MEDIA RELEASE

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NELSON TENNIS COURTS TAKE A "HIT"

An innovative approach to improving ground conditions on uncontrolled fill using a Broons BH-1300 "Square" Impact Roller served up fast and cost-effective compaction results on a Council's tennis courts. The eight grass courts at the Paru Paru road Tennis Centre in Nelson, on New Zealand's South Island, had been built over an old uncontrolled waste tip which had previously been an old river bed. As is so often the case on such sites, the surface suffered differential settlement over the years. Reconstruction was called for and the job was secured by Fulton Hogan.

Ground improvement on old uncontrolled waste tip sites can be messy work with the potential to expose hazardous or other undesirable materials if the conventional approach to strip and replace with engineered fill is used. Such an approach is time consuming and expensive, particularly if hazardous materials have to be disposed of off-site. The area to be treated on this site was approximately 5,000m², so the potential volume of material for removal from site was substantial.

Ground improving using the Broons BH-1300 Impact Roller unit, owned and operated by Taylors Contracting of Brightwater, with advice provided by Broons personnel from Australia, was chosen due to its ability to produce fast, cost-effective, deep in-situ soil compaction.

After stripping and stockpiling the topsoil for re-use, and removing any undesirable exposed organic materials, the site was uniformly graded in preparation for the Impact Roller.

Ground vibrations created by compaction equipment have the potential to damage existing structures or underground services located close to the work area. The proximity of squash courts near one corner of the treated area called for vibration monitoring, carried out by Geotechnics Ltd. Peak vibrations remained below levels of concern.

Settlement monitoring was carried out on a 6m grid across the whole treatment area. After each set of six passes of the Impact Roller the site was lightly "brushed' with a grader to even out the surface, and new levels were taken from which average settlements were calculated. This process was repeated until Graham Walker, the engineer supervising the work on behalf of the Council, was satisfied that "effective refusal" has been achieved, which is the point at which additional passes of the Impact Roller are unlikely to achieve any further significant settlement.

In order to verify the ground improvement, testing was carried out at several locations using the Dynamic Cone Penetrometer (DCP).

The Broons Impact Roller has an optimum operating speed of 10 to 12km/h, so it is highly productive, typically being able to treat about 1,000m² with 20 passes per hour. Compared with alternative methods the ground improvement achieved on this site using the Broons BH-1300 Impact Roller saved the client time and money, and obviated the need to dispose of any hazardous materials.

Broons manufacture their Impact Rollers in South Australia, and with their machines now having been employed on well over 800 job sites around the world, they bring a wealth of experience in all sorts of ground conditions to any job they work on.

For more information on projects where Broons Impact Rollers have been utilised please visit the Company's website at www.broons.com, or call their Technical Manager on +61.409 677 210.