ARCHWAY WEEPING WALL:

XA1 Concrete: Where concrete will be in wet or saline conditions, aggressive soil or groundwater, or in contact with harmful industrial materials or processes, appropriate measures shall be taken and specified to ensure the durable integrity of the structure. NZ Concrete Structure Standards. The above document NZ Concrete Structure Standards, describes the steel corrosion process in terms of initiation and propagation phases. The initiation phase is related to the degree of protection afforded to the reinforcement. This occurs when the alkaline environment of the concrete reduces to a point where the passivity of steel is compromised and leads to active corrosion.

Our nutrient testing has shown that the pH of effluent is the equivalent to that of salt water.

This XA1 concrete hardens to 40mPA and has additives in it that reduces the above effects that the effluent has on the concrete. This has a max water cementation ratio of <.4

Engineered Designed Concrete Panels: Our concrete panels are engineered designed by RedCo a structural engineering firm. Our panels are designed to be lifted with a 12T digger into place – no crane necessary, and also designed withstand the increasingly heavy machinery and is rated for 20Tonne. Our panels are designed with the IPENZ as the minimum standard.

Producer Statement and Warranty: Each of our Archway Weeping Wall comes with a Producer Statement and 20 year warranty.

Primer: Priming of any substrate material that is having silicon applicate is essential to our process to ensure good adhesion with the silicon's used. Adhesion is certainly improved with the use of specific primers for this concrete and effluent environment.

Chemical Resistant Silicon's: This is a special sealant designed for sealing expansion and construction joints exposed to aggressive chemical environments. The process of using a primer, then the CR silicon's is an important one. We are approved applicators and only use specific silicon's which also come with a 20 year life span. Long life weathering resistance, highly resistant to biological attack, highly resistant to a wide range of chemicals including strong alkalis and acids.

Hydrophilic water stop silicon: Hydrophilic water stop silicon for any cold joins, this silicon expands when it comes into contact with water ensuring water tightness. It is a one component polyurethane water swelling sealant with excellent and unique physical properties. After hardening it has excellent physical properties together with rubber like elasticity and excellent water sealing properties.

This water stop is applied between the floor and wall joins and is applied 50mm floor level before the concrete floor is laid

Stainless Steel Posts: Galvanising is not suitable due to the pH effluent been similar to that of salt water and will rust over time. Stainless steel posts are used, prefabricated with a bottom channel and top catch to prevent panels from lifting.

RX Plastics Weeping Wall Panels: Archway Environmental prefers to use the RX Plastics Weeping Wall Panels. The introduction of the PVC effluent bar as a medium has provided a product that does not break down over time, does not swell or shrink and provides a consistent gap for solids removal.

The design of differing gaps between profiles and various sized panels makes this an ideal solution to a variety of pond styles and effluent types. The triangular bar gives a higher physical strength to the wall and the shape allows efficient liquid flow while holding back solids. These panels have been designed in conjunction with Dairy NZ, and are a consumable item and easily replaced if they happened to get broken or any reason.

Hills Laboratory Nutrient Testing: After every installation, Archway Environmental goes to every weeping wall and takes a sample of the influent, effluent and solid content. This allows us to provide the farmer with the nutrient content of their effluent taking the guess work out of application rates.

TRI BLOCK:

XA1 Concrete: This XA1 concrete hardens to 40mPA and has additives in it that reduces the effects that silage has on the concrete. This has a max water cementation ratio of <.4

150mm Floor Thickness: High tensile ductile mesh and steel used throughout to meet the requirements of 20Tonne machinery loading.

Engineered Designed Concrete Panels: Our concrete panels are engineered designed by structural engineering firm. Our panels are designed to be lifted with a 12T digger into place – no crane necessary, and also designed withstand the increasingly heavy machinery and is rated for 20Tonne.

Registered Design: The design of the TriBlock (triangular brace panel) allows less reinforcing to be in the walls as if it were standing at 90 degrees. This design has been registered with the NZIP Office and belongs to Archway Group.

Producer Statement and Warranty: Each of TriBlock Bulk Storage Solution Bunkers comes with a Producer Statement and 20 year warranty and is design with the IPENZ as a minimum standard.

Primer: Priming of any substrate material that is having silicon applicate is essential to our process to ensure good adhesion with the silicon's used. Adhesion is certainly improved with the use of specific primers for this concrete and effluent environment.

Chemical Resistant Silicon's: This is a special sealant designed for sealing expansion and construction joints exposed to aggressive chemical environments. The process of using a primer, then the CR silicon's is an important one. We are approved applicators and only use specific silicon's which also come with a 20 year life span. Long life weathering resistance, highly resistant to biological attack, highly resistant to a wide range of chemicals including strong alkalis and acids.

Modular design: The TriBlock design allows you to extend, add on and replicate at any time.

Efficient/Cost Saving: The TriBlock Panels are in a triangular shape meaning that all the strengthening infrastructure is already in place when you install the bunker next to it saving you time and money.

Each component is replicable: If ever anything unforeseen happened, each component of the TriBlock System is completely replaceable.

ARCHWAY FEEDPAD:

Feed Wall Design and Construction Methodology:

Precast in Archway Groups factory at 8A Te Puke Quarry Road

- Nib wall panel construction HD12 steel used with 200mm centres and exposure classification XA1 Concrete used.
- Feed walls are sleeved for the pipe railings to fit into.
- Includes conduits for Barn steel framing
- Each nib wall 6m long x 200mm thick x 700mm high nibs– as per plan.
- A radius edge along the top of each nib panel.
- High tensile D12 steel starters at 600mm centres to tie into concrete slab.
- X2 lifting eyes in each panel for care and safety of lifting into place with digger on site.

On- Site methodology

- Certified lifting chains are attached to the lifting eyes cast into each of the feed walls
- Digger is used to lift panels off truck and into place
- The panel is held in place with locking blocks and props
- Hydrophilic silicon applied above steel to prevent Farm Dairy Effluent coming into contact with any steel.
- Concrete floor is then poured into nib for strength and durability.
- Chemical resistant silicon's used to seal between each nib wall making the feed wall 100% sealed to contain all nutrients.