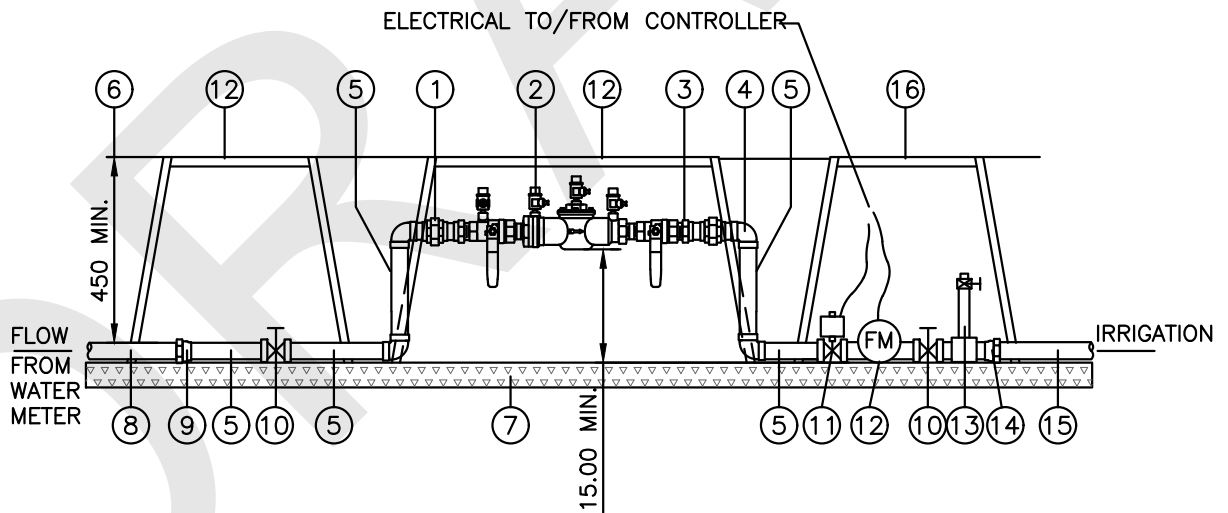


#	QUANT	DESCRIPTION
①	2	COPPER UNION
②	1	DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY c/w BALL VALVE SHUT OFF AT EACH END
③	2	COPPER MALE ADAPTER
④	4	COPPER 90° ELBOW
⑤	AS REQ'D	COPPER SPOOL PIECES (TYPICAL)
⑥	-	FINISH GRADE
⑦	-	50mm DEPTH 19mm MINUS GRAVEL
⑧	1	COPPER OR PVC PIPE FROM CITY WATER METER
⑨	1	COPPER FEMALE ADAPTER - REQUIRED IF SUPPLY PIPE IS PVC
⑩	2	BRONZE GATE VALVE - CLOSE FOR WINTERIZATION
⑪	1	MASTER VALVE
⑫	1	FLOW SENSOR
⑬	1	19mm BRONZE HOSE BIB ON RISER - FOR WINTERIZING SYSTEM
⑭	1	COPPER FEMALE ADAPTER
⑮	1	PVC PIPE TO IRRIGATION
⑯	3	VALVE BOX



January 2025



TOWN OF
COMOX

IRRIGATION BACKFLOW
PREVENTION
(PART 1 OF 2)

DRAWING NUMBER

L1

REVISION NUMBER

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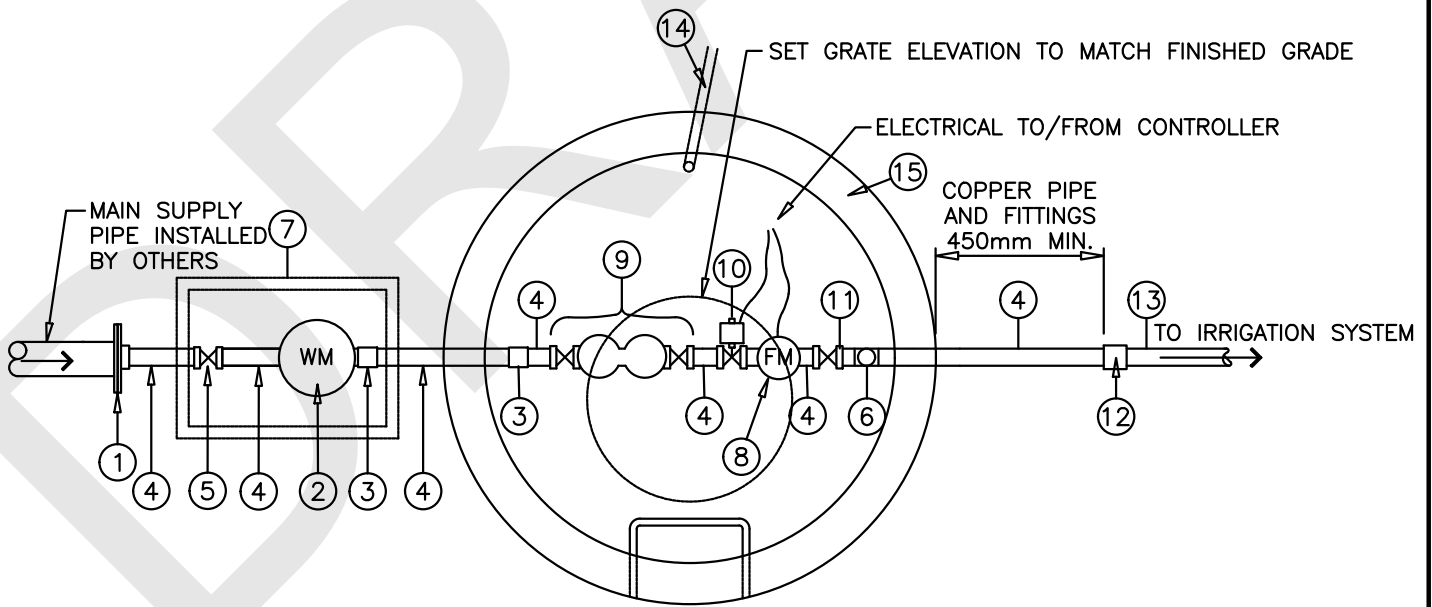
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#	QUANT	DESCRIPTION	CONNECTION
①	1	COMPANION FLANGE	FIPT
②	1	WATER METER (MIN. 4 ϕ FROM INLET VALVE AND 6 ϕ TO NEXT VALVE)	
③	2	DISMANTLING JOINT	FIPXSLIP
④	7	COPPER SPOOL PIECE SIZED TO SUIT (TYPICAL)	VARIOUS
⑤	2	BRONZE GATE VALVE C\W HANDWHEEL – CLOSE FOR WINTERIZATION	FIPT
⑥	1	19mm BRONZE HOSE BIB ON RISER – FOR WINTERIZING SYSTEM.	FIPT
⑦	1	METER BOX	
⑧	1	FLOW METER	
⑨	1	TESTABLE DOUBLE CHECK DETECTOR VALVE BACKFLOW PREVENTER ASSEMBLY c/w GATE VALVES	
⑩	1	MASTER VALVE	
⑪	1	BRONZE GATE VALVE C\W HANDWHEEL	MIPT
⑫	1	SCHED 80 ADAPTER	FIPXSLIP
⑬	1	PVC IRRIGATION MAIN	PE
⑭	1	100mm SDR28 PVC DRAIN PIPE – CONNECT TO STORM DRAIN OR OUTLET	
⑮	1	CONCRETE MANHOLE CHAMBER C/W STEP IRONS, LID, CAST-IN-PLACE (OR PREMANUFACTURED) BASE H2O MANHOLE FRAME AND COVER AND GRADE RINGS AS REQUIRED	

NOTES:

1. INSTALL ADJUSTABLE SUPPORTS UNDER METER & BACKFLOW PREVENTER TO PROVIDE 300mm MIN. CLEARANCE ABOVE FINISH GRADE OF BOTTOM OF CHAMBER.
2. INSTALL THRUST RINGS AT CHAMBER OPENINGS OR PROVIDE RESTRAINING DEVICES INSIDE CHAMBER.
3. ALL FITTINGS, PIPES AND VALVES WITHIN, AND 450 EITHER SIDE OF, CHAMBER TO BE COPPER.

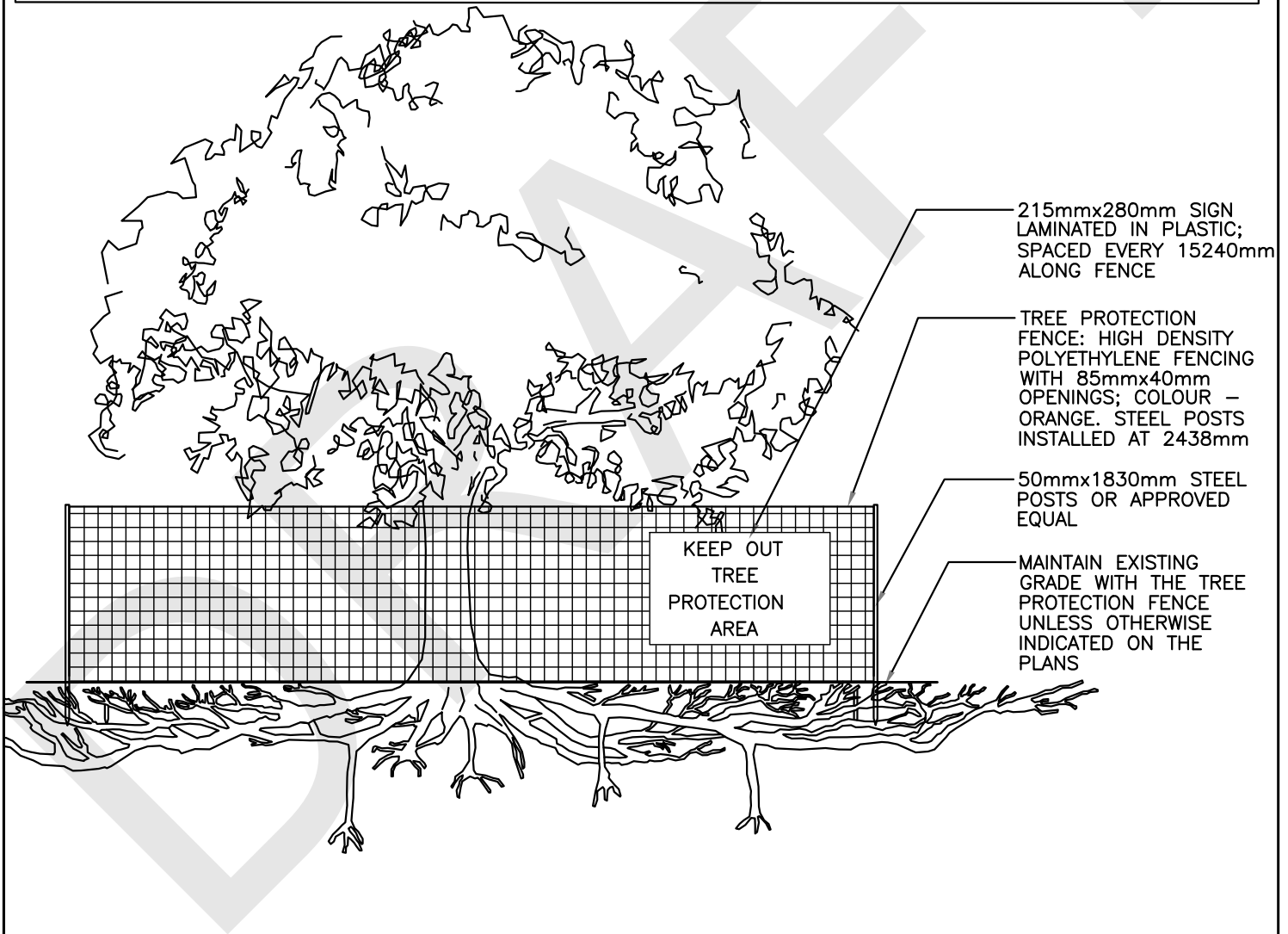


PLAN



NOTES:

1. LOCATION OF TREE PROTECTION FENCING AND LIMIT OF ACCESS FENCING TO BE VERIFIED WITH PROJECT MANAGER AND PROJECT ARBORIST PRIOR TO INSTALLATION.
2. TREE PROTECTION FENCING TO BE INSTALLED IN PRIOR TO ANY LAND DISTURBANCES ON SITE.
3. NO STORAGE OF BUILDING / CONSTRUCTION MATERIALS WITHIN PROTECTED AREAS OR AGAINST PROTECTION BARRIER.
4. ANY PRUNING OF BRANCHES OR ROOTS MUST BE DONE BY THE PROJECT ARBORIST.
5. HAND EXCAVATE ONLY WITHIN DRIPLINE OF TREES TO BE RETAINED SEVERING ROOTS IN EXCESS OF 50mm ϕ .
6. TREE PROTECTION FENCE IS NOT TO BE LIFTED OR REMOVED AT ANY TIME FOR VEHICULAR ACCESS. VEHICLES AND HEAVY EQUIPMENT CAN CAUSE SOIL COMPACTION IN THE ROOT ZONE DEPLETING THE AIR SPACE THAT IS ESSENTIAL TO THE TREE'S HEALTH.
7. BASED ON CONTRACTOR'S STAGING AND ACCESS REQUIREMENTS, ADDITIONAL TREE PROTECTION FENCING MAY BE REQUIRED.
8. THE TREE PROTECTION SHOWN SHALL BE TO THE EXTENT OF THE DRIP LINE OR AS IDENTIFIED IN THE CONTRACT DOCUMENTS;WHICHEVER IS MORE STRINGENT.
9. ALL EXCAVATION WORK WITHIN TWO METERS OF A TREE PROTECTION ZONE SHOULD BE CONDUCTED UNDER ARBORIST SUPERVISION.
10. TREES INDICATED FOR REMOVAL SHALL ALSO INCLUDE COMPLETE REMOVAL OF STUMPS AND ROOTS AND FILING IN DEPRESSIONS WITH SUITABLE SOIL FILL.
11. FENCING MUST REMAIN THROUGH THE DURATION OF ALL CONSTRUCTION ACTIVITIES. REMOVAL OR RELOCATION OF FENCING FOR TEMPORARY ACCESS MUST BE REPLACED DAILY AND IMMEDIATELY UPON COMPLETION OF WORK RELATED TO ACCESS.



January 2025



TOWN OF
COMOX

TREE PROTECTION

DRAWING NUMBER

L3

REVISION NUMBER

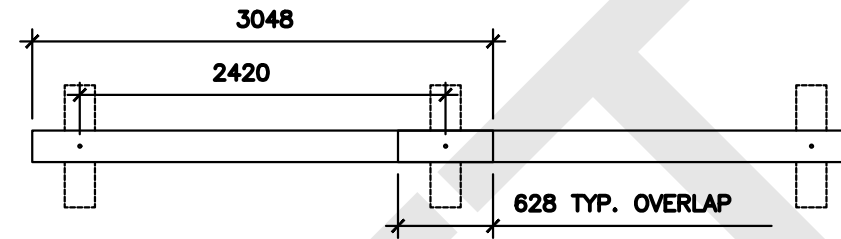
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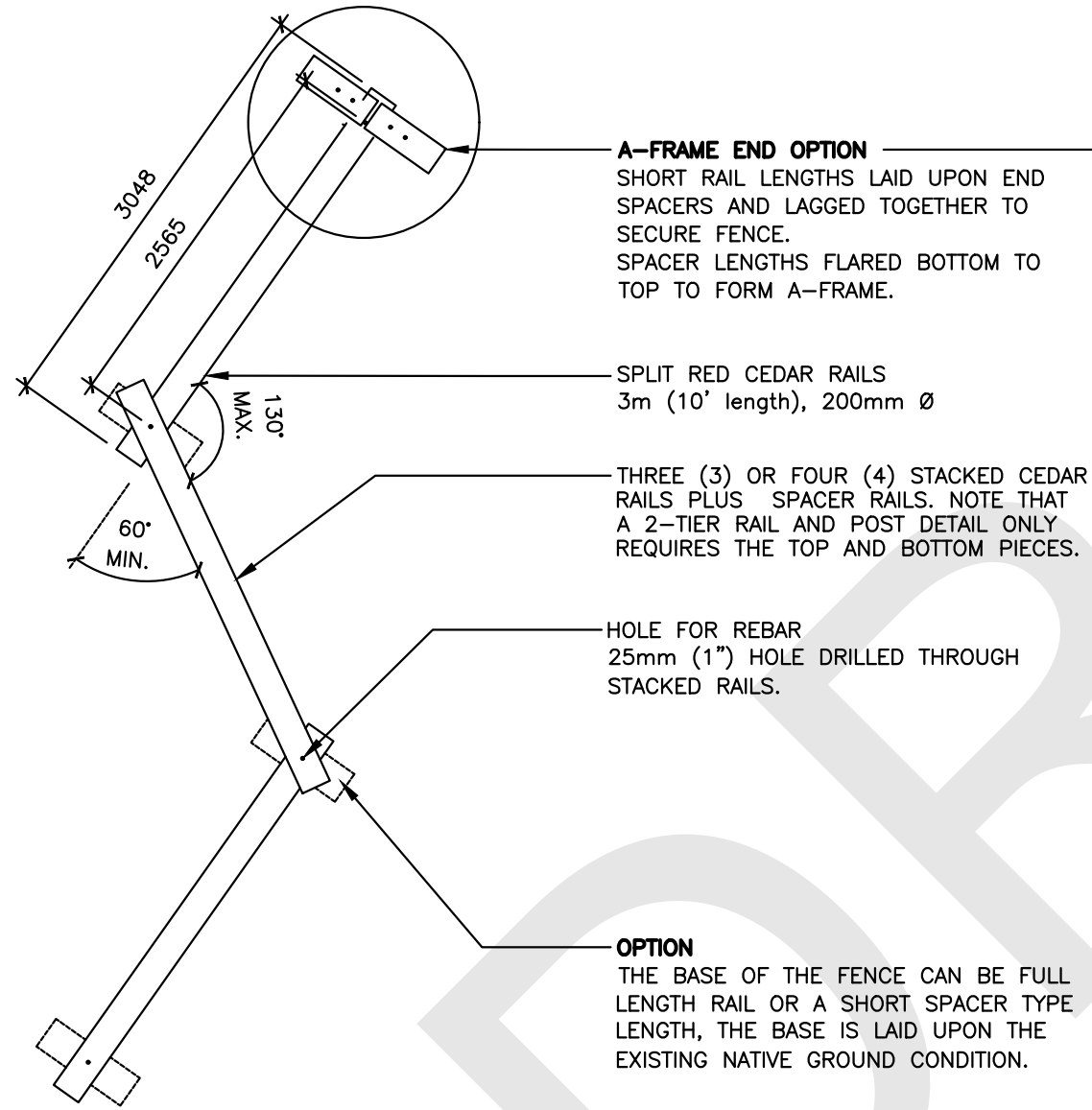
N.T.S.

NOTES:

1. ALL DIMENSIONS IN MILLIMETERS (mm), EXCEPT WHERE NOTED.
2. THE TOP RAIL IS TO BE LAGGED TO THE RAIL BELOW WITH $\frac{1}{2}$ " X 10" LAG SCREW.
3. ALL HARDWARE IS TO BE HOT DIPPED GALVANIZED.
4. WHERE THE ZIG-ZAG IS NOT POSSIBLE, AND THE 130 DEGREE ANGLE IS NOT POSSIBLE THE LAYOUT OF STACKED RAILS CAN BE IN-LINE, WHERE:
 - 4.1. THE OVERLAP OF RAIL ENDS IS 600mm
 - 4.2. THE CONNECTING REBAR IS DRIVEN 900mm INTO THE GROUND OR BORED INTO ROCK 150mm BELOW
 - 4.3. THE FENCE END SHOULD BE FINISHED WITH THE A-FRAME OPTION OR PINNED TO SOLID ROCK;
 - 4.4. THE REBAR DIAMETER SHOULD BE INCREASED TO 25mm (1").



PLAN (IN-LINE/STRAIGHT)



PLAN (ZIG-ZAG)

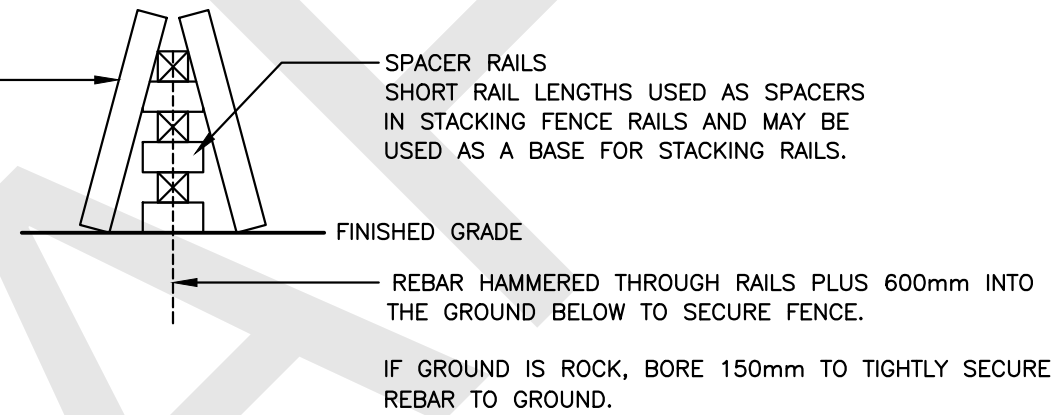
A-FRAME END OPTION
 SHORT RAIL LENGTHS LAID UPON END SPACERS AND LAGGED TOGETHER TO SECURE FENCE.
 SPACER LENGTHS FLARED BOTTOM TO TOP TO FORM A-FRAME.

SPLIT RED CEDAR RAILS
 3m (10' length), 200mm Ø

THREE (3) OR FOUR (4) STACKED CEDAR RAILS PLUS SPACER RAILS. NOTE THAT A 2-TIER RAIL AND POST DETAIL ONLY REQUIRES THE TOP AND BOTTOM PIECES.

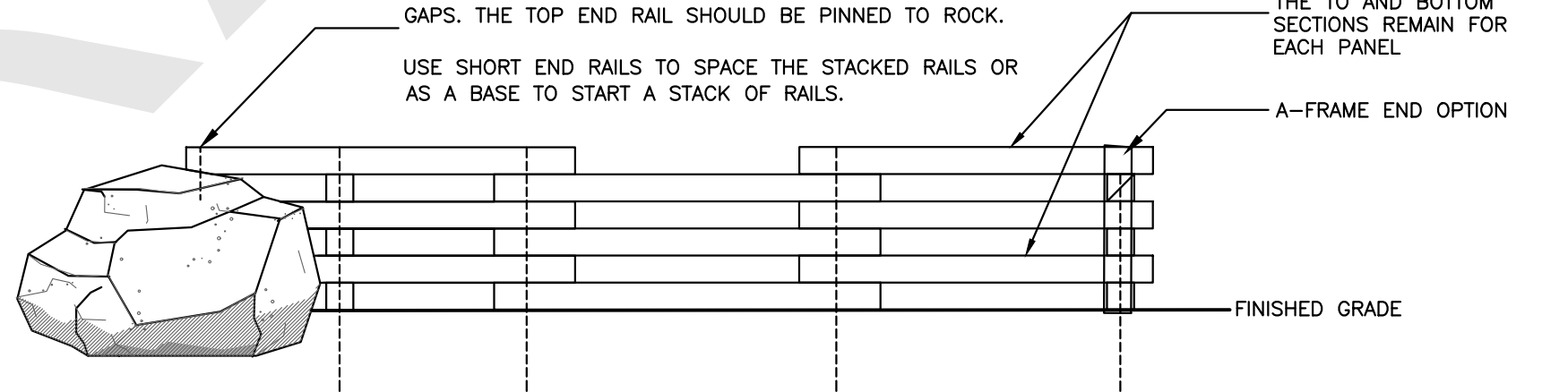
HOLE FOR REBAR
 25mm (1") HOLE DRILLED THROUGH STACKED RAILS.

OPTION
 THE BASE OF THE FENCE CAN BE FULL LENGTH RAIL OR A SHORT SPACER TYPE LENGTH, THE BASE IS LAID UPON THE EXISTING NATIVE GROUND CONDITION.



END ELEVATION (A-FRAME)

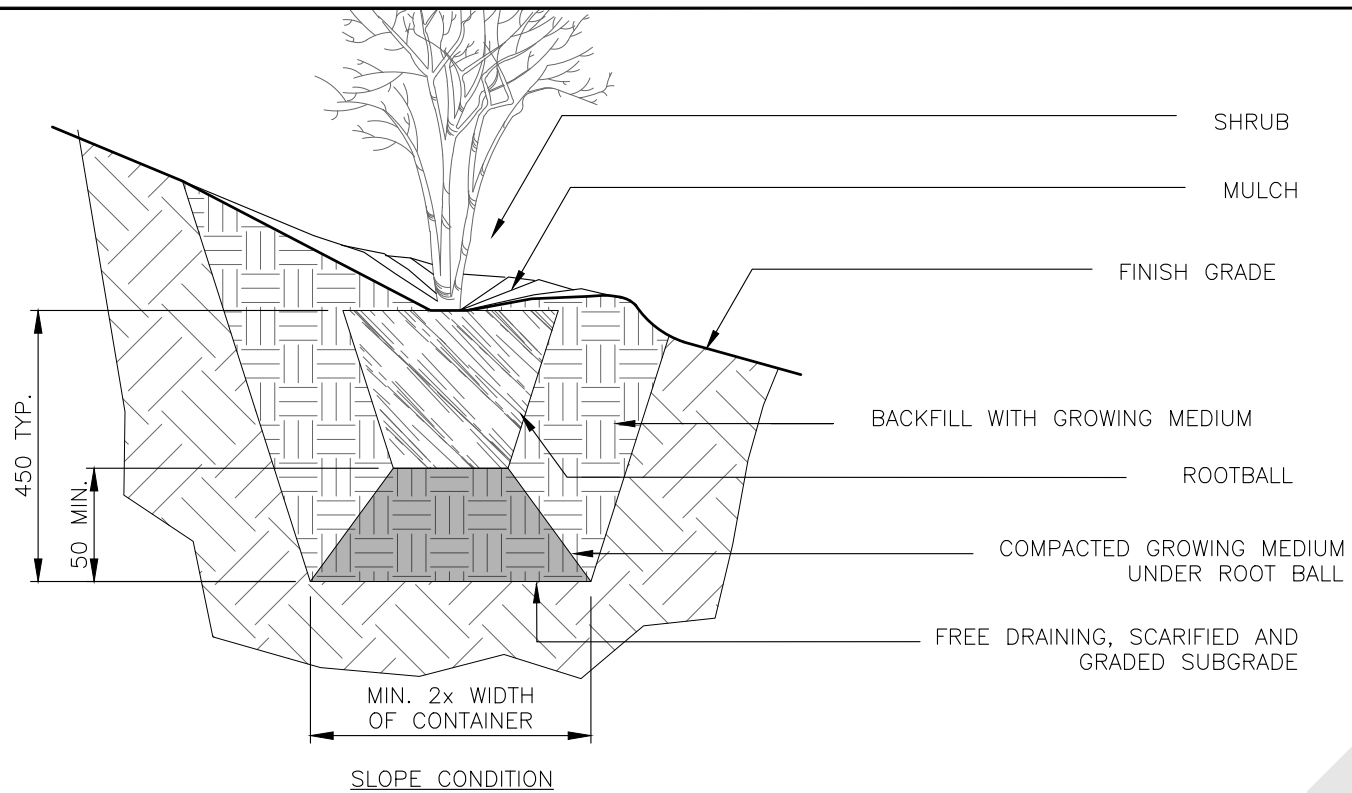
FENCE ENDS TO BE TIGHT TO FIXED FEATURES, SUCH AS BOULDERS OR STABLE BANKS SO THERE IS NO UNSAFE GAPS. THE TOP END RAIL SHOULD BE PINNED TO ROCK.
 USE SHORT END RAILS TO SPACE THE STACKED RAILS OR AS A BASE TO START A STACK OF RAILS.



ELEVATION (ZIG-ZAG)

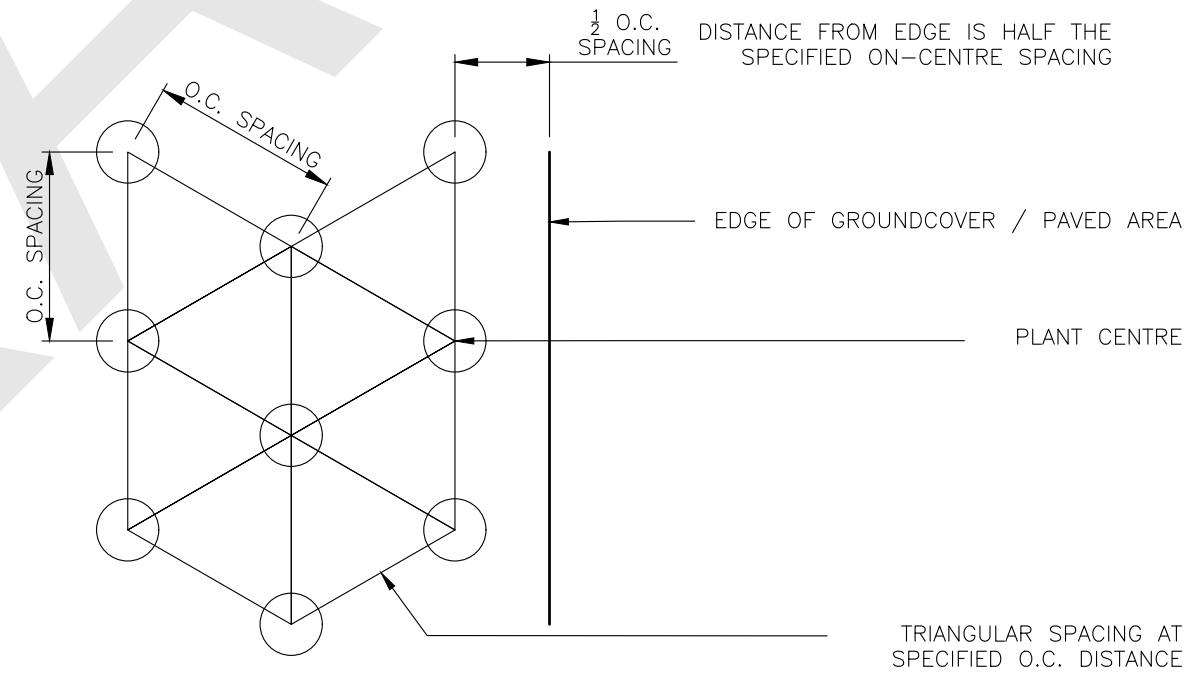
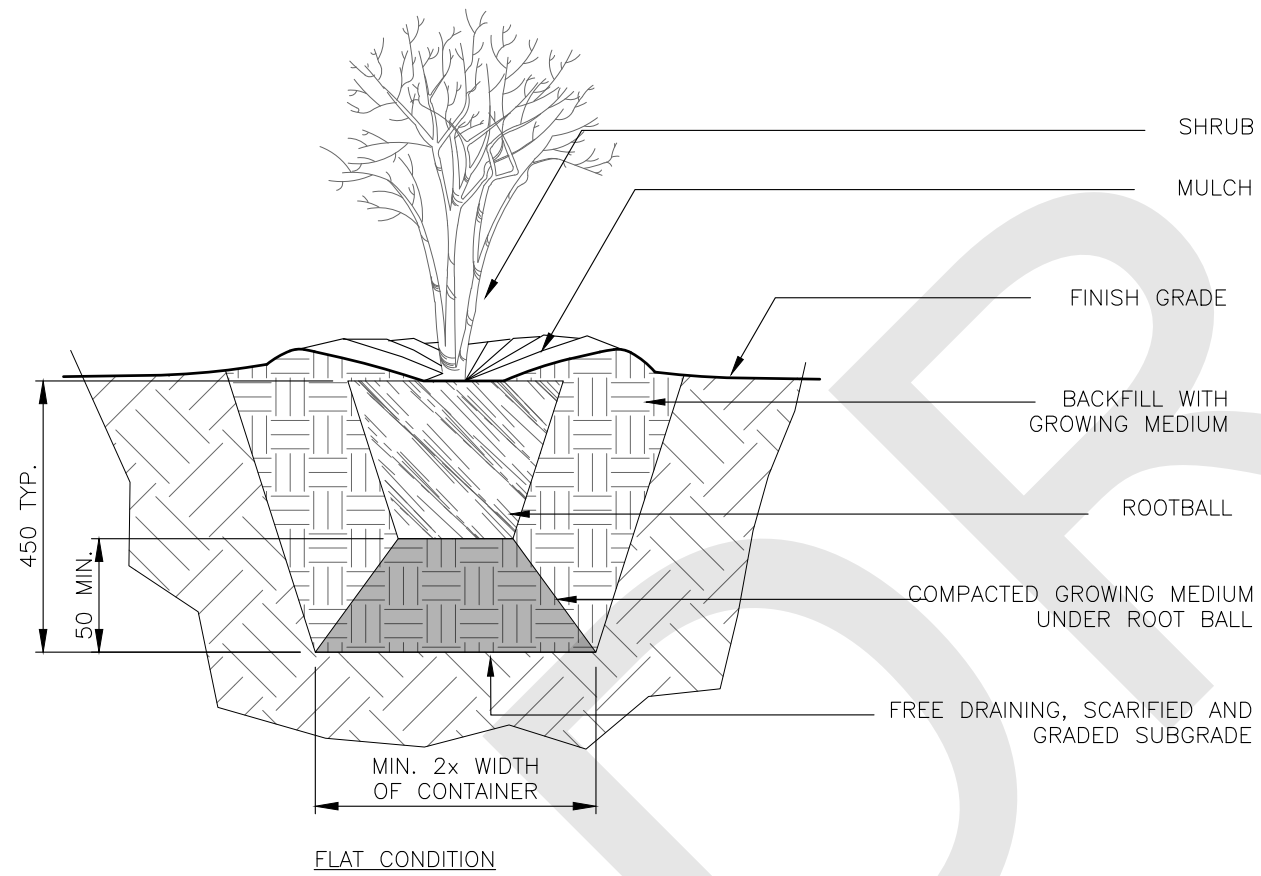
**SPLIT RAIL
 CEDAR FENCE**

DRAWING NUMBER	L4
REVISION NUMBER	A
SCALE	N.T.S.

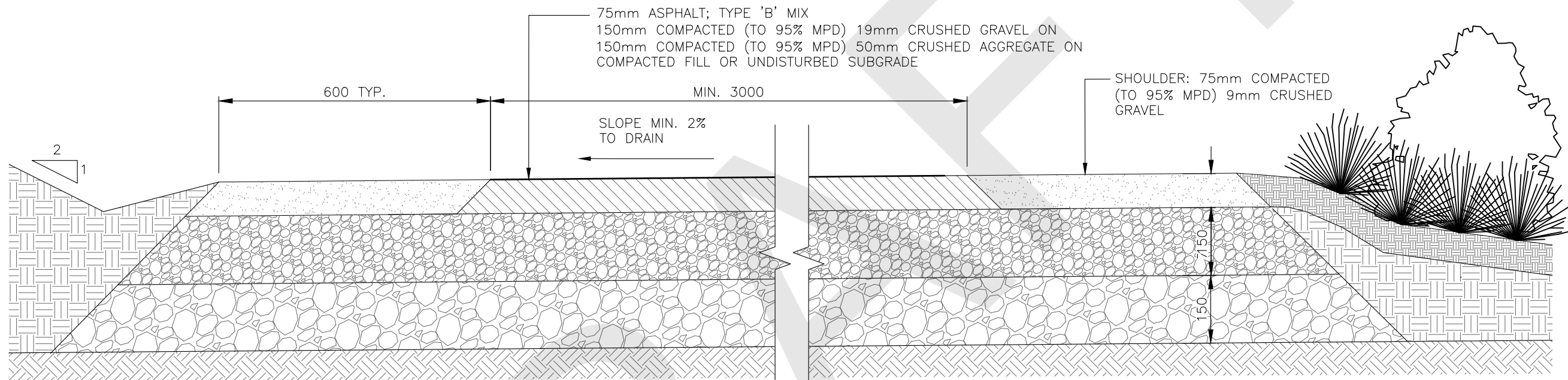


NOTES

1. SHRUBS SHOWN IN INDIVIDUAL PLANTING PITS FOR CLARITY ONLY. ALL SHRUBS TO BE INSTALLED IN SHRUB PLANTING BED TO DEPTHS SHOWN UNLESS OTHERWISE INDICATED.
2. SET CROWN OF ROOTBALL 25mm ABOVE FINISHED GRADE AND REMOVE ALL ORGANIC POTS PRIOR TO PLANTING.
3. COMPOSTED MULCH:
 - 3.1. KEEP BACK 50mm FROM STEM
 - 3.2. DEPTH TO BE 75mm UNDER IRRIGATION CONDITION, 100mm UNDER DRYLAND CONDITION AFTER SETTLING
4. ALL UNITS IN mm UNLESS OTHERWISE NOTED.

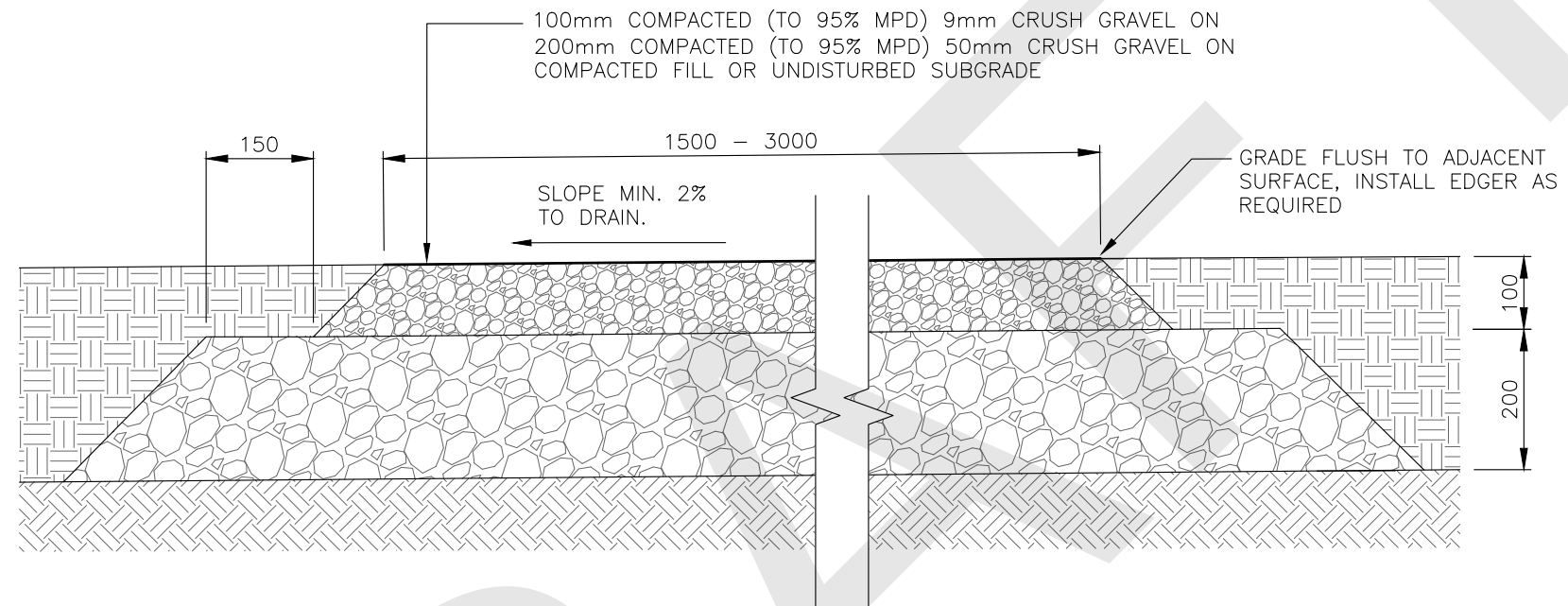


SHRUB PLANTING



NOTES

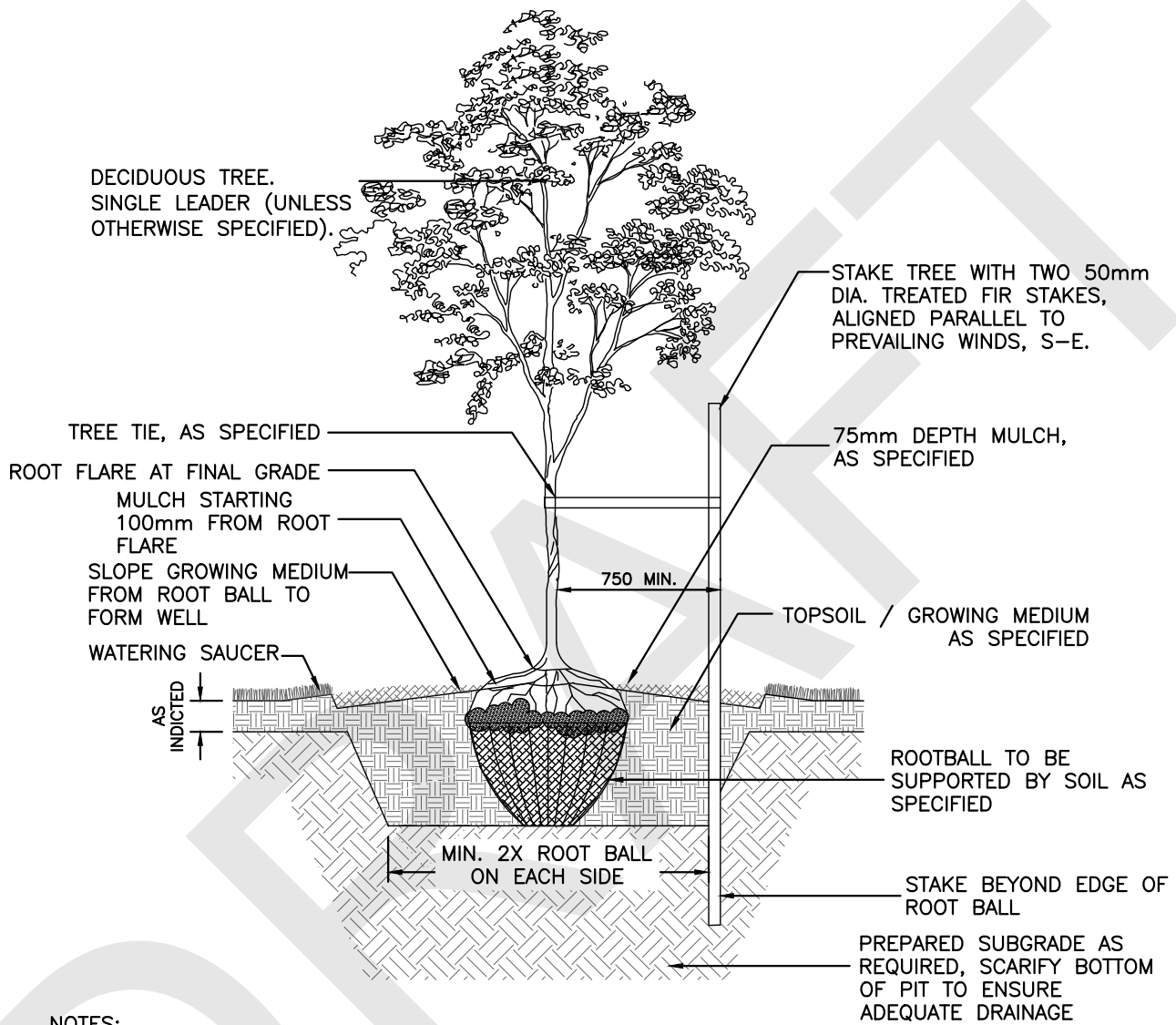
1. COMPACTED BASE MATERIAL TO BE 50mm CRUSHED AGGREGATE (AS NOTED) OR APPROVED ENGINEERED FILL.
2. PROVIDE 2% CROSSFALL IN THE DIRECTION OF DRAINAGE.
3. CONTRACTOR'S RESPONSIBILITY TO REHABILITATE ALL DISTURBED AREAS ALONG TRAIL EDGE.
4. THICKNESS OF EACH LAYER SHOWN AS MINIMUM REQUIREMENTS.
5. ALL UNITS IN MILLIMETERS UNLESS OTHERWISE NOTED.



NOTES

1. COMPACTED BASE MATERIAL TO BE 50mm CRUSH GRAVEL (AS NOTED) OR APPROVED ENGINEERED FILL.
2. THICKNESSES OF EACH LAYER SHOWN AS MINIMUM REQUIREMENTS.
3. ALL UNITS IN MILLIMETERS UNLESS OTHERWISE NOTED.

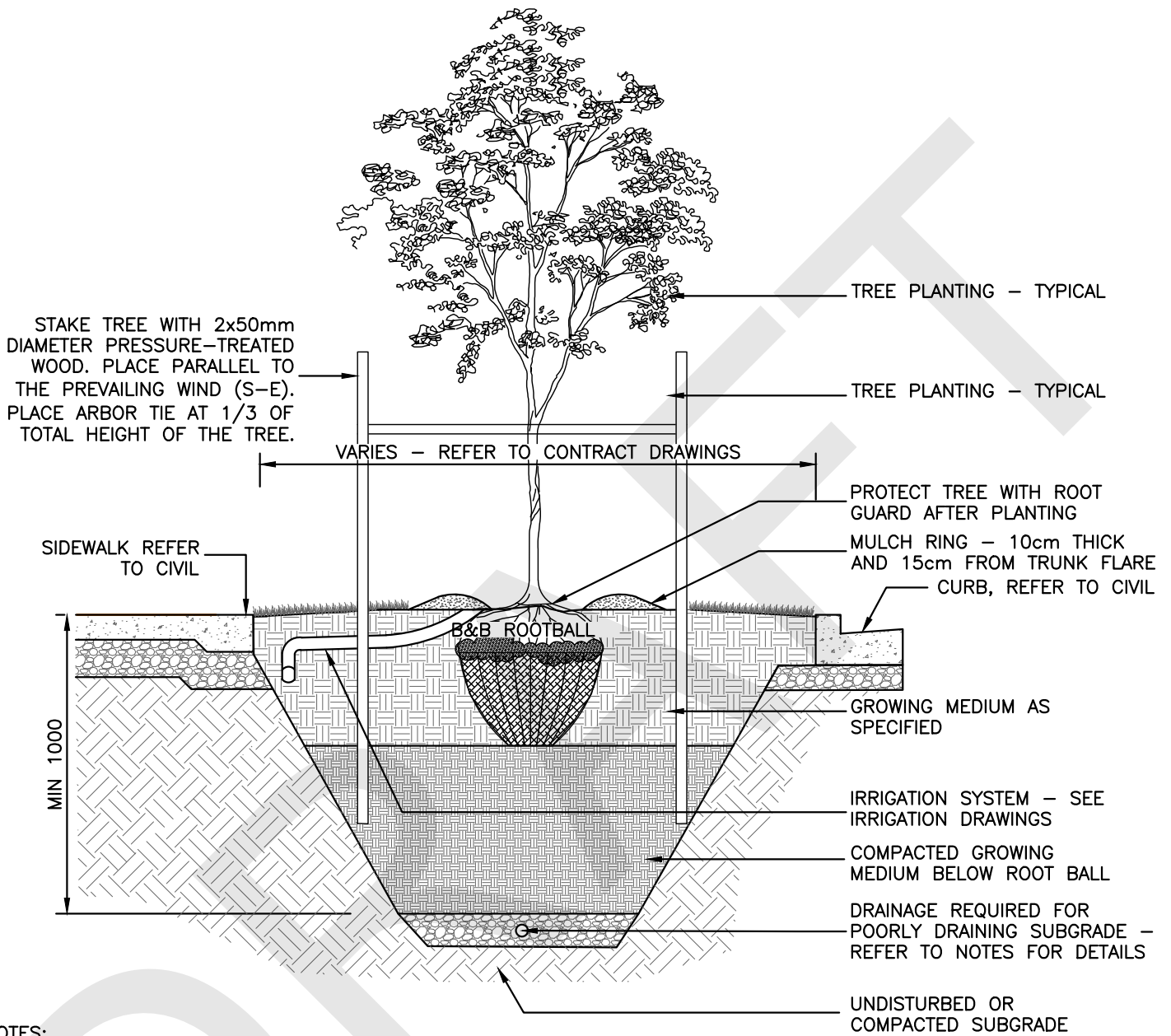
DECIDUOUS TREE.
SINGLE LEADER (UNLESS
OTHERWISE SPECIFIED).



NOTES:

1. FOR B&B, LOOSEN AND CUT AWAY TOP 1/3 OF WRAPPING, TWINE, AND WIRE BASKET ONCE THE ROOTBALL HAS BEEN SET IN THE HOLE.
2. GROWING MEDIUM SHALL BE MIN. 1000mm DEPTH UNLESS NOTED OTHERWISE.
3. MIX 150mm DEPTH GROWING MEDIUM WITH SCARIFIED SUBGRADE PRIOR TO BACKFILLING REMAINING GROWING MEDIUM .
4. INSTALL TREE TIE AT APPROX. 100mm BELOW LOWEST BRANCH FOR DECIDUOUS LESS THAN 100mm CAL. DO NOT REMOVE OR CONSTRAIN ANY BRANCHES.
5. IF POOR DRAINAGE CONDITIONS EXIST, PROVIDE POSITIVE SUB-SURFACE DRAINAGE AWAY FROM PLANTING EXCAVATION.
6. IRRIGATION REQUIRED TO TOWN STANDARDS WHERE INDICATED BY MUNICIPAL ENGINEER.
7. ALL UNITS IN MILLIMETERS UNLESS OTHERWISE NOTED.
8. ROOTS MUST BE TEASED OUT TO ENCOURAGE LATERAL GROWTH AND REDUCE GIRDING, ESPECIALLY ION CONTAINER GROWN PLANTS.





NOTES:

1. FOR B&B, LOOSEN AND CUT AWAY TOP 1/3 OF WRAPPING, TWINE, AND WIRE BASKET ONCE THE ROOTBALL HAS BEEN SET IN THE HOLE.
2. GROWING MEDIUM SHALL BE MIN. 1000mm DEPTH UNLESS NOTED OTHERWISE.
3. MIX 150MM DEPTH GROWING MEDIUM WITH SCARIFIED SUBGRADE PRIOR TO BACKFILLING REMAINING GROWING MEDIUM.
4. INSTALL TREE TIE AT APPROX. 100mm BELOW LOWEST BRANCH FOR DECIDUOUS LESS THAN 100mm CAL. DO NOT REMOVE OR CONSTRAIN ANY BRANCHES.
5. IRRIGATION REQUIRED TO TOWN STANDARDS WHERE INDICATED BY MUNICIPAL ENGINEER.
6. LOCATE AND FLAG ALL BURIED UTILITIES IN TREE PLANTING SITE PRIOR TO DIGGING TREE PITS.
7. DRAINAGE: 100mm PERFORATED PVC DRAIN COVERED WITH MIN. 150mm DRAIN ROCK WRAPPED WITH FILTER CLOTH (NILEX 4535 NON-WOVEN GEOTEXTILE OR EQUIVALENT), PIPE CONNECTED TO STORM DRAIN.
8. ALL UNITS IN MILLIMETERS UNLESS OTHERWISE NOTED.
9. EACH TREE REQUIRES 24.6m³ OF GROWING MEDIUM/SOIL. IF ADEQUATE VOLUME CANNOT BE ACHIEVED, STRUCTURAL SOIL OR SOIL CELLS TO BE ADDED. REFER TO SUPPLEMENTAL DETAIL L10 AND L11 FOR OPTIONS.

January 2025



TOWN OF
COMOX

TREE PLANTING ADJACENT
TO SIDEWALK

DRAWING NUMBER

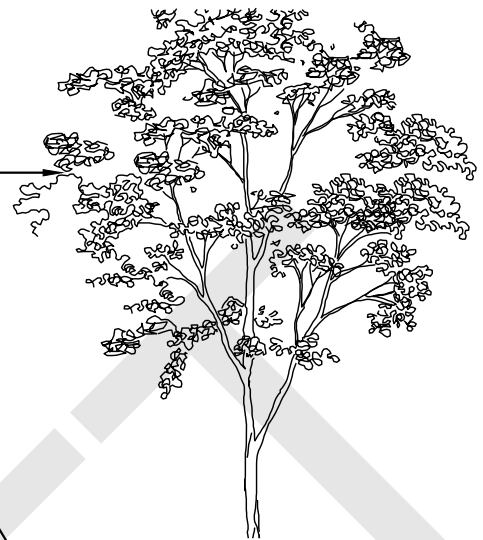
L9

REVISION NUMBER

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SCALE

N.T.S.



TREE PLANTING – TYPICAL

IRRIGATION SYSTEM, SEE IRRIGATION DRAWINGS

CONCRETE PAVING REFER TO PLANS

SILVA CELL SYSTEM (DECK, BASE, AND POSTS); REFER TO PLAN FOR LAYOUT AND ORIENTATION

100mm DEPTH 19mm CLEAR CRUSH ROCK

WOVEN GEOTEXTILE, 450mm MINIMUM OVERLAP PAST EXCAVATION

COMPACTED BACKFILL

GEOGRID WRAPPED AROUND PERIMETER OF SYSTEM – 150mm MINIMUM BELOW BACKFILL AT BASE. OVERLAP 300mm MINIMUM AT TOP OF CELLS.

GROWING MEDIUM AS SPECIFIED; PLACED IN LIFTS AND WALK-IN COMPACTED TO 75–85% PROCTOR

SILVA CELL BASE SLOPE, 10% MAX.

TREE OPENING REFER TO PLANS

B&B ROOTBALL

COMPACTED GROWING MEDIUM BELOW ROOT BALL

COMPACTED SUBGRADE

100mm MIN AGGREGATE SUB BASE; COMPACTED TO 95% PROCTOR

WOVEN GEOTEXTILE FABRIC

DRAINAGE REQUIRED FOR POORLY DRAINING SUBGRADE. REFER TO NOTES FOR DETAILS

150 min.

25-150

MIN 1000

NOTES:

1. SOIL CELLS TO BE DEEPROOT SILVA CELL 3X SYSTEM OR APPROVED EQUIVALENT.
2. SOIL CELLS TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
3. LOCATE AND FLAG ALL BURIED UTILITIES IN TREE PLANTING SITE PRIOR TO DIGGING TREE PITS.
4. DRAINAGE: 100mm PERFORATED PVC DRAIN COVERED WITH MIN. 150mm DRAIN ROCK WRAPPED WITH FILTER CLOTH (NILEX 4535 NON-WOVEN GEOTEXTILE OR EQUIVALENT), PIPE CONNECTED TO STORM DRAIN.
4. ALL UNITS IN MILLIMETERS UNLESS OTHERWISE NOTED.

January 2025



TOWN OF COMOX

TREE PLANTING WITH SOIL CELL

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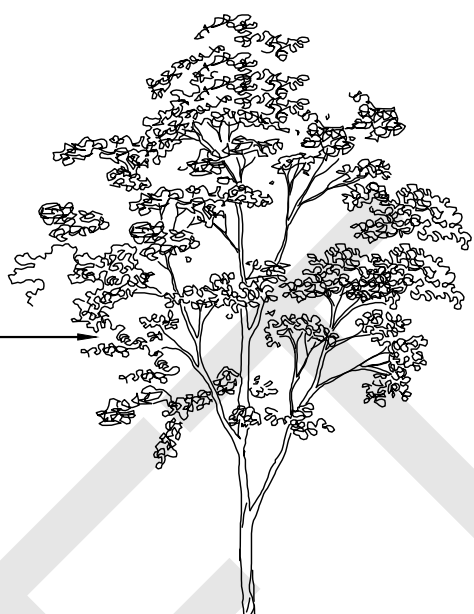
L10

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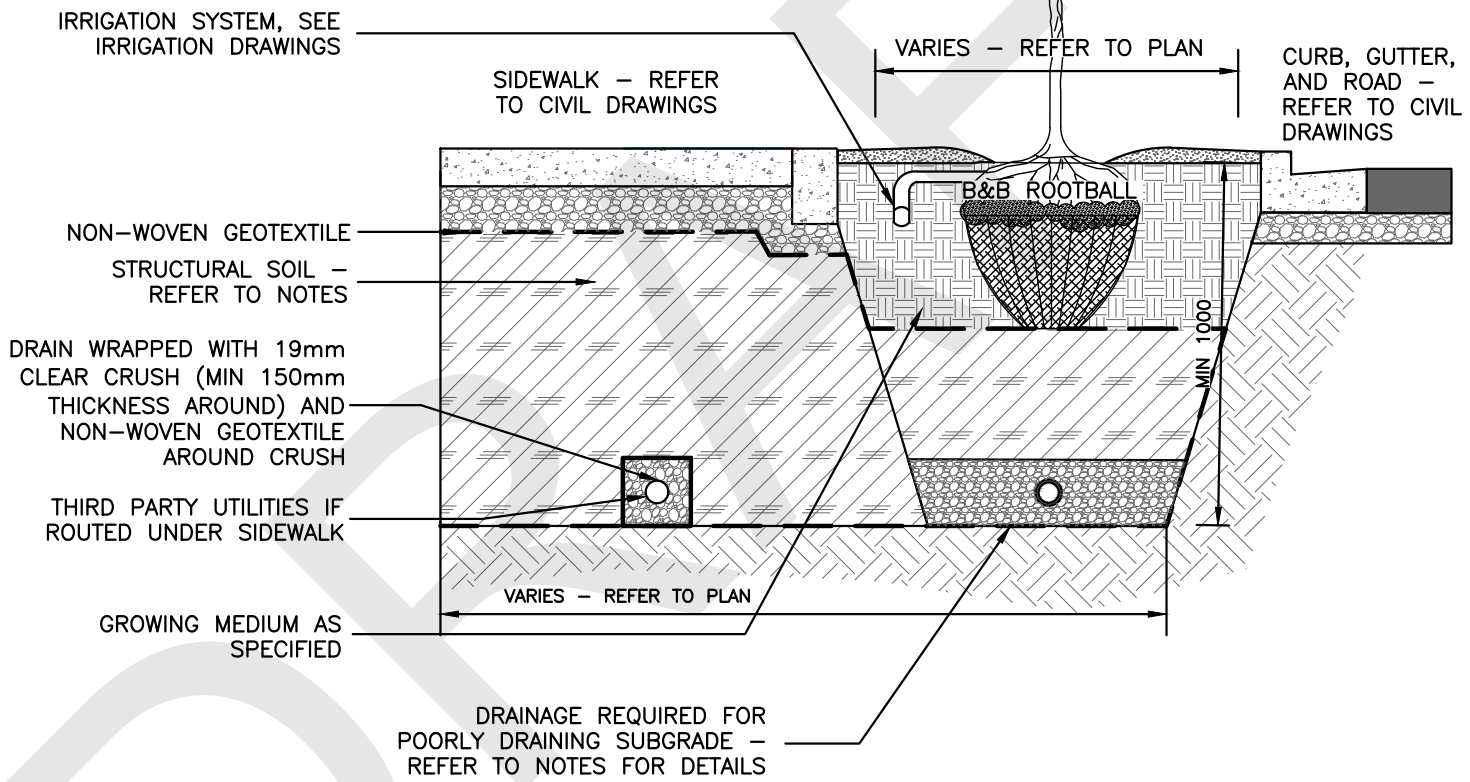
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SCALE

N.T.S.



TREE PLANTING – TYPICAL



NOTES:

1. LOCATE AND FLAG ALL BURIED UTILITIES IN TREE PLANTING SITE PRIOR TO DIGGING TREE PITS.
2. DRAINAGE: 100mm PERFORATED PVC DRAIN COVERED WITH MIN. 150mm DRAIN ROCK WRAPPED WITH FILTER CLOTH (NILEX 4535 NON-WOVEN GEOTEXTILE OR EQUIVALENT), PIPE CONNECTED TO STORM DRAIN.
3. STRUCTURAL SOIL: CALCULATE VOLUME ACHIEVED AS 20% ACTUAL SOIL – FINAL MATERIAL TO BE APPROVED BY TOWN OF COMOX.
4. ALL UNITS IN MILLIMETERS UNLESS OTHERWISE NOTED.

January 2025



TOWN OF COMOX

TREE PLANTING WITH STRUCTURAL SOIL

DRAWING NUMBER	L11
REVISION NUMBER	A
SCALE	N.T.S.