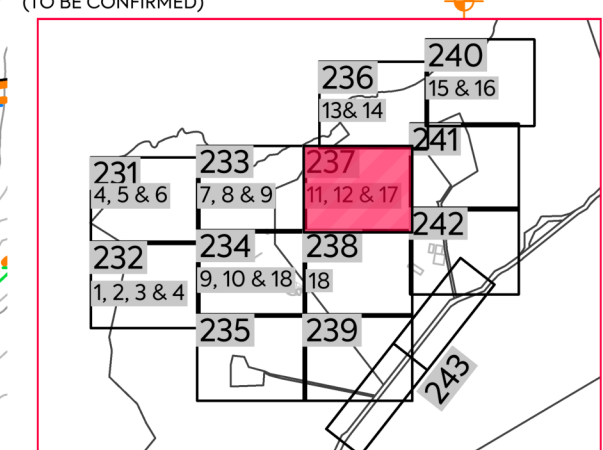


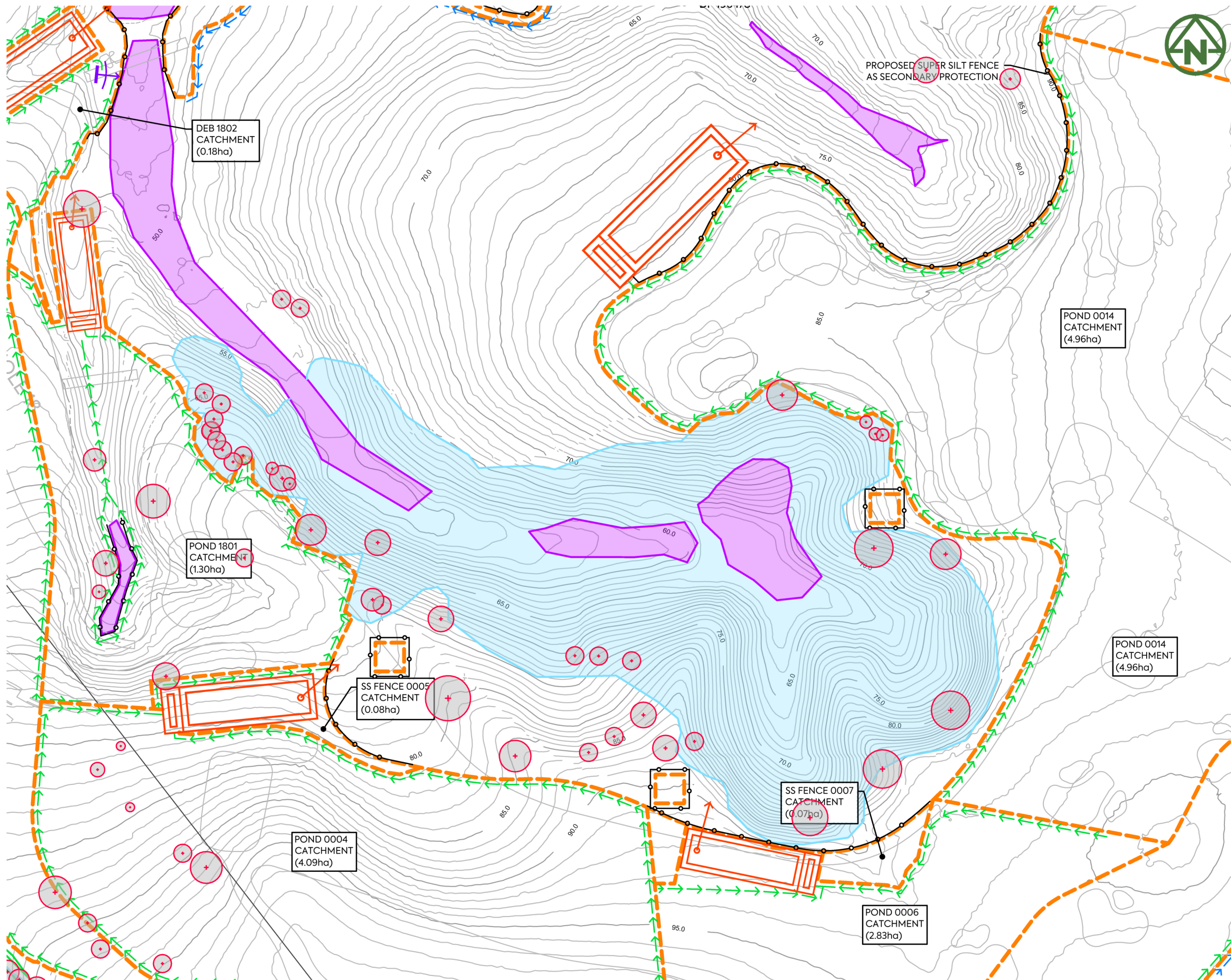
- NOTES:**
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  - ALL DEBS TO HAVE RAINFALL ACTIVATED TREATMENT (FLOC BOXES).

- LEGEND:**
- SUPER SILT FENCE
  - DIVERSION BUND/ CONTOUR DRAIN
  - CLEANWATER DIVERSION
  - CLEANWATER BYPASS CULVERT
  - CATCHMENT BOUNDARIES
  - DECANTING EARTH BUND
  - STABILISED ENTRANCE
  - SEDIMENT RETENTION POND
  - EXISTING (5m) MAJOR CONTOUR
  - EXISTING (1m) MINOR CONTOUR
  - EXISTING WETLANDS (TO BE PROTECTED)
  - COUNCIL SEA AREA
  - COUNCIL ONF AREA
  - MAPPED SEA (BY ECOLOGIST)
  - EXISTING TREE OF INTEREST (TO BE CONFIRMED)
  - ARCHAEOLOGICAL SITE (TO BE CONFIRMED)



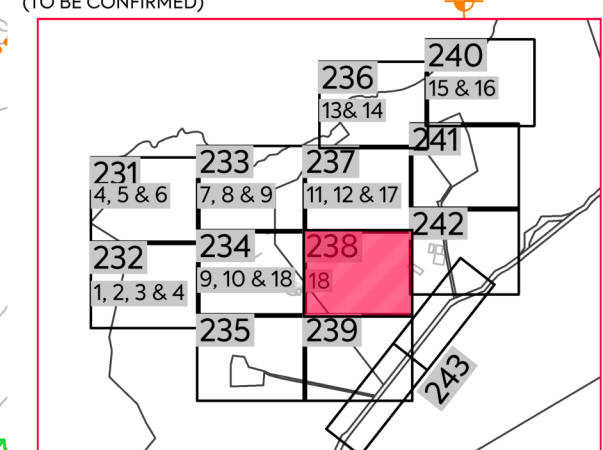
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MO	CIM	JSD	04/03/22																		
MO	CIM	JSD	26/11/21																		
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  3. ALL UNSUITABLE MATERIALS AS DEFINED IN THE CONTRACT SPECIFICATION IS TO BE REMOVED AND STRIPPED AREAS INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO ANY FILLING TAKING PLACE.
  4. EARTHWORKS SHALL NOT EXTEND PAST THE AREA SHOWN ON THE PLANS.
  5. ALL PONDS AND DEBS TO BE OVERSIZED BY 20% TO PROVIDE ADDITIONAL VOLUME.
  6. ALL DEBS TO HAVE RAINFALL ACTIVATED TREATMENT (FLOC BOXES).

- LEGEND:**
- SUPER SILT FENCE
  - DIVERSION BUND/ CONTOUR DRAIN
  - CLEANWATER DIVERSION
  - CLEANWATER BYPASS CULVERT
  - CATCHMENT BOUNDARIES
  - DECANTING EARTH BUND
  - STABILISED ENTRANCE
  - SEDIMENT RETENTION POND
  - EXISTING (5m) MAJOR CONTOUR
  - EXISTING (1m) MINOR CONTOUR
  - EXISTING WETLANDS (TO BE PROTECTED)
  - COUNCIL SEA AREA
  - COUNCIL ONF AREA
  - MAPPED SEA (BY ECOLOGIST)
  - EXISTING TREE OF INTEREST (TO BE CONFIRMED)
  - ARCHAEOLOGICAL SITE (TO BE CONFIRMED)



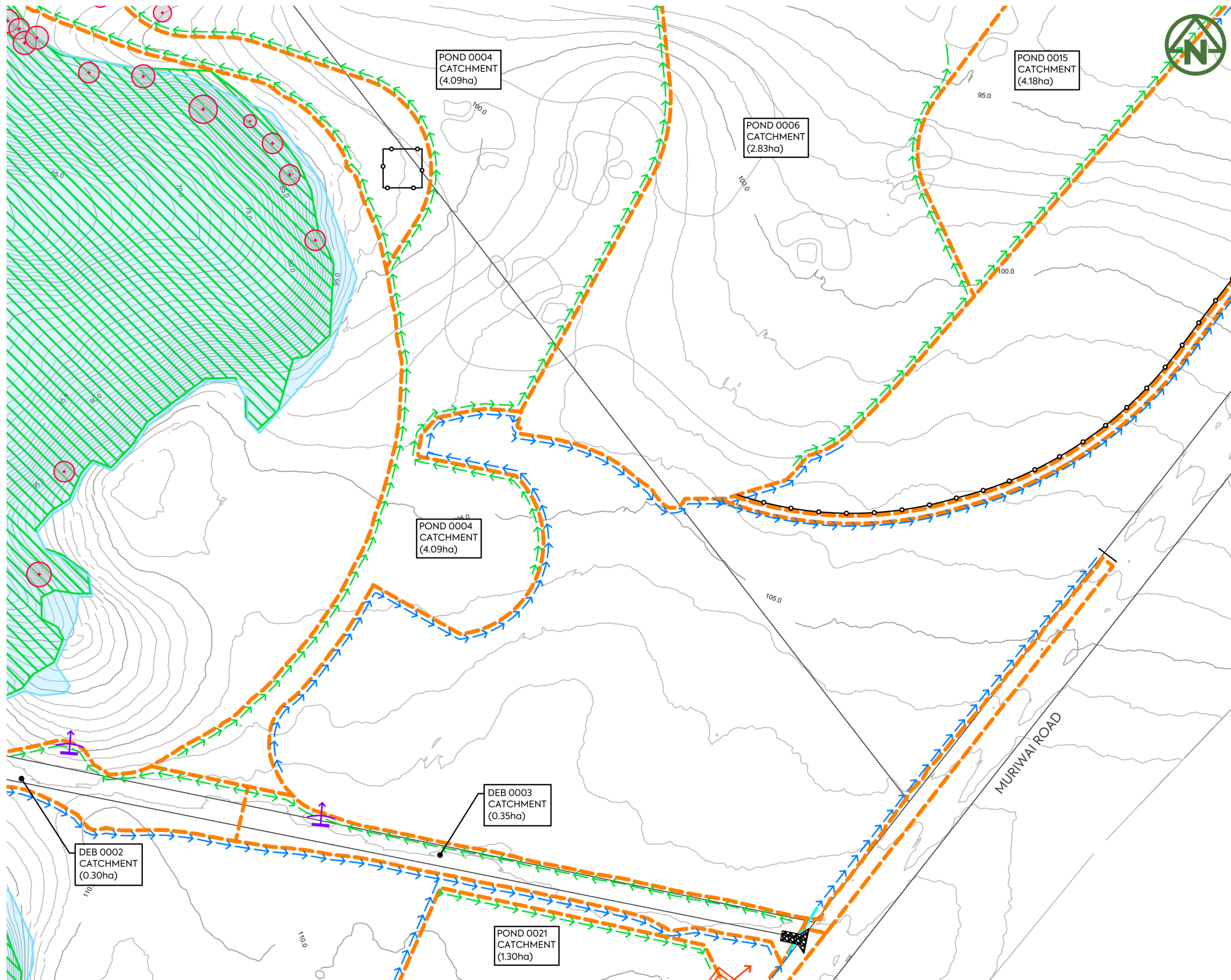
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C	ISSUED FOR CONSENT	MO	CIM	JSD	26/11/21
B	SECOND ISSUE	MO	CIM	JSD	29/10/21
A	FIRST ISSUE	MO	CIM	JSD	24/08/21



CLIENT: THE BEARS HOME PROJECT MANAGEMENT LTD  
 PROJECT: MURIWAI DOWNS GOLF PROJECT  
 610 & 697 MURIWAI ROAD  
 MURIWAI VALLEY

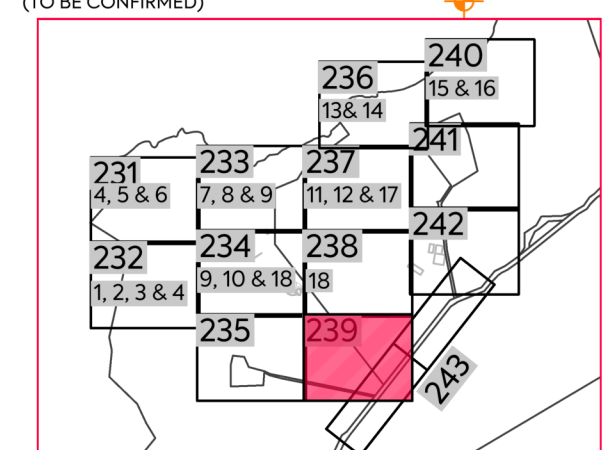
TITLE: PROPOSED EARTHWORKS EROSION SEDIMENT CONTROL LAYOUT PLAN SHEET 8  
 PURPOSE OF ISSUE: FOR CONSENT  
 SCALE: 1:1500 @ A3  
 DO NOT SCALE  
 DRAWING NO: 1976-1-238  
 REV: D





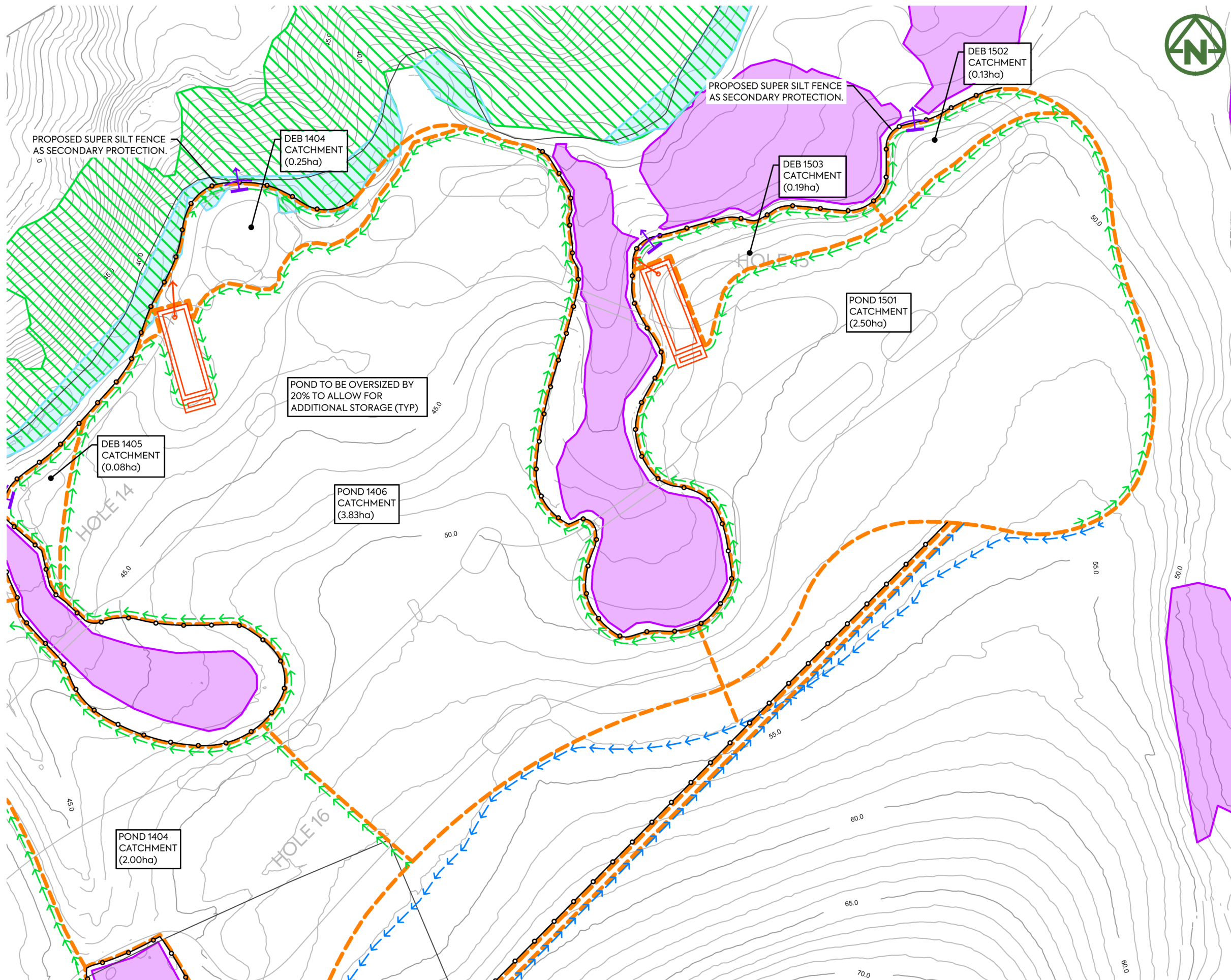
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- LEGEND:**
- SUPER SILT FENCE:
  - DIVERSION BUND/ CONTOUR DRAIN:
  - CLEANWATER DIVERSION:
  - CLEANWATER BYPASS CULVERT:
  - CATCHMENT BOUNDARIES:
  - DECANTING EARTH BUND:
  - STABILISED ENTRANCE:
  - SEDIMENT RETENTION POND:
  - EXISTING (5m) MAJOR CONTOUR:
  - EXISTING (1m) MINOR CONTOUR:
  - EXISTING WETLANDS (TO BE PROTECTED):
  - COUNCIL SEA AREA:
  - COUNCIL ONF AREA:
  - MAPPED SEA (BY ECOLOGIST):
  - EXISTING TREE OF INTEREST (TO BE CONFIRMED):
  - ARCHAEOLOGICAL SITE (TO BE CONFIRMED):



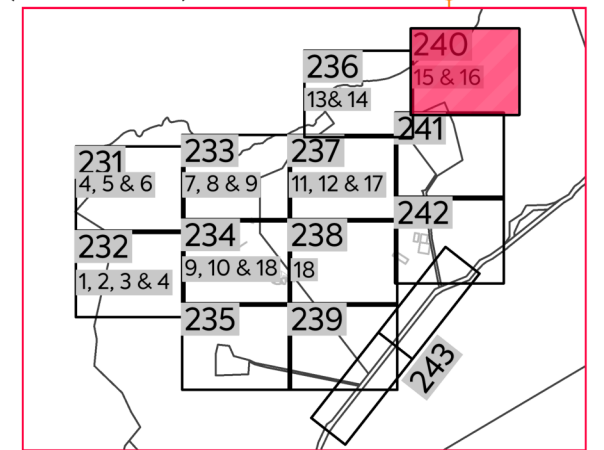
**DRAWING LAYOUT PLAN**





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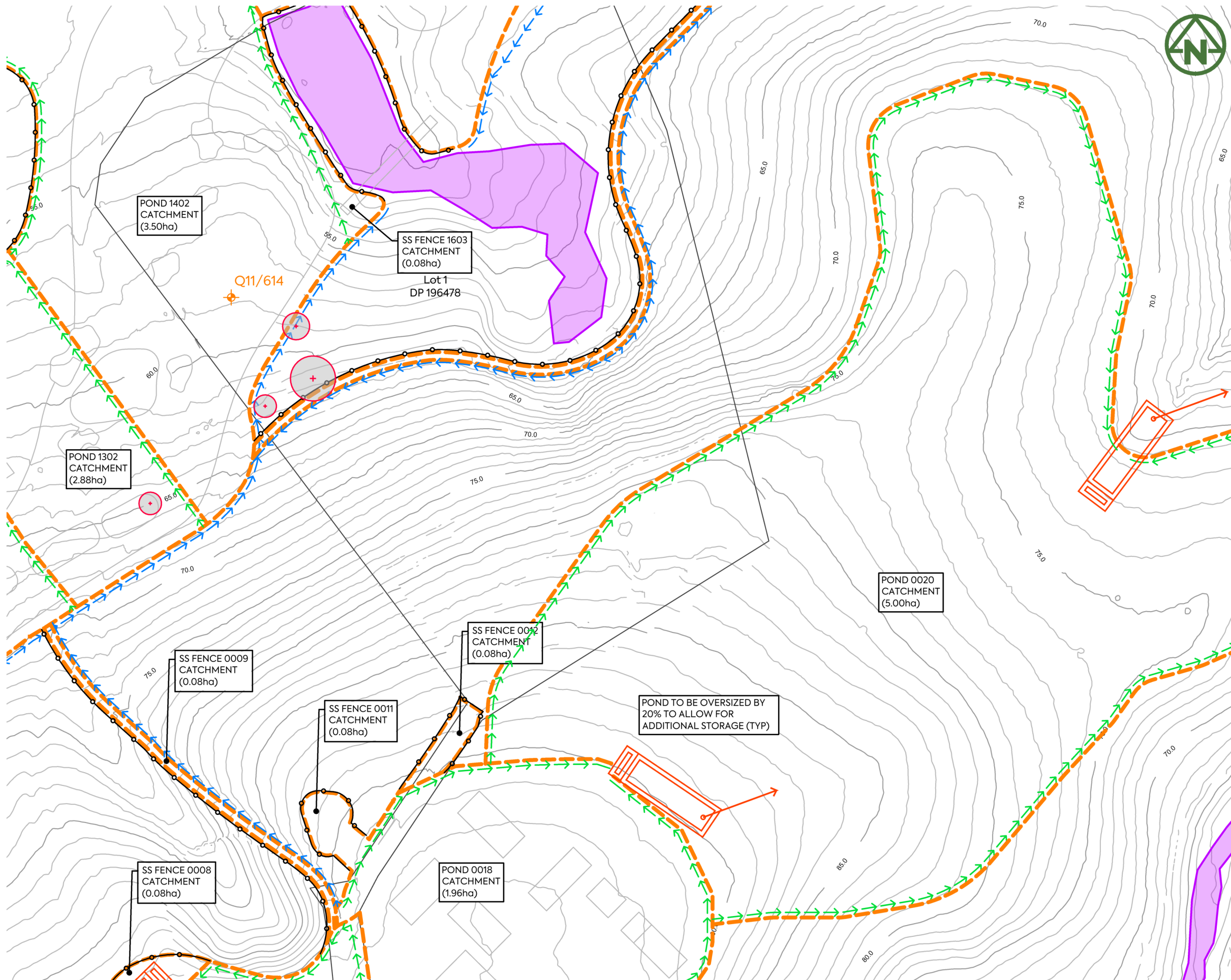
- LEGEND:**
- SUPER SILT FENCE: Dashed orange line with circles
  - DIVERSION BUND/ CONTOUR DRAIN: Green dashed line with arrows
  - CLEANWATER DIVERSION: Blue dashed line with arrows
  - CLEANWATER BYPASS CULVERT: Solid blue line
  - CATCHMENT BOUNDARIES: Dashed orange line
  - DECANTING EARTH BUND: Purple T-shaped symbol
  - STABILISED ENTRANCE: Black trapezoidal symbol
  - SEDIMENT RETENTION POND: Orange rectangular symbol
  - EXISTING (5m) MAJOR CONTOUR: Solid grey line with '75.0' label
  - EXISTING (1m) MINOR CONTOUR: Solid grey line
  - EXISTING WETLANDS (TO BE PROTECTED): Light purple shaded area
  - COUNCIL SEA AREA: Green hatched area
  - COUNCIL ONF AREA: Blue hatched area
  - MAPPED SEA (BY ECOLOGIST): Blue hatched area
  - EXISTING TREE OF INTEREST (TO BE CONFIRMED): Red circle with crosshair
  - ARCHAEOLOGICAL SITE (TO BE CONFIRMED): Red circle with crosshair and 'Q11/68' label



**DRAWING LAYOUT PLAN**

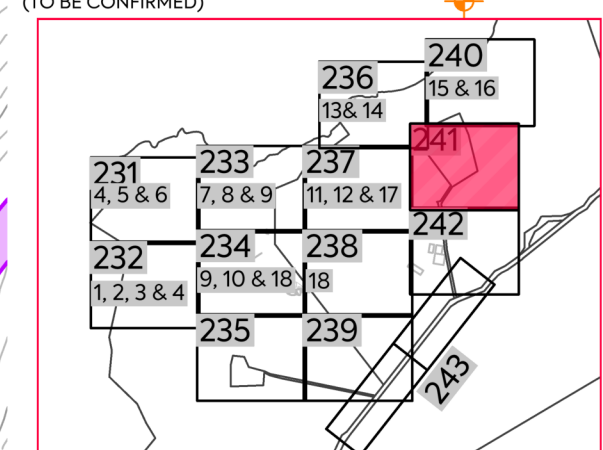
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D	S92 RESPONSE	MO	CIM	JSD	04/03/22																														
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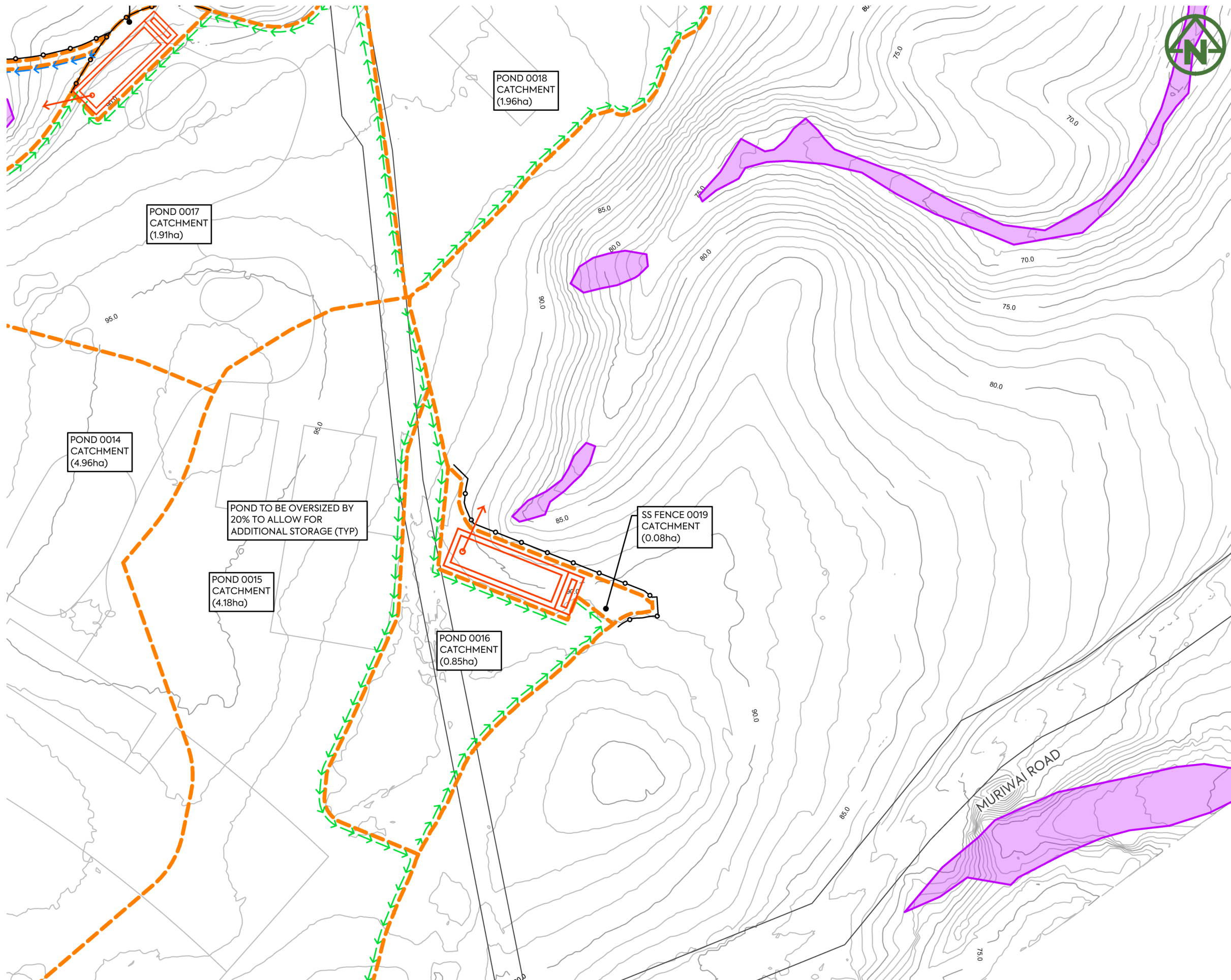
- LEGEND:**
- SUPER SILT FENCE
  - DIVERSION BUND/ CONTOUR DRAIN
  - CLEANWATER DIVERSION
  - CLEANWATER BYPASS CULVERT
  - CATCHMENT BOUNDARIES
  - DECANTING EARTH BUND
  - STABILISED ENTRANCE
  - SEDIMENT RETENTION POND
  - EXISTING (5m) MAJOR CONTOUR
  - EXISTING (1m) MINOR CONTOUR
  - EXISTING WETLANDS (TO BE PROTECTED)
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  - COUNCIL ONF AREA
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**DRAWING LAYOUT PLAN**

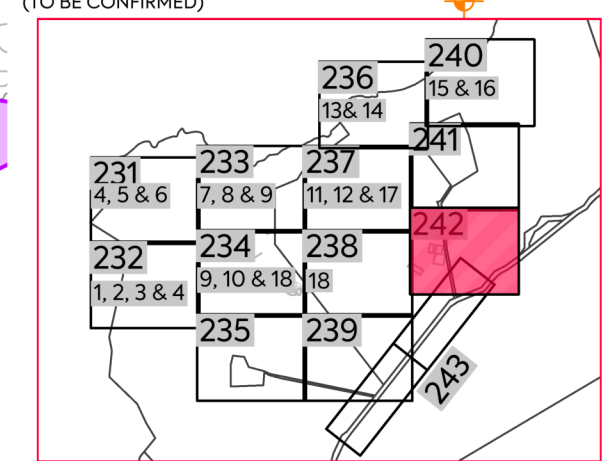
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<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">D</td> <td style="width: 60%;">S92 RESPONSE</td> <td style="width: 10%;">MO</td> <td style="width: 10%;">CIM</td> <td style="width: 10%;">JSD</td> <td style="width: 10%;">04/03/22</td> </tr> <tr> <td>C</td> <td>ISSUED FOR CONSENT</td> <td>MO</td> <td>CIM</td> <td>JSD</td> <td>26/11/21</td> </tr> <tr> <td>B</td> <td>SECOND ISSUE</td> <td>MO</td> <td>CIM</td> <td>JSD</td> <td>29/10/21</td> </tr> <tr> <td>A</td> <td>FIRST ISSUE</td> <td>MO</td> <td>CIM</td> <td>JSD</td> <td>24/08/21</td> </tr> <tr> <td>REV</td> <td>DESCRIPTION</td> <td>DRN BY</td> <td>CHK BY</td> <td>APP BY</td> <td>DATE</td> </tr> </table>	D	S92 RESPONSE	MO	CIM	JSD	04/03/22	C	ISSUED FOR CONSENT	MO	CIM	JSD	26/11/21	B	SECOND ISSUE	MO	CIM	JSD	29/10/21	A	FIRST ISSUE	MO	CIM	JSD	24/08/21	REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE		<p>SCALE: <b>1:1500 @ A3</b></p> <p>DO NOT SCALE</p> <p>DRAWING NO: <b>1976-1-241</b></p> <p>REV: <b>D</b></p>
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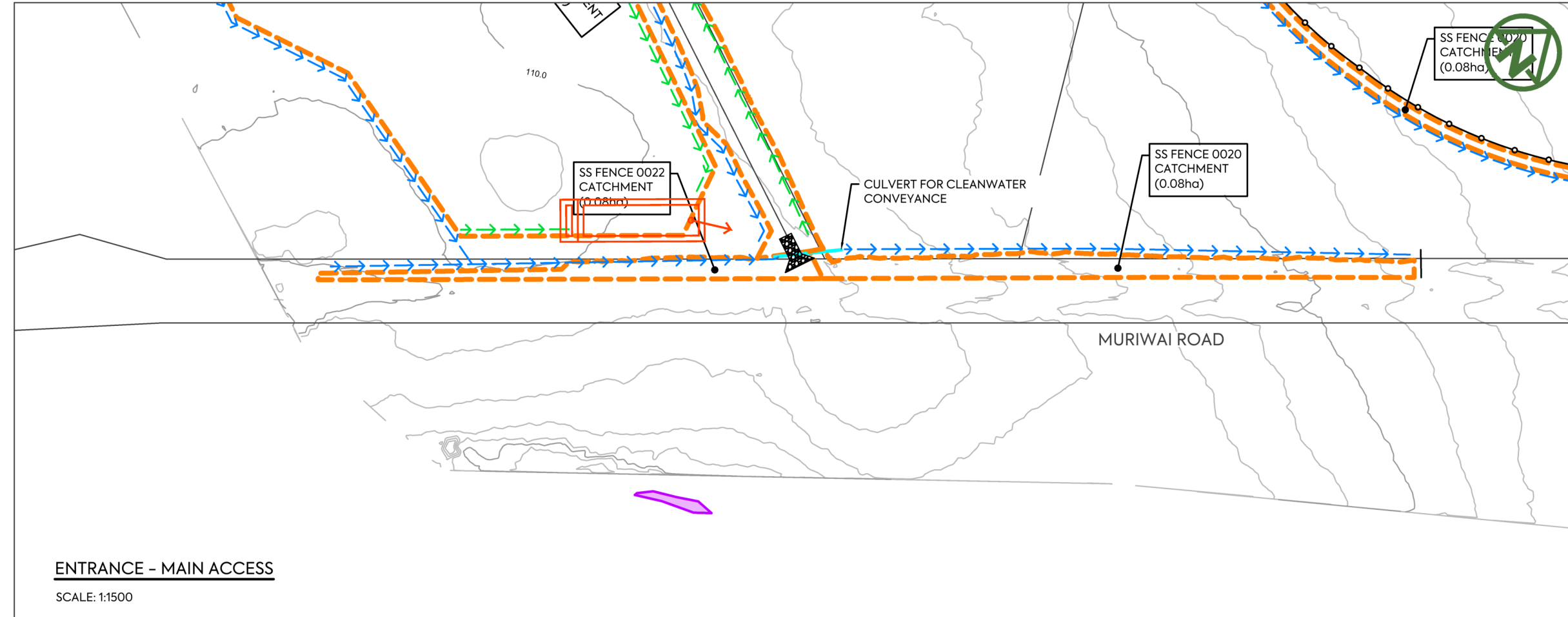
- LEGEND:**
- SUPER SILT FENCE
  - DIVERSION BUND/ CONTOUR DRAIN
  - CLEANWATER DIVERSION
  - CLEANWATER BYPASS CULVERT
  - CATCHMENT BOUNDARIES
  - DECANTING EARTH BUND
  - STABILISED ENTRANCE
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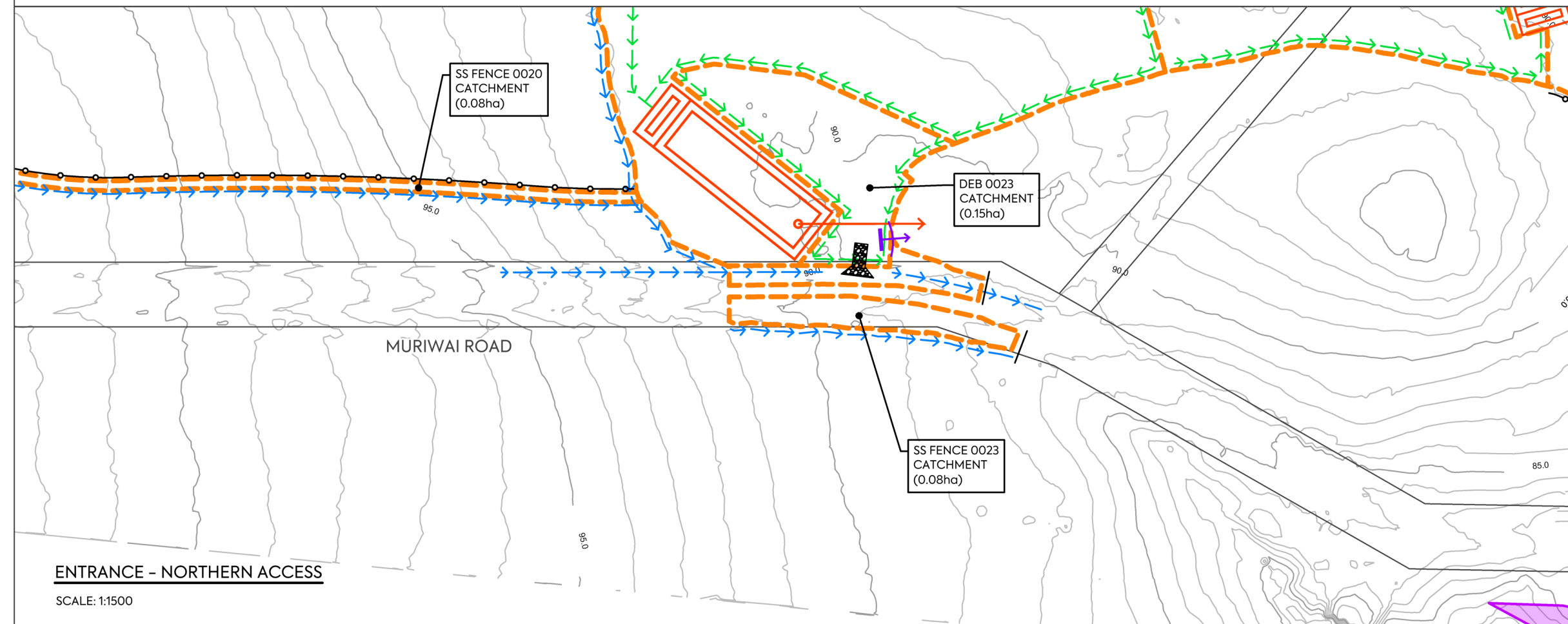
	<p>CLIENT: <b>THE BEARS HOME PROJECT MANAGEMENT LTD</b></p> <p>PROJECT: <b>MURIWAI DOWNS GOLF PROJECT</b></p> <p>610 &amp; 697 MURIWAI ROAD MURIWAI VALLEY</p>	<p>TITLE: <b>PROPOSED EARTHWORKS EROSION SEDIMENT CONTROL LAYOUT PLAN</b></p> <p>SHEET 12</p>	<p>PURPOSE OF ISSUE: <b>FOR CONSENT</b></p> <p>SCALE: <b>1:1500 @ A3</b></p> <p>DO NOT SCALE</p> <p>DRAWING NO: <b>1976-1-242</b></p> <p>REV: <b>D</b></p>																														
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**ENTRANCE - MAIN ACCESS**

SCALE: 1:1500

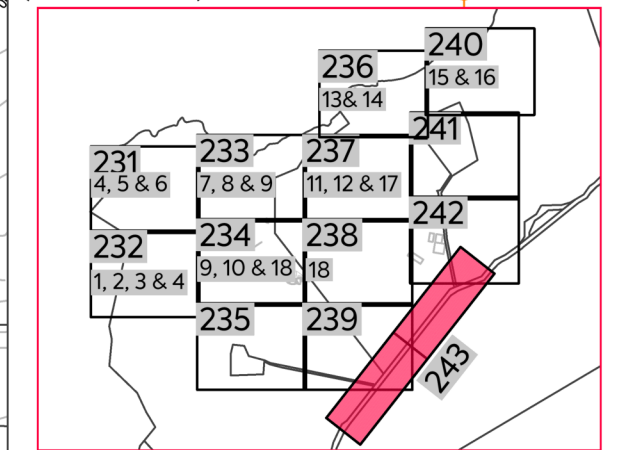


**ENTRANCE - NORTHERN ACCESS**

SCALE: 1:1500

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  - CLEANWATER BYPASS CULVERT
  - CATCHMENT BOUNDARIES
  - DECANTING EARTH BUND
  - STABILISED ENTRANCE
  - SEDIMENT RETENTION POND
  - EXISTING (5m) MAJOR CONTOUR
  - EXISTING (1m) MINOR CONTOUR
  - EXISTING WETLANDS (TO BE PROTECTED)
  - COUNCIL SEA AREA
  - COUNCIL ONF AREA
  - MAPPED SEA (BY ECOLOGIST)
  - EXISTING TREE OF INTEREST (TO BE CONFIRMED)
  - ARCHAEOLOGICAL SITE (TO BE CONFIRMED)



**DRAWING LAYOUT PLAN**

CLIENT: THE BEARS HOME PROJECT MANAGEMENT LTD PROJECT: MURIWAI DOWNS GOLF PROJECT TITLE: PROPOSED EARTHWORKS EROSION SEDIMENT CONTROL LAYOUT PLAN SHEET 13 PURPOSE OF ISSUE: FOR CONSENT

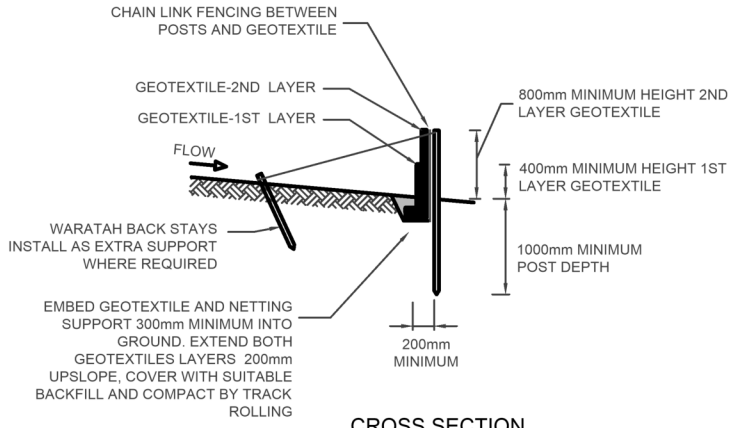
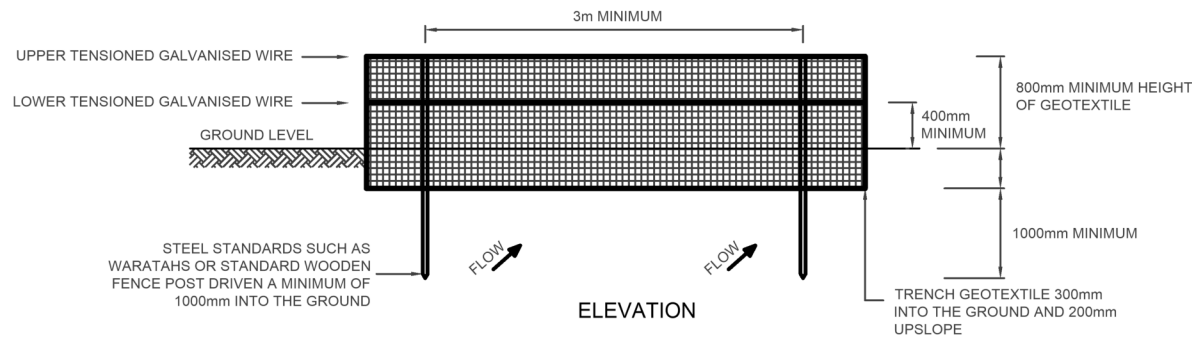
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DRAWING NO: 1976-1-243

REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE
D	S92 RESPONSE	MO	CIM	JSD	04/03/22
C	ISSUED FOR CONSENT	MO	CIM	JSD	26/11/21
B	SECOND ISSUE	MO	CIM	JSD	29/10/21
A	FIRST ISSUE	MO	CIM	JSD	24/08/21







**SUPER SILT FENCE CONSTRUCTION**

**SUPER SILT FENCE DESIGN CRITERIA:**

SLOPE STEEPNESS %	SLOPE LENGTH (m) (MAXIMUM)	SPACING OF RETURNS (m)
0-10%	UNLIMITED	60
10-20%	60	50
20-33%	30	40
33-50%	30	30
>50%	15	20

**STABILISED CONSTRUCTION ENTRANCE SPECIFICATIONS:**

**APPLICATION**

USE A STABILISED CONSTRUCTION ENTRANCE AT ALL POINTS OF CONSTRUCTION SITE INGRESS AND EGRESS WITH A CONSTRUCTION PLAN LIMITING TRAFFIC TO THESE ENTRANCES ONLY. THEY ARE PARTICULARLY USEFUL ON SMALL CONSTRUCTION SITES BUT CAN BE UTILISED FOR ALL PROJECTS.

**DESIGN:**

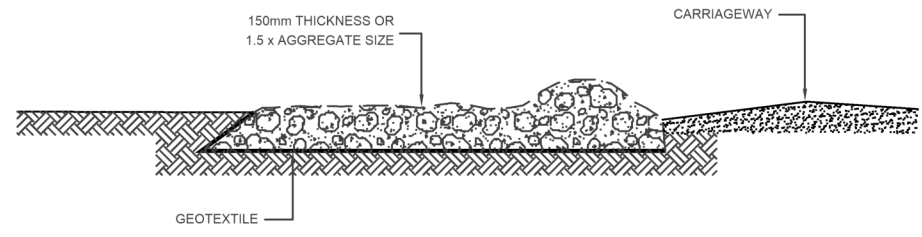
- CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS AND OTHER UNSUITABLE MATERIAL AND PROPERLY GRADE IT.
- LAY WOVEN GEOTEXTILE; PIN DOWN EDGES AND OVERLAP JOINTS.
- PROVIDE DRAINAGE TO CARRY RUNOFF FROM THE STABILISED CONSTRUCTION ENTRANCE TO A SEDIMENT CONTROL MEASURE.
- PLACE AGGREGATE TO THE SPECIFICATIONS BELOW AND SMOOTH IT.

**STABILISED CONSTRUCTION ENTRANCE AGGREGATE SPECIFICATIONS:**

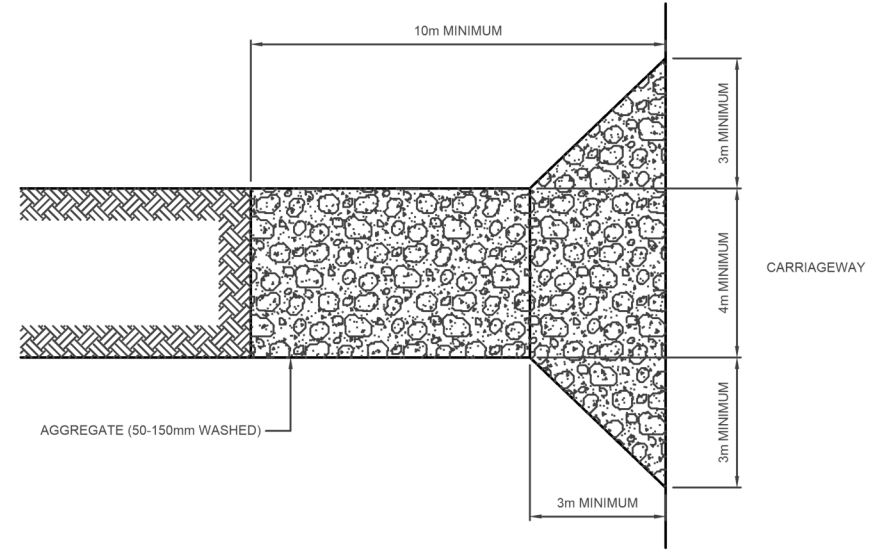
AGGREGATE SIZE	5-150mm WASHED AGGREGATE
THICKNESS	150mm MINIMUM OR 1.5 X AGGREGATE SIZE
LENGTH	10m MINIMUM LENGTH RECOMMENDED
WIDTH	4m MINIMUM

**MAINTENANCE**

- MAINTAIN THE STABILISED CONSTRUCTION ENTRANCE IN A CONDITION TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. AFTER EACH RAINFALL INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT FROM THE STABILISED CONSTRUCTION ENTRANCE AND CLEAN OUT AS NECESSARY.
- WHEN WHEEL WASHING IS ALSO REQUIRED, ENSURE THIS IS DONE ON AN AREA STABILISED WITH AGGREGATE WHICH DRAINS TO AN APPROVED SEDIMENT RETENTION FACILITY.



**SIDE ELEVATION**



**PLAN VIEW**

**STABILISED CONSTRUCTION ENTRANCE**

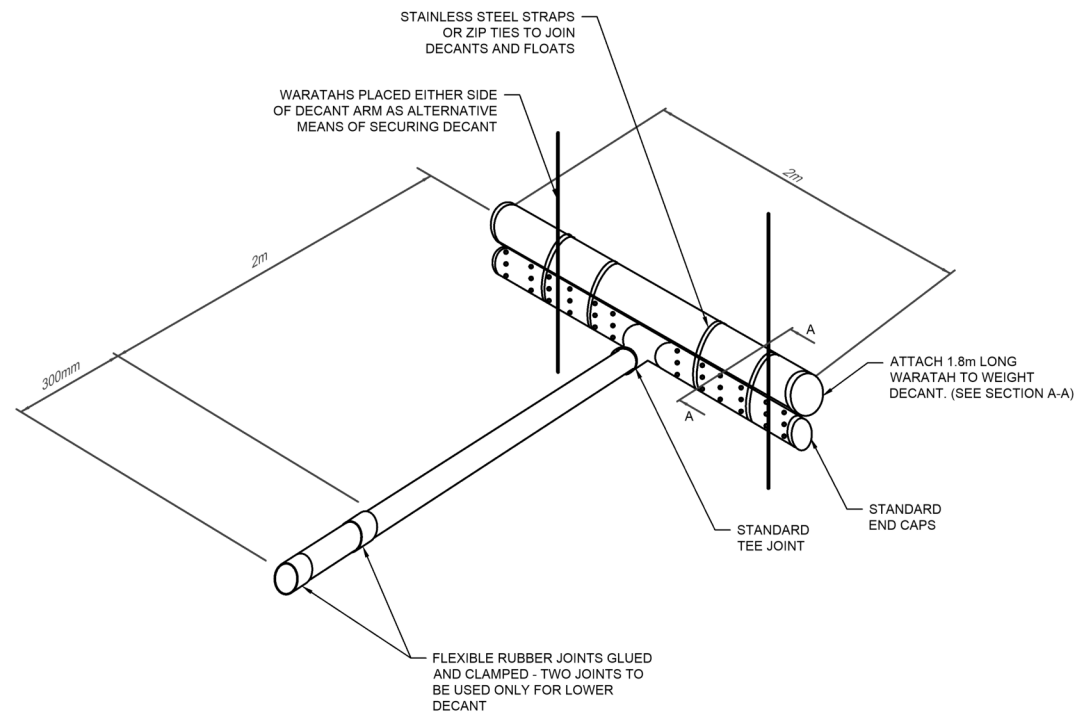
**NOTES:**

- PROPOSED BULK EARTHWORKS DRAWINGS ARE AN AMENDMENT TO APPROVED CONSENT BUN60344551.
- ALL LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946 (MSL). THE CONTOUR INTERVAL IS: 1.0m
- ALL EARTHWORKS SHALL COMPLY WITH COUNCIL'S EROSION AND SEDIMENT CONTROL GUIDE FOR LAND DISTURBING ACTIVITIES IN THE AUCKLAND REGION GD 2016/005.
- ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE OPERATIONAL PRIOR TO ANY OTHER WORKS COMMENCING ON SITE. THE CONTRACTOR SHALL ARRANGE FOR AND ATTEND, A PRELIMINARY SEDIMENT CONTROL MEETING, ONSITE WITH THE ENGINEER AND COUNCIL REPRESENTATIVE.
- A COPY OF THE SEDIMENT CONTROL PLAN SHALL BE AVAILABLE ON SITE DURING WORK HOURS. ALL PERSONNEL INVOLVED IN EARTHWORK ACTIVITIES ON THE SITE (INCLUDING OF SUB-CONTRACTORS) SHALL BE FAMILIAR WITH THE PLANS REQUIREMENTS.
- ALL "CLEAN WATER" RUNOFF FROM STABILISED SURFACES, INCLUDING CATCHMENT AREAS ABOVE THE SITE, SHALL BE DIVERTED AWAY FROM THE EARTHWORK AREAS VIA A STABILIZED SYSTEM TO PREVENT EROSION.
- ALL "DIRTY WATER" DIVERSION BUNDS CONSTRUCTED ON STEEP AREAS SHALL INCLUDE DROP-OUT PITS. DROP-OUT PIT SPACING TO BE IN ACCORDANCE WITH SECTION E2.2 IN THE AUCKLAND REGION GD 2016/005,
- THE MAIN SILT CONTROL MEASURES FOR THIS SITE ARE:
  - DIVERSION OF CLEAN WATER FROM UPSTREAM CATCHMENTS AROUND THE EARTHWORKS AREA BY MEANS OF DIVERSION BUNDS AND /OR OTHER APPROVED METHODS AS DIRECTED BY THE ENGINEER;
  - REMOVAL OF SEDIMENT FROM SILT- LADEN WATERS USING SILT PONDS, DECANTING EARTH BUNDS, HAY BALE BARRIERS OR SILT FENCES AS SHOWN;
  - STABILISATION OF THE SITE AGAINST EROSION AS SOON AS PRACTICABLE AND IN A PROGRESSIVE MANNER AS EARTHWORKS ARE FINISHED OVER VARIOUS AREAS OF THE SITE;
  - NEW CESSPITS MUST BE PROTECTED TO PREVENT SILT-LADEN RUNOFF ENTERING THE NEW STORMWATER LINES; AND
  - MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES AS REQUIRED.
- FURTHER SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER AS THE PROJECT ADVANCES. THESE WILL BE INSTALLED AS AND WHERE DIRECTED BY THE ENGINEER. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE SITE HAS EFFECTIVE MEASURES OPERATING AT ALL TIMES.
- ALL SILT PONDS ARE TO BE CHEMICALLY FLOCCULATED WITH POLY ALUMINUM CHLORIDE (PAC) OR AN APPROVED ALTERNATIVE. SET-UP OF PAC DOSING SYSTEMS IS BE UNDERTAKEN BY A SUITABILITY QUALIFIED SPECIALIST.
- POND LOCATIONS CAN BE ALTERED ON SITE AFTER CONSULTATION WITH THE ENGINEER.

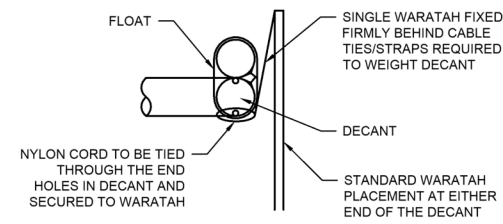


**NOTES:**

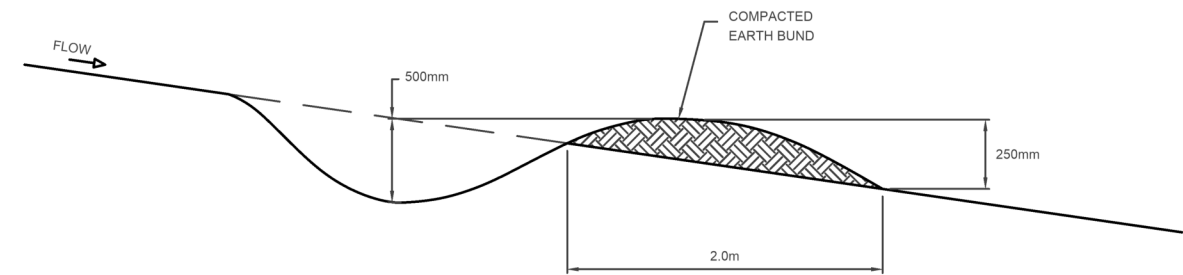
1. TO BE READ IN CONJUNCTION WITH DRAWING 295



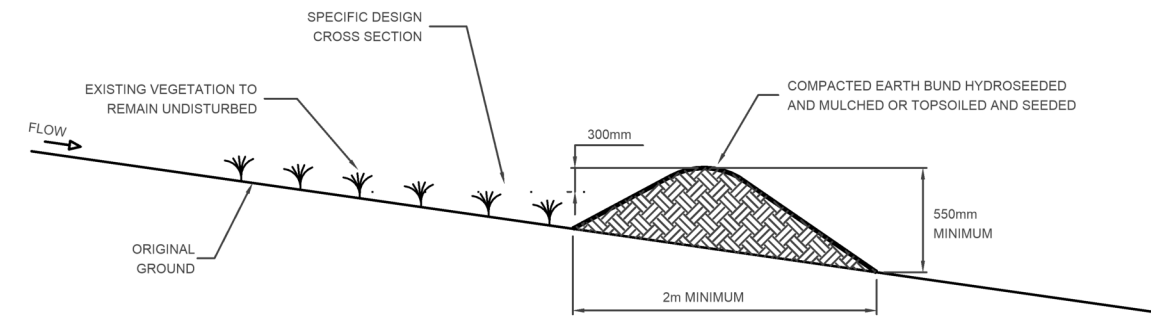
**DECANT WITH UPSTAND FOR DECANTING EARTH BUND**



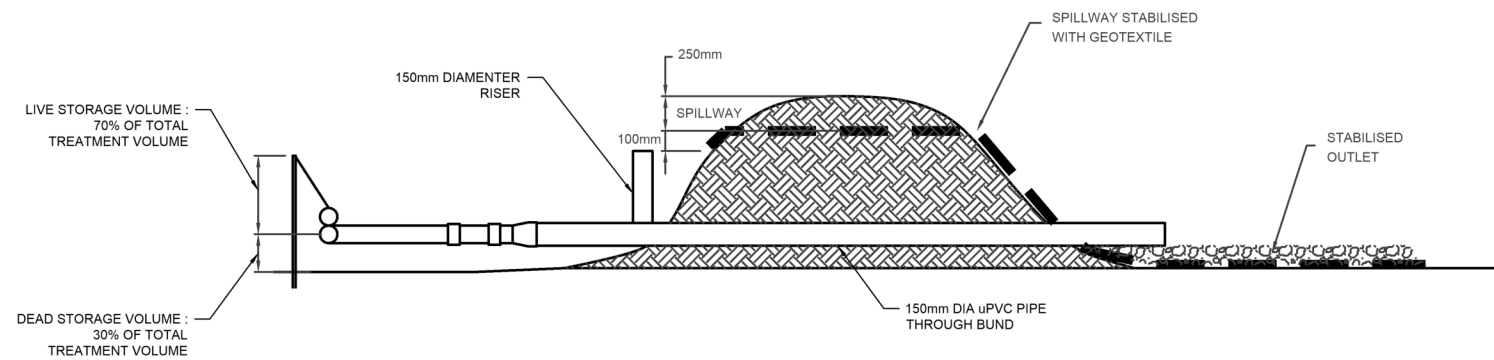
**SECTION A-A**



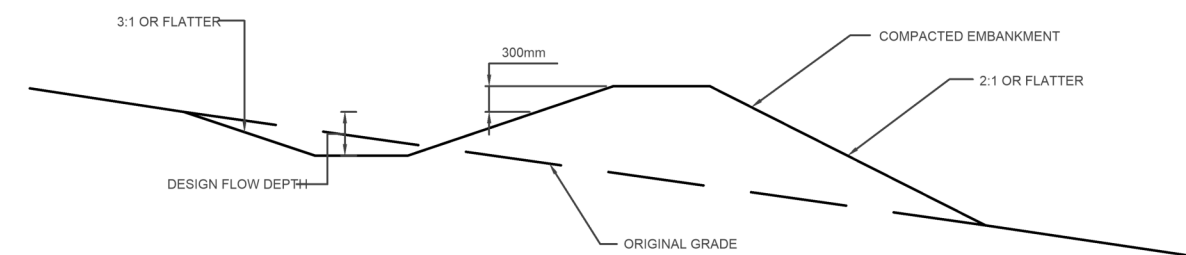
**CONTOUR DRAIN**



**CLEANWATER RUNOFF DIVERSION BUND - CROSS SECTION**



**EARTH BUND**



**RUNOFF DIVERSION BUND - CROSS SECTION**

REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE
C	ISSUED FOR CONSENT	MO	CIM	JSD	26/11/21
B	SECOND ISSUE	MO	CIM	JSD	18/11/21
A	FIRST ISSUE	MO	CIM	JSD	24/08/21



CLIENT:  
**THE BEARS HOME PROJECT MANAGEMENT LTD**

PROJECT:  
**MURIWAI DOWNS GOLF PROJECT  
610 & 697 MURIWAI ROAD  
MURIWAI VALLEY**

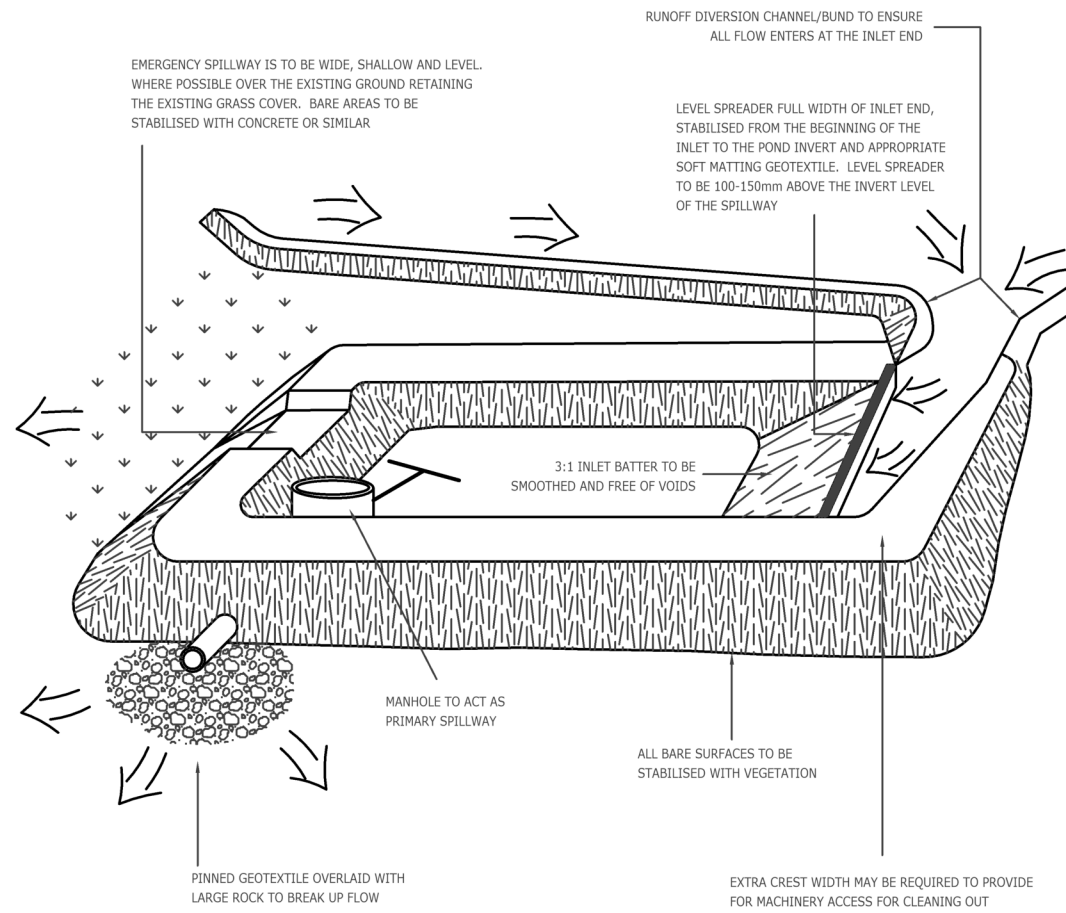
TITLE:  
**PROPOSED EARTHWORKS  
EROSION AND SEDIMENT  
CONTROL DETAILS  
DRAWING 2**

PURPOSE OF ISSUE:  
**FOR CONSENT**

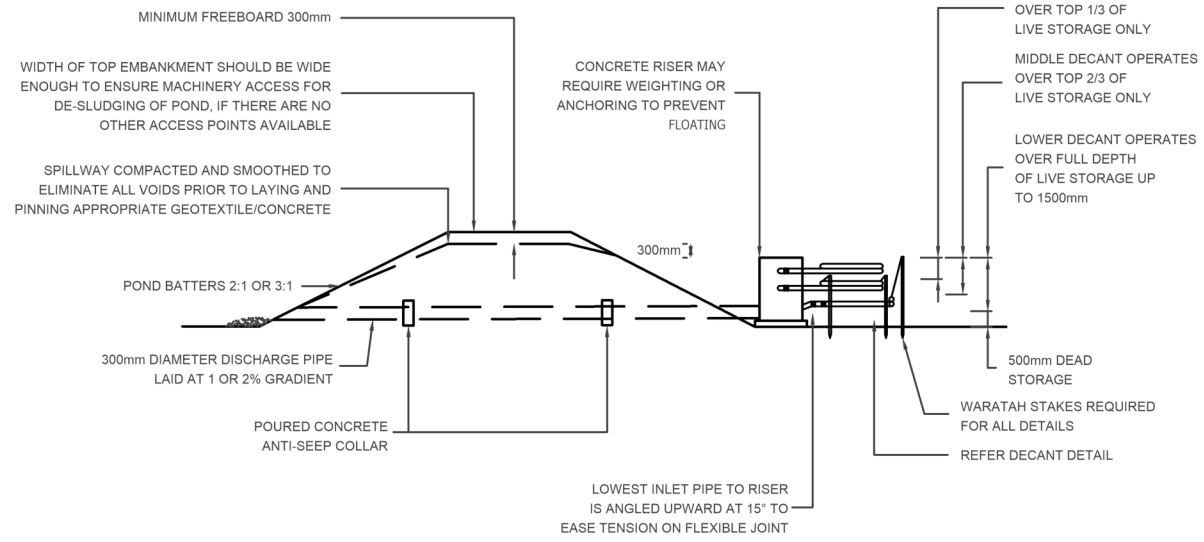
SCALE:  
**AS SHOWN**  
DO NOT SCALE

DRAWING NO.: **1976-1-296** REV: **C**





SEDIMENT RETENTION POND



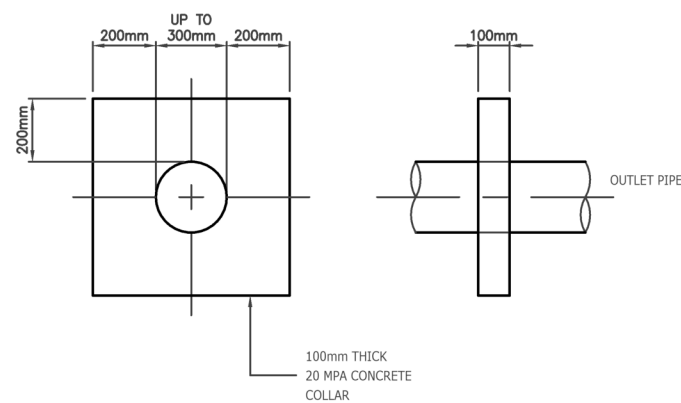
CROSS SECTION

NOTES:

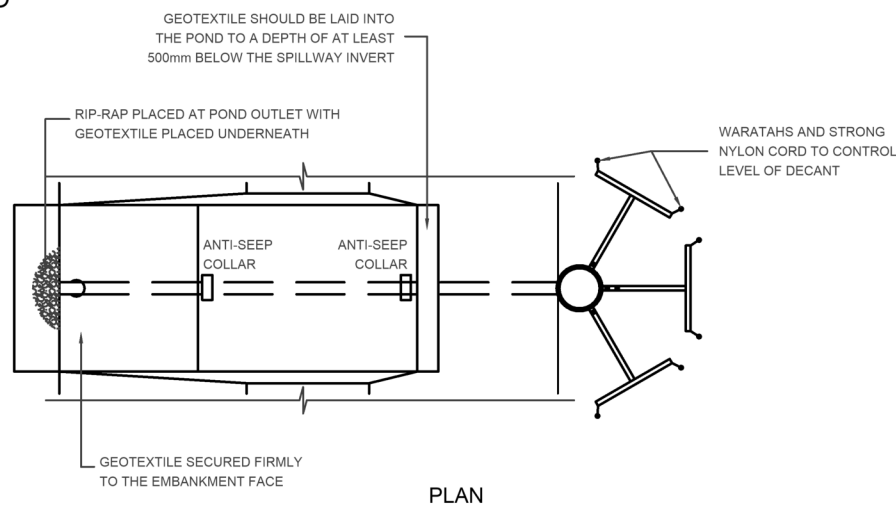
1. TO BE READ IN CONJUNCTION WITH DRAWING 295.

CATCHMENT DESCRIPTION	AREA (ha)	ADDITIONAL STORAGE (%)	BASE		CREST		VOLUME (m³)
			Length (m)	Width (m)	Length (m)	Width (m)	
POND 0001	5.00	20	50.0	15.3	54.8	20.1	1808
POND 0003	3.60	20	42.1	12.7	46.9	17.5	1304
POND 0004	4.09	20	45.0	13.7	49.8	18.5	1480
POND 0006	2.83	20	37.1	11.0	41.9	15.8	1027
POND 0014	4.96	20	49.8	15.3	54.6	20.1	1794
POND 0015	4.18	20	45.5	13.8	50.3	18.6	1513
POND 0016	0.85	20	34.0	10.0	38.8	14.8	872
POND 0017	1.91	20	34.0	10.0	38.8	14.8	872
POND 0018	1.96	20	34.0	10.0	38.8	14.8	872
POND 0301	3.52	20	41.6	12.5	46.4	17.3	1275
POND 0601	4.32	20	46.3	14.1	51.1	18.9	1563
POND 0602	3.43	20	41.0	12.3	45.8	17.1	1243
POND 0703	1.58	20	34.0	10.0	38.8	14.8	872
POND 0805	3.10	20	38.9	11.6	43.7	16.4	1124
POND 0902	1.18	20	34.0	10.0	38.8	14.8	872
POND 1002	4.56	20	47.6	14.5	52.4	19.3	1650
POND 1201	4.31	20	46.2	14.1	51.0	18.9	1560
POND 1302	2.88	20	37.4	11.1	42.2	15.9	1045
POND 1402	3.50	20	41.5	12.5	46.3	17.3	1268
POND 1404	2.00	20	34.0	10.0	38.8	14.8	872
POND 1406	3.83	20	43.5	13.2	48.3	18.0	1387
POND 1501	2.50	20	34.0	10.0	38.8	14.8	872
POND 1701	4.60	20	47.8	14.6	52.6	19.4	1664
POND 1801	1.30	20	34.0	10.0	38.8	14.8	872

SEDIMENT RETENTION POND SPECIFICATIONS



ANTI-SEEP COLLAR



SEDIMENT RETENTION POND

NUMBER OF DECANTS FOR EACH POND SHALL BE AS FOLLOWS:

- I) UP TO 1.5HA CATCHMENT - 1 DECANT
- II) 1.5-3.0HA CATCHMENT - 2 DECANTS
- III) 3 TO 5 HA CATCHMENT - 3 DECANTS

REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE
C	ISSUED FOR CONSENT	MO	CIM	JSD	26/11/21
B	SECOND ISSUE	MO	CIM	JSD	18/11/21
A	FIRST ISSUE	MO	CIM	JSD	24/08/21



CLIENT: THE BEARS HOME PROJECT MANAGEMENT LTD

PROJECT: MURIWAI DOWNS GOLF PROJECT  
610 & 697 MURIWAI ROAD  
MURIWAI VALLEY

TITLE: PROPOSED EARTHWORKS  
EROSION AND SEDIMENT  
CONTROL DETAILS  
DRAWING 3

PURPOSE OF ISSUE: FOR CONSENT

SCALE: AS SHOWN  
DO NOT SCALE

DRAWING NO: 1976-1-297  
REV: C