ESR HORSLEY LOGISTIC PARK

327-335 BURLEY ROAD, HORSLEY PARK

CIVIL WORKS DRAWINGS FOR SSDA

DRAWING LIST

DRAWING NO.	DRAWING TITLE
Co12990.05-SSDA10	DRAWING LIST & GENERAL NOTES
Co12990.05-SSDA20	EROSION SEDIMENT CONTROL PLAN
Co12990.05-SSDA25	EROSION SEDIMENT CONTROL PLAN DETAILS
Co12990.05-SSDA40	STORMWATER MANAGEMENT KEY PLAN
Co12990.05-SSDA41	LOT 201 STORMWATER DRAINAGE PLAN
Co12990.05-SSDA42	LOT 202 STORMWATER DRAINAGE PLAN
Co12990.05-SSDA43	LOT 203 STORMWATER DRAINAGE PLAN
Co12990.05-SSDA44	LOT 204 STORMWATER DRAINAGE PLAN
Co12990.05-SSDA45	STORMWATER DRAINAGE DETAILS - SHEET 1
Co12990.05-SSDA46	STORMWATER DRAINAGE DETAILS - SHEET 2
Co12990.05-SSDA47	STORMWATER DRAINAGE DETAILS - SHEET 3
Co12990.05-SSDA48	STORMWATER DRAINAGE DETAILS - SHEET 4
Co12990.05-SSDA50	FINISHED LEVELS KEY PLAN
Co12990.05-SSDA51	LOT 201 FINISHED LEVELS PLAN
Co12990.05-SSDA52	LOT 202 FINISHED LEVELS PLAN
Co12990.05-SSDA53	LOT 203 FINISHED LEVELS PLAN
Co12990.05-SSDA54	LOT 204 FINISHED LEVELS PLAN
Co12990.05-SSDA61	LOT 201 OSD TANK DETAILS
Co12990.05-SSDA62	LOT 202 OSD TANK DETAILS
Co12990.05-SSDA63	LOT 203 OSD TANK DETAILS
Co12990.05-SSDA64	LOT 204 OSD TANK DETAILS - SHEET 1
Co12990.05-SSDA65	LOT 204 OSD TANK DETAILS - SHEET 2

EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL SPECIFICATIONS PROVIDED BY DOUGLAS PARTNERS (REF 76582.06.R.001) DATED MAY 2016.
2. EXISTING LEVELS ARE BASED ON INFORMATION PREPARED BY CAILBRE FOR SUBDIVISION STAGES 2A & 2B.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION.
10. ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.

GENERAL NOTES:

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
3. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE.
   ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
   ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT.
   REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
4. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
5. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
6. ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS SSDA51 & SSDA54.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10. IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
13. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
14. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
15. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
16. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
17. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
18. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
19. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
20. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
21. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

FINISHED LEVELS PLAN NOTES:

1. LEVELS DATUM IS A.H.D.
2. ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
3. THE MAJOR CONTOUR INTERVAL IS 0.5m
4. THE MINOR CONTOUR INTERVAL IS 0.1m.
5. MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
6. MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
7. MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.33%) U.N.O. ON PLAN
8. PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEDE 1:20 (5%).
9. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
10. ALL BATTER SLOPES WITH GRADES AT OR EXCEDING 1V:6H ARE TO BE TURFED IMMEDIATELY, OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
11. ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL GRADE.
12. ALL PAVEMENTS ARE TO BE SET AT 50mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS.

LOCALITY PLAN
NTS

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED AS CLOUDED	19.06.20	D
REVISED AS CLOUDED	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA10

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-3721
email: mail@costinroe.com.au ©

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: DRAWING LIST & LOCALITY PLAN
DRAWING No: Co12990.05-SSDA10
ISSUE: D

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C012990.05-SSDA25.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY FOR FAIRFIELD (31.5mm).

SEDIMENT BASIN 1:
CATCHMENT AREA = 7.73ha
REQUIRED BASIN VOLUME = 1,825m³
BASE DIMENSION (LxB) = 18.0m x 32.0m
TOP DIMENSION (LxB) = 30.0m x 44.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 1,845m³

SEDIMENT BASIN 2:
CATCHMENT AREA = 6.225ha
REQUIRED BASIN VOLUME = 1,470m³
BASE DIMENSION (LxB) = 15.0m x 30.0m
TOP DIMENSION (LxB) = 27.0m x 42.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 1,532m³

SEDIMENT BASIN 3:
CATCHMENT AREA = 9.21ha
REQUIRED BASIN VOLUME = 2,175m³
BASE DIMENSION (LxB) = 20.0m x 36.0m
TOP DIMENSION (LxB) = 32.0m x 48.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 2,205m³

SEDIMENT BASIN 4:
CATCHMENT AREA = 5.69ha
REQUIRED BASIN VOLUME = 1,344m³
BASE DIMENSION (LxB) = 14.0m x 28.0m
TOP DIMENSION (LxB) = 26.0m x 40.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 1,380m³

SEDIMENT BASIN 5:
CATCHMENT AREA = 10.44ha
REQUIRED BASIN VOLUME = 2,466m³
BASE DIMENSION (LxB) = 21.0m x 40.0m
TOP DIMENSION (LxB) = 33.0m x 52.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 2.0m
PROVIDED BASIN VOLUME = 2,504m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:
1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
3. Cv = 0.5 & LENGTH TO WIDTH RATIO OF 2 (MIN.)

SOIL TYPE TO BE ASSESSED BY A GEOTECHNICAL ENGINEER

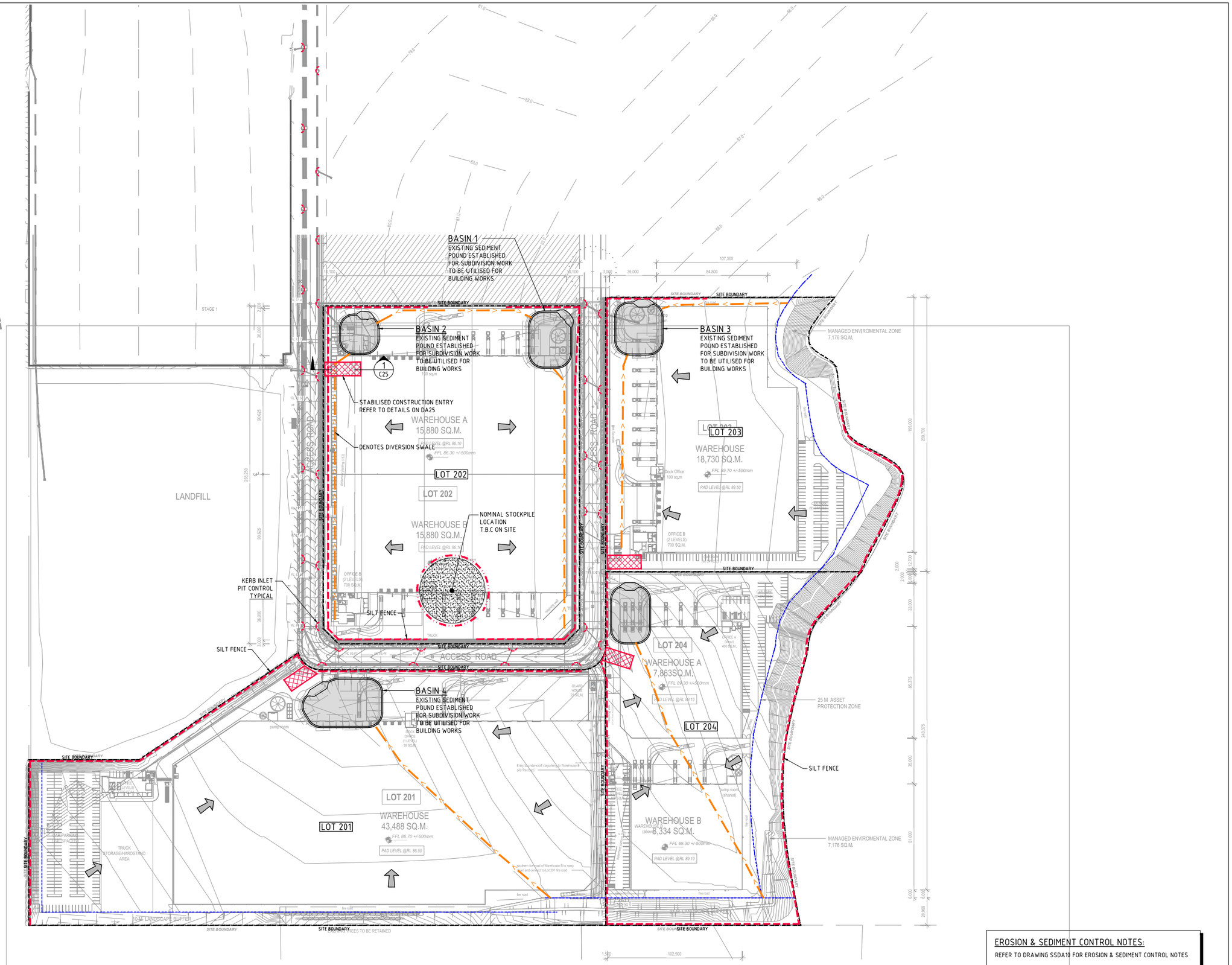
POND DEWATERING NOTES:

1. DRAIN PONDS OF WATER & DISCHARGE CLEAN WATER TO STORMWATER DRAINAGE SYSTEM (AS PER NOTES 2 & 3) - REFER TO STORMWATER PLAN FOR LOCATIONS.
2. DEWATERING TO BE PERFORMED IN SUCH A MANNER AS TO REMOVE CLEAN WATER WITHOUT REMOVING OR DISTURBING SILT, SEDIMENT OR OTHER ORGANIC MATERIAL FROM THE BASE OF THE PONDS.
3. DISCHARGE OF WATER FROM PONDS TO HAVE A PH RANGE OF 6.5-8.5 AND TSS < 50mg/L. PONDS TO BE DOSED WITH GYPSUM (APPROX. 30mg PER CUBIC METRE) TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS.
4. REMOVE ALL SILT, ORGANIC AND WATER LOGGED MATERIAL FROM BASE OF POND (NOM. DEPTH 0.5-1.0m) AND DISPOSE OF IN ACCORDANCE WITH THE ACCEPTABLE PRACTICE.
5. EXPOSE NATURAL SITE SOILS AND COMPACT SUBGRADE IN ACCORDANCE WITH THE SITE PREPARATION NOTES (REFER DRG. SSDA10) REMOVING ANY SOFT ZONES AS REQ'D.
6. PLACE AND COMPACT FILL AS PER SITE PREPARATION NOTES ON DRAWING SSDA10.
7. INFORMATION PROVIDED ON THIS DRAWING SHALL BE USED TO GUIDE THE DEVELOPMENT OF THE COSNTRUCTION ENVIRONMENTAL MANAGEMENT PLAN THAT SHALL BE IMPLEMENTED DURING CONSTRUCTION

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES OVERLAND FLOW PATH
- DENOTES CONSTRUCTION ENTRY



EROSION SEDIMENT CONTROL PLAN
SCALE 1:1000

EROSION & SEDIMENT CONTROL NOTES:

REFER TO DRAWING SSDA10 FOR EROSION & SEDIMENT CONTROL NOTES

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED FOR NEW ARCHITECTURALS	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

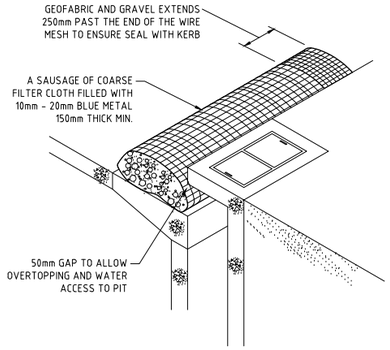
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA20

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 5 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3731
email: mail@costinroe.com.au ©

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

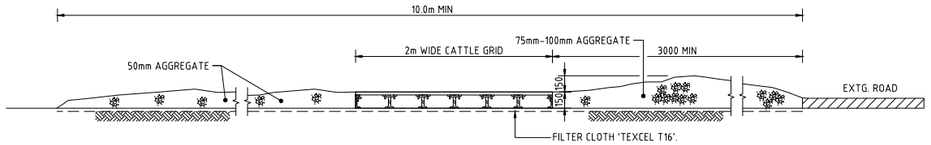
DRAWING TITLE
EROSION SEDIMENT CONTROL PLAN

DRAWING No: C012990.05-SSDA20
ISSUE: C

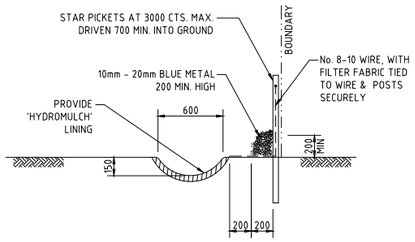


KERB INLET CONTROL

N.T.S

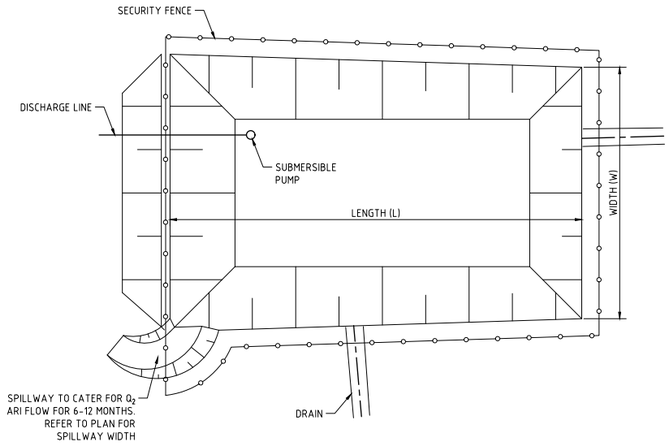


SECTION 1:20 1 - : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



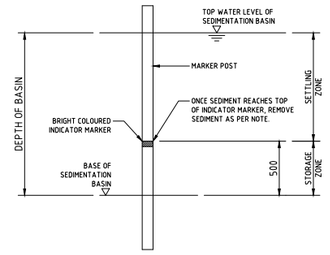
TYPICAL OPEN DRAIN & SILT FENCE

SCALE 1:20



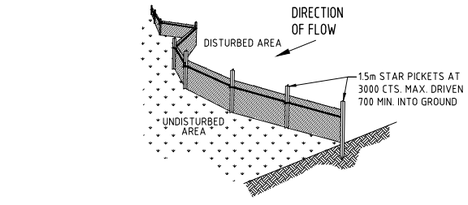
TYPICAL SEDIMENT CONTROL POND PLAN

SCALE 1:250



SEDIMENT STORAGE MARKER

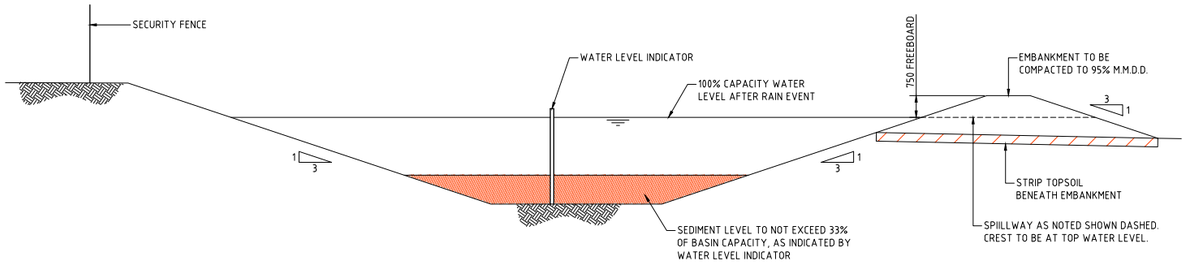
SCALE 1:20



TYPICAL SILT FENCE DETAIL

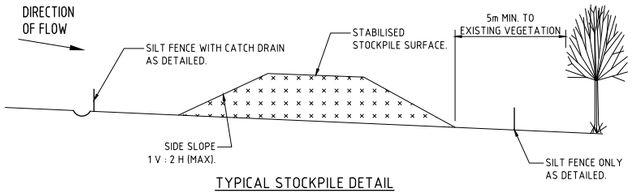
N.T.S

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL



TYPICAL SEDIMENT CONTROL BASIN SECTION

SCALE 1:50



TYPICAL STOCKPILE DETAIL

N.T.S

STOCKPILE NOTES

1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.

2m 0 5 10 15 20 25m

SCALE 1:250 AT A0 SIZE SHEET

500mm 0 1 2 3 4 5m

SCALE 1:50 AT A0 SIZE SHEET

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA25

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3726
email: mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
EROSION SEDIMENT CONTROL PLAN DETAILS

DRAWING No. C012990.05-SSDA25 ISSUE B

REFER TO SSDA42

REFER TO SSDA43

DISCHARGE POINT 2
ATTENUATED FLOWS FROM LOT 202
TO DISCHARGE TO PIT 120/1

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 1450m³ OF OSD STORAGE VOLUME
PROVIDE 115 FILTER CARTRIDGES.

DISCHARGE POINT 3
ATTENUATED FLOWS FROM LOT 203
TO DISCHARGE TO PIT 141/2.

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 160m³ OF OSD STORAGE VOLUME
PROVIDE 50 FILTER CARTRIDGES.

MANAGED ENVIROMENTAL ZONE
7,176 SQ.M.

LANDFILL

WAREHOUSE A
15,880 SQ.M.
PAD LEVEL @RL 86.10
FFL 86.30 +/-500mm

LOT 202
BUILDING 2
FFL = 86.30±500mm
SUBJECT TO FUTURE
DETAILED DESIGN

WAREHOUSE B
15,880 SQ.M.
PAD LEVEL @RL 86.10
FFL 86.30 +/-500mm

LOT 203
BUILDING 3
FFL = 89.70±500mm
SUBJECT TO FUTURE
DETAILED DESIGN
PAD LEVEL @RL 89.50
FFL 89.70 +/-500mm

PROPOSED BIO-RETENTION BASIN SYSTEM
MIN TOTAL BIO RETENTION FILTRATION AREA: 100m²
MIN EXTENDED DETENTION =0.30m
500mm MIN FILTER MEDIA DEPTH

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 395m³ OF OSD STORAGE VOLUME
PROVIDE 15 FILTER CARTRIDGES.

DISCHARGE POINT 1
ATTENUATED FLOWS FROM LOT 201
TO DISCHARGE TO PIT 100/6.

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 2235m³ OF OSD STORAGE VOLUME
PROVIDE 88 FILTER CARTRIDGES.
REFER DETAIL ON DRG DA48.

DISCHARGE POINT 3
ATTENUATED FLOWS FROM LOT 204
TO DISCHARGE TO PIT 100/2

PROPOSED BIO-RETENTION BASIN SYSTEM
MIN TOTAL BIO RETENTION FILTRATION AREA: 100m²
MIN EXTENDED DETENTION =0.30m
500mm MIN FILTER MEDIA DEPTH

PRIVATE ACCESS ROAD

LOT 204
WAREHOUSE A
BUILDING 4
FFL = 89.30 mm
SUBJECT TO FUTURE
DETAILED DESIGN
PAD LEVEL @RL 89.10

PROPOSED CARPARK BIO-RETENTION BASIN SYSTEM
MIN TOTAL BIO RETENTION FILTRATION AREA: 200m²
MIN EXTENDED DETENTION =0.30m
500mm MIN FILTER MEDIA DEPTH
TYPICAL THROUGHOUT PROPOSED CARPARK
REFER DETAIL ON DRG DA46&D47

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 777m³ OF OSD STORAGE VOLUME
PROVIDE 30 FILTER CARTRIDGES.

25 M ASSET
PROTECTION ZONE

LOT 201
LOT 201
BUILDING 1
FFL = 86.70
SUBJECT TO SSDA
FFL 86.70 +/-500mm
PAD LEVEL @RL 86.50

WAREHOUSE B
BUILDING 5
FFL = 89.30
SUBJECT TO FUTURE
DETAILED DESIGN
PAD LEVEL @RL 89.10

MANAGED ENVIROMENTAL ZONE
7,176 SQ.M.

CAR PARKING
(120 SPACES)

TRUCK
STORAGE/HARDSTAND
AREA

10 M LANDSCAPE BUFFER

21 M LANDSCAPE BUFFER

SITE BOUNDARY

REFER TO SSDA41

REFER TO SSDA44

WATER QUALITY NOTE:

STORMWATER QUALITY REQUIREMENTS HAVE BEEN BASED ON THE STORMWATER CONCEPT PLAN PREPARED BY BROWN CONSULTING.
REF No: X13044
THE FOLLOWING REDUCTION PARAMETERS HAVE BEEN SET FOR THE PROPOSED DEVELOPMENT:

- GP 90%
- TSS 93%
- TP 74%
- TN 48%

STORMWATER MANAGEMENT NOTE:

STORMWATER MANAGEMENT REQUIREMENTS ARE BASED ON THE STORMWATER CONCEPT PLAN PREPARED BY BROWN CONSULTING.
REF No: X13044

STORMWATER MANAGEMENT REQUIREMENTS

LOT No.	SITE AREA (Ha)	SSR RATE 100-Yr ARI (m³/Ha)	PSD RATE 100-Yr ARI (m³/s/Ha)	OSD VOL (m³)	BIO-RETENTION BASIN AREA (m²)	STORM-FILTER CARTRIDGES	EXISTING ESTATE DISCHARGE POINT
LOT 201	7.70	290	0.28	2235	200	88	PIT 100/6
LOT 202	5.0	290	0.28	1450	-	115	PIT 120/2
LOT 203	4.0	290	0.28	1160	100	50	PIT 141/2
LOT 204	4.0	290	0.28	1160	100	45	PIT 100/2

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

NOTE:

ALL SURFACE INLET PITS TO BE FITTED WITH OCEANGUARD OG200 PIT INSERTS

NOTE:

REFER TO DRAWING C012990.05-SSDA10 FOR STORMWATER NOTES.

STORMWATER MANAGEMENT KEY PLAN
SCALE 1:750

6m 0 15 30 45 60 75m
SCALE 1.750 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED AS CLOUDED	24.06.20	D
REVISED FOR NEW ARCHITECTURALS	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA40

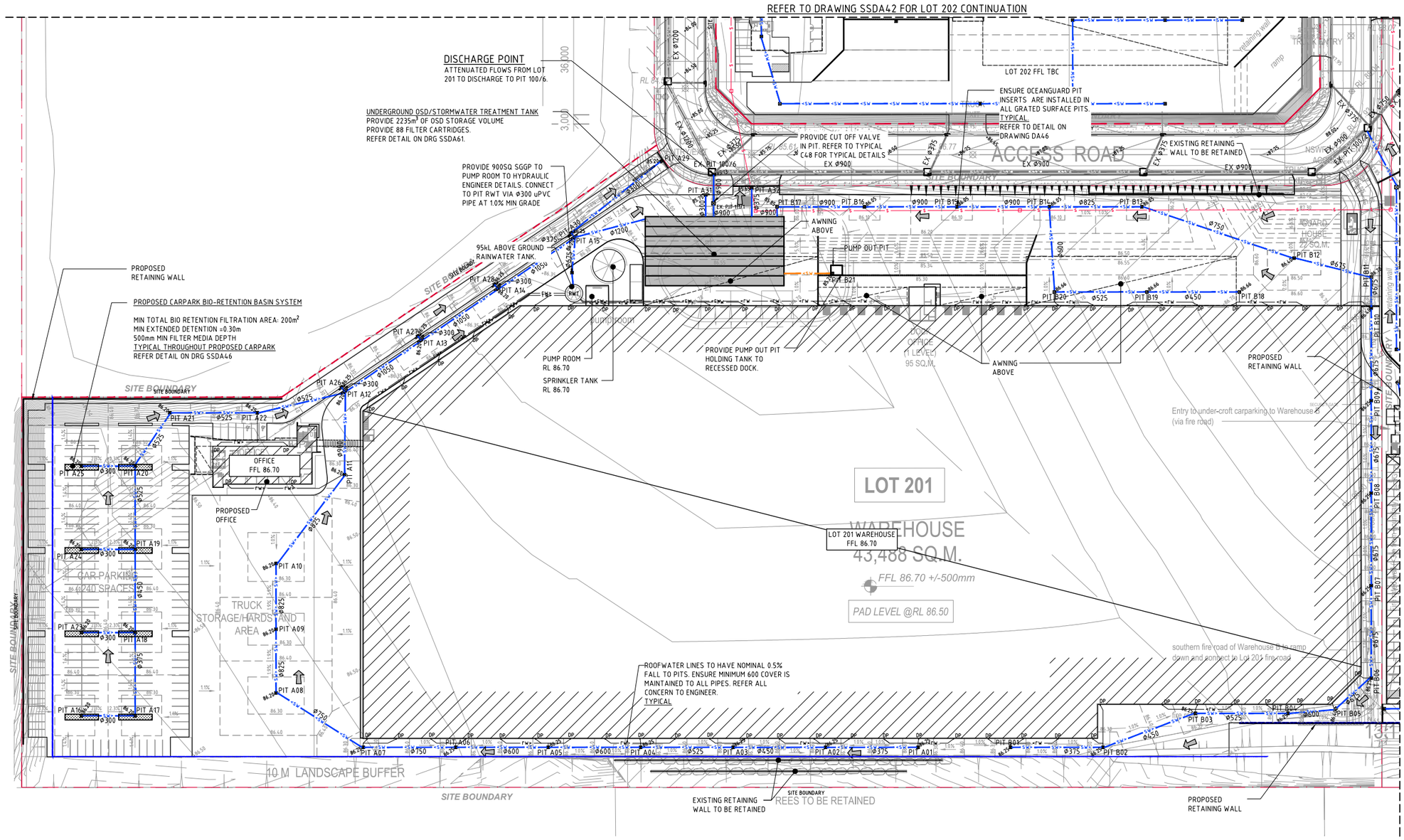
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3726
email: mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER MANAGEMENT KEY PLAN

DRAWING No: C012990.05-SSDA40 ISSUE: D



LOT 201 STORMWATER DRAINAGE PLAN
SCALE 1:500

PIT SCHEDULE - NETWORK A

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A01	86.25	SGGP	900x900	-
PIT A02	86.25	SGGP	900x900	-
PIT A03	86.25	SGGP	900x900	-
PIT A04	86.25	SGGP	900x900	-
PIT A05	86.25	SGGP	900x900	-
PIT A06	86.25	SGGP	900x900	-
PIT A07	86.25	SGGP	900x900	-
PIT A08	86.20	SGGP	1200x1200	-
PIT A09	86.20	SGGP	1200x1200	-
PIT A10	86.20	SGGP	1200x1200	-
PIT A11	86.20	SGGP	1200x1200	-
PIT A12	86.20	KIP	1500x1500	-
PIT A13	86.20	KIP	1500x1500	-
PIT A14	86.20	KIP	1500x1500	-
PIT A15	86.20	KIP	1500x1500	-
PIT A16	86.20	SGGP	900x900	-
PIT A17	86.20	SGGP	900x900	-
PIT A18	86.20	SGGP	900x900	-
PIT A19	86.20	SGGP	900x900	-
PIT A20	86.20	SGGP	900x900	-
PIT A21	86.20	SGGP	900x900	-
PIT A22	86.25	SGGP	900x900	-
PIT A23	86.20	SGGP	900x900	-
PIT A24	86.20	SGGP	900x900	-
PIT A25	86.20	SGGP	900x900	-
PIT A26	86.25	KIP	900x900	-
PIT A27	86.25	KIP	900x900	-
PIT A28	86.25	KIP	900x900	-
PIT A29	85.20	SGGP	900x900	-
PIT A30	86.25	KIP	900x900	-
PIT A31	85.75	KIP	900x900	-
PIT A32	85.65	SGGP	900x900	-

PIT SCHEDULE - NETWORK B

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT B01	86.25	SGGP	900x900	-
PIT B02	86.25	SGGP	900x900	-
PIT B03	86.25	SGGP	900x900	-
PIT B04	86.25	SGGP	900x900	-
PIT B05	86.40	SJP	900x900	-
PIT B06	86.25	SGGP	900x900	-
PIT B07	86.25	SGGP	900x900	-
PIT B08	86.25	SGGP	900x900	-
PIT B09	86.25	SGGP	900x900	-
PIT B10	86.40	SGGP	900x900	-
PIT B11	86.70	SJP	900x900	-
PIT B12	86.40	SGGP	900x900	-
PIT B13	86.05	SGGP	1200x1200	-
PIT B14	86.05	SGGP	1200x1200	-
PIT B15	86.05	SGGP	1200x1200	-
PIT B16	86.05	SGGP	1200x1200	-
PIT B17	85.85	SJP	1200x1200	-
PIT B18	86.66	SJP	900x900	-
PIT B19	86.66	SJP	900x900	-
PIT B20	86.66	SJP	900x900	-
PIT B21	85.20	SGGP	900x900	PUMP OUT PIT

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- PROPOSED DRAINAGE LINE WITH NON RETURN VALVE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED FOR NEW ARCHITECTURALS	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA41

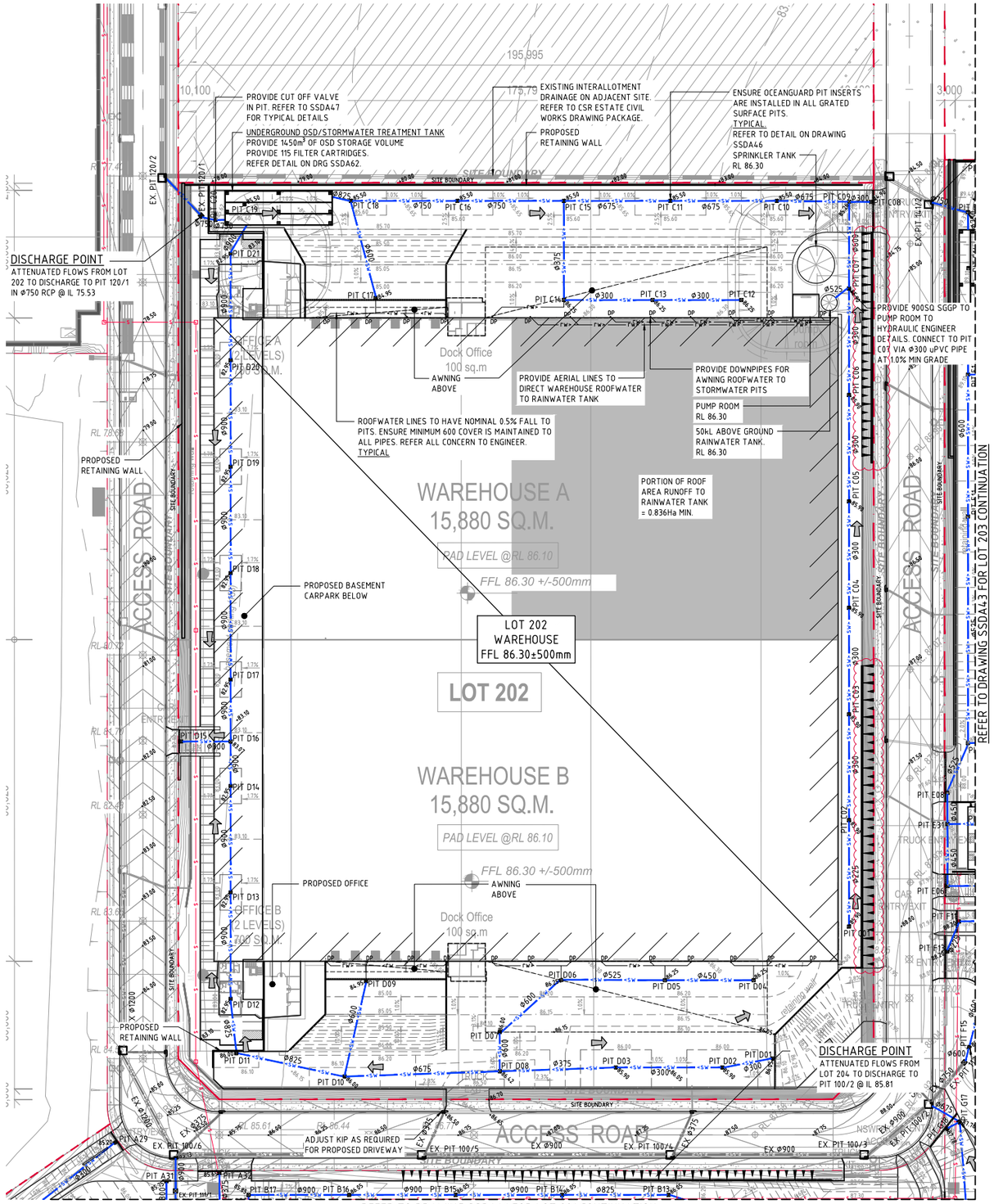
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3721
email: mail@costinroe.com.au ©

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: LOT 201 STORMWATER DRAINAGE PLAN

DRAWING No: C012990.05-SSDA41 ISSUE: C



LOT 202 STORMWATER DRAINAGE PLAN
SCALE 1:500

PIT SCHEDULE - NETWORK C

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT C01	85.90	SGGP	900x900	-
PIT C02	85.90	SGGP	900x900	-
PIT C03	85.90	SGGP	900x900	-
PIT C04	85.90	SGGP	900x900	-
PIT C05	85.90	SGGP	900x900	-
PIT C06	85.90	SGGP	900x900	-
PIT C07	85.90	SGGP	900x900	-
PIT C08	84.90	SGGP	900x900	-
PIT C09	85.26	SJP	900x900	-
PIT C10	85.50	SGGP	900x900	-
PIT C11	85.50	SGGP	900x900	-
PIT C12	86.25	SJP	900x900	-
PIT C13	86.25	SJP	900x900	-
PIT C14	86.25	SJP	900x900	-
PIT C15	85.50	SGGP	900x900	-
PIT C16	85.50	SGGP	900x900	-
PIT C17	84.95	SGGP	900x900	-
PIT C18	85.50	SGGP	1200x1200	-
PIT C19	85.50	SGGP	900x900	-
PIT C20	85.62	SGGP	900x900	-

PIT SCHEDULE - NETWORK D

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT D01	86.05	SGGP	900x900	-
PIT D02	85.90	SGGP	900x900	-
PIT D03	85.90	SGGP	900x900	-
PIT D04	86.25	SJP	900x900	-
PIT D05	86.25	SJP	900x900	-
PIT D06	86.25	SJP	900x900	-
PIT D07	86.00	SGGP	900x900	-
PIT D08	86.42	SJP	900x900	-
PIT D09	84.95	SGGP	900x900	-
PIT D10	86.00	SGGP	1200x1200	-
PIT D11	86.00	SGGP	1200x1200	-
PIT D12	82.95	SGGP	1200x1200	-
PIT D13	82.95	SGGP	1200x1200	-
PIT D14	82.95	SGGP	1200x1200	-
PIT D15	82.10	SGGP	1200x1200	-
PIT D16	83.07	SJP	1200x1200	-
PIT D17	82.95	SGGP	1200x1200	-
PIT D18	82.95	SGGP	1200x1200	-
PIT D19	82.95	SGGP	1200x1200	-
PIT D20	82.95	SGGP	1200x1200	-
PIT D21	82.95	SGGP	1200x1200	-

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED AS CLOUDED	24.06.20	B
ISSUED FOR SSD APPROVAL	17.06.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA42

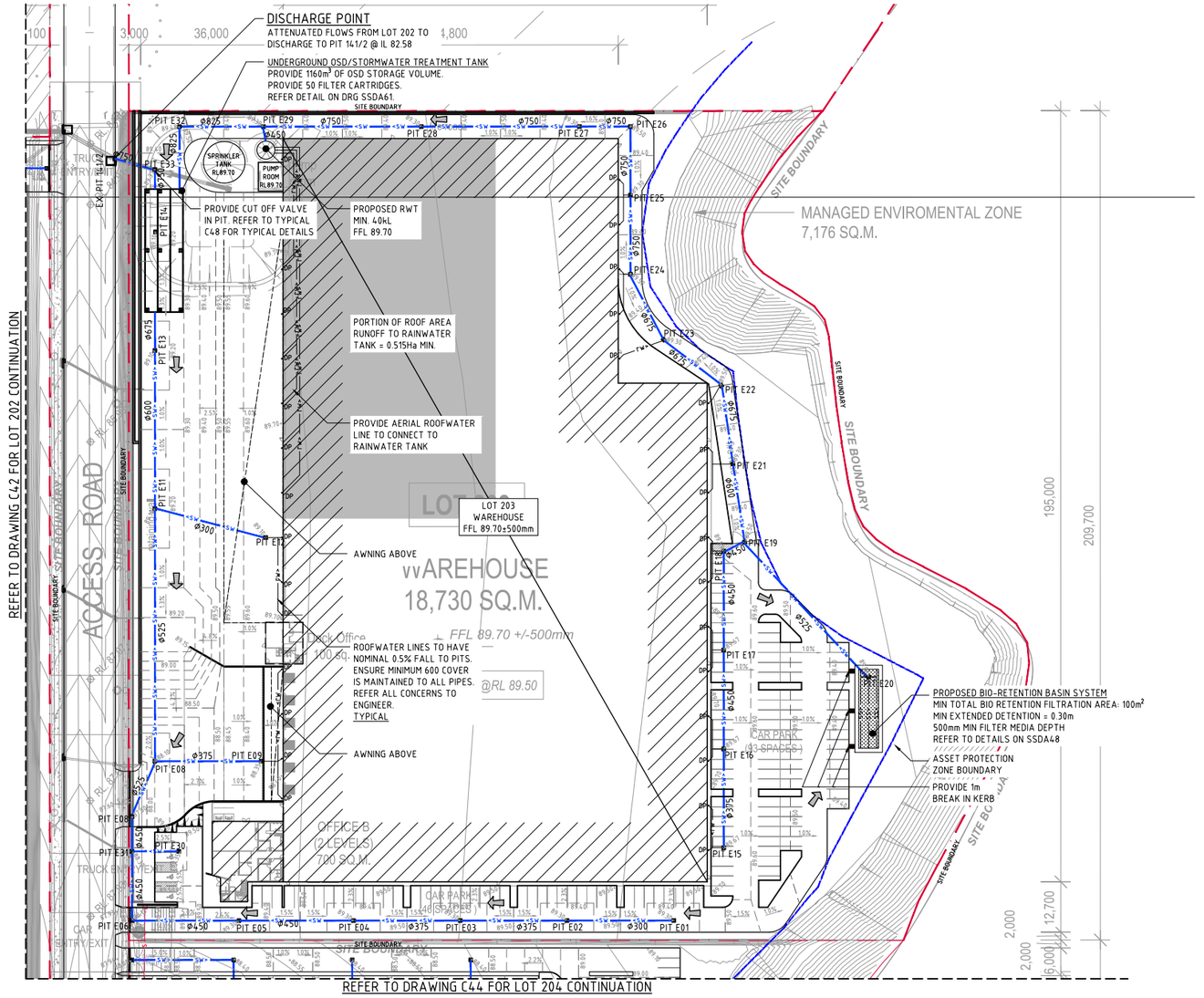
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-5731
email: mail@costinroe.com.au ©

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 202
STORMWATER DRAINAGE PLAN

DRAWING No C012990.05-SSDA42 ISSUE B



LOT 203 STORMWATER DRAINAGE PLAN
SCALE 1:500

PIT SCHEDULE - LOT 203

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT E01	89.30	SGGP	900x900	-
PIT E02	89.30	SGGP	900x900	-
PIT E03	89.30	SGGP	900x900	-
PIT E04	89.30	SGGP	900x900	-
PIT E05	89.30	SGGP	900x900	-
PIT E06	88.13	SGGP	900x900	-
PIT E07	87.80	SGGP	900x900	-
PIT E08	88.10	SJP	900x900	-
PIT E09	88.35	SGGP	900x900	-
PIT E10	89.10	SGGP	900x900	-
PIT E11	89.10	SGGP	900x900	-
PIT E12	89.10	SGGP	900x900	-
PIT E13	89.10	SGGP	900x900	-
PIT E14	89.10	SGGP	900x900	-
PIT E15	89.67	SJP	900x900	-
PIT E16	89.67	SJP	900x900	-
PIT E17	89.67	SJP	900x900	-
PIT E18	89.59	SJP	900x900	-
PIT E19	89.50	SJP	900x900	-
PIT E20	89.00	SGGP	900x900	BASIN INLET PIT
PIT E21	89.30	SGGP	900x900	-
PIT E22	89.50	SJP	900x900	-
PIT E23	89.30	SGGP	900x900	-
PIT E24	89.50	SJP	900x900	-
PIT E25	89.30	SGGP	900x900	-
PIT E26	89.50	SJP	900x900	-
PIT E27	89.30	SGGP	900x900	-
PIT E28	89.30	SGGP	900x900	-
PIT E29	89.30	SGGP	1200x1200	-
PIT E30	89.35	SGGP	900x900	-
PIT E31	88.30	SJP	900x900	-
PIT E32	89.48	SGGP	1200x1200	-
PIT E33	89.37	SGGP	900x900	CUT OFF VALVE

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- SW - PROPOSED DRAINAGE LINE
- SW - PROPOSED DRAINAGE LINE WITH NON RETURN VALVE
- EXISTING DRAINAGE LINE
- DP - ROOFWATER DOWNPIPE (INDICATIVE)
- RW - ROOFWATER LINE
- SS - SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	12.06.20	A

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

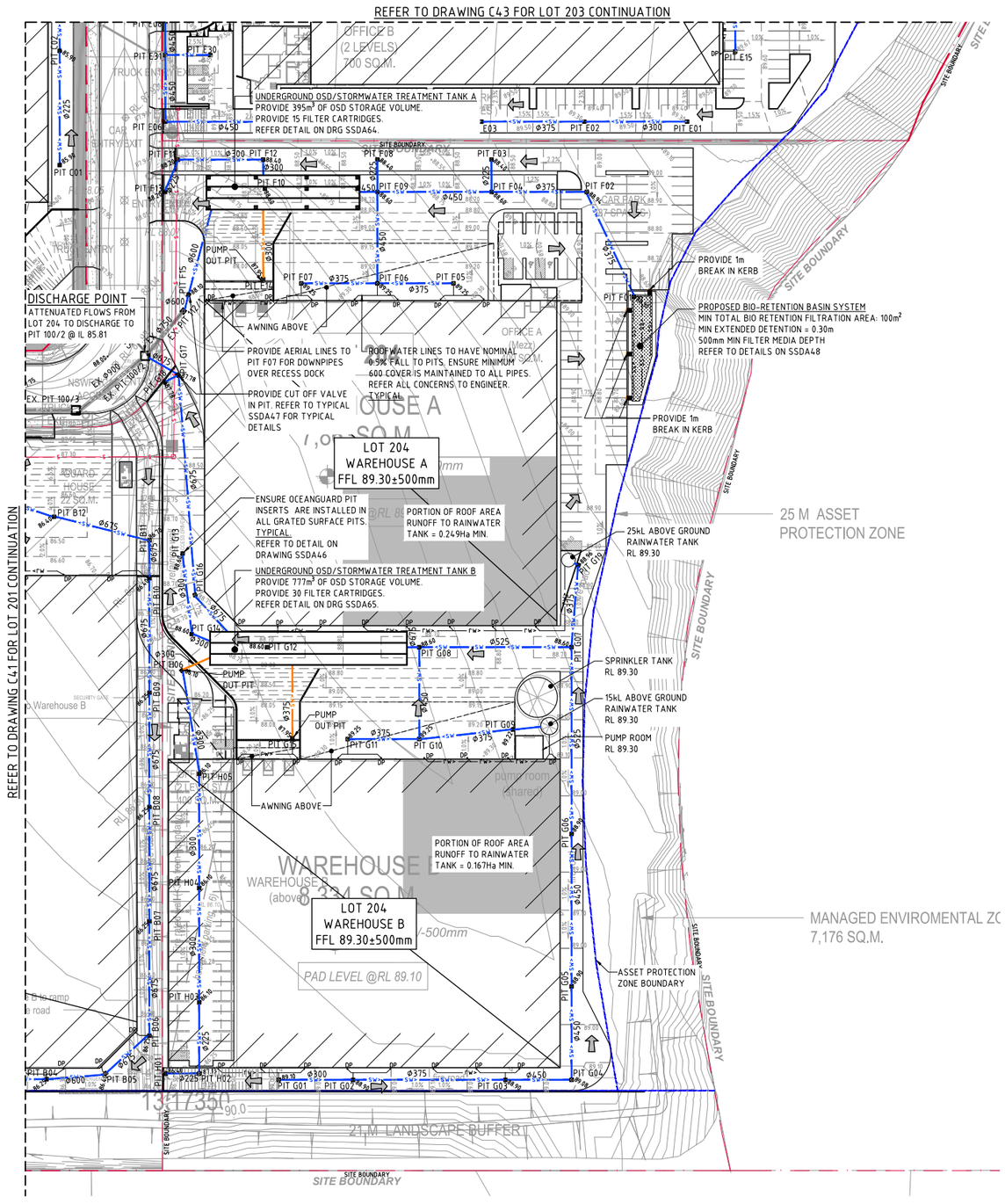
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA43

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-3726
email: mail@costinroe.com.au ©

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: LOT 203 STORMWATER DRAINAGE PLAN

DRAWING No: C012990.05-SSDA43 ISSUE: A



LOT 204 STORMWATER DRAINAGE PLAN
SCALE 1:500

PIT SCHEDULE - NETWORK F

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT F01	88.30	SGGP	900x900	BASIN INLET PIT
PIT F02	88.94	SJP	900x900	-
PIT F03	88.40	SGGP	900x900	-
PIT F04	88.60	SGGP	900x900	-
PIT F05	89.25	SJP	900x900	-
PIT F06	89.25	SJP	900x900	-
PIT F07	89.25	SJP	900x900	-
PIT F08	88.40	SGGP	900x900	-
PIT F09	88.60	SGGP	900x900	-
PIT F10	88.60	SGGP	900x900	-
PIT F11	88.20	SGGP	900x900	-
PIT F12	88.40	SGGP	900x900	-
PIT F13	88.20	SGGP	900x900	-
PIT F14	87.95	SGGP	900x900	PUMP OUT PIT
PIT F15	88.10	SGGP	900x900	CUT OFF VALVE

PIT SCHEDULE - NETWORK G

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT G01	89.10	SJP	900x900	-
PIT G02	88.90	SGGP	900x900	-
PIT G03	88.90	SGGP	900x900	-
PIT G04	89.08	SJP	900x900	-
PIT G05	88.90	SGGP	900x900	-
PIT G06	88.90	SGGP	900x900	-
PIT G07	88.60	SGGP	900x900	-
PIT G08	88.60	SGGP	900x900	-
PIT G09	89.22	SGGP	900x900	-
PIT G10	89.25	SJP	900x900	-
PIT G11	89.25	SJP	900x900	-
PIT G12	88.60	SGGP	900x900	-
PIT G13	88.60	SGGP	900x900	-
PIT G14	88.60	SGGP	900x900	-
PIT G15	87.95	SGGP	900x900	PUMP OUT PIT
PIT G16	88.75	SJP	900x900	-
PIT G17	87.78	SGGP	900x900	CUT OFF VALVE
PIT G18	87.78	SGGP	900x900	-
PIT G19	88.96	SGGP	900x900	-

PIT SCHEDULE - NETWORK H

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT H01	86.40	SGGP	900x900	-
PIT H02	87.13	SJP	900x900	-
PIT H03	86.10	SGGP	900x900	-
PIT H04	86.10	SGGP	900x900	-
PIT H05	86.10	SGGP	900x900	-
PIT H06	86.10	SGGP	900x900	PUMP OUT PIT

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- PROPOSED DRAINAGE LINE WITH NON RETURN VALVE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	19.06.20	A

ARCHITECT

CLIENT: ESR

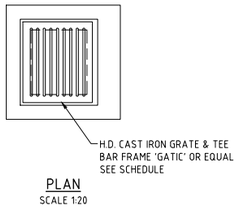
PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA44

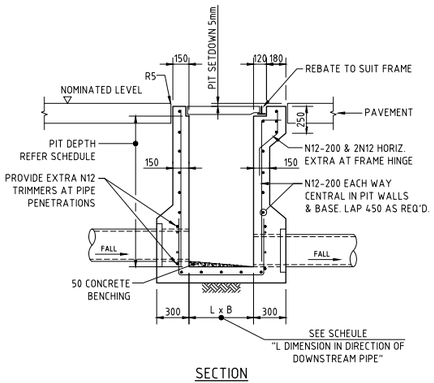
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-5721
email: mail@costinroe.com.au

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: LOT 204 STORMWATER DRAINAGE PLAN
DRAWING No: C012990.05-SSDA44
ISSUE: A

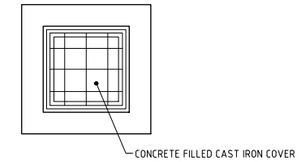


PLAN
SCALE 1:20

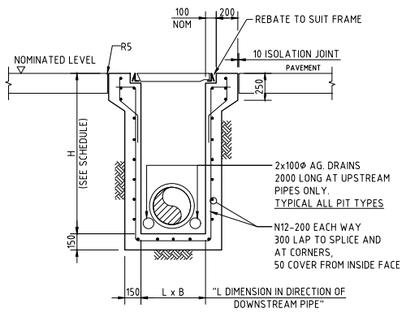


SECTION
SCALE 1:20

SINGLE GRATED GULLY PIT - SGGP

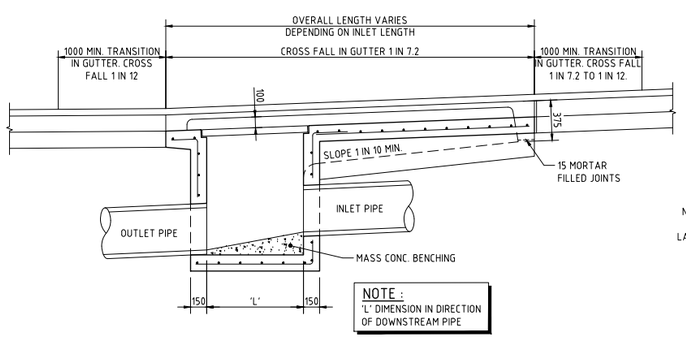


PLAN
SCALE 1:20

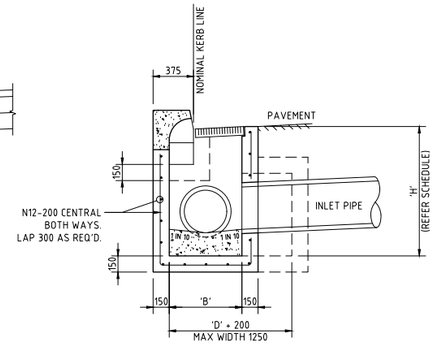


SECTION
SCALE 1:20

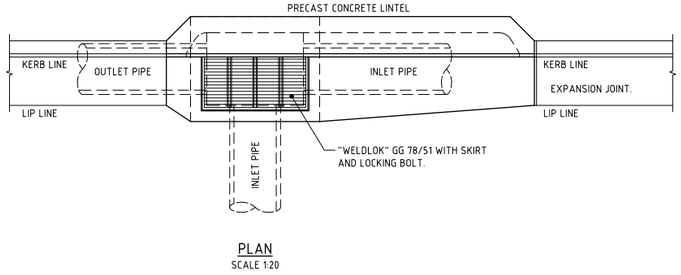
SEALED PIT - SP



LONG SECTION
SCALE 1:20



CROSS SECTION
SCALE 1:20



PLAN
SCALE 1:20

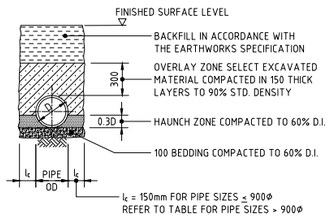
KERB INLET PIT - KIP

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE	F'c (MPa)
PIT	80	20	GP	NIL	32

NOTE :

1. WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
2. SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
3. ALL REINFORCING TO HAVE 30 MIN. CLAER CONCRETE COVER.
4. FOR PITS DEEPER THAN 1200mm CLIMB RAILS SHALL BE PROVIDED.

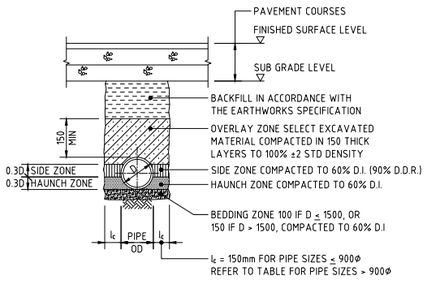
SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20



TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS
SCALE 1:20

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	20 TO 0

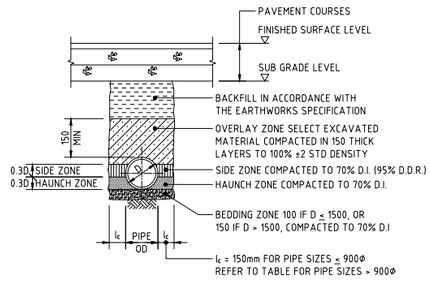
SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
≤ 900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø	



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D > 1350, MAX FILL = 3.0m

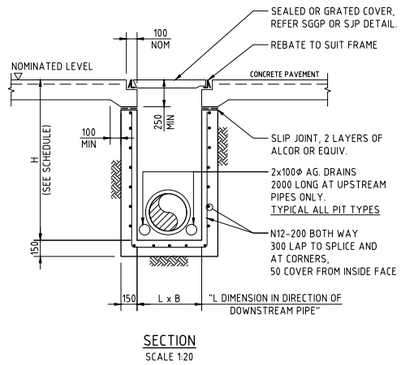
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
≤ 900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø	



TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1050, MAX FILL = 6.0m
D > 1050, MAX FILL = 4.8m

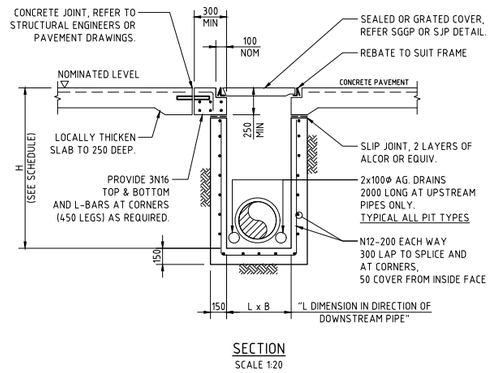
SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
9.5	100 TO 50
2.6	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA45

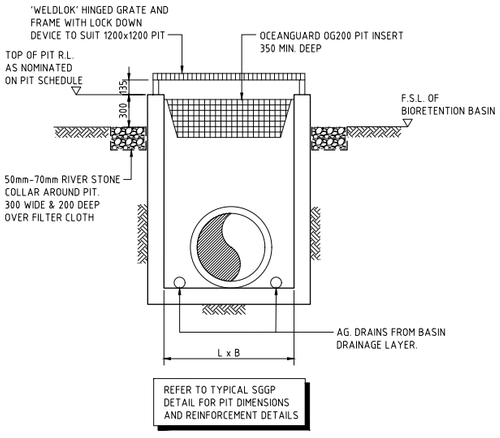
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9241-7699 Fax: (02) 9241-5721
email: mail@costinroe.com.au ©

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE DETAILS SHEET 1

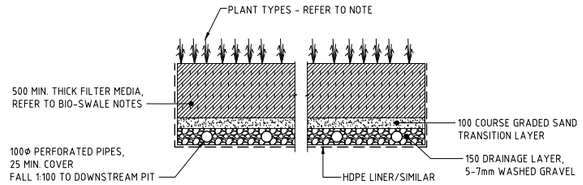
DRAWING No C012990.05-SSDA45 ISSUE B



TYPICAL SECTION

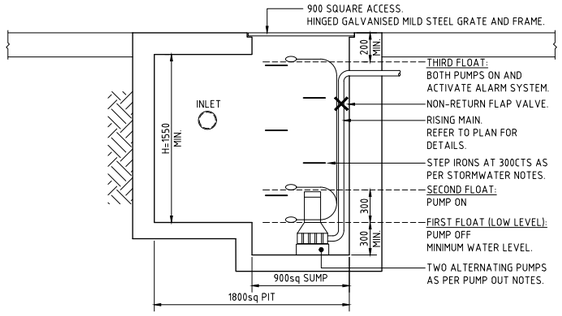
SCALE 1:20

BASIN INLET PIT - BIP



TYPICAL BIO-RETENTION DETAIL

SCALE 1:20



PUMP OUT PIT DETAIL - PIT B21

SCALE 1:20
REFER TYPICAL PIT DETAILS FOR ALL ITEMS NOT LABELED.

BASEMENT PUMP OUT NOTES:

PUMP SYSTEM IS TO CONSIST OF DUAL ALTERNATING PUMPS. THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:

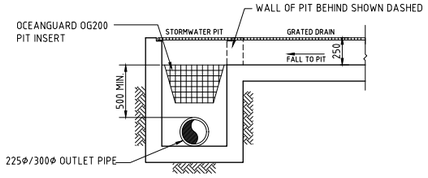
Q PUMP = 30 L/s VOLUME = 21.0 m^3 (MIN.)
THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE PIT . IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE PIT TO THE LEVEL OF THE LOW-LEVEL FLOAT.

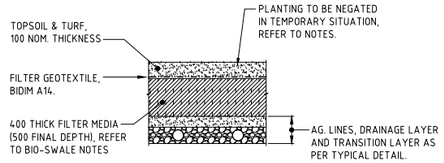
A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE TOP LEVEL OF THE PIT. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.



GRATED DRAIN/STORMWATER PIT WITH ENVIROPOD CONFIGURATION

SCALE 1:20



TEMPORARY BIO-RETENTION PROTECTION DETAIL

SCALE 1:20
TEMPORARY CONSTRUCTION REQUIREMENT DETAIL - REFER TO NOTES FOR IMPLEMENTATION PERIODS.

BIO-RETENTION NOTES :

FILTER MEDIA TO BE LOAMY SAND WITH A PERMEABILITY NOT LESS THAN 200mm/hr. FILTER MEDIA TO BE FREE OF RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND LOCAL WEEDS, AND IS TO NOT BE HYDROPHOBIC.

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:

CLAY & SILT (<0.05mm)	<3%
VERY FINE SAND (0.05-0.15mm)	5-30%
FINE SAND (0.15-0.25mm)	10-30%
MEDIUM TO COARSE SAND (0.25-1.00mm)	40-60%
COARSE SAND (1.0-2.0mm)	7-10%
FINE GRAVEL (2.0-3.4mm)	<3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:

a. ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (W/W) AND TO BE NO GREATER THAN 5%(W/W).
b. PH TO BE BETWEEN 5.5 AND 7.5
c. PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

PLANTS TO BE IN ACCORDANCE WITH COUNCIL WSUD HANDBOOK PART 5 - VEGETATION SELECTION GUIDE, WITH A MINIMUM OF SIX DIFFERENT SPECIES.

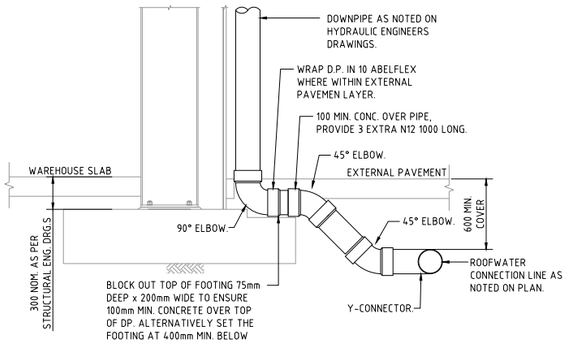
PROVIDE 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH TIME AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF THE ROAD, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (REFER TO DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL

PRIOR TO PLANTING, THE TOP 100mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW:

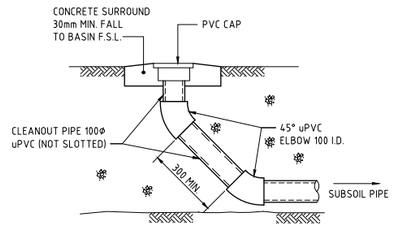
TABLE: RECIPE FOR AMELIORATING TOP 100mm OF BIORETENTION FILTER MEDIA

CONSTITUENT	QUANTITY (kg/m2 OF FILTER AREA)
GRANULATED POULTRY MANURE FINES	50
SUPERPHOSPHATE	2
MAGNESIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILISER NPK (16.4.14)	4
LIME	20



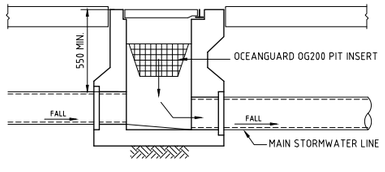
DOWNPIPE TURN-UP DETAIL A

(AT FOOTING LOCATION)
SCALE 1:20



BIORETENTION CLEANOUT EYE ELEVATION

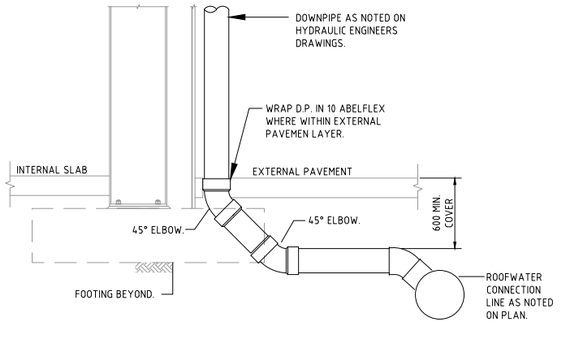
SCALE 1:20
DENOTED C.E. ON PLAN



STORMWATER PIT WITH ENVIROPOD CONFIGURATION

SCALE 1:20

BIO-RETENTION BASIN DETAILS



DOWNPIPE TURN-UP DETAIL B

(CLEAR OF FOOTING)
SCALE 1:20

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA46

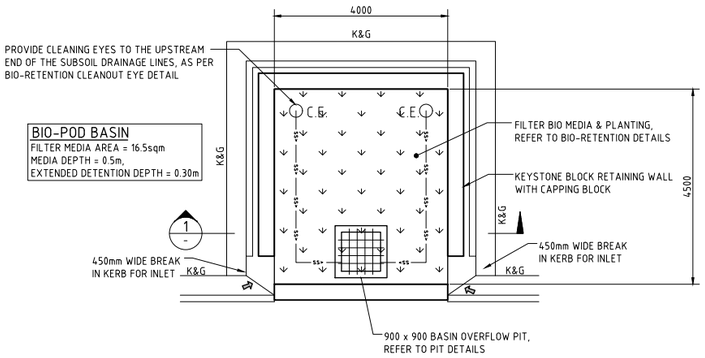
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 6 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3721
email: mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

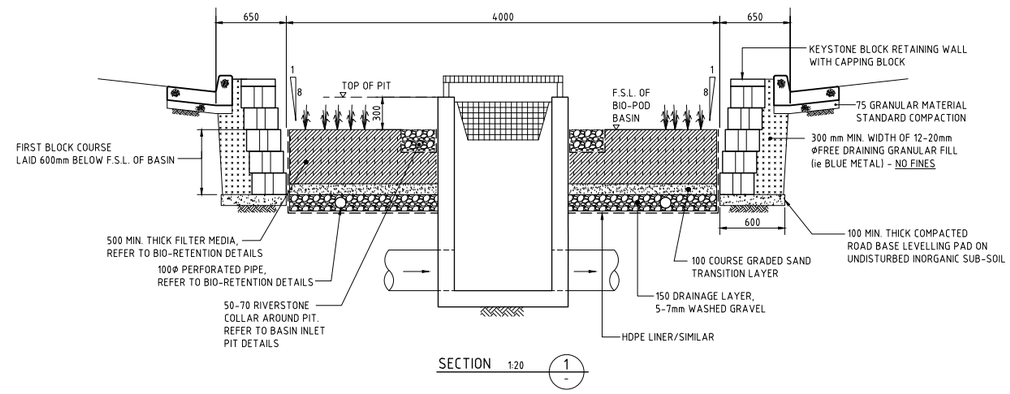
DRAWING TITLE: STORMWATER DRAINAGE DETAILS SHEET 2

DRAWING No: C012990.05-SSDA46 ISSUE: B

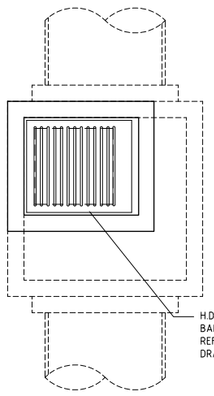


CARPARK BIO-POD BASIN TYPICAL DETAIL

SCALE 1:50

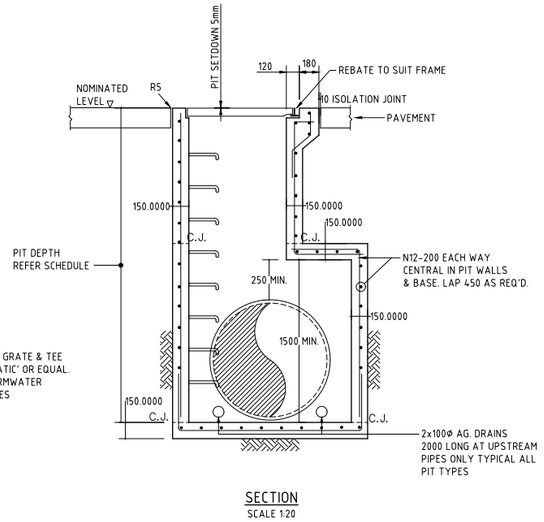


SECTION 1:20



PLAN

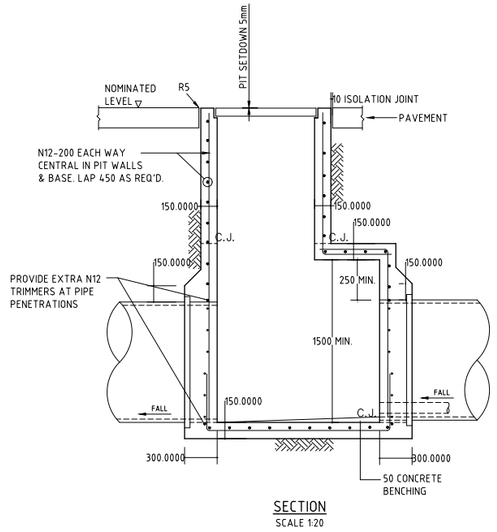
SCALE 1:20



SECTION

SCALE 1:20

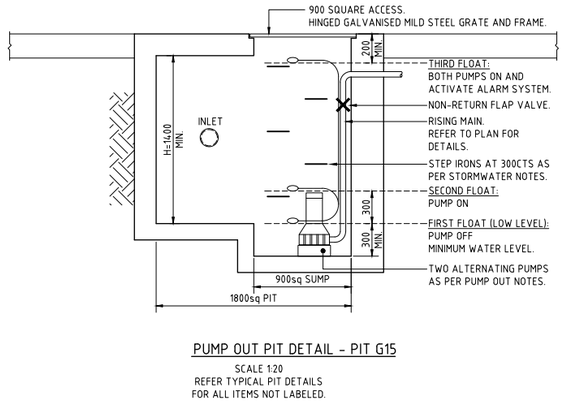
TAPERED SINGLE GRATED GULLY PIT - SGGP



SECTION

SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP



PUMP OUT PIT DETAIL - PIT G15

SCALE 1:20

REFER TYPICAL PIT DETAILS FOR ALL ITEMS NOT LABELED.

BASEMENT PUMP OUT NOTES:

PUMP SYSTEM IS TO CONSIST OF DUAL ALTERNATING PUMPS. THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:

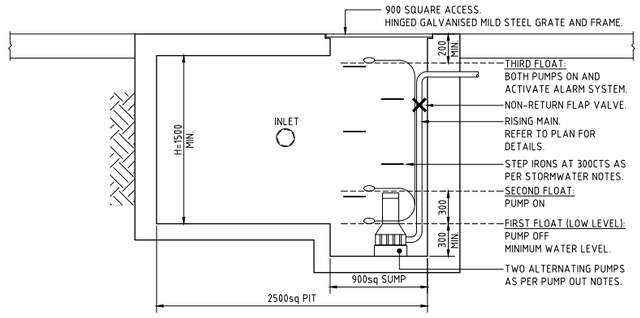
Q PUMP = 10 L/s VOLUME = 5.0 m^3 (MIN.)
THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE PIT . IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE PIT TO THE LEVEL OF THE LOW-LEVEL FLOAT.

A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE TOP LEVEL OF THE PIT. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.



PUMP OUT PIT DETAIL - PIT H06

SCALE 1:20

REFER TYPICAL PIT DETAILS FOR ALL ITEMS NOT LABELED.

BASEMENT PUMP OUT NOTES:

PUMP SYSTEM IS TO CONSIST OF DUAL ALTERNATING PUMPS. THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:

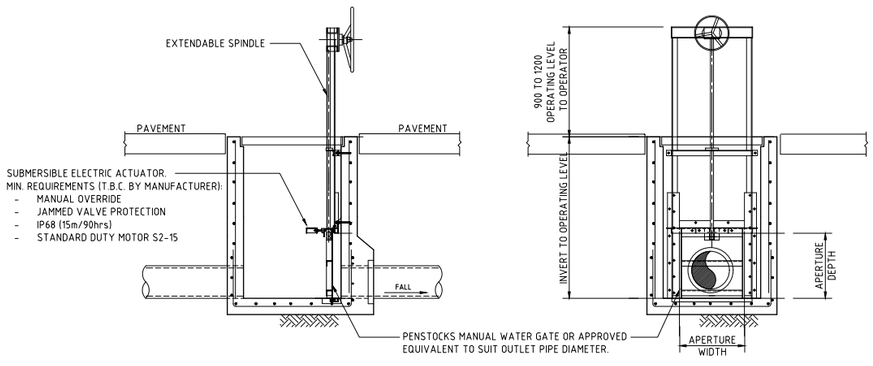
Q PUMP = 15 L/s VOLUME = 9.3 m^3 (MIN.)
THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE PIT . IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE PIT TO THE LEVEL OF THE LOW-LEVEL FLOAT.

A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE TOP LEVEL OF THE PIT. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.



LONG SECTION.

SCALE 1:20

CROSS SECTION.

SCALE 1:20

CUT-OFF VALVE PIT

NOTES:

- PROVIDE CUT-OFF VALVE TO OUTLET PIPE OF PIT AS NOTED ON STORMWATER DRAINAGE PLANS
- ACTUATOR TO BE CONNECTED TO FIRE SYSTEM TRIP

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT A0 SIZE SHEET

500mm 0 1 2 3 4 5m

SCALE 1:50 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED AS CLOUDED	19.06.20	E
REVISED AS CLOUDED	17.06.20	D
REVISED AS CLOUDED	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	23.03.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA47

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3721
email: mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE DETAILS SHEET 3

DRAWING No. C012990.05-SSDA47 ISSUE E

REFER TO SSDA52

REFER TO SSDA53

N

STAGE 1

LANDFILL

SITE BOUNDARY

PRIVATE ACCESS ROAD

WAREHOUSE A
15,880 SQ.M.
PAD LEVEL @RL 86.10
FFL 86.30 +/-500mm

LOT 202
BUILDING 2
FFL = 86.30±500mm
SUBJECT TO SSDA

LOT 202

WAREHOUSE B
15,880 SQ.M.
PAD LEVEL @RL 86.10
FFL 86.30 +/-500mm

LOT 203
BUILDING 3
FFL = 89.70±500mm
SUBJECT TO SSDA

WAREHOUSE
18,730 SQ.M.
FFL 89.70 +/-500mm
PAD LEVEL @RL 89.50

MANAGED ENVIROMENTAL ZONE
7,176 SQ.M.

LOT 204

LOT 204
BUILDING 4
FFL = 89.30
SUBJECT TO SSDA

PAD LEVEL @RL 89.10

25 M ASSET
PROTECTION ZONE

LOT 201

LOT 201
BUILDING 1
FFL = 86.70
SUBJECT TO SSDA

FFL 86.70 +/-500mm
PAD LEVEL @RL 86.50

CAR PARKING
(240 SPACES)

TRUCK
STORAGE/HARDSTAND
AREA

10 M LANDSCAPE BUFFER

21 M LANDSCAPE BUFFER

GUARD
HOUSE
22 SQ.M.

REFER TO SSDA51

REFER TO SSDA54

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

NOTE:

REFER TO DRAWING C012990.05-SSDA10 FOR FINISHED LEVELS PLAN NOTES.

FINISHED LEVELS KEY PLAN
SCALE 1:750

6m 0 15 30 45 60 75m
SCALE 1:750 AT A0 SIZE SHEET

FOR SSD APPROVAL

ISSUED FOR SSD APPROVAL	12.06.20	A
AMENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA50

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9241-7699 Fax: (02) 9241-3721
email: mail@costinroe.com.au

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: FINISHED LEVELS KEY PLAN

DRAWING No: C012990.05-SSDA50 ISSUE: A

REFER TO DRAWING SSDA52 FOR LOT 202 CONTINUATION

DISCHARGE POINT
ATTENUATED FLOWS FROM LOT 201 TO DISCHARGE TO PIT 100/6.

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 2235m³ OF OSD STORAGE VOLUME
REFER DETAIL ON DRG DA41 & DA48.

PROPOSED RETAINING WALL

PROPOSED CARPARK BIO-RETENTION BASIN SYSTEM

MIN TOTAL BIO RETENTION FILTRATION AREA: 200m²
REFER DETAIL ON DRG DA41 & DA46& DA47

95kL ABOVE GROUND RAINWATER TANK.

PUMP ROOM RL 86.70

SPRINKLER TANK RL 86.70

1300 DEEP RECESS DOCK

AWNING ABOVE

DOCK OFFICE (1 LEVEL) 95 SQ.M.

AWNING ABOVE

PROPOSED RETAINING WALL

LOT 202 FFL TBC

PRIVATE ACCESS ROAD

EXISTING RETAINING WALL TO BE RETAINED

AWNING ABOVE

OFFICE FFL 86.70

PROPOSED OFFICE

CAR PARKING (401 SPACES)

TRUCK STORAGE/HARDSTAND AREA

LOT 201

LOT 201 WAREHOUSE FFL 86.70

WAREHOUSE 43,488 SQ.M.

FFL 86.70 +/-500mm

PAD LEVEL @RL 86.50

10 M LANDSCAPE BUFFER

EXISTING RETAINING WALL TO BE RETAINED

TREES TO BE RETAINED

PROPOSED RETAINING WALL

Entry to under-croft carparking to Warehouse 2 (via fire road)

southern fire road of Warehouse 1 to ramp down and connect to Lot 202 fire road

REFER TO DRAWING SSDA52 FOR LOT 204 CONTINUATION

SITE BOUNDARY

LOT 201 FINISHED LEVELS PLAN - SHEET 1
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED RETAINING WALL

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED FOR NEW ARCHITECTURALS	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

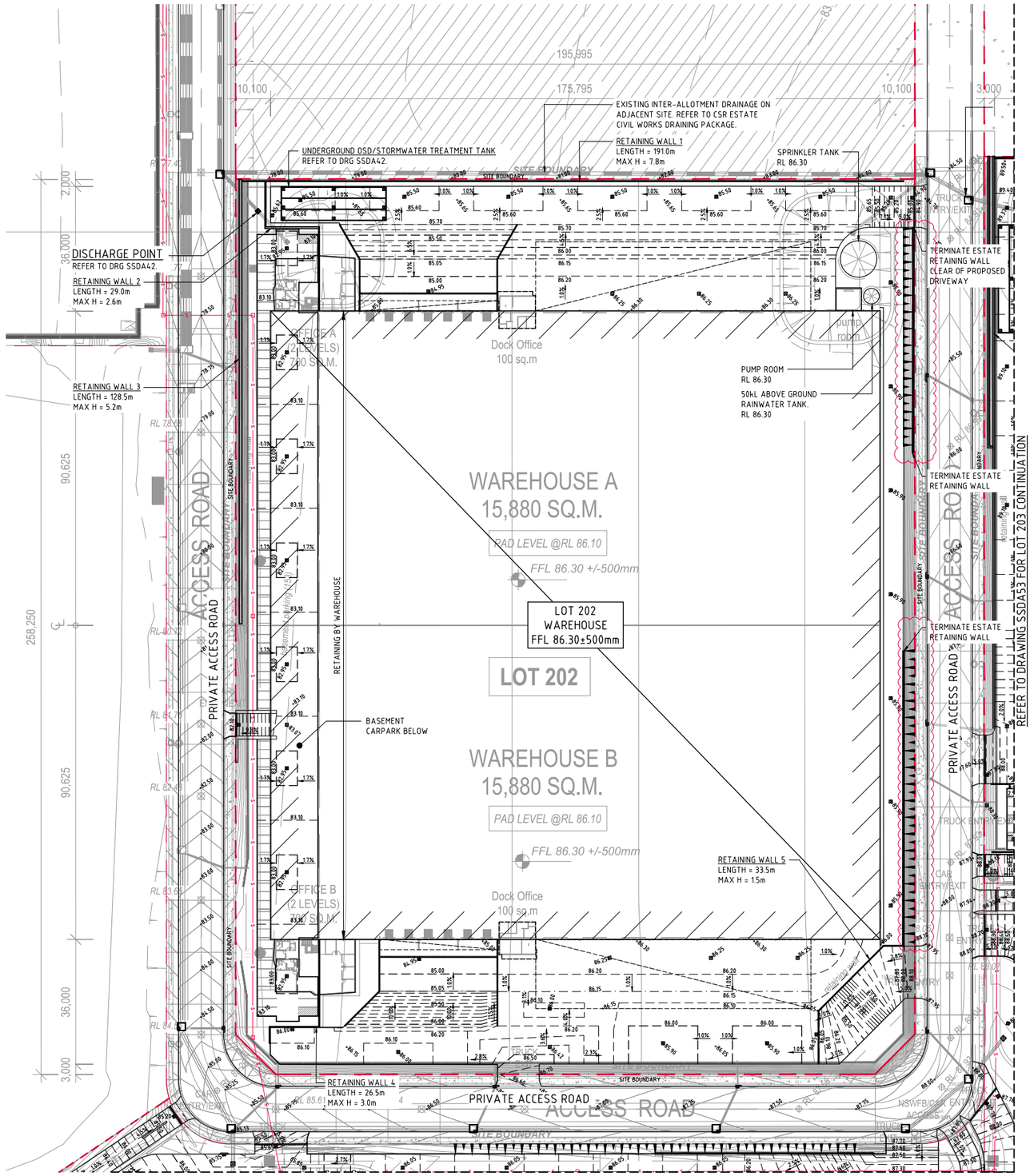
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA51

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9241-7699 Fax: (02) 9241-3728
email: mail@costinroe.com.au

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: LOT 201 FINISHED LEVELS PLAN SHEET 1

DRAWING No: C012990.05-SSDA51 ISSUE: C



LOT 202 FINISHED LEVELS PLAN - SHEET 1
SCALE 1:500

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED RETAINING WALL

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
REVISED AS CLOUDED	24.06.20	B
ISSUED FOR INFORMATION	17.06.20	A

ARCHITECT

CLIENT: ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

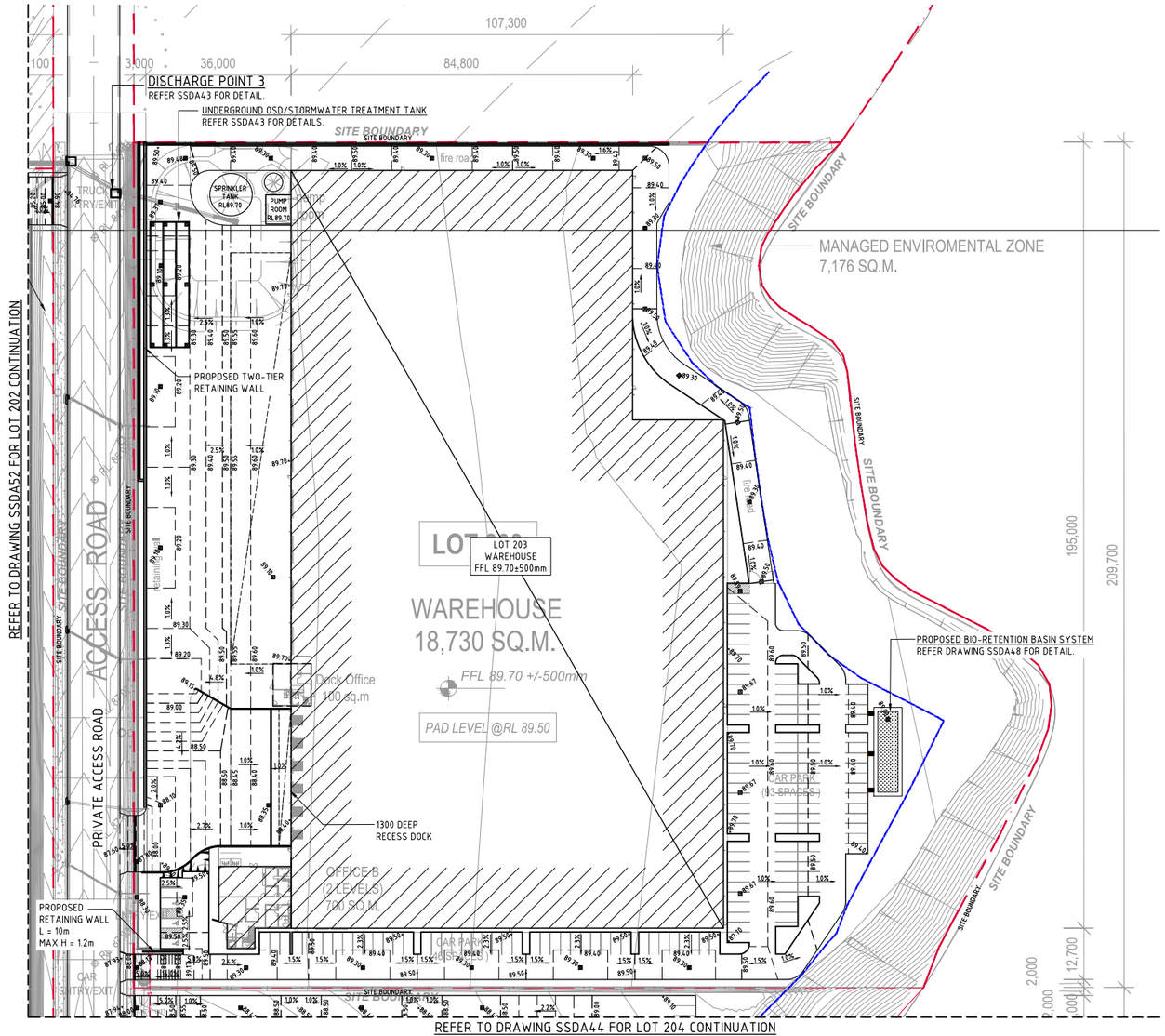
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA52

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 8355-7000 Fax: (02) 8041-3728
email: mail@costinroe.com.au ©

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 202
FINISHED LEVELS PLAN
SHEET 2

DRAWING No C012990.05-SSDA52 ISSUE B



LOT 203 FINISHED LEVELS PLAN
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- 50.00 – FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 – FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED RETAINING WALL

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	12.06.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA53

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-5731
email: mail@costinroe.com.au

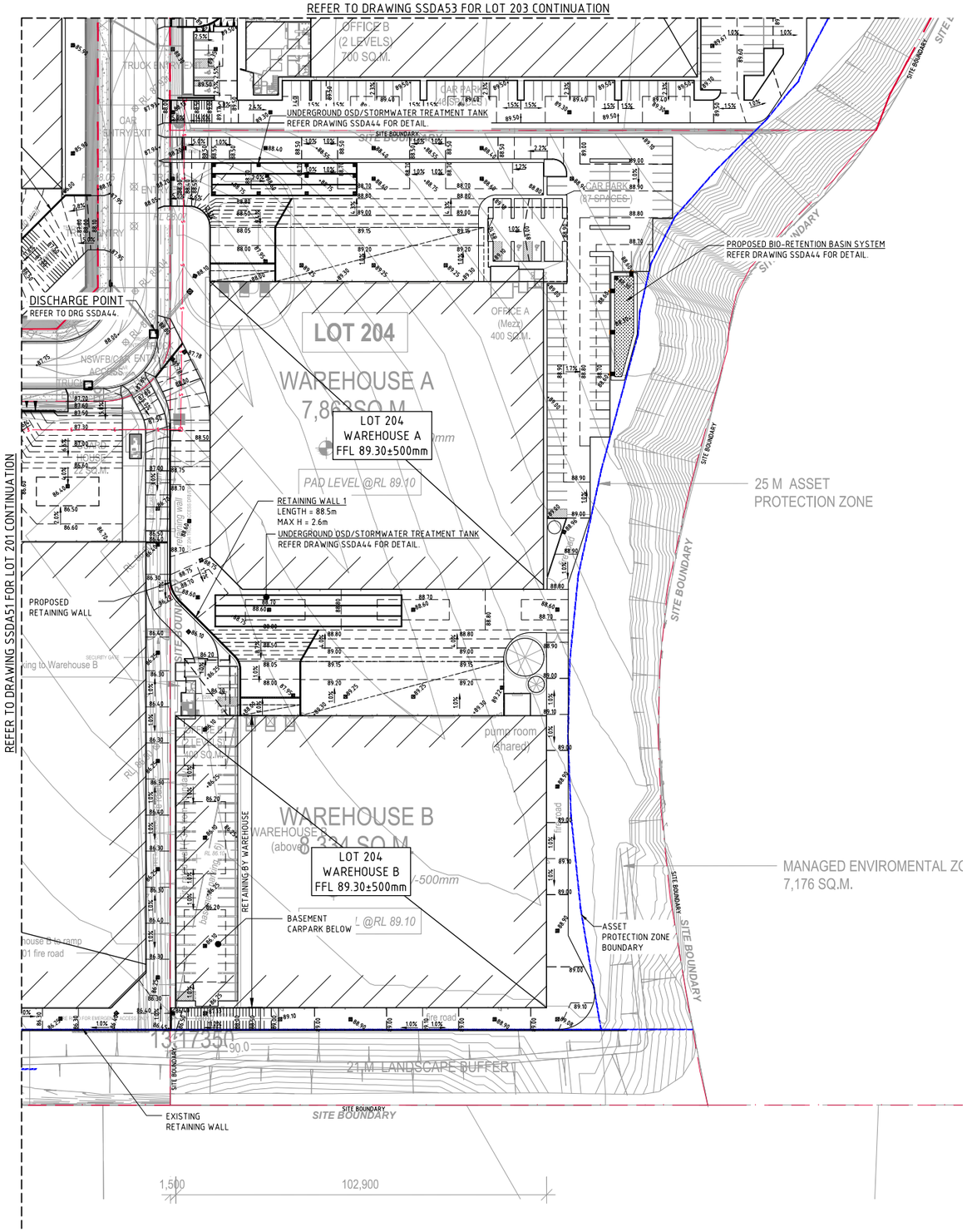
Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 203 FINISHED LEVELS PLAN

DRAWING No C012990.05-SSDA53 ISSUE A

REFER TO DRAWING SSDA53 FOR LOT 203 CONTINUATION

REFER TO DRAWING SSDA51 FOR LOT 201 CONTINUATION



LOT 204 FINISHED LEVELS PLAN - SHEET 1

SCALE 1:500

LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED RETAINING WALL

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

5m 0 10 20 30 40 50m

SCALE 1:500 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	19.06.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA54

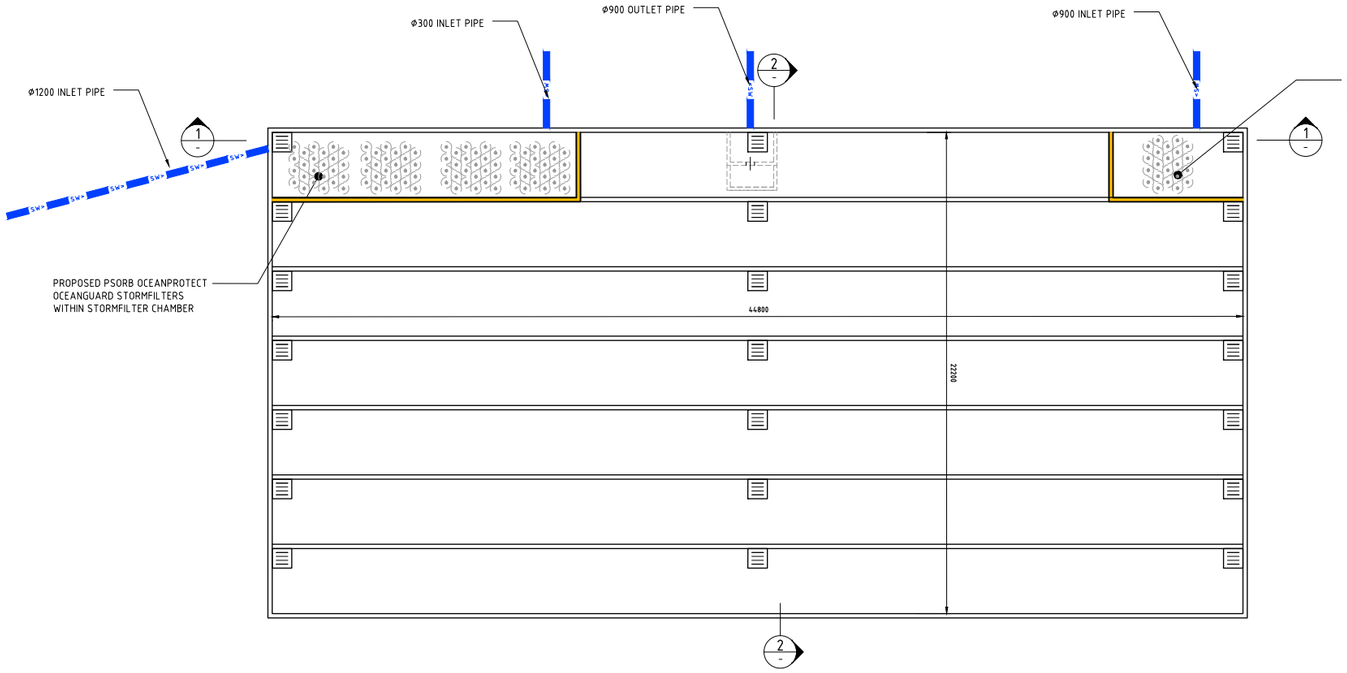
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3721
email: mail@costinroe.com.au ©

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 204
FINISHED LEVELS PLAN
SHEET 4

DRAWING NO C012990.05-SSDA54 ISSUE A



OSD TANK PLAN
1:100

OSD TANK DETAILS

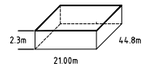
SITE AREA
TOTAL SITE AREA 77,000m²

TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS) 73,150m²

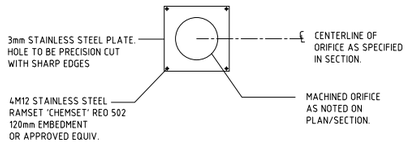
STORAGE

VOLUME PROVIDED 2235m³

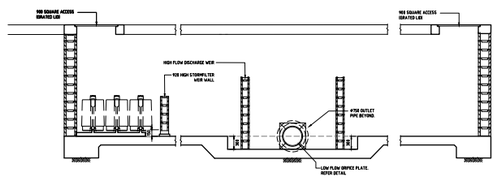
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)



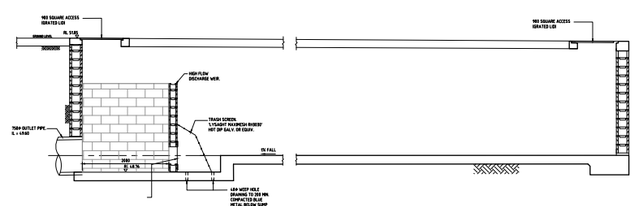
NOTE:
TANK TO BE DESIGNED BY STRUCTURAL ENGINEER



ORIFICE PLATE DETAIL
1:20



SECTION 1:50 (1) : TYPICAL THRU' TANK



SECTION 1:50 (2) : TYPICAL THRU' TANK

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SIZE SHEET

500mm 0 1 2 3 4 5m
SCALE 1:50 AT A0 SIZE SHEET

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
DRAWING RENAMED FROM SSDA48 TO SSDA61	12.06.20	C
ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

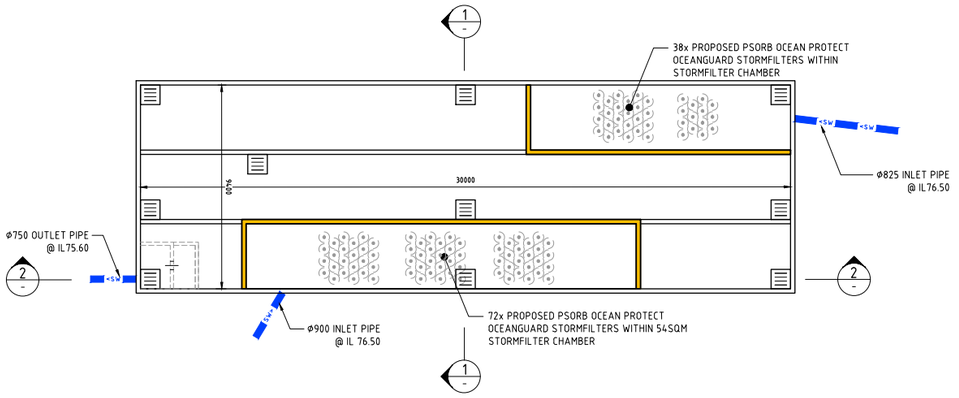
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA61

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 8251-7600 Fax: (02) 8041-3721
email: mail@costinroe.com.au

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 201 OSD TANK DETAILS

DRAWING No C012990.05-SSDA61 ISSUE C



LOT 203 OSD TANK PLAN
1:100

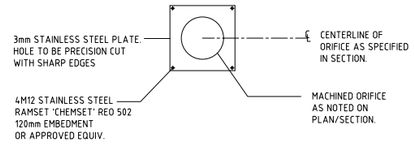
OSD TANK DETAILS

SITE AREA TOTAL SITE AREA	50,500m²
TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS)	50,500m²

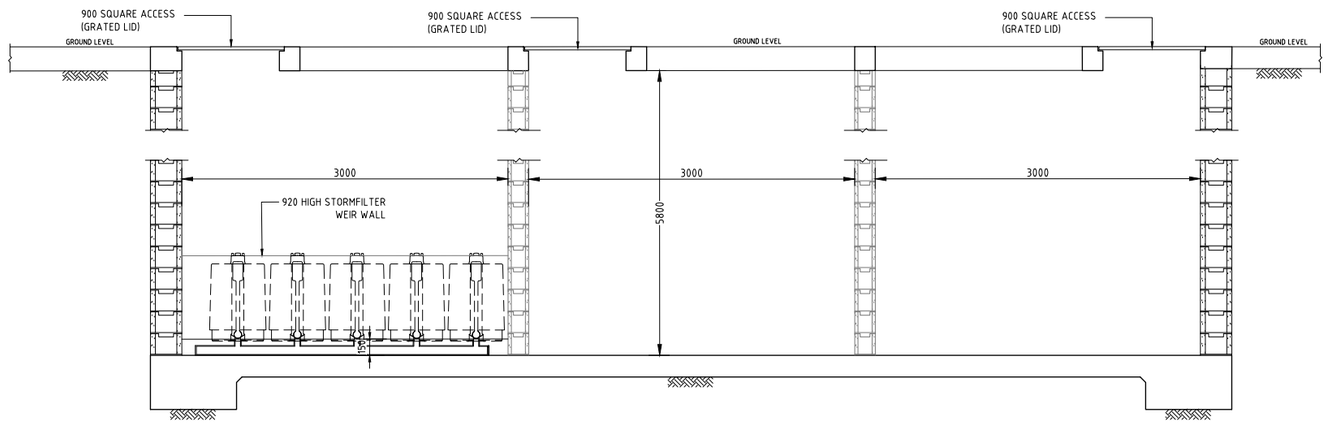
STORAGE

VOLUME PROVIDED	1450m³ MIN.
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)	5.8m × 30.0m × 9.40m

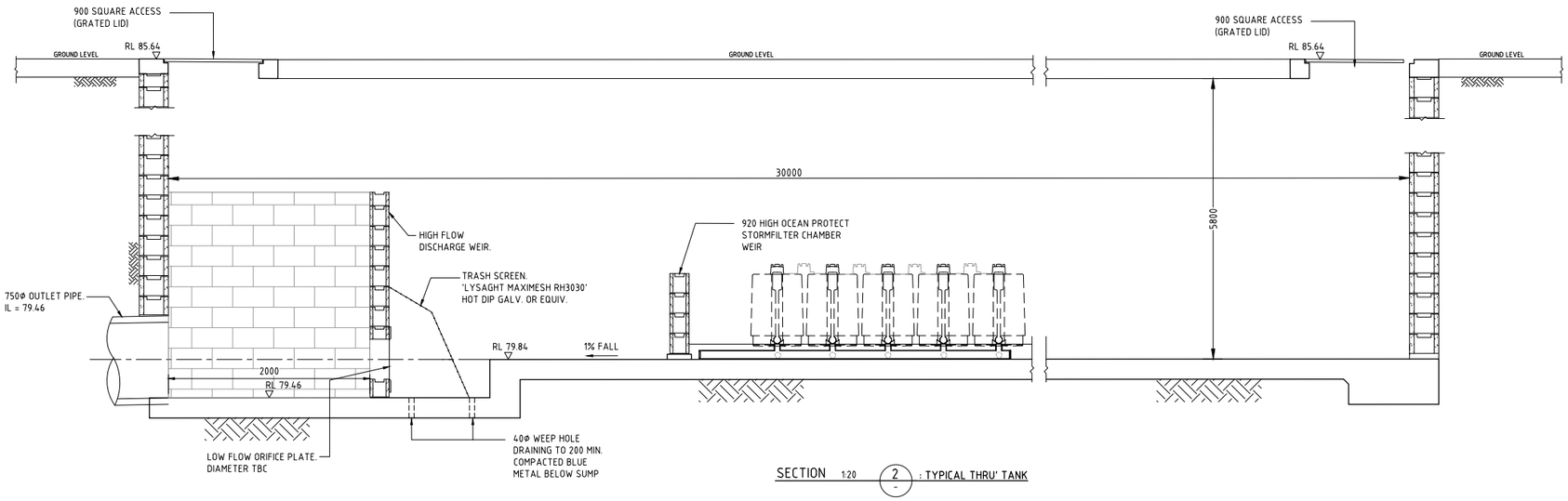
NOTE:
TANK TO BE DESIGNED BY
STRUCTURAL ENGINEER



ORIFICE PLATE DETAIL
1:20



SECTION 1:20 (1) : TYPICAL THRU' TANK



SECTION 1:20 (2) : TYPICAL THRU' TANK

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SIZE SHEET

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	17.06.20	A

ARCHITECT

CLIENT: ESR

PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

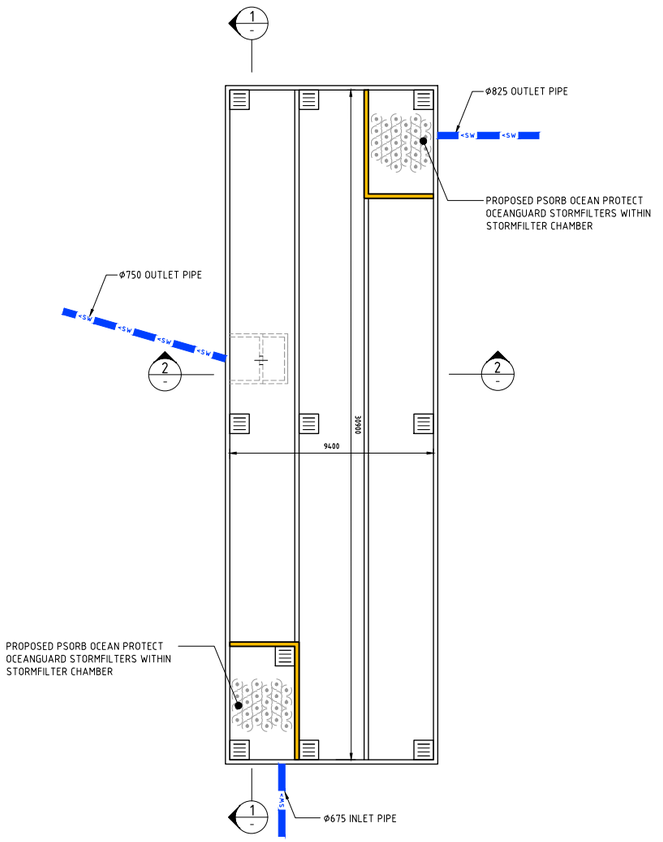
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA62

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-3721
email: mail@costinroe.com.au

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: LOT 202 OSD TANK DETAILS

DRAWING No: C012990.05-SSDA62 ISSUE: A



LOT 203 OSD TANK PLAN
1:100

OSD TANK DETAILS

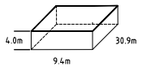
SITE AREA
TOTAL SITE AREA 40,295m²

TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS) 33,830m²

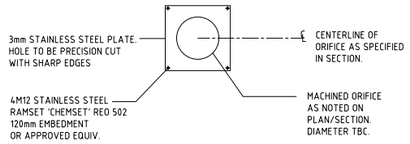
STORAGE

VOLUME PROVIDED 1160m³

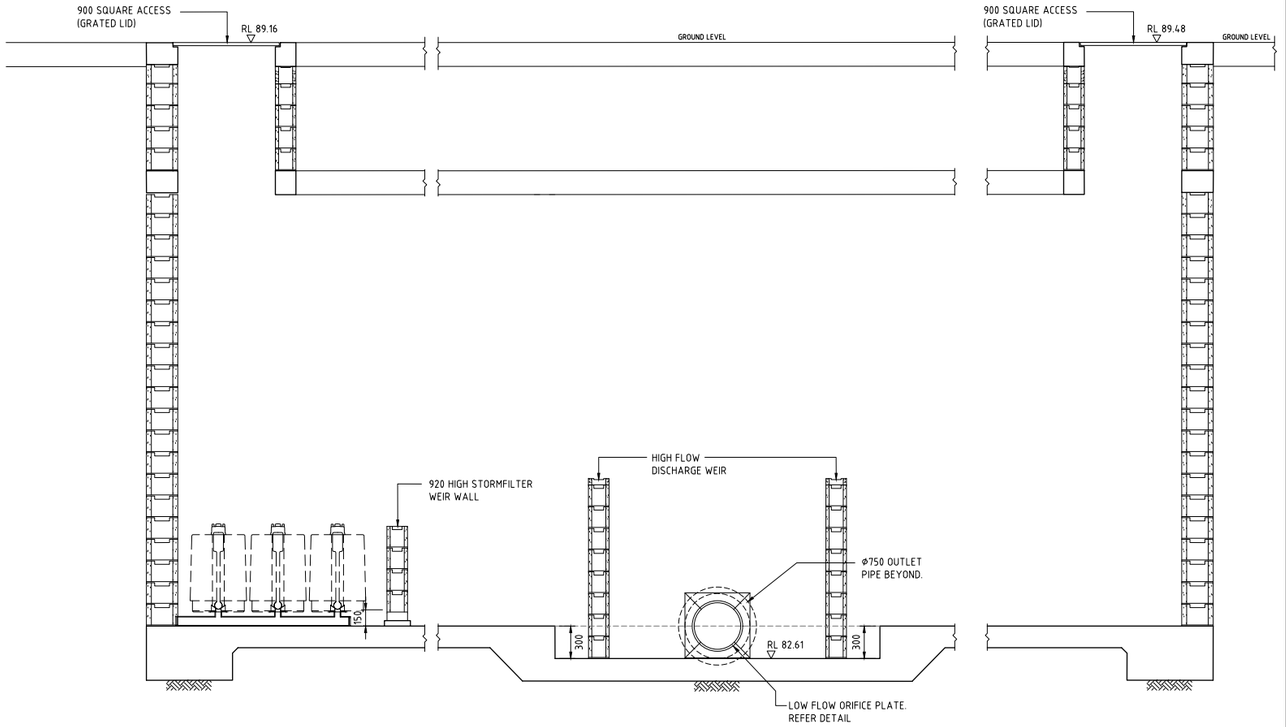
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)



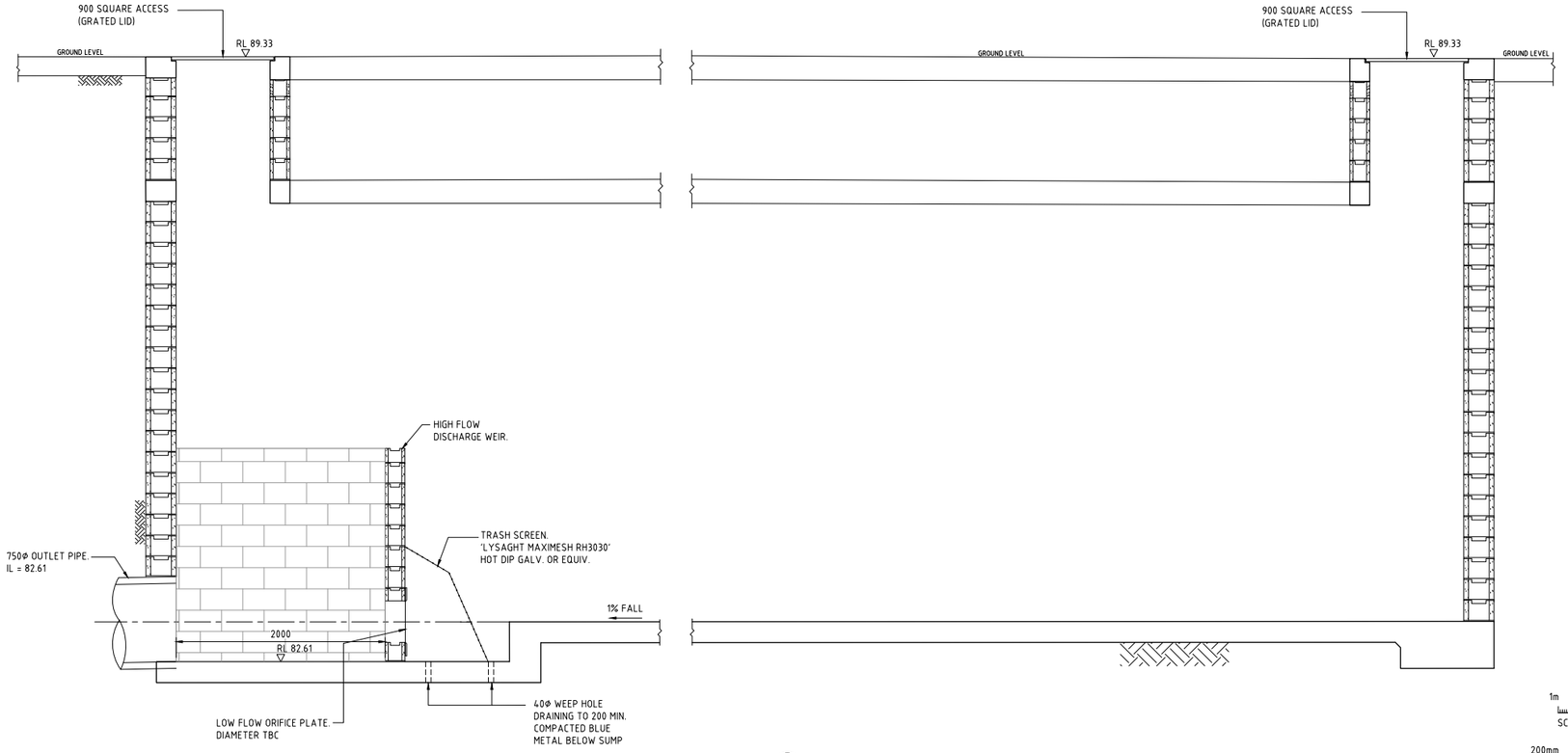
NOTE:
TANK TO BE DESIGNED BY STRUCTURAL ENGINEER



ORIFICE PLATE DETAIL
1:20



SECTION 1:20 1 : TYPICAL 'THRU' TANK



SECTION 1:20 2 : TYPICAL 'THRU' TANK

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SIZE SHEET

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	12.06.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	C012990.05-SSDA48

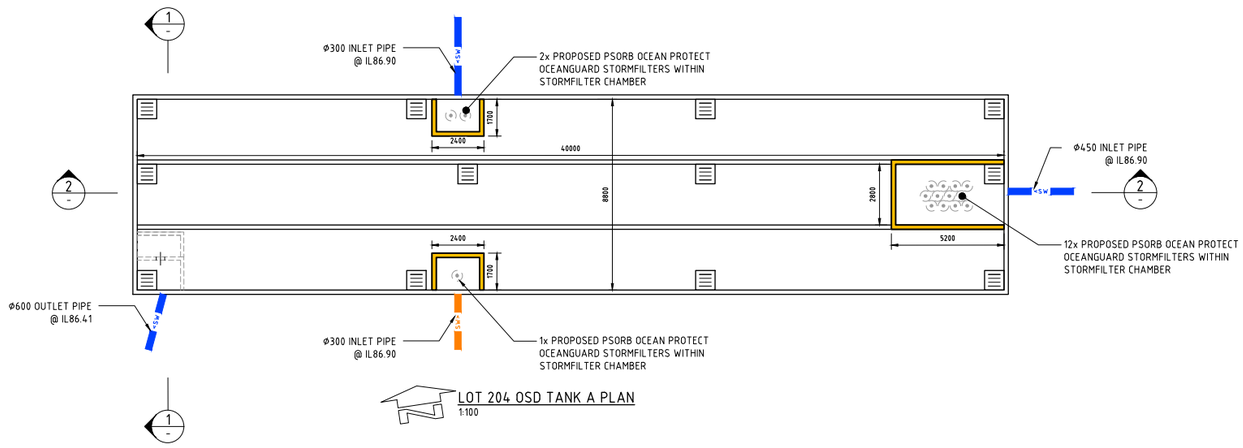
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 6 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7099 Fax: (02) 9241-3721
email: mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 203 OSD TANK DETAILS

DRAWING No C012990.05-SSDA63 ISSUE A

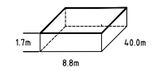


LOT 204 OSD TANK A PLAN
1:100

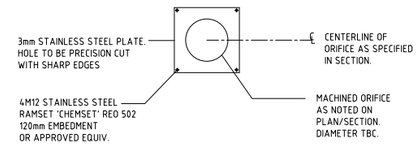
OSD TANK DETAILS

SITE AREA TOTAL SITE AREA	40,100m^2
TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS)	1,137m^2

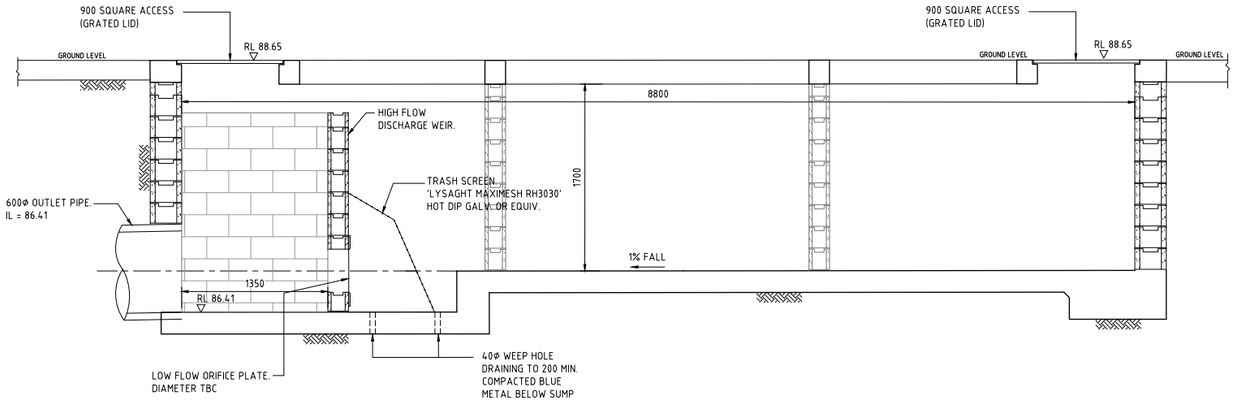
STORAGE

VOLUME PROVIDED	395m^3
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)	

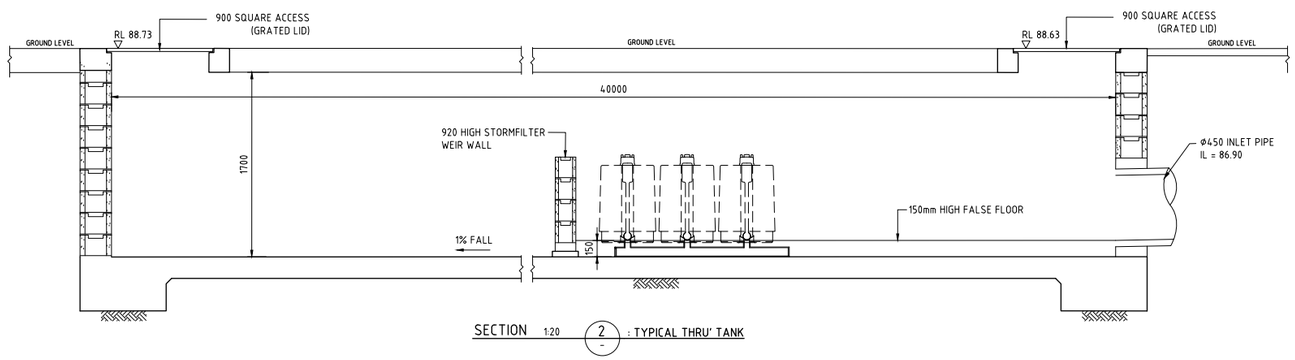
NOTE:
TANK TO BE DESIGNED BY
STRUCTURAL ENGINEER



ORIFICE PLATE DETAIL
1:20



SECTION 1:20 (1) : TYPICAL THRU' TANK



SECTION 1:20 (2) : TYPICAL THRU' TANK

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SIZE SHEET

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	19.06.20	A

ARCHITECT

CLIENT: ESR

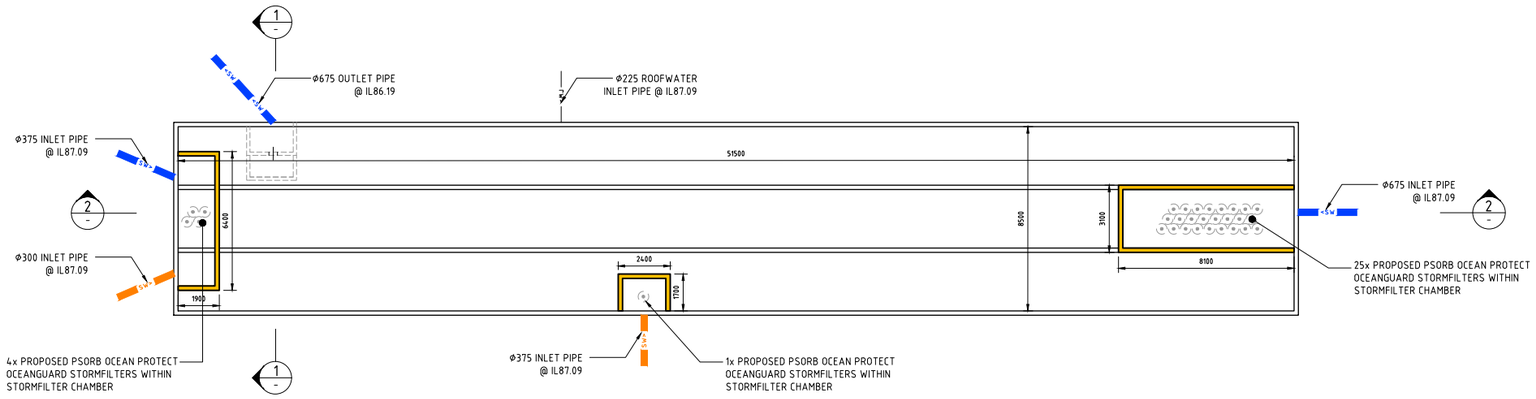
PROJECT: ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	Co12990.05-SSDA64

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-5721
email: mail@costinroe.com.au ©

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: LOT 204 OSD TANK DETAILS SHEET 1
DRAWING No: Co12990.05-SSDA64
ISSUE: A

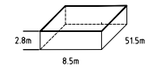


LOT 204 OSD TANK B PLAN
1:100

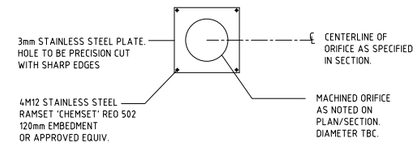
OSD TANK DETAILS

SITE AREA TOTAL SITE AREA	40,295m^2
TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS)	33,830m^2

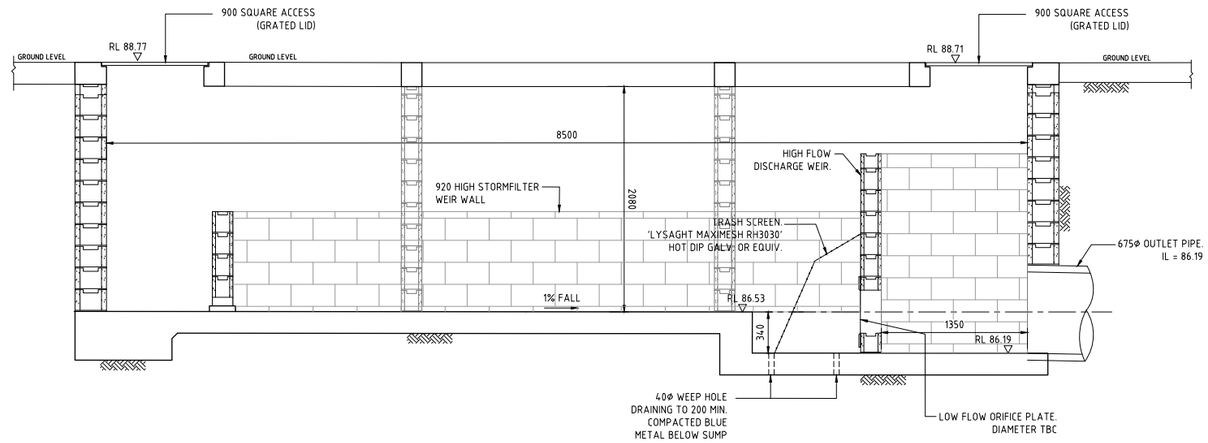
STORAGE

VOLUME PROVIDED	777m^3
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)	

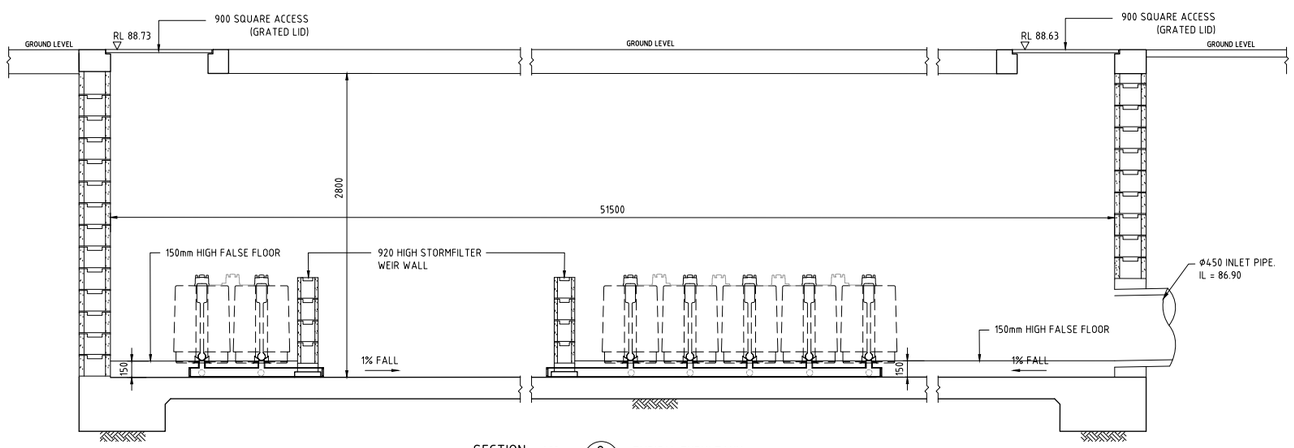
NOTE:
TANK TO BE DESIGNED BY
STRUCTURAL ENGINEER



ORIFICE PLATE DETAIL
1:20



SECTION 1:20 1 : TYPICAL THRU' TANK



SECTION 1:20 2 : TYPICAL THRU' TANK

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SIZE SHEET

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	19.06.20	A

ARCHITECT

CLIENT ESR

PROJECT
ESR HORSLEY LOGISTICS PARK
DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
TF	JB	MAR 19	XC	A0	AS SHOWN	Co12990.05-SSDA65

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 9251-7699 Fax: (02) 9241-5721
email: mail@costinroe.com.au ©

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 204 OSD TANK DETAILS
SHEET 2

DRAWING No Co12990.05-SSDA65 ISSUE A