Project Name: Schob Nature Preserve, College Station, Texas.

Pergolas at Schob Nature Preserve
Source: Professor Geoffrey BOOTH.

Project Video at:
https://www.youtube.com/watch?v=mxL21NRM9aM

Project Overview

The Dr. David E. Schob Nature Preserve is a 7.44 acre lot located in the north east part of College Station, Texas, within Brazos County. Found within the local neighborhood of College Hills, it is unique in its public accessibility. Within the site are multiple trail systems, a rain garden, various endemic species of plants, and infrastructure such as pergolas, tables, and benches. Some signage can be found within the preserve marking the development of certain aspects as well as general information and rules for the site. It functions both as a community park and nature conservation area for the surrounding citizens of the area as well as a living classroom for the Texas A&M University staff and students who use it.

In 2009, former Texas A&M history professor Dr. David E. Schob gave his land, including his home residence, to the departments of Landscape Architecture and Urban
Planning within the College of Architecture and the Recreational Parks and Tourism Sciences department in the College of Agriculture and Life Sciences. He wanted the home to be available rent free for students, especially veterans, assuming they would be willing to assist in any research or upkeep the site might require. In October of 2009, Dr. Michael Murphy led a proposal with Drs. Scott Shafer and Ming-Han Li for a cross-disciplinary collaboration to assist in the development of the site which would be then maintained and developed by both departments. Dr. Michael Murphy, a retired Texas A&M professor of landscape architecture, was selected to lay out the site plans and oversee the creation and implementation of the design elements.

After two years of construction, an opening ceremony was held and the park was opened to the public. When a visitor enters the site, they must park along the street. Lights line the front walkways of the site, with a pathway to the entry pergola, covering a seating area. Most of the nature preserve is made up of permeable surfaces, such as grass and other plants. The Prairie, an area designed by Texas A&M students, houses native grasses to the area, while the Rain Gardens, another student project, harvests stormwater, improving the quality of the groundwater on the site. There is a storage building near the back of the site, but besides that, not any other true buildings.

Overall, the Schob Nature Preserve is an excellent resource in its educational and conservation capabilities. It provides an oasis for visitors, vegetation, and wildlife in an otherwise majorly developed city. Community members are free to visit the site and partake in whatever activity that they please, whether that is staying active, relaxing, or being social with family and friends. This report will evaluate the quadruple net value of the site, including the elements of social-cultural, economic, environmental, and sensory. The members of this team conducted an initial site visit along with the other member of Dr. Geoffrey Booth’s Land and Property Development class on March 2nd, 2017. Team 3 consists of Emmilea Perkins, Harley Guarnere, Wayne Powell, Logan Smith, Parker Frede, John Guillett, Anoop Balachandran, Brett Fisher, Kaitlin Gibbon, and Colin McCreary.

Our team would like to thank the following people for their contributions to our understanding of the site:

Dr. Geoffrey Booth - Professor of URPN 330 Land and Property Development
Dr. Ming Han-Li - LAUP Senior Schob Scholar
Methodology

The research framework applied in this report was developed by College of Architecture at Texas A&M University “Outstanding Alumni”, Professor Dennis Jerke in the textbook that formed the basis of this course:


The Study Area

The layout plan of Schob Nature Preserve

*Source: Professor Ming-Han LI.*
Consolidated Assessment of the Project’s Quadruple Net Value

I. SOCIAL/CULTURAL CRITERIA AND METRICS
(Team members: Harley Guarnera, Wayne Powell, Logan Smith)

A. Safety and Security (% decrease in crime/security incidents; number of security patrol officers and patrols; number of lights added to the project; close proximity between parking areas and residential uses.)

- Security staff in addition to local police

  Research:

  There is no additional security besides local police.

  Source: College Station Police Department call

  Analysis:

  There is no additional security besides the local police, but the crime rate is low and needing additional security would be unnecessary, however adding additional lighting lighting to the park would make it feel safer at night.

  Conclusions:

  The park is in a safe neighborhood with low crime rate, but adding additional lighting to the park would make the park feel safer at night

- Crime reduction in the area (ten minute walk from project)

  Research:

  Research shows that the arrest records of crime in the area tends to be non-violent.

  Source: College Station Police Department

  Analysis:

  The lack of violent crime in the area makes it a very safe place to live and visit.
Conclusions:
The feeling of safety in the area adds a great deal of value to the site and the surrounding properties.

- **Additional lighting in public areas**

  **Research:**
  There is no additional lighting besides the lights at the very front of the site.

  **Source:** site visit

  **Analysis:**
  Having no lighting throughout the park makes people less likely to visit at night.

  **Conclusions:**
  Adding lighting throughout the park could encourage more people to visit the park at night and feel safer doing so.

- **Security systems added for the project**

  **Research:**
  The only security systems added for the project are the light fixtures they installed on site. Passive security systems already in place include constable patrol in the adjoining neighborhood.

  **Source:** College Station Police Department

  **Analysis:**
  There are no additional lights besides the lights along the street as well as no on site patrol.

  **Conclusions:**
  Adding additional lighting to the park would make the park overall feel safer at
night, but the site is located in a safe neighborhood with low crime rates so additional security besides added lighting is not necessary.

**B. Public Access/Connectivity** (% increase in public space (green space, public plazas, transportation stations, indoor public meeting spaces))

- **Public access to project**
  
  **Research:**
  
  There is public access to the park. There is no designated parking on site, only street parking.
  
  **Source:** Site visit
  
  **Analysis:**
  
  Street parking can become a hassle if a lot of people decide to go to the park at once.
  
  **Conclusions:**
  
  Adding a form of parking besides street parking could help with public access and make people feel safer parking their car.

- **Public transit connections**
  
  **Research:**
  
  There is a TAMU bus route that drops off near the site.
  
  **Source:** https://transport.tamu.edu/busroutes/
  
  **Analysis:**
  
  The bus stop is a little bit of a walk to the site and some people may not want to walk that far from the bus stop.
  
  **Conclusions:**
  
  Even though the stop is a little walk to the site, adding another form of public
transit to the site is not necessary.

- **Number of trail connections**

  **Research:**

  There are four trails on site.

  **Source:** Site Visit

  **Analysis:**

  There are three small trails located on the left side of the property and one bigger trail located in the back of the park. The trails are big enough to walk, but the only trail that could be considered running would be the trail located in the back of the park.

  **Conclusions:**

  Grooming of the trails on the side of the reserve would encourage more people to walk them.

- **Number of bicycle lanes in streets**

  **Research:**

  There are no bike lanes on Ashburn drive

  **Source:** Site visit

  **Analysis:**

  If people are street parked on the road, those who ride bikes down the street have to go around the parked cars.

  **Conclusions:**

  Adding a bike lane will not help because cars street park and the vehicles will park in the bike lane, but making the sidewalk all the way down the street and widening the sidewalk to where both pedestrians and cyclist can both use the sidewalk.
• **Number of bicycle facilities**

**Research:**

There are no biking facilities on site unless people chose to bike on the trails in the park.

**Source:** Site visit

**Analysis:**

There are no bike racks and people who go the park have to lay down their bike where they can find.

**Conclusions:**

Adding a bike rack would encourage more people to want to bike to the park.

• **Pedestrian trails and walks**

**Research:**

There are five trails on site.

**Source:** Site visit

**Analysis:**

There are four small trails and one trail that is a bigger.

**Conclusions:**

The trails are not big enough to run, but perfect for walking.

• **Streetscape – seating/lighting/landscaping/walks**

**Research:**

There is seating under the pergola right off the street where the park starts on the right. To the left of the pergola is a grass lawn with a few trees. Only along the
sidewalk where the park starts is the only lighting in the park. Lastly, there is a paved pathway that goes from the front of the park where the first pergolas start to the pergolas in the back/central part of the park. Behind the last pergolas, there is the largest trail on site that makes a loop, and on the left side of the park are three smaller trails.

**Source:** Site visit

**Analysis:**

Seating in the park is in a great location. The park is very dark at night because there is no lighting throughout the park only in the front. Landscaping was laid out good because there a field in the front and the trail is in the back. Three trails to the side of the park that are small and the large trail in the back of the park would be best for runners.

**Conclusions:**

Adding more streetlights would make the park feel safer at night.

C. **Health** *(length of trails, area of public parks and exercise areas, number of health education/events, number of pet/dog related events, air quality improvements)*

- **Length of trails and walks for walking and running**

  **Research:**

  There are five trails on the site.

  **Source:** site visit

  **Analysis:**

  The trails are great for walking, but may be considered too small for runners.

  **Conclusions:**

  Adding a trail that is bigger than the already existing trails would encourage runners to come to the park.
Area of public parks and exercise areas

Research:

There are running and walking trails throughout the park, and an open field in the front that has some trees present.

Source: site visit

Analysis:

The site does have opportunities for exercise, however the relatively short length
of the trails will not keep people in the park for a long time.

**Conclusions:**

Adding more running and walking trails to the site would encourage more visitors to come to the site as well as encourage them to stay longer.

- **Number of health education/events**

  **Research:**

  There are no health/education events that happen on site besides TAMU hosting graduating landscape students a lunch for all graduating.

  **Source:** http://laup.arch.tamu.edu/research/schob-nature-preserve/

  **Analysis:**

  There is an elementary school around the corner from Schob park, but no events are held from the school on site.

  **Conclusions:**

  Holding events from other local schools would be a great way for people to get to know about Schob park and why it is there.

- **Number of dog parks**

  **Research:**

  There is no dog park on the site.

  **Source:** Site visit

  **Analysis:**

  Even though there is no dog park on the site, dogs are allowed to enjoy the park just like their owners.

  **Conclusions:**
Holding dog/pet related events at the park could encourage owners to come to the site and eventually could lead to them using the park as another park for their pets.

- **Air quality improvements**

  **Research:**

  There are no electric car stations, you can take the TAMU bus to the park, there are trees.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)

  **Analysis:**

  As a park, the site is almost entirely green space and has no negative impact on air quality

  **Conclusions:**

  It would be difficult for the site to be more eco friendly, and its impact on air quality is positive or at least neutral.

  **D. Education** *(the number of programs created to promote environmental, historical, and cultural education, signage, coordination)*

  - **Number of educational programs created to promote environmental, historical and cultural education for project users and neighbors**

    **Research:**

    Maintained by the Texas A&M landscape architecture and Urban planning department, with developmental education implemented in the LAND 321 class. After construction, neighbors were invited to the preserve to learn about its purpose from Texas A&M students.

    **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)
Analysis:

The educational programs are intermittent, at best. The most notable project was the rain garden creation project, through the LAND 321 class. This construction project included environmental, historical, and cultural education for those involved. However, finding detailed information on this project is challenging.

Conclusion:

There could be many more educational events planned to placate students and the public. In addition, events could be more widely publicized and documented to appeal to a larger audience.

- Signage, exhibits, points of interest that communicate the educational aspects of the project

Research:

There is one plaque below the main sign that explains its status as a certified wildlife habitat. One extensive board explains the rain gardens project designed in 2015, and its purpose. One sign indicates the arrival of Schob Nature Preserve to the area. There is also a rule board that clearly states when the park is open, and other formalities.

Source: Site Photos Collection (cited below)
Welcoming board. Photo by Dr. Booth
Rain Garden explanation. Photo by Dr. Booth
Rule board. Photo by Dr. Booth
Certified Wildlife Habitat designation. Photo by Dr. Booth

**Analysis:**

The explanation of the Rain Garden begins to show the educational aspects of the preserve. It does go into detail concerning the value of such a system, as well as giving credit to those who put it together. The main sign for the park is visible from the street, but is not lit at night for visibility. The certified wildlife habitat sign gives credit to the fact that the wildlife preserve has food, water, cover, and places to raise young.

**Conclusions:**

There should be more boards similar to the Rain Garden board explaining each element of the park, and how it benefits the title of being a nature preserve. The main front sign can be rotated by 90 degrees to be visible when driving by the
preserve, and also lit up during the evening hours.

- **Level of coordination with schools and other educational institutions to educate the public about the project**

**Research:**

The land is owned by the Texas A&M University System and promotes its own site education through existing programs. However, few resources are available to educate the public about the project aside from existing educational boards at the preserve and online content sponsored by the Texas A&M University System. At the conclusion of construction, neighbors were invited to the preserve to learn about the comprising systems of the park.


Preserve Opening Ceremony. Source: Texas A&M Landscape Architecture Facebook
Preserve Opening Ceremony. Source: Texas A&M Landscape Architecture Facebook

**Analysis:**

The amount of ongoing coordination with schools and educational institutions to educate the public about the project is minimal. There is no official ongoing, updated blog styled website or aggregation where the content is being made public. In addition, many events scheduled at the preserve are private events, not made available to the public and not specifically planned to discuss the park’s educational aspects.

**Conclusions:**

A publically available updated blog would increase the project’s visibility and education created for the general public -- not only in the community but worldwide. In addition, annual or semi-annual events posed as educational / informational seminars hosted at the park or at Texas A&M university would increase its local program outreach.
E. Public Visitation/Involvement (% increase in public events, organizations, projected annual public visitation)

- **Number/area of public use areas in the project**
  
  **Research:**
  
  Two pergola areas for sitting and table usage, as well as several walking trails with benches and open grass space for recreation and planned activities. Area for picnics are widespread.

  **Source:** site visit

  **Analysis:**
  
  There are basic amenities available for visits during short periods of time by local residents. No facilities exist to accommodate large groups of people for long periods of time -- they must be brought in. These include restroom facilities, running water, and weather shelters.

  **Conclusions:**
  
  If additional facilities were installed to attract more visitors and keep them there, the public use areas would be used more frequently.

- **Programmed events that include the public**
  
  **Research:**
  
  The intent for the area is for educational programming closed to students and their guests. One of these events includes a semesterly graduation celebration for graduates in the degree program.

  **Source:** http://laup.arch.tamu.edu/research/schob-nature-preserve/

  **Analysis:**
  
  Programmed events that include the public are very infrequent at Schob Nature Preserve. Many of the events are invite - only by the Texas A&M University System.
Conclusions:

If more events were made available to the public, the preserve would attract more visitors. The general public may be under the impression that they are not allowed to use the park whenever they want to, but having general events would show that everyone is welcome to use the preserve as long as they follow the established rules.

- **Number of organizations that will be involved in public activities**

  **Research:**

  Students and faculty of the Texas A&M landscape architecture and urban planning department, as well as students and faculty of the Texas A&M Recreation, Parks, and Tourism Science department.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)

  **Analysis:**

  These Texas A&M programs will help draw attention to the site as well as ensure its use as an educational facility

  **Conclusions:**

  The involvement of these programs with the site help to raise its value by ensuring that it will be used as a venue for educational events

- **Projected annual public visitation**

  **Research:**

  Hard to predict, but public visitation could be in the high hundreds or low thousands per year.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)

  **Analysis:**

  It is difficult to establish an annual public visitation number because visitation is not monitored by any means. There is no guest log, or security cameras to count
the number of people that visit the preserve. The best way to project an estimated number of visitors is to send someone to count the people coming in at certain days of the year, and average those numbers together. Counting every visitor is not feasible or cost-effective.

Conclusions:

The projected annual public visitation was estimated to be low because there are not a large amount of amenities for visitors, in addition to the low amount of people observed visiting the park when research for the quadruple net value report was generated.

F. Residential Proximity

- Number of residential units within the project

Research:

There is one residential unit within the project, occupied by a Texas A&M student who helps with upkeep. It is offered as “a subsidized rate to LAUP and RPTS students in exchange for conducting and coordinating research projects, contributing to education programs and providing general oversight at the preserve.”

Source: https://one.arch.tamu.edu/news/2014/11/4/living-classroom/

Analysis:

Dr. Schob donated a residential unit that was upgraded and renovated to fit the needs of a student in the LAUP or RPTS departments. This person is the one designated to help with projects that relate to the preserve.

Conclusions:

Having an on-site residential unit will definitely help with upkeep of the preserve in the long run. However, the unit should be filled with a caretaker that has a salary for motivation to maintain the park. The caretaker should also be publicly involved with education efforts.

- Number of residential units within a 5 minute walk (.25 miles) from project
Research:

There are roughly 65 residential units within 0.25 miles of the project site.

Source: Google Earth measuring capabilities

Analysis:

Immediately after stepping out of the Schob Nature Preserve, there are residential properties with homes built on them. In fact, homes border each side of the preserve; and most properties conform to a suburban - style lot.

Conclusions:

Since there are homes that border the preserve, the preserve must cater to its neighbors. A large amount of residential units nearby means that neighbors of the park should be encouraged to visit the preserve with proven amenities.

- Number of residential units within a 10 minutes walk (.5 miles) from project

Research:

There are roughly 350 residential units within 0.50 miles of the project site, including apartment housing units.

Source: Google Earth measuring capabilities

Analysis:

There are more apartment complexes within half of a mile than a quarter of a mile from Schob Nature Preserve, which substantially increases the number of residential units in a walkable area.

Conclusions:

Since there are a great deal more number of residential units within half of a mile because of the apartment complexes nearby, steps must be taken to ensure that there is an easily walkable or bikeable path from these units to the preserve to increase park visitation.
- Number of facilities that support residential quality of life

Research:

Parks and trail systems within the nature preserve as well as a park at the local elementary and neighborhood meeting center. One additional park owned by College Station on Foster Ave. Several retail centers that are walkable including many restaurants. No nearby churches. Two Texas A&M bus system stops nearby. The two nearby neighborhoods (College Hills, College Hills Woodlands) offer their own neighborhood events. No active dark skies initiatives.

Driving routes to the preserve. Source:
https://www.yelp.com/biz_photos/dr-david-e-schob-nature-preserve-college-station?select=urjnbAeY2E-bago1gAxF6g

Source: http://laup.arch.tamu.edu/research/schob-nature-preserve/
https://chwoodlands.wordpress.com/

Analysis:

There are many nearby amenities that rival Schob Nature Preserve. While the elementary school’s park may be open to the general public during certain times, the College Hills neighborhood center is strictly open to the residents of the neighborhood and their guests.

Conclusions:

The quality of life resources that the Schob Nature Preserve contains needs to be improved to rival nearby locations. Any type of workout equipment that could be installed would attract visitors. Restroom facilities and water fountain facilities would both attract and retain the visitors for a longer period of time. Trash facilities would let citizens host their own events at the preserve.

G. Public Art

- **Number of permanent art sites within the project**

  Research:

  There are no permanent art sites within the project.

  *Source:* [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)

  Analysis:

  The site was not intended to be a destination for people looking to admire art, it was intended to be an outdoor education space as well as a public park

  Conclusions:

  Adding art to the site could help distinguish it more from other local parks as well as encourage some visitors that would otherwise not be as interested

- **Number of areas that incorporate rotating art exhibits**
Research:

There are no rotating art exhibits within or near the site.

Source: (https://www.experiencebcs.com/events/)

Analysis:

The site was not intended to be used as an art gallery, and without any indoor space, the type of art would have to be able to handle changing weather conditions.

Conclusions:

Rotating art exhibits would help to attract people to the site, but the art would have to be displayed outdoors, and therefore it would need to be able to stand up to the elements.

- Number of tours associated with art exhibits

Research:

There are no tours associated with art exhibits within the site

Source: (http://laup.arch.tamu.edu/research/schob-nature-preserve/ & https://www.experiencebcs.com/events/)

Analysis:

As a public park, the site was not intended to function as an outdoor art gallery, and therefore no tours are given.

Conclusions:

The only time when having art tours for the site would make sense is if some new public art was introduced to the park and there was an unveiling ceremony.

- Educational activities/facilities associated with art

Research:
The site does not have any educational activities or facilities associated with art.

*Source:* [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)

**Analysis:**

The site itself is an educational facility, however the activities are not currently associated with art.

**Conclusions:**

Texas A&M art classes/programs could use the site to display sculptures and outdoor art, however the site was not intended to be focused on art.

- Local art organizations involved in the project

**Research:**

There are no local art organizations involved with the site, however the site is managed by Texas A&M, which has several art classes/programs.

*Source:* [http://laup.arch.tamu.edu/research/schob-nature-preserve/](http://laup.arch.tamu.edu/research/schob-nature-preserve/)

**Analysis:**

The site is not focused on art, however it was designed by staff and students at Texas A&M, making the design of the park itself art.

**Conclusions:**

While the site is not intended to be focused on art, having art introduced to the site by local groups or students would add value to the park.

**H. History**

- **Number of historical exhibits and sites in the project**

  **Research:**

  The site does not have historical sites or exhibits, however it commemorates the life of Dr. David E. Schob, a former professor at Texas A&M.
**Source:** http://brazoscountyhistory.org/histmarkers-list

**Analysis:**

The park was not intended to be a historical site nor does it have any significant historical experience.

**Conclusions:**

The historical value of the site is limited to its dedication to Dr. Schob, who donated the land for the park after his death.

Sign at the entrance of the park, commemorating Dr. Schob. Credit: Dr. Booth
a. Number of tours associated with site, local or regional history

Research

There are no historical tours associated with the site.

Source: http://brazoscountyhistory.org/

Analysis:

The site does not consider to have historical significance, and therefore does not have any tours.

Conclusions:

It is not likely that the site could host tours relating to history.

- Educational activities/facilities that celebrate history

Research:

Although the site itself is an educational facility, there are no activities that focus on history.

Source: http://laup.arch.tamu.edu/research/schob-nature-preserve/

Analysis:

The site was dedicated by Dr. Schob to be an educational facility, but without any historical significance the site has no need for activities that celebrate the sites history

Conclusions:

Without historical significance, there is very little value to be gained by adding activities and facilities that promote history

- Local historical organizations involved in the project

Research:
There are no historical organizations involved with the project.


**Analysis:**

The site does not have a great deal of historical significance, so local historical organizations are not very interested in it.

**Conclusions:**

The site would not benefit very much by having historical organizations involved with it, because it is not a historically significant place.

I. Pedestrian Comfort

- **Area of streetscape with landscape, shade/sun (depending on the season), tree cover, seating areas, bicycle parking, lighting**

**Research:**

The sidewalk breaks up the streetscape and landscape. There are benches and tables for sun or shade usage, there are trees throughout the site, lighting only at the front of the park, and there are no bicycle parking.

*Source:* [http://laup.arch.tamu.edu/research/schob-nature-preserve/design/](http://laup.arch.tamu.edu/research/schob-nature-preserve/design/)

**Analysis:**

No lighting means no one really comes out to the park at night, and no bike rack means people have to makeshift a place for their bike while they visit the site. Seating is great for sunny days, but not rainy. Tree coverage is great and the streetscape is good as well.

**Conclusions:**

There could be more lighting throughout the park and a bike rack. The seating areas have only pergolas, and on rainy days there is nowhere to sit, so adding a full coverage roof would be nice for rainy days. The tree coverage and streetscape is good.
Concept drawing of Schob Park. Credit: Dr. Michael Murphy
(http://laup.arch.tamu.edu/research/schob-nature-preserve/design/)

- Disability compliance

Research:

The park is disability friendly, except for the off road trails. The site is not ADA compliant.

Source: http://laup.arch.tamu.edu/research/schob-nature-preserve/design/

Analysis:
There are ramps and no stairs, however the off road trails are not accessible to people in wheelchairs. The site is also relatively flat with no hills or steep slopes.

**Conclusions:**

The site is relatively disability friendly, the lack of steep slopes make it even more navigable than many other parks in the area.

- **Alternative transportation facilities**

  **Research**

  The nearest bus stop is on route 12, and is .2 miles away (4 minute walk).

  **Source:** https://transport.tamu.edu/busroutes/

  **Analysis:**

  The site is reasonable close to a bus stop, however there is not a bus stop that takes people directly to the site.

  **Conclusions:**

  If the site were to get a bus stop near its entrance, students from Texas A&M would be more likely to visit the site.

**II. ECONOMIC VALUE**

(Team member: Parker Frede, John Guillett)

A. **Property Values** *(Taxable values of the property itself and those that surround it)*

- **Taxable value of the property before and after development**

  **Research:**

  The appraised value of the property at 906 Ashburn Ave. before development was $137,110. After improvements were made on the site including new landscaping and pergolas and brick paths the value of the property increased to 233,340$.

  **Source:** Brazos county Appraisal District
Analysis:

The overall taxable value of the property increased significantly before and after improvements were made. The overall property value went up thanks to the construction improvements.

Conclusions:

Construction improvements heavily improved the taxable value of the property at 906 Ashburn Ave. From this we can see that continued investment in the property could increase the value further.

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<td></td>
<td></td>
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</tr>
<tr>
<td>2012</td>
<td>$78,770</td>
<td>$238,300</td>
<td>$0</td>
<td>$317,070</td>
<td>$0</td>
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</tr>
<tr>
<td>2011</td>
<td>$86,010</td>
<td>$233,340</td>
<td>$0</td>
<td>$319,350</td>
<td>$0</td>
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</tr>
<tr>
<td>2010</td>
<td>$84,320</td>
<td>$233,340</td>
<td>$0</td>
<td>$317,680</td>
<td>$0</td>
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<td></td>
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<tr>
<td>2009</td>
<td>$85,390</td>
<td>$137,110</td>
<td>$0</td>
<td>$222,500</td>
<td>$0</td>
<td>$222,500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source:Brazos county Appraisal District

- Taxable value of adjacent properties before and after development

Research:

The properties adjacent to 906 increased in value significantly due to construction on the park. For example the property at 904 Ashburn Ave. appraised value jumped from 209,231 in 2012 to 224,050 directly after the construction of the park.

Source: Brazos county Appraisal District

Analysis:

While it cannot be proven definitively if the construction of schob park increased the value of surrounding properties property values of places near parks on average are worth more than those not located next to parks.

Conclusions:
Schob park adds value to the surrounding area by providing an area for relaxation and walking. A direct result of this value is an increase in property value of surrounding real estate.

- **Taxable value of property within five minute walk before and after development stages**

**Research:**

The taxable value of properties in the area of Schob park was $186,000; this is a -3.6% decrease in taxable value. The taxable value of properties within a five minute walk of Schob park in 2015 was $140,000; this is a percentage change of 8.3%.

**Source:** Brazos CAD and HAR.com

**Analysis:**

The adjacent properties directly near Schob park increased in value in 2015 however properties farther away decreased in value from 2014 at -3.6% and -8.3%.
Conclusions:

The creation of Schob nature preserve might be a factor in the increasing value of the property around it. Direct involvement does not exist but the financial involvement in improving schob park might increase connected properties.

Source: Brazos county Appraisal District

B. Revenues *(Money generated by the property)*

- Tourism $ generated on an annual basis by the project

Research:

From the research I have done I have found that this project contributes no tourism income.


Analysis:

To increase the amount of tourism on the site landmarks or some place making structure to increase the amount of tourism income on site. Once a place making site is created it would be reasonable to create food venders and other services for
people on the site.

**Conclusions:**

Overall we can see that potential tourism could be created on site though it is not the ideal location for tourism due to its suburban location.

- **Occupancy rates, sales and rents before and after development**

**Research:**

The occupancy rate at Schob nature preserve was 85% in 2010 and was 91.6% in 2013.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

The occupancy rate changed largely due to the start of the Schob scholars program which allows someone to live in the house on the schob park property.

**Conclusions:**

Occupancy rates on Schob park changed for an overall unusual reason compared to typical reasons for change in occupancy.

- **Occupancy rates, sales and rents of adjacent properties before and after development**

**Research:**

All the areas around the park increased in occupancy including 904,1002 and 1003 Ashburn by 6.6% percent.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

This is connected to the Schob scholars program in my opinion due to how
consistent the area seems to be in occupancy rates before the creation of the Schob scholars program.

**Conclusions:**

Overall it can be seen that occupancy rates have increased slightly due to the creation of the Schob scholars residency program in the local area.

- **Occupancy rates, sales and rents of property within 5 minute walk before and after development**

**Research:**

Occupancy rates of properties 5 minutes away from the site were 85% in 2010 and 91.6% in 2013 respectively

**Source:** American Fact Finder

**Analysis:**

From what I can tell the occupancy rates of properties are not affected by the Schob park.

**Conclusions:**

The site occupancy rates are not influenced by the Schob nature preserve.

**C. Conceptualization and Design Value** (*value of all designs and executions*)

- **Fees for planning and conceptual design**

**Research:**

There were no fees associated with the conceptualization of the park. The concept and design were done for free by Dr. Michael Murphy.

**Source:** http://laup.arch.tamu.edu/research/schob-nature-preserve/

**Analysis:**

Due to Michael Murphy's involvement no conceptualization fees were incurred
along with a large amount of money being saved along with being within the wishes of doctor schob.

Conclusions:

The conceptualization of the park was done pro bono fitting with the wishes of Doctor Schob.

- Fees for design of the project

Research:

Michael Murphy a retired landscape architecture professor designed the park at no cost which saved the university more than 20,000$ in design fees. Due to this the school as well as the grant to create the property were not economically effected.

Source: [laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

Analysis:

Due to Michael Murphy’s involvement there were no design fees incurred.

Conclusions:

Due to Michael Murphy’s involvement over 20,000$ dollars were saved in design fees.

- Economic impact using the multiplier for planning and design impact

Research:

This instrument was not used in the project in any capacity.

Analysis:

The economic multiplier was used in schob park.

Conclusions:
Schob park did not incorporate the use of an economic multiplier.

D. Construction Value *(Value that the contractor brings)*

- Number of jobs created during construction

**Research:**

According to the Schob Park master plan, the number of laborers to construct and renovate the property is unknown although the final price of construction was over $350,000.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

The number of laborers required for construction is most likely unknown because of how large scale the construction project was.

**Conclusions:**

For future reference, records on the number of laborers used during construction can be recorded.

Source: Dr. Booth
• Total construction value

Research:

According to the master plan of Schob Nature Preserve, total construction value of the park was listed at $380,749.


Analysis:

Below the initial estimate of $405,834, College Station based Dudley Construction completed the construction for $380,749.

Conclusions:

The preserve was constructed under budget for $380,749.

• Economic impact using the multiplier for construction impact

Research

The master plan of the nature preserve states that due to the standard economic multiplier of 2.5, over $900,000 was generated due to the initial investment in construction of $380,749.


Analysis:

Although the number of laborers is unknown, logically, completing a construction job of this magnitude will require many different types of jobs.

Conclusions:

The $380,749 investment created over $900,000 for circulation throughout the local economy.
E. Operations and Management Value (Overall costs to the owner for operations and management)

- **Number of jobs created to operate and maintain the project on an annual basis**

  **Research:**
  
  According to the master plan of the nature preserve, the park is relatively self-sufficient maintenance wise besides a small amount of landscape maintenance.
  
  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

  **Analysis:**
  
  Due to the native species of vegetation found at the preserve, only a small amount of landscape maintenance is required. Duties such as grass mowing and leaf blowing are performed by a small crew. Only a small budget is required for upkeep and maintenance to the park.

  **Conclusions:**
  
  For such a large site, the small amount of maintenance required is convenient. If new projects and landscape designs are to be implemented, further maintenance may be required. Possible solutions to rising costs could be allowing students to take part in landscape maintenance or groups of students to manage separate parts of the site.

- **Annual budget to maintain of the project**

  **Research:**
  
  The master plan of the nature preserve states that limited park maintenance is required, thus, only a small budget is required for park maintenance. The master plan acknowledges that the actual budget amount is unknown.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)
Analysis:

The park has a large amount of native vegetation which requires little maintenance to maintain. A small budget allows for landscape crews to mow grass around the preserve.

Conclusions:

The small budget for park maintenance is convenient for a site of over 7 acres. If further projects are developed on the site, more maintenance may be required which may require a larger budget.

F. Real Estate Transactions/Investment Adjacent to the Project (Real property values)

- Number of annual real estate transactions within a 5 minute walk before and after the project

Research:

The master plan as well as the Brazos County Appraisal District do not list specific numbers of home sales within a 5 minute walk of the site.


Analysis:

Due to the popularity, affordability, and location of the Eastgate neighborhood, it is logical to assume that many real estate transactions have taken place since the construction of the site was completed.

Conclusions:

The construction of the site will only provide benefits to the Eastgate neighborhood. It may not draw people to the area specifically but it could be a factor in deciding whether or not to close on a real estate deal.

- Investment by adjacent properties to enhance their image and property values
Research:

According to the master plan, it is difficult to find reputable information regarding investments to improve homes around the nature preserve.

Source: http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf

Analysis:

The nature preserve is a rather recent development; homeowners may not have needed to improve the appearance of their homes just yet. Also, the nature preserve may not be a factor that will influence homeowners to maintain their homes more than required.

Conclusions:

In order to determine whether or not the nature preserve influences homeowners actions, a survey could be distributed throughout the neighborhood. The preserve may not have enough pedestrian traffic to convince residents that home appearance is extremely important.

III. ENVIRONMENTAL VALUE
(Team member: Anoop Balachandran, Brett Fisher)

A. Green Space/Plant Material (% of green space (includes roof gardens, landscape, parks, & planted areas)

- % of project area dedicated to green space

Research:

The primary sources for research are satellite images of the site on google and the technical drawings with accurate site boundary.

Source: Google satellite image of site, Schob Nature Preserve Technical Drawings

Analysis:
A contrast and comparison, and overlay of the satellite image with the technical drawing of site can be used to establish the boundary of the nature preserve accurately.

Conclusions:

Selecting all green pixels on photoshop has revealed that the site contains 94.2% green space.
• Urban heat island effect of additional green space

Research:

Source: https://www.researchgate.net/publication/271206461_The_Impacts_of_Green_Areas_on_Mitigating_Urban_Heat_Island_Effect_A_Review_Published_in_2014

Analysis:

Additional green space can reduce the ambient temperature by about 10 degrees fahrenheit.

Conclusions:

Data from literature review was consistent with observation of ambient temperature within the site and outside its boundary and we can conclude that the green spaces mitigates urban heat island effect by reducing the temperature by 3-10 °F.

• Number and types of plant material used in the project
Research:

The Planting plan section of the site’s technical drawings can be used to discern the number and types of plant material.

Source:

<table>
<thead>
<tr>
<th>TREES</th>
<th>COMMON NAME</th>
<th>CONT</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cercis canadensis texensis</td>
<td>Texas Redbud</td>
<td>5 gal</td>
<td>14</td>
</tr>
<tr>
<td>Cornus florida</td>
<td>Eastern Dogwood</td>
<td>5 gal</td>
<td>7</td>
</tr>
<tr>
<td>Diospyros texana</td>
<td>Texas Persimmon</td>
<td>5 gal</td>
<td>16</td>
</tr>
<tr>
<td>Lagerstroemia indica x ‘Natchez’</td>
<td>Crape Myrtle</td>
<td>5 gal</td>
<td>24</td>
</tr>
<tr>
<td>Medicago polymorpha</td>
<td>Orange Orange</td>
<td>5 gal</td>
<td>7</td>
</tr>
<tr>
<td>Morea microphylla</td>
<td>Texas Tulip</td>
<td>5 gal</td>
<td>10</td>
</tr>
<tr>
<td>Prunus mexicana</td>
<td>Mexican Plum</td>
<td>5 gal</td>
<td>7</td>
</tr>
<tr>
<td>Quercus macrocarpa</td>
<td>Burr Oak</td>
<td>15 gal</td>
<td>3</td>
</tr>
<tr>
<td>Quercus shumardii</td>
<td>Shumard Red Oak</td>
<td>15 gal</td>
<td>7</td>
</tr>
<tr>
<td>Quercus texana</td>
<td>Texas Red Oak</td>
<td>15 gal</td>
<td>5</td>
</tr>
<tr>
<td>Quercus virginiana</td>
<td>Southern Live Oak</td>
<td>15 gal</td>
<td>27</td>
</tr>
<tr>
<td>Ulmus alata</td>
<td>Winged Elm</td>
<td>15 gal</td>
<td>8</td>
</tr>
<tr>
<td>Ulmus crassifolia</td>
<td>Cedar Elm</td>
<td>15 gal</td>
<td>12</td>
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SHRUBS

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>CONT</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buxus decidua</td>
<td>Possumhaw Holly</td>
<td>5 gal</td>
</tr>
<tr>
<td>Buxus sempervirens</td>
<td>Yaupon Holly</td>
<td>5 gal</td>
</tr>
<tr>
<td>Prunus caroliniana</td>
<td>Carolina Laurel Cherry</td>
<td>5 gal</td>
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</table>

GROUND COVER

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<tr>
<th>COMMON NAME</th>
<th>CONT</th>
<th>QTY</th>
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</thead>
<tbody>
<tr>
<td>Buxus sempervirens</td>
<td>Nana</td>
<td>1 pug @ 24” oc</td>
</tr>
<tr>
<td>Lantana camara ‘Dallas Red’</td>
<td>Dallas Red Lantana</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Lantana urticoides</td>
<td>Texas Lantana</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Melanocarpus arboreus</td>
<td>Turf x Cap</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Ruellia brittoniana</td>
<td>Mexican Petunia</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Ruellia caroliniensis</td>
<td>Cardinal Wild Petunia</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Sidalcea coccinea</td>
<td>Scarlet Sage</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Sidalcea gronovii</td>
<td>Autumn Sage</td>
<td>4 pug @ 24” oc</td>
</tr>
<tr>
<td>Sidalcea microphylla</td>
<td>Blackbloom Sage</td>
<td>4 pug @ 24” oc</td>
</tr>
</tbody>
</table>

GRASS AND FORBS

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>CONT</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andropogon virginicus</td>
<td>Broomsedge Bluestem</td>
<td>seed</td>
</tr>
<tr>
<td>Bocconia frutescens</td>
<td>Side oats Grama</td>
<td>seed</td>
</tr>
<tr>
<td>Buchloee dactyloides</td>
<td>Buffalo Grass Turf</td>
<td>seed</td>
</tr>
<tr>
<td>Cynodon dactylon</td>
<td>Bermudagrass Turf</td>
<td></td>
</tr>
<tr>
<td>Schizachyrium scoparium</td>
<td>Little Bluestem Grass</td>
<td>seed</td>
</tr>
<tr>
<td>Shade Friendly Grass Mix</td>
<td>‘Native American’ Seed</td>
<td>seed</td>
</tr>
<tr>
<td>Shade Friendly Wildflower</td>
<td>‘Native American’ Seed</td>
<td>seed</td>
</tr>
</tbody>
</table>

VINES

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>CONT</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampelopsis arborea</td>
<td>Pepper Vine</td>
<td>1 pug @ 24” oc</td>
</tr>
<tr>
<td>Campsis radicans</td>
<td>Trumpet Vine</td>
<td>1 pug @ 24” oc</td>
</tr>
<tr>
<td>Lonicera sempervirens</td>
<td>Coral Honeysuckle</td>
<td>1 pug @ 24” oc</td>
</tr>
<tr>
<td>Vitis mustangensis</td>
<td>Mustang Grape</td>
<td>1 pug @ 24” oc</td>
</tr>
<tr>
<td>Vitis vinifera</td>
<td>American Vitis</td>
<td>1 pug @ 24” oc</td>
</tr>
</tbody>
</table>

Dry

- False Boneset
- Purple Coneflower
- Butterflyweed
- Indiangrass
- Compassplant
- Big Bluestem

Mesic

- Golden Alexanders
- Tall Goldenrod
- Black Eyed Susan
- Saw-tooth Sunflower
- Reddish Bulrush
- Prairie Cordgrass

Analysis:

The project primarily uses varieties of prairie grass native to Texas, especially...
alongside the prairie trail. Six species of grasses selected were from each of the ‘Dry’ and ‘Mesic’ categories. No species were selected from the ‘Wet’ type due to climatic conditions.

Conclusions:

The native species of plants on the site are well suited to local climatic conditions and appeared healthy.

- Impact of plant material on air quality (carbon footprint resulting from plant material)

Research:

Compiled inventory of trees through direct observation during site visits and through the planting plan.

Source: Schob Nature Preserve Technical Drawings

Analysis:

Site contains 140 trees.

Conclusions:

Cumulatively, the trees can absorb 7000 lbs (3.2 metric tons) of CO₂ and release 35,000 lbs (15.9 metric tons) of O₂ every year.

- Xeriscape/low water usage plant material program

Research:

The planting plan and on-site plaque list native species that tolerate dry and mesic conditions very well.

Source: Schob Nature Preserve Technical Drawings

Analysis:

The plant material program has been designed to make the site an effective xeriscape.
Conclusions:

Site contains optimized active irrigation due to Solar Sync sensor. This, coupled with the emphasis on passive methods of irrigation such as the rain garden, makes it a very efficient xeriscape.

B. Environmental Certifications *(The project meets or exceeds half of the points required for the sustainable sites portion of the LEED program or the SSI program)*

- LEED certification of the project

Research:

LEED certifications typically address buildings or similar infrastructure and parks and nature preserves are rarely, if ever, evaluated.

Source: [https://www.thegbi.org/green-globes-certification/why-green-globes/compare?gclid=CjwKEAjw5_vHBRCBtt2NqqCDjiESJABD5rCJOMpFeNiVNNDO6gH_g9CUPoDWZiTnF-qbSXWbEz2WjhoCwovw_wcB](https://www.thegbi.org/green-globes-certification/why-green-globes/compare?gclid=CjwKEAjw5_vHBRCBtt2NqqCDjiESJABD5rCJOMpFeNiVNNDO6gH_g9CUPoDWZiTnF-qbSXWbEz2WjhoCwovw_wcB)

Analysis:

N/A

Conclusions:

Not LEED Certified

- Sustainable Sites Initiative (SSI) certification

Research:

SITES is used by landscape architects, designers, engineers, architects, developers, policy-makers and others to align land development and management with innovative sustainable design.

Source: [http://www.sustainablesites.org/](http://www.sustainablesites.org/)

Analysis:
Schob Nature Preserve has potential for garnering points in the SITES evaluation criteria due to its water management practices and potential for wind/solar energy generating sources

**Conclusions:**

Preparing a 5-10-year plan geared towards getting the site rated by SITES would be necessary for further evaluation of this option.

- **Conservation organization certifications**

  **Research:**

  Schob Nature Preserve’s certifications are presented on site.


  **Analysis:**

  Schob Nature Preserve comfortably meets the requirements in National Wildlife Federation’s evaluation criteria:

  **Conclusions:**

  Schob Nature Preserve is a Certified Wildlife Habitat.

- **Smart growth recognition or certification**

  **Research:**

  NA

  **Source:**

  NA

  **Analysis:**

  NA
C. Air Quality Impact

**Research:**

Site contains 140 trees.

**Source:** Schob Nature Preserve Technical Drawings

**Analysis:**

Cumulatively, the trees can absorb 7000 lbs (3.2 metric tons) of CO\(_2\) and release 35,000 lbs (15.9 metric tons) of O\(_2\) every year.

**Conclusions:**

Reduced carbon footprint after project since 7.44 acre residential lot was converted into the park with near zero resource input post-completion. Although carbon footprint had increased during the site’s construction due to transportation, construction etc., the value added services such as clean air increased permeable surface area has made the net carbon footprint negative.

- **Heat island impact of the project (before and after)**

  **Research:**

  **Source:** [https://www.researchgate.net/publication/271206461_The_Impacts_of_Green_Areas_on_Mitigating_Urban_Heat_Island_Effect_A_Review_Published_in_2014](https://www.researchgate.net/publication/271206461_The_Impacts_of_Green_Areas_on_Mitigating_Urban_Heat_Island_Effect_A_Review_Published_in_2014)

  **Analysis:**

  Additional green space can reduce the ambient temperature by about 10 degrees fahrenheit.

  **Conclusions:**
Data from literature review was consistent with observation of ambient temperature within the site and outside its boundary and we can conclude that the green spaces mitigates urban heat island effect by reducing the temperature by 3-10 °F.

- **Air quality construction practices implemented on the project**

  **Research:**

  *Source: Schob Nature Preserve Technical Drawings*

  **Analysis:**

  Site contains erosion control silt fence. The results in less airborne debris.

  **Conclusions:**

  Erosion control measures were used in the execution of the project which lowers the amount of particulate matter in the air. In addition, the native prairie grasses reduce erosion.

- **Alternative sources of transportation incorporated on the project**

  **Research:**

  NA

  *Source:*

  NA

  **Analysis:**

  NA

  **Conclusions:**

  NA

D. **Energy Conservation**
● # and types of energy savings programs implemented on the project

Research:

Meta-analysis of existing research.


Analysis:

Site contains 3 types of energy saving programs:
- Rain garden for passive irrigation
- Hunter Solar sync sprinklers
- Drip irrigation

Conclusions:

Current energy savings programs add value to site; however, there is further room for the addition of new programs.

● Alternative energy generating sources and facilities for the project

Research:

Site contains no alternative energy generating sources.

Source:

NA

Analysis:

NA

Conclusions:

NA

● Economic savings of the energy saving programs
Research:

Promotional website for Hunter Solar Sync sprinkler system claims that using that product can ‘save 30% on water’ in comparison with the viewer’s current sprinkler.


Analysis:

The claim has to be considered with skepticism, but the combination of the three energy saving programs, i.e Rain garden, Hunter Solar Sync sprinklers and Drip irrigation, together could match that claim in terms of water usage savings.

Conclusions:

Once seasonal changes are accounted for, the combination of the energy savings programs can be expected to reduce water usage for irrigation purposes by 30-70%.

E. Storm Water Management Practices (site manages storm water management to attain 100% on site management goal)

- % of site developed as impermeable surface

Research:

4.7% of Schob Nature Reserve was developed as impervious.

Source: [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenu%20Fu.compressed.pdf)

Analysis:

The site contains very little impervious area which allows the park to keep the focus of green spaces for nature as opposed to the focus being placed on the people.

Conclusions:
Although the majority of Schob Nature Reserve is dedicated to green space (like it should be) there is room for increased impervious surfaces that would not deteriorate the quality of the park such as water fountain areas or trash collection areas.

- Area of green roof

**Research:**

There are no green roofs present on the site.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

N/A

**Conclusions:**

N/A

- **Rain water harvesting programs**

**Research:**

At Schob Park there is one Rain Garden that serves as the primary water harvesting mechanism. In addition to the rain garden that is on site, there are rain swales that act as a water harvesting program.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

The rain water harvesting system that is in place currently does a satisfactory job in using the rainwater as a benefit to the site instead of letting it collect and potentially flood the park.

**Conclusions:**
Although there is a rain garden on the site I believe that there could be potential improvements in the future to improve the functionality and efficiency of the rain garden as a water harvesting mechanism.

- **Storm water runoff coefficients for the project**

  **Research:**
  
  Low storm water runoff coefficient to large permeable surface area. The coefficient value could not be determined however.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

  **Analysis:**
  
  There is an undefined amount of runoff in the area but it is a low number which speaks volumes to the efforts of the rain garden on site. It is not the most sophisticated design but it does the job and that is all that matters.

  **Conclusions:**
  
  For the future of Schob Nature Reserve I would like to see the storm water used in an even greater way. A popular mechanism that could be implemented in the next few years is a Rain Barrel. Rain Barrels retain and distribute water much like a rain garden does throughout the site. If designed correctly, they could add aesthetic value as well as functionality to the site.

- **Area of detention and retention facilities on site**

  **Research:**
  
  The rain garden that is on site as well as the swale each act as a detention and retention facility.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

  **Analysis:**
  
  The retention mechanisms on site are functional at best and do not use the water that is retained to its full potential.
Conclusions:

As previously mentioned, I think the retention could be improved through Rain Barrels or other retaining mechanisms and then used for irrigation or other purposes that would increase the sustainability aspect of the site.

F. Water Management Practices

- Low water use facilities in the project (toilets, sinks, showers, etc.)

  Research:

  Currently there are no low water facilities that are present on site.

  Source: Site visit

  Analysis:

  N/A

  Conclusions:

  N/A

- Gray water program

  Research:

  Currently there are no gray water programs established on site.

  Source: Site visit

  Analysis:

  N/A

  Conclusions:

  N/A
• Water savings from xeriscape plant material

**Research:**

The use of xeriscape plant material saves approximately 50-75% more water on landscaping/watering fees.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

The use of xeriscape plant material allows the site to minimize irrigation expenses and provides the necessary amount of water to the plants.

**Conclusions:**

The xeriscape design was a brilliant idea for the site and is something I think should be incorporated even more as the years go on. Be implementing more xeriscape plant material on site, Schob Nature Reserve will have more vegetation present year round due to their drought resistant adaptations.

• Low water usage irrigation system (drip system) impact

**Research:**

Within Schob Park there are many drought resistant plants that allow for small amounts of water to be distributed to certain areas which allows for beautification of the site while minimizing irrigation fees.

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

**Analysis:**

Drought resistant plants are a great option for the site due to their ability to thrive in drought conditions that other plants do not have the capability to survive in.

**Conclusions:**
By incorporating drought resistant plants throughout the site, residents and/or people who encounter the site will be able to see vegetation and plant life year round which will provide a calming aesthetic value to the site.

- **Automated water management system and its impact**

  **Research:**

  The solar sync system that is on site currently regulates the frequency and amount of watering times depending on temperature, season in the year, and other weather factors which result in an annual savings of 30% in water.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

  **Analysis:**

  The solar sync mechanism is a fantastic way to regulate the water usage within the site and is also an environmentally conscious effort to remain sustainable.

  **Conclusions:**

  The solar sync mechanism is one of the ways that Schob Nature Reserve monitors irrigation costs first and foremost but I also think it is a fantastic monitoring tool that helps save resources and money at the same time.

**G. Environmental Education** *(Amount of signage and symbols used to educate the site user on how to become more environmentally responsible.)*

- **# of programs associated with environmental education in the project**

  **Research:**

  The primary educational programs that are involved with Schob Nature Reserve are the LAUP (Landscape Architecture & Urban Planning) & RPTS (Recreation Parks & Tourism Sciences) programs.

  **Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenqu%20Fu.compressed.pdf)

  **Analysis:**
The educational programs that are in place at this time are only for current students. I see that as a real barrier to gain community involvement and support in the future.

Conclusions:

In the near future, I hope to see Schob Nature Reserve incorporate some sort of community involvement programs that provide insight to the history of the park as well as potential uses and even ways to get involved in sustaining or management. The TAMU community and the residents of College Station would appreciate a partnership that benefits both parties.

- **# of organizations involved in environmental education in the project**

Research:

In total, there are five educational programs associated with Schob Nature Reserve. Four of the five educational programs are LAUP Mini-Grant Programs (including Quadruple Net Value Analysis) with the fifth program being a Schob Mini-Grant Program (Schob Scholars Program).

**Source:** [http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenu%20Fu.compressed.pdf](http://laup.arch.tamu.edu/research/schob-nature-preserve/Schob-related%20Project/Final%20Report_Chenu%20Fu.compressed.pdf)

Analysis:

Despite the previous point that there are only TAMU associated programs being conducted at the site, I think their research and work they do is very important for the site to be maintained.

Conclusions:

The research and learning that take place through the Mini-Grant programs are imperative for the future of Schob Park. I think that in the future the work should be published to TAMU and surrounding areas to let the community know what work is taking place and how they plan to improve.

- **Programs and organizations involved in the use and maintenance of the landscape**
Research:

The two primary maintenance providers/organizations are the LAUP (Landscape Architecture & Urban Planning) and RPTS (Recreation Parks & Tourism Sciences).


Analysis:

The two departments that are on site providing the maintenance of Schob Nature Reserve are doing a satisfactory job at doing so but I would like to see them advertise the days they are conducting the maintenance in the future.

Conclusions:

The possibility of students getting involved at the park that are not just in the departments listed above has a lot of potential behind that idea if Schob Park was advertised more on campus. I think there are plenty of students that would volunteer their time to conduct the necessary jobs to clean up the site as a whole.

IV. SENSORY VALUE
(Team member: Kaitlin Gibbon, Colin McCreary)

A. Sight (Visual Impact)

- # of notable or award winning designers and artists involved in the design

Research:

Schob Nature Preserve Master Plan

Source: Schob Master Plan

Analysis:

There are four notable designers associated with the project, Ming-Han Li, Michael Murphy, Dr. Scott Schafer and Grant Jones.

Conclusions:

The four professionals worked together to establish the foundation for the site, as well as the maintenance and educational practices. The site’s Master Plan was used to establish which designer contributed what elements to the project.

- # of iconic and artistic elements of the project

Research:

There are roughly 12 iconic elements in the project.

Source: Schob Nature Preserve Master Plan

Analysis:

The Master Plan shows the various elements of the site, highlighting the major landmarks. These landmarks include various endemic plants species, two shaded pergolas, a drainage swale, hiking trails, walking paths, a creek, large green spaces, a regional prairie garden, a rain garden and benches throughout the site.

Conclusions:

The visual elements located in the site establish value based on the physical appeal of each element. These different elements can be analyzed and valued accordingly, providing the user with valuable scenery. This scenery could be improved with more regular maintenance and monetary investments by Texas A&M University.

- # of water features in the project

Research:

One creek is located on the south side of the property off of a free pathway. A rain garden is located near the entrance to the site that has visible water flow when it rains.

Source: Schob Nature Preserve Master Plan


Analysis:

The creek is hidden to where not everyone can see and accessible for all users. The rain garden only has water flowing through it when it rains.

Conclusions:
Implementing a water feature in the nature preserve would increase the visual element of sensory for the site.

- **Levels of maintenance (daily weekly and monthly) dedicated to the visual quality of the project**

  **Research:**

  Maintenance is provided by the students and faculty of Texas A&M, including the RPTS, BLA, BSURPN, and LAND.

  **Source:** Schob Nature Preserve Master Plan


  **Analysis:**

  This maintenance is crucial to the user’s relationship with the site; without visual street appeal, user traffic will not be generated and the property will be a failure.

  **Conclusions:**

  A dedicated maintenance worker could be useful for the expansion of the site’s lifetime, and could provide a regular face that could promote educational and environmental prosperity.

- **Length of adjacent streetscape enhancement resulting from the project**

  **Research:**

  There is roughly 0.56 linear miles of adjacent streetscape enhancements.

  **Source:** Google Earth

  https://www.google.com/maps/@30.6266838,-96.3184066,17.06z

  **Analysis:**
These enhancements provide the neighboring properties with street front appeal and are important elements when trying to attract users to the site.

Conclusions:

The streetscape is well maintained, but could be augmented to provide users with more value through handrails or even a shaded pathway.

- Number of adjacent properties that have enhanced their design as a result of this project

Research:

There are no adjacent properties that have enhanced their design as a result of the project.

Source: Google Earth

https://www.google.com/maps/@30.6266838,-96.3184066,17.06z

Analysis:

The site does not affect any other property’s physical domain, and does not provide any additional design value.

Conclusions:

The site’s value could be increased with the installation of some type of landmark design that establishes a waypoint for both residents and visitors of the area.

B. Smell

- # of adjacent restaurants to the project

Research:

There are no adjacent restaurants to the site. The closest restaurants to the site are located approximately 0.5 miles away.

Source: Google Earth
https://www.google.com/maps/@30.6266838,-96.3184066,17.06z

**Analysis:**

Due to the restaurants not being adjacent to the site, there is not a distinct odor.

**Conclusions:**

Having restaurants closer to the site or having food trucks visit the site would add the smell of food.

- **Area of landscape improvements and flowering plants**

**Research:**

There are roughly .045 miles of landscape improvements.

**Source:** Schob Nature Preserve Master Plan

Landscaping plan of Schob Nature Preserve

Analysis:

The area’s landscape improvements provide physical, measurable value to the site’s greenspaces. These are the major principal improvements of the site, and provide some of the site’s few odors.

Conclusions:

More pleasant smelling facilities could attract users to the site, and could provide neighbors with adjunctive joy as the site’s pleasant smell travels into their site, improving property values.

- # of food vendors

Research:

There are no food vendors located on site.
Source: Schob Nature Preserve Master Plan


Analysis:

The closest restaurants are located about 0.5 miles away. Due to not having food vendors on the site, there is not a smell of food present.

Conclusions:

Having food vendors come to the site will encourage more users to visit. This will add a variety of smells to this sensory element.

- Design of trash facilities and pick up process/proximity to pedestrian activity

Research:

There are no trashcans located throughout the site. However, a trash service picks up waste from the adjacent and surrounding properties. Bulk and brush is picked up every Monday, garbage is picked up every Wednesday, and recycling is picked up bi-weekly on Wednesdays.

Source: City of College Station


Analysis:

If a user of the site has trash to dispose of, there is not a trash can available. This can become an inconvenience to the user or cause the visitor to litter.

Conclusions:

Adding trash cans to the property will reduce the chance of littering on the site. The trash cans can be emptied by the City of College Station trash collectors, the
tenant in the house located on the property, or the students and faculty that maintain the site.

- **Proximity to positive and negative odiferous facilities (freeways, trains, recycling facilities, landfills, etc.)**

  **Research:**

  The nature preserve is located approximately one mile from the nearest freeway. The closest train tracks and recycling facility are roughly two miles away. A landfill is approximately 6.5 miles away.

  **Source:** Google Earth

  https://www.google.com/maps/@30.6266838,-96.3184066,17.06z

  **Analysis:**

  The site is far enough from any odiferous facilities to have an effect on the site.

  **Conclusions:**

  Since the site is at least a mile or more away from any negative odiferous facilities, there are not these odors present while at the site.

C. **Touch**

- **# and area of water facilities**

  **Research:**

  One creek is located on the south side of the property off of one of the free walking pathways.

  **Source:** Schob Nature Preserve Master Plan


  **Analysis:**
The water features of the site provide audible value but are out of reach and do not provide any additional physical sensations.

**Conclusions:**

Some type of interactive water feature could dramatically improve the usage of the site.

- **# and types of facilities for the blind**

  **Research:**

  There are no facilities located on the site for the blind.

  **Source:** Schob Nature Preserve Master Plan


  **Analysis:**

  Since there are no facilities located on the site for the blind, the site is not user friendly to all possible visitors.

  **Conclusions:**

  Implementing facilities for the blind on the site will allow individuals who are visually impaired to enjoy the nature preserve as well.

- **American Disabilities Act (ADA) compliance and recognition**

  **Research:**

  The site does not have ADA compliant elements such as braille on the signs or handrails.

  **Source:** Schob Nature Preserve Master Plan

Analysis:

Due to the site not having ADA compliant elements, the nature preserve is not user friendly to all possible visitors.

Conclusions:

Implementing ADA compliant elements throughout the site will allow visitors with disabilities to visit the site more comfortably.

- # and area of textured paving

Research:

There are various types of pavement and pathways throughout the site. There is a decomposed granite path, a brick path, a prairie grass path, a pebble stone path, and a rough concrete pathway.

Source: Schob Nature Preserve Master Plan

One example of the various types of textured pathways
Photo Credit: Dr. Booth

**Analysis:**

The different types of textured paving and various pathways throughout the site each have a different feeling when the visitor is using them.

**Conclusions:**

These different pathways throughout the site enhance the user’s sensory experience with touch.

- **Vibrations associated with underground transportation activities**

**Research:**

There were no vibrations associated with underground transportation activities when the site was visited.

**Source:** Google Earth
https://www.google.com/maps/place/906+Ashburn+Ave,+College+Station,+TX+77840/@30.629131,-96.322372,17z/data=!3m1!4b1!4m5!3m4!1s0x8646840a9ee1bbeb:0xfa0972b549102d9a8m2!3d30.629131!4d-96.322372

Analysis:

There are not any underground transportation activities located near the site to give off any vibrations to the site’s visitors.

Conclusions:

Due to the site not being located near underground transportation activities, the users of the site will not feel any vibrations related to these activities.

- Number of seating areas, water fountains, and shaded retreats (for summer)

Research:

Various benches are located throughout the site as well as shaded seating under the two pergolas. There is one creek located on the south corner of the property.

Source: Schob Nature Preserve Master Plan

Analysis:

The various textures of the site allow for returning usership, as there are a variety of social activities and sensations to be felt throughout the site.

Conclusions:

The site could benefit from including more dynamic surfaces like sand or running water to improve the user's sensory experience.

D. Sound

- # of sound venues (concerts, programmed activities, kinetic art, etc.)

Research:

There are no sound venues located on the site. There may occasionally be events that bring sound systems to the site.
**Source:** Schob Nature Preserve Master Plan


**Analysis:**

The sounds within the site are almost entirely organic, and allow for the site to remain calm and peaceful.

**Conclusions:**

An established sound venue could be helpful for establishing value for event hosts, but could also potentially throw off the natural sound cycle within the site’s boundaries.

- **Sound system for the project**

**Research:**

When on the site, you can hear the birds, insects, user movement, a flowing creek at some points, and the breeze through the trees and prairie grasses. There may occasionally be events that bring sound systems to the site as well.

**Source:** Schob Nature Preserve Master Plan


**Analysis:**

When visiting the site, the sounds sources were located and qualified. No synthetic sound systems are found on site, but occasional sound systems are introduced when events are held.

**Conclusions:**

The site does not need any type of sound system, as the site is meant to be tranquil and relaxing. Natural sounds augment the user’s experience.
• **Area of pedestrian friendly quiet areas** (parks, open spaces, etc.)

**Research:**

There is about 0.045 square miles of pedestrian friendly quiet areas that includes a rain garden, various walking paths, prairie grasses, and large open green spaces.

**Source:** Google Earth

https://www.google.com/maps/@30.6266838,-96.3186,17.06z

Large open green space

Photo Credit: Dr. Booth

**Analysis:**

These pedestrian friendly quiet areas allow the visitors a variety of places to go and not be interrupted.

**Conclusions:**
The variety of pedestrian friendly quiet areas enhances the visitor’s experience with little to no noise.

- **Linear distance of streets adjacent to the project that generate traffic noise**

  **Research:**

  A low amount of traffic noise is heard from the 0.56 linear mile adjacent street.

  **Source:** Google Earth

  https://www.google.com/maps/@30.6266838,-96.31866,17.06z

  **Analysis:**

  With the site being located on a street that does not have very much traffic, there is not a large amount of traffic noise.

  **Conclusions:**

  When visiting the site, the visitors will not hear an abundance of traffic noise due to the site’s location on a street that is not heavily driven.

- **Proximity to noise generating activities (airports, railroads, high speed traffic corridors, industrial facilities)**

  **Research:**

  Approximately one mile away there is a highway, but you can not hear the traffic noise from the site. The nearest train track is about two miles away and the nearest airport is located roughly four miles away. However, you can hear the noise from the airplanes as they fly over the site.

  **Source:** Google Earth

  https://www.google.com/maps/place/906+Ashburn+Ave,+College+Station,+TX+77840/@30.629131,-96.322372,17z/data=!3m1!4b1!4m5!3m4!1s0x8646840a9ee1bbeb:0xfa0972b549102d9a!8m2!3d30.629131!4d-96.322372

  **Analysis:**
The site is far enough away from noise generating activities where the visitors will not hear them except an occasional planes that fly over the site.

**Conclusions:**

Due to the nature preserve’s location, visitors will not be distracted by any noise generating activities. However, there are planes that occasionally fly over the site that the visitor will be able to hear.

### E. Taste

- **# of food vendors at the project**

  **Research:**

  No established food vendors are at the site. There may be food catered to the site for certain events.

  **Source:** Google Earth

  https://www.google.com/maps/@30.6266838,-96.31846,17.06z

  **Analysis:**

  The site does not have much in terms of taste, and is devoid of any type of dining facilities.

  **Conclusions:**

  The site could be greatly improved with the establishment of some type of food vendor, as food is a great way to improve user happiness.

- **Culinary activities at the project**

  **Research:**

  There is not a set schedule for culinary activities that occur on the site.

  **Source:** Texas A&M’s College of Architecture’s Department of Landscape Architecture and Urban Planning
http://laup.arch.tamu.edu/research/schob-nature-preserve/

**Analysis:**

There is not a list of established events on the College of Architecture’s website.

**Conclusions:**

The site could advertise future events, or even publish a calendar of events online.

- **Water fountains**

  **Research:**

  There are no water fountains on the site. The only water features on the site is the existing creek and the rain garden when it rains.

  **Source:** Schob Nature Preserve Master Plan


  **Analysis:**

  Not having a water fountain on the site will make the visitors bring drinks with them if they are thirsty.

  **Conclusions:**

  Adding a water fountain to the site will enhance the taste element of sensory. This will allow the visitors to be able to drink water if needed.

- **Edible plants**

  **Research:**

  Three plants listed on the planting plan section of the site’s technical drawings are edible. These plants include pepper vine, mustang grape, and american wisteria. However, these plants were not pointed out or listed anywhere that they
were edible.

**Source:** Plants for a Future LLC


**Analysis:**

These three plants, although edible, were not present upon visitation of the site.

**Conclusions:**

Being the only facility for taste, these edible plants drive home the site’s relatively non-existent taste. By installing more natural food, users are more likely to return to the site.

CONCLUDING STATEMENTS
Social/Cultural

The park is a great place for education research, but Schob nature preserve is not advertised to the public. There is low crime rate in the surrounding area, so adding additional lighting throughout the park would make the park feel safer. Schob is a pet friendly park, but advertising the park as a pet friendly park could encourage more pet owners to bring their pet. Hosting events at the preserve would make the community aware of where the reserve is located and promote public use. There is public transportation located within walking distance and advertising the site on the bus route could also promote public use. Local organizations take part making sure the park stays maintained with voluntary clean up days.

Economic

After the completion of the nature preserve, the immediate surrounding area experienced a rise in real estate value. Besides the beneficial increase in real estate prices, the nature preserve also brought hundreds of thousands of dollars to the local economy due to construction. With the low amount of upkeep needed to maintain the park, a small budget is set aside for lawn maintenance. The park is relatively cheap to maintain and is an asset for the university.

Sensory

With one eye on the future, the College of Architecture could install more sensory stations to stimulate user’s beyond the existing auditory and physical environment. Improvements for the site could include installing a water feature, planting more flowering plants to enhance the smell of the site, implementing more features for touch throughout the site, and adding trash cans to reduce the chance of littering. Creating more events for food trucks or other vendors will invite more visitors to the site. Enhancing the site with ADA compliant elements and facilities for the blind will allow all possible visitors to be able to visit the nature preserve more comfortably. Schob Nature Preserve could potentially have an even greater return value with these improvements.

Environmental

In the near future of Schob Nature Reserve, there has to be an emphasis placed on environmental educational programs that include residents of the community outside of Texas A&M students. In addition to the proposed educational programs, the students and faculty in charge of maintenance must set that as a priority in order to preserve the plant and animal species on site. The sustainable measures that have been
implemented must be maintained and paid close attention to as well to ensure long lasting benefits and carbon neutrality within the site. Finally, the largest take away from this project is the untapped potential that Schob Nature Reserve has to find a way to take advantage of to really make a difference. Harnessing the wind and solar energy that seem so readily available would provide potential power sources for existing things on site such as lights that line the sidewalk or maybe even new ideas like water fountains for park goers to drink when thirsty. If the Schob Nature Reserve is properly maintained, constantly improving technology, and develops a method to harness available energy, the park will be in great shape for many years to come.

APPENDIX No. X – Members of Team No. (3)

Team Leader:

TEAM LEADER: Emmilea PERKINS– Tel: 817 718 3624 – Email: emmilea@tamu.edu
Emmilea Perkins  emmilea@tamu.edu  8177183624

Social/Cultural Value:
Harley Guarnere  hjoanng@tamu.edu  4097489010
Wayne Powell  waynepowell@tamu.edu  8179179792
Logan Smith  loganpsmith@tamu.edu  2812222731

Economic Value:
Parker Frede  parker.frede@yahoo.com  2819799177
John Guillett  jrguillett23@tamu.edu  9799007669

Environmental Value:
Anoop Balachandran  anoop_a_m@tamu.edu  2817716624
Brett Fisher  brett.fisher@tamu.edu  7138550267

Sensory Value:
Kaitlin Gibbon  kaitcolt12@tamu.edu  2143566594
Colin McCreary  colindmc@tamu.edu  8084997159