

# Phase II Energy Performance Contract (EPC) for the Pearl River SD

Presented by: The ECG Group

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# Introduction to The ECG Group

- *Specialists* in Energy Performance Contract (EPC) Owner's Representative/Engineering Services
- 125+ Successful EPC Projects – All meeting and exceeding guaranteed energy savings
- Our job is to protect the District's interests – We perform all due diligence needed to ensure District receives optimal value for savings

*"I can say without reservation that ECG's involvement in my EPC project has made it the smoothest process that I have experienced."*

--Dr. Martin D. Handler

Superintendent, Pine  
Plains Central School  
District

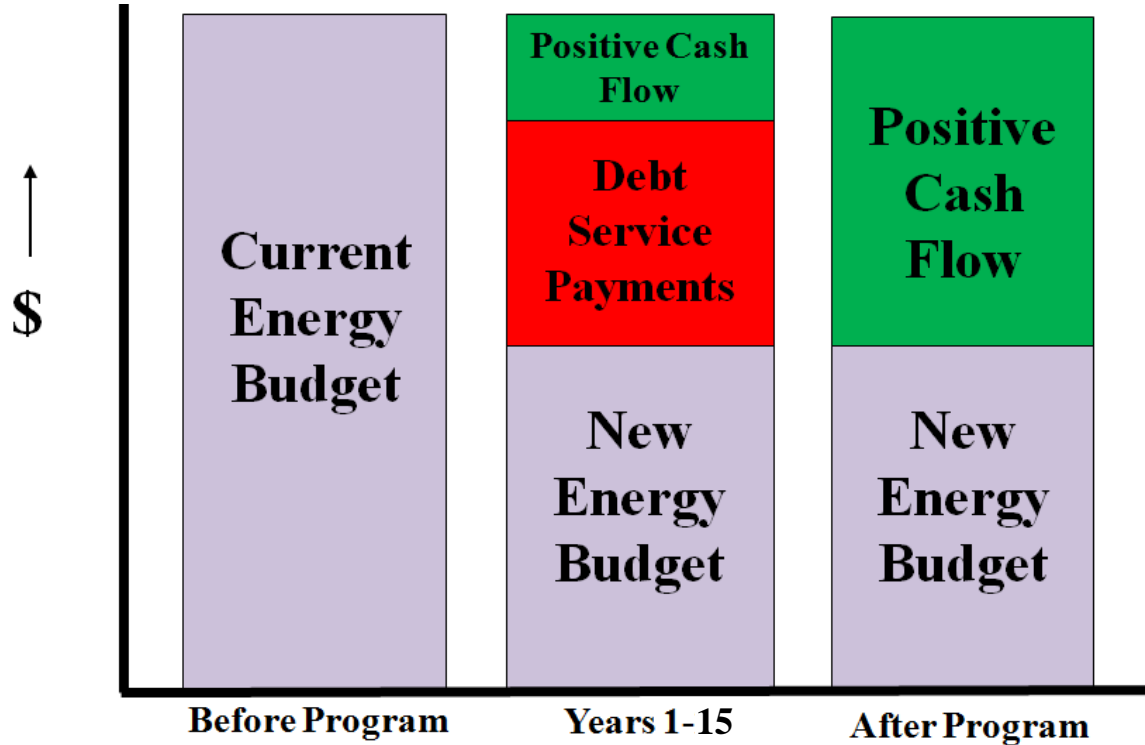
# Energy Performance Contract Experience

- Monroe Woodbury CSD
- Washingtonville CSD
- Pine Bush CSD **(Ph I & II)**
- Newburgh Enlarged CSD
- Pearl River UFSD **(Ph I & II)**
- Wappingers CSD
- Chappaqua CSD **(Ph I & II)**
- Mahopac CSD **(Ph I & II)**
- Beacon City SD
- Wallkill UFSD
- Spackenkill UFSD
- New Rochelle SD **(Ph I & II)**
- New Paltz CSD
- Vestal CSD
- Schenectady City SD
- Pawling CSD
- Croton Harmon UFSD
- Bethlehem CSD
- Nyack UFSD **(Ph I & II)**
- North Babylon UFSD
- West Islip UFSD
- Lindenhurst SD **(Ph I, II, & III)**
- Central Islip **(Ph I & II)**
- Westbury UFSD **(Ph I & II)**
- Long Beach SD
- Copiague UFSD
- Commack UFSD **(Ph I & II)**
- Sachem UFSD **(Ph I, II, & III)**
- Middle Country SD **(Ph I & II)**
- Valley Stream 13 UFSD
- Valley Stream 24 UFSD
- Valley Stream 30 UFSD
- Plainedge UFSD **(Ph I & II)**
- East Islip UFSD
- Amityville UFSD
- Kings Park CSD
- Freeport UFSD
- Mineola UFSD **(Ph I & II)**
- And many more...

# What is an EPC?

- Authorized by NYS Energy Law Article 9
- Partnership between a School District, Energy Services Company (ESCO), and Owner's Representative
- Make needed building improvements now and pay for them out of future, guaranteed energy savings
- **Large Funding Source for Needed Capital Upgrades**
- **Zero Taxpayer Impact & Budget Neutral**

# What is an Energy Performance Contract?



# Student Engagement Provides a Trusted Voice

## Student Engagement Program

- Give them a Voice
  - Involve them in the Process
  - Leverage the Learning Opportunity
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## Community Outreach & Communication

- Educate and Involve the Community & BOE
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## Positive Public Relation

- Let your Students, Staff and Taxpayers know the positive work you are doing on their behalf
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*Energy performance contracts are not "just another project."*

**They are a unique opportunity to achieve multiple goals: from creating healthier, more efficient buildings to well-rounded and engaging educational opportunities that last a lifetime and beyond.**

# Activity-To-Date at Pearl River SD

## Summer 2020

- ECG conducted preliminary study to identify EPC opportunity
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## Fall 2020

- The ECG Group issued a Request for Proposals (RFP) on behalf of the District
  - Energy Systems Group (ESG) submitted a proposal in response to the RFP
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## January 2021

- ECG conducted evaluation of proposal and reviewed with District Staff
- ESG recommended to proceed

# Next Steps

## January 26<sup>th</sup>, 2020

- Resolution to appoint Energy Systems Group to proceed with detailed Comprehensive Energy Audit (CEA)
  - **No cost & No obligation** to ultimately proceed with the EPC
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## Comprehensive Energy Audit (CEA)

- Evaluate potential for additional opportunities for energy savings
- Identify other needed capital upgrades (roofs, ventilation upgrades, additional solar, etc.)
- Finalize the detailed scope, cost, and savings of the EPC project to be presented to BOE



# Pearl River School District

Presented by:

Doreen Hamilton  
John Schmid



# Energy Systems Group (ESG) at a Glance

## ■ Over 25 Years Guaranteed Energy Performance Contracting Experience

- First Party guarantee
- STEM involvement with students
- Vendor neutral



## ■ Purposely Built to Develop & Deliver Energy Performance Contracts

- \$3B in project facility improvements
- K-12 schools is a core focus
- Develop with you deep energy upgrades
- Guarantee is co authored with you



## ■ Local Team

- Local New York Team
- Team's-direct combined experience over 150 years
- Members/Sponsors at many NY Based Associations



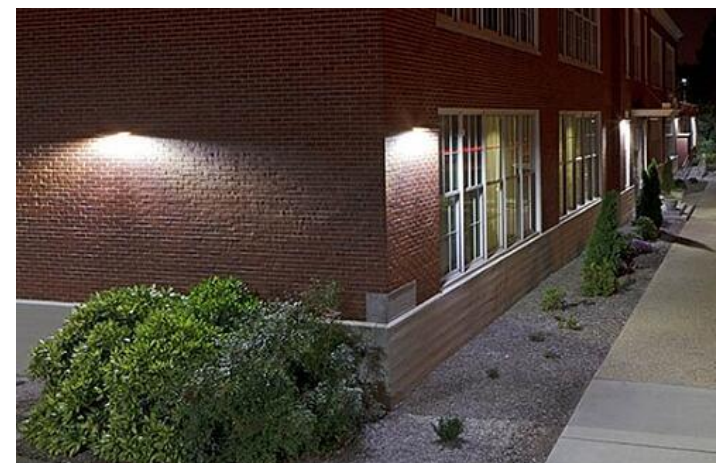
# Energy Conservation Measure: LED Lighting Upgrades

## ■ Buildings Included

- Evans Park Elementary School
- Lincoln Avenue Elementary School
- Franklin Avenue School
- Pearl River Middle School
- Pearl River High School

## ■ Total Fixtures includes

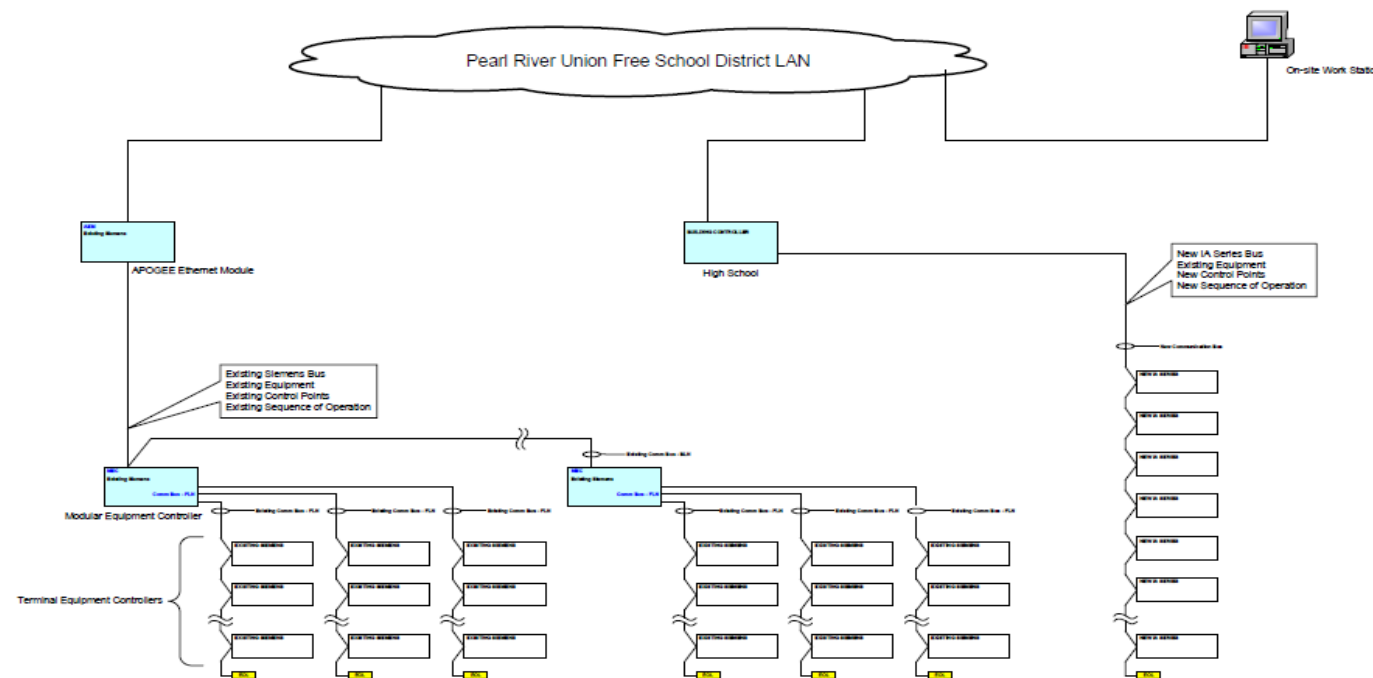
- Exterior(HID) & Interior lighting
- 32W T8's to LED Type B internal drivers
- Lighting mock ups to be done
- Includes Hallways/Classrooms/Etc.





# Energy Conservation Measure: Energy Management System

- Existing footprint is large based on prior EPC-2010 and Capital Projects
- Scope to include retro commissioning and functionality upgrades, software, etc.
- Review Integration/Functionality

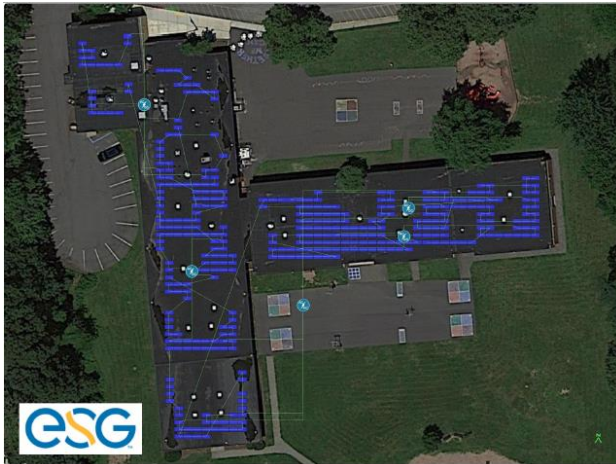


# Energy Conservation Measure: Solar Photovoltaic (PV)

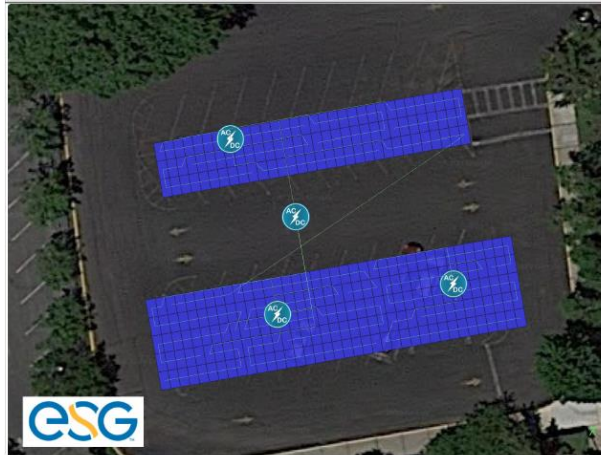


Name:	System Size (kW)
Evans Park Elementary	129
Lincoln Ave Elementary	125
Franklin Avenue Elementary	104
Pearl River MS	234
Total	592

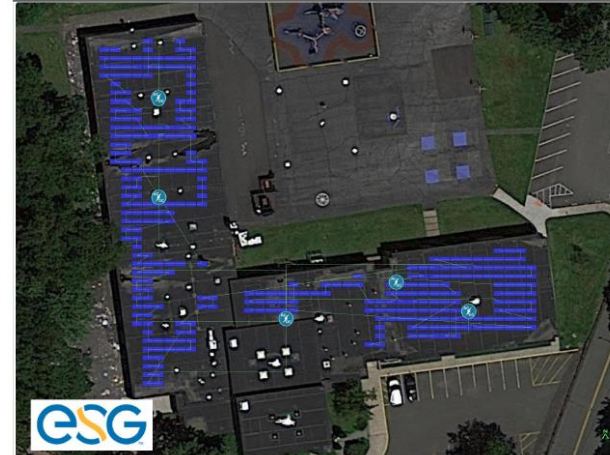
- Solar will be close to Net Zero per building



Evans Park Elementary- Roof



Franklin Avenue Elementary- Carport



Lincoln Avenue Elementary- Roof



Pearl River MS - Roof

# Typical Solar walkway or carport images



Typical Carport



Student walk way

# Energy Conservation Measures Evaluated



Energy Conservation Measure "ECM" Description	Evans Park Elementary School	Franklin Avenue Elementary School	Lincoln Avenue Elementary School	Pearl River High School	Pearl River Middle School
LED Lighting Retrofit, Interior	✓	✓	✓	✓	✓
LED Lighting Retrofit, Exterior	✓	✓	✓	✓	✓
DHW Heater Replacement		✓			✓
PV System Installation	✓	✓	✓		✓
Unit Vent Replacements		✓			
DDC Controls Optimization	✓	✓	✓	✓	✓
Building Envelope Upgrades	✓	✓	✓	✓	✓
Plug Load Controls	✓	✓	✓	✓	✓
Kitchen Hood Controls				✓	✓
Walk in Cooler and Freezer Control				✓	✓
AHU/ RTU Replacement - RTU-1				✓	
AHU/ RTU Replacement Gym AHU & HV-8				✓	
AHU/ RTU Replacement - Rebuild Gym AHU & HV-8					
Split System Upgrades				✓	✓
Boiler Controller(s) Replacement	✓	✓	✓	✓	✓
Enhanced air Quality and Space disinfection					
Window film					
Gymnasium destratification Fans					
Variable speed drives on ahus & heating pumps					
High Efficiency Transformers					
Boiler(s) Replacement					
Educational Program	✓	✓	✓	✓	✓

- Additional Measures to be evaluated
- Kick off meeting
- Process will set up site visits, meet with building stakeholders
- Building equipment data logging
- Review any capital budget needs
- Verification of energy baseline
- Workshops – Technical/ Guarantee/Financial

# Financial/Greenhouse Gas Analysis



## Current estimate of project financials

**\$4.4M project cost**

**\$212k in energy savings**

**\$48k in operational savings**

**\$52k in energy rebates**

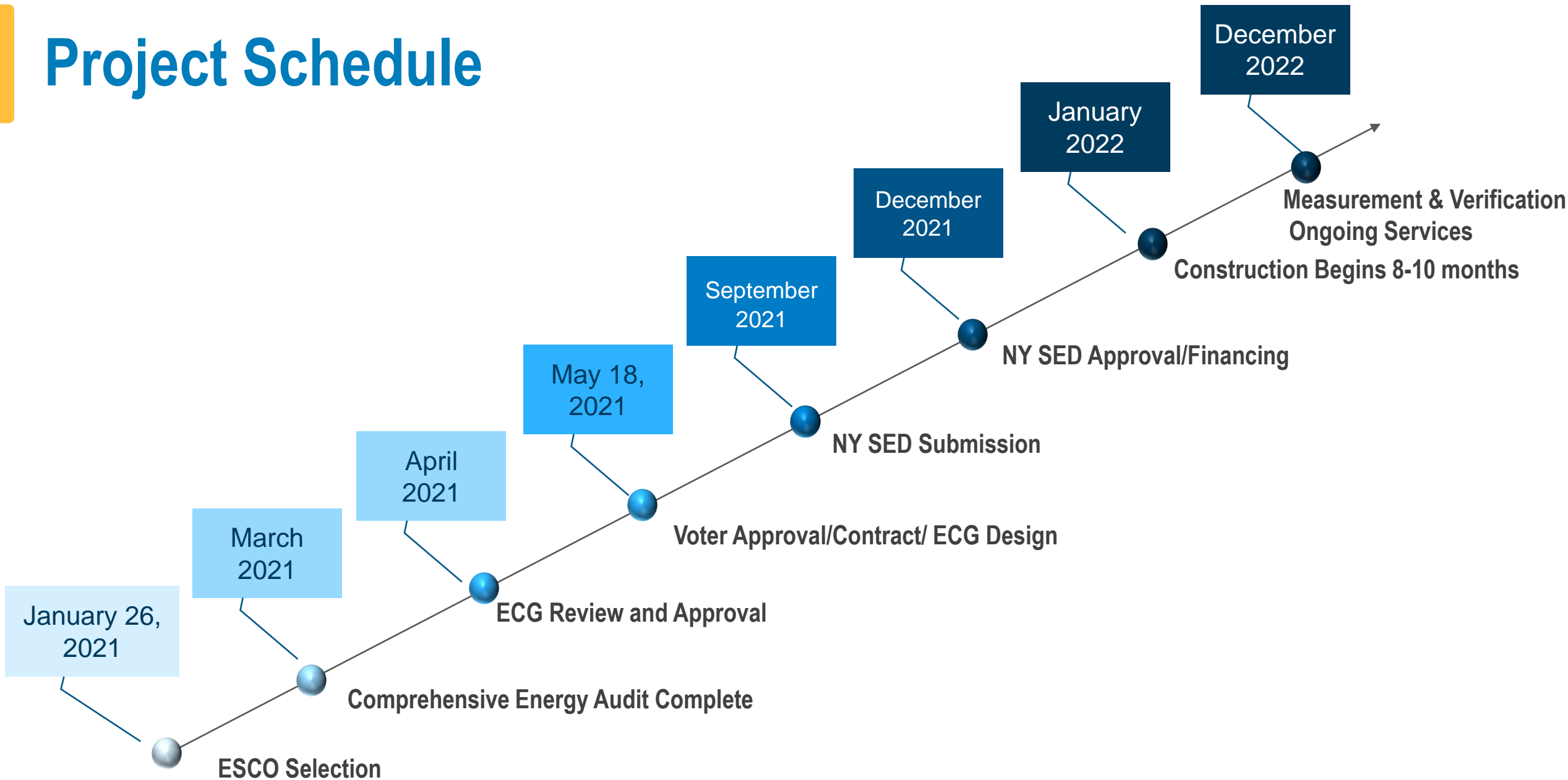
**\$2.5M positive cash flow over term**

## Adjusted State Aid project Financials

**Approximately \$3M in positive cash flow over term**

Greenhouse Calculator						
Fuel Savings	Annual Savings	CO2, MTe	Passenger Vehicles	Homes off of grid	Tree Seedlings grown over 10 years	Acres of pine or fir forests
Electric, kWh	786,565	564.8	107.8	68.6	14,483.8	120.3
Natural Gas, therms	-	-	-	-	-	-
#2 Oil, gallons	28,339	196	38	24	5,032	42
#4 Oil, gallons	-	-	-	-	-	-
#6 Oil, gallons	-	-	-	-	-	-
Steam, therms	-	-	-	-	-	-
Propane, gallons	(14,175)	(66)	(13)	(8)	(1,681)	(14)
TOTAL		695.4	132.7	84.5	17,834.8	148.2

# Project Schedule



**COLLABORATION + PARTNERSHIP + TEAMWORK = SUCCESS**



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