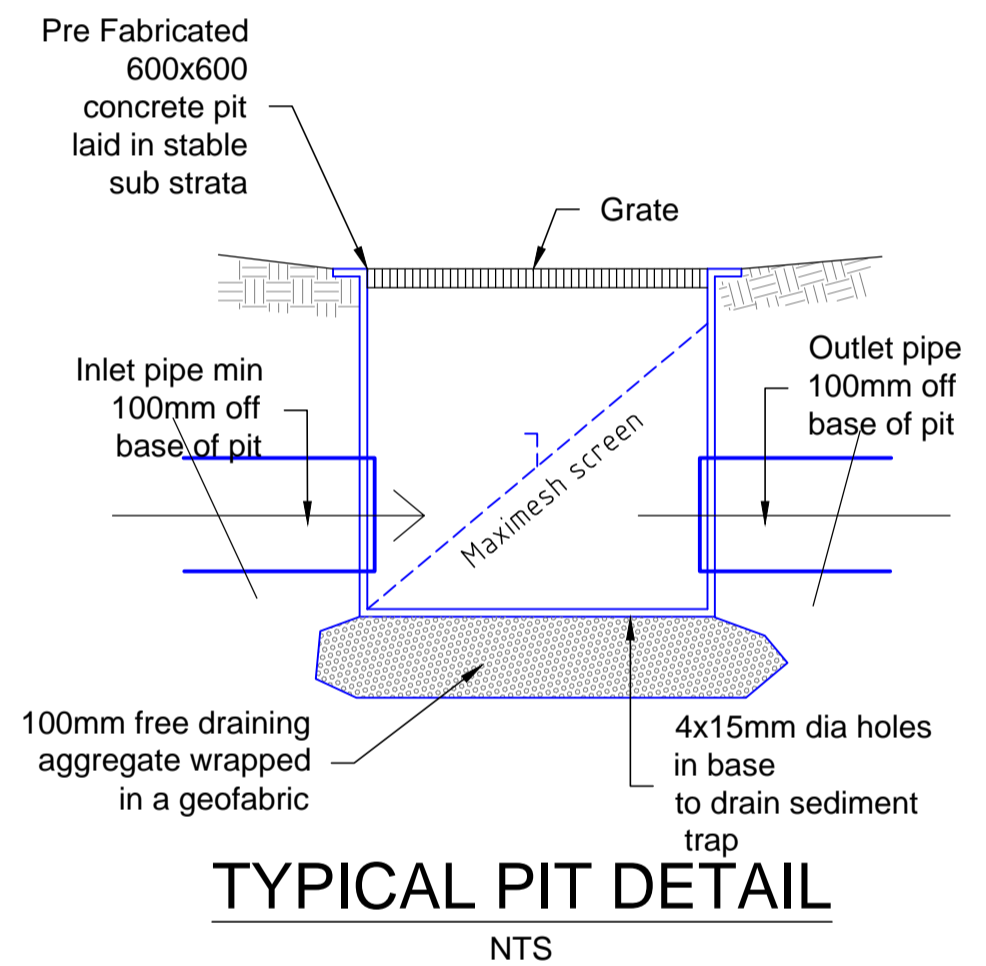
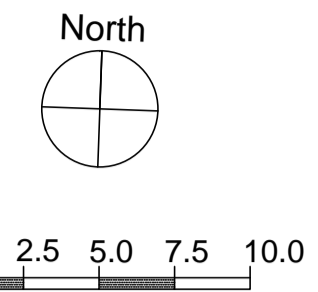
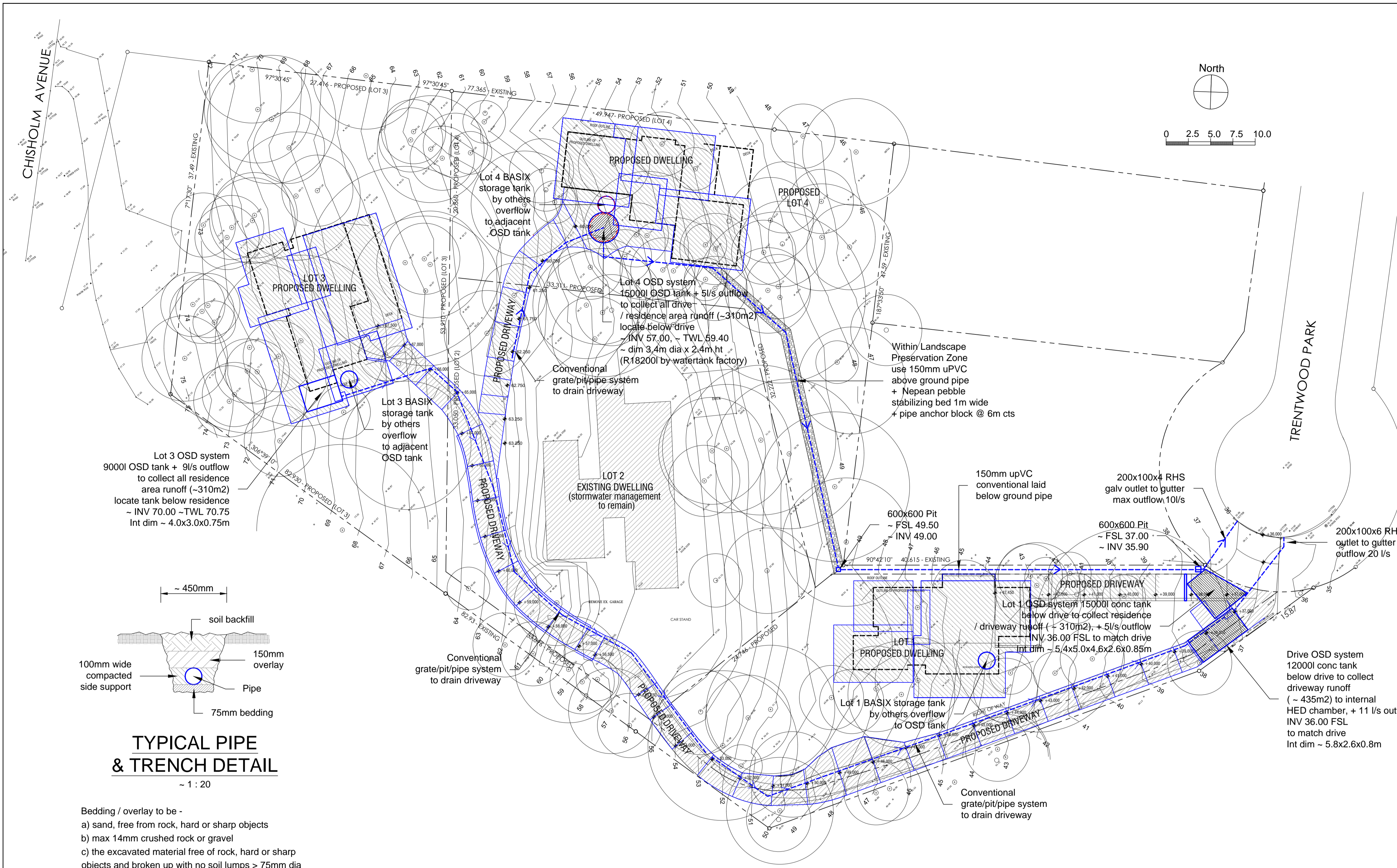
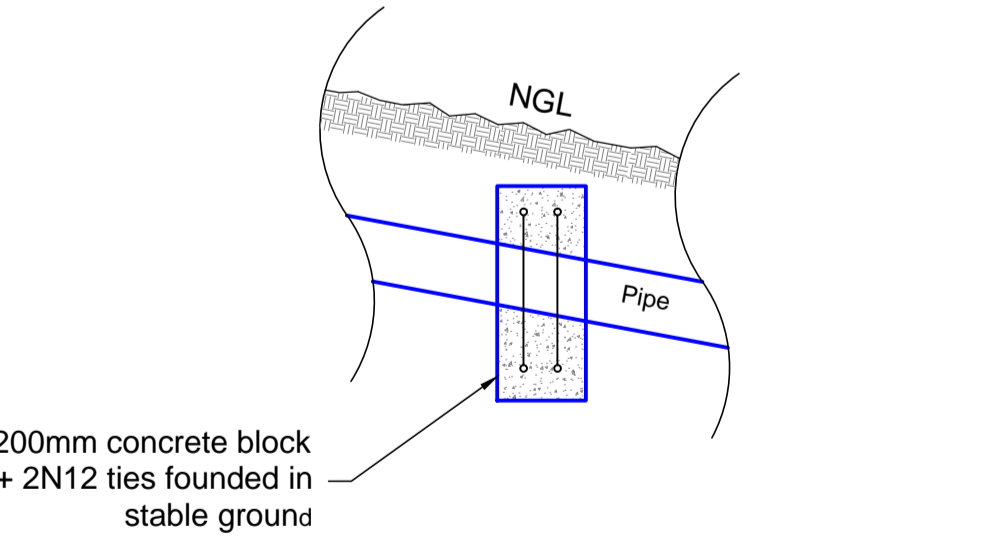


STORMWATER NOTES

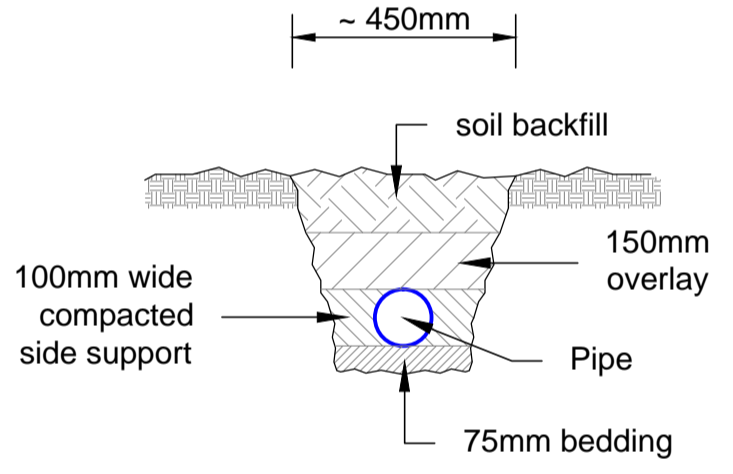
- All roof collection components (ie gutters down pipes / valley gutters / box gutters etc) are to be located / sized by the Developments Contracting Plumber for a 1% AEP event capacity.
- Pipes shown within plan 150mm dia uPVC min uno.
- All pipes to be uPVC to AS 1254:2002.
- All pipes to be laid at the grade required to match pit invert levels.
- All pipes to be installed and laid in accordance with AS 3500.3:2003.
- All pipes on grades > 1:5 to have anchor blocks @ 6m cts.
- All pits are to be proprietary uv resistant polypropylene or similar unless noted (approved by the Engineer) and are to include a min 50mm sediment trap in the base and a maximesh screen laid at 45° across the pit to protect the outlet pipe.
- All pits greater than 600mm in depth are to be proprietary precast concrete (approved by the Engineer).
- All pits greater than 1000mm in depth are to have adequate access requirements in accordance with OH&S/Workcover requirements (ie; minimum dimensions 900x900mm with step irons).
- All works are to be inspected and certified by the Principle Certifying Authority prior to backfilling.
- All works requiring certification by the Engineer will require a works as executed survey prepared by a registered Surveyor detailing all levels etc as on the Engineering plans.
- The system is to be flushed and cleaned of all sediment and debris annually.
- The system will require regular cleaning and maintenance to ensure its ability to function is maintained.
- To ensure the system's ability to function is maintained it is to be inspected and certified as operating effectively by a licensed plumber every 5 years, and an engineer every 20yrs.
- All existing predevelopment catchment area run-off conditions exiting the site are to be maintained with no run-off flows being diverted from the predevelopment condition.



TYPICAL PIT DETAIL
NTS

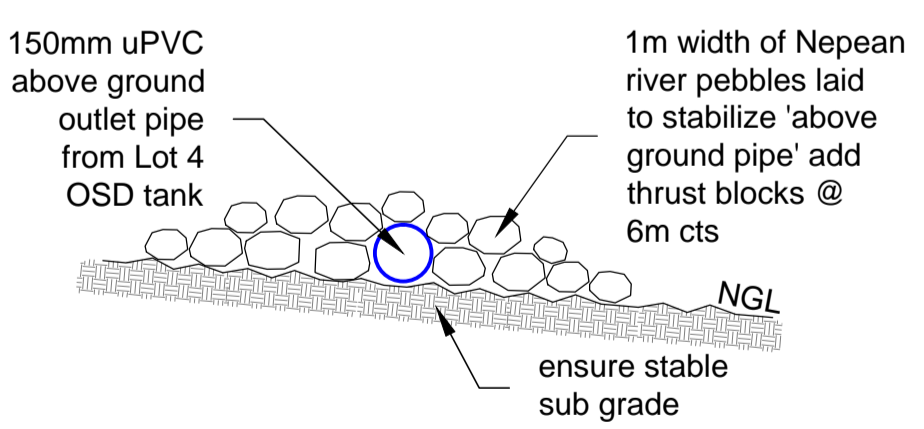


ANCHOR BLOCK DETAIL
TO BE INSTALLED AT 6m CTS
IF PIPE SLOPE > 1V TO 5H
ALT FIX PIPE TO DRIVE STRUCTURE



TYPICAL PIPE & TRENCH DETAIL
~ 1 : 20

- Bedding / overlay to be -
- sand, free from rock, hard or sharp objects
 - max 14mm crushed rock or gravel
 - the excavated material free of rock, hard or sharp objects and broken up with no soil lumps > 75mm dia



PIPE DETAIL WITHIN LANDSCAPE PRESERVATION ZONE
NTS

4 LOT SUBDIVISION STORMWATER MANAGEMENT PLAN ~ 1:250

Refer plans by Gartner Trovato Architects for details of the proposed 4 Lot subdivision.
This plan details a conventional drainage system to collect flows from the proposed new residences/driveway and to dispose of these flows to the Trentwood Park kerb and gutter. Detention Volume and Permissible Site Discharge calculated as per Council DCP Section B5.7. - Independently Derived OSD assessment using DRAINS software analysis to comply with earlier subdivision DA Condition B8 with a max 30l/s concentrated flow to the Trentwood Park kerb and gutter.

OSD Summary

| | |
|----------|---|
| Lot 1 | 15000l OSD storage with max concentrated flow to Trentwood Park of 5 l/s |
| Lot 2 | Existing residence to maintain existing disposal system |
| Lot 3 | 9000l OSD storage with max concentrated flow to Trentwood Park of 9 l/s |
| Lot 4 | 15000l OSD storage with max concentrated flow to Trentwood Park of 5 l/s |
| Driveway | 15000l OSD storage with max concentrated flow to Trentwood Park of 11 l/s |

| | | | | | | | |
|------------------------|------------|--------------------------|---|--|--|--|----------------------------|
| ISSUE: Prelim DA | 19 12 2018 | Issued for comment | Barrenjoey Consulting Engineers ptys ltd Stormwater Structural Civil PO Box 672 Avalon NSW 21107 M: 0418 620 330 E: lucashce@bigpond.com ABN: 13124694917 ACN: 124694917 | PROJECT: PROPOSED SUBDIVISION AND DRIVEWAY 7 TRENTWOOD PARK AVALON BEACH for ~ M & J DARGAVILLE | DRAWING : 4 LOT SUBDIVISION SITE STORMWATER MANAGEMENT PLAN | Job No : 181208 | Drawing No SW1DA |
| | 05 02 2019 | Issued for DA submission | | | | Document Certification Barrenjoey Consulting Engineers ptys ltd per Lucas Molloy MEA CPENG NER Director | |