Envision Infrastructure Rating System
Andrew Hunter, EI, ENV SP
What is ENVISION™?

- Envision™ was developed by the Institute for Sustainable Infrastructure (ISI)
  - A self-assessment Checklist
  - The Envision™ Rating Tool
  - A Credential Program for Individuals
  - A Project Verification Program
  - A Recognition Program
Why was ENVISION™ Developed?

- Current US rating systems are sector-specific
- No US system covers all infrastructure systems
- Envision™ is designed to fill the gap
ENVISION™ is Uniquely Qualified to Address America’s Infrastructure

- Envision™ applies to all civil infrastructure
- Addresses design, planning, construction and maintenance
- Applicable at any point in an infrastructure project’s life cycle
- Speaks to the triple bottom line: social, economic and environmental goals
- Designed to keep pace with a changing concept of sustainability
Where does ENVISION™ apply?

- Civil infrastructure that make up the built environment
  - Roads
  - Bridges
  - Pipelines
  - Railways
  - Airports
  - Dams
  - Levees
  - Landfills
  - Water treatment systems

- Envision does not include buildings or facilities, as these are well covered by existing rating systems.
## ASCE’s U.S. Infrastructure Report Card

### 2013 Report Card for America’s Infrastructure

**America’s Infrastructure GPA:** D+

Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety and resilience.

<table>
<thead>
<tr>
<th>Category</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation</td>
<td>D</td>
</tr>
<tr>
<td>Bridges</td>
<td>C+</td>
</tr>
<tr>
<td>Dams</td>
<td>D</td>
</tr>
<tr>
<td>Drinking Water</td>
<td>D</td>
</tr>
<tr>
<td>Energy</td>
<td>D+</td>
</tr>
<tr>
<td>Hazardous Waste</td>
<td>D</td>
</tr>
<tr>
<td>Inland Waterways</td>
<td>D+</td>
</tr>
<tr>
<td>Levees</td>
<td>D+</td>
</tr>
<tr>
<td>Ports</td>
<td>C</td>
</tr>
<tr>
<td>Public Parks and Recreation</td>
<td>C-</td>
</tr>
<tr>
<td>Rail</td>
<td>C+</td>
</tr>
<tr>
<td>Roads</td>
<td>D</td>
</tr>
<tr>
<td>Schools</td>
<td>D</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>B-</td>
</tr>
<tr>
<td>Transit</td>
<td>D</td>
</tr>
<tr>
<td>Wastewater</td>
<td>D</td>
</tr>
</tbody>
</table>

**Methodology:**

- A = Exceptional
- B = Good
- C = Mediocre
- D = Poor
- F = Failing

**Estimated Investment Needed by 2020:** $3.6 Trillion
LEED for Infrastructure

- Infrastructure - a different challenge than buildings:
  - Building design and construction - usually controlled by a single organization
  - Infrastructure projects affect or benefit macro ecosystems, communities, and regions
  - Infrastructure projects must consider:
    - Public stakeholder expectations and support
    - Environmental responsibility
    - Impact on public life
    - Use of public funds – sustainability needs to pay for itself!
Why Use ENVISION™?

- Framework for integrating sustainability consistently in projects
- Third-party Verification and Recognition of Sustainability
- Mechanism for Public Acceptance
- Long-term cost savings
- Reduce Risk
Main Audience

- ISI’s main audience is the public sector. Right now the public sector agencies that are signed up as ISI members represent service areas of 107 million Americans
  - This includes Federal agencies like the US Army Corps of Engineers
  - Large municipalities like NYC and LA County
  - State agencies like the Texas Department of Transportation
  - Many smaller towns and cities
ENVISION™ Sustainability Professionals

- ISI Credentialed Practitioner Trained to Use Envision Rating
- Hold a 4-year degree OR have a (PE) or equivalent professional designation
- Completion of ISI conducted computer-based courses on Envision and its use
- Successful passage of an online examination
- Submission of all applicable fees

**Role**
- Guide the project team in using Envision

- Sustainability Professional Full Accreditation (ENV SP)
60 Credits in 5 Categories

- **QUALITY OF LIFE**: Purpose, Community, Wellbeing
- **LEADERSHIP**: Collaboration, Management, Planning
- **RESOURCE ALLOCATION**: Materials, Energy, Water
- **NATURAL WORLD**: Siting, Land & Water, Biodiversity
- **CLIMATE AND RISK**: Emissions, Resilience
Credit Levels of Achievement

The number of points earned in each credit depends on the Level of Achievement:

- **Improved**: Performance that is above conventional
- **Enhanced**: Sustainable performance that is on the right track; indications that superior performance is in reach
- **Superior**: Sustainable performance that is noteworthy
- **Conserving**: Performance that has achieved essentially zero impact
- **Restorative**: Performance that restores natural or social systems
Verification Process

- Registration by ENV SP
- Assessment – Discussion with ENV SP and Verifier as needed
- Verification – Verifier Reviews Documentation
- Authentication
  - Credit Appeals: $500 per credit
  - Appeals Panel Composed of 3 Verifiers assigned by ISI
- Recognition: Bronze, Silver, Gold, Platinum
## Recognition and Award Levels

<table>
<thead>
<tr>
<th>Recognition Level</th>
<th>Total Applicable Points (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronze</td>
<td>20</td>
</tr>
<tr>
<td>Silver</td>
<td>30</td>
</tr>
<tr>
<td>Gold</td>
<td>40</td>
</tr>
<tr>
<td>Platinum</td>
<td>50</td>
</tr>
</tbody>
</table>
## Verification Fee Schedule

**Registration Fee:** $1000

**Verification Fee:**

<table>
<thead>
<tr>
<th>Project Size ($)</th>
<th>Non-Member Price</th>
<th>ISI Member Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 2M</td>
<td>$3000</td>
<td>$2400</td>
</tr>
<tr>
<td>2-5M</td>
<td>$8500</td>
<td>$7000</td>
</tr>
<tr>
<td>5-25M</td>
<td>$17,000</td>
<td>$14,000</td>
</tr>
<tr>
<td>25-100M</td>
<td>$25,000</td>
<td>$21,000</td>
</tr>
<tr>
<td>100-250M</td>
<td>$33,000</td>
<td>$28,000</td>
</tr>
<tr>
<td>Over 250M</td>
<td>Contact ISI for large or multi-phase projects.</td>
<td></td>
</tr>
</tbody>
</table>

**Appeals Fee:** $500 per credit
Key Resources

- ISI Resources:
  - Envision Guidance Manual
  - Envision Credit Checklist
  - Online Envision Workbook
  - Envision Fact Sheet
  - Envision Project Verification Process
  - Envision Credit List
  - Envision Sample Credit
THE ENVISION RATING SYSTEM

ENVISION EXAMPLES
Example – Omaha CSO Program

Held initial PMT and City of Omaha Workshop

PMT guidance set for each objective

Project Teams incorporate objectives into design

Objectives consolidated from 84 to 60

Held Workshops with each Project Team

One Water
# Minne Lusa Stormwater Conveyance Sewer

<table>
<thead>
<tr>
<th>ISI Credit</th>
<th>Potential Project Strategy</th>
<th>Potential ISI Level of Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.2 Avoid traps and vulnerabilities that create high, long-term risks</td>
<td>Use of tunneling construction method to eliminate conflicts with other existing utilities and virtually eliminate surface disruptions.</td>
<td>Superior</td>
</tr>
<tr>
<td>5.1.2 Design the project to fit with the local character</td>
<td>Consider tunnel drop shaft to be integrated with new bus facility.</td>
<td>Conserving</td>
</tr>
<tr>
<td>4.3.1 Select Greyfields for development</td>
<td>Tunnel drop shaft to be constructed at site of abandoned industrial facility (Gunderson Rail).</td>
<td>Restorative</td>
</tr>
<tr>
<td>8.1.3 Incorporate energy use reduction and conservation options in the design of the constructed works</td>
<td>Project reduces energy consumption by diverting flows from existing pumped detention cell to new detention cells operating by gravity.</td>
<td>Improving</td>
</tr>
</tbody>
</table>
Envision Pilot Rating System Review:

- Used Draft Rating System as a Checklist
- 4 CSO Projects:
  - Minne Lusa Stormwater Conveyance Sewer
  - Paxton Blvd Stormwater Conveyance Sewer
  - Saddle Creek Retention Treatment Basin
  - JCB Stormwater Conveyance Sewer
- Findings:
  - Start early
  - Involve key decision makers
  - Focus on areas of largest impact

Example – Omaha CSO Projects
William Jack Hernandez
Sport Fish Hatchery
Alaska’s new William Jack Hernandez Sport Fish Hatchery is a one-of-a-kind facility for the production of salmon and trout.

The project marks the largest ever application of intensive recirculation technology by a public agency to dramatically reduce water and energy consumption.

Delivered on a tight schedule through an integrated CM/GC team, the facility accommodates 100,000 visitors per year.
ENVISION™ Submission

- Project team worked for five weeks to identify documentation from project files
- 200 hours required to complete the project documentation
- 44% of total available points claimed by the team
- Received an Envision GOLD Award
Questions?

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