SUSTAINABILITY – RESOURCE SMART DESIGN

The installed design of a rigid wall steel reinforced concrete pipe is performed in accordance with AS/NZS 3725Design for Installation of Buried Concrete Pipe. The standard provides a range of support types that can be used in conjunction with a range of class of pipe detailed in AS/NZS 4058 Precast concrete pipes (pressure and non-pressure).

Designing for sustainability impacts requires us to think "resource smart".

Concrete pipe offers the designer and asset owner valuable resource smart attributes:

- Concrete pipe comes in a range of strength classes allowing designs to be material efficient by selecting the class of pipe needed to do the job.
- Concrete pipe installed support types can be selected based on a minimum use of imported granular materials. Less imported material to construct a pipeline greatly reduces the carbon footprint of a pipeline as it reduces the material, reduces the transport of the material to site, and reduces the transport of excess trench spoil from site. No more than a class 4 combined with H1 support is required to withstand SM1600 design loading at 400mm height of cover **.
- Concrete pipe is 100% recyclable. It is recycled on exhumation , processed on site with steel heading for recycling and concrete crushed and re-purposed as a recycled aggregate.
- Concrete pipe contains recycled and waste materials such as recycled steel, flyash, and slag.
- Concrete pipe is easily repairable if damaged, compatible with standard concrete repair materials.
- Concrete pipe autogenously heals.
- Concrete pipe increases strength with age.
- Concrete pipes ultimate load strength is at least 150% of the design load strength, building in resilience to unforeseen overload.
- Concrete pipe's longevity is proven, often outlasting the internationally accepted design life of 100 years.
- Concrete pipe is Resilient to catastrophic events such as flooding and bush fires.

** Design in accordance with AS/NZS 3725. H1 bedding factor of 1.5. minimum trench width, trench condition

SUSTAINABLE DESIGN - USE LESS MATERIALS ADOPT MINIMUM SUPPORT AND CLASS REQUIRED

Class of pipe required of 0.4m fill height with SM1600 live loading* and H1 Support Type

* worst load case in range 0.4 to 0.2m fill for application of AS5100 loads in accordance with AS/NZS 3725 adopting minimum trench width for trench condition