Appendix C

Community Value Plan

DERRY ROAD
P. RAIL
HIGHWAY 407
MATCHLINE SEE SECTION
NORTH
EIGHTH LINE
NINTH LINE
TENTH LINE
TRAFALGAR ROAD
STEELES AVENUE
HIGHWAY 407
MATCHLINE SEE SHEET 2
MATCHLINE SEE ABOVE
SWM POND
SWM POND
SWM POND
SWM POND
SWM POND
SWM POND
CHL 015
CHL 016
CHL 017
CHL 014
CHL 033
BHR 036
BHR 016
BHR 015
BHR 032
US
SE
EXISTING STORMWATER PONDS

UNDER STRUCTURE ENHANCEMENTS EXAMPLE IMAGES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND/OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

NORTH

LEGEND:

- PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
- ENHANCED LANDSCAPE PLANTING
- ENHANCED LANDSCAPE PLANTING - LOW GROW
- ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
- REFORESTATION PLANTING
- RURAL BUFFER PLANTING
- WETLAND PLANTING
- RIPARIAN PLANTING
- STORMWATER MANAGEMENT LANDSCAPE PLANTING
- PRELIMINARY DESIGN RIGHT-OF-WAY
- TRANSITWAY RIGHT OF WAY
- WINDSCREEN
- SNOW MITIGATION
- WILDLIFE CROSSING
- MAJOR WATERCOURSE
- DENSE VISUAL VEGETATION SCREEN
- BANK STABILIZATION
- PROPOSED MUNICIPAL TRAIL
- EXISTING MUNICIPAL TRAIL
- CULTURAL HERITAGE PROPERTY BOUNDARY
- TOURISM PROPERTY BOUNDARY
- GREENBELT OUTER BOUNDARY (2017)
- ENVIRONMENTAL POLICY AREA (2020)
- STREETSCAPE ENHANCEMENT
- VALLEY RESTORATION / NODE OF INTEREST
- REGIONAL GATEWAY
- COMMUNITY GATEWAY
- SE POTENTIAL SPECIES ENHANCEMENT
- US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
- TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
- AT TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
- T LOCAL TOURISM
- CHL BHR KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES
- TRANSITWAY (CONCEPTUAL)
- TRANSIT STATION AREA (CONCEPTUAL)

HIGHWAY 413
Planning *with* Vision | Planning *for* People
Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
DERRY ROAD TO HIGHWAY 413 / HWY 401 INTERCHANGE

SCALE: 1:2000
DATE: FEB 2026
DWG 1

MATCHLINE
SEE SHEET 1
CHL 018
HWY 413
BHR 023
BHR 037
TENTH LINE
CHL 046
BHR 253
BHR 036
STEELES AVENUE
SWM POND
CHL 048
CHL 049
5 SIDEROAD
WINSTON CHURCHILL BLVD
BHR 050
US
AT
CHL 047
HWY 413
TS
SE
EMBLETON ROAD
SWM POND
SE
SE
CHL 251
CHL 254
SWM POND
CREDIT RIVER
HWY 413
HERITAGE ROAD
BHR 071
MATCHLINE
SEE SHEET 3
NORTH

REGIONAL GATEWAY FEATURE EXAMPLE IMAGES

GATEWAY FEATURE EXAMPLE IMAGES

TRANSIT STATION EXAMPLE IMAGES

UNDER STRUCTURE ENHANCEMENTS EXAMPLE IMAGES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND/OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERALPROVINCIAL WORKING GROUP.

HABITAT FEATURES MAY BE ADDED TO SUPPORT WILDLIFE CROSSING UNDER BRIDGE, SUCH AS:

ROCK PILE SHELTER

ROOT WAD AND LOG HABITAT

LEGEND:

═	PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
🟩	ENHANCED LANDSCAPE PLANTING
🟩	ENHANCED LANDSCAPE PLANTING - LOW GROW
▨	ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
🟩	REFORESTATION PLANTING
🟧	RURAL BUFFER PLANTING
🟩	WETLAND PLANTING
🟦	RIPARIAN PLANTING
🟪	STORMWATER MANAGEMENT LANDSCAPE PLANTING
- - -	PRELIMINARY DESIGN RIGHT-OF-WAY
—·—·	TRANSITWAY RIGHT OF WAY
◠ ◠	WINDSCREEN
◠ ◠	SNOW MITIGATION
〈〰〉	WILDLIFE CROSSING
〈∿〉	MAJOR WATERCOURSE
▮ ▮ ▮ ▮	DENSE VISUAL VEGETATION SCREEN
— — —	BANK STABILIZATION
— — —	PROPOSED MUNICIPAL TRAIL
	EXISTING MUNICIPAL TRAIL
— — —	CULTURAL HERITAGE PROPERTY BOUNDARY
	TOURISM PROPERTY BOUNDARY
——	GREENBELT OUTER BOUNDARY (2017)
——	ENVIRONMENTAL POLICY AREA (2020)
▮▮▮▮▮	STREETSCAPE ENHANCEMENT
○	VALLEY RESTORATION / NODE OF INTEREST
✳	REGIONAL GATEWAY
✳	COMMUNITY GATEWAY
SE	POTENTIAL SPECIES ENHANCEMENT
US	UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
TS	TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
AT	TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
T	LOCAL TOURISM
CHL BHR	KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES
▬ ▬ ▬	TRANSITWAY (CONCEPTUAL)
▨	TRANSIT STATION AREA (CONCEPTUAL)

HIGHWAY 413
Planning with Vision | Planning for People

Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN

STEELES AVENUE WEST
TO HERITAGE ROAD

SCALE: 1:2000

DATE: FEB 2026

DWG 2

FILENAME: \\na.aecomnet.com\LFS\AMER\Kitchener-CAKCN1\Legacy\CAKCN1FP001\Data\Projects\60315006 GTA West\900_CAD\60347240_GTA WEST 413_Landscape.dwg
PLOTDATE: Feb 11, 2026 - 5:57pm

MATCHLINE
SEE SHEET 2
BOVAIRD DRIVE WEST
HERITAGE ROAD
CN RAIL
WANLESS DRIVE
HWY 413
SWM POND
SWM POND
SWM POND
MAYFIELD ROAD
PROPOSED MTO MAINTENANCE YARD
(15.03 Ha)
HERITAGE ROAD
BHR 073
BHR 072
BHR 075
CHL 076
BHR 071
BHR 087
BHR 088
BHR 089
BHR 080
BHR 092
BHR 082
BHR 081
BHR 067
CHL 083
US
AT
AT

REGIONAL GATEWAY FEATURE EXAMPLE IMAGES

UNDER STRUCTURE ENHANCEMENTS EXAMPLE IMAGES

TRANSIT STATION EXAMPLE IMAGES

TRANSIT STATION EXAMPLE IMAGES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND/OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

NORTH

LEGEND:

- PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
- 🟩 ENHANCED LANDSCAPE PLANTING
- ENHANCED LANDSCAPE PLANTING - LOW GROW
- ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
- 🟩 REFORESTATION PLANTING
- 🟧 RURAL BUFFER PLANTING
- 🟩 WETLAND PLANTING
- 🟦 RIPARIAN PLANTING
- 🟪 STORMWATER MANAGEMENT LANDSCAPE PLANTING
- PRELIMINARY DESIGN RIGHT-OF-WAY
- TRANSITWAY RIGHT OF WAY
- WINDSCREEN
- SNOW MITIGATION
- WILDLIFE CROSSING
- MAJOR WATERCOURSE
- DENSE VISUAL VEGETATION SCREEN
- BANK STABILIZATION
- PROPOSED MUNICIPAL TRAIL
- EXISTING MUNICIPAL TRAIL
- CULTURAL HERITAGE PROPERTY BOUNDARY
- TOURISM PROPERTY BOUNDARY
- GREENBELT OUTER BOUNDARY (2017)
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- ○ VALLEY RESTORATION / NODE OF INTEREST
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- US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
- TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
- AT TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
- T LOCAL TOURISM
- CHL BHR KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

HIGHWAY 413
Planning *with* Vision | Planning *for* People

Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS	COMMUNITY VALUE PLAN BOVAIRD DRIVE WEST TO MAYFIELD ROAD	SCALE: 1:2000 DATE: FEB 2026	DWG 3

MATCHLINE SEE SHEET 3
BHR 093
BHR 094
MISSISSAUGA ROAD
Mississauga Road
BHR 095
COMMERCIAL VEHICLE INSPECTION FACILITY
COMMERCIAL VEHICLE INSPECTION FACILITY
SWM POND
CHL 101
CREDITVIEW ROAD
Creditview Road
CHL 102
SWM POND
OLD SCHOOL ROAD
Old School Road
BHR 114
Chinguacousy Road
RAMP N-W
RAMP W-NS
US
BHR 113
BHR 112
CHL 117
CHL 121
CHL 120
BHR 119
CHL 122
CHL 123
McLaughlin Road
Orangeville-Brampton Railway
CHL 125
NORTH

UNDER STRUCTURE ENHANCEMENTS EXAMPLE IMAGES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND/OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

LEGEND:

- PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
- ENHANCED LANDSCAPE PLANTING
- ENHANCED LANDSCAPE PLANTING - LOW GROW
- ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
- REFORESTATION PLANTING
- RURAL BUFFER PLANTING
- WETLAND PLANTING
- RIPARIAN PLANTING
- STORMWATER MANAGEMENT LANDSCAPE PLANTING
- PRELIMINARY DESIGN RIGHT-OF-WAY
- TRANSITWAY RIGHT OF WAY
- WINDSCREEN
- SNOW MITIGATION
- WILDLIFE CROSSING
- MAJOR WATERCOURSE
- DENSE VISUAL VEGETATION SCREEN
- BANK STABILIZATION
- PROPOSED MUNICIPAL TRAIL
- EXISTING MUNICIPAL TRAIL
- CULTURAL HERITAGE PROPERTY BOUNDARY
- TOURISM PROPERTY BOUNDARY
- GREENBELT OUTER BOUNDARY (2017)
- ENVIRONMENTAL POLICY AREA (2020)
- STREETSCAPE ENHANCEMENT
- ○ VALLEY RESTORATION / NODE OF INTEREST
- REGIONAL GATEWAY
- COMMUNITY GATEWAY
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- US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
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- T LOCAL TOURISM
- CHL BHR KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

HIGHWAY 413
Planning *with* Vision | Planning *for* People

Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN

MISSISSAUGA ROAD
TO MCLAUGHLIN ROAD

SCALE: 1:2000
DATE: FEB 2026
DWG 4

HURONTARIO STREET
KENNEDY ROAD
HEART LAKE ROAD
DIXIE ROAD
BRAMALEA ROAD
OLD SCHOOL ROAD
BHR 126
CHL 125
CHL 132
CHL 137
BHR 150
BHR 149
BHR 148
BHR 155
CHL 253
SE
US
AT
SWM POND
UNDER STRUCTURE ENHANCEMENT EXAMPLE IMAGES
MINOR BRIDGE ENHANCEMENT
POTENTIAL FOREST COMPENSATION PLANTING
POTENTIAL MUNICIPAL ROAD RE-ALIGNMENT
TRANSIT STATION EXAMPLE IMAGES
MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 6
MATCHLINE SEE SHEET 7
NORTH
LEGEND:
PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
ENHANCED LANDSCAPE PLANTING
ENHANCED LANDSCAPE PLANTING - LOW GROW
ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
REFORESTATION PLANTING
RURAL BUFFER PLANTING
WETLAND PLANTING
RIPARIAN PLANTING
STORMWATER MANAGEMENT LANDSCAPE PLANTING
PRELIMINARY DESIGN RIGHT OF WAY
TRANSITWAY RIGHT OF WAY
WINDSCREEN
SNOW MITIGATION
WILDLIFE CROSSING
MAJOR WATERCOURSE
DENSE VISUAL VEGETATION SCREEN
BANK STABILIZATION
PROPOSED MUNICIPAL TRAIL
EXISTING MUNICIPAL TRAIL
CULTURAL HERITAGE PROPERTY BOUNDARY
TOURISM PROPERTY BOUNDARY
GREENBELT OUTER BOUNDARY (2017)
ENVIRONMENTAL POLICY AREA (2020)
STREETSCAPE ENHANCEMENT
NOISE BARRIER
VALLEY RESTORATION / NODE OF INTEREST
REGIONAL GATEWAY
LONDON
COMMUNITY GATEWAY
SE POTENTIAL SPECIES ENHANCEMENT
US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
AT TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
T LOCAL TOURISM
BHR CHL KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

HIGHWAY 413 Planning *with* Vision | Planning *for* People	THE HWY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS	COMMUNITY VALUE PLAN HWY. 413 FROM HURONTARIO STREET TO BRAMALEA ROAD	SCALE: 1:2000	DWG
Ontario Ministry of Transportation			DATE: FEB 2026	5

HEART LAKE ROAD
HEART LAKE ROAD
HEART LAKE ROAD
HIGHWAY 410
HIGHWAY 410
COUNTRYSIDE DRIVE
MAYFIELD ROAD
OLD SCHOOL ROAD
SWM POND
SWM POND
SWM POND
SE
BHR 133
BHR 134
BHR 135
BHR 136
BHR 146
CHL 137
MATCHLINE
SEE SHEET 5
COMMUNITY GATEWAY FEATURE EXAMPLE IMAGES
EAST FALLS
THUNDER BAY
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FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

NORTH

LEGEND:

PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
ENHANCED LANDSCAPE PLANTING
ENHANCED LANDSCAPE PLANTING - LOW GROW
ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
REFORESTATION PLANTING
RURAL BUFFER PLANTING
WETLAND PLANTING
RIPARIAN PLANTING
STORMWATER MANAGEMENT LANDSCAPE PLANTING
PRELIMINARY DESIGN RIGHT OF WAY
TRANSITWAY RIGHT OF WAY
WINDSCREEN
SNOW MITIGATION
WILDLIFE CROSSING
MAJOR WATERCOURSE
DENSE VISUAL VEGETATION SCREEN
BANK STABILIZATION
PROPOSED MUNICIPAL TRAIL
EXISTING MUNICIPAL TRAIL
CULTURAL HERITAGE PROPERTY BOUNDARY
TOURISM PROPERTY BOUNDARY
GREENBELT OUTER BOUNDARY (2017)
ENVIRONMENTAL POLICY AREA (2020)
STREETSCAPE ENHANCEMENT
NOISE BARRIER
VALLEY RESTORATION / NODE OF INTEREST
REGIONAL GATEWAY
COMMUNITY GATEWAY
SE POTENTIAL SPECIES ENHANCEMENT
US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
AT TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
T LOCAL TOURISM
BHR CHL KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

HIGHWAY 413
Planning *with* Vision | Planning *for* People
Ontario Ministry of Transportation

THE HWY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
COUNTRYSIDE DRIVE TO OLD SCHOOL ROAD

SCALE: 1:2000
DATE: FEB 2026
DWG 6

TORBRAM ROAD
MATCHLINE SEE SHEET 5
CENTRAL SECTION
EAST SECTION
SWM POND
SE
TS
OLD SCHOOL ROAD
AIRPORT ROAD
HEALEY ROAD
INNIS LAKE ROAD
CENTREVILLE CREEK ROAD
THE GORE ROAD
WEST HUMBER RIVER
US
AT
T7
T8
BHR 160
BHR 167
BHR 180
BHR 198
CHL 252
FLOW: EPHEMERAL, WARM; INTERMITTENT,WARM WATERCOURSE FISH HABITAT: DIRECT OR SEASONALLY DIRECT FISH HABITAT
FLOW: EPHEMERAL, WARM; INTERMITTENT,WARM WATERCOURSE FISH HABITAT: INDIRECT FISH HABITAT SAR: CONTRIBUTING (REDSIDE DACE)
FLOW: EPHEMERAL, INTERMITTENT,WARM WATERCOURSE FISH HABITAT: INDIRECT FISH HABITAT
FLOW: EPHEMERAL, INTERMITTENT,WARM WATERCOURSE FISH HABITAT: DIRECT OR SEASONALLY DIRECT FISH HABITAT
SCREENING MAY BE REQUIRED. TO BE DESIGNED TO COMPLEMENT EXISTING LANDSCAPE CHARACTER OF CULTURAL SITE
FLOW: EPHEMERAL, INTERMITTENT,WARM WATERCOURSE FISH HABITAT: INDIRECT FISH HABITAT
FLOW: EPHEMERAL, WARM; INTERMITTENT,WARM WATERCOURSE FISH HABITAT: INDIRECT FISH HABITAT
MINOR BRIDGE ENHANCEMENT
PROPOSED MUNICIPAL ROAD REALIGNMENT
POTENTIAL FOR MINOR BRIDGE ENHANCEMENT
TOP OF STRUCTURE ENHANCEMENTS EXAMPLE IMAGES
TRANSIT STATION EXAMPLE IMAGES
UNDER STRUCTURE ENHANCEMENTS EXAMPLE IMAGES
HABITAT FEATURES MAY BE ADDED TO SUPPORT WILDLIFE CROSSING UNDER BRIDGE, SUCH AS:
ROCK PILE SHELTER
ROOT WAD AND LOG HABITAT
NORTH

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

Local Tourism	Site Description
T7	Downey's Farm Market
T8	Kooner Farms

LEGEND:

- PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
- ENHANCED LANDSCAPE PLANTING
- ENHANCED LANDSCAPE PLANTING - LOW GROW
- ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
- REFORESTATION PLANTING
- RURAL BUFFER PLANTING
- WETLAND PLANTING
- RIPARIAN PLANTING
- STORMWATER MANAGEMENT LANDSCAPE PLANTING
- PRELIMINARY DESIGN RIGHT OF WAY
- TRANSITWAY RIGHT OF WAY
- WINDSCREEN
- SNOW MITIGATION
- WILDLIFE CROSSING
- MAJOR WATERCOURSE
- DENSE VISUAL VEGETATION SCREEN
- BANK STABILIZATION
- PROPOSED MUNICIPAL TRAIL
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- TOURISM PROPERTY BOUNDARY
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- ENVIRONMENTAL POLICY AREA (2020)
- STREETSCAPE ENHANCEMENT
- NOISE BARRIER
- VALLEY RESTORATION / NODE OF INTEREST
- REGIONAL GATEWAY
- COMMUNITY GATEWAY
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- US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
- TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
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- BHR CHL KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

PLAN IS PRELIMINARY AND SUBJECT TO CHANGE.

HIGHWAY 413
Planning with Vision | Planning for People

Ontario Ministry of Transportation

THE HWY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN

HWY 413 FROM TORBRAM ROAD TO THE GORE ROAD

SCALE: 1:2000

DATE: FEB 2026

DWG 7

NORTH
MATCHLINE SEE SHEET 7
MATCHLINE SEE SHEET 10
MATCHLINE SEE SHEET 6
THE GORE ROAD
WEST HUMBER RIVER
HUMBER STATION ROAD
COLERAINE DRIVE
MAYFIELD ROAD
HIGHWAY 50
COLD CREEK ROAD
RAINBOW CREEK
HUNTINGTON ROAD
SWM POND
SE
US
TS
AT
BHR
CHL
UNDER STRUCTURE ENHANCEMENTS EXAMPLE IMAGES
UNDER STRUCTURE ENHANCEMENT EXAMPLE IMAGES
REGIONAL GATEWAY FEATURE EXAMPLE IMAGES
TRANSIT STATION EXAMPLE IMAGES
LEGEND:
PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
ENHANCED LANDSCAPE PLANTING
ENHANCED LANDSCAPE PLANTING - LOW GROW
ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
REFORESTATION PLANTING
RURAL BUFFER PLANTING
WETLAND PLANTING
RIPARIAN PLANTING
STORMWATER MANAGEMENT LANDSCAPE PLANTING
PRELIMINARY DESIGN RIGHT OF WAY
TRANSITWAY RIGHT OF WAY
WINDSCREEN
SNOW MITIGATION
WILDLIFE CROSSING
MAJOR WATERCOURSE
DENSE VISUAL VEGETATION SCREEN
BANK STABILIZATION
PROPOSED MUNICIPAL TRAIL
EXISTING MUNICIPAL TRAIL
CULTURAL HERITAGE PROPERTY BOUNDARY
TOURISM PROPERTY BOUNDARY
GREENBELT OUTER BOUNDARY (2017)
ENVIRONMENTAL POLICY AREA (2020)
STREETSCAPE ENHANCEMENT
NOISE BARRIER
VALLEY RESTORATION / NODE OF INTEREST
REGIONAL GATEWAY
COMMUNITY GATEWAY
POTENTIAL SPECIES ENHANCEMENT
UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
LOCAL TOURISM
KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

HIGHWAY 413
Planning *with* Vision | Planning *for* People

Ontario Ministry of Transportation

THE HWY 413 PRELIMINARY
DESIGN AND ASSESSMENT OF
ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
HWY 413 FROM THE GORE ROAD TO
HUNTINGTON ROAD

SCALE:
1:2000
DATE:
FEB 2026

DWG
8

HUNTINGTON ROAD
TRANSITWAY STATION
MAJOR MACKENZIE DRIVE
COMMUNITY GATEWAY FEATURE EXAMPLE IMAGES
THUNDER BAY
EAST FALLS
SWM POND
SWM POND
US
SE
BHR 229
CHL 232
BHR 223
MATCHLINE SEE SHEET 8
REGIONAL GATEWAY FEATURE EXAMPLE IMAGES
County
HUNTINGTON ROAD
McGILLIVRAY ROAD
MAJOR MACKENZIE DRIVE
UNDER STRUCTURE ENHANCEMENT EXAMPLE IMAGES
NORTH

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

LEGEND:

☰	PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
🟩	ENHANCED LANDSCAPE PLANTING
🟩	ENHANCED LANDSCAPE PLANTING - LOW GROW
▨	ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
🟩	REFORESTATION PLANTING
🟧	RURAL BUFFER PLANTING
🟩	WETLAND PLANTING
🟦	RIPARIAN PLANTING
🟪	STORMWATER MANAGEMENT LANDSCAPE PLANTING
- - -	PRELIMINARY DESIGN RIGHT OF WAY
- - -	TRANSITWAY RIGHT OF WAY
◠ ◠	WINDSCREEN
◠ ◠	SNOW MITIGATION
↔	WILDLIFE CROSSING
↔	MAJOR WATERCOURSE
▮▮▮▮	DENSE VISUAL VEGETATION SCREEN
▬ ▬ ▬	BANK STABILIZATION
— — —	PROPOSED MUNICIPAL TRAIL
——	EXISTING MUNICIPAL TRAIL
- - -	CULTURAL HERITAGE PROPERTY BOUNDARY
- - -	TOURISM PROPERTY BOUNDARY
——	GREENBELT OUTER BOUNDARY (2017)
——	ENVIRONMENTAL POLICY AREA (2020)
▮▮▮▮	STREETSCAPE ENHANCEMENT
▬ ▬ ▬	NOISE BARRIER
○	VALLEY RESTORATION / NODE OF INTEREST
✳	REGIONAL GATEWAY
✳	COMMUNITY GATEWAY
SE	POTENTIAL SPECIES ENHANCEMENT
US	UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
TS	TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
AT	TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
T	LOCAL TOURISM
BHR CHL	KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

HIGHWAY 413
Planning *with* Vision | Planning *for* People

Ontario Ministry of Transportation

THE HWY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
HWY 413 FROM NASHVILLE ROAD TO MAJOR MACKENZIE DRIVE

SCALE: 1:2000
DATE: FEB 2026
DWG 9

HUMBER RIVER
HUNTINGTON ROAD
MATCHLINE SEE SHEET 9
BHR 239
BHR 237
BHR 238
CHL 252
TS
US
SE
T9
SWM POND
SWM POND
AT
HIGHWAY 27
BHR 245
BHR 244
SE
US
SE
CHL 243
CHL 243
CHL 243
T10
KIRBY ROAD
KIRBY ROAD
SWM POND
CHL 252
TS
SE
TS
CHL 246
KING VAUGHAN ROAD
KIPLING AVE
BHR 250
SE
SWM POND
SWM POND
MATCHLINE SEE SHEET 11
BHR 252
PINE VALLEY DRIVE
NORTH

TOP OF STRUCTURE ENHANCEMENTS EXAMPLE IMAGES

UNDER STRUCTURE ENHANCEMENT EXAMPLE IMAGES

TRANSIT STATION EXAMPLE IMAGES

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

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- PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
- ENHANCED LANDSCAPE PLANTING
- ENHANCED LANDSCAPE PLANTING - LOW GROW
- ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
- REFORESTATION PLANTING
- RURAL BUFFER PLANTING
- WETLAND PLANTING
- RIPARIAN PLANTING
- STORMWATER MANAGEMENT LANDSCAPE PLANTING
- PRELIMINARY DESIGN RIGHT OF WAY
- TRANSITWAY RIGHT OF WAY
- WINDSCREEN
- SNOW MITIGATION
- WILDLIFE CROSSING
- MAJOR WATERCOURSE
- DENSE VISUAL VEGETATION SCREEN
- BANK STABILIZATION
- PROPOSED MUNICIPAL TRAIL
- EXISTING MUNICIPAL TRAIL
- CULTURAL HERITAGE PROPERTY BOUNDARY
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- COMMUNITY GATEWAY
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- US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
- TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
- AT TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
- T LOCAL TOURISM
- BHR / CHL KNOWN AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPE PROPERTIES

Local Tourism	Site Description
T9	Nashville Conservation
T10	House of Classic Event Space

HIGHWAY 413
Planning with Vision | Planning for People
Ontario Ministry of Transportation

THE HWY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
HWY 413 FROM HUNTINGTON ROAD TO PINE VALLEY DRIVE

SCALE: 1:2000
DATE: FEB 2026
DWG 10

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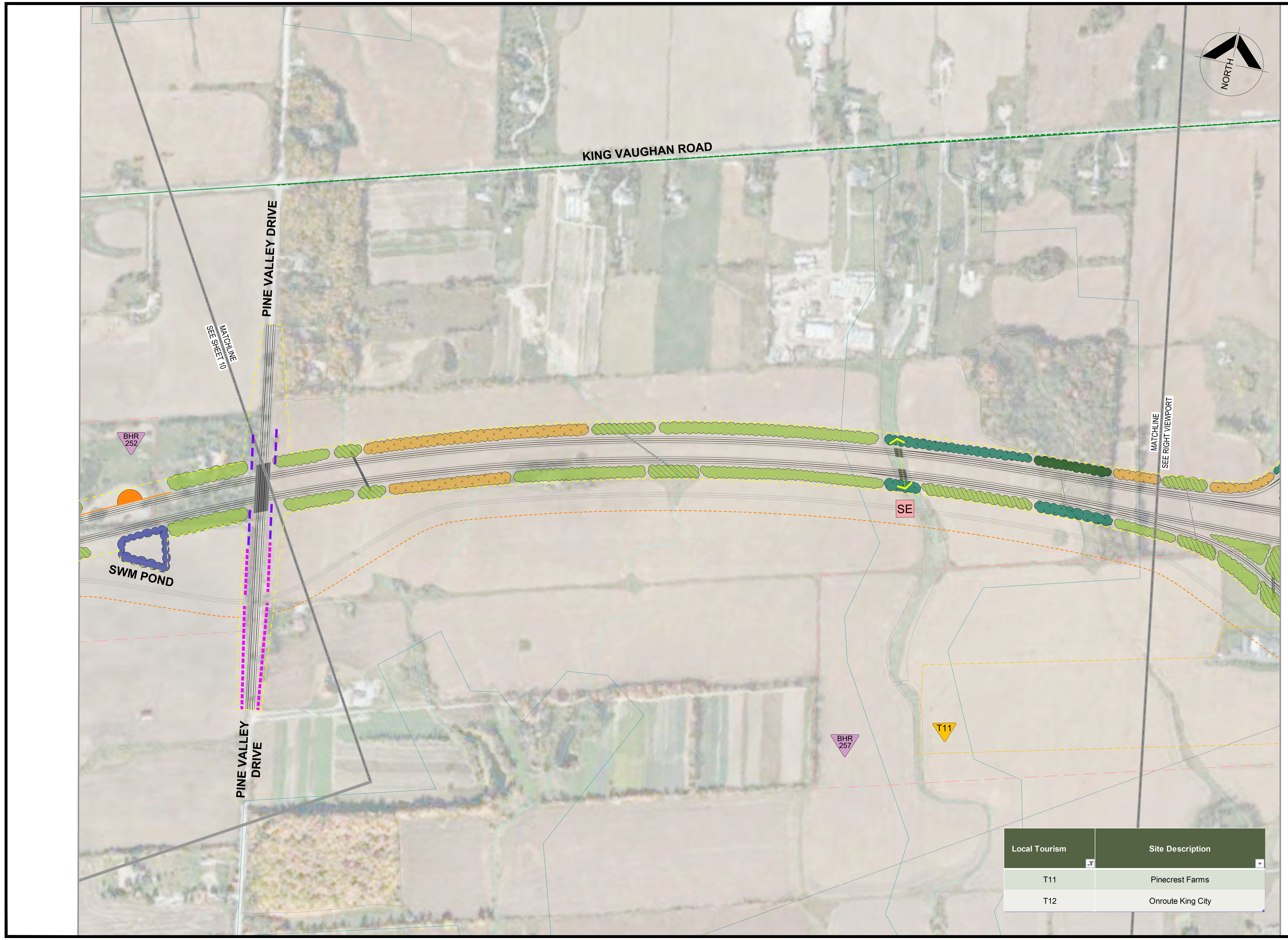
NORTH
KING VAUGHAN ROAD
PINE VALLEY DRIVE
MATCHLINE
SEE SHEET 10
MATCHLINE
SEE RIGHT VIEWPORT
BHR 252
SWM POND
SE
BHR 257
T11
PINE VALLEY DRIVE

Local Tourism	Site Description
T11	Pinecrest Farms
T12	Onroute King City

COMMUNITY GATEWAY FEATURE EXAMPLE IMAGES
EAST FALLS
THUNDER BAY
UNDER STRUCTURE ENHANCEMENT EXAMPLE IMAGES
MATCHLINE
SEE LEFT VIEWPORT
BHR 257
T11
SWM POND
US
WESTON ROAD
TRANSIT STATION EXAMPLE IMAGES
Google
CONCEPTUAL TRANSIT STATION AREA
AT
SE
KIRBY ROAD
WESTON ROAD
KING VAUGHAN ROAD
CHL 252
HIGHWAY 400
HIGHWAY 400
HIGHWAY 400
T12
NORTH

FOR THE PURPOSES OF THE LANDSCAPE COMMUNITY VALUE PLANS, AREAS OF PROPOSED PLANTINGS ARE ILLUSTRATED WITHIN THE HIGHWAY 413 RIGHT-OF-WAY (ROW). THESE AREAS MAY ALSO BE USED AS OPPORTUNITIES FOR ENVIRONMENTAL MITIGATION AND / OR COMPENSATION, AS WELL AS TO MEET ENVIRONMENTAL PERMITTING REQUIREMENTS LOCATED WITHIN AND BEYOND THE HIGHWAY 413 ROW, AS REQUIRED. THESE OPPORTUNITIES WILL BE FURTHER EVALUATED AND DEVELOPED DURING DETAIL DESIGN, IN CONSULTATION WITH INDIGENOUS COMMUNITIES, AND REGULATORY AGENCIES INCLUDING MEMBERS OF THE BILATERAL FEDERAL-PROVINCIAL WORKING GROUP.

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- ☰ PRELIMINARY HIGHWAY AND TRANSIT CORRIDOR
- 🟩 ENHANCED LANDSCAPE PLANTING
- 🟩 ENHANCED LANDSCAPE PLANTING - LOW GROW
- 🟩 ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL
- 🟩 REFORESTATION PLANTING
- 🟧 RURAL BUFFER PLANTING
- 🟩 WETLAND PLANTING
- 🟦 RIPARIAN PLANTING
- 🟪 STORMWATER MANAGEMENT LANDSCAPE PLANTING
- – – PRELIMINARY DESIGN RIGHT OF WAY
- – – TRANSITWAY RIGHT OF WAY
- ◠ WINDSCREEN
- ◠ SNOW MITIGATION
- ↔ WILDLIFE CROSSING
- ↔ MAJOR WATERCOURSE
- ▮▮▮▮ DENSE VISUAL VEGETATION SCREEN
- ▬ ▬ BANK STABILIZATION
- – – PROPOSED MUNICIPAL TRAIL
- ― EXISTING MUNICIPAL TRAIL
- – – CULTURAL HERITAGE PROPERTY BOUNDARY
- – – TOURISM PROPERTY BOUNDARY
- ― GREENBELT OUTER BOUNDARY (2017)
- ― ENVIRONMENTAL POLICY AREA (2020)
- ▪▪▪▪ STREETSCAPE ENHANCEMENT
- ▬ ▬ NOISE BARRIER
- ○ VALLEY RESTORATION / NODE OF INTEREST
- ✹ REGIONAL GATEWAY
- ✹ COMMUNITY GATEWAY
- SE POTENTIAL SPECIES ENHANCEMENT
- US UNDER STRUCTURE TREATMENTS (VISIBLE DRIVING UNDER BRIDGE)
- TS TOP OF STRUCTURE TREATMENTS (VISIBLE DRIVING OVER BRIDGE)
- AT TRANSIT STATION ARCHITECTURAL TREATMENT *TRANSIT STATION LOCATIONS TO BE CONFIRMED
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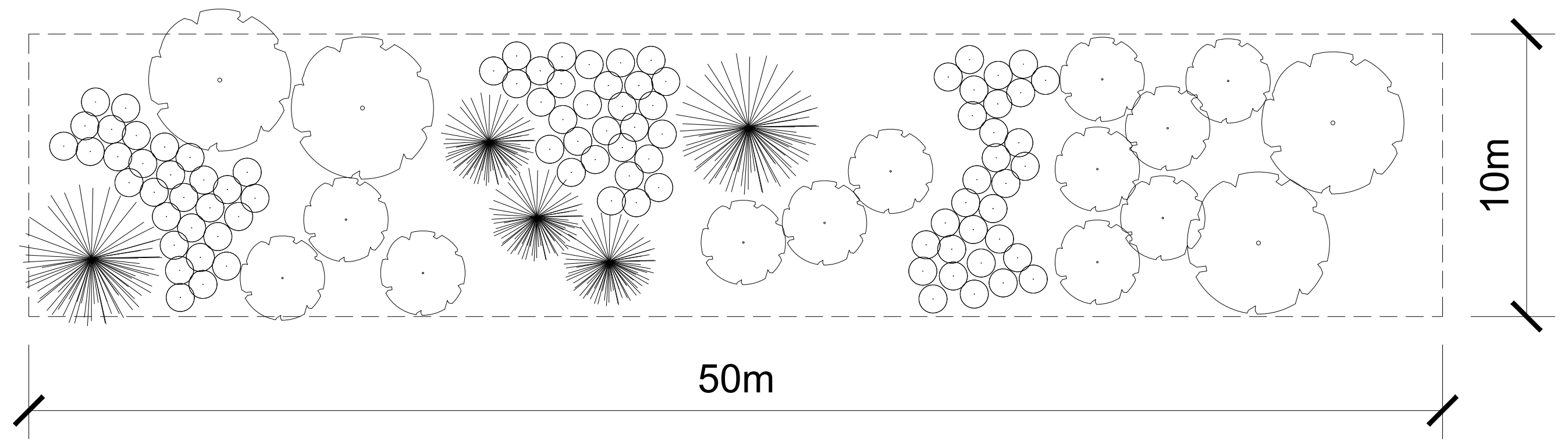
HIGHWAY 413
Planning *with* Vision | Planning *for* People

Ontario Ministry of Transportation

THE HWY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
HWY 413 FROM PINE VALLEY DRIVE TO HWY 400

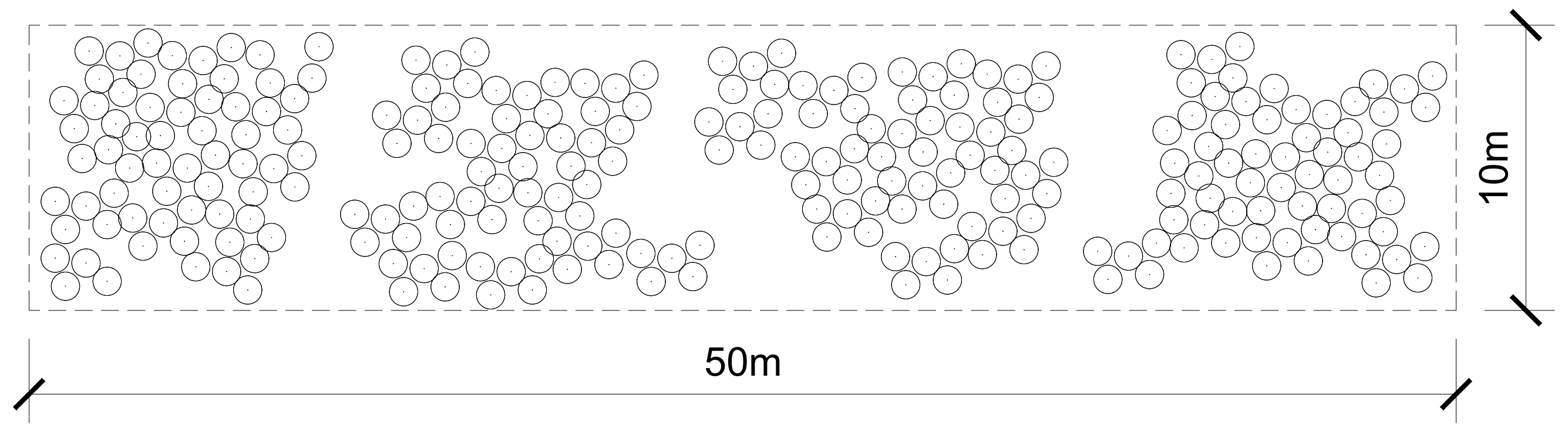
SCALE: 1:2000
DATE: FEB 2026
DWG 11



SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	DECIDUOUS TREE	50-60mm cal.	4	5.0m O.C.
✳	CONIFEROUS TREE	50-60mm cal.	2	5.0m O.C.
○	DECIDUOUS WHIPS	150cm ht.	12	3.0m O.C.
✳	CONIFEROUS WHIPS	150cm ht.	3	3.0m O.C.
○	SHRUB	45cm-70cm ht.	90	1.0m O.C.

1
D1
ENHANCED LANDSCAPE PLANTING 🟩

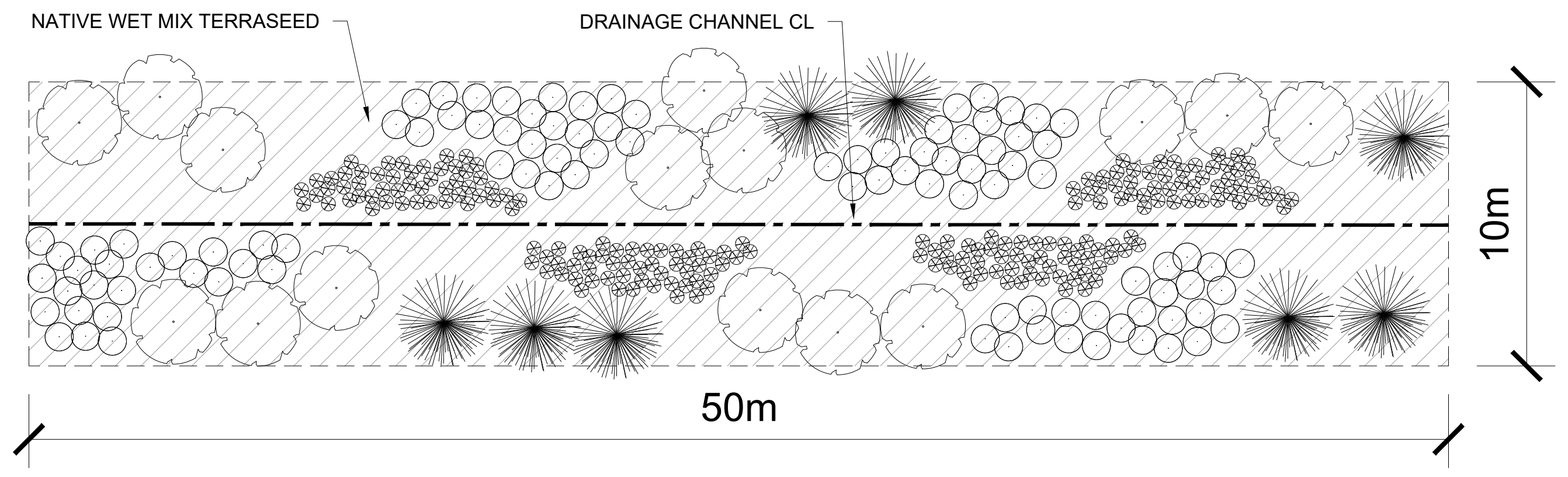
NTS



SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	SHRUB	45cm-70cm ht.	260	0.5m -1.0m O.C.

2
D1
ENHANCED LANDSCAPE PLANTING - LOW GROW 🟩

NTS

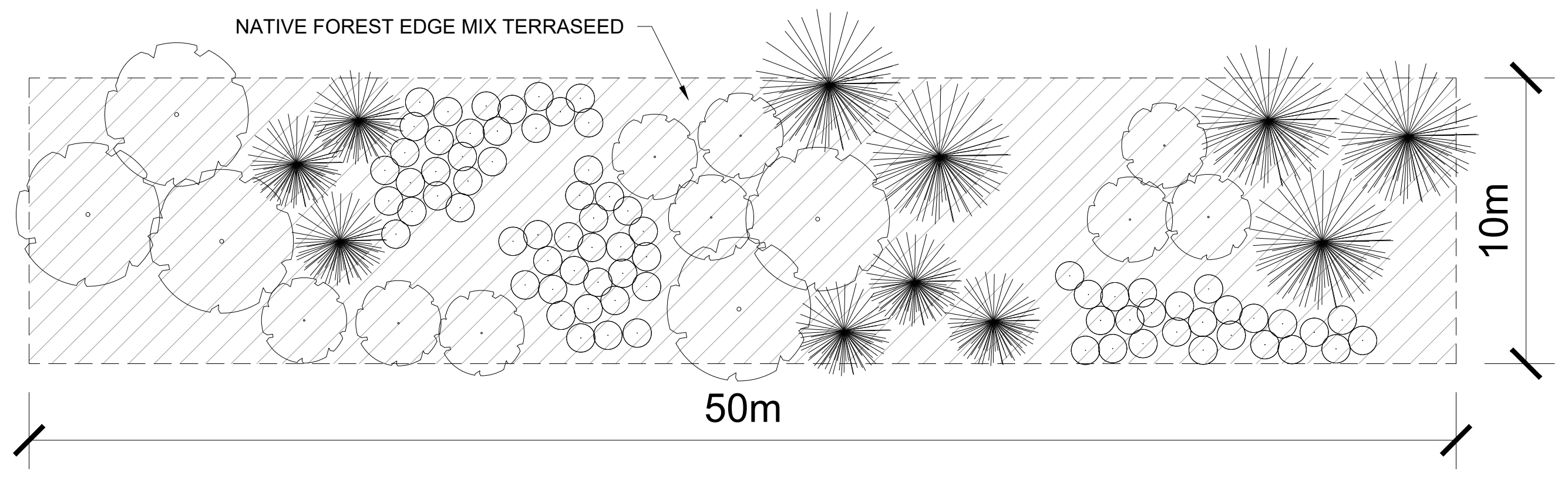

NATIVE WET MIX TERRASEED
DRAINAGE CHANNEL CL
10m
50m

PER 500m², 1 unit

SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	DECIDUOUS WHIPS	150cm ht.	15	3.0m O.C.
✳	CONIFEROUS WHIPS	150cm ht.	8	3.0m O.C.
○	SHRUB	45cm-70cm ht.	100	1.0m O.C.
⊗	LIVE STAKE	N/A	200	0.50m O.C.

3
D1
ENHANCED LANDSCAPE PLANTING - DRAINAGE CHANNEL 🟩

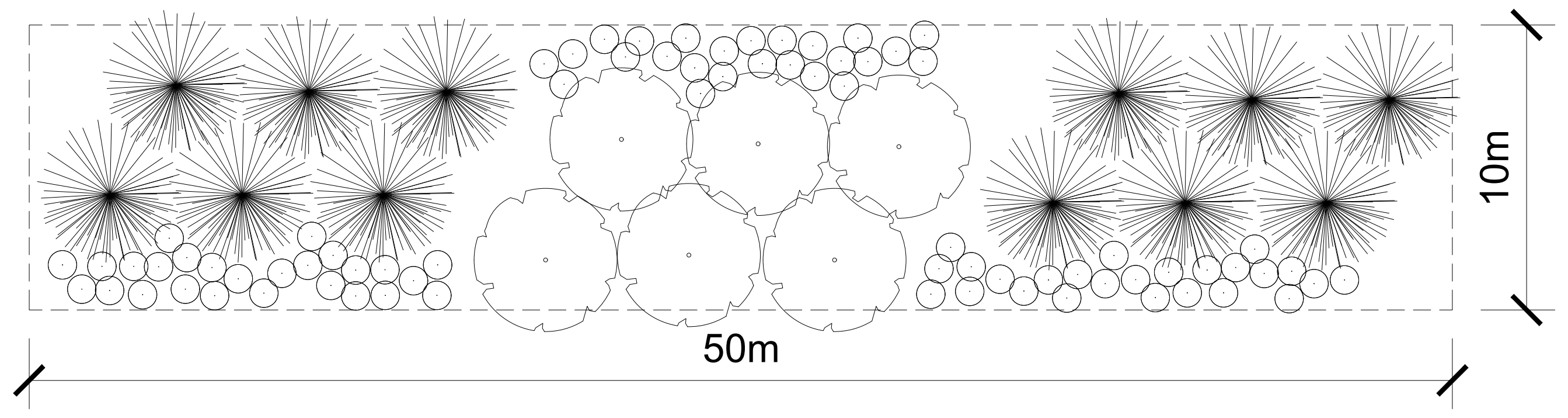
NTS


NATIVE FOREST EDGE MIX TERRASEED
10m
50m

SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	DECIDUOUS TREE	50-60mm cal.	5	5.0m O.C.
✳	CONIFEROUS TREE	50-60mm cal.	5	5.0m O.C.
○	DECIDUOUS WHIPS	150cm ht.	9	3.0m O.C.
✳	CONIFEROUS WHIPS	150cm ht.	6	3.0m O.C.
○	SHRUB	45cm-70cm ht.	75	1.0m O.C.

4
D1
REFORESTATION PLANTING 🟩

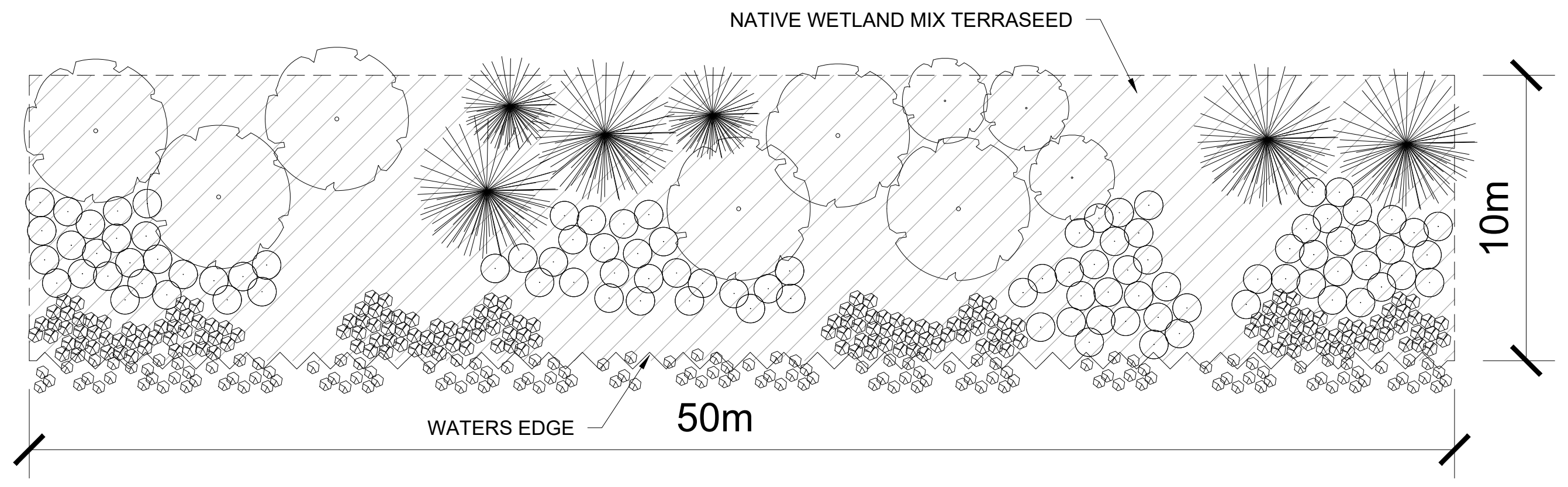
NTS



SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	DECIDUOUS TREE	50-60mm cal.	5	5.0m O.C.
✳	CONIFEROUS TREE	50-60mm cal.	5	5.0m O.C.
○	SHRUB	45cm-70cm ht.	75	1.0m O.C.

5
D1
RURAL BUFFER PLANTING 🟧

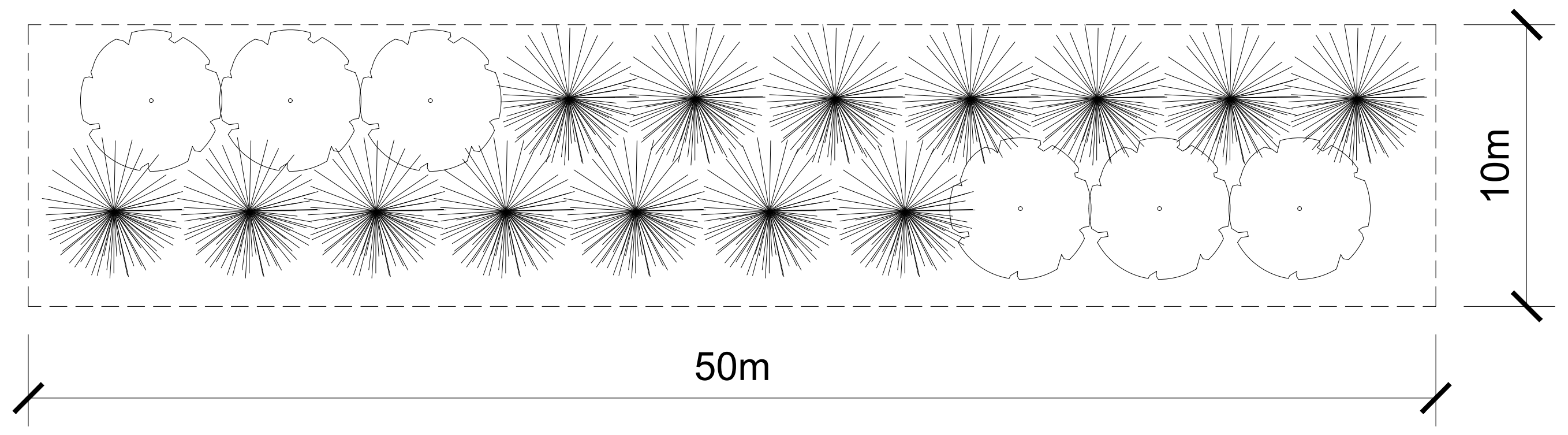
NTS


NATIVE WETLAND MIX TERRASEED
WATERS EDGE
10m
50m

SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	DECIDUOUS TREE	50-60mm cal.	6	5.0m O.C.
✳	CONIFEROUS TREE	50-60mm cal.	4	5.0m O.C.
○	DECIDUOUS WHIPS	150cm ht.	3	3.0m O.C.
✳	CONIFEROUS WHIPS	150cm ht.	2	3.0m O.C.
○	SHRUB	45cm-70cm ht.	100	1.0m O.C.
⊗	EMERGENTS	PLUG	200	0.50m O.C.
⊗	SUBEMERGENTS & FLOATING WATER AQUATICS	PLUG	200	0.50m O.C.

6
D1
WETLAND PLANTING 🟩

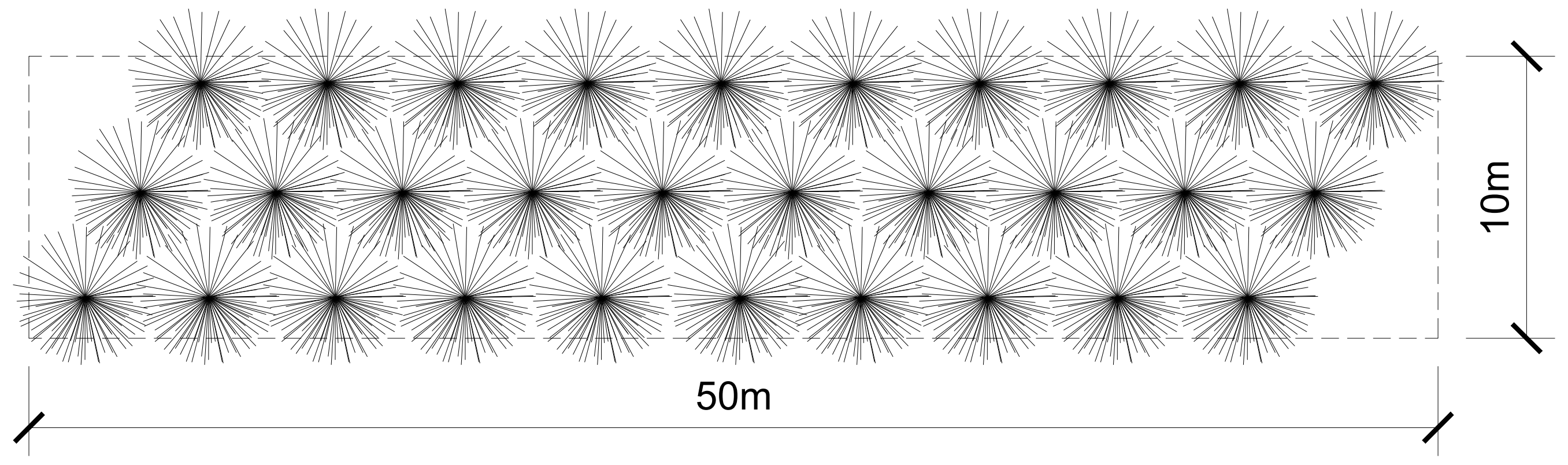
NTS



SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	DECIDUOUS TREE	50-60mm cal.	6	5.0m O.C.
✳	CONIFEROUS TREE	50-60mm cal.	14	5.0m O.C.

7
D1
WINDSCREEN PLANTING

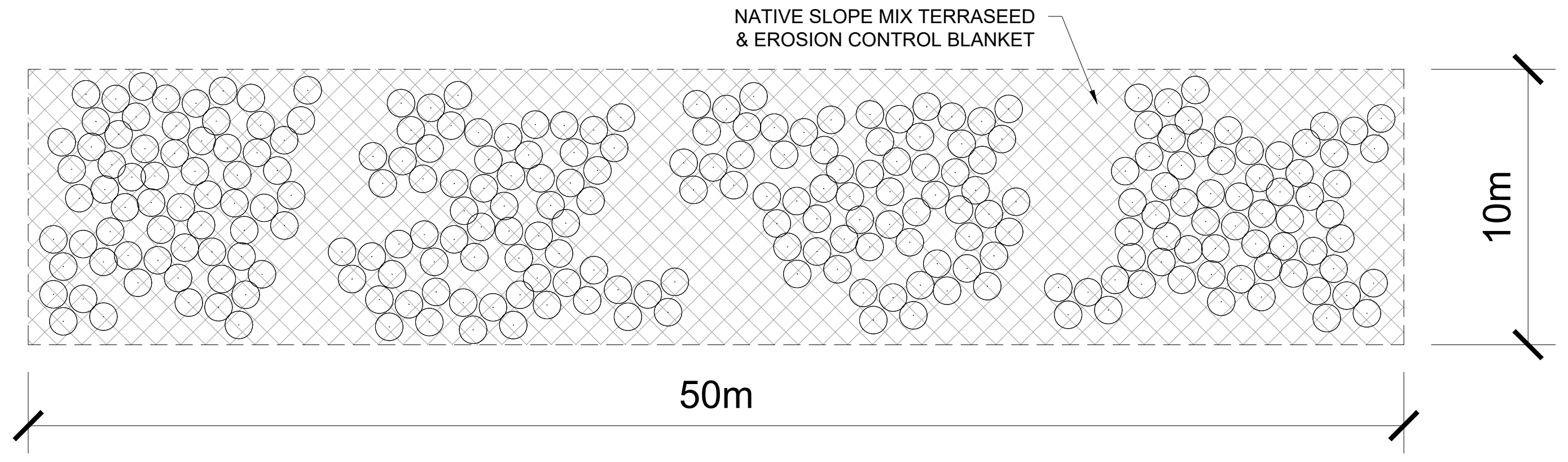
NTS



SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
✳	CONIFEROUS TREE	50-60mm cal.	30	5.0m O.C.

8
D1
SNOW MITIGATION PLANTING

NTS


NATIVE SLOPE MIX TERRASEED
& EROSION CONTROL BLANKET
10m
50m

SYMBOL	TYPE	SIZE	QTY	SPACING (MIN)
○	SHRUB	45cm-70cm ht.	260	0.5m -1.0m O.C.

9
D1
BANK STABILIZATION PLANTING

NTS

HIGHWAY 413
Planning *with* Vision | Planning *for* People

Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY
DESIGN AND ASSESSMENT OF
ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN
LANDSCAPE COMPOSITION
DETAILS

SCALE:
NTS

DATE:
FEB 2026

DWG
D1

FILENAME: C:\Users\CAMH07~1\AppData\Local\Temp\AcPublish_12988\Hwy 413 CVP - Details.dwg
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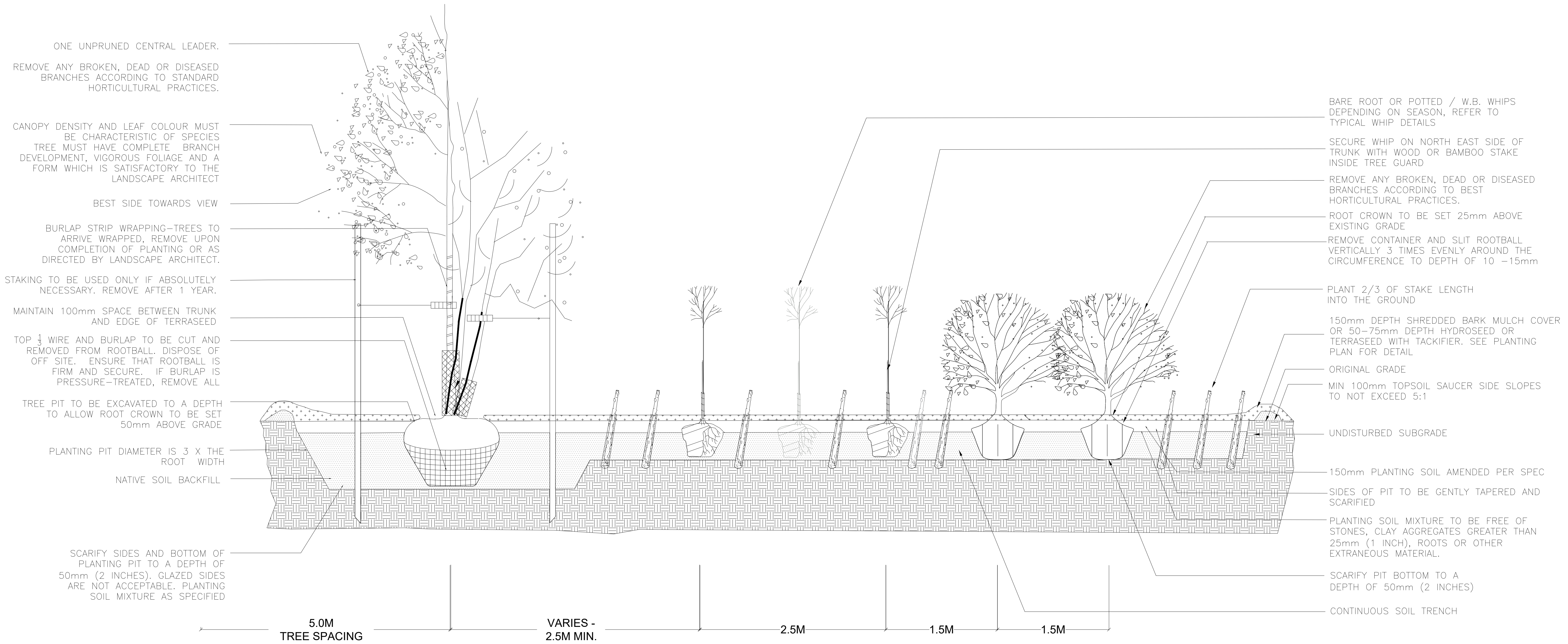
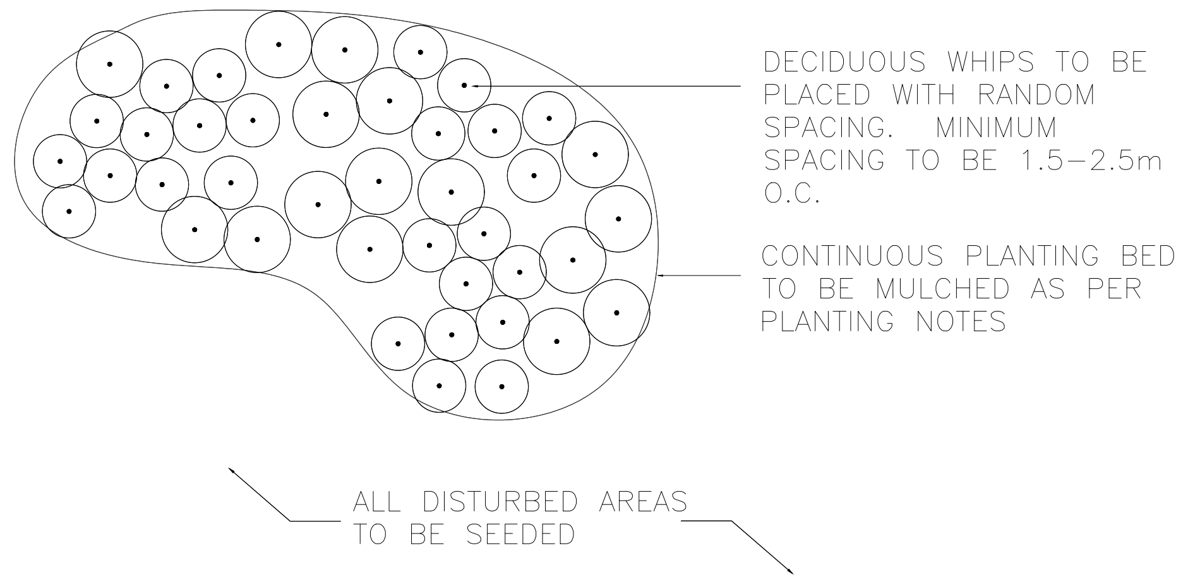

ONE UNPRUNED CENTRAL LEADER.
REMOVE ANY BROKEN, DEAD OR DISEASED BRANCHES ACCORDING TO STANDARD HORTICULTURAL PRACTICES.
CANOPY DENSITY AND LEAF COLOUR MUST BE CHARACTERISTIC OF SPECIES TREE MUST HAVE COMPLETE BRANCH DEVELOPMENT, VIGOROUS FOLIAGE AND A FORM WHICH IS SATISFACTORY TO THE LANDSCAPE ARCHITECT
BEST SIDE TOWARDS VIEW
BURLAP STRIP WRAPPING—TREES TO ARRIVE WRAPPED, REMOVE UPON COMPLETION OF PLANTING OR AS DIRECTED BY LANDSCAPE ARCHITECT.
STAKING TO BE USED ONLY IF ABSOLUTELY NECESSARY. REMOVE AFTER 1 YEAR.
MAINTAIN 100mm SPACE BETWEEN TRUNK AND EDGE OF TERRASEED
TOP 1/3 WIRE AND BURLAP TO BE CUT AND REMOVED FROM ROOTBALL. DISPOSE OF OFF SITE. ENSURE THAT ROOTBALL IS FIRM AND SECURE. IF BURLAP IS PRESSURE—TREATED, REMOVE ALL
TREE PIT TO BE EXCAVATED TO A DEPTH TO ALLOW ROOT CROWN TO BE SET 50mm ABOVE GRADE
PLANTING PIT DIAMETER IS 3 X THE ROOT WIDTH
NATIVE SOIL BACKFILL
SCARIFY SIDES AND BOTTOM OF PLANTING PIT TO A DEPTH OF 50mm (2 INCHES). GLAZED SIDES ARE NOT ACCEPTABLE. PLANTING SOIL MIXTURE AS SPECIFIED
BARE ROOT OR POTTED / W.B. WHIPS DEPENDING ON SEASON, REFER TO TYPICAL WHIP DETAILS
SECURE WHIP ON NORTH EAST SIDE OF TRUNK WITH WOOD OR BAMBOO STAKE INSIDE TREE GUARD
REMOVE ANY BROKEN, DEAD OR DISEASED BRANCHES ACCORDING TO BEST HORTICULTURAL PRACTICES.
ROOT CROWN TO BE SET 25mm ABOVE EXISTING GRADE
REMOVE CONTAINER AND SLIT ROOTBALL VERTICALLY 3 TIMES EVENLY AROUND THE CIRCUMFERENCE TO DEPTH OF 10 –15mm
PLANT 2/3 OF STAKE LENGTH INTO THE GROUND
150mm DEPTH SHREDDED BARK MULCH COVER OR 50–75mm DEPTH HYDROSEED OR TERRASEED WITH TACKIFIER. SEE PLANTING PLAN FOR DETAIL
ORIGINAL GRADE
MIN 100mm TOPSOIL SAUCER SIDE SLOPES TO NOT EXCEED 5:1
UNDISTURBED SUBGRADE
150mm PLANTING SOIL AMENDED PER SPEC
SIDES OF PIT TO BE GENTLY TAPERED AND SCARIFIED
PLANTING SOIL MIXTURE TO BE FREE OF STONES, CLAY AGGREGATES GREATER THAN 25mm (1 INCH), ROOTS OR OTHER EXTRANEOUS MATERIAL.
SCARIFY PIT BOTTOM TO A DEPTH OF 50mm (2 INCHES)
CONTINUOUS SOIL TRENCH
5.0M
TREE SPACING
VARIES -
2.5M MIN.
2.5M
1.5M
1.5M

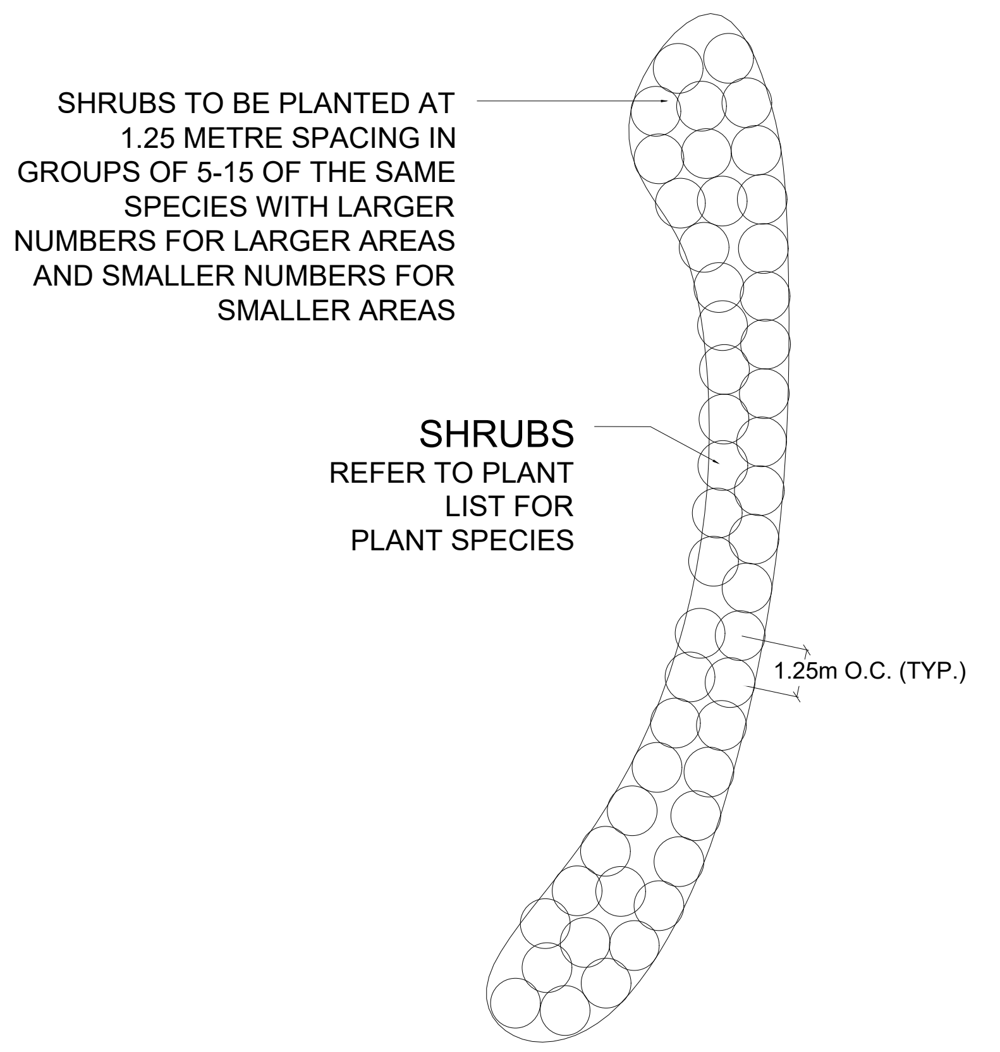
NOTES

1. KEEP ROOTBALLS EVENLY MOIST PRIOR TO PLANTING. HEEL IN WITH SOIL OR MULCH IF TO REMAIN ON SITE MORE THAN THREE HOURS. COVER ANY LEAFED–OUT PLANT STOCK WHILE IN TRANSIT OR TEMPORARY STORAGE.
2. ALL ROOT BALLS ARE TO BE SCARIFIED PRIOR TO SETTING IN GROUND.
3. PLANT MATERIAL SHALL BE SET PLUMB IN THE CENTRE OF THE PIT AND IN A VERTICAL POSITION IN THE SAME RELATION TO GRADE AS ORIGINALLY GROWN. SITUATE SHRUBS IN PLANTING PIT SO THAT BEST PLANT SIDE IS TOWARD VIEW.
3. LIGHTLY TAMP SOIL WHEN BACKFILLING TO ELIMINATE AIR POCKETS AND PREVENT SETTLING.
4. IN AREAS OF HEAVILY COMPACTED SOILS, MAXIMUM OF $\frac{1}{3}$ OF PLANTING BED DEPTH CAN BE ABOVE GRADE.
5. INSTALL RODENT CONTROL MEASURES AS SPECIFIED AND WATER PLANT MATERIAL IMMEDIATELY FOLLOWING PLANTING TO SATURATE GROUND TO ROOT DEPTH.
6. HEAVILY SHEARED STOCK WILL BE REJECTED.
7. ALL PLANTING CONTAINERS INCLUDING FIBRE POTS ARE TO BE REMOVED AND DISPOSED OF OFF SITE.

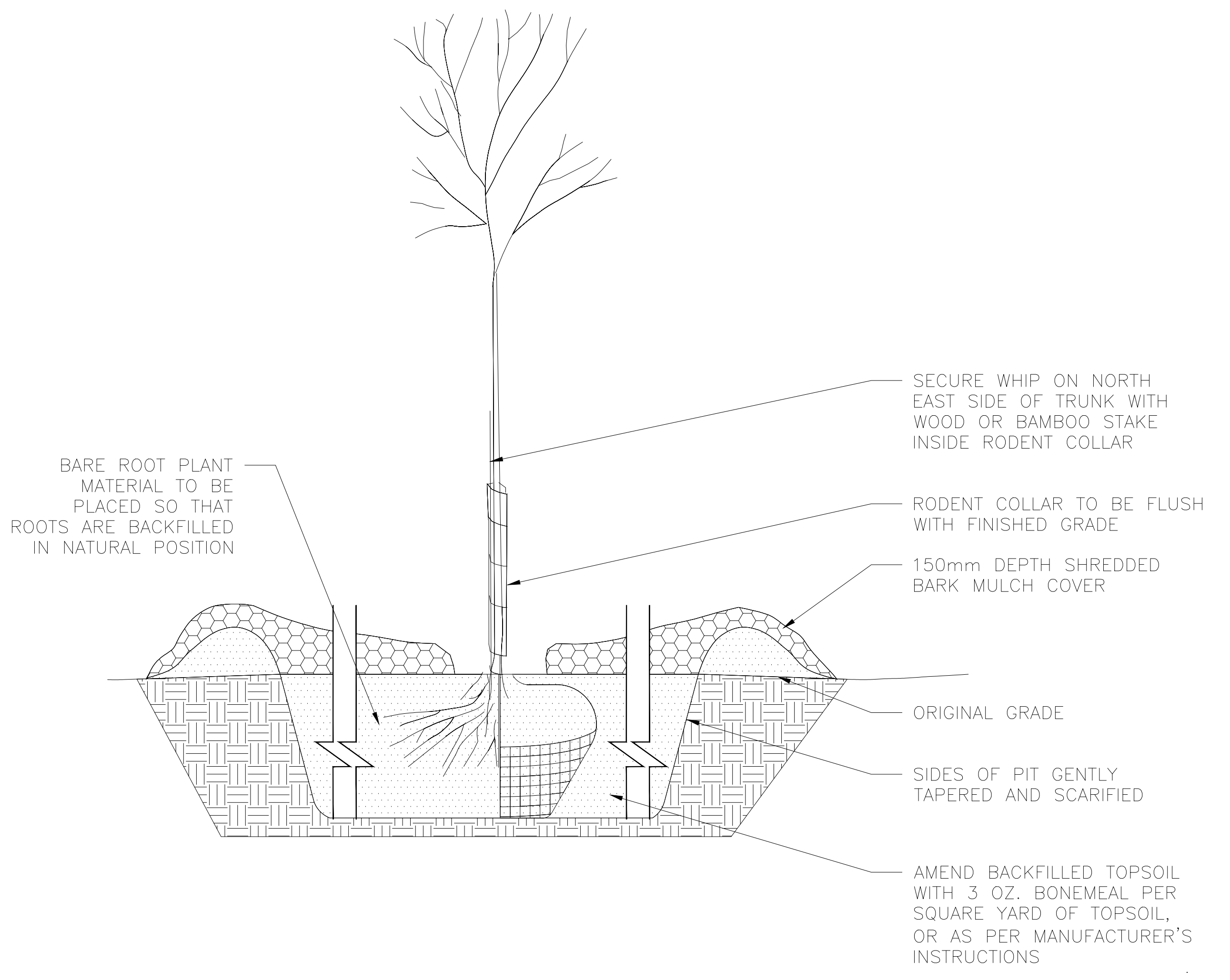
1
D2
NATURALIZED PLANTING IN CONTINUOUS BED, TYP.
NTS


DECIDUOUS WHIPS TO BE PLACED WITH RANDOM SPACING. MINIMUM SPACING TO BE 1.5–2.5m O.C.
CONTINUOUS PLANTING BED TO BE MULCHED AS PER PLANTING NOTES
ALL DISTURBED AREAS TO BE SEEDED

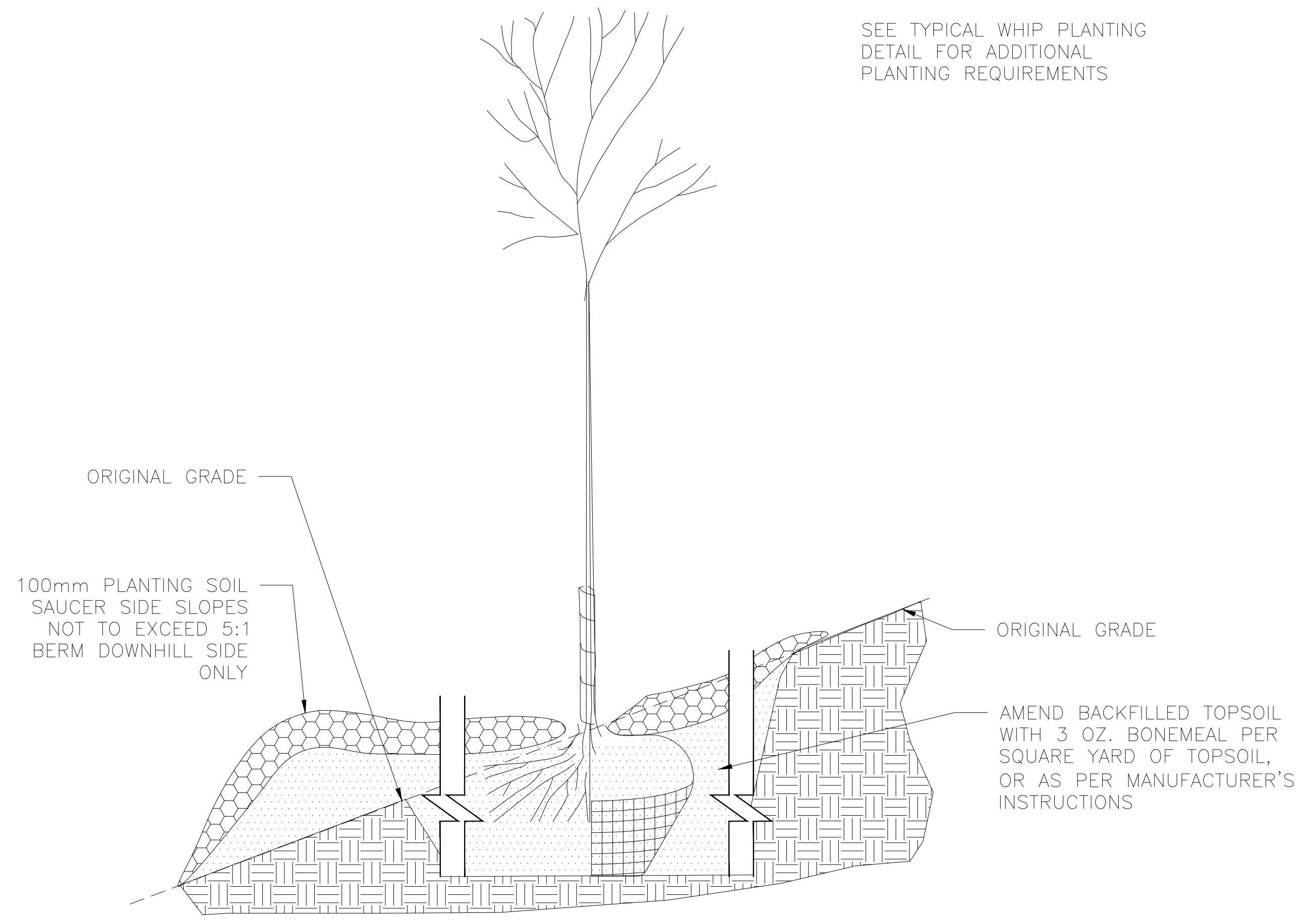
2
D2
WHIP LAYOUT, TYP.
NTS


SHRUBS TO BE PLANTED AT 1.25 METRE SPACING IN GROUPS OF 5-15 OF THE SAME SPECIES WITH LARGER NUMBERS FOR LARGER AREAS AND SMALLER NUMBERS FOR SMALLER AREAS
SHRUBS
REFER TO PLANT LIST FOR PLANT SPECIES
1.25m O.C. (TYP.)

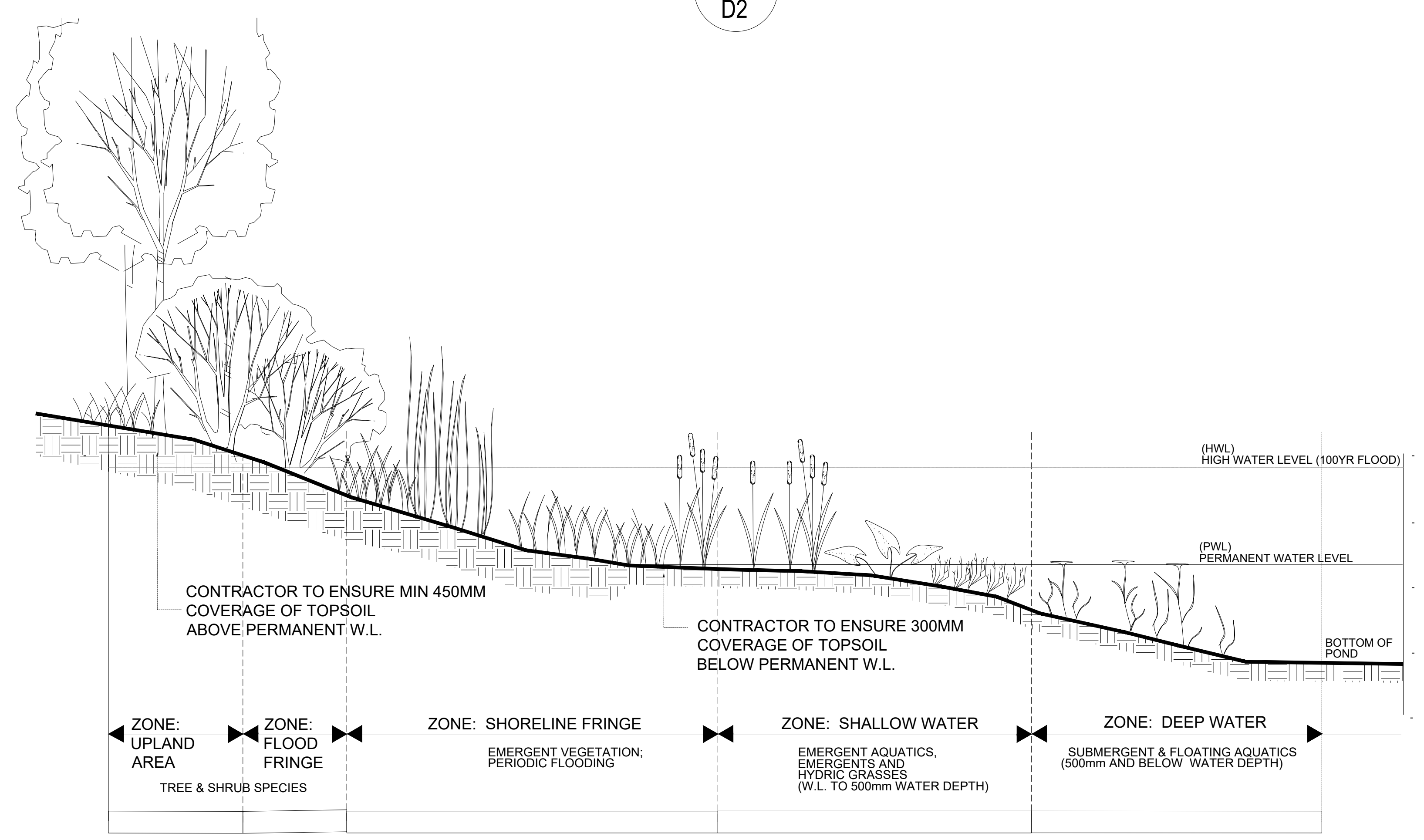
3
D2
SHRUB PLANTING LAYOUT, TYP.
NTS


SECURE WHIP ON NORTH EAST SIDE OF TRUNK WITH WOOD OR BAMBOO STAKE INSIDE RODENT COLLAR
BARE ROOT PLANT MATERIAL TO BE PLACED SO THAT ROOTS ARE BACKFILLED IN NATURAL POSITION
RODENT COLLAR TO BE FLUSH WITH FINISHED GRADE
150mm DEPTH SHREDDED BARK MULCH COVER
ORIGINAL GRADE
SIDES OF PIT GENTLY TAPERED AND SCARIFIED
AMEND BACKFILLED TOPSOIL WITH 3 OZ. BONEMEAL PER SQUARE YARD OF TOPSOIL, OR AS PER MANUFACTURER'S INSTRUCTIONS

4
D2
BARE ROOT / PLOTTED WHIP PLANTING, TYP.
NTS


SEE TYPICAL WHIP PLANTING DETAIL FOR ADDITIONAL PLANTING REQUIREMENTS
ORIGINAL GRADE
100mm PLANTING SOIL SAUCER SIDE SLOPES NOT TO EXCEED 5:1 BERM DOWNHILL SIDE ONLY
ORIGINAL GRADE
AMEND BACKFILLED TOPSOIL WITH 3 OZ. BONEMEAL PER SQUARE YARD OF TOPSOIL, OR AS PER MANUFACTURER'S INSTRUCTIONS

5
D2
WHIP PLANTING ON STEEP SLOPE, TYP.
NTS


(HWL)
HIGH WATER LEVEL (100YR FLOOD)
(PWL)
PERMANENT WATER LEVEL
BOTTOM OF POND
CONTRACTOR TO ENSURE MIN 450MM COVERAGE OF TOPSOIL ABOVE PERMANENT W.L.
CONTRACTOR TO ENSURE 300MM COVERAGE OF TOPSOIL BELOW PERMANENT W.L.
ZONE: UPLAND AREA
ZONE: FLOOD FRINGE
TREE & SHRUB SPECIES
ZONE: SHORELINE FRINGE
EMERGENT VEGETATION; PERIODIC FLOODING
ZONE: SHALLOW WATER
EMERGENT AQUATICS, EMERGENTS AND HYDRIC GRASSES (W.L. TO 500mm WATER DEPTH)
ZONE: DEEP WATER
SUBMERGENT & FLOATING AQUATICS (500mm AND BELOW WATER DEPTH)

6
D2
PLANTING ZONES AT SWM POND, TYP.
NTS

HIGHWAY 413
Planning with Vision | Planning for People

Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY
DESIGN AND ASSESSMENT OF
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COMMUNITY VALUE PLAN
LANDSCAPE COMPOSITION
DETAILS

SCALE:
NTS
DATE:
FEB 2026

DWG
D2

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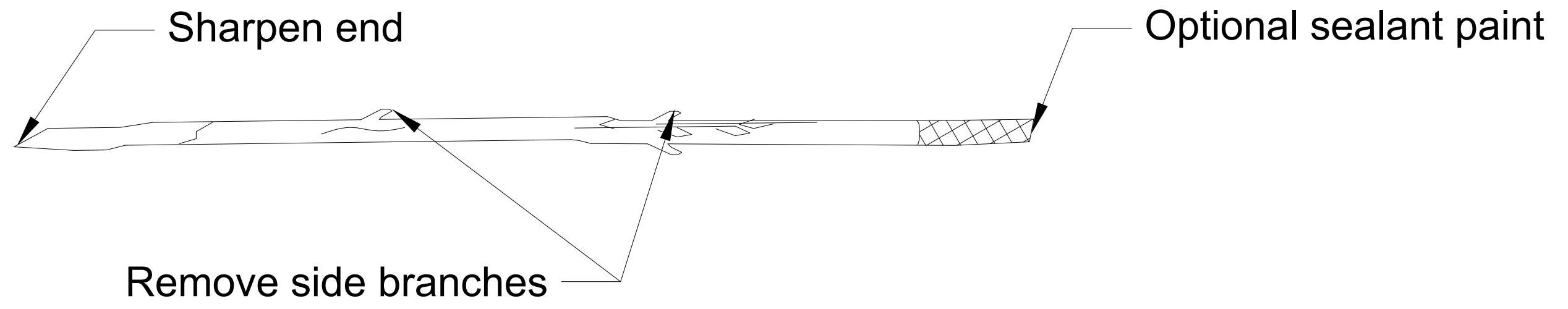
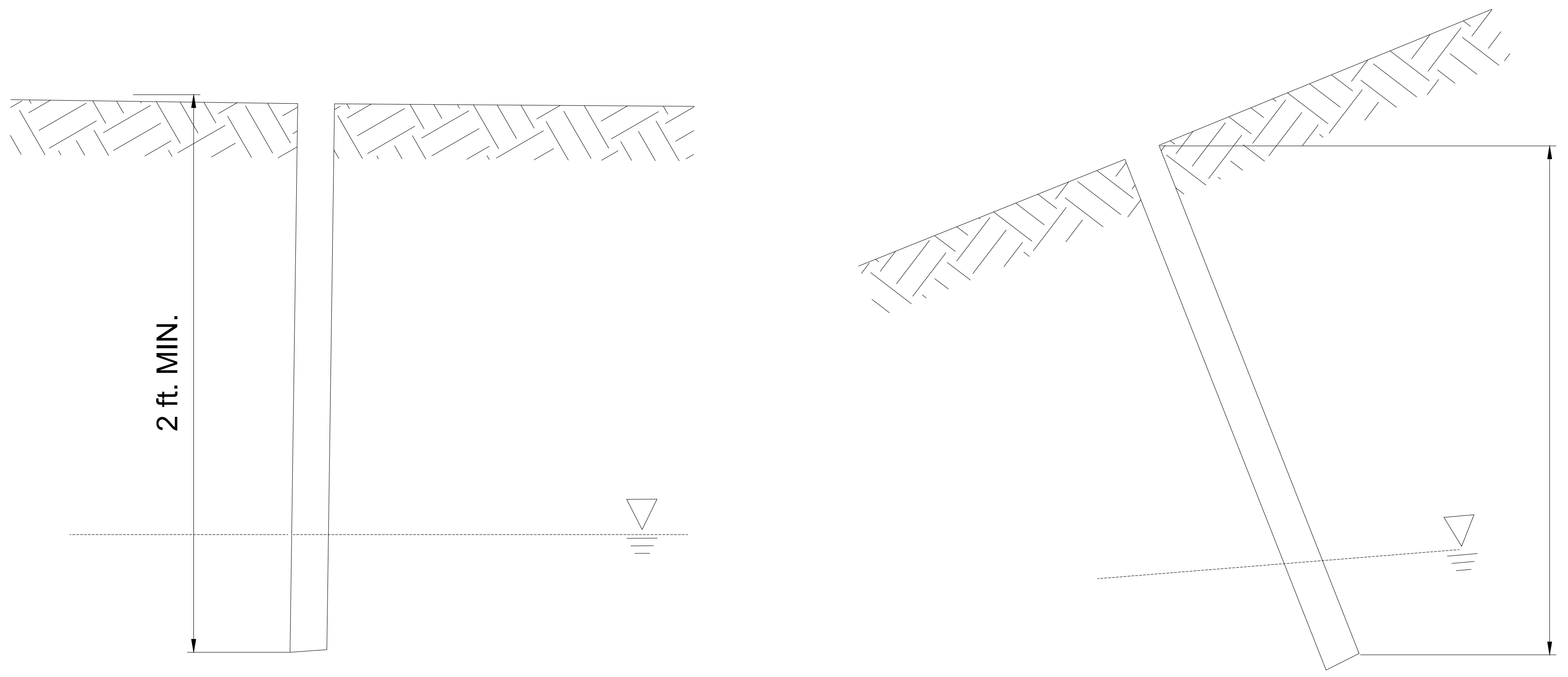
PLOTDATE: Feb 04, 2026 – 2:00pm


Sharpen end
Optional sealant paint
Remove side branches

STEP 1

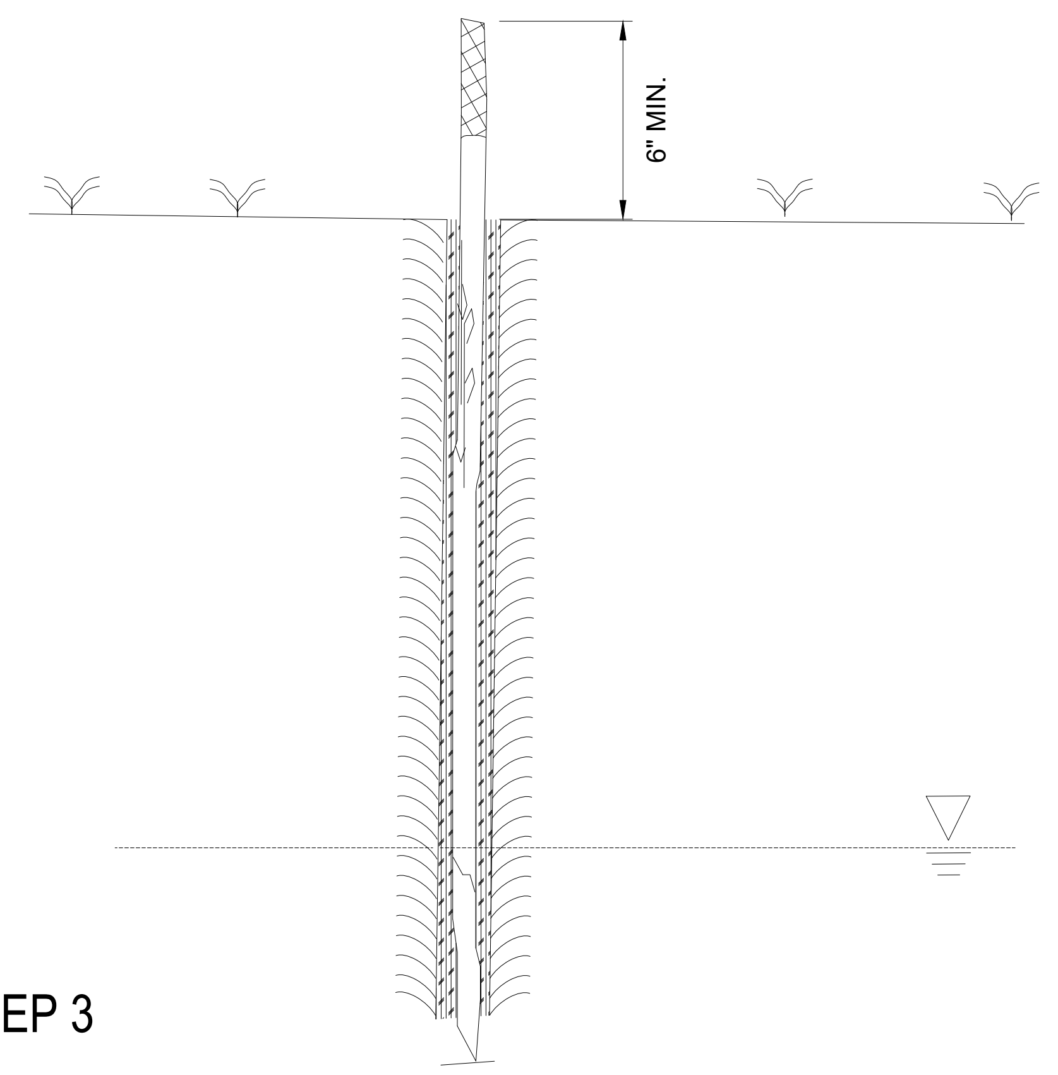
Obtain willow or willow type adventitiously rootable stock. Material should be from an area with similar soil, climate, and location relative to the stream. The material shall be at least two years old and free of disease, rot, or insect infestation. Material shall be harvested while dormant and soaked (1 to 14 days) before installation.


2 ft. MIN.
2 ft. MIN

STEP 2

Create a pilot hole that is perpendicular to the ground surface and deep enough to reach the lowest water table of the year, The hole shall be $\frac{2}{3}$ to $\frac{3}{4}$ the length of the live pole.

NOTE:
A WATERJET (HYDRODRILL) MAY BE USED TO CREATE THE PILOT HOLE IN SILT, LOAM, AND SOME CLAY SOILS. IT DOES NOT WORK WELL IN LARGE GRAVELS AND COBBLES.

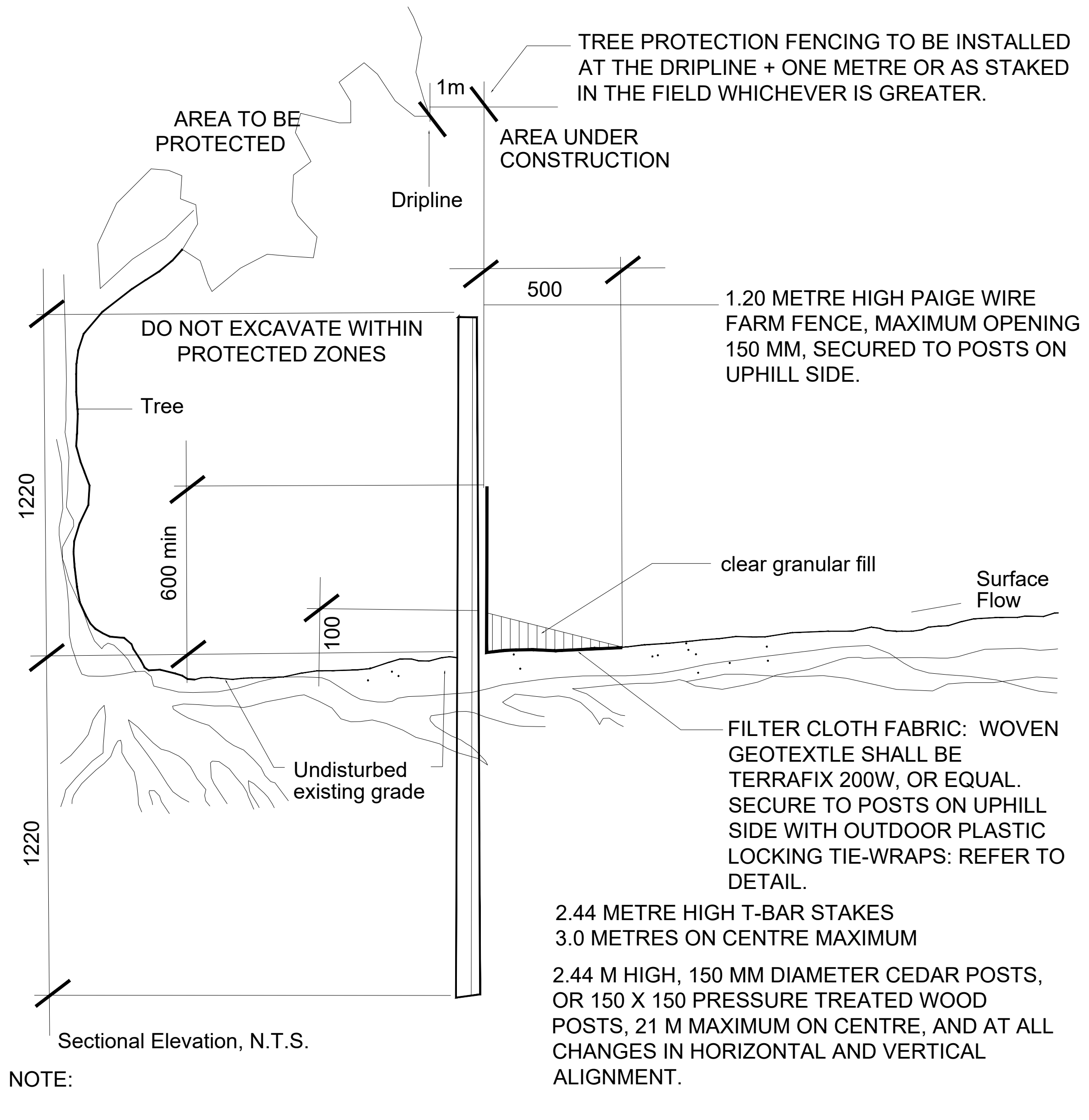


STEP 3

Tamp live poles into hole. Top of cutting shall be above competing vegetation. Back fill hole with water and soil mix to achieve good soil to stem contact. Space stakes in a 1 to 3 foot random pattern.

1 / D3 LIVE POLES (LIVE STAKES)

NTS


TREE PROTECTION FENCING TO BE INSTALLED AT THE DRIPLINE + ONE METRE OR AS STAKED IN THE FIELD WHICHEVER IS GREATER.
1m
AREA TO BE PROTECTED
AREA UNDER CONSTRUCTION
Dripline
500
1.20 METRE HIGH PAIGE WIRE FARM FENCE, MAXIMUM OPENING 150 MM, SECURED TO POSTS ON UPHILL SIDE.
DO NOT EXCAVATE WITHIN PROTECTED ZONES
Tree
1220
600 min
100
clear granular fill
Surface Flow
Undisturbed existing grade
FILTER CLOTH FABRIC: WOVEN GEOTEXTLE SHALL BE TERRAFIX 200W, OR EQUAL. SECURE TO POSTS ON UPHILL SIDE WITH OUTDOOR PLASTIC LOCKING TIE-WRAPS: REFER TO DETAIL.
1220
2.44 METRE HIGH T-BAR STAKES 3.0 METRES ON CENTRE MAXIMUM
2.44 M HIGH, 150 MM DIAMETER CEDAR POSTS, OR 150 X 150 PRESSURE TREATED WOOD POSTS, 21 M MAXIMUM ON CENTRE, AND AT ALL CHANGES IN HORIZONTAL AND VERTICAL ALIGNMENT.
Sectional Elevation, N.T.S.

NOTE:

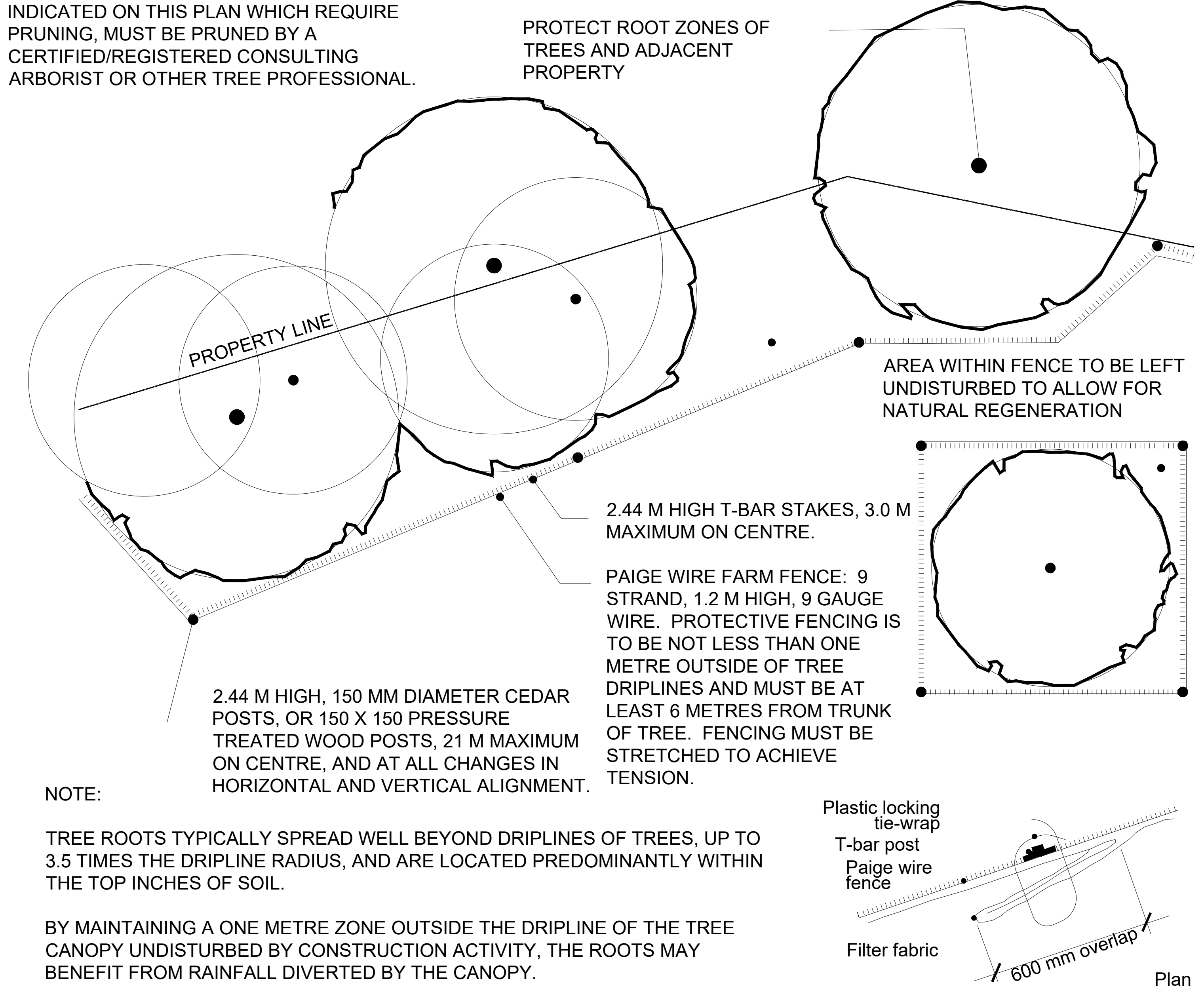
1. SEDIMENT ACCUMULATIONS TO BE REMOVED BY SUBDIVIDER/ BUILDER WHEN SEDIMENT DEPOSITS REACH TO WITHIN 150 MM OF TOP OF FILTER FABRIC BARRIER.

2. FENCE TO BE INSPECTED ON A REGULAR BASIS AND MAINTAINED BY SUBCONTRACTOR/BUILDER IN PROPER CONDITION.

2 / D3 TREE PROTECTION FENCING DETAIL

NTS

NOTE:
ANY ROOTS OR BRANCHES WHICH EXTEND BEYOND THE TREE PROTECTION ZONE(S) INDICATED ON THIS PLAN WHICH REQUIRE PRUNING, MUST BE PRUNED BY A CERTIFIED/REGISTERED CONSULTING ARBORIST OR OTHER TREE PROFESSIONAL.


PROTECT ROOT ZONES OF TREES AND ADJACENT PROPERTY
PROPERTY LINE
AREA WITHIN FENCE TO BE LEFT UNDISTURBED TO ALLOW FOR NATURAL REGENERATION
2.44 M HIGH T-BAR STAKES, 3.0 M MAXIMUM ON CENTRE.
PAIGE WIRE FARM FENCE: 9 STRAND, 1.2 M HIGH, 9 GAUGE WIRE. PROTECTIVE FENCING IS TO BE NOT LESS THAN ONE METRE OUTSIDE OF TREE DRIPLINES AND MUST BE AT LEAST 6 METRES FROM TRUNK OF TREE. FENCING MUST BE STRETCHED TO ACHIEVE TENSION.
2.44 M HIGH, 150 MM DIAMETER CEDAR POSTS, OR 150 X 150 PRESSURE TREATED WOOD POSTS, 21 M MAXIMUM ON CENTRE, AND AT ALL CHANGES IN HORIZONTAL AND VERTICAL ALIGNMENT.
Plastic locking tie-wrap
T-bar post
Paige wire fence
Filter fabric
600 mm overlap
Plan

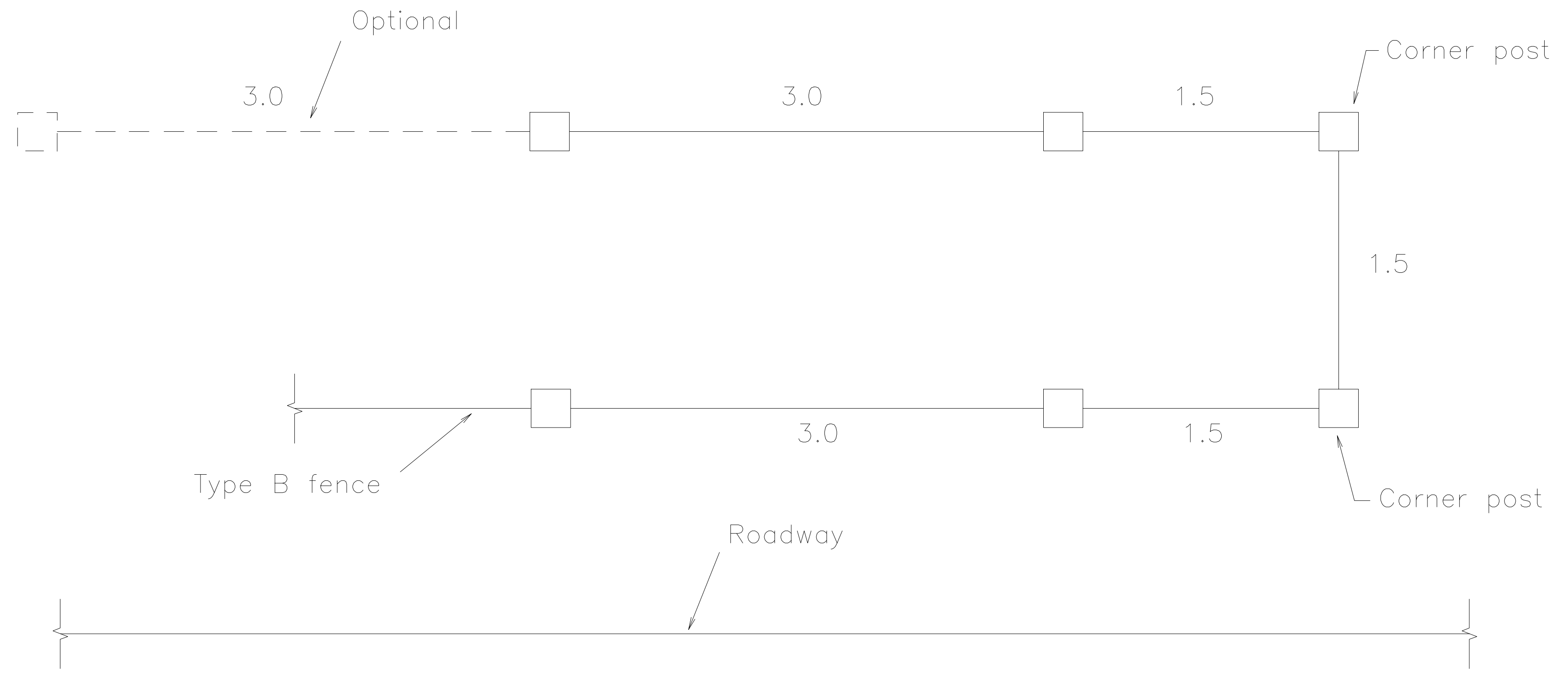
NOTE:

TREE ROOTS TYPICALLY SPREAD WELL BEYOND DRIPLINES OF TREES, UP TO 3.5 TIMES THE DRIPLINE RADIUS, AND ARE LOCATED PREDOMINANTLY WITHIN THE TOP INCHES OF SOIL.

BY MAINTAINING A ONE METRE ZONE OUTSIDE THE DRIPLINE OF THE TREE CANOPY UNDISTURBED BY CONSTRUCTION ACTIVITY, THE ROOTS MAY BENEFIT FROM RAINFALL DIVERTED BY THE CANOPY.

3 / D3 TREE PROTECTION FENCING DETAIL

NTS


Optional
3.0
3.0
1.5
Corner post
1.5
Type B fence
3.0
1.5
Corner post
Roadway

4 / D7 WILDLIFE TYPE B FENCE END AND TURNAROUND

NTS

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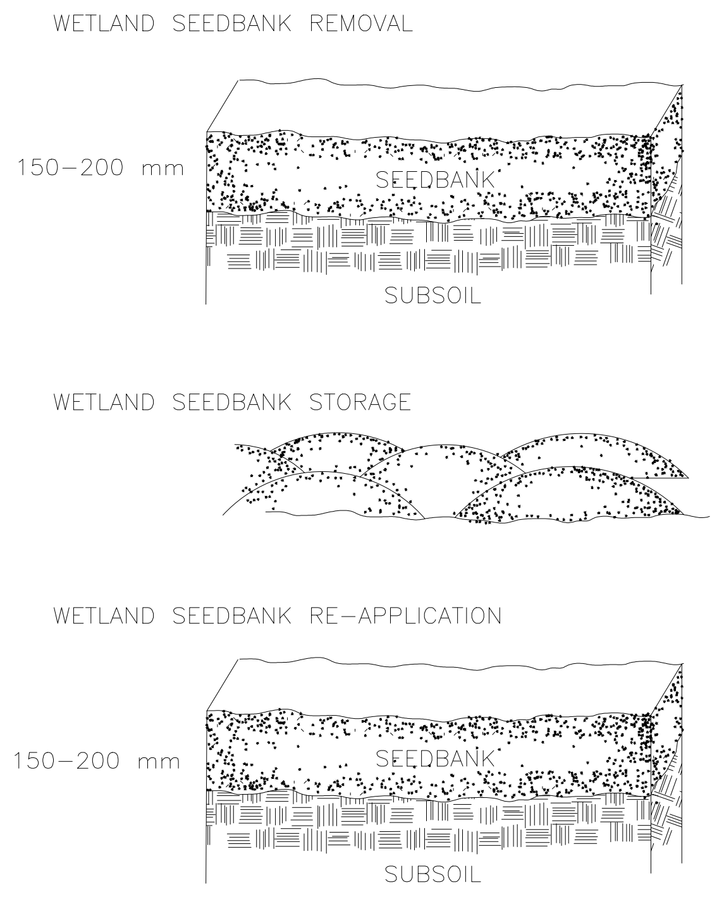
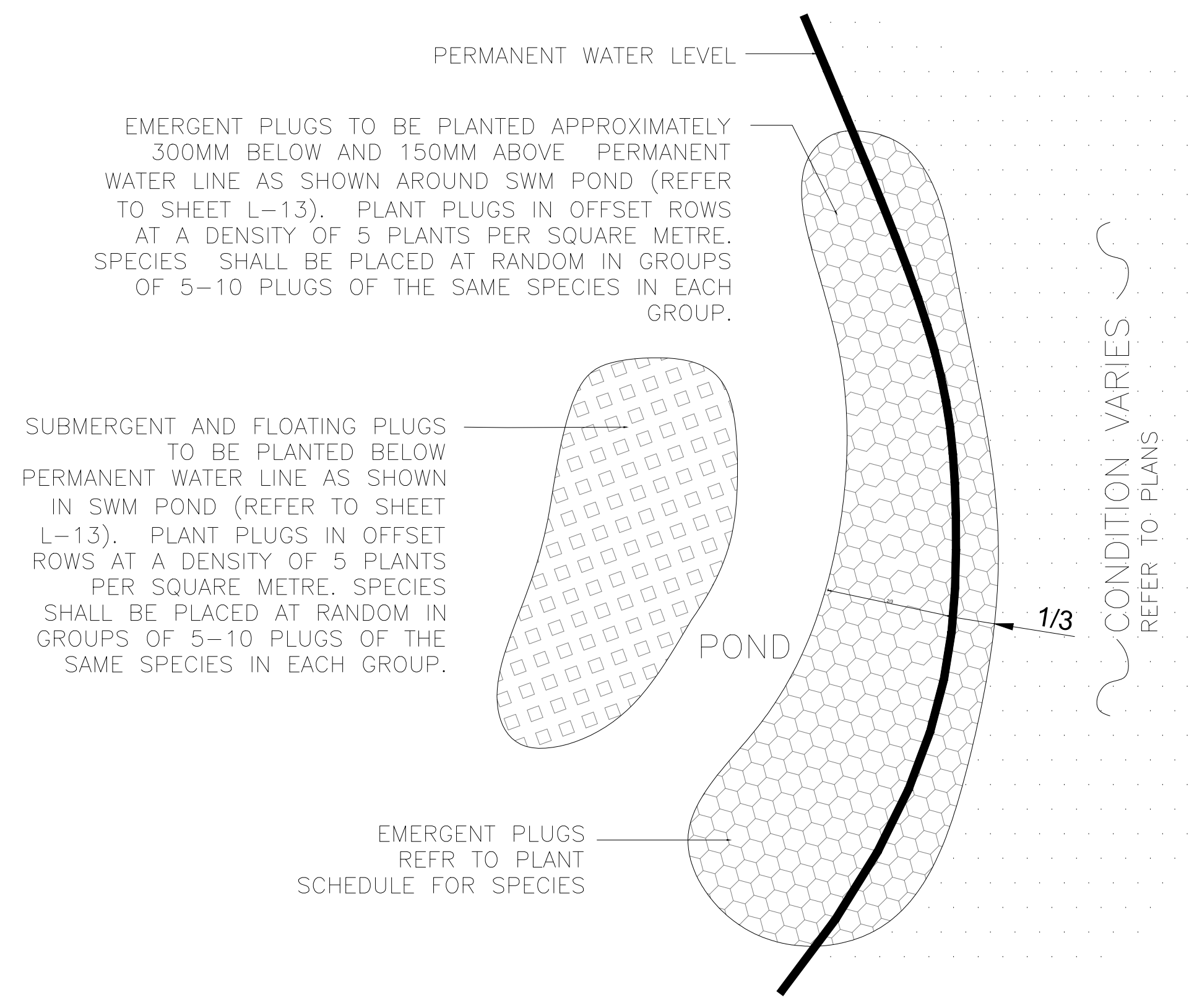

WETLAND SEEDBANK REMOVAL
150–200 mm
SEEDBANK
SUBSOIL
WETLAND SEEDBANK STORAGE
WETLAND SEEDBANK RE-APPLICATION
150–200 mm
SEEDBANK
SUBSOIL

NOTES:

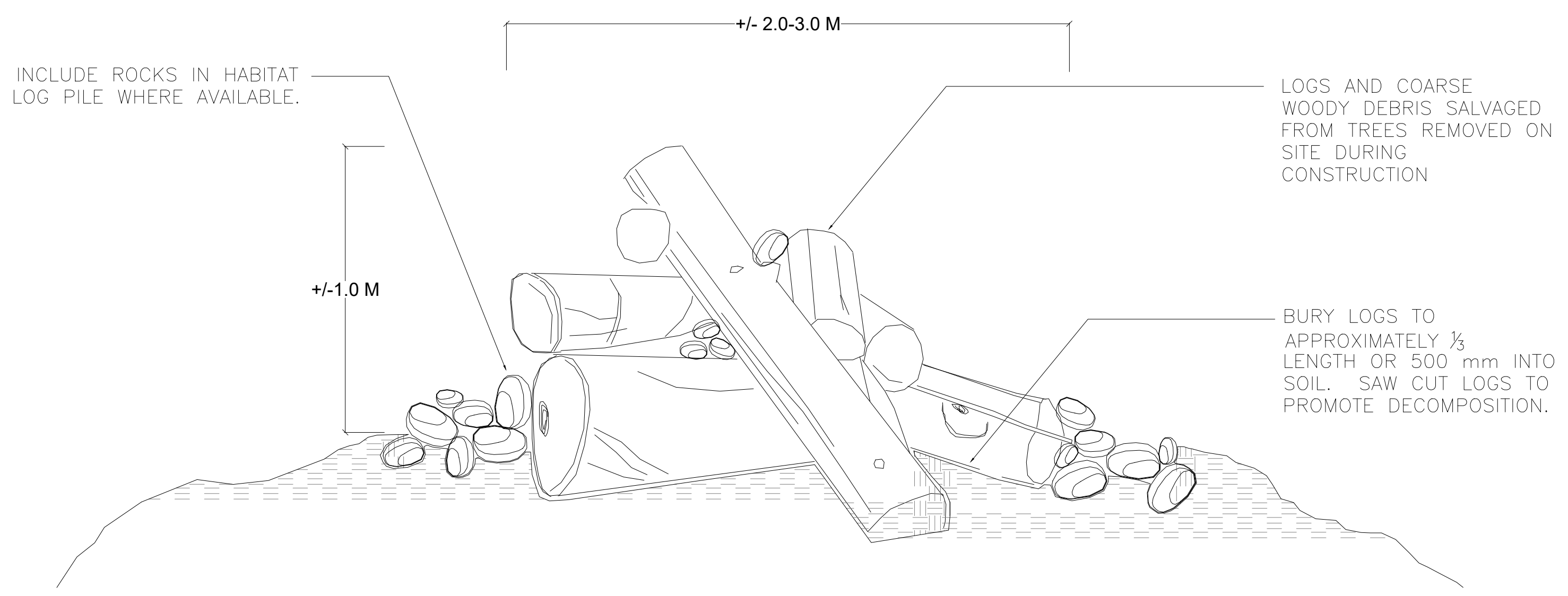
1. STRIP SEEDBANK HORIZON FROM LOCATIONS DETERMINED BY THE LANDSCAPE ARCHITECT. THE SEEDBANK IS LIMITED TO THE TOP 150–200 mm. TEST PITS WILL DETERMINE THE HORIZON THICKNESS FOR THE SEEDBANK LAYER.
2. GRUB STUMPS PRIOR TO STRIPPING WETLAND SEEDBANK.
3. STORE SEED BANK IN PILES APPROXIMATELY 1000 – 1500 mm DEEP. AVOID COMPACTING THE SEEDBANK PILES. IF POSSIBLE, REMOVE AND SPREAD ON RECEIVING SITES AS QUICKLY AS POSSIBLE AS BIOLOGICAL QUALITY DECREASES WITH TIME. TYPICALLY SEEDBANK IS MOST VIABLE WHEN STOCKPILED FOR LESS THAN 6 MONTHS.
4. SEEDBANK RECEIVING AREAS ARE TO BE SCARIFIED AND GRADES ARE TO BE REVIEWED BY THE CONTRACT ADMINISTRATOR TO DETERMINE IF ADDITIONAL SUBSOIL MATERIAL NEEDS TO BE IMPORTED. IF THE GRADES ARE 150–200 mm LOW THEN THE SEEDBANK SHALL BE APPLIED DIRECTLY TO THE SCARIFIED SUBSOIL TO THE PROPOSED FINAL GRADES. IF GRADES EXCEED 200 mm BELOW FINAL GRADES, THEN ADDITIONAL SUBSOIL MATERIAL WILL NEED TO BE APPLIED TO ENSURE THAT 150–200 mm OF SEEDBANK MATERIAL IS APPLIED.
5. STOCKPILE SITES MUST BE RESTORED TO A "RAKE CLEAN" CONDITION ACCEPTABLE TO THE CONSULTANT OR THE LANDSCAPE ARCHITECT. SURPLUS MATERIALS TO BE DISPOSED OF ON/OFF SITE AS DIRECTED BY THE LANDSCAPE ARCHITECT.
6. DEPENDING ON PROJECT TIMING AND LOCATION, THE DISTURBED AREAS MAY BE SEEDED WITH AN ANNUAL SEED. SPRING SEEDING SHALL CONSIST OF ANNUAL RYE OR FALL SEEDING SHALL CONSIST OF WINTER WHEAT.

1 SEEDBANK SALVAGE AND PLACEMENT, TYP.
D4
NTS


PERMANENT WATER LEVEL
EMERGENT PLUGS TO BE PLANTED APPROXIMATELY 300MM BELOW AND 150MM ABOVE PERMANENT WATER LINE AS SHOWN AROUND SWM POND (REFER TO SHEET L–13). PLANT PLUGS IN OFFSET ROWS AT A DENSITY OF 5 PLANTS PER SQUARE METRE. SPECIES SHALL BE PLACED AT RANDOM IN GROUPS OF 5–10 PLUGS OF THE SAME SPECIES IN EACH GROUP.
SUBMERGENT AND FLOATING PLUGS TO BE PLANTED BELOW PERMANENT WATER LINE AS SHOWN IN SWM POND (REFER TO SHEET L–13). PLANT PLUGS IN OFFSET ROWS AT A DENSITY OF 5 PLANTS PER SQUARE METRE. SPECIES SHALL BE PLACED AT RANDOM IN GROUPS OF 5–10 PLUGS OF THE SAME SPECIES IN EACH GROUP.
POND
1/3
CONDITION VARIES
REFER TO PLANS
EMERGENT PLUGS REFR TO PLANT SCHEDULE FOR SPECIES

2 WETLAND PLUG PLANTING, TYP.
D4
NTS

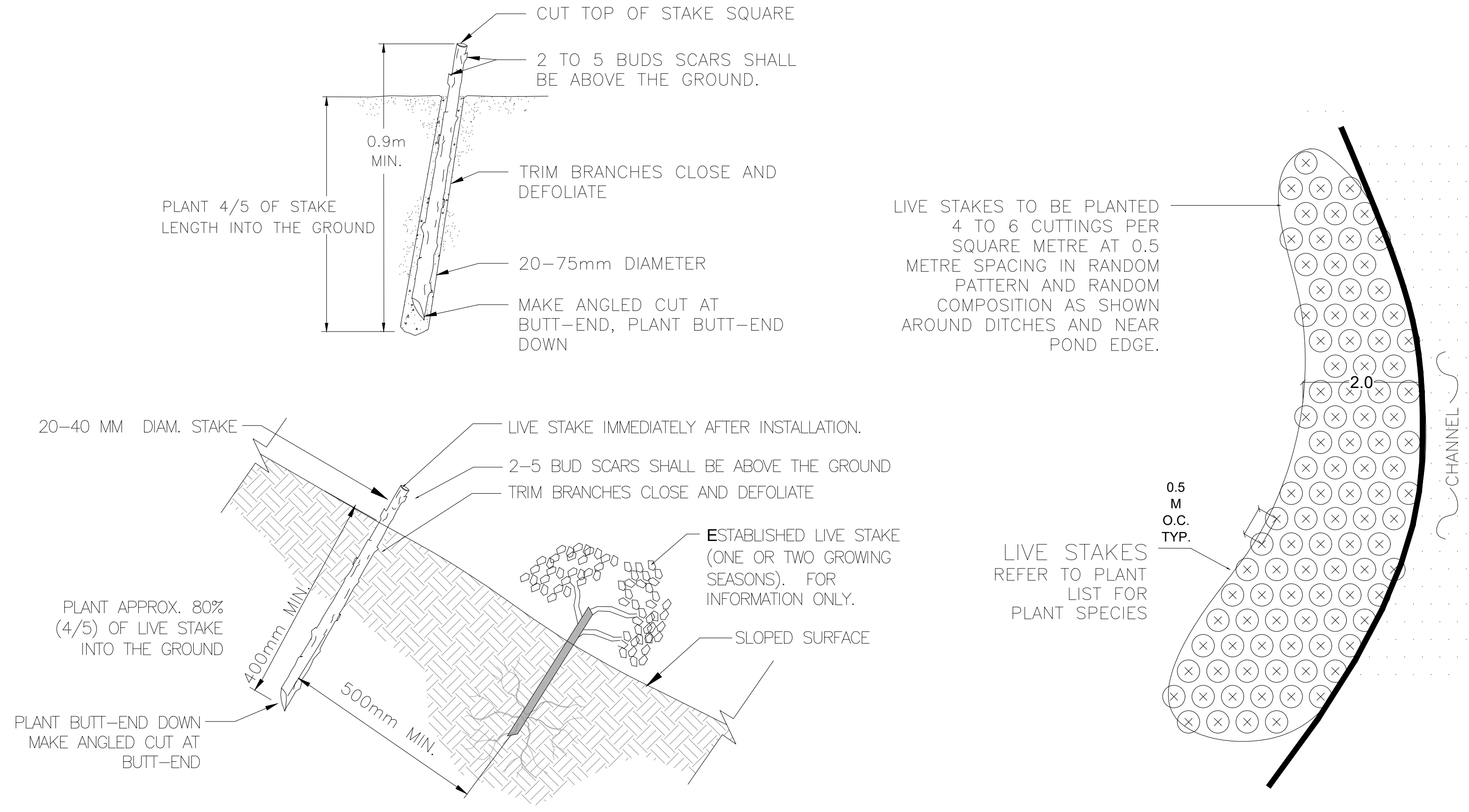
NOTE: WOODY DEBRIS PILES SHOULD BE PLACED RANDOMLY AS SHOWN AT TOP OF BANKS OF RAINBOW CREEK AND ROBINSON CREEK. CHANNEL IS NOT TO BE DISTURBED.


+/- 2.0-3.0 M
INCLUDE ROCKS IN HABITAT LOG PILE WHERE AVAILABLE.
+/-1.0 M
LOGS AND COARSE WOODY DEBRIS SALVAGED FROM TREES REMOVED ON SITE DURING CONSTRUCTION
BURY LOGS TO APPROXIMATELY ⅓ LENGTH OR 500 mm INTO SOIL. SAW CUT LOGS TO PROMOTE DECOMPOSITION.

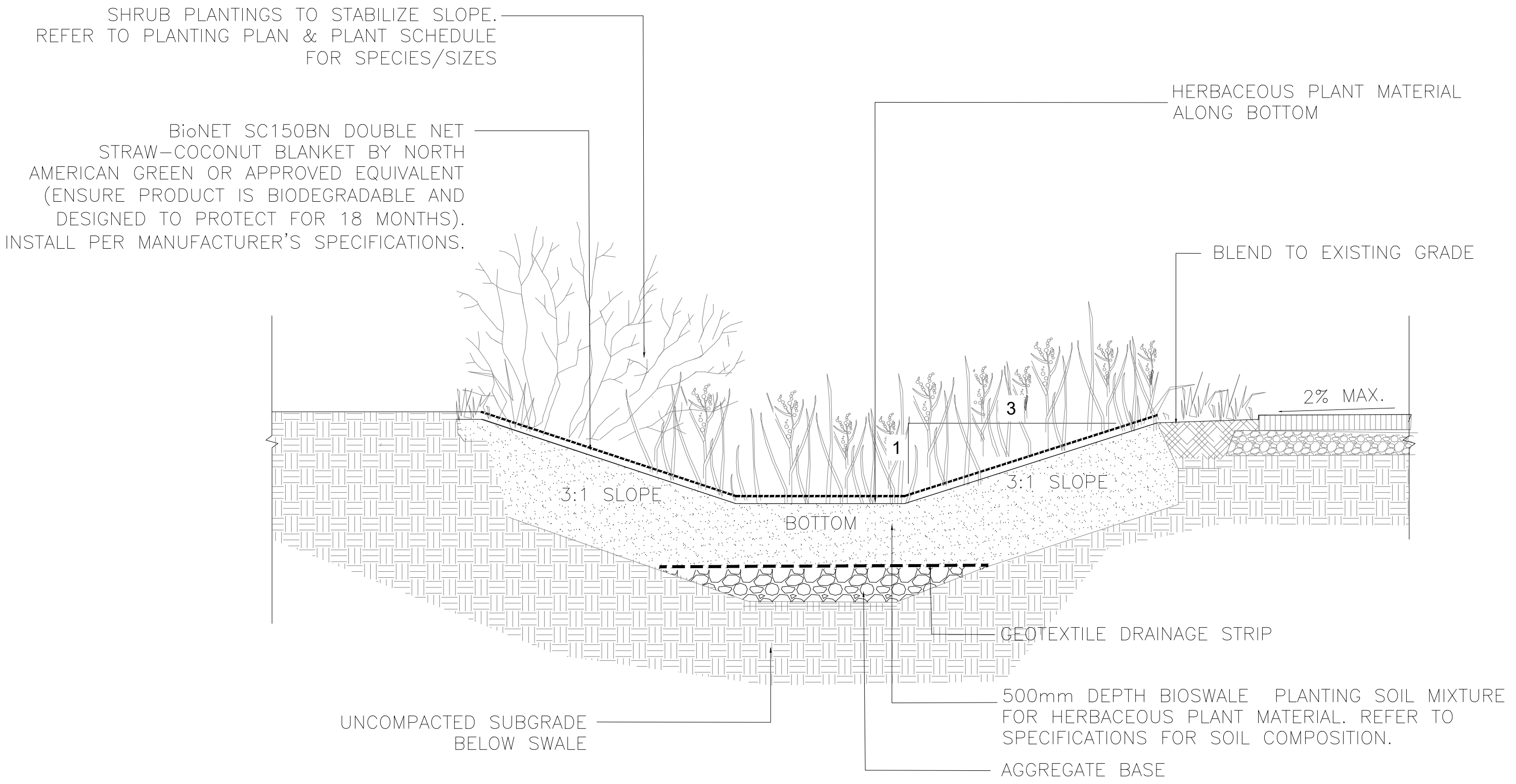
3 WOODY DEBRIS PILES, TYP.
D4
NTS

NOTES

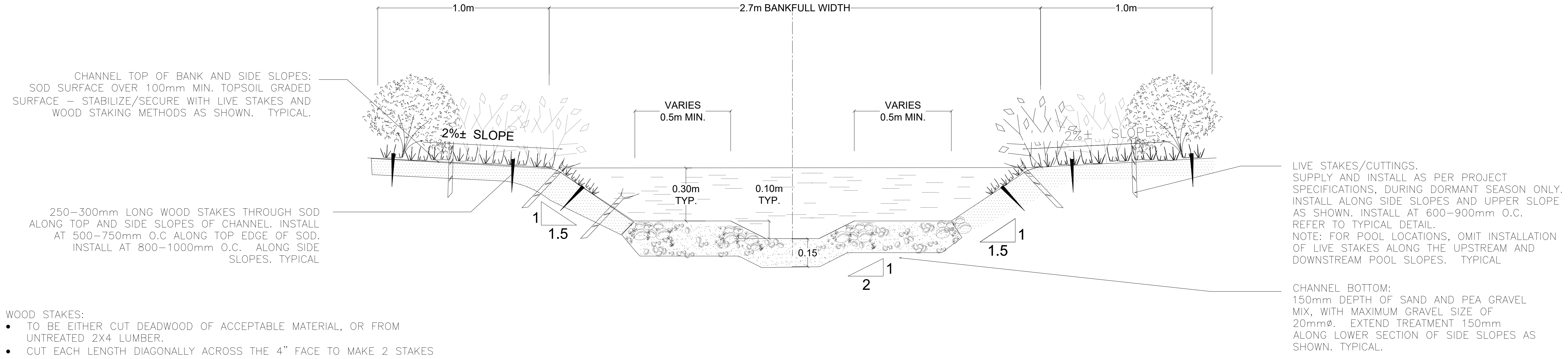
1. CUTTINGS SHALL BE HARVESTED AND PLANTED WHEN THE DONOR SHRUBS ARE DORMANT, BETWEEN LATE FALL (AFTER THE FIRST FEW FROSTS) AND EARLY SPRING (BEFORE BUD BREAK).
2. INSTALL CUTTINGS IMMEDIATELY AFTER HARVEST. DURING THE PLANTING AND HARVEST OPERATIONS, THE CUTTINGS ARE TO BE STORED IN A COOL, SHADED AND MOIST LOCATION. IF CUTTINGS ARE NOT INSTALLED THE SAME DAY THEY SHOULD BE SOAKED IN WATER FOR AT LEAST 24 HOURS BEFORE INSTALLATION TO PROMOTE ROOT DEVELOPMENT.
3. USE HEALTHY, STRAIGHT AND LIVE WOOD WITH SMOOTH BARK BETWEEN 2 AND 5 YEARS OLD AND FROM 20MM TO 40MM IN DIAMETER AND A MINIMUM OF 600MM IN LENGTH; THE THICKER THE CUTTING THE LONGER IT SHOULD BE. AVOID USING SUCKERS OF THE CURRENT YEARS GROWTH.
4. DO NOT PLANT UPSIDE DOWN.
5. LIVE STAKES SHOULD BE INSTALLED USING A DEAD BLOW HAMMER (LARGE RUBBER MALLET WITH THE HEAD FILLED WITH LEAD PELLETS). 80% OF LIVE STAKE TO BE BELOW SURFACE.
6. GENTLY TAMP LIVE STAKES INTO THE GROUND AT RIGHT ANGLES (PERPENDICULAR) TO THE SLOPE.
7. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION. IF THE SOIL IS COMPACT A PILOT HOLE MADE WITH A STEEL BAR SHOULD BE USED. IF USING PILOT BAR REPACK SOIL AROUND THE STAKE AFTER PLANTING.
8. DENSITY OF LIVE STAKES TO BE 9 PER SQUARE METRE.
9. PLANT CUTTINGS APPROXIMATELY 300MM APART IN RANDOM PATTERN AND RANDOM COMPOSITION. AVOID PLANTING IN STRAIGHT LINES. MULCH PLANTING BEDS AS SPECIFIED BY LANDSCAPE ARCHITECT.
10. ALL STAKES TO BE NATIVE AND LOCALLY SOURCED. REFER TO PLANT LIST FOR SPECIES.


CUT TOP OF STAKE SQUARE
2 TO 5 BUDS SCARS SHALL BE ABOVE THE GROUND.
0.9m MIN.
PLANT 4/5 OF STAKE LENGTH INTO THE GROUND
TRIM BRANCHES CLOSE AND DEFOLIATE
20–75mm DIAMETER
MAKE ANGLED CUT AT BUTT–END, PLANT BUTT–END DOWN
20–40 MM DIAM. STAKE
LIVE STAKE IMMEDIATELY AFTER INSTALLATION.
2–5 BUD SCARS SHALL BE ABOVE THE GROUND
TRIM BRANCHES CLOSE AND DEFOLIATE
ESTABLISHED LIVE STAKE (ONE OR TWO GROWING SEASONS). FOR INFORMATION ONLY.
SLOPED SURFACE
PLANT APPROX. 80% (4/5) OF LIVE STAKE INTO THE GROUND
400mm MIN.
500mm MIN.
PLANT BUTT–END DOWN MAKE ANGLED CUT AT BUTT–END
LIVE STAKES TO BE PLANTED 4 TO 6 CUTTINGS PER SQUARE METRE AT 0.5 METRE SPACING IN RANDOM PATTERN AND RANDOM COMPOSITION AS SHOWN AROUND DITCHES AND NEAR POND EDGE.
2.0
0.5 M O.C. TYP.
LIVE STAKES REFER TO PLANT LIST FOR PLANT SPECIES
CHANNEL

4 LIVE STAKE PLANTING ON SLOPE, TYP.
D4
NTS


SHRUB PLANTINGS TO STABILIZE SLOPE. REFER TO PLANTING PLAN & PLANT SCHEDULE FOR SPECIES/SIZES
BioNET SC150BN DOUBLE NET STRAW–COCONUT BLANKET BY NORTH AMERICAN GREEN OR APPROVED EQUIVALENT (ENSURE PRODUCT IS BIODEGRADABLE AND DESIGNED TO PROTECT FOR 18 MONTHS). INSTALL PER MANUFACTURER'S SPECIFICATIONS.
HERBACEOUS PLANT MATERIAL ALONG BOTTOM
BLEND TO EXISTING GRADE
2% MAX.
3
1
3:1 SLOPE
BOTTOM
3:1 SLOPE
GEOTEXTILE DRAINAGE STRIP
500mm DEPTH BIOSWALE PLANTING SOIL MIXTURE FOR HERBACEOUS PLANT MATERIAL. REFER TO SPECIFICATIONS FOR SOIL COMPOSITION.
UNCOMPACTED SUBGRADE BELOW SWALE
AGGREGATE BASE

5 BIOSWALE CROSS-SECTION, TYP.
D4
NTS


1.0m
2.7m BANKFULL WIDTH
1.0m
CHANNEL TOP OF BANK AND SIDE SLOPES: SOD SURFACE OVER 100mm MIN. TOPSOIL GRADED SURFACE – STABILIZE/SECURE WITH LIVE STAKES AND WOOD STAKING METHODS AS SHOWN. TYPICAL.
2%± SLOPE
VARIES 0.5m MIN.
VARIES 0.5m MIN.
2%± SLOPE
0.30m TYP.
0.10m TYP.
0.15
1
1.5
2
1
1
1.5
250–300mm LONG WOOD STAKES THROUGH SOD ALONG TOP AND SIDE SLOPES OF CHANNEL. INSTALL AT 500–750mm O.C ALONG TOP EDGE OF SOD. INSTALL AT 800–1000mm O.C. ALONG SIDE SLOPES. TYPICAL
LIVE STAKES/CUTTINGS. SUPPLY AND INSTALL AS PER PROJECT SPECIFICATIONS, DURING DORMANT SEASON ONLY. INSTALL ALONG SIDE SLOPES AND UPPER SLOPE AS SHOWN. INSTALL AT 600–900mm O.C. REFER TO TYPICAL DETAIL. NOTE: FOR POOL LOCATIONS, OMIT INSTALLATION OF LIVE STAKES ALONG THE UPSTREAM AND DOWNSTREAM POOL SLOPES. TYPICAL
CHANNEL BOTTOM: 150mm DEPTH OF SAND AND PEA GRAVEL MIX, WITH MAXIMUM GRAVEL SIZE OF 20mmø. EXTEND TREATMENT 150mm ALONG LOWER SECTION OF SIDE SLOPES AS SHOWN. TYPICAL.

WOOD STAKES:
- TO BE EITHER CUT DEADWOOD OF ACCEPTABLE MATERIAL, OR FROM UNTREATED 2X4 LUMBER.
- CUT EACH LENGTH DIAGONALLY ACROSS THE 4" FACE TO MAKE 2 STAKES FROM EACH LENGTH.
- TIP SHOULD HAVE A 3–6mm WIDTH.

6 CHANNEL STABILIZATION DETAIL, TYP.
D4
NTS

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HIGHWAY 413
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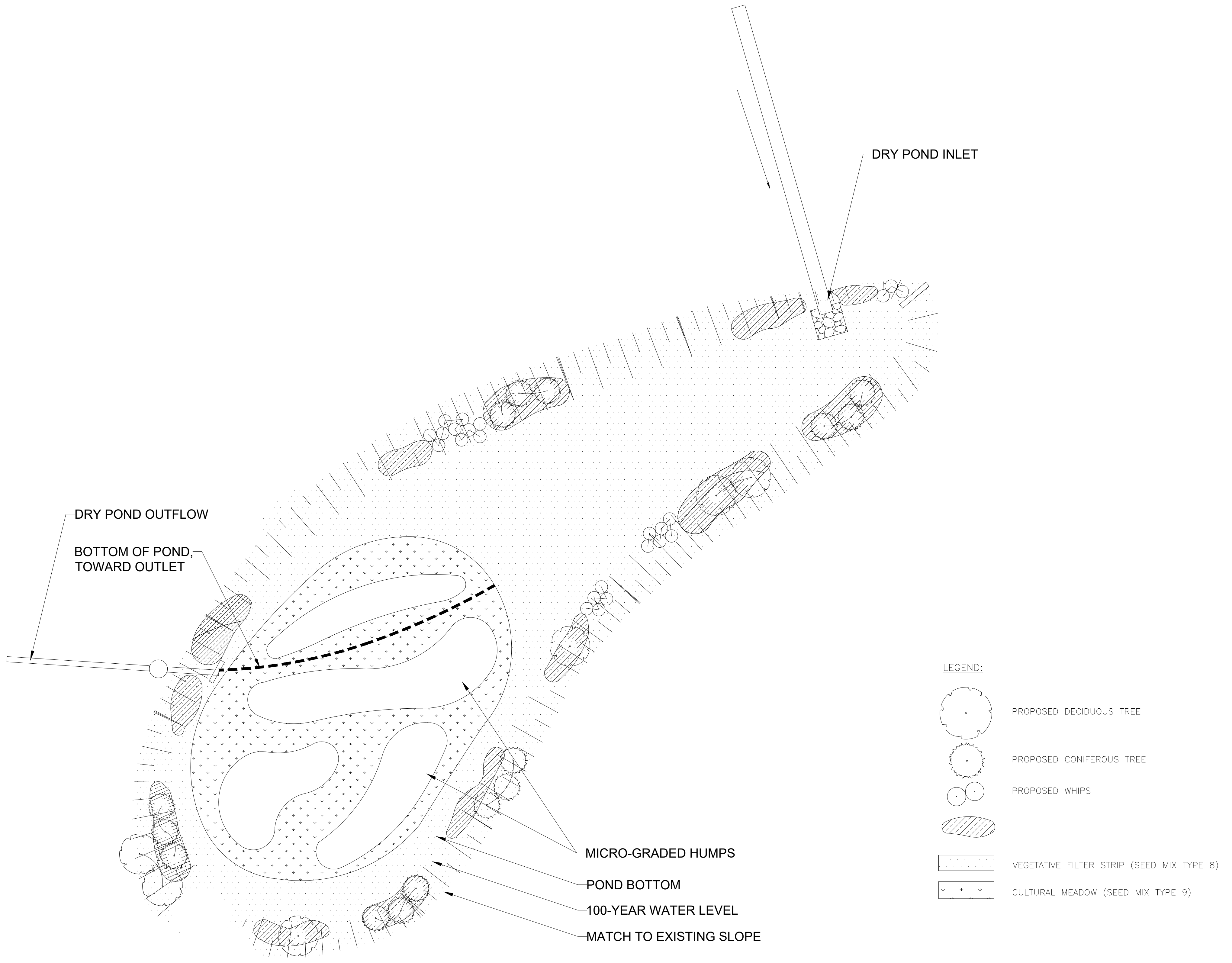
Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN LANDSCAPE COMPOSITION DETAILS

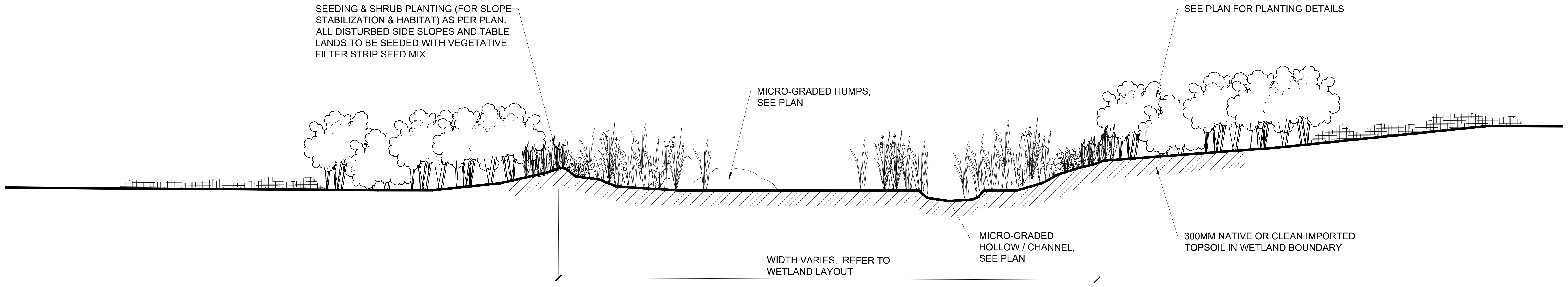
SCALE:
NTS
DATE:
FEB 2026

DWG
D4


DRY POND INLET
DRY POND OUTFLOW
BOTTOM OF POND, TOWARD OUTLET
MICRO-GRADED HUMPS
POND BOTTOM
100-YEAR WATER LEVEL
MATCH TO EXISTING SLOPE
LEGEND:
PROPOSED DECIDUOUS TREE
PROPOSED CONIFEROUS TREE
PROPOSED WHIPS
VEGETATIVE FILTER STRIP (SEED MIX TYPE 8)
CULTURAL MEADOW (SEED MIX TYPE 9)

1
D5
WETLAND WITHIN DRY POND DETAILS

NTS


SEEDING & SHRUB PLANTING (FOR SLOPE STABILIZATION & HABITAT) AS PER PLAN. ALL DISTURBED SIDE SLOPES AND TABLE LANDS TO BE SEEDED WITH VEGETATIVE FILTER STRIP SEED MIX.
MICRO-GRADED HUMPS, SEE PLAN
SEE PLAN FOR PLANTING DETAILS
MICRO-GRADED HOLLOW / CHANNEL, SEE PLAN
300MM NATIVE OR CLEAN IMPORTED TOPSOIL IN WETLAND BOUNDARY
WIDTH VARIES, REFER TO WETLAND LAYOUT

2
D5
WETLAND WITHIN DRY POND DETAILS

NTS

HIGHWAY 413 Planning *with* Vision | Planning *for* People **Ontario** Ministry of Transportation	THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS	COMMUNITY VALUE PLAN LANDSCAPE COMPOSITION DETAILS	SCALE: NTS DATE: FEB 2026	DWG D5

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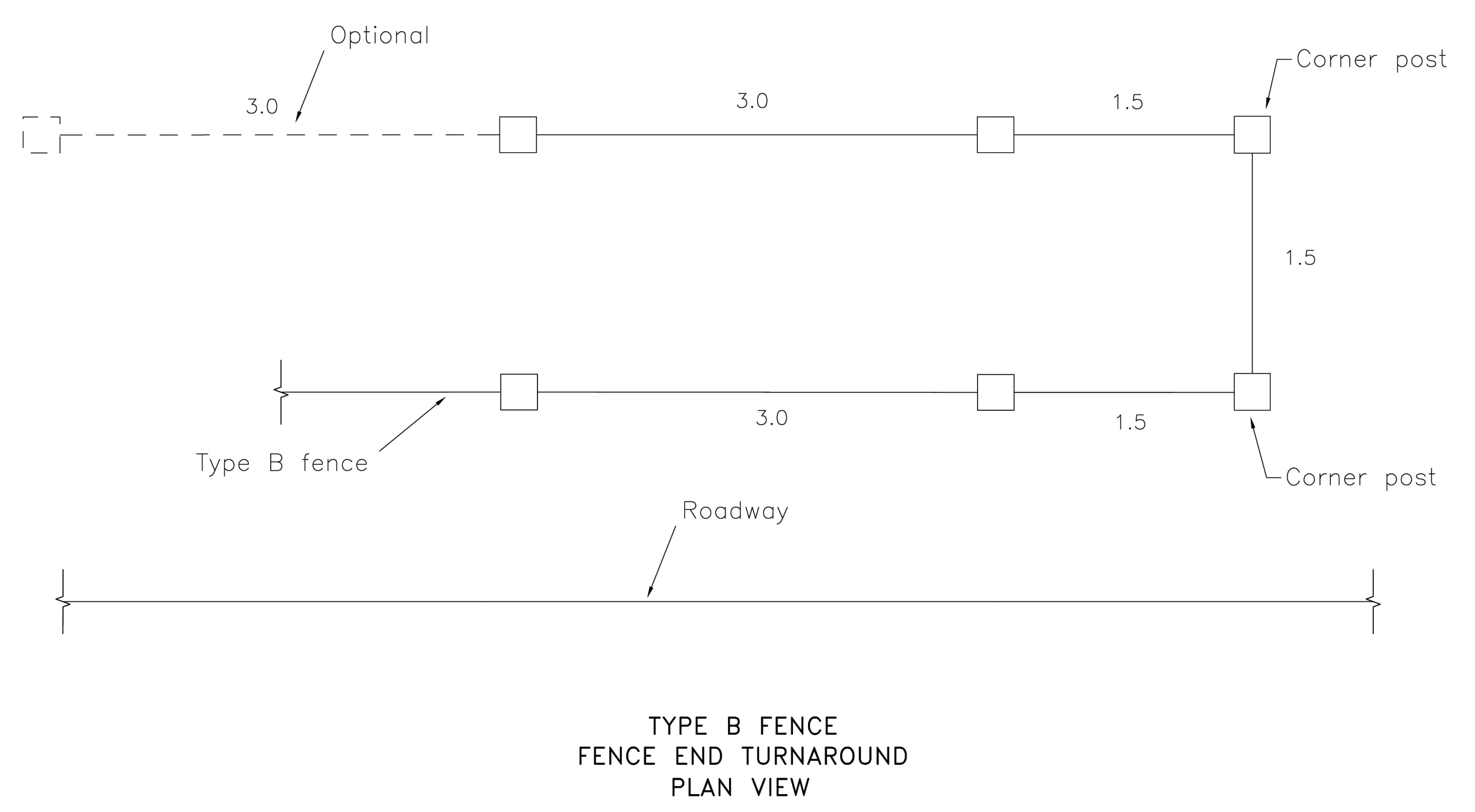

Optional
3.0
3.0
1.5
Corner post
1.5
Type B fence
3.0
1.5
Corner post
Roadway

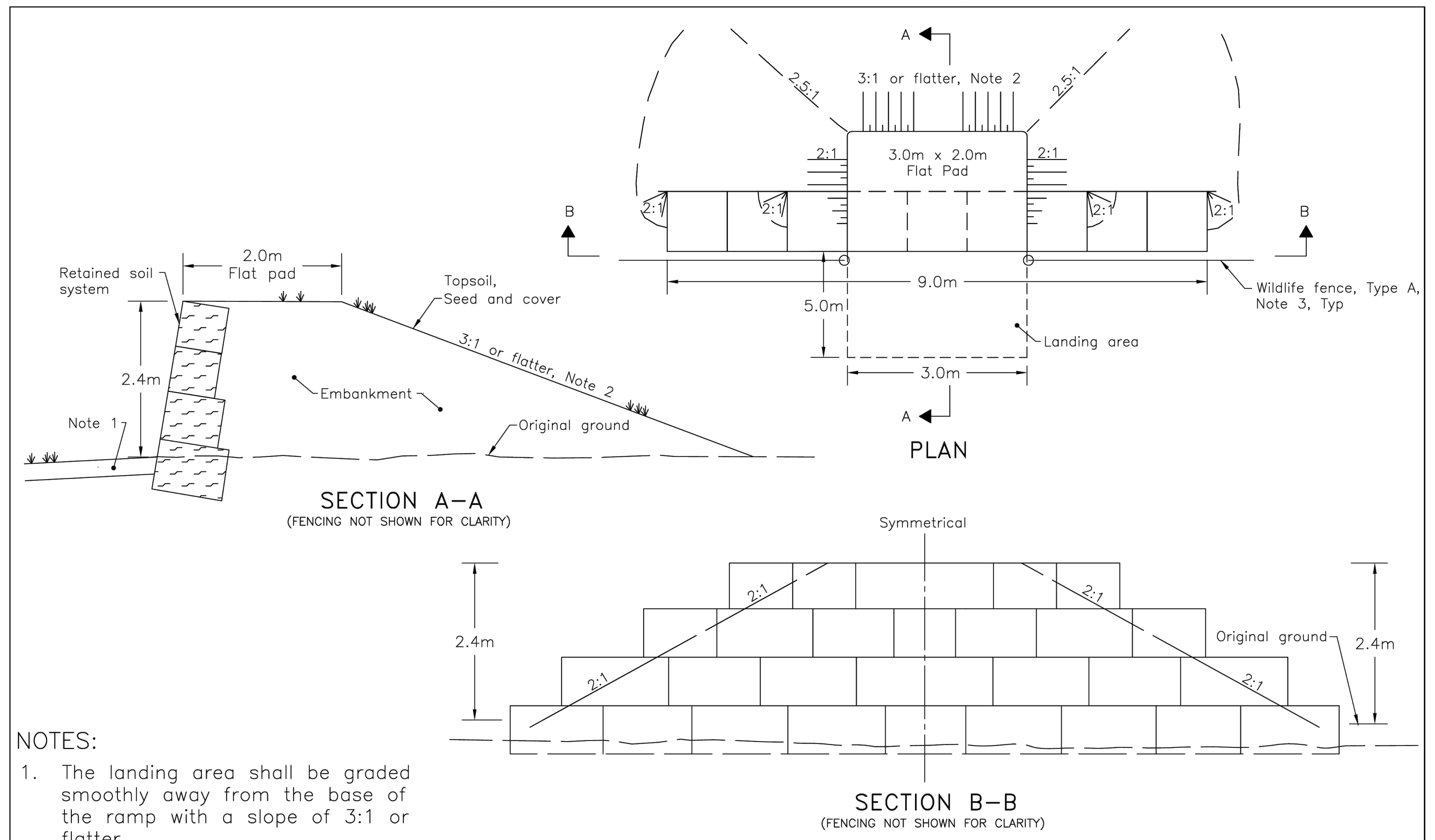
TYPE B FENCE
FENCE END TURNAROUND
PLAN VIEW

NOTES:
- A. Type B fence may be constructed with steel or wood posts.
- B. Fence as viewed in plan.
- C. All dimensions are in metres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	February 2018	Rev	0
WILDLIFE FENCE, TYPE B FENCE END TURNAROUND			
	MTOD 973.145		

1 / D6 WILDLIFE FENCE, TYPE B FENCE END TURNAROUND DETAIL

NTS


A
A
3:1 or flatter, Note 2
2.5:1
2.5:1
2:1
2:1
3.0m x 2.0m
Flat Pad
2:1
2:1
2:1
2:1
B
B
9.0m
5.0m
3.0m
Wildlife fence, Type A, Note 3, Typ
Landing area
PLAN
Retained soil system
2.0m
Flat pad
Topsoil, Seed and cover
3:1 or flatter, Note 2
2.4m
Embankment
Note 1
Original ground
Symmetrical
2.4m
2:1
2:1
2:1
2:1
Original ground
2.4m

SECTION A–A
(FENCING NOT SHOWN FOR CLARITY)

SECTION B–B
(FENCING NOT SHOWN FOR CLARITY)

NOTES:
1. The landing area shall be graded smoothly away from the base of the ramp with a slope of 3:1 or flatter.
2. Ramps shall be constructed so as not to encroach on highway drainage.
3. Wildlife fence according to contract documents.

A. All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	September 2017	Rev	0
WILDLIFE ESCAPE			
	MTOD 973.144		

2 / D6 WILDLIFE ESCAPE DETAIL

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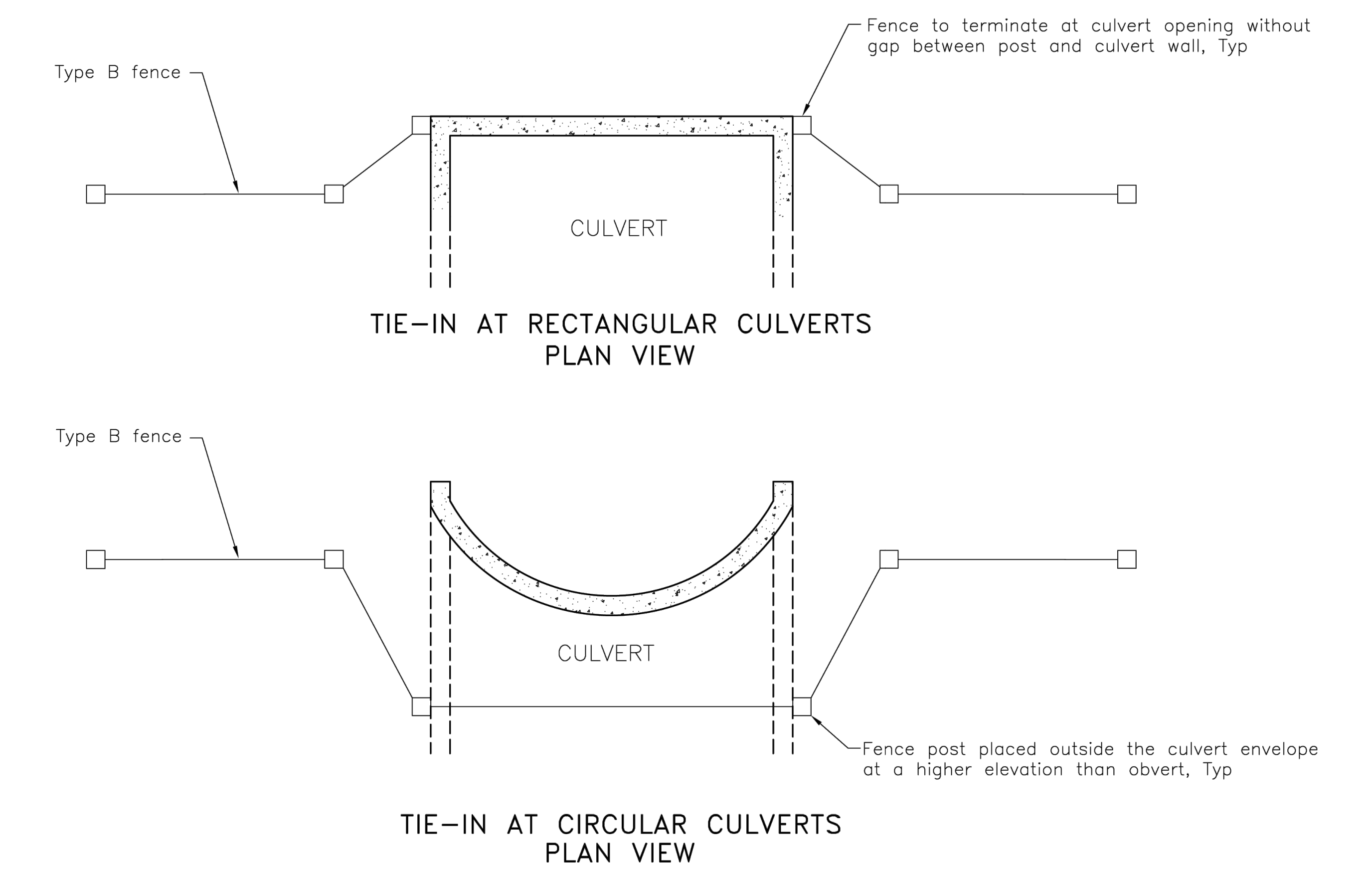

Type B fence
Fence to terminate at culvert opening without gap between post and culvert wall, Typ
CULVERT
Type B fence
CULVERT
Fence post placed outside the culvert envelope at a higher elevation than obvert, Typ

TIE–IN AT RECTANGULAR CULVERTS
PLAN VIEW

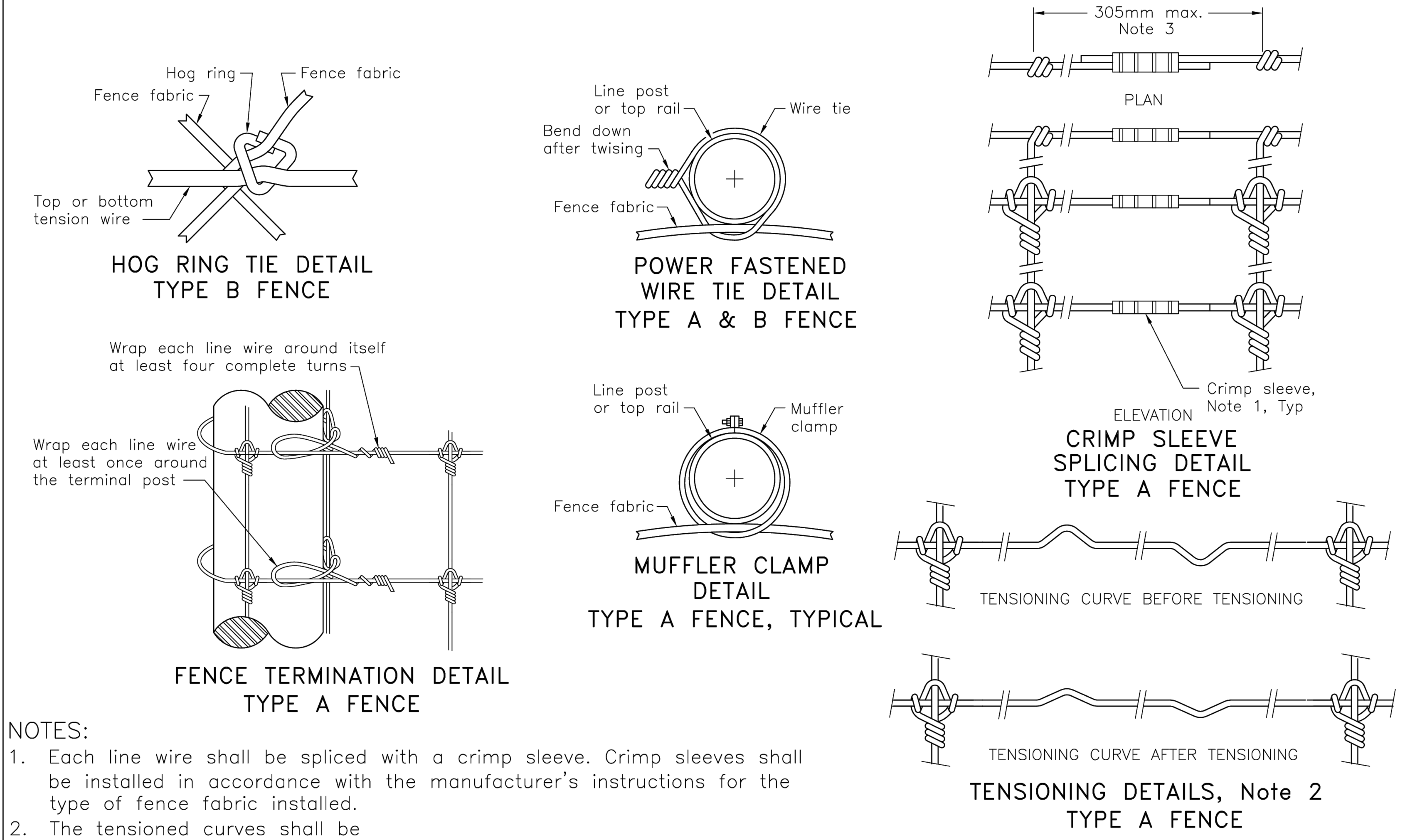
TIE–IN AT CIRCULAR CULVERTS
PLAN VIEW

NOTES:
- A. Type B fence may be constructed with steel or wood posts.
- B. Fence as viewed in plan.
- C. All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	September 2017	Rev	0
WILDLIFE FENCE TIE–IN AT CULVERTS OR WILDLIFE CROSSING STRUCTURES			
	MTOD 973.143		

3 / D6 WILDLIFE FENCE, TIE-IN AT CULVERTS DETAIL

NTS


Hog ring
Fence fabric
Fence fabric
Top or bottom tension wire
Line post or top rail
Wire tie
Bend down after twising
Fence fabric
305mm max.
Note 3
PLAN
Crimp sleeve, Note 1, Typ
ELEVATION
Wrap each line wire around itself at least four complete turns
Wrap each line wire at least once around the terminal post
Line post or top rail
Muffler clamp
Fence fabric
TENSIONING CURVE BEFORE TENSIONING
TENSIONING CURVE AFTER TENSIONING

HOG RING TIE DETAIL
TYPE B FENCE

POWER FASTENED
WIRE TIE DETAIL
TYPE A & B FENCE

CRIMP SLEEVE
SPLICING DETAIL
TYPE A FENCE

FENCE TERMINATION DETAIL
TYPE A FENCE

MUFFLER CLAMP
DETAIL
TYPE A FENCE, TYPICAL

TENSIONING DETAILS, Note 2
TYPE A FENCE

NOTES:
1. Each line wire shall be spliced with a crimp sleeve. Crimp sleeves shall be installed in accordance with the manufacturer's instructions for the type of fence fabric installed.
2. The tensioned curves shall be one half the size of the untensioned curves.
3. Both fabric end vertical stay wires to be within a maximum of 305mm centres.

A. All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING	September 2017	Rev	0
WILDLIFE FENCE MISCELLANEOUS DETAILS			
	MTOD 973.142		

4 / D6 WILDLIFE FENCE, MISCELLANEOUS DETAIL

NTS

HIGHWAY 413
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Ontario Ministry of Transportation

THE HIGHWAY 413 PRELIMINARY DESIGN AND ASSESSMENT OF ENVIRONMENTAL IMPACTS

COMMUNITY VALUE PLAN LANDSCAPE COMPOSITION DETAILS

SCALE: NTS

DATE: FEB 2026

DWG D6

FILENAME: C:\Users\CAMH07~1\AppData\Local\Temp\AcPublish_12988\Hwy 413 CVP – Details.dwg
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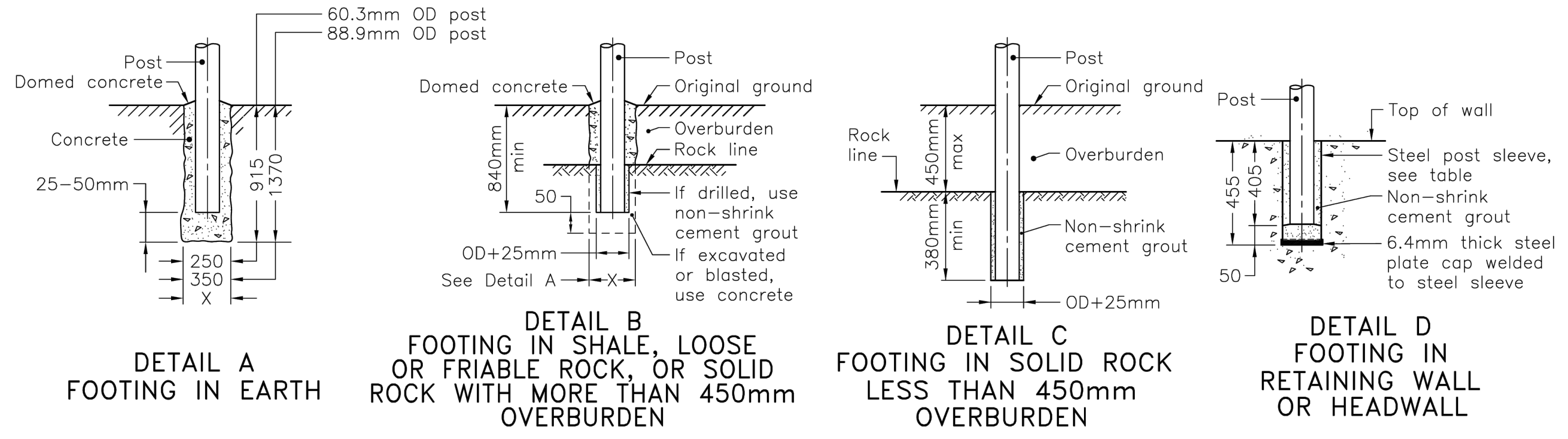
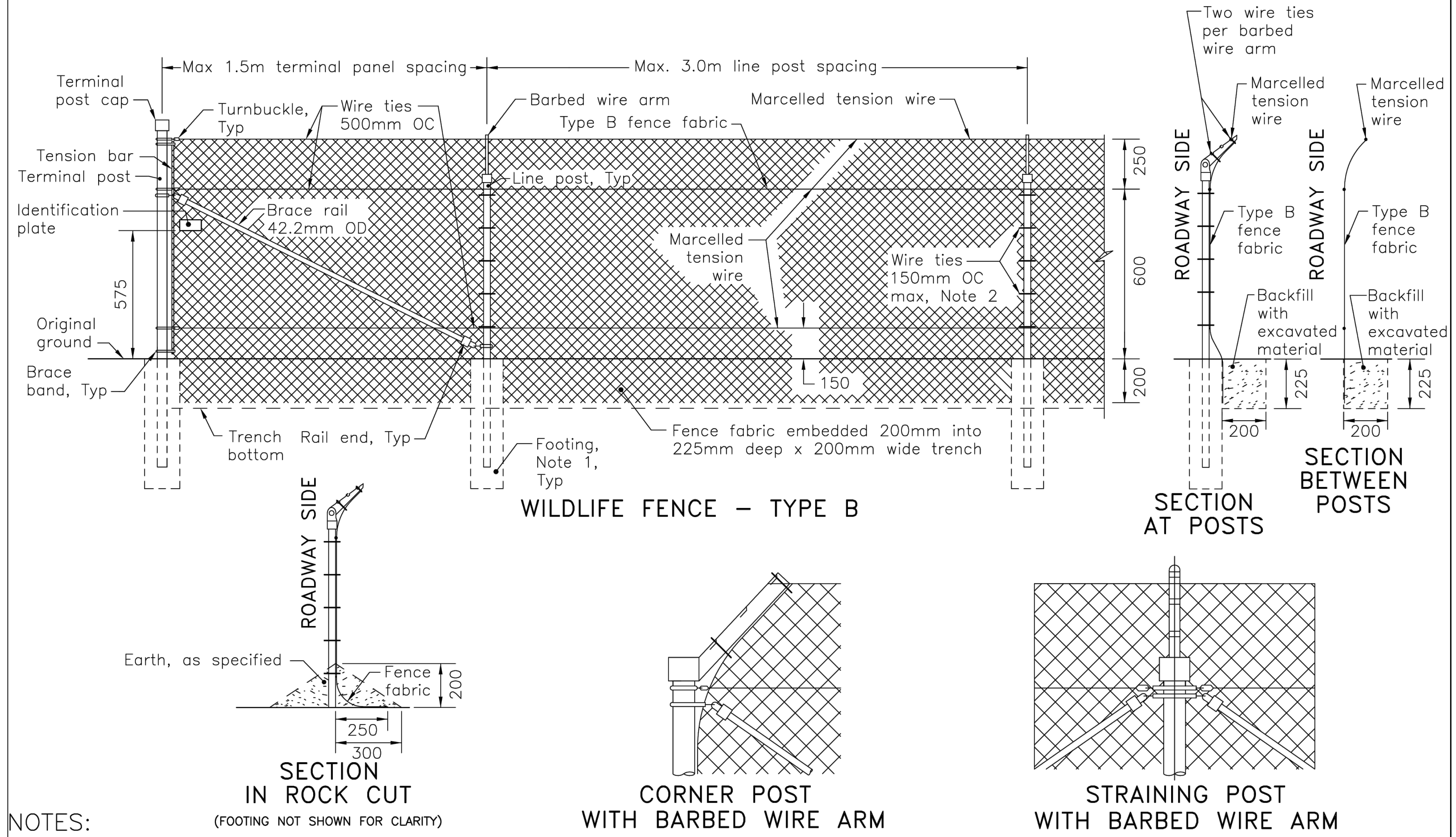

60.3mm OD post
88.9mm OD post
Post
Domed concrete
Concrete
25–50mm
915
1370
250
350
X
DETAIL A
FOOTING IN EARTH
Post
Original ground
Domed concrete
Overburden
Rock line
840mm min
50
If drilled, use non–shrink cement grout
OD+25mm
If excavated or blasted, use concrete
See Detail A
X
DETAIL B
FOOTING IN SHALE, LOOSE OR FRIABLE ROCK, OR SOLID ROCK WITH MORE THAN 450mm OVERBURDEN
Post
Original ground
Rock line
450mm max
Overburden
380mm min
Non–shrink cement grout
OD+25mm
DETAIL C
FOOTING IN SOLID ROCK LESS THAN 450mm OVERBURDEN
Post
Top of wall
Steel post sleeve, see table
Non–shrink cement grout
455
405
6.4mm thick steel plate cap welded to steel sleeve
50
DETAIL D
FOOTING IN RETAINING WALL OR HEADWALL

POST DETAILS TABLE (Note 1)						
Post/Frame Member Type		OD	Post Length		Wall Thickness	Nominal Weight kg/m (Note 2)
			Type A m	Type B m		
Line Post		60.3	3.5	1.5	3.91	5.4
Terminal Post		88.9	4.3	2.4	5.49	11.3
Brace Rail		42.2	n/a	n/a	5.49	3.4
Post Sleeves	Line Post	88.9	n/a	n/a	5.49	11.3
	Terminal Post	114.3	n/a	n/a	6.02	16.1

NOTES:
1. All posts and frame members are Schedule 40, Regular Grade, steel pipe.
2. The actual weight shall not vary by more than 10% of the nominal weight.
A. All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING
September 2017
Rev 0
WILDLIFE FENCE
STEEL POST FOOTING DETAILS
MTOD 973.140

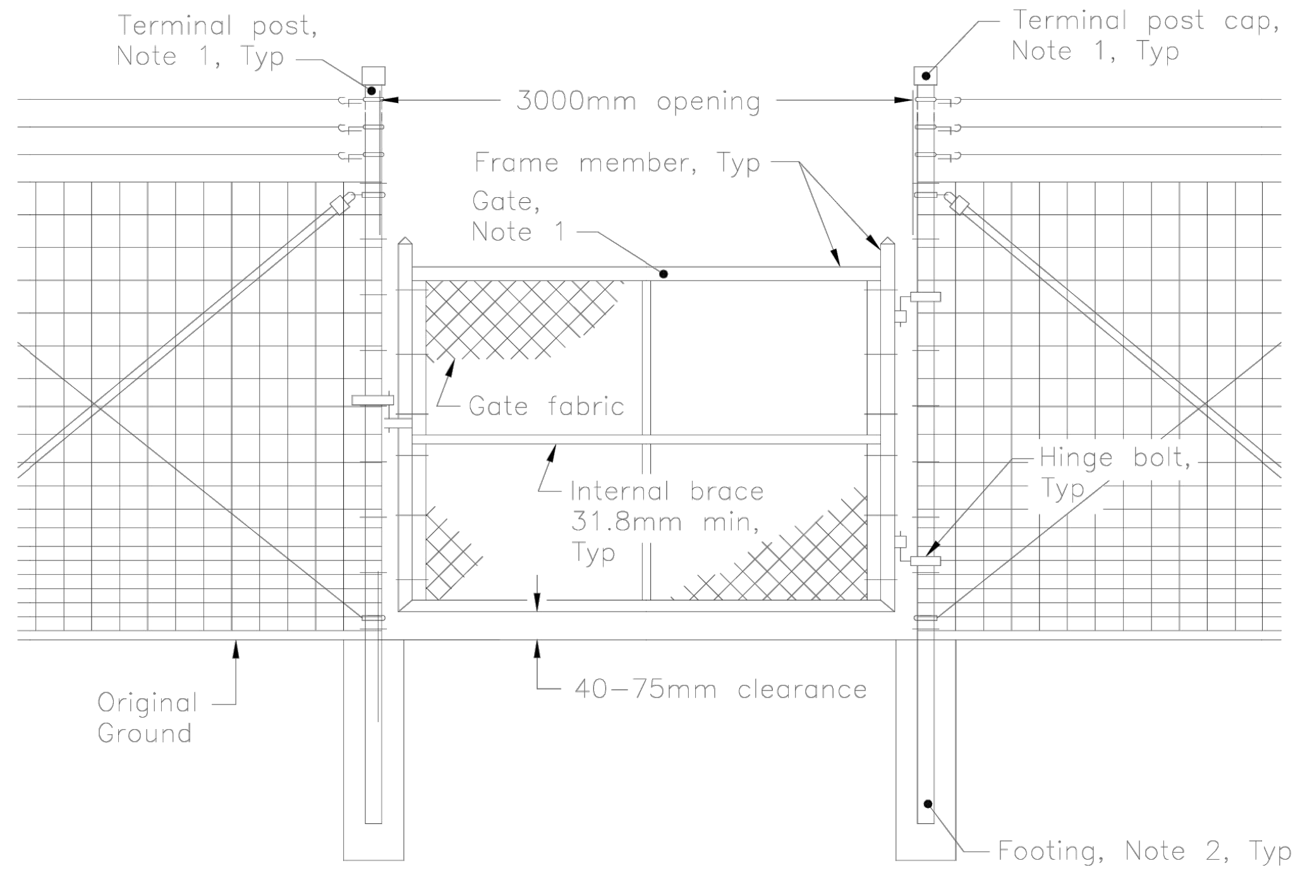
1
D7
WILDLIFE FENCE, STEEL POST FOOTING DETAIL
NTS


Max 1.5m terminal panel spacing
Max. 3.0m line post spacing
Terminal post cap
Turnbuckle, Typ
Wire ties 500mm OC
Barbed wire arm
Marcelled tension wire
Type B fence fabric
Tension bar
Terminal post
Line post, Typ
Identification plate
Brace rail 42.2mm OD
Marcelled tension wire
Wire ties 150mm OC max, Note 2
575
Original ground
Brace band, Typ
250
600
200
150
Trench bottom
Rail end, Typ
Footing, Note 1, Typ
Fence fabric embedded 200mm into 225mm deep x 200mm wide trench
WILDLIFE FENCE – TYPE B
Two wire ties per barbed wire arm
Marcelled tension wire
ROADWAY SIDE
Type B fence fabric
Backfill with excavated material
225
200
SECTION AT POSTS
Marcelled tension wire
ROADWAY SIDE
Type B fence fabric
Backfill with excavated material
225
200
SECTION BETWEEN POSTS
ROADWAY SIDE
Earth, as specified
Fence fabric
200
250
300
SECTION IN ROCK CUT
(FOOTING NOT SHOWN FOR CLARITY)
CORNER POST WITH BARBED WIRE ARM
STRAINING POST WITH BARBED WIRE ARM

NOTES:
1. For footing details, refer to MTOD 973.140.
2. For wire tie details refer to MTOD 973.141.
A. Fence as viewed from the roadway.
B. All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING
September 2017
Rev 0
WILDLIFE FENCE – TYPE B
ON STEEL POSTS
INSTALLATION
MTOD 973.133

2
D7
WILDLIFE FENCE - TYPE B ON STEEL POSTS DETAIL
NTS


Terminal post, Note 1, Typ
3000mm opening
Terminal post cap, Note 1, Typ
Frame member, Typ
Gate, Note 1
Gate fabric
Internal brace 31.8mm min, Typ
Hinge bolt, Typ
Original Ground
40–75mm clearance
Footing, Note 2, Typ

NOTES:
1. For wildlife fence details refer to MTOD 973.135.
2. For footing details refer to MTOD 973.140.
A. Fence as viewed from the roadway.
B. All dimensions are in millimetres unless otherwise shown.

MINISTRY OF TRANSPORTATION ONTARIO DRAWING
MAY 2021
Rev 1
WILDLIFE FENCE – TYPE A
ACCESS GATE
MTOD 973.132

3
D7
WILDLIFE FENCE, TYPE A ACCESS GATE DETAIL
NTS

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