



## AGENDA

**LAURENS COUNTY COUNCIL  
COMMITTEE ON PUBLIC WORKS  
(COUNCIL MEMBERS – MCDANIEL, CHAIRMAN; ANDERSON AND NASH)  
SEPTEMBER 26, 2017 – 4:00 P.M.  
HISTORIC COURTHOUSE – PUBLIC SQUARE**

1. Call to Order – Committee Chairman
  - Invocation
  - Pledge of Allegiance
- 2.) Approval of Agenda
- 3.) New Business:
  - a) Energy Savings Performance Contract
  - b) EMS Capital Master Plan
  - c) Old Laurens Road Emergency Services Substation
4. Committee Member Comments
5. Adjournment

Item #5a - Energy Savings Performance Contract



# Laurens County Guaranteed Energy Savings Performance Contract

September 12, 2017

Discussion Points for Laurens County Public Works Committee

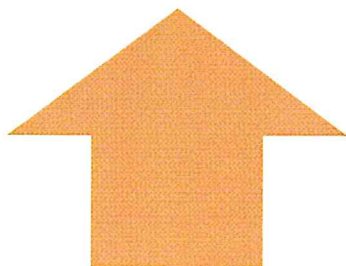


## Headline

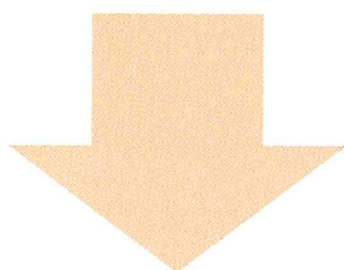


### Laurens County Reduces Utility Spend by 31%

## Challenges



Utility & Operations Costs  
Physical Infrastructure Needs  
Economic Conditions



Community Image  
Available Amenities  
Infrastructure Availability  
Capital Budget

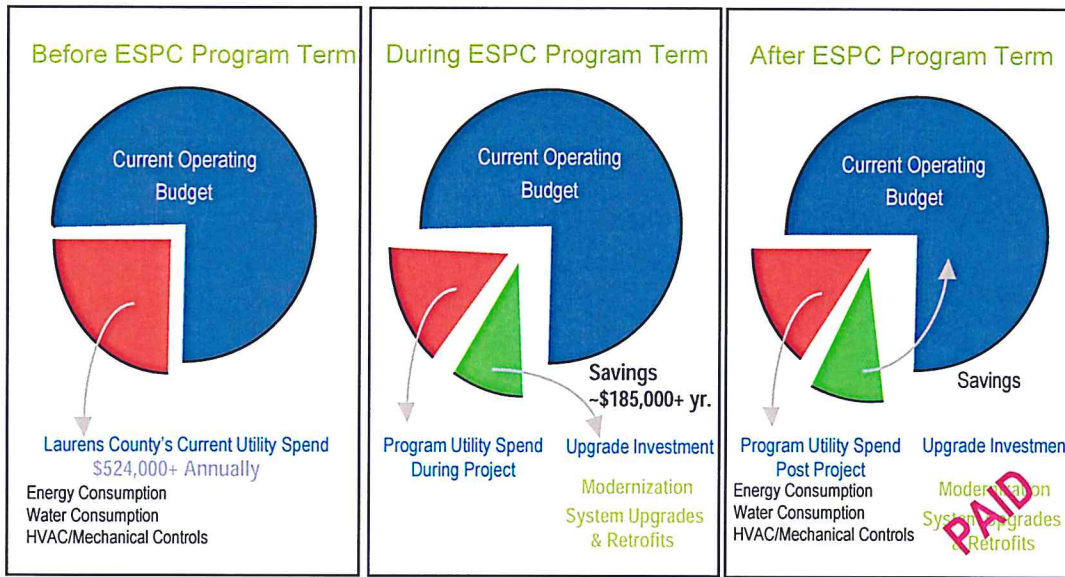
## Energy Savings Performance Contracting (ESPC) Defined



### *Key Concepts*

- South Carolina Legislation (HB 5020) passed in 1992 to provide a funding mechanism that allows public and private entities to make self-funded capital improvements from utility and operational savings
- Infrastructure improvements **pay for themselves** through energy savings, lower operating costs and/or increased billable revenues
- Energy Services Companies (ESCOs) serve as Program Manager and obtain revenues through sale of equipment and services to entities
- Savings cover total cost of program – retrofit construction, equipment supply, financing costs, debt service and commissioning
- Results are guaranteed by the ESCO contractor

# How Energy Savings Performance Contracts Work



Energy Performance Contracting



Infrastructure Needs / Upgrades



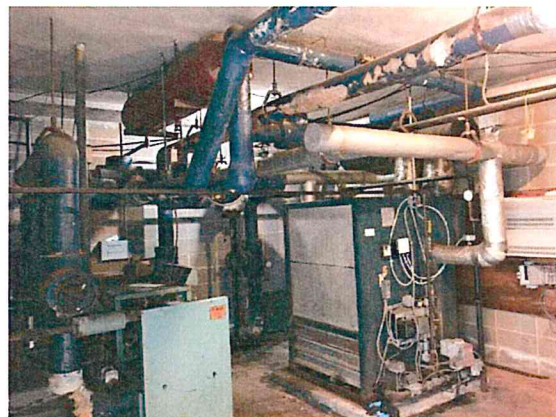
Community Development



# Infrastructure Needs – Judicial Complex



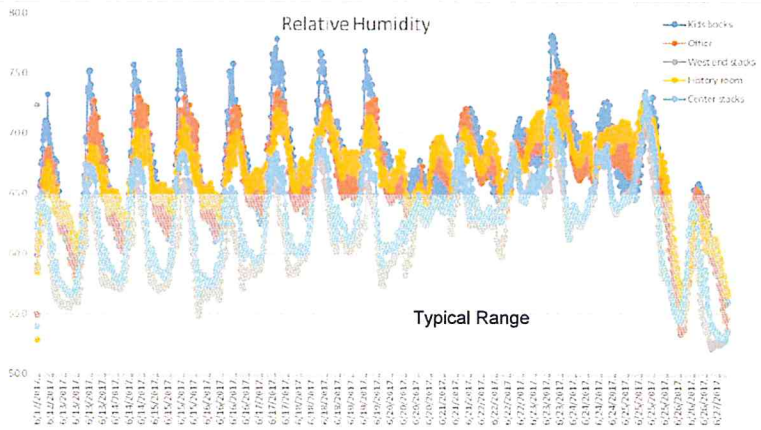
# Infrastructure Needs – Sheriff's Office



# Infrastructure Needs – Health Dept.



# Infrastructure Needs – Library

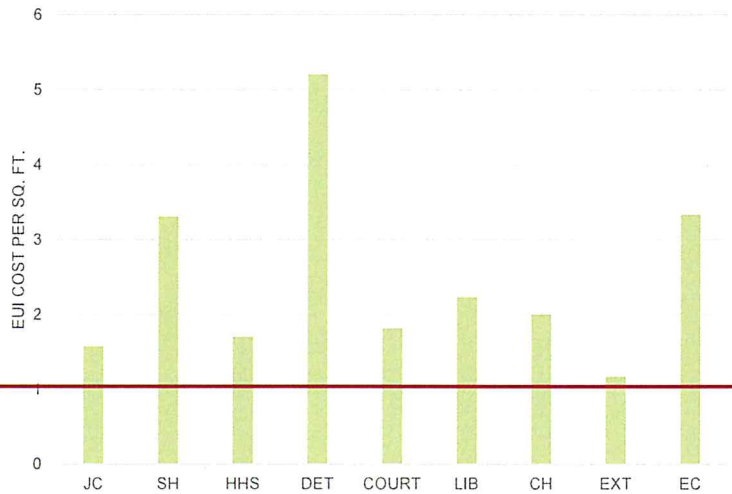


Humidity Control can be complex control strategy, impacted by HVAC coil temperature, HVAC compressor cycling, building pressure, outside air/space ventilation. All these factors should be monitored and controlled to ensure proper humidity control.

# Portfolio Utility Cost



Building Name	Total Utility Cost
Judicial Complex	\$108,369
Courthouse Annex	\$36,418
Health and Human Services	\$54,382
Johnson Detention	\$186,109
Historic Courthouse	\$28,613
Library	\$55,850
Church Street	\$15,001
Clemson Extension	\$4,821
Emergency Communication	\$35,266
<b>Total</b>	<b>\$524,829</b>



Target Office EUI \$1.00/sq.ft.

# Energy Conservation Measures



- ▶ LED Lighting Upgrades - All Buildings
- ▶ Water Conservation – All Buildings
- ▶ Building Automation System Upgrades
  - ▶ Judicial, Clemson, Sheriffs, Church Street
  - ▶ Emergency Communication, Library, HHS
- ▶ Judicial Complex New Roof
- ▶ Judicial Complex New HVAC
- ▶ Sheriff’s Office New HVAC

**Energy Savings:  
\$168,150  
Annually**



# Energy Conservation Measures



## LED Lighting Upgrades - All Buildings

Total Measure Cost		
<b>\$ 756,121</b>		
Simple Payback	Energy Savings	O&M Savings
7.3 yrs.	\$97,749	\$ 5,000



Building Name	Lighting Fixture QTY
Clemson Building	22
County Park	70
Detention Center	519
Emergency Communication	126
Gray Court EMS	20
Health Department and DSS	469
Historic Courthouse	240
Judical Complex	960
Library	475
Sheriff's Office	200
<b>Grand Total</b>	<b>3207</b>

# Energy Conservation Measures



## Water Conservation - All Buildings

Total Measure Cost		
<b>\$ 282,286</b>		
Simple Payback	Energy Savings	O&M Savings
8.77 yrs	\$30,862	\$ 1,312

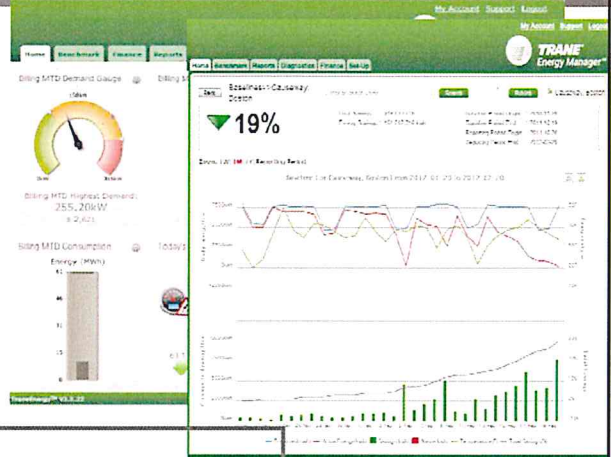


Building Name	Lighting Fixture QTY
Church Street	20
Detention Center	88
Emergency Communication	11
Health Department and DSS	46
Historic Courthouse	24
Judical Complex	82
Library	21
Sheriff's Office	26
<b>Grand Total</b>	<b>318</b>

# Energy Conservation Measures



- ▶ Building Automation System Upgrades
  - ▶ Judicial, Clemson, Sheriffs Dept.
  - ▶ Church Street, Library, HHS
  - ▶ Emergency Communication



Total Measure Cost		
<b>\$ 188,148</b>		
Simple Payback	Energy Savings	O&M Savings
7.02 yrs	\$26,772	\$ 0

# Energy Conservation Measures



- ▶ Judicial Center Roof Replacement

Total Measure Cost		
<b>\$ 560,000</b>		
Simple Payback	Energy Savings	O&M Savings
204 yrs	\$2,740	\$ 0

- ▶ 75,000 sq.ft. of new roof
  - ▶ Existing tear off
  - ▶ New insulation
  - ▶ New 50 mil white membrane
    - ▶ (20 yr. warranty)



## Energy Conservation Measures



- ▶ Judicial Center HVAC Replacement
  - ▶ Replacement of 27 existing rooftop units, 1999 vintage
  - ▶ New high efficiency heat pump units
  - ▶ Economizer and CO2 ventilation Control

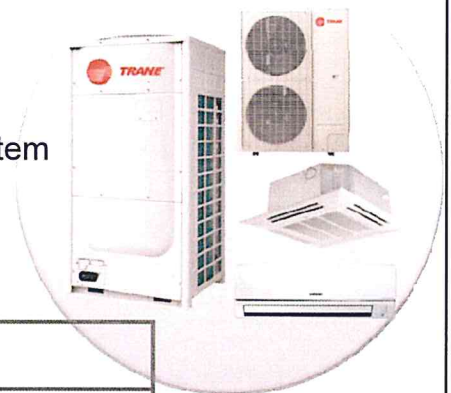


Total Measure Cost		
<b>\$ 641,294</b>		
Simple Payback	Energy Savings	O&M Savings
64 yrs	\$8,671	\$ 1,250

## Energy Conservation Measures



- ▶ Sheriff's Office HVAC Replacement
  - ▶ Replacement of existing 1970 equipment
  - ▶ New high efficiency variable refrigerant volume system
  - ▶ Dedicated outside air units for ventilation



Total Measure Cost		
<b>\$ 344,406</b>		
Simple Payback	Energy Savings	O&M Savings
30.3 yrs.	\$1,356	\$ 10,000

## Energy Conservation Measures



- › Library HVAC Replacement Option in lieu of Sheriff's Office HVAC
  - › Replacement of existing 1989 equipment
  - › One for one replacement of existing split system air handling units
  - › Will require ceiling removal for access in some spaces

Total Measure Cost		
<b>\$ 345,289</b>		
Simple Payback	Energy Savings	O&M Savings
26.9 yrs.	\$2,805	\$ 10,000

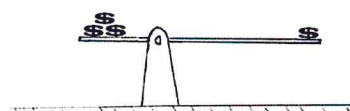
## Project Cash Flow Scenario



- › Guaranteed Energy Savings - \$168,150
- › Operational Cost Savings - \$17,562
- › Project Infrastructure Upgrades - \$2,772,255
- › Finance term 15 years at 2.75%
- › Duke Energy Utility Rebates - \$20,054
- › Customer Capital Contribution - \$275,000

## Budget Neutral Infrastructure Modernization Project

\$2,772,255      \$168,150



# Project Cash Flow Scenario



Year	1	2	3	4	5	15	Total
<b>PROGRAM SAVINGS</b>							
<b>Guaranteed Energy Savings</b>							
Electricity	\$ 138,314	\$ 142,463	\$ 146,737	\$ 151,139	\$ 155,673	\$ 209,212	\$ 2,572,487
Fuel	1,156	1,191	1,226	1,263	1,301	1,748	\$ 21,499
Other	28,681	29,541	30,427	31,340	32,280	43,382	\$ 533,428
Subtotal Energy	\$ 168,150	\$ 173,195	\$ 178,391	\$ 183,742	\$ 189,255	\$ 254,343	\$ 3,127,415
<b>Specified Savings</b>							
Lighting O&M	15 5,000	\$ 5,150	\$ 5,305	\$ 5,464	\$ 5,628	\$ 7,563	\$ 92,995
HVAC	15 11,250	11,588	11,935	12,293	12,662	17,017	\$ 209,238
Water	15 1,312	1,351	1,392	1,434	1,477	1,985	\$ 24,402
Construction Period Savings	\$ 48,000						
Annual Program Savings	\$ 233,712	\$ 191,284	\$ 197,022	\$ 202,933	\$ 209,021	\$ 280,907	\$ 3,454,049
Cumulative Savings	233,712	424,996	622,018	824,951	1,033,972	3,502,049	
<b>PROGRAM COSTS</b>							
Annual Service Support	\$ -	\$ 11,300	\$ 11,639	\$ 11,988	\$ 12,348	\$ 16,594	\$ 193,075
<b>Cash Flow Available for Debt Service (CFADS)</b>							
Program - Annual Net Cash Flow	\$ 233,712	\$ 179,984	\$ 185,383	\$ 190,945	\$ 196,673	\$ 264,312	\$ 3,308,973
<b>FINANCING FACILITIES</b>							
Debt Obligation 1	\$ 233,712	\$ 179,984	\$ 185,383	\$ 190,945	\$ 196,673	\$ 115,290	\$ 3,159,951
<b>NET ANNUAL CASH FLOW</b>							
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 149,022	\$ 149,022

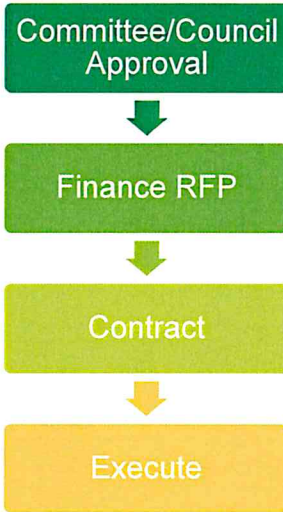
# Laurens County Benefit Summary



## Avoided Capital Cost \$2,300,000+

- ▶ Judicial Center HVAC Replacement: \$640,000+ (end of life, 1999 equipment)
- ▶ Sheriffs Office HVAC Replacement : \$350,000+ (end of life, 47 year old equipment)
- ▶ Courthouse Roof Replacement: \$560,000+ (end of life, leaks)
- ▶ Building Lighting: \$750,000+ (T8, T12 fluorescent no longer manufactured)

# Next Steps



**Trane Building Advantage**  
Laurens County Government  
Public Works Committee

September 12, 2017

Item #5b - EMS Capital Master Plan



## MEMORANDUM

**TO:** Jon Caime

**FROM:** Matt Pennington, Laurens County Director of EMS  
Robert Russian, Laurens County Director of Public Works

**DATE:** May 24, 2017

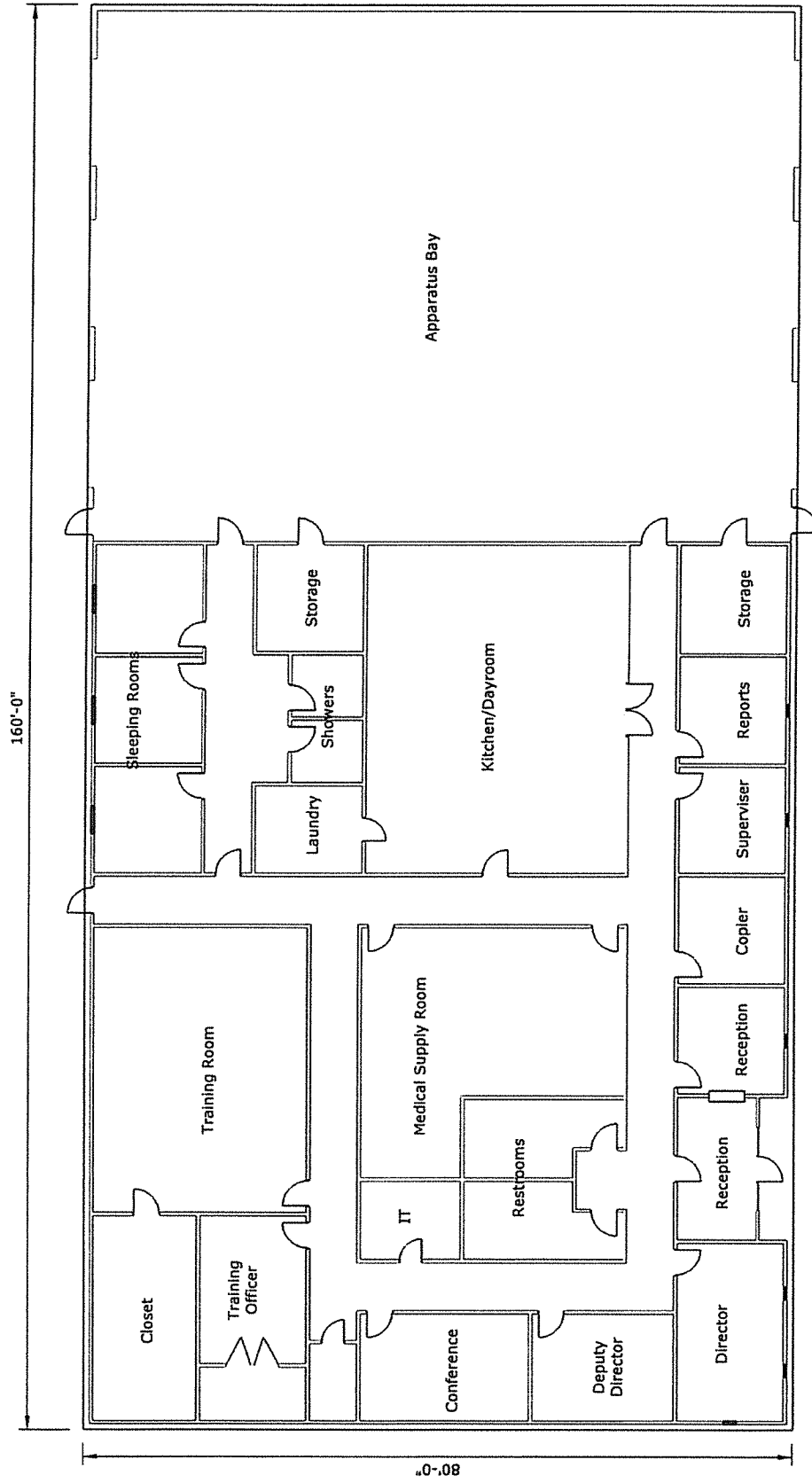
**SUBJECT:** Rough Estimates of EMS Capital Master Plan

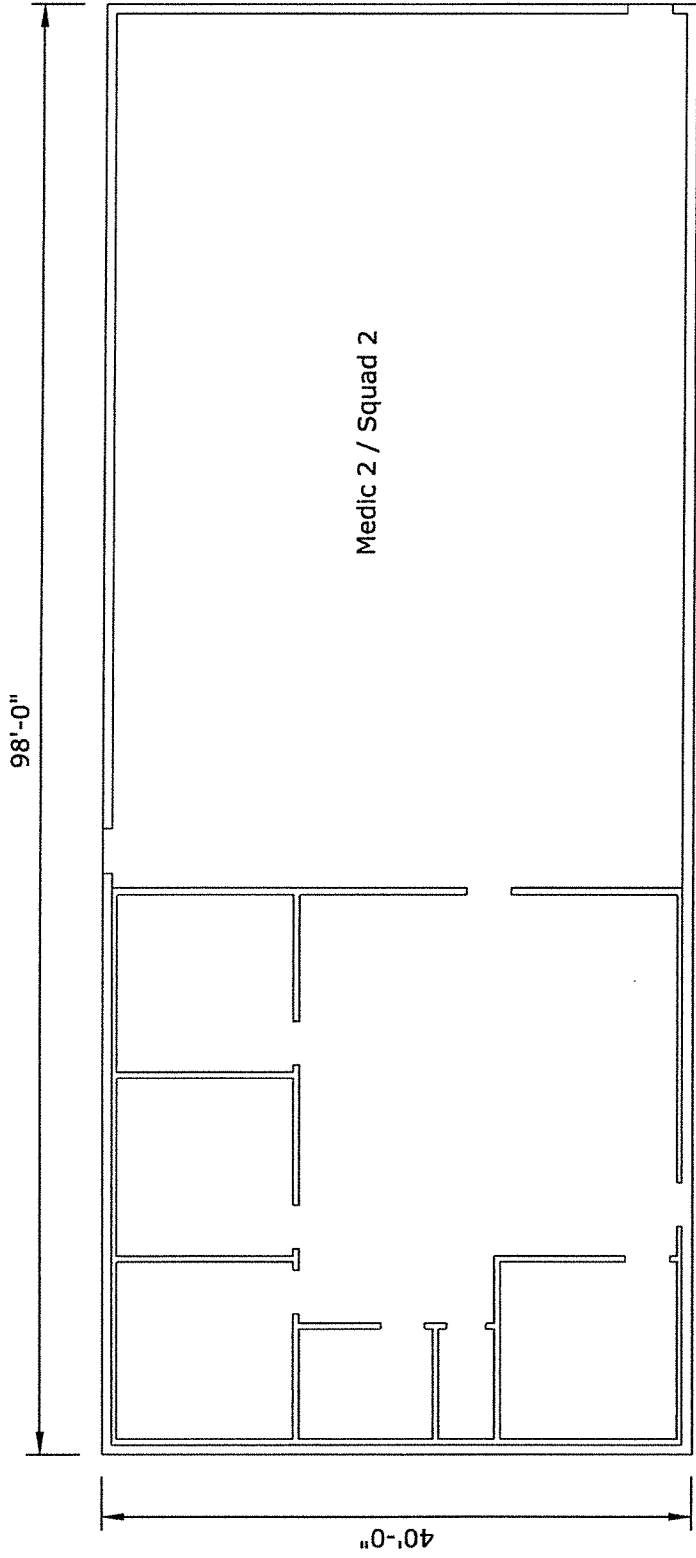
In an effort to look at long range capital planning for the EMS department, the following projects are proposed in order of priority. Projects and priority listing are a result of a collaboration of the EMS, Fire Services, Administration and Public Works Departments. Cost estimates are approximates based on data from recent bid lettings, repair projects, and other data gathered mostly from current Fire Bond Projects. If Council chooses to proceed, an architectural firm would be retained at an approximate cost of \$20,000 to provide detailed costs and drawings for bonding purposes.

1. **Construct Headquarters Complex for EMS administration and Medic #1**  
(See attached building layout)
  - a. Building - \$1,500,000 (Based on \$120/ft<sup>2</sup> – Thompson Road)
  - b. Land Acquisition - \$0
  - c. Furnishings - \$60,000
  - d. IT Equipment & Electronic Entry - \$90,000
  - e. Total Estimated Cost - **\$1,650,000**
2. **Construct new Medic #2 Complex and relocate Squad #2 to same location**  
(See attached building layout)
  - a. Building - \$450,000
  - b. Land Acquisition - \$0
  - c. Site Prep/Grading - \$100,000
  - d. Furnishings/Misc - \$50,000
  - e. Total Estimated Cost - **\$600,000**
3. **Relocate Medic #5 to Trinity Ridge Fire Department**
  - a. Miscellaneous Cost - **\$10,000**
4. **Relocate Medic #3 to Gray Court Fire Department**
  - a. Renovations to GC Fire Department - **\$150,000**
5. **Renovate Medic #4 in Cross Hill** (See attached cost breakdown)
  - a. Total Renovation Cost - **\$67,000**
6. **Construct new Medic #6 complex and relocate Squad #1 to same location**  
(See attached building layout)
  - a. Total Estimated Cost - **\$600,000**
7. **Relocate Squad #3 to Thompson Road**
  - a. Addition to Thompson Road Fire Station - **\$150,000**
8. **Total Estimated Cost for all seven projects - \$3,227,000**



# EMS Headquarters / Medic #1





Medic 2 / Squad 2

scale: 1"=12'

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## Estimates for Medic 4

### Building Needs

Items 1 - 7 and 9 - 16	\$24,000.00
Item 8	\$7,000.00
Item 17	\$6,000.00

### Plumbing Needs

Items 1 - 3	\$4,000.00
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### Electrical Needs

Items 1 - 5 (I had not removed Item 1)	\$7,000.00
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### HVAC

Item 1 Labor	\$1,000.00
Item 1 Infrared heater from SpaceRay	\$1,000.00

### Fire Suppression

Item 1 - 2	\$3,000.00
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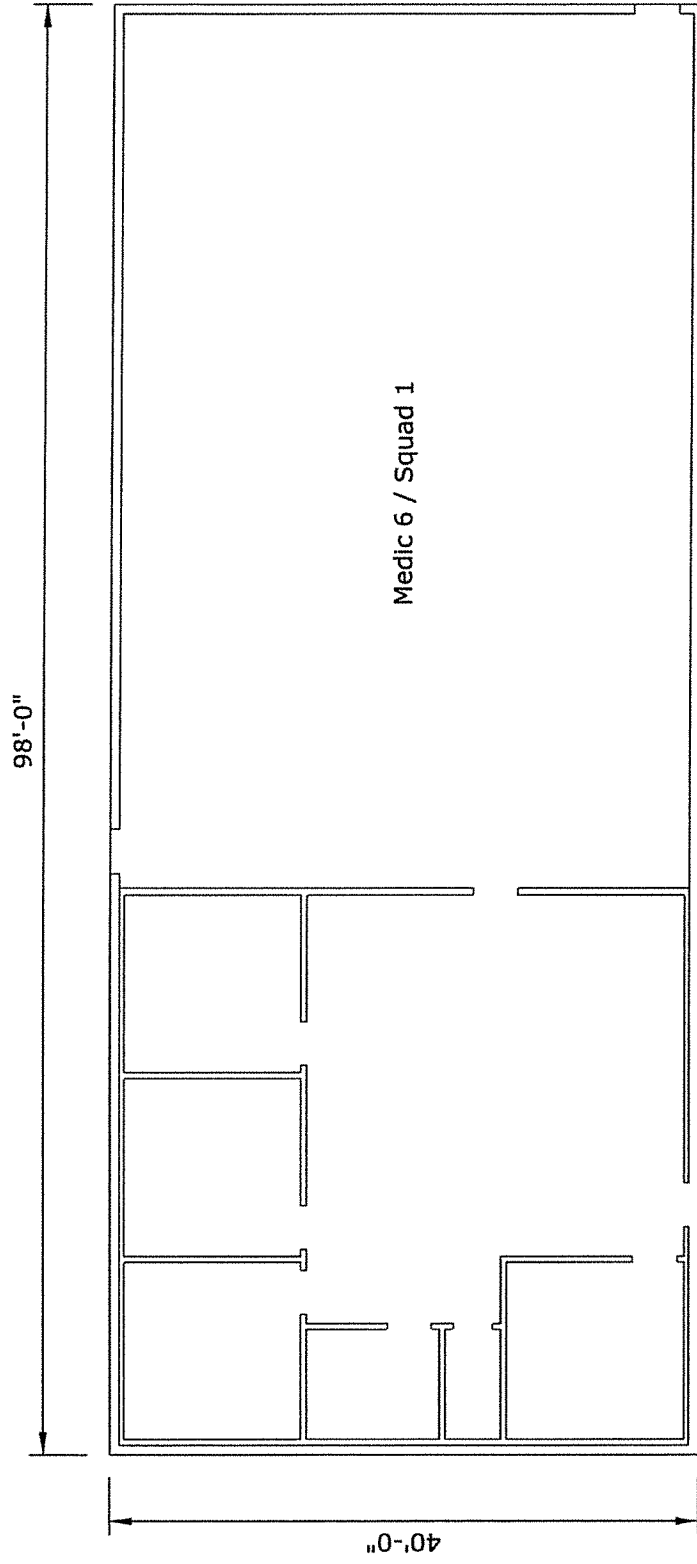
### Painting Needs

Items 1 - 4	\$5,000.00
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### Furnishing Needs

Item 1	\$9,000.00
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<b>TOTAL</b>	<b>\$67,000.00</b>
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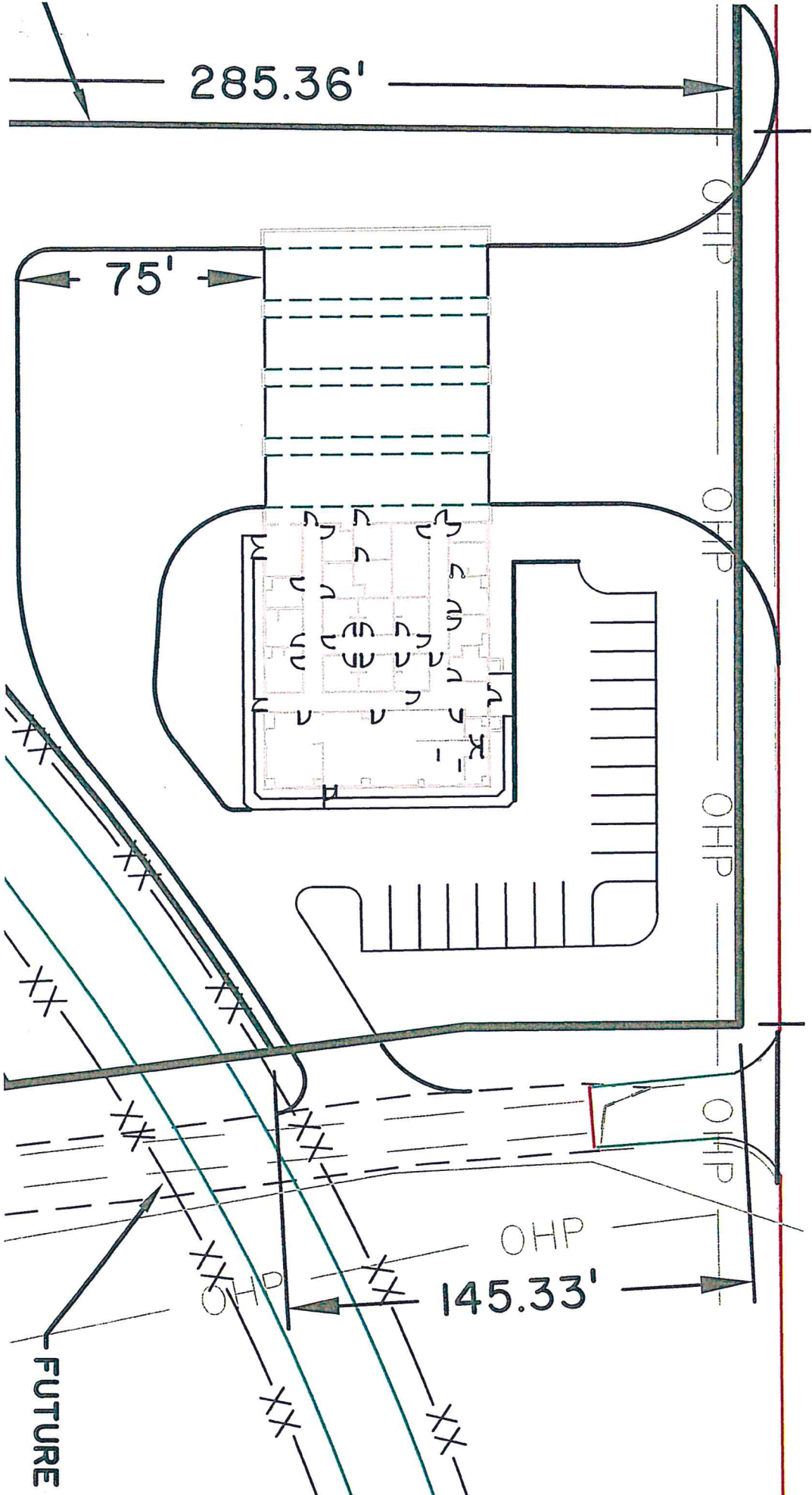


Medic 6 / Squad 1  
scale: 1"=12'

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Item #5c - Old Laurens Road Emergency

Services Substation



285.36'

75'

OHP  
145.33'

FUTURE

OHP

OHP

OHP

OHP

OHP

OHP

