WA-003 Lift-clean baffled sediment forebay

Receive a small attended nonpotable stream in a shallow ground-level forebay, direct it through removable over-window and underflow baffles, and lift out a routed pocket for visible deposited solids after draining.

Original small open-to-atmosphere apparatus for attended cold nonpotable service. No mains connection, elevated tank, treatment efficacy, output rate or pressure/load rating is specified.

US inches/feet control; metric figures are references. No physical build, load certification or animal trial performed.

Before cutting

Read every step and drawing before cutting. Confirm actual stock and complete purchased hardware envelopes; keep saw kerf outside each separate finished blank.

Use clamped work, a backing board and tool-appropriate protection. Round all liner-contact surfaces; never drill or saw on a fitted membrane.

Operate at ground level over a place where the complete small trial volume can be contained. Never alter a building drain or obstruct its existing overflow to try this apparatus.

Materials and actual cuts

Part	Qty	Actual size	Material and special cut
A Ground-bearing floor	1	36 x 16 x 3/4 in 914.40 x 406.40 x 19.05 mm	Flat exterior-bond birch plywood, actual listed thickness, no voids or sharp exposed edges; seal and cure exposed wood before liner fitting. Finished floor; all underside screw heads flush before setting on level ground.
B High sidewall	2	36 x 4 1/2 x 3/4 in 914.40 x 114.30 x 19.05 mm	Flat exterior-bond birch plywood, actual listed thickness, no voids or sharp exposed edges; seal and cure exposed wood before liner fitting. Long sides stand at x 0-3/4 and 15 1/4-16 in on A.
C High front wall	1	14 1/2 x 4 1/2 x 3/4 in 368.30 x 114.30 x 19.05 mm	Flat exterior-bond birch plywood, actual listed thickness, no voids or sharp exposed edges; seal and cure exposed wood before liner fitting. Fits between B at y 0-3/4 in.
D Full-width low rear spill crest	1	14 1/2 x 2 x 3/4 in 368.30 x 50.80 x 19.05 mm	Flat exterior-bond birch plywood, actual listed thickness, no voids or sharp exposed edges; seal and cure exposed wood before liner fitting. Fits between B at y 35 1/4-36 in. Bare crest z 2 3/4 in; do not add a taller end cap.
E Unseamed basin liner blank	1	50 x 30 x 0.045 in 1270.00 x 762.00 x 1.14 mm	Elevate PondGard W56PL40801A raw EPDM liner stock, nominal 0.045 in / 1.143 mm; manufacturer +10/-20% thickness range 0.036-0.0495 in. Measure actual sheet; no generic roofing rubber substitution. One uncut rectangle. Reference floor fold rectangle 34 1/2 x 14 1/2 in, 7 3/4 in margins. Corner pleats stay outside the central 10 in rear discharge. Leave the rear flap loose and unpunctured.
F Matched soft underlay	1	50 x 30 x 1/8 in 1270.00 x 762.00 x 3.17 mm	New clean nonwoven polyester EPDM-compatible underlay, actual compressed reference 1/8 in. No abrasive or oily scrap. Separate rectangle; ease corner excess independently so underlay is not folded into thick ridges. It is not the water barrier.
G Outside side liner batten	2	34 x 3/4 x 3/8 in 863.60 x 19.05 x 9.53 mm	Clear straight-grained cedar, measured 3/8 in thick; all edges eased and finish fully cured. At y 1-35, z 4 3/8-5 1/8 in on the OUTSIDE of B, above the operating water line.
H Outside front liner batten	1	14 1/2 x 3/4 x 3/8 in 368.30 x 19.05 x 9.53 mm	Clear straight-grained cedar, measured 3/8 in thick; finish fully cured. Across x 3/4-15 1/4, z 4 3/8-5 1/8 in outside C. No rear batten across the spill flap.

Part	Qty	Actual size	Material and special cut
I Lift-out baffle bridge	2	18 x 1 1/2 x 3/4 in 457.20 x 38.10 x 19.05 mm	Clear straight-grained hard maple, actual 3/4 in thick, fully cured water-resistant finish. Runs x=-1-17 in; bridge 1 y 10 1/4-11 3/4, bridge 2 y 24 1/4-25 3/4 in. Both rest on the same padded/lined high rims.
J Rigid over-window baffle	1	13 7/8 x 5 x 1/4 in 352.43 x 127.00 x 6.35 mm	Virgin solid HDPE sheet, machine to the listed actual thickness; nonpotable cold service only. No welding or solvent joint assumed. Plate stands in XZ plane. Machine one 10 x 1 in through-window: local x 1 15/16-11 15/16, z 1 1/4-2 1/4 in; corner radius 1/8 in. Top fixes to I; no floor screw.
K Over-window flexible edge skirt	1	14 1/4 x 5 1/2 x 0.045 in 361.95 x 139.70 x 1.14 mm	Elevate PondGard W56PL40801A raw EPDM liner stock, nominal 0.045 in / 1.143 mm; manufacturer +10/-20% thickness range 0.036-0.0495 in. Measure actual sheet; no generic roofing rubber substitution. Upstream of J. Cut window local x 2 1/4-12, z 1 7/8-2 5/8 in, corner radius 1/8 in: 9 3/4 x 3/4 in. Nominal bottom lap 1/4 in; actual accepted lap 1/8-3/8 in onto the lined floor, folded downstream. Side margins touch lined side faces.
L Rigid underflow baffle	1	13 7/8 x 4 1/4 x 1/4 in 352.43 x 107.95 x 6.35 mm	Virgin solid HDPE sheet, machine to the listed actual thickness; nonpotable cold service only. No welding or solvent joint assumed. Solid plate. With its top aligned to I, its lower edge is nominally 1 in above the floor; actual gap is 1+tr-tf in.
M Underflow flexible edge skirt	1	14 1/4 x 4 1/2 x 0.045 in 361.95 x 114.30 x 1.14 mm	Elevate PondGard W56PL40801A raw EPDM liner stock, nominal 0.045 in / 1.143 mm; manufacturer +10/-20% thickness range 0.036-0.0495 in. Measure actual sheet; no generic roofing rubber substitution. Upstream of L, no window. Top aligned with L/I. Nominal floor clearance 3/4 in; actual accepted full-width gap 5/8-7/8 in.
N Bridge locating pin	4	2 1/2 x 3/8 x 3/8 in 63.50 x 9.53 x 9.53 mm	Straight hard maple round dowel, actual 3/8 in diameter. Last 1/2 in glues into O. Shaft below the knob is 2 in; enters a 2 1/8 in deep bridge/rim bore without bottoming.
O Pin grip knob	4	3/4 x 3/4 x 1/2 in 19.05 x 19.05 x 12.70 mm	Straight-grained hard maple round stock, 3/4 in diameter x 1/2 in thick. Centered 3/8 in through-bore; flat underside stops on bridge top. Smooth every grip edge.
P Routed lift-clean sediment pocket	1	13 x 8 x 1/2 in 330.20 x 203.20 x 12.70 mm	Plaskolite / Vycom CORRTEC Vintec I SOLID PVC Type I sheet, machine to actual 1/2 in. No foamed PVC, HDPE or unknown salvage substitution. Typical identified density 1.42 g per cubic cm exceeds fresh water; actual flooded seating is checked before use. Route a 12 x 5 in pocket 1/4 in deep, local x 1/2-12 1/2, y 1 1/2-6 1/2 in, corner radius 1/2 in. Four 3/4 in finger holes at (1.5, 0.75), (11.5, 0.75), (1.5, 7.25), (11.5, 7.25). Bottom/outer edges radius 1/8 in; do not route through the remaining 1/4 in floor.

Hardware and tools

26 x #8 x 1 1/2 in flat-head stainless wood screw. 18 floor-to-wall screws plus 8 horizontal corners; all points contained in wood. Head OD at most 5/16 in; countersink only the head flush, no deeper than 1/8 in.

15 x #6 x 1 in pan-head stainless wood screw. 12 outside G battens and 3 front H; nominal pre-wood stack 0.545 in. Head OD at most 1/4 in, height at most 1/8 in. No rear spill-flap screws.

4 x #8-32 x 2 1/4 in round-head stainless machine screw. Two per baffle bridge, axes x 3/13, z 5.625+tr. Maximum head OD 3/8 in, height 1/8 in.

8 x #8 stainless washer, OD 1/2 in, thickness 1/32 in, hole 3/16 in. One on each side of each machine-screw stack.

4 x #8-32 locknut, thickness at most 1/4 in, corner envelope at most 1/2 in. Retain the two above-water baffle joints; ends dressed and visibly engaged.

1 x Compatible wood adhesive. Maple pins to maple grip knobs only; full labeled cure.

1 x Compatible cured exterior wood finish. Keep contamination away from the membrane; no sealant joint or solvent welding used.

Rule, square, marking gauge, calipers, depth-stop drill/driver, backed jigsaw or coping saw, countersink, files, sanding blocks, clamps and scissors reserved for liner. Special tools and drill diameters are stated in the steps.

Measured assembly reference

Coordinates refer to the illustrated pose: x left/right, y front/rear, z up. Positions are inches from the front-left underside datum. A negative position projects beyond that datum. The size vector gives the part orientation before any stated rotation; it is not a substitute for its cut profile.

Part / instance	Origin x, y, z	Size dx, dy, dz / rotation
A / 1	0, 0, 0 in 0.00, 0.00, 0.00 mm	16 x 36 x 3/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
B / 1	0, 0, 3/4 in 0.00, 0.00, 19.05 mm	3/4 x 36 x 4 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
B / 2	15 1/4, 0, 3/4 in 387.35, 0.00, 19.05 mm	3/4 x 36 x 4 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
C / 1	3/4, 0, 3/4 in 19.05, 0.00, 19.05 mm	14 1/2 x 3/4 x 4 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
D / 1	3/4, 35 1/4, 3/4 in 19.05, 895.35, 19.05 mm	14 1/2 x 3/4 x 2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
E / 1	-7, -7, 7/8 in -177.80, -177.80, 22.22 mm	30 x 50 x 0.045 in Flat stock reference; installed U in drawing.
F / 1	-7, -7, 3/4 in -177.80, -177.80, 19.05 mm	30 x 50 x 1/8 in Flat stock reference; installed U in drawing.
G / 1	-0.545, 1, 4 3/8 in -13.84, 25.40, 111.12 mm	3/8 x 34 x 3/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
G / 2	16.17, 1, 4 3/8 in 410.72, 25.40, 111.12 mm	3/8 x 34 x 3/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
H / 1	3/4, -0.545, 4 3/8 in 19.05, -13.84, 111.12 mm	14 1/2 x 3/8 x 3/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
I / 1	-1, 10 1/4, 5.42 in -25.40, 260.35, 137.67 mm	18 x 1 1/2 x 3/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
I / 2	-1, 24 1/4, 5.42 in -25.40, 615.95, 137.67 mm	18 x 1 1/2 x 3/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
J / 1	1 1/16, 10, 1.17 in 26.99, 254.00, 29.72 mm	13 7/8 x 1/4 x 5 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
K / 1	7/8, 9.955, 0.67 in 22.22, 252.86, 17.02 mm	14 1/4 x 0.045 x 5 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
L / 1	1 1/16, 24, 1.92 in 26.99, 609.60, 48.77 mm	13 7/8 x 1/4 x 4 1/4 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
M / 1	7/8, 23.955, 1.67 in 22.22, 608.46, 42.42 mm	14 1/4 x 0.045 x 4 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
P / 1	1 1/2, 1 1/2, 0.92 in 38.10, 38.10, 23.37 mm	13 x 8 x 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg

Part / instance	Origin x, y, z	Size dx, dy, dz / rotation
N / 1	3/16, 10 13/16, 4.17 in 4.76, 274.64, 105.92 mm	3/8 x 3/8 x 2 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
O / 1	0, 10 5/8, 6.17 in 0.00, 269.88, 156.72 mm	3/4 x 3/4 x 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
N / 2	15 7/16, 10 13/16, 4.17 in 392.11, 274.64, 105.92 mm	3/8 x 3/8 x 2 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
O / 2	15 1/4, 10 5/8, 6.17 in 387.35, 269.88, 156.72 mm	3/4 x 3/4 x 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
N / 3	3/16, 24 13/16, 4.17 in 4.76, 630.24, 105.92 mm	3/8 x 3/8 x 2 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
O / 3	0, 24 5/8, 6.17 in 0.00, 625.47, 156.72 mm	3/4 x 3/4 x 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
N / 4	15 7/16, 24 13/16, 4.17 in 392.11, 630.24, 105.92 mm	3/8 x 3/8 x 2 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg
O / 4	15 1/4, 24 5/8, 6.17 in 387.35, 625.47, 156.72 mm	3/4 x 3/4 x 1/2 in Rotation x/y/z: 0.0000, 0.0000, 0.0000 deg

Numbered assembly

01. Build one complete shallow ground-level forebay with two removable flow deflectors and its own routed cleanout pocket. The first baffle sends a gentle stream over a flexible window lip; the second sends it under a suspended skirt. This is a nonpotable sediment-handling apparatus, with no particle-removal or microbial-treatment efficiency promised.

02. Cut A 36 x 16 x 3/4 in, B two 36 x 4 1/2 x 3/4 in, C 14 1/2 x 4 1/2 x 3/4 in and D 14 1/2 x 2 x 3/4 in. B stands along x 0-3/4 and 15 1/4-16 in. C goes between B at y 0-3/4; D at y 35 1/4-36. Clear wood floor is 14 1/2 x 34 1/2 in. Check the two floor diagonals before fastening.

03. Clamp the walls upside down against A. From A underside use five #8 x 1 1/2 in flat-head screws per B at x 3/8 or 15 5/8 in and y 2, 10, 18, 26, 34 in. Add four identical screws per C/D at x 3, 6, 10, 13 in, y 3/8 or 35 5/8 in. Countersink all 18 heads flush; each crosses 3/4 in A and enters the standing wall 3/4 in.

04. Add two #8 x 1 1/2 in horizontal screws at each corner, through B into the end of C/D, eight total. Front axes are y 3/8, z 1 1/4 and 3 3/4 in; rear axes y 35 5/8, z 1 1/4 and 2 1/4 in. Pilot to avoid splitting. These screws cross 3/4 in B and enter the short wall 3/4 in; none emerges toward the future liner.

05. Round every floor/wall junction and the rear spill crest to approximately 1/8 in radius. Sand, clean and finish the exposed wood, allowing full cure. Place the empty shell on a flat fully supporting ground-level surface; every underside head stays flush. Do not support it on blocks or lift a water-filled shell.

06. Cut E and F as 50 x 30 in rectangles. On a removable paper layout mark the floor rectangle 34 1/2 x 14 1/2 in with 7 3/4 in margins on all sides. Let E lie relaxed 45 minutes. Fit F first and relieve only its corner excess; then fit E continuously over the floor, up the walls and over their rims. Do not cut the EPDM corner pleats or stretch it across an unsupported corner.

07. Fold the front corners outside the high walls. At the lower rear wall, gather the two side-height changes into outward pleats near the corners, leaving x 3-13 in as a flat unobstructed discharge strip over D. The rear liner continues down outside D to a separately contained ground-level catch area. Keep this rear flap loose and unpunctured; do not install a rear batten across its water path.

08. Cut G two 34 x 3/4 x 3/8 in and H 14 1/2 x 3/4 x 3/8 in. On the outside of the high walls place them at z 4 3/8-5 1/8 in; G spans y 1-35, H spans x 3/4-15 1/4. Reference outside stack is 1/8 in underlay plus 0.045 in membrane. Use six #6 x 1 in pan heads per G at y 3, 7, 17, 21, 31, 34 in, z 4 3/4 in; use three in H at x 3,

8, 13, z 4 3/4 in. The reference 0.545 in pre-wood stack leaves 0.455 in entry into the 3/4 in wall. All holes remain well above the water line.

09. Cut I two 18 x 1 1/2 x 3/4 in bridges. Their x ends are-1 and 17 in. First bridge y 10 1/4-11 3/4; second y 24 1/4-25 3/4. Rest them across the two padded, lined side rims without crushing a pleat. Use separate measured stacks: tf on the floor, tr under the bridge rims, tc over the low rear crest. Reference tf=tr=tc=0.170 in only; bridge top is 6+tr, floor 0.75+tf, crest 2.75+tc. Compression can differ. Use the operational marks and acceptance limits in step 18, not an assumed common t.

10. Cut J 13 7/8 x 5 x 1/4 in HDPE and mark its 13 7/8 in width horizontally. Machine the 10 x 1 in through-window at local x 1 15/16-11 15/16, z 1 1/4-2 1/4 in, R1/8 corners. Drill four 1/4 in corner starts over backing: x 2 1/16 or 11 13/16 crossed with z 1 3/8 or 2 1/8 in. Saw the straight waste tangents, then file smooth. Place J at global x 1 1/16-14 15/16, y 10-10 1/4 in, top aligned with I top 6+tr. Its bottom lies 1+tr; the 1/4 in floor gap is nominal only.

11. Cut K 14 1/4 x 5 1/2 in EPDM. Its local window is x 2 1/4-12, z 1 7/8-2 5/8 in, with R1/8 corners. This 9 3/4 x 3/4 in opening is inset 1/8 in inside J window on every edge. Place K UPSTREAM at y 9.955-10 in for reference 0.045 in sheet, top aligned with J. Its side margins gently meet the lined sides, and its nominal lower 1/4 in surplus folds DOWNSTREAM onto the lined floor; actual lap must be 1/8-3/8 in. Keep that fold clear of the cleanout pocket; it is a flexible bypass-reduction skirt, not a certified seal.

12. Cut L 13 7/8 x 4 1/4 x 1/4 in HDPE and M 14 1/4 x 4 1/2 in EPDM, both solid. Place L at y 24-24 1/4 and M immediately upstream, with tops at 6+tr for that bridge. L bottom is 1.75+tr; M bottom 1.5+tr. Floor gaps 1 and 3/4 in are nominal; actual M gap must be 5/8-7/8 in. Smooth the free skirt edge; do not add a floor seal here because this is the underflow opening.

13. Clamp each skirt/rigid plate to its I front face. Drill two 3/16 in horizontal through-bores at global x 3 and 13 in, z 5.625+tr. Fit two #8-32 x 2 1/4 in round-head stainless machine screws per bridge, with 1/2 in OD x 1/32 in washers front and rear and a locknut at most 1/4 in thick. Reference prior stack is 1/32+0.045+1/4+1 1/2+1/32+1/4=2.1075 in, leaving more than two 1/32 in threads. Dress every end; all this hardware is above the water line and clear of the locating pins.

14. Make four N pins 2 1/2 in long from 3/8 in maple dowel and four O grips 3/4 in diameter x 1/2 in thick. Glue the last 1/2 in of each pin through its grip so exactly 2 in projects below the flat knob shoulder. Allow the full adhesive-label cure before handling a bridge with these pins. The pins locate the bridge, not lift the whole basin.

15. With each I in place, transfer its two pin centers at x 3/8 and 15 5/8 in, y 11 or 25 in. Remove it and use a 7/16 in hollow punch for E/F at the HIGH RIM ONLY. Replace I and drill 13/32 in vertically with a guide, to 2 1/8 in below I top. This leaves 1/8 in bottom clearance for the 2 in projecting shaft. Relative to the actual floor-based STOP line, verify each bore bottom is at least 3/4 in higher; 7/8 in is nominal only. The exact nominal-datum difference is 0.875+tr-tf in. G screws deliberately avoid y 11/25 so they do not cross these pins.

16. Cut P 13 x 8 x 1/2 in from the specified SOLID Vintec I PVC. Mark its 12 x 5 in pocket at x 1/2-12 1/2, y 1 1/2-6 1/2. Drill 1 in diameter corner-start recesses 1/4 in deep with centers(1, 2), (12, 2), (12, 6), (1, 6) in; join tangent boundaries with a clamped depth-stop router in two 1/8 in passes. Leave a continuous 1/4 in bottom. Drill the four 3/4 in finger holes listed in the cut schedule, away from the pocket. Round every underside/outer edge 1/8 in and reject any sharp swarf or through-cut. The solid dense material matters: an unweighted HDPE pocket would tend to float.

17. Dry-fit P at x 1 1/2-14 1/2, y 1 1/2-9 1/2 in on the soft lined floor. Its back stays 0.455 in upstream of K vertical face and clear of the downstream floor fold. Temporarily fit both baffles and all four locating pins without forcing the EPDM margins. Remove P for the dry floor survey in step 18. Do not add water yet.

18. With the dry basin level, transfer the LOWEST unobstructed elevation in the actual lined rear crest central 10 in strip horizontally onto L with a straightedge and spirit level; this alone defines NORMAL. With P removed, use a horizontal level straightedge and depth rule to compare the lined floor at front/middle/rear and left/center/right below both baffles. The greatest depth below that common level defines the LOWEST FLOOR DATUM. Transfer 2 1/4 in above this datum onto L as STOP. Offsets 1 and 1 1/4 in from L bottom are NOMINAL REFERENCES ONLY, not marking instructions. Accept only when NORMAL is 1 3/4-2 1/8 in above every surveyed floor point, leaving at least 1/8 in to STOP; NORMAL passes 1/4-1/2 in above K window lower lip; K has 1/8-3/8 in actual floor lap; M clears the actual floor 5/8-7/8 in across its full width; all pin bore bottoms are at least 3/4 in above STOP. Confirm at least 10 in clear rear discharge. If any criterion fails, stop and refit the single-layer padding/skirts; do not add stacked corner shims or use the basin by copying nominal marks.

19. Remove the baffles and P. Add no more than 3/4 in of cold nonpotable water; wet P underside and lower one edge first at its marked footprint, then fill its recess to exclude trapped air. Confirm the flooded solid PVC pocket rests without hand pressure; stop at floating or rocking, without loose ballast. Reinstall the baffles/pins. Fill slowly until the actual NORMAL line is just reached, checking again that P stays seated. Recheck floor depths, K contact, M gap and all pin clearances under wetted padding; retransfer STOP 2 1/4 in above the actual lowest floor datum if it has settled. Continue only when every acceptance criterion still passes. Then add only a small hand-poured stream ahead of the first baffle. The empty geometric floor envelope at 2 in depth is about 4.2 US gal before subtracting baffles/pocket; this is sizing context, not a tested working capacity. Observe the intended over-window then under-skirt route and full-width rear spill. Stop before the upper line, at a displaced skirt, side bypass or any drip outside the contained rear path. Never connect this forebay as the sole storm overflow.

20. Stop input and hand-dip the water into a separate contained nonpotable receiver; do not lift the full shell. Withdraw all four pins and lift each bridge/baffle straight up by the bridge ends. When water above P is gone, lift the pocket vertically by its smooth finger holes and remove its deposits separately. Do not slide a gritty tray along the membrane or infer that all fine sediment was captured.

21. After the water has been dipped down to a thin film, loosen the high front/side battens and gently raise the front liner floor by hand to roll the small residual toward the loose rear spill flap. Keep the rear flap directed into the catch area. Remove the liner only after it is empty, then rinse/inspect it over soft support and dry all parts. Reassemble to the same rim stacks, floor marks and pin positions before the next attended session.

Acceptance and intermediate checks

Wood floor clear 14 1/2 x 34 1/2 in; rear bare crest z 2 3/4 in and high side rims 5 1/4 in. Rear flap has an unobstructed 10 in middle strip and no retaining screws in the discharge.

NORMAL is transferred from the actual lined rear crest; STOP is 2 1/4 in above the lowest surveyed lined-floor datum. Require NORMAL depth 1 3/4-2 1/8 in at all surveyed points and at least 1/8 in below STOP; NORMAL is 1/4-1/2 in above K window lower lip. No second nominal marking rule applies.

J and K windows are truly cut and aligned; K opening is 1/8 in inside J on each edge. Both skirts remain upstream of their rigid support.

K actual floor lap is 1/8-3/8 in; M actual floor gap 5/8-7/8 in. Pin projections 2 in enter 2 1/8 in bores; each bore bottom is at least 3/4 in above actual STOP. G screws avoid pin rows 11/25; machine screw axes are 2 5/8 in from pin axes.

P has 1/4 in remaining floor and rounded underside; it is lifted only after removing water and baffles. No pressure, throughput, purification, sediment-efficiency or physical-test claim is made.

Use and maintenance

Cold nonpotable service water only. Never drink, cook, wash food, irrigate edible parts or supply animals from this apparatus.

An open coarse separator is not a microbial filter, disinfection device or mosquito barrier. Drain and dry after the attended session; do not leave an open stored-water habitat.

This design is not a storm-drain, structural or flood-control installation. Stop at backup, bypass outside the intended catch area, a loose joint or a damaged membrane.

Remove deposited grit before washing. Drain by dipping and rolling the almost-empty liner; never lift a water-filled shell or pull a loaded membrane by one edge.

Clean the routed pocket over a separate contained receiver. Inspect its 1/4 in bottom and finger-hole webs for cracks; a sharp or cracked pocket is replaced before it returns to the liner.

Wipe both baffle faces and the flexible window rim. Replace a torn, hardened or permanently curled skirt; do not stitch through the basin liner or add an unverified sealant bead.

Inspect the four locating pins, high-rim holes and bridge screw ends after every removal. Replace a split rim, loose knob or elongated guide hole; never hammer a binding pin.

Dry the rear folds and every liner-contact surface before covered storage. After a material change repeat the separate floor/rim/crest survey, the actual skirt lap/gap and both transferred level marks; this is maintenance guidance, not a completed trial.

Measured interface notes

The flexible margins reduce gross edge bypass; they do not establish watertight partitions or a specified particle-size removal. A visible cleanout pocket does not guarantee clear or safe output.

Reference tf=tr=tc=0.170 in is not proof of equal compression. Measure each floor/rim/crest stack separately. For a locally uniform floor and one bridge rim stack, L-bottom-to-NORMAL is 1+tc-tr in; L-bottom-to-STOP is 1.25+tf-tr in; bore-bottom-to-STOP is 0.875+tr-tf in. Different bridge-rim stacks are checked independently. These formulas explain the nominal drawing; the actual crest/floor transfers and measured acceptance limits control.

E/F scene entries are flat stock references. Installed folds follow the liner layout/section plate. The four HIGH-RIM pin holes and 15 outside batten holes are all above the marked maximum operating level; there is no liner-floor or rear spill-flap penetration.

The entire floor bears directly on level ground. The geometric roughly 4.2 gal floor envelope is not a load rating, treatment capacity or proven storm throughput.

Primary context references

W1: Rutgers Cooperative Extension, Rain Barrels Part II: Installation and Use, FS1118. https://extension.rutgers.edu/fs1118

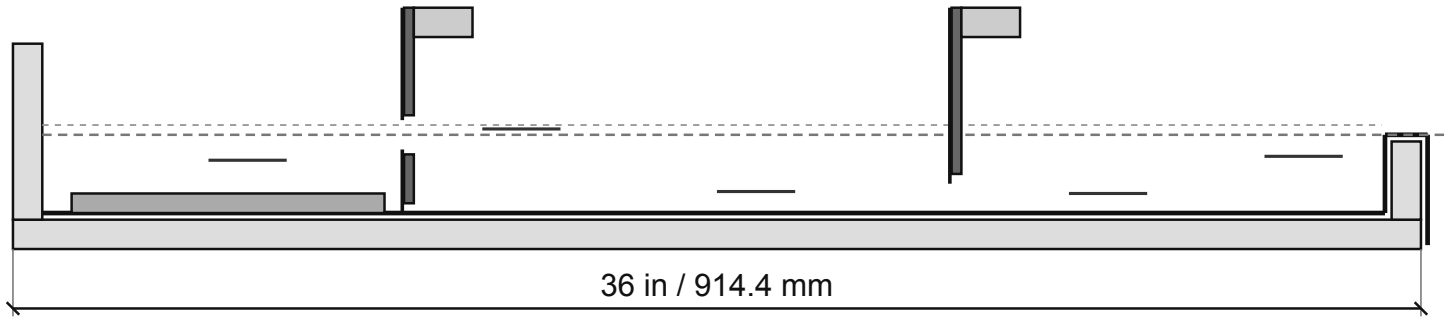
W2: Elevate / Amrize, PondGard Rubber Liners, TIS101, August 20, 2025.
https://holcimelevate.com/content/dam/elevateamericas/migrated-document/us/en/37/370387.pdf

W3: Elevate / Amrize, PondGard EPDM Design and Installation Guide, July 2025.
https://www.elevatecommercialbp.com/content/dam/elevateamericas/migrated-document/us/en/87/875202.pdf

W5: Plaskolite / Vycom, Typical Physical Properties: Vintec I, PDS497.
https://plaskolite.com/docs/default-source/pds/pds497_vyc_cor_vin_1.pdf

WA-003 | OVER-WINDOW THEN UNDERFLOW

Nominal section tf=tr=tc=0.170 in ONLY. Actual crest/floor transfers and measured acceptance limits control.



NORMAL: actual low crest; STOP: lowest surveyed floor+2 1/4 in.

Nominal J window bottom 1 1/2 in; K lip 1 5/8 in above floor.

Actual M gap 5/8-7/8 in; K floor lap 1/8-3/8 in, folded downstream.

P pocket: y 1 1/2-9 1/2 in; remove water and bridges before lifting.

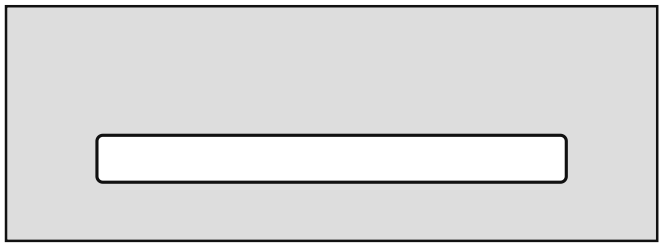
Rear crest is low and open; keep the entire spill flap directed into a catch area.

Original B/W measured drawing - not a full-scale template - unbuilt / untested

WA-003 | CUT THE TWO DIFFERENT BAFFLES

Each outline is one actual plate. White rounded windows are removed material, not separate components.

J HDPE1/4 in



13 7/8 in wide x 5 in high

K EPDM0.045 in



14 1/4 in wide x 5 1/2 in high

J: local window x 1 15/16-11 15/16, z 1 1/4-2 1/4 in, R1/8 in.

K: local window x 2 1/4-12, z 1 7/8-2 5/8 in, R1/8 in.

With tops aligned, K aperture sits 1/8 in inside J on all four edges.

L: solid 13 7/8 x 4 1/4 x 1/4 in. M: solid 14 1/4 x 4 1/2 x 0.045 in.

K/M are UPSTREAM of their rigid plates. Side margins touch lined walls.

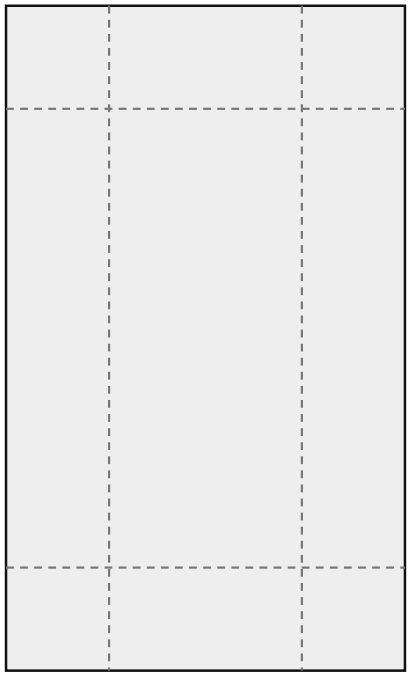
Top fixing bores: global x 3, 13 in, z 5.625+tr; 3/16 in clearance.

Window and pocket machining are completed before any part touches the basin liner.

Original B/W measured drawing - not a full-scale template - unbuilt / untested

WA-003 | UNSEAMED LINER AND DRY-RIM PINS

Plan of the liner blank with dry-rim pin dimensions. The actual pin section appears in plate 5.



E/F blank 50 x 30 in

Floor 34 1/2 x 14 1/2 in;
margins 7 3/4 in all sides.

Bridge top 6+tr; knob shoulder on top.

N pin 2 1/2 in total; grip encloses 1/2 in.

Projecting pin 2 in; bore depth 2 1/8 in.

Axis x 3/8 or 15 5/8, y 11 or 25 in.

E/F HIGH-RIM punch 7/16 in; wood bore 13/32.

Bore bottom at least 3/4 in above STOP.

Batten screws avoid both pin rows.

No rear batten across the loose spill flap.

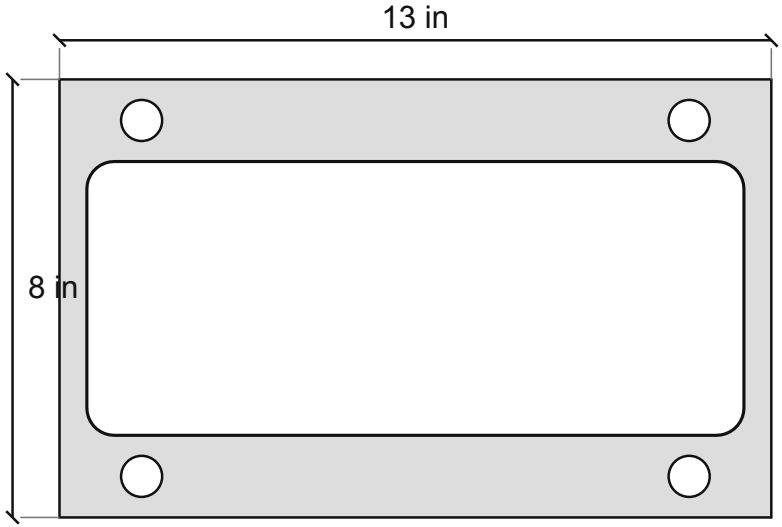
Use lowest clear crest point within x 3-13 in.

Survey actual floor; measure each rim/crest.

Original B/W measured drawing - not a full-scale template - unbuilt / untested

WA-003 | ROUTED CLEANOUT POCKET AND ABOVE-WATER JOINT

P is a removable solid stock piece with a blind recess. Never put a sharp edge against the basin membrane.



P stock 1/2 in; pocket 1/4 in deep.

Remaining bottom 1/4 in; R1/2 corners.

Pocket local x 1/2-12 1/2, y 1 1/2-6 1/2.

Finger holes 3/4 in at the four listed axes.

Place x 1 1/2-14 1/2, y 1 1/2-9 1/2.

Lift only after dipping water and removing baffles.

I joint stack front-to-rear: washer 1/32 + EPDM0.045 + HDPE1/4 + wood 1 1/2

+ washer 1/32 + locknut at most 1/4 =2.1075 in before visible threads.

#8-32 x 2 1/4 in leaves at least two 1/32 in threads; head OD at most 3/8 in.

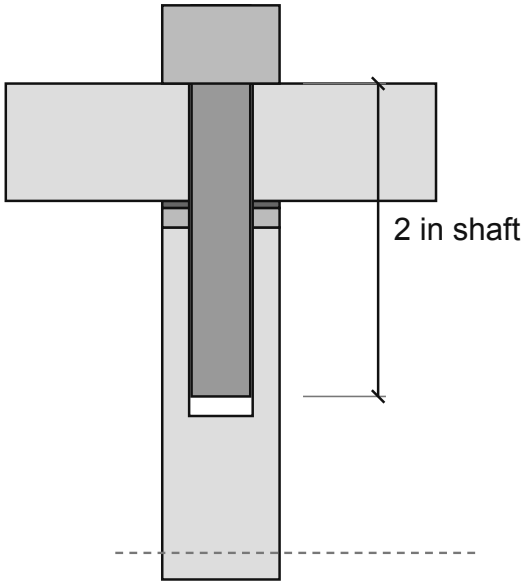
Joint axes x 3/13, z 5.625+tr; pin axes x 3/8 and 15 5/8 do not intersect them.

All wood screw tips are contained. Discharge has no pressured fitting or liner-floor hole.

Original B/W measured drawing - not a full-scale template - unbuilt / untested

WA-003 | COMPLETE DRY-RIM PIN AND BAFFLE JOINT

Sections show the dry-rim pin and above-water baffle bolt; the wet-floor liner remains unpierced.



Pin bore 13/32 in; depth 2 1/8 in.

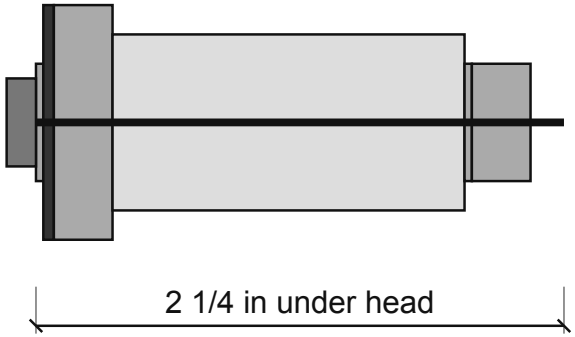
Grip 3/4 OD x 1/2; hole 3/8 in.

Bore bottom>=3/4 above actual STOP.

Only HIGH-RIM sheet punch 7/16.

Front washer / K or M / J or L / I

Rear washer and locknut shown in full.



Layers: 1/32, 0.045, 1/4, 1 1/2, 1/32, 1/4 in.

Total 2.1075 in; visible thread 0.1425 in.

Washer OD 1/2, head OD 3/8, nut envelope 1/2.

Axis global z 5.625+tr; check actual STOP.

Plate heights cropped; I actual height 3/4 in.

Pin x 3/8, y 11/25. Bolt x 3/13, y 10/24. Dashed STOP is nominal; actual floor+2 1/4 controls.

G screw rows 3, 7, 17, 21, 31, 34 deliberately leave the two pin bores clear.

Original B/W measured drawing - not a full-scale template - unbuilt / untested