Ø B	REINFORCING	BEARING PRESSURE (PSF)
24"	18"	18"	#5 @ 12" ON CENTER	2,000
30"	24"	24"	#5 @ 12" ON CENTER	2,500
36"	30"	30"	#5 @ 12" ON CENTER	3,000
42"	36"	36"	#5 @ 12" ON CENTER	3,500
48"	42"	42"	#5 @ 12" ON CENTER	4,000

REINFORCING TABLE

CONSTRUCTION LOADING DIAGRAM
 NOT TO SCALE

MATERIAL SPECIFICATION
 NOT TO SCALE

ROUND OPTION PLAN VIEW
 NOT TO SCALE

SQUARE OPTION PLAN VIEW
 NOT TO SCALE

MANHOLE CAP DETAIL
 NOT TO SCALE



36"Ø UNDERGROUND DETENTION SYSTEM - 804704-010
 O'REILLY AUTO PARTS - STRASBURG
 STRASBURG, VA
 SITE DESIGNATION:

NO.	DESCRIPTION	DATE	BY	CHKD.



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ARCHITECT
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 Springfield, Missouri 65804
 Tel: 417-862-8568
 Fax: 417-862-3265
 e-mail: architect@estertschneider.com

PROJECT:
NEW O'REILLY AUTO PARTS STORE
U.S. HIGHWAY 11
STRASBURG, VA
SWM/BMP DETAILS



COMM # 4253
 DATE: 6-20-19
 REVISION DATE: 9-27-19
 11-20-19



28 BLACKBURN PARK LANE, SUITE 201 WARRENTON, VA 22188
 PHONE: (540) 348-4500 FAX: (540) 348-0221

PROJECT No.: V183204 SCALE: AS NOTED
 DRAWN BY / CHECKED BY: DSH/JOR CAD I.D. S02

C3.9