

# City of Portland, Maine

## LED STREET LIGHTING CONVERSION AND SMART CITIES PLATFORM – UPDATE

SEPTEMBER 19, 2017



# Approved Project Scope – July 2017

- Budget: ~ \$900k+/yr savings, over 10 years ~ \$9M
- Buy-back opportunity via Maine legislation \$0.6M
- Cobra Head upgrade: roughly 6500; \$3.2 M
- Decorative fixture upgrade: roughly 700 \$1.8 M
- Upgrade 2 Parking Garages: \$0.2 M
- Recommend select Smart City \$1.5 M
- Ongoing lighting and smart city service \$0.01M
- Subtotal, estimated project spend: \$7.3M

# PROJECT UPDATE– SEPTEMBER 2017

- Finalizing Street Light purchase from CMP
  - Bill of Sale document approved; ~ \$590,000
- Secured attractive project funding
  - Bank of America approved \$8.5M for 10 years at 2.05%
- Scope refinement, both Lighting and Smart City
  - Concrete details on core lighting project
  - Identifying range of options for more difficult ‘decoratives’
  - Prioritizing list of Smart City and special lighting projects
- Successful LED pilot install (*Cedar and Casco Streets*)
- Split work into 2 phases to help balance debt load

# Project Phase 1:

- Accelerates and maximizes savings for Portland
- Can execute quickly – no ambiguity

## Phase 1: Oct 2017 through June 2018

QTY	Description	Price
<b>Core LED Lightng and Control System Upgrade</b>		<b>\$ 2,916,948</b>
4847	CMP cobrahead LED upgrade (new CREE fixtures)	\$ 1,757,017
283	CPM flood and shoebox LED upgrade (new fixtures)	\$ 208,703
5130	Fusing for CMP Cobraheads, floods, and shoeboxes	\$ 343,901
5130	Controls for CMP cobraheads, floods, and shoeboxes (Echelon)	\$ 544,694
2	Parking Garage LED upgrades	\$ 62,633
<b>City Selected Smart City Project Allocation for:</b>		<b>\$1,083,052</b>
2	Electric Vehicle (EV) charging stations	
1	City Hall exterior color lighting upgrade	
1	Deering Oaks pond lighting	
1	Pilot decoratives install, to help determine the approach on Phase 2 construction	
1	Tree trimming, pole painting, LED project contingency	

**TOTAL COST of PHASE 1: \$4,000,000**

# Project Phase 2:

- Allows for time to refine scope, balance priorities
- Helps the City to balance its debt load

## Phase 2 : July 2018 through June 2019

QTY	Description	Price
<b>Core LED Lighting and Control System Upgrade</b>		<b>\$ 2,308,404</b>
290	CMP Holophane LED upgrade (50/50, retrofit/new)	\$ 421,077
784	CMP GE Town & Country LED upgrades (70/30 retrofit/new)	\$ 967,842
402	Portland Decorative LED Upgrades (50/50, retrofit/new)	\$ 602,422
1074	Fusing for CMP Holophane, GE (not for Portland-owned)	\$ 71,998
1476	Controls for all decoratives (CMP and Portland-owned)	\$ 245,065
<b>City Selected Smart City Project Allocation for:</b>		<b>\$ 1,691,596</b>
1	Public Access and City Use Wi-Fi and Video Cameras	
1	Traffic Flow System Forrest Ave Corridor	
5	Electric Vehicle (EV) charging stations	
2	LED lighting upgrade for Casco Bay Bridge, Payson Park, Dougherty Field, others	
1	Environmental Sensors installed in Strategic Locations	
1	Interactive Kiosk project	
1	Tree trimming, pole painting, LED project contingency	
1	1st Year of LED lighting managed service (6,600 lights)	

**TOTAL COST of PHASE 2: \$ 4,000,000**

# SHORT-TERM ACTION ITEMS:

- Define deliverables for City prior to Oct 2<sup>nd</sup> meeting
  - Suggest helping to create a project summary for Council
  - Optional attendance, if recommended
  - Confirm all contract language approved by deadline
- Financing
  - Attempt to lock in rate now, or wait until after meeting?
- Accelerating construction, start date
  - Identified 1 long-lead-time item; suggest early ordering (\$25k)
- Defining all Phase 2 decision points
  - Develop master list, set overall priorities

# Savings calculations

## City of Portland - potential savings calculations

	kWh used prior to upgrade	cost breakdown	Old Rate (per kWh)	Old Cost to City (per yr)	New kWh post upgrade	New Rate (per kWh)	Post upgrade cost (/yr)
Portland CMP cobraheads	3,328,675	generation	\$0.05263	\$175,188	972,423	\$0.05263	\$51,179
		delivery	-	\$952,408		\$0.055332	\$53,806
		equip, maintnc				-	0
Portland decoratives	398,906	generation	\$0.05263	\$20,994	189,214	\$0.05263	\$9,958
		delivery	\$ 0.05529	\$22,057		\$0.055332	\$ 10,470
Portland Garages (2)	369,757	generation	\$0.05263	\$19,460	191,071	\$0.05263	\$10,056
		delivery	\$ 0.06	\$22,185		\$0.06	\$11,464
<b>TOTALS:</b>	<b>4,097,338</b>			<b>\$1,212,293</b>	<b>1,352,708</b>		<b>\$146,933</b>

Note: the \$0.05263/kWh rate is a blended rate, averaging the rates from Streetlight "A" (\$0.05835 from NextEra Energy) and "B" (\$0.469 from Constellation)

Potential Savings:

**\$1,065,360**

- the \$0.055293 per kWh is from CMP rate SL, section 2, 'Delivery only'
- the \$0.055332 per kWh is the new CPM tariff rate, effective July 1, 2017 from CMP rate SL, section 2, 'Delivery only'
- the yellow-shaded "\$0.06" rate is estimated; TBD by CMP

# QUESTIONS?