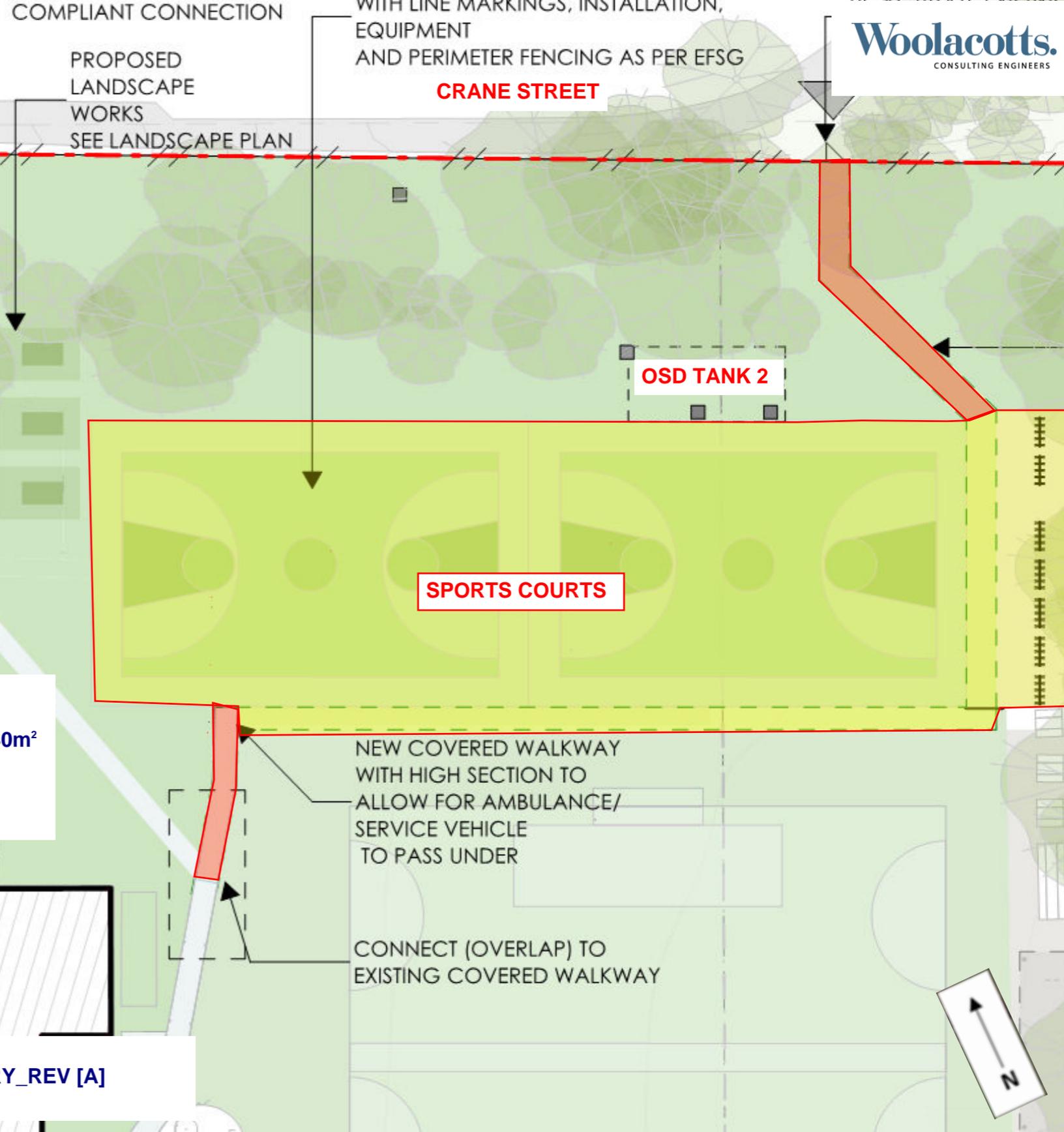


# Concord High School Upgrade

## OSD Tanks & MUSIC Catchment Plans

**15 September 2023 | 22-108 | Revision [A]**





**OSD TANK 2 CATCHMENT INFORMATION SUMMARY**

TOTAL PROPOSED DEVELOPMENT AREA = 1400m<sup>2</sup>  
 POST-DEVELOPMENT PERVIOUS AREA = 0m<sup>2</sup>  
 POST-DEVELOPMENT IMPERVIOUS AREA = 1400m<sup>2</sup>

PROPOSED DEVELOPMENT AREA DIRECTING TO OSD TANK 2 = 1340m<sup>2</sup>  
 PROPOSED DEVELOPMENT AREA BYPASSING OSD TANK 2 = 60m<sup>2</sup>

PERCENTAGE OF PROPOSED DEVELOPMENT AREA BYPASSING OSD TANK 2 = 4.3%

**OSD REQUIREMENTS**

SITE STORAGE = 200m<sup>3</sup> PER HECTARE OF PROPOSED DEVELOPMENT AREA.  
 PERMISSIBLE SITE DISCHARGE = 180L/s PER HECTARE OF PROPOSED DEVELOPMENT AREA.

REFER TO THE CITY OF CANADA BAY COUNCIL DEVELOPMENT CONTROL PLAN, APPENDIX 2 - ENGINEERING SPECIFICATIONS, PAGE APP2 -285.

OSD VOLUME REQUIRED FOR 1400m<sup>2</sup> OF PROPOSED DEVELOPMENT AREA = 28m<sup>3</sup>  
 PERMISSIBLE SITE DISCHARGE FOR 1400m<sup>2</sup> OF PROPOSED DEVELOPMENT AREA = 25.2L/s

40% OF THE REQUIRED OSD VOLUME WILL BE ADDED TO THE OSD TANK 2 FOR AREA BYPASSING OSD TANK 2 AND NON-HED CONTROL PIT TYPE..

**OSD TANK 2 SUMMARY**

OSD VOLUME PROVIDED = 39m<sup>3</sup>  
 ORIFICE DIAMETER = 107mm  
 CENTRE OF ORIFICE = RL 3.49  
 MAXIMUM OSD TOP WATER LEVEL = RL 4.20

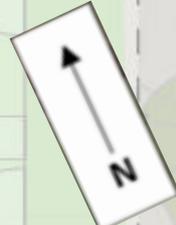
OSD TANK 2 MAXIMUM DISCHARGE RATE = 20L/s (80% OF PERMISSIBLE SITE DISCHARGE FOR 1400m<sup>2</sup>)

REFER TO DRAWING C002 FOR OSD TANK 2 SECTION.

**LEGEND**

 PROPOSED DEVELOPMENT AREA DIRECTING TO OSD TANK 2 = 1340m<sup>2</sup>

 PROPOSED DEVELOPMENT AREA BYPASSING OSD TANK 2 = 60m<sup>2</sup>



**OSD TANK 3 CATCHMENT INFORMATION SUMMARY**

TOTAL PROPOSED DEVELOPMENT AREA = 1000m<sup>2</sup>  
 POST-DEVELOPMENT PERVIOUS AREA = 0m<sup>2</sup>  
 POST-DEVELOPMENT IMPERVIOUS AREA = 1000m<sup>2</sup>

PROPOSED DEVELOPMENT AREA DIRECTING TO OSD TANK 3 = 840m<sup>2</sup>  
 PROPOSED DEVELOPMENT AREA BYPASSING OSD TANK 3 = 160m<sup>2</sup>

PERCENTAGE OF PROPOSED DEVELOPMENT AREA BYPASSING OSD TANK 3 = 16%

**OSD REQUIREMENTS**

SITE STORAGE = 200m<sup>3</sup> PER HECTARE OF PROPOSED DEVELOPMENT AREA  
 PERMISSIBLE SITE DISCHARGE = 180L/s PER HECTARE OF PROPOSED DEVELOPMENT AREA

REFER TO THE CITY OF CANADA BAY COUNCIL DEVELOPMENT CONTROL PLAN, APPENDIX 2 -  
 ENGINEERING SPECIFICATION, PAGE APP2 - 285.

OSD VOLUME REQUIRED FOR 1000m<sup>2</sup> OF PROPOSED DEVELOPMENT AREA = 20m<sup>3</sup>  
 PERMISSIBLE SITE DISCHARGE FOR 1400m<sup>2</sup> OF PROPOSED DEVELOPMENT AREA = 18L/s

40 % OF THE REQUIRED OSD VOLUME WILL BE ADDED TO THE OSD TANK 3 FOR AREA BYPASSING  
 OSD TANK 3 AND NON-HED CONTROL PIT TYPE.

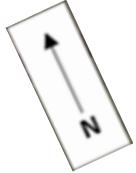
**OSD TANK 3 SUMMARY**

OSD VOLUME PROVIDED = 30m<sup>3</sup>  
 ORIFICE DIAMETER = 88mm  
 CENTRE OF ORIFICE = RL 7.20  
 MAXIMUM OSD TOP WATER LEVEL = RL 7.95  
 OSD TANK 3 MAXIMUM DISCHARGE RATE = 14L/s (80% OF PERMISSIBLE DISCHARGE FOR 1000m<sup>2</sup>)

REFER TO DRAWING C002 FOR OSD TANK 3 SECTION.

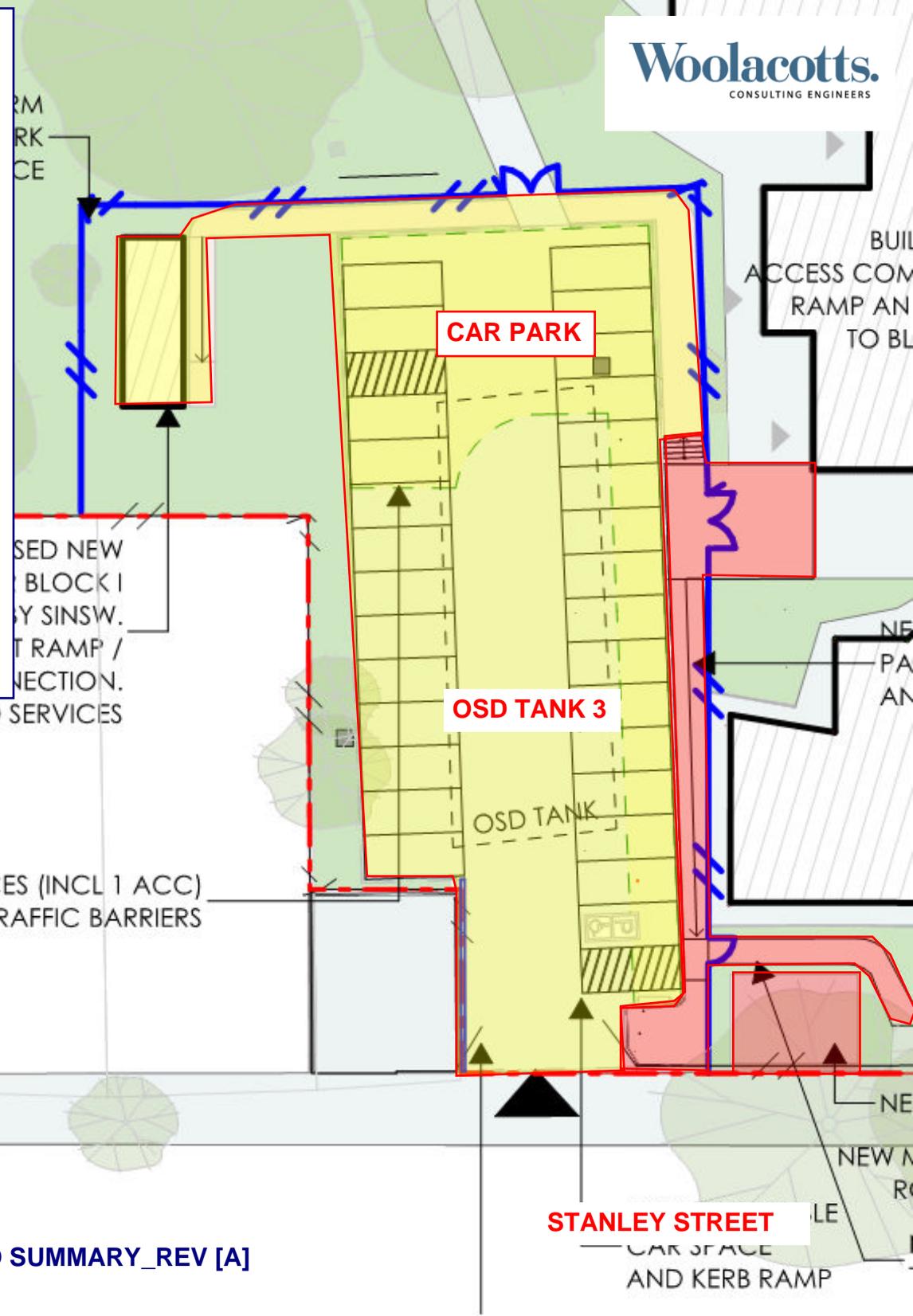
**LEGEND**

- PROPOSED DEVELOPMENT AREA DIRECTING TO OSD TANK 3 = 810m<sup>2</sup>
- PROPOSED DEVELOPMENT AREA BYPASSING OSD TANK 3 = 190m<sup>2</sup>



TO 29 SPACES (INCL 1 ACC)  
 PROVIDE WHEEL STOPS AND SCURE TRAFFIC BARRIERS

CONNECTION TO SERVICES



**STORMWATER QUALITY- MUSIC CATCHMENT PLAN 1**

DESIGN IN ACCORDANCE WITH THE CITY OF CANADA BAY COUNCIL DEVELOPMENT CONTROL PLAN, APPENDIX 2 - ENGINEERING SPECIFICATION. POLLUTANT LOAD REDUCTION MUST BE A MINIMUM PERCENTAGE REDUCTION OF THE POST DEVELOPMENT AVERAGE ANNUAL LOAD OF POLLUTANTS IN ACCORDANCE WITH THOSE OUTLINED BELOW:

POLLUTANT	POST DEVELOPMENT AVERAGE ANNUAL LOAD REDUCTION TARGETS (%) REQUIRED
TOTAL SUSPENDED SOLIDS (TSS)	80
TOTAL NITROGEN (TN)	45
TOTAL PHOSPHORUS (TP)	45
GROSS POLLUTANTS (GP)	70

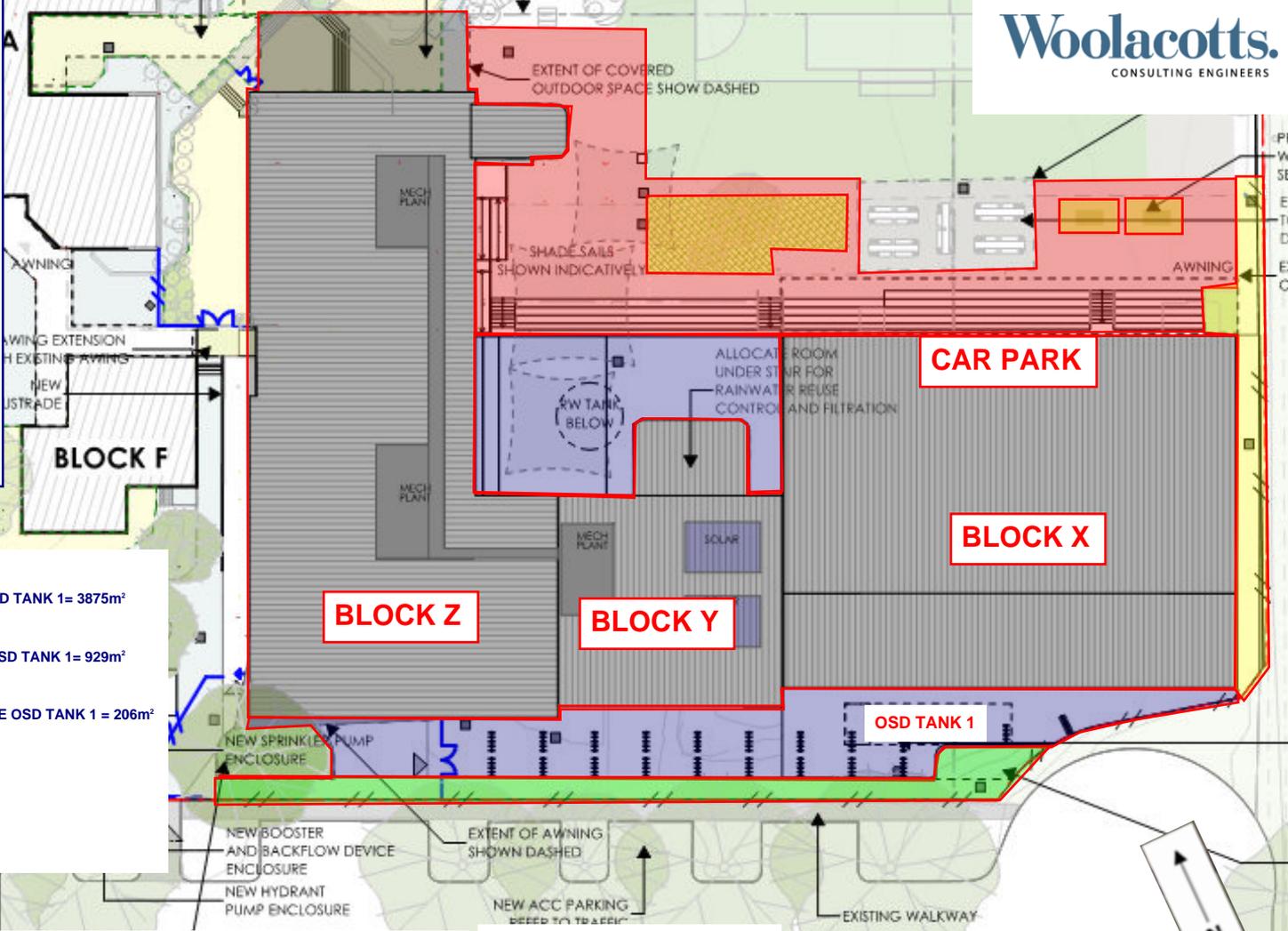
TREATMENT DEVICES:  
 RAINWATER TANK = 65m<sup>3</sup>  
 OSD TANK 1 = 186m<sup>3</sup>  
 13 x 690 PSORB CARTRIDGES BY OCEAN PROTECT  
 GRASSSED SWALES  
 ENVIROPOD 200 INSERTS IN ALL GRATED PITS

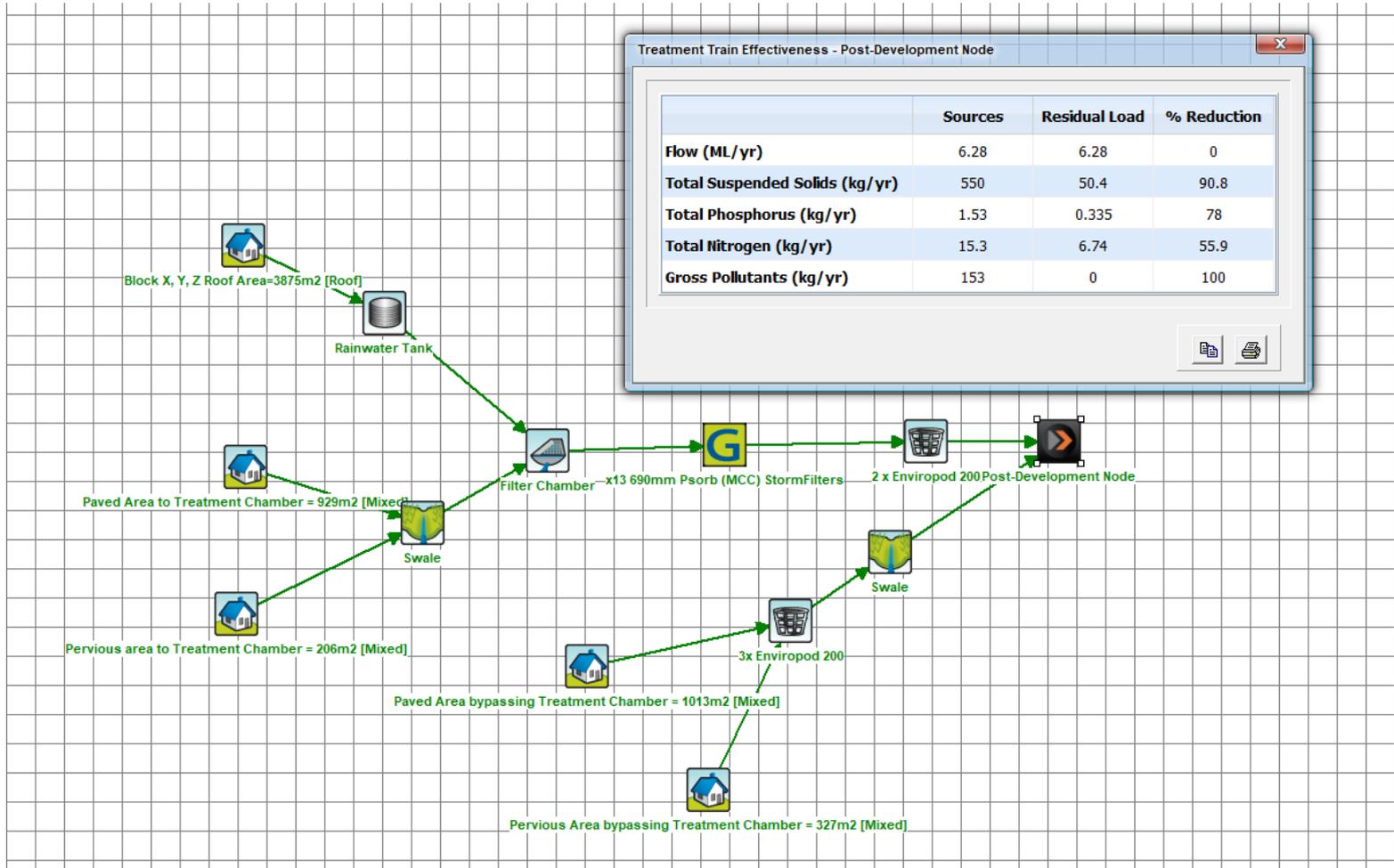
POLLUTANT	POST DEVELOPMENT AVERAGE ANNUAL LOAD REDUCTION TARGETS (%) ACHIEVED
TOTAL SUSPENDED SOLIDS (TSS)	90.8
TOTAL NITROGEN (TN)	55.9
TOTAL PHOSPHORUS (TP)	78
GROSS POLLUTANTS (GP)	100

REFER TO MUSIC MODEL FOR DETAILS.

**LEGEND**

- ROOF AREA TO STORMWATER TREATMENT CHAMBER INSIDE OSD TANK 1= 3875m<sup>2</sup>
- PAVED AREA TO STORMWATER TREATMENT CHAMBER INSIDE OSD TANK 1= 929m<sup>2</sup>
- PERVIOUS AREA TO STORMWATER TREATMENT CHAMBER INSIDE OSD TANK 1 = 206m<sup>2</sup>
- PAVED AREA BYPASSING OSD TANK 1= 1013m<sup>2</sup>
- PERVIOUS AREA BYPASSING OSD TANK 1 = 327m<sup>2</sup>





	Sources	Residual Load	% Reduction
Flow (ML/yr)	6.28	6.28	0
Total Suspended Solids (kg/yr)	550	50.4	90.8
Total Phosphorus (kg/yr)	1.53	0.335	78
Total Nitrogen (kg/yr)	15.3	6.74	55.9
Gross Pollutants (kg/yr)	153	0	100

**WOOLACOTTS CONSULTING ENGINEERS**  
**22-108\_CONCORD HIGH SCHOOL\_MUSIC CATCHMENT PLAN 1\_MUSIC MODEL RESULTS\_REV [A]**  
**DATE 15.09.2023**  
**REFER TO MUSIC MODEL FOR DETAILS.**

**STORMWATER QUALITY - MUSIC CATCHMENT PLAN 2**

DESIGN IN ACCORDANCE WITH THE CITY OF CANADA BAY COUNCIL DEVELOPMENT CONTROL PLAN, APPENDIX 2 - ENGINEERING SPECIFICATIONS. POLLUTANT LOAD REDUCTION MUST BE A MINIMUM PERCENTAGE REDUCTION OF THE POST DEVELOPMENT AVERAGE ANNUAL LOAD OF POLLUTANTS IN ACCORDANCE WITH THOSE OUTLINED BELOW:

POLLUTANT	POST DEVELOPMENT AVERAGE ANNUAL LOAD REDUCTION TARGETS (%) REQUIRED
TOTAL SUSPENDED SOLIDS (TSS)	80
TOTAL NITROGEN (TN)	45
TOTAL PHOSPHORUS (TP)	45
GROSS POLLUTANTS (GP)	70

TREATMENT DEVICES:

OSD TANK 2 = 39m<sup>3</sup>  
6 x 310 PSORB CARTRIDGES BY OCEAN PROTECT

POLLUTANT	POST DEVELOPMENT AVERAGE ANNUAL LOAD REDUCTION TARGETS (%) ACHIEVED
TOTAL SUSPENDED SOLIDS (TSS)	81.4
TOTAL NITROGEN (TN)	48.5
TOTAL PHOSPHORUS (TP)	76.2
GROSS POLLUTANTS (GP)	99.7

REFER TO MUSIC MODEL FOR DETAILS.

COMPLIANT CONNECTION

**CRANE STREET**

LANDSCAPE WORKS  
SEE LANDSCAPE PLAN

WITH LINE MARKINGS, INSTALLATION, EQUIPMENT AND PERIMETER FENCING AS PER EFGS

**OSD TANK 2**

**SPORTS COURTS**

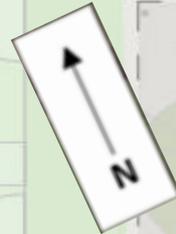
**LEGEND**

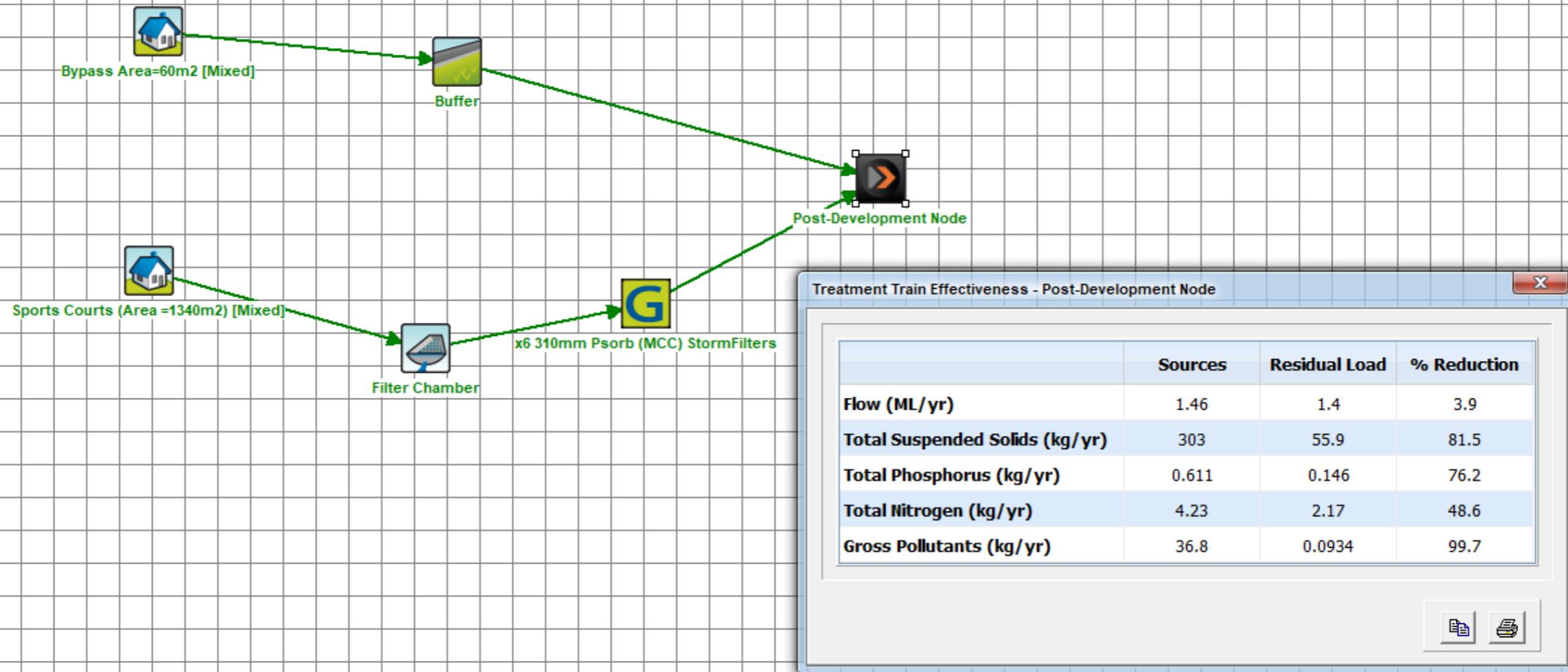
- PAVED AREA TO STORMWATER TREATMENT CHAMBER WITHIN OSD TANK 2 = 1340m<sup>2</sup>
- PAVED AREA BYPASSING STORMWATER TREATMENT CHAMBER WITHIN OSD TANK 2 = 60m<sup>2</sup>

NEW COVERED WALKWAY WITH HIGH SECTION TO ALLOW FOR AMBULANCE/ SERVICE VEHICLE TO PASS UNDER

CONNECT (OVERLAP) TO EXISTING COVERED WALKWAY

**BLOCK D**





**STORMWATER QUALITY - MUSIC CATCHMENT PLAN 3**

DESIGN IN ACCORDANCE WITH THE CITY OF CANADA BAY COUNCIL DEVELOPMENT CONTROL PLAN, APPENDIX 2 - ENGINEERING SPECIFICATION. POLLUTANT LOAD REDUCTION MUST BE A MINIMUM PERCENTAGE REDUCTION OF THE POST DEVELOPMENT AVERAGE ANNUAL LOAD OF POLLUTANTS IN ACCORDANCE WITH THOSE OUTLINED BELOW:

POLLUTANT	POST DEVELOPMENT AVERAGE ANNUAL LOAD REDUCTION TARGETS (%) REQUIRED
TOTAL SUSPENDED SOLIDS (TSS)	80
TOTAL NITROGEN (TN)	45
TOTAL PHOSPHORUS (TP)	45
GROSS POLLUTANTS (GP)	70

**TREATMENT DEVICES:**

OSD TANK 3 = 30m<sup>3</sup>  
6 x 310mm PSORB CARTRIDGES BY OCEAN PROTECT  
ENVIROPOD 200 INSERTS IN ALL GRATED PITS

POLLUTANT	POST DEVELOPMENT AVERAGE ANNUAL LOAD REDUCTION TARGETS (%) ACHIEVED
TOTAL SUSPENDED SOLIDS (TSS)	85.0
TOTAL NITROGEN (TN)	49.4
TOTAL PHOSPHORUS (TP)	77.7
GROSS POLLUTANTS (GP)	84.0

REFER TO MUSIC MODEL FOR DETAILS.

**LEGEND**

- PAVED AREA TO TREATMENT CHAMBER WITHIN OSD TANK 3 = 840m<sup>2</sup>
- PAVED AREA BYPASSING TREATMENT CHAMBER WITHIN OSD TANK 3 = 160m<sup>2</sup>

CONFIRM CARPARK OP FENCE

PROPOSED NEW ON FOR BLOCK I TBC BY SINSW. ACCESS COMPLIANT RAMP / H CONNECTION. ION TO SERVICES

EXTEND EXISTING CARPARK TO 29 SPACES (INCL 1 ACC) PROVIDE WHEEL STOPS AND SCURE TRAFFIC BARRIERS

**CAR PARK**

**OSD TANK 3**

OSD TANK

**STANLEY STREET**

NEW ACCESSIBLE CAR SPACE AND KERB RAMP



