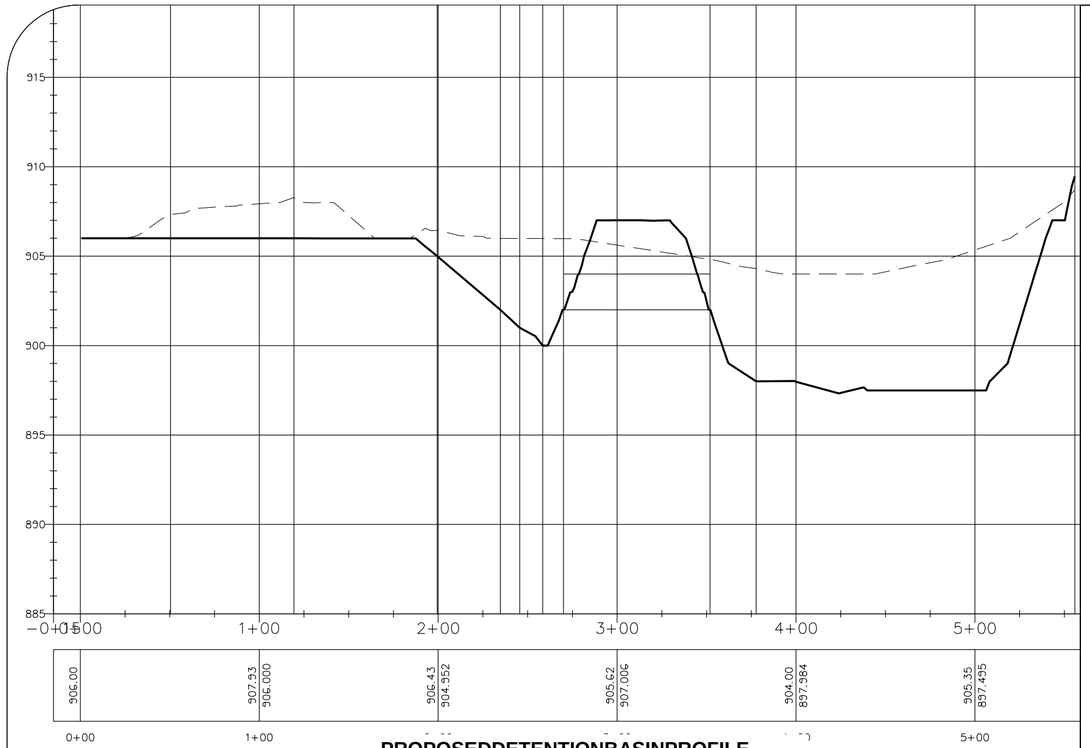
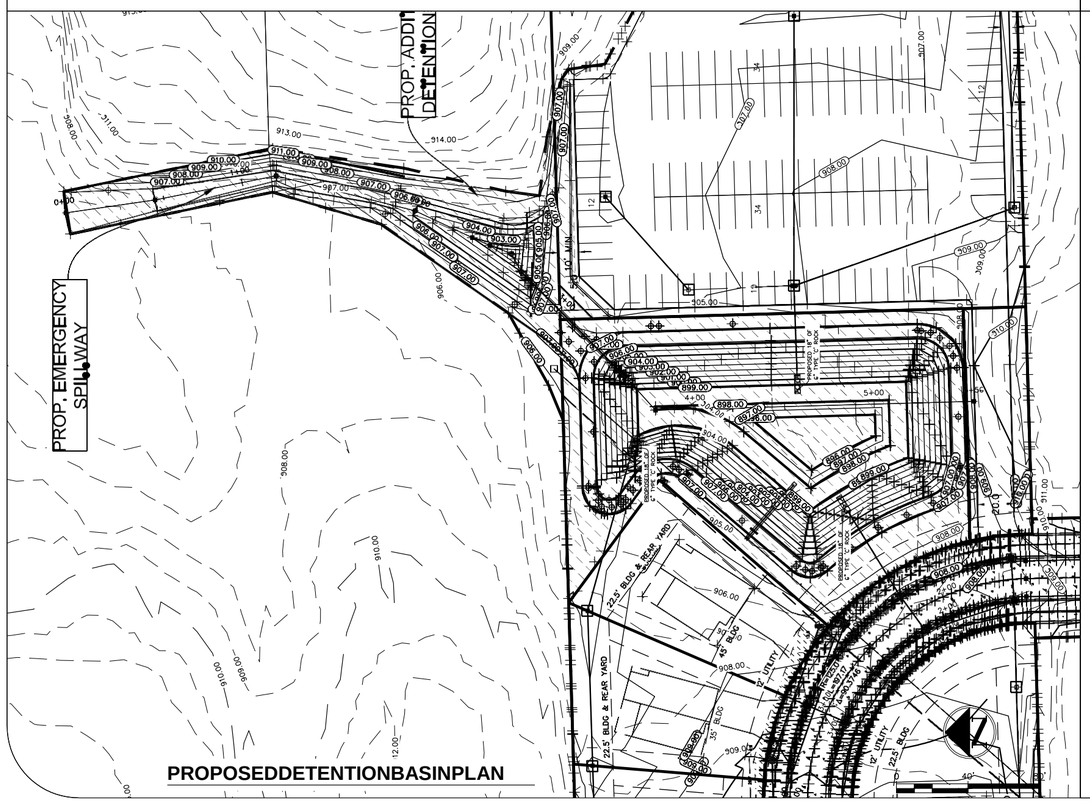


PROPOSEDDETENTIONBASINPROFILE



PROPOSEDDETENTIONBASINPLAN

Project Name: Mason Drive Subdivision WQv & Detention Basin **Date:** 4/10/18

Post-Construction Water Quality Design

Drainage Area and Runoff Information (OEPA Permit No.: OHC000004)

Type of Land Use	Drainage Area (Ac.)	Runoff Coefficients	Water Quality Volume (C.F.)
Industrial & Commercial		0.80	
High Density Residential (>8 dwellings/acre)		0.50	
Medium Density Residential (4-8 dwellings/acre)		0.40	
Low Density Residential (<4 dwellings/acre)		0.30	
Parks, Agriculture or Open Space		0.20	
Total Drainage Area =	13.50		0
Weighted Runoff Coefficient =	0.00		

Water Quality Volume is determined using $WQ_v = 0.75 \times C \times A/12$ per Ohio EPA Phase 2 requirements.

Optional C = 0.857i^3 - 0.78i^2 + 0.774i + 0.04 = ***0.29*** where i = 0.42

Detention Pond Information

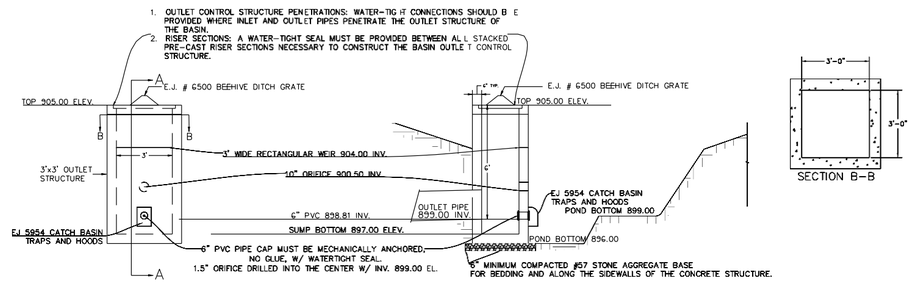
	Elevation	Area, S.F.	Volume (C.F.)	Volume Sum (C.F.)	
	892.00	0	0	0	
	892.00	0	0	0	
	893.00	0	0	0	
	894.00	0	0	0	
	895.00	0	0	0	
	896.00	0	0	0	
	897.00	0	0	0	
	898.00		0	0	
BOTTOM	899.00	6,565	3,265	3,265	
	900.00	7,760	7,162	10,428	
	901.00	9,060	8,410	18,838	
	902.00	10,465	9,762	28,600	
	903.00	12,025	11,245	39,845	
	904.00	13,730	12,877	52,722	
	905.00	15,580	14,655	67,377	
	906.00	17,830	16,705	84,082	
TB	907.00	23,820	20,824	104,906	Enter Top Elevation First

Water Quality Specifications

Type of Pond: detention — Specify Retention or Detention

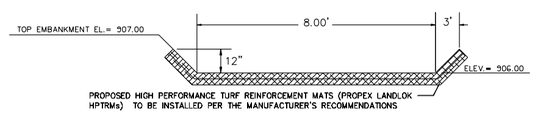
Required Drawdown Time, hrs.: 48

Water Quality Volume:	10,695 C.F.	**Extended Detention Design**	
48 hr. Drawdown Volume:	10,695 C.F.	Pollutant Storage Volume:	2,139 C.F.
Normal Water Elevation:	899.00	Forebay Volume:	1,070 C.F.
Surface Area at Normal Water Elevation:	6,565 S.F.	Micropool Volume:	1,070 C.F.
Water Quality Elevation:	900.40		
Surface Area at Water Quality Elevation:	8,280 S.F.		
Volume at Water Quality Elevation:	10,994 C.F		
Allowable Water Quality Discharge Rate:	0.06 C.F.S.		
Diameter of Water Quality Orifice:	**1 1/2** inches at ELEV. **899.00**		



OUTLET CONTROL STRUCTURE 1.0 DETAIL
NOT TO SCALE

SECTION A-A
NOT TO SCALE



PROPOSED HPTRM SPILLWAY
NOT TO SCALE

PROPOSED EMERGENCY SPILLWAY
PROPOSED HIGH PERFORMANCE TURF REINFORCEMENT MATS (PROPEX LANDLOK HPTRMS) FOR EMERGENCY SPILLWAY.
PROPOSED TURF REINFORCEMENT MATS (PROPEX LANDLOK 300 TRMS) FOR TRANSITION AREA.
SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

NOTES:
1. THE CONTRACTOR SHALL UTILIZE CLAY EMBANKMENT AROUND THE OUTLET CONDUIT; NO STONE BEDDING SHALL BE USED.
2. ALL STRUCTURE TO PIPE CONNECTIONS AND PIPE JOINTS SHALL HAVE WATERTIGHT SEALS.
3. THE 12" THICK CONCRETE COLLAR ON THE DISCHARGE CONDUIT SHALL EXTEND A MINIMUM OF 24" BEYOND THE TRENCH LIMITS AND 12" ABOVE THE PIPE. COST FOR THE COLLAR SHALL BE INCLUDEDE IN THE UNIT PRICE BID FOR THE STORM CONDUIT. SEE PROFILE FOR LOCATION OF CONCRETE COLLAR.

GENERAL CONSTRUCTION NOTES:

A. [illegible] FOUNDATION AREA, POOR AREA, AND BORROW AREA SHALL BE CLEAR OF [illegible], STUMPS, ROOTS, BRUSH, ROCKS, AND OTHER DEBRIS.

B. [illegible] FROM [illegible] AREAS AND [illegible] FOR FUTURE USE. [illegible] FOUNDATION SURFACE [illegible] SCARIFIED BEFORE [illegible] LAYER OF [illegible] PLACED.

C. SUITABLE [illegible] MATERIALS FOR EMBANKMENT CONSTRUCTION [illegible] BE OBTAINED FROM SELECTED BORROW AREAS. [illegible] AREAS [illegible] CONTAIN OF APPROXIMATELY 20% OF CLAY AND [illegible] BE FREE OF SOD, ROOTS, FROZEN SOIL, STONES, AND OTHER [illegible] MATERIAL.

[illegible] PRINCIPLE OUTLET PIPE SHALL BE PLACED ON A [illegible] FOUNDATION [illegible] LINES AND GRADES SHOWN ON THE PLANS.

[illegible] AND SPREADING OF THE EMBANKMENT MATERIALS [illegible] FOUNDATION AREA AND [illegible] MAXIMUM [illegible] MAXIMUM [illegible] FROM COMPACTION. UNLESS [illegible] SPECIFIED ON THE PLANS, EACH [illegible] BE COMPACTED WITH A PIECE OF EQUIPMENT [illegible] MINIMUM DOWNWARD FORCE OF 200 POUNDS PER SQUARE INCH AND EACH PASS [illegible] THE WHOLE EMBANKMENT [illegible] AREA.

[illegible] SAND LENSES OR POCKETS ARE ENCOUNTERED WHEN EXCAVATING THE POOR AREA, THEY SHALL BE [illegible] REMOVED OR REINFORCED WITH A MINIMUM OF TWO (2) [illegible] OF CLAY MATERIAL COMPACTED TO THE SAME REQUIREMENTS AS FOR THE EMBANKMENT.

5		
4		
3		
2		
1		
No.	Revision/Issue	Date

General Notes

STATE OF OHIO
SATHAPORN LEK-UDOM
76148
REGISTERED PROFESSIONAL ENGINEER

Prepared By
LandsongEngineering,Inc.
7603OldRocksideRd
Independence,OH44131
Contact:TomSimich
Office:(216)328-9278
Email:tom@landsongeng.com

DETENTIONBASIN&OUTLET CONTROLSTRUCTURE

Project Name and Address
MASON DR. SUBDIVISION
6200 Broadview Rd.
Parma, County of Cuyhoga, OH 44134
Ohio

Project Owner and Address
Landsong Ltd.
7603 Old Rockside Road, Independence
Ohio 44121
Contact: Tom Simich
Phone: (216) 328-9278
Email: tom@landsongeng.com

Author	Sheet
S.L.	C07
Date: 4/10/18	
Scale: AS NOTED	

Mason Drive Postcons BMPs.dwg 4/10/2018 1.20 MB