

PROJECT STAKEHOLDERS

- Collie Shire
- Western Australia Department of Mines, Industry Regulation and Safety (DMIRS)
- Soilwater Group
- DuraVeg from PGG Wrightson Turf

CHALLENGES

- Highly erodible soils that were previously unable to support vegetation
 - o 167 tonnes/ha/year (74 tons/ac/year)
- Minimal topsoil
- 1V:2H slopes
- Public interference

APPLICATION

- ProFlex™ System
 - o ProGanics® BSM™: 5,000 kg/ha (4,460 lb/ac)
 - o Flexterra® HP-FGM®: 4,000 kg/ha (3,570 lb/ac)
- Liquid Lime: 10 L/1,000 m² (10.7 gal/ac)

RESULTS

- Despite interference from the public during establishment, the site successfully established vegetation
- The government was pleased with the results

During the 1940s and 50s, the Black Diamond Coal Deposit was heavily mined, creating a large pit over time. Eventually, the pit filled with water and, despite fencing, signage and warnings from local government, it became an unsafe, yet popular lake for cliff diving. Tragically, four people suffered spinal injuries and one person died in the former mine. The Collie Shire needed to redesign the pit to eliminate the cliffs and establish vegetation that would eventually grow to match the surrounding woodlands. This meant reshaping the slopes to 26-degrees and establishing vegetation to prevent the risk of a landslide. Once the slopes had been successfully reshaped, the contractor took a soil test to determine what amendments, if any, were needed to assure a more favorable growing environment for vegetation. The soil test showed depleted soils with an acidic pH of 4.4 and minimal organic matter. Profile® recommended using the ProFlex™ System, a combination of ProGanics® Biotic Soil Media™ (BSM™) and Flexterra® High Performance-Flexible Growth Medium® (HP-FGM®). ProGanics is an Engineered Soil Media™ (ESM™) designed to provide an abundant source of organic matter and soil-building components to modify soil chemistry and initiate plant growth. Flexterra is the industry's highest performing hydraulically applied erosion control product proven to minimize soil loss and provide superior erosion control. The contractor also applied Liquid Lime, a pH modifier used to neutralize acidic soils to a more optimal range for vegetation establishment. One year later, the site had vegetation, despite the fact that the public had trampled the vulnerable vegetation to access the lake during early establishment. The government saw the site as a success and is pleased with the progress it has made over the years as the shrubs and trees continue to grow in.



*Top: The slope prior to reshaping
Bottom: ProGanics applied in the foreground;
Flexterra in the background*



Growth two years after application



Follow-up inspections three years after application showed sustained growth, which exceeded expectations considering normal establishment for the region and high foot traffic on the site