

GENERAL NOTES

- THE FOLLOWING RESTORATION RECOMMENDATIONS FOLLOW THE PRACTICAL OBJECTIVES FOR THE REVETMENT AND THE RESTORATION METHODS IN THE TRCA GUIDELINE FOR DETERMINING ECOSYSTEM COMPENSATION (TORONTO AND REGION CONSERVATION AUTHORITY, 2018).
- RESTORATION EFFORTS WILL AIM TO RESTORE THE REALIGNED ROBINSON CREEK AND THE REDESIGNED FLOODPLAIN.
- RESTORATION PLANTINGS WILL BE IMPLEMENTED FOLLOWING THE COMPLETION OF THE WATERCOURSE REALIGNMENT.
- THE SPECIES TO BE PLANTED AS PART OF THE RESTORATION EFFORTS ARE NATIVE TO THE REGION AND SUITABLE TO THE SITE CONDITIONS.
- ALL TREES AND WOODY DEBRIS FROM REMOVED DUE TO SITE DISTURBANCE SHOULD BE KEPT ON-SITE AND DISTRIBUTED THROUGHOUT THE SITE TO PROVIDE WILDLIFE HABITAT OPPORTUNITIES, AWAY FROM THE ACTIVE FLOW CHANNEL, AFTER TO COMPLETION OF RESTORATION PLANTINGS.
- IF OF SMALL ENOUGH DIAMETER, TREE MATERIAL REMOVED DURING SITE CLEARING COULD BE USED AS EMBEDDED WOODY DEBRIS TO BE INCORPORATED INTO THE CHANNEL REALIGNMENT DESIGN.

SOIL AMENDMENTS

- WITHIN THE REDESIGNED FLOODPLAIN, INCLUDING THE NATURAL FEATURE SETBACK AND FLOOD/EROSION HAZARD ACCESS SETBACK, SOILS ARE TO BE IMPROVED AFTER CONSTRUCTION WORKS BY:
- DECOMPACTION OF SUBSOIL TO A DEPTH OF 25 CM, BY TILLING OR SCARIFYING THE SOIL IN A PERPENDICULAR DIRECTION TO THE REALIGNED WATERCOURSE.
- INCORPORATION OF 7 CM OF COMPOST INTO THE SOILS DURING TILLING.
- APPLICATION OF 20 - 30 CM OF UNCOMPACTED IMPORTED TOPSOIL WITH 15% ORGANIC MATTER BY DRY WEIGHT.

IN-CHANNEL RESTORATION

- LIVE STAKES (BRANCH CUTTINGS FROM LIVE SHRUBS) HAVE BEEN RECOMMENDED TO BE PLACED IN THE BENDS AND VEGETATED ROCK REVETMENT PORTIONS OF THE ROBINSON CREEK REALIGNMENT.
- LIVE STAKES ARE TO BE PLANTED IN GROUPS OF 10 SPECIES AT 0.3 M ON-CENTRE SPACING.
- LIVE STAKES ARE RECOMMENDED TO BE 25 - 75 MM DIAMETER STAKES, TO BE HAND PLACED BETWEEN THE STONE REVETMENT/RIP-RAP.
- STAKES SHOULD BE BURIED >0.5 M BELOW THE RIP-RAP, ENSURING PLACEMENT WITHIN THE SOIL MATRIX AND SEASONAL WATER TABLE.
- CERTIFIED SOILS SHOULD BE USED TO FILL THE REMAINING SPACE IN EACH PLANTING HOLE.
- THE TIMING WINDOW FOR CONDUCTING ANY IN-WATER OR NEAR-WATER WORKS IS JULY 1 TO SEPTEMBER 15.

LIVE STAKE RESTORATION SPECIES

Common Name	Scientific Name	Density	Quantity
Alternate-leaved Dogwood	<i>Cornus alternifolia</i>	1 x 1 m	50
Red-osier Dogwood	<i>Cornus sericea</i>	1 x 1 m	40
Common Elderberry	<i>Sambucus canadensis</i>	1 x 1 m	15
Sandbar Willow	<i>Salix exigua</i>	1 x 1 m	60
Bebb's Willow	<i>Salix bebbiana</i>	1 x 1 m	60

NATURAL FEATURE SETBACK RESTORATION

- THE NATURAL FEATURE SETBACK IS TO BE SEEDED AND PLANTED TO BUFFER THE WATERCOURSE/NATURAL FEATURES FROM THE DEVELOPMENT.
- THE NATURAL FEATURE SETBACK IS TO BE SEEDED AT A RATE OF 25 KGS/HA WITH AN EARLY SUCCESSION WET MEADOWSEED MIX THAT ALIGNS WITH THE TRCA SEED MIX GUIDELINES (TORONTO AND REGION CONSERVATION AUTHORITY, 2004, CREDIT VALLEY CONSERVATION AUTHORITY, 2014).
- THE EARLY SUCCESSION WET MEADOW MIX (CVC 6) INCLUDES:
- BEBB'S SEDGE (CAREX BEBBI) 5%
- PURPLE STEMMED ASTER (ASTER PUNICEUS) 1%
- FOWL BLUEGRASS (POA PALUSTRIS) 25%
- FOX SEDGE (CAREX VULPINOIDEA) 25%
- GREAT BLUE LOBELIA (LOBELIA SIPHILITICA) 1%
- NEW ENGLAND ASTER (ASTER NOVAE-ANGLIAE) 1%
- PATH RUSH (JUNCUS TENUIS) 3%
- CANADA GOLDENROD (SOLIDAGO CANADENSIS) 2%
- SOFT RUSH (JUNCUS EFFUSUS) 5%
- STALK-GRAIN SEDGE (CAREX STIPATA) 4%
- TALL MANNA GRASS (GLYCERIA GRANDIS) 2%
- VIRGINIA WILD RYE (ELYMUS VIRGINICUS) 25%
- WILD BERGAMOT (MONARDA FISTULOSA) 1%
- TO ASSIST IN ESTABLISHMENT AND PROMOTE BIOMASS, THE PLANTING AREA SHOULD ALSO BE SEEDED WITH A NURSE CROP OF COMMON OATS (AVENA SATIVA) OR BUCKWHEAT (FAGOPYRUM ESCULENTU) AT A RATE OF 25 KGS/HA.
- SUBSEQUENTLY, THE NATURAL FEATURE SETBACK IS TO BE PLANTED WITH TREES AND SHRUBS ARE IN GROUPS OF APPROXIMATELY 10 SPECIES, AT A DENSITY OF 2.45 M X 2.45 M (6 M²), AND SHRUBS AT 1 M X 1 M (1 M²) SPACING.
- REPLACEMENT TREE AND SPECIES ARE RECOMMENDED BE NATIVE TO TRCA'S WATERSHED, AND TARGETED TO PROVIDE NATURAL, SELF-SUSTAINING VEGETATION (TORONTO AND REGION CONSERVATION AUTHORITY, 2014).
- THE NATURAL FEATURE SETBACK AND FLOODPLAIN AREA TO BE RESTORED IS APPROXIMATELY 2,000 M² AND THE RECOMMENDED PLANTING SPACING WOULD ALLOW PLANTING OF ABOUT 330 TREES OR 2,000 SHRUBS, OR COMBINATION THEREOF.
- BASED ON THESE EXISTING SITE CONDITIONS, THE RECOMMENDED PLANTING PRESCRIPTION INCLUDES:

NATURAL FEATURE SETBACK TREE PLANTING PRESCRIPTION

Common Name	Scientific Name	Quantity	Size
Trees			
Silver Maple	<i>Acer saccharinum</i>	50	2 - 4 gallon pot
Paper Birch	<i>Betula papyrifera</i>	50	2 - 4 gallon pot
Hackberry	<i>Celtis occidentalis</i>	45	2 - 4 gallon pot
Tamarack	<i>Larix laricina</i>	40	100 - 150 cm (height)
Eastern Cottonwood	<i>Populus deltoides</i>	50	2 - 4 gallon pot
American Elm*	<i>Ulmus americana</i>	45	2 - 4 gallon pot
Shrubs			
Speckled Alder	<i>Alnus rugosa</i>	100	2 gallon pot
Red-osier Dogwood	<i>Cornus sericea</i>	100	2 gallon pot
Chokecherry	<i>Prunus virginiana</i>	50	2 gallon pot
Staghorn Sumac	<i>Rhus typhina</i>	50	2 gallon pot

* Note: Dutch Elm Disease resistant cultivars recommended.

FLOOD/EROSION ACCESS SETBACK

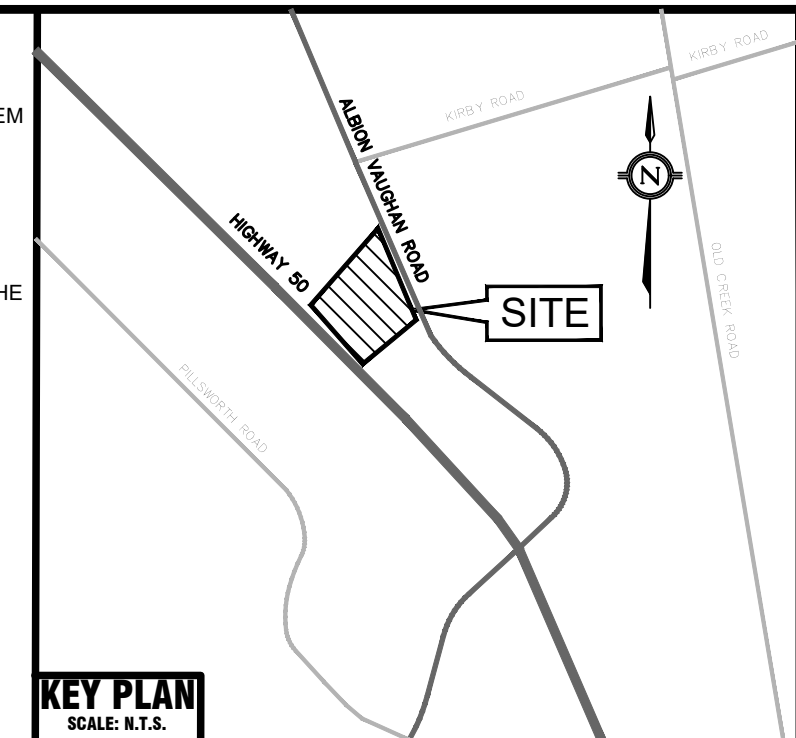
- THE 10 M FLOOD/EROSION ACCESS SETBACK IS TO BE SEEDED AT A RATE OF 25 KGS/HA WITH A NATIVE GRASS SEED MIX THAT ALIGNS WITH THE TRCA SEED MIX GUIDELINES (TORONTO AND REGION CONSERVATION AUTHORITY, 2004). THE RECOMMENDED GRASS SEED MIX INCLUDES:
- CANADA WILD RYE (ELYMUS CANADENSIS) - 20%
- SWITCHGRASS (PANICUM VIRGATUM) - 20%
- FOWL BLUEGRASS (POA PALUSTRIS) - 20%
- BIG BLUESTEM (ANDROPOGON GERARDII) - 10%
- LITTLE BLUESTEM (ANDROPOGON SCOPARIUS) - 10%
- FOX SEDGE (CAREX VULPINOIDEA) - 10%
- SIMILAR TO THE NATURAL FEATURE SETBACK PLANTING AREA, THE 10 M FLOOD/EROSION ACCESS SETBACK SHOULD ALSO BE SEEDED WITH A NURSE CROP OF COMMON OATS OR BUCKWHEAT AT A RATE OF 25 KGS/HA.

TIMING

- PLANTING AND SEEDING SHOULD BE COMPLETED IN THE SPRING OR FALL. THE SPRING SEASON PLANTING WINDOW IS APRIL TO MID-MAY AND THE FALL SEASON WINDOW IS MID-SEPTEMBER TO LATE OCTOBER.
- THE ASSESSMENT OF PLANT STOCK SHOULD BE CONDUCTED UPON DELIVERY TO ENSURE THAT THE MATERIAL CONSISTS OF APPROPRIATE NATIVE SPECIES IN PROPER QUANTITIES.
- SEEDING SHOULD BE COMPLETED IMMEDIATELY AFTER THE PLANTING OF WOODY VEGETATION BUT NOT DURING DROUGHT-PRONE SUMMER MONTHS (TORONTO AND REGION CONSERVATION AUTHORITY, 2004).

TENDING FOR RESTORATION PLANTINGS

- RESTORATION PLANTINGS WILL REQUIRE REGULAR WATERING TO FACILITATE THE ESTABLISHMENT OF YOUNG TREES, WHICH ARE TYPICALLY HIGHLY SUSCEPTIBLE TO WATER STRESS.
- AT A MINIMUM, WATERING SHOULD OCCUR WHEN TREES SHOW SIGNS OF STRESS AND DURING PERIODS OF NATURAL DROUGHT CONDITIONS (E.G. IF THERE IS LESS THAN 25 MM OF RAIN OVER A 30-DAY PERIOD DURING LATE SPRING TO THE END OF SUMMER).



TOWN OF CALEDON
PLANNING
RECEIVED
May 1, 2023

UTILITY NOTES:
THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED BEFORE STARTING WORK. THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE.

BENCHMARK
ELEVATIONS ARE REFERRED TO THE CITY OF BRAMPTON BENCHMARK No. 042010221, BEING A BRASS CAP IN CONCRETE APPROX. 21 m SOUTH OF CENTRELINE OF HADRIAN ROAD AND 11 m EAST OF CENTRELINE OF REGIONAL ROAD 50, IN FRONT OF GAS STATION/COFFEE SHOP, HAVING AN ELEVATION OF 220.967 m.

No.	DATE	ISSUED TO	REVISIONS	D.H.
1	01/25/21	ISSUED TO TRCA		

PROJECT: MULTIPLE RESIDENTIAL CONDO DEVELOPMENT
12148 ALBIN VAUGHAN ROAD, TOWN OF CALEDON

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COORDINATION AUTHORITY: Conservation for The Living City
5 Shoreham Drive, Downsview Ontario M3N 1S4 (416) 661-6600

FILE: PHASE 3: RESTORATION

DESIGN	W.A.	CHECKED	D.H.	CONTRACT No. 17-849
SCALE	1:500			PLAN No. ESC-3
DATE	JANUARY 2021			