



Thesis Conclusion Summary

Integrated Delivery Research

- + The proposed Build-Operate-Transfer approach will generate a project cost recovery within the first (5) years of facilities operations
- + 10 yr. Annual Revenue (less) 10 yr. Annual Expense will generate a \$ **176,986,000** for participating consortium
- + Integrated Delivery System is an advance procurement network that presents the private industry similar benefits as Public-Private-Partnerships
- + **Operations Budget w/o VEA = \$ 448,000/ YR**
- + **Operations Budget w/ VEA = \$ 422,200/ YR**

Cast In Place “Cost-Recapture” Costs/ Benefit validation

- + Valid solution for non-time sensitive project (CIP/Pre-cast Cost perceived savings \$ **393,000**)
- + Invalid Benefit for Sears Centre because of conservative 35 day duration extension

Ice Rink (VEA) – Value Engineering Assessment for facilities operations (VEA) Assessments

- + **Ice-System Overview**
 - ❖ *System Design Conditions*
 - ❖ *Typical Slab placement Construction*
- + **Ice-System Operations**
 - ❖ *Brief review of Refrigeration principals for Cold and Warm Brine Refrigerant Solution*
 - ❖ *Ice-Surface Formation Procedure*
- + **Ice-System Value Engineering Assessments**
 - ❖ *Cost Reduction Measures proposed for facilities operations*

(Recognized Annual Savings to Operations Budget = \$ 25,800)

Envelope Load Redistribution via Footing Size Reduction

- ❖ Thin Brick System Provides a heavier Alternative at a slightly inexpensive costs
- ❖ Construction Budget Savings = \$ 28,893