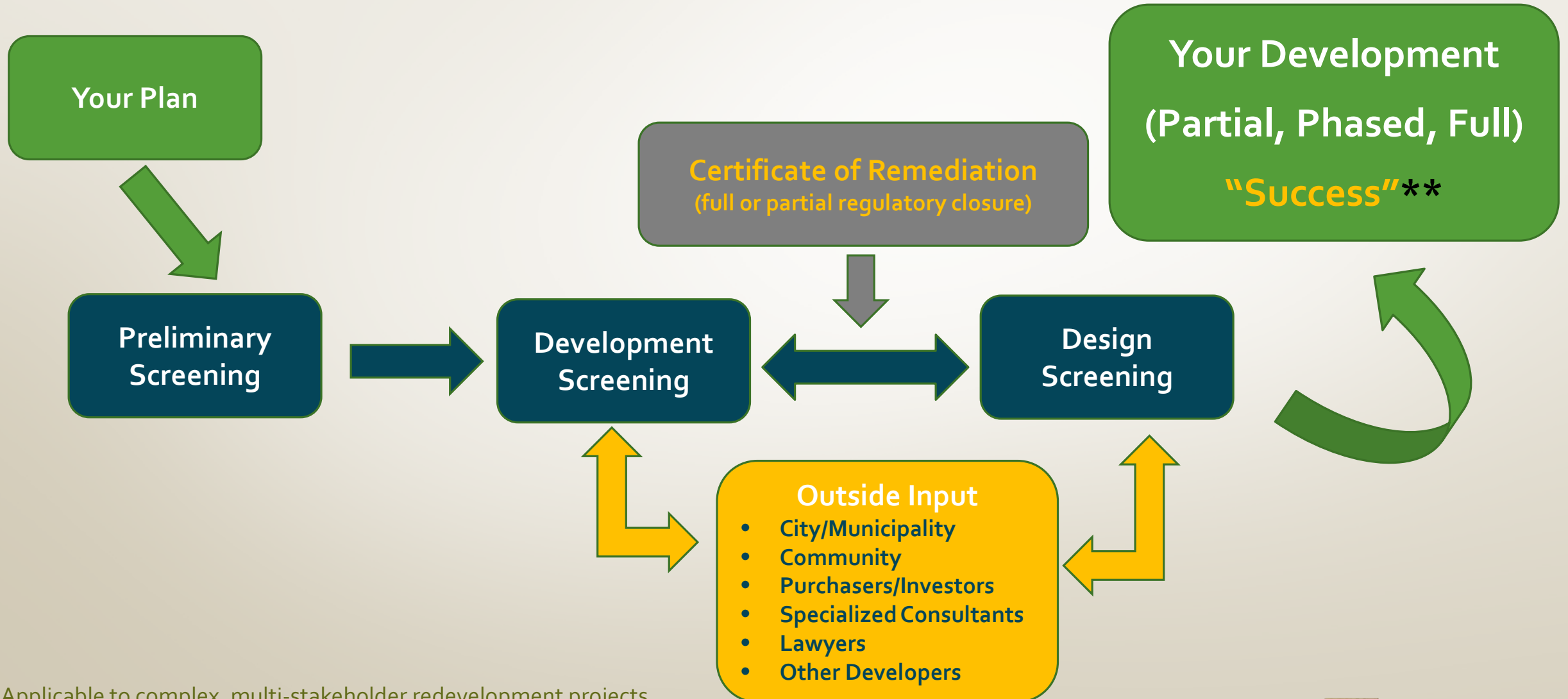


The JUA Brownfield Environmental Toolkit*



*Applicable to complex, multi-stakeholder redevelopment projects

** Can be a long process to this, perseverance and compromise REQUIRED!

Preliminary Screening

- A comprehensive Phase I Environmental Site Assessment (ESA) utilizing:
 - Aerial Photographs
 - Fire Insurance Plans, Henderson's Directories
 - City of Calgary Site Information Management System
 - City of Edmonton Records
 - Town/Municipal Records
 - EcoLog Environmental Risk Information Services
 - Alberta Environment and Parks ESAR
 - Petroleum Tank Management Association of Alberta
 - Abacus Datagraphics Alberta Energy Regulator Records
 - Alberta AEP Water Well Database
 - Review of Site History
 - Site Processes
 - MSDS Sheets
 - Site Visit
 - Owner/Operator/Staff Interviews
- May involve tailored conclusions or prioritization for project schedules

Development Screening

- Completion of various Phase II Environmental Site Assessment (ESA) investigations, either:
 - Screening level Phase II ESA – to rule out areas with or without contaminants
 - Targeted Phase II ESA – targeted to specific areas based on initial Phase II ESA
 - Comprehensive Phase II ESA or Conceptual Site Model (CSM)
 - Evaluate and delineate the extent of contamination
 - Allow for planning of remediation programs
 - Initiation of remedial programs that require completion prior to development activities
 - Data collection and remediation for obtaining remediation certificate or risk management

Outside Input

Development Screening

- Tool box for these investigations include:
 - Alberta Environmental Protection and Enhancement Act
 - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines
 - CSA Guidelines
 - Record of Site Condition
 - AEP Phase II Environmental Site Assessment Checklist
 - Guidance Documents Available from the CCME, USEPA
 - Conceptual Site Models
 - Previous JUA Experience with Contaminated Sites
 - Specialized Consultants
 - Project Management

Outside Input

Integration/Design Screening

- Completion of further remedial activities as may be required during the development stage
- Implementation of risk management procedures
- Tools utilized:
 - Engineered Systems
 - Monitored Systems
 - Innovation – interim land use for sites requiring long term remedial strategies

Outside Input