**Warehouse Design and Layout**

**Layout**

Three crucial areas:

* Receiving (inwards goods) dock,
* Shipping (outwards goods) dock,
* Storage areas.

**Considerations**

The initial feasibility study has provided a checklist of operational issues that must be considered when designing the new facility:

* Building support columns configured for optimal aisle layout,
* Adequate doors to handle volume,
* Offices and break area locations,
* Obstacles that impede the smooth flow of traffic,
* Adequate lighting throughout the facility,
* Minimal travel distances from receiving docks to storage areas and shipping docks,
* Sprinkler requirements, which include high-pressure pumps, reservoirs, in-rack sprinklers, high-density systems,
* Aerosol and/or explosion-proof rooms,
* Adequate foundation drainage,
* Knock-out expansion walls,
* Roof design that minimises maintenance,
* Building insulation,
* Heat rotation systems,
* Heavy-duty landing wheel pads,
* Computer station hook-up locations,
* Radio frequency installation issues,
* Empty pallet storage areas,
* Waste disposal dumpster staging locations,
* Security issues, which include a parking area that is not contiguous with the building,
* Considerations that will accommodate future plans for expansion, automation and/or a change in product offerings.

# **Warehouse Design**

The feasibility study has identified three layout styles identified as suitable for John Readings:

  
Management recognises that order picking, that is, picking specific product items from their storage locations according to a customer order, is often the most costly and labour intensive operating cost experienced in a warehouse.

The current operating environment is also putting great pressure on reducing cost and improving delivery times.

Three particular activities are being focused on:

* Travel time between items,
* Time in picking an item, and
* Time consumed in associated activities.

The following diagram shows the current (S shape) picking route used in the John Readings warehouse design.



**Transportation**

The company has engaged four different companies to provide transportation of goods from the warehouse/distribution centre to the customer and/or retail outlet.

* Outsourced to CEVA Logistics for road transport: two-year contract – KPI = 48 hour door to door delivery,
* Outsourced to FARSTAD Shipping for sea transport: two-year contract – KPI = four-week door to door delivery,
* Outsourced to UTi Logistics for air transport: two-year contract – KPI = two-week door to door delivery,
* Australia post for online retail customers: ongoing contract – KPI = 48 hour door to door delivery.

A copy of the draft agreement can be downloaded with these documents.