

# FACILITIES REPAIR, REPLACEMENT AND RENOVATION, AND TEN YEAR FACILITIES NEEDS FORECAST



FY 2019 EXECUTIVE ORDER  
28 ANNUAL REPORT



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# 1. EXECUTIVE SUMMARY

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In FY 2019, the university spent \$115 million on Facilities Needs. Of the \$115 million, \$56.7 million (49%) was spent on Education and General (E&G) facilities which support the academic and research mission of the university. However, the system-wide spending for Facilities Needs was \$74 million short of the estimated \$130 million needed to achieve the Best Practice Model based on a FCNI of 0.30 for E&G facilities over the next ten years.

The Facility Condition Audit was conducted by ISES and the findings are a result of a July 2019 study of a large sample of facilities on the University of Missouri System campuses.

The Facility Condition Needs section of the report contains the findings and the impact of the two funding models: the Current Budget Adjusted for Inflation Model to describe a scenario where funding for EO 28 remains at today's levels plus inflation, and a Best Practice Model designed to achieve a university FCNI of 0.30 in 10 years. Currently the university has Facility Condition Needs (FCN) totaling \$1.78 billion. Based on the current budget model, the FCNI is expected to increase from the current FCNI as shown below along with FCN of \$3.6 billion in ten years. To correct this trend, the University must allocate an additional \$94 million through the system and strategically plan renovations to facilities that will best address the \$1.78 billion FCN.

# 2. HISTORY

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Executive Order #28 (EO 28) was issued in 1994 to address the growing deferred maintenance and repair issues on the University campuses. EO 28 mandated that each campus begin budgeting and reporting expenses for preventive maintenance and major repair at 1.5% of the campus building replacement value by 1997. From 1997 until 2002, the University invested 1.5% of building replacement value in the repair and preventive maintenance of its buildings. This covered major repair and replacement projects such as building roofs, windows, HVAC, doors, etc. as well as routine preventive maintenance. Not covered in the M&R work was custodial services, remodeling of building finishes, and building renovations undertaken to meet new program requirements or to adapt buildings to new uses. Subsequent cuts in University funding resulted in reductions in M&R budgeting to 1.25% in 2002 and to 1.0% in 2006; and limited capital investment from the State. For Fiscal Years 2001 through 2014, the University received approximately \$144 million for capital improvements to our facilities or approximately \$2.57 million per campus per year.

With limited capital investment, the University's deferred maintenance increased and in 2008 a facility assessment audit estimated a \$344 million backlog of deferred M&R work system wide. This assessment was completed by ISES Corporation, a facilities management firm that specializes in building condition analyses. ISES also evaluated our facilities for Capital Renewal (major repairs when items reach the end of their useful life) and Plant Adaption (investment required to adapt facilities to evolving institutional needs and changing standards), in addition to Deferred Maintenance (repairs not accomplished as a part of normal maintenance where deterioration is evident and could impair functionality) to determine our total Facilities Needs of \$807 million. Executive Order 28 was then modified from Maintenance & Repair Funding & Reporting to Facilities Needs Funding and Reporting and included not only M&R but also Capital Renewal and Plant Adaption. This allowed renovations and finish replacements (paint, carpet, etc.) to count towards the 1.5% goal. Consequently, less was spent on equipment and infrastructure.

In 2012, Executive Order 28 was modified again and the 1.5% of building replacement value goal was replaced with a goal to maintain a Facilities Condition Needs Index (FCNI) of 0.30 or lower.

### 3. UNIVERSITY OF MISSOURI SYSTEM

#### E&G Facilities

#### ❖ Maintenance & Repair Spending in FY 2019 for E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Effect on Facilities Condition Needs (Target-AS)
\$56,699,839	\$6,001,373,708	0.94%	\$130,957,010	\$74,257,171

Table 3-1: UM M&R Spending in FY19 for E&G Facilities

Type of Funds	Amount	Percent of Total
Recurring	\$35,922,007	63%
One-Time (grants, bonds, and departmental funds)	\$20,777,831	37%
Total	\$56,699,839	

Table 3-2: UM M&R Fund Type Breakout for E&G Facilities

#### ❖ Maintenance & Repair Historical Actual Spending for E&G Facilities

In 2013, the EO 28 policy regarding target expenditures was modified to reflect the funding necessary to stabilize facilities.

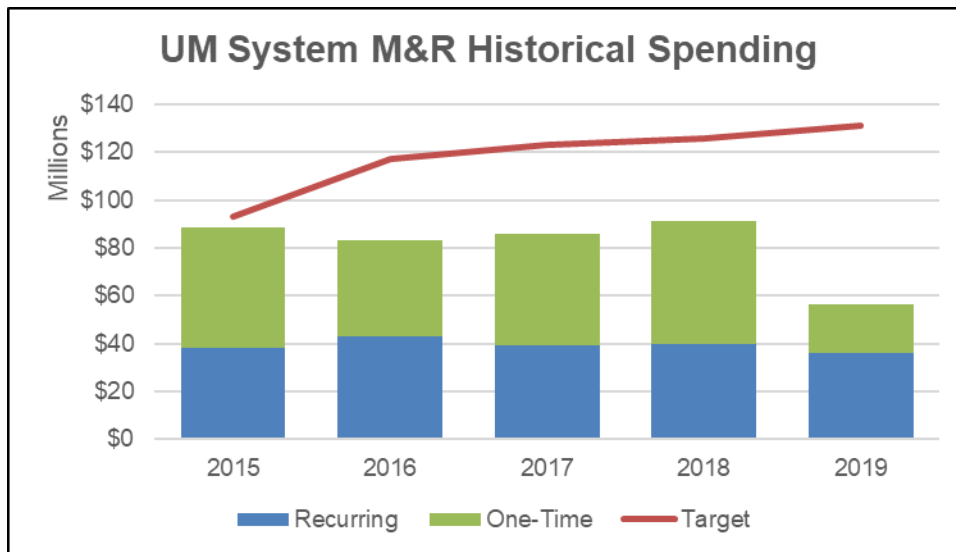


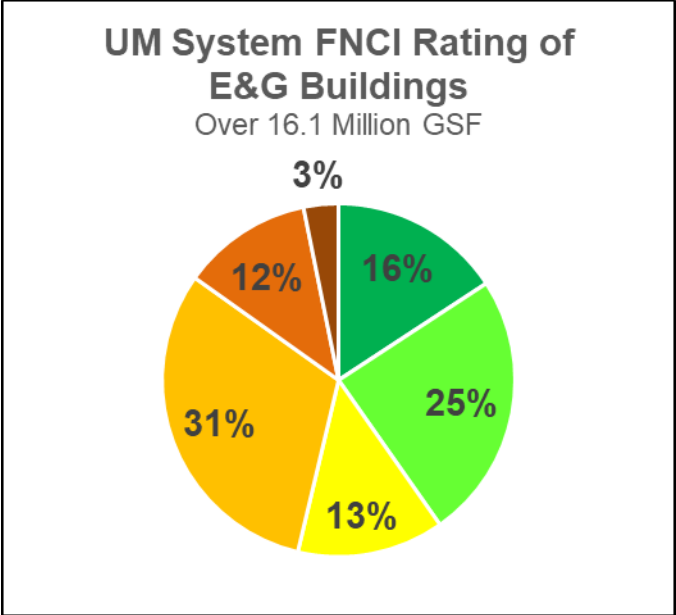
Figure 3-1: UM M&R Historical Actual Spending on E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on the model to not exceed a campus FCNI of 0.30 in ten years.

❖ **Current Assessment of E&G Facilities Conditions**

The figure below illustrates how each facility on the university’s campuses rates on the index by percent: 37% of facilities are in good or excellent condition while 45% of facilities are rated below average or poorer.



Facility Condition Needs Index	# of Fac.
Excellent Condition, typically new construction (0.000 - 0.100)	49
Good Condition, renovations occur on schedule (0.101 - 0.200)	55
Fair Condition, in need of normal renovation (0.201 - 0.300)	41
Below Average Condition, major renovation required (0.301 - 0.500)	103
Poor Condition, total renovation indicated (0.501 - 0.600)	29
Replacement Recommended (0.600 and Higher)	20
<b>Total</b>	<b>297</b>

Table 3-3: FNCI Rating Facility Count

Figure 3-2: UM System FCNI Rating of E&G Facilities

Currently the University of Missouri System’s Facilities Condition Needs (FCN) are \$1.7 billion. The FCN are analyzed in two ways: by category and by priority.

E&G Facilities Condition Needs Projects by Category					
	Capital Renewal	Deferred Maintenance	Plant Adaption	Total	FCNI
System	\$631,134,096	\$936,228,765	\$214,496,736	\$1,781,859,597	0.30

Table 3-4: UM E&G Facilities Condition Needs Projects by Category for E&G Facilities

- Capital Renewal: Major Repairs when items reach the end of their useful life
- Deferred Maintenance: Repairs not accomplished as a part of normal maintenance where deterioration is evident and could impair functionality
- Plant Adaption: Investment required adapting facilities to evolving institutional needs and changing standards

E&G Facilities Condition Needs Projects by Priority					
	1	2	3	4	Total
System	\$70,759,982	\$179,671,531	\$1,022,076,511	\$509,351,572	\$1,781,859,597

Table 3-5: UM E&G Facilities Condition Needs Projects by Priority for E&G Facilities

- Priority 1: Currently Critical (Immediate)
- Priority 2: Potentially Critical - Urgent (Within 1 Year)
- Priority 3: Necessary, Vital, but Not Yet Critical (2 to 5 Years)
- Priority 4: Recommended, Necessary (6 to 10 Years)

## ❖ Ten Year Facilities Needs Forecast for E&G Facilities

Funding models<sup>1</sup> are created to see the impact of funding trends. Figure 2.3 below illustrates the current budget and a budget necessary to stabilize manageable facilities conditions. Figure 2.4 illustrates the two funding models and the impact to the Facilities Condition Needs.

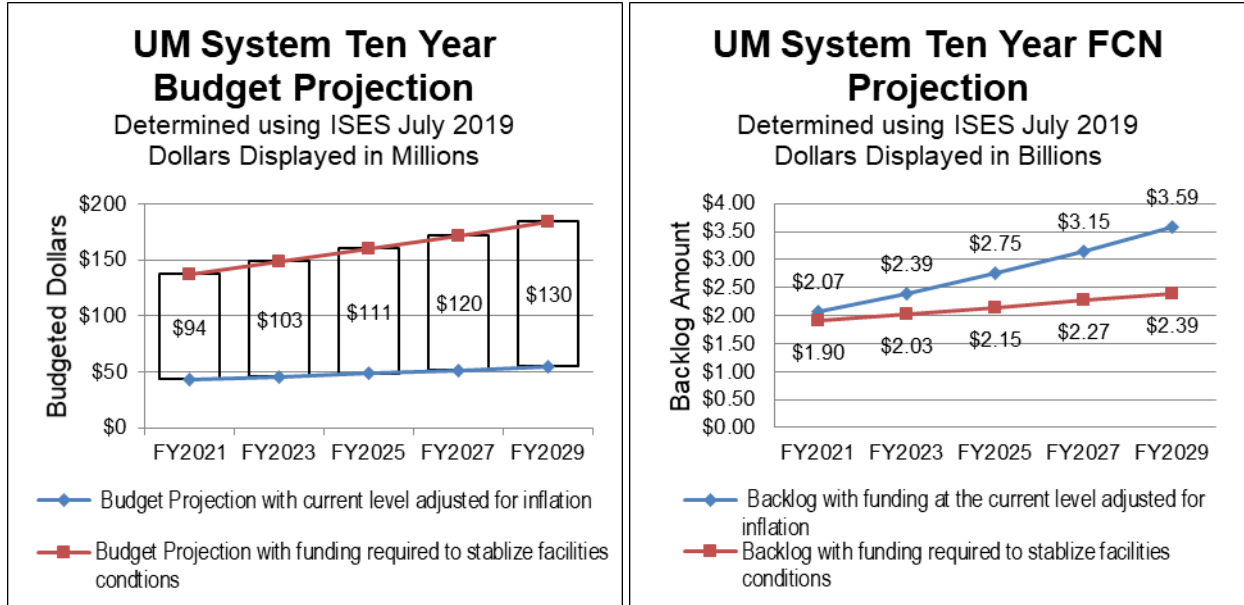


Figure 3-3: UM System Ten Year Budget Projection for E&G Facilities

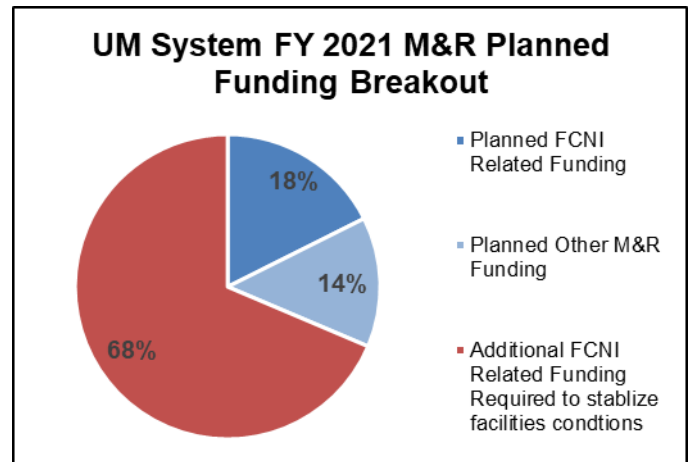
Figure 3-4: UM System Ten Year Budget Projection Impact to Facilities Condition Needs for E&G Facilities

The Current Investment Level will increase the FCNI to 0.44 by FY 2029.

UM System Ten Year Current Investment Level Impact to FCNI		
Campus	FY21	FY29
System	0.32	0.44

Table 3-6: UM System Ten Year Current Investment Level Impact to FCNI

Figure 3-5: UM System M&R Planned Funding Breakout to Stabilize Facilities Conditions



<sup>1</sup> Variables included are Inflation rate: 3.0%; FCN Deterioration Rate: 1.0%; and Plant Deterioration Rate: 1.5%



## Non E&G Facilities

### ❖ Maintenance & Repair Spending in FY 2019 for Non E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Difference (Target-AS)
\$58,438,797	\$4,067,259,427	1.44%	\$40,672,594	(\$17,766,202)

Table 3-7: UM System M&R Spending in FY19 for Non E&G Facilities

### ❖ Maintenance & Repair Historical Actual Spending for Non E&G Facilities

In 2013, EO 28 changed the policy to budget funds necessary to stabilize facilities conditions.

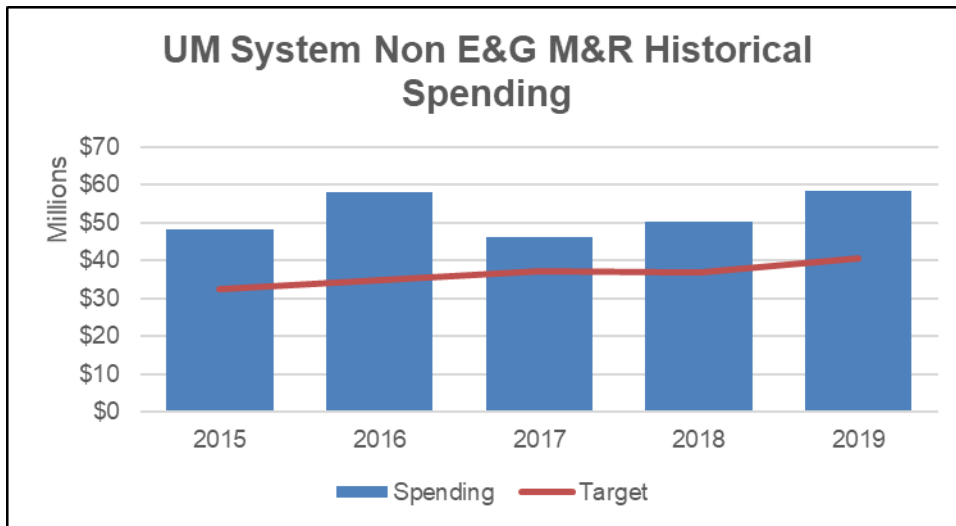


Figure 3-6: UM System M&R Historical Actual Spending on Non E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values

<sup>2</sup> Best Practice is 1.0% of Current Replacement Value

## 4. UNIVERSITY OF MISSOURI – COLUMBIA

### E&G Facilities

#### ❖ Maintenance & Repair Spending in FY 2019 for E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Effect on Facilities Needs (Target-AS)
\$22,815,657	\$2,814,068,839	0.81%	\$55,923,606	\$33,107,949

Table 4-1: MU M&R Spending for FY19 for E&G Facilities

Type of Funds	Amount	Percent of Total
Recurring	\$16,297,959	71%
One-Time (grants, bonds, and departmental funds)	\$6,517,698	29%
Total	\$22,815,657	

Table 4-2: MU M&R Fund Type Breakout for E&G Facilities

#### ❖ Maintenance & Repair Historical Actual Spending for E&G Facilities

In 2013, the EO 28 policy regarding target expenditures was modified to reflect the funding necessary to stabilize facilities conditions. MU needed to spend an additional \$33.1 million to achieve its spending target in FY 2019. Projects include: Medical Science Building – Building - Research Vivarium Upgrade and Maintenance, Medical Science Building - 1st floor - Research Lab Renovation, and Memorial Student Union - Replace AHUS – South Tower and AP Green Chapel. For a full list of projects, please see page 23.

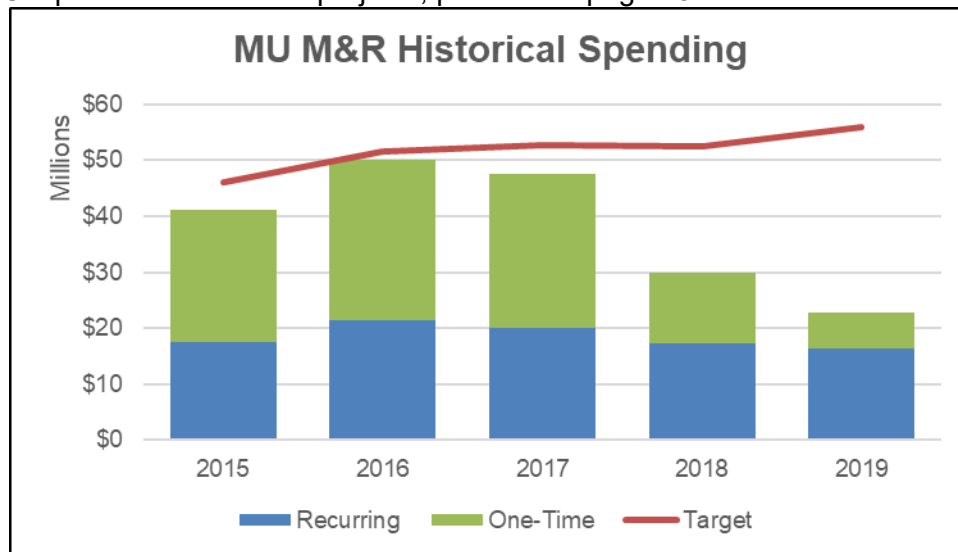


Figure 4-1: MU M&R Historical Actual Spending on E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on the model to maintain campus FCNI in ten years.

## ❖ Current Assessment of E&G Facilities Conditions

The figure below illustrates how each facility on the university's campuses rates on the index by percent: 30% of facilities are in good or excellent condition while 55% of facilities are rated below average or poorer.

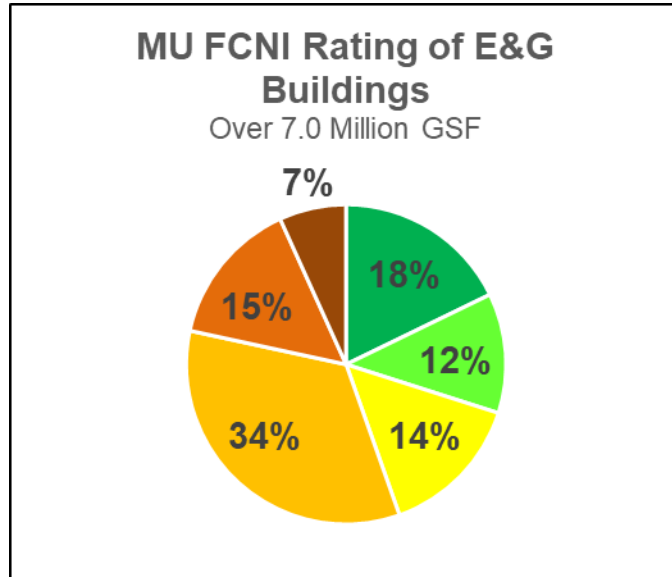


Figure 4-2: MU FCNI Rating of E&G Facilities

Facility Condition Needs Rating	# of Fac.
Excellent Condition, typically new construction (0.000 - 0.100)	20
Good Condition, renovations occur on schedule (0.101 - 0.200)	19
Fair Condition, in need of normal renovation (0.201 - 0.300)	17
Below Average Condition, major renovation required (0.301 - 0.500)	36
Poor Condition, total renovation indicated (0.501 - 0.600)	17
Replacement Recommended (0.600 and Higher)	11
<b>Total</b>	<b>120</b>

Table 4-3: FCNI Rating Facility Count

Currently the University of Missouri – Columbia's Facilities Condition Needs (FCN) are \$841.0 million. The FCN are analyzed in two ways: by category and by priority.

E&G Facilities Condition Needs by Category					
	Capital Renewal	Deferred Maintenance	Plant Adaption	Total	FCNI
MU	\$283,940,035	\$442,032,784	\$115,049,170	\$841,021,989	0.31

Table 4-4: MU E&G Facilities Condition Needs by Category for E&G Facilities

Capital Renewal: Major Repairs when items reach the end of their useful life

Deferred Maintenance: Repairs not accomplished as a part of normal maintenance where deterioration is evident and could impair functionality

Plant Adaption: Investment required adapting facilities to evolving institutional needs and changing standards

E&G Facilities Condition Needs by Priority					
	1	2	3	4	Total
MU	\$23,576,493	\$91,655,214	\$502,329,983	\$223,460,299	\$841,021,989

Table 4-5: MU E&G Facilities Condition Needs by Priority for E&G Facilities

Priority 1: Currently Critical (Immediate)

Priority 2: Potentially Critical - Urgent (Within 1 Year)

Priority 3: Necessary, Vital, but Not Yet Critical (2 to 5 Years)

Priority 4: Recommended, Necessary (6 to 10 Years)

## ❖ Ten Year Facilities Needs Forecast for E&G Facilities

With ISES, funding models<sup>1</sup> are created to see the impact of funding trends. Figure 4.3 below illustrates the current budget and a budget necessary to stabilize manageable facilities conditions. Figure 4.4 illustrates the two funding models and the impact to the Facilities Condition Needs. The campus will need to invest an **additional \$44 million**, for a total of \$62 million in FY 2020 to meet its ten year goal of achieving current FCNI of 0.30.

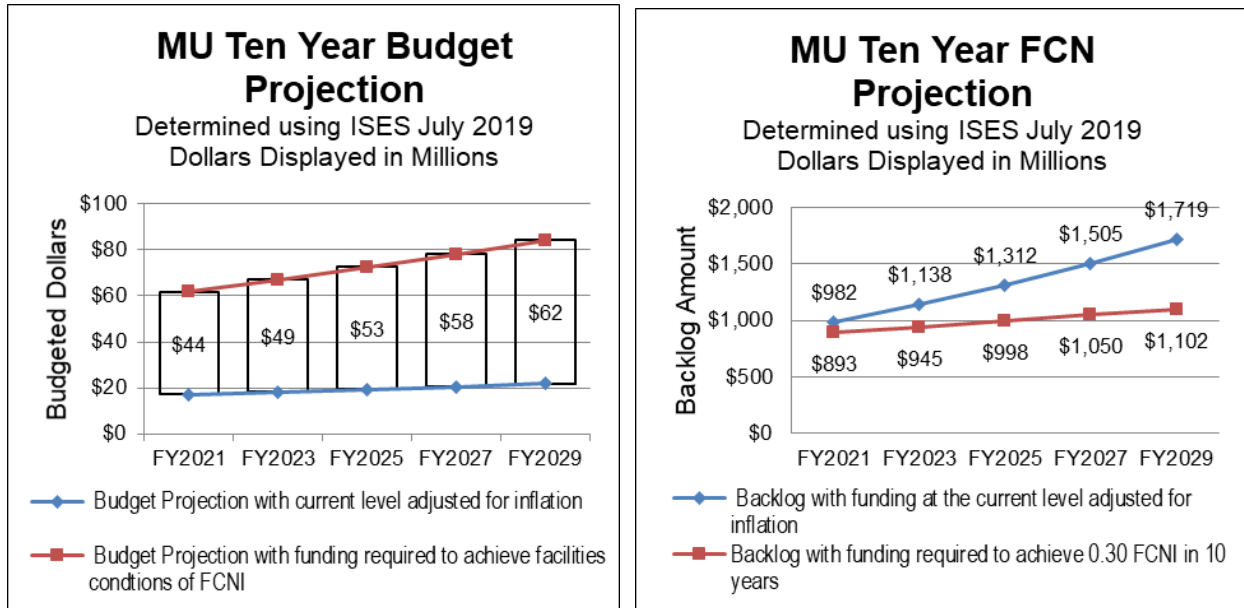


Figure 4-3: MU Ten Year Budget Projection for E&G Facilities

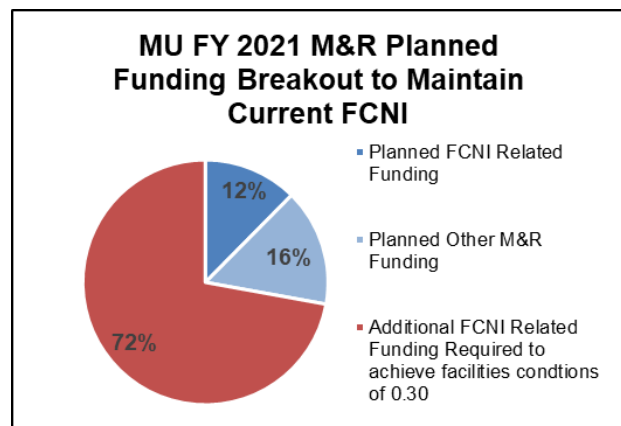
Figure 4-4: MU Ten Year Budget Projection Impact to Facilities Condition Needs for E&G Facilities

The Current Investment Level will increase the FCNI to 0.47 by FY 2029

MU Ten Year Current Investment Level Impact to FCNI		
Campus	FY21	FY29
MU	0.34	0.47

Table 4-6: MU Ten Year Current Investment Level Impact to FCNI

Figure 4-5: MU M&R Planned Funding Breakout to Maintain Current FCNI Facilities Conditions



<sup>1</sup> Variables included are Inflation rate: 3.0%; FCN Deterioration Rate: 1.0%; and Plant Deterioration Rate: 1.5%

## Non E&G Facilities

### ❖ Maintenance & Repair Spending in FY 2019 for Non E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Difference (Target-AS)
\$42,471,039	\$3,221,519,089	1.32%	\$32,215,191	(\$10,255,848)

Table 4-7: MU M&R Spending in FY19 for Non E&G Facilities

### ❖ Maintenance & Repair Historical Actual Spending for Non E&G Facilities

In 2013, EO 28 changed the policy to budget funds necessary to stabilize facilities conditions. Projects include: Hearnes Building – Replace Hearnes Chiller Plant, Gas Turbine Building – Overhaul Gas Turbines, and Memorial Student Union – 2<sup>nd</sup> Floor North Project. For a full list of projects, please see page 27.

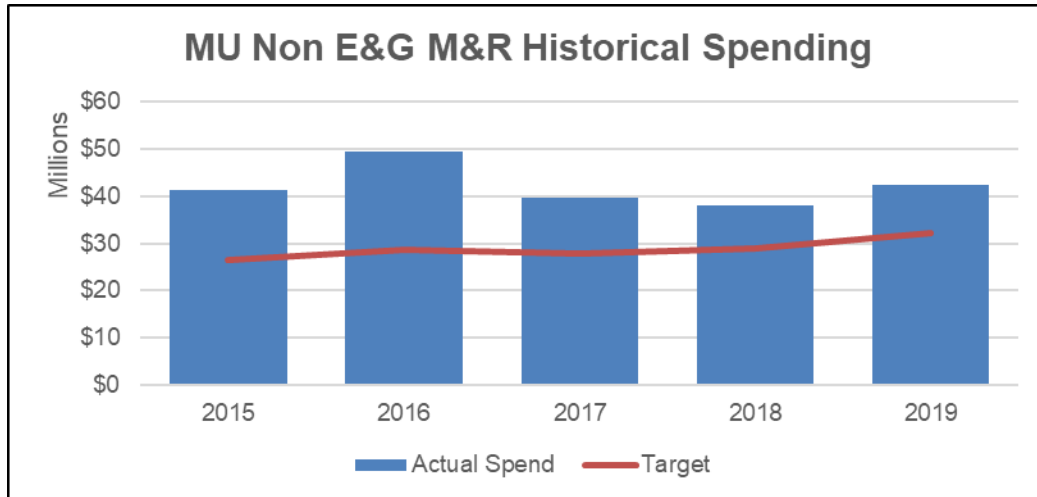


Figure 4-6: MU M&R Historical Actual Spending on Non E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on the model to achieve a campus FCNI of 0.30 in ten years.

## 5. UNIVERSITY OF MISSOURI – KANSAS CITY

### E&G Facilities

#### ❖ Maintenance & Repair Spending in FY 2019 for E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Effect on Facilities Needs (Target-AS)
\$8,342,714	\$1,387,102,690	0.60%	\$27,035,731	\$18,693,017

Table 5-1: UMKC M&R Spending for FY19 for E&G Facilities

Type of Funds	Amount	Percent of Total
Recurring	\$5,536,797	66%
One-Time (grants, bonds, and departmental funds)	\$2,805,918	34%
Total	\$8,342,714	

Table 5-2: UMKC M&R Fund Type Breakout for E&G Facilities

#### ❖ Maintenance & Repair Historical Actual Spending for E&G Facilities

In 2013, the EO 28 policy regarding target expenditures was modified to reflect the funding necessary to stabilize facilities. UMKC exceeded the spending target by \$276,000 in FY 2018. Projects include: Spencer Chemistry Buildings Renovation and Dental School – Mechanical Replacement. For a full list of projects, please see page 24.

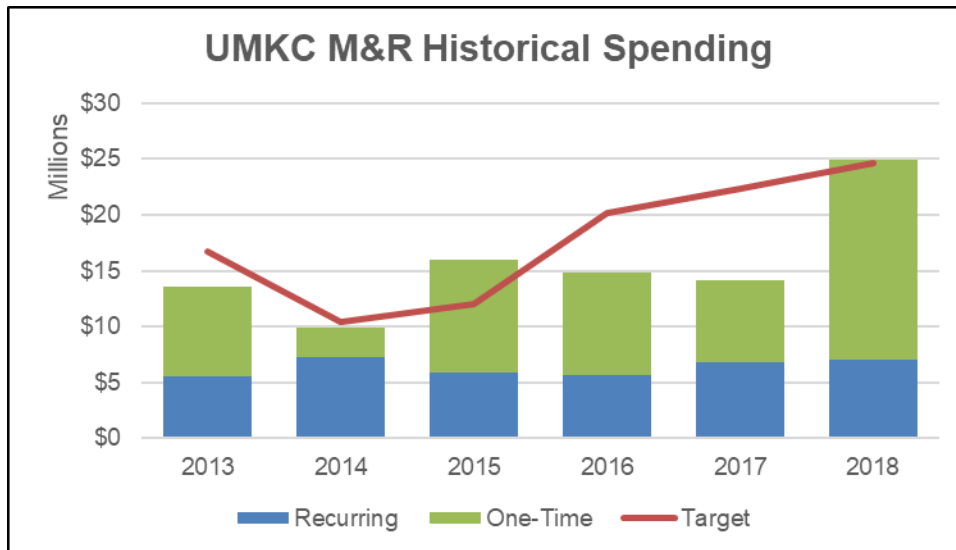


Figure 5-1: UMKC Historical Actual Spending on E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on the model to maintain campus FCNI in ten years.

❖ **Current Assessment of E&G Facilities Conditions**

The figure below illustrates how each facility on the university’s campuses rates on the index by percent: 46% of facilities are in good or excellent condition while 40% of facilities are rated below average or poorer.

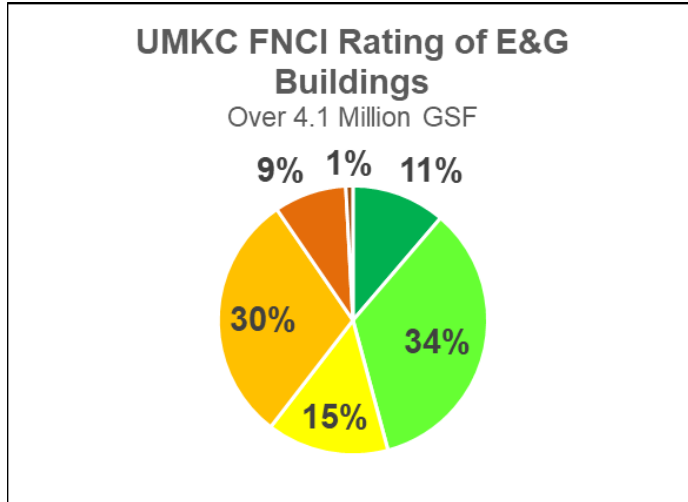


Figure 5-2: UMKC FCNI Rating of E&G Facilities

Facility Condition Needs Rating	# of Fac.
Excellent Condition, typically new construction (0.000 - 0.100)	10
Good Condition, renovations occur on schedule (0.101 - 0.200)	11
Fair Condition, in need of normal renovation (0.201 - 0.300)	7
Below Average Condition, major renovation required (0.301 - 0.500)	38
Poor Condition, total renovation indicated (0.501 - 0.600)	3
Replacement Recommended (0.600 and Higher)	5
<b>Total</b>	<b>74</b>

Table 5-3: FCNI Rating Facility Count

Currently the University of Missouri – Kansas City’s Facilities Condition Needs (FCN) are \$416.7 million. The FCN are analyzed in two ways: by category and by priority.

E&G Facilities Condition Needs by Category					
	Capital Renewal	Deferred Maintenance	Plant Adaption	Total	FCNI
UMKC	\$144,957,162	\$223,090,523	\$32,833,965	\$400,881,650	0.30

Table 5-4: UMKC E&G Facilities Condition Needs by Category for E&G Facilities

Capital Renewal: Major Repairs when items reach the end of their useful life

Deferred Maintenance: Repairs not accomplished as a part of normal maintenance where deterioration is evident and could impair functionality

Plant Adaption: Investment required adapting facilities to evolving institutional needs and changing standards

E&G Facilities Condition Needs by Priority					
	1	2	3	4	Total
UMKC	\$42,908,355	\$44,572,605	\$137,634,173	\$175,766,517	\$400,881,650

Table 5-5: UMKC E&G Facilities Condition Needs by Priority for E&G Facilities

Priority 1: Currently Critical (Immediate)

Priority 2: Potentially Critical - Urgent (Within 1 Year)

Priority 3: Necessary, Vital, but Not Yet Critical (2 to 5 Years)

Priority 4: Recommended, Necessary (6 to 10 Years)

❖ **Ten Year Facilities Needs Forecast for E&G Facilities**

With ISES, funding models<sup>1</sup> are created to see the impact of funding trends. Figure 5.3 below illustrates the current budget and a budget necessary to stabilize manageable facilities conditions. Figure 5.4 illustrates the two funding models and the impact to the Facilities Condition Needs. The campus will need to invest an **additional \$17 million**, for a total of \$25 million in FY 2020 to meet its ten year goal of maintaining current FCNI of 0.29.

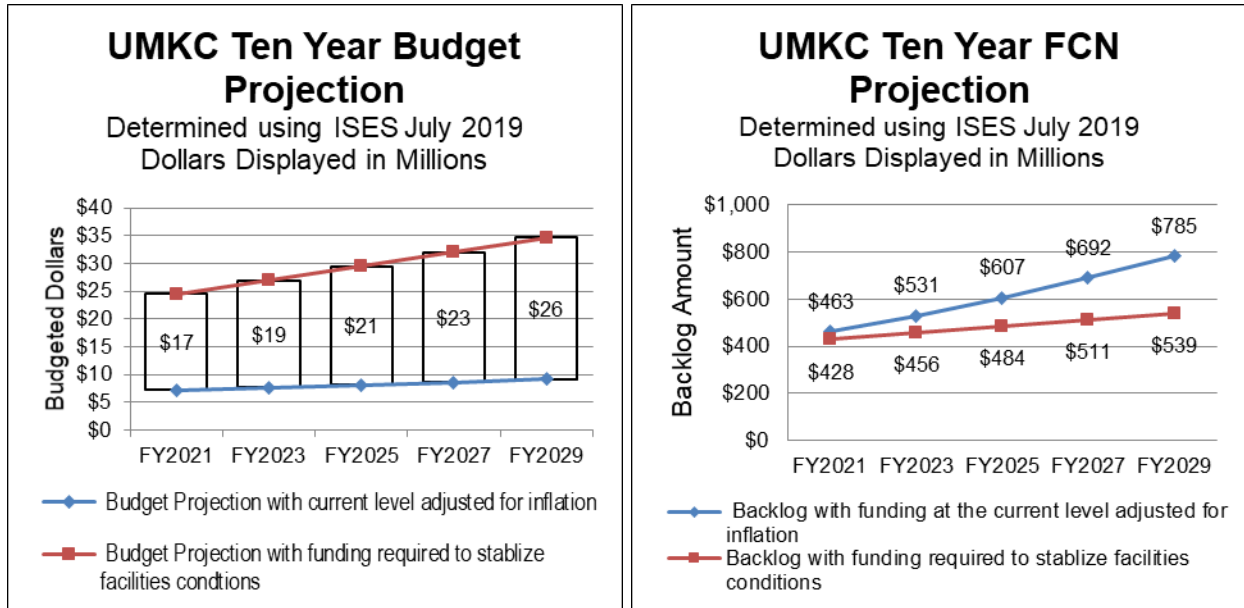


Figure 5-3: UMKC Ten Year Budget Projection for E&G Facilities

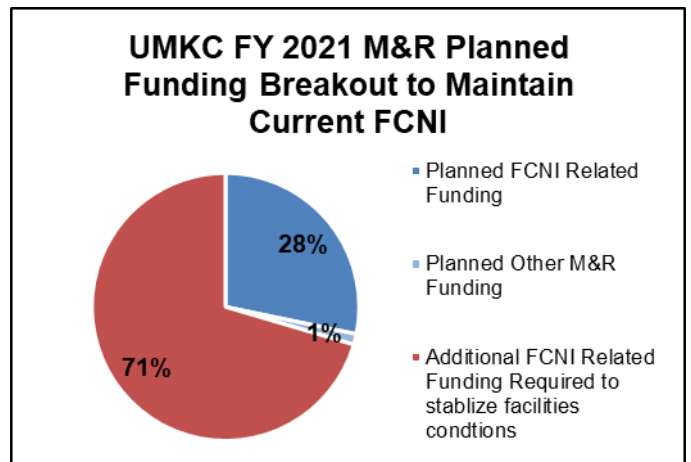
Figure 5-4: UMKC Ten Year Budget Projection Impact to Facilities Condition Needs for E&G Facilities

The Current Investment Level will increase the FCNI to 0.43 by FY 2028.

UMKC Ten Year Current Investment Level Impact to FCNI		
Campus	FY21	FY29
UMKC	0.32	0.43

Table 5-6: UMKC Ten Year Current Investment Level Impact to FCNI

Figure 5-5: UMKC M&R Planned Funding Breakout to Maintain Current FCNI



<sup>1</sup> Variables included are Inflation rate: 3.0%; FCN Deterioration Rate: 1.0%; and Plant Deterioration Rate: 1.5%



## Non E&G Facilities

### ❖ Maintenance & Repair Spending in FY 2019 for Non E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Difference (Target-AS)
\$12,483,648	\$274,528,732	4.55%	\$2,745,287	(\$9,738,360)

Table 5-7: UMKC M&R Spending in FY19 for Non E&G Facilities

### ❖ Maintenance & Repair Historical Actual Spending for Non E&G Facilities

In 2013, EO 28 changed the policy to budget funds necessary to stabilize facilities conditions. Projects include: Oak Hall Residence Hall - Waste Ln Water Damage and Oak Place Apartments – Repairs and Renovation. For a full list of projects, please see page 28.

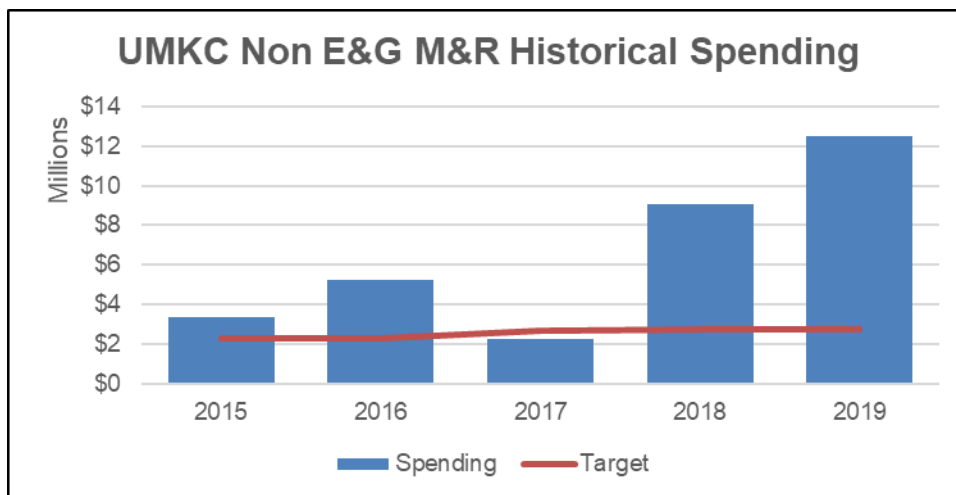


Figure 5-6: UMKC M&R Historical Actual Spending on Non E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on 1% of current replacement values.

## 6. MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

### E&G Facilities

#### ❖ Maintenance & Repair Spending in FY 2019 for E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Effect on Facilities Needs (Target-AS)
\$16,913,256	\$722,309,820	2.34%	\$17,029,873	\$116,617

Table 6-1: S&T M&R Spending for FY19 for E&G Facilities

Type of Funds	Amount	Percent of Total
Recurring	\$8,451,190	50%
One-Time (grants, bonds, and departmental funds)	\$8,462,066	50%
Total	\$16,913,256	

Table 6-2: S&T M&R 28 Fund Type Breakout for E&G Facilities

#### ❖ Maintenance & Repair Historical Actual Spending for E&G Facilities

In 2013, the EO 28 policy regarding target expenditures was modified to reflect the funding necessary to stabilize facilities. S&T needed to spend an additional \$1.7 million to meet its spending target in FY 2018. **S&T's target is to maintain a current FCNI of 0.19.** Projects include: Schrenk Hall Renovation Phase IIA, Parker Hall – Exterior Repairs, and Castleman Hall – Repairs on 1<sup>st</sup> and 2<sup>nd</sup> Floors. For a full list of projects, please see page 25.

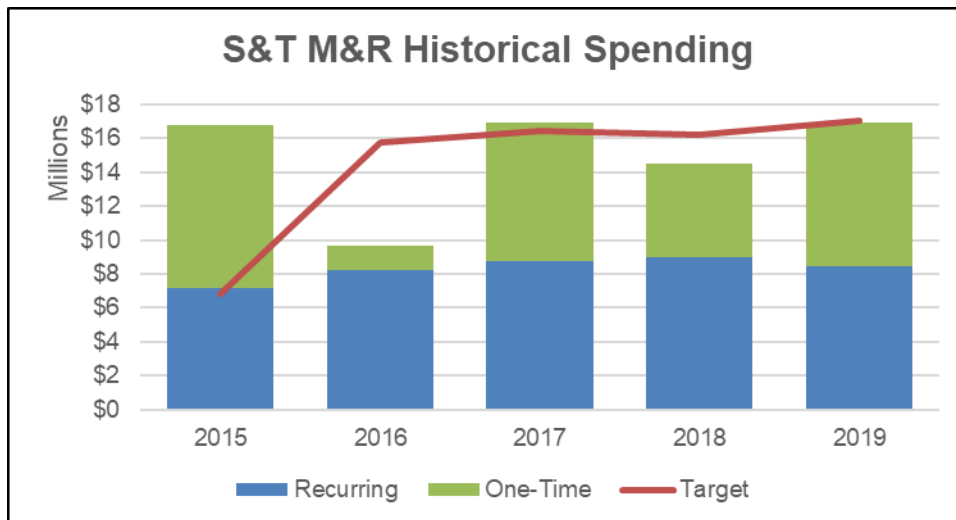


Figure 6-1: S&T M&R 28 Historical Actual Spending on E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on the model to maintain campus FCNI in ten years.

❖ **Current Assessment of E&G Facilities Conditions**

The figure below illustrates how each facility on the university’s campuses rates on the index by percent: 61% of facilities are in good or excellent condition while 15% of facilities are rated below average or poorer.

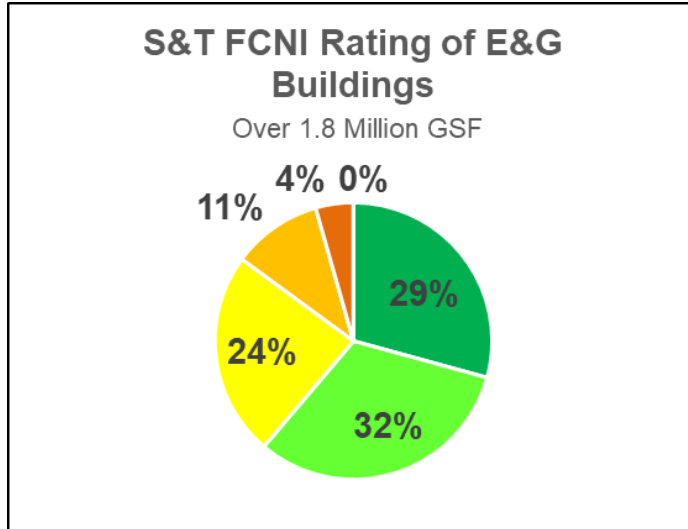


Figure 6-2: S&T FCNI Rating of E&G Facilities

Facility Condition Needs Rating	# of Fac.
Excellent Condition, typically new construction (0.000 - 0.100)	12
Good Condition, renovations occur on schedule (0.101 - 0.200)	12
Fair Condition, in need of normal renovation (0.201 - 0.300)	12
Below Average Condition, major renovation required (0.301 - 0.500)	5
Poor Condition, total renovation indicated (0.501 - 0.600)	4
Replacement Recommended (0.600 and Higher)	0
<b>Total</b>	<b>45</b>

Table 6-3: FCNI Rating Facility Count

Currently the Missouri University of Science and Technology’s Facilities Condition Needs (FCN) are \$154.1 million. The FCN are analyzed in two ways: by category and by priority.

E&G Facilities Condition Needs by Category					
	Capital Renewal	Deferred Maintenance	Plant Adaption	Total	FCNI
S&T	\$65,895,461	\$58,876,469	\$25,602,526	\$150,374,456	0.18

Table 6-4: S&T E&G Facilities Condition Needs by Category for E&G Facilities

Capital Renewal: Major Repairs when items reach the end of their useful life

Deferred Maintenance: Repairs not accomplished as a part of normal maintenance where deterioration is evident and could impair functionality

Plant Adaption: Investment required adapting facilities to evolving institutional needs and changing standards

E&G Facilities Condition Needs by Priority					
	1	2	3	4	Total
S&T	\$1,481,929	\$13,578,307	\$89,966,143	\$45,348,076	\$150,374,455

Table 6-5: S&T E&G Facilities Condition Needs by Priority for E&G Facilities

Priority 1: Currently Critical (Immediate)

Priority 2: Potentially Critical - Urgent (Within 1 Year)

Priority 3: Necessary, Vital, but Not Yet Critical (2 to 5 Years)

Priority 4: Recommended, Necessary (6 to 10 Years)

❖ **Ten Year Facilities Needs Forecast for E&G Facilities**

With ISES, funding models<sup>1</sup> are created to see the impact of funding trends. Figure 6.3 below illustrates the current budget and a budget necessary to stabilize manageable facilities conditions. Figure 6.4 illustrates the two funding models and the impact to the Facilities Condition Needs. The campus will need to invest an **additional \$11 million**, for a total of \$19 million in FY 2020 to meet its ten year goal of maintaining current FCNI of 0.20.

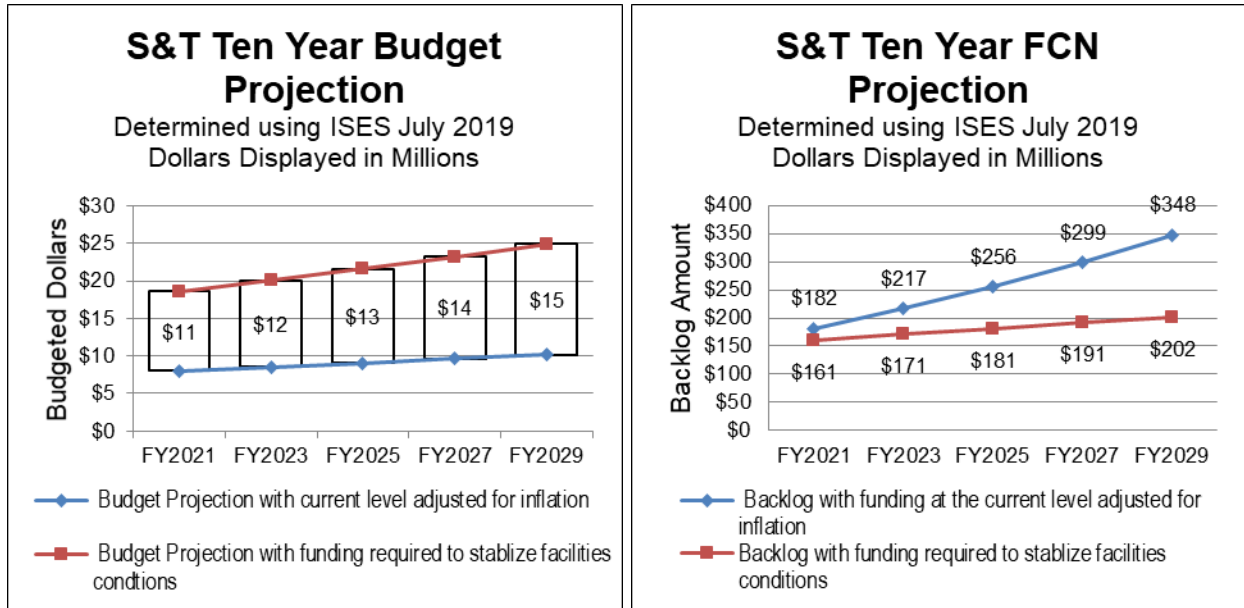


Figure 6-3: S&T Ten Year Budget Projection for E&G Facilities

Figure 6-4: S&T Ten Year Budget Projection Impact to Facilities Condition Needs for E&G Facilities

The Current Investment Level will increase the FCNI to 0.32 by FY 2028.

S&T Ten Year Current Investment Level Impact to FCNI		
Campus	FY21	FY29
S&T	0.20	0.31

Table 6-6: S&T Ten Year Current Investment Level Impact to FCNI

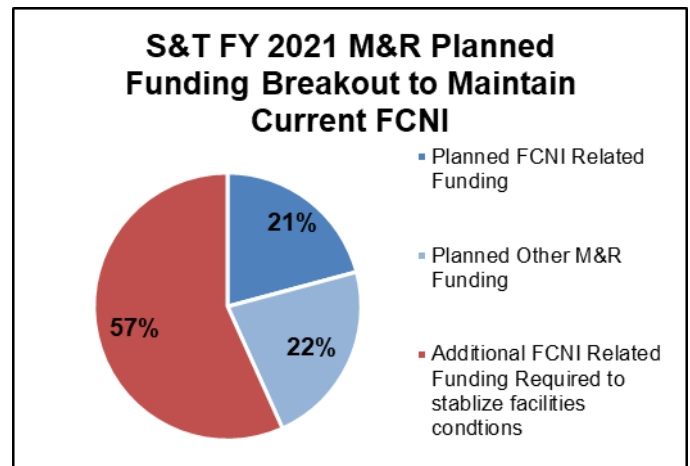


Figure 6-5: S&T M&R Planned Funding Breakout to Maintain Current FCNI Facilities Conditions

<sup>1</sup> Variables included are Inflation rate: 3.0%; FCN Deterioration Rate: 1.0%; and Plant Deterioration Rate: 1.5%

## Non E&G Facilities

### ❖ Maintenance & Repair Spending in FY 2019 for Non E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Difference (Target-AS)
\$1,547,784	\$306,005,748	0.51%	\$3,060,057	\$1,512,273

Table 6-7: S&T M&R Spending in FY19 for Non E&G Facilities

### ❖ Maintenance & Repair Historical Actual Spending for Non E&G Facilities

In 2013, EO 28 changed the policy to budget funds necessary to stabilize facilities conditions. Projects include: Havener Center – Paint and Replace Carpet and Havener Center – Install Card Access on Interior and Exterior Doors. For a full list of projects, please see page 28.

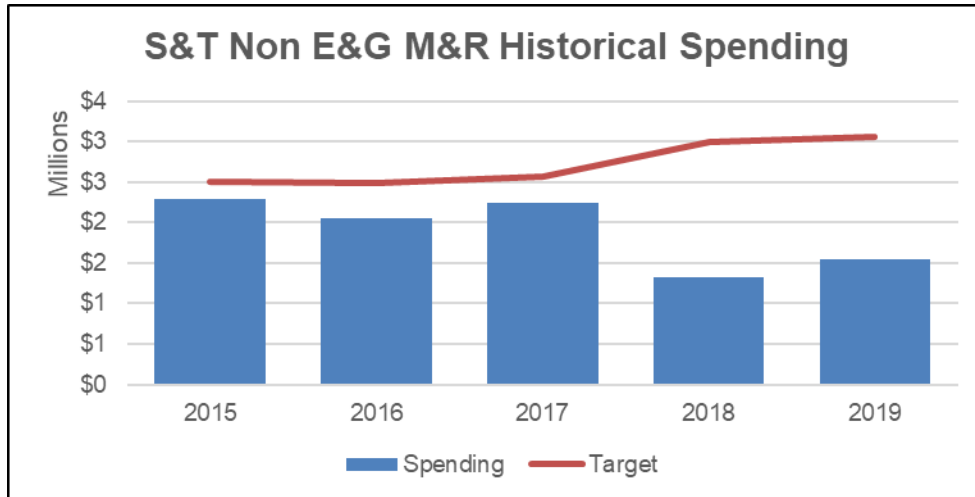


Figure 6-6: S&T MU M&R Historical Actual Spending on Non E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2016 Replacement Values.

<sup>2</sup> Best Practice is based on 1% of current replacement values.

## 7. UNIVERSITY OF MISSOURI – ST. LOUIS

### E&G Facilities

#### ❖ Maintenance & Repair Spending in FY 2019 for E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Effect on Facilities Needs (Target-AS)
\$8,628,211	\$1,077,892,359	0.80%	\$30,967,799	\$22,339,588

Table 7-1: UMSL M&R Spending for FY19 for E&G Facilities

Type of Funds	Amount	Percent of Total
Recurring	\$5,636,062	65%
One-Time (grants, bonds, and departmental funds)	\$2,992,149	35%
Total	\$8,628,211	

Table 7-2: UMSL M&R Fund Type Breakout for E&G Facilities

#### ❖ Maintenance & Repair Historical Actual Spending for E&G Facilities

In 2013, EO 28 changed the policy to budget funds necessary to stabilize facilities conditions. Fiscal year 2014 reflects a change in the tuition structure. UMSL needed to spend an additional \$3 million to achieve its spending target for FY 2018. Projects include: Benton Hall Renovation, Thomas Jefferson Library – Fire Panel Alarm Upgrades and Thomas Jefferson Library – Roof Replacement. For a full list of projects, please see page 26.

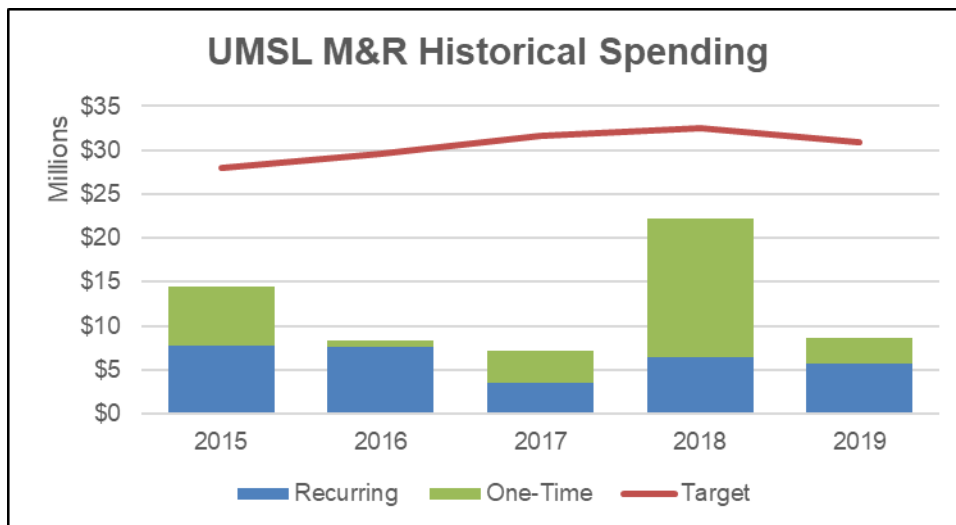


Figure 7-1: UMSL M&R Historical Actual Spending on E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on the model to not exceed a campus FCNI of 0.30 in ten years.

## ❖ Current Assessment of E&G Facilities Conditions

The figure below illustrates how each facility on the university's campuses rates on the index by percent: 44% of facilities are in good or excellent condition while 53% of facilities are rated below average or poorer.

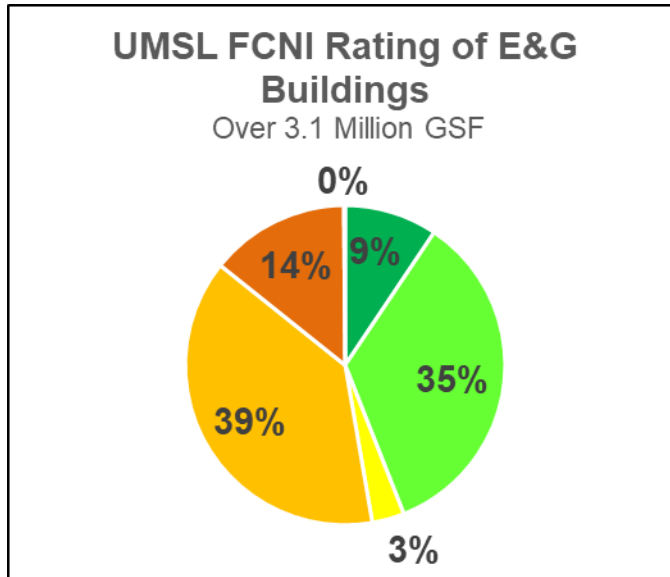


Figure 7-2: UMSL FCNI Rating of E&G Facilities

Facility Condition Needs Rating	# of Fac.
Excellent Condition, typically new construction (0.000 - 0.100)	7
Good Condition, renovations occur on schedule (0.101 - 0.200)	13
Fair Condition, in need of normal renovation (0.201 - 0.300)	5
Below Average Condition, major renovation required (0.301 - 0.500)	24
Poor Condition, total renovation indicated (0.501 - 0.600)	5
Replacement Recommended (0.600 and Higher)	4
<b>Total</b>	<b>58</b>

Table 7-3: FCNI Rating Facility Count

Currently the University of Missouri – St. Louis' Facilities Condition Needs (FCN) are \$375.8 million. The FCN are analyzed in two ways: by category and by priority.

E&G Facilities Condition Needs by Category					
	Capital Renewal	Deferred Maintenance	Plant Adaption	Total	FCNI
UMSL	\$136,341,438	\$212,228,989	\$41,011,075	\$389,581,502	0.35

Table 7-4: UMSL E&G Facilities Condition Needs by Category for E&G Facilities

Capital Renewal: Major Repairs when items reach the end of their useful life

Deferred Maintenance: Repairs not accomplished as a part of normal maintenance where deterioration is evident and could impair functionality

Plant Adaption: Investment required adapting facilities to evolving institutional needs and changing standards

E&G Facilities Condition Needs by Priority					
	1	2	3	4	Total
UMSL	\$2,793,206	\$29,865,405	\$292,146,212	\$64,776,679	\$389,581,502

Table 7-5: UMSL E&G Facilities Condition Needs by Priority for E&G Facilities

Priority 1: Currently Critical (Immediate)

Priority 2: Potentially Critical - Urgent (Within 1 Year)

Priority 3: Necessary, Vital, but Not Yet Critical (2 to 5 Years)

Priority 4: Recommended, Necessary (6 to 10 Years)

## ❖ Ten Year Facilities Needs Forecast for E&G Facilities

With ISES, funding models<sup>1</sup> are created to see the impact of funding trends. Figure 7.3 below illustrates the current budget and a budget necessary to stabilize manageable facilities conditions. Figure 7.4 illustrates the two funding models and the impact to the Facilities Condition Needs. The campus will need to invest an **additional \$22 million**, for a total of \$33 million in FY 2021 to meet its ten year goal of achieving a campus average FCNI of 0.30.

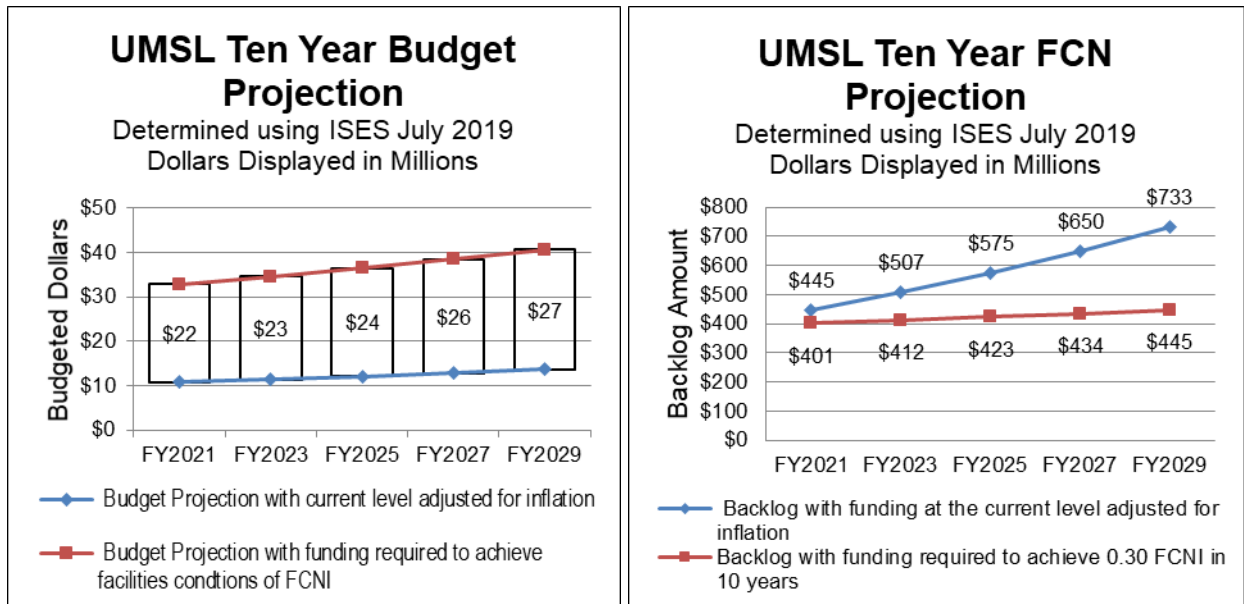


Figure 7-3: UMSL Ten Year Budget Projection for E&G Facilities

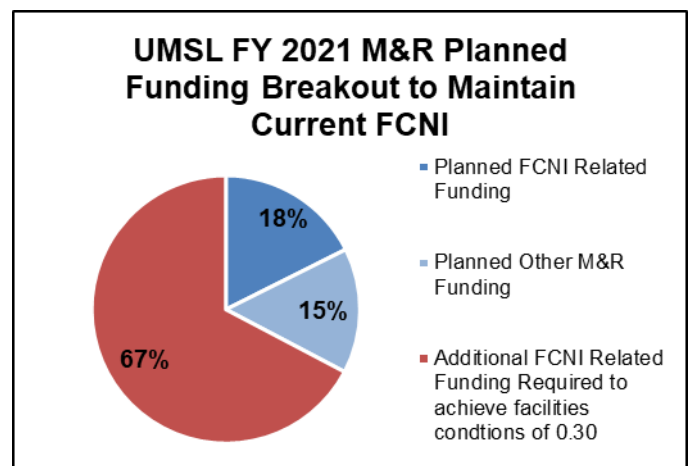
Figure 7-4: UMSL Ten Year Budget Projection Impact to Facilities Condition Needs for E&G Facilities

The Current Investment Level will increase the FCNI to 0.49 by FY 2029.

UMSL Ten Year Current Investment Level Impact to FCNI		
Campus	FY21	FY29
UMSL	0.38	0.49

Table 7-6: UMSL Ten Year Current Investment Level Impact to FCNI

Figure 7-5: UMSL M&R Planned Funding Breakout to Achieve FCNI 0.30 in Ten Years



<sup>1</sup> Variables included are Inflation rate: 3.0%; FCN Deterioration Rate: 1.0%; and Plant Deterioration Rate: 1.5%



## Non E&G Facilities

### ❖ Maintenance & Repair Spending in FY 2019 for Non E&G Facilities

FY 2019 Actual Spend (AS)	Current Replacement Value (CRV) <sup>1</sup>	AS % of CRV	Best Practice (TARGET) <sup>2</sup>	Difference (Target-AS)
\$1,936,326	\$265,205,858	0.73%	\$2,652,059	\$715,733

Table 7-7: UMSL M&R Spending in FY19 for Non E&G Facilities

### ❖ Maintenance & Repair Historical Actual Spending for Non E&G Facilities

In 2013, EO 28 changed the policy to budget funds necessary to stabilize facilities conditions. Fiscal year 2014 reflects a change in the tuition structure. Several non E&G facilities were re-categorized to E&G facilities. Fiscal year 2017 reversed the change of the fore mentioned E&G facilities to non E&G facilities, resulting in a higher target. For a full list of projects, please see page 28.

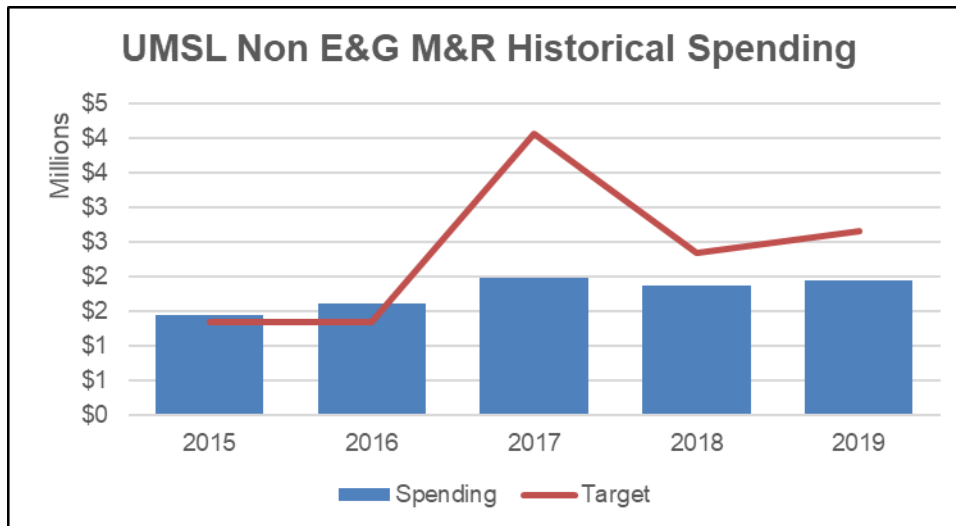


Figure 7-6: UMSL M&R Historical Actual Spending on Non E&G Facilities

<sup>1</sup> Current Replacement Value is based on FY 2017 Replacement Values.

<sup>2</sup> Best Practice is based on 1% of current replacement values.

## 8. MAINTENANCE & REPAIR PROJECT LIST BY CAMPUS IN FY 2019

### E&G Facilities

#### ❖ University of Missouri – Columbia

UNIVERSITY OF MISSOURI – COLUMBIA: E&G PROJECTS		
BUILDING	PROJECT DESCRIPTION	COST
ARTS & SCIENCE BUILDING	REPLACE HYDRONIC RISERS	\$139,120
CORNELL HALL	LED LIGHTING UPGRADE	\$199,338
CORNELL HALL	REPLACE AUDITORIUM SEATING, RMS. 115 & 201	\$107,620
GENERAL SERVICES BUILDING	INSTALL FIRE ALARM SYSTEM	\$100,064
JESSE HALL	DOMES REPAIRS AND WINDOW REPLACEMENT	\$610,221
LAFFERRE HALL	UPGRADE KETCHAM AUDITORIUM	\$654,398
LAFFERRE HALL	3RD FLOOR LAB & CLEAN RM SHELL SPACE FITOUT	\$355,954
LEWIS HALL	REPAIRS (INSURED)	\$144,149
MEDICAL SCIENCE BUILDING	BUILDING - RESEARCH VIVARIUM UPGRADE AND MAINTENANCE	\$2,850,289
MEDICAL SCIENCE BUILDING	1ST FLOOR - RESEARCH LAB RENOVATION	\$1,461,931
MEDICAL SCIENCE BUILDING	REPLACE AHU-66	\$223,375
MEDICAL SCIENCE BUILDING	NE300 TEMPORARY BEHAVIORAL LAB SPACE	\$185,709
MEMORIAL STUDENT UNION	REPLACE AHUS - SOUTH TOWER AND AP GREEN CHAPEL	\$1,033,307
MEMORIAL STUDENT UNION	RENOVATE 1ST FLR NORTH RESTROOMS	\$162,965
STEWART HALL	RENOVATION	\$230,599
VETERINARY MEDICINE EAST	UPDATE AUDITORIUM, RM E126	\$177,032
VARIOUS LOCATIONS	ROOF REPLACEMENTS @ ABNR, CHEMISTRY ADDITION & TROWBRIDGE	\$501,633
VARIOUS LOCATIONS	UPGRADE ELEVATORS IN MED SCI & HSL	\$323,611
VARIOUS LOCATIONS	REPLACE STEAM PRVS	\$248,915
VARIOUS LOCATIONS	ROOF REPLACEMENTS @ LONDON, PSYCHOLOGY & ELLIS	\$217,537
VARIOUS LOCATIONS	VARIOUS ROUTINE MAINTENANCE, REPAIR AND RENOVATION PROJECTS (<\$100,000/PROJECT)	\$12,887,890
<b>TOTAL</b>		<b>\$22,815,657</b>

❖ **University of Missouri – Kansas City**

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UNIVERSITY OF MISSOURI – KANSAS CITY: E&G PROJECTS		
BUILDING	PROJECT DESCRIPTION	COST
4825 TROOST	4825 TROOST KCEZ EXPAN RENOV	\$149,998
ADMINISTRATIVE CENTER	ADMIN CTR DDC RETROFIT	\$285,249
DENTAL SCHOOL	SOD MECHANICAL REPLACEMENT	\$666,874
LAW SCHOOL	LAW SCHOOL ADMISSIONS SUITE	\$141,705
LAW SCHOOL DRIVE & PARKING	LAW SCHOOL ADA PARKING STUDY	\$226,594
OLSON PERFORMING ARTS CENTER	OPAC RIGGING REPLACEMENT	\$347,370
SPENCER HALL	S CHM RENO	\$1,073,409
VARIOUS	NON CAPITAL PROJECTS & WORK ORDERS	\$4,911,006
VARIOUS	52ND & CHERRY ST STEAM LN REP	\$246,306
VARIOUS LOCATIONS	PROJECTS UNDER \$100,000	294,203
<b>TOTAL</b>		<b>\$8,342,714</b>

❖ **Missouri University of Science and Technology**

<b>MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY: E&amp;G PROJECTS</b>		
<b>BUILDING</b>	<b>PROJECT DESCRIPTION</b>	<b>COST</b>
CAMPUS SUPPORT	RENOVATE ROOM 112 FOR MARKETING & COMMUNICATIONS	\$182,754
CASTLEMAN HALL	ROOF REPLACEMENT	\$555,828
CASTLEMAN HALL	REPAIRS ON 1ST AND 2ND FLOOR	\$276,279
CASTLEMAN HALL	MODIFICATIONS TO LEACH THEATRE TO USE AS CLASSROOM	\$263,576
CASTLEMAN HALL	REPLACE FIXED SEATING LEACH THEATRE	\$190,204
CENTENNIAL HALL	REPAIRS TO ROOM 202	\$101,816
ENGINEERING MANAGEMENT	PARTIAL COST OF ROOM 101 RENOVATION	\$113,390
ENGINEERING RESEARCH LAB	RENOVATION & MECHANICAL UPGRADES	\$304,799
GALE BULLMAN	REPLACE GYM FLOOR	\$411,502
GENERAL SITE	CAMPUS SECURITY CAMERAS PHASE II	\$126,061
GENERAL SITE	ROUTINE MAINTENANCE	\$6,129,013
MCNUTT HALL	REPAIRS TO LECTURE HALL ROOM 204	\$141,536
PARKER HALL	PHASE II EXTERIOR REPAIRS	\$1,340,276
POWER PLANT	ADDITION COST OF REPAIRS TO TRANSFORMER	\$176,376
SCHRENK HALL	PHASE IIA RENOVATIONS	\$6,333,223
SCRPD	RENOVATIONS TO MOVE IT	\$117,436
VARIOUS	PROJECTS UNDER \$100,000	\$149,187
<b>TOTAL</b>		<b>\$16,613,256</b>

❖ **University of Missouri – St. Louis**

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UNIVERSITY OF MISSOURI – ST. LOUIS: E&G PROJECTS		
BUILDING	PROJECT DESCRIPTION	COST
BENTON HALL	RENOVATION	\$1,155,770
JC PENNEY	MASONRY RESTORATION	\$436,121
LUCAS HALL	BOILER REPLACEMENTS	\$490,000
MARILLAC HALL	SECOND FLOOR RENOVATION	\$224,946
ROUTINE BUILDING REPAIR	ROUTINE BUILDING REPAIR	\$3,126,747
SOCIAL SCIENCE BUILDING	MASONRY RESTORATION	\$436,121
THOMAS JEFFERSON LIBRARY	FIRE PANEL ALARM UPGRADE	\$743,300
THOMAS JEFFERSON LIBRARY	ROOF REPLACEMENT	\$625,223
TOUHILL PERFORMING ARTS CENTER	LIGHTING UPGRADE	\$305,000
WOODS HALL	THIRD FLOOR RENOVATION	\$175,000
VARIOUS	PROJECTS UNDER \$100,000	\$909,983
<b>TOTAL</b>		<b>\$8,628,211</b>

## Non E&G Facilities

### ❖ University of Missouri – Columbia

UNIVERSITY OF MISSOURI – COLUMBIA: NON-E&G PROJECTS		
BUILDING	PROJECT DESCRIPTION	COST
EAST WELL	REPLACE EAST WELL DEEP WELL	\$143,296
GAS TURBINE BUILDING	OVERHAUL GAS TURBINES	\$3,876,149
HATCH HALL	HATCH HALL ELEVATOR UPGRADES	\$393,118
HEARNES BUILDING (NON E&G PORTION)	REPLACE - HEARNES CHILLER PLANT	\$4,883,968
KOMU-TV	LOBBY BATHROOMS RENOVATION-CP180711	\$102,517
MEMORIAL STUDENT UNION	2ND FLOOR NORTH PROJECT-MAINTENANCE	\$3,662,238
MISSOURI PSYCHIATRIC CENTER	SOUTH ADOLESCENT UNIT RENOVATION/NEW FLOORING	\$225,306
MU RECREATION COMPLEX	MU RECREATION COMPLEX - AQUATIC CENTER - REPLACE COMPETITION POOL PLASTER WITH TILE	\$1,039,150
NORTH AND SOUTH DORMS	REPLACE SHOWERS	\$219,220
PATIENT CARE TOWER	PCT - REMOVE 2 HEAT EXCHANGERS	\$159,004
POWER PLANT	REPLACE CHP CONTROLS	\$1,759,618
POWER PLANT	POWER PLANT MAINTENANCE REPAIRS	\$426,277
POWER PLANT	OVERHAUL TG8	\$295,867
POWER PLANT	REPAIR STORM WATER SYSTEM @ STEWART RD.	\$226,182
POWER PLANT	REPLACE BOILER 12 FD FAN VFD / BFP VFD	\$100,779
QUARTERDECK	GROUND FLOOR RENOVATION	\$123,332
SOUTHWEST WELL	OVERHAUL SW WELL DEEP PUMP / RESERVOIR CLEANING	\$155,757
TARA APARTMENTS	TARA - REPLACE ROOFS	\$358,232
VARIOUS	REPLACE RESEARCH COMMONS WATER & STEAM LINE	\$369,909
VARIOUS	REPLACE XLP CABLE	\$243,302
VARIOUS	REPLACE HITT ST STEAM & WATER LINES	\$200,000
VARIOUS	REPLACE TURBINE STEAM METERS	\$180,964
VARIOUS	REPLACE DRY TYPE TRANSFORMERS	\$133,427
VARIOUS LOCATIONS	VARIOUS ROUTINE MAINTENANCE, REPAIR AND RENOVATION PROJECTS (<\$100,000/PROJECT)	\$23,193,427
<b>TOTAL</b>		<b>\$42,471,039</b>

❖ **University of Missouri – Kansas City**

<b>UNIVERSITY OF MISSOURI – KANSAS CITY: NON-E&amp;G PROJECTS</b>		
<b>BUILDING</b>	<b>PROJECT DESCRIPTION</b>	<b>COST</b>
HOSPITAL HILL HOUSING	HOSPITAL HILL APTS S 41&43 REP	\$169,779
LAW SCHOOL DRIVE & PARKING	LAW SCHOOL ADA PARKING STUDY	\$317,374
OAK HALL-RESIDENCE HALL	OAK HALL EMERGENCY SPK DAMAGE	\$365,752
OAK HALL-RESIDENCE HALL	OAK HALL CONDENSING WATER LEAK	\$225,043
OAK HALL-RESIDENCE HALL	OAK HALL WASTE LN WATER DAMAGE	\$6,713,664
OAK HALL-RESIDENCE HALL	OAK HALL LOUNGE CONVERSION	\$790,929
OAK PLACE APARTMENTS	OAK PLACE REPAIRS & RENOVATION	\$3,250,990
STUDENT UNION	NON CAPITAL PROJECTS & WORK ORDERS	\$155,109
VARIOUS LOCATIONS	PROJECTS UNDER \$100,000	\$495,009
<b>TOTAL</b>		<b>\$12,483,648</b>

❖ **Missouri University of Science and Technology**

<b>MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY: NON-E&amp;G PROJECTS</b>		
<b>BUILDING</b>	<b>PROJECT DESCRIPTION</b>	<b>COST</b>
HAVENER CENTER	PAINT, REPLACE CARPET AND OTHER WORK	\$126,143
HAVENER CENTER	INSTALL CARD ACCESS ON INTERIOR AND EXTERIOR DOORS	\$127,550
GENERAL SITE	UNIVERSITY SITE IMPROVEMENTS	\$222,404
GENERAL SITE	ROUTINE MAINTENANCE	\$999,829
VARIOUS	PROJECTS UNDER \$100,000	\$71,858
<b>TOTAL</b>		<b>\$1,547,784</b>

❖ **University of Missouri – St. Louis**

<b>UNIVERSITY OF MISSOURI – ST. LOUIS: NON-E&amp;G PROJECTS</b>		
<b>BUILDING</b>	<b>PROJECT DESCRIPTION</b>	<b>COST</b>
VARIOUS LOCATIONS	PROJECTS UNDER \$100,000	\$1,936,326
<b>TOTAL</b>		<b>\$1,936,326</b>

## 9. E&G FCNI BY FACILITY IN FY 2019

### ❖ University of Missouri – Columbia

UNIVERSITY OF MISSOURI – COLUMBIA: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
37002	AGRICULTURE BUILDING	0.38
37003	AGRICULTURE LABORATORY	0.46
37004	STUDENT SUCCESS CENTER	0.21
37006	LABORATORY ANIMAL CENTER	0.88
37007	MUSEUM SUPPORT CENTER	0.10
37010	1105 CARRIE FRANCKE DRIVE	0.22
37011	MELVIN H. MARX BUILDING	0.32
37012	ARTS AND SCIENCE BUILDING	0.47
37014	MIDDLEBUSH HALL	0.48
37015	PICKARD HALL	0.44
37017	CONNAWAY HALL	0.05
37018	CROWDER HALL	0.61
37019	CURTIS HALL	0.81
37020	ECKLES HALL	0.55
37021	TOWNSEND HALL	0.07
37022	NAKA HALL	0.43
37023A	LAFFERRE HALL - 1892 BUILDING	0.04
37023B	LAFFERRE HALL - 1893 ADDITION	0.13
37023C	LAFFERRE HALL - 1935-44 ADDITIONS	0.02
37023D	LAFFERRE HALL - 1991 ADDITION	0.13
37023E	LAFFERRE HALL - 2009 ADDITION	0.05
37024	COLUMBIA PROFESSIONAL BUILDING	0.70
37025	CONLEY HOUSE	0.18
37026	FINE ARTS - ART	0.48
37027	GEOLOGICAL SCIENCES BUILDING	0.43
37039	LOWRY HALL	0.34
37048	BOTANY GREENHOUSE	0.44
37051	HILL HALL	0.40
37052	LONDON HALL	0.58
37053	JESSE HALL	0.27
37055	LEFEVRE HALL	0.41
37056	ELLIS LIBRARY	0.51
37058	NATIONAL SWINE RESOURCE AND RESEARCH CTR	0.02
37059	MCALESTER HALL	0.69
37060	MEDICAL SCIENCE	0.46
37061	GANNETT HALL	0.50
37062	MUMFORD HALL	0.46



UNIVERSITY OF MISSOURI – COLUMBIA: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
37063	NEFF HALL	0.53
37064	STEWART HALL (RENOVATED 2017)**	0.04
37065	ACADEMIC SUPPORT CENTER	0.35
37066	PARKER HALL	0.57
37069	READ HALL	0.61
37071	SCHLUNDT HALL	0.16
37072	SCHLUNDT HALL ANNEX	0.60
37074	REYNOLDS JOURNALISM INSTITUTE	0.07
37075	RESEARCH PARK DEVELOPMENT	0.54
37076	STANLEY HALL AND ADDITION (37233)	0.58
37078	PHYSICS BUILDING	0.45
37086	LEE HILLS HALL	0.15
37087	NURSING SCHOOL	0.40
37089	ROCK QUARRY CENTER	0.25
37090	LEWIS HALL	0.45
37091	CLARK HALL	0.51
37099	VETERINARY MEDICINE – EAST	0.22
37100	VETERINARY SCIENCE	0.52
37101	WALTER WILLIAMS HALL	0.07
37102	WATERS HALL	0.59
37103	WHITTEN HALL	0.59
37104	MCKEE GYMNASIUM	0.71
37108	CHANCELLOR'S RESIDENCE	0.16
37115	GENTRY HALL	0.32
37124	LOEB HALL	0.47
37126	MCREYNOLDS HALL	0.45
37129	NOYES HALL	0.66
37133	OLD STUDENT HEALTH CENTER	0.66
37137	TROWBRIDGE LIVESTOCK CENTER	0.43
37146	MEDICAL SCIENCE ADDITION	0.25
37148	GWYNN (RENOVATED 2012-13)**	0.10
37154	AGRICULTURAL ENGINEERING	0.22
37156	BOND LIFE SCIENCES AND MECHANICAL BLDG	0.06
37166	HULSTON HALL	0.24
37167	ELLIS LIBRARY ADDITION	0.22
37175	AB NATURAL RESOURCES BUILDING	0.14
37221	FIRE STATION 3 (RENOVATED 2012)**	0.13
37229	VETERINARY MEDICINE – WEST	0.57
37230	VETERINARY MEDICAL DIAGNOSTIC LAB	0.49
37232	FINE ARTS - MUSIC AND DRAMA	0.51
37243	JESSE AUDITORIUM	0.38
37251	TUCKER HALL	0.26

UNIVERSITY OF MISSOURI – COLUMBIA: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
37252	MATH SCIENCE	0.44
37253	DALTON RESEARCH CENTER	0.46
37256	HEARNES CENTER (EG)	0.51
37257	CHEMISTRY	0.44
37258	ARVARH E. STRICKLAND HALL	0.49
37263	NEFF HALL ADDITION	0.64
37264	LIDR - REGIONAL BIOCONTAINMENT LAB	0.03
37278	CHEMISTRY TEACHING LABORATORY ADDITION	0.29
37286	NANO AND MOLECULAR MEDICINE	0.05
37288	RESEARCH ANIMAL DIAGNOSTIC LABORATORY	0.09
37301	LOCUST STREET EAST	0.24
37326	TATE HALL (RENOVATED 2011)**	0.14
37327	SWITZLER HALL (RENOVATED 2011)**	0.14
37343	BLACK CULTURE CENTER	0.16
37347	RRC WASTE STORAGE	0.18
37368	WILLIAM C. STRINGER WING	0.07
37370	MURR **	0.19
37371	LOCUST STREET WEST	0.25
37375	PSYCHOLOGY BUILDING	0.30
37376	REYNOLDS ALUMNI CENTER	0.32
37379	CLYDESDALE HALL	0.15
37393	ERNIE AND LOTTI SEARS GREENHOUSE	0.05
37395	MISSOURI THEATRE FOR THE ARTS	0.20
37396	SWALLOW HALL (RENOVATED 2014-15)**	0.09
37474	1110 S. COLLEGE AND 83 ADDITION	0.58
37484	PATIENT CENTERED CARE LEARNING CENTER**	0.03
41005	UNIVERSITY HALL	0.38
41008	PROVIDENCE POINT	0.17
41011	UNIV OF MISSOURI LIBRARY DEPOSITORY	0.11
42000	CLINICAL SUPPORT AND EDUCATION (EG)	0.09
44085	MIZZOU NORTH	0.67
44173	ALLTON BUILDING	0.49
44174	A. P. GREEN	0.37
99000	SUPPORT & VARIOUS BLDGS (EXTRAPOLATION)*	0.31
X37073	SCHWEITZER HALL AND ADD (37316)	0.28
X37077	STEPHENS HALL	0.05
X37143	HEINKEL BUILDING	0.58
X37144	LOTTE'S HEALTH SCIENCES LIBRARY	0.25
X37224	GENERAL SERVICES BUILDING	0.28
X37254	ANIMAL SCIENCE RESEARCH CTR AND UNIT F	0.32
X37280	CORNELL HALL	0.08

❖ **University of Missouri – Kansas City**

UNIVERSITY OF MISSOURI – KANSAS CITY: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
INF	STEAM AND CHILLED WATER LINE REPLACEMENT	N/A
KC001	SCOFIELD HALL	0.41
KC002	FINE ARTS	0.50
KC004	SCHOOL OF DENTISTRY	0.22
KC005	EPPERSON HOUSE	0.97
KC007	GENERAL SERVICES BUILDING	0.38
KC008	MANHEIM HALL	0.23
KC011	HAAG HALL	0.16
KC013	KATZ HALL	0.19
KC014	COCKEFAIR HALL	0.53
KC015	NEWCOMB HALL	0.44
KC026	CHERRY HALL	0.17
KC029	NATIONAL MUSEUM OF TOYS AND MINIATURES	0.24
KC030	ATTERBERRY STUDENT SUCCESS CENTER - E/G	0.10
KC030A	ATTERBURY STUDENT SUCCESS CENTER - AUX	0.26
KC031	5101 ROCKHILL	0.41
KC039	ADMINISTRATION CENTER	0.32
KC040	ROCKHILL GARAGE	0.13
KC041	5319 ROCKHILL	0.41
KC043	5305-07 HOLMES	0.43
KC044	5311 HOLMES	0.42
KC045	5317-19 HOLMES	0.42
KC048	BERKLEY CHILD CARE CENTER	0.38
KC049	5301 CHARLOTTE	0.07
KC051	MILLER NICHOLS LIBRARY	0.20
KC051B	MILLER NICHOLS LIBRARY ADDITION	0.10
KC053	5300 ROCKHILL	0.42
KC054	5327 HOLMES	0.42
KC056	5201 ROCKHILL	0.00
KC058	5310 HARRISON	0.43
KC059	SCHOOL OF BIOLOGICAL SCIENCES	0.33
KC060	SPENCER HALL	0.34
KC061	ROYALL HALL	0.34
KC062	5306 HOLMES	0.42
KC069	SCHOOL OF EDUCATION	0.57
KC070	COOLING PLANT	0.25
KC071	LABORATORY FACILITY	0.29
KC072	SCHOOL OF MEDICINE	0.51
KC073	5301-03 HOLMES	0.42
KC078	CHEMICAL STORAGE BUILDING	0.83
KC082	SCHOOL OF LAW	0.50
KC083	JAMES C. OLSON PAC	0.38
KC084	4825 TROOST AVENUE	0.47
KC086	GRANT HALL	0.47
KC087	5211 ROCKHILL	0.42

UNIVERSITY OF MISSOURI – KANSAS CITY: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
KC088	4747 TROOST	0.42
KC089	1122 E. 48TH STREET	3.51
KC092	5215 ROCKHILL	0.41
KC094	5245 ROCKHILL	0.42
KC096	SWINNEY RECREATION CENTER	0.32
KC097	HENRY W. BLOCH SCH OF MGMT-HERITAGE HALL	0.33
KC105	ROBERT H. FLARSHEIM HALL	0.11
KC109	4741-43 TROOST	0.45
KC205	5211 ROCKHILL - OUTBUILDING	0.42
KC207	5301 ROCKHILL - OUTBUILDING	0.41
KC208	5319 ROCKHILL - OUTBUILDING	0.42
KC326	5301 HARRISON	0.42
KC376	5301 ROCKHILL	0.43
KC431	HOSPITAL HILL ANNEX	0.40
KC434	OAK STREET RESIDENCE HALL	0.16
KC438	HEALTH SCIENCES BUILDING	0.21
KC439	UNIVERSITY WAY EAST ELEVATOR	0.34
KC440	UNIVERSITY WAY WEST ELEVATOR	0.89
KC441	HOSPITAL HILL GARAGE - E/G	0.49
KC442	JOHNSON RESIDENCE HALL	0.05
KC443	STUDENT UNION	0.06
KC444	DURWOOD SOCCER STADIUM - TEAM BUILDING	0.11
KC445	DURWOOD SOCCER STADIUM - TICKET BOOTH	0.07
KC446	DURWOOD SOCCER STADIUM - GRANDSTANDS	0.09
KC448	CHERRY STREET GARAGE - E/G	0.04
KC449	MILLER NICHOLS LEARNING CENTER	0.07
KC450	HENRY W. BLOCH EXECUTIVE HALL	0.04
KC454	OAK PLACE APARTMENTS	0.16
KC455	OAK PLACE APARTMENTS GARAGE	0.09

❖ **Missouri University of Science and Technology**

<b>MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY: E&amp;G FACILITY</b>		
<b>FACILITY NUMBER</b>	<b>FACILITY NAME</b>	<b>FCNI</b>
R0001E	SCHRENK HALL EAST	0.48
R0001W	SCHRENK HALL WEST	0.10
R0002	BUTLER-CARLTON CIVIL ENGINEERING HALL	0.05
R0003	EMERSON ELECTRIC COMPANY HALL	0.17
R0004	FULTON HALL	0.25
R0005	GENERAL SERVICES BUILDING	0.16
R0006	HARRIS HALL	0.29
R0007	POWER PLANT	0.09
R0010	NORWOOD HALL	0.15
R0011	MST NUCLEAR REACTOR	0.20
R0013	INTERDISCIPLINARY ENGINEERING BUILDING	0.44
R0014	PARKER HALL	0.22
R0015	PHYSICS BUILDING	0.30
R0016	ROLLA BUILDING	0.06
R0033	CUSTODIAL AND LANDSCAPE SERVICES BLDG	0.01
R0034	STUDENT HEALTH COMPLEX	0.11
R0040	TOOMEY HALL	0.00
R0041	ALTMAN HALL	0.53
R0047	SOUTH CENTRAL REGIONAL PROF DEV CTR	0.24
R0052	COMPRESSIBLE FLOW LABORATORY	0.22
R0053	HUMANITIES AND SOCIAL SCIENCES BUILDING	0.22
R0055	COMPUTER SCIENCE BUILDING	0.42
R0056	ENGINEERING RESEARCH LABORATORY BUILDING	0.34
R0057	CENTENNIAL HALL	0.26
R0082	CHANCELLOR'S RESIDENCE	0.03
R0088	STRAUMANIS-JAMES HALL	0.00
R0089	TEMPORARY RESEARCH FACILITY	0.55
R0091	CURTIS LAWS WILSON LIBRARY	0.22
R0093	GALE-BULLMAN MULTI-PURPOSE BUILDING	0.14
R0098	JACKLING FIELD DRESSING FACILITY	0.16
R0100	BUILDING D - WATER JET LABORATORY	0.14
R0101	ROCK MECHANICS EXPLOSIVES RESEARCH CTR	0.51
R0104	PHYSICS OBSERVATORY	0.09
R0112	DANGEROUS MATERIALS STORAGE FACILITY	0.12
R0135	V.H. MCNUTT HALL	0.11
R0139	ENGINEERING MANAGEMENT BUILDING	0.21
R0141	CASTLEMAN HALL	0.24
R0150	CAMPUS SUPPORT FACILITY	0.09
R0155	STUDENT RECREATION CENTER	0.10
R0156	HISTORIC BUREAU OF MINES BLDG 1	0.58
R0157	BUREAU OF MINES BLDG 2	0.47
R0158	BUREAU OF MINES BLDG 3	0.07
R0159	SOUTHWEST BELL CULTURAL CENTER	0.09
R0166	PINE BUILDING	0.23
R0172	JAMES E. BERTELSMEYER HALL	0.00

❖ **University of Missouri – St. Louis**

UNIVERSITY OF MISSOURI – ST. LOUIS: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
SF037	WEST PINE CHILDREN'S ADVOCACY	0.17
SF061	SOFTBALL CONCESSIONS	0.31
SF062	SOFTBALL RESTROOMS	0.85
SF063	SOFTBALL PRESS BOX	0.59
SF064	SOFTBALL MAINTENANCE	0.28
SF506	3940 LINDELL	0.19
SF628	SCULPTURE AND CERAMICS ANNEX	0.30
SF631	115 WEST MONROE	0.21
SF862	4633 WORLD PARKWAY CIRCLE	0.12
SN004	MILLENNIUM STUDENT CENTER	0.10
SN009	MARK TWAIN BUILDING	0.45
SN047	MILLENNIUM STUDENT CENTER GARAGE SOUTH	0.13
SN052	WEST DRIVE GARAGE SOUTH	0.18
SN054	MILLENNIUM STUDENT CENTER GARAGE NORTH	0.15
SN057	UNIVERSITY POSTAL SERVICE	0.30
SN058	SOCCER STADIUM	0.93
SN060	MARK TWAIN TRAILER	0.15
SS025	MUSIC BUILDING	0.49
SS036	BELLERIVE HALL	0.39
SS041	PROVINCIAL HOUSE	0.33
SS049	PH SERVICE GARAGE	0.24
SS050	PH MAINTENANCE GARAGE	0.11
SS060	INCARNATE WORD BOILER HOUSE	1.12
SS067	SASSIN BUILDING	0.45
SS072	BASEBALL PRESS BOX	0.00
SS075	SOUTH CAMPUS GARAGE	0.07
XS032	BOILER HOUSE	0.34
XSF044	FINE ARTS BUILDING	0.10
XSN001	WOODS HALL	0.45
XSN002	JC PENNEY HALL	0.47
XSN002A	UNIVERSITY CENTER	0.42
XSN005	CLARK HALL	0.45
XSN006	LUCAS HALL	0.53
XSN007	TELECOMMUNITY CENTER	0.32
XSN008	ARTS ADMINISTRATION BUILDING	0.38
XSN010	EXPRESS SCRIPTS HALL	0.20
XSN011	SOCIAL SCIENCES AND BUSINESS BUILDING	0.54
XSN014	THOMAS JEFFERSON LIBRARY	0.34
XSN016	WILLIAM L CLAY CENTER FOR NANOSCIENCE	0.05
XSN017	BENTON HALL	0.53
XSN018	AB ECOLOGY AND CONSERVATION COMPLEX	0.06
XSN019	RESEARCH BUILDING	0.34
XSN020	STADLER HALL	0.53
XSN055	BLANCHE M. TOUHILL PERFORMING ARTS CNTR	0.05

UNIVERSITY OF MISSOURI – ST. LOUIS: E&G FACILITY		
FACILITY NUMBER	FACILITY NAME	FCNI
XSN501	PUMP HOUSE	0.71
XSN502	SUBSTATION	0.02
XSS026	MARILLAC HALL	0.46
XSS027	TECHNOLOGY AND LEARNING CENTER	0.12
XSS028	EDUCATION ADMINISTRATION	0.48
XSS029	WARD E BARNES LIBRARY	0.28
XSS030	SOUTH CAMPUS CLASSROOM BUILDING	0.48
XSS031	SOUTH CAMPUS COMPUTER BUILDING	0.20
XSS034	KATHY J WEINMAN CHILDREN'S ADVOCACY CTR	0.10
XSS035	OBSERVATORY	0.17
XSS039	SETON HALL	0.47
XSS040	NURSING ADMINISTRATION BUILDING	0.46
XSS505	BOILER GARAGE	0.47
SN043	REGIONAL CENTER FOR EDUCATION AND WORK	0.38



# University of Missouri System

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