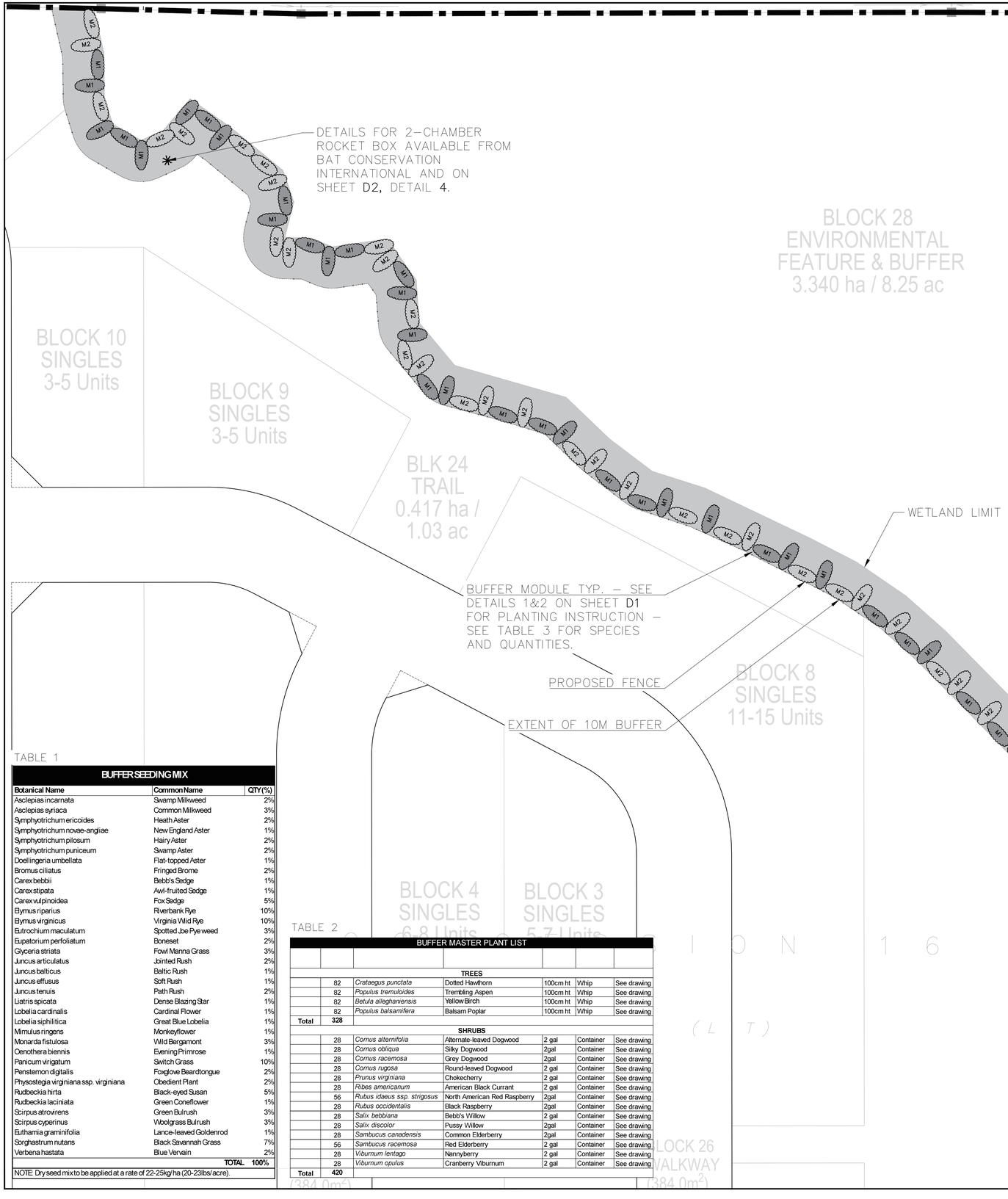


NOTE 1: GENERAL

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE WRITTEN SPECIFICATIONS FOR THE PROJECT AND ALL OTHER DRAWINGS AND DETAILS.
2. ANY AMBIGUITY IN THESE DRAWINGS IS TO BE REPORTED TO THE LANDSCAPE ARCHITECT. CONTRACTOR IS NOT TO PROCEED IN UNCERTAINTY.
3. CONTRACTOR SHALL VISIT THE SITE TO CONFIRM ALL SITE CONDITIONS PRIOR TO SUBMITTING BIDS. DISCREPANCIES TO BE REPORTED TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION.
4. UPON COMPLETION EACH DAY, REMOVE ALL DEBRIS, GARBAGE AND SURPLUS MATERIAL FROM THE SITE. KEEP THE SITE CLEAN AND USABLE AT ALL TIMES.
5. CONTRACTOR SHALL SUPPLY ALL PLANTS AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN ON SHEET L2.1.
6. PLANT MATERIALS COLLECTED FROM WILD SOURCES WILL NOT BE ACCEPTED. THE CONTRACT ADMINISTRATOR MAY REQUIRE THAT SUPPLIER'S INVOICES FOR PLANT MATERIALS BE SUBMITTED FOR INSPECTION.
7. ANY SUBSTITUTION OF PLANT MATERIAL WILL REQUIRE THE WRITTEN APPROVAL OF LANDSCAPE ARCHITECT.
8. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REFUSE ACCEPTANCE OF ANY PLANT DISPLAYING POOR GROWTH HABITS, INJURY OR DISEASE. ANY PLANT MATERIAL THAT IS REJECTED BY THE LANDSCAPE ARCHITECT WILL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.

NOTE 2: PLANTING

1. LAYOUT OF PLANT MATERIAL TO BE EXECUTED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. PLANTING SHALL TAKE PLACE WITHIN 7 DAYS OF COMPLETION OF FINAL GRADING. IF PLANTING CANNOT TAKE PLACE IN THIS PERIOD, A TEMPORARY COVER CROP (TO BE APPROVED BY LANDSCAPE ARCHITECT) SHALL BE SEEDED.
3. ALL PLANTS SHALL BE PLANTED IN ACCORDANCE WITH THE APPROPRIATE PLANTING DETAILS ON THE DRAWINGS AND WRITTEN SPECIFICATIONS.
4. ALL PLANTS ARE TO BE PLANTED IN APPROVED TOP SOIL FREE FROM WEEDS, SUBSOIL, ROOTS, STONES, LUMPS OF CLAY AND TOXIC MATERIAL.
5. PLANT SO THAT NURSERY SOIL LINE MATCHES FINISHED GRADE AFTER SETTLING.
7. GENTLY TAMP TOPSOIL WHEN BACKFILLING TO REMOVE AIR POCKETS.
8. BUILD A SOIL SAUCER AROUND OUT EDGE OF PLANTING HOLE. SAUCER SHALL BE SOAKED WITH WATER AND COVERED WITH MULCH IMMEDIATELY FOLLOWING PLANTING.
9. ALL INDIVIDUAL TREE WHIPS AND SHRUBS ARE TO BE MULCHED USING SHREDDED BARK MULCH AS PER DETAILS AND PLANTING SPECIFICATIONS.
10. ALL PLANTS TO BE TREATED WITH RODENT REPELLENT AS PER SPECIFICATIONS.
11. INSTALL PLASTIC PERFORATED SPIRALED STRIP TRUNK PROTECTION ON ALL DECIDUOUS TREES AS PER DETAILS AND SPECIFICATIONS.
12. REMOVE ALL NURSERY TAGS, METAL OR PLASTIC BINDINGS, AND VINE SUPPORTS.
13. ALL PLANTS ARE TO RECEIVE MAINTENANCE IN ACCORDANCE WITH WRITTEN SPECIFICATIONS THROUGHOUT THE 2 YEAR WARRANTY PERIOD.
19. FOLLOW-UP REPLACEMENT PLANTINGS WILL BE REQUIRED FOR ALL TREES AND/OR SHRUBS THAT DO NOT SURVIVE.

NOTE 3: SEEDING

1. ALL AREAS OF DISTURBANCE WITHIN THE BUFFER AREA TO BE SEEDED. THESE AREAS, ACCORDING TO THE LIMITS OF GRADING, ARE: **4211** m^2
2. AREA FOR PAYMENT SHALL BE SURVEYED ON SITE BY THE CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT.
3. CONTRACTOR SHALL FOLLOW OPPS 804: CONSTRUCTION SPECIFICATION FOR SEED AND COVER (METRIC VERSION) WITH SPECIAL PROVISION FOR SEED MIX PROVIDED FOR BUFFER SEED MIX (SHOWN ON **TABLE 1**). ANY SUBSTITUTION OF SEED MATERIAL WILL REQUIRE THE WRITTEN APPROVAL OF LANDSCAPE ARCHITECT.
4. ALL HYDROSEEDING TO BE COMPLETED PRIOR TO PROCEEDING WITH THE PLANTING WORKS.SHOULD PLANTS ALREADY BE INSTALLED PRIOR TO SEEDING, AN ALTERNATIVE SEEDING METHOD TO HYDROSEDING MUST BE USED. CONFIRM ALTERNATE SEEDING METHOD WITH LANDSCAPE ARCHITECT PRIOR TO COMMENCING SEEDING.

TABLE 3

BUFFER MODULE COMPOSITION

MODULE PLANTS - UPLAND						
M1 - Generalist modules						
M1	2	*Crataegus punctata*	Dotted Hawthorn	100cm ht	Whip	1.5m O.C.
M1	2	*Populus tremuloides*	Trembling Aspen	100cm ht	Whip	1.5m O.C.
M1	1	*Cornus alternifolia*	Alternate-leaved Dogwood	2 gal	Container	1m O.C.
M1	1	*Cornus racemosa*	Grey Dogwood	2gal	Container	1m O.C.
M1	1	*Cornus rugosa*	Round-leaved Dogwood	2 gal	Container	1m O.C.
M1	1	*Prunus virginiana*	Chokecherry	2 gal	Container	1m O.C.
M1	1	*Rubus occidentalis*	Black Raspberry	2gal	Container	1m O.C.
M1	2	*Sambucus racemosa*	Red Elderberry	2 gal	Container	1m O.C.
M1	1	*Viburnum lentago*	Nannyberry	2 gal	Container	1m O.C.
Total Module Plants	**12**					See detail 1 on sheet D1
M2 - Diversifier modules						
M2	2	*Betula alleghaniensis*	Yellow Birch	100cm ht	Whip	1.5m O.C.
M2	2	*Populus balsamifera*	Balsam Poplar	100cm ht	Whip	1.5m O.C.
M2	1	*Cornus obliqua*	Silky Dogwood	2gal	Container	1m O.C.
M2	1	*Ribes americanum*	American Black Currant	2 gal	Container	1m O.C.
M2	2	*Rubus idaeus ssp. strigosus*	North American Red Raspberry	2gal	Container	1m O.C.
M2	1	*Salix bebbiana*	Bebb's Willow	2 gal	Container	1m O.C.
M2	1	*Salix discolor*	Pussy Willow	2gal	Container	1m O.C.
M2	1	*Sambucus canadensis*	Common Elderberry	2gal	Container	1m O.C.
M2	1	*Viburnum opulus var. americanum*	American Highbush Cranberry	2 gal	Container	1m O.C.
Total Module Plants	**12**					See detail 1 on sheet D1

TABLE 4

BUFFER MODULE QUANTITIES

M1	*41*
M2	*41*
TOTAL	*82*

TABLE 1

BUFFER SEEDING MIX

Botanical Name	Common Name	QTY(%)
Asclepias incarnata	Swamp Milkweed	2%
Asclepias syriaca	Common Milkweed	3%
Symphyotrichum ericoides	Heath Aster	2%
Symphyotrichum novae-angliae	New England Aster	1%
Symphyotrichum pilosum	Hairy Aster	2%
Symphyotrichum puniceum	Swamp Aster	2%
Doellingeria umbellata	Flat-topped Aster	1%
Bromus ciliatus	Fringed Brome	2%
Carex bebbii	Bebb's Sedge	1%
Carex stipata	Awl-fruited Sedge	1%
Carex vulpinoidea	Fox Sedge	5%
Elymus riparius	Riverbank Rye	10%
Elymus virginicus	Virginia Wld Rye	10%
Eutrochium maculatum	Spotted Joe Pye weed	3%
Eupatorium perfoliatum	Boneset	2%
Glyceria striata	Fowl Manna Grass	3%
Juncus articulatus	Jointed Rush	2%
Juncus balticus	Baltic Rush	1%
Juncus effusus	Soft Rush	1%
Juncus tenuis	Path Rush	2%
Liatris spicata	Dense Blazing Star	1%
Lobelia cardinalis	Cardinal Flower	1%
Lobelia siphilitica	Great Blue Lobelia	1%
Mimulus ringens	Monkeyflower	1%
Monarda fistulosa	Wild Bergamont	3%
Oenothera biennis	Evening Primrose	1%
Panicum virigatum	Switch Grass	10%
Penstemon digitalis	Foxglove Beardtongue	2%
Physostegia virginiana ssp. virginiana	Obedient Plant	2%
Rudbeckia hirta	Black-eyed Susan	5%
Rudbeckia laciniata	Green Coneflower	1%
Scirpus atrovirens	Green Bulrush	3%
Scirpus cyperinus	Woolgrass Bulrush	3%
Euthamia graminifolia	Lance-leaved Goldenrod	1%
Sorghastrum nutans	Black Savannah Grass	7%
Verbena hastata	Blue Vervain	2%
	TOTAL	**100%**

NOTE: Dry seed mix to be applied at a rate of 22-25kg/ha (20-23lbs/acre).

TABLE 2

BUFFER MASTER PLANT LIST

TREES						
	82	*Crataegus punctata*	Dotted Hawthorn	100cm ht	Whip	See drawing
	82	*Populus tremuloides*	Trembling Aspen	100cm ht	Whip	See drawing
	82	*Betula alleghaniensis*	Yellow Birch	100cm ht	Whip	See drawing
	82	*Populus balsamifera*	Balsam Poplar	100cm ht	Whip	See drawing
Total	**328**					
SHRUBS						
	28	*Cornus alternifolia*	Alternate-leaved Dogwood	2 gal	Container	See drawing
	28	*Cornus obliqua*	Silky Dogwood	2gal	Container	See drawing
	28	*Cornus racemosa*	Grey Dogwood	2gal	Container	See drawing
	28	*Cornus rugosa*	Round-leaved Dogwood	2 gal	Container	See drawing
	28	*Prunus virginiana*	Chokecherry	2 gal	Container	See drawing
	28	*Ribes americanum*	American Black Currant	2 gal	Container	See drawing
	56	*Rubus idaeus ssp. strigosus*	North American Red Raspberry	2gal	Container	See drawing
	28	*Rubus occidentalis*	Black Raspberry	2gal	Container	See drawing
	28	*Salix bebbiana*	Bebb's Willow	2 gal	Container	See drawing
	28	*Salix discolor*	Pussy Willow	2gal	Container	See drawing
	28	*Sambucus canadensis*	Common Elderberry	2gal	Container	See drawing
	56	*Sambucus racemosa*	Red Elderberry	2 gal	Container	See drawing
	28	*Viburnum lentago*	Nannyberry	2 gal	Container	See drawing
	28	*Viburnum opulus*	Cranberry Viburnum	2 gal	Container	See drawing
Total	**420**					

LEGEND

- Bat Box
- Proposed Fence
- M1 — Shrub Module #1
- M2 — Shrub Module #2
- Seed Mix Application Area

No.	Description	Date
01	Module layout revised	2025/03/11

Revisions

BUFFER PLAN - SOUTH

Project: ST. DAVID'S

Client: POLOCORP INC.

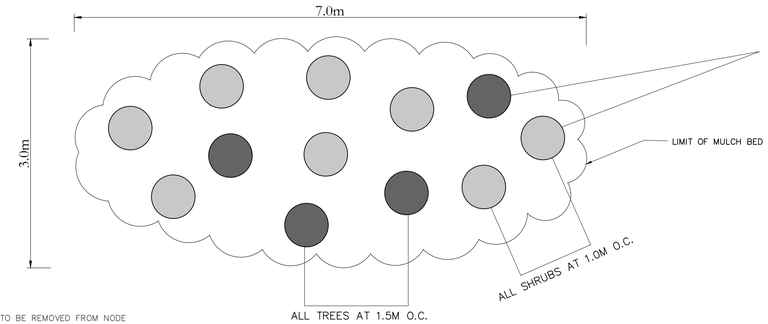
Dougan Ecology
3-7 Edinburgh Rd South, Guelph, ON N1H 5N8
www.dougan.ca

North

Date: 2025/02/20
Scale: 1:500
Drawn By: LD
Checked By: TF

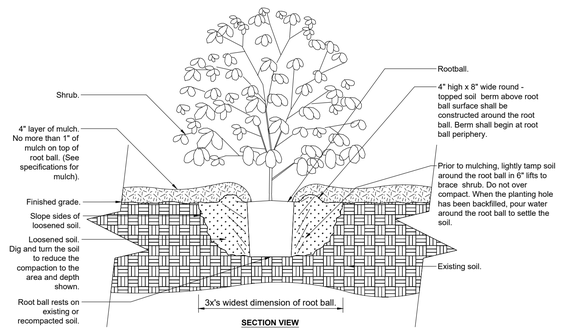
Figure Number: L1

PLAN VIEW OF PLANTING MODULE
12 PLANTS PER MODULE – COMBINATION OF TREES AND SHRUBS



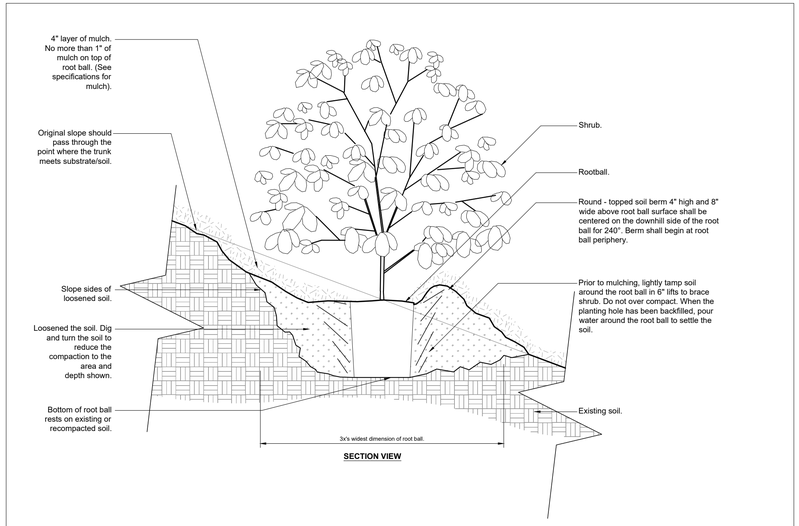
NOTES
1. ANY EXISTING NON–NATIVE VEGETATION TO BE REMOVED FROM NODE PLANTING AREA AND DISPOSED OF OFF SITE.
2. THE ACTUAL PHYSICAL LOCATION OF EACH PLANT WILL DEPEND UPON SITE CONDITIONS AT TIME OF PLANTING. ACTUAL SITE CONDITIONS MAY REQUIRE MODIFICATION TO THE PLANT MATERIAL LOCATIONS AS SHOWN. THE CONTRACTOR SHOULD RESPECT THE PLANT GROUPINGS, SPACING AND OFFSETS FROM FIXED OBJECTS AND ADHERE TO THE DESIGN INTENT WHEN LAYING OUT THE PLANT MATERIAL LOCATIONS.
3. ALL PLANTING MODULES SHALL CONSIST OF SHRUBS PLACED 1.0 M O.C. AND TREES PLACED AT 1.5 M O.C.
4. REFER TO **TABLE 3** FOR PLANT MATERIAL DESCRIPTIONS.
5. INSTALL INDIVIDUAL SHRUBS AND TREES ACCORDING TO THE PLANTING DETAILS ON **SHEET D1**.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
7. ANY FIELD ADJUSTMENTS OR MATERIAL SUBSTITUTIONS MUST RECEIVE THE PRIOR APPROVAL OF THE CONTRACT ADMINISTRATOR.
8. MULCH BED TO BE UNIFORM DEPTH OF 200MM.

1 M1 & M2 PLANTING MODULE LAYOUT
N.T.S.



NOTES
1. PLANT STOCK MOVED WHILE IN LEAF SHALL BE COVERED WHILE IN TRANSIT OR IN TEMPORARY STORAGE.
2. PLANT SHRUB SO THAT NURSERY SOIL LINE MATCHES FINISHED GRADE AFTER SETTLING.
3. TAMP TOPSOIL WHEN BACKFILLING TO REMOVE AIR POCKETS.
4. REMOVE ALL WEEDS FROM SURFACE OF ROOTBALL.
5. REMOVE CIRCLING ROOTS FROM ROOTBALL.
6. REMOVE ALL NURSERY TAGS, METAL OR PLASTIC.
7. CONTRACTOR SHALL FOLLOW DIRECTIONS IN CONTRACT SPECIFICATIONS FOR PLANTING THAT STIPULATE REQUIRED DEPTH OF TOPSOIL.

2 SHRUB/WHIP – TYPICAL
N.T.S.



Notes:
1. Shrubs shall be of quality as prescribed in the root observations detail and specification.
2. See specifications for further requirements related to this detail.

pdet_shrub on slope_unmodified soil

3 SHRUB/WHIP ON SLOPE 5% (20:1) TO 50% (2:1)
N.T.S.

No. Date	Description	
x	xx	YYYY/MM/DD

Revisions

BUFFER DETAILS – SOUTH

Project: ST. DAVID'S

Client: POLOCORP INC.

Dougan Ecology
3–7 Edinburgh Rd South, Guelph, ON N1H 5N8
www.dougan.ca

Date: 2025/02/20
Scale: N.T.S.
Drawn By: LD
Checked By: TF

Figure Number:
D1

Two-chamber Rocket Box

Materials (makes one house)

2" diameter (2¾" outside diameter) steel pole, 20' long
Two 1" x 4" (¾" x 3½" finished) x 8' boards*
Two 1" x 8" (¾" x 7¼" finished) x 8' boards*
Two 1" x 10" (¾" x 9¼" finished) x 6' boards*
24" x 24" x ¾" piece of AC exterior plywood
Box of 100 exterior-grade screws, 1¼"
Box of 100 exterior-grade screws, 1¾"
16 to 32 exterior-grade screws, 2"
20 to 30 roofing nails, ¾"
One quart water-based primer, exterior grade
Two quarts flat, water-based stain or paint, exterior grade
Asphalt shingles or dark galvanized metal
One tube paintable latex caulk
Two ¼" x 4½" carriage bolts, washers and nuts

* *Western red cedar or poplar preferred*

Recommended tools

Table saw or circular saw
Caulk gun
Hammer
Tape measure
Square
Jigsaw, keyhole saw or router
Sandpaper or sander
Rasp or wood file
Variable-speed reversing drill
1½" hole saw or spade bit
¼" and ¾" drill bits
Screwdriver bit for drill

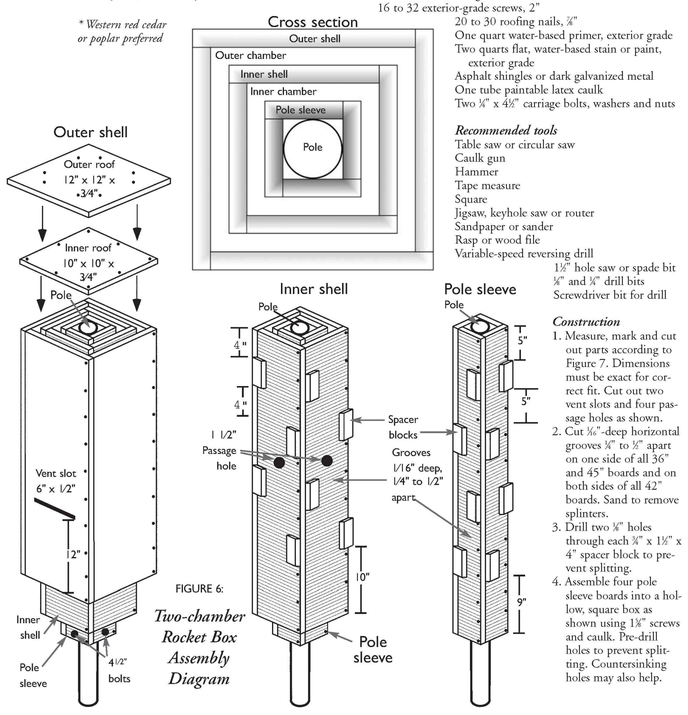


FIGURE 6:
Two-chamber Rocket Box Assembly Diagram

Construction

1. Measure, mark and cut out parts according to Figure 7. Dimensions must be exact for correct fit. Cut out two vent slots and four passage holes as shown.
2. Cut 3/16"-deep horizontal grooves ¼" to ½" apart on one side of all 36" and 45" boards and on both sides of all 42" boards. Sand to remove splinters.
3. Drill two ¼" holes through each ¾" x 1½" x 4" spacer block to prevent splitting.
4. Assemble four pole sleeve boards into a hollow, square box as shown using 1¾" screws and caulk. Pre-drill holes to prevent splitting. Countersinking holes may also help.

5. Attach spacer blocks to pole sleeve as shown (four per side) using two 1¼" screws per block. Bottom spacer blocks are 9" up from bottom of pole sleeve. Top spacer blocks are 5" from top. Alternate spacer blocks on left and right sides, 5" apart.
6. Assemble four inner shell boards into a hollow, square box as in step 4.
7. Slide pole sleeve into inner shell until top edges are flush. Bat passage holes will be towards the top. Mark location of spacer blocks. Secure inner shell to pole sleeve with 2" screws through the spacer blocks to ensure no screws protrude into roosting chambers. Pre-drill holes first to avoid splitting spacer blocks (countersinking holes may also help).
8. Attach spacer blocks (4 per side) to inner shell as shown, using two 1¼" screws per block. Bottom spacer blocks are 10" up from the bottom edge of the inner shell. Top spacers are 4" from top. Alternate spacers left and right sides, 4" apart.
9. Assemble four outer-shell boards into a hollow, square box as in step 4. Vent slots are on opposing sides and oriented towards the bottom.
10. Slide finished outer shell over inner shell, so that 6" of inner shell protrudes below outer shell. Mark locations of spacer blocks. Secure outer shell to inner shell as in step 7 (pre-drill holes first). Ensure that no screws protrude into the roosting chambers.
11. Caulking first, attach inner roof to box with 1¼" screws. Carefully drive screws into top edges of shells to prevent screws from entering roosting chambers.
12. Center and attach outer roof to inner roof with 1¼" screws, caulking first.
13. Paint or stain exterior three times (use primer for first coat). Cover roof with shingles or dark galvanized metal.
14. Slide completed rocket box over pole. One inch up from the bottom edge of pole sleeve, drill a ¼" hole all the way through pole and sleeve. Rotate box and pole 90° and drill another ¼" hole, 2 inches from the bottom, through pole and sleeve. Secure box to pole with two 4½" bolts, washers and nuts. Orient vent slots north and south during installation.

Optional modifications to the rocket box

1. For extra mounting height, insert a 4½" bolt and nut about halfway up through pole sleeve after completing step 5.
2. For extra heat-holding capacity, create a compartment in upper half of pole sleeve with a 2¾"-square piece of leftover plywood. Fill upper half of sleeve with sand, gravel or dirt, and seal with another piece of plywood flush with top.
3. In warmer climates, a larger outer roof with more overhang can be used for additional shading.

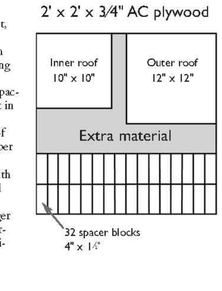
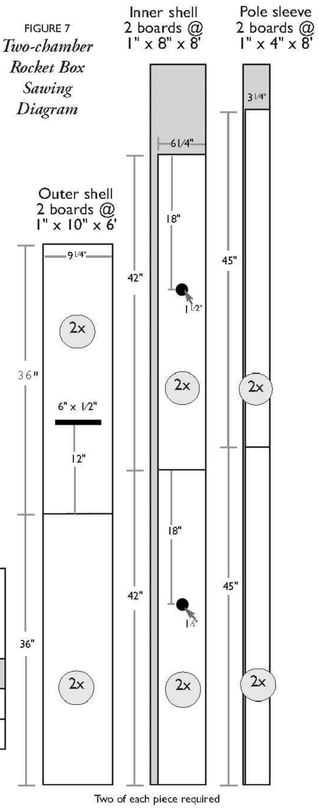


FIGURE 7
Two-chamber Rocket Box Sawing Diagram



NOTES
1. THE FOLLOWING DETAILS CAN BE REFERENCED ON BAT CONSERVATION INTERNATIONAL (BATCON.ORG) – "THE BAT HOUSE BUILDERS HANDBOOK".

4 2–CHAMBER ROCKET BOX
N.T.S.

x	xx	YYYY/MM/DD
No. Date	Description	

Revisions

BUFFER DETAILS – SOUTH

Project: ST. DAVID'S

Client: POLOCORP INC.

Dougan Ecology

3–7 Edinburgh Rd South, Guelph, ON N1H 5N8
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Date: 2025/02/20
Scale: N.T.S.
Drawn By: LD
Checked By: TF

Figure Number:
D2