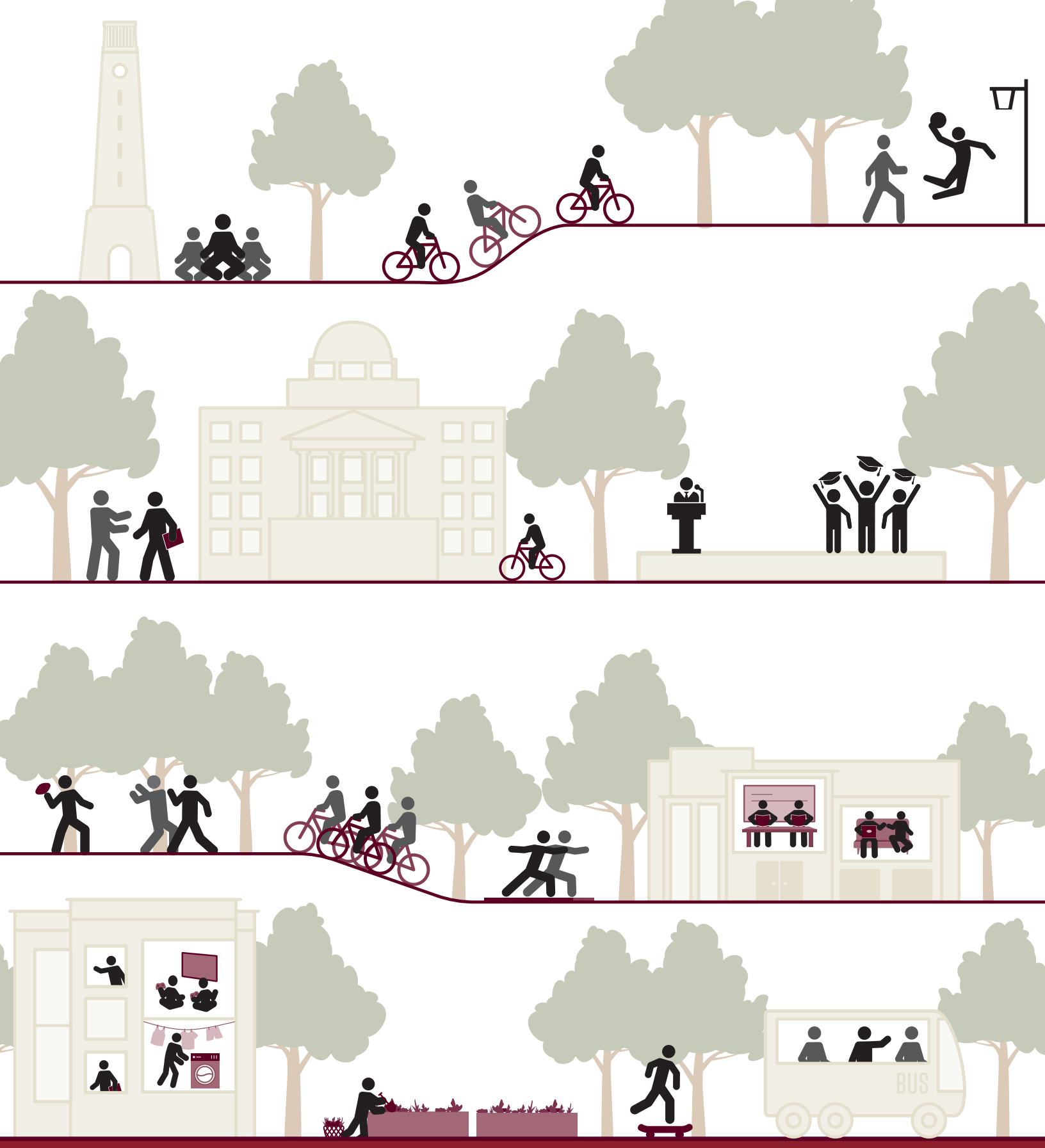


2018 RESIDENCE LIFE SUSTAINABILITY PLAN

Residence Life
DIVISION OF STUDENT AFFAIRS

DECEMBER 2018

A NOTE FROM LEADERSHIP

The vision for the Department of Residence Life at Texas A&M University is to offer a world-class transformational living and learning experience for on-campus residents. Our mission is to support student success through exceptional service, facilities, and experiences; empowering students to develop as leaders, scholars, and citizens. To best serve students, we are committed to excellence in student success, safety & security, and service & stewardship. Through this lens, sustainability in its broadest terms is most naturally reflected through our values, mission, and vision.

When President Young put forth the challenge through the Sustainability Advisory Council that Texas A&M University could and should be a laboratory for sustainability, it was even more important to deepen our efforts to engage students in sustainability.

For Residence Life, sustainability has multiple facets. As an auxiliary enterprise, part of our business success hinges on sustainable practices. Our facilities and infrastructure focus on sustainable construction, renovation, and conservation. Socially we engage and educate our residents to enhance their knowledge and understanding of the impact that they have on and in the world.

This Sustainability Plan confirms the direction we have embarked on since our first piloted recycling programs back in 2004 and all of the initiatives and pilot programs since. We have been fortunate to have both campus and corporate partners assisting us along the way, sharing new ways of working and thinking. Our partners keep us striving for the latest and greatest ways to meet our commitments. Now, with a master plan mapping our way forward and elevating our Department as campus leaders in sustainability, we are energized and focused for the future.

My thanks to all who provided input and worked diligently to pull this planning process together. It only seems right that this is a plan built by and for students, including their visions for the future and their part in it. I look forward to seeing these initiatives come to fruition.

Chareny Rydl

Chareny Rydl
Executive Director
Department of Residence Life
Division of Student Affairs
Texas A& M University

CONTENTS

SUSTAINABILITY
LIVES HERE.

Every Aggie can live a sustainable lifestyle in on-campus housing.

Texas A&M University defines sustainability as the efficient, deliberate, and responsible preservation of environmental, social, and economic resources to protect our earth for future generations of Texas Aggies, the Texas A&M University community, and beyond.

01 INTRODUCTION

Texas A&M's legacy includes sustainability initiatives in academics, engagement, operations, and administration. While evaluated at a campus scale using the AASHE STARS reporting framework, individual units, such as the Department of Residence Life, have a significant role to play in advancing institutional objectives towards sustainability.

The Association for the Advancement of Sustainability in Higher Education (AASHE) has collaborated with colleges and universities to develop the Sustainability Tracking, Assessment & Rating System (STARS), a self-reporting framework that enables institutions of higher learning to document progress toward sustainability goals by responding to a shared set of questions. Because institutions answer the same questions within STARS, it is possible to benchmark an institution's progress toward sustainability in context with its peer institutions as well as understand what strategies are or are not succeeding in higher education on the whole.

The Department of Residence Life (DRL) at Texas A&M University operates as an auxiliary enterprise and wanted to understand how efforts already advanced by the department compared to peer institutions and how future prioritization of efforts might yield the highest payback economically, in terms of student success, and in terms of competitive advantage in the College Station student housing market. DRL engaged consultants at Ayers Saint Gross to help them study these questions.

Because residence life manifests itself differently across colleges and universities – some include dining, some do not, some are integrated into the institution, and some are auxiliary enterprises as at Texas A&M – making comparisons to other institutions was not a fruitful way to study sustainability questions within Texas A&M's Department of Residence Life. The planning team ultimately studied DRL's sustainability efforts within the existing context of nine sustainability themes defined at Texas A&M and developed four deliverables:

- This 2018 Residence Life Sustainability Plan, an internally-focused document intended to address residence life facilities, life skills education, and partnership opportunities within the Texas A&M University community.
- A poster series intended to celebrate existing sustainability efforts completed by DRL and ways the approximately 11,000 on-campus residents can continue those efforts through individual actions.
- A marketing brochure intended to celebrate existing sustainability efforts completed by DRL and leverage such work to achieve a competitive advantage within the College Station student housing market.
- A utility dashboard to support benchmarking future utility consumption against current baselines.

Beyond the planning team's deliverables, it is recommended that the Department of Residence Life collaborate with the Office of Sustainability to add a classifying question to the existing Sustainability Literacy Assessment. This existing annual survey could be used determine increases in the sustainability literacy of on-campus residents, and therefore the efficacy of many recommendations included within this plan if a question were added to the survey requesting students self-identify as on-campus or off-campus residents.

Sustainability at Texas A&M

Texas A&M University defines sustainability as the efficient, deliberate, and responsible preservation of environmental, social, and economic resources to protect our earth for future generations of Texas Aggies, the Texas A&M University community, and beyond.

That definition includes three "pillars" of sustainability: the environment, society, and the economy with sustainable decisions and actions integrating components of all three.

The current generation of sustainability planning at Texas A&M began with the publication of the 2017 Campus Master Plan (2017 CMP). The 2017 CMP envisioned a physical environment at Texas A&M to advance intellectual growth, support high quality teaching and research, and encourage interaction and scholarly exchange for the next generation of Aggies. Sustainability and Wellness was among six focus elements of that plan.

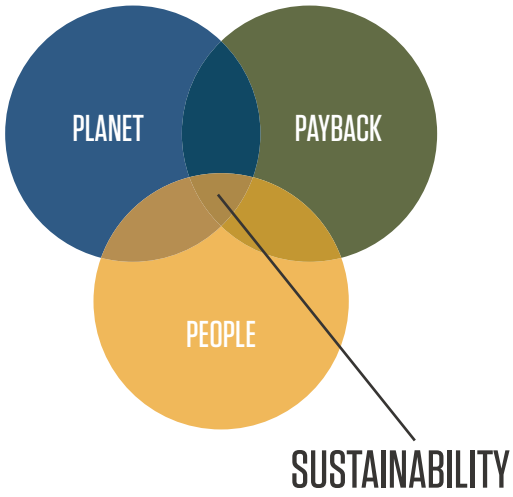
Prior to the 2017 CMP, the 2010 Sustainability Master Plan identified strategic imperatives known as the Sustainability 12, but the planning team evaluated these ideas in the 2017 CMP to determine their relationship to the current workings of the University and their capacity to absorb rapidly changing sustainability efforts on campus and in higher education in general. The Sustainability 12 evolved into nine themes within the 2017 CMP to serve three functions: to better align with land use and strategic planning efforts across campus, to better align with STARS reporting, and to be more resilient to the changing landscape of sustainability.

Texas A&M's nine sustainability themes in the 2017 CMP are:

- Social Sustainability
- Energy Use and Greenhouse Gas Emissions
- Stormwater Management
- Campus Mobility
- Built Environment and Site Design
- Waste Management
- Education, Outreach, and Engagement
- Administrative Support
- Instruction, Research, and Innovation

The 2018 Sustainability Master Plan (2018 SMP) addressed the entire campus community and sought to dig deeper on all nine themes during the 2017-2018 academic year. The Department of Residence Life (DRL) was integrated into this campus-scale sustainability planning effort, but operates as an auxiliary enterprise at Texas A&M and wanted to explore how sustainability within its scope of work might advance faster and/or differently than the University as a whole. The department was particularly interested in its capacity to operate sustainable facilities, support sustainable life skills education, and leverage competitive advantage in the local student housing market.

The Triple Bottom Line



Sustainability addresses the relationships between planet, people, and payback.

Sustainability efforts at Texas A&M are branded with the logo at left. This logo can be used across departments and is available from the Office of Sustainability.

Process and Engagement

This project's planning team researched whether Residence Life Sustainability Plans existed at peer institutions, but found no such precedents. In discussion with the steering committee, the planning team determined the deliverables of this process should:

- Identify where DRL may be able to advance institution-wide sustainability goals faster within its own context because DRL is smaller and more nimble than the institution as a whole.
- Measure and celebrate DRL's contributions to sustainability at Texas A&M.
- Conserve energy and water resources through sustainability initiatives.
- Prioritize future sustainability-focused efforts within DRL.
- Strengthen DRL's relationships with on-campus partners.
- Advance opportunities to market sustainability initiatives for competitive advantage in the Bryan/College Station student housing market.

In January 2018, the planning team walked the public spaces and grounds of a representative quantity and type of DRL facilities including The Gardens, White Creek Apartments, Commons and its associated residence halls, Hullabaloo Hall, the Corps of Cadets, and Fowler, Keathley, and Hughes (FHK). The results of these facilities tours resulted in the Sustainable Space Index that can be found in the Appendix.

Using this project's goals, insights gained from touring facilities, and data provided by DRL, the planning team organized content within the nine sustainability themes established by the 2017 CMP and 2018 SMP. The DRL steering committee provided direction on which of the nine themes held the greatest priority in the 2018 Residence Life Sustainability Plan. The planning team continued analyzing opportunities for advancement and conducted outreach in March and April 2018.

The March 2018 workshop focused on student outreach and used six focus groups and two tabling opportunities to gain insight on student perspectives. The six focus groups added depth to the planning process and were organized by on-campus neighborhood as well as one additional session hosted for the Aggie Eco-Reps, a student organization focused on sustainable on-campus living. The tabling activities were hosted at campus dining halls – Sbisa and Commons – to add breadth to the process.

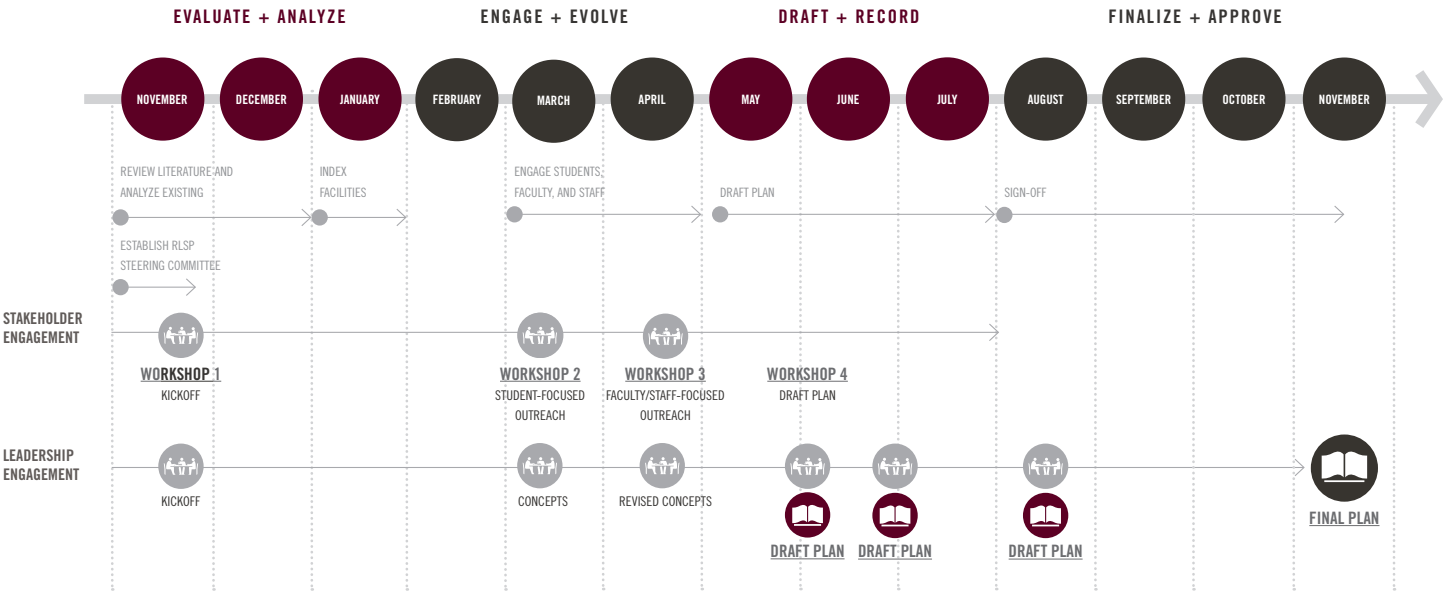
In April 2018, the planning team returned to campus to engage with Texas A&M staff related to on-campus living. These conversations included sessions with DRL staff, living learning partners, DRL's facilities staff, custodians, and other on-campus partners such as Transportation Services, Utilities & Energy Services, and the Office of the University Architect. In these meetings the Ayers Saint Gross planning team simultaneously shared information from students as well gained staff perspectives on their areas of expertise.

The DRL Sustainability Plan Steering Committee provided leadership to the process and guided the creation of the project's deliverables. For a full list of Texas A&M participants, please see the Acknowledgments.

How to Use this Document

This document is intended for use within DRL and its on-campus partners to advance the sustainability of on-campus housing. It is not intended to teach students about sustainable practices nor advertise to prospective on-campus residents, and as a result it assumes a certain level of existing knowledge. Readers are encouraged to seek out any source material identified in the Resources and References section to increase their knowledge on sustainability at Texas A&M. The 2018 Residence Life Sustainability Plan has several companion deliverables including a poster series to educate on-campus residents on sustainable life skills, a brochure to advertise on-campus living's sustainability to prospective residents, and a set of Excel-based calculators for energy and water use tracking over time. This suite of deliverables, in conjunction with partnerships DRL intends to advance, are anticipated to increase sustainable practices in on-campus living and

2018 Residence Life Sustainability Plan Schedule



The 2018 Residence Life Sustainability Plan process kicked off in November 2017 with the bulk of campus engagement and plan development occurring during the Spring 2018 semester. The project's deliverables were released in phases and completed entirely by December 2018.

11,000

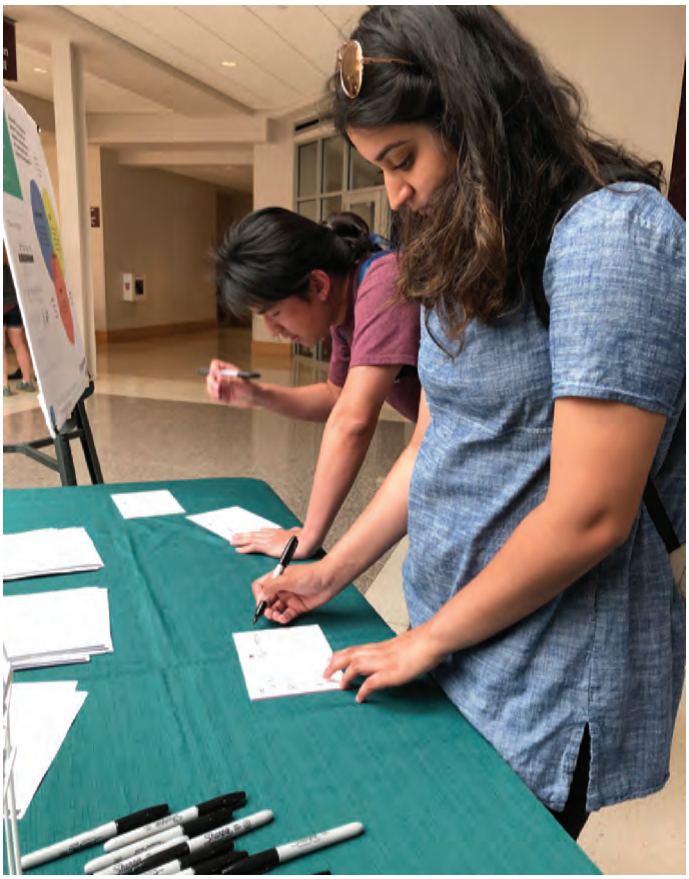
Approximate number of on-campus residents

290

Aggie participants in the 2018 Residence Life Sustainability Plan

48%

Percentage of on-campus students who believe waste management is the most critical component of a sustainable on-campus housing vision.



Students' highest priority sustainability-related amenities are:

- **Recycling**
- **Energy Efficient Appliances**
- **Low-Flow Fixtures**
- **Daylight, Views, and Ventilation**

Students' lowest priority sustainability-related amenities are:

- **Public Art**
- **Occupancy Sensors**
- **Native Plants**
- **Bicycle Racks at Residence Halls**

Over 150 students participated in engagement activities that ranked sustainable amenities in order of priority. Amenities achieved the lowest priority when students were least able to connect the amenity to sustainability or when amenities were already being sufficiently provided by their facilities.

02 SOCIAL SUSTAINABILITY

A campus environment is comprised of both built elements and social constructs in which people live their daily lives. Residence Life has a unique opportunity to promote the importance of wellness, engagement and service to its community of residents.

Health and Wellness

Residents have access to services and amenities that keep them healthy and feeling great about themselves – both physically and mentally. These amenities include the Student Recreation Center, the bike share program, counseling and health services, All Faiths Chapel, life skills programs, and dining options.

Voice and Influence

Residents have opportunities to shape their campus living experience through the Residential Housing Association and Community Councils. Opportunities include leading fellow students and the community, creating engaging programming for residents, advocating for hall improvements, and other student leadership opportunities.

External Engagement

Selfless Service is a Core Value at Texas A&M. Whether it's the Big Event, Service Learning, or programs run through Residence Life such as durable goods donation during move-out, on-campus residents stay active in the community to make Aggieland a better place.

Sustainability at Texas A&M focuses on the connections between people, the economy, and the environment and how those connections work together to achieve long-term prosperity and continued quality of life. Social Sustainability is an equally weighted theme to environmental and economic aspects of sustainability. In this integrated model, Social Sustainability is not an isolated subject, but instead a thread that ties Aggies into all sustainability initiatives. To this end, Social Sustainability topics are woven throughout this document as well as centralized in this chapter. The Social Sustainability icon below highlights content in other chapters that connects to the recommendations within this topic.

Social Sustainability at Texas A&M blends traditional policy areas with issues such as justice, economic opportunity, participation and influence, community and global needs, and wellbeing and quality of life. At a campus-scale, Social Sustainability is defined and built around several topics. The content at left highlights how these topics manifest within the Department of Residence Life.

Social Sustainability in this Document

Recommendations associated with Social Sustainability are marked with the icon below to connect their content to the ideas of this chapter.

Social Sustainability Icon

02-1: Increase connectivity between on-campus housing and recreation facilities.

Students reported the importance of living active and healthy lifestyles and that space for physical and mental health activities is highly important. All six focus groups expressed concern about the connection between on-campus housing neighborhoods and the Student Recreation Center. Student concerns focused on the remoteness of the Student Recreation Center to all of the housing neighborhoods, especially the White Creek Apartments. It is hoped that the new White Creek Community Center will meet some of the community's recreation needs with the addition of new basketball and volleyball courts. The recent passing of a student fee will fund additional recreation centers on campus, which will begin to address the remoteness of the Student Recreation Center for other housing neighborhoods in the longer term.

For more information on this recommendation, see Section 05 - Campus Mobility.

02-2: Develop a public art program in the residence halls that better represents current on-campus residents.

While public art appeared lower on the sustainable amenities activity completed by on-campus residents and DRL staff than most other amenities, the resulting conversations revealed that students and staff didn't immediately make the connection between public art and sustainability. Follow-up questions, however, revealed that residents have a strong interest in creating spaces around their neighborhoods that represent their communities.

02-3: Increase the number of applicants to DRL's Hall Improvement Program.

To utilize their influence on the built environment, any member of a Community Council can fill out a Hall Improvement Form to make a permanent change to their community for the improvement of their hall or apartment. This form is hosted online through the Residential Housing Association (RHA) and financial support is provided by the Department of Residence Life. While the form is available online, some residents appeared unaware of this opportunity to shape their built environment in focus groups. Increased messaging via social media platforms and other DRL communications tools might increase the subscription rate to the Hall Improvement Program.

DRL staff participants indicated that while small projects such as requests for vacuum cleaners, cooking utensils, ping pong tables, and other similar elements can be responded to quickly, larger hall

Share Ideas, Express Concerns, and Participate in the Community

On-campus residents can exercise their voice and influence by:

- Engaging in the Community Councils' and Residential Housing Association's activities.
- Applying for Hall Improvement Funds.
- Becoming Resident Advisors (RAs).
- Taking on a leadership role in 1 of 7 DRL-sponsored student organizations.
- Participating in the annual UChallenge.

Opportunities for residents to use their voice and influence are plentiful, but not all students are aware the opportunities exist.

improvements have more challenging timelines. In general, residents often take a semester to generate consensus behind a big idea before making a Hall Improvement Program application. Most completed applications are sent to DRL Facilities and Operations in the Spring semester and they advance projects as funding allows. The timeline for procurement and construction of larger projects, however, generally means such projects are completed six to twelve months after the initial application for funding is made, which frequently means the residents who have requested the amenity have left the community before the amenity is completed.

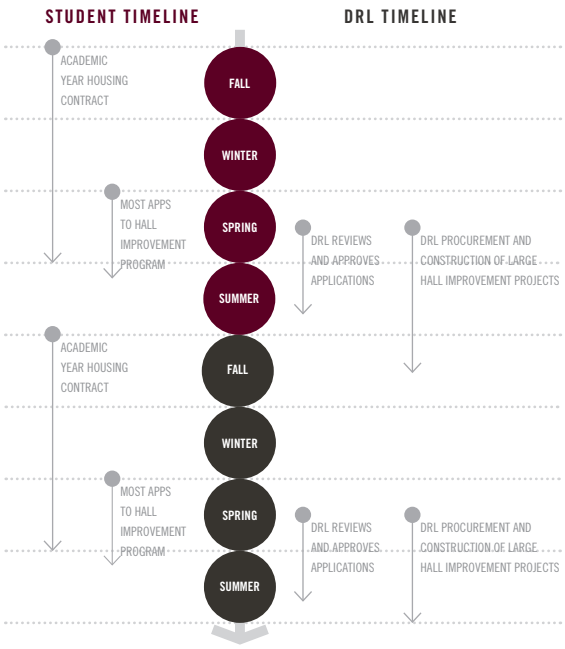
Given that most on-campus residents are first year students, efforts to retain returning students could increase the efficacy of the Hall Improvement Program. Efforts to encourage early application to the Hall Improvement Program might also increase the program's impact.

For more information on this recommendation, see Section 06 - Built Environment and Site Design.

02-4: Increase the frequency of sustainability-related requests in applications to DRL's Hall Improvement Program.

DRL staff indicated that some student requests are out-of-scale with the amount of funding DRL has available for student-requested improvements. Providing more concrete criteria to students about how projects are selected might solicit projects that both advance DRL goals and that DRL is better able to respond to within the budget of the program.

The current Hall Improvement Program application requires each applicant identify their hall and requested improvement, explain why the request is being made, and provide a preliminary budget. While the open-endedness of this application makes it easy for students to propose a wide breadth of projects, it also means projects may not align with DRL priorities to enhance the student experience and improve sustainability.



This timeline illustrates the disconnect between when most applications for Hall Improvement Program projects are received by DRL, when large projects are completed, and when residents making applications typically leave the community for which they've requested significant improvements.

A matrix that indicates how DRL scores applications could be provided to students for reference only to increase transparency in the selection process and increase the number of project applications that meet criteria desired by DRL. To increase the frequency of sustainability-related improvement requests, the matrix could include scored questions such as:

- Will this project increase energy or water efficiency in the Hall or its surroundings?
- Will this project increase access to recreational amenities?
- Will this project create opportunities for external engagement?
- Will this project increase the use and safety of non-vehicular modes of transportation around campus?
- Will this project increase the ease of recycling on campus?

As DRL Facilities and Operations codifies or updates this kind of application scoring matrix, the application may also evolve to request students provide more targeted responses to the evaluation criteria.

02-5: Increase the amount of durable goods donated at move-out.

Aligned with Texas A&M's core value of Selfless Service, all Aggies are encouraged to serve both on- and off-campus communities. Through existing Residence Life programs such as move-out donations to local non-profits and student organizations such as the Residential Housing Association (RHA) and Aggie Eco-Reps, on-campus residents have the opportunity to serve both their immediate on-campus community and contribute positively to the larger Bryan/College Station area.

For more information on durable goods donations, see Section 07 - Waste Management. For more information on RHA and the Aggie Eco-Reps, see Section 08 - Education, Outreach, and Engagement.

03 ENERGY USE & GREENHOUSE GAS EMISSIONS

Energy use in Residence Life facilities includes electricity, chilled water, and heating hot water provided by UES.

Utilities & Energy Services (UES) trends the DRL building portfolio's consumption monthly and establishes DRL's utility rate annually. In FY2018, utilities for DRL totaled $7.6 million which has to be accommodated by student rent rates. Controlling utility expenses is one way to stabilize rent rates and keep on-campus housing costs competitive with off-campus housing.

The planning team used building-by-building utility consumption data for FY2017 provided by DRL to establish an energy use intensity (EUI) for each DRL facility. EUI is an industry standard statistic that describes the amount of energy consumed per square foot of building space per year. Measured in kBTU / square foot / year, the metric absorbs variations in the units measuring electricity, chilled water, and heating hot water by converting them all to a common unit. The EUI metric is used by UES at a campus-scale to articulate energy conservation goals. Per developments of the 2017 Utilities & Energy Services Master Plan and 2018 Sustainability Master Plan, UES aims to decrease Texas A&M's campus EUI from 192 kBTU / square foot / year in 2017 to 174 kBTU / square foot / year over the next five to seven years.

The planning team compared EUI data at three scales: all DRL facilities, by neighborhood, and by housing type. For the purposes of this study, the planning team defined four neighborhoods: Northside, Southside, The Gardens, and White Creek. The Corps of Cadets residence halls are sometimes included in the Southside neighborhood and, where appropriate, are separated as their own neighborhood. The planning team also defined seven housing types: apartments, balcony, corridor, commons, modular, ramp, and Hullabaloo Hall.

Data on DRL's EUIs was compared against two benchmarks: the 2003 Commercial Buildings Energy Consumption Survey (CBECS) data for dormitories and residence halls and Texas A&M's medium term campus-wide EUI target. The 2003 CBECS nationwide dataset on dormitories and residence halls indicates the average EUI across all survey buildings of that type is 89 kBTU / square foot / year. Texas A&M's medium term campus-wide EUI target is 174 kBTU / square foot / year. Texas A&M's medium term EUI target is significantly higher than the 2003 CBECS nationwide average for dormitories and residence halls because Texas A&M's portfolio

2018 SMP Target 02-1: Decrease campus energy use intensity.

192	182	174
2017	SHORT TERM	MEDIUM TERM

Campus Source Energy Use Intensity (kbtu/sf/year)

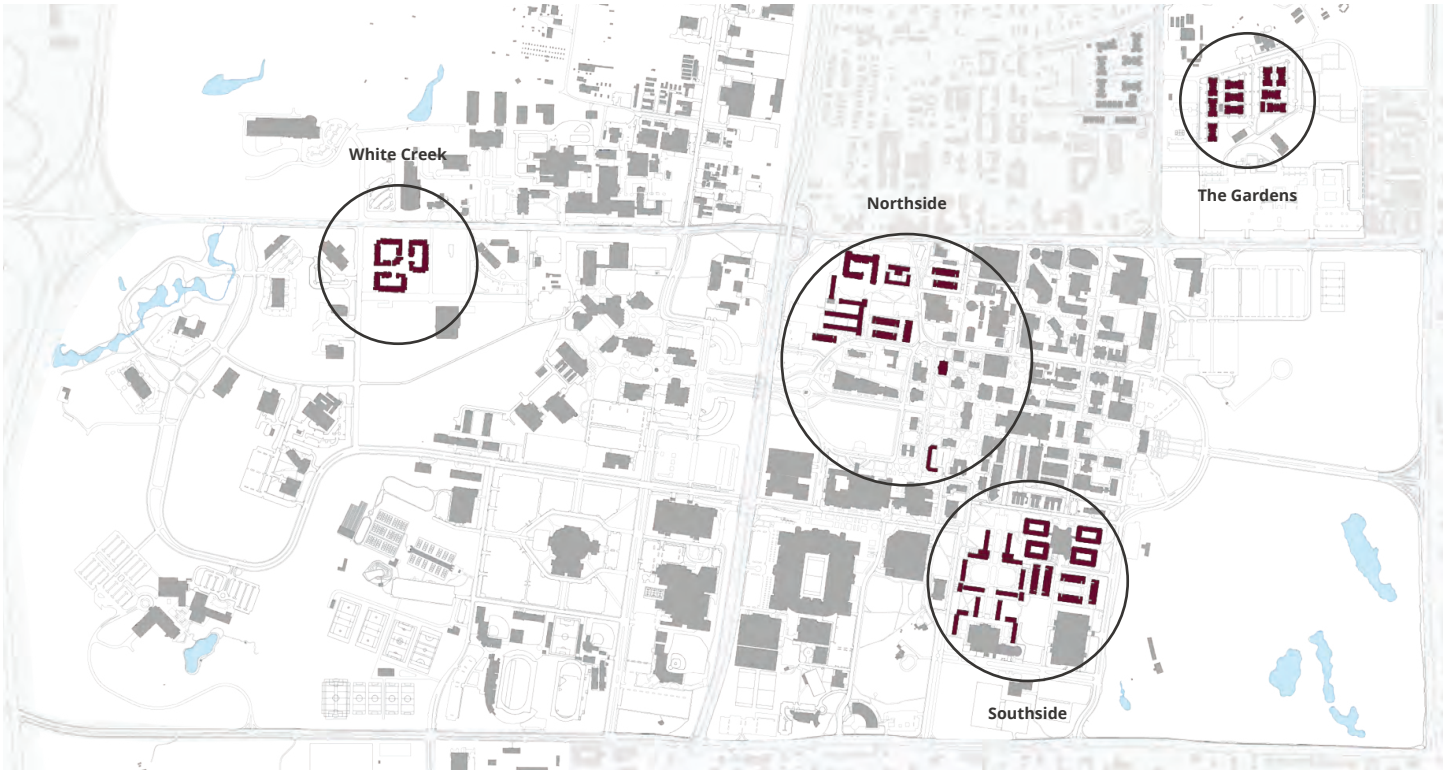
2018 RLSP Target 03-7: Decrease DRL's EUI from a FY2017 baseline of 136 to 123 by FY2022.

136	123
2017	2022

DRL Source Energy Use Intensity (kbtu/sf/year)

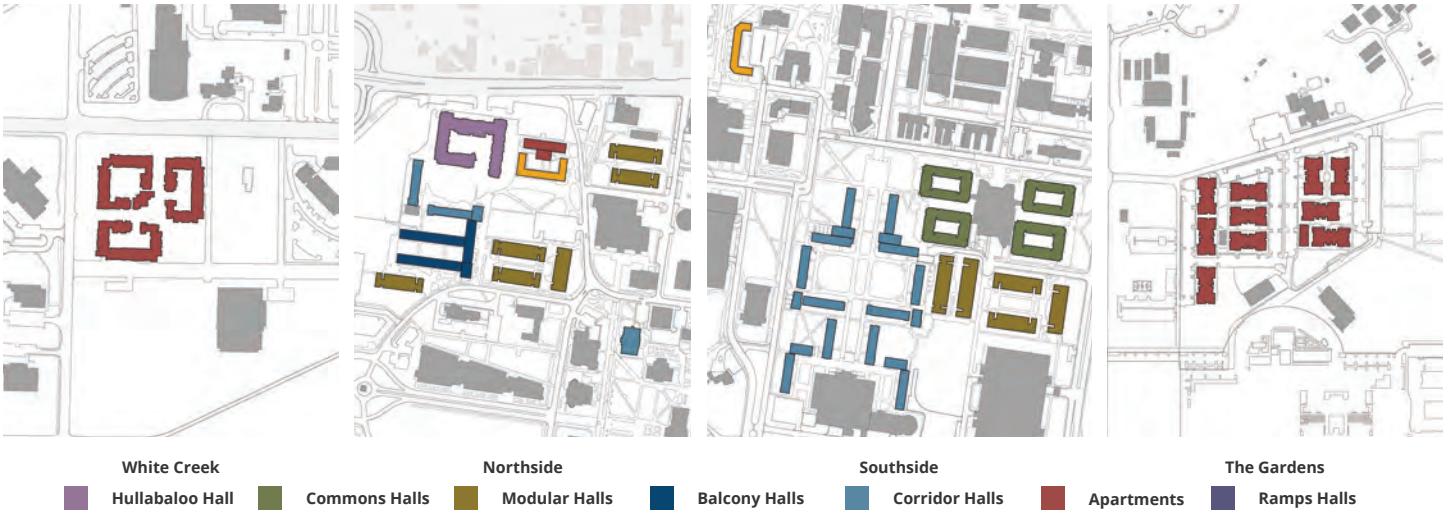
includes many buildings with significantly greater energy use intensity than on-campus housing such as laboratories and classroom buildings.

In FY 2017, the average EUI across DRL's portfolio was 136 kBTU / square foot / year - substantially less than the institution's medium term EUI target. DRL's efficiency investments to date have supported the enterprise in achieving energy savings faster than the institution as a whole. DRL's scale has supported it in being more nimble than Texas A&M in its pursuit of energy efficiency and has allowed change to happen more quickly within DRL than at the institutional scale.



Campus Neighborhoods

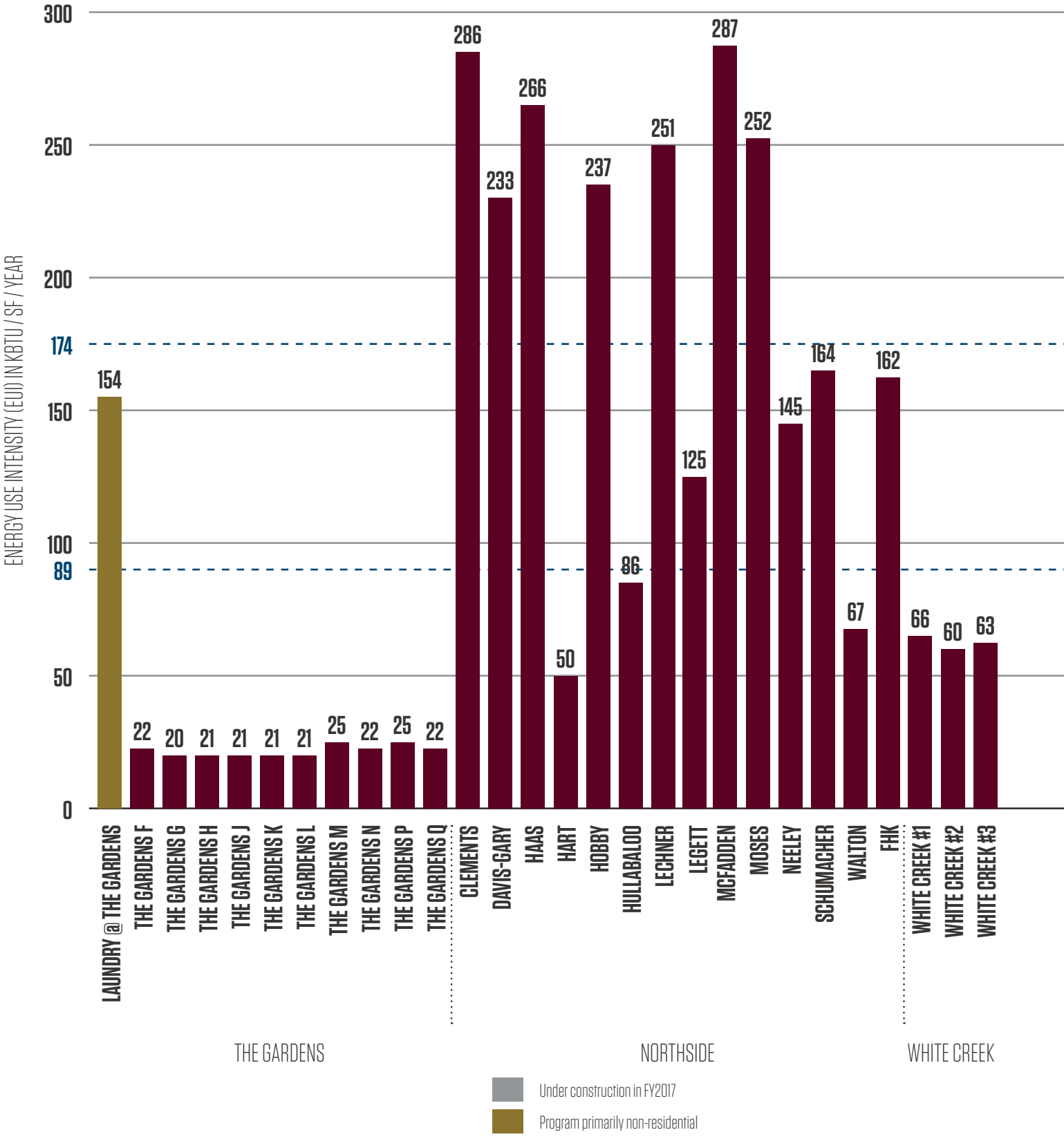
This diagram illustrates the four residential neighborhoods in on-campus housing at Texas A&M: White Creek, Northside, Southside, and The Gardens. The Corps of Cadets dormitories are included in the Southside neighborhood although sometimes their data was separated to support clearer recommendations.

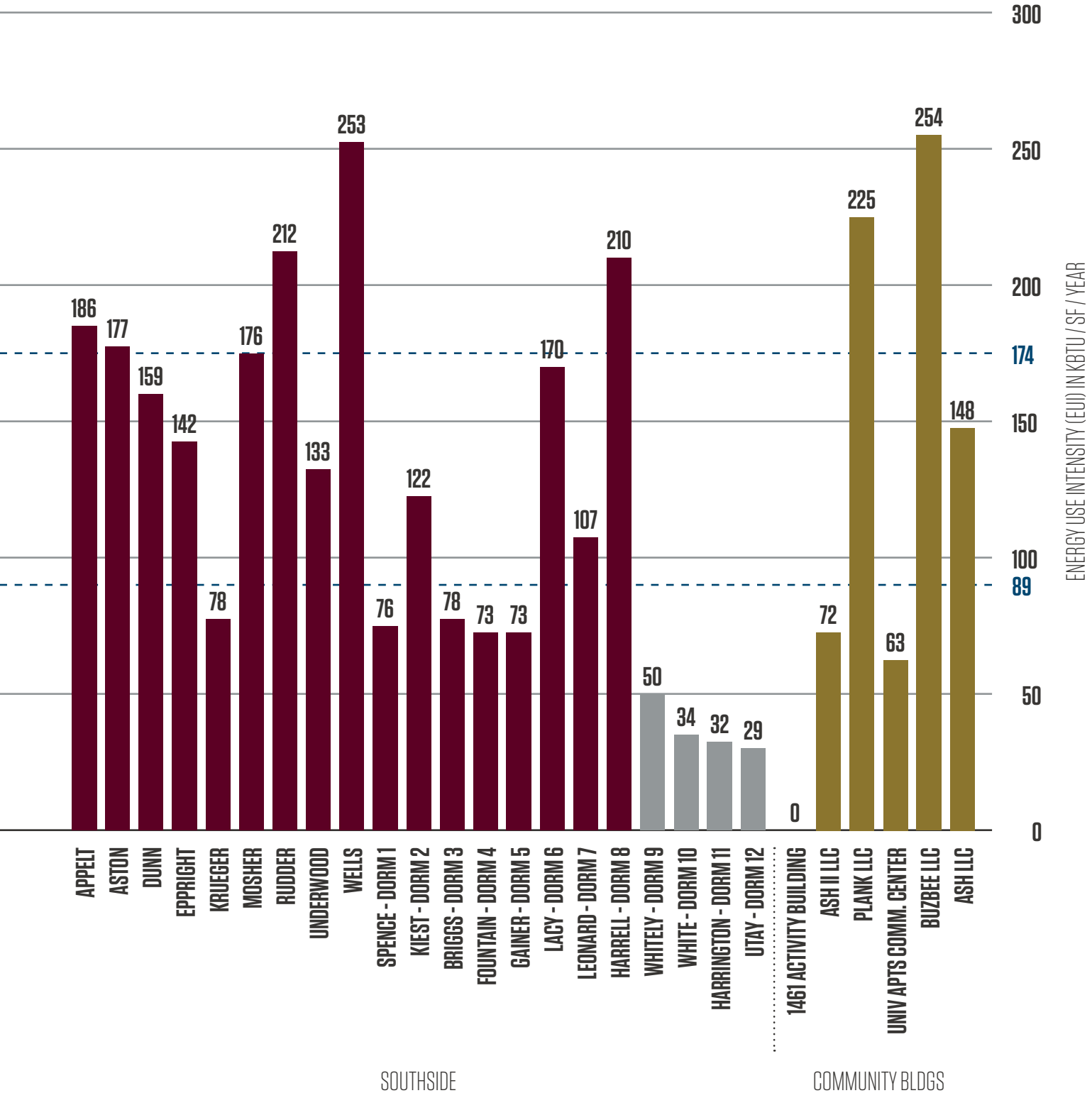


Campus Housing Types

These diagrams illustrate the seven types of housing available at Texas A&M: Hullabaloo Hall, commons halls, modular halls, balcony halls, corridor halls, apartments, and ramp halls. The Corps of Cadets residences are considered corridor halls. The two most common hall types are modular and corridor.

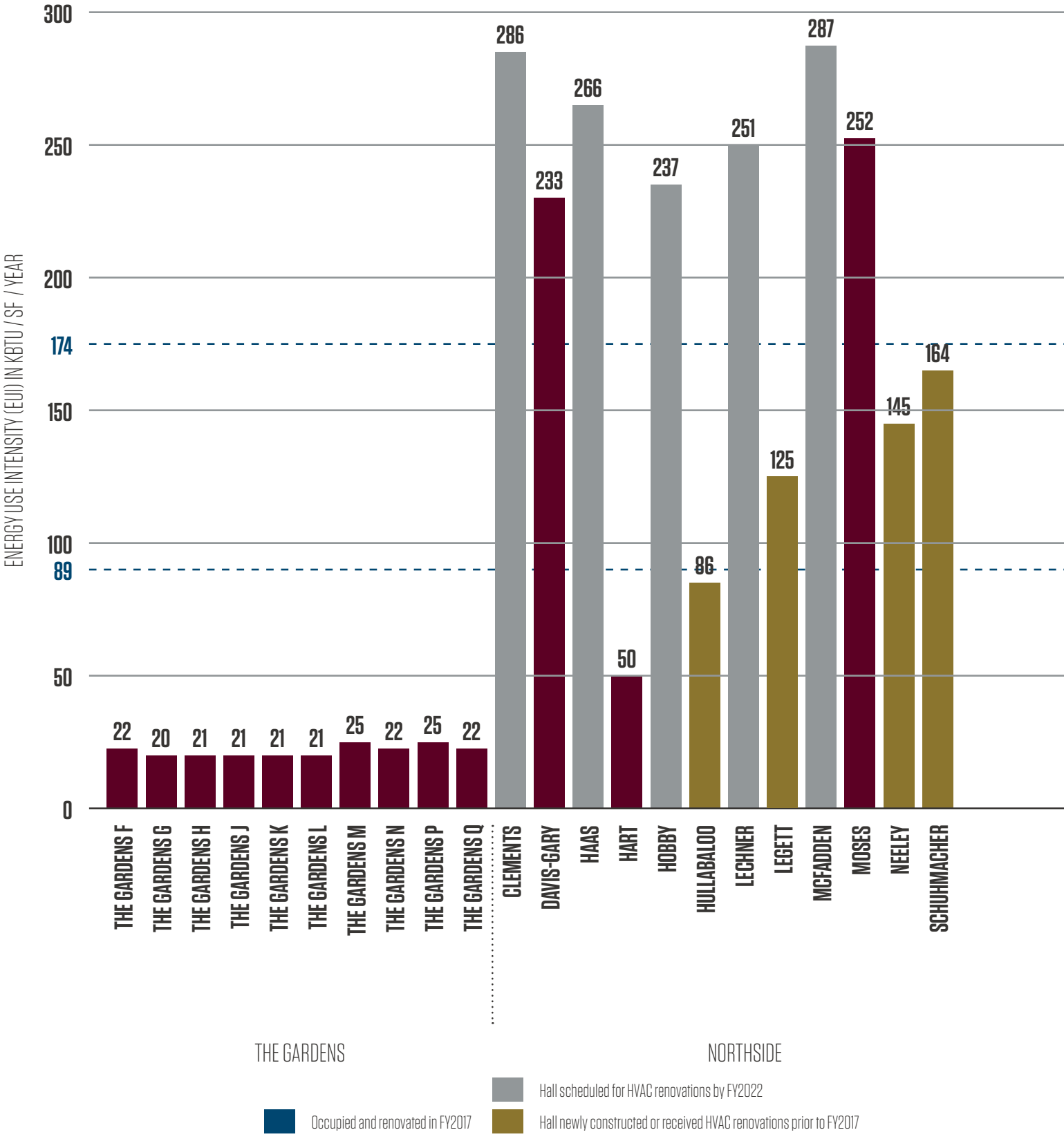
Figure 01: FY2017 Energy Use Intensity (EUI) for All DRL Facilities

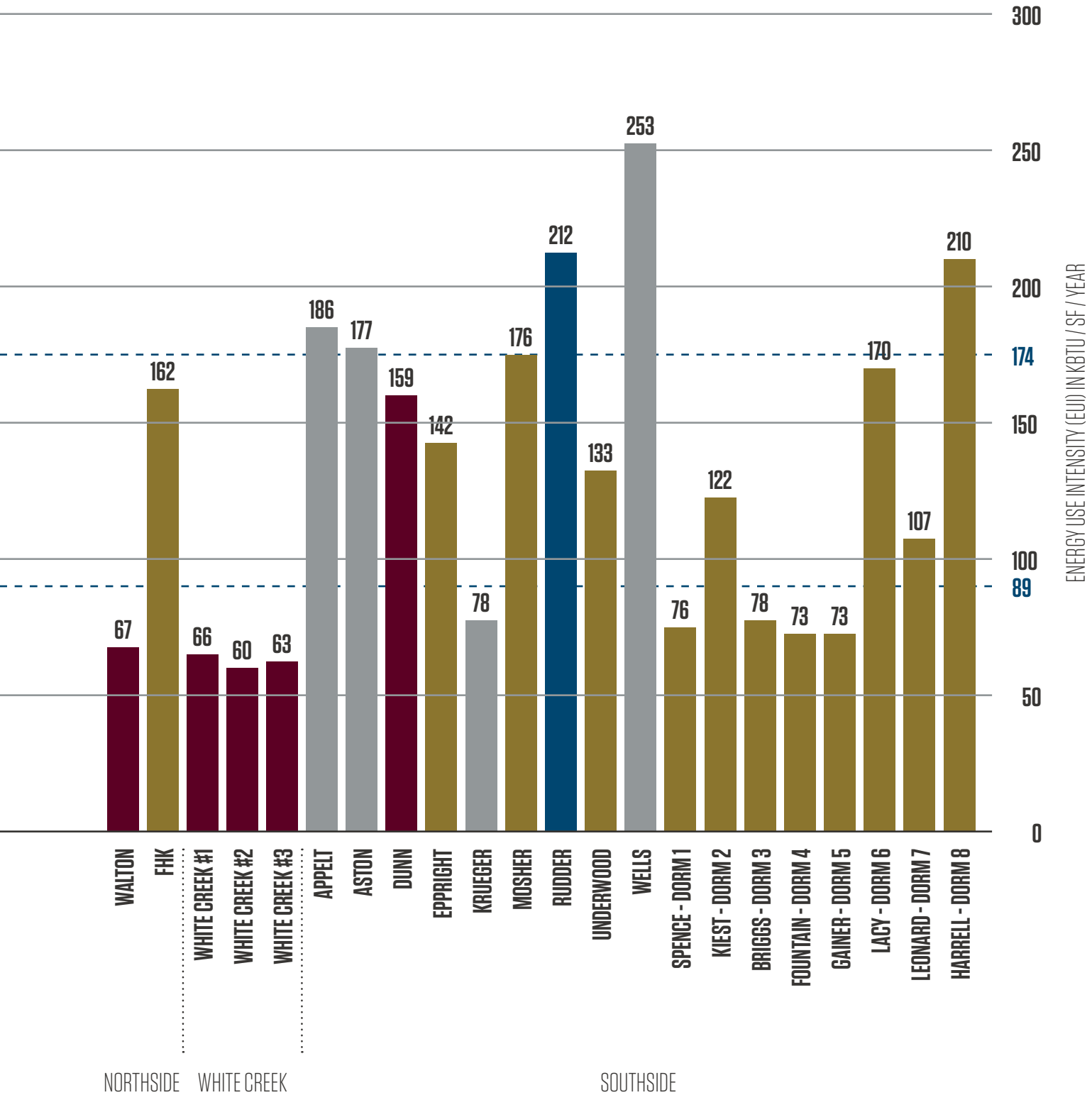




This chart illustrates the energy use intensity of all DRL facilities for FY2017. Two benchmarks are provided for comparison in blue dashed lines. EUI 174 is UES's campus-scale medium term target for campus energy consumption as a whole while EUI 89 is the 2003 CBECS benchmark for residence halls and dormitories.

Figure 02: FY2017 Energy Use Intensity (EUI) for DRL Housing Facilities (Excluding Buildings Under Major Renovation and Non-Residential Buildings)





This chart illustrates the energy use intensity of all DRL residential facilities for FY2017 excepting those that were under construction. Two benchmarks are provided for comparison in blue dashed lines. EUI 174 is UES's campus-scale medium term target for campus energy consumption as a whole while EUI 89 is the 2003 CBECS benchmark for residence halls and dormitories.

Campus scale data was evaluated in two phases: as the raw data direct from DRL converted into an EUI for each building, and then as a cleaned set of data. *Figure 01: FY2017 Energy Use Intensity (EUI) for All DRL Facilities* illustrates the raw data based on the utility bills provided to the planning team by DRL. This data shows anomalies including information on the energy consumption of:

- Whitely Hall – Dorm 9
- White Hall – Dorm 10
- Harrington Hall – Dorm 11
- Utay Hall – Dorm 12
- Buzbee LLC
- Ash LLC
- Plank LLC
- Ash II LLC
- Laundry @ Gardens
- 1461 Activity Building
- Univ. Apartments Community Center

Whitely Hall – Dorm 9, White Hall – Dorm 10, Harrington Hall – Dorm 11, and Utay Hall – Dorm 12, were all under renovation during FY2017 and as a result the EUI established by the utility bills for those buildings is not representative of typical usage. The remaining buildings listed are not programmed as residence halls or dormitories despite being within DRL's portfolio. Buzbee LLC, Ash LLC, Plank LLC, and Ash II LLC are principally classroom and assembly spaces with one of them including a retail food service establishment. The Laundry @ Gardens, 1461 Activity Building, and University Apartments Community Center are non-residential support spaces including office space and assembly areas.

Because this study was comparing energy usage for each building against the 2003 CBECS national benchmark for residence halls and dormitories, the buildings listed above were removed from the comparison as their programming does not align with that benchmark. The set of buildings that remain are referred to as "DRL Housing Facilities (Excluding Buildings Under Major Renovation and Non-Residential Buildings)."

Fowler, Hughes, and Keathley (collectively known as FHK) are metered collectively and UES attributes a percentage of that usage to each building based on square footage. Because of this metering set up, data from this complex is presented as one FHK statistic on energy use intensity. *Figure 02: FY2017 Energy Use Intensity (EUI) for DRL Housing Facilities (Excluding Buildings Under Major Renovation and Non-Residential Buildings)* illustrates the campus scale study of EUI data.

03-1: Complete planned energy efficiency upgrades.

Analysis of the FY2017 EUI of all on-campus housing buildings illustrate that energy efficiency upgrades to date have had a significant positive impact on energy conservation in DRL facilities and that continued efforts will continue to produce valuable energy cost savings.

Figure 02 illustrates that the Northside housing community has the highest average EUI of any of the on-campus communities, but the timeline at right indicates significant energy retrofits are intended for five of the buildings between FY2018 and FY2021. Completion of this work will likely bring Northside's average EUI in line with UES's campus wide EUI 174 target.

Figure 02 also illustrates that Southside, in general, had lower EUIs than Northside in FY2017. Four additional buildings are slated for energy retrofits between the dataset analyzed by the planning team and 2021 and it is similarly assumed that these efforts will bring the EUI of those buildings in line with facilities that have already received these investments.

Completion of the planned energy efficiency upgrades will show DRL's support of campus-wide EUI reduction goals and reduce DRL's annual energy expenses. Should funding for planned projects become a challenge, DRL will generate the fastest return on investment by upgrading systems in the most energy intensive buildings first. Using FY2017 EUI data alone suggests a slightly different order of renovations might yield a faster return on investment. EUI data from each building should continue to be tracked annually to validate the renovation order.

03-2: Consider additional strategies to decrease the EUI of Davis-Gary and Moses Residence Halls.

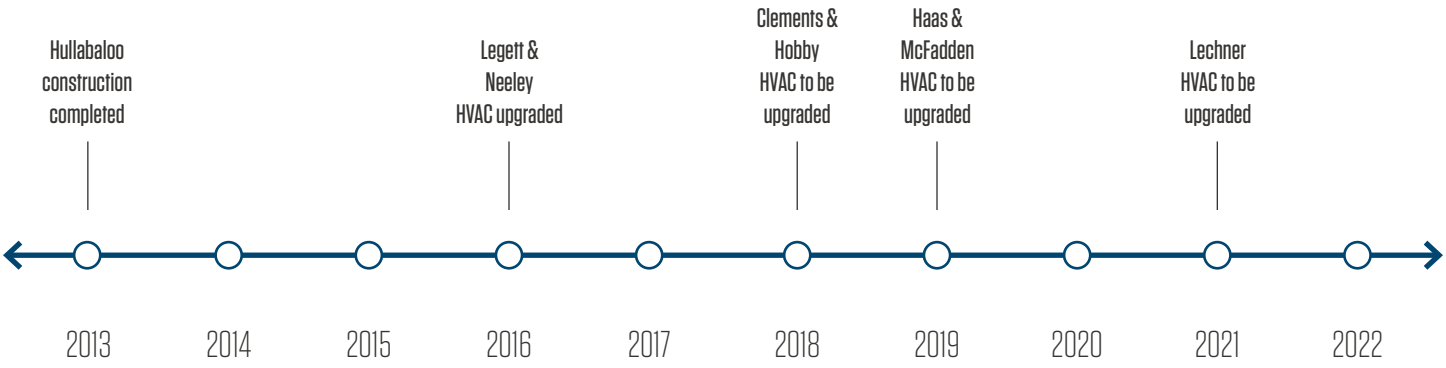
Once renovations planned for non-Corps of Cadets housing through 2021 are completed, EUI data from FY2017 illustrates several buildings may continue to operate above EUI 174, the UES medium term target for campus-wide energy consumption.

These facilities include:

- Davis-Gary
- Moses

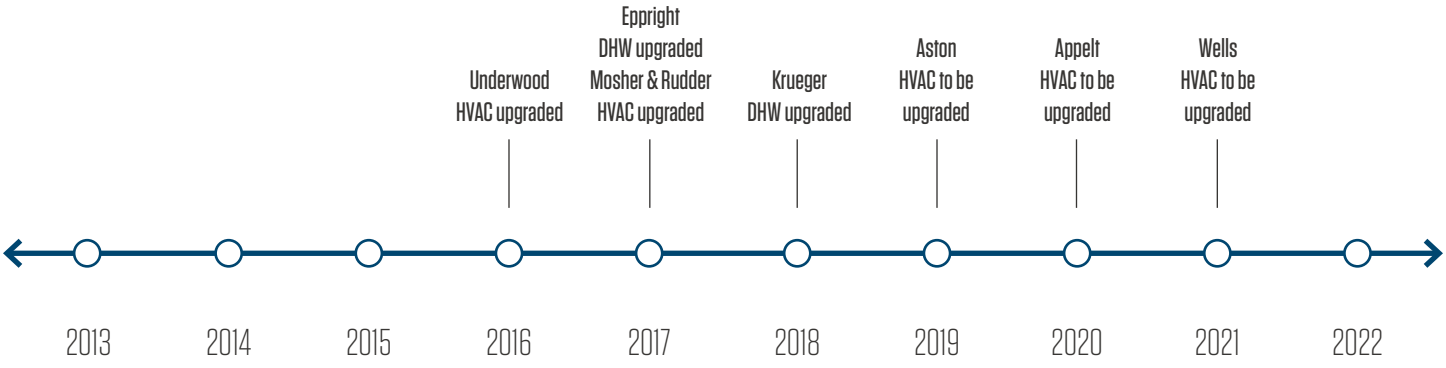
Davis-Gary and Moses halls are not on the scheduled list of renovations. In FY2017 both halls operated above the campus-wide medium term EUI target of 174. To advance DRL's contributions to campus-

Northside Renovation Timeline



The timeline above outlines major HVAC renovations to Northside dormitories since 2013. Energy savings from renovations before FY2017 are represented in the FY2017 data in this chapter's figures including HVAC upgrades to Schuhmacher (2001) and FHK (2001 and 2002). It is anticipated that planned HVAC renovations will decrease energy use intensity in buildings receiving renovations. By 2022, Davis-Gary, Moses, and Hart will be the only Northside residence halls that have not received HVAC upgrades.

Southside Non-Corps of Cadets Housing Renovation Timeline



The timeline above outlines major HVAC and DHW renovations to non-Corps of Cadets Southside dormitories. Energy savings from renovations before FY2017 are represented in the FY2017 data in this chapter's figures. It is anticipated that planned HVAC renovations will decrease energy use intensity in buildings receiving renovations. By 2022, Dunn Hall will be the only Southside residence hall that has not received HVAC or DHW upgrades.

wide energy conservation initiatives, DRL should investigate the potential of energy retrofits in these buildings to bring them in line with the operation of other on-campus housing facilities.

Hart, Walton, and Dunn halls are also omitted from the list of planned renovations. While all three of these halls operated below EUI 174 in FY2017, it is advisable to investigate energy conservation strategies in these halls as well, particularly Dunn Hall which operated at EUI 159 and likely has additional room for improvement.

Rudder Hall's HVAC was upgraded in 2017 but did not impact typical housing operations as work occurred during breaks. Because this analysis uses FY2017 data, it's likely that energy savings from Rudder Hall's HVAC upgrades are not captured in the analysis. DRL should compare Rudder Hall's FY2017 EUI with its FY2018 EUI to understand the impact HVAC upgrades had on the operations of this hall.

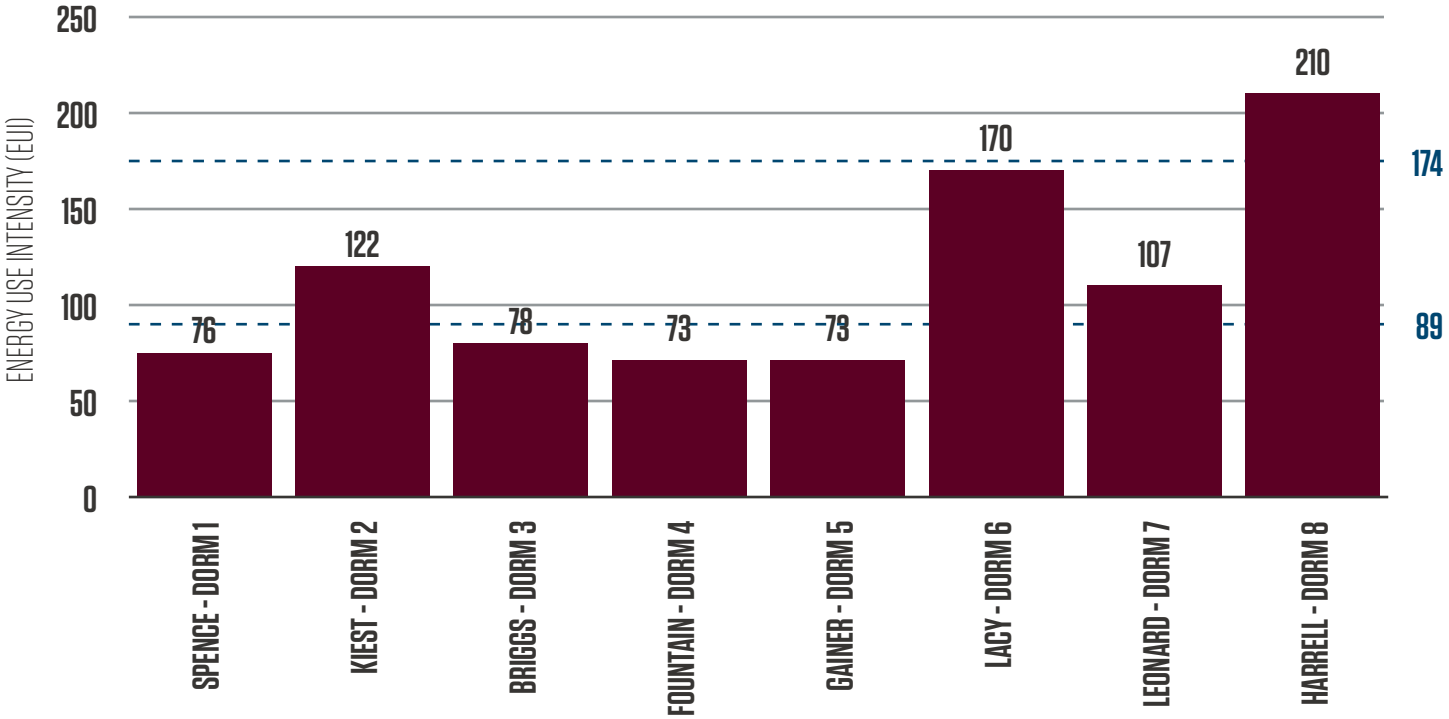
03-3: Continue to evaluate Corps of Cadets dorms post-renovation to ensure efficient EUIs are being achieved in all facilities.

The Corps of Cadets facilities have been significantly renovated in the past several fiscal years to provide state-of-the-art collaboration and teaching spaces within the residence life experience at Texas A&M, upgrade building HVAC systems, and replace existing windows. The following halls were under renovation during FY2017 and were therefore excluded from the EUI study conducted by the planning team:

- Whitely Hall – Dorm 9
- White Hall – Dorm 10
- Harrington Hall – Dorm 11
- Utay Hall – Dorm 12

All other Corps of Cadets facilities were renovated prior to FY2017. As illustrated in Figure 03 below, despite renovations, several of the Corps of Cadets

Figure 03: FY2017 Energy Use Intensity for Corps of Cadets Residence Halls



This chart illustrates the energy use intensity of all Corps of Cadets Residence Halls that were not under construction in FY2017. Two benchmarks are provided for comparison in blue dashed lines. EUI 174 is UES's campus-scale medium term target for campus energy consumption as a whole while EUI 89 is the 2003 CBECS benchmark for residence halls and dormitories.

residence halls operate above the 2003 CBECS average for residence halls and dormitories and one, Harrell Hall - Dorm 8, operates above the EUI 174 threshold.

As the planning team investigated DRL's utility bills, discussions with UES made it clear that metering for the Corp of Cadets residences that are connected to the Living Learning Centers (LLCs) have interconnected metering. In these cases a main meter tracks the energy consumption of multiple facilities with sub-meters provided for one or more of the facilities under the main meter. In some cases one or more sub-meters must be subtracted from a main meter in order to establish the consumption of each individual facility.

UES has confirmed the following utility interconnections among Corps of Cadets residence halls and associated LLCs:

Electricity

- Spence Hall – Dorm 1, Briggs Hall – Dorm 3, and Ash II LLC
- Kiest Hall – Dorm 2, Fountain Hall – Dorm 4, and Plank LLC
- Gainer Hall – Dorm 5, Leonard Hall – Dorm 7, and Ash LLC
- Lacy Hall – Dorm 6, Harrell Hall - Dorm 8, and Buzbee LLC

Chilled Water

- Ash II LLC and Spence Hall – Dorm 1

Heating Hot Water

- Ash II LLC and Spence Hall – Dorm 1

At the conclusion of this study it is unclear whether the interconnected metering is at all related to the increased energy consumption of Kiest Hall - Dorm 2, Lacy Hall - Dorm 6, Leonard Hall - Dorm 7, or Harrell Hall - Dorm 8. It is notable, however, that Lacy Hall - Dorm 6, Harrell Hall - Dorm 8, and Buzbee LLC have interconnected electricity metering and both residence halls in that trio have more than double the average EUI of the other Corps of Cadets dorms. Further investigation of the interconnection among those three facilities is warranted to determine and correct the cause of the increased energy consumption documented in FY2017.

DRL should continue to evaluate the EUI of the Corps of Cadets facilities against one another in addition to comparing the year-over-year utility consumption of each building monthly to identify where individual halls may be experiencing performance challenges and require maintenance to conserve energy.

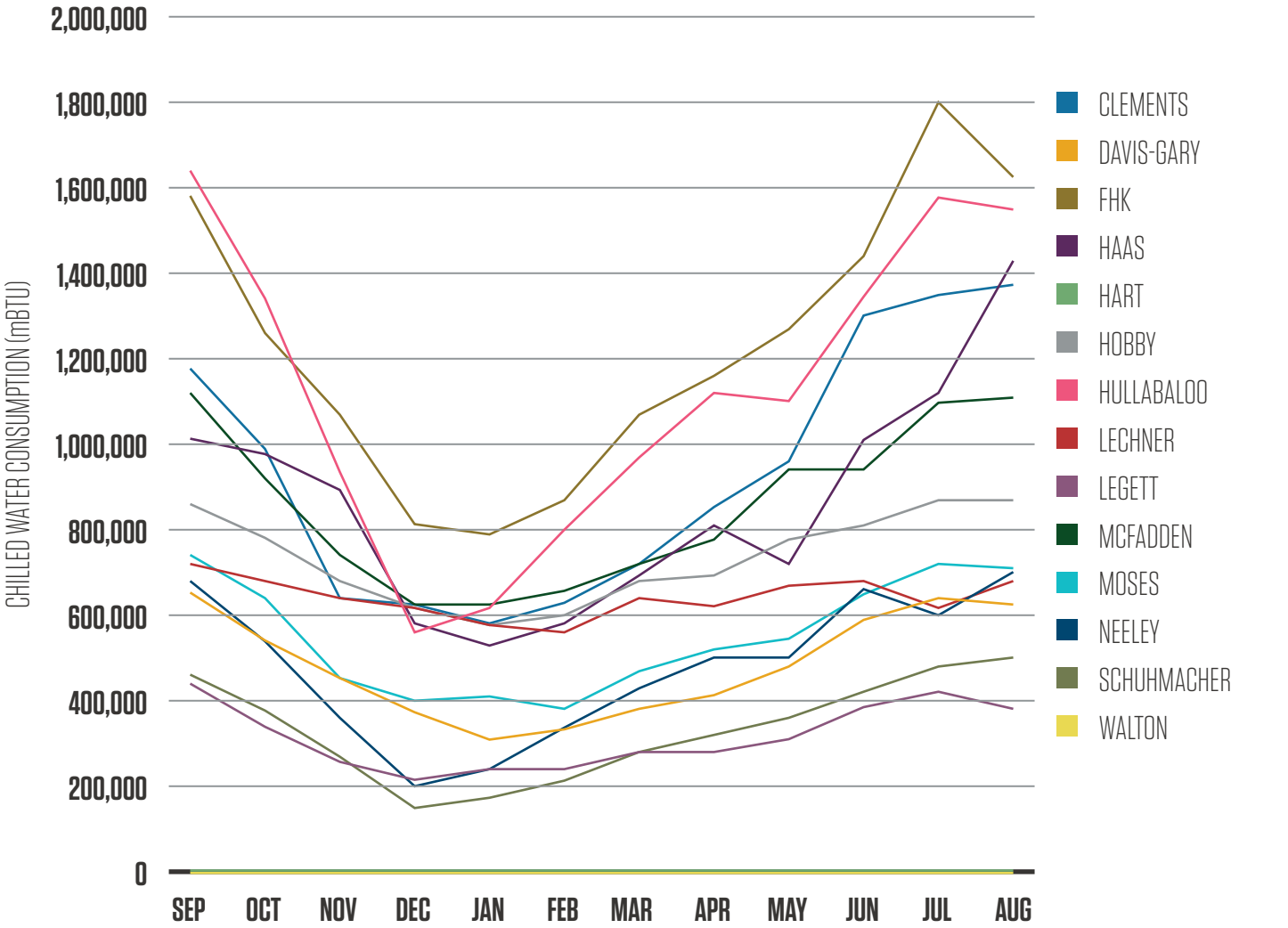
03-4: Evaluate which halls have the lowest summer energy use intensity and consider moving summer occupants to facilities with the lowest summer EUIs.

Texas A&M residence halls do not use the same amount of chilled water or electricity to provide cooling in the summer months; some facilities are more energy intensive to cool than others. To optimize annual utility costs, DRL should use the utility dashboard deliverable created as part of this 2018 Residence Life Sustainability Plan to evaluate the energy efficiency of their facilities in June, July, and August and prioritize the use of less energy intensive facilities for summer programs.

In FY2017, for example, Schuhmacher and Davis-Gary had the lowest chilled water consumption of Northside residence halls not under renovation in FY2017 that use chilled water. If these facilities housed summer programs and still maintained the lowest consumption, that would suggest housing summer programs within them is an efficient use of resources.

A more robust study of summer utility data and summer programming could be suggested to a future UChallenge team as an opportunity to increase the efficiency of DRL's operations. This experience would give students the opportunity to use DRL's data to advance their education and simultaneously provide a beneficial study to DRL.

Figure 04: FY2017 Chilled Water Consumption in Northside Residence Halls



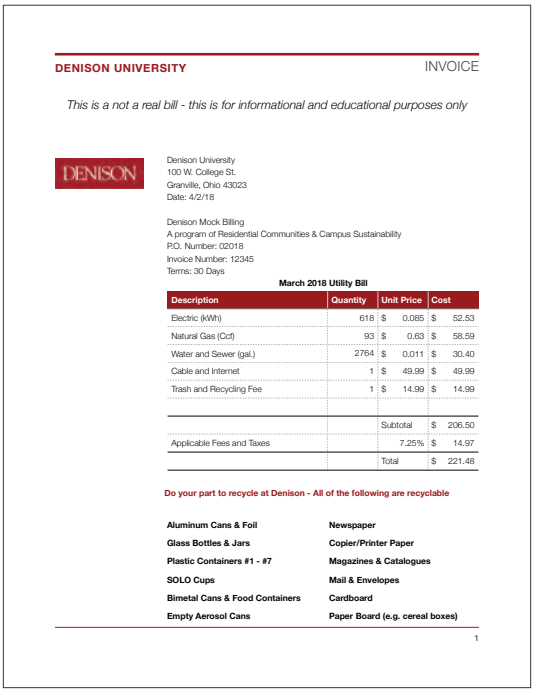
One of the deliverables of this 2018 Residence Life Sustainability Plan is a utility dashboard which DRL can use to compare the energy consumption of its facilities by neighborhood, building type, and year in addition to viewing the portfolio as a whole. The graph above illustrates FY2017 chilled water consumption in Northside residence halls and easily identifies which halls had the lowest summer consumption.

03-5: Evaluate and implement strategies to simulate energy bills for residents to encourage conservation.

While all on-campus residents pay for their utilities, only some receive a monthly bill for the individual consumption of their units. While most on-campus residents' energy consumption is amortized across the entire population of on-campus residents, some residents in The Gardens pay a separate electricity bill. While the EUI calculated for the The Gardens Apartments does not include the energy paid for directly by residents, the EUI of those facilities is substantially lower than the EUI established for White Creek which are the same apartment unit typology as The Gardens.

The electricity consumption of The Gardens would have to be astronomical in order to bring the EUI of those facilities up to the level of energy consumption at White Creek which suggests that paying a bill directly correlates to more energy efficient resident decisions about energy consuming behaviors.

DRL should investigate strategies to mock bill residents for their consumption. While such a practice might take many forms, similar programs at other institutions, including at Denison University in Ohio, use the monthly consumption of each utility in each building and divide it equally across the total number of beds in the given building. Each resident of the same building, therefore, receives the same monthly utility "bill," but no financial business is actually contracted - mock bills are clearly labeled "for education only."



DENISON UNIVERSITY INVOICE

This is a not a real bill - this is for informational and educational purposes only

DENISON

Denison University
100 W. College St.
Granville, Ohio 43023
Date: 4/2/18

Denison Mock Billing
A program of Residential Communities & Campus Sustainability
P.O. Number: 02018
Invoice Number: 12345
Terms: 30 Days

March 2018 Utility Bill

Description	Quantity	Unit Price	Cost
Electric (kWh)	618	$ 0.085	$ 52.53
Natural Gas (Ccf)	93	$ 0.63	$ 58.59
Water and Sewer (gal.)	2764	$ 0.011	$ 30.40
Cable and Internet	1	$ 49.99	$ 49.99
Trash and Recycling Fee	1	$ 14.99	$ 14.99
		Subtotal	$ 206.50
Applicable Fees and Taxes		7.25%	$ 14.97
		Total	$ 221.48

Do your part to recycle at Denison - All of the following are recyclable

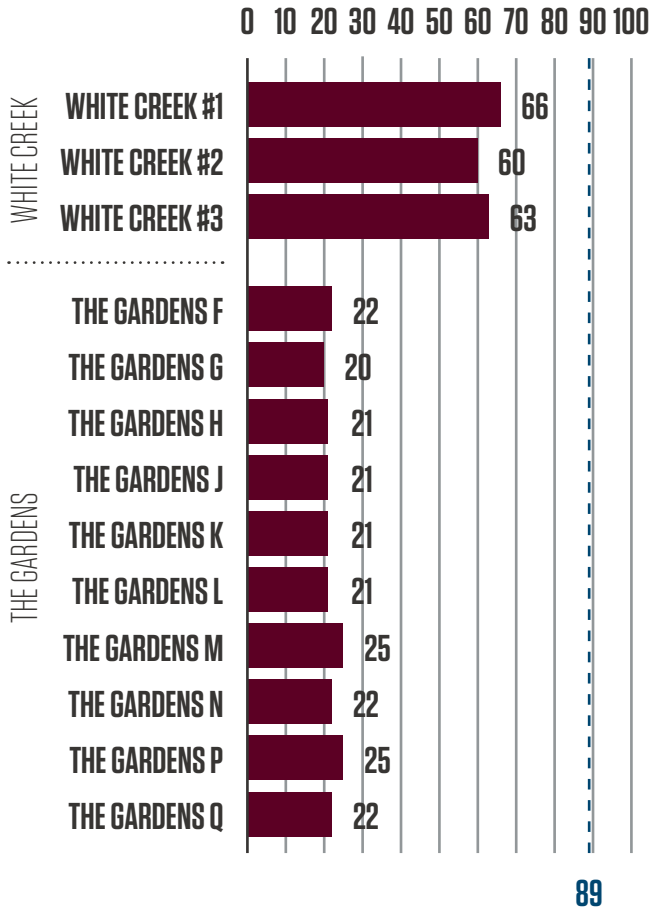
Aluminum Cans & Foil	**Newspaper**
Glass Bottles & Jars	**Copier/Printer Paper**
Plastic Containers #1 - #7	**Magazines & Catalogues**
SOLO Cups	**Mail & Envelopes**
Bimetal Cans & Food Containers	**Cardboard**
Empty Aerosol Cans	**Paper Board (e.g. cereal boxes)**

1

Mock bills such as the one above are shared via a monthly email to Denison University students to encourage energy efficient behaviors in their residence halls.

Denison University did not have data available to indicate whether mock billing resulted in actual energy conservation It would be difficult to isolate whether appreciable energy savings are generated via mock billing at Texas A&M University given the number of other energy interventions DRL is advancing, but the practice provides a valuable educational tool to prepare on-campus residents for post-graduation life where utility bills are a real part of monthly financial management.

Figure 05: FY2017 Energy Use Intensity for Apartment Style Units



The figure above illustrates the FY2017 EUIs of White Creek and The Gardens. Some residents of The Gardens pay a separate electricity bill whose data is not included in the EUI above, but based on typical consumption The Gardens Apartments have substantially lower EUIs than White Creek Apartments, which suggests that paying a bill influences energy-consuming behaviors.

03-6: Calculate EUI for each building annually.

The utility dashboard deliverable included as part of this 2018 Residence Life Sustainability Plan will support DRL in calculating the energy use intensity (EUI) of each of their facilities annually. Tracking this statistic over time will:

- Allow DRL to compare each building to its peers on campus.
- Allow DRL to track an overall portfolio EUI and compare it to the campus-wide target EUI established by the 2018 Sustainability Master Plan.
- Illustrate the impact of energy conservation measures undertaken by DRL.
- Suggest future opportunities for energy efficiency retrofits.
- Identify facilities that need energy investigations and retro-commissioning.

See Figures 01 and 02 for the EUIs of all DRL facilities and all on-campus housing facilities in FY2017.

03-7: Decrease DRL's EUI from a FY2017 baseline of 136 to 123 by FY2022.

Figure 02 illustrates the EUI of each DRL housing facility. The average EUI across the square footage of all on-campus housing in FY2017 is 136 kBTU / sf / year. Nine buildings have planned energy efficiency retrofits between now and FY2022 which should make a 10% reduction in EUI achievable. The target is therefore set for DRL to achieve an EUI of 123 across its housing facilities by FY2022.

In addition to reducing energy consumption and expenses within the DRL portfolio, achieving an EUI of 123 across DRL's housing facilities will show significant leadership beyond campus's medium term EUI goal. Because DRL already has a number of energy efficiency projects in the pipeline, DRL is able to be more nimble than Texas A&M as a whole to advance energy conservation on campus. Continuing this leadership on campus advances Texas A&M's relationship with campus sustainability goals.

This page intentionally left blank.

04 STORMWATER MANAGEMENT

Campus hardscapes and building alter the hydrologic cycle. Stormwater management practices work to bring the campus environment into balance with its exterior water resources by increasing infiltration and stormwater retention and decreasing runoff.

Stormwater management at Texas A&M is achieved through the combined efforts of Utility and Energy Services, Environmental Health and Safety, and the University's grounds maintenance contractor. Because the Department of Residence Life is a client to the stormwater management services provided by these entities, this chapter of the 2018 Residence Life Sustainability Plan has only one recommendation:

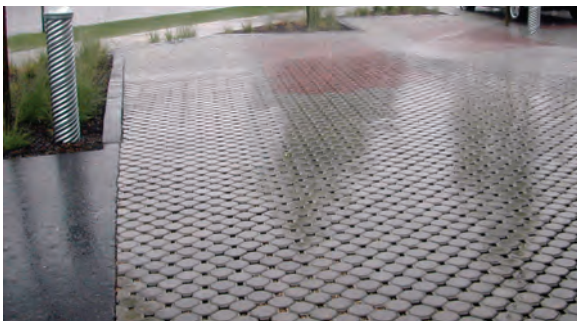
04-1: Continue to support campus-wide efforts to achieve better stormwater management by embracing strategies articulated by the 2017 Campus Master Plan.

The general intent for stormwater management's evolution at Texas A&M is to transition from primarily civil engineering solutions for stormwater management (ie, collect water in pipes and funnel it away below grade) toward primarily green infrastructure solutions that will use landscape solutions to manage stormwater. Beyond meeting stormwater management requirements, this transition is intended to beautify campus and enhance the campus experience through working landscapes.

The 2017 CMP identifies the necessity to manage stormwater at a variety of scales - the campus scale, the character zone scale, and the project scale. DRL facilities exist in a variety of 2017 CMP character zones including West Campus, Northside, Southside, and Hensel Park which roughly align with the four on-campus housing neighborhoods described by this plan. The 2017 Campus Master Plan describes which stormwater management strategies are most desirable

Rain Garden

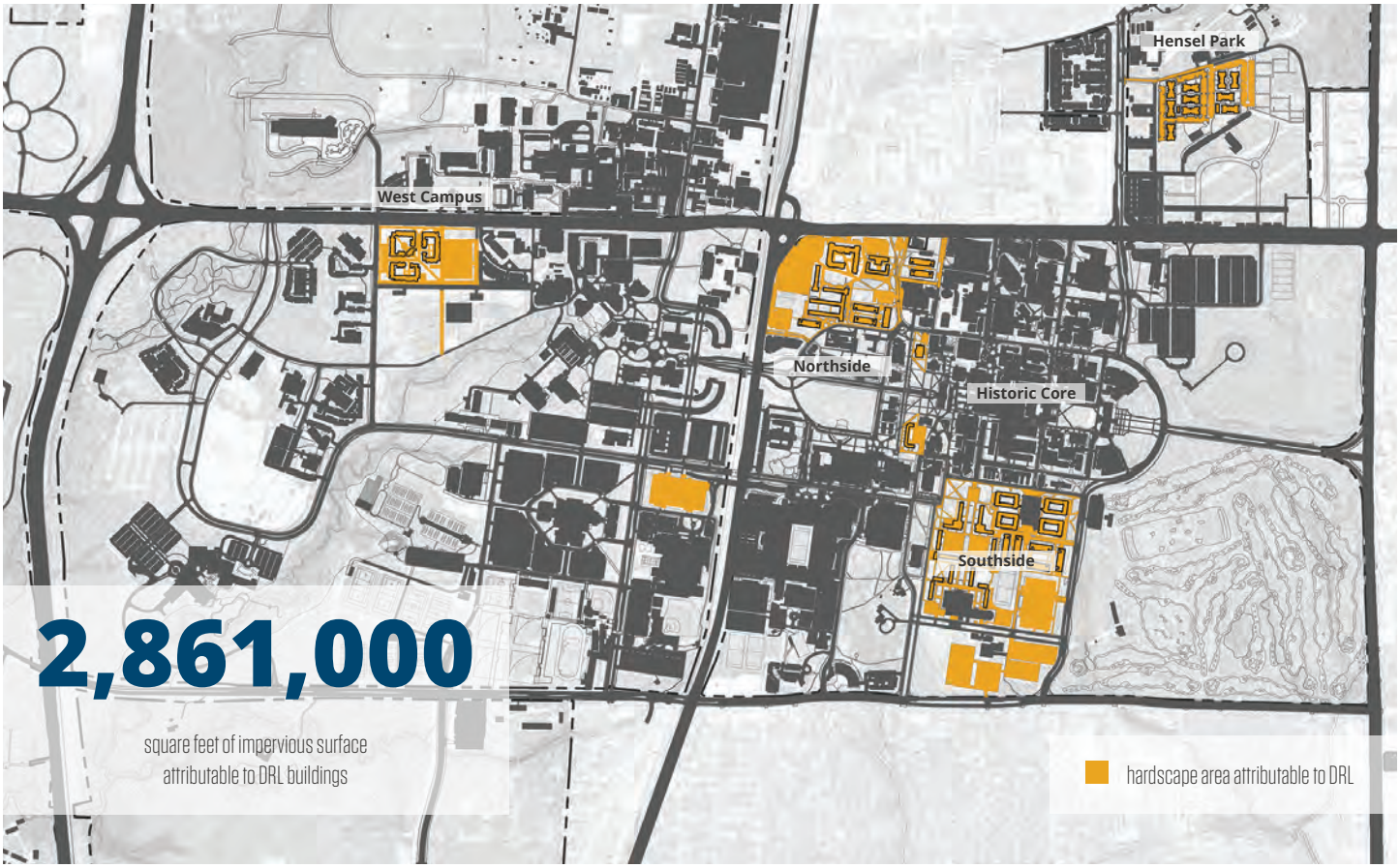
Bioswales



Permeable Paving

in each character zone to produce the elevated campus environment envisioned.

As was accomplished during White Creek's development, DRL should continue to encourage the incorporation of these strategies within residence life facilities when new facilities are constructed as well as when existing facilities receive major renovations. Chapter 05 of the 2017 Campus Master Plan contains more specific information about each one of the Best Management Practices identified in the chart below as well as the various pros and cons associated with each practice. Some strategies will require more ongoing maintenance than others to ensure continuous operation.



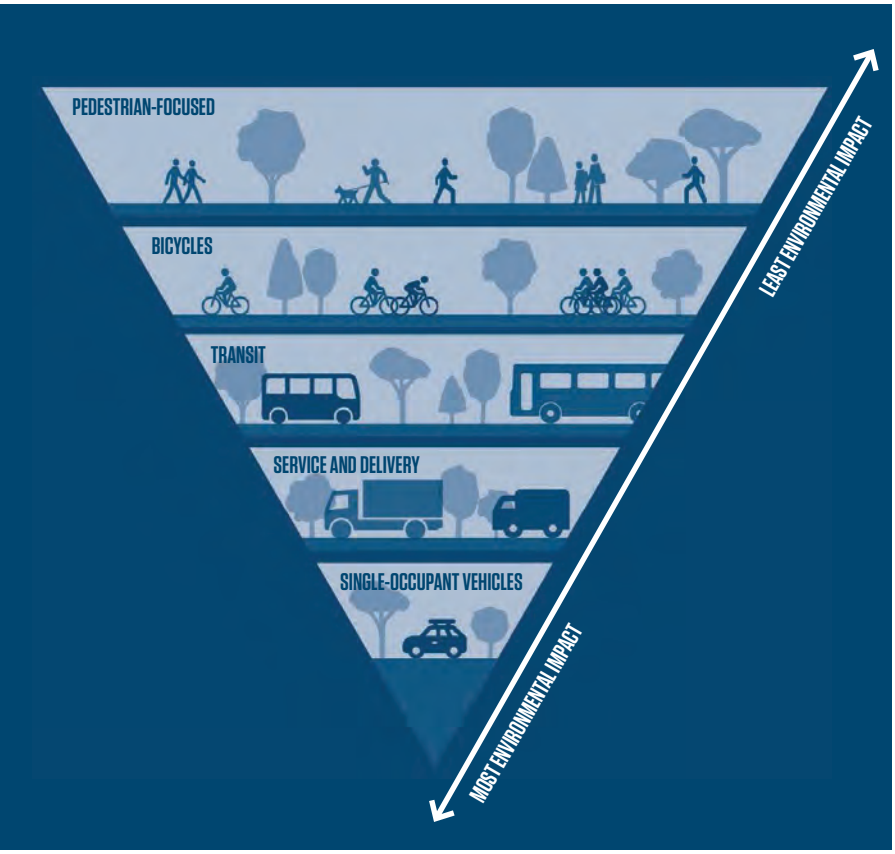
This diagram illustrates the impervious footprint of DRL facilities at Texas A&M University and the 2017 CMP character zones DRL facilities are located within. Efforts to transition to parking garages in lieu of surface parking and landscape-based stormwater management strategies will illustrate DRL's support for Texas A&M's broader stormwater management goals.

BMP Priority Locations		Best Management Practices (BMPs)						
		Bioswales & Rain Gardens	Dry Pond	Permeable Paving	Wet Pond	Tree Wells & Trenches	Rainwater Harvesting	Green Roofs
Character Zone	Hensel Park	*		*	*	*	*	*
	Southside	*		*		*	*	*
	Historic Core	*		*		*	*	*
	Northside	*		*		*	*	*
	West Campus	*		*	*	*	*	*

This chart summarizes the BMPs described above and what character zones they are most appropriately used within. The University should evaluate this guidance with design teams on a case-by-case basis and ensure appropriate maintenance protocols are developed to realize the long-term value of these strategies.

05 CAMPUS MOBILITY

Mobility on Texas A&M's campus is a complex and intricate network of systems that move over 60,000 students, faculty, and staff around campus and the College Station-Bryan metropolitan area daily.



The 2017 Campus Master Plan relies on a hierarchical mobility structure focused primarily on pedestrian safety. The diagram above displays the mobility hierarchy and includes the primary means of mobility. The preferred travel modes for campus users are walking, biking, and on-campus transit. These modes have the lowest environmental impact and support campus wellness initiatives.

63%
of on-campus residents have cars on campus.

The University is focused on creating a pedestrian-focused campus that enhances the experiences of campus users, promotes safety for pedestrians and bicyclists, and places less emphasis on single occupancy vehicles. This campus mobility evolution will create a more sustainable campus and produce fewer emissions traveling to, from, and around campus each day.

The 2017 Campus Master Plan relocates interior surface parking lots to structured parking along the campus perimeter and replaces these interstitial lots with green, open space and new buildings. The interior area of the campus is referred to as the pedestrian priority zone, which places emphasis on pedestrians and bicyclists and away from single occupancy vehicles through enhanced pedestrian malls, new and enhanced protected bicycle lanes, and limited access roadways which only allow access to service and emergency vehicles, and those with disability parking needs.

As the pedestrian priority zone of the campus increases in size, and fewer single occupancy vehicles are driven within campus, the need for a more robust and cohesive bicycle network and transit system increases. Much of the existing bicycle and transit system focuses on how to move off-campus residents to campus without using single occupancy vehicles, but many on-campus residents similarly rely on bicycles and transit to travel around campus's 5,200 acres each day.

Transportation Services estimates that 63% of on-campus residents have cars on campus. Residents

expressed that while they do not use their cars every day to move around campus, they still felt they needed a car to conveniently take infrequent trips to off-campus destinations. These infrequent trips are mostly errand-type activities such as grocery shopping and getting a haircut and typically occur on the weekends.

In addition to discussions with students and staff, the planning team analyzed on-campus transit access using LEEDv4's Alternative Transportation Access credit as a benchmark because the 2017 Campus Master Plan articulates a hybrid strategy that aims to align the most appropriate portions of LEED 2009, LEEDv4, and SITES in the on-going development of campus lands. LEEDv4's Alternative Transportation Access credit evaluates how many times a bus stops on weekdays (Monday - Friday) and weekend days (Saturday or Sunday) within 1/4 mile walk of a building. Three different levels of credit are awarded depending on the threshold of service met:

- Good - 72 weekday, 40 weekend
- Better -144 weekday, 108 weekend
- Best - 360 weekday, 216 weekend

Discussions with students further elaborated on strengths and weaknesses of the existing campus transit system in serving on-campus residents and are reflected in this section's recommendations.

The 1/4 mile walking radii illustrated show the number of transit stops accessible within walking distance of each residence. Northside has the greatest access to transit as a result of its proximity to the Memorial Student Center transit hub, but it is also within walking distance of almost anything residents need to regularly access.

Neighborhood	Weekdays	Weekends	Time to Rec Center (weekday)	Time to HEB (weekend)
Northside	529	45	20 mins +	30 mins +
Southside	92	14	25 mins +	25 mins +
White Creek (West Campus)	118	31	20 mins +	45 mins +
The Gardens	71	14	20 mins +	40 mins +
Park West (off-campus development)	165	9	5 mins +	55 mins +

LEEDv4 establishes good, better, and best in class levels of public transportation access depending on how frequently a bus stops within 1/4 mile of a building. As indicated above, on-campus neighborhoods have varying capacity to meet these thresholds and can have difficulty competing with transit access in adjacent off-campus communities.

To improve campus mobility for on-campus residents DRL should continue to collaborate with Transportation Services to:

05-1: Create equitable access to on-campus destinations including the Student Recreation Center across on-campus communities.

In general, students reported feeling well-served by campus transit while making trips from on-campus to on-campus destinations. The Student Recreation Center was a notable exception to this sentiment and every focus group expressed frustration with accessing this amenity from on-campus housing neighborhoods.

Transportation Services should explore the viability of an on-campus circulator that stops at one central point in each on-campus neighborhood as well as the Student Recreation Center throughout the day to address this gap in service coverage.

05-2: Create equitable access to off-campus destinations including the grocery store and First Friday in Bryan across on-campus communities.

On-campus residents felt underserved by campus transit that goes to off-campus destinations. The off-campus transit system is primarily focused on getting students who live in off-campus developments onto the campus and back home. Many on-campus students expressed a need for additional off-campus routes to local businesses and community events, especially on weekends.

Many students expressed a desire to use campus or public transportation to get to First Friday in Downtown Bryan. There is currently no Texas A&M route that goes from Texas A&M to Downtown Bryan. There is one Brazos Transit District route that connects Texas A&M and Downtown Bryan; however, it requires a transfer at Texas Avenue Transfer Point and the buses only run until 7:00pm on weekdays.

Every focus group also identified the grocery store as a common off-campus destination on weekends, especially for apartment-dwellers, but that because service runs infrequently it is inconvenient to use the bus system to access the grocery store. Residents also noted that the direct bus line to the grocery store leaves from the Memorial Student Center which either requires a transfer from bus lines with greater proximity to student housing or carrying groceries long distances, both of which further limit the viability of using the campus bus system to obtain groceries.

05-3: Consider adding bikeshare as an opt-in fee for on-campus residents.

Most on-campus residents indicated that they have personal bikes on campus. Residents expressed that while they do not use their bikes every day to move around the campus, they still felt they needed a bike on-campus for occasional rides. Transportation Services and Masters of Urban Planning students recently completed a study on biking at Texas A&M which estimated that approximately 6,000 bikes are brought to the university each year, but that at any given time there are only about 2,000 bikes being used on the campus. The majority of bikes brought to campus are sitting in bike racks and eventually abandoned.

Many students who did not have bikes on campus expressed that they would use a bike if it were available to them on the occasional basis, and many students noted that they would bike more if the roadways and bicycle lanes were safer for bicyclists both on- and off-campus.

As this plan's student engagement was developing, the dockless bikeshare pilot had just launched at Texas A&M University and the planning team was able to learn early insights from residents about the program. In general, students felt favorably about

the program although several expressed frustrations with bicyclists taking it too literally that the bikes could be left "anywhere" on campus. In general those complaints indicated that a sufficient number of bicycles were being left in the center of pedestrian paths to create a safety and congestion concern. As the Fall 2018 semester began and an increased number of bicycles entered the bikeshare program, Transportation Services reported significant advancements. The program is phenomenally well utilized with rides per day are exceeding program expectations.

To encourage new on-campus residents to leave their personal bicycles at home, DRL should consider adding bikeshare membership as an optional fee for on-campus residents when they complete their housing contracts. If students are aware that bicycles will be available to them on campus, casual riders may choose to leave their bicycles at home and use the bikeshare service which will reduce some of the current congestion between personal and bikeshare bicycles as well as reduce the number of personal bikes abandoned and impounded.

To support DRL in increasing resident awareness of the bike share program, one of the poster deliverables of this 2018 Residence Life Sustainability Plan focuses on the topic. The poster illustrates the economic reasons to subscribe to bikeshare in lieu of using a personal bicycle and provides directions on how to join the bikeshare program.

05-4: Continue evaluating how to balance recommendations of the 2017 Campus Master Plan with on-campus residents' parking needs.

The 2017 Campus Master Plan recommends the removal of a number of interstitial surface parking lots as well as the transition of a number of surface parking lots to structured parking. Parking is an important amenity to on-campus residents in addition to providing critical access to residences during move-in and move-out.

Of the surface lots slated for removal or replacement, the following will have the largest impact on on-campus residents :

- Lot 122A adjacent to the White Creek Apartments is targeted for replacement as structured parking.
- Lot 30A adjacent to Hullabaloo Hall is targeted for removal and transition into green space.
- Lot 32 in the Northside community is targeted for removal and transition into green space.
- Lots 40b, 40c, and 40d in the Southside community are targeted for removal and transition intro structured parking and a new Southside housing precinct.

As these evolutions are further developed, DRL should work closely with Transportation Services and the Office of the University Architect to ensure move-in and move-out can be facilitated as smoothly as possible at all points of the development and that the construction of any structured parking minimizes disruptions to residents. DRL should advocate for on-campus resident parking permits that provide the greatest accessibility between residences and on-campus parking amenities as this is a notable differentiator between on- and off-campus housing situations.

06 BUILT ENVIRONMENT & SITE DESIGN

DRL facilities and landscapes support robust on-campus living experiences for Aggies.

At a campus scale, issues of sustainability in the built environment primarily address issues of architectural guidelines, representation in public and civic spaces, and irrigation. Not all of these issues scale well to the Department of Residence Life's scope of influence. Through this planning exercise, it was determined that sustainability in the built environment and site design for DRL includes issues of indoor potable water consumption, the design of amenity spaces, and representation in public and civic spaces.

Water consumption in DRL facilities includes both domestic hot and cold water in toilets, sinks, showers, and laundry facilities provided by Utilities & Energy Services (UES). UES trends the building portfolio's monthly consumption and establishes DRL's utility rates annually. In FY2018, utilities for DRL totaled $7.6 million which has to be accommodated by student rent rates. Controlling utility expenses is one way to stabilize rent rates and make on-campus housing cost competitive with off-campus housing.

The planning team used building-by-building utility consumption data for FY2017 provided by DRL to establish a water use intensity (WUI) for each DRL on-campus housing facility. WUI can be established against many baselines including building square footage and bed count. For the purposes of this study it was most useful to establish an indoor water use consumption statistic against bed count. It should be noted that WUI has been measured against beds available in FY2017 and not beds filled meaning that occupancy rates have not been factored into the calculations. DRL's occupancy rates are typically around 90%, however, so this known limitation in the data is not anticipated to significantly alter conclusions.

The planning team compared WUI data at three scales: all DRL on-campus housing facilities, by neighborhood, and by housing type. For the purposes of this study, the planning team defined four neighborhoods: Northside, Southside, The Gardens, and White Creek. The Corps of Cadets residence halls are sometimes included in the Southside neighborhood and where appropriate separated as their own neighborhood. The planning team defined seven housing types: apartments, balcony, corridor, commons, modular, ramp, and Hullabaloo Hall.

See Section 03 - Energy Use and Greenhouse Gas Emissions for diagrams identifying residence halls by neighborhood and by housing type.

Campus scale data was evaluated in two phases: as the raw UES billing data converted into a WUI for each building, and then as a cleaned set of data. *Figure 06: FY2017 Water Use Intensity (WUI) for All DRL Facilities* illustrates the raw data based on the utility bills provided to the planning team by DRL. This data shows anomalies including information on the water consumption of:

- Whitely Hall – Dorm 9
- White Hall – Dorm 10
- Harrington Hall – Dorm 11
- Utay Hall – Dorm 12
- Buzbee LLC

- Ash LLC
- Plank LLC
- Ash II LLC
- 1461 Activity Building
- Univ. Apartments Community Center

Whitely Hall – Dorm 9, White Hall – Dorm 10, Harrington Hall – Dorm 11, and Utay Hall – Dorm 12, were all under construction during FY2017 and as a result the WUI established by the utility bills for those buildings is not representative of typical usage. The remaining buildings listed are not programmed as residence halls or dormitories despite being within DRL's portfolio. Buzbee LLC, Ash LLC, Plank LLC, and Ash II LLC are principally classroom and assembly spaces with one of them including a retail food service establishment. The University Apartments Community Center and 1461 Activity Building are non-residential support spaces including office space and assembly areas.

Because this study established WUI against bed count, the water consumption of these buildings or spaces was removed because their programming does not include beds. Laundry at The Gardens remained in the WUI analysis as this building's water consumption – laundry – is a critical part of residence life at The Gardens and could be averaged across the total bed count at The Gardens.

Fowler, Hughes, and Keathley (collectively known as FHK) are metered collectively and UES attributes a percentage of that usage to each building based on square footage. Because of this metering set up, data from this complex is presented as one FHK statistic on water use intensity. *Figure 07: FY2017 Water Use Intensity for DRL Housing Facilities (Excluding Buildings Under Major Renovation and Non-Residential Buildings)* illustrates the campus scale study of WUI data.

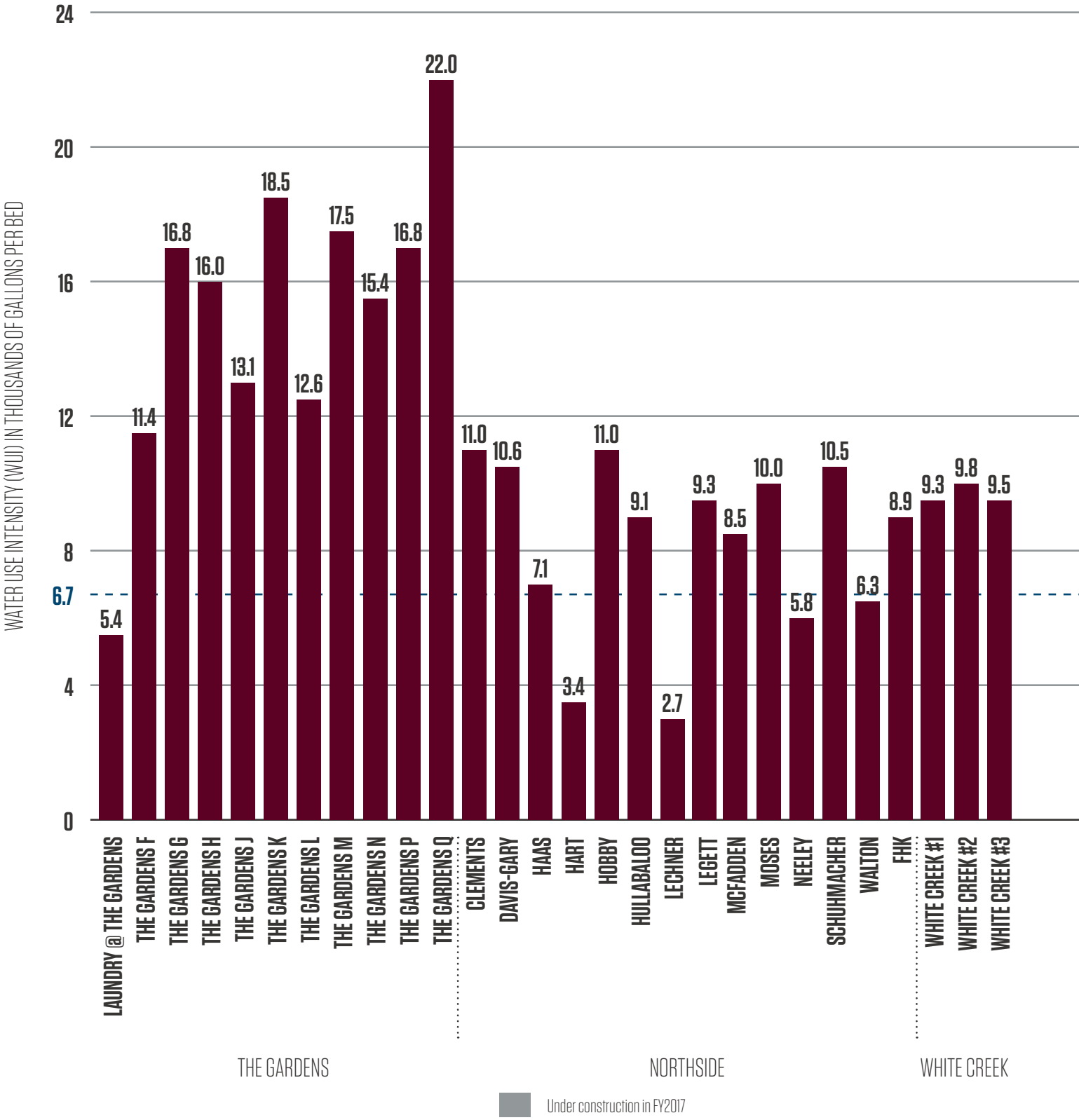
No nationwide benchmark on water consumption in residence halls exists, although the US EPA reports the average American family consumes 300 gallons of water per day (109,500 gallons of water per year) at home. Assuming a family of four, this equates to 27,375 gallons of water per bed annually which is more than double DRL's FY2017 WUI. The American family rate reported by the US EPA likely includes a washing machine and a dishwasher per every residence which is not true for DRL facilities. This difference in amenities between the typical American home and most on-campus residences likely accounts for the difference between the DRL WUI and the WUI of the typical American family.

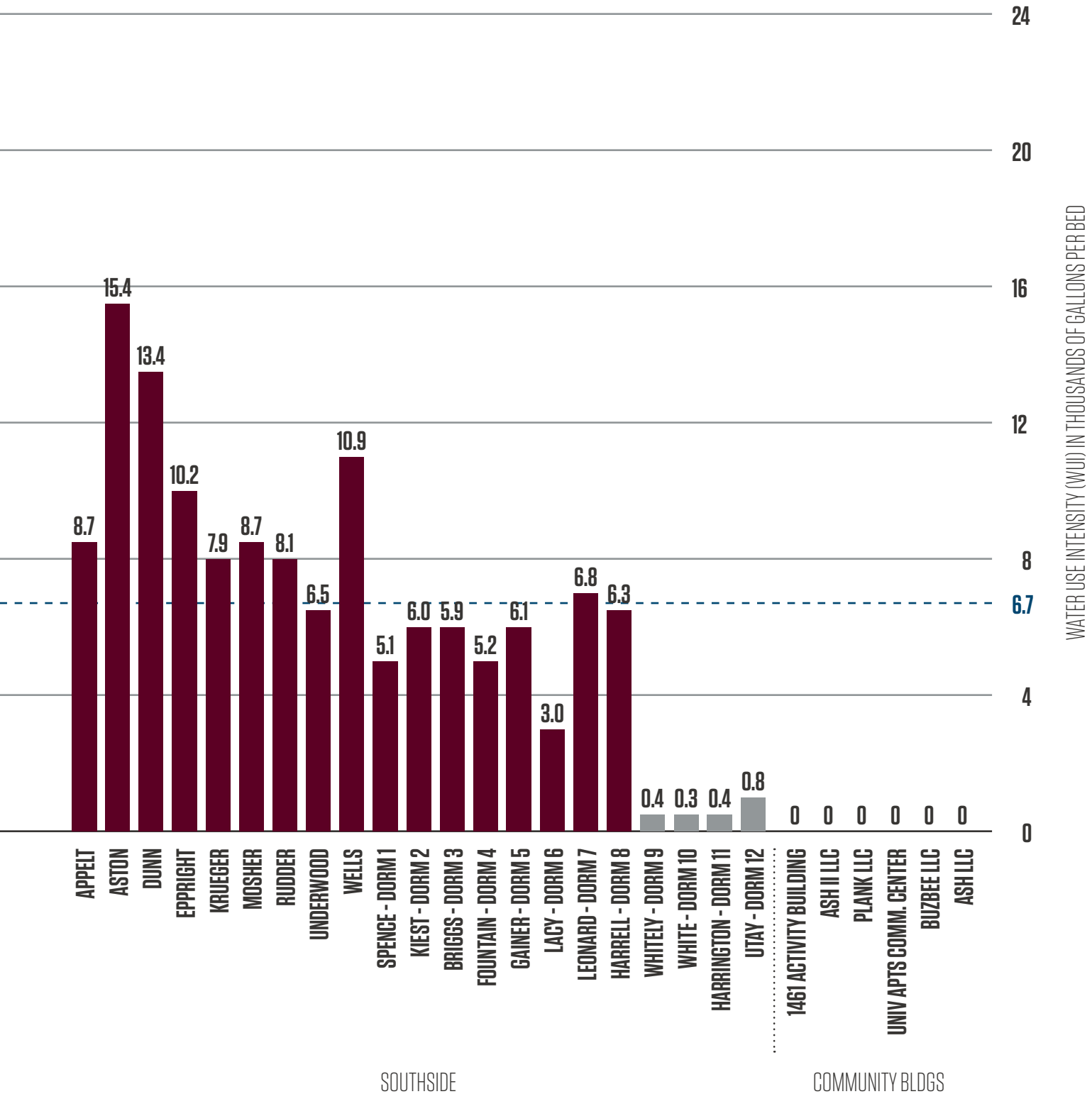
In FY2017, on-campus residents consumed 77,056,824 gallons of potable water in residence halls. In the absence of a national average on potable water consumption per residence hall bed or another industry benchmark, the planning team is using the FY2017 average WUI of 6,700 gallons of potable water per bed to establish targets for future potable water conservation.

On-Campus Residents' Water Consumption

On-campus residents use enough water to fill Kyle Field every four years. Better educating on-campus residents about their water use behaviors can help conserve resources.

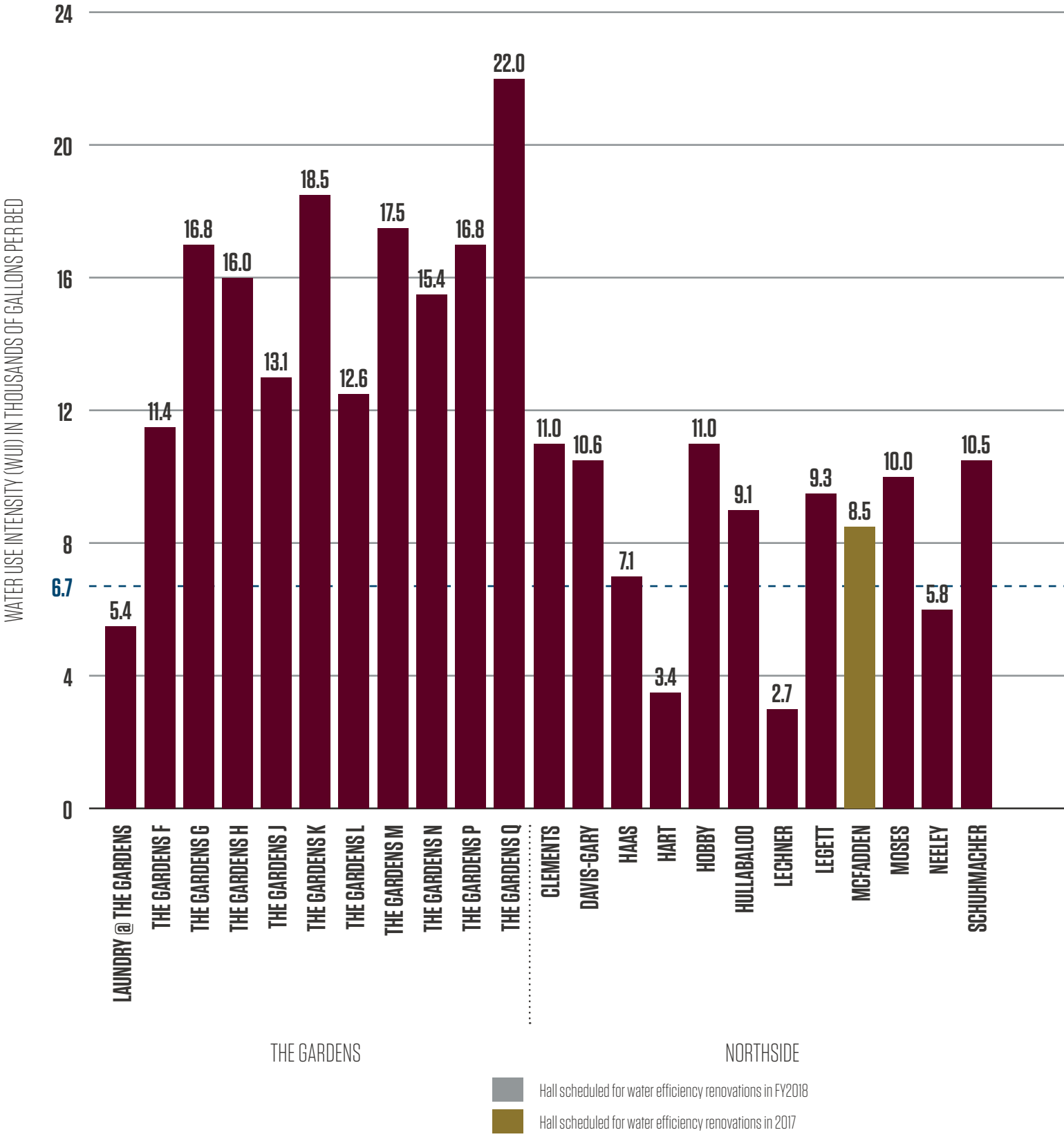
Figure 06: FY2017 Water Use Intensity (WUI) for All DRL Facilities

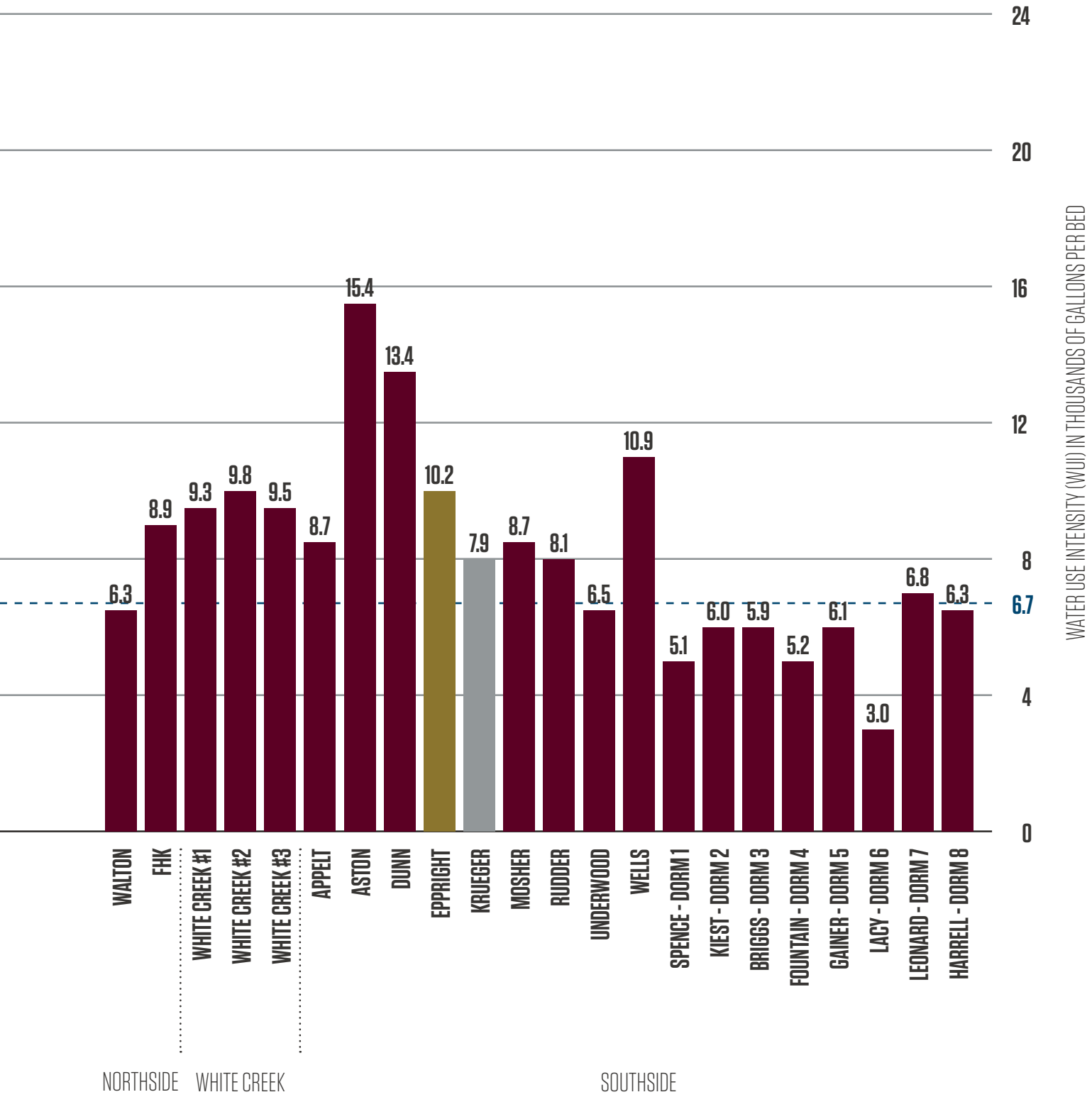




This chart illustrates the water use intensity of all DRL facilities for FY2017. The benchmark provided for comparison in the blue dashed line is the average potable water consumption per bed in on-campus housing facilities at Texas A&M University during FY2017.

Figure 07: FY2017 Water Use Intensity (WUI) for All DRL Facilities (Excluding Buildings Under Major Renovation and Non-Residential Buildings)





This chart illustrates the water use intensity of all DRL housing facilities for FY2017. The benchmark provided for comparison in the blue dashed line is the average potable water consumption per bed in on-campus housing facilities at Texas A&M University during FY2017.

06-1: Complete water efficiency upgrades across all housing facilities after energy upgrades are completed.

DRL has undertaken significant HVAC upgrades across its facilities to improve energy performance and has substantial plans to do more in coming fiscal years. It is logical that such renovations should occur before water efficiency upgrades as HVAC upgrades will produce a faster return on investment than water efficiency efforts, but once HVAC upgrades have been completed across all facilities, the next logical investment is in water efficiency upgrades.

In DRL residences, domestic water is primarily used in:

- bathroom lavatories
- kitchen faucets
- water closets
- showerheads

Using LEED v4 as a benchmark because the 2017 Campus Master Plan articulates a strategy to identify the most appropriate components of LEED 2009, LEEDv4, and SITES for incorporation into future campus development, the following flush and flow rates should be considered baselines:

- public bathroom lavatories: 0.5 gpm
- private bathroom lavatories: 2.2 gpm
- kitchen faucets: 2.2 gpm
- water closets: 1.6 gpf
- showerheads: 2.5 gpm

To advance water conservation measures, DRL should consider replacing existing fixtures with low-flow fixtures that provide similar levels of performance but use less water. DRL should aim to target the following flush and flow rates in new fixtures:

- public bathroom lavatories: 0.35 gpm
- private bathroom lavatories: 1.2 gpm
- kitchen faucets: 1.0 gpm
- water closets: 1.3 gpf
- showerheads: 1.5 gpm

Because this area of the building product marketplace continues to evolve, these target rates should be re-evaluated in the fiscal year during which improvements are happening to ensure the best proven technologies in the marketplace are installed in DRL facilities. DRL should also continue to evaluate the compatibility of low-flow fixtures with existing wastewater plumbing. In retrofit situations in particular, existing wastewater lines may have insufficient slope or require a greater water flow to ensure appropriate drainage and clearance of flush and flow fixtures. Low-flow fixtures should continue to be installed, but should not be advanced if they create long-term operations and maintenance challenges for DRL.

06-2: Evaluate strategies to simulate water bills for residents to encourage conservation

While all on-campus residents pay for their utilities as an integrated part of their rent, none receive a monthly bill for the water consumption of their individual units.

The data on water consumption in residence halls illustrate the impact scheduling and lifestyle has on water consuming behaviors. Figure 08 compares the water consumption per bed in the Corps of Cadets dorms to the water consumption per bed in The Gardens. In the Corps of Cadets, students have strictly regulated schedules and morning showers after unit workouts must fit within a very short timeframe for students to make it to classes on time. By comparison, residents at The Gardens tend to have different kinds of family compositions within the units and have less regimented schedules. The water consumption per bed in The Gardens is significantly greater than in the Corps of Cadets residences. Providing mock billing might help both recognize the resource conserving behaviors of some residents and inspire change in others.

DRL should investigate strategies to mock bill residents for their water consumption and could combine the implementation strategy for this recommendation with the implementation strategy for Recommendation 03-5 on energy consumption.

See Recommendation 03-5 for more information.

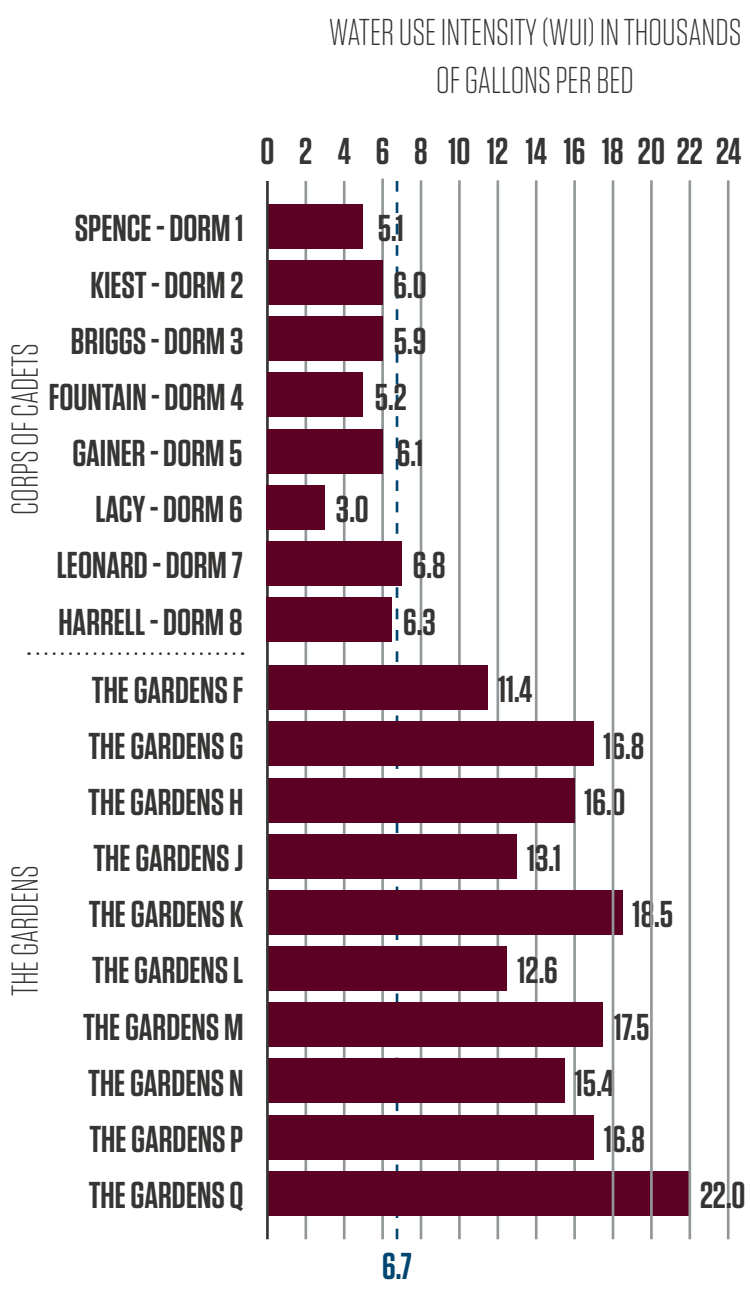
06-3: Calculate WUI for each building annually.

The utility dashboard deliverable included as part of this 2018 Residence Life Sustainability Plan will support DRL in calculating the water use intensity (WUI) of each residence hall annually. Tracking this statistic over time will:

- Allow DRL to compare each building to its peers on campus.
- Allow DRL to track an overall portfolio WUI against Target 05-3 in the 2018 Sustainability Master Plan.
- Suggest future opportunities for water efficiency retrofits.
- Identify facilities that need water investigations.
- Give student feedback about the impacts of their behavior on water consumption.

See Figures 06 and 07 for the WUIs of all DRL facilities and all on-campus housing facilities in FY2017.

Figure 08: FY2017 Water Use Intensity in Corps of Cadets Residences and The Gardens Apartments



The figure above illustrates the FY2017 WUI of the Corps of Cadets residences and The Gardens Apartments. While neither group pays a separate water bill, the regimented schedule and lifestyle of the cadets does produce an appreciable water savings as compared with residents who have more flexible schedules.

06-4: Decrease DRL's WUI from a FY2017 baseline of 6,700 gallons per bed to 6,030 gallons per bed by FY2028.

The analysis of FY2017 water consumption data indicates a baseline water consumption of approximately 6,700 gallons of water per bed, The planning team proposes DRL target a 5% potable water use reduction in the short term and a 10% potable water use in the medium term using a combination of efficiency upgrades and resident education.

This target is intentionally sequenced with a longer timeline than Recommendation 03-1 in alignment with Recommendation 06-1 which prioritizes energy efficiency upgrades prior to water efficiency upgrades.

2018 SMP Target 05-3: Decrease potable water consumption within on-campus residences.

6,700	6,375	6,030
2017	SHORT TERM	MEDIUM TERM

Gallons of Water Consumed Annually per On-Campus Resident

06-5: Increase the number of interior amenity spaces with visual access to the corridor via glazing in doors and/or replacing demising walls with storefront where possible.

DRL has transitioned numerous spaces in existing buildings into lounges and community kitchens for resident use. Especially in older buildings that were constructed without such amenities, the creation of these spaces from former resident rooms is noticed and appreciated by current residents. Community gathering spaces, however, take a variety of forms and have greater and lesser positive impact depending upon their design.

At right, three images illustrate lounge spaces in different residence halls. The top image is a converted resident room and while students indicated such spaces are used for studying, socializing, and Resident Advisor (RA) programming, they also indicated that they are uncomfortable entering these types of spaces because of the solid door and corridor wall. A resident passing by does not know if the room is occupied or not nor if the space is being used principally for studying or socializing and therefore it is difficult for a passing student to determine whether to enter or not.

The second image shows a lounge from one of the Commons residence halls where floor-to-ceiling and wall-to-wall storefront glazing allows visual access to passing residents. RAs indicated this visibility made it easier to draw residents into events and residents report the visibility makes it immediately apparent whether a room is available for studying or socializing with friends.

The last image shows one of the new community gathering spaces available in the LLCs associated with the Southside community and the Corps of Cadets residences. These spaces are well-utilized because

The images above illustrate the wide variety of amenity spaces available within Texas A&M on-campus residences.

they meet a variety of criteria students value in their gathering spaces. Student focus groups specifically identified the following elements as critical to successful indoor community spaces:

- daylight
- views
- power outlets
- technology (printers and strong wi-fi)

Residents identified the following challenges for community spaces in DRL residences:

- lack of views into gathering spaces
- perceived social hierarchies
- lack of furnishings matched to intended activities
- lack of outlets
- mismatched scale of space to scale of activity

As DRL continues to develop interior amenity spaces, it is advisable to keep these student voices in mind. Even in existing community spaces, it may be possible to upgrade corridor doors to include glazing or in more extreme scenarios to replace demising walls between the gathering space and the corridor with interior glazing. Such strategies would significantly address challenges students see in their interior community spaces and elevate the on-campus residence life experience.

Student concerns regarding the lack of views into gathering spaces and perceived social hierarchies are linked, although addressing views to such spaces may not fully address perceptions of social hierarchies. In general, some students noted that when certain members of their community were occupying common spaces they felt more or less comfortable occupying those spaces at the same time. For those who may be more introverted, the lack of views into gathering spaces deters their use because they wish to avoid the discomfort that may come with asserting their right to use such spaces to more extroverted members of their community. Clear sightlines into common spaces would help address such experiences and allow all members of a community to know who may be occupying a space before they enter it.

06-6: Increase the capacity of exterior amenity spaces to provide electrical outlets and shade.

Discussions with students indicate that exterior common spaces are well-utilized for studying, socializing, and events. As DRL continues to upgrade spaces, student identified electrical outlets and shade as critical components of successful outdoor spaces on campus. DRL should consider both planted (ie, trees) and built (ie, pergolas, pavilions) strategies to increase the amount of shade available in outdoor spaces and work to integrate electrical outlets. Shade is not only critical to elongating the outdoor season in College Station's hot climate, but supports visibility for students who are studying with computers. Electrical outlets are similarly critical because student studying is often supported by computers that require charging.

Students identified the lack of outlets and shade as challenges in some existing exterior amenity spaces, but also highlighted poor wi-fi quality in some areas of campus as well as perceived social hierarchies amongst their peers as detractors from exterior amenity spaces.

07 WASTE MANAGEMENT

Texas A&M's institutional goal is to achieve zero-waste to landfill by 2050. Through enhanced education, infrastructure, and logistics, residence halls and apartments will have a major impact on the reduction of overall waste sent to the landfill from campus.

Waste Management addresses the total volume of Texas A&M's waste stream, how that total volume can be minimized, and how waste can be diverted from landfills.

"Waste" within Texas A&M residence halls and apartments includes many things:

Recyclables
such as paper, plastic bottles, aluminum cans, and cardboard;

Durable Goods
such as clothing, furniture, and appliances discarded during move-out;

Construction Waste
such as building materials and waste from campus development, as well as building demolition;

Hazardous Waste
such as used medical needles and cooking oil;

Organic Waste
such as food waste;

Electronic Waste
such as laptops, cell phones, and batteries.

Recyclables

In the sustainable amenities activity completed by on-campus residents and staff, recycling was identified as the single most important sustainable amenity for on-campus residences. On-campus residents are interested in doing the right thing with the wastes they generate and enhanced infrastructure, education, and improved logistics will help students and staff work toward the University's stated goals.

In the Northside and Southside neighborhoods, narrow hallways in older buildings minimize the size and quantity of recycling bins available on each floor. Students reported placing their wastes in the closest available bin, which in many cases is a trash bin. Staff report that bins are often not sized for the number of students using them, so when containers are full, every bin becomes a trash bin regardless of how they are labeled. In Texas A&M's newest on campus residence hall, Hullabaloo, there is a clearly labeled

STUDENTS AND STAFF IDENTIFIED RECYCLING AS THE MOST CRITICAL SUSTAINABLE AMENITY TO INCLUDE WITHIN RESIDENCE HALLS.

trash and recycling room on each floor. Residents in most Northside and Southside halls also lack access to elevators which adds an additional barrier to recycling properly. Both students and staff notice better waste management behaviors in Hullabaloo as a result of the increased access to infrastructure.

There is currently no recycling available within the Corps of Cadets dorms although cadets expressed a strong desire to recycle. One cadet expressed that he learned from an early age to recycle at home, but after returning home from living on campus, he often forgets to recycle because the infrastructure to recycle is not readily available to him on campus.

Outside the halls, each neighborhood community is provided with one centralized recycling container. As a result, some residence halls have better adjacency and access to this community-scale infrastructure than others. While custodial staff are contractually required to remove building trash and recycling, custodial staff reported that multiple smaller containers might provide more equitable access from all residence halls in lieu of the one large-scale container currently provided in each community.

Durable Goods

Donation stations are set up during move-out to support students in donating unwanted durable goods in lieu of sending them to the landfill. Students reported using the bins when they were conveniently located. Residence Life staff, however, reported that many items that could be donated or recycled end up in trash collection bins in lieu of donation or recycling bins. Residence Life staff also reported that many items are left behind in rooms. During the semester, there are currently no opportunities to donate durable goods on campus. While some students reported driving to off-campus locations to donate unwanted items or using online services such as ThreadUp to mail unwanted durable goods for resale, most students reported keeping their items until move out. Students also reported donating unused canned goods and non-perishable food items to The 12th Can during food drives organized near the end of fall semester and end of year move-out.

Construction Waste

In the last several years, the Department of Residence Life has renovated all 12 Corps of Cadets dorms and the Commons building. The buildings were stripped down to their original structure and rebuilt with upgraded systems and finishes. Reusing these facilities in lieu of tearing them down to begin anew maintained the portion of the buildings that have the greatest enduring value while simultaneously bringing them new life for the next generation of Aggies. Texas A&M University on the whole achieves a strong construction waste diversion rate for new construction projects as a result of its partnership with Brazos Valley Recycling (BVR), but reusing existing structures is a waste minimization strategy that keeps Texas A&M from producing waste in the first place.

Hazardous Waste

Residence Life provides specific containers for the disposal of used medical needles. It is imperative to the safety of students and staff that these are used and custodial staff reported that they are utilized. Students with kitchens reported not knowing what to do with used cooking oil which presents an educational opportunity for students living on their own for the first time.

Organic Waste

There are currently no opportunities for on-campus residents to compost food waste from their apartments or residence hall kitchenettes. From conversations with residents, there is not a large demand for composting, but some residents were interested in learning how to compost as a possible educational program focusing on sustainable life skills.

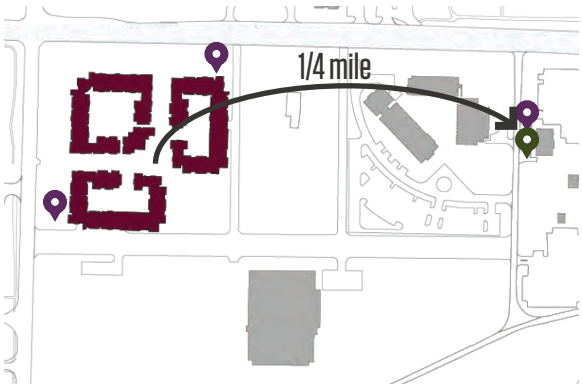
Electronic Waste

Batteries and electronic waste such as cell phones and laptops have the potential to contaminate landfills and require special disposal practices. Currently, there are very few opportunities for on-campus residents to recycle electronic waste. While students reported taking larger electronic items (ie, cell phones, laptops, etc.) home or to their service providers for disposal, many indicated they frequently have broken chargers, cords, batteries, and computer mice that they do not know how to dispose of safely.

07-1: Introduce community-scale recycling infrastructure in the White Creek community.

At present, landfill infrastructure is substantially more convenient to the White Creek community than recycling infrastructure. A dumpster can be found at the base of two of the buildings while recycling infrastructure is 1/4 mile walk from the residences. Both students and custodial staff reported the challenge with the 1/4 mile walk from the apartments to the recycling bins, and how the distance makes it challenging to divert wastes from landfill.

To increase recycling in the White Creek community, recycling should be made as convenient as landfill disposal. Parking in the area is at a premium, but DRL and UES should investigate sites in the vicinity of the newly completed White Creek Community Center to move the existing community-scale recycling bins substantially closer to the White Creek Apartments and thereby increase waste diversion. Along with a change in location, it would be advisable to consider multiple, smaller containers in lieu of one larger exterior container as residents from other communities reported that adjacency to infrastructure anecdotally correlates with increased usage.



Landfill

Recycling

The map above illustrates the locations of exterior community-scale landfill and recycling infrastructure at the White Creek community. The 1/4 mile distance from the residences to the recycling infrastructure provides an impediment to waste diversion.

07-2: Increase the convenience of recycling bins as possible in all communities.

The older existing buildings within DRL's portfolio make it challenging to provide interior recycling infrastructure because these facilities were built without trash and recycling rooms and narrow corridor widths minimize the amount of infrastructure that can be added to hallways before creating life safety hazards. DRL is already in the practice of evaluating locations for recycling infrastructure within the halls in collaboration with other University offices and should continue to do so to maximize the convenience with which recycling infrastructure can meet student demands.

As collaboration spaces are added to existing residence halls, it would be advisable to include up-sized recycling infrastructure in these new amenities to reduce pressure on the existing buildings to provide recycling containers.

07-3: Increase custodians' training regarding recycling and Texas A&M's partnership with Brazos Valley Recycling.

Custodial staff reported that there is often a high level of contamination in the recyclables they collect. When custodial staff see this contamination, they reported discarding the recycling into the trash collection bins. Whether recycling is contaminated or not, however, is not a decision custodial staff need to make. The University's waste contractor, Brazos Valley Recycling (BVR), hand sorts waste at their facility which is atypical of most municipalities, but also means Texas A&M can send mixed waste/recycling and BVR will remove contaminants and maximize waste diversion.

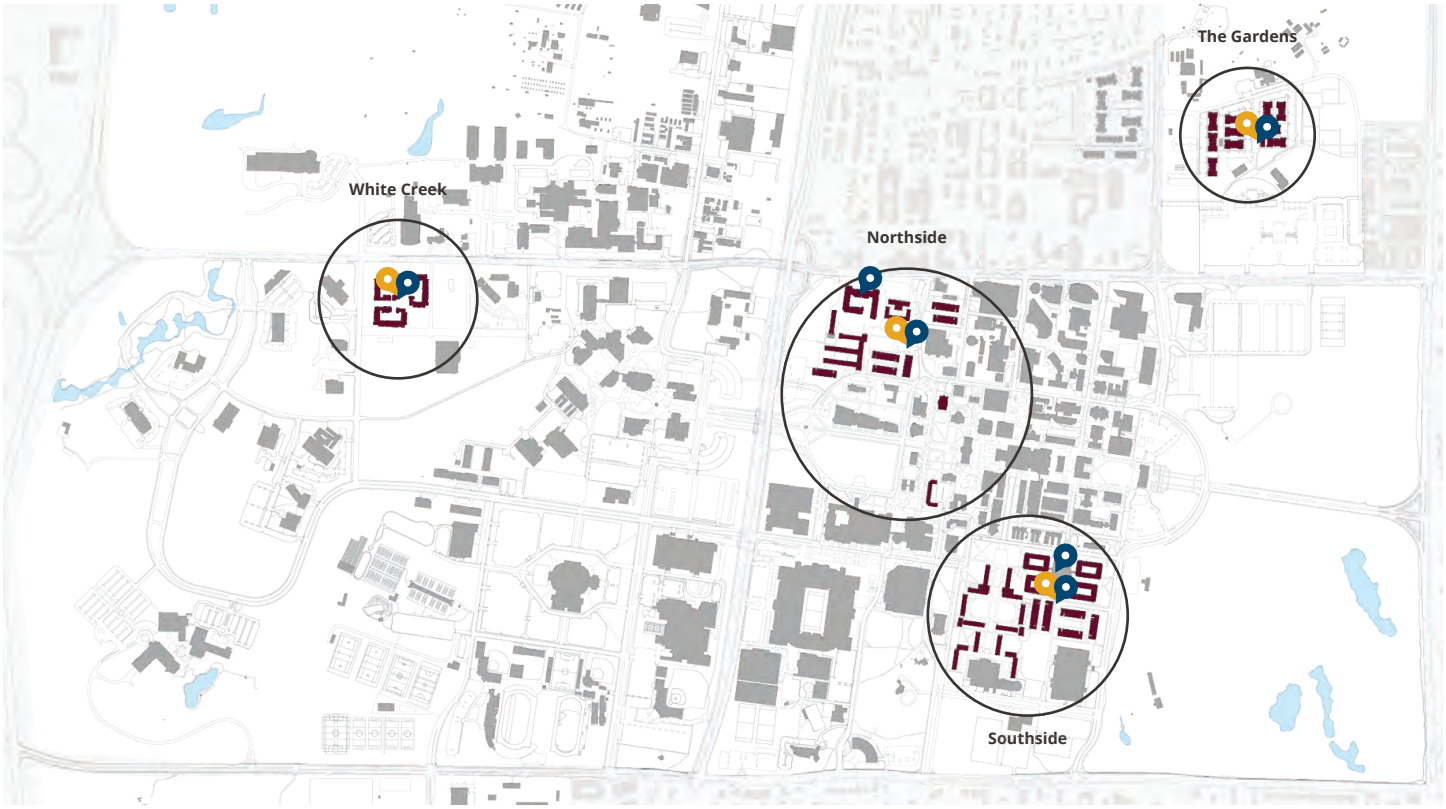
Custodial staff are not under DRL's structure but are contracted out to a third-party. A custodial field trip to BVR for the folks working in the halls, not just their managerial staff, might help clear up some of the confusion regarding recycling and contamination and increase the amount of wastes sent to BVR in lieu of landfill.

Students report noticing when their custodial staff do not take recycling to the appropriate exterior dumpster and indicated their frustration with the situation. Multiple students questioned why they should bother to sort their recycling into the appropriate bin if custodial staff are going to combine everything into the trash anyway. This breakdown in the recycling process negatively contributes to the student experience for on-campus residents.

07-4: Explore continuous durable goods collection to minimize pressure on move-out.

When 11,000 on-campus residents vacate their Texas A&M University residences at approximately the same time, space and time are at a premium. DRL works with partners including Goodwill Industries and The 12th Can to set up donation stations across campus. These services are well-utilized, especially the food drive set up by The 12th Can. During Spring 2018 move-out, The 12th Can had to begin turning donations to other area food banks as their storage was over capacity.

The 2018 Sustainability Master Plan Target 06-7 states "Increase the opportunities provided for on-campus residents to donate durable goods." The medium term metric for this target aims to increase the diversion of durable goods and reduce pressure on move-out via permanent donation bins on campus and/or mid-semester events for residents to donate items. While permanent donation bins have been explored previously, concerns regarding the maintenance and upkeep of such facilities as well as the logistical challenges of choosing a partner organization have kept that strategy from advancing. As an alternative,



Durable goods donation point

The 12th Can food drive point

Move-out is a stressful time on campus as approximately 11,000 on-campus residents vacate their residences within approximately one week. DRL sets up donation and food drive locations to support residents in diverting goods with enduring value from landfill as illustrated above, but because space is at a premium during move-out, it is advisable to investigate ways to increase durable goods' diversion while reducing pressures on move-out.

running durable goods' donations and food drives for The 12th Can four times during the academic year - potentially before Thanksgiving break, at the end of the fall semester, before spring break, and at move-out - could increase donations as well as spread them out and allow organizations to better manage the influx of donated goods. Because such drives would be of fixed duration, concerns regarding upkeep could be better managed.

On the long term horizon, Texas A&M University aspires to create a permanent Aggie Swap Store. While The 12th Can provides food at no cost to Aggies in need, an Aggie Swap Store would essentially function as a resale shop within the campus community for unwanted students goods and ideally provide a self-sustaining revenue stream. The logistics of creating and managing such a shop would require coordination and engagement with on-campus entities beyond DRL. It is envisioned that someday a student organization comparable to The 12th Can could exist to serve such a need in the community.

07-5: Provide on-going e-waste collection at 24-Hour Desk locations.

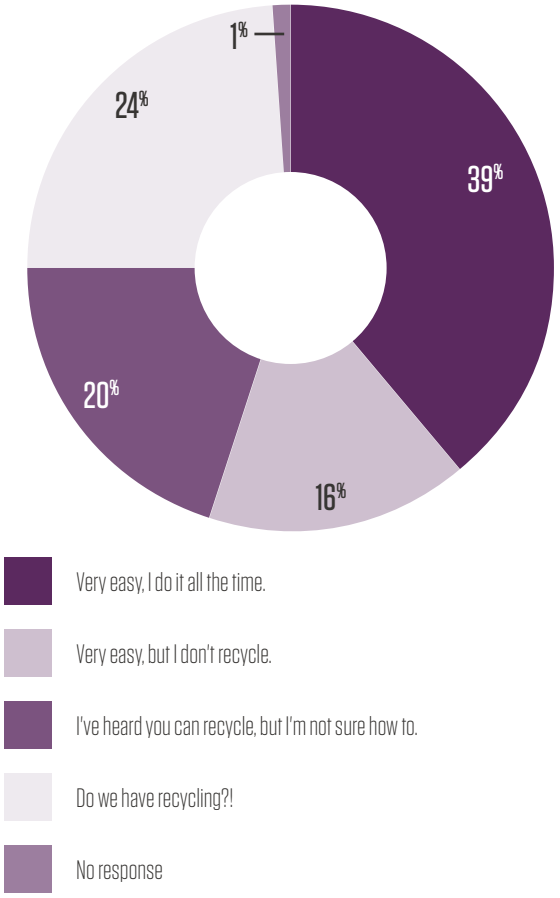
Target 06-6 within the 2018 Sustainability Master Plan states, "Increase the number of opportunities provided for on-campus residents to recycle electronic waste." In FY2017, one such event existed on campus, an annual E-Waste Collection Drive. In the medium term, it is hoped to provide on-going e-waste collection at 24-Hour Desk locations. Initial concerns from DRL staff about providing such collection focused on the volume, size, and value of materials that would likely be collected, but student discussions through focus groups illustrated that they are unlikely to be disposing of large, high-value electronics such as cell phones and laptops. Most students reported having broken cords, chargers, and small electronics such as computer mice that they did not know how to dispose of properly.

In the long term, the 2018 Sustainability Master Plan hopes to increase continuous collection points to include central campus locations such as Evans Library and the Memorial Student Center which might increase Texas A&M's reach in collecting e-waste from a broader cross-section of Aggie students in lieu of focusing exclusively on on-campus residents.

07-6: Increase resident education on recycling practices at Texas A&M University.

While students consistently report recycling as the most critical sustainable amenity in on-campus housing, many also expressed confusion about whether recycling existed at Texas A&M University or how to appropriately recycle on campus. Of the students surveyed, 44% indicated they either did not know whether recycling existed at Texas A&M

How easy is it for you to recycle in your residence hall?



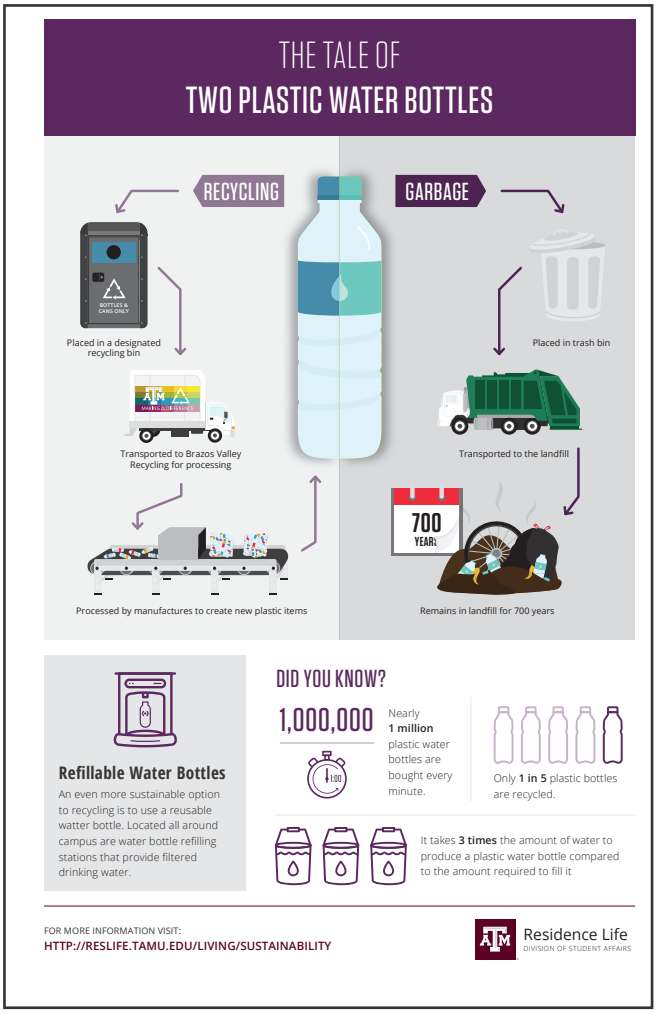
The data in this graph represents the responses of 147 on-campus residents who participated in the tabling exercises hosted by the planning team.

University or not or that they'd heard recycling was possible at Texas A&M University but did not know how. To help this 44% of on-campus residents join the 39% who recycle all the time, the planning team created two posters for Resident Advisors to share with their communities.

The first, "The Tale of Two Plastic Water Bottles," answers the question, "Why is recycling important?" by describing what happens to a water bottle that is recycled compared to a water bottle that is sent to the landfill. This poster also includes a number of fast facts about water bottles and advertises that water bottle filling stations exist in the residence halls to reduce consumption from single-use bottles.

The second poster, "Can I recycle this? Recycling at Texas A&M," clarifies what goods are recyclable all the time versus what materials are never recyclable and what materials are special cases that can sometimes be recycled.

Increasing education about recycling in the residence halls is hoped to increase the percentage of residents who both know how to recycle on campus and use the infrastructure appropriately, but special circumstances exist within on-campus housing communities. The population at The Gardens includes the highest proportion of international students which complicates recycling education because not all cultures recycle. Residents in this community manage their wastes in their apartments and then bring it out to the community-scale containers. While Resident Advisors might be able to make an impact using the educational posters in this community, other educational strategies should be explored for The Gardens to increase waste diversion rates.



To support DRL in increasing recycling education among on-campus residents, two of the poster deliverables of this 2018 Residence Life Sustainability Plan focus on the topic. The first focuses on why recycling is important while the second focuses on what can and cannot be recycled at Texas A&M University.

08 EDUCATION, OUTREACH, & ENGAGEMENT

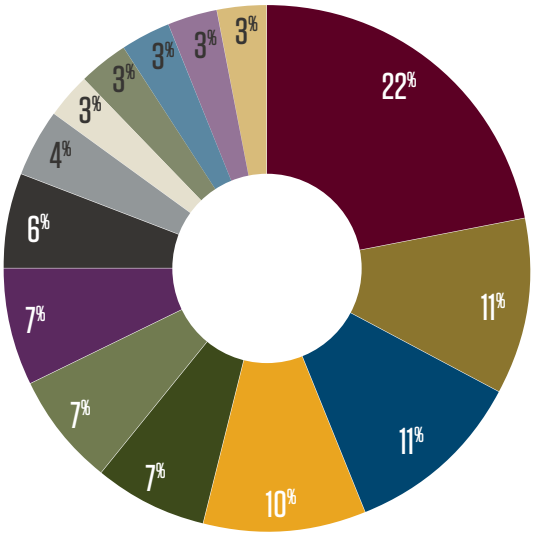
Texas A&M aims to increase the community's knowledge of sustainability to be mindful of social, economic, and environmental factors.

Education, Outreach, and Engagement addresses how information about sustainability is shared in non-academic settings including tabling events, websites, social media accounts, fliers, emails, in-person classes, webinars, and word-of-mouth. In this 2018 Residence Life Sustainability Plan education, outreach, and engagement activities have both internal audiences (residents and DRL staff) as well as external audiences (prospective residents and their parents).

Discussions with the RLSP Steering Committee indicated that sharing information about sustainability has different priorities depending on who the audience is. When communicating with residents, DRL's primary objective is to educate students about sustainable lifestyles and behaviors that might in turn result in operational savings for DRL. When speaking with DRL staff, communicating about sustainability is primarily focused on elevating its importance within the organization. Sustainability-focused communications take on a significantly different voice for prospective residents and their parents and focus on how DRL's investments have stabilized the cost of on-campus housing, preserved campus legacies, and provide unique opportunities for student living compared to off-campus housing.

In addition to this section, Education, Outreach, and Engagement are specifically addressed by two additional deliverables for the 2018 RLSP – the poster series and the brochure. These deliverables, as well as other discussions and recommendations from the planning process are summarized below.

Types of RA Programming in Fall 2017



Resident Advisors (RAs) logged 612 events in the Fall 2017 semester. The planning team coded these programs to understand what subjects are addressed most frequently in on-campus housing.

08-1: Establish Program Sub-Types for Resident Advisor programming so DRL's Residential Education staff can better understand events in the halls.

DRL data indicates that Resident Advisors (RAs) logged 612 events in the Fall 2017 semester. DRL staff indicated through focus groups that the programming model for Resident Advisors aims to increase the number of interactions between RAs and their residents and does not push RAs to provide programs on specifically targeted content.

The planning team sorted the events logged by RAs into approximately 15 categories to understand more about the activities hosted in the halls:

- **Community Building:** the most prominent activity type, most events focus on simply getting residents to engage with one another.
- **Food-Focused Events:** programs focused primarily on eating such as ice cream socials.
- **Orientation:** most RAs appear to host programming as part of Howdy Week to support their residents in attending other on-campus events in groups.
- **Watching:** programs include movie nights and sports viewing parties.
- **Stress Management:** particularly prevalent around exams, many RAs host formal and informal programming to help students stay balanced in stressful situations.
- **Life Skills:** Several RAs hosted programs about life skills subjects such as repaying student loans and strategies for living with roommates.
- **Hobbies:** many events focused on crafting or DIY; several RAs hosted events to teach residents how to participate in one of their favored hobbies.
- **Health & Wellness:** programs include spa nights and group participation in athletic events such as basketball games and frisbee tournaments.
- **Studying:** particularly prevalent around mid-terms and finals, many RAs reserve their common spaces to guarantee a quiet space for their residents to prepare for exams.
- **ASI / APM:** programs that engaged the Academic Support Initiatives or Academic Peer Mentoring staff.
- **Traditions:** programs focused on teaching Aggie traditions to on-campus residents.
- **Safety & Security:** programs such as mandatory floor meetings and/or programs on sexual consent, fire safety, and drug and alcohol behaviors and policies.
- **Other:** events not readily identifiable as aligning with the characteristics of the defined categories above.

612

Number of Programs Logged by RAs in the Fall 2017 Semester

While discussions with DRL staff indicated it would not be valuable to push RAs to provide specific types of programing within the halls, the planning team recommends DRL establish filtering criteria within the online event-logging system so DRL can better understand at a glance what programming is most frequently provided by RAs in on-campus housing and how those programming trends change over time. Being better able to understand the types of programs RAs host might provide insight into what kind of resources (space, finances, food, materials, etc.) could increase interactions between RAs and residents. Being able to sort the RA programming data more readily might also help DRL identify RA programs it wants to develop resources for to increase the ease with which such programming could be provided by RAs in future.

08-2: Request Resident Advisors log the number of attendees at events so DRL can work to balance RA efforts and interaction frequency.

In discussing events within the halls with current RAs, they indicated that it's difficult to get residents to attend events without some kind of food or giveaway and that finding convenient times when residents are available to attend activities is challenging because of the number of programs happening on campus at any one time. Residents of White Creek and The Gardens also indicated that unit style influences participation in events. Because both White Creek and The Gardens have apartment units that include everything students need within them, it's less likely for these students to participate in events within the common spaces.

While it's likely data would be unreliable, it's advisable for DRL to request RAs log the number of attendees at each of their events to understand the effort RAs are putting into planning events relative to the impact of those interactions. If larger,

more structured events that tend to have larger, more time-intensive planning and more expensive execution are poorly attended, it might change how DRL directs RAs to prioritize their efforts for resident engagement and the supporting resources provided.

08-3: Evolve the structure and resources for Resident Advisors as suggested by data obtained via 08-1 and 08-2.

DRL staff indicated to the planning team that the current program for Resident Advisors (RAs) prioritizes interaction with residents above all other priorities in reaction to previous circumstances in which many residents were unable to identify their RA. Interactions among RAs and other residents appear to be increasing, but as interaction frequency stabilizes the opportunity exists to chart new ground with the RA program and find new ways the RAs can enhance the on-campus experience of other residents as well as gain valuable leadership skills.

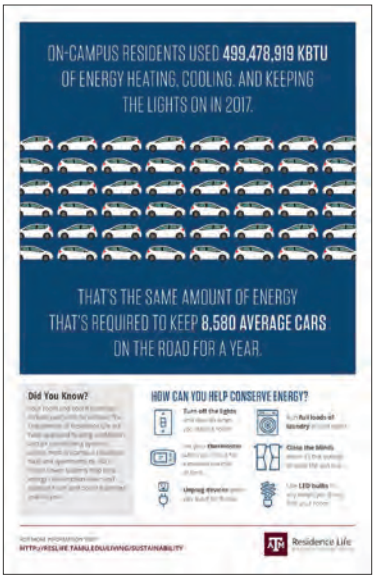
Advancing Recommendations 08-1 and 08-2 will produce new data DRL staff can use to evolve the structure and resources for future RAs to increase the connection between RAs and their residents and provide new mechanisms by which to build community within the residence halls.

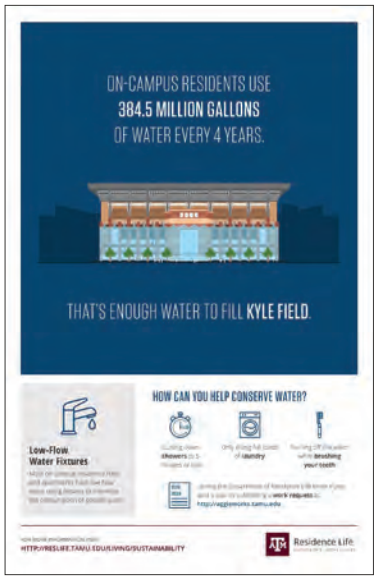
08-4: Increase temporary and permanent educational signage in the residence halls.

The Sustainable Space Index indicated one of the most notable areas for improvement was in the categories of both temporary and permanent signage. The planning team observed relatively few temporary or permanent signs within the residence halls that encouraged sustainable behaviors and recommends increasing the prevalence of this kind of interpretive and educational signage.

Discussions with DRL and student focus groups illustrated the impact temporary and permanent signs can have. When residents were asked when they most think about their energy use, many indicated that they remember to turn the lights off in common spaces because of stickers DRL has installed at eye-level that remind students to engage in this behavior. Providing signage that clearly communicates the behavior students are advised to take in proximity to where they are supposed to take it increases the probability that students remember to make the resource-conserving choice.

To the extent practical, DRL should work to increase the amount of permanent signage that co-locates reminders about resource-conserving actions with the locations where they are most likely to occur.





The poster series is intended to increase DRL's temporary signage program for sustainability. Many of the posters include a "Call to Action" that identifies choices on-campus residents can make that impact resource conservation.

Efforts should be made to add this type of interpretive and educational signage without increasing visual noise in spaces.

To support DRL in advancing interpretive and educational signage related to sustainability within the residence halls, the planning team developed a series of seven posters on sustainability-related topics that are coordinated with behaviors the Residence Life Sustainability Plan is working to increase in on-campus residents. The posters focus on:

- Energy Consumption
- Potable Water Consumption
- Campus Mobility
- Waste Management
- Social Sustainability
- Engagement with Residence Hall Programming

To the extent possible, these posters include “calls to action” that identify behaviors on-campus residents can adopt to decrease their environmental impact and conserve resources. The posters are to be provided to RAs to support them in developing bulletin board content within their halls. As DRL studies more data from RA programming, it is anticipated that DRL could identify other priority issues that would benefit from similar collateral that would make it easier for RAs to elevate certain content within on-campus housing’s temporary signage program.

See additional posters within Section 02 - Social Sustainability, Section 05 - Campus Mobility, and Section 07 - Waste Management.

08-5: Develop collateral that helps RAs create bulletin boards and programming that targets subjects DRL has defined as priority issues.

The poster series developed as part of this Residence Life Sustainability Plan makes it easier for RAs to create bulletin boards that target sustainability, an issue that DRL has defined as a priority issue. As other recommendations of this plan advance and new activities occur on campus, it is likely that other priority issues will emerge whether they are strictly related to sustainability or not. As these issues emerge, DRL can advance education, outreach, and engagement on those priority issues by creating additional collateral and "pre-packaged" content that RAs can use to develop bulletin boards as well as in-person programming.

As Recommendations 08-1 and 08-2 advance, DRL staff will have an increasingly strong database of programs that yield a successful balance between RA efforts and resident engagement. Building a larger library of successful events for RAs to access might inspire RAs to host more impactful events as the ideas won't need to be generated from scratch. RAs might also use previously successful events as the fodder for new programming ideas which will continually renew the programming database for future RAs.

08-6: Increase proactive education, outreach and engagement from the Aggie Eco-Reps.

While Resident Advisors logged 612 programs in the Fall 2017 semester, the Aggie Eco-Reps recorded only 30 programs across both the Spring and Fall 2016 semesters. Generally speaking, the Aggie Eco-Reps wait for an RA to invite them to speak on their floor or in their hall and then share presentations that members receive training in how to communicate.

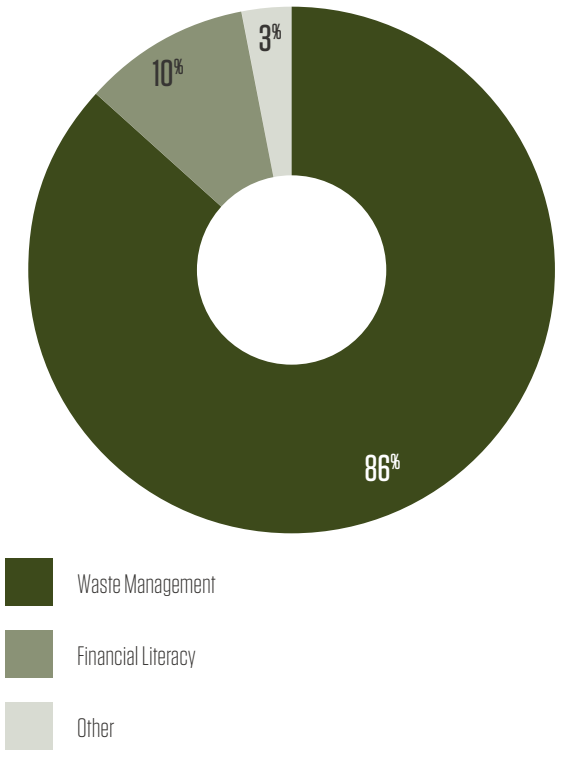
In lieu of waiting for an RA invitation, the Aggie Eco-Reps should proactively schedule presentations in each of the communities throughout each semester. Per the Aggie Eco-Reps website, the organization has four prepared presentations:

- Life of a Water Bottle
- Carbon Footprint Investigators
- Enough is Enough
- Time for a Change

These programs address all three pillars of sustainability, and ideally each should be hosted twice in each community each semester for a total target of 64 Aggie Eco-Reps presentations in the halls each academic year. Scheduling all four presentations in each community each year will also increase the number of sustainability-related subjects discussed by Aggie Eco-Reps with their fellow residents. During the Spring and Fall 2016 semester, 86% of the programming hosted by Aggie Eco-Reps addressed waste management.

To align presenter commitment with audience participation, these events should be targeted at whole communities in lieu of individual buildings or RA communities. Targeting larger audience groups will ensure a sufficient number of attendees are available to generate a discussion amongst residents.

Types of Aggie Eco-Rep Programming in Spring/Fall 2017



The data in this graph represents the breakdown in the type of subjects addressed by Aggie Eco-Reps programming during the Spring and Fall 2016 semesters.

30

Aggie Eco-Rep programs hosted across Spring and Fall 2016

08-7: Increase proactive education, outreach, and engagement

Nineteen of the 612 programs logged by Resident Advisors in the Fall 2017 semester were hosted by a student committee engaged by Resident Advisors to provide educational opportunities in the halls to increase community respect and appreciation. To support Social Sustainability in becoming a more mainstream topic on campus, it would be advisable to be proactive about programming as is similarly recommended for the Aggie Eco-Reps.

The student group's MaroonLink website lists no officers for the committee and their website appears to be non-functional, although the committee does have an active Facebook page with approximately 140 followers. To increase this committee's visibility it would be advisable to build a web presence similar to what is available for the Aggie Eco-Reps and target at least two activities in each on-campus neighborhood each semester or at least one event in an on-campus neighborhood every month.

08-8: Advance strategies to market sustainability features and opportunities as an on-campus housing amenity.

Speaking to prospective residents and their parents about sustainability in on-campus housing requires a different voice and perspective on the subject. Whereas DRL aims to educate existing on-campus residents with sustainability messaging, DRL aims to advertise to prospective residents and their parents with sustainability information. To support this goal, the planning team has created an accordion brochure celebrating DRL's accomplishments in sustainability and highlighting the benefits this work offers to on-campus residents. The brochure focuses on:

- Energy Conservation
- Water Conservation
- Campus Mobility
- Leadership Opportunities in On-Campus Housing
- Living Learning Programs
- Social Sustainability
- Renovation of Legacy Buildings

The brochure celebrates efforts DRL has undertaken to conserve energy and water resources to stabilize the cost of on-campus living and highlights the unique opportunities on-campus residents have as compared to off-campus residents.

The double-sided brochure illustrated above folds like an accordion and markets DRL's sustainability initiatives as a differentiator between on-campus and off-campus housing. The messaging has an external focus where the poster series deliverable is focused on educating current on-campus residents.

09 ADMINISTRATIVE SUPPORT

Purchasing, staffing, and funding are critical to advancing sustainability initiatives across Texas A&M University.

Texas A&M reports its sustainability performance annually via the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment & Rating System (AASHE STARS). The Department of Residence Life has supported successful reporting efforts since TAMU's adoptions of STARS by providing 100% of requested data since reporting's inception. To further support Texas A&M's STARS performance, DRL can continue making contributing purchases and further connect with campus-scale staffing and funding efforts.

2018 SMP Target 09-1: Leverage institutional purchasing dollars to advance a sustainable supply chain.

Increase paper purchases that include at least 30% post-consumer recycled content

28%	50%	75%
2017	SHORT TERM	MEDIUM TERM

Percentage of Paper Purchased with at Least 30% Recycled Content

Maintain purchases of green cleaning and janitorial supplies

90%	90%	90%
2016	SHORT TERM	MEDIUM TERM

Percentage of Green Cleaning Supplies Purchased

09-1: Purchase printer and copier paper that includes at least 30% post-consumer recycled content.

Among the questions in the STARS rating system is an operations question about the amount of office paper purchased at the institution that includes pre-defined ranges of recycled content. Texas A&M can earn more credit in this question by increasing the percentage of its paper purchases that include recycled content.

DRL can positively contribute to institutional achievements in STARS by ensuring that paper purchased for its use has at least 30% post-consumer recycled content.

09-2: Engage the University's custodial contractor during the design process for renovations or new construction to ensure architectural finishes can be maintained using cleaning or janitorial supplies that meet green cleaning criteria recognized by AASHE STARS.

AASHE STARS includes an operations question on the percentage of cleaning and janitorial purchases by cost that meet any one or more of a variety of green cleaning criteria. More credit is earned for higher percentages of purchases that meet qualifying criteria.

While DRL does not maintain its own buildings, they are serviced by the University's custodial contractor,

DRL does contract renovations and new construction of on-campus amenities. To support Texas A&M's objective of maintaining the purchasing level of green cleaners, DRL should engage custodial staff as a critical part of the design team.

When DRL is evaluating architectural finishes, the University's custodial contractor can advise DRL about how such materials will be maintained over time and whether they can be cleaned with products that qualify for credit under the related AASHE STARS credit.

While AASHE STARS criteria are subject to change, at present the following cleaning and janitorial criteria are recognized for credit:

- Forest Stewardship Council (FSC) certified
- Green Seal certified
- UL ECOLOGO certified
- U.S. EPA Safer Choice labeled

FSC certification principally addresses disposable paper towels used for cleaning and maintenance while the others certifications address various types of soaps and cleansers used in building maintenance. Using soaps and cleansers that carry the noted certifications maintains indoor air quality by minimizing unpleasant odors associated with cleaning products and reduces environmental impact by limiting the introduction of harsh chemicals into the environment.

09-3: Codify sustainability in DRL staff job descriptions using terms the Office of Sustainability is targeting to identify sustainability staff across campus.

The 2018 Sustainability Master Plan has an evergreen goal of aligning sustainability staffing and funding to the depth and breadth of work being done. While the Office of Sustainability only has three full time equivalent staff plus a host of student interns, sustainability work is actually happening in many positions across campus. To increase the efficacy of this network, the Office of Sustainability is developing a list of terms to identify folks who work on sustainability subjects by job description across campus comparable to the list of terms they use to identify courses on or with sustainability content in course syllabi.

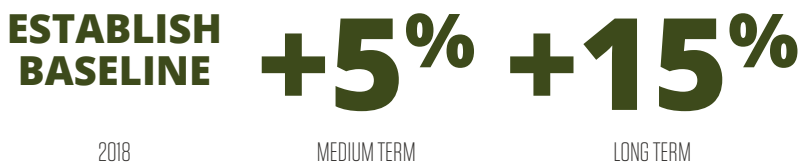
DRL can support this effort by coordinating with the Office of Sustainability and revising job descriptions within the department as necessary to ensure that staff with sustainability-related tasks can be found using the campus-wide terms index. Making sustainability champions on campus easier to identify will encourage cross-pollination across campus and increase the efficacy of efforts being undertaken across the institution.

09-4: Achieve Aggie Sustainability Alliance certification for at least 35% of DRL staff. Certify the DRL office once 35% of individual staff members are certified.

The Office of Sustainability historically offered a Sustainable Office Certification which recognized the achievements of offices as a whole. In 2018, this effort was redeveloped and relaunched as the Aggie

The Sustainable Office Certification (SOC) offered by the Office of Sustainability evolved into the Aggie Sustainability Alliance in 2018.

2018 SMP Target 09-3: Increase the number of staff positions that include sustainability-related objectives as part of their job responsibilities.



Number of Staff Positions that Include Sustainability as Part of their Job Responsibilities

Sustainability Alliance to better connect sustainability champions across campus and more meaningfully respond to the large variety of office staffing sizes within Texas A&M University departments and offices.

The new program allows faculty and staff to become individually certified by the Office of Sustainability for their sustainable practices on campus and identify their offices with ASA signage. The intent of the individual recognition is to elevate the visibility of sustainability champions on campus and building a stronger network. Once 35% of the individuals within an office are individually certified, the office as a whole can certify through an additional, office-specific checklist. Both the individual and office recognitions celebrate all three pillars of sustainability.

09-5: Launch a sustainability-focused dorm room certification program.

Comparable to the Aggie Sustainability Alliance, DRL is investigating a sustainability-focused dorm room certification program to both recognize resident sustainability behaviors as well as better connect like-minded students.

Such a program should align with the nine sustainability themes on campus and be mindful of the social, economic, and environmental pillars of sustainability. The program might include:

- A scavenger hunt activity to verify a student's literacy about available amenities (ie, where is the nearest recycling bin to your residence?).
- Engagement with DRL-sponsored student groups such as RHA or the Aggie Eco-Reps.
- Use of alternative transportation such as participation in the bikeshare program, not having a car on campus, or walking as the primary mode of transportation around campus.
- Use of reusable water bottles and travel mugs as a waste minimization strategy.

09-6: Collaborate with the Office of Sustainability to add a housing classification question to the Sustainability Literacy Assessment.

The Office of Sustainability and the Office of Institutional Effectiveness & Evaluation have collaborated since the Fall 2016 semester on an annual Sustainability Literacy Assessment to measure the sustainability competency and culture of Aggie students, faculty, and staff. The survey tool was developed by staff in the Office of Sustainability and integrates best practices from similar assessments completed by peer institutions as well as content that is uniquely valuable to Texas A&M.
While the survey instrument features 23 questions on both sustainability competency and culture, it does not at present include a classifying question that allows the data to be sorted for on-campus residents versus off-campus residents.

Adding such a question to the existing survey would increase its value by allowing DRL to understand the impact its education, outreach, and engagement efforts are having on sustainability literacy in on-campus residents and potentially target more focused education areas.

This page intentionally left blank.

10 INSTRUCTION, RESEARCH, & INNOVATION

On-campus residents are more likely to have higher GPA's and complete degrees in four years than their off-campus peers.

Living on campus gives students an academic edge. According to the American Council on Education, studies show students who reside on campus:

- Achieve higher grade point averages than their off-campus peers
- Report a higher degree of satisfaction with the college experience
- Have higher retention and graduation rates
- Are more likely to succeed in college and complete a bachelor's degree in 4 years
- Have more positive self-images, as well as enhanced self-confidence, public-speaking ability, and self-reliance
- Participate in more extracurricular activities (a fact especially important to business recruiters and particularly true for Texas A&M)

At Texas A&M, the Department of Residence Life provides study spaces co-located with living spaces, faculty engagement and involvement, academic enrichment events, and tutoring that supports academic success. Living Learning Programs (LLPs) are one way for students to enhance their academic experience while living on campus. The philosophy underlying living learning programs is grounded in the belief that learning is an active and dynamic process that occurs both inside and outside the classroom and is a process in which students use a number of frameworks and modalities to learn. On-campus living spaces provide an ideal learning environment as most students spend more collective hours in their living environment than in any other location on campus, including the classroom.

The Living Learning Program is an umbrella term for all the residential communities available on campus, including Academic Residential Experience Districts, Academic Living Learning Communities, Enhanced Living Learning Communities, and Themed or Interest Group Housing.

Texas A&M offers four distinct types of Living Learning Programs:

- **Academic Residential Experience Districts** - co-locates students who share the same major and academic course requirements while providing academic advising and study spaces within the hall.
- **Academic Living Learning Communities** - co-locates students who share an academic course requirement taught by a common faculty member across all of a given LLCs participants.
- **Enhanced Living Leaning Communities** - co-locates students who have been awarded certain types of University scholarships while having shared academic course requirements.
- **Themed or Interest Group Housing** - co-locates students with a common interest and provides committed Residence Life Staff who organize programs and events related to the community's focus area.

10-1: Increase cross-collaboration of Living Learning Programs through formally hosted events each semester.

Living Learning Program (LLP) offerings have grown significantly at Texas A&M over the last decade, while legacy programs such as the Honors Housing Community and Leadership Living Learning Community have existed far longer. LLPs have had varied successes and variations occur both program-to-program as well as year-to-year, especially for interest-based LLPs.

Staff members for LLPs communicated that formal summits of LLP staff each semester would help new and developing programs learn from more mature programs that have more consistent success. Such cross-collaboration would support newer LLPs in becoming better subscribed, more robust programs by ensuring they learn from the experiences of more developed LLPs.

10-2: Increase advertising opportunities to ensure students are aware of LLPs.

While all LLPs report challenges in program recruitment, thematic or interest-based LLPs appear to have the most significant challenges to overcome this hurdle. LLPs have widely varied recruitment strategies, but several indicated participation in Aggieland Saturday as a critical part of recruiting students in majors related to the subject or interest area of existing LLPs.

Some LLPs also indicated that they cross-sell other LLPs in hopes of helping students find the best fit. In general, however, word-of-mouth is the LLPs largest advertising opportunity so it's important that as many students as possible have positive experiences to report to their peers. LLP staff indicated significant drops in recruitment after having a poor LLP year and noted that it's critical for an LLP's consistency and longevity that the content be strong in successive years in order to build a strong word-of-mouth advertising campaign.

From the student focus groups, it is clear that student awareness of LLPs is lacking and varied. For some students, all on-campus living is an LLP, some believe that LLPs are a fast-track to securing on-campus housing, and for others, they reported not knowing what an LLP is. The brochure deliverable developed as part of this Residence Life Sustainability Plan provides one way to increase DRL's own advertising of LLPs, but additional support must come from the academic partner and/or staff associated with each LLP. Some academic partners currently co-locate student living situations without providing the dedicated programming needed to be an effective LLP, and in these situations, many students do not know that they are technically enrolled in an LLP.

10-3: Work to streamline the timelines for acceptance into the University, on-campus housing, and LLPs.

Both DRL and LLP staff acknowledge the challenges posed by the conflicting timelines for acceptance to Texas A&M University, acceptance into on-campus housing, and acceptance into LLPs. The timelines create a variation between the number of students anticipated to attend an LLP and their actual enrollment which can complicate DRL's capacity to fill available on-campus beds because once students are put on a waitlist for on-campus housing they tend to find off-campus solutions to meet their needs and tend not to return to on-campus housing if and/or when it becomes available. Solving this timeline complexity is an issue far larger than DRL can solve on its

Type of Living Learning Program	One or More Buildings	Required Class	Collaborating Faculty	Live Together in a Dedicated Area	Common Focus	Collaborating Staff	Committed Residence Life Staff
Academic Residential Experience Districts	*	*	*	*	*	*	*
Academic LLPs		*	*	*	*	*	*
Enhanced LLPs		*	varies	varies	*	*	*
Themed or Interest				*	*	*	*

Texas A&M offers multiple types of Living Leaning Programs. Some have strong academic connections while others are built around shared student interests.

own, but continued discussion with other University partners as well as seeking advice from peer institutions about how they handle similar acceptance and enrollment timeline challenges in LLPs may yield strategies for a path forward.

10-4: Work to integrate LLP content with existing academic requirements to increase program impact.

This recommendation specifically speaks to Themed or Interest Group Housing LLPs. When programming is additive, such LLPs become "another thing" on a student's list in lieu of the opportunities they are intended to be. Some LLPs report desire to do fewer, larger scale programs to align efforts with impact. Some successful thematic LLPs indicated more successful programming when finding ways to connect their events to existing academic requirements.

Identifying common academic requirements when student participants by default do not share the same major can be difficult. Themed LLPs should investigate creating a shared survey at the beginning of the fall semester for their participants in order to best develop programming for the year that meets the program's specific constituent needs. While developing unique thematic programming annually is an intensive effort, it is worth the investment because students report word-of-mouth is the most valuable marketing mechanism for LLPs. If several successive classes have positive experiences in an LLP, the burden will likely lessen as the thematic LLP becomes more mature in its programming.

10-5: Advance a sustainability-focused LLP.

While the Residence Life Sustainability Plan was developing, a sustainability-focused LLP was not available on campus. The Aggie Eco-Rep focus group in particular advocated on behalf of such a community where sustainable life skills could be commonly shared across a group of committed students and enhanced through more specific programming. At the time of this document's publication, DRL is actively working to acquire academic partners for a sustainability-focused LLP which is tentatively slated for a 2019/2020 academic year rollout.

In addition to thematic based activities, a sustainability-focused LLP could benefit from student coursework that advances efficiency within the halls themselves. For example, LEED Lab, a program model from USGBC that pairs an outside consultant with an institution to advance LEED Existing Buildings: Operation and Maintenance certification for facilities. Students complete the work of the LEED certification while the consultant behaves as an adjunct professor / resource and is the continuity to ensure the process advances across semesters or academic years.

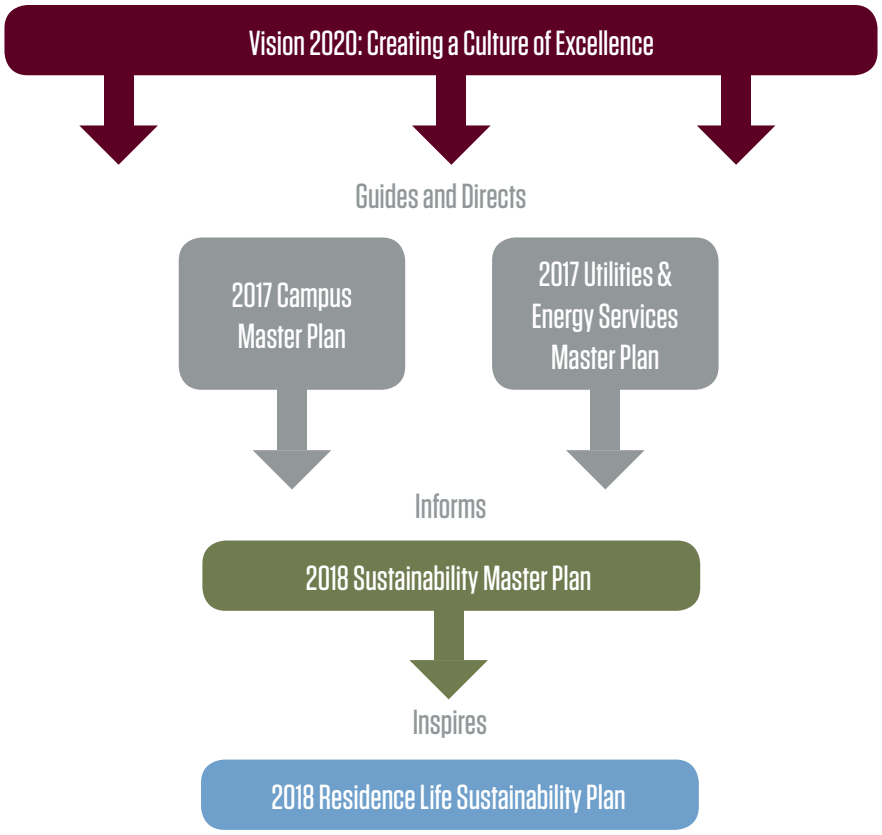
The existing partnership between DRL and UES that delivers the annual UChallenge could also be codified as an academic requirement for the sustainability-focused LLP. This High Impact Practice provides rich educational opportunities for students using real DRL information and facilities to test the viability of various efficiency measures.

This page intentionally left blank.

11 APPENDIX

DOCUMENT COORDINATION

This document is intended to be used in conjunction with a host of other planning materials that guide Texas A&M's development. The diagram below articulates how this document operates in concert with existing technical and planning work.



This Document

Poster Series

Brochure

DRL Energy and Water Utility Dashboard

ACKNOWLEDGMENTS

The 2018 Residence Life Sustainability Plan would not have been possible without the contributions of many students, faculty, and staff. Below we acknowledge the contributions of the Residence Life Sustainability Plan Steering Committee as well as faculty and staff who participated in listening sessions. The Department of Residence Life and the planning team also gratefully acknowledge 187 students who participated in tabling exercises and 45 students who participated in focus groups.

Residence Life Sustainability Plan Steering Committee

- Chareny Rydl
- Daniel J. Mizer, Jr.
- Carol Binzer
- Kristianna Bowles
- Miriam Lee
- Andrea Johannes
- Steve Laube
- Christine Thoorsell
- Craig Rotter
- Jeff Wilson
- Melissa McConnell
- Kyle Donovan Gage
- Michelle Alvarez
- Lauren Michelle Pechon
- Michael Krenz

Residence Life Staff Listening Session

- Brent Cockrell
- Gennie Lynn
- Brandon Carlson
- Kyle McCracken
- Maggie Guzman
- Christine Thoorsell
- Jen Sommers
- Jessica Lennerton
- Joni Cook
- Anna Blackhorn
- Jeff Wilson
- Katelynn Kellogg
- Amy Tedesco
- Blanca Flores
- Carols Pinterton

Academic Partners Listening Session

- Shelley Brenckman
- Suzanne Schwartz
- Dustin Grabsch

Residence Life Facilities Listening Session

- Melissa McConnell
- Krystin Cartlin
- Libby Byington
- Steve Laube
- Luis Martinez

Custodial Staff Listening Session

Transportation Services Listening Session

Utilities and Energy Services and Office of the University Architect Listening Session

REFERENCES AND RESOURCES

The 2018 Residence Life Sustainability Plan draws on content from existing planning resources developed for Texas A&M. The list below credits sources from which various information has been drawn as well as places to look for additional information.

Introduction

Texas A&M Documents of Reference

- 2017 Texas A&M Campus Master Plan
- 2018 Texas A&M Sustainability Master Plan

Outside Resources

- AASHE STARS
- Texas A&M AASHE STARS Reports

Energy Use and Greenhouse Gas Emissions

Texas A&M Documents of Reference

- Texas A&M Energy Action Plan 2020
- 2017 Texas A&M Utilities and Energy Services Master Plan
- Texas A&M GHG Emissions Inventory

Outside Resources

- US Energy Information Administration (EIA)
- Commercial Buildings Energy Consumption Survey (CBECS)

Stormwater Management

Texas A&M Documents of Reference

- 2017 Texas A&M Campus Master Plan

Campus Mobility

Texas A&M Documents of Reference

- 2015 Bicycle District Strategic Plan
- 2017 Texas A&M Campus Master Plan

Built Environment and Site Design

Texas A&M Documents of Reference

- 2017 Texas A&M Campus Master Plan

Outside Resources

- US EPA How We Use Water

Waste Management

Texas A&M Documents of Reference

- 2018 Texas A&M Sustainability Master Plan

Social Sustainability

Texas A&M Documents of Reference

- 2018 Texas A&M Sustainability Master Plan

Outside Resources

- Palich, Natasha, et. al. "Social sustainability: creating places and participatory processes that perform well for people." Environmental Design Guide, November 2013.
- Woodcraft, Saffron, et al. Design for social sustainability: a framework for creating thriving new communities. Young Foundation, 2011.

Education, Outreach, and Engagement

Texas A&M Documents of Reference

- The Office of Sustainability

Administrative Support

Texas A&M Documents of Reference

- 2018 Texas A&M Sustainability Master Plan

Instruction, Research, and Innovation

Texas A&M Documents of Reference

- Living Learning Programs

Outside Resources

- American Council on Education
- LEED Lab

This page intentionally left blank.

GLOSSARY

AASHE STARS -The Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) is a tool for evaluation of campus-wide sustainability efforts. The system recognizes achievements in five categories – Academics, Engagement, Operations, Planning and Administration, and Innovation and Leadership.

Auxiliary Enterprise - An accounting entity which exists to furnish goods or services to students, faculty, or staff and which charges a fee directly related to those services. In the case of Texas A&M, the Department of Residence Life operates as such an enterprise which must balance its budget annually.

Curricular Service Learning - Service experiences that are integrated into academic curriculum and that use reflection to help teach course content.

Department of Residence Life - The unit of Texas A&M University within the Division of Student Affairs responsible for providing on-campus housing and related programs to Aggies.

Energy Use Intensity (EUI) - A measure of how much energy the square footage of campus buildings use per year.

Greenhouse Gas (GHG) Emissions - Any gas that contributes to the trapping of the sun's warmth in the atmosphere.

Hardscape – A way of referring to impervious landscape surfaces of the built environment such as sidewalks and plazas.

Leadership in Energy & Environmental Design (LEED) - LEED is a green building certification program that recognizes best-in-class building strategies and practices. LEED is a program of the U.S. Green Building Council (USGBC).

Multi-Stream Recycling System - A collection method in which waste generators are required to source separate recyclables into two or more separate bins.

Net-Zero Waste - 90 percent or higher diversion of solid waste from the landfill or incineration.

Non-Potable Water - Water that is not of drinking quality but, depending on its quality, can be used for many other purposes.

Office of Sustainability - The staff at Texas A&M University responsible for providing vision and leadership for campus sustainability including the implementation of programs and planning to encourage sustainable practices, coordination of an annual sustainability assessment, and collaboration with other institutions of higher education through regional and national engagement.

Pedestrian Priority Zone - An area of campus that gives priority to pedestrians and limits most vehicle traffic. Rather than creating physical barriers, zones are created through planning for future development in a set area to prioritize pedestrian connections over vehicular access.

Potable Water - Water of a quality suitable for drinking, cooking and personal bathing.

Renewable Energy – Energy from sources that regenerate rapidly such as solar, wind, and hydroelectric.

Social hierarchy - The real or perceived stratification of social groupings within a larger community that can tend to make some social groupings feel a dominance or subordinance to other social groupings and that may impact one group or another's use of or access to resources.

Socio-Economic Status (SES) - An economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation.

Softscape – A way of referring to landscape surfaces and other pervious areas of the built environment.

Sustainable SITES Initiative (SITES) - A comprehensive rating system designed to distinguish sustainable landscapes, measure their performance, and elevate their value.

Utilities & Energy Services - The staff at Texas A&M University responsible for providing utilities and energy management services to the institution's 750+ buildings totaling over 23 million gross square feet.

Waste Diversion or **Landfill Diversion -** The process of sending waste to recycling facilities or other reuse infrastructure in lieu of sending it to landfills.

SUSTAINABLE SPACE INDEX

The Sustainable Space Index used SAMi, a proprietary Ayers Saint Gross tool, to evaluate both indoor and outdoor spaces associated with the DRL.

The analysis of indoor spaces included the following sustainability-related criteria:

1. Quality Views
- Good sightlines to the exterior are available for participants in regularly occupied space.
- Exterior windows provide visual access to an active exterior or natural space.
- Views are unobstructed by interior partitions, furnishings, ceiling bulkheads, etc.
- Blinds or other means provide controllability.

2. Technology
- Lounges and other collaborative spaces include screens, projectors, and cables for students to connect and share content.
- Wi-fi is readily available.
- Outlets are available in sufficient quantities and co-located with seating.

3. Air Quality
- Walk-off surfaces are provided at principal building entrances.
- Potentially hazardous spaces (ie, janitor's closets, bathrooms) are provided with hard-lid ceilings or deck-to-deck partitions and self-closing door hardware.
- Signage communicates interior and exterior smoking policy.

4. Adjacencies
- Trash and recycling infrastructure are easily accessible but do not create undesirable adjacencies.
- Noise from traffic, laundry, or other sources does not negatively impact study spaces.

5. Accessibility
- Building amenities are accessible to all building users regardless of physical capacity.
- Directional signage is clear. Note if multi-lingual signage is available.
- Corridors are sufficiently wide to provide clearance for those with mobility limitations.

6. Waste Minimization
- Water bottle filling stations are available at all water fountains.

7. Recycling Infrastructure
- The building has accessible recycling infrastructure for residents to collect recyclables.
- The building has convenient access to neighborhood recycling infrastructure for custodial staff.
- Containers are cleared by staff daily. Container size appears to match demand.

8. Space for Waste Infrastructure
- Space exists to make additional diversion streams (compost, durable goods, etc.) available.
- A 24-hour controlled point is available (ie, a staffed desk or similar).

9. Furniture
- Furnishings are in good repair.
- Furnishings are movable and support multiple modes of gathering (ie, typical conference room, multiple conversation groups, tutoring (academic focus), etc.
- Controllability of lighting supports multiple uses (ie, all dark for movies, mid-level for presentations and note-taking, all on for social gathering).

10. Availability of Soft Space
- The ratio between soft space and residents aligns with best practice.
- Spaces are available for varying scales of community to gather.
- Soft spaces include infrastructure for food – vending machines, kitchenettes, kitchens, etc.

11. Food Culture

- Kitchens, kitchenettes, and/or vending machines are available.
- Increase scoring as autonomy becomes increasingly available (ie, apartments with kitchens are scored higher than buildings with vending machines only).

12. Public Image

- Public art is included in lobbies and/or gathering spaces.
- Aggies are able to find members of their race, ethnicity, or gender in the public image of the building or its artists.

13. Permanent Signage

- Subjects addressed by permanent signage include wayfinding, sustainability features, and other information.
- Permanent signage does not create visual clutter.
- Award one point per subject included and identify the subject in the notes below.

14. Temporary Signage

- Subjects addressed by temporary signage include wayfinding, sustainability features, efficiency behaviors, social behaviors, hall events, health and wellness services, campus events, and other information.
- Temporary signage does not create visual clutter.
- Award one point per subject included and identify the subject in the notes below.

The analysis of exterior spaces included the following criteria:

1. Programming

- Exterior spaces have movable furniture in good repair.
- Exterior spaces support both defined function – ie, furniture groups that support studying or socializing, barbecue infrastructure, hammock hanging, etc. – and undefined functions – ie, Frisbee, soccer, etc.

2. Shade

- Exterior spaces have shade structures associated with seating areas.
- Entries have canopies to mitigate inclement weather.

3. Safety

- Exterior spaces have few out-of-view locations.
- Blue phones are within sightlines from all locations.
- Exterior lighting marks entrances and provides sufficient light levels.

4. Adjacencies

- Trash and recycling infrastructure are easily accessible but do not create undesirable adjacencies.
- Noise from traffic, laundry, or other sources does not negatively impact exterior spaces.
- Bicycle storage is located near entrances, but does not infringe on primary pedestrian paths.

5. Plantings

- Landscape is healthy and well-maintained.
- Plant selections support University goals to minimize irrigation demand.
- No evidence of erosion.

6. Accessibility

- Space amenities are accessible to all building users regardless of physical capacity.
- Sidewalks are in good repair with few uneven edges.
- Directional signage is clear. Note if multi-lingual signage is available.

7. Permanent Signage

- Subjects addressed by permanent signage include wayfinding, sustainability features, and other information.
- Permanent signage does not create visual clutter.
- Award one point per subject included and identify the subject in the notes below.

8. Temporary Signage

- Subjects addressed by temporary signage include wayfinding, sustainability features, efficiency behaviors, social behaviors, hall events, health and wellness services, campus events, and other information.
- Temporary signage does not create visual clutter.

As the planning team reviewed representative buildings and spaces on campus, each criterion was evaluated on a scale from 0 – 5 with zero indicating a space did not represent the aspirations of a given criterion while five indicated a space provided ideal conditions. The planning team was able to mark individual criteria as "not applicable" and provide additional notes on why a space was scored as such. Photographs of representative features were also taken while indexing spaces.

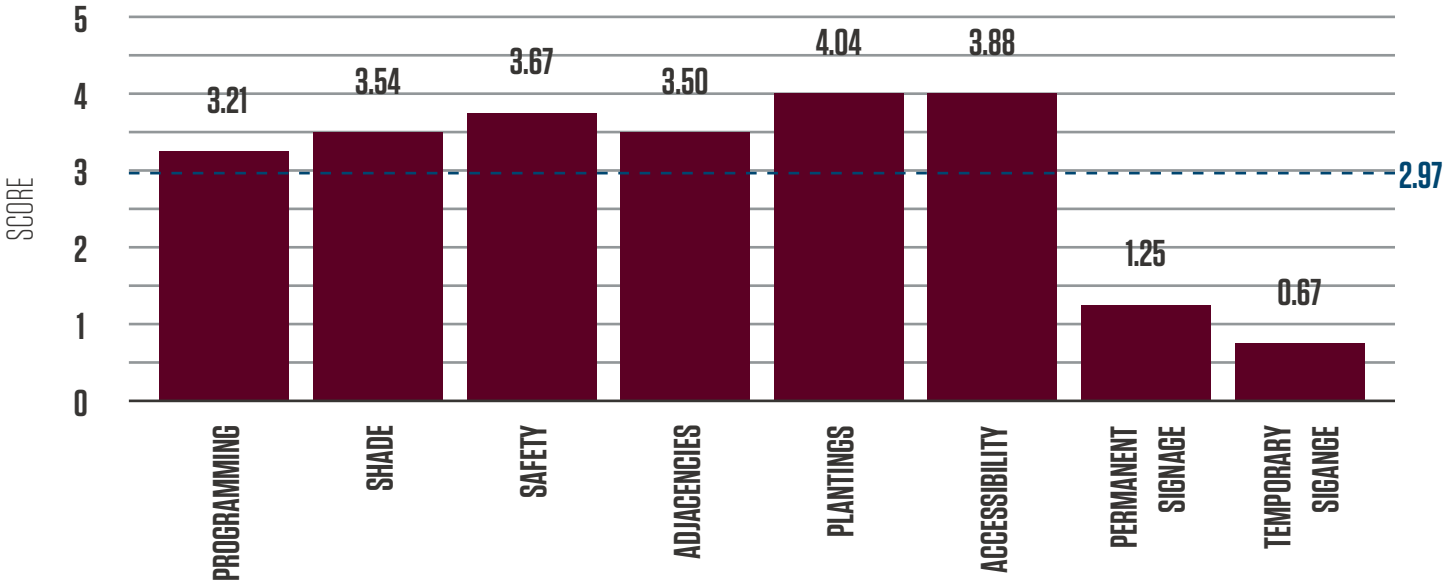
What follows below are the results of the indexing activity including information on each space or building visited, its individual score on each criterion, and analysis of the aggregated data. This information was used by the planning team to identify critical issues for further discussion, support recommendations that are included elsewhere in this plan, and evaluate whether some criteria were applicable to all on-campus housing or whether outliers could be established at a campus, neighborhood, or building-by-building scale. Portions of these observations were reinforced by discussion with students and DRL staff.

Outdoor Spaces Index

	Walton/Haas Quad	Keathley Quad North	Davis-Gary Quad	Hullabaloo Courtyard	Commons Patio	Dunn Quad	Krueger Quad	Univ. Apartments Community Ctr Green Space	The Gardens Activity Ctr. Space	White Creek A Quad	White Creek B Quad	White Creek C Quad
1	3	2	1	5	4.5	3	2.5	3a	5	3	3	3.5
2	4	2	4	4	5	4.5	4.5	3	4	1.5	3	3
3	3	4	3	4	4.5	4.5	4.5	3	3	3.5	3	4
4	4	4	2	4	4	4	4.5	2	4	3.5	2.5	3.5
5	3	2	2	5	5	4.5	5	3	4	5	5	5
6	4	4	4	5	4.5	4	3.5	0	3	5	5	4.5
7	0	0	0	1.5	2	1.5	1.5	0	4	1.5	2	1
8	0	0	0	1	0	1.5	1.5	0	0	1.5	1.5	1
total percentage of points earned	53%	45%	40%	74%	74%	69%	69%	35%	68%	61%	63%	64%

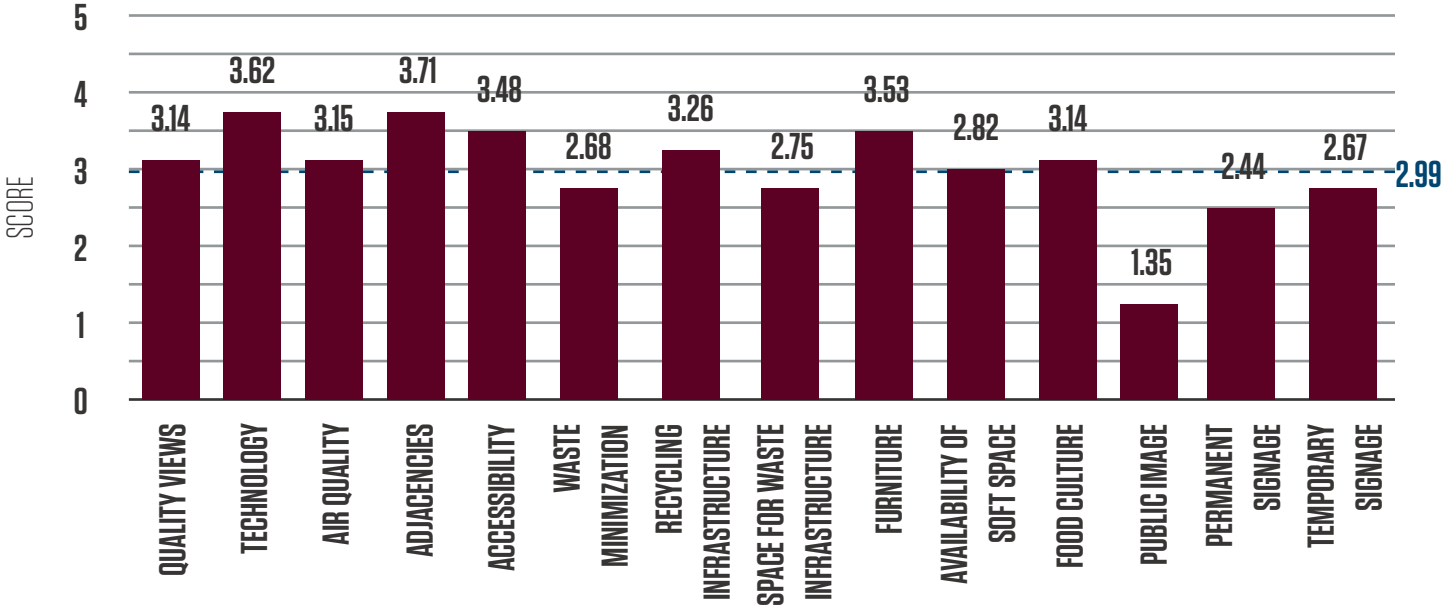
Buildings Index																	
	Keathley	Walton	Legett	Davis-Gary	Hullabaloo	Appelt	Eppright	Commons	Dunn	Krueger	Kiest - Dorm 2	Univ. Apartments Community Ctr	The Gardens Activity Bldg	White Creek A	White Creek B	White Creek C	White Creek Activity Bldg
1	3.5	2	1.5	3	5	4	4	5	1.5	0	5	3	3.5	0	4.5	3	5
2	3	2.5	2.5	3.5	5	3	4.5	5	4	3	5	3.5	4.5	2.5	3	3	4
3	3.5	2.5	3	1.5	5	3	4	5	3.5	0	5	4.5	3.5	2.5	1.5	1.5	4
4	3	4	2.5	4	5	4	4.5	4.5	4.5	3	3	4	3.5	3	3.5	4	3
5	2.5	2	3.5	2	5	2	2	5	1	3	5	5	4.5	3.5	5	5	3
6	3	3.5	2	2.5	5	2	3	4.5	1	4	1	3	4.5	1	1	0.5	4
7	0	3	5	2.5	5	5	5	5	0	5	5	5	4.5	2.5	1.5	1.5	0
8	2	1	3	1	4	2	2.5	4.5	1	5	5	3.5	4	1.5	0	1.5	5
9	2.5	2.5	3.5	2.5	5	3	2.5	5	3.5	3	5	3.5	4.5	0	4	5	5
10	2.5	2	2.5	2	5	2	2	5	2	1	5	4.5	5	0	1.5	1	5
11	3	1	3.5	2.5	5	3	1	5	1.5	1	0	2.5	4.5	5	5	5	5
12	0	0	1.5	1	5	1	0.5	3.5	1.5	0	2	3.5	2.5	0	0	0	1
13	1	2	3	2.5	3	2	2	3.5	2.5	3	5	2.5	2.5	2.5	0.5	2	2
14	1.5	2.5	3.5	2.5	4	2.5	2	2	3	3	5	4	2.5	3	2	1.5	1
total percentage of points earned	44%	44%	59%	47%	94%	55%	56%	82%	44%	52%	80%	74%	77%	39%	47%	50%	74%

Figure 09: Average Points Earned by Category in the Sustainable Space Index - Exterior



This chart illustrates the average score in each category across all exterior spaces reviewed as part of the Sustainable Space Index.

Figure 10: Average Points Earned by Category in the Sustainable Space Index - Interior



This chart illustrates the average score in each category across all interior spaces reviewed as part of the Sustainable Space Index.

Analysis

Both the average outdoor space and the average indoor space achieved 60% of the available points. Both Hullabaloo Hall and the Hullabaloo Courtyard achieved the highest percentage scores among buildings and outdoor spaces, respectively. The University Apartments Community Center Green Space scored lowest among outdoor spaces while White Creek A scored lowest among residence life buildings. The scores of outdoor spaces range across 39 percentage points while the scores of buildings range across 55 percentage points which suggests buildings have greater variability in their capacity to support sustainability in residence life than exterior spaces. Outdoor spaces earned their highest average score in the plantings criterion, but scored weakest in both the permanent and temporary signage criteria. Buildings performed most strongly in the adjacency criterion, but weakest in public image.

Indexing facilities in the Department of Residence Life on the criteria above suggested the following ideas merited further study in the context of this plan and developed into recommendations as a result of continued dialogue with staff and students.

The planning team identified Public Image as an opportunity for growth in DRL facilities that aligns with the Social Sustainability objectives of Texas A&M. The University identifies Voice and Influence as an important component of Social Sustainability and recognizes the importance of finding oneself in the public image of Texas A&M to feeling like an included member of the Aggie family. Department of Residence Life facilities do not have a public art program deployed across residence life facilities that celebrates dwelling on campus. Art exists in some locations, but DRL should consider opportunities to use public art to promote the on-campus community.

When touring buildings, the planning team accessed public spaces only and did not enter any resident dwelling units. Planning team observations of amenity spaces (lounges, kitchen, common buildings, laundry spaces, corridors, etc.) spurred additional study through the student engagement focus groups. Planning team observations and discussions with students influenced the amenity recommendations in the Built Environment and Site Design section.

Given the planning team's existing familiarity with Texas A&M, it was assumed Waste Management would be an important topic for students and staff. The indexing exercise identified baseline conditions and the breadth of recycling infrastructure available in varying communities. Paired with discussions with students and custodial staff particularly, this work influenced many of the recommendations in the Waste Management section.

The absence of a robust permanent or temporary signage program in the buildings influenced Education, Outreach, and Engagement recommendations as well as the poster series and brochure deliverables of the 2018 Residence Life Sustainability Plan. It is hoped that the additional deliverables of this project will be a stepping stone to future growth in permanent and temporary signage that will support students in learning sustainable life skills in residential settings.

The Sustainable Space Index tool was an important part of this project's process and set the stage for meaningful engagement with students and staff.

PROGRESS CHECKLIST

This executive summary tool is intended to support the Texas A&M University Department of Residence Life in evaluating its progress in advancing the recommendations within this Residence Life Sustainability Plan. This "at a glance" summary will allow the department to document snapshots in time during implementation and identify priority areas for future improvement. In addition to tracking the percentage of completion for each recommendation, this checklist includes "defer to next fiscal year," and "not pursued" options. These choices support DRL in distinguishing recommendations that should continue to be considered in future from recommendations that will not be advanced because of changes in circumstances or priority that can not be predicted at the time of publication.

02 SOCIAL SUSTAINABILITY

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
02-1: Increase connectivity between on-campus housing and recreation facilities.	7	○	○	○	○	○	○	○	
02-2: Develop a public art program in the residence halls that better represents current on-campus residents.	7	○	○	○	○	○	○	○	
02-3: Increase the number of applicants to DRL's Hall Improvement Program.	7	○	○	○	○	○	○	○	
02-4: Increase the frequency of sustainability-related requests in applications to DRL's Hall Improvement Program.	8	○	○	○	○	○	○	○	
02-5: Increase the amount of durable goods donated at move-out.	9	○	○	○	○	○	○	○	
02-6: Increase proactive communication on Social Sustainability topics.	9	○	○	○	○	○	○	○	

03 ENERGY USE & GREENHOUSE GAS EMISSIONS

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
03-1: Complete planned energy efficiency upgrades.	16	○	○	○	○	○	○	○	
03-2: Consider additional strategies to decrease the EUI of Davis-Gary and Moses Residence Halls.	17	○	○	○	○	○	○	○	

03 ENERGY USE & GREENHOUSE GAS EMISSIONS (continued)

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
03-3: Continue to evaluate Corps of Cadets dorms post-renovation to ensure efficient EUIs are being achieved in all facilities.	18	○	○	○	○	○	○	○	
03-4: Evaluate which halls have the lowest summer energy use intensity and consider moving summer occupants to facilities with the lowest summer EUIs.	20	○	○	○	○	○	○	○	
03-5: Evaluate and implement strategies to simulate energy bills for residents to encourage conservation.	21	○	○	○	○	○	○	○	
03-6: Calculate EUI for each building annually.	22	○	○	○	○	○	○	○	
03-7: Decrease DRL's EUI from a FY2017 baseline of 136 to 123 by FY2022.	22	○	○	○	○	○	○	○	

04 STORMWATER MANAGEMENT

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
04-1: Continue to support campus-wide efforts to achieve better stormwater management by embracing strategies articulated by the 2017 Campus Master Plan.	24	○	○	○	○	○	○	○	

05 CAMPUS MOBILITY

Collaborate with Transportation Services to:

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
 **05-1:** Create equitable access to on-campus destinations including the Student Recreation Center across on-campus communities.	28	○	○	○	○	○	○	○	
 **05-2:** Create equitable access to off-campus destinations including the grocery store and First Friday in Bryan across on-campus communities.	28	○	○	○	○	○	○	○	
05-3: Consider adding bikeshare as an opt-in fee for on-campus residents.	28	○	○	○	○	○	○	○	
05-4: Continue evaluating how to balance recommendations of the 2017 Campus Master Plan with on-campus residents' parking needs.	29	○	○	○	○	○	○	○	

06 BUILT ENVIRONMENT & SITE DESIGN

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
06-1: Complete water efficiency upgrades across all housing facilities after energy upgrades are completed.	36	○	○	○	○	○	○	○	
06-2: Evaluate strategies to simulate water bills for residents to encourage conservation.	36	○	○	○	○	○	○	○	
06-3: Calculate WUI for each building annually.	37	○	○	○	○	○	○	○	
06-4: Decrease DRL's WUI from a FY2017 baseline of 6,700 gallons per bed to 6,030 gallons per bed by FY2028.	37	○	○	○	○	○	○	○	
06-5: Increase the number of interior amenity spaces with visual access to the corridor via glazing in doors and/or replacing demising walls with storefront where possible.	38	○	○	○	○	○	○	○	
06-6: Increase the capacity of exterior amenity spaces to provide electrical outlets and shade.	39	○	○	○	○	○	○	○	

07 WASTE MANAGEMENT

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
07-1: Introduce community-scale recycling infrastructure in the White Creek community.	42	○	○	○	○	○	○	○	
07-2: Increase the convenience of recycling bins as possible in all communities.	42	○	○	○	○	○	○	○	
07-3: Increase custodians' training regarding recycling and Texas A&M's partnership with Brazos Valley Recycling.	42	○	○	○	○	○	○	○	
07-4: Explore continuous durable goods collection to minimize pressure on move-out.	43	○	○	○	○	○	○	○	
07-5: Provide on-going e-waste collection at 24-Hour Desk locations.	44	○	○	○	○	○	○	○	
07-6: Increase resident education on recycling practices at Texas A&M University	44	○	○	○	○	○	○	○	

08 EDUCATION, OUTREACH, & ENGAGEMENT

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
08-1: Establish Program Sub-Types for Resident Advisor programming so DRL's Residential Education staff can better understand events in the halls.	47	○	○	○	○	○	○	○	
08-2: Request Resident Advisors log the number of attendees at events so DRL can work to balance RA efforts and interaction frequency.	47	○	○	○	○	○	○	○	
08-3: Evolve the structure and resources for Resident Advisors as suggested by data obtained via 08-1 and 08-2.	48	○	○	○	○	○	○	○	
08-4: Increase temporary and permanent educational signage in the residence halls.	48	○	○	○	○	○	○	○	
08-5: Develop collateral that helps RAs create bulletin boards and programming that targets subjects DRL has defined as priority issues.	49	○	○	○	○	○	○	○	
8-6: Increase proactive education, outreach, and engagement from the Aggie Eco-Reps.	50	○	○	○	○	○	○	○	
 **8-7:** Increase proactive education, outreach, and engagement	51	○	○	○	○	○	○	○	
9-8: Advance strategies to market sustainability features and opportunities as an on-campus housing amenity.	51	○	○	○	○	○	○	○	

09 ADMINISTRATIVE SUPPORT

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
09-1: Purchase printer and copier paper that includes at least 30% post-consumer recycled content.	52	○	○	○	○	○	○	○	
09-2: Engage the University's custodial contractor during the design process for renovations or new construction to ensure architectural finishes can be maintained using cleaning or janitorial supplies that meet green cleaning criteria recognized by AASHE STARS.	52	○	○	○	○	○	○	○	

09 ADMINISTRATIVE SUPPORT (continued)

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
09-3: Codify sustainability in DRL staff job descriptions using terms the Office of Sustainability is targeting to identify sustainability staff across campus.	53	○	○	○	○	○	○	○	
09-4: Achieve Aggie Sustainability Alliance certification for at least 35% of DRL staff. Certify the DRL office once 35% of individual staff members are certified.	53	○	○	○	○	○	○	○	
09-5: Launch a sustainability-focused dorm room certification program.	54	○	○	○	○	○	○	○	
09-6: Collaborate with the Office of Sustainability to add a housing classification question to the Sustainability Literacy Assessment.	54	○	○	○	○	○	○	○	

10 INSTRUCTION, RESEARCH, & INNOVATION

	PAGE #	0%	25%	50%	75%	100%	DEFER TO NEXT FY	NOT PURSUED	NOTES
10-1: Increase cross-collaboration of Living Learning Programs through formally hosted events each semester.	57	○	○	○	○	○	○	○	
10-2: Increase advertising opportunities to ensure students are aware of LLPs.	57	○	○	○	○	○	○	○	
10-3: Work to streamline the timelines for acceptance into the University, on-campus housing, and LLPs.	57	○	○	○	○	○	○	○	
10-4: Work to integrate LLP content with existing academic requirements to increase program impact.	58	○	○	○	○	○	○	○	
10-5: Advance a sustainability-focused LLP.	58	○	○	○	○	○	○	○	

The Social Sustainability icon highlights recommendations within the plan that connect to topics within that focus area that are written in other portions of the plan.

This page intentionally left blank.

Stay Involved in the Conversation

For more engagement in sustainability on campus, follow DRL's sustainability-focused social media accounts or find sustainability within DRL online or via email:

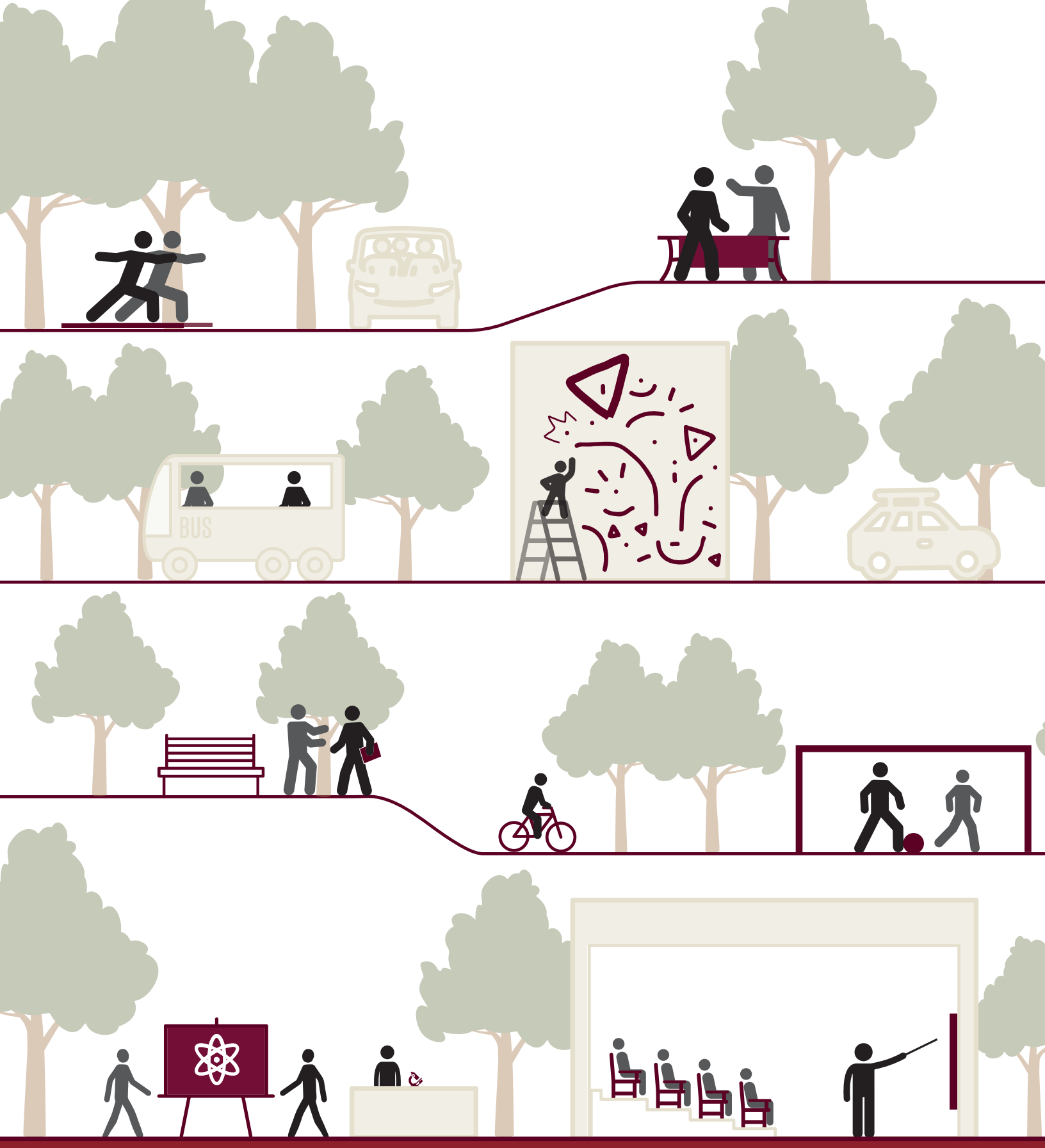
reslife.tamu.edu/living/sustainability

sustainability@housing.tamu.edu

@TAMUResLifeSustainability

@TAMUResLife

@TAMUResLife



AYERS SAINT GROSS

TEXAS A&M UNIVERSITY.