

APPENDIX L

**Envision Sustainable
Infrastructure Rating System
Summary Report**

City of Edina: 54th Street Reconstruction and Arden Park Area Stormwater Plan: ENVISION™ Evaluation

QUALITY OF LIFE	PURPOSE	QL1.1	Improve community quality of life	
		QL1.2	Stimulate sustainable growth and development	
		QL1.3	Develop local skills and capabilities	
	COMMUNITY	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 site accessibility, safety and way finding	
	WELLBEING	QL3.1	Preserve historic and cultural resources	
QL3.2		Preserve views and local character		
QL3.3		Enhance public space		
INNOVATION	QLO.0	Innovate or exceed credit requirements		
TOTAL				
LEADERSHIP	COLLABORATION	LD1.1	Provide effective leadership and commitment	
		LD1.2	Establish a sustainability management system	
		LD1.3	Foster collaboration and teamwork	
		LD1.4	Provide for stakeholder involvement	
	MANAGEMENT	LD2.1	Pursue by-product synergy opportunities	
		LD2.2	Improve Infrastructure Integration	
	PLANNING	LD3.1	Plan for long-term monitoring and maintenance	
		LD3.2	Address conflicting regulations and policies	
		LD3.3	Extend useful life	
	INNOVATION	LDO.0	Innovate or exceed credit requirements	
TOTAL				
RESOURCE ALLOCATION	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	
	ENERGY	RA2.1	Reduce energy consumption	
		RA2.2	Use renewable energy	
		RA2.3	Commission and monitor energy systems	
	WATER	RA3.1	Protect fresh water availability	
		RA3.2	Reduce potable water consumption	
		RA3.3	Monitor water systems	
	INNOVATION	RAO.0	Innovate or exceed credit requirements	
	TOTAL			
	NATURAL WORLD	SOILS	NW1.1	Preserve prime habitat
			NW1.2	Protect 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	
SW		NW2.1	Manage storm water	
		NW2.2	Reduce pesticide and fertilizer impacts	
		NW2.3	Prevent surface and groundwater contamination	
BIODIVERSITY		NW3.1	Preserve species biodiversity	
		NW3.2	Control invasive species	
		NW3.3	Restore disturbed soils	
		NW3.4	Maintain wetland and surface water functions	
INNOVATION	NWO.0	Innovate or exceed credit requirements		
TOTAL				
CLIMATE & RISK	MITIGATION	CR1.1	Reduce greenhouse gas emissions	
		CR1.2	Reduce air pollutant emissions	
	ADAPTATION	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	
INNOVATION	CR0.0	Innovate or exceed credit requirements		
TOTAL				

Contents

Executive Summary	3
Introduction.....	5
Project Background	5
Purpose of this Report.....	5
The ENVISION™ Rating System.....	5
Methodology for Incorporating ENVISION™ into 54 th Street Project	6
Defining Relevant ENVISION™ Credits.....	6
Linking Credits to Key Issues for Component Workshop	7
Evaluating Alternative Scenarios	7
Evaluating Preferred Alternative	9
Results	9
Discussion	13
Strengths and Weaknesses: Applying ENVISION™ to 54 th Street Project	13
Recommendations.....	14
Appendices	14

Executive Summary

Staff and its consultant used ENVISION™ to help analyze the 54th Street project. ENVISION™ is a rating system for infrastructure developed in joint collaboration between the Zofnass Program for Sustainable Infrastructure at the Harvard Graduate School of Design and the Institute for Sustainable Infrastructure¹

ENVISION™ was created to support transformational, collaborative approaches that promote sustainable infrastructure development using a comprehensive, triple bottom line approach toward decision-making. It is intended to foster a necessary and dramatic improvement in the performance and resiliency of physical infrastructure across the full economic, social, and environmental dimensions of sustainability.

The rating system includes a total of 60 credits organized into five categories:

- Quality of Life: Goal is to improve the project's impact on the surrounding community
- Leadership: Goal is to strengthen collaboration, stakeholder involvement, and long-term planning considerations
- Resource Allocation: Goal is to wisely manage materials, energy, and water resources used for project
- Natural World: Goal is to understand and minimize negative environmental impacts of project
- Climate and Risk: Goal is to minimize emissions and design for resilience - in both the short-term and long-term

Within each credit, points are earned based on level of achievement obtained, with five levels of achievement ranging from "improved" to "enhanced" to "superior" to "conserving" to "restorative."

The project was evaluated based on a set of 52 ENVISION™ credits which were determined to be most relevant to the 54th street reconstruction and Arden Park Stormwater Management Plan.

The ENVISION™ evaluation was conducted at three stages during the planning process. During the first stage, the project team identified ENVISION™ credits deemed most relevant to the critical issues identified through stakeholder engagement including intercept surveys and door knocking.

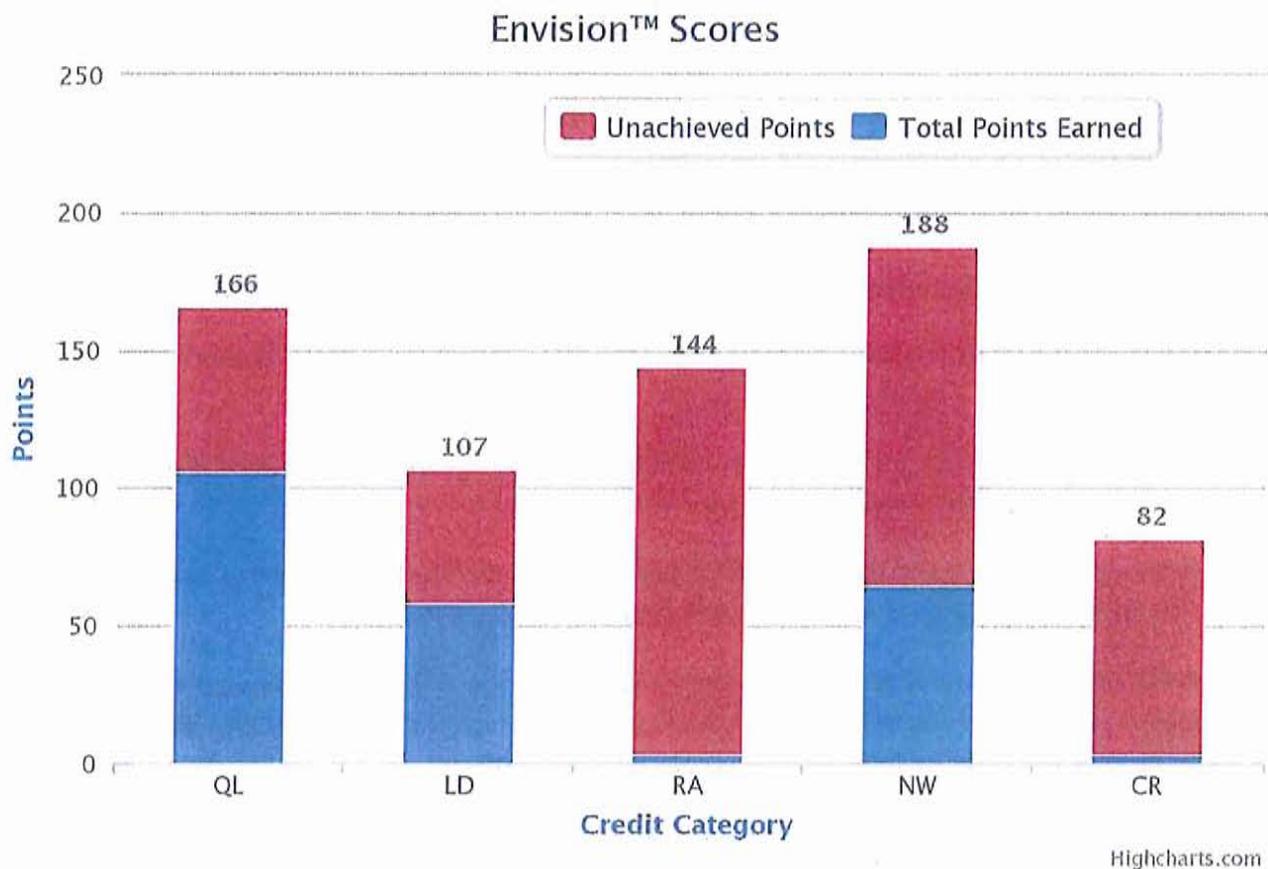
During the second stage the project team used ENVISION™ to evaluate the alternative design scenarios for each of the three project sections (West End, Middle Section, and East End). Results of this evaluation were presented at the September 30th final scenario workshop and are provided in the appendix.

Finally, ENVISION™ was used by the project team to evaluate the preferred design alternative which is being presented as part of this report. Results of this evaluation are summarized in the figure below and in the appendix.

¹ The Institute for Sustainable Infrastructure is a not for profit education and research organization founded by the American Public Works Association, the American Society of Civil Engineers, and the American Council of Engineering Companies

Overall, the preferred alternative scored 235 points out of a possible 687 points. It should be noted that the scores will increase substantially as the project moves from the feasibility phase to the detailed design and construction phases. At this stage of the project there was no basis to assign points to a large number of the credits available because decisions related to those credits have not yet been made.

As can be seen in the point summary, the project scored relatively high in the Quality of Life and Leadership categories in particular. This reflects a number of factors including a very thorough stakeholder engagement program, a holistic planning approach that pro-actively considered infrastructure integration opportunities, and the extensive efforts to design the project in a manner that will preserve community quality of life, promote alternative transportation modes, and preserve cultural and natural resources.



Introduction

Project Background

The City of Edina is working hard to protect the environment for future generations – through programs and initiatives such as “Go Green Edina,” the draft “Living Streets” Policy, the Edina “Emerald Energy Program” and participation in Minnesota’s “Green Step Cities” program.

The reconstruction of 54th Street provides another opportunity for Edina to lead the way - by ensuring the project is designed and built in a manner that maximizes the social, economic, and environmental benefits of the project. To do so, the City is using ENVISION™ - a sustainable infrastructure rating system designed by the Institute for Sustainable Infrastructure².

The City has included sustainability evaluations in prior planning studies, and has used the three E’s framework which provides an analysis of how a project performs in terms of Equity, Environment, and the Economy. The ENVISION™ analysis in this report is intended to provide the City with another option for conducting future sustainability evaluations on a wide range of project types.

Purpose of this Report

The purpose of this report is to summarize the results of applying the ENVISION™ rating system to the 54th Street Reconstruction and Arden Park Area Stormwater Management Plan. The report includes an overview of how ENVISION™ was used at different stages throughout the project along with illustrative examples. It includes a more detailed summary of the final results of applying ENVISION™ to the preferred alternative.

The ENVISION™ Rating System

This unique new framework unites over 900 sector specific systems into a comprehensive tool to evaluate and rate the community, environmental, and economic benefits of infrastructure projects. It was developed jointly by APWA, ACEC, and ASCE in partnership with Harvard University’s Zofnass Program for Sustainable Infrastructure.

ENVISION™ was created to support transformational, collaborative approaches that promote sustainable infrastructure development using a comprehensive, triple bottom line approach toward decision-making. It is intended to foster a necessary and dramatic improvement in the performance and resiliency of physical infrastructure across the full economic, social, and environmental dimensions of sustainability.

The rating system includes a total of 60 credits organized into five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk (Figure 1). Quality of Life credits are intended to improve the project’s impact on the surrounding community. Leadership credits are design to strengthen collaboration, stakeholder involvement, and long-term planning considerations. Resource Allocation credits are intended to promote the wise use of materials, energy, and water resources. Climate and Risk credits encourage projects that minimize emissions and design for resiliency.

² The Institute for Sustainable Infrastructure (ISI) is a non-profit established by the American Public Works Association (APWA), the American Society for Civil Engineers (ASCE), and the American Council of Engineering Companies (ACEC)



Figure 1 ENVISION Rating System

Within each credit, points are earned based on level of achievement obtained, with five levels of achievement ranging from “improved” to “enhanced” to “superior” to “conserving” to “restorative.”

- **Improved:** Performance that is above conventional, but not by much. Encouraging, but mostly limited improvement in sustainable performance.
- **Enhanced:** Sustainable performance that is on the right track but not particularly remarkable. Indications that superior performance is within reach.
- **Superior:** Sustainable performance that is noteworthy, but falls slightly short of conserving. Point scores are designed to provide incentives for achieving conserving or restorative performance.
- **Conserving:** Performance that has achieved essentially zero impact. May be combined with restorative if restoration is not applicable.
- **Restorative:** highest level possible

Methodology for Incorporating ENVISION™ into 54th Street Project

ENVISION™ was incorporated into the study in several different ways, each briefly described below.

Defining Relevant ENVISION™ Credits

There are many different definitions of sustainability. One of the benefits of the ENVISION™ rating system is that it can provide a clear framework for defining sustainability at the project level. At the onset of the project, the project team including City staff reviewed the ENVISION™ credits and determined which were most applicable to the project. The intent was to help ensure consistent and clear communications and stakeholder engagement around sustainability. 52 of the 60 ENVISION™ credits were identified as relevant to the project and summarized into a single document (See Appendix for 54th Street ENVISION™ Credit List). The document was made available on the project website and shared with members of the project team.

Linking Credits to Key Issues for Component Workshop

Following a rigorous stakeholder engagement process that helped identify key planning issues such as safety, aesthetics, creek issues, parking, signage, and traffic, the project team identified which ENVISION™ credits were most relevant to those issues. This analysis was used to help prepare materials for the August 19th Design Component Workshop. Figure 2 below shows one of the design component cards that were prepared for the workshop. At the workshop participants also received a brief explanation of the ENVISION™ rating system and how it is being incorporated into the project.

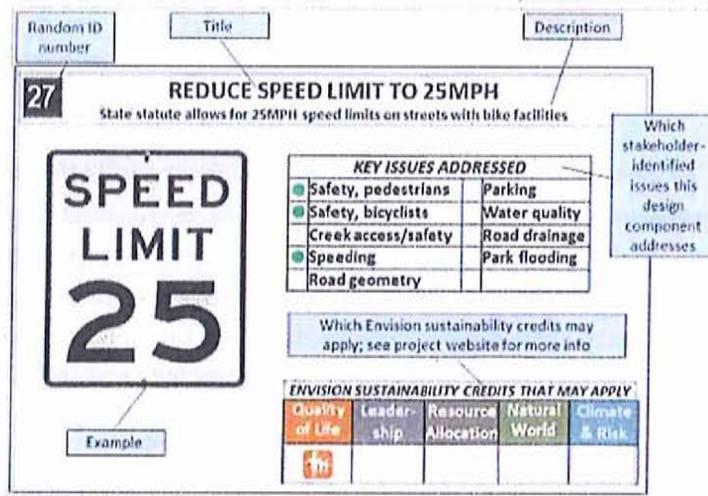


Figure 2 Workshop Design Component Card

Evaluating Alternative Scenarios

Following the design component workshop, the project team developed multiple scenarios for each of the three sections of the project: the West End, Middle Segment, and East End. Similar to the Design Component Workshop, ENVISION™ was also incorporated into the September 30th Design Scenario open house. For each of the three sections, ENVISION™ was used to rate the alternative scenarios against each other. The results were summarized by credit category (Quality of Life, Leadership, etc...) and by total points scored and presented on large poster boards. Figure 3 below illustrates the Total Score for the Middle Segment of the project.

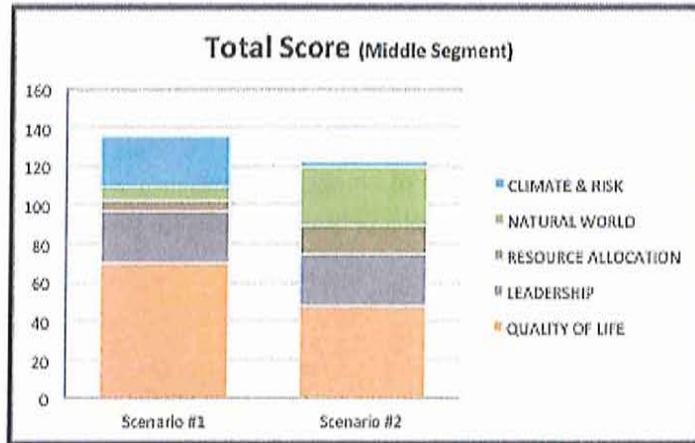


Figure 3 Total ENVSION Score Middle Segment

Scenario #1 (raised bridge, retain whitewater features) outperformed Scenario #2 (remove whitewater features, maintain existing vertical geometry) in terms of overall scoring. Scenario #1 scored higher in terms of quality of life – reflecting the extent to which stakeholders value the recreational and aesthetic qualities of the existing rapids. Scenario #1 also scored higher in terms of climate and risk credits, because it provides greater resiliency in the face of short-term hazards such as flooding. Scenario #2, on the other hand, scored higher in terms of its potential impact on the environment, with greater opportunities for improving aquatic biodiversity, improving upstream water quality, and the overall ecological health of the creek.

Figure 4 shows a picture of two participants viewing the results of the analysis on one of the poster boards at the open house.

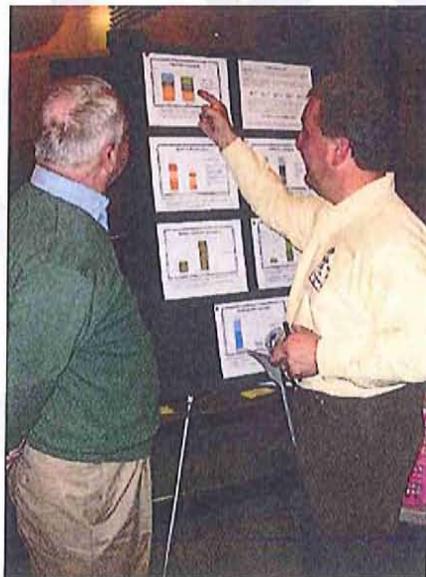


Figure 4 Participants at Design Scenario Open House

Evaluating Preferred Alternative

Finally, ENVISION™ was used to rate the preferred alternative, which was developed to incorporate additional feedback received at the design scenario workshop and subsequent on-line survey. For each credit, brief comments were made to support the level of achievement given. In addition, opportunities for improving the credit score were identified.

Results

Figure 5 presents a graphic summary of the total points achieved based on an evaluation of the preferred alternative presented in the feasibility report. Overall, the preferred alternative scored 223 points out of a possible 687 points. While the scoring shows a large number of unachieved points, it should be noted that the ENVISION™ rating system was designed to push the boundaries of project design and therefore it was anticipated that most projects would not achieve anywhere close to a perfect score. For example, based on the preliminary scoring, the 54th Street project would be eligible for a Silver Award through the Institute for Sustainable Infrastructure.

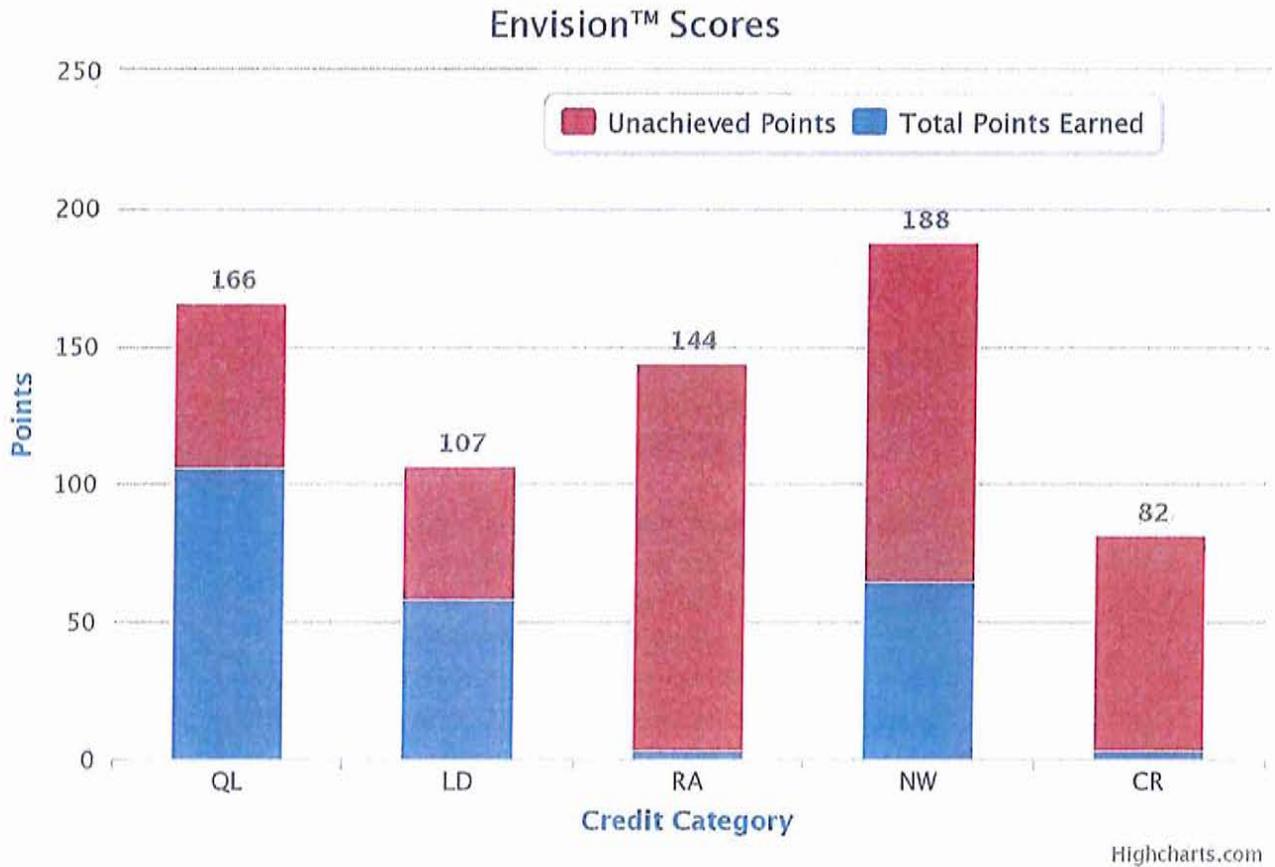


Figure 5 Overall ENVISION Score Preferred Alternative

Table 1 below provides a breakdown of applicable points (reflecting total number of points available based on which credits were deemed relevant to the project), actual points earned, innovation points earned, total points pursued, and percentage of available points.

Table 1 Summary of ENVISION Scoring for Preferred Alternative

Credit Category	Applicable Points	Points	Innovation Points	Total Points Pursued	Percentage of Available Points
QUALITY OF LIFE	166	98	8	106	59%
LEADERSHIP	107	54	4	58	50%
RESOURCE ALLOCATION	144	3	0	3	2%
NATURAL WORLD	188	65	0	65	35%
CLIMATE AND RISK	82	3	0	3	4%
Total Workbook Points	687	223	12	235	32%

Overall, the preferred alternative scored 223 points out of a possible 687 points. It should be noted that the scores will increase substantially as the project moves from the feasibility phase to the detailed design and construction phases. At this stage of the project there was no basis to assign points to a large number of the credits available because decisions related to those credits have not yet been made.

The preferred design scored highest in terms of quality of life credits (98 points), leadership (58 points), and Natural World (65 points). It achieved fewer points for Climate & Risk (3 points) and Resource Allocation (3 points).

In terms of Quality of Life, the preferred design scored well because it improves quality of life for the neighborhood, encourages alternative modes of transportation, improves site accessibility, safety, and way finding, and enhances public spaces. A summary of points achieved is shown in the table below.

Table 2 Quality of Life Credits

QUALITY OF LIFE	PURPOSE	QL1.1	Improve community quality of life	20
		QL1.2	Stimulate sustainable growth and development	13
		QL1.3	Develop local skills and capabilities	NA
				33
	COMMUNITY	QL2.1	Enhance public health and safety	0
		QL2.2	Minimize noise and vibration	0
		QL2.3	Minimize light pollution	1
		QL2.4	Improve community mobility and access	4
		QL2.5	Encourage alternative modes of transportation	15
		QL2.6	Improve site accessibility, safety and way finding	15
				35
	WELLBEING	QL3.1	Preserve historic and cultural resources	16
		QL3.2	Preserve views and local character	3
		QL3.3	Enhance public space	11
				30
	INNOVATION	QL0.0	Innovate or exceed credit requirements	8



In terms of Leadership, the project scored well because of the City and project team’s effective leadership and commitment to the project, a robust stakeholder involvement process, and efforts to improve infrastructure integration (linking Arden Park and 54th street reconstruction project planning together for example). A summary of points achieved is shown in the table below.

Table 3 Leadership Credits

LEADERSHIP	COLLABORATION	LD1.1	Provide effective leadership and commitment	17	
		LD1.2	Establish a sustainability management system	NA	
		LD1.3	Foster collaboration and teamwork	4	
		LD1.4	Provide for stakeholder involvement	14	
					35
	MANAGEMENT	LD2.1	Pursue by-product synergy opportunities	0	
		LD2.2	Improve infrastructure integration	16	
					16
	PLANNING	LD3.1	Plan for long-term monitoring and maintenance	0	
		LD3.2	Address conflicting regulations and policies	2	
		LD3.3	Extend useful life	1	
					3
	INNOVATION	LD0.0	Innovate or exceed credit requirements	4	
		TOTAL		58	

In terms of Climate and Risk the project scored low, reflecting the fact that while the design (in particular raising the bridge) does help the community prepare for long-term adaptability and short-term hazards associated with changing climate conditions, it does not do so explicitly. Efforts such as minimizing pavement use helps manage heat island effects however to improve the scoring in this category the City would need to more assessment of potential risks as part of the design phase of the project. A summary of points achieved is shown in the table below.

Table 4 Climate & Risk Credits

CLIMATE & RISK	EMISSION	CR1.1	Reduce greenhouse gas emissions	NA
		CR1.2	Reduce air pollutant emissions	NA
				0
	RESILIENCE	CR2.1	Assess climate threat	0
		CR2.2	Avoid traps and vulnerabilities	2
		CR2.3	Prepare for long-term adaptability	0
		CR2.4	Prepare for short-term hazards	0
		CR2.5	Manage heat island effects	1
				3
	INNOVATION	CR0.0	Innovate or exceed credit requirements	0
		TOTAL		3



In terms of Natural World the project scored well, however at this stage of the project it is not possible to score several of the credits. The project team and City are however addressing a number of these credits, especially those related to the creek, and as the project moves forward there will be an opportunity to capture additional points associated with factors such as: protecting surface water, preserving floodplain functions, and preventing surface water contamination among several others. A summary of points achieved is shown in the table below.

Table 5 Natural World Credits

NATURAL WORLD	SITING	NW1.1	Preserve prime habitat	9
		NW1.2	Protect wetlands and surface water	1
		NW1.3	Preserve prime farmland	0
		NW1.4	Avoid adverse geology	0
		NW1.5	Preserve floodplain functions	14
		NW1.6	Avoid unsuitable development on steep slopes	1
		NW1.7	Preserve greenfields	10
				35
	L&W	NW2.1	Manage storm water	4
		NW2.2	Reduce pesticide and fertilizer impacts	1
		NW2.3	Prevent surface and groundwater contamination	1
				6
	BIODIVERSITY	NW3.1	Preserve species biodiversity	13
		NW3.2	Control invasive species	5
		NW3.3	Restore disturbed soils	0
		NW3.4	Maintain wetland and surface water functions	6
				24
	INNOVATION	NW0.0	Innovate or exceed credit requirements	0
			TOTAL	65

In terms of Resource Allocation, the project scored very low because at this stage there is no formal commitment or design which will support sustainable procurement, use regional materials, divert waste from landfills, reduce excavated materials taken off site, and other related factors. Addressing this category of credits in the next phase of the project will significantly increase scoring. A summary of points achieved is shown in the table below.

Table 6 Resource Allocation Credits

RESOURCE ALLOCATION	MATERIALS	RA1.1	Reduce net embodied energy	0
		RA1.2	Support sustainable procurement practices	0
		RA1.3	Use recycled materials	0
		RA1.4	Use regional materials	0
		RA1.5	Divert waste from landfills	0
		RA1.6	Reduce excavated materials taken off site	0
		RA1.7	Provide for deconstruction and recycling	0
	ENERGY	RA2.1	Reduce energy consumption	3
		RA2.2	Use renewable energy	0
		RA2.3	Commission and monitor energy systems	0
			3	
WATER	RA3.1	Protect fresh water availability	0	
	RA3.2	Reduce potable water consumption	0	
	RA3.3	Monitor water systems	0	
			0	
INNOVATION	RA0.0	Innovate or exceed credit requirements	0	
		TOTAL	3	

A summary of how the preferred alternative scored against each credit, including notes related to strengths, weaknesses, and opportunities for improvement will be provided in the appendices of this report.

Discussion

Strengths and Weaknesses: Applying ENVISION™ to 54th Street Project

	STRENGTHS	WEAKNESSES
Business as Usual	<ul style="list-style-type: none"> • Inexpensive • Easy to modify • Developed in-house • Focus on aspects of sustainability most relevant to City 	<ul style="list-style-type: none"> • 3E's approach difficult to apply to infrastructure projects • Narrow focus • Stand alone tool
ENVISION	<ul style="list-style-type: none"> • Provides recognition • National standard allows for benchmarking/comparisons • Comprehensive triple bottom decision-making tool • ISI provides continual improvement • 3rd party verification 	<ul style="list-style-type: none"> • Complexity • Cost • Steep learning curve • Value proposition uncertain

Recommendations

Appendices

Envision Sustainable Infrastructure Rating System: Credits that Apply to these Edina Projects



Edina: Quality of Life – Applicable Credits

QL1.1	Improve community quality of life. Improve the net quality of life of all communities affected by the project and mitigate negative impacts to communities.
QL1.2	Stimulate sustainable growth and development. Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability.
QL2.1	Enhance public health and safety. Take into account the health and safety implications of using new materials, technologies or methodologies above and beyond meeting regulatory requirements.
QL2.2	Minimize noise and vibration. Minimize noise and vibration generated during construction and in the operation of the constructed works to maintain and improve community livability.
QL2.3	Minimize light pollution. Prevent excessive glare, light at night, and light directed skyward to conserve energy and reduce obtrusive lighting and excessive glare.
QL2.4	Improve community mobility and access. Locate, design and construct the project in a way that eases traffic congestion, improves mobility and access, does not promote urban sprawl, and otherwise improves community livability.
QL2.5	Encourage alternative modes of transportation. Improve accessibility to non-motorized transportation and public transit. Promote alternative transportation and reduce congestion.
QL2.6	Improve site accessibility, safety and wayfinding. Improve user accessibility, safety, and wayfinding of the site and surrounding areas.
QL3.1	Preserve historic and cultural resources. Preserve or restore significant historical and cultural sites and related resources to preserve and enhance community cultural resources.
QL3.2	Preserve views and local character. Design the project in a way that maintains the local character of the community and does not have negative impacts on community views.
QL3.3	Enhance public space. Improve existing public space including parks, plazas, recreational facilities, or wildlife refuges to enhance community livability.
QL0.0	INNOVATE OR EXCEED CREDIT REQUIREMENTS. To reward exceptional performance beyond the expectations of the system as well as the application of innovative methods which advance the state of the art for sustainable infrastructure.

Edina: Leadership – Applicable Credits

LD1.1	Provide effective leadership and commitment. Provide effective leadership and commitment to achieve project sustainability goals.
LD1.3	Foster collaboration and teamwork. Eliminate conflicting design elements, and optimize system by using integrated design and delivery methodologies and collaborative processes.
LD1.4	Provide for stakeholder involvement. Establish sound and meaningful programs for stakeholder identification, engagement and involvement in project decision making.
LD2.1	Pursue by-product synergy opportunities. Reduce waste, improve project performance and reduce project costs by identifying and pursuing opportunities to use

	unwanted by-products or discarded materials and resources from nearby operations.
LD2.2	Improve infrastructure integration. Design the project to take into account the operational relationships among other elements of community infrastructure which results in an overall improvement in infrastructure efficiency and effectiveness.
LD3.1	Plan for long-term monitoring and maintenance. Put in place plans and sufficient resources to ensure as far as practical that ecological protection, mitigation and enhancement measures are incorporated in the project and can be carried out.
LD3.2	Address conflicting regulations and policies. Work with officials to identify and address laws, standards, regulations or policies that may unintentionally create barriers to implementing sustainable infrastructure.
LD3.3	Extend useful life. Extend a project's useful life by designing the project in a way that results in a completed works that is more durable, flexible and resilient.
LD0.0	INNOVATE OR EXCEED CREDIT REQUIREMENTS. To reward exceptional performance beyond the expectations of the system as well as the application of innovative methods which advance the state of the art for sustainable infrastructure.

Edina: Resources Allocation – Applicable Credits

RA1.3	Use recycled materials. Reduce the use of virgin materials and avoid sending useful materials to landfills by specifying reused materials, including structures, and material with recycled content.
RA1.4	Use regional materials. Minimize transportation costs and impacts and retain regional benefits through specifying local sources.
RA1.5	Divert waste from landfills. Reduce waste, and divert waste streams away from disposal to recycling and reuse.
RA1.6	Reduce excavated materials taken off site. Minimize the movement of soils and other excavated materials off site to reduce transportation and environmental impacts.
RA1.7	Provide for deconstruction and recycling. Encourage future recycling, up-cycling, and reuse by designing for ease and efficiency in project disassembly or deconstruction at the end of its useful life.
RA2.1	Reduce energy consumption. Conserve energy by reducing overall operation and maintenance energy consumption throughout the project life cycle.
RA2.2	Use renewable energy. Meet energy needs through renewable energy sources.
RA3.1	Protect fresh water availability. Reduce the negative net impact on fresh water availability, quantity and quality.
RA3.2	Reduce potable water consumption. Reduce overall potable water consumption and encourage the use of greywater, recycled water, and stormwater to meet water needs.
RA3.3	Monitor water systems. Implement programs to monitor water systems performance during operations and their impacts on receiving waters.
RA0.0	INNOVATE OR EXCEED CREDIT REQUIREMENTS. To reward exceptional performance beyond the expectations of the system as well as the application of innovative methods which advance the state of the art for sustainable infrastructure.

Edina: Natural World – Applicable Credits

NW1.1	<p>Preserve prime habitat. Avoid placing the project – and the site compound/temporary works – on land that has been identified as of high ecological value or as having species of high value.</p>
NW1.2	<p>Protect wetlands and surface water. Protect, buffer, enhance and restore areas designated as wetlands, shorelines, and waterbodies by providing natural buffer zones, vegetation and soil protection zones.</p>
NW1.4	<p>Avoid adverse geology. Avoid development in adverse geologic formations and safeguard aquifers to reduce natural hazards risk and preserve high quality groundwater resources.</p>
NW1.5	<p>Preserve floodplain functions. Preserve floodplain functions by limiting development and development impacts to maintain water management capacities and capabilities.</p>
NW1.6	<p>Avoid unsuitable development on steep slopes. Protect steep slopes and hillsides from inappropriate and unsuitable development in order to avoid exposures and risks from erosion and landslides, and other natural hazards.</p>
NW1.7	<p>Preserve greenfields. Conserve undeveloped land by locating projects on previously developed greyfield sites and/or sites classified as brownfields.</p>
NW2.1	<p>Manage stormwater. Minimize the impact of infrastructure on stormwater runoff quantity and quality.</p>
NW2.2	<p>Reduce pesticide and fertilizer impacts. Reduce non-point source pollution by reducing the quantity, toxicity, bioavailability and persistence of pesticides and fertilizers, or by eliminating the need for the use of these materials.</p>
NW2.3	<p>Prevent surface and groundwater contamination. Preserve fresh water resources by incorporating measures to prevent pollutants from contaminating surface and groundwater and monitor impacts over operations.</p>
NW3.1	<p>Preserve species biodiversity. Protect biodiversity by preserving and restoring species and habitats.</p>
NW3.2	<p>Control invasive species. Use appropriate non-invasive species and control or eliminate existing invasive species.</p>
NW3.3	<p>Restore disturbed soils. Restore soils disturbed during construction and previous development to bring back ecological and hydrological functions.</p>
NW3.4	<p>Maintain wetland and surface water functions. Maintain and restore the ecosystem functions of streams, wetlands, waterbodies and their riparian areas.</p>
NW0.0	<p>INNOVATE OR EXCEED CREDIT REQUIREMENTS. To reward exceptional performance beyond the expectations of the system and the application of innovative methods which advance the state of the art for sustainable infrastructure.</p>

Edina: Climate and Risk – Applicable Credits

CR2.1	<p>Assess climate threat. Develop a comprehensive Climate Impact Assessment and Adaptation Plan.</p>
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CR2.2	<p>Avoid traps and vulnerabilities. Avoid traps and vulnerabilities that could create high, long-term costs and risks for the affected communities.</p>
CR2.3	<p>Prepare for long-term adaptability. Prepare infrastructure systems to be resilient to the consequences of long-term climate change, perform adequately under altered climate conditions, or adapt to other long-term change scenarios.</p>
CR2.4	<p>Prepare for short-term hazards. Increase resilience and long-term recovery prospects of the project and site from natural and man-made short-term hazards.</p>
CR2.5	<p>Manage heat islands effects. Minimize surfaces with a high solar reflectance index (SRI) to reduce localized heat accumulation and manage microclimates.</p>
CR0.0	<p>INNOVATE OR EXCEED CREDIT REQUIREMENTS. To reward exceptional performance beyond the expectations of the system as well as the application of innovative methods which advance the state of the art for sustainable infrastructure.</p>