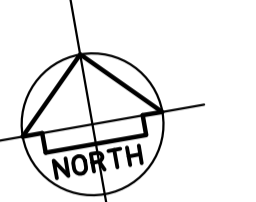


MATCH SHEET 10

SCALE 1:100

SEDIMENTATION AND EROSION CONTROL NOTES

1. REFER TO DRAWING C02.11 FOR SEDIMENTATION AND EROSION CONTROL NOTES AND LEGEND



SAND
ROLL/
WASH
BAYS
FFL 7.000

SAND
ROLL/
WASH
BAYS
FFL 7.000

HORSE WALKER F1
FFL 7.000

BLOCK G
FFL 7.000

☐ SAND
ROLL/
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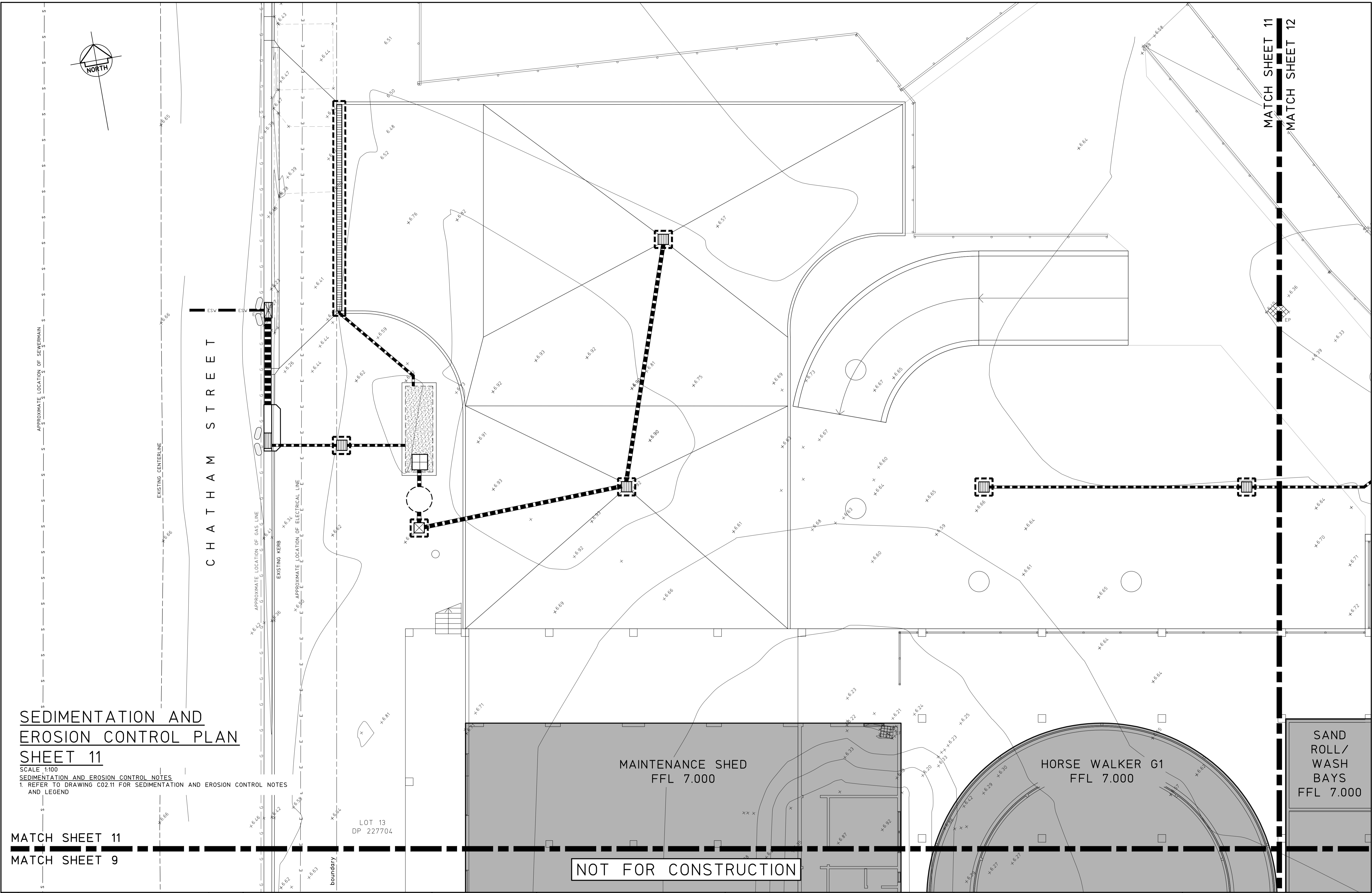
HORSE WALKER B1
FFL 7.000

HORSE WALKER A1
FFL 7.000

NOT FOR CONSTRUCTION

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| 2 | DEVELOPMENT APPLICATION | 12.08.21 | | | | TITLE | | DRAWN | | ENGINEER | No in SET | SHEET | | | |
| 1 | ISSUED FOR APPROVAL | 09.07.21 | | | | SEDIMENTATION AND EROSION CONTROL PLAN | | C.H. | B.C. | - | A1 | | | | |
| 0 | PRELIMINARY | 02.07.21 | | | | SHEET 10 | | SCALE | JOB No | DRAWING No | ISSUE | | | | |
| ISSUE | | REASON FOR ISSUE | DATE | DATE OF RELEASE | RESPONSIBLE PRINCIPAL SIGNATURE | | | 1:100 | 16-548-1 | C02.09 | 2 | | | | |

FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



SEDIMENTATION AND
EROSION CONTROL PLAN
SHEET 11

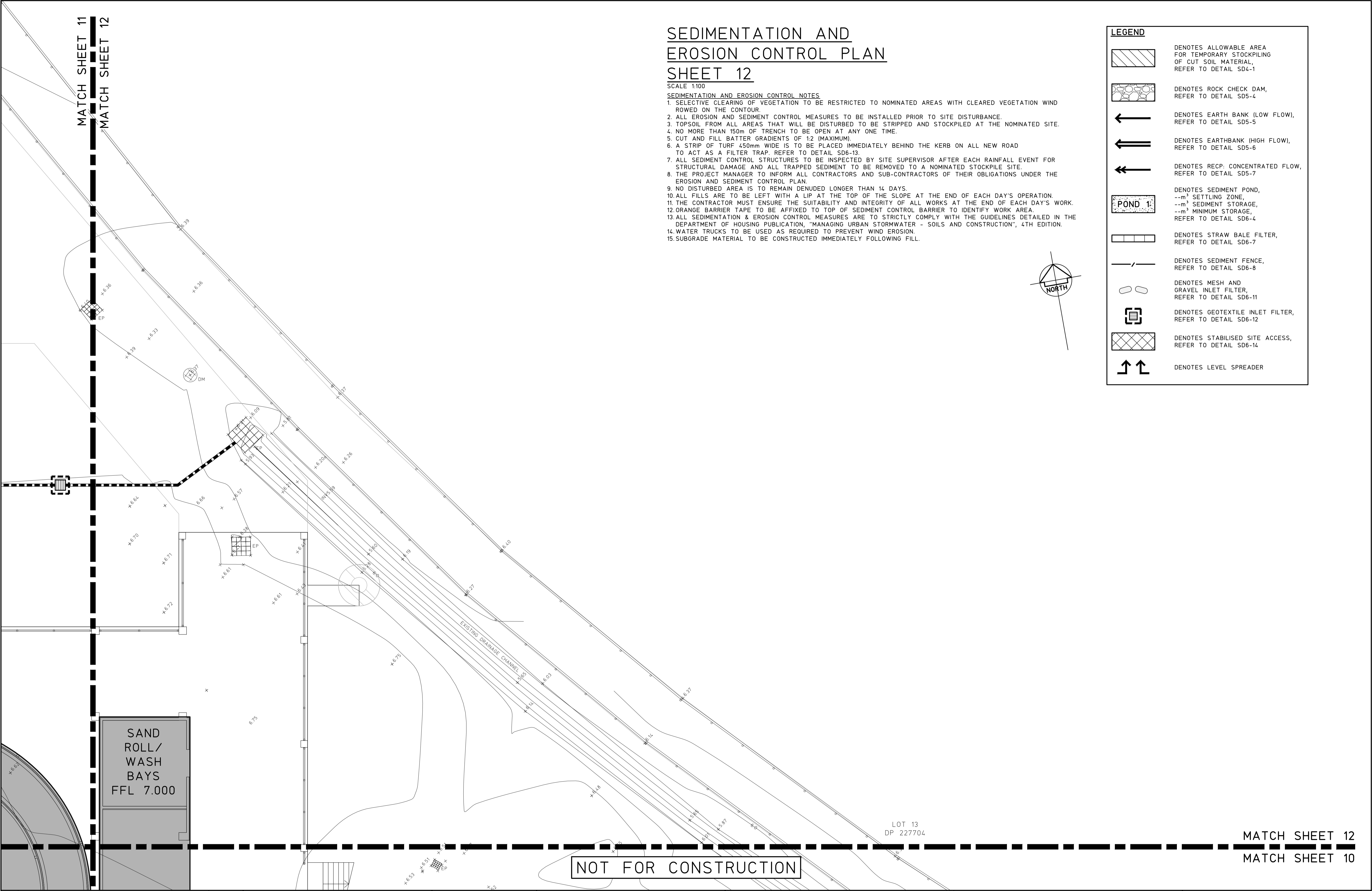
SCALE 1:100
SEDIMENTATION AND EROSION CONTROL NOTES
1. REFER TO DRAWING C02.11 FOR SEDIMENTATION AND EROSION CONTROL NOTES
AND LEGEND

MATCH SHEET 11
MATCH SHEET 9

SAND
ROLL/
WASH
BAYS
FFL 7.000

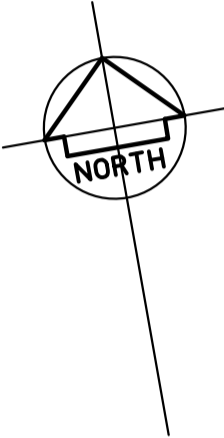
| | | | | | | | | | | | | | |
|--|-------------------------|---|-----------------|---|--|---|--|-------------------------------------|---|----------------------|--------------------|----------------------|-------------|
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| 2 | DEVELOPMENT APPLICATION | 12.08.21 | | | | | | | | SCALES 1:100 | JOB No 16-548-1 | DRAWING No C02.10 | ISSUE 2 |
| 1 | ISSUED FOR APPROVAL | 09.07.21 | | | | | | | | | | | |
| 0 | PRELIMINARY | 02.07.21 | | | | | | | | | | | |
| ISSUE | REASON FOR ISSUE | DATE | DATE OF RELEASE | RESPONSIBLE PRINCIPAL SIGNATURE | | ISSUE | | | | | | | |

FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



SEDIMENTATION AND
EROSION CONTROL PLAN
SHEET 12

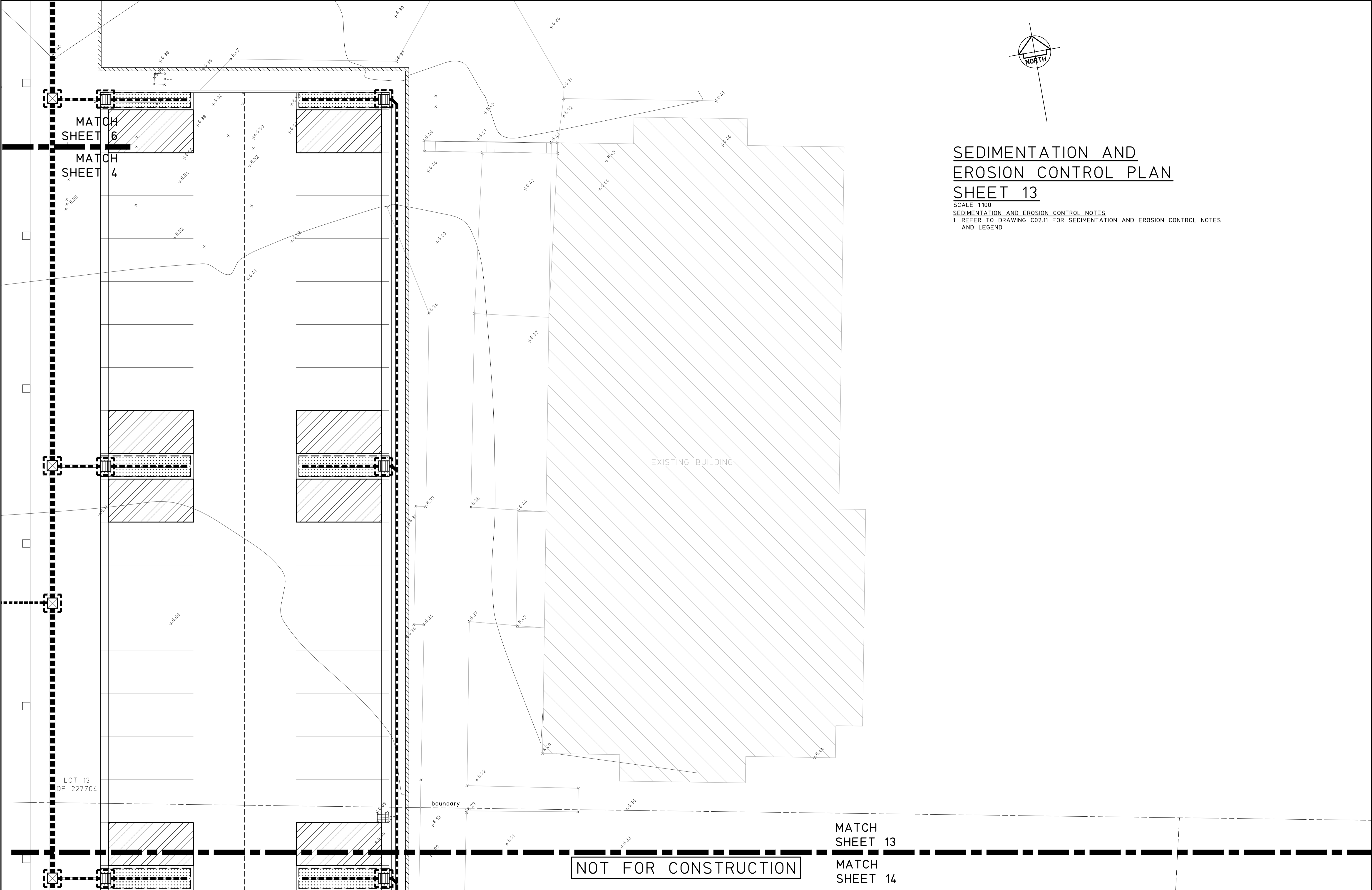
- SCALE 1:100
- SEDIMENTATION AND EROSION CONTROL NOTES**
1. SELECTIVE CLEARING OF VEGETATION TO BE RESTRICTED TO NOMINATED AREAS WITH CLEARED VEGETATION WIND ROWED ON THE CONTOUR.
 2. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO SITE DISTURBANCE.
 3. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED AT THE NOMINATED SITE.
 4. NO MORE THAN 150m OF TRENCH TO BE OPEN AT ANY ONE TIME.
 5. CUT AND FILL BATTER GRADIENTS OF 1:2 (MAXIMUM).
 6. A STRIP OF TURF 450mm WIDE IS TO BE PLACED IMMEDIATELY BEHIND THE KERB ON ALL NEW ROAD TO ACT AS A FILTER TRAP. REFER TO DETAIL SD6-13.
 7. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED BY SITE SUPERVISOR AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED STOCKPILE SITE.
 8. THE PROJECT MANAGER TO INFORM ALL CONTRACTORS AND SUB-CONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
 9. NO DISTURBED AREA IS TO REMAIN DENUDED LONGER THAN 14 DAYS.
 10. ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S OPERATION.
 11. THE CONTRACTOR MUST ENSURE THE SUITABILITY AND INTEGRITY OF ALL WORKS AT THE END OF EACH DAY'S WORK.
 12. ORANGE BARRIER TAPE TO BE AFFIXED TO TOP OF SEDIMENT CONTROL BARRIER TO IDENTIFY WORK AREA.
 13. ALL SEDIMENTATION & EROSION CONTROL MEASURES ARE TO STRICTLY COMPLY WITH THE GUIDELINES DETAILED IN THE DEPARTMENT OF HOUSING PUBLICATION, "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", 4TH EDITION.
 14. WATER TRUCKS TO BE USED AS REQUIRED TO PREVENT WIND EROSION.
 15. SUBGRADE MATERIAL TO BE CONSTRUCTED IMMEDIATELY FOLLOWING FILL.



| LEGEND | |
|--------|---|
| | DENOTES ALLOWABLE AREA FOR TEMPORARY STOCKPILING OF CUT SOIL MATERIAL, REFER TO DETAIL SD4-1 |
| | DENOTES ROCK CHECK DAM, REFER TO DETAIL SD5-4 |
| | DENOTES EARTH BANK (LOW FLOW), REFER TO DETAIL SD5-5 |
| | DENOTES EARTHBANK (HIGH FLOW), REFER TO DETAIL SD5-6 |
| | DENOTES RECP: CONCENTRATED FLOW, REFER TO DETAIL SD5-7 |
| | DENOTES SEDIMENT POND, --m³ SETTLING ZONE, --m³ SEDIMENT STORAGE, --m³ MINIMUM STORAGE, REFER TO DETAIL SD6-4 |
| | DENOTES STRAW BALE FILTER, REFER TO DETAIL SD6-7 |
| | DENOTES SEDIMENT FENCE, REFER TO DETAIL SD6-8 |
| | DENOTES MESH AND GRAVEL INLET FILTER, REFER TO DETAIL SD6-11 |
| | DENOTES GEOTEXTILE INLET FILTER, REFER TO DETAIL SD6-12 |
| | DENOTES STABILISED SITE ACCESS, REFER TO DETAIL SD6-14 |
| | DENOTES LEVEL SPREADER |

| | | | | | | | | | | | | | |
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| 2 DEVELOPMENT APPLICATION | | 12.08.21 | | | | TITLE SEDIMENTATION AND EROSION CONTROL PLAN SHEET 12 | | | | SCALES 1:100 | JOB No 16-548-1 | DRAWING No C02.11 | ISSUE 2 |
| 1 ISSUED FOR APPROVAL | | 09.07.21 | | | | | | | | | | | |
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| ISSUE | REASON FOR ISSUE | DATE | DATE OF RELEASE | RESPONSIBLE PRINCIPAL SIGNATURE | | | | | | | | | |

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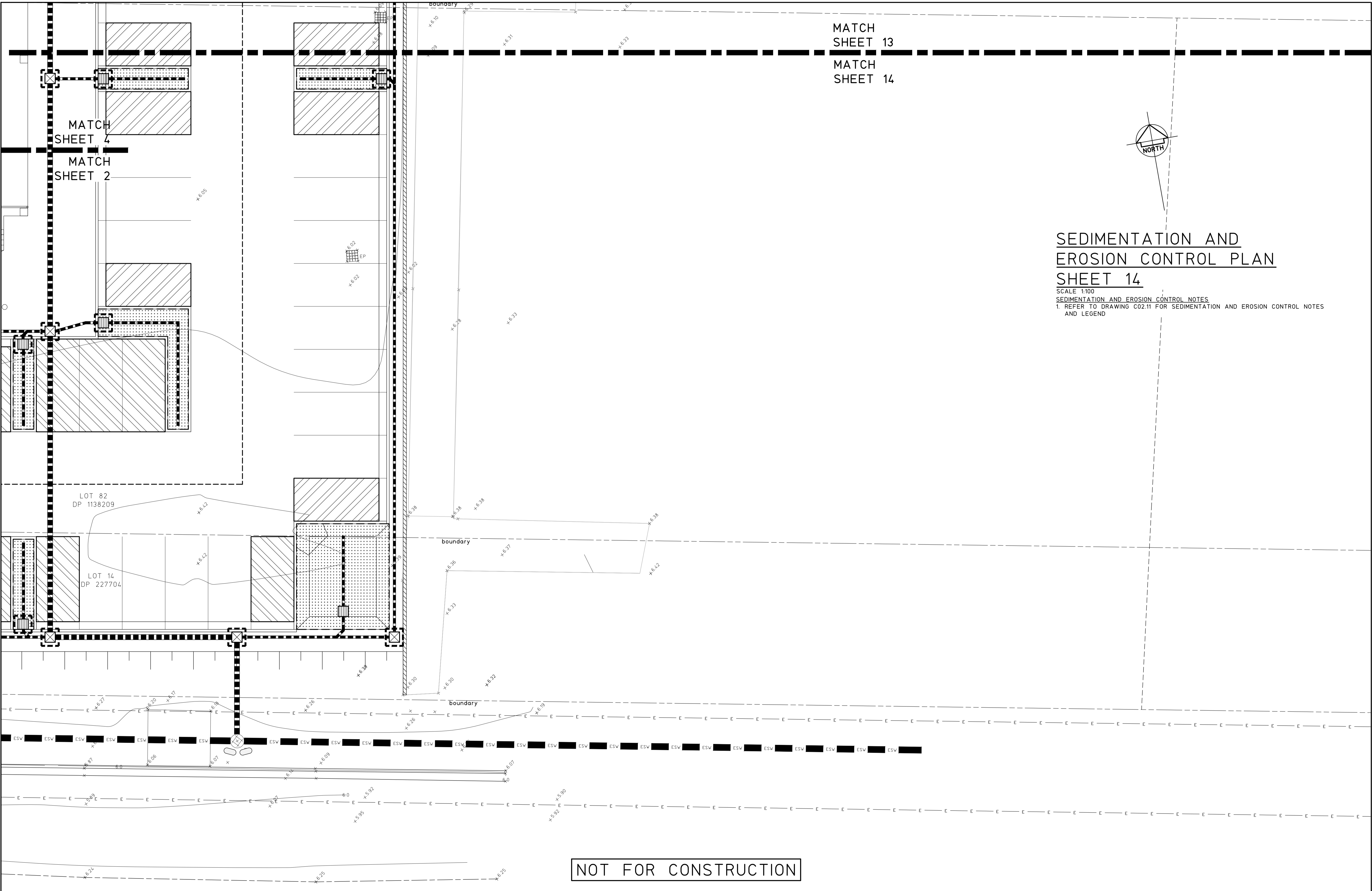


SEDIMENTATION AND
EROSION CONTROL PLAN
SHEET 13

SCALE 1:100
SEDIMENTATION AND EROSION CONTROL NOTES
1. REFER TO DRAWING C02.11 FOR SEDIMENTATION AND EROSION CONTROL NOTES
AND LEGEND

| | | | | | | | | | | | | | | | | | | | |
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| 2 | DEVELOPMENT APPLICATION | | | 12.08.21 | | |  | | TITLE SEDIMENTATION AND EROSION CONTROL PLAN SHEET 13 | | SCALES 1:100 | | JOB No 16-548-1 | | DRAWING No C02.12 | | ISSUE 2 | | |
| 1 | ISSUED FOR APPROVAL | | | 09.07.21 | | | | | | | | | | | | | | | |
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| ISSUE | | REASON FOR ISSUE | | DATE | | DATE OF RELEASE | | RESPONSIBLE PRINCIPAL SIGNATURE | | ISSUE | | | | | | | | | |

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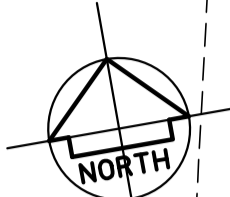


MATCH
SHEET 13

MATCH
SHEET 14

MATCH
SHEET 4

MATCH
SHEET 2



SEDIMENTATION AND
EROSION CONTROL PLAN
SHEET 14

SCALE 1:100
SEDIMENTATION AND EROSION CONTROL NOTES
1. REFER TO DRAWING C02.11 FOR SEDIMENTATION AND EROSION CONTROL NOTES
AND LEGEND

LOT 82
DP 1138209

LOT 14
DP 227704

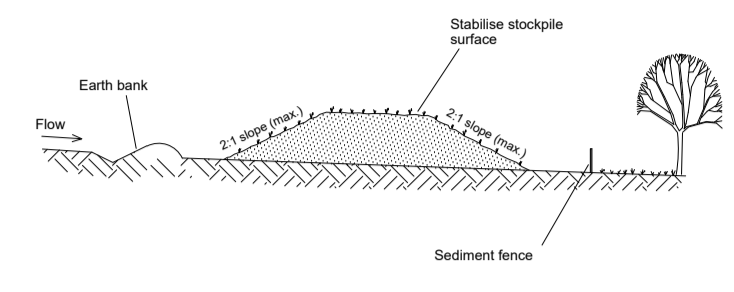
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| 2 DEVELOPMENT APPLICATION | | 12.08.21 | | | | TITLE | | | | SCALES | JOB No | DRAWING No | ISSUE |
| 1 ISSUED FOR APPROVAL | | 09.07.21 | | | | SEDIMENTATION AND EROSION CONTROL PLAN | | | | 1:100 | 16-548-1 | C02.13 | 2 |
| 0 PRELIMINARY | | 02.07.21 | | | | SHEET 14 | | | | | | | |
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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm

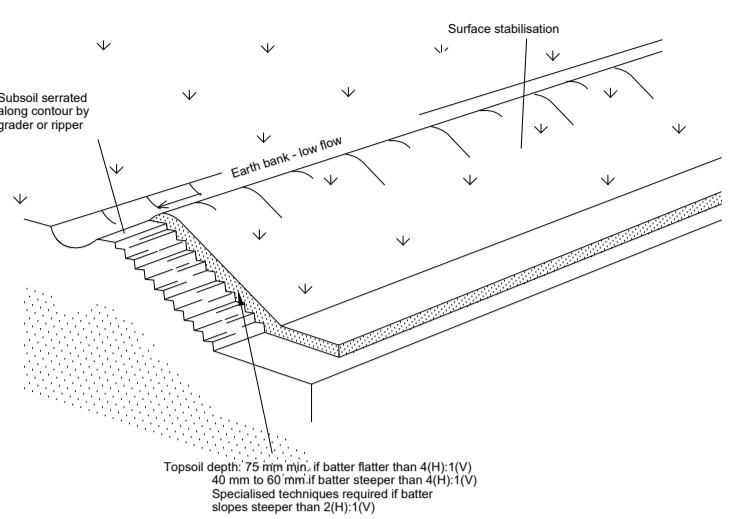


Construction Notes

- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds.
- Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1

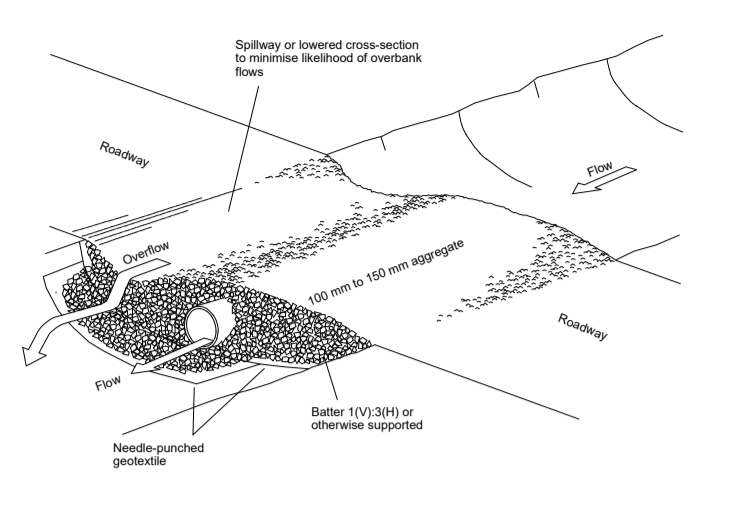


Construction Notes

- Scarify the ground surface along the line of the contour to a depth of 50 mm to 100 mm to break up any hardsetting surfaces and to provide a good bond between the respread material and subsoil.
- Add soil ameliorants as required by the ESCP or SWMP.
- Rip to a depth of 300 mm if compacted layers occur.
- Where possible, replace topsoil to a depth of 40 to 60 mm on lands where the slope exceeds 4(H):1(V) and to at least 75 mm on lower gradients.

REPLACING TOPSOIL

SD 4-2

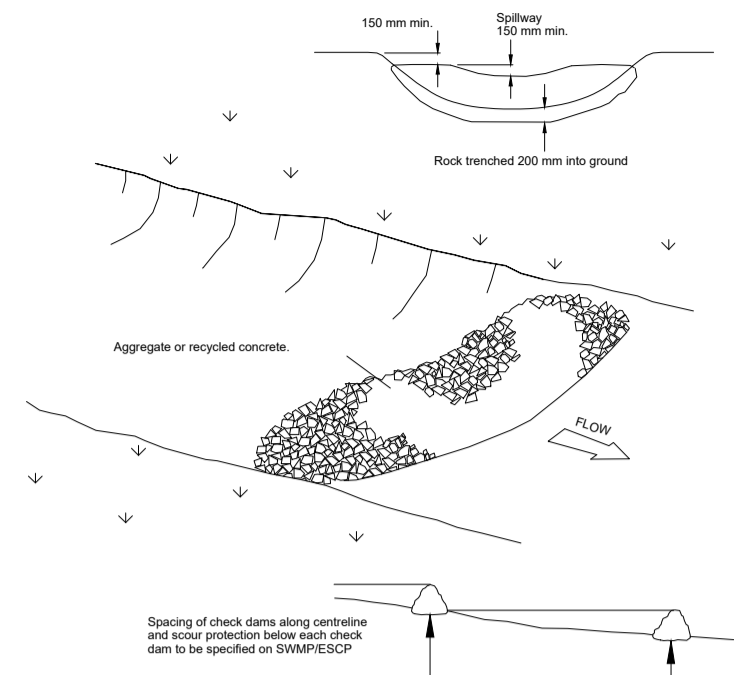


Construction Notes

- Prohibit all traffic until the access way is constructed.
- Strip any topsoil and place a needle-punched textile over the base of the crossing.
- Place clean, rigid, non polluting aggregate or gravel in the 100 mm to 150 mm size class over the fabric to a minimum depth of 200 mm.
- Provide a 3-metre wide carriageway with sufficient length of culvert pipe to allow less than a 3(H):1 (V) slope on side batters.
- Install a lower section to act as an emergency spillway in greater than 150 mm lower than the outer edges.
- Ensure that culvert outlets extend beyond the toe of fill embankments.

TEMPORARY WATERWAY CROSSING

SD 5-1

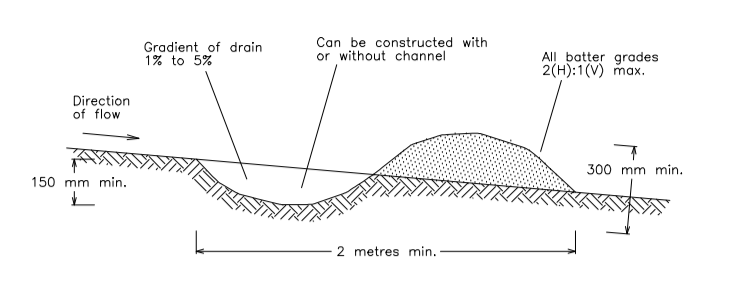


Construction Notes

- Check dams can be built with various materials, including rocks, logs, sandbags and straw bales. The maintenance program should ensure their integrity is retained, especially where constructed with straw bales. In the case of bales, this might require their replacement each two to four months.
- Trench the check dam 200 mm into the ground across its whole width. Where rock is used, fill the trenches to at least 100 mm above the ground surface to reduce the risk of undercutting.
- Normally, their maximum height should not exceed 600 mm above the gully floor. The centre should act as a spillway, being at least 150 mm lower than the outer edges.
- Space the dams so the toe of the upstream dam is level with the spillway of the next downstream dam.

ROCK CHECK DAM

SD 5-4

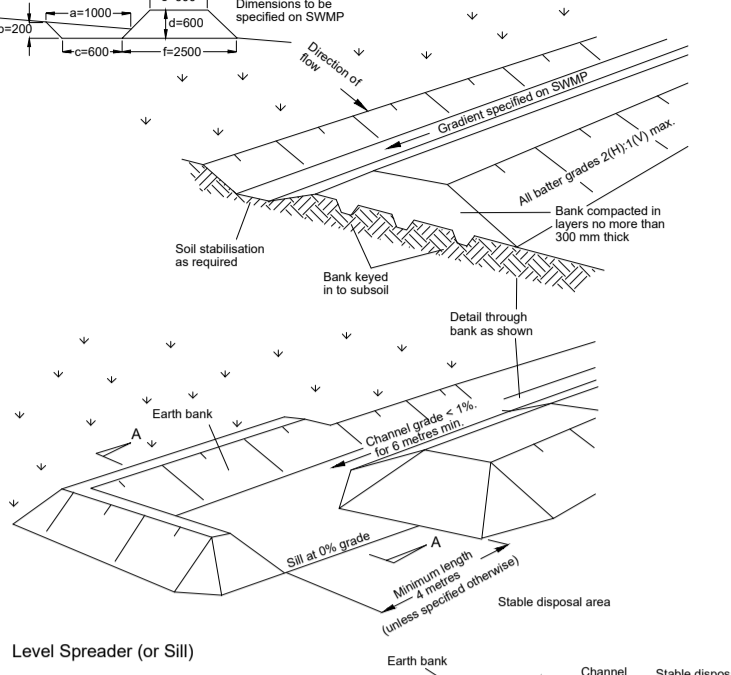


Construction Notes

- Build with gradients between 1 percent and 5 percent.
- Avoid removing trees and shrubs if possible - work around them.
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW)

SD 5-5

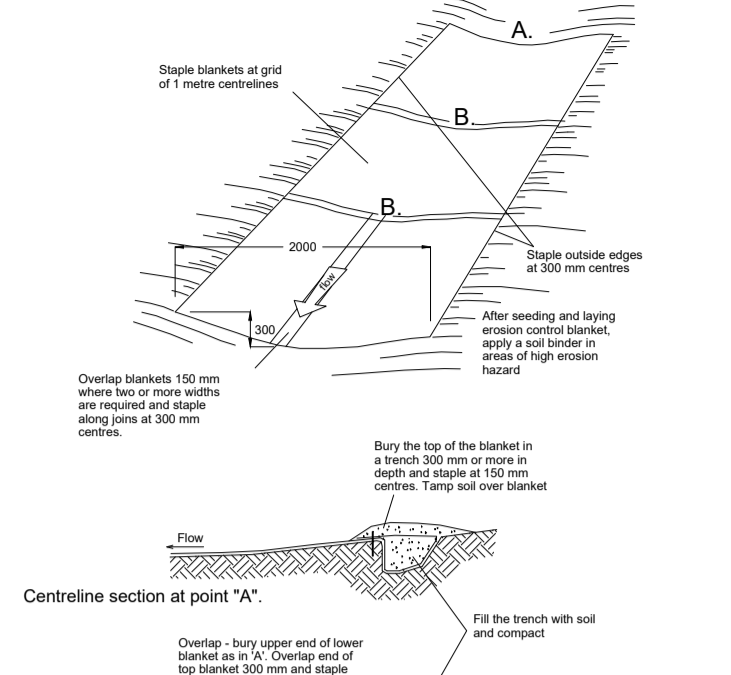


Construction Notes

- Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent.
- Avoid removing trees and shrubs if possible - work around them.
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
- Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
- Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
- Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

EARTH BANK (HIGH FLOWS)

SD 5-6

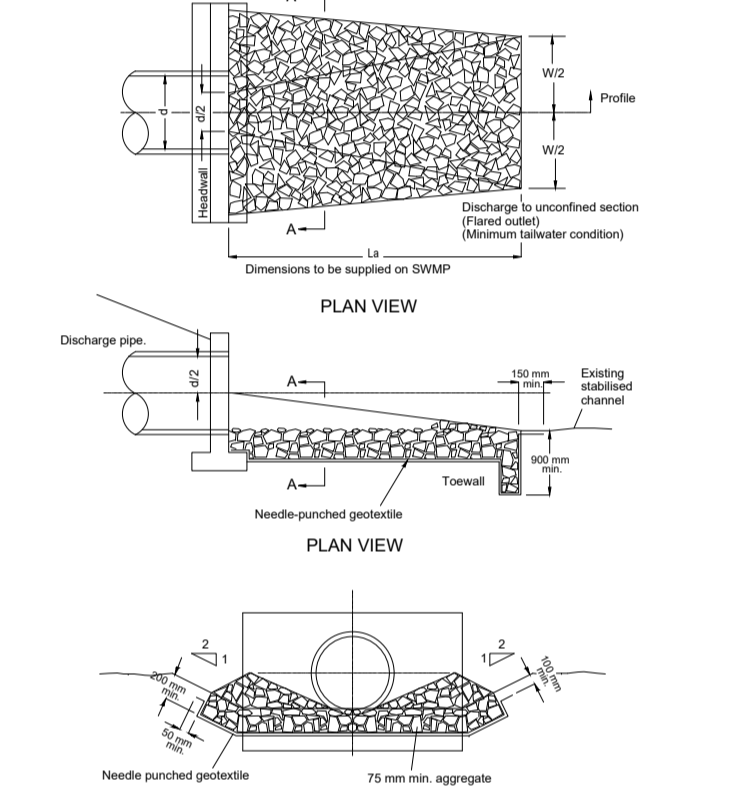


Construction Notes

- Remove any rocks, clods, sticks or grass from the surface before laying matting.
- Ensure that topsoil is at least 75 mm deep.
- Complete fertilising and seeding before laying the matting.
- Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
- Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end.
- Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
- Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW

SD 5-7

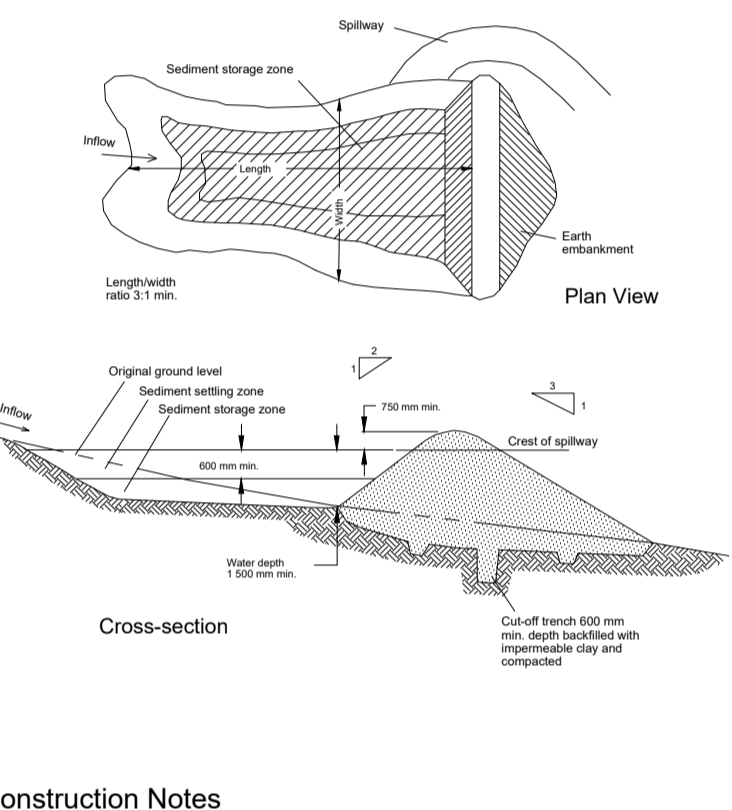


Construction Notes

- Compact the subgrade fill to the density of the surrounding undisturbed material.
- Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
- Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
- Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
- Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.

ENERGY DISSIPATER

SD 5-8

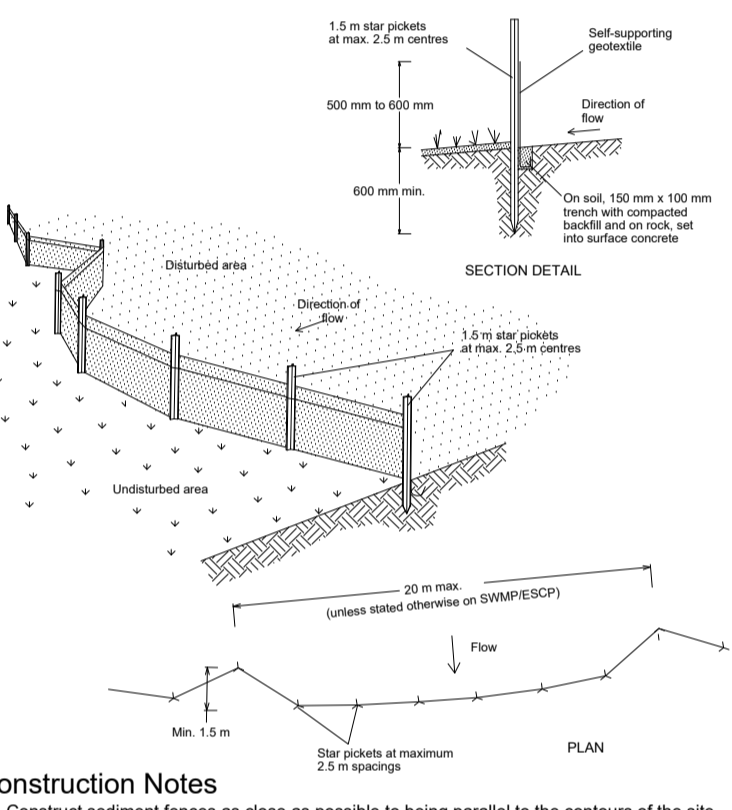


Construction Notes

- Remove all vegetation and topsoil from under the dam wall and from within the storage area.
- Construct a cut-off trench 500 mm deep and 1,200 mm wide along the canteline of the embankment extending to a point on the gully wall level with the riser crest.
- Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
- Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
- Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
- Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
- Construct the emergency spillway.
- Rehabilitate the structure following the SWMP.

EARTH BASIN - WET
(APPLIES TO TYPE 2F AND TYPE 2F SLOES ONLY)

SD 6-4

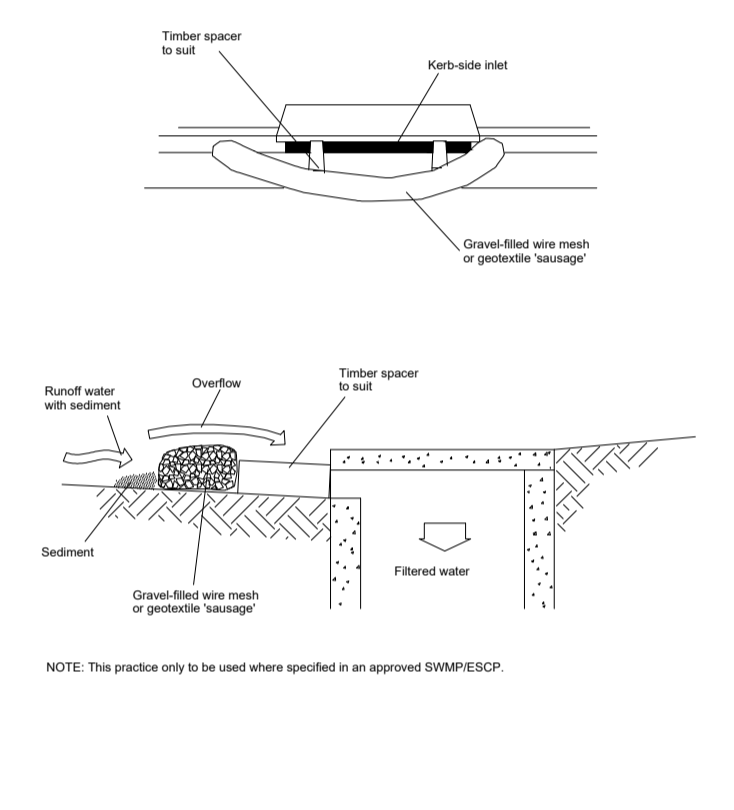


Construction Notes

- Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
- Construct a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
- Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
- Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
- Join sections of fabric at a support post with a 150-mm overlap.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE

SD 6-8

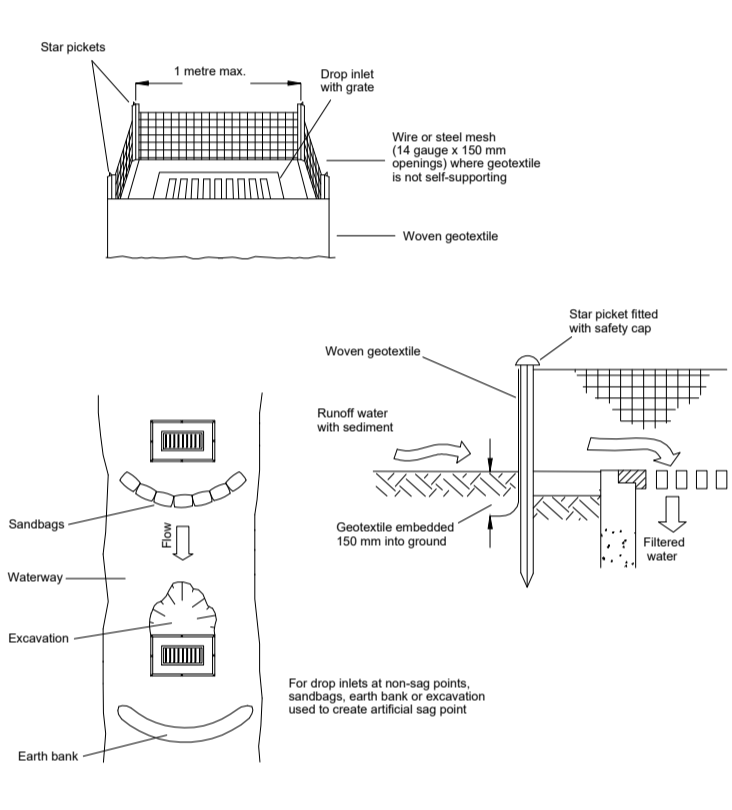


Construction Notes

- Install filters to kerb inlets only at sag points.
- Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet and fill it with 25 mm to 50 mm gravel.
- Form an elliptical cross-section about 150 mm high x 400 mm wide.
- Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
- Form a seal with the kerb to prevent sediment bypassing the filter.
- Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER

SD 6-11

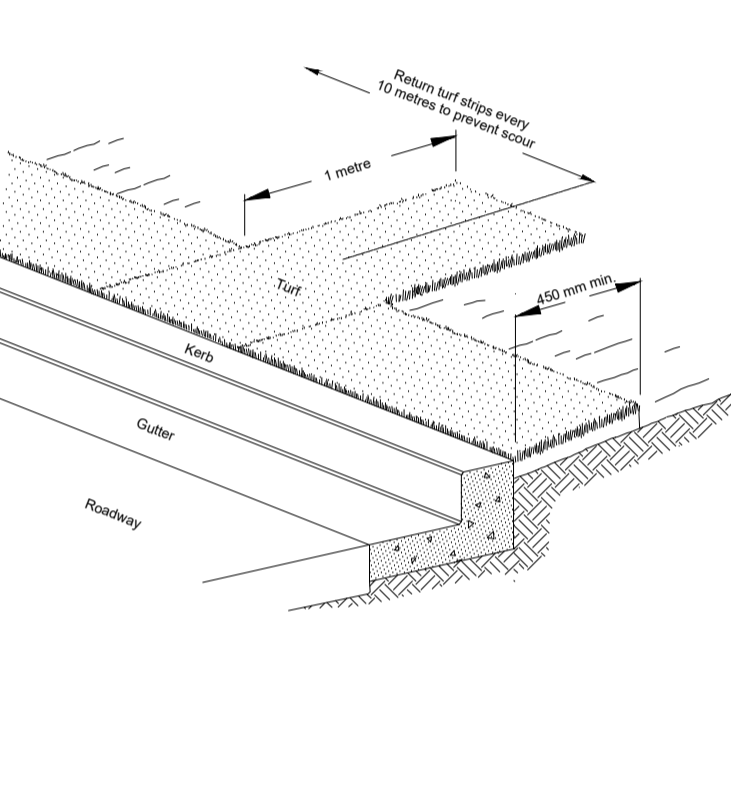


Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Follow Standard Drawing 6-8 for installation procedures for the straw bales or geotextile. Reduce the pocket spacing to 1 metre centres.
- In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
- Form a seal with the kerb to prevent sediment bypassing the filter.
- Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER

SD 6-12

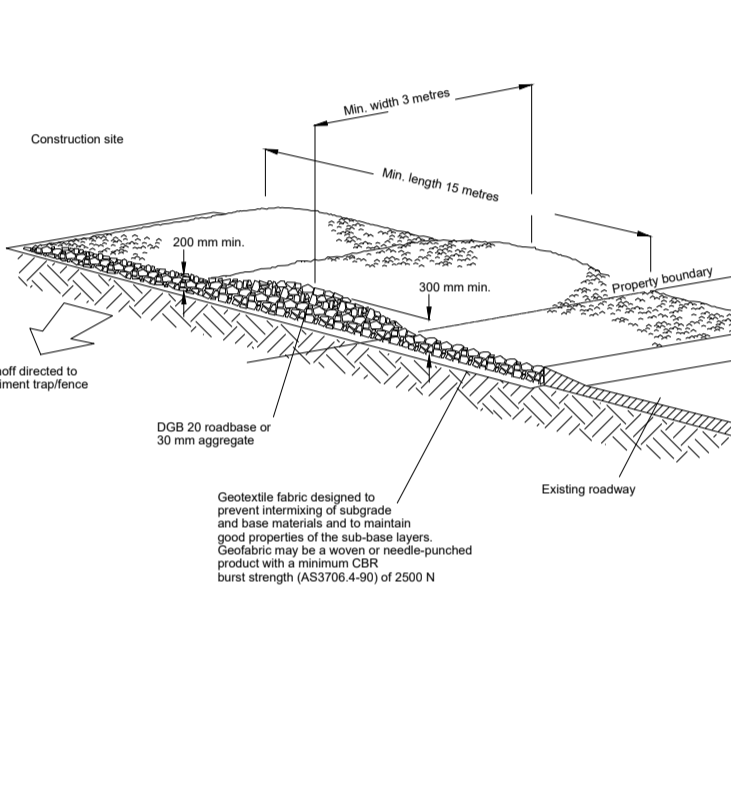


Construction Notes

- Install a 450 mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.
- Lay 1.4 metre long turf strips normal to the kerb every 10 metres.
- Rehabilitate disturbed soil behind the turf strip following the ESCP/SWMP.

KERBSIDE TURF STRIP

SD 6-13




Construction Notes

- Strip the topsoil, level the site and compact the subgrade.
- Cover the area with needle-punched geotextile.
- Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
- Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
- Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence.

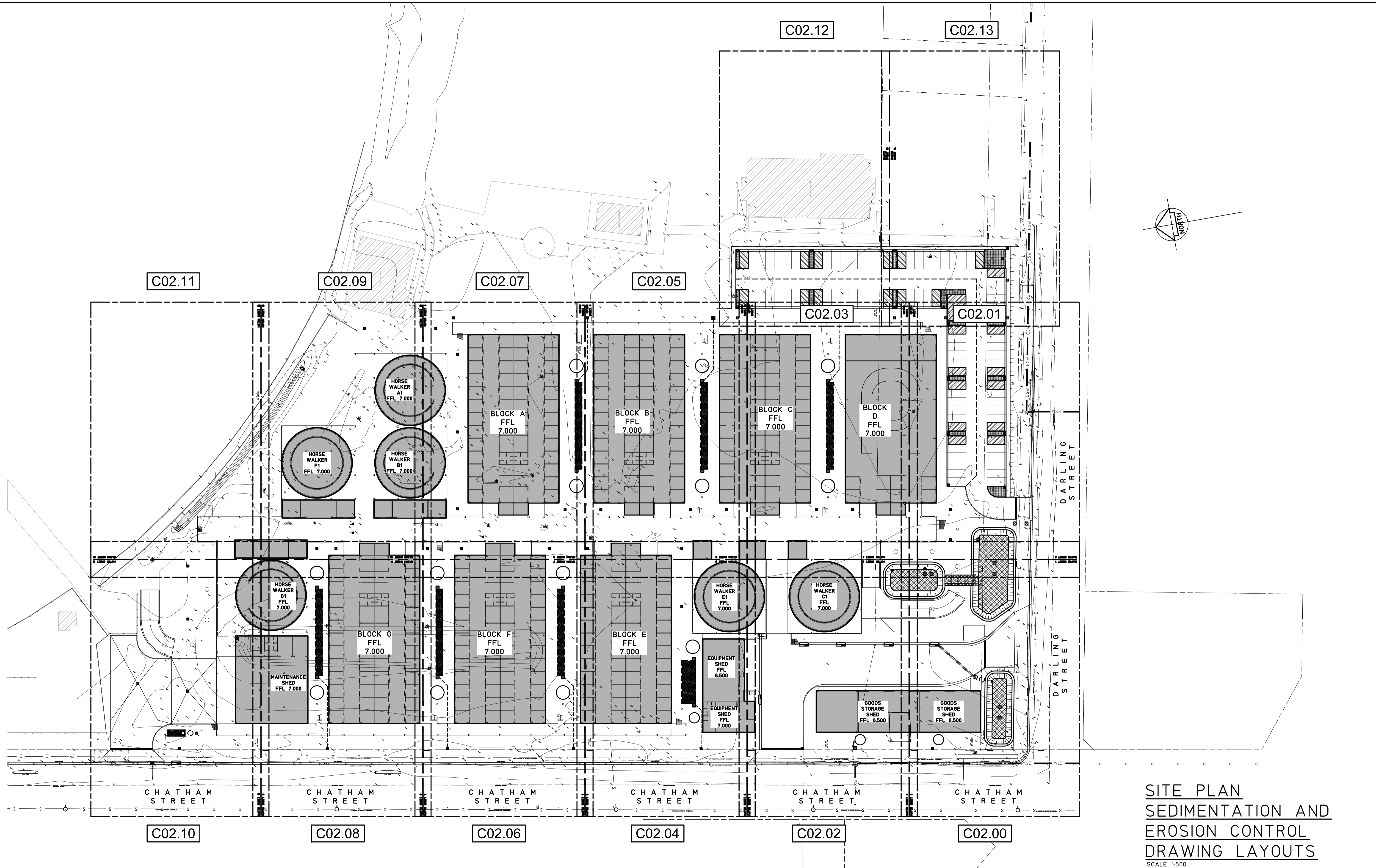
STABILISED SITE ACCESS

SD 6-14

NOT FOR CONSTRUCTION

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| ISSUE | | REASON FOR ISSUE | | DATE | | DATE OF RELEASE | | RESPONSIBLE PRINCIPAL SIGNATURE | | ISSUE | | | | | | | | | | | |

FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



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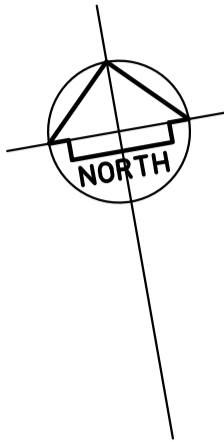
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| 1 ISSUED FOR APPROVAL | | 09.07.21 | | | | SITE PLAN SEDIMENTATION AND EROSION CONTROL DRAWING LAYOUTS | | | | | | | |
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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm

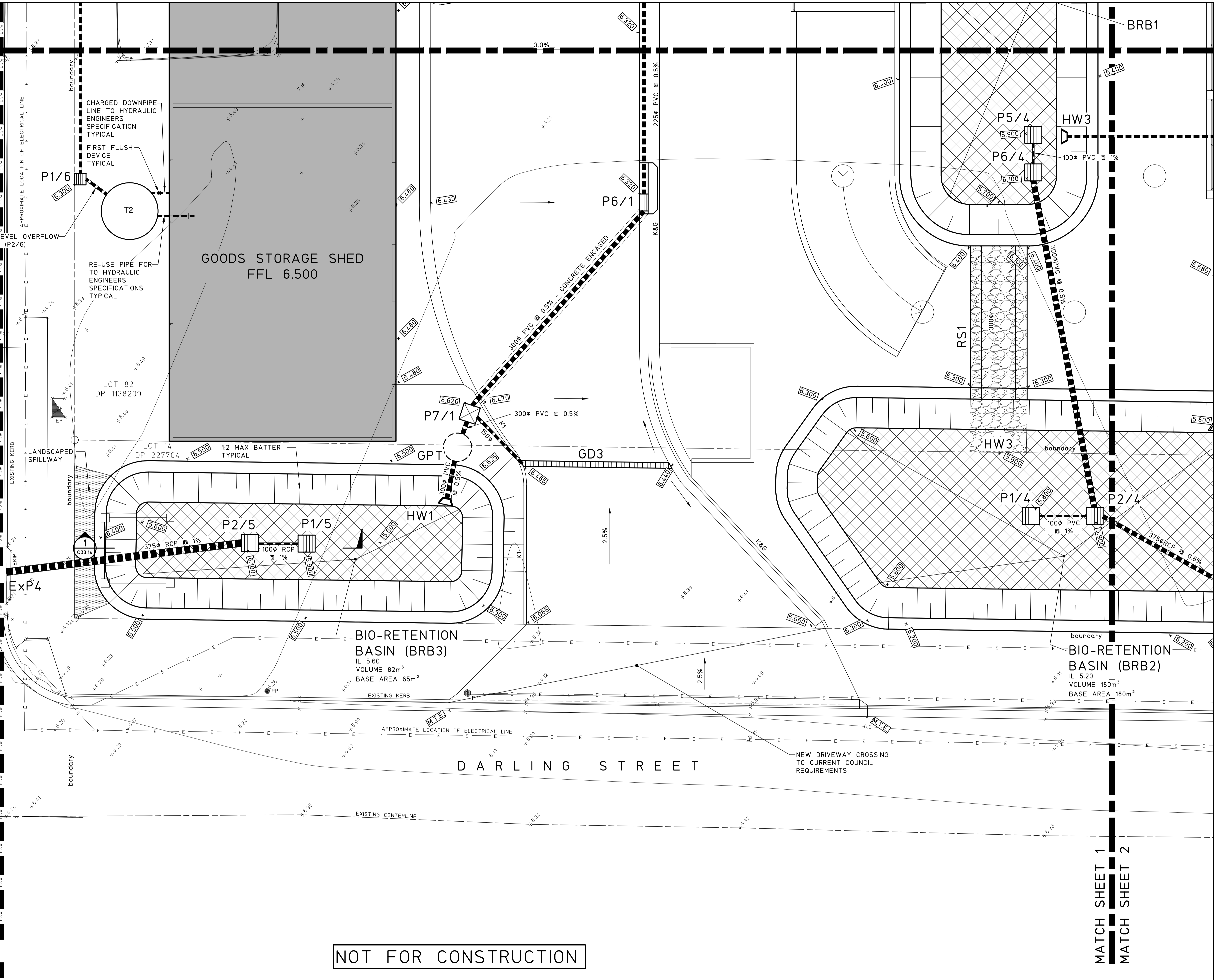
MATCH SHEET 3
MATCH SHEET 1



CHATHAM STREET

STORMWATER PLAN
SHEET 1

SCALE 1:100
STORMWATER NOTES
1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND



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NEWCASTLE JOCKEY CLUB LTD

TITLE

STORMWATER PLAN
SHEET 1

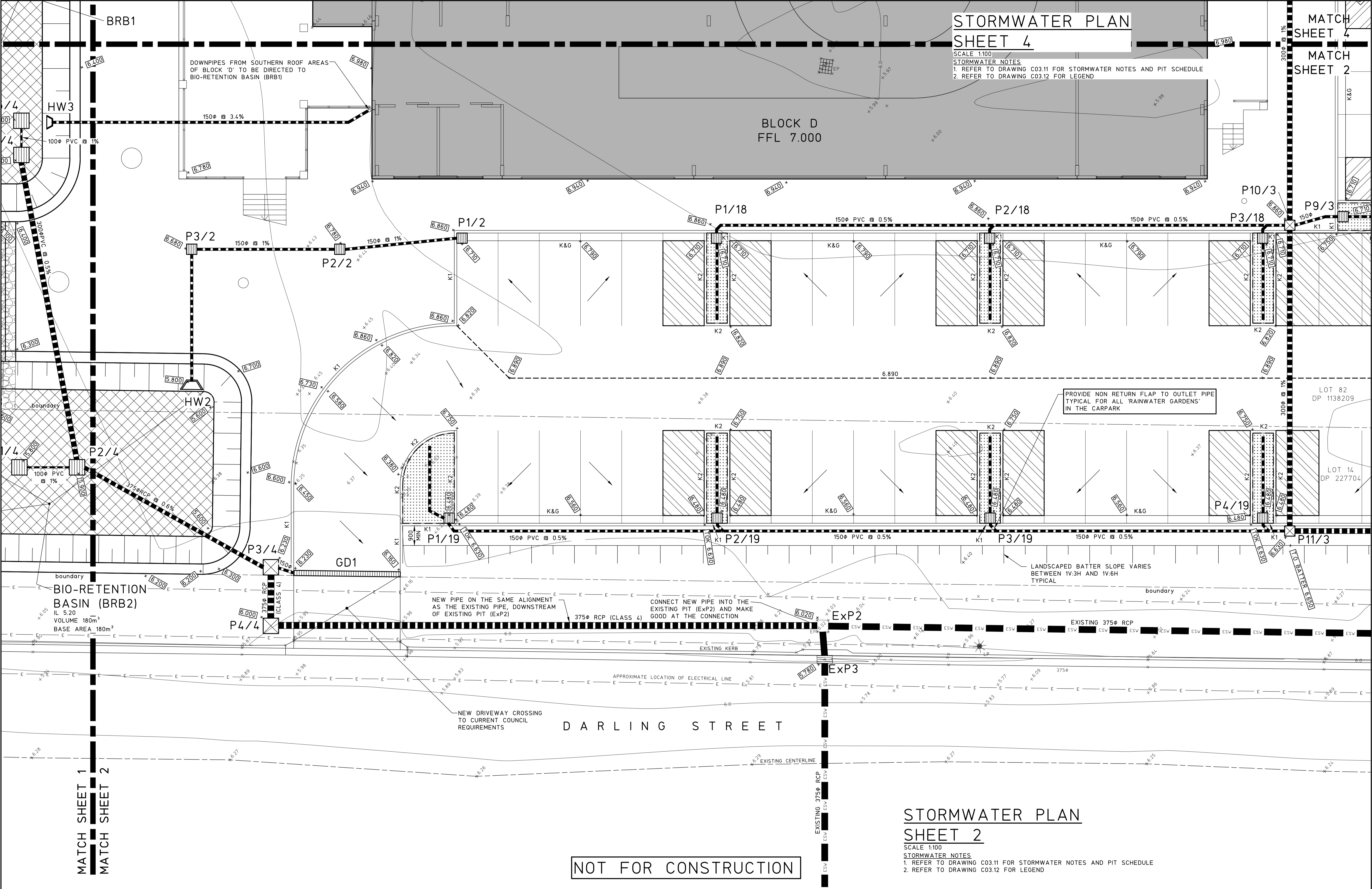
PROJECT

PROPOSED STABLES COMPLEX AT;
NEWCASTLE JOCKEY CLUB
No.100 DARLING STREET,
BROADMEADOW

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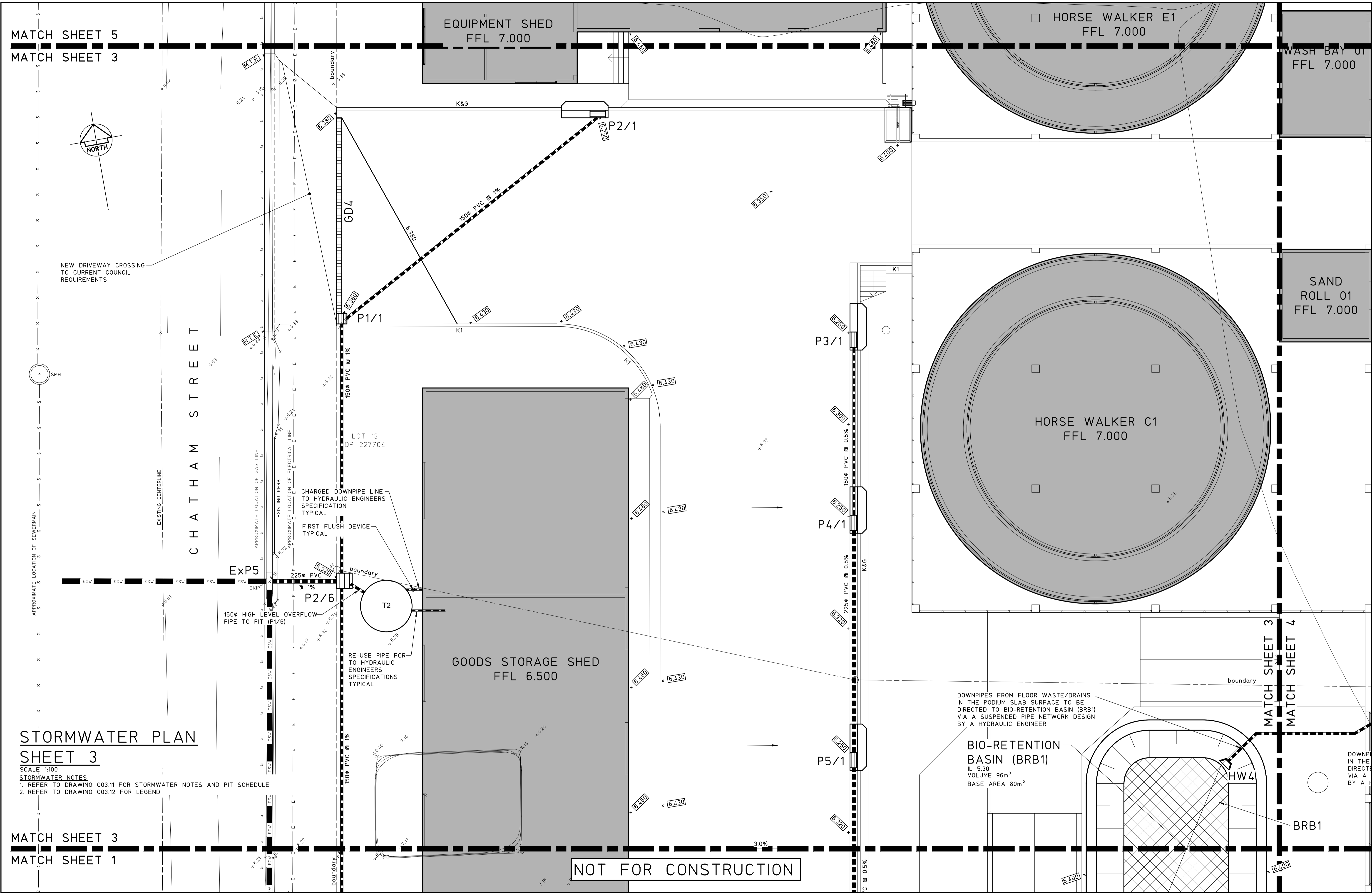
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| DRAWN C.W. | ENGINEER B.C. | No in SET - | SHEET A1 |
| SCALES 1:100 | JOB No 16-548-1 | DRAWING No C03.00 | ISSUE 2 |

FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



MATCH SHEET 5
MATCH SHEET 3

STORMWATER PLAN SHEET 3

SCALE 1:100
STORMWATER NOTES
1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND

MATCH SHEET 3
MATCH SHEET 1

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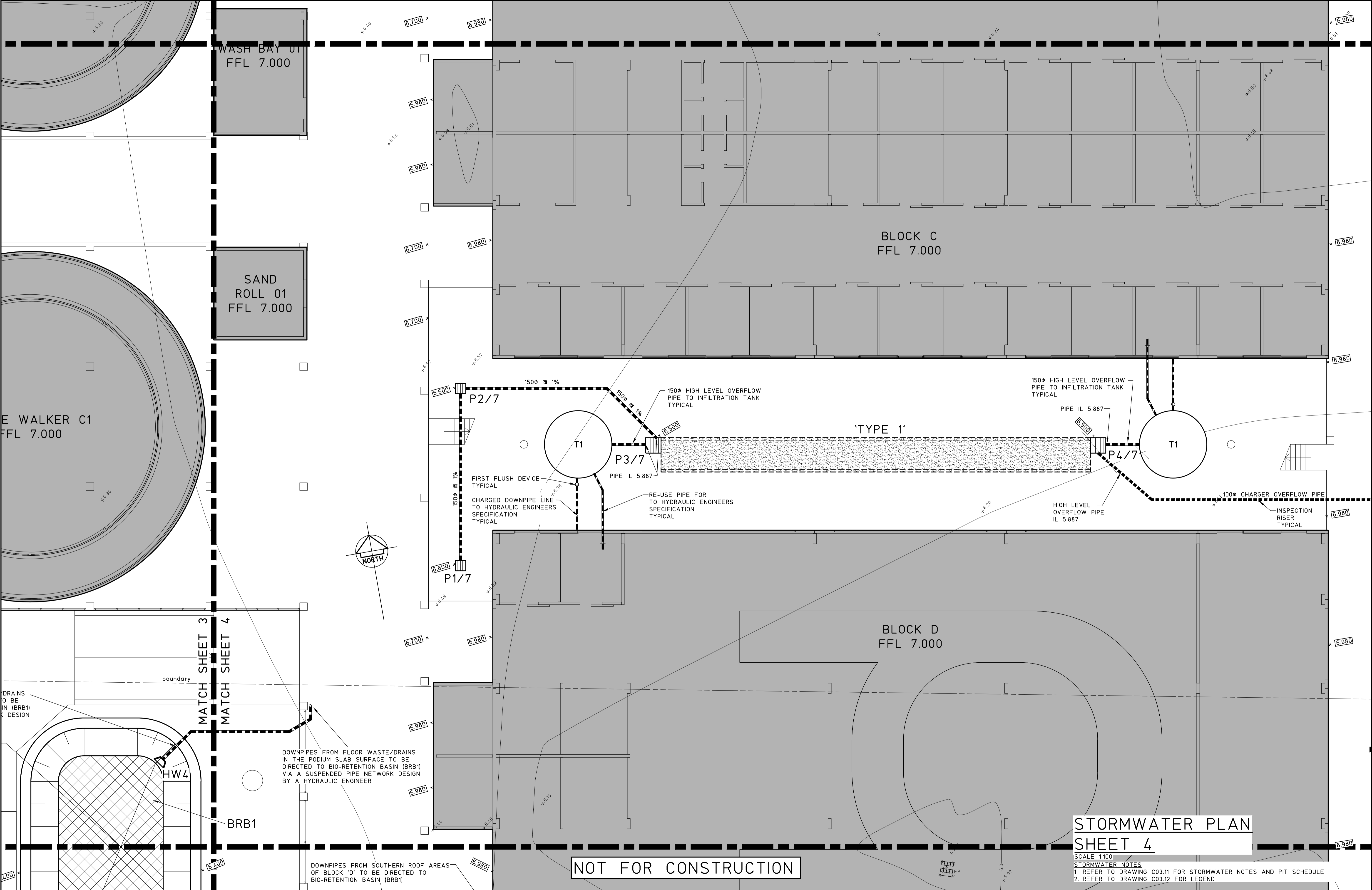
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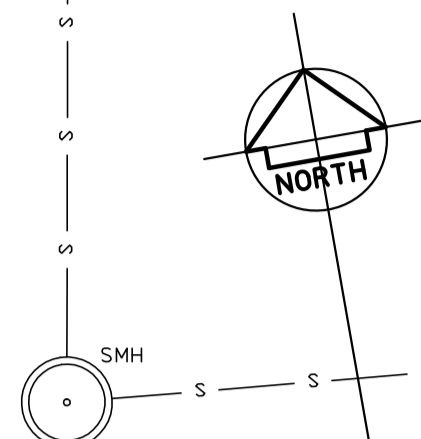
FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



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| 2 | DEVELOPMENT APPLICATION | | | 12.08.21 | | | | | | | | | | | | |
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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm

MATCH SHEET 5



REMOVE EXISTING DRIVEWAY -
LAYBACK AND REPLACE WITH
STANDARD KERB & GUTTER

CHATHAM STREET

STORMWATER PLAN SHEET 5

SCALE 1:100

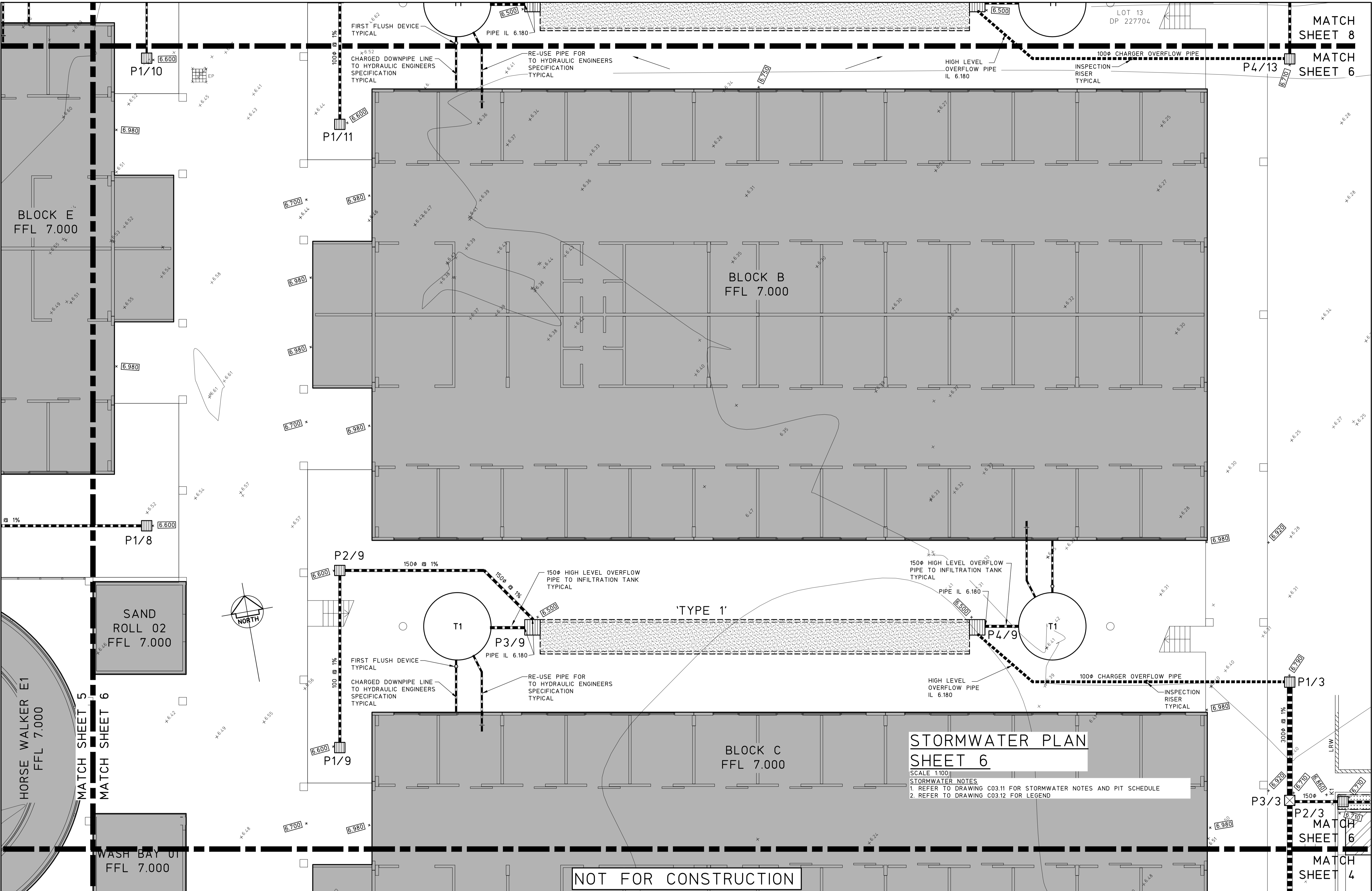
STORMWATER NOTES

1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND

MATCH SHEET 3

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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



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| 2 | DEVELOPMENT APPLICATION | 12.08.21 | | | | TITLE | | | | SCALES | JOB No | DRAWING No | ISSUE |
| 1 | ISSUED FOR APPROVAL | 09.07.21 | | | | STORMWATER PLAN | | | | 1:100 | 16-548-1 | C03.05 | 2 |
| 0 | PRELIMINARY | 02.07.21 | | | | SHEET 6 | | | | | | | |
| ISSUE | REASON FOR ISSUE | DATE | DATE OF RELEASE | RESPONSIBLE PRINCIPAL SIGNATURE | ISSUE | | | | | | | | |



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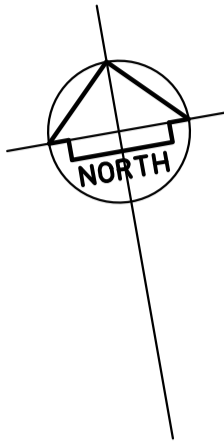
TITLE
STORMWATER PLAN
SHEET 6

PROJECT
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MATCH SHEET 9
MATCH SHEET 7

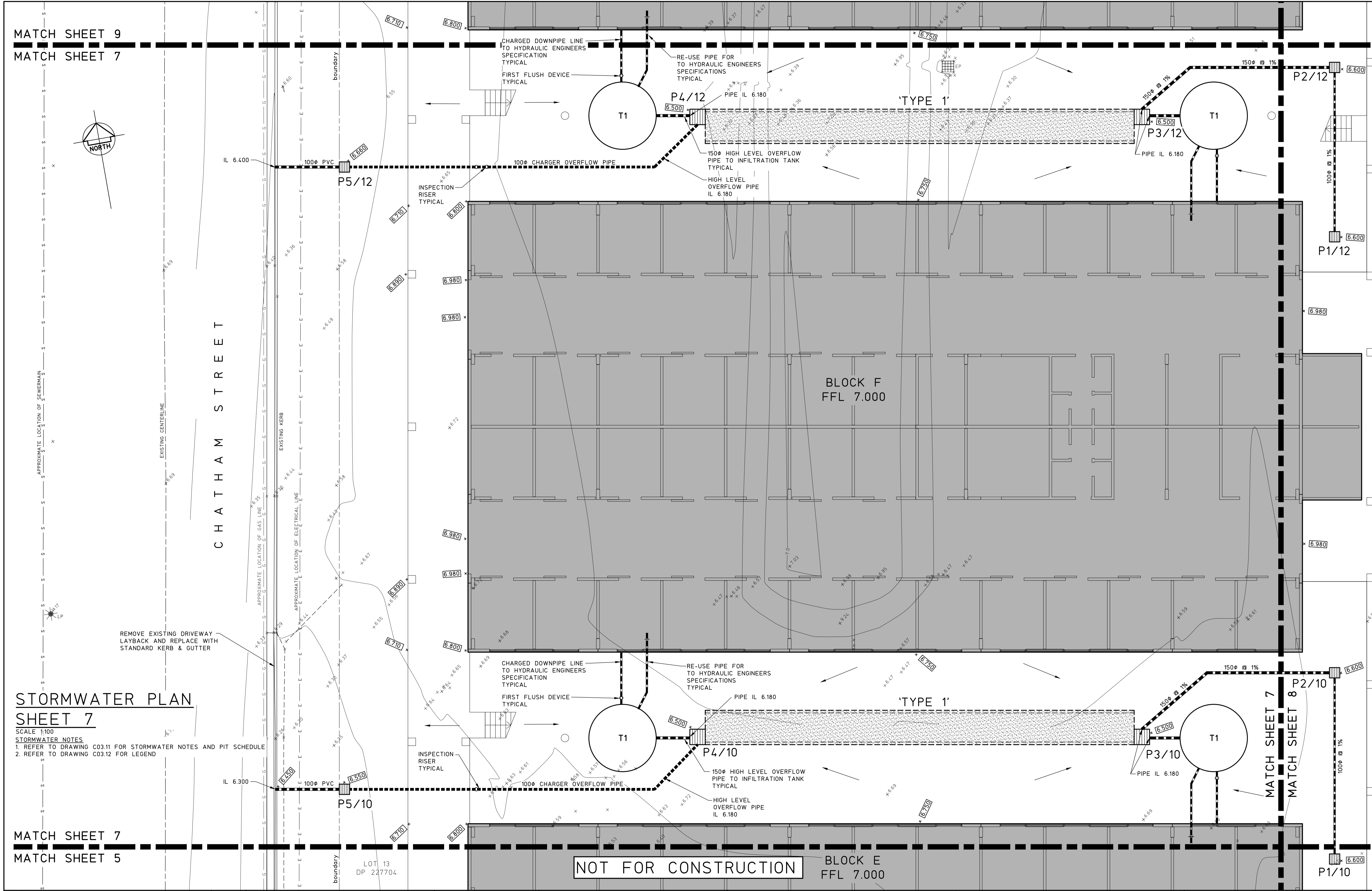


CHATHAM STREET

STORMWATER PLAN
SHEET 7

SCALE 1:100
STORMWATER NOTES
1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND

MATCH SHEET 7
MATCH SHEET 5



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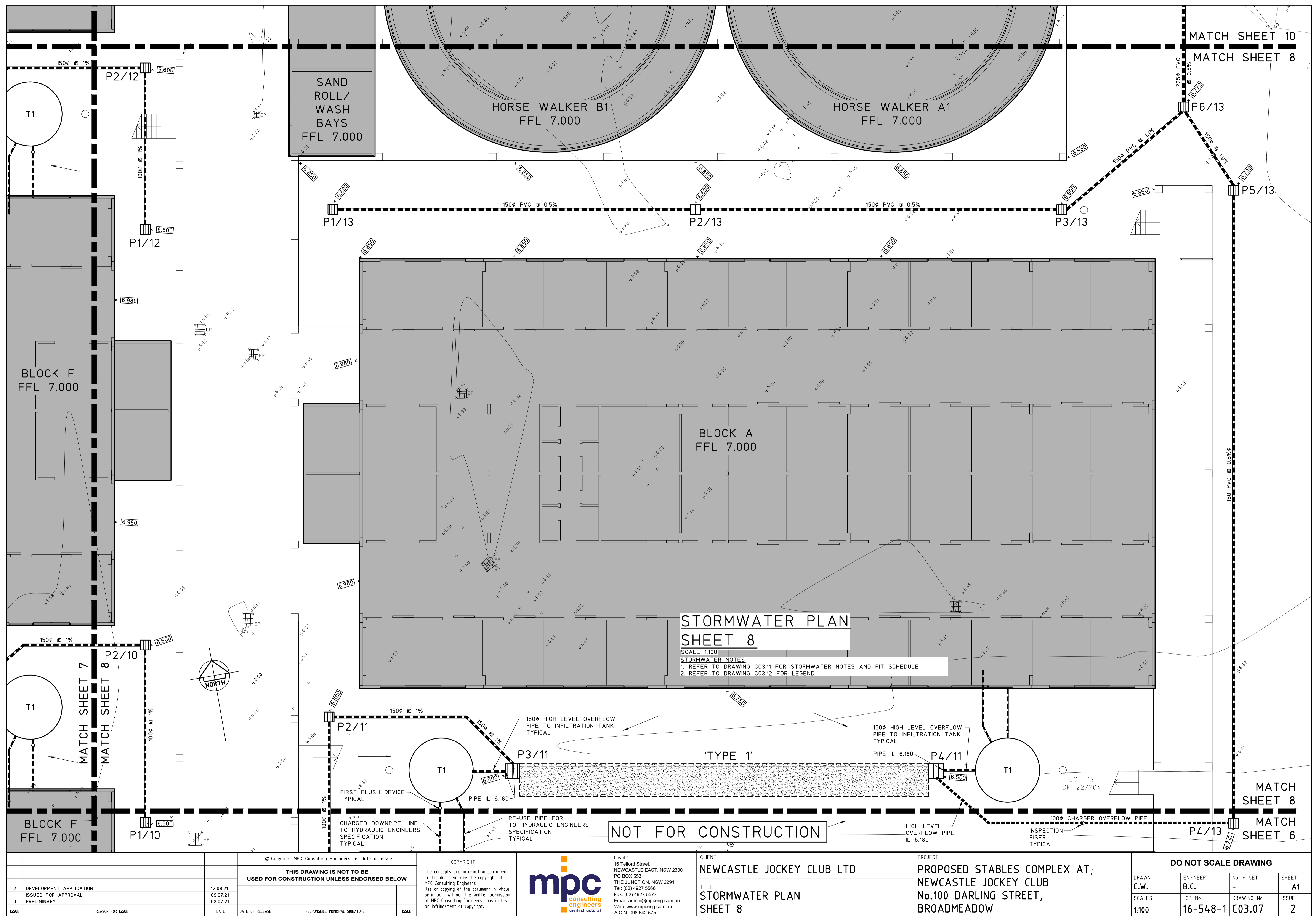
PROJECT
NEWCASTLE JOCKEY CLUB LTD

TITLE
STORMWATER PLAN
SHEET 7

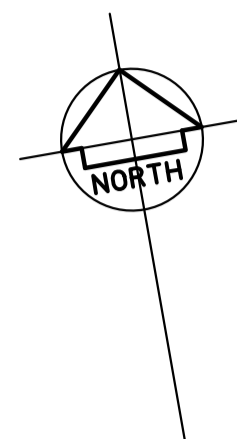
PROJECT
PROPOSED STABLES COMPLEX AT;
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No.100 DARLING STREET,
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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



MATCH SHEET 9



CHATHAM STREET

STORMWATER PLAN


SHEET 9

SCALE 1:100

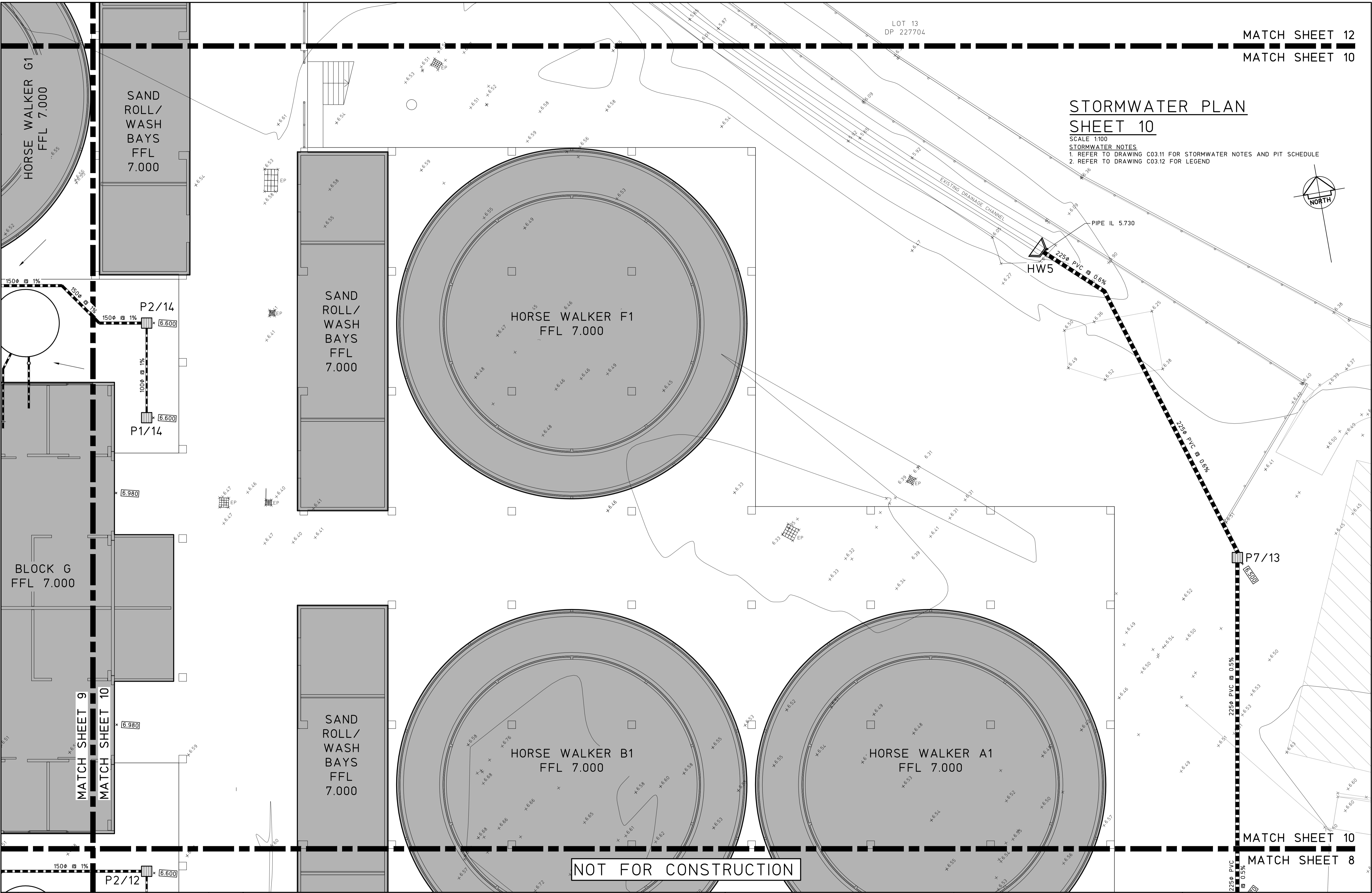
STORMWATER NOTES

1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND

MATCH SHEET 7

| | | | | | | | | | | | | | | | | |
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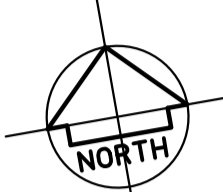
FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



MATCH SHEET 12
MATCH SHEET 10

STORMWATER PLAN
SHEET 10

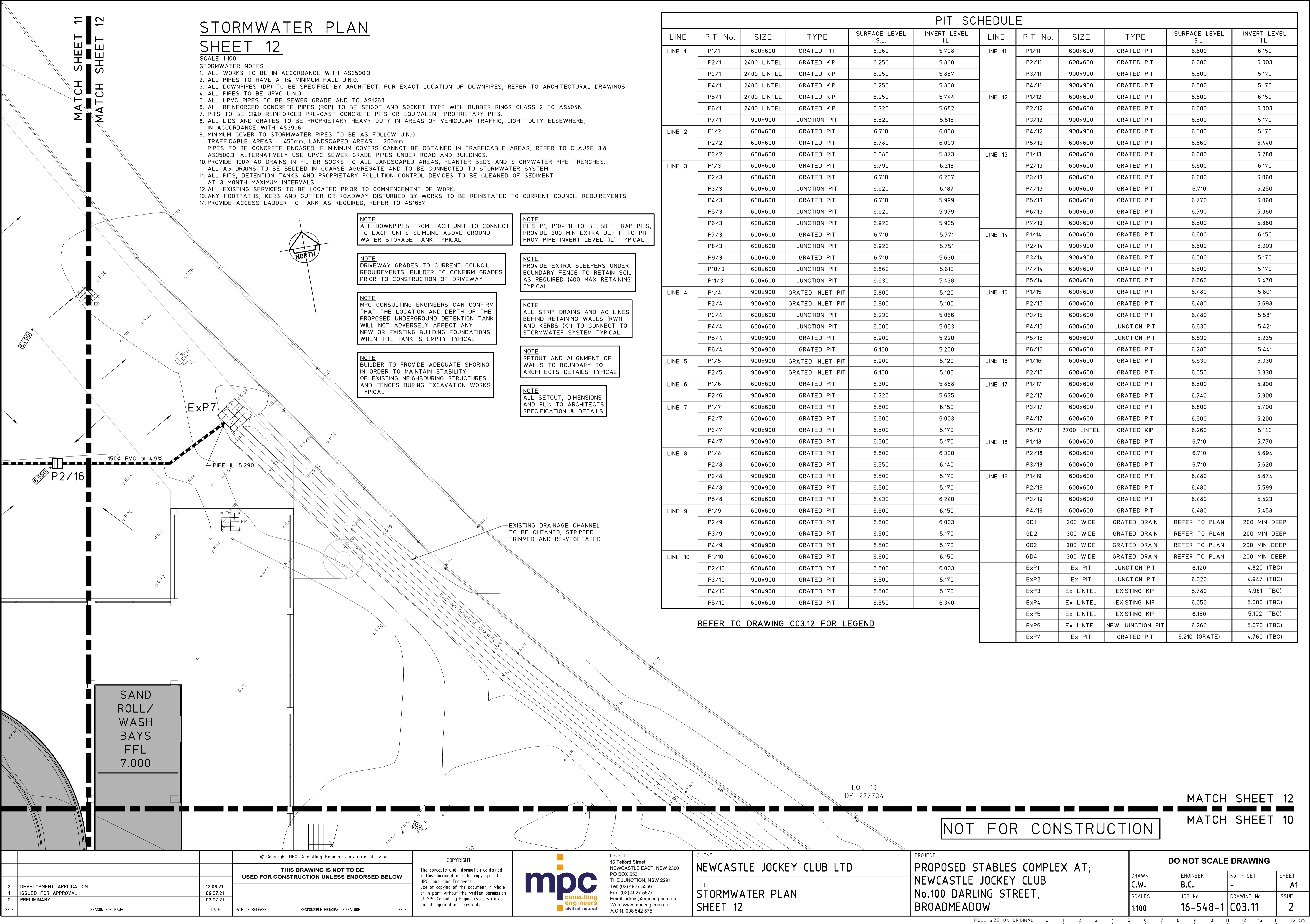
SCALE 1:100
STORMWATER NOTES
1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND



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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



STORMWATER PLAN

SHEET 12

SCALE 1:100

STORMWATER NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AS3500.3.
2. ALL PIPES TO HAVE A 1% MINIMUM FALL U.N.O.
3. ALL DOWNPIPES (DP) TO BE SPECIFIED BY ARCHITECT. FOR EXACT LOCATION OF DOWNPIPES, REFER TO ARCHITECTURAL DRAWINGS.
4. ALL PIPES TO BE UPVC U.N.O.
5. ALL UPVC PIPES TO BE SEWER GRADE AND TO AS1260.
6. ALL REINFORCED CONCRETE PIPES (RCPI) TO BE SPIGOT AND SOCKET TYPE WITH RUBBER RINGS CLASS 2 TO AS4058.
7. PITS TO BE C&D REINFORCED PRE-CAST CONCRETE PITS OR EQUIVALENT PROPRIETARY PITS.
8. ALL LIDS AND GRATES TO BE PROPRIETARY HEAVY DUTY IN AREAS OF VEHICULAR TRAFFIC, LIGHT DUTY ELSEWHERE, IN ACCORDANCE WITH AS3996.
9. MINIMUM COVER TO STORMWATER PIPES TO BE AS FOLLOW U.N.O:
TRAFFICABLE AREAS - 450mm, LANDSCAPED AREAS - 300mm.
PIPES TO BE CONCRETE ENCASED IF MINIMUM COVERS CANNOT BE OBTAINED IN TRAFFICABLE AREAS, REFER TO CLAUSE 3.8 AS3500.3. ALTERNATIVELY USE UPVC SEWER GRADE PIPES UNDER ROAD AND BUILDINGS.
10. PROVIDE 100# AG DRAINS IN FILTER SOCKS TO ALL LANDSCAPED AREAS, PLANTER BEDS AND STORMWATER PIPE TRENCHES.
ALL AG DRAINS TO BE BEDDED IN COARSE AGGREGATE AND TO BE CONNECTED TO STORMWATER SYSTEM.
11. ALL PITS, DETENTION TANKS AND PROPRIETARY POLLUTION CONTROL DEVICES TO BE CLEANED OF SEDIMENT AT 3 MONTH MAXIMUM INTERVALS.
12. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF WORK.
13. ANY FOOTPATHS, KERB AND GUTTER OR ROADWAY DISTURBED BY WORKS TO BE REINSTATED TO CURRENT COUNCIL REQUIREMENTS.
14. PROVIDE ACCESS LADDER TO TANK AS REQUIRED, REFER TO AS1657.

NOTE
ALL DOWNPIPES FROM EACH UNIT TO CONNECT TO EACH UNITS SLMLINE ABOVE GROUND WATER STORAGE TANK TYPICAL

NOTE
DRIVEWAY GRADES TO CURRENT COUNCIL REQUIREMENTS. BUILDER TO CONFIRM GRADES PRIOR TO CONSTRUCTION OF DRIVEWAY

NOTE
MPC CONSULTING ENGINEERS CAN CONFIRM THAT THE LOCATION AND DEPTH OF THE PROPOSED UNDERGROUND DETENTION TANK WILL NOT ADVERSELY AFFECT ANY NEW OR EXISTING BUILDING FOUNDATIONS WHEN THE TANK IS EMPTY TYPICAL

NOTE
BUILDER TO PROVIDE ADEQUATE SHORING IN ORDER TO MAINTAIN STABILITY OF EXISTING NEIGHBOURING STRUCTURES AND FENCES DURING EXCAVATION WORKS TYPICAL

NOTE
PITS P1, P10-P11 TO BE SILT TRAP PITS, PROVIDE 300 MIN EXTRA DEPTH TO PIT FROM PIPE INVERT LEVEL (IL) TYPICAL

NOTE
PROVIDE EXTRA SLEEPERS UNDER BOUNDARY FENCE TO RETAIN SOIL AS REQUIRED (400 MAX RETAINING) TYPICAL

NOTE
ALL STRIP DRAINS AND AG LINES BEHIND RETAINING WALLS (RW1) AND KERBS (K1) TO CONNECT TO STORMWATER SYSTEM TYPICAL

NOTE
SETOUT AND ALIGNMENT OF WALLS TO BOUNDARY TO ARCHITECTS DETAILS TYPICAL

NOTE
ALL SETOUT, DIMENSIONS AND RL'S TO ARCHITECTS SPECIFICATION & DETAILS

PIT SCHEDULE

| LINE | PIT No. | SIZE | TYPE | SURFACE LEVEL S.L. | INVERT LEVEL I.L. | LINE | PIT No. | SIZE | TYPE | SURFACE LEVEL S.L. | INVERT LEVEL I.L. |
|---------|---------|-------------|------------------|--------------------|-------------------|---------|---------|-------------|------------------|--------------------|-------------------|
| LINE 1 | P1/1 | 600x600 | GRATED PIT | 6.360 | 5.708 | LINE 11 | P1/11 | 600x600 | GRATED PIT | 6.600 | 6.150 |
| | P2/1 | 2400 LINTEL | GRATED KIP | 6.250 | 5.800 | | P2/11 | 600x600 | GRATED PIT | 6.600 | 6.003 |
| | P3/1 | 2400 LINTEL | GRATED KIP | 6.250 | 5.857 | | P3/11 | 900x900 | GRATED PIT | 6.500 | 5.170 |
| | P4/1 | 2400 LINTEL | GRATED KIP | 6.250 | 5.808 | | P4/11 | 900x900 | GRATED PIT | 6.500 | 5.170 |
| | P5/1 | 2400 LINTEL | GRATED KIP | 6.250 | 5.744 | LINE 12 | P1/12 | 600x600 | GRATED PIT | 6.600 | 6.150 |
| | P6/1 | 2400 LINTEL | GRATED KIP | 6.320 | 5.682 | | P2/12 | 600x600 | GRATED PIT | 6.600 | 6.003 |
| LINE 2 | P7/1 | 900x900 | JUNCTION PIT | 6.620 | 5.616 | | P3/12 | 900x900 | GRATED PIT | 6.500 | 5.170 |
| | P1/2 | 600x600 | GRATED PIT | 6.710 | 6.068 | | P4/12 | 900x900 | GRATED PIT | 6.500 | 5.170 |
| | P2/2 | 600x600 | GRATED PIT | 6.780 | 6.003 | LINE 13 | P5/12 | 600x600 | GRATED PIT | 6.660 | 6.440 |
| LINE 3 | P3/2 | 600x600 | GRATED PIT | 6.680 | 5.873 | | P1/13 | 600x600 | GRATED PIT | 6.600 | 6.280 |
| | P1/3 | 600x600 | GRATED PIT | 6.790 | 6.218 | | P2/13 | 600x600 | GRATED PIT | 6.600 | 6.170 |
| | P2/3 | 600x600 | GRATED PIT | 6.710 | 6.207 | | P3/13 | 600x600 | GRATED PIT | 6.600 | 6.060 |
| LINE 4 | P3/3 | 600x600 | JUNCTION PIT | 6.920 | 6.187 | LINE 14 | P4/13 | 600x600 | GRATED PIT | 6.710 | 6.250 |
| | P4/3 | 600x600 | GRATED PIT | 6.710 | 5.999 | | P5/13 | 600x600 | GRATED PIT | 6.770 | 6.060 |
| | P5/3 | 600x600 | JUNCTION PIT | 6.920 | 5.979 | | P6/13 | 600x600 | GRATED PIT | 6.790 | 5.960 |
| | P6/3 | 600x600 | JUNCTION PIT | 6.920 | 5.905 | | P7/13 | 600x600 | GRATED PIT | 6.500 | 5.860 |
| | P7/3 | 600x600 | GRATED PIT | 6.710 | 5.771 | LINE 15 | P1/14 | 600x600 | GRATED PIT | 6.600 | 6.150 |
| | P8/3 | 600x600 | JUNCTION PIT | 6.920 | 5.751 | | P2/14 | 900x900 | GRATED PIT | 6.600 | 6.003 |
| LINE 5 | P9/3 | 600x600 | GRATED PIT | 6.710 | 5.630 | | P3/14 | 900x900 | GRATED PIT | 6.500 | 5.170 |
| | P10/3 | 600x600 | JUNCTION PIT | 6.860 | 5.610 | | P4/14 | 600x600 | GRATED PIT | 6.500 | 5.170 |
| | P11/3 | 600x600 | JUNCTION PIT | 6.630 | 5.438 | LINE 16 | P5/14 | 600x600 | GRATED PIT | 6.660 | 6.470 |
| LINE 6 | P1/4 | 900x900 | GRATED INLET PIT | 5.800 | 5.120 | | P1/15 | 600x600 | GRATED PIT | 6.480 | 5.801 |
| | P2/4 | 900x900 | GRATED INLET PIT | 5.900 | 5.100 | | P2/15 | 600x600 | GRATED PIT | 6.480 | 5.698 |
| | P3/4 | 600x600 | JUNCTION PIT | 6.230 | 5.066 | LINE 17 | P3/15 | 600x600 | GRATED PIT | 6.480 | 5.581 |
| LINE 7 | P4/4 | 600x600 | JUNCTION PIT | 6.000 | 5.053 | | P4/15 | 600x600 | JUNCTION PIT | 6.630 | 5.421 |
| | P5/4 | 900x900 | GRATED PIT | 5.900 | 5.220 | | P5/15 | 600x600 | JUNCTION PIT | 6.630 | 5.235 |
| | P6/4 | 900x900 | GRATED PIT | 6.100 | 5.200 | | P6/15 | 600x600 | GRATED PIT | 6.280 | 5.441 |
| LINE 8 | P1/5 | 900x900 | GRATED INLET PIT | 5.900 | 5.120 | LINE 18 | P1/16 | 600x600 | GRATED PIT | 6.630 | 6.030 |
| | P2/5 | 900x900 | GRATED INLET PIT | 6.100 | 5.100 | | P2/16 | 600x600 | GRATED PIT | 6.550 | 5.830 |
| LINE 9 | P1/6 | 600x600 | GRATED PIT | 6.300 | 5.868 | | P1/17 | 600x600 | GRATED PIT | 6.500 | 5.900 |
| | P2/6 | 900x900 | GRATED PIT | 6.320 | 5.635 | | P2/17 | 600x600 | GRATED PIT | 6.740 | 5.800 |
| | P3/6 | 600x600 | GRATED PIT | 6.600 | 6.150 | LINE 19 | P3/17 | 600x600 | GRATED PIT | 6.800 | 5.700 |
| LINE 10 | P4/6 | 900x900 | GRATED PIT | 6.500 | 5.170 | | P4/17 | 600x600 | GRATED PIT | 6.500 | 5.200 |
| | P5/6 | 600x600 | GRATED PIT | 6.430 | 6.240 | | P5/17 | 2700 LINTEL | GRATED KIP | 6.260 | 5.140 |
| | P6/6 | 600x600 | GRATED PIT | 6.550 | 6.340 | | P1/18 | 600x600 | GRATED PIT | 6.710 | 5.770 |
| LINE 11 | P1/7 | 600x600 | GRATED PIT | 6.600 | 6.150 | LINE 20 | P2/18 | 600x600 | GRATED PIT | 6.710 | 5.694 |
| | P2/7 | 600x600 | GRATED PIT | 6.600 | 6.003 | | P3/18 | 600x600 | GRATED PIT | 6.710 | 5.620 |
| | P3/7 | 900x900 | GRATED PIT | 6.500 | 5.170 | LINE 21 | P1/19 | 600x600 | GRATED PIT | 6.480 | 5.674 |
| LINE 12 | P4/7 | 900x900 | GRATED PIT | 6.500 | 5.170 | | P2/19 | 600x600 | GRATED PIT | 6.480 | 5.599 |
| | P5/7 | 600x600 | GRATED PIT | 6.600 | 6.150 | | P3/19 | 600x600 | GRATED PIT | 6.480 | 5.523 |
| | P6/7 | 600x600 | GRATED PIT | 6.600 | 6.003 | | P4/19 | 600x600 | GRATED PIT | 6.480 | 5.458 |
| LINE 13 | P1/8 | 600x600 | GRATED PIT | 6.600 | 6.300 | LINE 22 | GD1 | 300 WIDE | GRATED DRAIN | REFER TO PLAN | 200 MIN DEEP |
| | P2/8 | 600x600 | GRATED PIT | 6.550 | 6.140 | | GD2 | 300 WIDE | GRATED DRAIN | REFER TO PLAN | 200 MIN DEEP |
| | P3/8 | 900x900 | GRATED PIT | 6.500 | 5.170 | | GD3 | 300 WIDE | GRATED DRAIN | REFER TO PLAN | 200 MIN DEEP |
| LINE 14 | P4/8 | 900x900 | GRATED PIT | 6.500 | 5.170 | | GD4 | 300 WIDE | GRATED DRAIN | REFER TO PLAN | 200 MIN DEEP |
| | P5/8 | 600x600 | GRATED PIT | 6.430 | 6.240 | LINE 23 | ExP1 | Ex PIT | JUNCTION PIT | 6.120 | 4.820 (TBC) |
| | P6/8 | 600x600 | GRATED PIT | 6.550 | 6.340 | | ExP2 | Ex PIT | JUNCTION PIT | 6.020 | 4.947 (TBC) |
| LINE 15 | P1/9 | 600x600 | GRATED PIT | 6.600 | 6.150 | | ExP3 | Ex LINTEL | EXISTING KIP | 5.780 | 4.961 (TBC) |
| | P2/9 | 600x600 | GRATED PIT | 6.600 | 6.003 | | ExP4 | Ex LINTEL | EXISTING KIP | 6.050 | 5.000 (TBC) |
| | P3/9 | 900x900 | GRATED PIT | 6.500 | 5.170 | LINE 24 | ExP5 | Ex LINTEL | EXISTING KIP | 6.150 | 5.102 (TBC) |
| LINE 16 | P4/9 | 900x900 | GRATED PIT | 6.500 | 5.170 | | ExP6 | Ex LINTEL | NEW JUNCTION PIT | 6.260 | 5.070 (TBC) |
| | P5/9 | 600x600 | GRATED PIT | 6.600 | 6.150 | | ExP7 | Ex PIT | GRATED PIT | 6.210 (GRATE) | 4.760 (TBC) |
| | P6/9 | 600x600 | GRATED PIT | 6.600 | 6.003 | | | | | | |

REFER TO DRAWING C03.12 FOR LEGEND

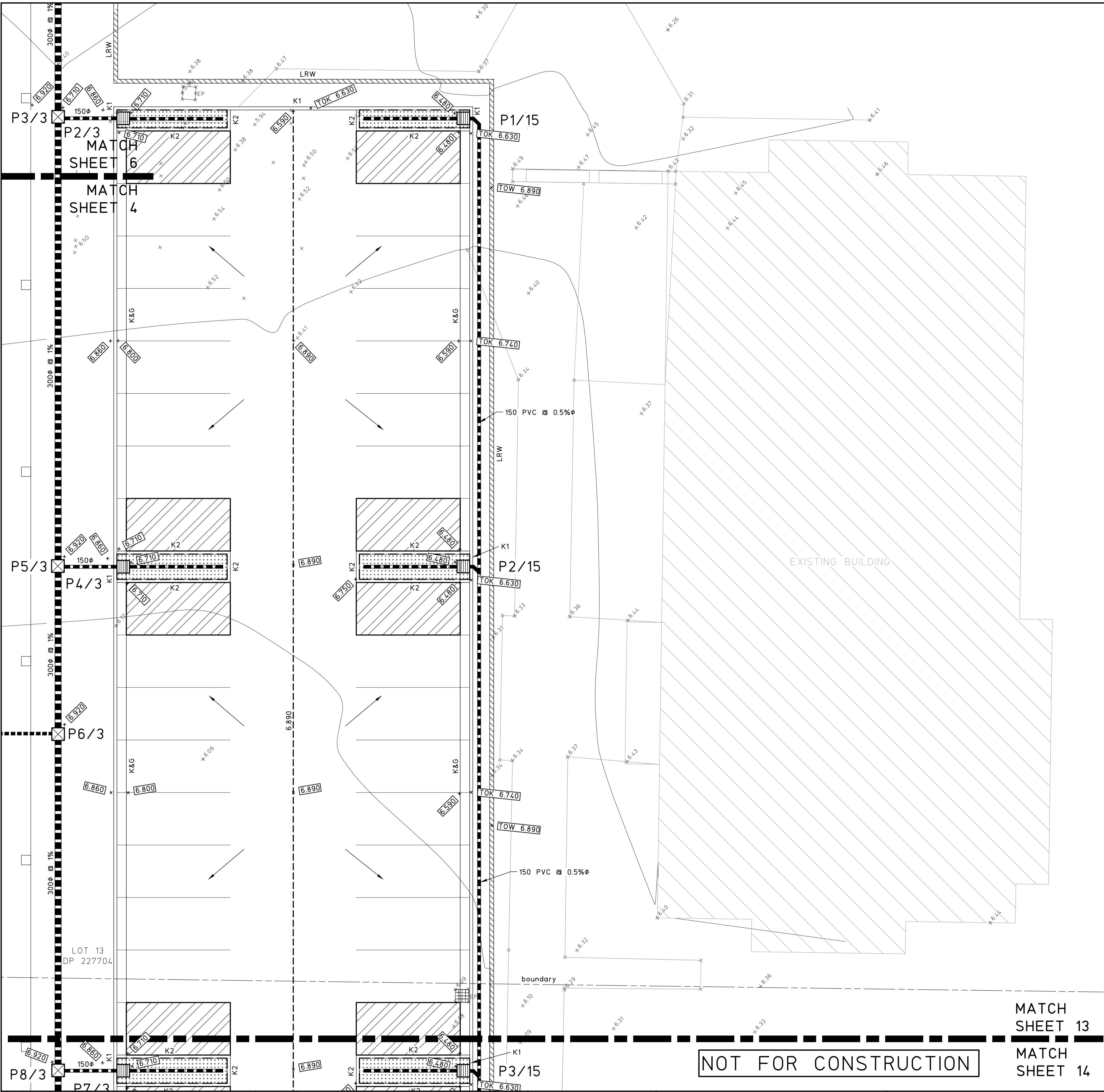
NOT FOR CONSTRUCTION

MATCH SHEET 12


MATCH SHEET 10


| | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------------|--|--|---|--|---|--|--|--|-------------------------------------|--|---|--|----------------------|--|---------------------------------|--|----------------|--|-------------|--|--|--|
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| 2 | DEVELOPMENT APPLICATION | | | 12.08.21 | | | | | | | | | | | | | | | | | | | |
| 1 | ISSUED FOR APPROVAL | | | 09.07.21 | | | | | | | | | | | | | | | | | | | |
| 0 | PRELIMINARY | | | 02.07.21 | | | | | | | | | | | | | | | | | | | |
| ISSUE | | | | REASON FOR ISSUE | | | | DATE | | | | DATE OF RELEASE | | | | RESPONSIBLE PRINCIPAL SIGNATURE | | | | ISSUE | | | |
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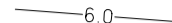
FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm





LEGEND


DENOTES STORMWATER PIPE


DENOTES CHARGED STORMWATER PIPE


DENOTES EXISTING CONTOUR


DENOTES DESIGN CONTOUR

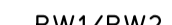
DENOTES EXISTING LEVELS


DENOTES DESIGN SPOT LEVELS


DENOTES 150 HIGH KERB U.N.O.


DENOTES 150 WIDE EDGE STRIP FLUSH WITH THE ADJACENT PAVEMENT

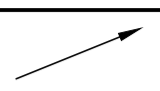
DENOTES 120 HIGH KERB AND GUTTER

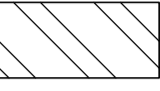
DENOTES RETAINING WALL

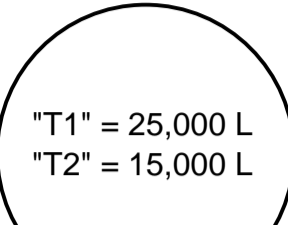
DENOTES LANDSCAPE RETAINING WALL

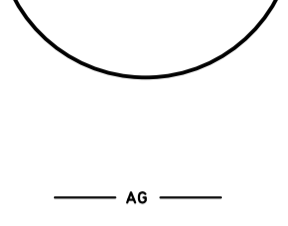
DENOTES RETAINING EDGE BEAM TO BUILDING SLAB


DENOTES 2000 WIDE x 200 MIN DEEP GRASS LINED SWALE, 1% MIN FALL UNO

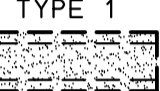
DENOTES DIRECTION OF SURFACE FLOWS

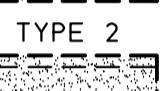
DENOTES PERMEABLE PAVING TO LANDSCAPE ARCHITECTS DETAILS



"T1" = 25,000 L



"T2" = 15,000 L


DENOTES 100φ AG DRAIN IN FILTER SOCK


TYPE 1

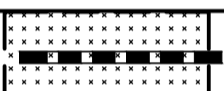
TYPE 2

DENOTES 900x900 MANHOLE PIT LID

DENOTES OVERLAND FLOW DIRECTION IN MAJOR STORM EVENT

GPT

RS1


DENOTES RAIN GARDEN, WSUD BIORETENTION SYSTEM TO N.C.C. STANDARD DRAWING A2404

STORMWATER PLAN

SHEET 13

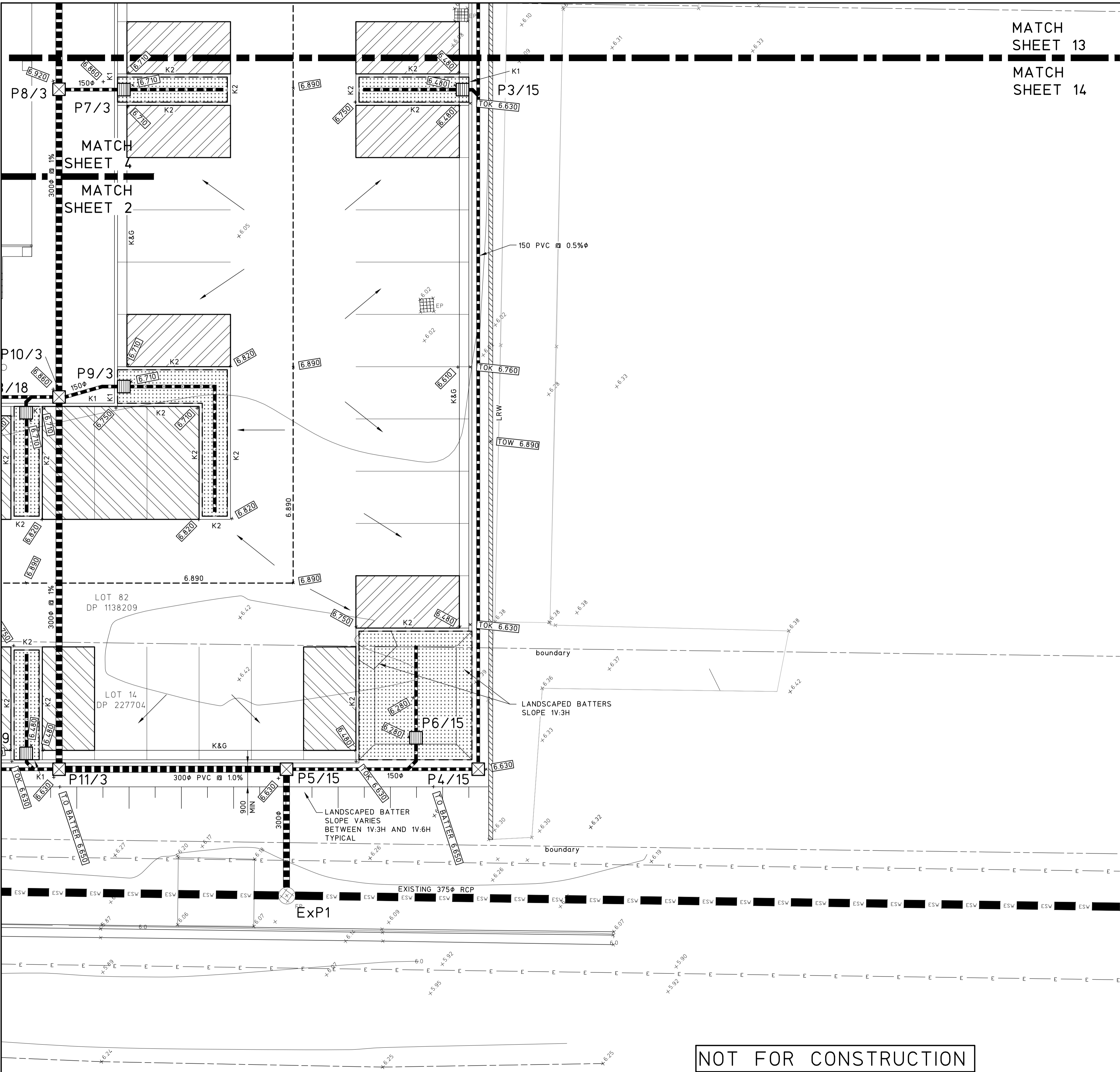
SCALE 1:100
STORMWATER NOTES
1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND

| | | | | | | | | | | | |
|---|--|--|--|--|--|---------------------------|--|--|---|--|--|
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| 1 ISSUED FOR APPROVAL 09.07.21 | | | | | | STORMWATER PLAN | | | DRAWN C.W. ENGINEER B.C. No in SET - SHEET A1 | | |
| 0 PRELIMINARY 02.07.21 | | | | | | SHEET 13 | | | SCALES JOB No 16-548-1 DRAWING No C03.12 ISSUE 2 | | |
| ISSUE REASON FOR ISSUE DATE DATE OF RELEASE RESPONSIBLE PRINCIPAL SIGNATURE ISSUE | | | | | | | | | | | |

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A.C.N. 098 542 575

FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



MATCH
SHEET 13
MATCH
SHEET 14

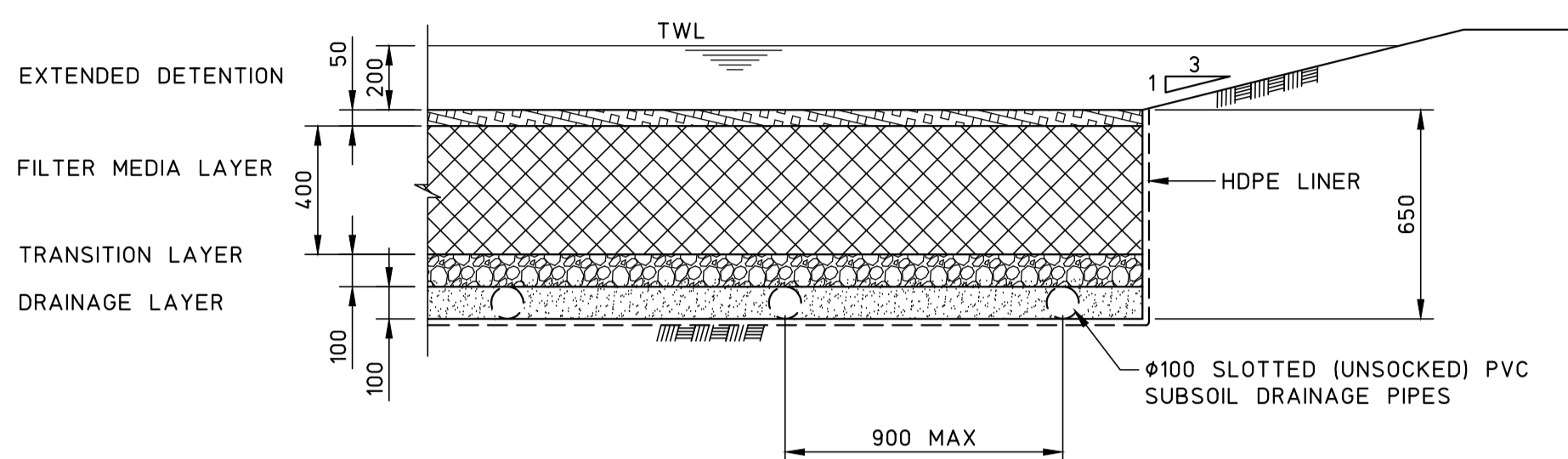
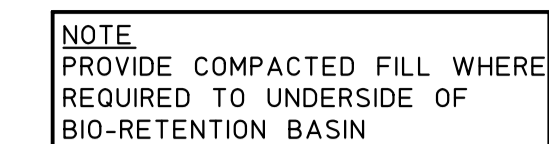
STORMWATER PLAN
SHEET 14

SCALE 1:100
STORMWATER NOTES
1. REFER TO DRAWING C03.11 FOR STORMWATER NOTES AND PIT SCHEDULE
2. REFER TO DRAWING C03.12 FOR LEGEND

NOT FOR CONSTRUCTION

| | | | | | | | | | | | | | |
|---------------------------|------------------|---|-----------------|--|--|--------------------------------|--|---|--|----------------------|-----------------|-------------------|----------|
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| 2 DEVELOPMENT APPLICATION | | 12.08.21 | | | | TITLE STORMWATER PLAN SHEET 14 | | | | SCALES 1:100 | JOB No 16-548-1 | DRAWING No C03.13 | ISSUE 2 |
| 1 ISSUED FOR APPROVAL | | 09.07.21 | | | | | | | | | | | |
| 0 PRELIMINARY | | 02.07.21 | | | | | | | | | | | |
| ISSUE | REASON FOR ISSUE | DATE | DATE OF RELEASE | RESPONSIBLE PRINCIPAL SIGNATURE | | | | | | | | | |

FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm



TYPICAL BIO-RETENTION CROSS-SECTION

NOT TO SCALE

MULCH LAYER:

- WASHED AGGREGATE 10-20 mm
- MIN 50mm THICK.

FILTER MEDIA LAYER:

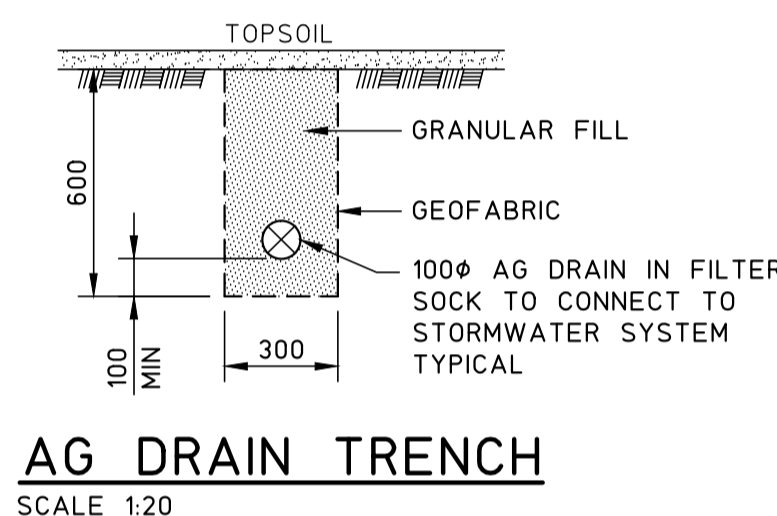
- MIN 450mm THICK
- BENEDICT'S 'BIO-RETENTION FILTER MEDIA [M165]' OR APPROVED EQUIVALENT WITH MINIMUM REQUIREMENTS
 - SANDY LOAM MIX
 - SATURATED HYDRAULIC CONDUCTIVITY 100mm/HR - 300mm/HR
 - TOTAL CLAYAND SILT CONTENT <3%
 - ORGANIC CONTENT <5%

TRANSITION LAYER SPECIFICATIONS:

- MIN 100mm THICK.
- BENEDICTS 'WASHED GLASS-SAND (GSMEDIUM)' OR APPROVED EQUIVALENT WITH MINIMUM REQUIREMENTS AS FOLLOWS:
 - COARSE WASHED RIVER SAND CONTAINING LITTLE OR NO FINES OR RECYCLED CRUSHED GLASS EQUIVALENT

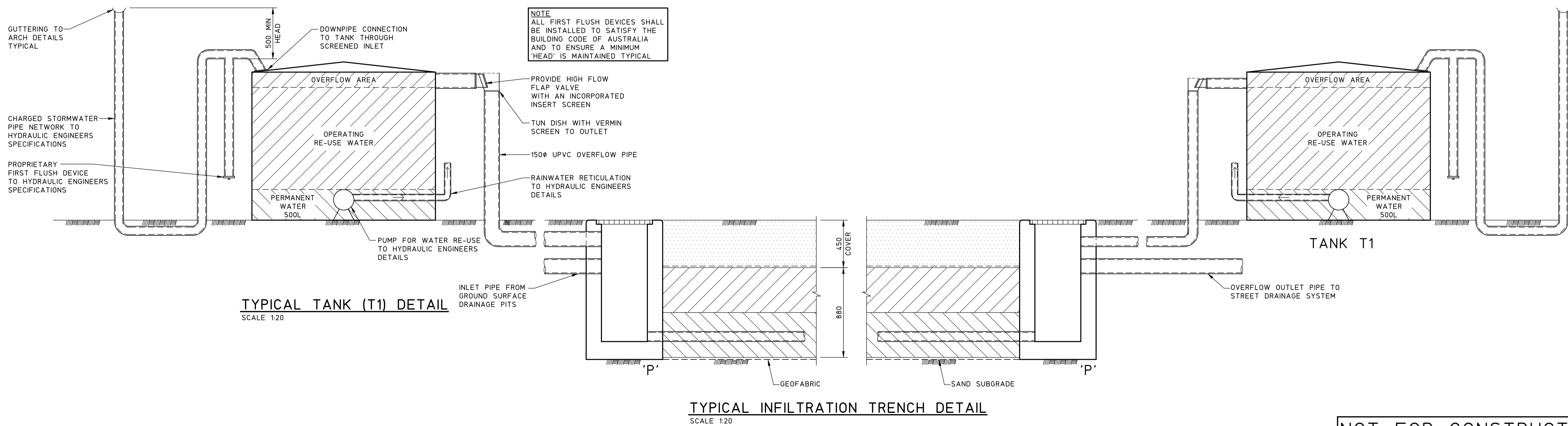
DRAINAGE LAYER SPECIFICATIONS:

- MIN 150mm THICK
- BENEDICTS 'NO FINES DRAINAGE GRAVEL (5mm GRADE)' OR APPROVED EQUIVALENT WITH MINIMUM PRODUCT REQUIREMENTS AS FOLLOWS:
 - CLEAN GRAVEL 5mm




AG DRAIN TRENCH

SCALE 1:20



NOT FOR CONSTRUCTION

| | | | | | | | | | | | | | | | | | |
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| 0 | DEVELOPMENT APPLICATION | 12.08.21 | | | | | | | | | SCALES 1:20 | | JOB No 16-548-1 | DRAWING No C03.14 | ISSUE 0 | | |
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FULL SIZE ON ORIGINAL 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 cm

