

General:

The StormTank™ Stormwater Storage Module is a component in a stormwater collection system, providing storage for the detention or infiltration of runoff. No two systems are the same with varying shapes, sizes and configurations. Some include pre-treatment to remove sediment and/or contaminants prior to entering the storage area and some do not. Systems without pre-treatment require greater attention to system functionality and may require additional maintenance.

In order to sustain system functionality Brentwood offers the following general maintenance guidelines.

Precautions:

- 1. Prior to and During Construction - Sitation prevention of the stormwater system.
a. Conform to all local, state and federal regulations for sediment and erosion control during construction.
b. Install site erosion and sediment BMP's (Best Management Practices) required to prevent siltation of the stormwater system.
c. Inspect and maintain erosion and sediment BMP's during construction.
2. Post Construction - Prior to commissioning the StormTank™ system.
a. Remove and properly dispose of construction erosion and sediment BMP's per all local, state and federal regulations. Care should be taken during removal of the BMP's as not to allow collected sediment or debris into the stormwater system.
b. Flush the StormTank™ system to remove any sediment or construction debris immediately after the BMP's removal. Follow the maintenance procedure outlined.

Inspections:

Follow all local, state, and federal regulations regarding stormwater BMP inspection requirements.

Brentwood Industries makes the following recommendations:

- 1. Frequency
a. During the first service year a visual inspection should be completed during and after each major rainfall event, in addition to semi-annually, to establish a pattern of sediment and debris buildup.



610 Morgantown Road, Reading, PA 19611
Ph: 610-374-5109 F: 610-736-1280 Email: stormwater@brentwoodindustries.com

Revision: 9/12/13

1 of 2

- I. Each stormwater system is unique and multiple criteria can affect maintenance frequency such as:
a) System Design: pre-treatment/no-pre-treatment, inlet protection, stand alone device.
b) Surface Area Collecting From: hardscape, gravel, soil.
c) Adjacent Area: soil runoff, gravel, trash.
d) Seasonal Changes: fall-leaves, winter-salt/cinders.
b. Second year plus; establish an annual inspection frequency based on the information collected during the first year. At a minimum an inspection should be performed semi-annually.
c. Seasonal change; regional areas affected by seasonal change (spring, summer, fall, winter) may require additional inspections at the change of seasons in addition to semi-annually.

Inspect:

- a. Inspection ports.
b. Inflow and outflow points including the inlet/manhole and pipes.
c. Discharge areas.
3. Identify and Report maintenance required:
a. Sediment and debris accumulation.
b. System backing up.
c. Flow rate change.

Maintenance Procedures:

- 1. Conform to all local, state and federal regulations.
2. Determine if maintenance is required. If a pre-treatment device is installed, follow manufacturer recommendations.
3. Using a vacuum pump truck evacuate debris from the inflow and outflow points.
4. Flush the system with clean water forcing debris from the system. Take care to avoid extreme direct water pressure when flushing the system.
5. Repeat steps 3 and 4 until no debris is evident.

These maintenance guidelines were written by Brentwood Industries, Inc. with the express purpose of providing helpful hints. These guidelines are not to be construed as the only Brentwood approved methods for StormTank™ system maintenance or the final authority in system maintenance. Check with the stormwater system owner/project engineer for their contract/specification requirements and/or recommendations. Contact your local StormTank™ distributor or Brentwood Industries for additional technical support if required.



610 Morgantown Road, Reading, PA 19611
Ph: 610-374-5109 F: 610-736-1280 Email: stormwater@brentwoodindustries.com

Revision: 9/12/13

3 of 2

Pond Report

Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 Tuesday, 05/11/2018

Pond No. 1 - Detention

Pond Data

Pond storage is based on user-defined values.

Table with columns: Stage (ft), Storage (cuft), Elevation (ft), Contour area (sqft), Incr. Storage (cuft), Total storage (cuft). Rows show data for stages from 0.00 to 7.00.

Tables for Culvert / Orifice Structures and Weir Structures. Includes columns for rise, span, invert, length, slope, N-value, orifice coefficient, multi-stage, crest length, crest elevation, weir coefficient, and weir type.

Note: Culvert/Orifice Structures are assigned under Weir (s) and under gully outlet. Weir values are based on weir conditions (s) and weir geometry (s).

Stage / Storage / Discharge Table with columns: Stage (ft), Storage (cuft), Elevation (ft), Cfs A, Cfs B, Cfs C, Cfs D, Cfs E, Cfs F, Cfs G, Cfs H, Cfs I, Cfs J, Cfs K, Cfs L, Cfs M, Cfs N, Cfs O, Cfs P, Cfs Q, Cfs R, Cfs S, Cfs T, Cfs U, Cfs V, Cfs W, Cfs X, Cfs Y, Cfs Z, Cfs AA, Cfs AB, Cfs AC, Cfs AD, Cfs AE, Cfs AF, Cfs AG, Cfs AH, Cfs AI, Cfs AJ, Cfs AK, Cfs AL, Cfs AM, Cfs AN, Cfs AO, Cfs AP, Cfs AQ, Cfs AR, Cfs AS, Cfs AT, Cfs AU, Cfs AV, Cfs AW, Cfs AX, Cfs AY, Cfs AZ, Cfs BA, Cfs BB, Cfs BC, Cfs BD, Cfs BE, Cfs BF, Cfs BG, Cfs BH, Cfs BI, Cfs BJ, Cfs BK, Cfs BL, Cfs BM, Cfs BN, Cfs BO, Cfs BP, Cfs BQ, Cfs BR, Cfs BS, Cfs BT, Cfs BU, Cfs BV, Cfs BW, Cfs BX, Cfs BY, Cfs BZ, Cfs CA, Cfs CB, Cfs CC, Cfs CD, Cfs CE, Cfs CF, Cfs CG, Cfs CH, Cfs CI, Cfs CJ, Cfs CK, Cfs CL, Cfs CM, Cfs CN, Cfs CO, Cfs CP, Cfs CQ, Cfs CR, Cfs CS, Cfs CT, Cfs CU, Cfs CV, Cfs CW, Cfs CX, Cfs CY, Cfs CZ, Cfs DA, Cfs DB, Cfs DC, Cfs DD, Cfs DE, Cfs DF, Cfs DG, Cfs DH, Cfs DI, Cfs DJ, Cfs DK, Cfs DL, Cfs DM, Cfs DN, Cfs DO, Cfs DP, Cfs DQ, Cfs DR, Cfs DS, Cfs DT, Cfs DU, Cfs DV, Cfs DW, Cfs DX, Cfs DY, Cfs DZ, Cfs EA, Cfs EB, Cfs EC, Cfs ED, Cfs EE, Cfs EF, Cfs EG, Cfs EH, Cfs EI, Cfs EJ, Cfs EK, Cfs EL, Cfs EM, Cfs EN, Cfs EO, Cfs EP, Cfs EQ, Cfs ER, Cfs ES, Cfs ET, Cfs EU, Cfs EV, Cfs EW, Cfs EX, Cfs EY, Cfs EZ, Cfs FA, Cfs FB, Cfs FC, Cfs FD, Cfs FE, Cfs FF, Cfs FG, Cfs FH, Cfs FI, Cfs FJ, Cfs FK, Cfs FL, Cfs FM, Cfs FN, Cfs FO, Cfs FP, Cfs FQ, Cfs FR, Cfs FS, Cfs FT, Cfs FU, Cfs FV, Cfs FW, Cfs FX, Cfs FY, Cfs FZ, Cfs GA, Cfs GB, Cfs GC, Cfs GD, Cfs GE, Cfs GF, Cfs GG, Cfs GH, Cfs GI, Cfs GJ, Cfs GK, Cfs GL, Cfs GM, Cfs GN, Cfs GO, Cfs GP, Cfs GQ, Cfs GR, Cfs GS, Cfs GT, Cfs GU, Cfs GV, Cfs GW, Cfs GX, Cfs GY, Cfs GZ, Cfs HA, Cfs HB, Cfs HC, Cfs HD, Cfs HE, Cfs HF, Cfs HG, Cfs HH, Cfs HI, Cfs HJ, Cfs HK, Cfs HL, Cfs HM, Cfs HN, Cfs HO, Cfs HP, Cfs HQ, Cfs HR, Cfs HS, Cfs HT, Cfs HU, Cfs HV, Cfs HW, Cfs HX, Cfs HY, Cfs HZ, Cfs IA, Cfs IB, Cfs IC, Cfs ID, Cfs IE, Cfs IF, Cfs IG, Cfs IH, Cfs II, Cfs IJ, Cfs IK, Cfs IL, Cfs IM, Cfs IN, Cfs IO, Cfs IP, Cfs IQ, Cfs IR, Cfs IS, Cfs IT, Cfs IU, Cfs IV, Cfs IW, Cfs IX, Cfs IY, Cfs IZ, Cfs JA, Cfs JB, Cfs JC, Cfs JD, Cfs JE, Cfs JF, Cfs JG, Cfs JH, Cfs JI, Cfs JJ, Cfs JK, Cfs JL, Cfs JM, Cfs JN, Cfs JO, Cfs JP, Cfs JQ, Cfs JR, Cfs JS, Cfs JT, Cfs JU, Cfs JV, Cfs JW, Cfs JX, Cfs JY, Cfs JZ, Cfs KA, Cfs KB, Cfs KC, Cfs KD, Cfs KE, Cfs KF, Cfs KG, Cfs KH, Cfs KI, Cfs KJ, Cfs KK, Cfs KL, Cfs KM, Cfs KN, Cfs KO, Cfs KP, Cfs KQ, Cfs KR, Cfs KS, Cfs KT, Cfs KU, Cfs KV, Cfs KW, Cfs KX, Cfs KY, Cfs KZ, Cfs LA, Cfs LB, Cfs LC, Cfs LD, Cfs LE, Cfs LF, Cfs LG, Cfs LH, Cfs LI, Cfs LJ, Cfs LK, Cfs LL, Cfs LM, Cfs LN, Cfs LO, Cfs LP, Cfs LQ, Cfs LR, Cfs LS, Cfs LT, Cfs LU, Cfs LV, Cfs LW, Cfs LX, Cfs LY, Cfs LZ, Cfs MA, Cfs MB, Cfs MC, Cfs MD, Cfs ME, Cfs MF, Cfs MG, Cfs MH, Cfs MI, Cfs MJ, Cfs MK, Cfs ML, Cfs MM, Cfs MN, Cfs MO, Cfs MP, Cfs MQ, Cfs MR, Cfs MS, Cfs MT, Cfs MU, Cfs MV, Cfs MW, Cfs MX, Cfs MY, Cfs MZ, Cfs NA, Cfs NB, Cfs NC, Cfs ND, Cfs NE, Cfs NF, Cfs NG, Cfs NH, Cfs NI, Cfs NJ, Cfs NK, Cfs NL, Cfs NM, Cfs NO, Cfs NP, Cfs NQ, Cfs NR, Cfs NS, Cfs NT, Cfs NU, Cfs NV, Cfs NW, Cfs NX, Cfs NY, Cfs NZ, Cfs OA, Cfs OB, Cfs OC, Cfs OD, Cfs OE, Cfs OF, Cfs OG, Cfs OH, Cfs OI, Cfs OJ, Cfs OK, Cfs OL, Cfs OM, Cfs ON, Cfs OO, Cfs OP, Cfs OQ, Cfs OR, Cfs OS, Cfs OT, Cfs OU, Cfs OV, Cfs OW, Cfs OX, Cfs OY, Cfs OZ, Cfs PA, Cfs PB, Cfs PC, Cfs PD, Cfs PE, Cfs PF, Cfs PG, Cfs PH, Cfs PI, Cfs PJ, Cfs PK, Cfs PL, Cfs PM, Cfs PN, Cfs PO, Cfs PP, Cfs PQ, Cfs PR, Cfs PS, Cfs PT, Cfs PU, Cfs PV, Cfs PW, Cfs PX, Cfs PY, Cfs PZ, Cfs QA, Cfs QB, Cfs QC, Cfs QD, Cfs QE, Cfs QF, Cfs QG, Cfs QH, Cfs QI, Cfs QJ, Cfs QK, Cfs QL, Cfs QM, Cfs QN, Cfs QO, Cfs QP, Cfs QQ, Cfs QR, Cfs QS, Cfs QT, Cfs QU, Cfs QV, Cfs QW, Cfs QX, Cfs QY, Cfs QZ, Cfs RA, Cfs RB, Cfs RC, Cfs RD, Cfs RE, Cfs RF, Cfs RG, Cfs RH, Cfs RI, Cfs RJ, Cfs RK, Cfs RL, Cfs RM, Cfs RN, Cfs RO, Cfs RP, Cfs RQ, Cfs RR, Cfs RS, Cfs RT, Cfs RU, Cfs RV, Cfs RW, Cfs RX, Cfs RY, Cfs RZ, Cfs SA, Cfs SB, Cfs SC, Cfs SD, Cfs SE, Cfs SF, Cfs SG, Cfs SH, Cfs SI, Cfs SJ, Cfs SK, Cfs SL, Cfs SM, Cfs SN, Cfs SO, Cfs SP, Cfs SQ, Cfs SR, Cfs SS, Cfs ST, Cfs SU, Cfs SV, Cfs SW, Cfs SX, Cfs SY, Cfs SZ, Cfs TA, Cfs TB, Cfs TC, Cfs TD, Cfs TE, Cfs TF, Cfs TG, Cfs TH, Cfs TI, Cfs TJ, Cfs TK, Cfs TL, Cfs TM, Cfs TN, Cfs TO, Cfs TP, Cfs TQ, Cfs TR, Cfs TS, Cfs TT, Cfs TU, Cfs TV, Cfs TW, Cfs TX, Cfs TY, Cfs TZ, Cfs UA, Cfs UB, Cfs UC, Cfs UD, Cfs UE, Cfs UF, Cfs UG, Cfs UH, Cfs UI, Cfs UJ, Cfs UK, Cfs UL, Cfs UM, Cfs UN, Cfs UO, Cfs UP, Cfs UQ, Cfs UR, Cfs US, Cfs UT, Cfs UY, Cfs UZ, Cfs VA, Cfs VB, Cfs VC, Cfs VD, Cfs VE, Cfs VF, Cfs VG, Cfs VH, Cfs VI, Cfs VJ, Cfs VK, Cfs VL, Cfs VM, Cfs VN, Cfs VO, Cfs VP, Cfs VQ, Cfs VR, Cfs VS, Cfs VT, Cfs VU, Cfs VV, Cfs VW, Cfs VX, Cfs VY, Cfs VZ, Cfs WA, Cfs WB, Cfs WC, Cfs WD, Cfs WE, Cfs WF, Cfs WG, Cfs WH, Cfs WI, Cfs WJ, Cfs WK, Cfs WL, Cfs WM, Cfs WN, Cfs WO, Cfs WP, Cfs WQ, Cfs WR, Cfs WS, Cfs WT, Cfs WU, Cfs WV, Cfs WW, Cfs WX, Cfs WY, Cfs WZ, Cfs XA, Cfs XB, Cfs XC, Cfs XD, Cfs XE, Cfs XF, Cfs XG, Cfs XH, Cfs XI, Cfs XJ, Cfs XK, Cfs XL, Cfs XM, Cfs XN, Cfs XO, Cfs XP, Cfs XQ, Cfs XR, Cfs XS, Cfs XT, Cfs XU, Cfs XV, Cfs XW, Cfs XX, Cfs XY, Cfs XZ, Cfs YA, Cfs YB, Cfs YC, Cfs YD, Cfs YE, Cfs YF, Cfs YG, Cfs YH, Cfs YI, Cfs YJ, Cfs YK, Cfs YL, Cfs YM, Cfs YN, Cfs YO, Cfs YP, Cfs YQ, Cfs YR, Cfs YS, Cfs YT, Cfs YU, Cfs YV, Cfs YW, Cfs YX, Cfs YY, Cfs YZ, Cfs ZA, Cfs ZB, Cfs ZC, Cfs ZD, Cfs ZE, Cfs ZF, Cfs ZG, Cfs ZH, Cfs ZI, Cfs ZJ, Cfs ZK, Cfs ZL, Cfs ZM, Cfs ZN, Cfs ZO, Cfs ZP, Cfs ZQ, Cfs ZR, Cfs ZS, Cfs ZT, Cfs ZU, Cfs ZV, Cfs ZW, Cfs ZX, Cfs ZY, Cfs ZZ.

Continues on next page...

Hydrograph Report

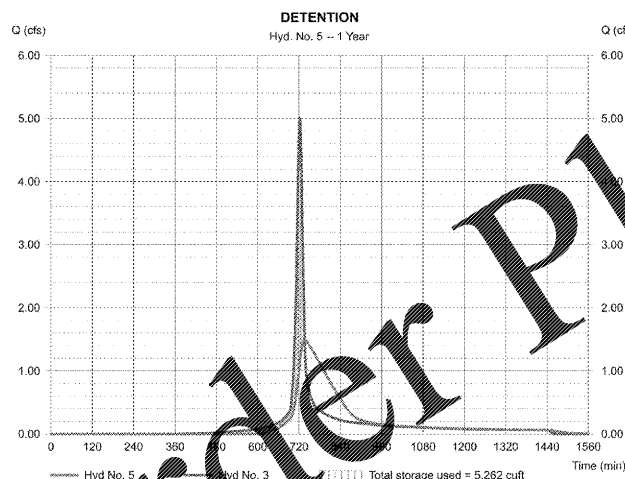
Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 Tuesday, 05/11/2018

Hyd. No. 5

DETENTION

Table with columns: Hydrograph type, Storm frequency, Time interval, Inflow hyd. No., Reservoir name, Peak discharge, Time to peak, Hyd. volume, Max. Elevation, Max. Storage.

Storage indication method used.



Hydrograph Report

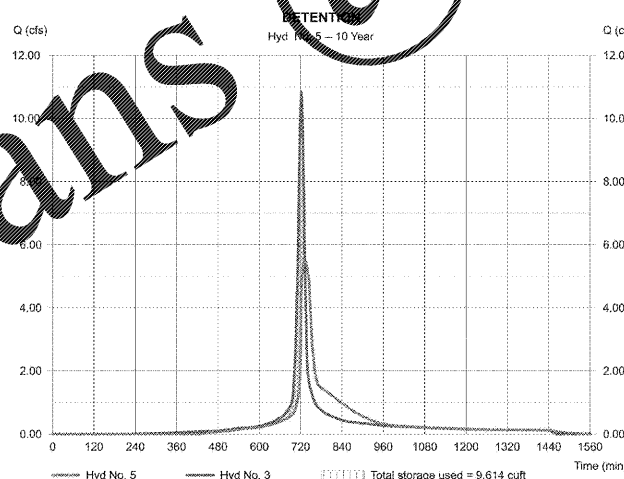
Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 Tuesday, 05/11/2018

Hyd. No. 5

DETENTION

Table with columns: Hydrograph type, Storm frequency, Time interval, Inflow hyd. No., Reservoir name, Peak discharge, Time to peak, Hyd. volume, Max. Elevation, Max. Storage.

Storage indication method used.



Hydrograph Report

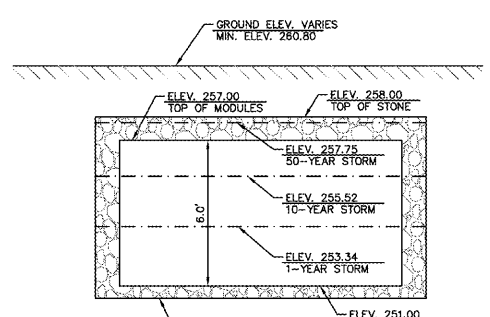
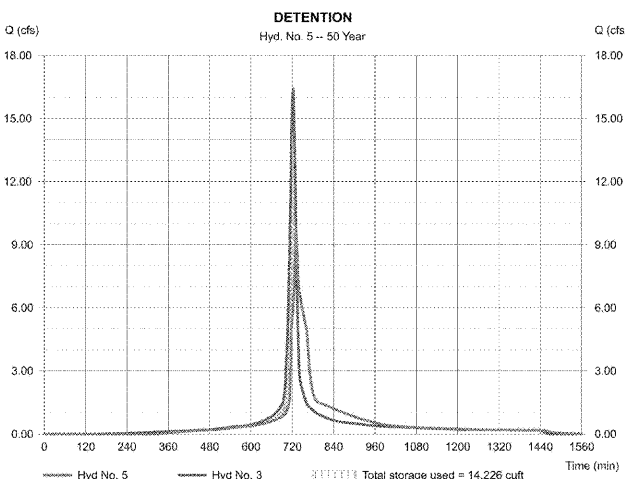
Hydroflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 Tuesday, 05/11/2018

Hyd. No. 5

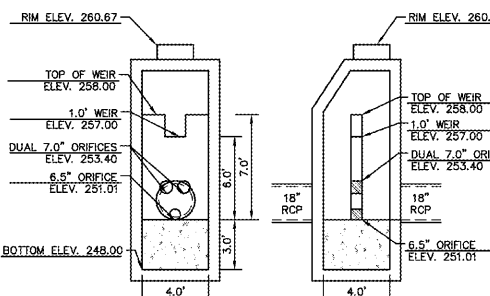
DETENTION

Table with columns: Hydrograph type, Storm frequency, Time interval, Inflow hyd. No., Reservoir name, Peak discharge, Time to peak, Hyd. volume, Max. Elevation, Max. Storage.

Storage indication method used.



UNDERGROUND DETENTION SECTION



CONTROL STRUCTURE

NOTE: SWM FACILITY HAS BEEN DESIGNED IN ACCORDANCE WITH SECTION 9.4.15 (EXTENDED DETENTION POND) OF THE HENRICO COUNTY ENVIRONMENTAL COMPLIANCE MANUAL.

Vertical text on the left edge: K:\VIC-CIVIL\131510 - Wawa - Review\003 - UNDERGROUND DETENTION DETAILS.dwg

Project information and revision table. Includes project name 'KHA PROJECT 11/13/2005', date '11/09/2018', scale 'AS SHOWN', and a table with columns for revision number, description, and date.

Professional Engineer seal for RYAN R. PERKINS, License No. 046585, dated 11/09/2018.

Large vertical text block: 'WAWA AT PARHAM AND THREE CHOPT UNDERGROUND DETENTION DETAILS'. Includes 'PREPARED FOR REBEEK CO.', 'HENRICO COUNTY VIRGINIA', and 'SHEET NUMBER CG-503'.

POD# 2018-00101 & 00196