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City of Oxnard

Public Works Integrated Master Plan

RECYCLED WATER

PROJECT MEMORANDUM 4.5
ENVISION™ ASSESSMENT

FINAL DRAFT
December 2015

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City of Oxnard

Public Works Integrated Master Plan

RECYCLED WATER SYSTEM

PROJECT MEMORANDUM 4.5
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ENVISION™ ASSESSMENT

1.0 INTRODUCTION

The purpose of this project memorandum (PM) is to provide an overview of the Envision™ Rating system as it relates to planning and designing sustainable infrastructure as well as outlining a specific approach to using the framework within the Public Works Integrated Master Plan (PWIMP) planning and design processes. The Envision work began by assessing the potential for retroactive Envision certification of the Advanced Water Purification Facility (AWPF). During the PWIMP, the scope of the work was broadened to perform an initial Envision™ assessment on the entire PWIMP. This effort is summarized in this PM as well as discussion of how programmatic versus project specific credits might be applied.

1.1 PMs Used for Reference

The recommendations outlined in this PM are made in concert with recommendations and analyses from other related PMs:

- PM 1.1 - Overall - Master Planning Process Overview.

2.0 WHAT IS ENVISION™?

2.1 Envision™ Origins

The Envision™ Rating system, developed through a joint collaboration between the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure (ISI)[1], provides a holistic framework for evaluating and rating the community, environmental, and economic benefits of all types and sizes of infrastructure projects. The Envision™ Rating System evaluates, grades, and gives recognition to infrastructure projects that use transformational, collaborative approaches to assess the sustainability indicators over the course of the project's life cycle. Specifically, Envision™ helps teams to:

- Meet sustainability goals.
- Be publicly recognized for high levels of achievement in sustainability.

[1] The Institute for Sustainable Infrastructure (ISI) is a 501 (c) (3) not for profit organization, structured to develop and maintain a sustainability rating system for civil infrastructure in the United States. ISI was founded by the American Council of Engineering Companies (ACEC), the American Public Works Association (APWA), and the American Society of Civil Engineers (ASCE) and is governed by a nine member Board of Directors, appointed by the founding organizations.

- Help communities and project teams to collaborate and discuss, "Are we doing the right project?" and, "Are we doing the project right?"
- Make decisions about the investment of scarce resources.
- Include community priorities in civil infrastructure projects.

2.2 Benefits of Envision™

While there are many sector-specific sustainability rating systems already available and in use, the Envision™ system was developed to provide a comprehensive tool that could be applied to more broad based infrastructure work. Specifically, the Envision™ system:

- Offers a way of assessing the sustainability of infrastructure projects, not simply in individual improvements, but in terms of their overall contribution to the communities they serve.
- Requires more than just increasing resource conservation and factors of safety; the system recognizes change in the engineering design mindset by recognizing the team's attention and willingness to changing the design and operating environment.
- Seeks to educate and build awareness about the important consequences and benefits of sustainable design and construction.
- Focuses at the community level rather than the single element level (i.e., building, park, road); this is particularly advantageous over the element specific rating tools because infrastructure development is so closely tied to the resources and constraints of multiple departments and agencies within the community.

The timing for this rating system is particularly poignant as so many communities are now making sustainability goals for the future. Given the long life of many infrastructure projects (30 to 50 years or longer), infrastructure is being built now that will help to meet those future sustainability goals. Planning, designing, and constructing them using a holistic, sustainable framework now is imperative!

2.3 Envision™ Framework

Envision™ follows the model established by the USGBC's LEED rating system in that there are five major categories of credits with a total of 60 combined credits. To qualify for Envision™ certification, projects must:

- Meet varying levels of points in the following categories (see Table 1 for further details):
  - Quality of Life.
  - Leadership.

Table 1 Summary of Credit Framework for the Envision™ Rating System
Public Works Integrated Master Plan
City of Oxnard

Major Category	Description	Subcategories	Credit	Max Points
Quality of Life	Specifically addresses projects' impact on communities both the health and wellbeing of individuals that of the larger social fabric as a whole	Purpose	QL1.1 Improve community quality of life	25
			QL1.2 Stimulate sustainable G&D	16
			QL1.3 Develop local skills	15
		Well Being	QL2.1 Enhance public health & safety	16
			QL2.2 Minimize noise	11
			QL2.3 Minimize light pollution	11
			QL2.4 Improve community mobility/access	14
			QL2.5 Encourage alt modes of transport	15
			QL2.6 Improve site accessibility, safety	15
		Community	QL3.1 Preserve historic/cultural resources	16
			QL3.2 Preserve views/local character	14
			QL 3.3 Enhance public space	13
Leadership	Comprised of the tasks that demonstrate effective leadership and commitment by all parties involved in a project	Collaboration	LD1.1 Provide effective leadership	17
			LD1.2 Establish sustainability management system	14
			LD1.3 Foster collaboration and teamwork	15
			LD1.4 Provide stakeholder involvement	14
		Management	LD2.1 Pursue by-product synergy opportunities	15
			LD2.2 Improve infrastructure integration	16
		Planning	LD3.1 Plan for long-term monitoring / maintenance	10
			LD3.2 Address conflicting regulations / policies	8
			LD3.3 Extend useful life	12

Table 1 Summary of Credit Framework for the Envision™ Rating System
Public Works Integrated Master Plan
City of Oxnard

Major Category	Description	Subcategories	Credit	Max Points
Resource Allocation	Measures the use of renewable and non-renewable resources for the project	Materials	RA1.1 Reduce net embodied energy	18
			RA1.2 Support sustainable procurement	9
			RA1.3 Use recycled materials	14
			RA1.4 Use regional materials	10
			RA1.5 Divert waste from landfills	11
			RA1.6 Reduce excavated materials taken off-site	6
			RA1.7 Provide for deconstruction / recycling	12
		Energy	RA2.1 Reduce energy consumption	18
			RA2.2 Use renewable energy	20
			RA2.3 Commission and monitor energy systems	11
		Water	RA3.1 Protect fresh water availability	21
			RA3.2 Reduce potable water consumption	21
			RA3.3 Monitor water systems	11
Natural World	Allows project teams to assess the effect of the project on the preservation and renewal of ecosystem functions	Siting	NW1.1 Preserve prime habitat	18
			NW1.2 Protect wetlands and surface water	18
			NW1.3 Preserve prime farmland	15
			NW1.4 Avoid adverse geology	5
			NW1.5 Preserve floodplain functions	14
			NW1.6 Avoid unsuitable development on steep slopes	6
			NW1.7 Preserve greenfields	23

Table 1 Summary of Credit Framework for the Envision™ Rating System
Public Works Integrated Master Plan
City of Oxnard

Major Category	Description	Subcategories	Credit	Max Points
		Land & Water	NW2.1 Manage stormwater	21
			NW2.2 Reduce pesticide and fertilizer impacts	9
			NW2.3 Prevent surface and groundwater contamination	18
		Biodiversity	NW3.1 Preserve species biodiversity	16
			NW3.2 Control invasive species	11
			NW3.3 Restore disturbed soils	10
			NW3.4 Maintain wetland and surface water functions	19
Climate and Risk	Minimizes emissions that may contribute to increased short- and long-term risks, and ensure that infra-structure projects are resilient to short-term hazards or altered long-term future conditions	Emission	CR1.1 Reduce greenhouse gas emissions	25
			CR1.2 Reduce air pollutant emissions	15
			CR1.3 Assess climate threat	15
			CR1.4 Avoid traps and vulnerabilities	20
		Resilience	CR2.1 Prepare for long-term adaptability	20
			CR2.2 Prepare for short-term hazards	21
			CR2.3 Manage heat island effects	6

Note:
A detailed overview of the Envision Rating system with associate levels of achievement for each credit is included in Appendix A.

- Resource Allocation.
- Natural World.
- Climate and Risk.

Each of the 5 major categories has 2 to 3 subcategories, each with varying number of credits associated with them. Each credit has anywhere from 2 to 5 levels of achievement associated with it:

- Improved: Performance that is above conventional.
- Enhanced: Sustainable performance that is on the right track. Indications that superior performance is within reach.
- Superior: Sustainable performance that is noteworthy.
- Conserving: Performance that has achieved essentially zero impact.
- Restorative: Performance that restores natural or social systems.

The level of scoring across the 5 levels is non-linear giving substantially more points for the higher levels. Figure 1 illustrates an example of the levels of achievement of Credit QL1.1.

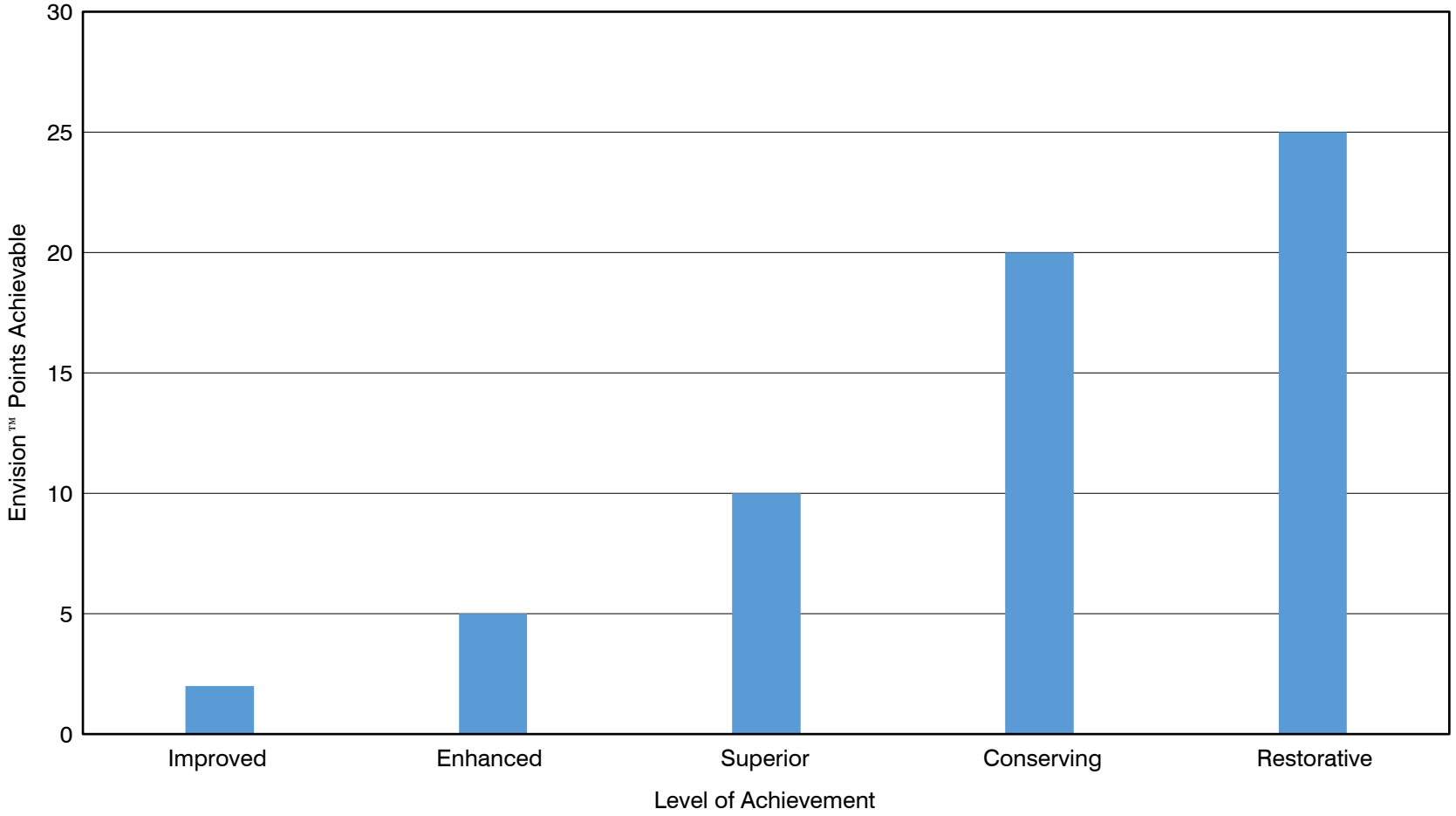
Envision™ certification is again similar to LEED in that there are four levels of project recognition or award, as noted in Table 2. However, it should be noted that many projects never apply for the Envision™ certification but rather choose to simply use the principles outlined within the framework.

Table 2 Initial Assessment of the PWIMP with the Envision™ Rating System
Public Works Integrated Master Plan
City of Oxnard

Recognition Level	Minimum Applicable Points	Minimum in Each Category
Bronze	20%	No minimum category percentage required (as is the case with LEED)
Silver	30%	
Gold	40%	
Platinum	50%	

3.0 RETROACTIVE CERTIFICATION OF THE AWPF

The City built and certified the AWPF facility using the US Green Building Council's LEED Rating System. Consequently, the AWPF is considered a 'green building', achieving a LEED 'Gold' rating. With the introduction of the Envision™ Rating System for Sustainable Infrastructure, the City asked Carollo to assess what the Envision™ rating would be on the AWPF facility, retroactively. Because of the differences between the two rating systems



EXAMPLE OF LEVEL OF ACHIEVEMENT OF CREDIT QL 1.1

FIGURE 1

CITY OF OXNARD

PM NO. 4.5 - Envision™ Assessment

PUBLIC WORKS INTEGRATED MASTER PLAN

CITY OF OXNARD CALIFORNIA

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(i.e., one focused on occupied buildings and the other focused in infrastructure), there is not a one-to-one correlation.

Using the LEED certification documents, an assessment was done to determine potential applicable Envision™ credits for the AWPF. The retroactive analysis revealed that the AWPF could potentially achieve a Bronze to Silver Rating, lower than that of the LEED achieved Gold Rating. However, this is not at all surprising given the different nature and emphasis of the two rating systems. Table 3 presents the summary of the Envision™ assessment for the AWPF facility.

Table 3 Retroactive Envision™ Assessment on the AWPF Facility(1,2)
Public Works Integrated Master Plan
City of Oxnard

Major Category	Minimum Level of Achievement	Maximum Level of Achievement
Quality of Life	10%	25%
Leadership	14%	24%
Resource Allocation	31%	41%
Natural World	40%	42%
Climate and Risk	20%	21%
Total	**25% (Bronze)**	**32% (Silver)**

Notes:
(1) The difference between minimum and maximum lies in the interpretation of the LEED documentation available.
(2) For those Envision credits not represented in LEED, estimates were made as to what might have been applicable at the time of planning and design of the AWPF.

4.0 INITIAL ENVISION™ ASSESSMENT FOR OXNARD

An initial assessment using Envision™ was done on the overall PWIMP to identify potential applicable credits. The assessment was done at a very big picture level and was informed as much by the overarching goals and values of the City related to sustainability as they were to the project itself. A minimum level of achievement was identified as well as a stretch level to show the range of possible implementation of sustainable principles. Table 4 shows a summary of that initial assessment. Appendix B contains a detailed summary of the initial Envision™ assessment completed for Oxnard's PWIMP.

Table 4	Initial Assessment of the PWIMP with the Envision™ Rating System Public Works Integrated Master Plan City of Oxnard	
Major Category	**Minimum Level of Achievement**	**Stretch Level of Achievement**
Quality of Life	12%	26%
Leadership	26%	42%
Resource Allocation	26%	51%
Natural World	28%	43%
Climate and Risk	26%	56%
Total	**23% (Bronze)**	**43% (Gold)**

5.0 DEVELOPMENT OF EVALUATION CRITERIA

While the initial Envision™ assessment was useful in understanding what level of award might be possible, the application of Envision™ to the PWIMP was a bit too broad to be useful. However, taking the initial assessment and considering those along with the overarching goals and objectives for the PWIMP, as summarized in PM 1.1, *Overall - Master Planning Process Overview*, helped to inform the development of evaluation criteria to be used in evaluating alternatives.

Through the process of developing evaluation criteria, two types of criteria emerged. The first type of criteria was termed an 'overarching principle', which meant that every alternative developed must meet these or they were automatically considered a non-viable alternative. The second type of criteria was a 'measurable criteria' which meant that some form of metric could be assigned to determine the relative performance of alternatives with one another related to this metric.

Table 5 summarizes the overarching principles and measurable criteria associated with each of the 5 major goals of the PWIMP.

Table 5 Evaluation Criteria Established for PWIMP
Public Works Integrated Master Plan
City of Oxnard

Goal	Objective	Type of Criteria	Metric	Unit of Measure	Associated Envision™ Credit
#1	**Provide Compliant, Reliable, Resilient and Flexible Systems**				
	Improve system reliability consistent with industry standard	OP	--	--	
	Implement redundancy/backup for routine maintenance and repairs and to address threats to security	OP	--	--	
	Provide flexibility to respond to changes in regulatory requirements, reuse water demand or technological advances	MC	Project cost differential	Incremental cost to change from current conditions	CR2.2 Avoid traps and vulnerabilities CR2.3 Prepare for long-term hazards
	Ability to implement in a timely manner for a given need	MC	Implementation Time	Years	
#2	**Investigate Grey and Green Infrastructure with an Emphasis on Energy Efficiency**				
	Investigate grey and green infrastructure	OP			NW2.1 Manage Stormwater (through LID)
	Maximize energy efficiency / sustainable energy use	MC	Net non-renewable Energy Use (Energy use – Energy production – Renewable energy use/ purchase)	kWh / year	RA2.1 Reduce energy consumption RA2.2 Use renewable energy

Table 5 Evaluation Criteria Established for PWIMP
Public Works Integrated Master Plan
City of Oxnard

Goal	Objective	Type of Criteria	Metric	Unit of Measure	Associated Envision™ Credit
#3	**Manage Assets Effectively (Economic Sustainability)**				
	Maximize cost / benefit ratio	MC	Capital Costs	Total Project Cost ($)	LD3.3 Extend Useful Life
			O&M Costs	Total O&M Cost ($ / year)	
			Life-cycle Costs	Annual Costs ($ / year)	
			Benefit : Cost Ratio	$ Benefits / $ Costs	
#4	**Mitigate and Adapt to Potential Impacts of Climate Change**				
	Minimize impacts to system due to climate change related events	OP			CR2.1 Assess climate threat CR2.2 Avoid traps and vulnerabilities CR2.3 Prepare for long-term adaptability
	Minimize contribution to climate change factors through reduction/minimization of GHG emissions	MC	Greenhouse gas emissions	Metric tons of CO2 equivalent emissions per year	RA1.1 Reduce net embodied energy CR1.1 Reduce greenhouse gas emissions
#5	**Protect / Enhance Environmental/Resource Sustainability**				
	Maintain regulatory/permit compliance	OP			QL2.1 Protect public health

Table 5 Evaluation Criteria Established for PWIMP
Public Works Integrated Master Plan
City of Oxnard

Goal	Objective	Type of Criteria	Metric	Unit of Measure	Associated Envision™ Credit
	Maximize sustainable water use	MC	Potable water offset	MG per year	RA3.1 Protect fresh water availability RA3.2 Reduce potable water consumption
		MC	Groundwater Replenishment	MG per year	RA3.1 Protect fresh water availability
	Maximize beneficial reuse of solids	MC	Solids reused	Tons per year	RA1.5 Divert waste from landfills

Notes:
OP = Overarching Principle
MC = Measured Criteria

6.0 PROGRAMMATIC VS. PLAN SPECIFIC CREDITS

Reviewing again the initial Envision^{TM} assessment, it became evident that many of the credits will apply to the PWIMP as a whole, while some are much more plan and/or project specific. Therefore, it was advantageous to revisit the initial assessment to make a distinction between what are more 'programmatic' level credits that could be pursued on behalf of the entire plan and those are more project or plan specific.

Some examples of programmatic credits that would apply to the PWIMP and any projects that are developed out of the Plan would be:

Quality of Life

QL. 1.1 Improve community quality of life:

- Sustainable water supply and improved quality boosts overall quality of life throughout City.

QL 1.2 Stimulate sustainable growth and development:

- Securing a sustainable water supply allows modest growth of the community to continue while preserving sufficient resources for all.

Leadership

LD 1.1 Provide effective leadership and commitment:

- Create and uphold specific sustainability policies like Energy and Climate Action Plan.
- Pursuit and funding of GREAT Program.

LD 1.3 Foster collaboration and team:

- Hold Project Visioning and Eco-Alternatives Charrettes involving project team and stakeholders.

Project specific examples that would apply to the Water System Master Plan, for example, include:

Resource Management

RA 2.1 Reduce energy consumption:

- Consider energy efficient pumps/strategies for all new conveyance facilities/ASR wells.

RA 3.1 Protect fresh water availability:

- Use recycled water in ASR / IPR application to boost city's water supply and reduce reliance on imports.

CR 1.1 Reduce Greenhouse Gas Emissions:

- Conduct GHG emissions analysis of project alternatives, both grey and green.

CR 2.3 Prepare for long-term threats:

- Addition of ASR / IPR provides a more sustainable water supply even in drought conditions.

Appendix C includes the detailed summary of the programmatic credits versus plan specific credits.

7.0 TARGET GOALS / METRICS

Using the applicable credits that are being proposed, it would be advantageous for the City to develop target goals for several of the metrics that are defined by each of the credits. One goal that has been defined to date that would impact each plan is a 10% reduction in energy consumption; this was set as part of the City's Energy Action Plan. This goal would apply directly to Credit RA 2.1, Reduce Energy Consumption.

Further definition of target goals and metrics are needed and it is recommended that this take place at the beginning of preliminary design for the project specific tasks. However, a starting point is provided in Appendix D for this PWIMP.

8.0 ROADMAP FOR MOVING ENVISION^{TM} FORWARD

The next steps for moving Envision^{TM} forward into the next project phases include:

1. At the beginning of preliminary design of a PWIMP project, conduct an Envision^{TM} workshop focused on defining the overall vision for the project, setting goals/credits for that particular project (easily obtainable as well as 'stretch' goals/credits) using the Envision^{TM} Rating System as the framework of the meeting.
2. Based on outcomes of the Envision^{TM} workshop, Envision^{TM} credits and levels of achievement to pursue, as agreed upon by the project team, will be summarized. In addition, potential strategies for implementation will be identified and summarized as well as documentation requirements needed to pursue project certification.
3. A Recommended Envision^{TM} Assessment memo should be developed and used as project guidance. As part of the Recommended Envision^{TM} Assessment / Project Guidance memo, the team will identify the stages at which credits should be incorporated/pursued as well as further investigation or exploratory efforts needed to determine the applicability of credits, as needed.

APPENDIX A – DETAILED OVERVIEW OF ENVISION™ RATING SYSTEM

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

ENVISION CREDIT			LEVELS OF ACHIEVEMENT						Points Possible					
Area	Number	Name	Benchmark	Improved	Enhanced	Superior	Conserving	Restorative	Improved	Enhanced	Superior	Conserving	Restorative	Maximum Points Available
Quality of Life	QL1.1	Improve community quality of life	Team has reviewed community plans looking for fatal flaws; complies with local regs on stakeholder involvement	Internal Focus - Some, but not systematic outreach to stakeholders/decision makers	Community Linkages - Key stakeholders involved; potential negative adverse impacts reduced or eliminated	Broad community alignment - all relevant community plans are reviewed through SH input	Holistic assessment and collaboration - net positive contribution to quality of life to host and nearby affected communities	Community renaissance - substantial revitalization of host and nearby communities	2	5	10	20	25	25
	QL1.2	Stimulate sustainable growth and development	Project designed as an entity unto itself, simply meeting planning/reg requirements	Project only focus	significant and desirable development	improving local productivity	Business and people attractiveness	Development rebirth	1	2	5	13	16	16
	QL1.3	Develop local skills and capabilities	Hiring/training of local workers/firms is strictly a cost decision; training done as needed	Cost efficient	Hire locally	Specific skills outreach	Local capacity development	Long-term competitiveness	1	2	5	12	15	15
	QL2.1	Enhance public health and safety	Project health and safety meet the minimum requirements	Assessment of new requirements			Excellence in all categories		2			16		16
	QL2.2	Minimize noise and vibration	No baseline studies/predicitions of noise/vibration have been conducted	Studies, predictions			Achieving acceptable levels	Creating quieter communities	1			8	11	11
	QL2.3	Minimum light pollution	Compliance with local laws/regs regarding light pollution	Cost savings focus	Non-lighting alternatives	Cohesive zoning	Preserving the night sky	Restoring the night sky	1	2	4	8	11	11
	QL2.4	Improve community mobility and access	Compliance with local laws/regs regarding construction transport	Limited coordination	Satisfactory access	Exceptional access and flow.	More livable communities		1	4	7	14		14
	QL2.5	Encourage alternative modes of transportation	Simple access to transit, pathways or bikeways	Transit access	Non-motorized or transit friendly	Non-motorized and transit friendly	Public transportation enhancements	Reviving transportation options	1	3	6	12	15	15
	QL2.6	Improve site accessibility, safety and wayfinding	Only use conventional design stds for signage/wayfinding		Onsite wayfinding	Additional safety and security	Integration with surroundings	Restoring safe neighborhoods		3	6	12	15	15
	QL3.1	Preserve historic and cultural resources	Action does not result in either preservation of or net benefit to historic/cultural resources	Moderate efforts		Proactive efforts	Preservation and conservation	Conservation and restoration	1		7	13	16	16
	QL3.2	Preserve views and local character	Limited consideration of local landscape/urban charater	Understanding and balance	Alignment with community values	Community preservation and enhancement	Community connections and collaboration	Restoration of community and character	1	3	6	11	14	14

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

ENVISION CREDIT			LEVELS OF ACHIEVEMENT						Points Possible					
Area	Number	Name	Benchmark	Improved	Enhanced	Superior	Conserving	Restorative	Improved	Enhanced	Superior	Conserving	Restorative	Maximum Points Available
	QL3.3	Enhance public space	No efforts to identify, preserve or enhance public space	No adverse effects	No impact to resources	Improvement and enhancement	Overall net benefit	Substantial restoration	1	3	6	11	13	13
									13	27	62	150	151	181
	LD1.1	Provide effective leadership and comittment	No specific sustainability policies	Limited commitment	Better clarity and commitment	Walking the talk	Sustainability is a core value		2	4	9	17		17
	LD1.2	Establish a sustainability management system	No specific mechanisms /business processes put in place	Sparse mechanisms	A basic plan	Pln-do-check-act	Full implementation		1	4	7	14		14
	LD1.3	Foster collaboration and teamwork	Teamwork not a dominant component in project delivery processes	Random acts of sustainability	Taking a systems view	Sustainable design as a team sport	Whole systems design and delivery		1	4	8	15		15
	LD1.4	Provide for stakeholder involvement	Public input limited to what is required by regulation/statute or local polcies	Information transfer	Active engagement and dialog	Open to a wider community	Community relationship building		1	5	9	14		14
	LD2.1	Pursue by-product synergy oportunities	None considered	Casual search and diversion	Affirmative program	Opportunity foresight and pursuit	Opportunity pursuit and capture	Additional synergy opportunity captures	1	3	6	12	15	15
	LD2.2	Improve infrastructure integration	All considerations of linkages are conventional	Narrow optimization focus	Internal systems focus	Infrastructure building and synergies	Full infrastructure integration	High performance through restorative actions	1	3	7	13	16	16
	LD3.1	Plan for long-term monitoring and maintenance	No clear plan for long-term monitoring/maintenance in place	On-paper only	Working plans		Comprehensive long-term plan		1	3		10		10
	LD3.2	Address conflicting regulations and policies	Laws, regulations, policies/stds of practice affecting the project are taken as a given	Limited search	More investigation	Increased resolve	Collaborative resolution		1	2	4	8		8
	LD3.3	Extend useful life	Little effort made to specify matreials/equipment or to design project in a way to extend useful life	Marginal extension - Nothing beyond construction	Nudging the boundaries	Pushing the boundaries	Extending the boundaries		1	3	6	12		12
									10	31	56	115	31	121
	RA1.1	Reduce net embodied energy	No consideration of LCA or energy savings compared to industry norms	Life-cycle assessment	10-40% reductions	41-70% reductions	> 70% reductions.		2	6	12	18		18
	RA1.2	Support sustainable procurement practices	No policies or practices in place	Basic sustainable sourcing	Modest sustainable suppliers portfolio	Strong supplier evaluation practices	Exceptional sustainable sourcing		2	3	6	9		9

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

ENVISION CREDIT			LEVELS OF ACHIEVEMENT						Points Possible					
Area	Number	Name	Benchmark	Improved	Enhanced	Superior	Conserving	Restorative	Improved	Enhanced	Superior	Conserving	Restorative	Maximum Points Available
Resource Allocation	RA1.3	Use recycled materials	RC less than 5% by W or V	5% to less than 20% by W or V	20% to less than 50%	50% to less than 80%	80% or more		2	5	11	14		14
	RA1.4	Use regional materials	Local sourcing considered but total sourced locally is less than 30%	Up to 30% locally sourced (including soils, aggregate, plants and other)	Up to 60% locally sourced	Up to 90% locally sourced	Up to 95% locally sourced		3	6	9	10		10
	RA1.5	Divert Waste from Landfills	Some recycling done but mostly ad-hoc	Recycle/reuse at least 25% (operations only??)	Recycle/reuse at least 50%	Recycle/reuse at least 75%	Recycle/reuse at least 100%		3	6	8	11		11
	RA1.6	Reduce excavated materials taken offsite	Less than 15% reused onsite	Reuse 30 to 50% onsite	Reuse 51 to 80%	Reuse 81 to 95%	Reuse 96 to 100%		2	4	5	6		6
	RA1.7	Provide for deconstruction and recycling	No consideration given for material end-of-life	Basic end of life consideration	Expanded end of life consideration	Primary concern for end of life	True design for end of life		1	4	8	12		12
	RA2.1	Reduce energy consumption	Meets basic code and reg requirements for energy consumption	10 - 30% energy reduction	31 to 50% energy reduction	51 to 70% energy reduction	greater than 70%		3	7	12	18		18
	RA2.2	Use renewable energy	Renewable energy less than 10% annual energy consumption	10 to 25% renewables (can be on-site and/or off-site)	25 to 40% renewables	41 to 80% renewables	81 to 100% renewables	Net positive renewables	4	6	13	16	20	20
	RA2.3	Commission and monitor energy systems	No commissioning		One time monitoring		Long-term monitoring			3		11		11
	RA3.1	Protect fresh water availability	Meets minimum reg requirements for water usage/withdrawls	No immediate negatives - determine usage, look for reuse opps, consider peaks in	Good water management - plan to offset peak withdrawls, institute water	Wise water management - control water usage, offset peaks, determine impacts of	Total water management - no net impact on water supply volume, manage	Positive impact - replenishes quantity and quality of fresh water supplies	2	4	9	17	21	21
	RA3.2	Reduce potable water consumption	Water reduction less than 25%	25% reduction in potable water use	50% reduction	75% reduction	100% reduction	Water purification	4	9	13	17	21	21
	RA3.3	Monitor water systems	No ability to monitor water usage/leak detection	One-time monitoring	Operations monitoring	Long-term monitoring	Responsive monitoring		1	3	6	11		11
									29	66	112	170	62	182
	NW1.1	Preserve Prime Habitat	Awareness of preserving high ecological value lands			Avoid development	Protection of existing	Restore habitat			9	14	18	18
	NW1.2	Protect wetlands and surface water	Determine full extent, if any, of wetlands onsite	Avoid development or buffer > 50 ft	Buffer > 100 ft	Buffer > 200 ft	Buffer > 300 ft	Aquatic and wetland restoration	1	4	9	14	18	18
	NW1.3	Preserve Prime Farmland	Determin if soils onsite have been designated by NRCS as prime			95% protection	No development	Restore prime farmland			6	12	15	15
	NW1.4	Avoid adverse geology	Follow local regulations regarding building in earthquake prone areas	Comprehensive delineation	Sound risk management	Protection and risk management	Total avoidance		1	2	3	5		5

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

ENVISION CREDIT			LEVELS OF ACHIEVEMENT						Points Possible					
Area	Number	Name	Benchmark	Improved	Enhanced	Superior	Conserving	Restorative	Improved	Enhanced	Superior	Conserving	Restorative	Maximum Points Available
Natural World	NW1.5	Preserve floodplain functions	Floodplain functions are not considered beyond local laws and requirements	Avoid or mitigate impacts	Maintain infiltration and water quality	Enhance riparian and aquatic habitat	Enhance connectivity and sediment transport		2	5	8	14		14
	NW1.6	Avoid Unsuitable Development on Steep Slopes	Follow local regs/stds/ord regarding development on hillsides/steep slopes	Best practices		Optimal project siting	Steep slopes avoided		1		4	6		6
	NW1.7	Preserve greenfields	Project site selected is a greenfield site - where no previous development is taking place	At least 25% greyfield site	At least 50% greyfield site	At least 75% greyfield site	100% greyfield site	Use a brownfield	3	6	10	15	23	23
	NW2.1	Manage stormwater	Minimum requirements for SW management		Increase storage capacity through LID to reduce SW runoff generation: - 30% improvement in storage for greyfield sites - 20% improvement in storage for brownfield sites - Greenfield maintains 100%	Extended storage capacity: - 60% improvement in storage capacity for greyfield sites - 40% improvement in storage capacity for brownfield sites - Greenfield maintains 100%	Sustainable stormwater management through LID: - 90% improvement in storage capacity for greyfield sites - 60% improvement in storage for brownfield sites - Greenfield apre-development capacity	Enhanced stormwater management: - runoff maintained onsite - capture and repurpose more than 100% of stormwater onsite		4	9	17	21	21
	NW2.2	Reduce Pesticide and Fertilizer Impacts	Some efforts to control types/usage of pesticides/fertilizers	Application Management	Pesticide, herbicide and fertilizer selection (for low toxicity, persistence and bioavailability)	Better selection / lower use	No pesticide, herbicide or fertilizer use		1	2	5	9		9
	NW2.3	Prevent Surface and Groundwater Contamination	Meet basic reg requirements for water quality/spill prevention	Design for response	Long-term monitoring	Design for prevention	Design for source elimination	Remediate existing contamination	1	4	9	14	18	18
	NW3.1	Preserve Species Biodiversity	No willful destruction but no active protection	Identify and protect habitat			Improve habitat	Restore and create habitats	2			13	16	16
	NW3.2	Control Invasive Species	No willful spreading of invasive but no active mangement either.			Locally appropriate and non-invasive	Invasive species control	Invasive species elimination			5	9	11	11
	NW3.3	Reduced disturbed soils	Soil restoration to extent requirement by regs				Construction restoration	Previous development restoration				8	10	10

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

ENVISION CREDIT			LEVELS OF ACHIEVEMENT						Points Possible					
Area	Number	Name	Benchmark	Improved	Enhanced	Superior	Conserving	Restorative	Improved	Enhanced	Superior	Conserving	Restorative	Maximum Points Available
	NW3.4	Maintain Wetland and Surface water functions	No meaningful action taken to maintain/restor ecosystems	function by maintaining/restoring: - hydrologic connections	Enhanced two ecosystems	Enhanced three ecosystems	Enhanced four ecosystems	Restore ecosystem function	3	6	9	15	19	19
									15	33	86	165	169	203
Climate and Risk	CR1.1	Reduce greenhouse gas emissions	No LCA	Life-cycle carbon assessment	10 to 40% reduction	41 to 80% reduction	Carbon neutral	Net carbon negative	4	7	13	18	25	25
	CR1.2	Reduce air pollutant emissions	No additional measures taken	Improved air quality standards - Meet CAAQS for all project activities	Enhanced air quality standards - Meet SCAQM in Section XI and XIV		Negligble air quality impact	Air quality improvement	2	6		12	15	15
	CR2.1	Assess climate threat	No comprehensive assessment				Impact assessment and adaptation plan					15		15
	CR2.2	Avoid traps and vulnerabilities		Basic evaluation	High level review	Detailed evaluation	Comprehensive assessment	Robust and resilient	2	6	12	16	20	20
	CR2.3	Prepare for long-term adaptability	None				Highly resilient and adaptive	Recovery from adverse effects				16	20	20
	CR2.4	Prepare for short-term hazards	None	Hazards assessment		Preparation for 1 in 50 year hazards	Preparation for 1 in 100 year hazards	Restore environments that reduce risk	3		10	17	21	21
	CR2.5	Manage heat island effects	None	10 to 30% heat-producing surface reflectance index (SRI)	31 to 60% heat-producing surface reflectance index (SRI)	61 to 90% heat-producing surface reflectance index (SRI)	91 to 100% heat-producing surface reflectance index (SRI)		1	2	4	6		6
									12	21	39	100	101	122
									79	178	355	700	514	809

APPENDIX B – INITIAL ENVISION™ ASSESSMENT

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

Date: 6/30/2015
By: CLAE
Reviewed By:

ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP						
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Minimum Points Potential	Maximum Points Potential	Maximum Points Achievable
Quality of Life	QL1.1	Improve community quality of life	Enhanced	Community Linkages - Key stakeholders involved; potential negative adverse impacts reduced or eliminated	Superior	Broad community alignment - all relevant community plans are reviewed through SH input	5	10	25
	QL1.2	Stimulate sustainable growth and development	Superior	improving local productivity	Conserving	Business and people attractiveness	5	13	16
	QL1.3	Develop local skills and capabilities	Enhanced	Hire locally	Enhanced	Hire locally	2	2	15
	QL2.1	Enhance public health and safety	Improved	Assessment of new requirements	Improved	Assessment of new requirements	2	2	16
	QL2.2	Minimize noise and vibration	None		None		0	0	11
	QL2.3	Minimum light pollution	Improved	Cost savings focus	Enhanced	Non-lighting alternatives	1	2	11
	QL2.4	Improve community mobility and access	Improved	Limited coordination	Enhanced	Satisfactory access	1	4	14
	QL2.5	Encourage alternative modes of transportation	None		Enhanced	Non-motorized or transit friendly	0	3	15
	QL2.6	Improve site accessibility, safety and wayfinding	Enhanced	Onsite wayfinding	Superior	Additional safety and security	3	6	15

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Date: 6/30/2015
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Reviewed By:

ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP						
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Minimum Points Potential	Maximum Points Potential	Maximum Points Achievable
	QL3.1	Preserve historic and cultural resources	Improved	Moderate efforts	Improved	Moderate efforts	1	1	16
	QL3.2	Preserve views and local character	Improved	Understanding and balance	Enhanced	Alignment with community values	1	3	14
	QL3.3	Enhance public space	Improved	No adverse effects	Improved	No adverse effects	1	1	13
						Quality of Life Subtotal	**22**	**47**	**181**
	LD1.1	Provide effective leadership and comittment	Superior	Walking the talk	Superior	Walking the talk	9	9	17
	LD1.2	Establish a sustainability management system	Enhanced	A basic plan	Superior	Pln-do-check-act	4	7	14
	LD1.3	Foster collaboration and teamwork	Enhanced	Taking a systems view	Superior	Sustainable design as a team sport	4	8	15
	LD1.4	Provide for stakeholder involvement	Enhanced	Active engagement and dialog	Superior	Open to a wider community	5	9	14
	LD2.1	Pursue by-product synergy oportunities	None		Improved	Casual search and diversion	0	1	15
	LD2.2	Improve infrastructure integration	Superior	Infrastructure building and synergies	Superior	Infrastructure building and synergies	7	7	16
	LD3.1	Plan for long-term monitoring and maintenance	None		Enhanced	Working plans	0	3	10
	LD3.2	Address conflicting regulations and policies	None		Improved	Limited search	0	1	8

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Reviewed By:

ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP						
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Minimum Points Potential	Maximum Points Potential	Maximum Points Achievable
	LD3.3	Extend useful life	Enhanced	Nudging the boundaries	Superior	Pushing the boundaries	3	6	12
						Leadership Subtotal	**32**	**51**	**121**
Resource Allocation	RA1.1	Reduce net embodied energy	Improved	Life-cycle assessment	Enhanced	10-40% reductions	2	6	18
	RA1.2	Support sustainable procurement practices	Improved	Basic sustainable sourcing	Enhanced	Modest sustainable suppliers portfolio	2	3	9
	RA1.3	Use recycled materials	Improved	5% to less than 20% by W or V	Enhanced	20% to less than 50%	2	5	14
	RA1.4	Use regional materials	Improved	Up to 30% locally sourced (including soils, aggregate, plants and other)	Enhanced	Up to 60% locally sourced	3	6	10
	RA1.5	Divert Waste from Landfills	Enhanced	Recycle/reuse at least 50%	Superior	Recycle/reuse at least 75%	6	8	11
	RA1.6	Reduce excavated materials taken offsite	Enhanced	Reuse 51 to 80%	Superior	Reuse 81 to 95%	4	5	6
	RA1.7	Provide for deconstruction and recycling	None		None		0	0	12
	RA2.1	Reduce energy consumption	Improved	10 - 30% energy reduction	Enhanced	31 to 50% energy reduction	3	7	18
	RA2.2	Use renewable energy	None		Improved	10 to 25% renewables (can be on-site and/or off site)	0	4	20
	RA2.3	Commission and monitor energy systems	None		Enhanced	One time monitoring	0	3	11

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ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP						
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Minimum Points Potential	Maximum Points Potential	Maximum Points Achievable
	RA3.1	Protect fresh water availability	Superior	Wise water management - control water usage, offset peaks, determine	Restorative	Positive impact - replenishes quantity and quality of fresh water	9	21	21
	RA3.2	Reduce potable water consumption	Superior	75% reduction	Restorative	Water purification	13	21	21
	RA3.3	Monitor water systems	Enhanced	Operations monitoring	Enhanced	Operations monitoring	3	3	11
						Resource Allocation	**47**	**92**	**182**
	NW1.1	Preserve Prime Habitat	N/A		N/A		0	0	0
	NW1.2	Protect wetlands and surface water	Improved	Avoid development or buffer > 50 ft	Superior	Buffer > 200 ft	1	9	18
	NW1.3	Preserve Prime Farmland	Conserving	No development	Conserving	No development	12	12	15
	NW1.4	Avoid adverse geology	Improved	Comprehensive delineation	Enhanced	Sound risk management	1	2	5
	NW1.5	Preserve floodplain functions	Improved	Avoid or mitigate impacts	Improved	Avoid or mitigate impacts	2	2	14
	NW1.6	Avoid Unsuitable Development on Steep Slopes	Improved	Best practices	Improved	Best practices	1	1	6
	NW1.7	Preserve greenfields	Superior	At least 75% greyfield site	Conserving	100% greyfield site	10	15	23

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ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP						
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Minimum Points Potential	Maximum Points Potential	Maximum Points Achievable
Natural World	NW2.1	Manage stormwater	Superior	Extended storage capacity: - 60% improvement in storage capacity for greyfield sites - 40% improvement in storage capacity for brownfield sites - Greenfield maintains 100%	Restorative	Enhanced stormwater management: - runoff maintained onsite - capture and repurpose more than 100% of stormwater onsite	9	21	21
	NW2.2	Reduce Pesticide and Fertilizer Impacts	Improved	Application Management	Enhanced	Pesticide, herbicide and fertilizer selection (for low toxicity, persistence and bioavailability)	1	2	9
	NW2.3	Prevent Surface and Groundwater Contamination	Enhanced	Long-term monitoring	Enhanced	Long-term monitoring	4	4	18
	NW3.1	Preserve Species Biodiversity	None		None		0	0	16
	NW3.2	Control Invasive Species	None		None		0	0	11
	NW3.3	Reduced disturbed soils	Conserving	Construction restoration function by maintaining/restoring:	Conserving	Construction restoration function by maintaining/restoring:	8	8	10
	NW3.4	Maintain Wetland and Surface water functions	Improved	- hydrologic	Improved	- hydrologic connections	3	3	19
						Natural World	**52**	**79**	**185**
	CR1.1	Reduce greenhouse gas emissions	Improved	Life-cycle carbon assessment	Enhanced	10 to 40% reduction	4	7	25

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

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Reviewed By:

ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP						
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Minimum Points Potential	Maximum Points Potential	Maximum Points Achievable
Climate and Risk	CR1.2	Reduce air pollutant emissions	Enhanced	Enhanced air quality standards - Meet SCAQM in Section XI and XIV	Enhanced	Enhanced air quality standards - Meet SCAQM in Section XI and XIV	6	6	15
	CR2.1	Assess climate threat	None		Conserving	Impact assessment and adaptation plan	0	15	15
	CR2.2	Avoid traps and vulnerabilities	Improved	Basic evaluation	Enhanced	High level review	2	6	20
	CR2.3	Prepare for long-term adaptability	Conserving	Highly resilient and adaptive	Conserving	Highly resilient and adaptive	16	16	20
	CR2.4	Prepare for short-term hazards	Improved	Hazards assessment	Conserving	Preparation for 1 in 100 year hazards	3	17	21
	CR2.5	Manage heat island effects	Improved	10 to 30% heat-producing surface reflectance index (SRI)	Improved	10 to 30% heat-producing surface reflectance index (SRI)	1	1	6
						Climate and Risk Subtotal	**32**	**68**	**122**
						INITIAL ASSESSMENT TOTAL	**185**	**337**	**791**

APPENDIX C – PROGRAMMATIC VERSUS PLAN SPECIFIC CREDITS SUMMARY

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ENVISION - INITIAL ASSESSMENT FOR PWIMP

Public Works Integrated Master Plan
City of Oxnard, CA

Date: 6/30/2015
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Reviewed By:

ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP					Plan-Specific			
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Programmatic	Water	Wastewater	Recycled Water	Storm Water
Quality of Life	QL1.1	Improve community quality of life	Enhanced	Community Linkages - Key stakeholders involved; potential negative adverse impacts reduced or eliminated	Superior	Broad community alignment - all relevant community plans are reviewed through SH input	x				
	QL1.2	Stimulate sustainable growth and development	Superior	improving local productivity	Conserving	Business and people attractiveness	x				
	QL1.3	Develop local skills and capabilities	Enhanced	Hire locally	Enhanced	Hire locally	x				
	QL2.1	Enhance public health and safety	Improved	Assessment of new requirements	Improved	Assessment of new requirements	x				
	QL2.2	Minimize noise and vibration	None		None			x	x	x	x
	QL2.3	Minimum light pollution	Improved	Cost savings focus	Enhanced	Non-lighting alternatives	x	x	x	x	x
	QL2.4	Improve community mobility and access	Improved	Limited coordination	Enhanced	Satisfactory access	x	x	x		
	QL2.5	Encourage alternative modes of transportation	None		Enhanced	Non-motorized or transit friendly	x	x	x		
	QL2.6	Improve site accessibility, safety and wayfinding	Enhanced	Onsite wayfinding	Superior	Additional safety and security	x		x		

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Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Programmatic	Water	Wastewater	Recycled Water	Storm Water
	QL3.1	Preserve historic and cultural resources	Improved	Moderate efforts	Improved	Moderate efforts	x				
	QL3.2	Preserve views and local character	Improved	Understanding and balance	Enhanced	Alignment with community values	x	x	x		
	QL3.3	Enhance public space	Improved	No adverse effects	Improved	No adverse effects	x				
						Quality of Life Subtotal					
	LD1.1	Provide effective leadership and comittment	Superior	Walking the talk	Superior	Walking the talk	x				
	LD1.2	Establish a sustainability management system	Enhanced	A basic plan	Superior	Pln-do-check-act	x				
	LD1.3	Foster collaboration and teamwork	Enhanced	Taking a systems view	Superior	Sustainable design as a team sport	x	x	x	x	x
	LD1.4	Provide for stakeholder involvement	Enhanced	Active engagement and dialog	Superior	Open to a wider community	x	x	x	x	x
	LD2.1	Pursue by-product synergy oportunities	None		Improved	Casual search and diversion	x				
	LD2.2	Improve infrastructure integration	Superior	Infrastructure building and synergies	Superior	Infrastructure building and synergies	x	x	x	x	x
	LD3.1	Plan for long-term monitoring and maintenance	None		Enhanced	Working plans	x				
	LD3.2	Address conflicting regulations and policies	None		Improved	Limited search	x	x	x	x	x

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ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP					Plan-Specific			
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Programmatic	Water	Wastewater	Recycled Water	Storm Water
	LD3.3	Extend useful life	Enhanced	Nudging the boundaries	Superior	Pushing the boundaries	x	x	x	x	x
						Leadership Subtotal					
Resource Allocation	RA1.1	Reduce net embodied energy	Improved	Life-cycle assessment	Enhanced	10-40% reductions	x	x	x	x	x
	RA1.2	Support sustainable procurement practices	Improved	Basic sustainable sourcing	Enhanced	Modest sustainable suppliers portfolio	x				
	RA1.3	Use recycled materials	Improved	5% to less than 20% by W or V	Enhanced	20% to less than 50%	x	x	x	x	x
	RA1.4	Use regional materials	Improved	Up to 30% locally sourced (including soils, aggregate, plants and other)	Enhanced	Up to 60% locally sourced	x	x	x	x	x
	RA1.5	Divert Waste from Landfills	Enhanced	Recycle/reuse at least 50%	Superior	Recycle/reuse at least 75%	x	x	x	x	x
	RA1.6	Reduce excavated materials taken offsite	Enhanced	Reuse 51 to 80%	Superior	Reuse 81 to 95%	x	x	x	x	x
	RA1.7	Provide for deconstruction and recycling	None		None						
	RA2.1	Reduce energy consumption	Improved	10 - 30% energy reduction	Enhanced	31 to 50% energy reduction	x	x	x	x	x
	RA2.2	Use renewable energy	None		Improved	10 to 25% renewables (can be on-site and/or off site)	x	x	x	x	x
	RA2.3	Commission and monitor energy systems	None		Enhanced	One time monitoring	x	x	x	x	x

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Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Programmatic	Water	Wastewater	Recycled Water	Storm Water
	RA3.1	Protect fresh water availability	Superior	Wise water management - control water usage, offset peaks, determine	Restorative	Positive impact - replenishes quantity and quality of fresh water	x	x	x	x	x
	RA3.2	Reduce potable water consumption	Superior	75% reduction	Restorative	Water purification	x	x	x	x	x
	RA3.3	Monitor water systems	Enhanced	Operations monitoring	Enhanced	Operations monitoring	x	x		x	
						Resource Allocation					
	NW1.1	Preserve Prime Habitat	N/A		N/A						
	NW1.2	Protect wetlands and surface water	Improved	Avoid development or buffer > 50 ft	Superior	Buffer > 200 ft		x	x	x	x
	NW1.3	Preserve Prime Farmland	Conserving	No development	Conserving	No development	x				
	NW1.4	Avoid adverse geology	Improved	Comprehensive delineation	Enhanced	Sound risk management	x				
	NW1.5	Preserve floodplain functions	Improved	Avoid or mitigate impacts	Improved	Avoid or mitigate impacts	x	x	x	x	x
	NW1.6	Avoid Unsuitable Development on Steep Slopes	Improved	Best practices	Improved	Best practices	x				
	NW1.7	Preserve greenfields	Superior	At least 75% greyfield site	Conserving	100% greyfield site	x	x	x	x	x

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Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Programmatic	Water	Wastewater	Recycled Water	Storm Water
Natural World	NW2.1	Manage stormwater	Superior	Extended storage capacity: - 60% improvement in storage capacity for greyfield sites - 40% improvement in storage capacity for brownfield sites - Greenfield maintains 100%	Restorative	Enhanced stormwater management: - runoff maintained onsite - capture and repurpose more than 100% of stormwater onsite					x
	NW2.2	Reduce Pesticide and Fertilizer Impacts	Improved	Application Management	Enhanced	Pesticide, herbicide and fertilizer selection (for low toxicity, persistence and bioavailability)	x				
	NW2.3	Prevent Surface and Groundwater Contamination	Enhanced	Long-term monitoring	Enhanced	Long-term monitoring	x	x		x	
	NW3.1	Preserve Species Biodiversity	None		None						
	NW3.2	Control Invasive Species	None		None						
	NW3.3	Reduced disturbed soils	Conserving	Construction restoration function by maintaining/restoring: - hydrologic	Conserving	Construction restoration function by maintaining/restoring: - hydrologic connections	x	x	x	x	x
	NW3.4	Maintain Wetland and Surface water functions	Improved		Improved						x
						Natural World					
	CR1.1	Reduce greenhouse gas emissions	Improved	Life-cycle carbon assessment	Enhanced	10 to 40% reduction	x	x	x	x	x

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ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP					Plan-Specific			
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch' Level of Achievement	Level of Achievement Description	Programmatic	Water	Wastewater	Recycled Water	Storm Water
Climate and Risk	CR1.2	Reduce air pollutant emissions	Enhanced	Enhanced air quality standards - Meet SCAQM in Section XI and XIV	Enhanced	Enhanced air quality standards - Meet SCAQM in Section XI and XIV	x	x	x	x	x
	CR2.1	Assess climate threat	None		Conserving	Impact assessment and adaptation plan					
	CR2.2	Avoid traps and vulnerabilities	Improved	Basic evaluation	Enhanced	High level review	x	x	x	x	x
	CR2.3	Prepare for long-term adaptability	Conserving	Highly resilient and adaptive	Conserving	Highly resilient and adaptive	x	x	x	x	x
	CR2.4	Prepare for short-term hazards	Improved	Hazards assessment	Conserving	Preparation for 1 in 100 year hazards	x	x	x	x	x
	CR2.5	Manage heat island effects	Improved	10 to 30% heat-producing surface reflectance index (SRI)	Improved	10 to 30% heat-producing surface reflectance index (SRI)	x	x	x	x	x
Climate and Risk Subtotal											

APPENDIX D – SUGGESTED METRIC TARGETS/GOALS

Carollo
Engineers...Working Wonders With Water

ENVISION - INITIAL PROPOSED TARGET METRICS / GOALS

Public Works Integrated Master Plan
City of Oxnard, CA

Date: 6/30/2015
By: CLAE
Reviewed By:

ENVISION CREDIT			INITIAL ASSESSMENT FOR PWIMP				
Area	Number	Name	Minimum Level of Achievement	Level of Achievement Description	Stretch ' Level of Achievement	Level of Achievement Description	Target Goal or Measurable Metric
Resource Allocation	RA1.1	Reduce net embodied energy	Improved	Life-cycle assessment	Enhanced	10-40% reductions	10% reduction in net embodied energy over convention options
	RA1.2	Support sustainable procurement practices	Improved	Basic sustainable sourcing	Enhanced	Modest sustainable suppliers portfolio	Develop / identify materials (2 minimum on each project) that could be 'sustainably' procured; build upon previous projects
	RA1.3	Use recycled materials	Improved	5% to less than 20% by W or V	Enhanced	20% to less than 50%	Specify 20% recycled materials
	RA1.4	Use regional materials	Improved	Up to 30% locally sourced (including soils, aggregate, plants and other)	Enhanced	Up to 60% locally sourced	Strive to specify 50% regional materials
	RA1.5	Divert Waste from Landfills	Enhanced	Recycle/reuse at least 50%	Superior	Recycle/reuse at least 75%	Specify at least 50% recycled/reuse of materials
	RA1.6	Reduce excavated materials taken offsite	Enhanced	Reuse 51 to 80%	Superior	Reuse 81 to 95%	Reuse 90% of soils onsite
	RA2.1	Reduce energy consumption	Improved	10 - 30% energy reduction	Enhanced	31 to 50% energy reduction	Reduce energy use (over baseline) at least 10%
	RA3.2	Reduce potable water consumption	Superior	75% reduction	Restorative	Water purification	Potable water use reduction of 25% (basedon 2015 State-wide Mandatory Use Cut-backs)
Climate and Risk	CR1.1	Reduce greenhouse gas emissions	Improved	Life-cycle carbon assessment	Enhanced	10 to 40% reduction	Reduce GHGs by 20% (over baseline)
	CR2.4	Prepare for short-term hazards	Improved	Hazards assessment	Conserving	Preparation for 1 in 100 year hazards	Prepare for 1 in 25 year storm (at minimum)
	CR2.5	Manage heat island effects	Improved	10 to 30% heat-producing surface reflectance index (SRI)	Improved	10 to 30% heat-producing surface reflectance index (SRI)	Reduce SRI of project facilities by at minimum of 10%

Notes:
These metrics/goals should be re-visited at the beginning of preliminary design.