# BUILDER™ Training

## Work Configuration & Scenario Working Session

# Terminology Review

## Work Configuration

- The settings that establish what sections require investment
- Settings that establish available funds and FCI goals
- Settings that establish rules for work prioritization

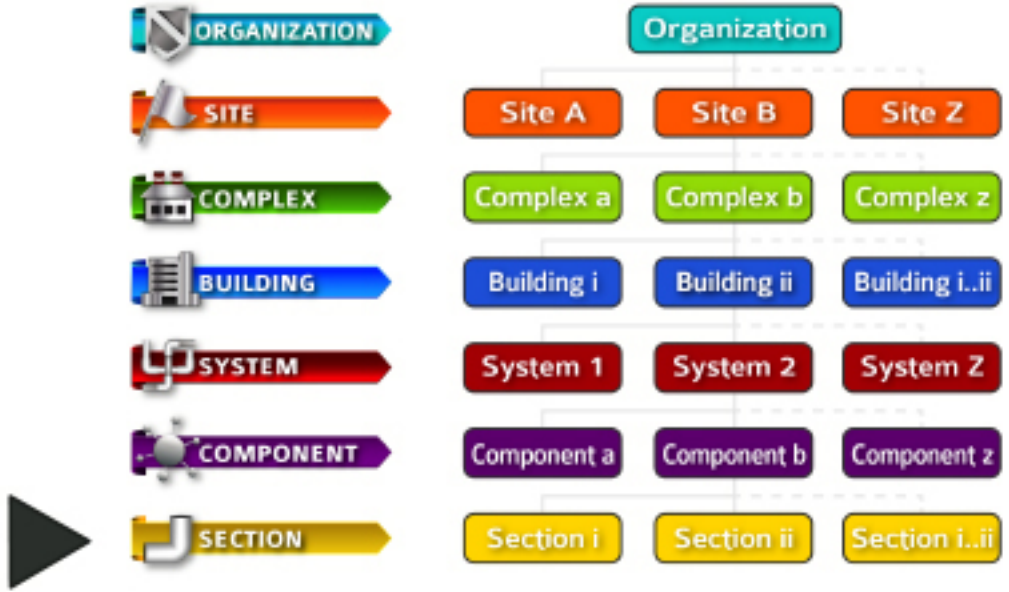
## Work Plans

- List of sections that require investment
- Includes costs and prioritization score

## Scenarios

- Multi-year work plan run simulations
- Results with a list of work by year
- Results with key performance indexes for every building

# Inventory Hierarchy





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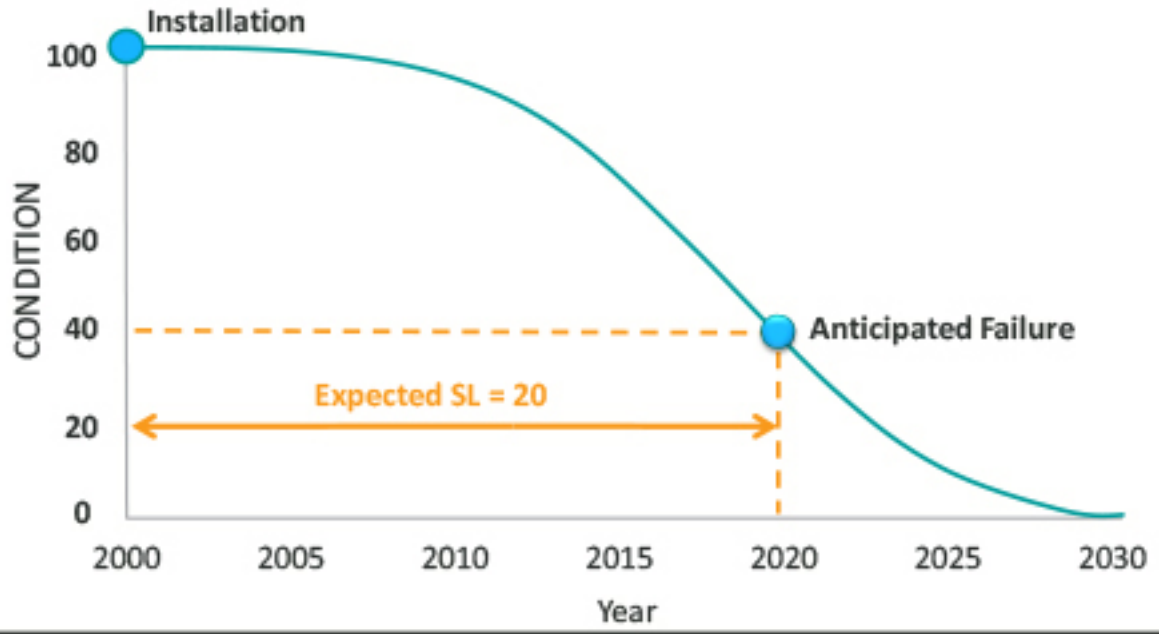
# Facility “Section” Lifecycle

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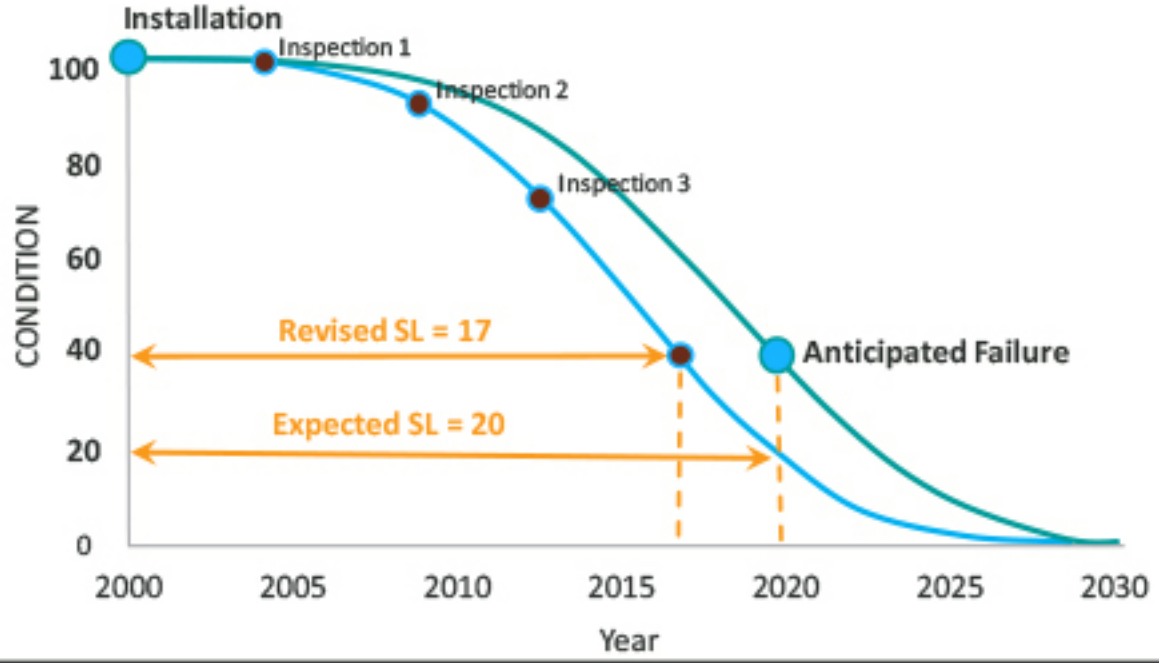
# Inspections

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# Standards

- Remaining Service Life (RSL)
  - If RSL is less than the value set, “Replacement” is triggered
  - If a replacement is triggered no repair will be evaluated

- Condition Index (CI) triggers repair work
  - If CI drops below 85, look at the section for a possible repair
  - Low CI sections are not good candidates for repair


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# Standard Examples

| Standard | Min CI (Condition Index) for Repair | Remaining Service Life (RSL) for Replacement |
|---|---|---|
| High | 80 (Amber +) | 1 |
| Medium | 70 (Amber) | 1 |
| Low | 60 (Amber -) | 0 |
| End of Life (Repair only if needed) | 60 (Amber -) | -2 |
| End of Life (Replace only) | 0 (Red -) | 0 |
| End of Life (No Work) | 0 (Red -) | -99 |

| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 |
|---|---|---|---|---|---|
| Full Construct | MDI 75-100 | MDI 40-74 | MDI 1-39 | - | - |
| Source | - | - | - | DSI 80-100 | DSI 1-79 |

| UNIFORMAT System (Level 2) | Component (Level 3) | Component Section (Level 4) | Design Life Max | Design Life Min | Design Life Avg | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| B30 ROOFING | B3010 ROOF COVERINGS | B3010001 STEEP SLOPE ROOF SYSTEMS | 30 | 15 | 18 | 80/1 | 70/1 | 70/1 | 60/-1 | 0/-99 |
| | | B3010002 LOW SLOPE ROOF SYSTEMS | 30 | 10 | 18 | 80/1 | 70/1 | 70/1 | 60/-1 | 0/-99 |
| | | B3010003 ROOF INSULATION & FILL | 35 | 30 | 20 | 60/-1 | 60/-1 | 60/-1 | 0/-99 | 0/-99 |
| | | B3010004 FLASHING & TRIM | 25 | 25 | 25 | 80/1 | 70/1 | 70/1 | 0/-99 | 0/-99 |
| | | B3010005 GUTTERS & DOWNSPOUTS | 30 | 30 | 20 | 80/1 | 70/1 | 70/1 | 0/-99 | 0/-99 |
| | | B3010006 ROOF OPENINGS AND SUPPORTS | 75 | 30 | 22 | 80/1 | 70/1 | 70/1 | 0/-99 | 0/-99 |
| | | B3010090 OTHER ROOFING | 40 | 10 | 20 | 80/1 | 70/1 | 70/1 | 60/-1 | 0/-99 |
| D40 FIRE PROTECTION | D4010 FIRE ALARM AND DETECTION SYSTEMS | D4010001 FIRE ALARM DISTRIBUTION | 30 | 15 | 18 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | | D4010002 FIRE ALARM DEVICES | 30 | 15 | 19 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | D4020 FIRE SUPP WATER SUPPLY / EQUIP | D4020001 FIRE PROTECTION WATER PIPING AND EQUIPMENT | 75 | 30 | 37 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | | D4020002 FIRE PUMP | 35 | 20 | 21 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | D4030 STANDPIPE SYSTEMS | D4030001 STANDPIPE EQUIPMENT & PIPING | 75 | 30 | 33 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | D4040 SPRINKLERS | D4040001 SPRINKLERS AND RELEASING DEVICES | 75 | 30 | 30 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | | D4040002 SPRINKLER WATER SUPPLY EQUIPMENT AND PIPING | 35 | 25 | 28 | 90/2 | 80/2 | 80/1 | 60/-1 | 0/-99 |
| | D4050 FIRE PROTECTION SPECIALTIES | D4050001 PORTABLE EXTINGUISHERS | 30 | 20 | 20 | 90/2 | 80/2 | 80/1 | 0/-99 | 0/-99 |
| | D4090 OTHER FIRE PROTECTION SYSTEMS | D4090001 CARBON DIOXIDE SYSTEMS | 35 | 25 | 25 | 90/2 | 80/2 | 80/1 | 0/-99 | 0/-99 |
| | | D4090002 FOAM GENERATING EQUIPMENT | 35 | 20 | 25 | 90/2 | 80/2 | 80/1 | 0/-99 | 0/-99 |
| | | D4090003 CLEAN AGENT SYSTEMS | 30 | 20 | 20 | 90/2 | 80/2 | 80/1 | 0/-99 | 0/-99 |
| | | D4090004 HOOD & DUCT FIRE PROTECTION | 35 | 25 | 25 | 90/2 | 80/2 | 80/1 | 0/-99 | 0/-99 |
| | | D4090090 OTHER SPECIAL FIRE PROTECTION SYSTEMS | 30 | 25 | 19 | 90/2 | 80/2 | 80/1 | 0/-99 | 0/-99 |


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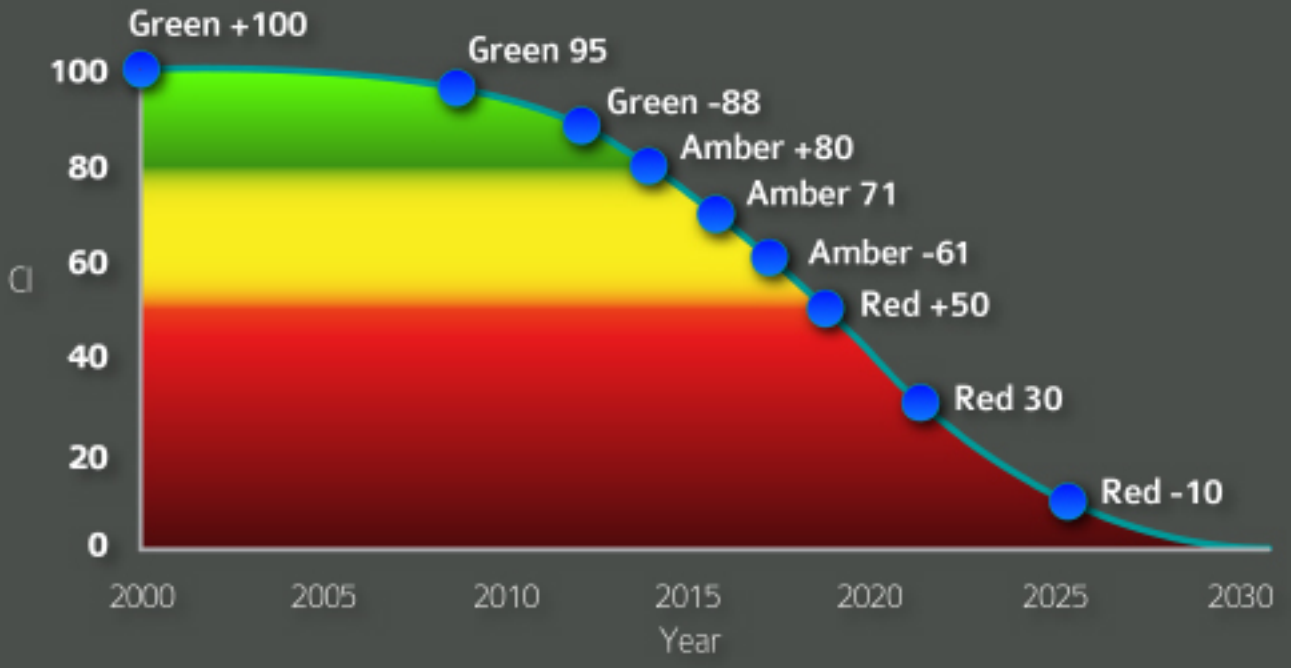
# Service Life Consideration

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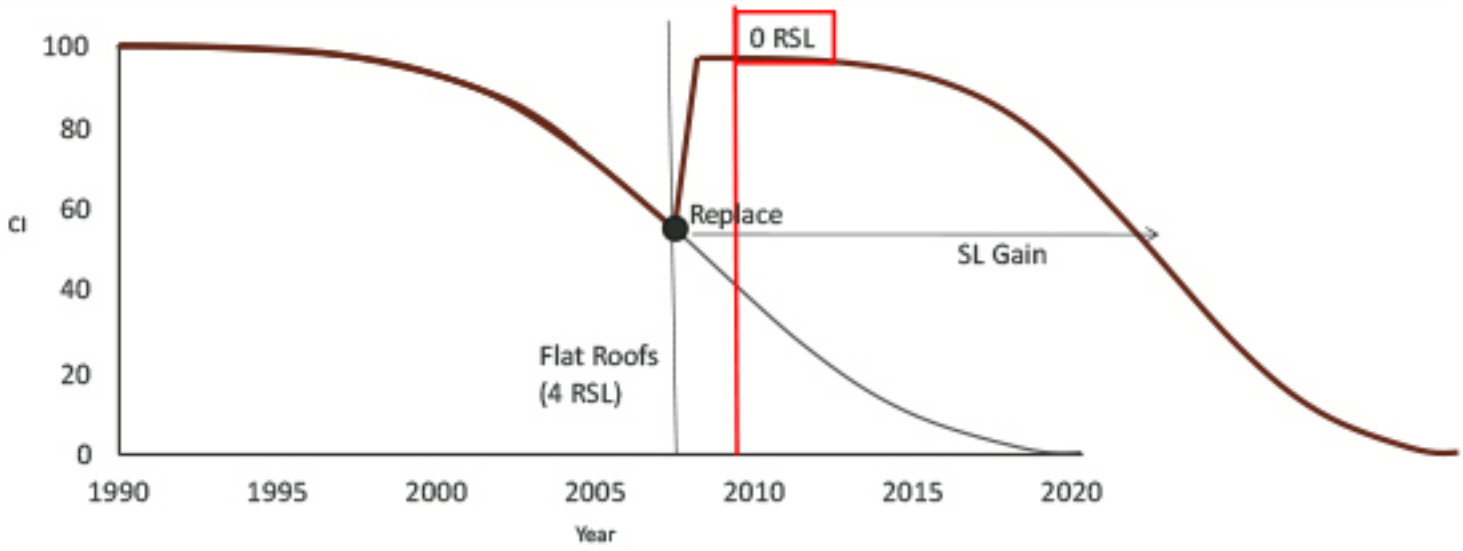
# Replace Work Creation




Work Items generate automatically when CI falls below policy levels

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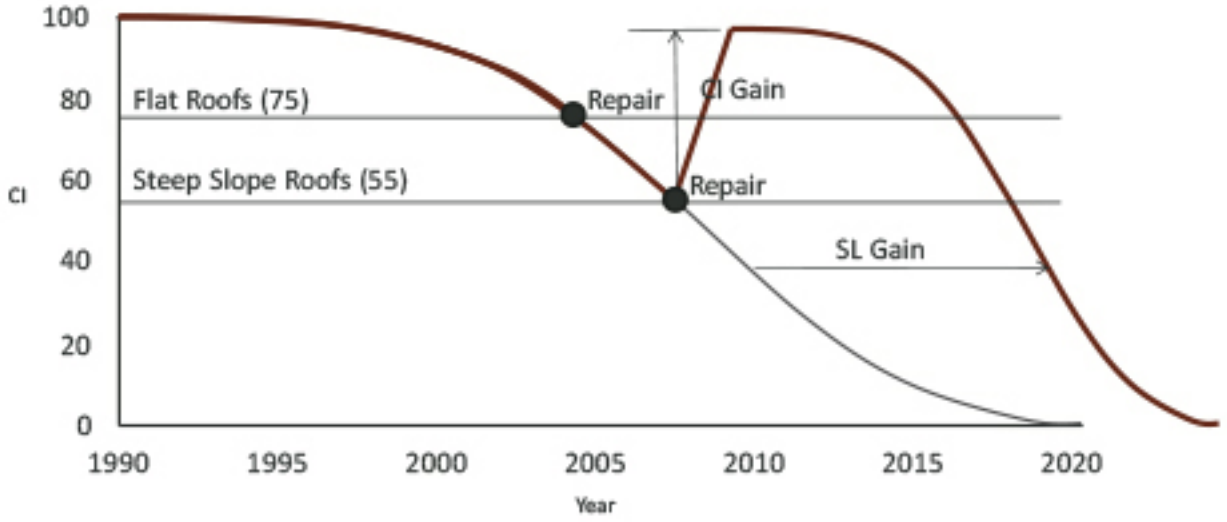
# Repair Work Creation




Work Items generate automatically when CI falls below policy levels

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# The Work Configuration

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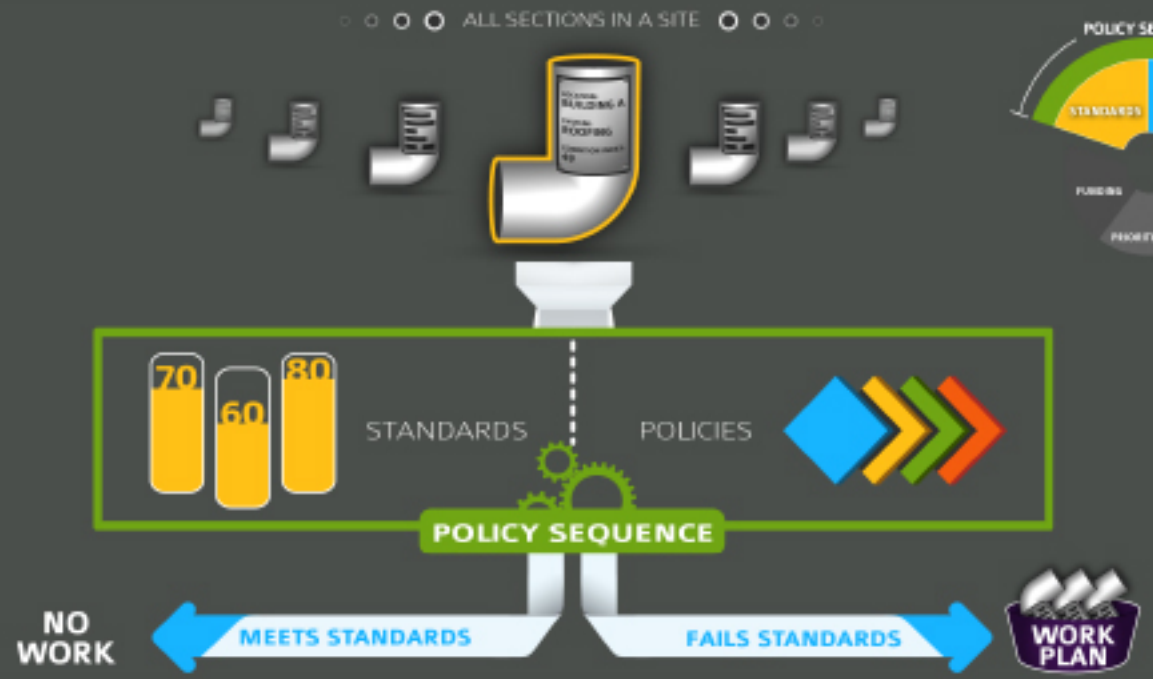
# Work Plan FLOW

## Standards, Policy, Policy Sequence





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# Prioritization Schemes

- Resources are always limited, so we must prioritize
  - Uses weighted sums to identify what is done first

- Elements of a Priority Scheme
  - Objectives
  - Measures


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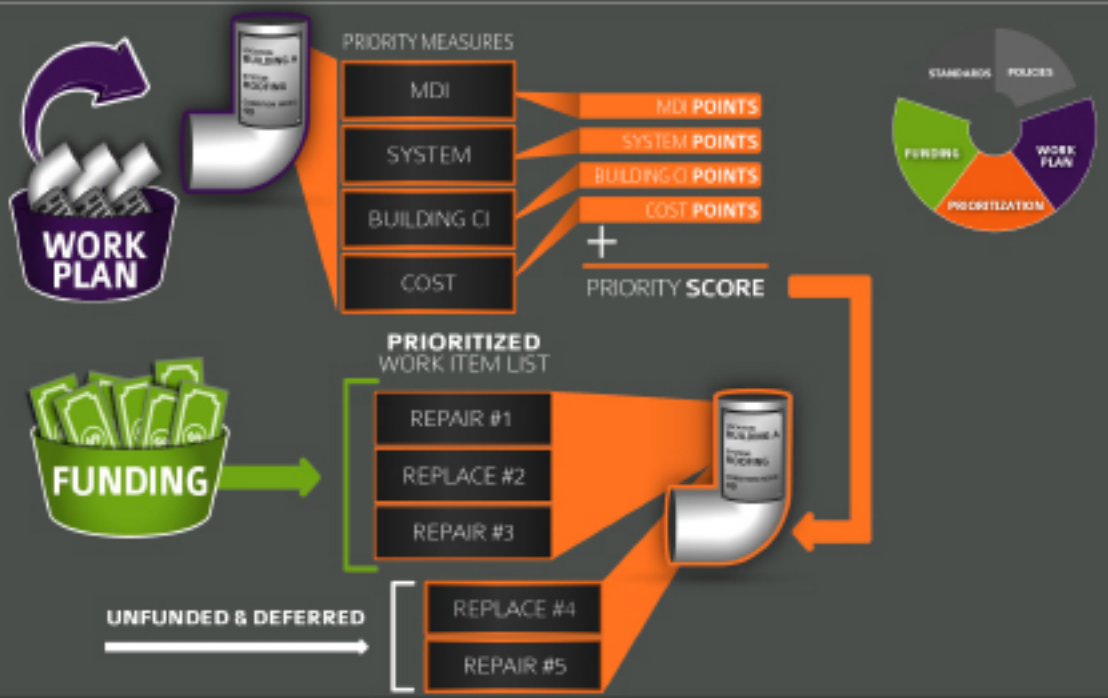
# Work Plan Flow

## Prioritization Scheme, Funding





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# Follow Along

- https://my.buildersoftware.net/
- Username: <your email>
- Password: Summit2021


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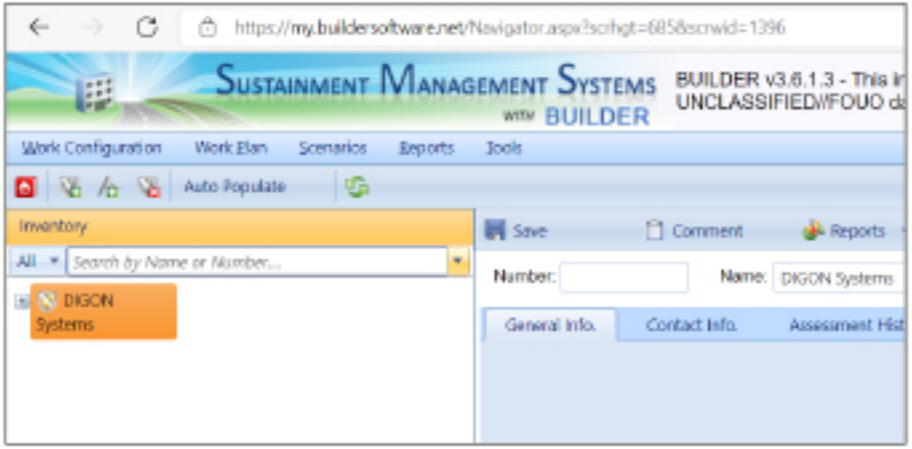
# Scenarios

- Scenarios allow user to run simulations based on different Policy Sequences, Priorities and Funding
  - CI constantly degrades with time
- Up to 10 years into future
- Reports primary way of extracting data





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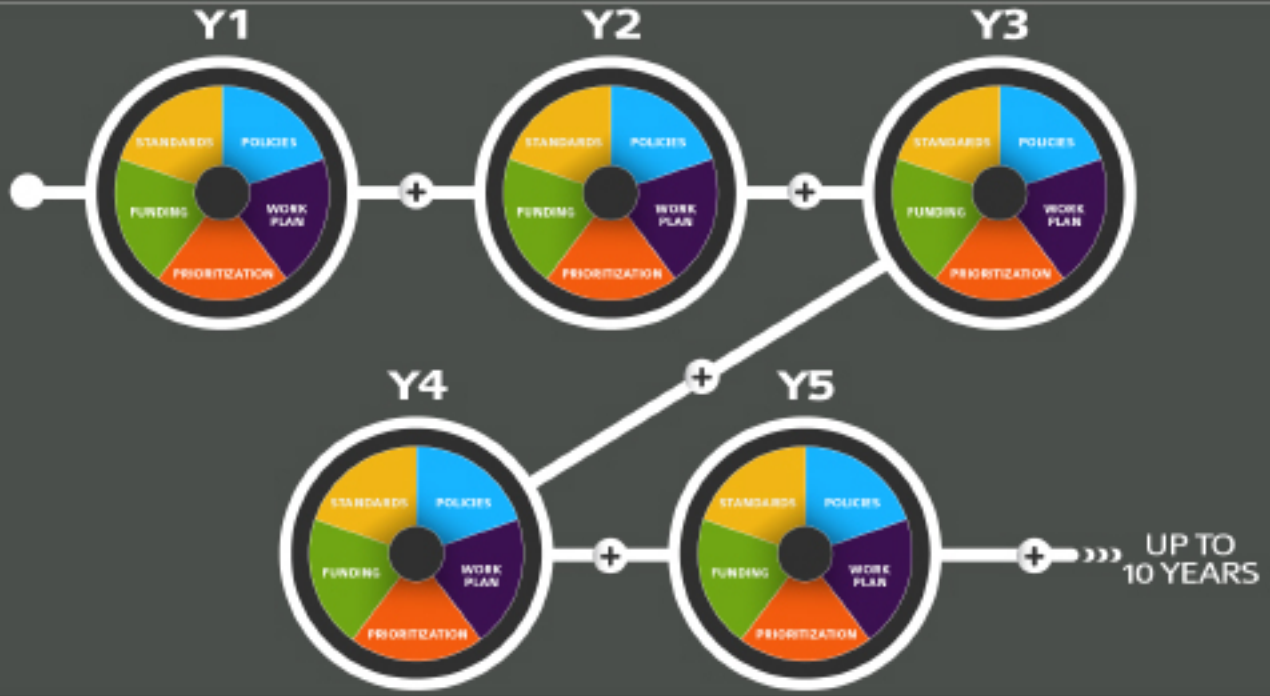
# Scenarios

## Long Term Simulations





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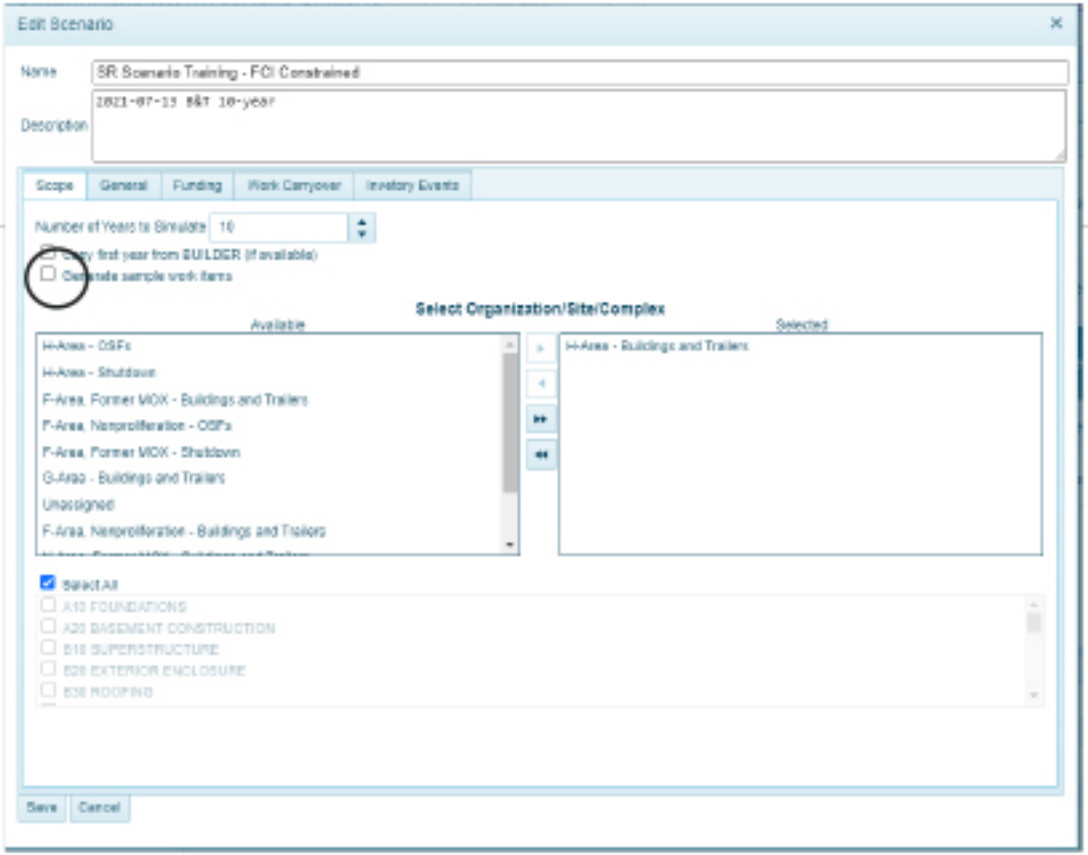
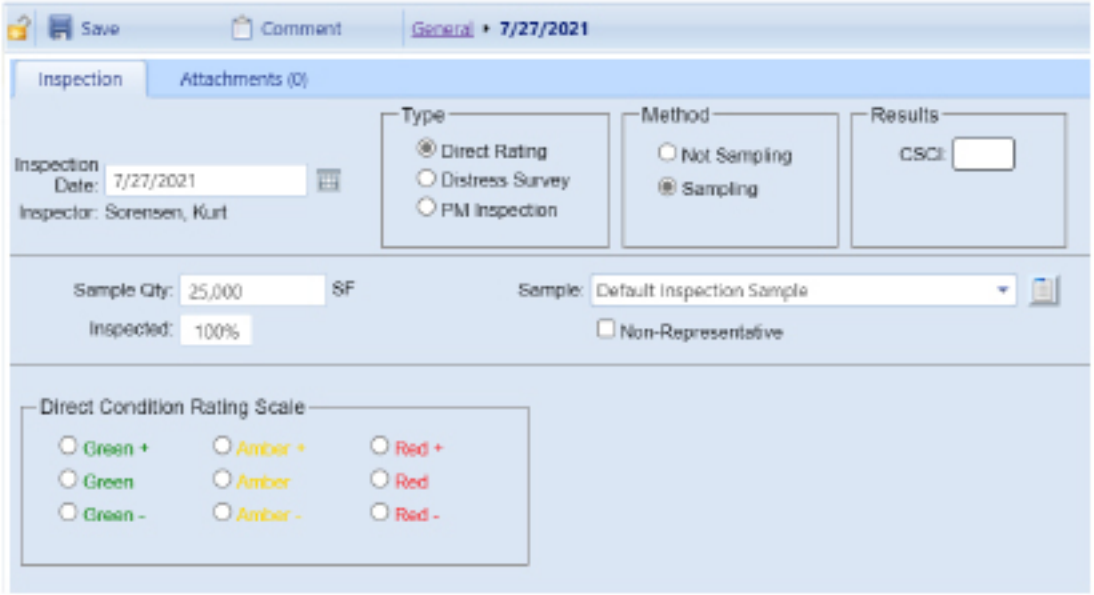
# Sample Work Items

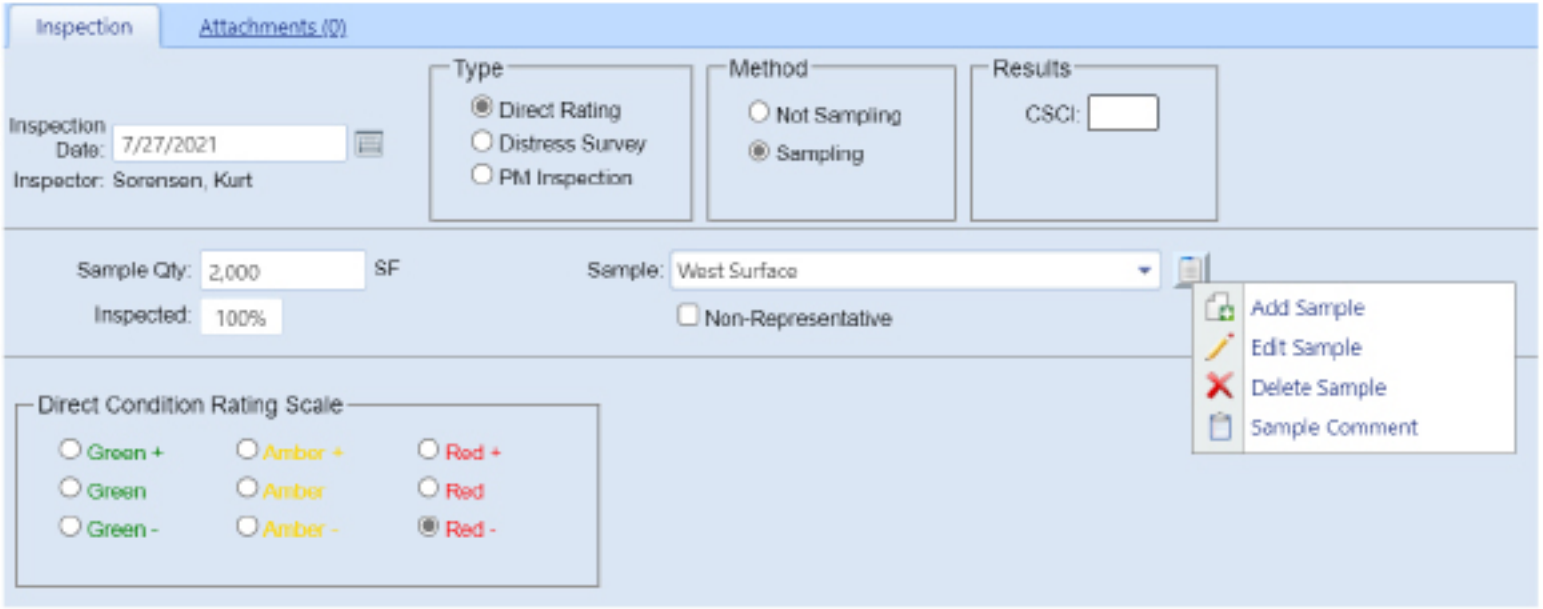


# Inspection Samples

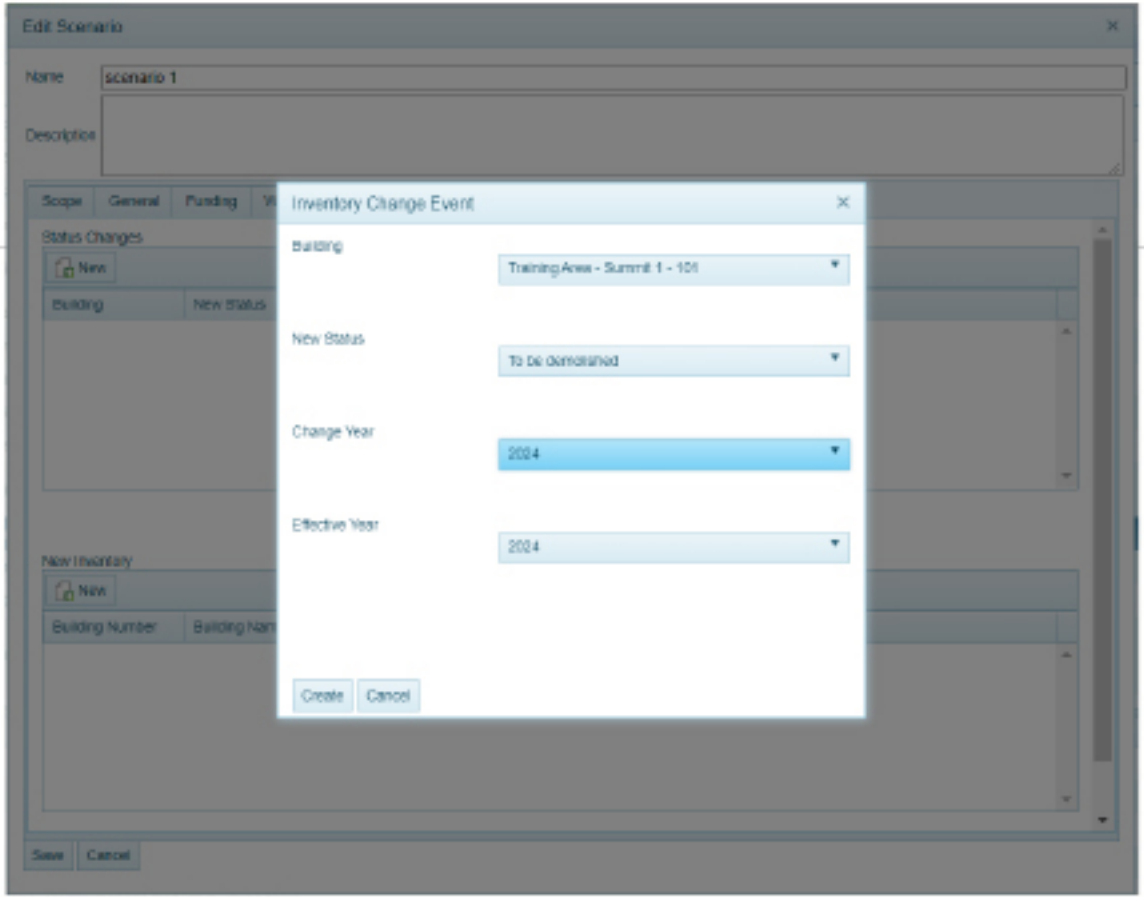
- Area not able to inspect
- Time saving effort
- Localized condition issues



# Localized Problems



# Inventory Events



# Constrained Options

## Unconstrained Scenario

- Assume unlimited funds are available.
- Repair and replace all sections that are identified for work

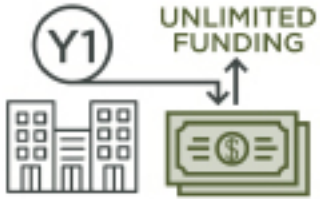
## Funding Constrained

- Set one or more funding source to establish a budget for up to 10 years
- Complete work based on priority score up to available budget
- Roll-over uncompleted work to the next year for possible completion
- Used to show the impact of funding decisions

## FCI Constrained

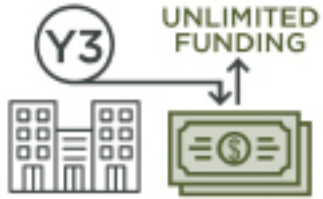
- Set a facility FCI target policy
- Complete all work based on priority to satisfy the FCI policy
- Roll-over uncompleted work to the next year for possible completion
- Used to identify the funding requirements to meet a FCI target

# Unconstrained




FCI **100**
BCI **1 YEAR**
**AGE LOWER**

FCI **100**
BCI **IMPROVED**
**FROM SPEND**




FCI **100**
BCI **??**

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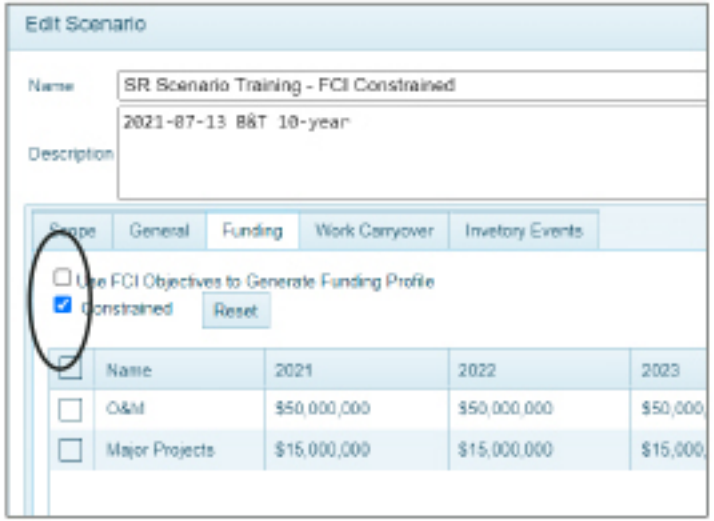
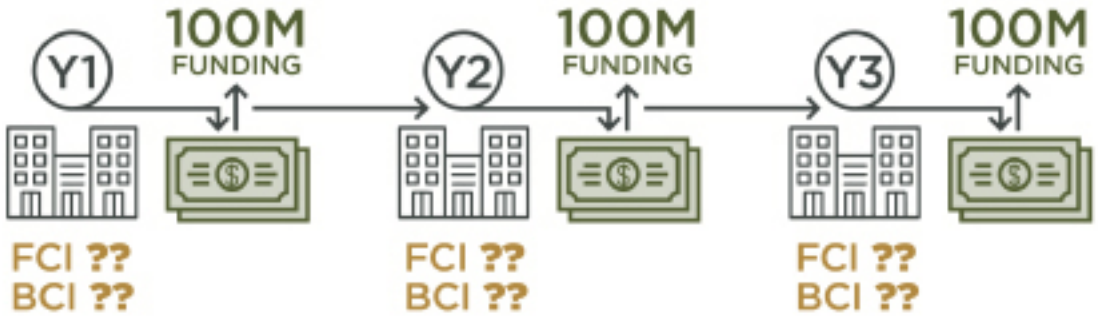
# Funding Options

- Select if you want FCI or Funding Constrained
- Can only select existing Funding Sources



# Funding Constrained

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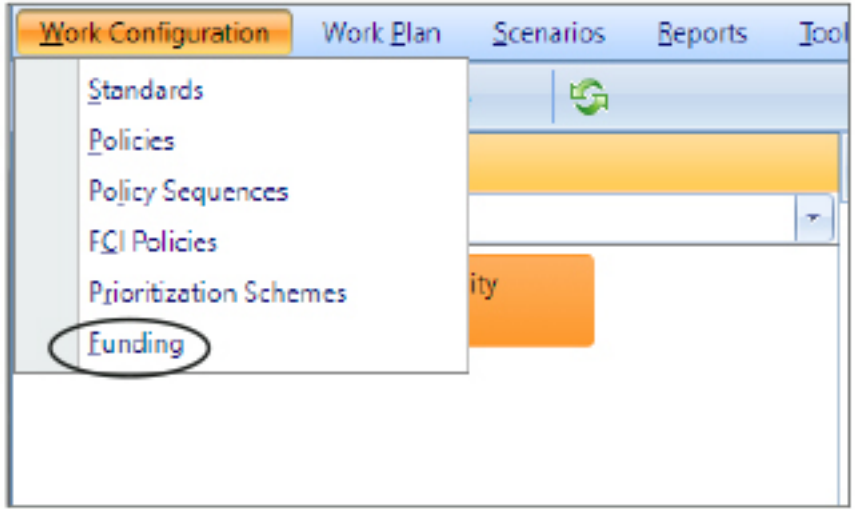
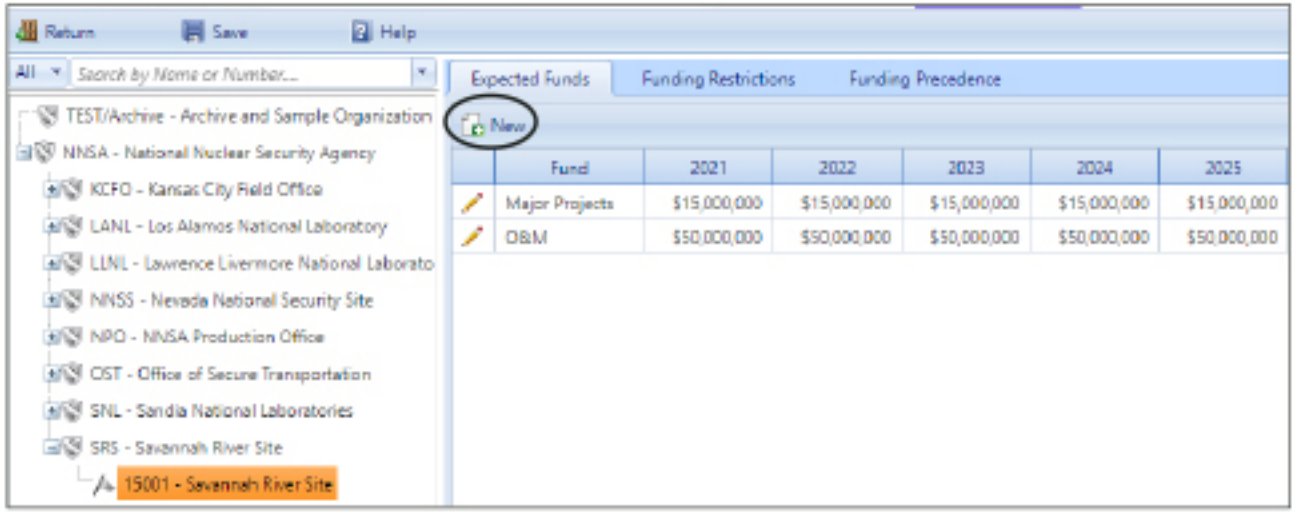
# Funding Sources

Funding must be set before using it in a scenario.



# Funding Sources

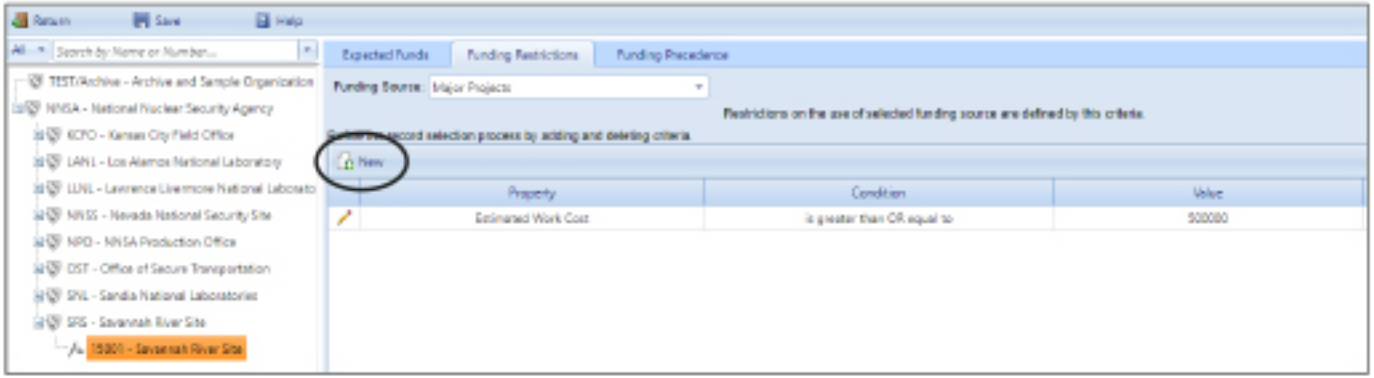
Create funding source at the same tier of the Scenario



# Funding Restrictions

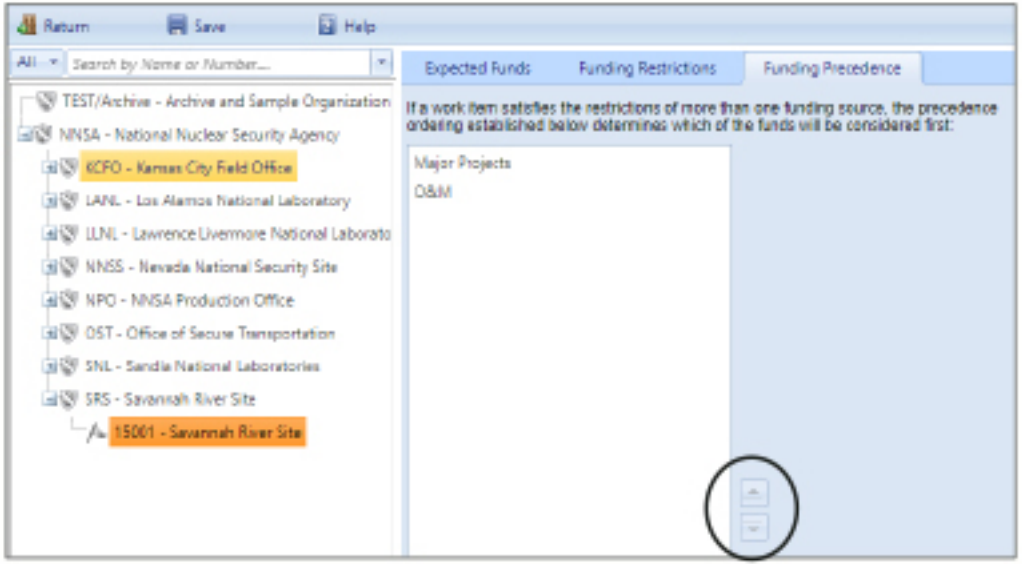
For each funding source, apply any required restrictions

System, Cost, Work Type

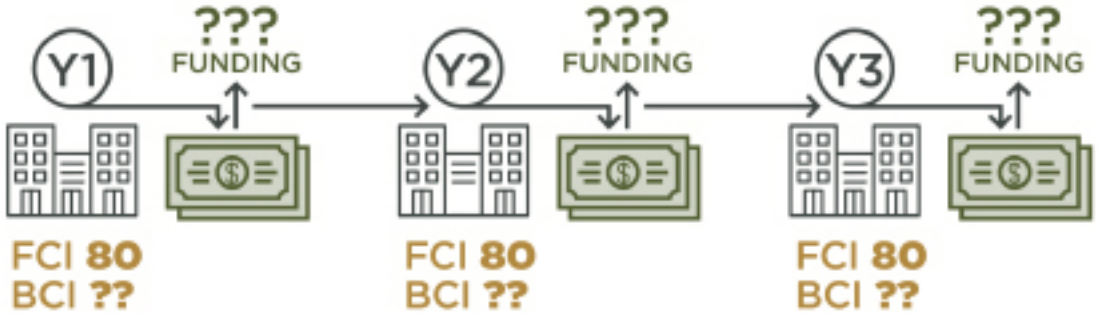


# Funding Precedence

Set the order of funding assignment to work items



# FCI Constrained

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# Facility Condition Index (FCI)

FCI is a "financial" metric that is giving you the ratio of how much work is needed in a building compared to the building replacement cost.

$$FCI = \left(1 - \left(\frac{\text{Deferred Work}}{\text{Current Replacement Value}}\right)\right) \times 100$$

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# FCI Explained

## FCI SCALE

100 — VERY LITTLE WORK NEEDED compared to the building's value

80

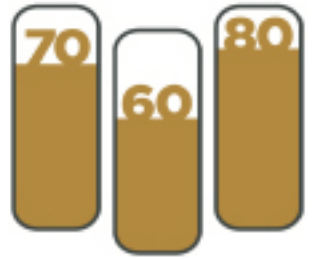
60

40

20 — A LOT OF WORK NEEDED compared to the building's value

0

## FCI TARGET



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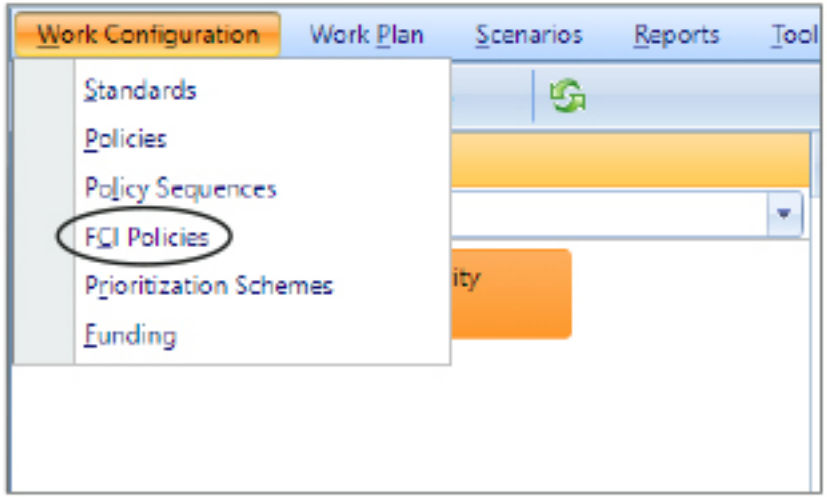
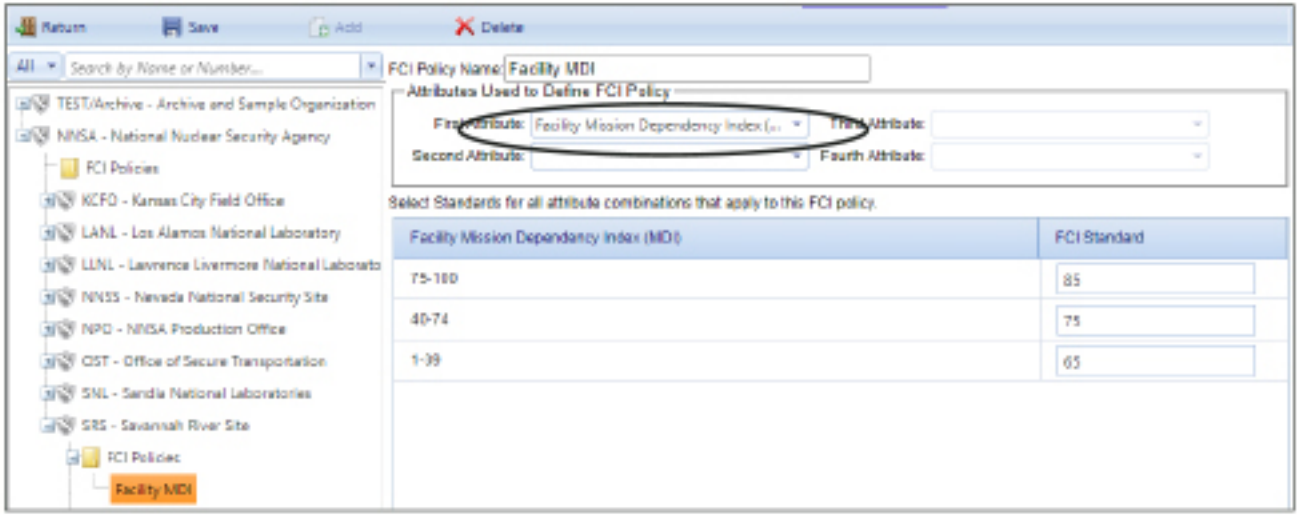
# FCI Policy

Back to the work configuration



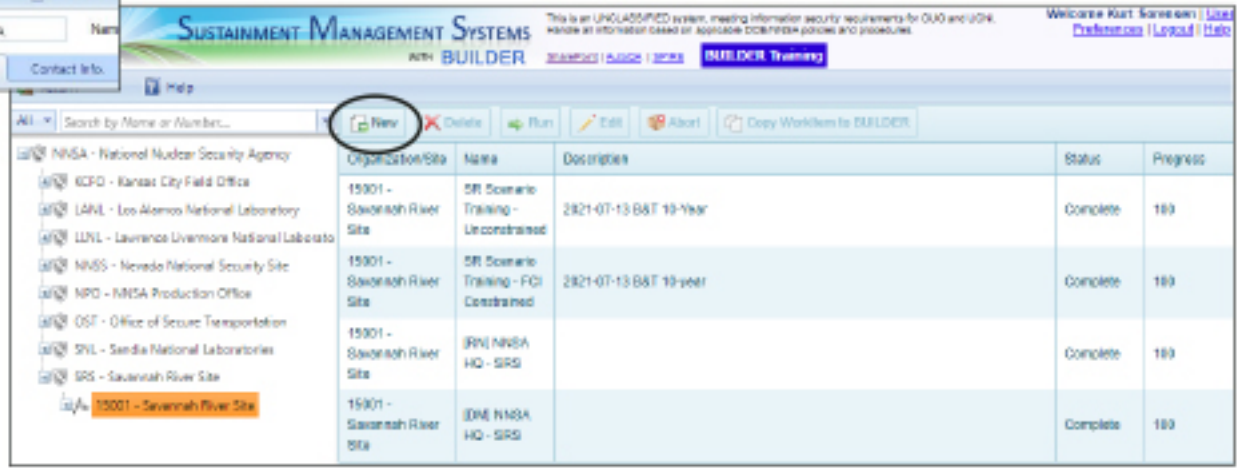
# FCI Policy

Set rules for the target FCI

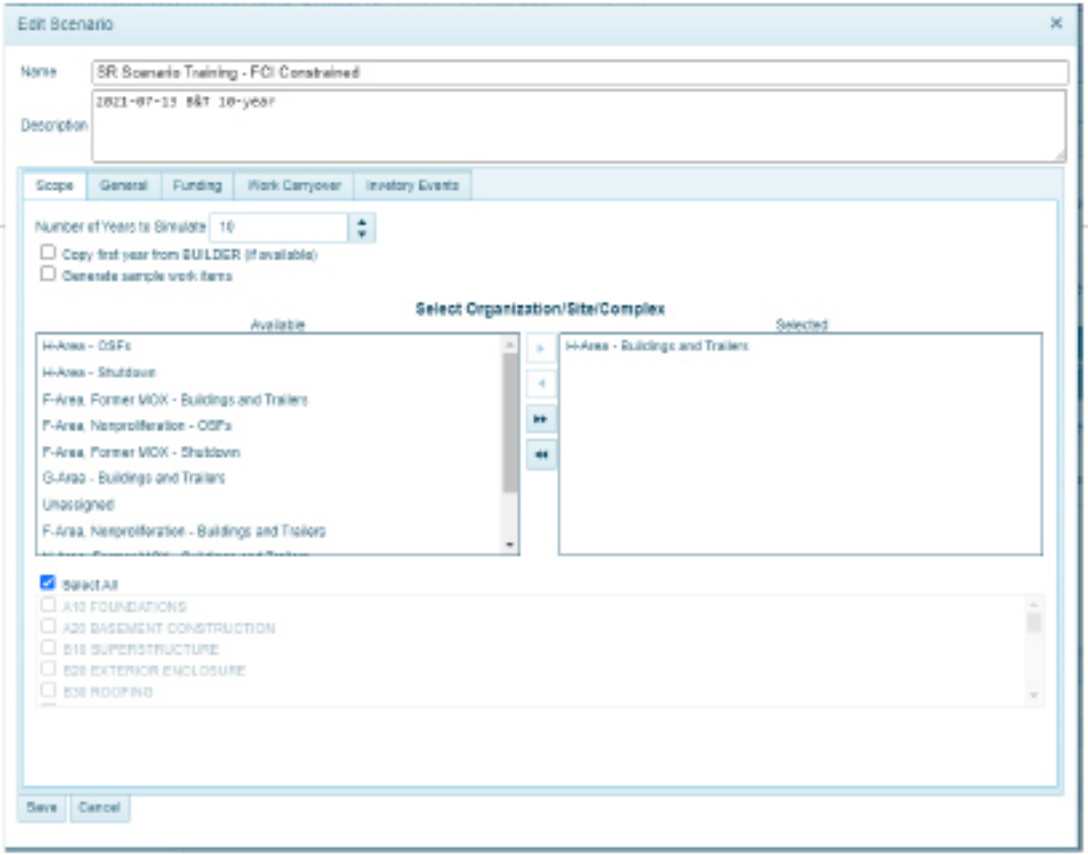


# Create a new Scenario

## Navigate to the correct level



# Scope Options



# Possible Naming Convention

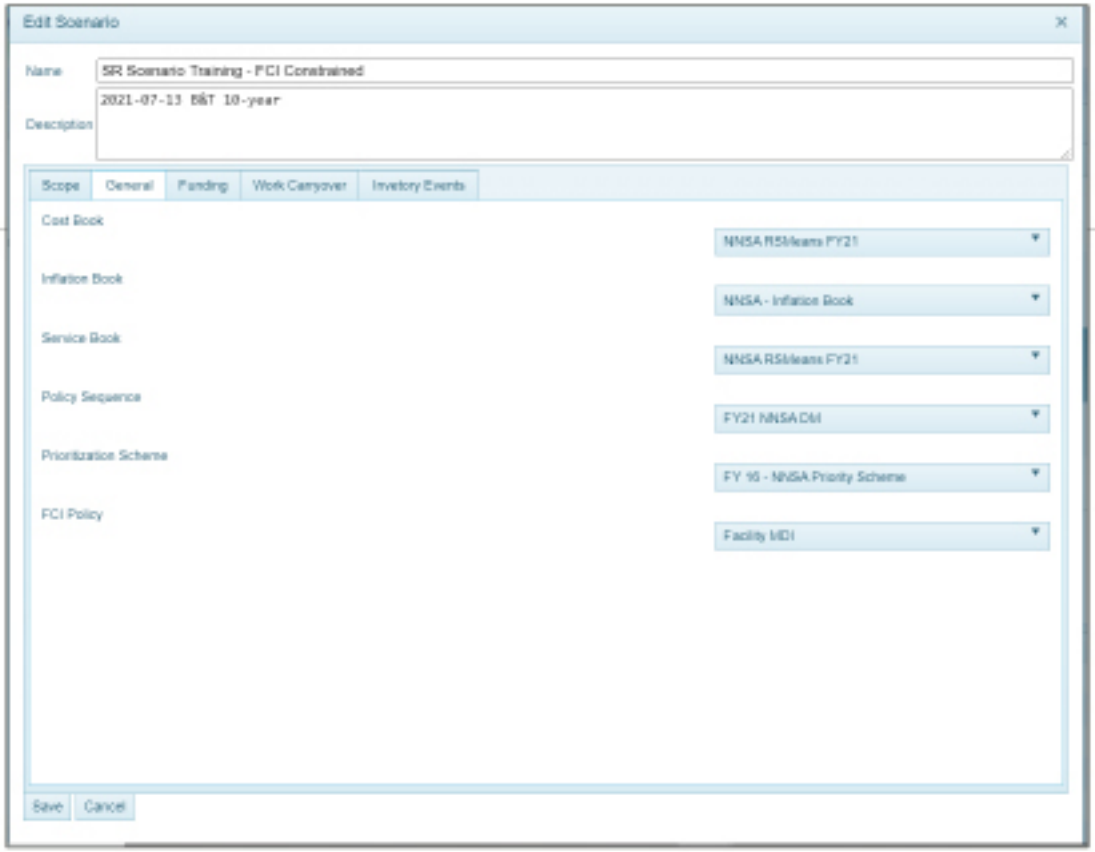
Name: <User Name> (<Year>, <Use>)

Example: kurt@digonsystems.com (2021 – Training)

Description: <Date>: <Open Text>

Example: 2020-05-22: Test run to help establish rules

# Reference Settings



# Other Options Options

## Copy First Year

- Useful if you have already budgeted or started work on a BUILDER work item and have updated the status in the Work Plan.
- Will copy that status into Y1

## Work Carryover

- If you have set the status of a work item of a previous year (FY20) and want it copied into Y1 of the scenario

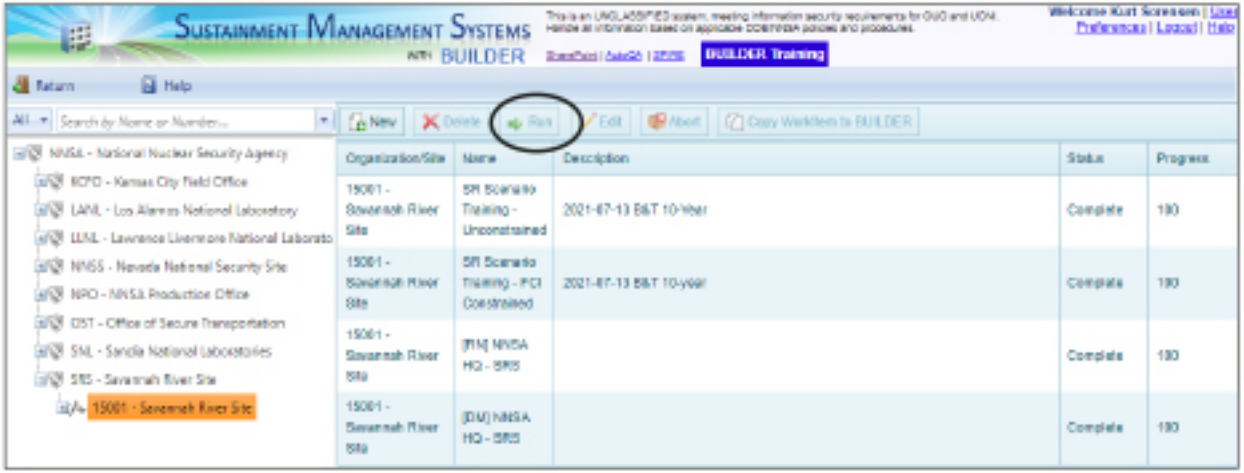
## Inventory Events

- Used to identify the removed or added facilities in the middle of a scenario.
- Can limit the assignment of funds to a facility planned for removal

# Run The Scenario

The table header can sort all the scenarios

Click on the "Run" button



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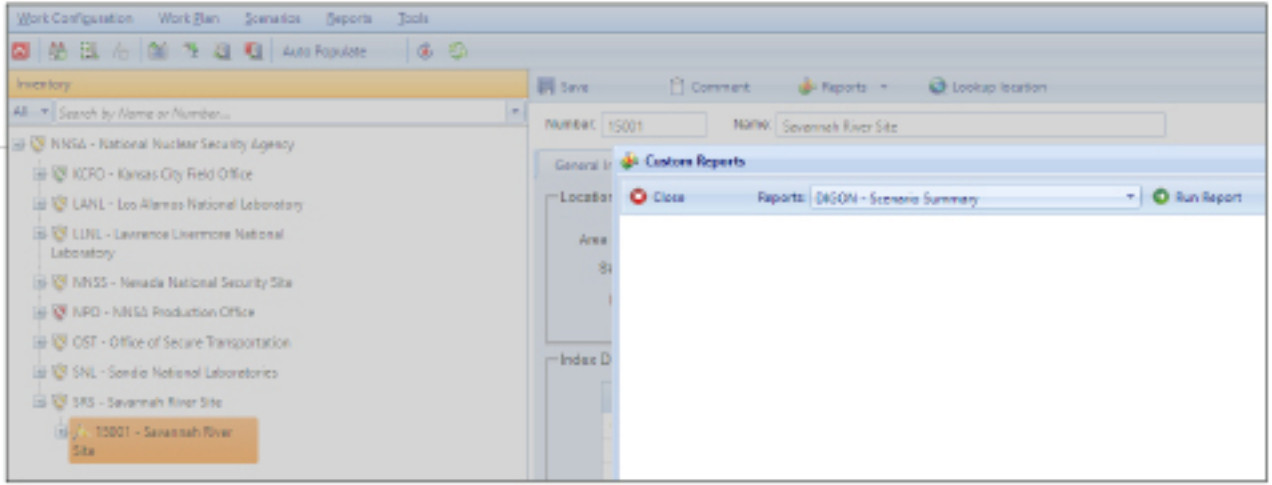
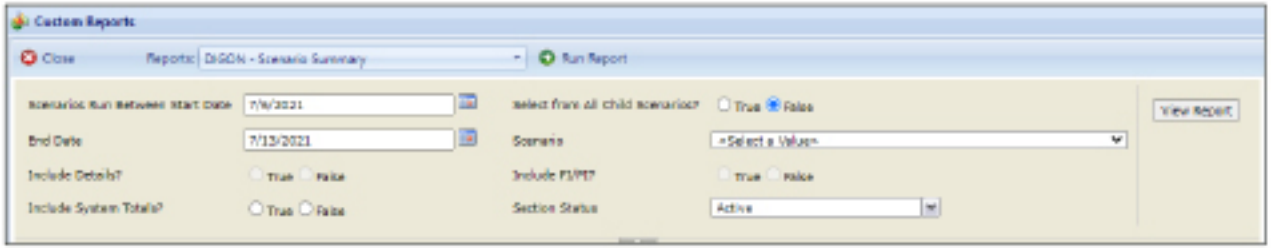
# Scenario Reports



# Key Reminders

Creation Level

- You can only refine the scope of scenarios one level down from where you create it.

Top Organization Scenarios

- Funding is provided to top priority work items first. You may have one two sites dominate the allocation based on priority rules.

Deleting Scenarios

- You can only delete what you create

Editing Scenarios

- You must re-run your scenario after making edits to see updated data

Copy Work Items to BUILDER

- If you want to interact with the work items in the "Work Plan", the site must have the same reference settings.