THE NEED FOR ENVISION™
ASCE’S 2013 REPORT CARD FOR AMERICA'S INFRASTRUCTURE

- 16 categories rated
- Overall grade of D+
- $3.6 trillion investment needed
- Since 1998 grades have been near failing due to delayed maintenance and under investment across most categories.
AMERICA’S INFRASTRUCTURE TODAY
INFRASTRUCTURE FOR TOMORROW
ENVISION IS UNIQUELY QUALIFIED TO ADDRESS AMERICA'S INFRASTRUCTURE

- Envision applies to all civil infrastructure
- Currently rating system addresses design and planning
- Future updates will cover 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
WHY WAS ENVISION DEVELOPED?

- Create high-performance infrastructure projects
- Current rating systems for infrastructure in the U.S. are sector specific
- No U.S. system covers all aspects of infrastructure
- Envision is designed to fill the gap
WHERE DOES ENVISION APPLY?

Civil infrastructure that make up the built environment

- Roads
- Bridges
- Pipelines
- Railways
- Airports
- Dams
- Levees
- Landfills
- Water treatment systems
02 THE ENVISION™ RATING SYSTEM
ENVISION COMPONENTS

- Envision™ is a tool, which itself is part of a larger system.

- This system includes:
  - An Assessment Checklist
  - The Envision™ Rating Tool
  - A Credential Program for Individuals
  - A Project Evaluation and Verification Program
  - A Recognition Program for Sustainable Infrastructure
ENVISION HELPS DECISION MAKERS:

- Meet sustainability goals
- Evaluate environmental benefits
- Guide decisions about investment of scarce resources
- Address community and environmental priorities in civil infrastructure projects
- Assess costs and benefits over a project’s expected lifecycle
- Not only “Will we do the project right?”, but also “Will we do the right project?”
WHAT MAKES ENVISION UNIQUE?

- It applies to civil infrastructure
- It includes design, planning, construction and maintenance elements
- It is applicable at any point in an infrastructure project’s life cycle
- It speaks to the triple bottom line: social, economic and environmental goals
- It is designed to keep pace with a changing concept of sustainability
60 CREDITS IN 5 CATEGORIES

- **QUALITY OF LIFE**: Purpose, Wellbeing, Community
- **LEADERSHIP**: Collaboration, Management, Planning
- **RESOURCE ALLOCATION**: Materials, Energy, Water
- **NATURAL WORLD**: Siting, Land & Water, Biodiversity
- **CLIMATE AND RISK**: Emissions, Resilience
1 PURPOSE
QL1.1 Improve Community Quality of Life
QL1.2 Stimulate Sustainable Growth and Development
QL1.3 Develop Local Skills and Capabilities

2 WELLBEING
QL2.1 Enhance Public Health and Safety
QL2.2 Minimize Noise and Vibration
QL2.3 Minimize Light Pollution
QL2.4 Improve Community Mobility and Access
QL2.5 Encourage Alternative Modes of Transportation
QL2.6 Improve Accessibility, Safety & Wayfinding

3 COMMUNITY
QL3.1 Preserve Historic and Cultural Resources
QL3.2 Preserve Views and Local Character
QL3.3 Enhance Public Space
QL0.0 Innovate or Exceed Credit Requirements
1 COLLABORATION
LD1.1 Provide Effective Leadership & Commitment
LD1.2 Establish a Sustainability Management System
LD1.3 Foster Collaboration and Teamwork
LD1.4 Provide for Stakeholder Involvement

2 MANAGEMENT
LD2.1 Pursue By-Product Synergy Opportunities
LD2.2 Improve Infrastructure Integration

3 PLANNING
LD3.1 Plan Long-Term Maintenance and Monitoring
LD3.2 Address Conflicting Regulations and Policies
LD3.3 Extend Useful Life
LD0.0 Innovate or Exceed Credit Requirements
1 MATERIALS
RA1.1 Reduce Net Embodied Energy
RA1.2 Support Sustainable Procurement Practices
RA1.3 Use Recycled Materials
RA1.4 Use Regional Materials
RA1.5 Divert Waste from Landfills
RA1.6 Reduce Excavated Materials Taken Off Site
RA1.7 Provide for Deconstruction and Recycling

2 ENERGY
RA2.1 Reduce Energy Consumption
RA2.2 Use Renewable Energy
RA2.3 Commission and Monitor Energy Systems

3 WATER
RA3.1 Protect Fresh Water Availability
RA3.2 Reduce Potable Water Consumption
RA3.3 Monitor Water Systems
RA0.0 Innovate or Exceed Credit Requirements
1 SITING
NW1.1 Preserve Prime Habitat
NW1.2 Preserve Wetlands and Surface Water
NW1.3 Preserve Prime Farmland
NW1.4 Avoid Adverse Geology
NW1.5 Preserve Floodplain Functions
NW1.6 Avoid Unsuitable Development on Steep Slopes
NW1.7 Preserve Greenfields

2 LAND+WATER
NW2.1 Manage Stormwater
NW2.2 Reduce Pesticides and Fertilizer Impacts
NW2.3 Prevent Surface and Groundwater Contamination

3 BIODIVERSITY
NW3.1 Preserve Species Biodiversity
NW3.2 Control Invasive Species
NW3.3 Restore Disturbed Soils
NW3.4 Maintain Wetland and Surface Water Functions
NW0.0 Innovate or Exceed Credit Requirements
1 EMISSIONS
CR1.1 Reduce Greenhouse Gas Emissions
CR1.2 Reduce Air Pollutant Emissions

2 RESILIENCE
CR2.1 Assess Climate Threat
CR2.2 Avoid Traps and Vulnerabilities
CR2.3 Prepare For Long-Term Adaptability
CR2.4 Prepare for Short-Term Hazards
CR2.5 Manage Heat Island Effects
CR0.0 Innovate or Exceed Credit Requirements
SAMPLE CREDIT

Resource Allocation

- RA1.6
- Reduce Excavated Materials Taken Off Site
RA 1.6 REDUCE EXCAVATED MATERIALS TAKEN OFF SITE

- Intent/ Metric:

**RA1.6 REDUCE EXCAVATED MATERIALS TAKEN OFF SITE**

**INTENT:**
Minimize the movement of soils and other excavated materials off site to reduce transportation and environmental impacts.

**METRIC:**
Percentage of excavated material retained on site.

*The purpose is to keep soils and excavated materials on site to the extent practical.*
RA 1.6 REDUCE EXCAVATED MATERIALS TAKEN OFF SITE

- Levels of Achievement:

<table>
<thead>
<tr>
<th>LEVELS OF ACHIEVEMENT</th>
<th>IMPROVED</th>
<th>ENHANCED</th>
<th>SUPERIOR</th>
<th>CONSERVING</th>
<th>RESTORATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Reuse 30 to 50%. Percentage of excavated material suitable for reuse beneficially reused on site. (A)</td>
<td>(4) Reuse 51 to 80%. Percentage of excavated material suitable for reuse beneficially reused on site. (A)</td>
<td>(5) Reuse 81 to 95%. Percentage of excavated material suitable for reuse beneficially reused on site. (A)</td>
<td>(6) Reuse 96 to 100%. 100% of excavated material suitable for reuse retained and reused on site. (A)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Keep soils and reusable materials on site.**

Increasing percentage of material beneficially reused on site
RA 1.6 REDUCE EXCAVATED MATERIALS TAKEN OFF SITE

Description:

DESCRIPTION

Transporting soils is economically expensive and environmentally damaging. Trucks transporting soils emit greenhouse gases, and changing site topography can alter runoff patterns, increasing erosions and damaging downstream aquatic environments.

During planning and design, projects should identify opportunities to minimize grading, retain all soil on-site, and/or eliminate the need to transport additional soil to the site.

Damages can occur when transporting soils. It's also expensive.

Find ways to retain all soil on site. Eliminate need to bring soils on site.
RA 1.6 REDUCE EXCAVATED MATERIALS TAKEN OFF SITE

- Evaluation criteria and documentation:

**EVALUATION CRITERIA AND DOCUMENTATION**

A. To what extent has the project team designed the project to balance cut and fill to reduce the excavated material taken off site?

1. Design documents of industry norms and estimations of the excavated material taken off site.
2. Design documents demonstrating how the project was designed to balance cut and fill
3. Calculations of the percentage of useful material retained on site over the industry norm case.

Need to show design documents on how the project was designed to balance cut and fill.
RA 1.6 REDUCE EXCAVATED MATERIALS TAKEN OFF SITE

- Sample Hatchery narrative:

  **Superior**
  
  - Usable excavation was used on site as much as possible. To prepare the brownfield site for the new hatchery building, the old cooling pond berm on the existing site was removed (Sheet C-103). The berm consisted of 22,624 CY of excavation (Quantities shown in pages 9-12, of the 100% Phase 2a and 2b cost estimate). 22,713 CY sub excavation was removed from the designated footprint (page 11 of cost estimate).

  - 11,375 CY of this usable excavation was used in landscaping berms around the northeast corner of the new building (Sheet C-103 shows location, and quantities are shown on pages 9-12 of 100% Phase 2a and 2b cost estimate). 7,154 CY of usable excavation was also used under structural fill in paved areas ‘A’ and ‘B’ around the hatchery building (Areas shown in C-802, and quantities calculated in ‘backfill worksheet’).
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
# PROJECT AWARD LEVELS

<table>
<thead>
<tr>
<th>Recognition Level</th>
<th>Percentage of Applicable Points</th>
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<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>
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SCORING SUMMARY

Envision™ Sustainable Infrastructure Rating System

Section Totals Summary

<table>
<thead>
<tr>
<th>Section</th>
<th>Maximum Possible Score</th>
<th>Section Points</th>
<th>Innovation Points</th>
<th>Total Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL</td>
<td>141</td>
<td>91</td>
<td>3</td>
<td>94</td>
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<tr>
<td>LD</td>
<td>104</td>
<td>64</td>
<td>3</td>
<td>64</td>
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<tr>
<td>RA</td>
<td>162</td>
<td>71</td>
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<td>71</td>
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<tr>
<td>NW</td>
<td>177</td>
<td>118</td>
<td>3</td>
<td>120</td>
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<tr>
<td>CR</td>
<td>122</td>
<td>40</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>386</td>
<td>6</td>
<td>301</td>
</tr>
</tbody>
</table>

Envision™ Section Scores

- Maximum Possible Points: 143
- Earned Points: 106
- Total Points Earned: 177
- Minimum Possible Points: 122

Section 2 choices updated.
VERIFICATION PROCESS

- Registration by ENV SP (ideally)
- Assessment – Discussion with ENV SP and Verifier as needed
- Verification – Verifier Reviews Documentation
- Authentication
  - Credit Appeal Fee: $500 per credit
  - Credit Appeal Panel Composed of 3 Verifiers assigned by ISI
- Recognition: Bronze, Silver, Gold, Platinum
### FEE SCHEDULE

- Registration Fee: $1000
- Credit Appeal Fee: $500 per credit
- 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>
WHY USE ENVISION?

- Third-party Verification and Recognition of Sustainability
- Projects an image of ‘being green’ and environmentally responsible
- The Right Thing to Do
- Helps clients recognize and implement sustainable design approaches
- Reduce risk
- Long-term cost savings
APPLICATIONS USING ENVISION

- Over 150 Projects that ISI knows about
  - Water and wastewater treat plants
  - Pipelines
  - Brownfield restorations
  - Airport upgrades
  - Highway interchanges
  - Light rail facilities
  - Wetlands development
  - Utility plants
AGENCIES USING ENVISION

- City of Dallas
- Port of Long Beach
- City of Chicago
- New York City DEP
- County of Los Angeles
- San Diego Airport
- Cape Cod Planning Authority
- California Water Resources Department
03 WILLIAM JACK HERNANDEZ
FISH HATCHERY
ISI / HDR- FIRST ENVISION VERIFIED PROJECT

WILLIAM JACK HERNANDEZ SPORT FISH HATCHERY | Anchorage, Alaska

WATCH THE VIDEO

GOLD
2013
WILLIAM JACK HERNANDEZ SPORT FISH HATCHERY