HYNDS

DRIFTDECK SYSTEM

- Low Level Stream Crossing
- Large Openings

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Low traffic volumes in forestry areas, national parks etc, often do not warrant expensive bridge structures such as box culverts or large diameter pipes at small river crossings.

Often the crossing is a concrete slab which follows the profile of the stream, and provides a running surface for the traffic. Even at low flows these fiords usually have water flowing over the road surface, and safety requirements often do not permit traffic across them.

Raising the running surface by approximately 600mm will considerably reduce the period of time the crossing is closed. The use of a large number of small diameter pipes is not desirable as it obstructs the flow of water and is likely to trap even small debris.

### Applications
- Low level stream crossings
- Provides raised carriageway access
- Wide shallow opening

### Features
- Durability
- Strength
- Economical solution to low level crossing
- Robust
- Minimum interference with low flows
- Simple to install
- Reduced on-site work
- Large openings allow easy passage of debris at low flows
- Large openings are friendly to the passage of fish

### Drift Decks
Drift decks are a simple economical solution to this problem.

The surface is raised typically by 600mm to provide generous openings to allow the passage of water at low flows.

The drift deck comprises a series of inverted “u” shaped precast concrete elements, bearing on a concrete slab. The units extend the full width of a single carriageway, and butt together longitudinally across the stream bed, providing the running surface for the traffic.

### Design Considerations
- Units sit on new or existing foundation slab.
- Designed for HN-HO-72 loading configuration.
- Units are designed to be overtopped during periods of high flow.
- Simple joint ensures structural integrity.
- Joint links units longitudinally and to the foundation.
- Castellated ends add to the shear capacity of the joint.
- No in-situ topping is required.

### Construction
Construction of a stream crossing using drift deck units is simple.

- It is necessary to have a suitable foundation slab, either existing or new.
- Level bearing pads are constructed at the appropriate locations to suit the drift deck units and dowel holes are drilled at each joint location (note: it is important that the units sit on the bearing pads without any twist).
- Drift deck units are placed at the correct centres, by Hiab truck.
- The edges of the units are aligned, dowel bars are inserted into the pre-drilled holes and grouted.
- Dowel bars fit into the ‘U’ shaped bars at the ends of the units and are bent over prior to concreting of the joint.
- Joint is concreted (shuttering is not required for concreting the joint).
- Deck is completed by the fixing of timber kerbing.
- Once the joint concrete is cured, the crossing is ready for traffic.
Joint reinforcing detail (T3774-2)

In-situ Joint to be concreted once units are joined and reinforcing prepared.

Broom Roughened Surface

M16 Threaded inserts for bolting down timber Kerb

In-situ Joint to be concreted once units are joined and reinforcing prepared.

M16 Galvanized threaded insert (TIM16X75G)

Top surface to be broom finished, grain in the direction as shown.

Broom Roughened Surface

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20 Joint Gap

2800 Centres

In-situ Joint to be concreted once units are joined and reinforcing prepared.

M16 Bar projecting 900 mm from Pier @ 300 c/c. Bend after precast units are placed and prior to concreting joint.

Hairpins projecting from precast Drift Deck units

H16 Bar projecting 900 mm from Pier @ 300 c/c. Bend after precast units are placed and prior to concreting joint.
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