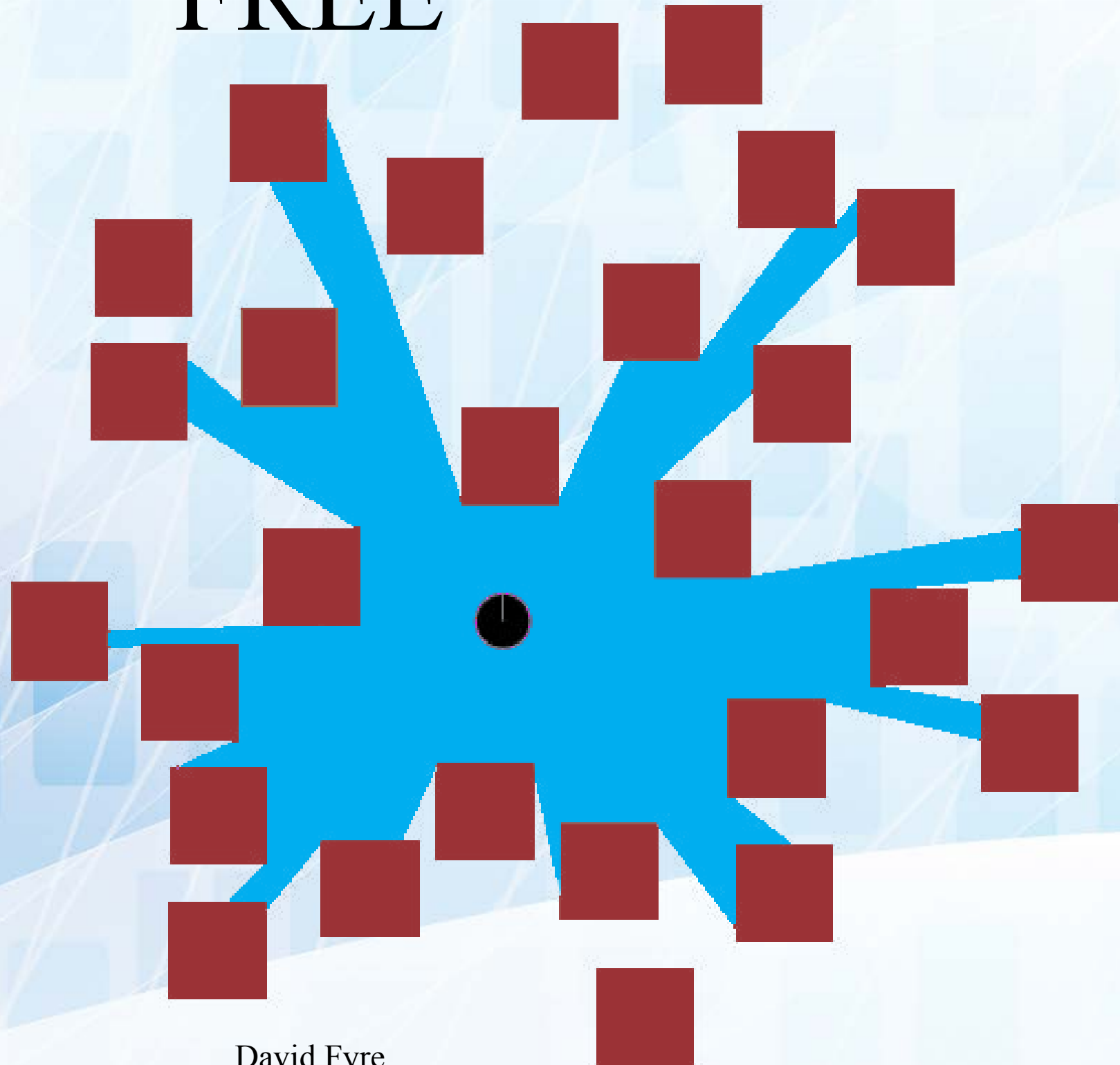# BULLY

FREE

David Fyre
May 2017
Design Thesis

BULLY FREE

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

By

David Fyre

In Partial Fulfillment of the Requirements
for the Degree of
Master of Architecture

_____
Primary Thesis Advisor

_____
Thesis Committee Chair

May 2017

Fargo, North Dakota

TABLE OF CONTENTS-THESIS RESEARCH

TABLE OF CONTENTS-Design Solution

TABLES & FIGURES

ABSTRACT

A school is not just an educational institution; it's a place where students build their identity. While attending school, students grow in many ways. Throughout the school experience, students will grow emotionally, socially, and mentally if in the proper environment. Negative impacts on the learning environment, such as bullying, restrict the growth of students. Protecting the learning environment is critical to the growth of students. I project that designing schools that deter bullying will result in an inspired and positive learning environment.

Hillsboro, North Dakota needs a new high school due to urban sprawl, which is causing over population of their existing school facilities. Urban sprawl has changed the diversity of Hillsboro's school population, which presents the unfortunate opportunity for increased acts of bullying. In result will produce a negative school environment. Hillsboro's high school is a prime candidate for adopting the new bully-free approach to school design.

NARRATIVE

Connecting The Dots

The environment we grow up in impacts our future more than we would ever believe. In this thesis project, I explore how the design of a school can reduce the amount of bullying that takes place. North Dakota is increasing in population, causing small towns to experience urban sprawl. Urban sprawl is pushing more families to the countryside-causing enrollment to grow in small town schools. The growth in population brings an increase in diversity to these small towns like Hillsboro. Hillsboro is a farming community with a 94 percent white population. The added diversity and population that urban sprawl will have on Hillsboro is not something that Hillsboro has had to account for in the past. The added enrollment and increased diversity of the student body creates the perfect environment for bullying, which may negatively influence the learning environment for some of its students. Thus, I will design a high school for Hillsboro, ND that decreases bullying while inspiring growth in our youth. The growth will help propel our youth to a greater adulthood and life.

Typology

This proposal applies bully-deterring strategies to a public school that consists of 7th-12th grade. The school will have a visual connection with the elementary school located just north of the proposed site in Hillsboro, ND.

Emphasis

This project has an emphasis of creating a bully-free environment that inspires personal growth within a student is unique and challenging compare to other school designs.
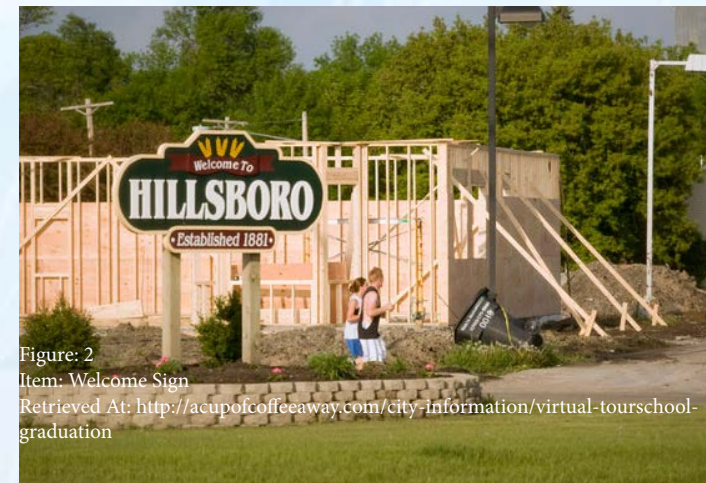
Figure: 2
Item: Welcome Sign
Retrieved At: http://acupofcoffeeaway.com/city-information/virtual-tourschool-graduation

The first point of emphasis of this project is increasing the interaction of the staff and student body. By increasing the interaction within the school allows the faculty to gain a better understanding of the schools day-to-day pulse. This also forces students to relate to their teachers and other classmates.

The second point of emphasis, is creating classroom settings that inspires learning and communication. The most important part of this is, understanding the curriculum that Hillsboro High School desires to teach its students.

The final focus of my design is understanding what safety concerns schools have and how to design to help the their overall ability to keep their students safe on a daily basis.

Goals

The first goal of my Bully Free Design is to locate hot spot bully zones and then develop design solutions that will decrease the amount of bullying that occurs in these areas.

My second goal is to understand and help develop the future program that Hillsboro would perfer to have. This will entail understanding what types of student to teacher ratios are ideal for the classroom.

The final goal of the Bully Free Design is to understand and develop ways for teachers and students to create better relationships through design decisions and programs.

User/Clients

A school is a multi-dimensional space that needs to account for many different types of users that have many different needs.

Students
The main users of the school are the students. The school will contain grades 7th grade through 12th. The age difference within the school can vary from 12 years old to 19 years old. The current size of each grade in the high school sits in the low thirties. Meanwhile the elementry school averages grades sizes of over forty students each. This is a product of urban sprawl.

Teachers
The second largest body of users of a school is the teachers. Teachers consist of adults that have earned a bachelor's degree and have completed ten weeks of full-time supervised student teaching. Depending on coursework, certain teachers may require more/fewer considerations throughout the design process.

Figure: 3
Item: Teacher and Student
Retrieved At: https://www.dreamstime.com/royalty-free-stock-images-science-teacher-student-image13560679virtual-tourschool-graduation

Other Faculty
There are many other users of a school other than the teachers and students. Some include cooks, counselors, janitors, school board members, bus drivers, and coaches just to name a few.

Community
Schools host many different events throughout a year. Some of these events include sporting events, plays, shows, or even election voting.

Justification

This project is important because the effects of bullying can last a lifetime. Children are the most influenced people of any age group. Bullying can create a lack of confidence in the bullied. Confidence can affect so much in one's life that it is staggering. For example, a student may not ask a question during school because they fear being made fun of. This could cause the individual from every learning the information and it could affect them later in life. Creating a bully-free zone that is also an inspiring environment could catapult our youth to greater and better things than we could ever imagine.

Figure: 4
Item: Architects Desk
Retrieved At: http://www.andrewbratley.com/past-experience/
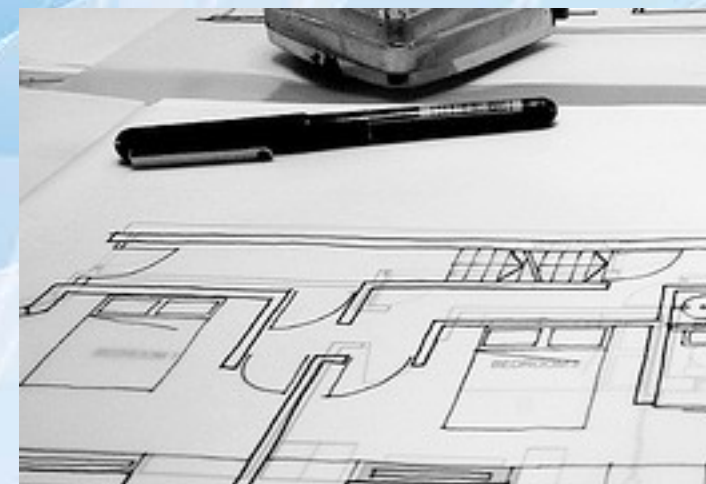
Design Plan

To reach the best design possible, I must have a plan. The first part of this plan is to gather as much information about bullying and its impact on students as possible. I will take an emancipatory approach to this. This approach will have me conducting literature reviews, viewing and conducting personal interviews and surveys. After the research, I will review my findings and decide how my points of emphasis and goals of my design are influenced by the research. After reviewing the facts, I will take a pragmatic design approach to complete the design process. I will start by sketching my ideas and then move to a computer program to help me with the layout. After I transform my ideas into a computer design, I find that having my peers review my work is the most effective step for me in my design process. I will follow my design schedule to make sure I complete my weekly objectives in an orderly fashion.

RESEARCH

School shootings are commonly committed by students who go to the school or by someone that has a direct connection to the institution (Duplechain & Morris, 2014). In 2001, Nicole Crawford conducted a study of 37 different school shootings and she concluded that 75 percent of active shooters identified that they had been bullied or threatened in some way or form (Crawford, 2002). The study also outlined that at least one person knew the attacker was planning something in 80 percent of school shootings. We can decrease school shootings by understanding and designing schools to combat students being bullied.

Bullying is defined as repeated negative actions that are meant to intentionally hurt another person and involve a power differential between the perpetrator and the target (Olweus, 1993). Statistics of bullying have reached an overwhelming number even though no one enjoys it. Currently 45 percent of students have been involved in bullying either as the bully or the victim. The most alarming statistic is that victims of bullying get bullied regularly 25 percent of the time. The victims of these attacks are more likely to suffer from depression, anxiety, and loss of self-esteem (Hanish & Guerra, 2002). This is a major cause for concern for every parent and school district throughout the United States.

In order to design for a bully free environment, we need to understand why people bully others if this problem is to ever be resolved. Even though bully is nothing new, the studies that have been conducted have not yielded consistent findings on why people become bullies because of the amount of variables present in every case. Consistent factors have been found such as individual factors, family dysfunction, group influence factors, socio-cultural factors, and school factors.

The bullies that fall in the individual factor category are the "Jocks" of the world. These are the people that are bigger, stronger, and faster that like to show off their ability to the physically weak (Olweus, 1978). These people usually have an aggressive nature about them that some people propose that it is in their genetics. This claim has not been backed up with support.

Family dysfunction is a factor that we could spend endless days talking about. All families are different in every way, shape and form. A family that has an alcoholic father that is verbally abusive when drunk is

an example of dysfunction that could affect how a child is raised and sees the world. The variables of this category are extensive.

Group influence factors are something that every single one of us has had to deal with. School is a prime place to seek one's identity and establish one's place in the world. It is said that we seek to join groups of people that are similar to ourselves, but sometimes it is hard to find those people (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). People will often change their behavior in order to fit in.

Socio-cultural factors are all around us and we don't realize the unconscious effect that they may have on us (Derksen & Strasburger, 1996). This is a factor that is very controversial because everyone is subject to it every single day and is affected by it differently. Many arguments have been waged about how violence is everywhere in video games, television, and billboards and how it effects people's views of conflict resolution. For example, I have been exposed to violence on television all my life and it did not turn me into a bully so why would it turn someone else into one?

Many different things can affect school environments. For example, in elementary school I had to be pulled aside with a group of my classmates to receive help with reading. This environment helped me tremendously but it also made the people in this group stand out negatively with our peers. I recall a member of this group getting picked on because the teacher had to stop helping an advanced student to help. Licata suggests that a positive attitude from the staff and students as a whole can lead to a reduced bullying behavior in the classroom (Licata, 1987).

We have looked at why people start bullying but now we must learn the process of becoming a bully. As I stated earlier, no one enjoys seeing someone get bullied. It is in our human nature to feel empathy for someone that is getting picked on. The process of becoming a bully can be grouped in four different categories or stages. These stages are called: the rejecting phase, the performing phase, the perpetuating phase, and the withdrawing phase (Lam & Liu, 2007).

The rejecting phase is where all bullies start out. Everyone identifies with the victim during this stage and generally finds the act of bullying as an appalling act. From the example from above, if a young boy overheard his mother being verbally abused by his alcoholic father, he will generally feel empathy for her. Exposure to situations like this would not immediately result in him verbally abusing someone else. However, over a period of time and with repeated exposure it can become a learned behavior.

The second phase of becoming a bully is the performing phase. This stage is something that most bullies get pushed into. For example

if a kid was verbally abused once, the next time he may stand up for himself so as not to factor substantial. Some encouraging factors play the role of the victim. This response is form of a reactive aggression. This example can be viewed as simply fighting back but it can act as a stimulant to ones ego of the power that they can have over someone else.

Once someone enjoys the stroke of there ego by bullying someone, is when they enter the third stage of bullying. This stage is called the perpetuating phase. A bully will stay in this phase because they find the encouraging include material rewards, the emotional release and the fun of the power given to them. During this stage the inhibiting factor is not enough to stop the bullying. A good example of this is when a teacher gives someone detention for being a bully, but the member does not think this is enough of a punishment to stop.

The final stage of this four stage cycle is when the bullying stops. This stage is called the withdrawing phase. This stage happens because the inhibiting factor becomes substantial enough for them to stop. An example being that instead of receiving detention, a teacher issues a suspension from school and the family reacts enough for the bully to fix their behavior. Each individual has a different limit that needs to be reached in order to encourage him or her to change their behavior. Sadly, some individuals may never reach this point.

The tough part for schools is that there will be always some level of bullying happening. The ability to stop the action before it spreads is a key for any type of institution. Using the correct inhibiting factors is important but should not be the stand-alone way to attack this problem. Another way to defend against bullying is to provide positive ways to have fun and gain power such as joining an athletic team. Any chance for a person to join a support network is positive is key in the effort to stop bullying. Positive attitudes, just like negative ones, are contagious.

The major question in school shootings is why did the bullying get so bad that the shooter felt the only way to win is to end someone's life? As crazy and extreme as it seems, we can now make sense on why a student would shoot someone if we follow the process stated earlier. But why are we as a society so bad at noticing when it happens and making it stop?

This is a layered answer that cannot be answered easily. Let's take a look at why teachers cannot prevent bullying from happening alone. Teachers and other school administration are often employed just to focus on academic performance and not fully trained to assess individual student behavior. This aspect of the problem is something that the schools social workers need to focus on. The problem with this is that very few schools have an adequate number of councilors. My hometown, Mayville ND, had one councilor for around 400 students. This is

an impossible feat for one man or woman to do.

Installing an impressive anti-bullying program is key for any school to implement to keep its students safe (Olweus, 1997). Anti-bullying programs that are implemented with a holistic approach are considered the most effective. With this system, the actions that are put in place focus on strengthening the relationships between the student body and facility and the feeling of security in the school. An example of this is having a workshop that includes the student body, their parents, and school facility to raise awareness about bullying, gun control, or any other aspects that could increase awareness to personal safety. This could also include a social worker teaching others how to detect bullying and ways to stop it since they can't be everywhere.

The Olweus anti-bullying program has been implemented in Europe and United States. This program has been largely effective in reducing victimization and bullying up to 50 percent in some areas. However, this program is only as good as it users as results vary depending on management. Positive areas of this program include teacher training, development of classroom rules, student group work, and parental engagement. These areas are sometimes in the form of school newsletters released to the parents or student group assignments. Developing your own school's anti-bullying program is very important to its success. If your school has a diverse student body, you must place an emphasis on this in your training.

As architects and designers we need to focus on what we can do with this information to make a difference. Let's break the information down piece by piece. The first interesting fact comes from Nicole Crawfords research. Her researched outlined that at least one person knew the attacker was planning something in 80 percent of school shootings. As identified in my research, the schools social worker is the best-trained staff member in the whole building. At my high school, inMayville ND, the social workers office was put near the end of the building from the entrance. Unless you were in major trouble, you didn't really see him. I see this as a major red flag because this employee needs to get a feeling for the pulse of the high school. If the 80 percent from the study knew who to go to and felt comfortable talking to this person, maybe these school shootings wouldn't happen. This social worker needs to be available every day as a focal point when students enter the building.

School Councilors can only see so much of what is going on within the school. Teachers need to be on the look out and know basic knowledge of deterring bullying. Since these teachers don't have the training in this field, the school social worker needs to be working with these teachers every day and training them. A training and debrief workspace should be looked at. Teachers need to have a space to meet with the social worker daily that they can let them know of alarming activity that is going on in their classrooms. In the high schools that I have been at, most teachers have their desk set up right in the classroom. The amount of privacy for them is very limited. There are many different of ways of fixing this problem.

One of the solutions could be having their desk in their own office out of the classroom. This gives them a space that they can have private conversation with the school social worker. Another interesting aspect of them having their own office is that they will have to be walking the halls to get to their classroom. This will allow them to get a sense of what is going on throughout the building and not just in their own classroom. This also accomplishes the goal of interaction with the students that is required in any anti-bullying program.

Another option is to have each classroom have its own breakout space. This space can be used for many different activities. It mostly can be used as a breakout space for students that need a little extra help with their coursework. When it isn't being used with the students, it can be a space that teachers and the socials workers talk about student activity. These breakout rooms could be a great place to have student, parent, and teacher meetings out of the classroom setting. Having a space dedicated for parents is a good way to provide a sense of community and family in the school. These are just a few ways that provide opportunities for teachers and socials workers to communicate to each other what is going on with its students.

Most of the factors that cause people to bully are unavoidable. The best way to help our youth deal with these factors are making them aware of these factors and giving them an opportunity to talk to someone about them. Newsletters and other information about the school need to be made available to the students and their parents. This begs the question, where and how is the best way to distribute this information. The school could go about this in multiple ways. One option is to have the social worker hand this information out every morning. Another option is using email or mailto get this information out to the families. I am a fan of both options, but the one I like the most is designing areas throughout the school that have these flyers available for the students. I believe designing these in areas of high traffic such as hallways, entrances, cafeterias, and gyms.

Giving facility and the student body a chance to work together is a great aspect that designers need to focus on. For example, instead of having a sewing and cooking class that many of use had to take, maybe we design a class where the student body receives school credits for helping the school cooks make lunch. This would need to be designed accurately with many different aspects taken account for. The space for the extra

people and space to teach our students how to cook would need to be adequate. We need ask to ourselves what other design focuses would be involved in this idea to make it plausible.

One problem with this idea is that the school could not hire regular cooks to do the teaching, the cooks would also need to have a teaching background. If hired, offices for the cooks would also need to be designed for. I have outlined some design and layout ideas that can combat bullying and promote unity in our schools. It is up to us to come up with more ways that our designs can influence our youth with battling the urge of bullying one another.

Bullying is a very concerning act that influences our youth. It has been proven that bullying is a statistic that coincides with school shootings. If we raise awareness and design our schools to battle this act, we will protect our youth against an active shooter situation.

Research References

Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. American Psychologist, 55(2), 218–232.

Crawford, Nicole. (2002). New ways to stop bullying. Monitor on Psychology. 33, 64. Cromwell, S. (2006). Stop bullying before it starts. Education World, from http://www.educationworld.com/ aadmin/admin/adminl 17.shtml.

Derksen, D. J.,Strasburger, V. C. (1996). Media and television violence: Effects on violence, aggression and anti-social behaviors in children. In A. M. Hoffman (Ed.), Schools, violence and society London: Prager.

Duplechain, Rosalind; Morris, Robert. Education. Winter 2014, Vol. 135 Issue 2, p145-150. 6p.

Hanish, L., Guerra, N. G. (2002). A longitudinal analysis of patterns of adjustment following peer victimization. Development and Psychopathology, 14, 69-89.

Lam, Debbie; Liu, Arthur. (2007), Child & Adolescent Social Work Journal. Vol. 24 Issue 1, p53-75. 23p. 1 Diagram. DOI: 10.1007/s10560-006-0058-5.

Licata, V. F. (1987). Creating a positive school climate at the junior high level. Paper presented at the Annual Meeting of the Michigan Association of Middle School Educators. Birmingham, A.L.

Olweus, D. (1978). Aggression in the schools: Bullies and whipping boys. Washington, DC: Hemisphere.

Olweus, D. (1993). Bullying at school: What we know and what we can do. Cambridge, MA: Blackwell Publishers, Inc

Olweus, D. (1997). Bully/victim problems in school: Knowledge base and an effective intervention program. Irish Journal of Psychology, 18, 170-190

CASE STUDIES

Case Study Narrative

There are so many schools on this earth that it is impossible to get an accurate count of just how many there are. I find it very interesting that there are so many schools but not a single school that is perfect. Schools are so unique to its site and client that it is impossible to come up with a perfect design that works for everyone. This does not mean that there are not many that we can learn from.

Orestad High School

The Orestad High School is a unique High School, which is located in Copenhagen, Denmark. This spectacular design contrasts most United States schools because of its vertical layout. I am curious about what other layouts for classrooms and circulation that can be used instead of the basic long hallway corridor standard that most high schools use.
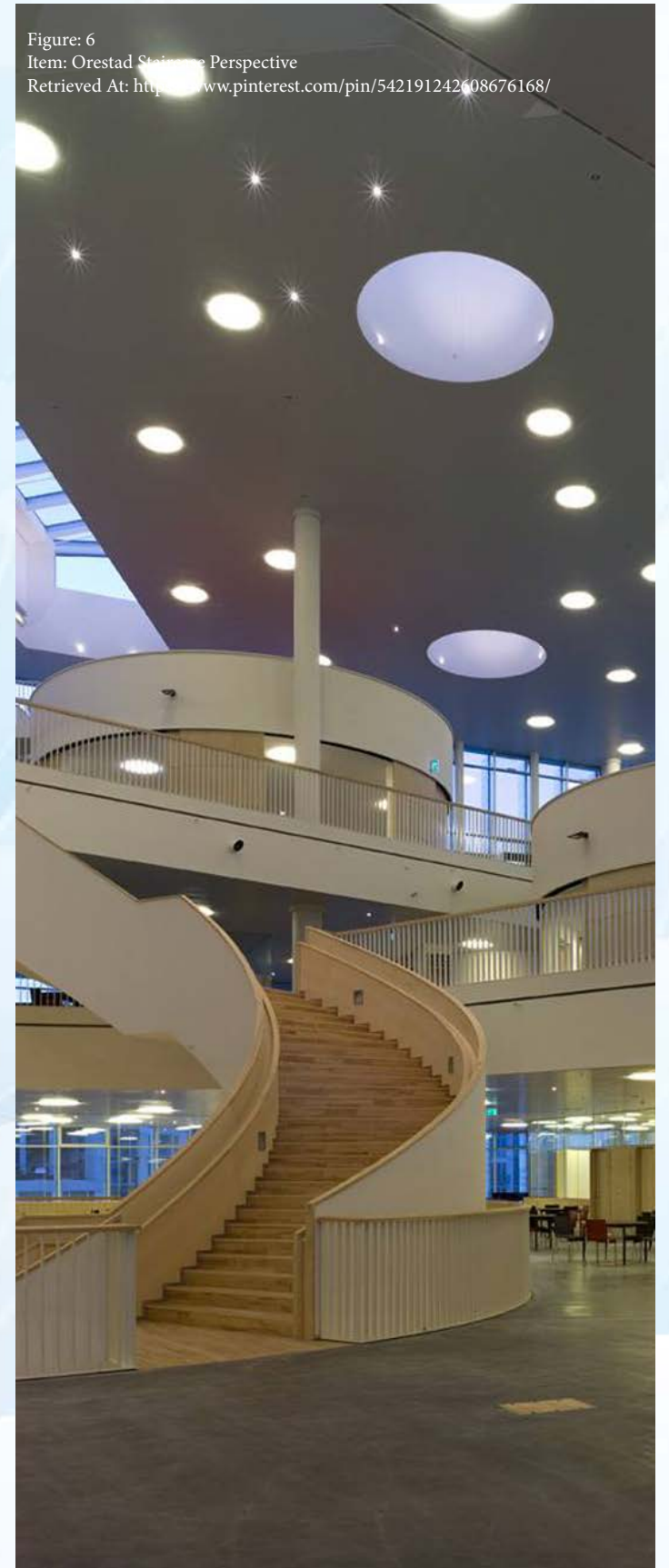
Figure: 8
Item: Orestad Exterior Section
Retrieved At: http://openbuildings.com/buildings/orestad-college-profile-3235
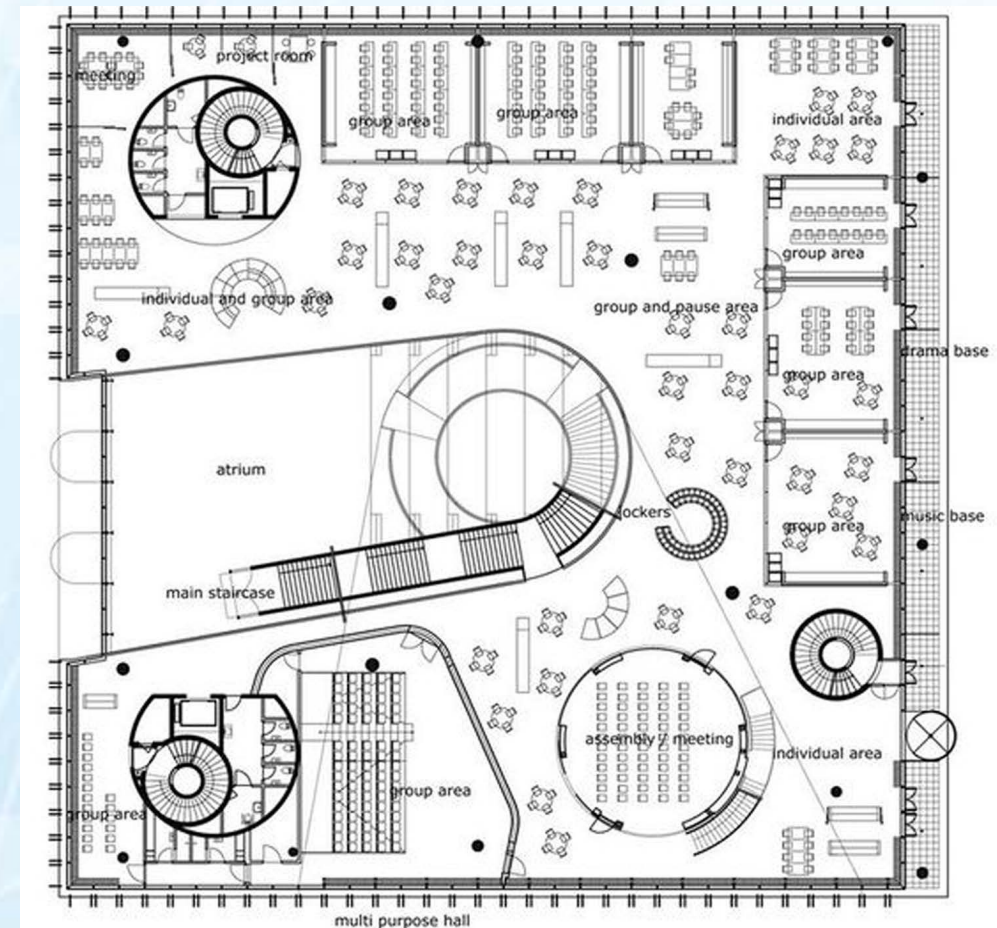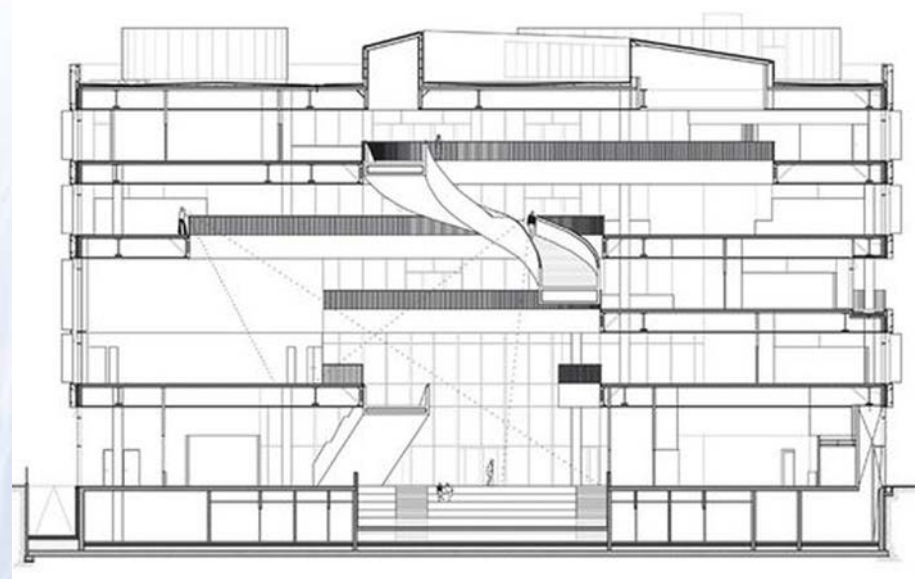
Figure: 9
Item: Orestad Floor Plan
Retrieved At: https://www.pinterest.com/pin/467318898813629331/

Research Findings

Orestad is designed according to the new Danish reforms, which focus on changed content, subject matters, organization, and learning systems. Orestad High School is much different than our typical United States school because it has no classrooms or lounges. Instead it is split into four different subject zones. Each zone is located on its own floor, which students are able to reach by using its spiral staircase. Within each zone, small niches are provided for the students. These niches allow students to explore their creativity and focus on their studies. The multi-storied design creates a visual link to the floors above and below, which help create an interdisciplinary approach that the school wants to push to its youth.

Figure: 7
Item: Orestad Interior Perspective
Retrieved At: http://openbuildings.com/buildings/orestad-college-profile-3235#!buildings-media/7images-science-teacher-student-image13560679virtual-ourschool-graduation

Research Conclusion

Figure: 10
Item: Orestad Interior Perspective
Retrieved At: http://www.dac.dk/en/dac-life/danish-architecture-guide/copenhagen/

Orestad is a very interesting case study that pushes not only the idea of how we layout our classrooms, but the very idea of what a classroom can be. The arrangement of the zones and the openness of these areas could affect the way a student learns the content but it also will affect the way its students communicate with each other and its facility.
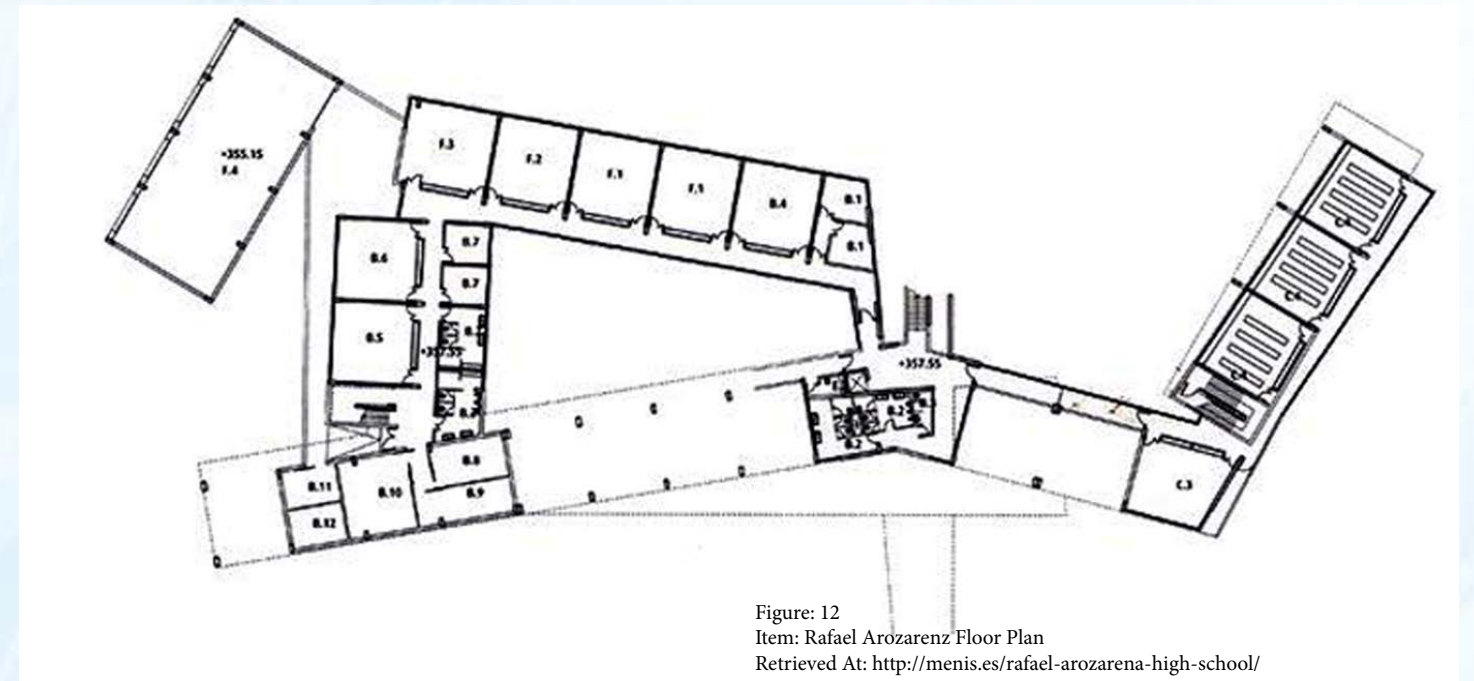
Rafael Arozarenz High School

Many schools throughout the country are your garden-variety rectangle shapes that do not relate to their surroundings. Rafael Arozarenz High School is different; it interlocks itself to its surroundings better than any school I have seen. I want to find out how it successfully blends with its community and culture.

Figure: 14
Item: Rafael Arozarenz Exterior Perspective
Retrieved At: https://www.mimoa.eu/projects/Spain/La%20Orotava/Rafael%20
Arozarena%20High%20School/

Figure: 16
Item: Rafael Arozarenz Section
Retrieved At: http://menis.es/rafael-arozarena-high-school/

Research Findings

Figure: 15
Item: Rafael Arozarenz Exterior Perspective
Retrieved At: http://www.archdaily.com/3024/rafael-arozarena-high-school-amp-arquitectos/

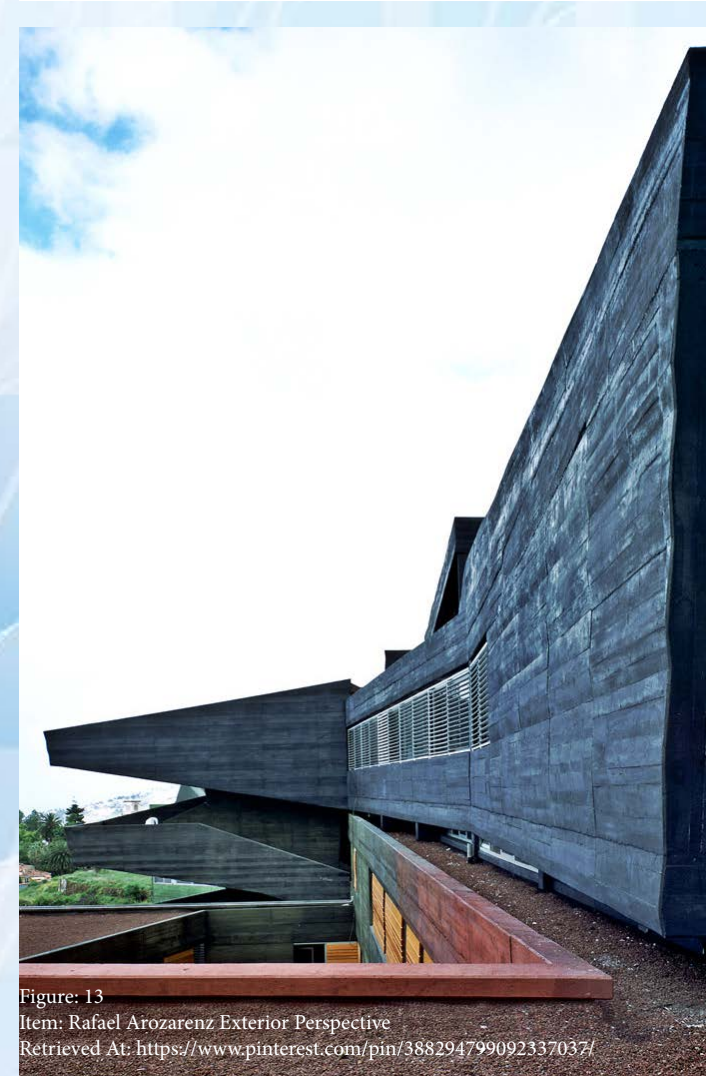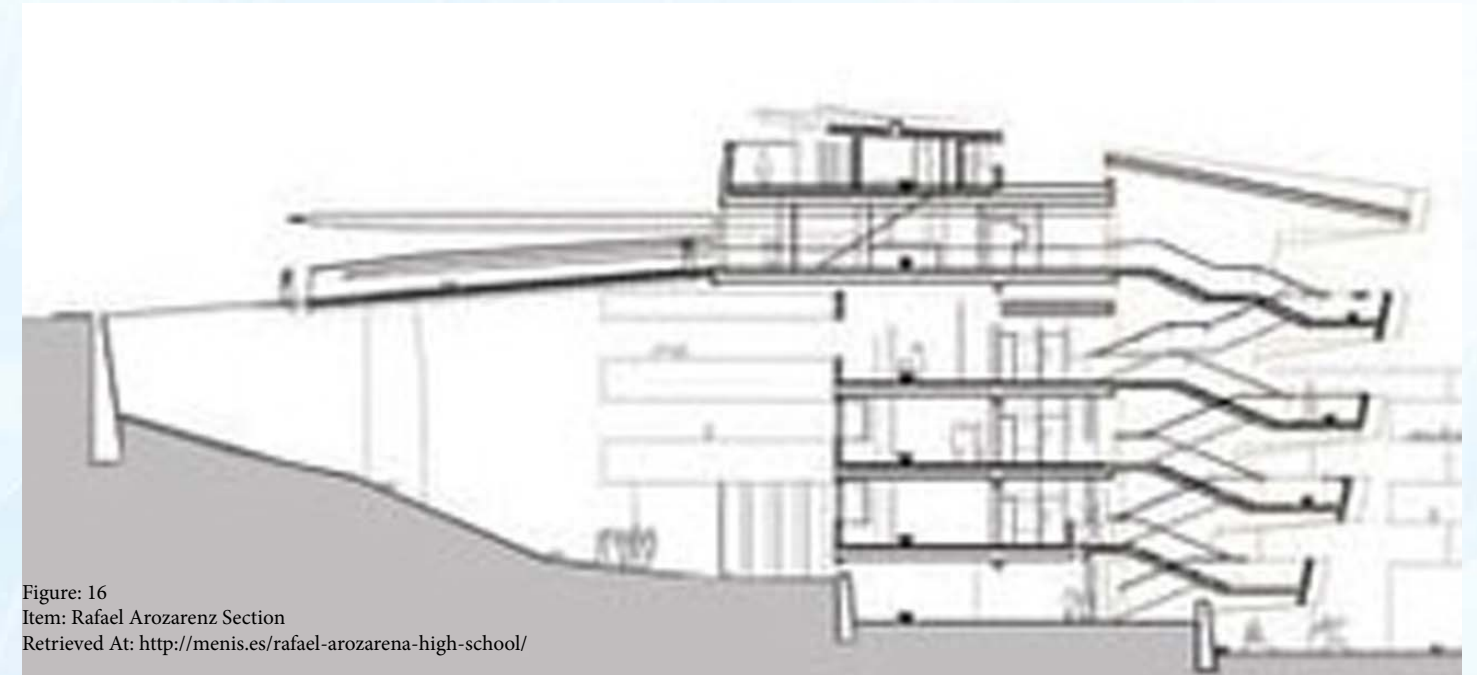Rafael Arozarenz is constructed into a hill in Orotava, Spain. This amazing design is built with concrete that is finished in different color tones. The color tones blend the school in with the urban strata and with the nature of the southwestern zones. In addition, its color relates to the educational functions of the school inside and out starting from the staircase. Before the school was built, this land was used to grow crops.

Research Conclusion

Figure: 17
Item: Rafael Arozarenz Exterior Perspective
Retrieved At: http://inhabitat.com/striking-spanish-high-school-shows-respect-for-its-rural-site/rafael-arozarena

Rafael Arozarenz High School is an impressive case study that uses its geographic location to enhance its beauty, and even links itself to the community and culture. When designing any school, the design needs to be a reflection of the area and its community. Rafael Arozarenz used a few different methods to do this. I need to look for what represents my site in order to design for its people.

Marysville Getchell High School

Marysville Getchell High School designed their school much like a college campus. They divided the school into 4 separate building communities with 1 main common area. Creating small learning communities may help with the relationship with facility and student.
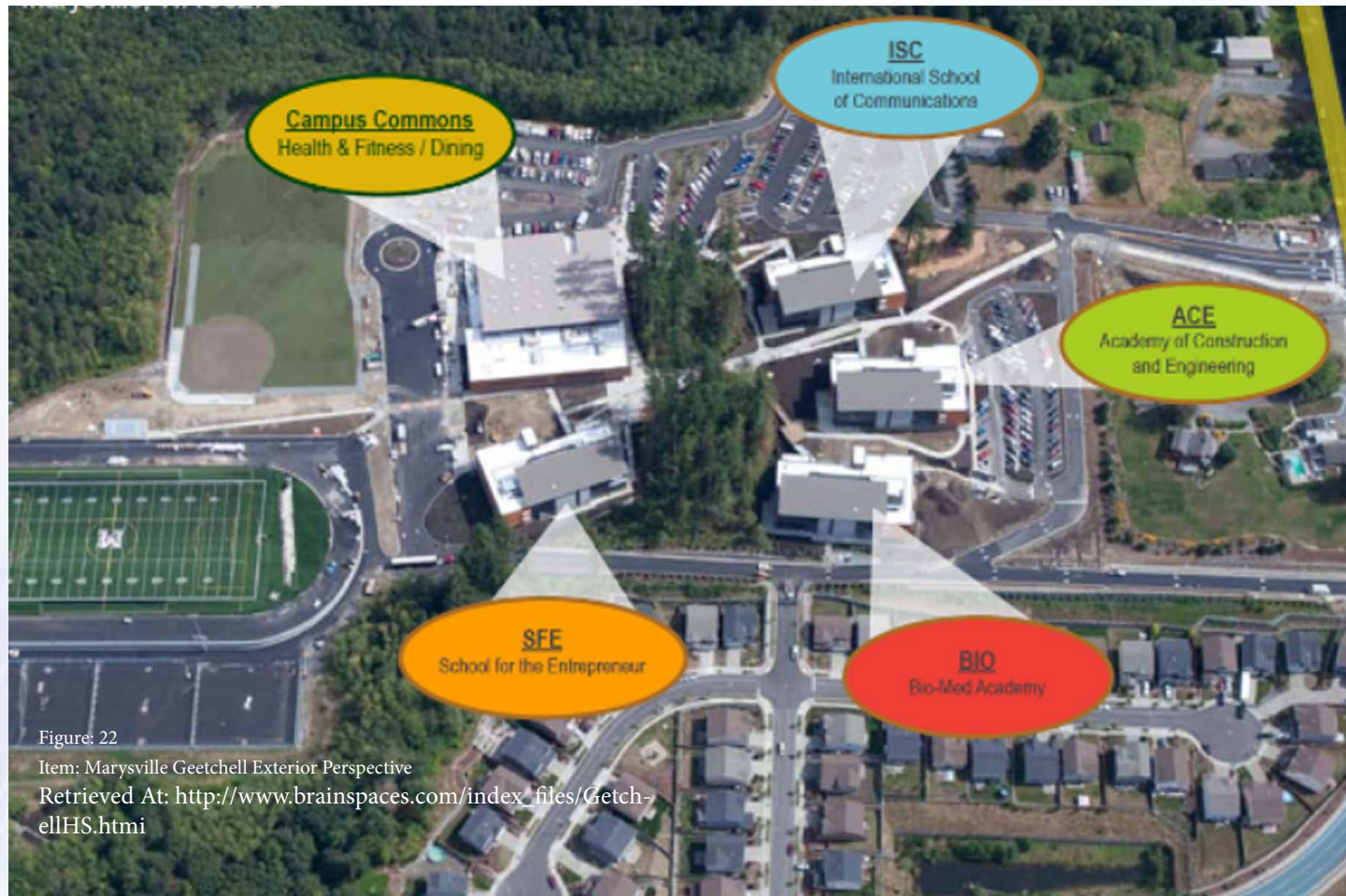
Figure: 22
Item: Marysville Geetchell Exterior Perspective
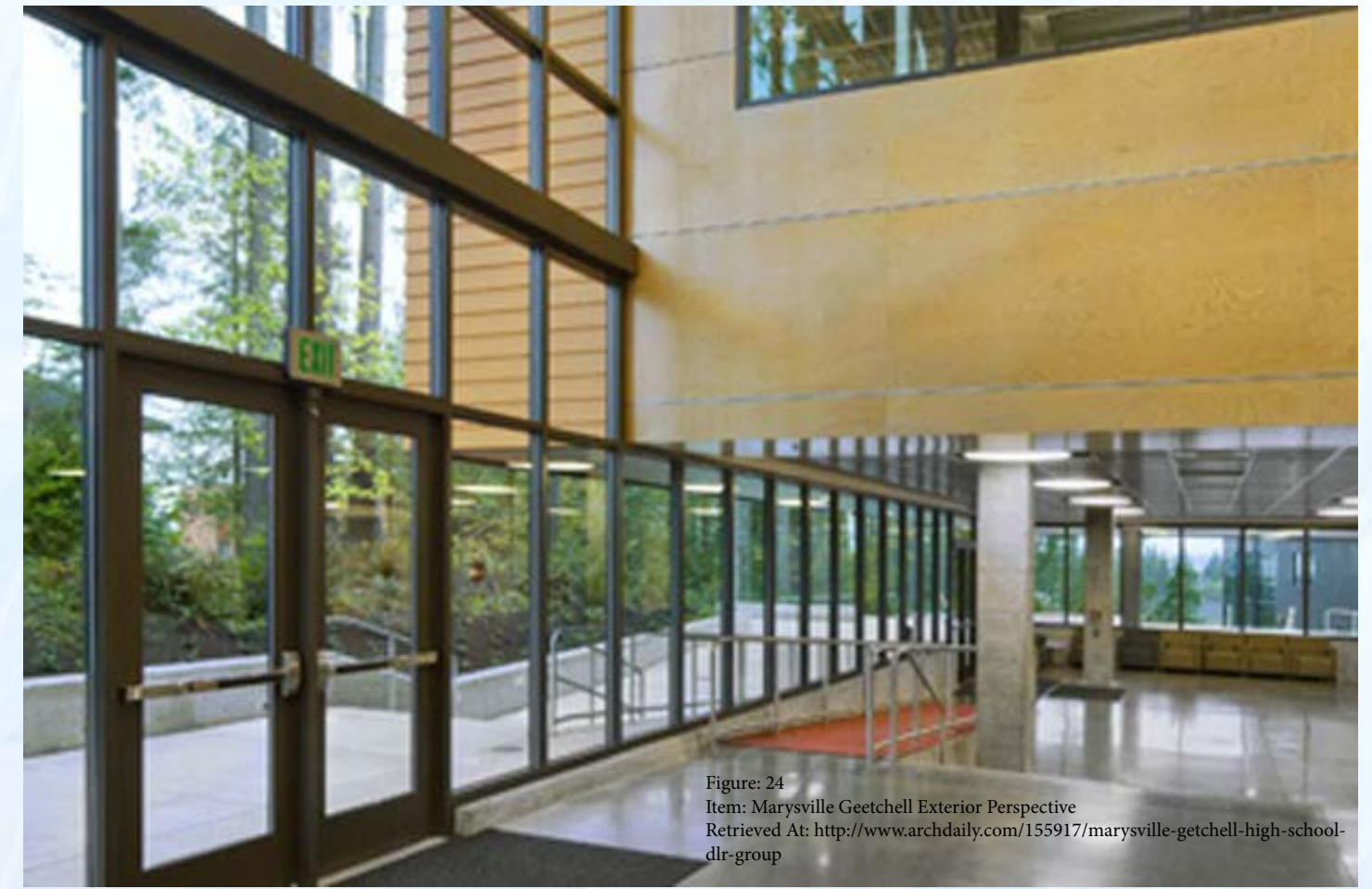Retrieved At: http://www.brainspaces.com/index_files/Getch-ellHS.htmi

Figure: 24
Item: Marysville Geetchell Exterior Perspective
Retrieved At: http://www.archdaily.com/155917/marysville-getchell-high-school-dlr-group

Research Findings

Figure: 21
Item: Marysville Geetchell Exterior Perspective
Retrieved At: http://www.brainspaces.com/index_files/GetchellHS.htmimages

Marysville Getchell High School is 1 of the 2 subdivisions of Marysville Pilchuck High School. This subdivision has a capacity of about 1,600 students. Getchell uses a setup that utilizes 4 Small Learning Communities that are also known as School-within-a-School. In these communities, students and teachers often follow each other throughout each grade. With this process, each community also has its own principle. This has allowed its students to have a more specialized experience, but it also

Research Conclusion

Figure: 23
Item: Marysville Geetchell Section Perspective
Retrieved At: http://www.dlrgroup.com/work/marysville-getchell-high-school/

Marysville Getchell High School is an interesting case study that uses a different idea of how a school should be setup. With North Dakota gaining in population, is this something that we should start implementing to help with the projected population growth? The trouble with this is projecting when we need something like this and how do we decide on how many students it would be used by.

PROGRAM

Program Narrative

Schools are very unique because of how many people use them daily. A designer must fully understand the complete program of the school because of the schools shear volume of functions that it holds for each community.

Problem Statement

Function

This project is being undertaken to stop bullying and to enhance the students overall ability to learn in his or her environment at the same time as feeling safe. The project should focus on passive ways of disrupting bullying and enhancing the learning environment.

The behavior patterns of the student body and its teachers are an important factor to consider. The project needs to focus on what allows teachers

to reach their full potentials as educators, at the same time as allowing them to monitor and control social situations of its student body. Analyzing the behavior and pulse of the school will help establish how to disrupt bullying and enhance the ways that we can teach and learn.

Testing concepts of how we can change the way that our student body interacts with one another and the teachers is a key focus. This project needs to uncover multiple ways of promoting positive encounters of its users by making the most of multipurpose areas. Giving teachers a better chance at encountering their students in multipurpose areas would allow them keep tabs on the pulse the school, which should deter bullying.

Hillsboro, ND has a new elementary school and sports complex. The site is located just south of these establishments. Understanding the parking and outdoor requirements for these areas is necessary to design the high school to its full potential.

This project needs to have a strong ability to reduce school bulling, but it can't take away from the number one concern of a

school, which is implementing S.T.E.A.M curriculum into the schools overall foundation. This cannot be affected in anyway negatively.

Form

Since this project is built for its students and teaching body, the form needs to lend itself to a physical environment that is easy to learn and focus in. It is essential that the form will create an opportunity for learning and positive interaction. Balancing the space and quality of its spaces will be focused on.

The layout of any school has a direct affect on the efficiency of its ability to give a quality education to its students. The layout not only affects its ability to mold young minds, but it can have a direct link to the social structure of its student body. It will be important to this project to find the best way to deter bullying and to enhance the learning environment.

Linking the high school to the newly built elementary school is important in making this project a success. The ability of designing this school with a connection to farming will also be a high priority factor. The ability to makes the students and employees of the school comfortable in their surroundings will have a direct affect on their everyday life.

Economy

The ability for any school to combat its weather is key. The harsh winters in North Dakota will have to be looked at. This will be combated with form and building materials. The schools materials need to have the ability to take the beating of harsh winters and need to be easily replaced when they do falter. Attention to the building materials ability to survive wear-and-tear will be key, since the site is located near a flat windy open field.

Time

Our society has changed a lot through the years. Towns near Fargo, ND have changed dramatically in every way, shape and form. Hillsboro is one of these towns, and it will continue changing. The functional, and social landscape of the city and school will change through time. We will have to project and plan for this in order for the design to be a success.

Urban sprawl is something that will affect any town near Fargo for a long time. This may require larger class sizes, more teachers, and other accommodations for towns like Hillsboro, ND. Identifying long-term projections for growth in Hillsboro will be a key factor is designing the best school for its users.

Building Area & Land Use

Building Area Phase 1

Function	People	Capacity	Net Area	Net:Gross	Gross Building Area
High School					
Auditorium	0	387	6260	0.50	12520
Gallery/Public	23	377	9580	0.50	19160
Classroom	50	114	11700	0.50	23400
Gymnasium	0	841	15760	0.50	31520
Computer Lab	0	94	2800	0.50	5600
Cafeteria	6	40	1900	0.50	3800
Library	1	80	2676	0.50	5352
Special Rooms	1	48	700	0.50	1400
Subtotal	**81**	**1981**			**102752**

Land Use Phase 1

Function		People	Gross Building Area	Floors	Building Footprint	GAC	Land Area
High School							
Building		81	102752	1	102752	0.25	411008
Parking			Parking Count				
	Staff	7	2660	1	2660	0.70	3800
	Students	73	27740	1	27740	0.70	39629
	Vistor	2	760	1	760	0.70	1086
	Service	1	380	1	380	0.70	543
Subtotal		**81**	**134292**		**134292**		**456065**

Function	People	Capacity	No. of Units	Area/Unit	Net Area	Net Area Subtotal
High School						
Auditorium						
Media Storage	0	0	1	150	150	
Storage Closet	0	0	2	80	160	
Coat Check	0	0	1	150	150	
Lobby	0	67	1	1000	1000	
Seating	0	240	1	3600	3600	
Stage	0	80	1	1200	1200	
Subtotal						**6260**
Gallery/Public						
Public Courtyard	0	100	1	1500	1500	
Locker Space	0	200	1	3000	3000	
Restroom	0	30	4	450	1800	
Office	20	20	20	144	2880	
Reception/Displays	3	27	1	400	400	
Subtotal						**9580**
Classroom						
Creation Studio	20	60	1	900	900	
Classroom	30	54	12	800	9600	
Storage Closet	0	0	20	60	1200	
Subtotal						**11700**
Gymnasium						
Gym	0	440	1	6600	6600	
Seating	0	234	1	3500	3500	
Storage Closet	0	0	2	80	160	
Locker Room	0	67	4	1000	4000	
Weight Room	0	100	1	1500	1500	
Subtotal						**15760**
Computer Lab						
Computer Room	0	80	2	1200	2400	
Printer Space	0	14	2	200	400	
Subtotal						**2800**
Cafeteria						
Kitchen	6	20	1	1200	1200	
Prep Room	0	10	1	400	400	
Serving Space	0	10	1	300	300	
Subtotal						**1900**
Library						
Copy Room	0	10	1	144	144	
Conference Room	0	27	1	288	288	
Circulation Desk/Book Drop	0	7	1	100	100	
Study Space	0	33	1	500	500	
Office	1	3	1	144	144	
Book Storage	0	0	1	1500	1500	
Subtotal						**2676**
Special Rooms						
Distance Learning Room		34	1	500	500	
Counseling Room	1	14	1	200	200	
Subtotal						**700**

PARKING 70%

GYMNASIUM 31%

GALLERY/PUBLIC 19%

CLASSROOMS 23%

AUDITORIUM 12%

COMPUTER LAB-5%

LIBRARY 5%

-SPECIAL ROOMS-1%
-CAFETERIA-4%
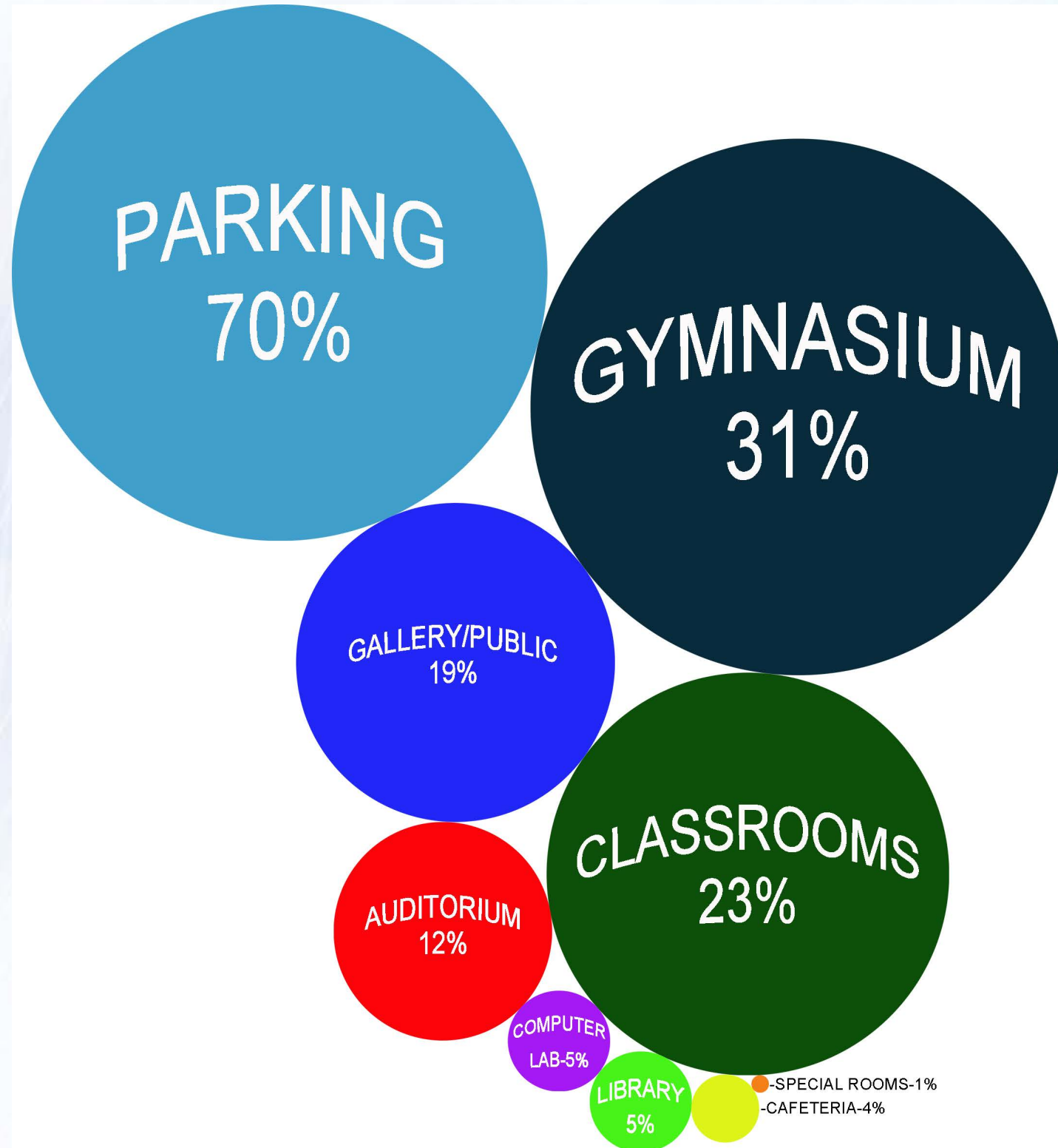
SITE ANALYSIS

Figure: 30
Item: North Dakota Map
Retrieved At: https://www.rd.usda.gov/contact-us/state-offices/

Site Narrative

Understanding the site that you design on is crucial to any project. We need to understand how each variable of our site may enhance or subtract from our design. Understanding our sites is the most important role we have as designers.

Hillsboro, North Dakota is located in Traill County. Hillsboro is a part of the Red River Valley that runs along the state line of North Dakota and Minnesota. Hillsboro has a population of 1603. Hillsboro is considered a farming community. Many residents commute for work because of being located in-between Fargo and Grand Forks, ND along Interstate 29.

Car Parking

Bike & Car Parking

D

-1060'-

A<

-600'-

-665'-

C

B

-960'-

New Development

Projected Site

New Sports Complex Site

Figure: 32
Item: Sport Complex
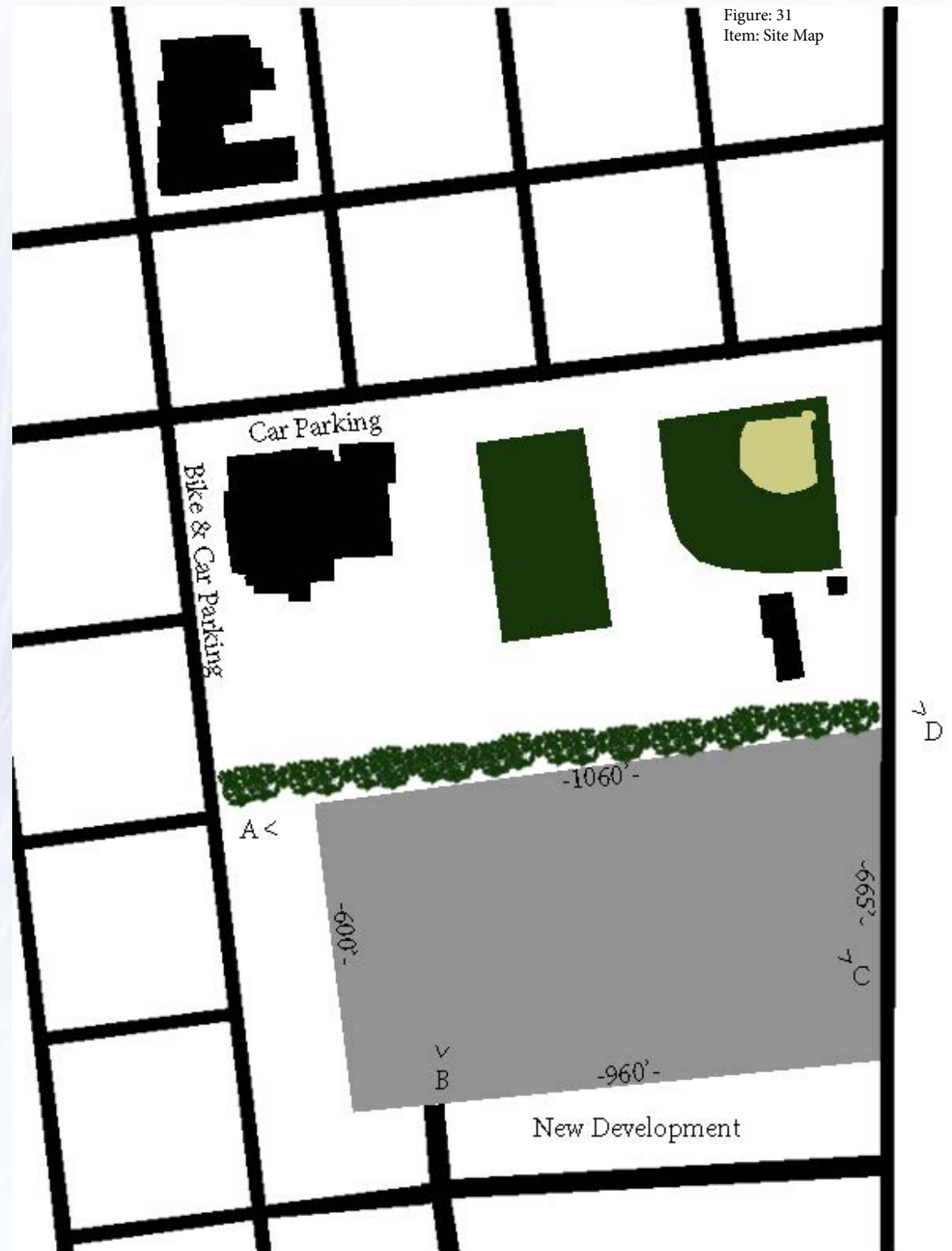
Site Background

Hillsboro has built a new elementary school and put money into there sports facilities. The high school is extremely outdated and needs to be remodeled or a completely new design needs to be made. The schools sit on the East side of town with 25mph roads surrounding its perimeters. The roads all are low traffic besides when school is starting and ending. The site I have outlined for a new high school is just north of a new residential development and south of the new elementary. Conclusion: Locating the high school south of the elementary school allows for max amount of sunlight, a large parking area for when its cold out so students don't have to walk from blocks away. This location will give everyone a close proximity to the new sports complexes.

High School Grades: 7th-12th Grade
High School Population: 192
Teacher to Student Ratio: 1:16
Avg. High School Grade Population: 32
Avg. Elem. School Grade Population: 43

Current High School

Figure: 33
Item: High School

New Elementry School

Figure: 34
Item: Elementry School

View A

Figure: 35
Item: Site Pitchure A

View C

Figure: 37
Item: Site Pitchure C

View B

Figure: 36
Item: Site Pitchure B

View D

Figure: 38
Item: Site Pitchure D

	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Temp-Av. High in F	18	23	36	54	69	77	82	81	70	55	37	22	52
Temp-Av. Low in F	-1	4	18	32	44	54	58	56	46	34	19	6	30.8
Av. Precipitation in Inch	0.51	0.59	1.1	1.42	2.72	3.62	3.31	2.48	2.2	2.17	0.87	0.67	21.66
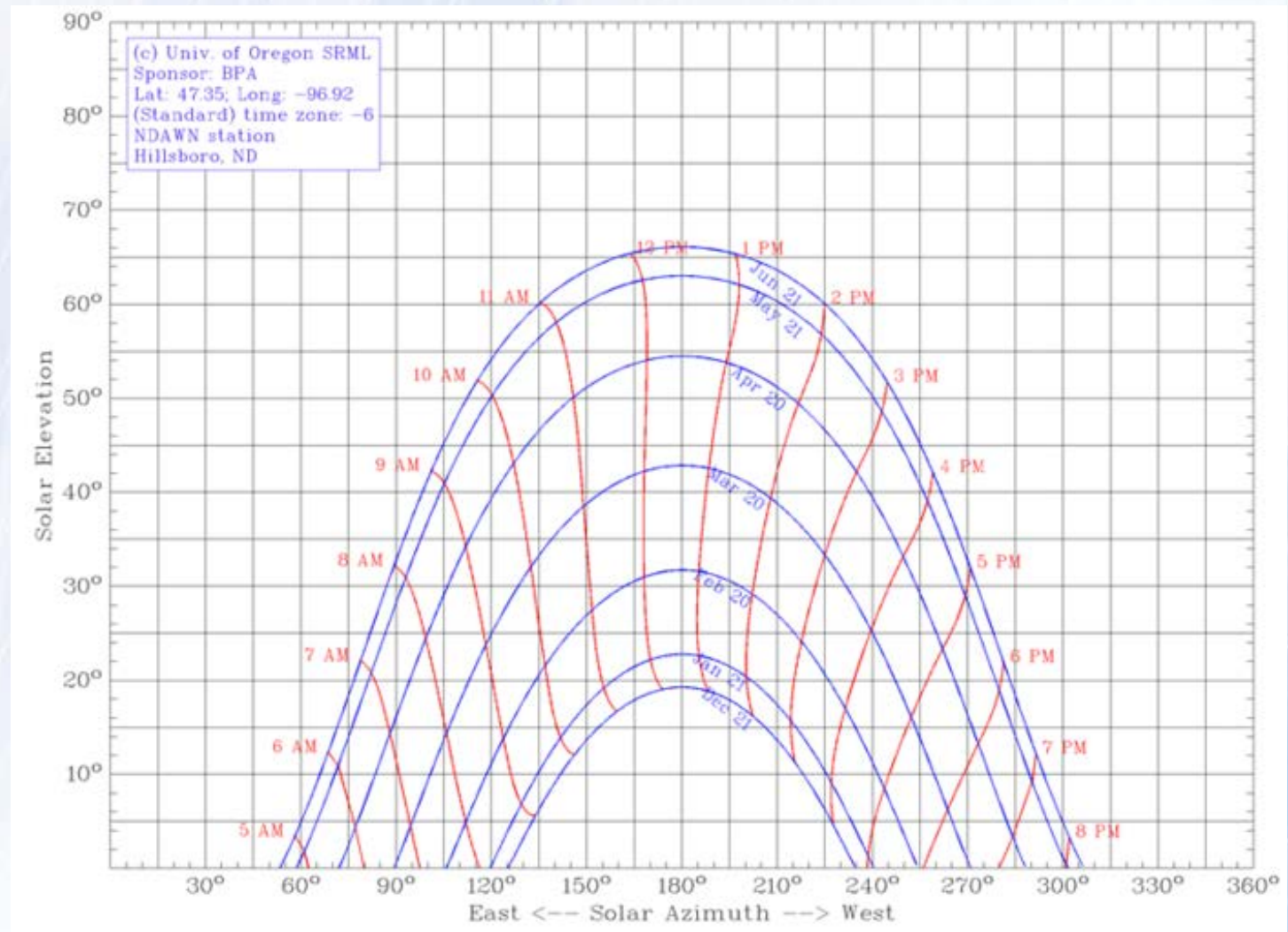
Figure: 40
Item: Solar Azimuth
Retrieved At: https://www.ndsu.edu/ndsco/data/energy/suneleva-
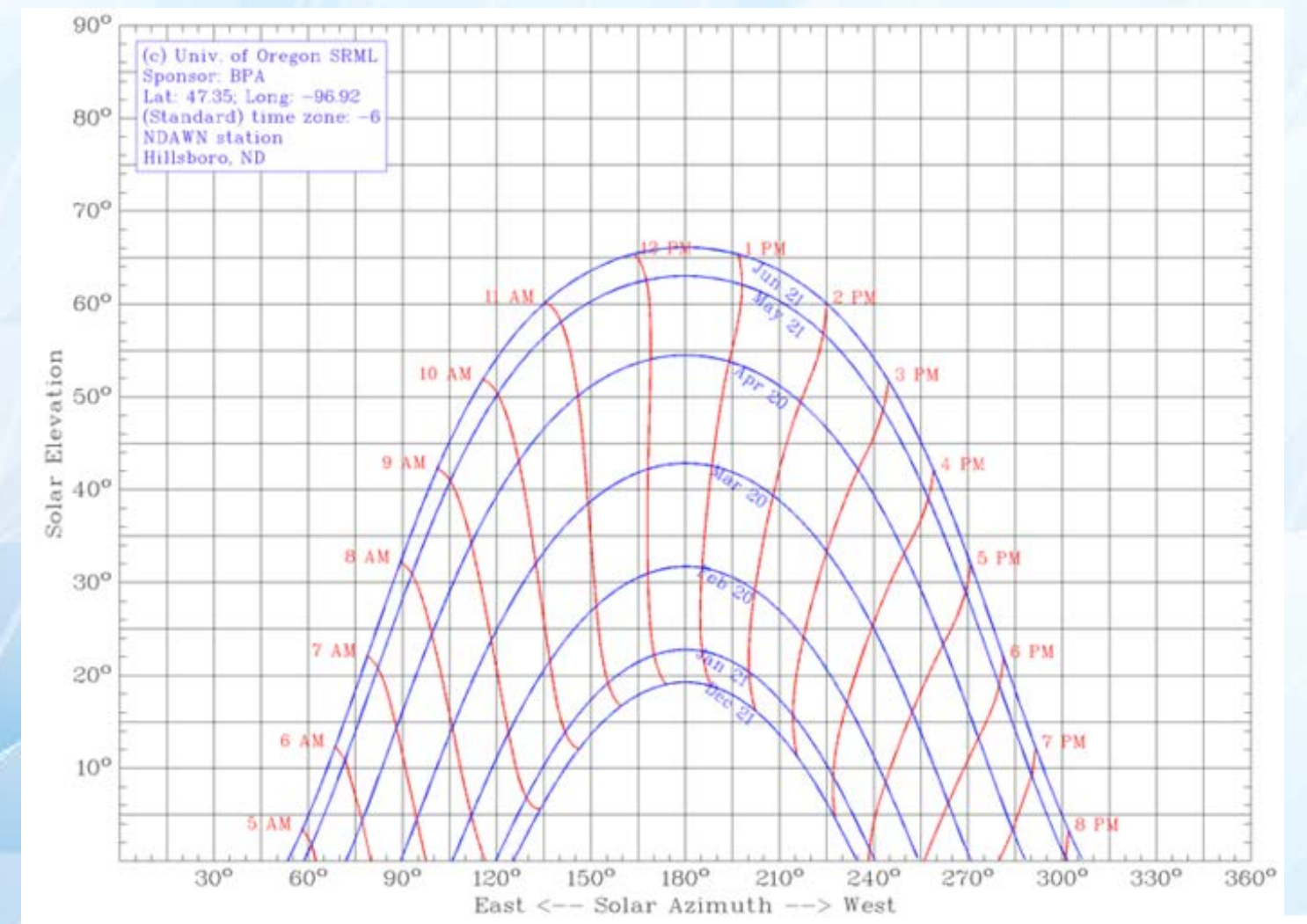
Figure: 41
Item: Solar Azimuth
Retrieved At: https://www.ndsu.edu/ndsco/data/energy/suneleva-

CODE ANALYSIS

Code Analysis			
Educational	Group E		
Construction Type	Type II		
	NS-26,500		
	S1-106,000		
	SM-79,500		
Max Height	NS-65		
	S-85		
Assembly Group	Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social, or eligious functions, food or drink consumption or awaiting transportation.		
Max Exit Width	Hillsboro enrollment is approx. 240 students in 7th grade-12th grade. Adding faculty to this number, and adding a buffer for student body growth, I will account for 400 people in this design. 400X.3=120 120/36=3.33 doors 4 doors needed.		
Classroom Area (20 Net)	Hillsboro 5th Grade enrollment-34 students. Split into two classes of 17. 17students x 20 Net sq. ft.= Classroom size of 340 sq. ft. needed.		
Shop Area (50 Net)	17students x 50 Net sq. ft.= Shop size of 850 sq. ft. needed.		
SF Per Ground Floor	Accounting for 400 people in the school. 400x20 net sq ft.= 8000 sq ft.		

Code Narrative

If it weren't for codes, we would be in a lot of trouble. Codes are put in place to make sure we stay safe. A school has more codes to follow than any other structure because of the multi-dimensional use of the building and the extreme high number of its users.

Example of bathroom floor plan of with Code Access Plan, Door Width Plan, and Pathway Access Plan
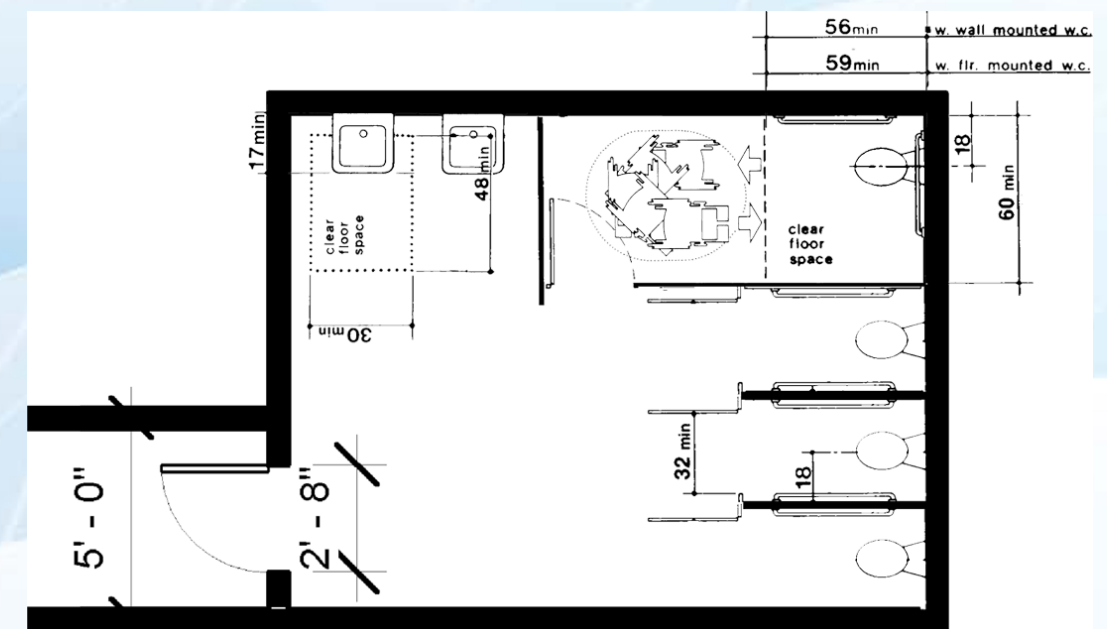
Figure: 42
Item: Code Bathroom Floor Plan

PLAN FOR PROCEEDING

Figure: 43
Item: Thesis Schedule
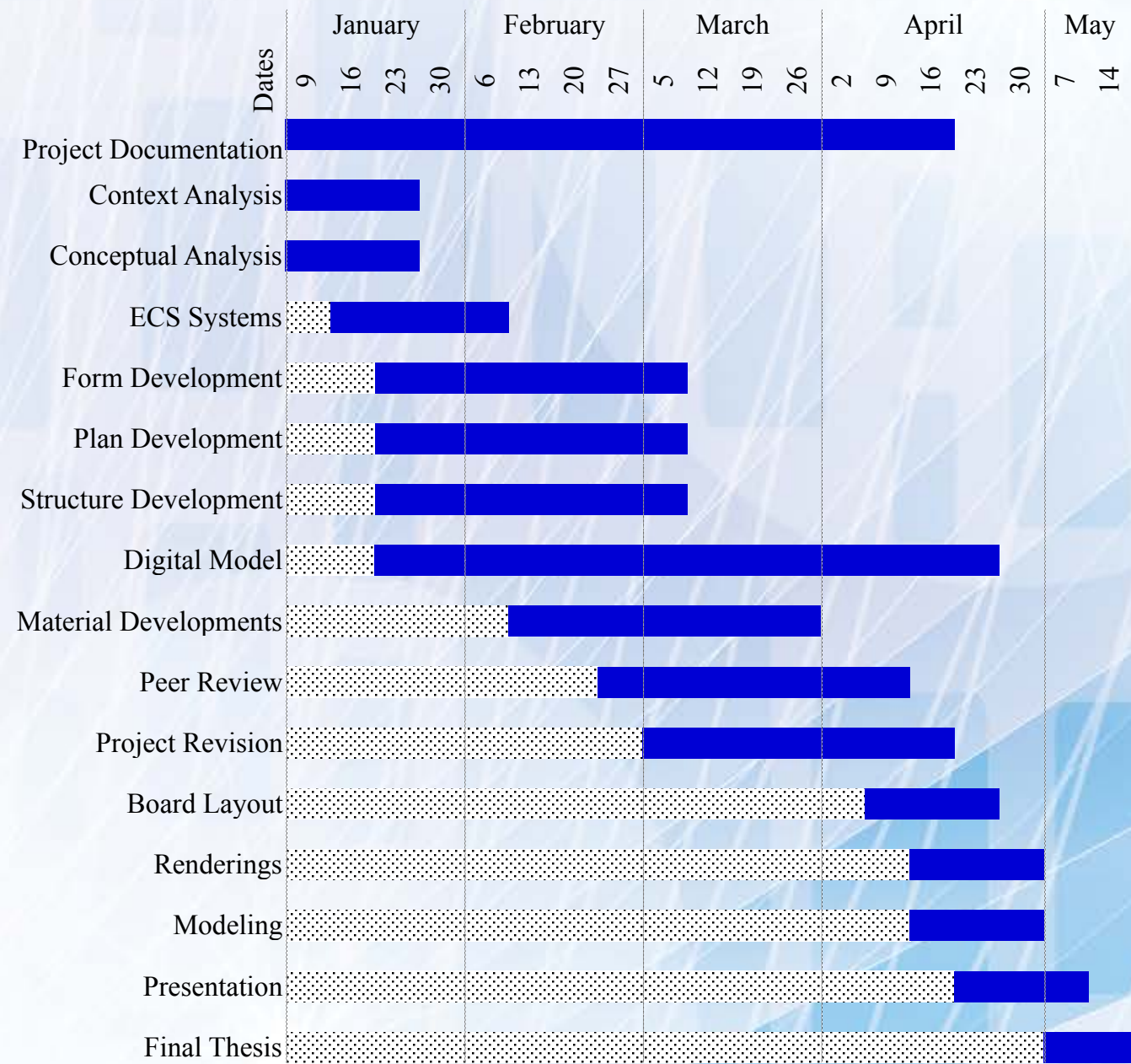
THESIS
RESEARCH

RESULTS FROM
THEORETICAL PREMISE

Urban sprawl is making our schools larger and more diverse every year. This idea was confirmed when I visited Hillsboro High School. The difference in class size of the high school in comparison to the Elementary School is staggering. The difference in average grade size is approximately 10 students. The probability of diversity in these classes increases as the overall population grows. Hillsboro wants to keep the teacher to student ratio below 1:20. What happens when it exceeds this ratio? The answer is a decrease in supervision unless the school hires more teachers.

PROJECT JUSTIFICATION

GENERAL

Bullying affects everyone different. One fact that I found interesting was that failure to reduce bullying in schools correlates with other forms of problematic behaviors through adolescence and adulthood. These behaviors include sexual harassment, dating violence, alcohol/drug use and so on.

PERSONALLY

I was never bullied growing up, but I did see the effects of a lack of confidence in school. I was held back as a kindergarten student because I wasn't ready for school yet. I was never good at reading and English class. I was always behind and was extremely self-conscious of my ability to read. If I read out loud in class, and someone laughed when I was reading it really affected my confidence, even if they weren't laughing me. It was something I tried to hide from everyone, therefore I never asked for help. This really made me fall further behind. I can't image how getting bullied by someone would effect a students confidence.

CONTEXT OF THESIS

CASE STUDIES

Case Study Narrative

When deciding on what type of school I should research and conduct studies on, I decided I must look at schools that have unique designs of the areas that are typically hot spots areas for bullying activity. The following three schools each have specific reasons behind why I found them helpful in my search of design concepts that could help my bull free approach.

Deerwood Elementry School

The Deerwood Elementary School is very unique, which is located in Minneapolis, Minnesota. I was introduced to this school through an interview with Tim and Brian of Zerr Berg Architects. This school was very important in how I look at noise and movement throughout a school. The reason being is that Deerwood uses a open classroom concept.

Figure: 45
Item: Deerwood Interior Perspective 1

The open classroom design concept became popular in the United State in the 1970s. Deerwood adopted this concept because of their need to supervise its young students at all times. This idea could be useful in supervising high school students to help deter bullying throughout the school.

Figure: 44
Item: Deerwood Perspective

Research Findings

I was skeptical about the amount of noise that the students would produce in this open classroom setup. I was completely blown away how quiet it was. Yes, there was noise, but it was similar to the noise that you hear from a fan, just a consistent quiet buzz. I asked multiple staff member is this buzz was a problem for them in the classroom. They stated that it wasn't, unless they had a new student that wasn't use to the noise. These students would take a week or so to get use to the noise before it wasn't a problem. The only other time noise is a problem is when a special needs student has a melt down in some other area of the school.

My next question was about how the students dealt with being able to see people walking the halls. I viewed this as something that would distract its students from their coursework. The teachers said it is never a problem because the student desks are facing the opposite direction. Therefore they don't see the movement.

I didn't go to Deerwood looking for a solution in designing restrooms, but the school had a unique restroom design that I didn't know about. Deerwood had their hand washing stations for the restroom viewable from the hallway. This allows the teachers to make sure their students are behaving.

Figure: 46
Item: Deerwood Interior Perspective 2

Figure: 47
Item: Deerwood Interior Perspective 3

Figure: 48
Item: Deerwood Interior Perspective 4

Figure: 49
Item: Deerwood Interior Perspective 5

Research Conclusion

Deerwood is a very interesting case study that pushes me to think about alternative classroom setups. I believe that creating supervision of the hallway and the restroom areas will be extremely important in helping a school district reduce the amount of bullying that happens.

SPINE

EINSTEIN
LABS

CERC

EAST
ENTRY

SOUTH
ACADEMIC POD

AERIAL PERSPECTIVE
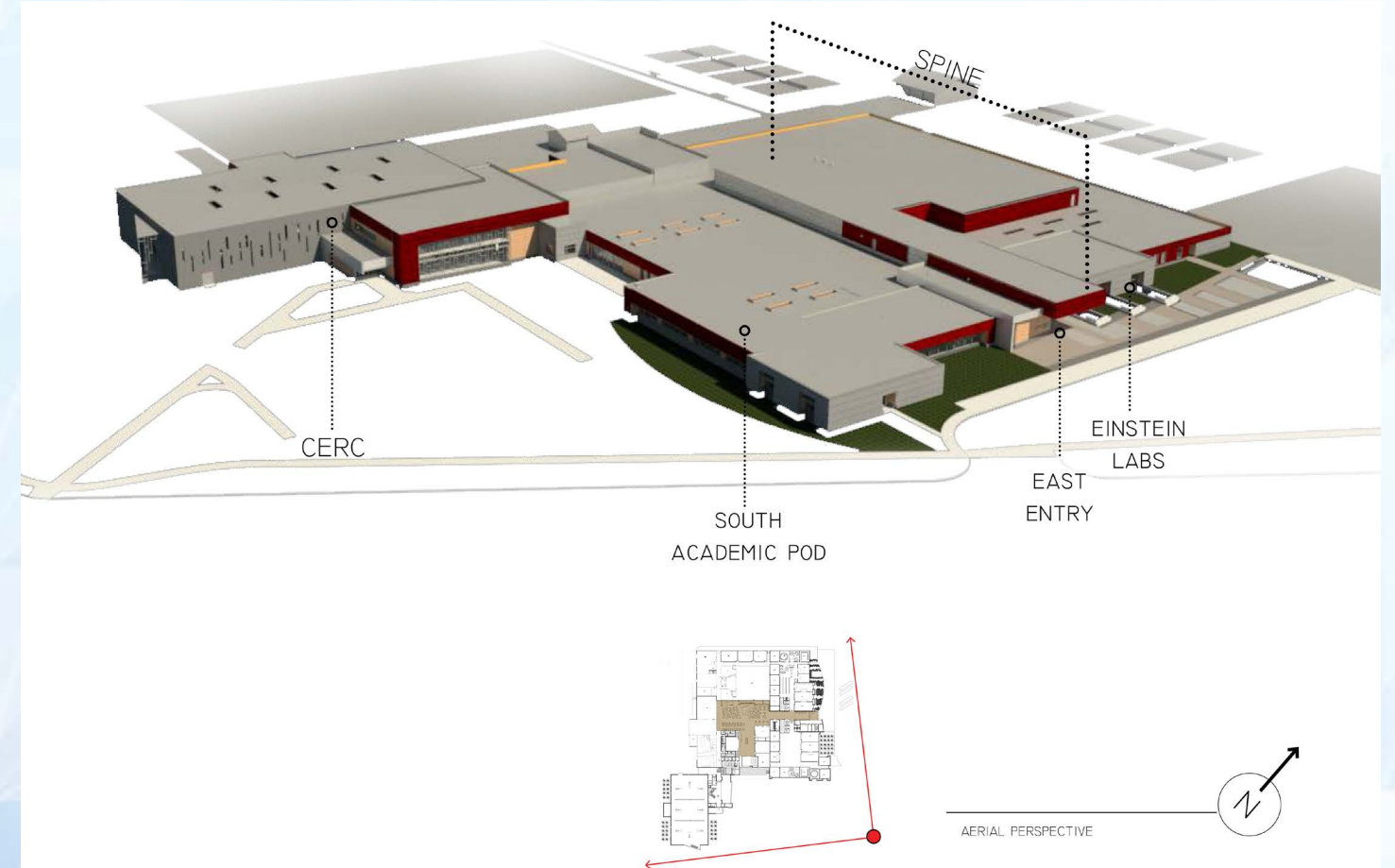
Jordan Middle School

Jordan Middle School was built in 1960. The school recently was remodeled to support S.T.E.A.M. curriculum using some forward thinking designs. This remodel has be noticed through the United States and has received multiple awards.

I learned about this amazing school from the principle of the Deerwood Elementary School. He recommended I go see it for design on its classrooms and their connection to the hallways. The Jordan Middle School made me reconsider everything I knew about schools. It is a breathtaking design.
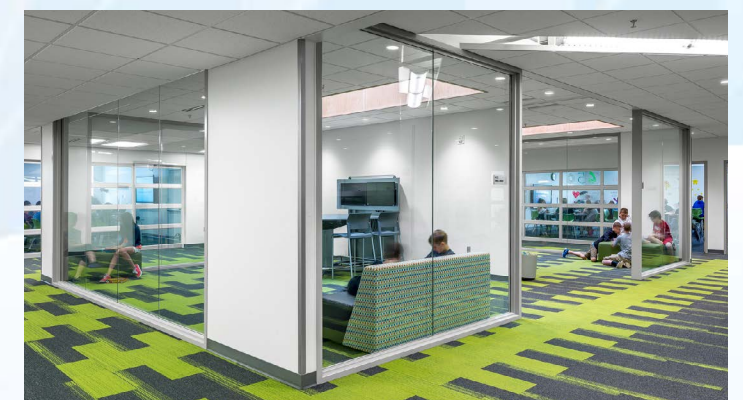
Figure: 54
Item: Jordan Middle School Interior Perspective 3
Retrieved At: http://www.dlrgroup.com/work/jordan-middle-school/

Figure: 57
Item: Jordan Middle School Interior Perspective 6
Retrieved At: http://www.dlrgroup.com/work/jordan-middle-school/

Research Findings

Jordan Middle Schools design that aids its S.T.E.A.M. curriculum really changed the way I view how schools should conduct their day-to-day activities. S.T.E.A.M. curriculum really relies on students being able to work together. One of the ways that Jordan Middle School enhanced the ability for its students to collaborate is by the use of garage doors. These garage doors were everywhere. They not only had them connecting the classrooms to the hallways, but they also had them connecting classrooms to each other. Most of them were transparent, which gave teachers aid in supervision the commons areas.

One of the most important things that the school did was develop classrooms that were not for any one teacher. They call this a non-ownership model. The superintendent stated it really enhanced the student-teacher relationship. Creating this relationship between staff and student is very important in decreasing the amount of bullying that happens at school.
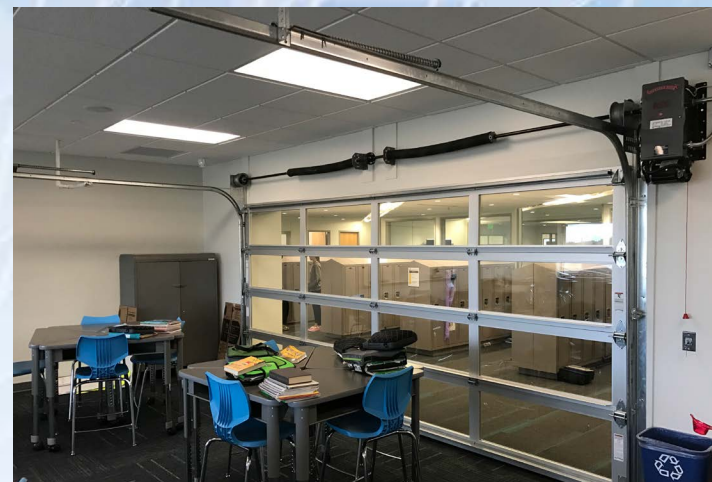
Figure: 55
Item: Jordan Middle School Interior Perspective 4

Research Conclusion

I can take many things from Jordan Middle School. I learned a lot about S.T.E.A.M. curriculum on this road trip. My biggest takeaway is the non-ownership model. I have found it increasing difficult to find ways to enhance the student and teacher relationship. By having the teachers leave the classroom during breaks, it allows them to be with the students at all times. These teachers prep for their classes in the Einstein Areas (top left photo). These areas give them supervision of all areas that the students are in, meanwhile making themselves available for questions throughout the day. The garage use throughout the design is interesting design decision that I may use to enhance a teachers ability to teach the curriculum. Overall this school was amazing to go visit.

Figure: 56
Item: Jordan Middle School Interior Perspective 5

Figure: 58
Item: Owning Up 1
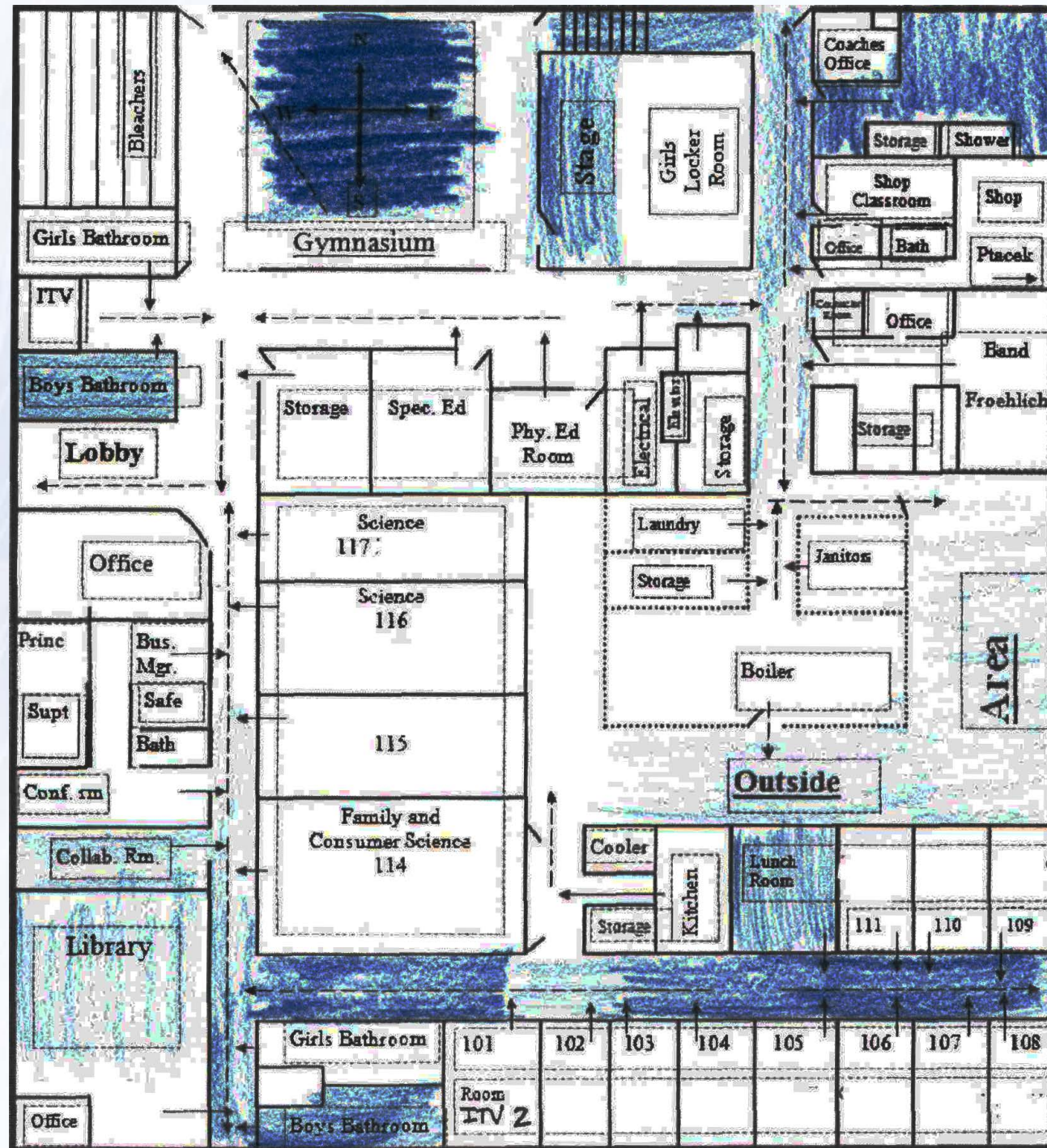
Hillsboro High School

Understanding Hillsboro's current school will make me understand what the school needs as a whole. My interview with Dave Schill (Hillsboro Counselor) was very helpful in understanding where bully hot spots are. Dave Schill teaches Owning Up curriculum, which exposed areas of interest throughout the school. A part of this curriculum is having 7th grade students highlight areas that bullying occurs in the school. Dave Schill was kind enough to share these with me. Examples of this exercise are located in the appendix.

Figure: 59
Item: Hillsboro Interior 1

Figure: 60
Item: Hillsboro Interior 2
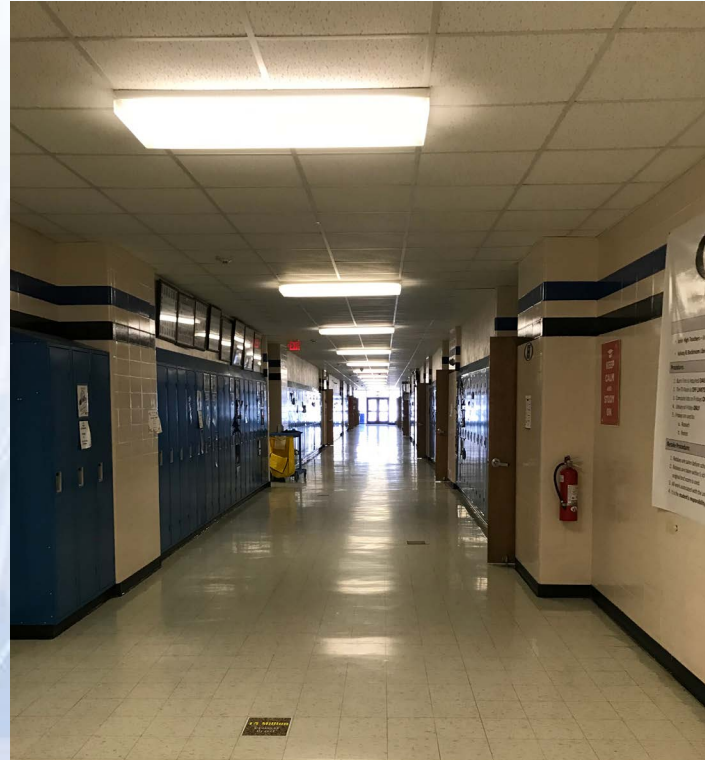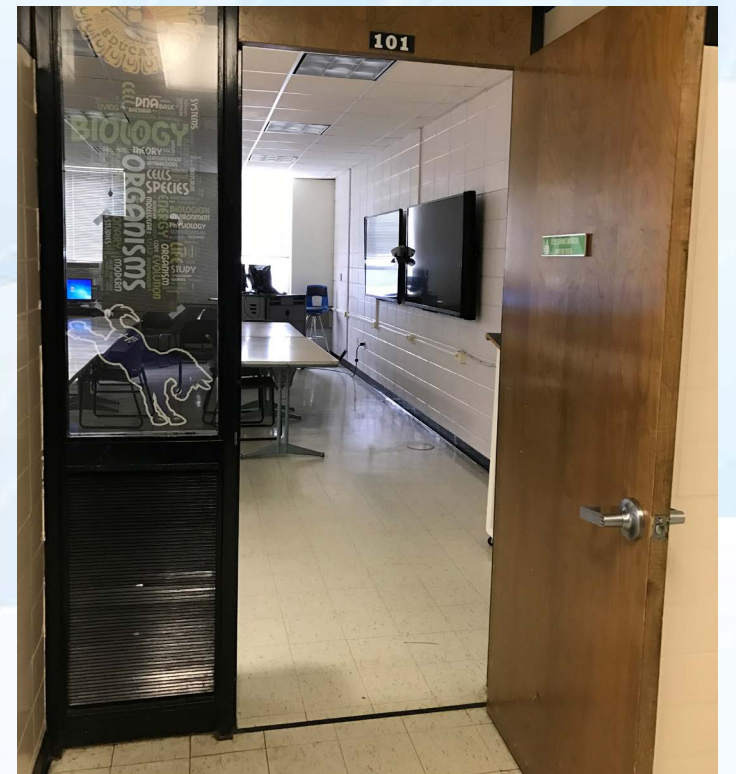
Research Findings

According to the Owning Up curriculum, I noticed that no student saw that bullying happened in the classroom. This I believe is because it is a structured area that contains authority. Hallways were one of the areas that students recognized as a hot spot for bullying. This is because it is a unsupervised area that is overly crowded in-between classes. The biggest thing I noticed is that multiple students recognized the hallway with the lockers is a bigger problem.

One student faded his shading in the hallway that doesn't contain lockers, as he got closer to the principles office. This is important because it shows the impact that facility can make. Other area that were recognized as bully hot spot areas are the gymnasium, restrooms, hallways, and locker areas just to name a few. There were other areas that were highlighted, but these were the main points of focus.

Research Conclusion

I learned a lot about the needs of the school during this visit. A lot of the information learned was about the curriculum that they desire to teach their students. The Owning Up curriculum backed up a lot of the information that I came upon during the literature review portion of my research. It was really beneficial to see that it backed up the readings because I had my doubts because of how small Hillsboro High School is in compare to most schools.

RESEARCH METHODS
&
DESIGN PERFORMANCE

EMANCIPATORY APPROACH

<u>Strategy</u>
Qualitative
Logical Arguments
Holistic Case Studies

<u>Tactics</u>
Literature Review
Personal Interviews
Logical Iterations

LITERATURE REVIEW
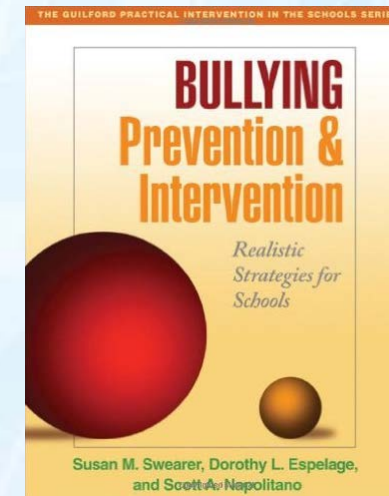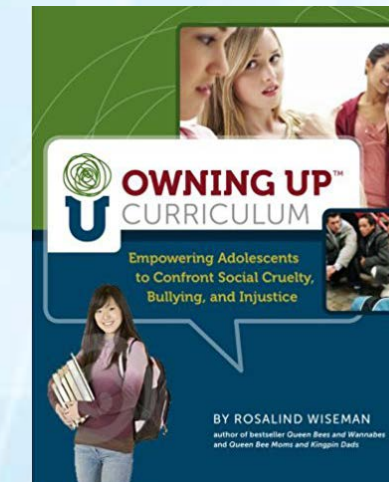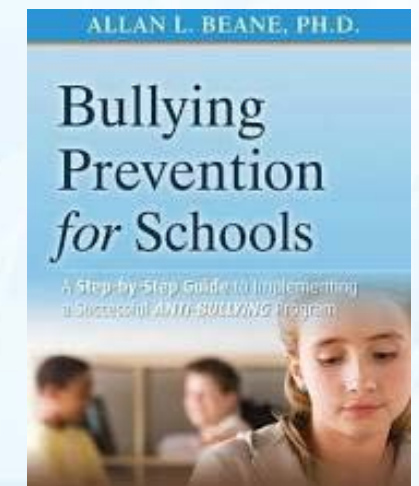
These are just a few of the books that I read throughout this process. The two books that I gained the most knowledge from are Bullying Prevention & Intervention and the Owning Up Curriculum.
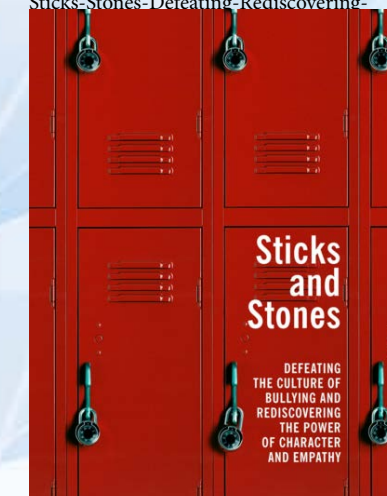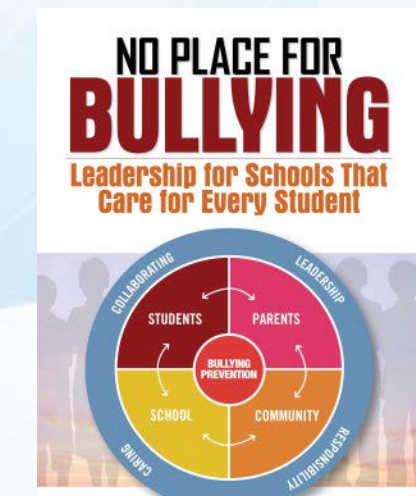
Interviews

NICK VARIANO

MPCG High School Counselor (26 Yrs)
Masters Degree in Counseling from Minnesota State
Teaching Degrees in History & English from Minnesota State

I try to be available in the commons every day for interaction with the students. This is my way of creating relationships with the students.

ADAM SOLA

MPCG Math Teacher (1 Year)
North Sergeant Math Teacher (9 Years)
Double Majored In Math and History

I build "credits" with my students through football and other out of classroom activities. You must build a relationship with the students in order for them to trust you.

TERRY BAESLER

Hillsboro High School Principle (9 Years)
Northern Cass Principle (2 Years)
Masters Degree in Educational Leadership from NDSU
Bachelors in Science from Mayville State

We implemented a behavior program that we got from Texas that has been very successful. We changed it a little bit to meet our schools needs. It is posted throughout the school.

KRISTINE PARANICA

NDSU Ombud (3 Yrs)
Director of the UND Conflict Resolution Center (17 Yrs)
Prosecutor in Criminal Law In Bismarck (6 Yrs)
Law Degree from UND
Bachelors Degree in Social Work from UND

Students are less likely to bully each other if eye contact is made. This is because eye contact develops empathy between people.

JIM JOHNSON

NDSBA State President (1 Yr)
NDSBA State Member (6 Yrs)
NDSBA Member of the Fargo School District (16 Yrs)
Masters Degree in Finance from Bryn Mawr
Bachelors Degree in Finance from NDSU

School Boards are in place to make the best choices for their district. There are no two districts that have the same needs.

DAVE SCHILL

Hillsboro High School Counselor (23 yrs)
Sheldon High School Counselor (2 yrs)
Sheldon High School Tech Ed Teacher (5 yrs)
Graduate Degree from NDSU
Bachelors Degree from Valley City State

I use the Owning Up curriculum when talking to students about their behavior. They understand it because they learned it in 7th grade.

BRIAN BERG

Zerr Berg Architecture (16 Yrs)
Masters Degree in Architecture from NDSU

Program should drive a schools design.

TIM ZERR

Zerr Berg Architecture (16 Yrs)
Masters Degree in Architecture from NDSU

You should look at Deerwood Elementary School. It is a very interesting school. The open classroom design is surprising quiet.

MATT HELGERSON

Jordan Middle School Superintendent

The non-ownership classroom setup has really helped the teacher-student relationship at our school.

LITERATURE REVIEW
&
INTERVIEW TAKE AWAYS

TAKE AWAYS

*Anti-Bully Programs are only as good as a school makes them.

*Students need to be educated about bullying (IBP)

*Students must have a way to develop their social skills

*Empathy (Kristine Paranica) (See quote)

*Limit hierarchy (Kristine Paranica)

*Focus on school hot spots

HOT SPOTS

*Hallways

*Locker Bays

*Cafeteria

*Restrooms

*Locker Rooms

*Gymnasiums

How do we get supervision in these hot spot areas?

A difficult situation that often occurs when a student reports a bullying situation that was not witnessed by a teacher or administrator. Some school personnel tell us that their school has a policy of "If I don't see it, there's nothing I can do about it!" Policies like this serve to support and increase bully behavior. Of coarse, students who bully others are not going to do so right under the watchful eye of an adult (Swearer, 2009) (Literature Review)

ISOVIST ANALYSIS

Isovist analysis is the study of a volume of space visible from a given point.
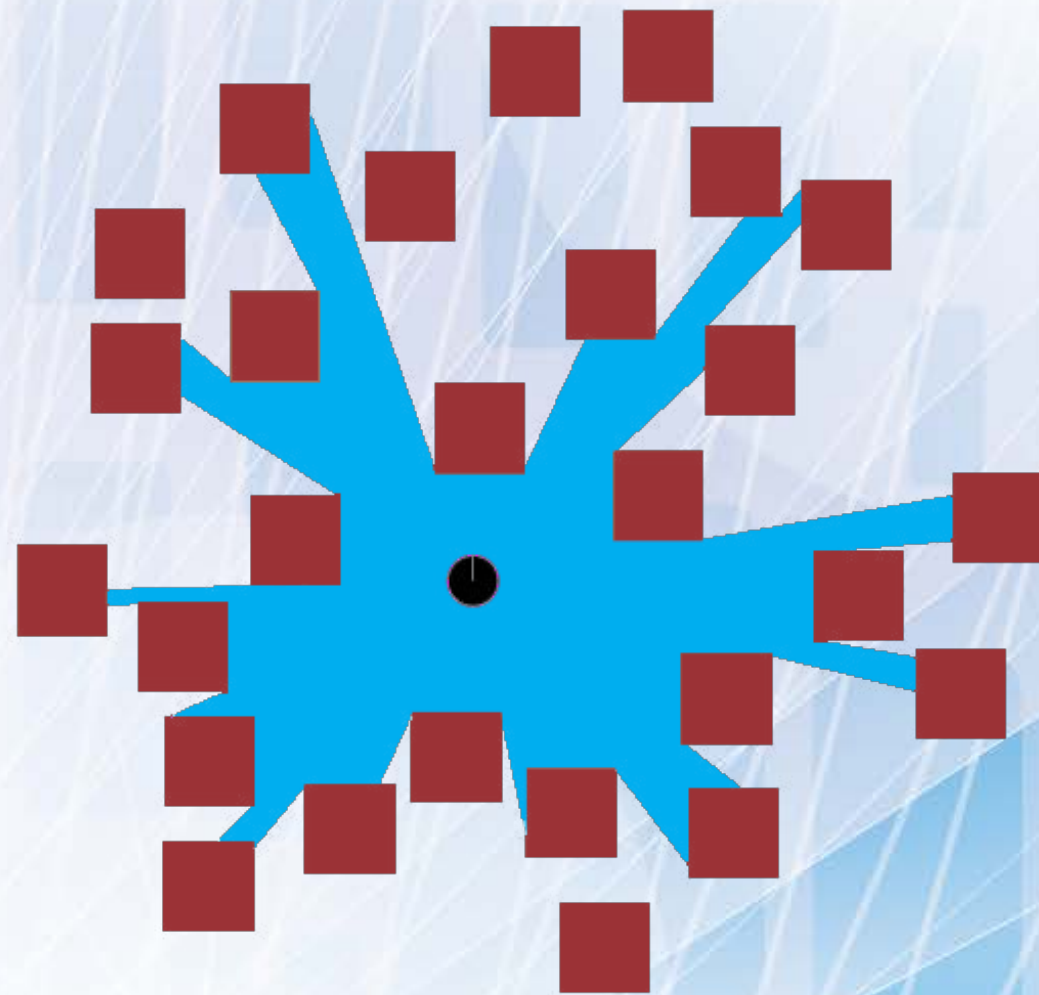
Figure: 80
Item: Isovist Analysis

Classroom-Hallway Connection

Why is the traditional classroom design still used?

Isovist shows minimal visibility from classroom even with the door open.

How does supervision change as visual barriers are taken away?

3-Wall

How does supervision change as visual barriers
are taken away?

3-Wall

2-Wall

CONCLUSIONS
*The use of temporary walls/doors will assist in supervision of school
*Maximize wall area towards hallway/commons areas that are transparent
*Limit hallways

LOCKER DESIGN
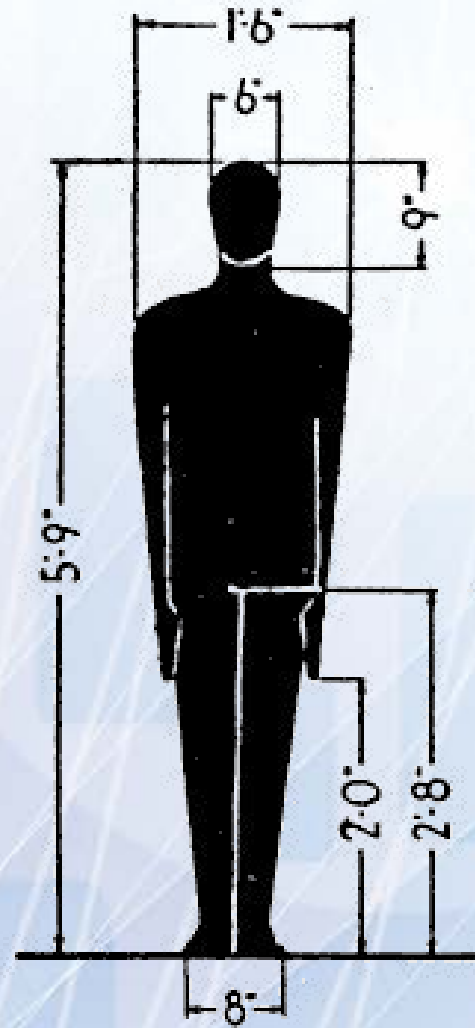
LOCKER DESIGN

Lockers are a key area of a school. Students use lockers to store personal and school belongings. The use of lockers will promote cleanliness throughout the school and will lessen the chance of students that carry backpacks throughout the school day can cause back pain. Locker areas are a key location where the act of bullying can occur for multiple reasons.

Issues
Locker Size
Locker Layout
Locker Location

Traditional Size of lockers is 1'x1'x5'. This design almost promotes bully behavior. We need to shorten the lockers in order to be able to see what is going on around them.

The width is also a problem. The average size of a male high school student has a body width of 1'6". By having the lockers thinner than the students, it causes students to bump into each other and provides cluttered view of this area for teachers.

The most important part of locker design is the location of them. We need to pull them away from the wall to open up the visual connection from the classroom. This will aid the teachers in their ability to supervise the students.

Too tall, and skinny for movement

Too clustered for movement

Blocks visiual connection from classroom

Figure: 85
Item: Locker Layout 1

Figure: 86
Item: Locker Layout 2

Figure: 87
Item: Locker Layout 3

LOCKER HEIGHT ITERATION

I conducted a handful of locker height iterations to further understand what a teacher could see from their classrooms. The three below are just a few of the iterations on this topic that I conducted.

5 FT. Lockers

4 FT. Lockers

3 FT. Lockers
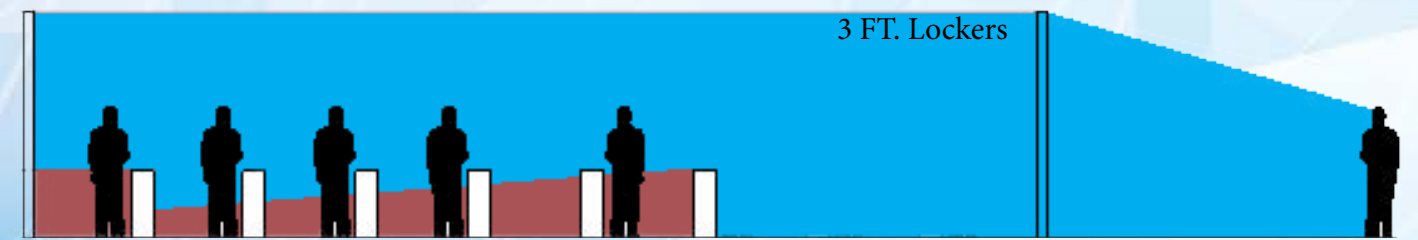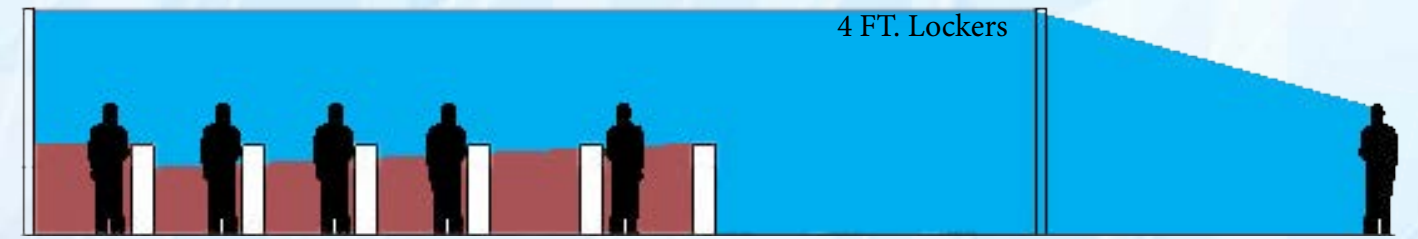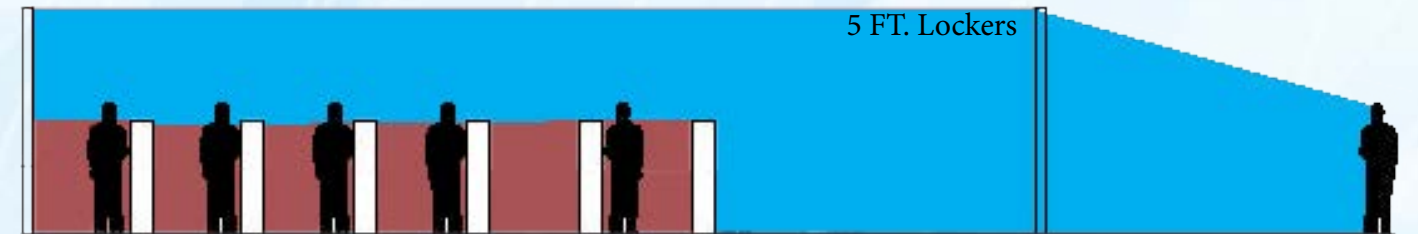
Figure: 89
Item: Locker Isovist Analysis

TAKE AWAYS

I realized that by moving the lockers away from the wall, that I would be making the school much bigger. In order to decrease the square footage of the school, I had to make sure that these locker spaces would be able have a multifunction to them. By shortening the lockers into desk-sized areas, the lockers could be also used as a cafeteria space while aiding in visual connection from different areas of the school.

BULLY FREE DESIGN CONCEPT

RESTROOM DESIGN

DESIGN CONCLUSIONS
*Solves cafeteria Space
*Aids is multi-functioning spaces (S.T.E.A.M.)
*Alternate classroom Option
*Teachers use this area, which presents chances of creating a student relationship
*Provides supervision opportunity
*Aids in creating eye contact between students to create empathy

RESTROOM DESIGN

Restrooms are an important human need. Many people prefer their time in a restroom to be very private. Supervision in these areas is not permitted by camera or by school staff. Without supervision, restrooms are a common area that the act of bullying occurs.

Recently, the location of where homosexual, bisexual, and transgender students go to the bathroom has come into question. Solving this topic is a key component of a schools restroom design.

Issues
Privacy
Gender Norms
No Supervision
Bathroom Noises

Figure: 91
Item: Restroom Fight
Retrieved At: http://mattraineyimages.com/last-chance-high/WEBLCH02

Figure: 92
Item: Bathroom Gender
Retrieced At: http://www.newyorker.com/news/news-desk/whos-afraid-of-same-

TRADITIONAL RESTROOM DESIGN

Issues
*Gender Norms
*No Supervision

Figure: 93
Item: Restroom Isovist Analysis 1
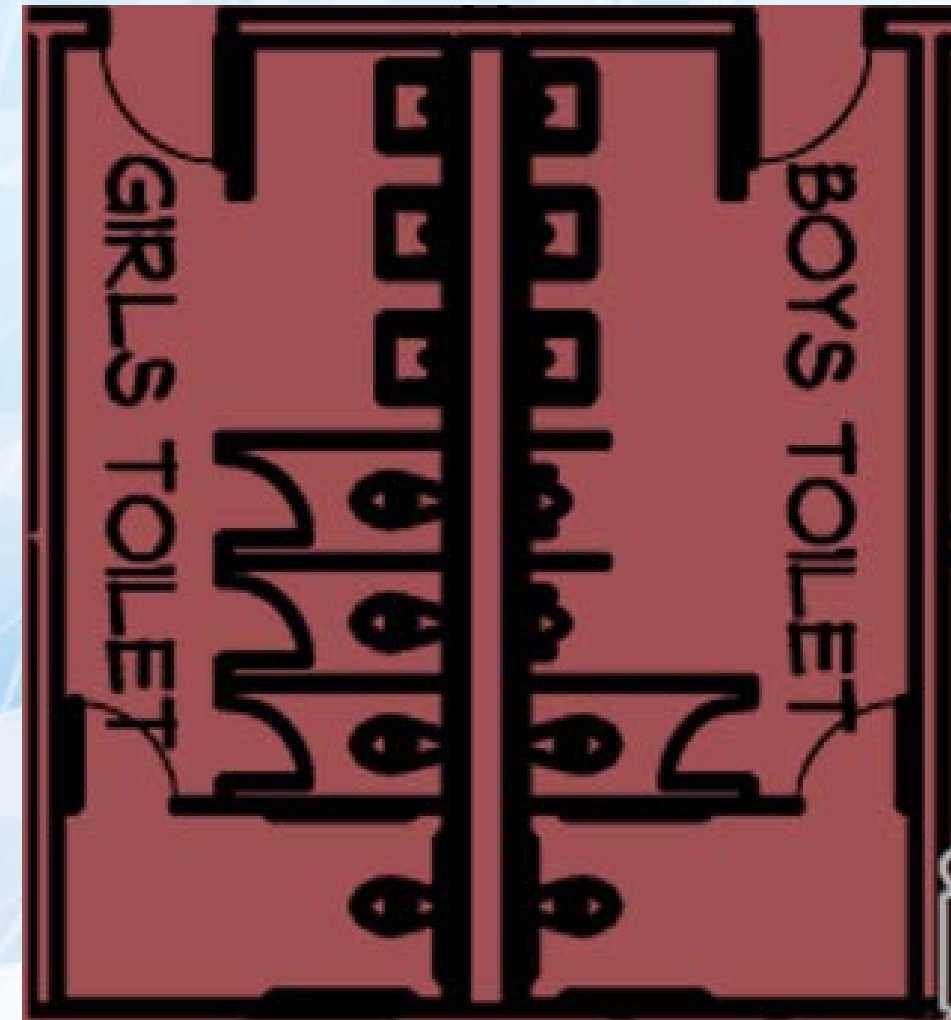
DESIGN IDEA
*Allows supervision of sink area
*Follows gender norms
*Can hear noise from hallway
*Privacy for toilet areas

Figure: 94
Item: Restroom Isovist Analysis 2
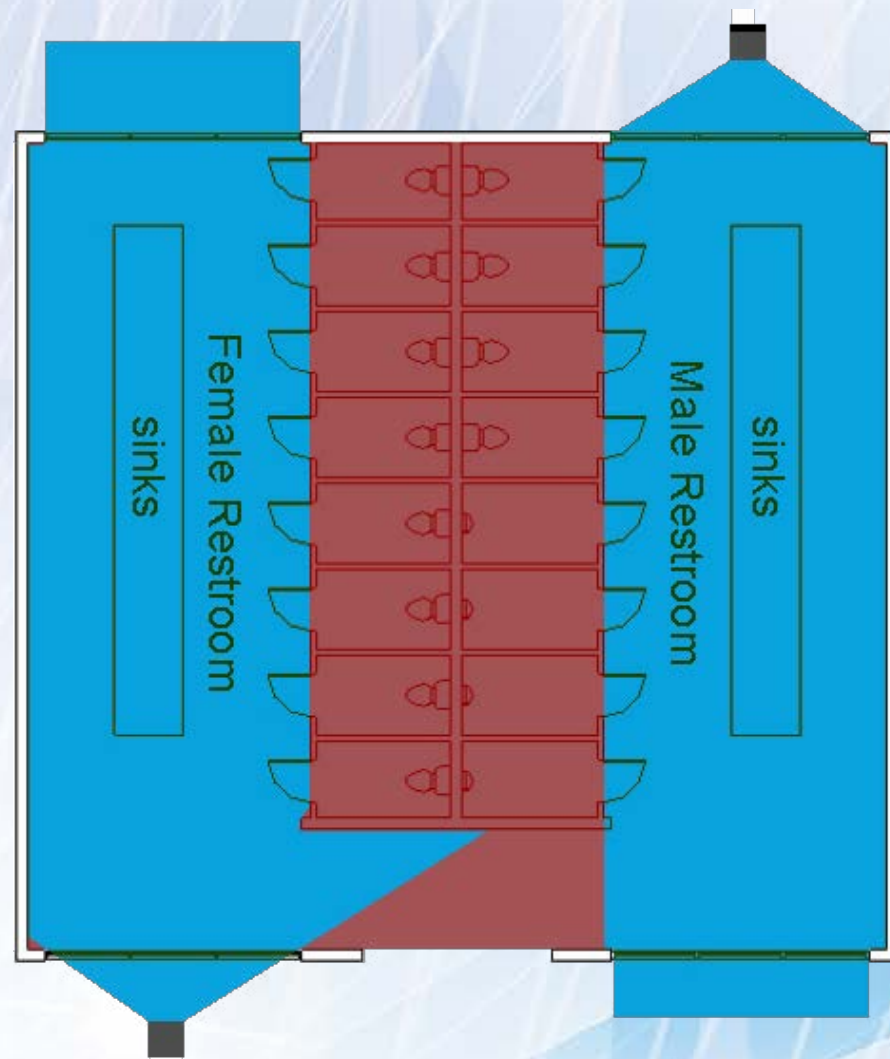
DESIGN IDEA 2
*Supervision of all non-private areas
*Takes gender problems out of picture
*Privacy for toilet areas
*Forces everyone to wash hands
*Design idea can be used in locker rooms too

Figure: 95
Item: Restroom Isovist Analysis 3
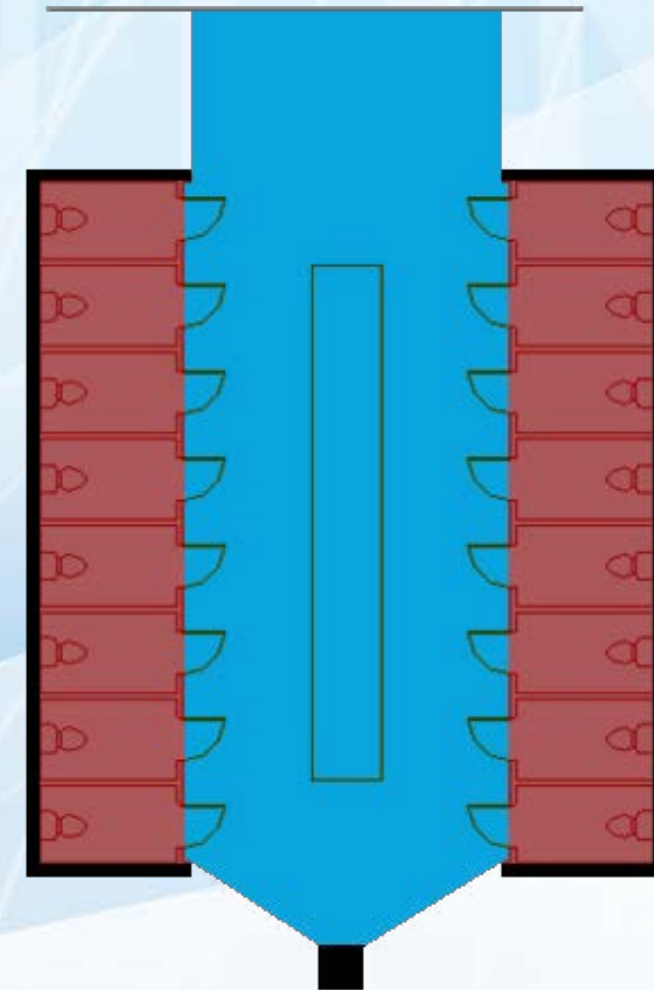
APPENDIX

<u>INTERVIEWS</u>

I interviewed many different people during the coarse of the semester and they all helped in a several of different ways. On the next handful of pages, I have trimmed down some of the interviews outlines of what I asked them and their responses. These outlines do not show everything that we talked about, but some of the main components of the discussions. I would like to thank everyone that helped me during this process.

Adam Sola (Math Teacher)

1. Could you tell me a little bit about your history in education? (Their education and work)

*High School: Mayville High School
*College: Mayville State University (Major: Math & History)
*Taught at North Sergeant (9 years)
*Teaching in Mayville High School (1st year)

2. Could you please give me a rundown of what your average day at work consists of? Do you have any extra duties during the workday?

*Arrives to work 7:40 to help students if extra help is needed
*Classes start at 8:30
*Prep hour at 10:25
*Ends day at 4:00
*Ends day with Patriot Pride Time (Advising Time)
*Required to supervise commons area for 2 weeks a quarter in the morning
*Football coach

3. Have you ever been bullied?

*No, I don't believe I ever have.

4. Where do you notice bullying happening throughout the school?

*Restrooms (taught this, but he hasn't witness)
*Locker rooms (taught this, but he hasn't witness)
*Commons Area (taught this, but he hasn't witness)

5. What is your stance on cell phones?

*Has storage area for students to place phones when enters the classroom

6. How do you develop a relationship with your students?

*Creates relationships through football
*Tries to create conversations during commons time
*Tries to gain "credits" with students

7. What type of training do you receive to deal with disruptive behavior/bullying?

*Receives annual refreshment on hot spot areas

8. What are some of your methods to stop bullying and handling disruptive behaviors?

 *Depends on who the student is
*Quick discussions with the student
*Sends students to principles office
*Reasons with student

9. How did you decide on your classroom setup?

*Does a lot of collaboration work, which is why he does pods
*Doesn't worry about cheating because of technology

Below are three types of classrooms (see other page)

10. Could you please tell me what some of the advantages of each are?

*Desk In Classroom-Easy to grab item if needed (later stated that most everything is electronic)
*Would be open to having desk somewhere else during prep time.
*Classroom sizes at most 16 students

*Podium without desk in classroom-would work well because everything is on active board.

Figure: 74
Item: Interview Photo 4

Christine Paranica (Ombud)

1. Could you tell me a little bit about your education and history in the work place?

*NDSU Ombud (3 Yrs)
*Director of the UND Conflict Resolution Center (17 Yrs)
*Certified Transformative Mediator Fellow of the Institute for the Study of Conflict Transformation (4 Yrs)
*Prosecutor in Criminal Law In Bismarck (6 Yrs)
*Law Degree from UND
*Bachelors Degree in Social Work from UND

2. Have you been bullied? Could you tell me a little bit about it?

*Yes, I was bullied in the classic mean girl type of way.

3. You are a certified Transformative Mediator, could you tell me a little bit about what a Transformative Mediator is and what they do?

*Transformative mediation is the process of resolving conflict by coming together to solve a problem.
*Resolving a conflict by understanding what the real issue is.

4. What forms of mediation approaches work best/least for dealing with the victim and the bully? Why? Are they the same approach?

*Depends on the people involved

5. In your opinion, what is the most effective process for a school to follow to help deal with the bully?

*I like the use of restorative justice circles within the classroom setting.
*Justice circles make students receive eye contact, which will result in a improvement in empathy between the students. The result is a decrease in chance of bullying.

6. Counselors have a large role within a school, how do you view their effectiveness changing according to their location in the school? Office in the front of the school, Office near bully hot spots, etc.

*Doesn't view location as a huge issue
*Has had an office in every part of a building

Figure: 71
Item: Interview Photo 1

Nick Variano (Counselor)

1. Could you tell me a little bit about your history in school counseling? (Education and work)

*Counselor at Mayville High School (26 Years)
*Degrees In History and English
*Masters Degree In Counseling

2. Could you please give me a rundown of what your average day at work consists of? Do you have any extra duties during the workday?

*Develops relationships throughout day while helping student on homework
*Spends a lot of time with students dropping into his office

3. What are some ways that you interact with the students over the coarse of a day? workday/after....How does this occur? Naturally, scheduled, other

*Spends times in morning and lunch in commons area. Makes himself available
*Scheduled visits are uncommon
*Student drop-ins are most common

4. Have you ever been bullied?

*I can remember a time last week that a student tried to bully me by talking about my daughter.

5. Do you believe bullying is an issue at your school? Why/why not?

*I think it's an issue at every school. I don't believe it is any worst here then anywhere else. It might be better than most.

6. What are some areas that are common for you to notice disruptive behavior in your class or throughout the school?

*Commons Area, Lunchtime, Hallways, Unstructured times, Gym Class

7. What types of training does the facility receive for dealing with bullies or disruptive behavior?

*Administration sets out guidelines on how to deal with disruptive behavior.

Figure: 76
Item: Interview Photo 6

Dave Schill (High School Counselor)

1. Could you tell me a little bit about your history in school counseling? (Education and work)

*Attended Valley City State for undergraduate degree
*Attended NDSU for graduate degree
*Began career as a Tech Ed. Teacher (5 years)
*Became a Student counselor (25 years)

2. Could you please give me a rundown of what your average day at work consists of? Do you have any extra duties during the workday?

*Students usually swing by to start the day and discuss life in general (school, prior nights activities, etc.)
*Teaches Counselors Class (Uses Owning Up Curriculum)(Very Interesting)
*Helps seniors with college arrangements

3. Do you have extra duties?

*Not much, because I need to be viewed as a friendly face and not an authority

4. What are some ways that you interact with the students over the coarse of a day? workday/after….How does this occur? Naturally, scheduled, other

*A little bit of everything. A lot of drop in visits but also a handful of scheduled visits.

5. Have you ever been bullied?

*Yes, the seniors use to go around and hit us with their class rings on the top of our heads.

6. What are some areas that are common for you to notice disruptive behavior in your class or throughout the school?

*Teaches Owning Up Curriculum that he has his students outline where bullying happens throughout the school
*Hallways, restrooms, gymnasium, cafeteria

7. What types of training does the school received for dealing with bullies or disruptive behavior?

*All staff received Olweus training last year from outside source.
*Once a month, a teacher does a bully lesson for the students so they hear it from more than just him. He prepares the lesson plan for the teachers.

8. What are some of your methods to stop bullying and handling disruptive behaviors?

*Knock on desks so they understand they are being watched
*Tries not to embarrass a student
*Brings up his Owning Up Curriculum

9. What do you know about cyber bullying? How has your school addressed this?

*Can't beat them, join them (Allows cell phone usage)
*Problems with students taking photos of other students
*Feels like it is almost impossible to stop

10. Where would you prefer your office be located? Why?

*Prefers his office to be somewhere where students can slip in and out unnoticed by other students

Jim Johnson (NDSBA President)

1. Could you tell me a little bit about your history in education? (their education and work)

*Graduate of Fargo South 1973
*Attended Concordia & NDSU
*Masters Degree in Finance from Bryn Mawr
*North Dakota School Board (6 years)
*President of the North Dakota School Board Association (1 year)

2. What does the NDSBA do for its schools throughout the state?

*Local School Board-Set policy on how the school is going to operate
*State School Board-Represents all school districts throughout the state. Purpose is to advocate for local school boards during the legislative session and in Washington.

3. Have you ever been bullied or been a bully? Are you willing to share?

*Yes, I remember being bullied by a teacher. It doesn't stop once you get into the work place.

4. How does the state help school districts develop anti bullying policies?

*Bismarck develops model policies for almost any issue that a school will come across.
        *These are developed as the needs change
*Performs audits on district policies as they see fit
*The state attends conferences often to stay updated on developing policies.

5. How often do are school required to go over anti bullying policies?

*Schools require their students to go over their Code of Conduct letter annually.
*The school board of each district decide on the requirements for staff training (Depends on school size)

Matt Helgerson (Jordan Middle School Superintendent)

1. What results have you had from switching to an non-ownership classroom setup?

*Teachers have switched their train of though of saying that these are my kids, into saying that these are all my students. Has created a better sense of community throughout the school.

Paula Suda (Hillsboro High School Superintendent)

1. What can you tell me about Burro Time?

*Studyhall time
*Self improvment time for students (1 on 1 time with teachers)

Owning Up Curriculum

Hillsboro High School counselor Dave Schill has his 7th grade students highlight areas throughout the school that they notice bullying happening. This was an important study that resulted in me focusing on certain areas of the school.
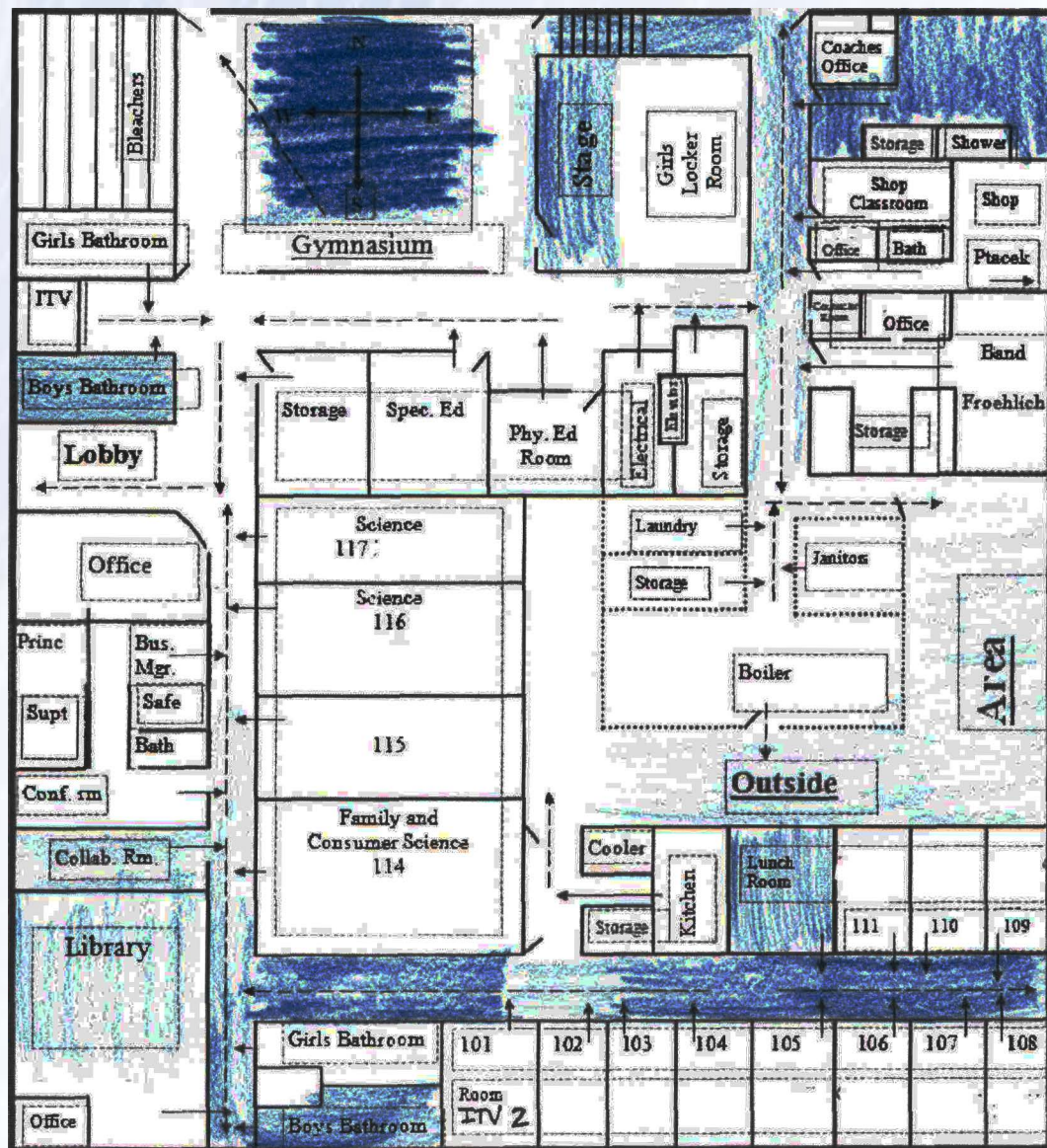
Figure: 58
Item: Owning Up 1
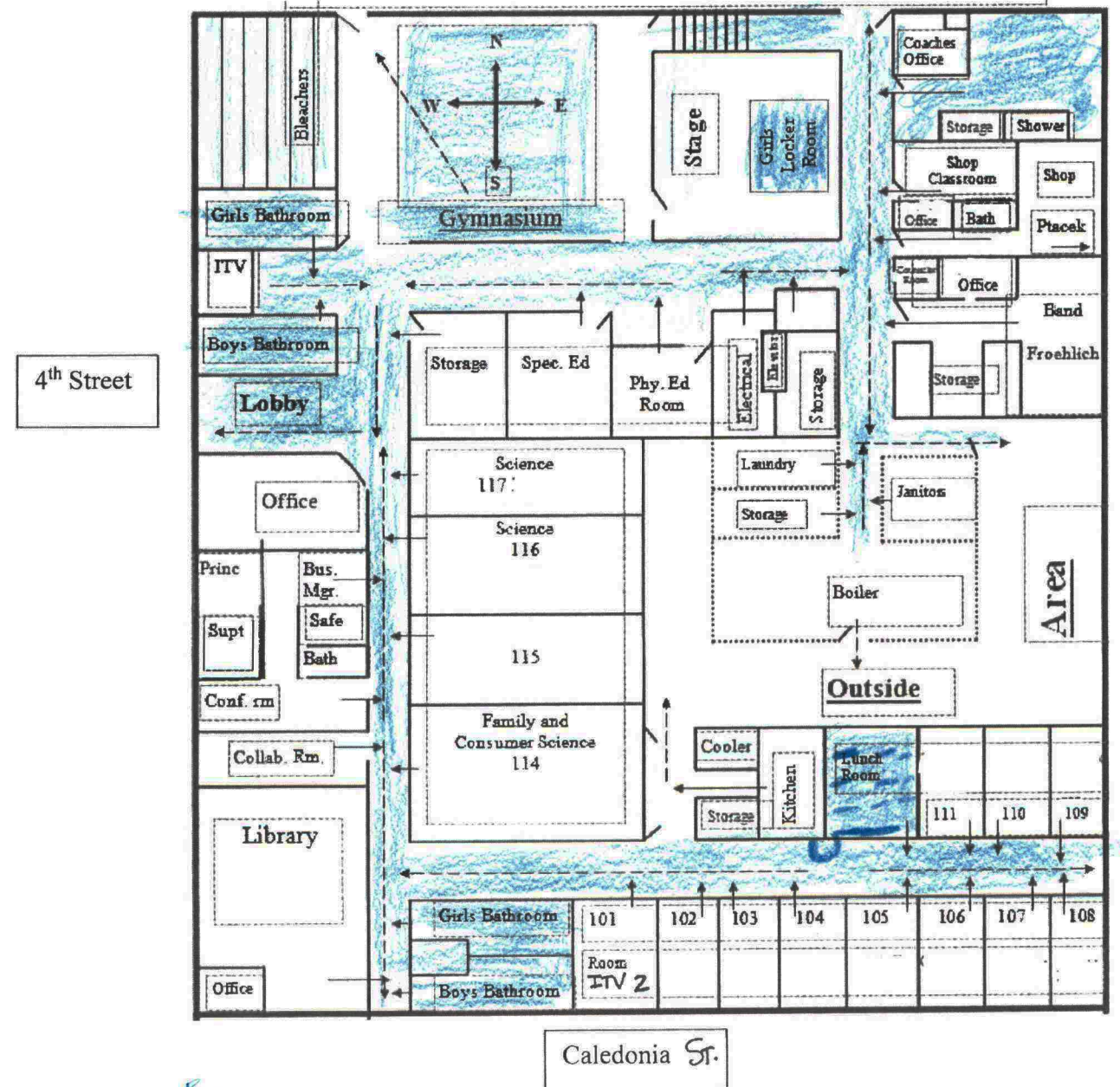
Figure: 97
Item: Owning Up 2

**Hillsboro High School
Evacuation Route**
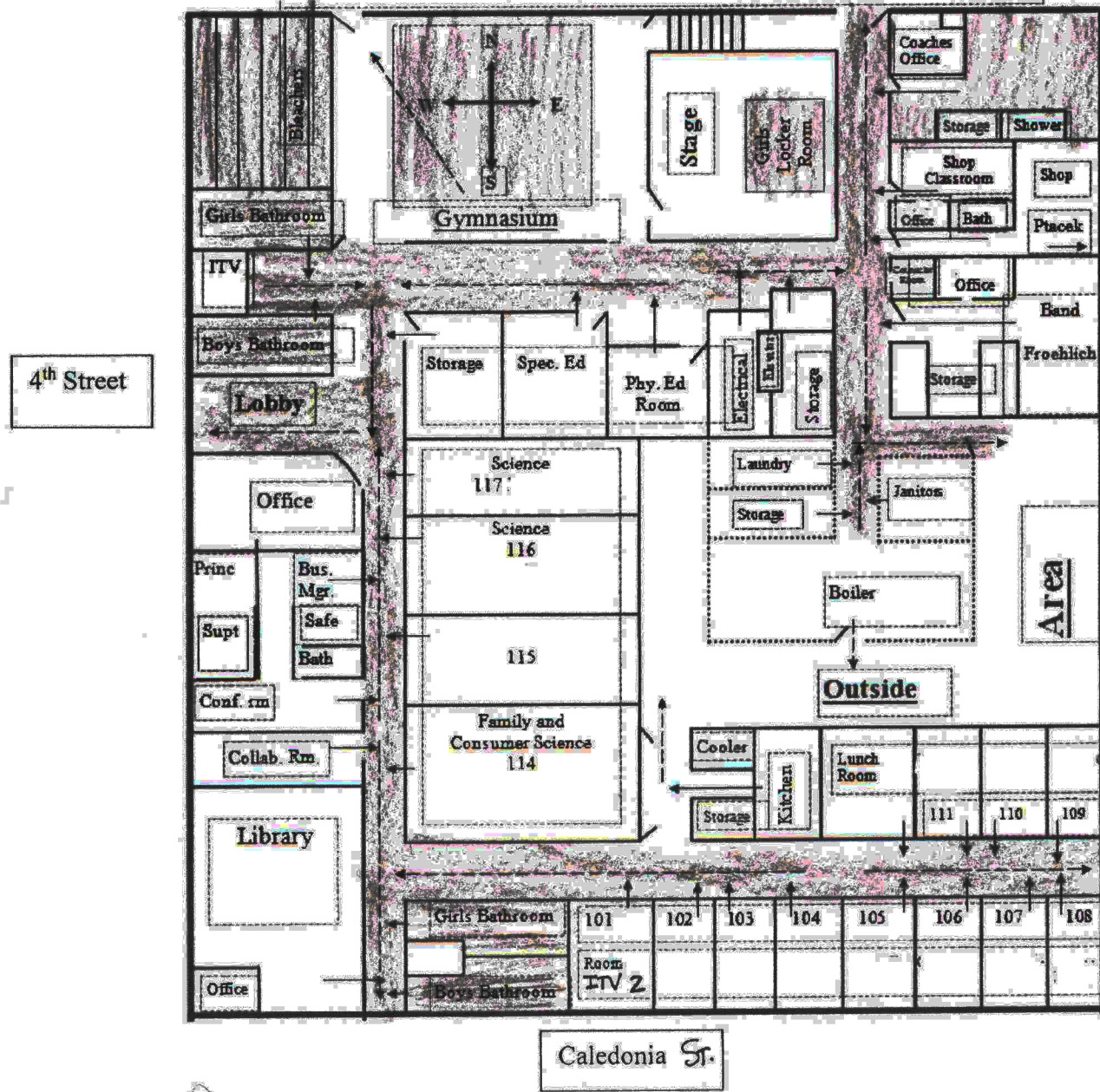
Figure: 98
Item: Owning Up 3

**Hillsboro High School
Evacuation Route**

at foot ball games
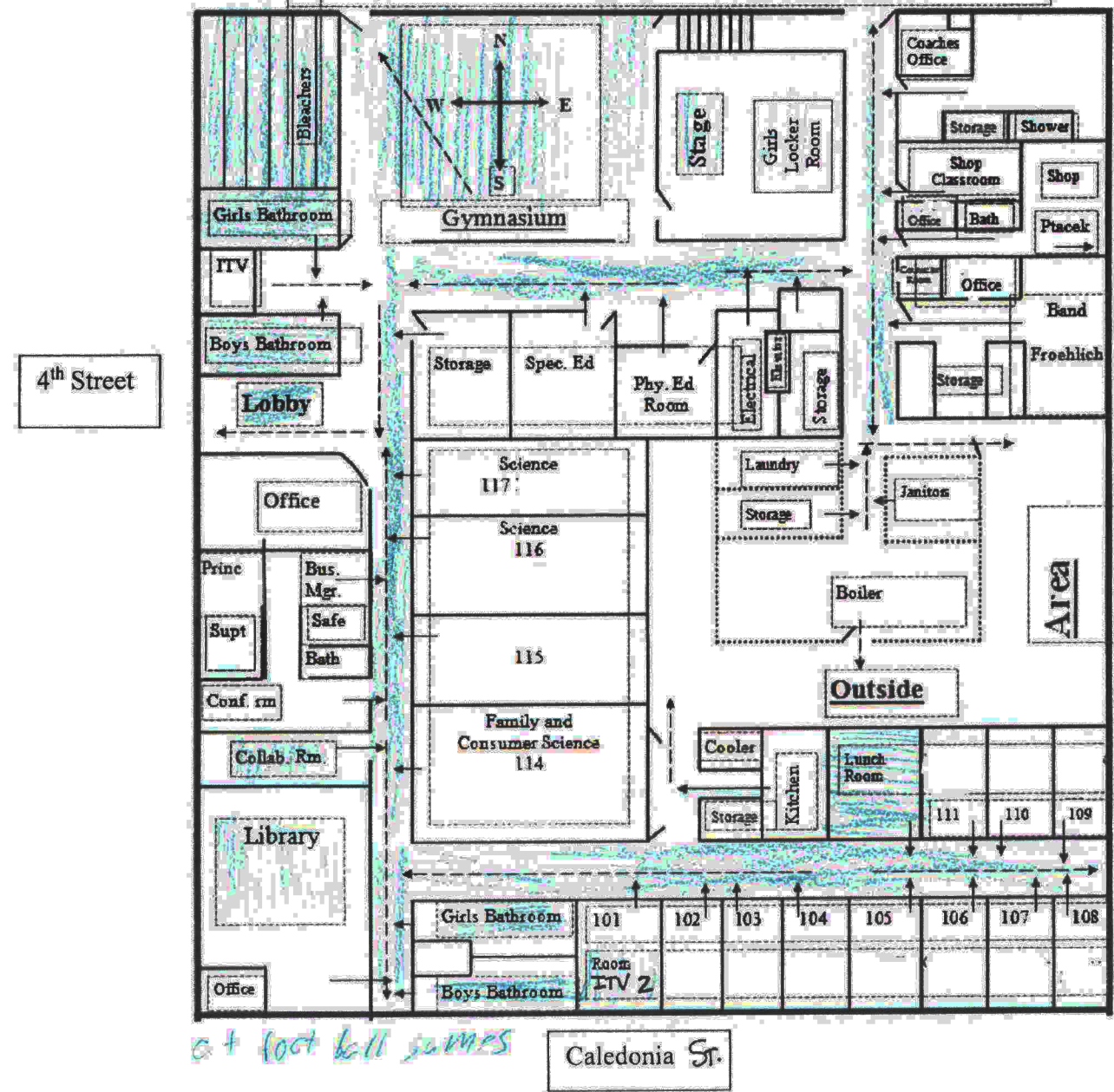
Figure: 99
Item: Owning Up 4

**Hillsboro High School
Evacuation Route**

On the bus.
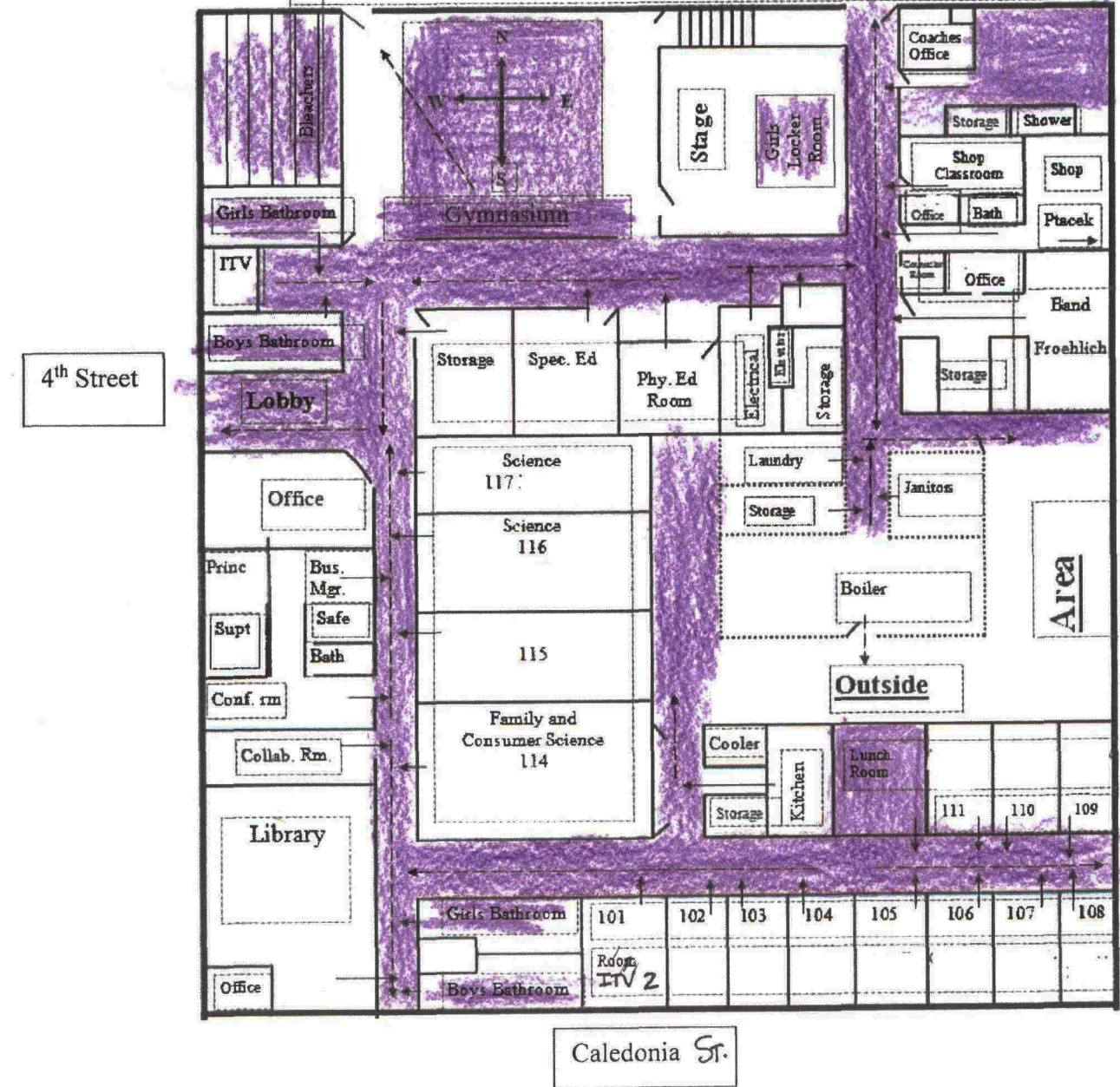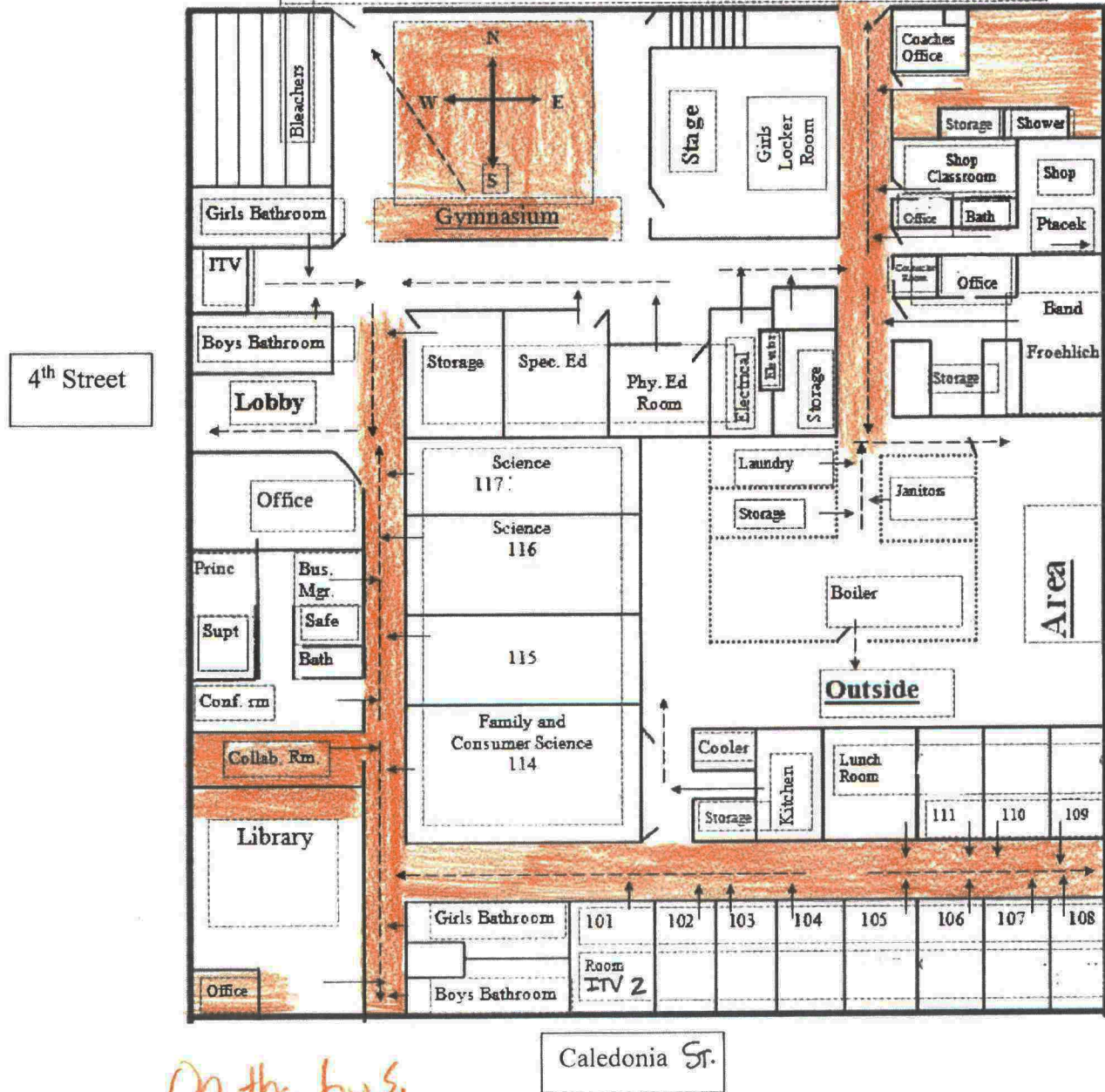
Figure: 100
Item: Owning Up 5

**Hillsboro High School
Evacuation Route**

Bus

Figure: 101
Item: Owning Up 6

**Hillsboro High School
Evacuation Route**
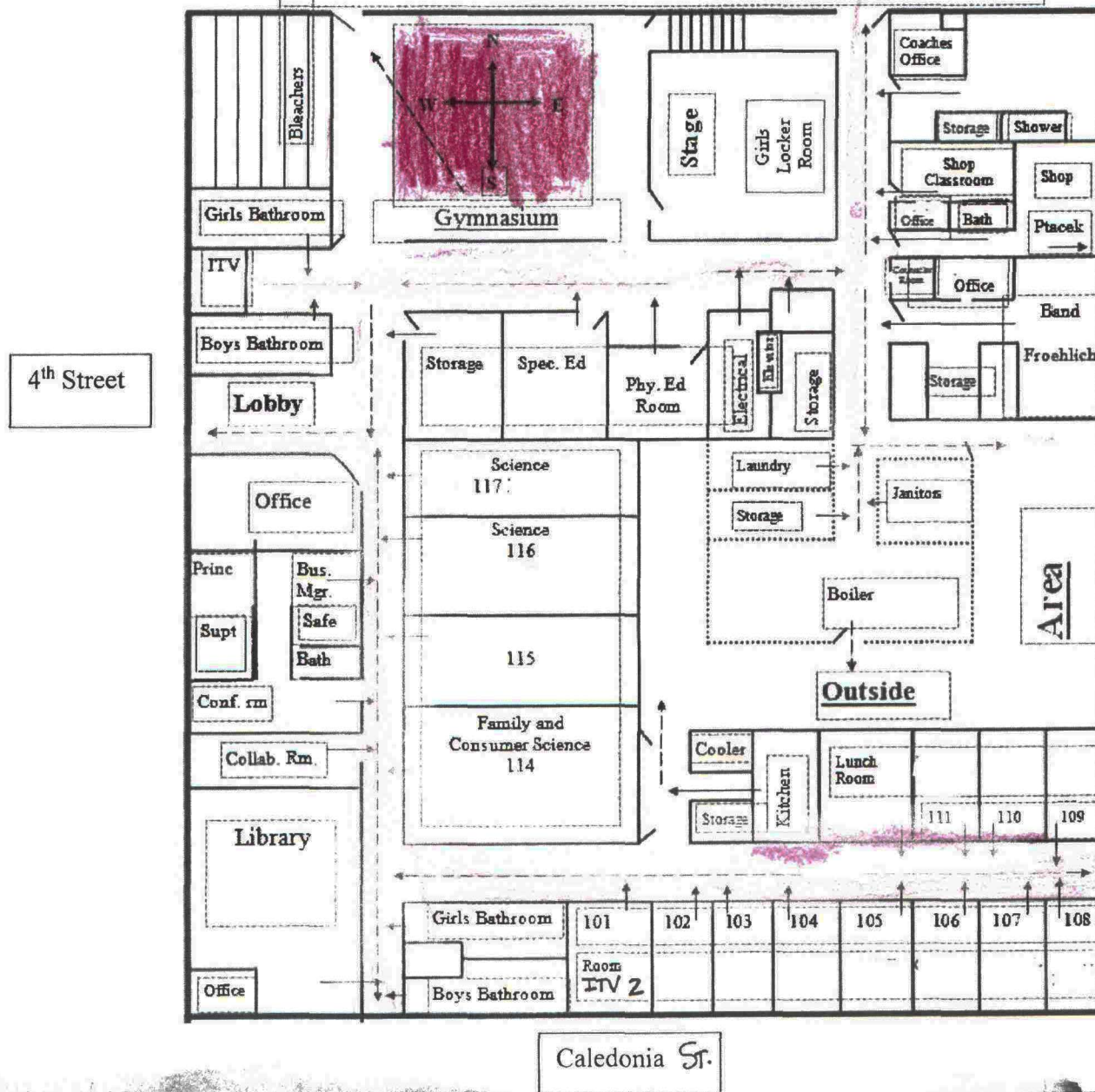
Figure: 102
Item: Owning Up 7

**Hillsboro High School
Evacuation Route**
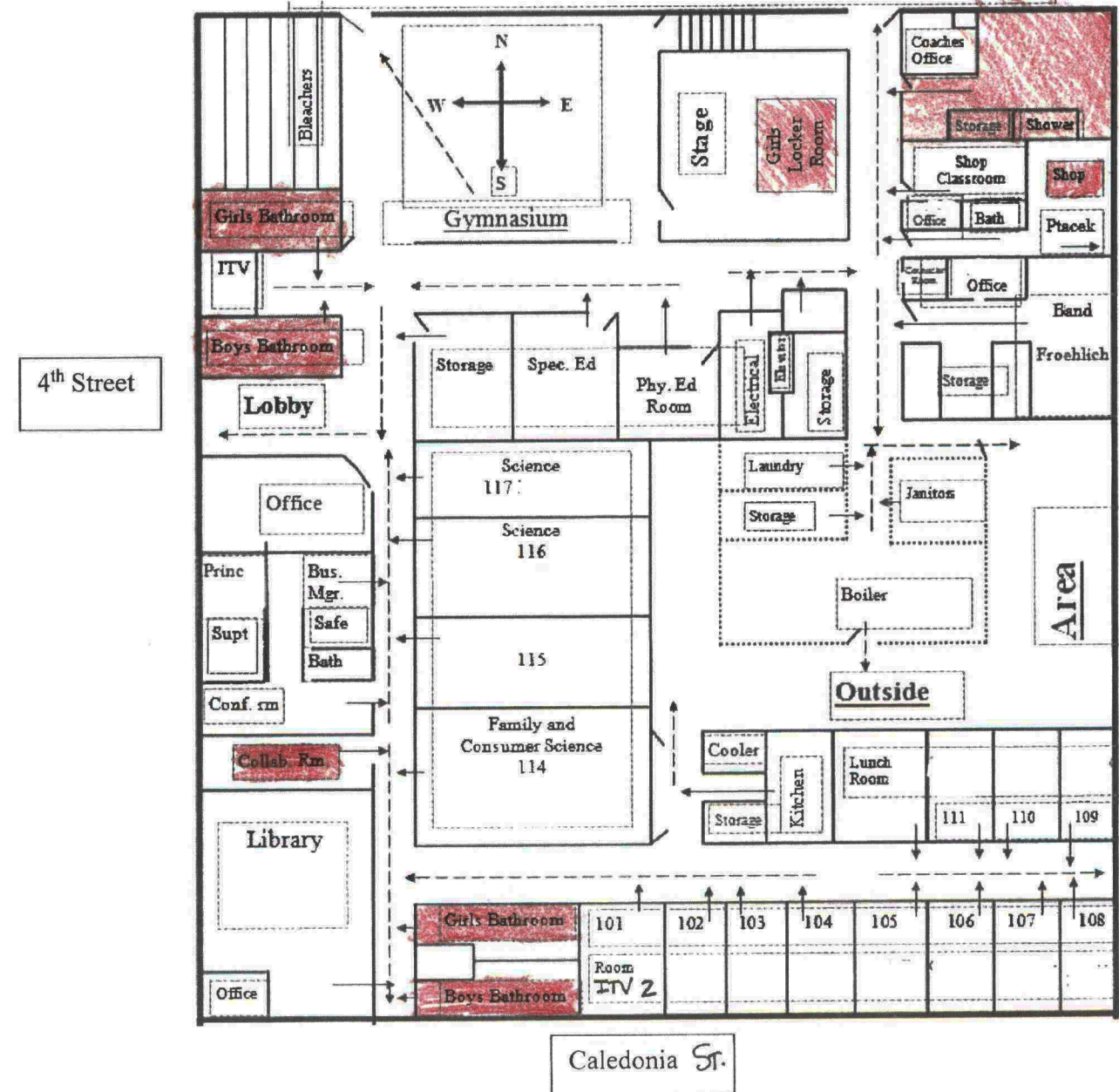
Figure: 103
Item: Owning Up 8

DESIGN SOLUTION

PROCESS DOCUMENTATION

The layout of the program was extremely important in my design. I sketched many layouts before I moved onto scaled program pieces. This was a good exercise in separating public and educational spaces.
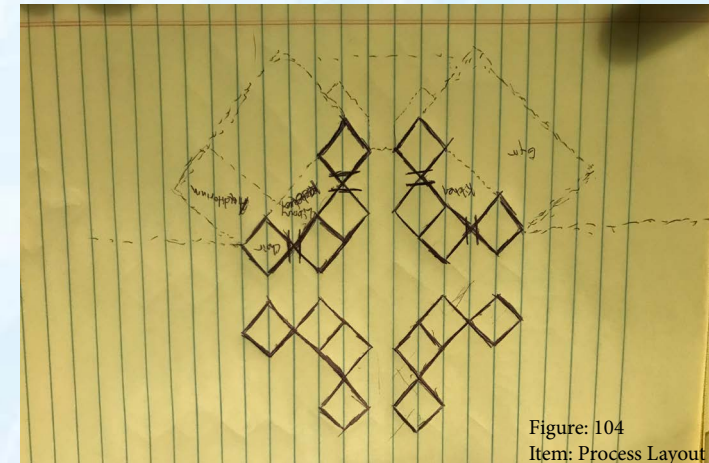
Figure: 104
Item: Process Layout 1
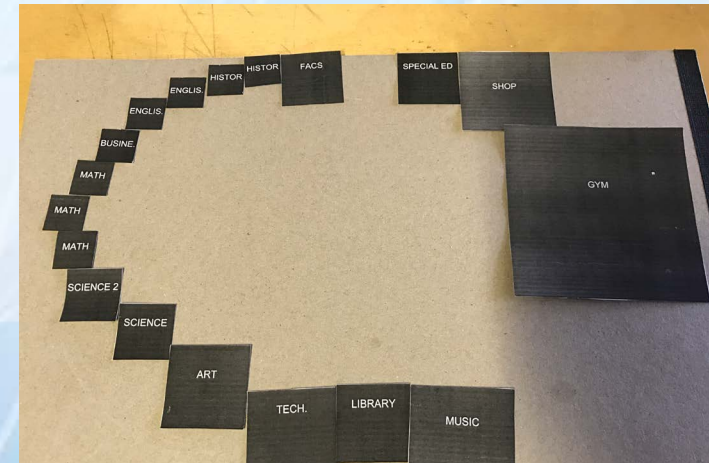
Figure: 105
Item: Process Layout 2
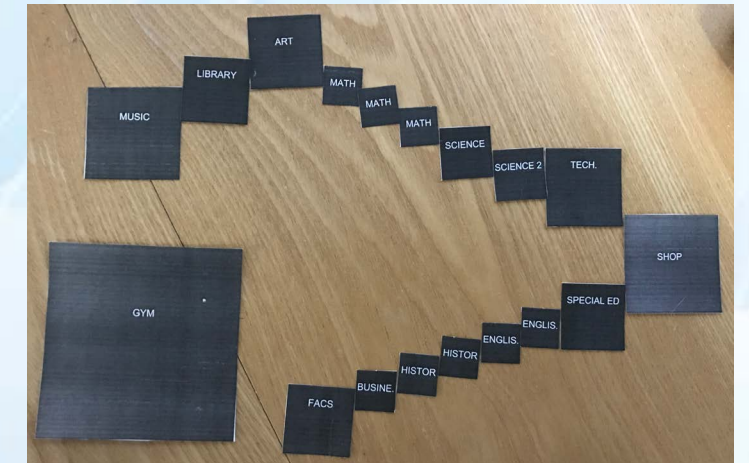
Figure: 107
Item: Process Layout 4
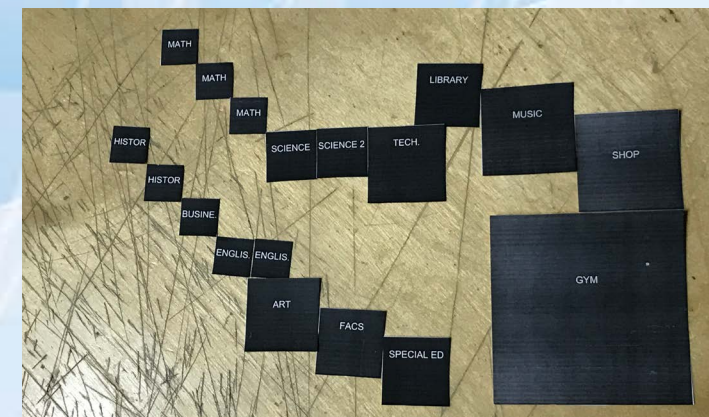
Figure: 106
Item: Process Layout 3
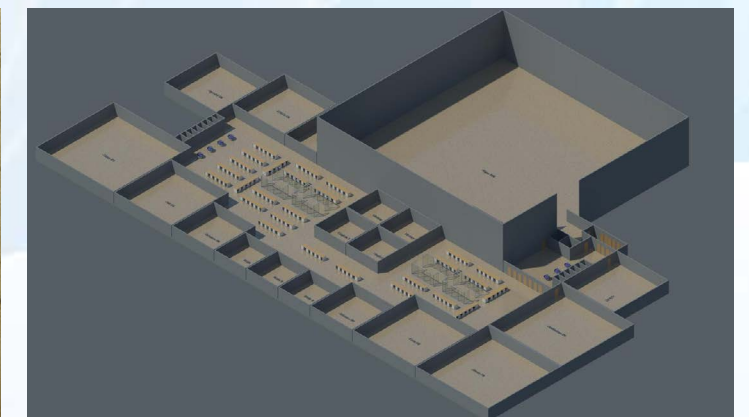
Figure: 108
Item: Process Layout 5

SOLUTION DOCUMENTATION

RESPONSE TO SITE

SITE

The location of this site is in a developing flat area. The placement of the school is very important in keeping the peace with nearby neighborhoods. The school is placed as far away from the developing neighborhoods as possible in order to cut down on the noise from traffic. Shelterbelts were also added as a buffer between the school and the nearby houses. By having the school located as far north as possible, it enhances the amount of sunlight that the clearstories would receive. This also improved the proximity of the sports facilities of the Elementary School to the high school.

Figure: 110
Item: Site
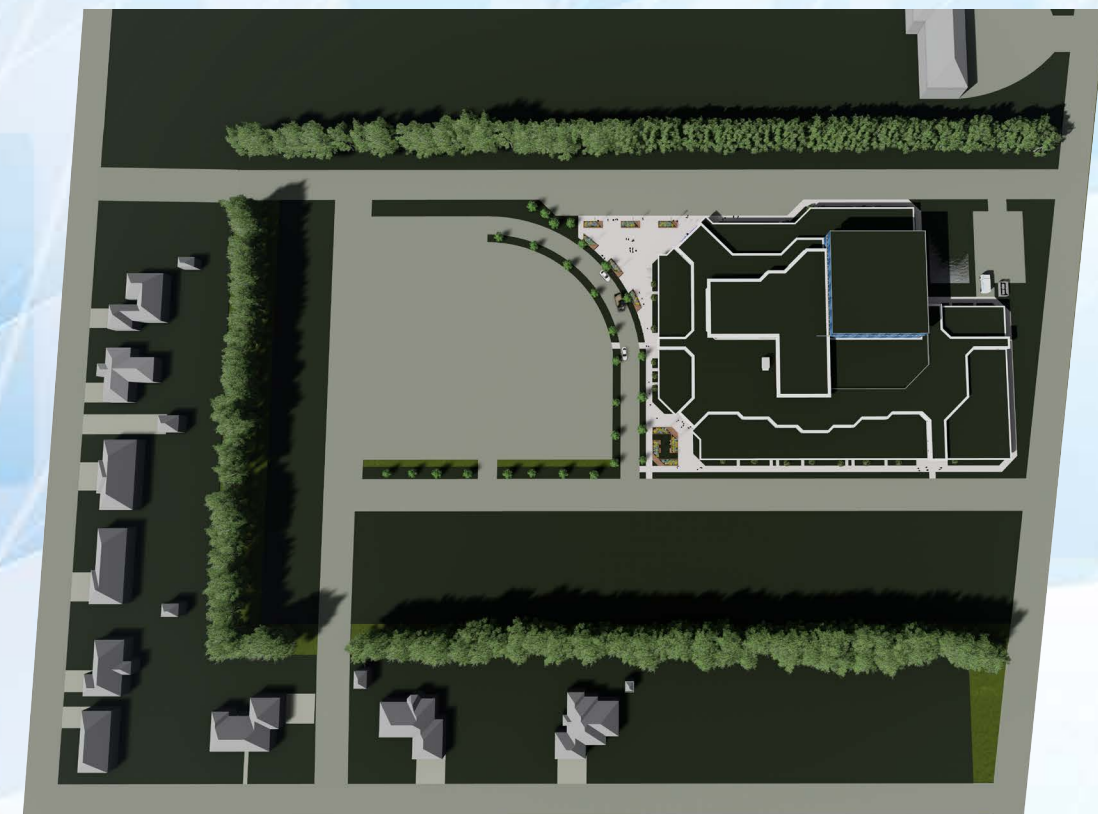
RESPONSE TO TYPOLOGICAL RESEARCH

School safety is key for any school design. Separating bus drop off points, parking, and student drop off areas is extremely important in keeping our kids safe.
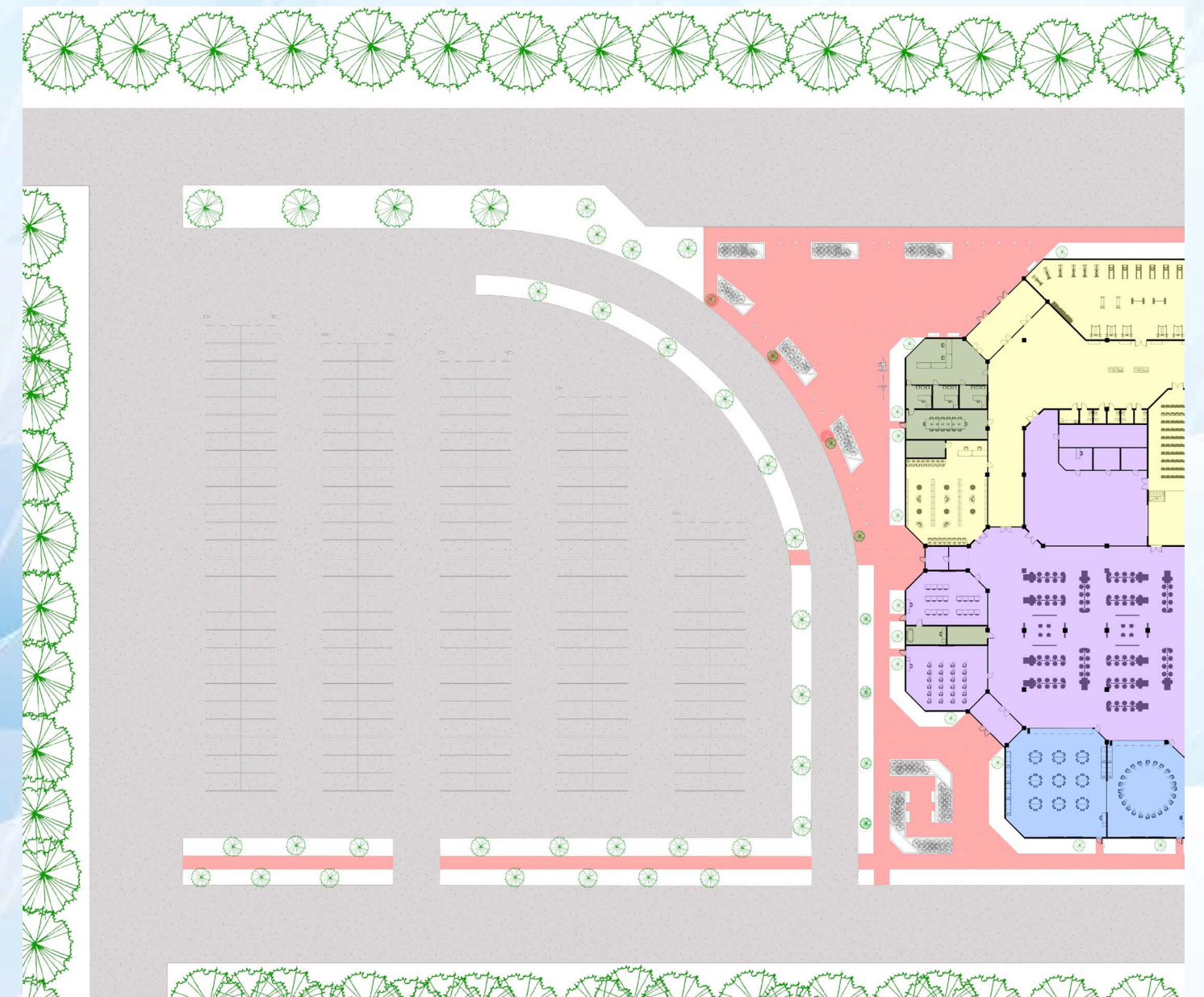
Figure: 111
Item: Site 2

Community Involvement

Small towns use their schools in many different ways. Hillsboro is no different. For example, the Hillsboro high school contains the city library. The yellow shaded spaces are areas that the community is allowed to use. Keeping the educational areas separate from the public spaces is key in keeping the students safe.

School Entry

For safety reasons, schools need to have control who is coming in and out of their school. One way of doing this is by forcing everyone to enter the facility office area after coming through the schools front doors.
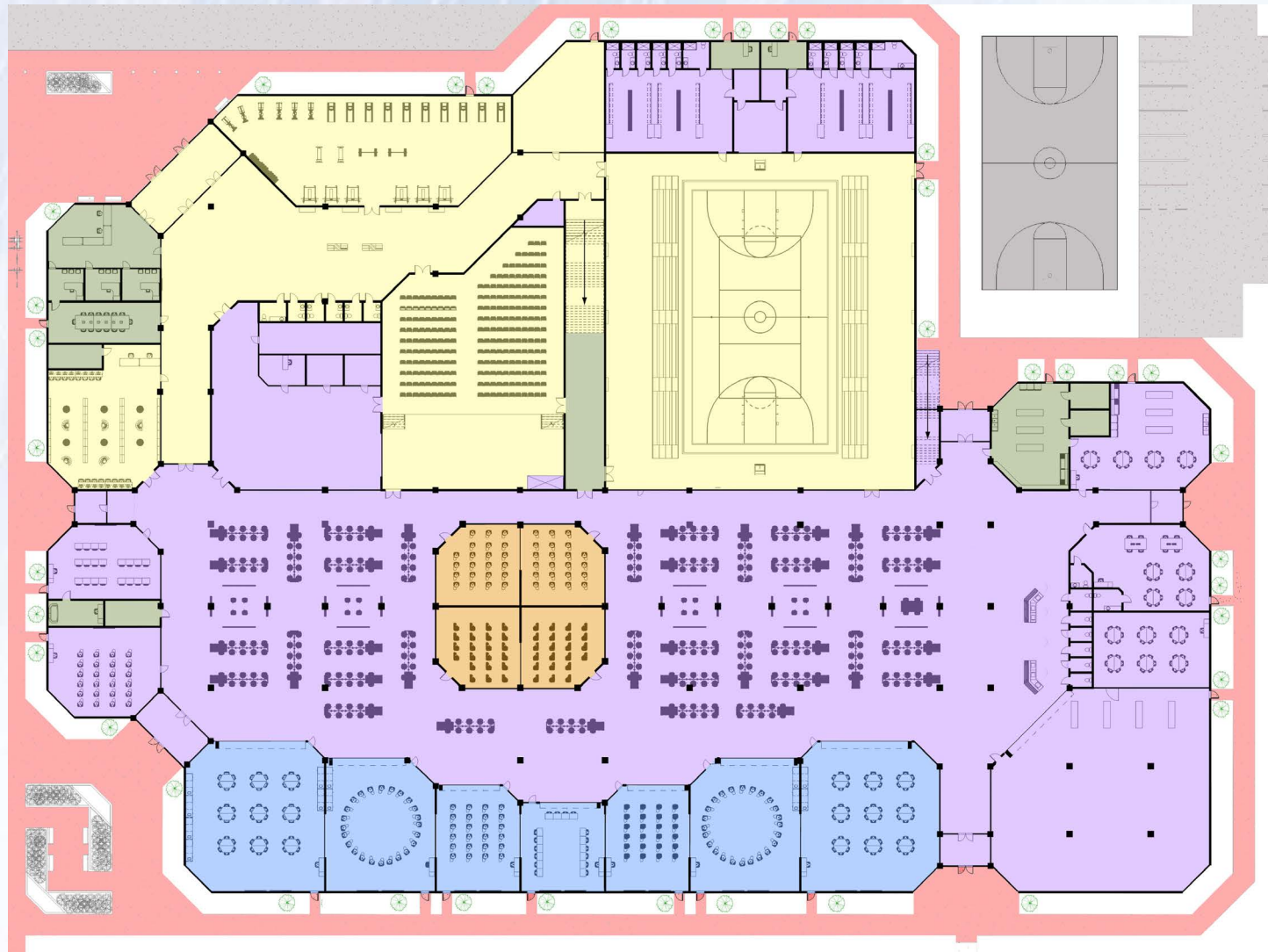
Figure: 112
Item: Floor Plam
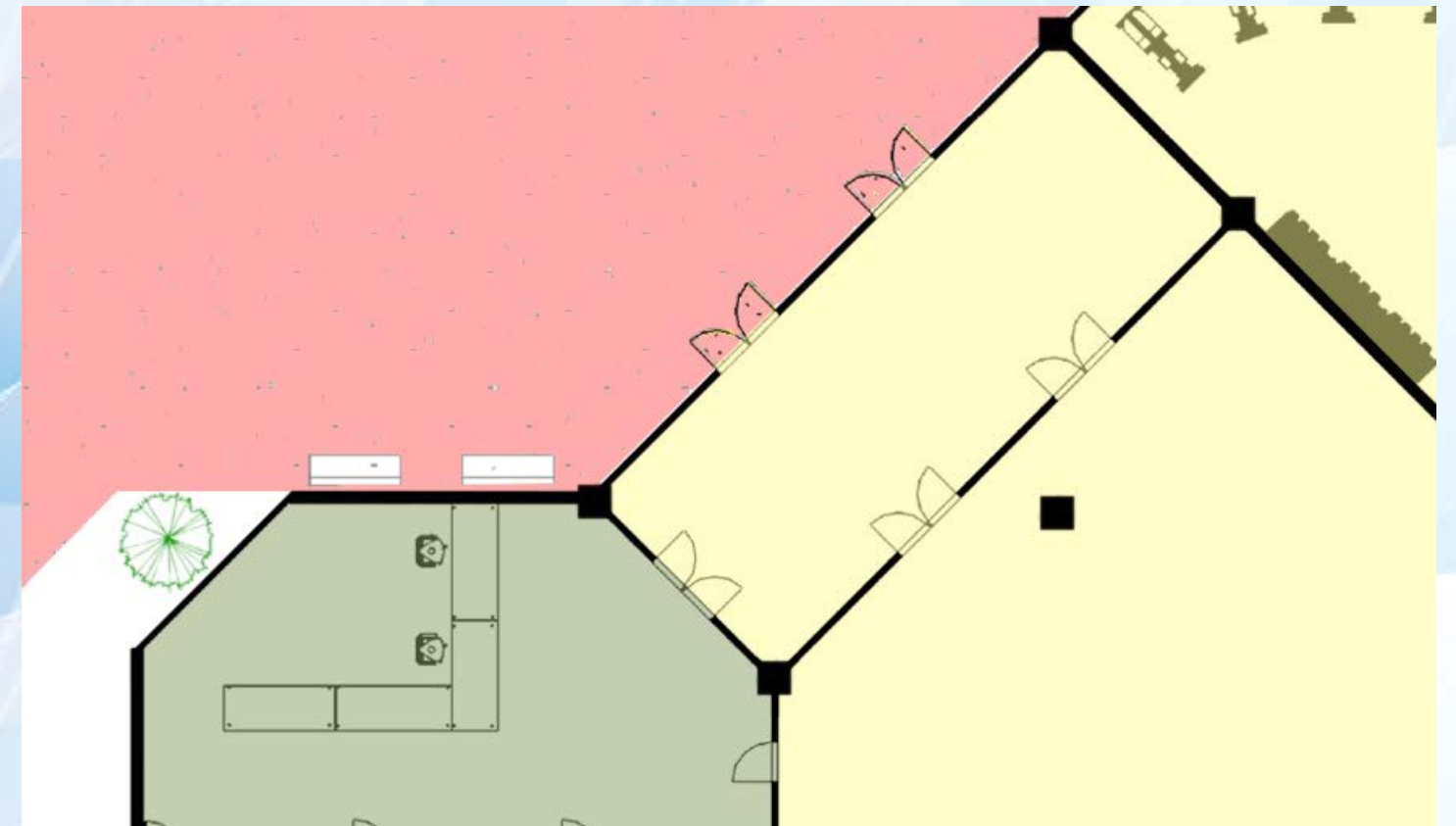
Figure: 113
Item: Entry Plan

Team Teach

Hillsboro High School uses a method of teaching called Team Teach. This space is designed for the English and Social Studies departments. It allows two classrooms to become one by the use of garage doors connecting each other.
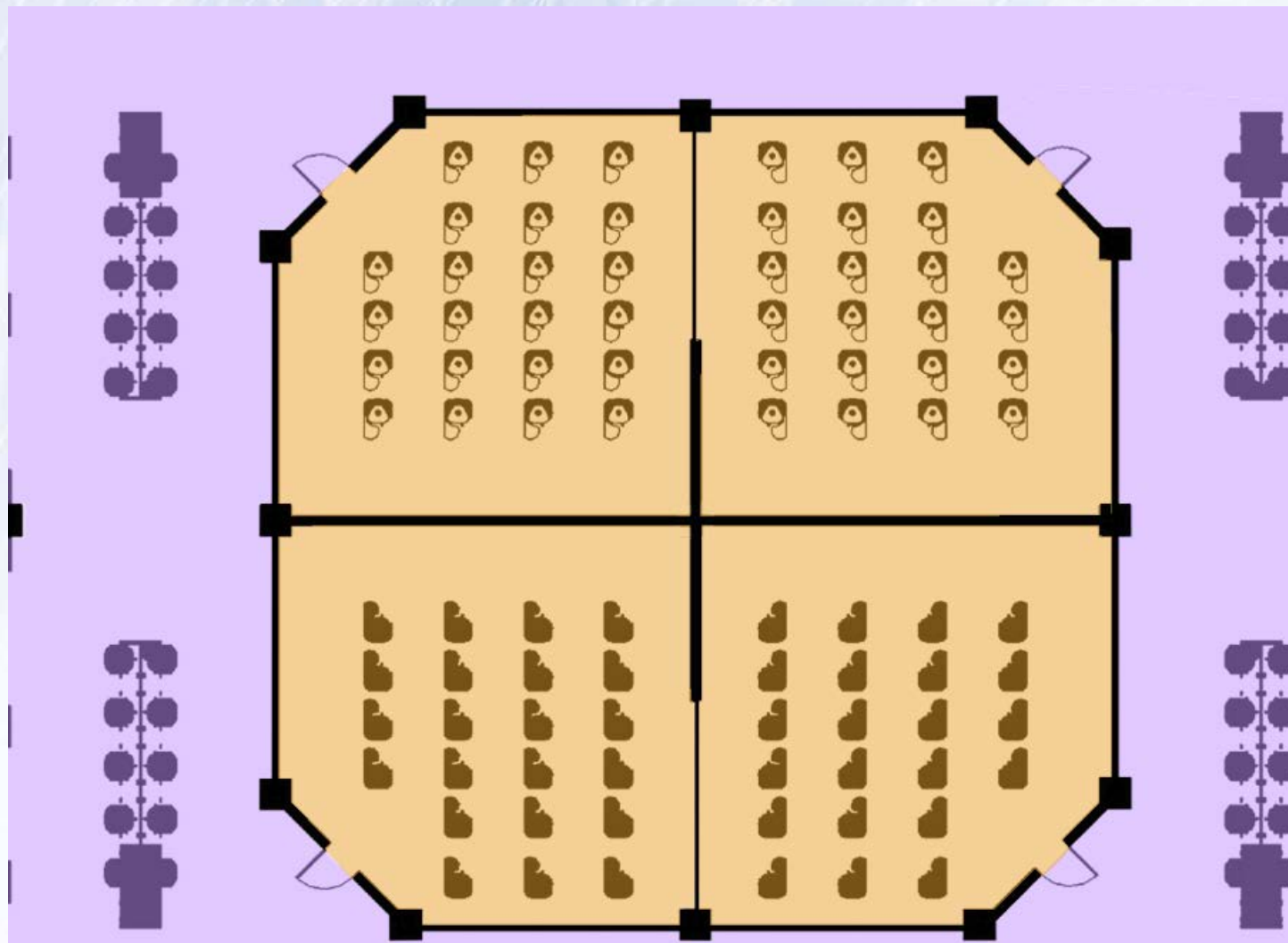
Figure: 114
Item: Team Teach Plan

S.T.E.A.M

Hillsboro High School desires to become a S.T.E.A.M curriculum based school. Grouping the classes that are focused on in S.T.E.A.M. curriculum is very important.
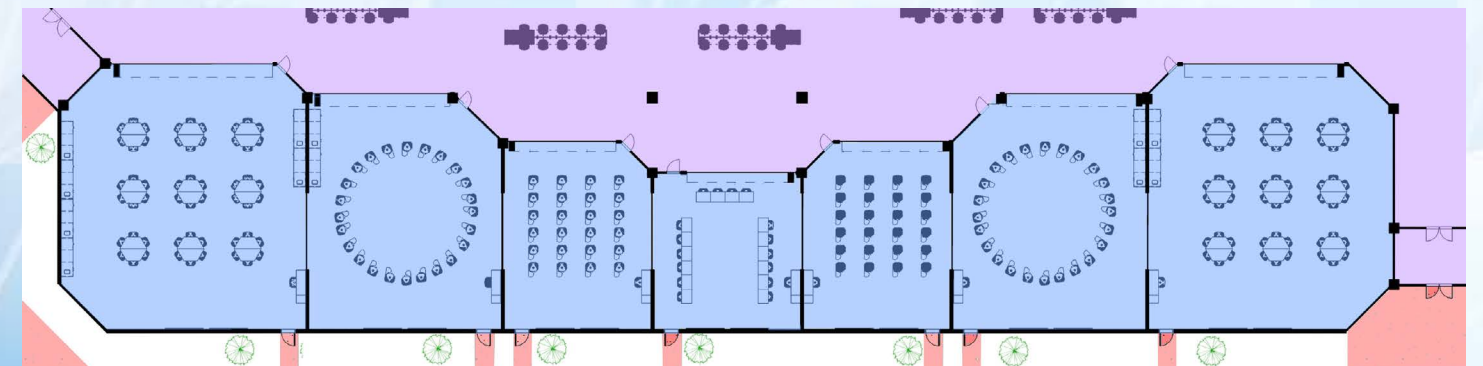
Figure: 115
Item: S.T.E.A.M. Plan

In-between classes are when a lot of bullying happens. Creating supervision opportunities for teachers is key. The use of Nanawalls allows for supervision toward the hallway area during break time. The placement of the garage doors in-between classrooms allows teachers to team teach other classes. This also at the same time allows other teachers to help supervise each other's students.

RESPONSE TO GOALS

Figure: 116
Item: Bully Free Classroom 1

Lockers are not designed correctly for high schools. They are way to skinny and much to tall to allow for adequate supervision. By widening and lowering the height of the lockers, it allows for personal space for the students to move about. At the same time, it increases supervision and eye contact between the students and teachers to increase the empathy towards each other.

Restrooms are an extremely private area that is hard to have quality supervision on. This is an area that bullying happens often. By placing the hand washing stations in the open and having individual bathrooms for everyone, it allows teachers to supervise this area without encroaching on a student's private time.

Figure: 117
Item: Bully Free Lockers

Figure: 118
Item: Bully Free Restrooms

Creating a relationship with anyone requires interaction. To start the day, the students must enter the school by passing through the front offices. This allows faculty to get to know their students and it increases their ability to keep strict security of the school.

Two hot spot bully locations in schools are the gymnasium and the cafeteria area. Bullying typically occurs in Hillsboro in the gymnasium during lunch. This is because students are allowed to play basketball in the gymnasium after they finish eating. Teachers are able to supervise these two hot spot locations at one time. As you can see below, teachers can see all the locker areas that double as seating for lunch time and the gymnasium from any point in the commons area.

Figure: 119
Item: Bully Free Entry

Figure: 120
Item: Bully Free Gym
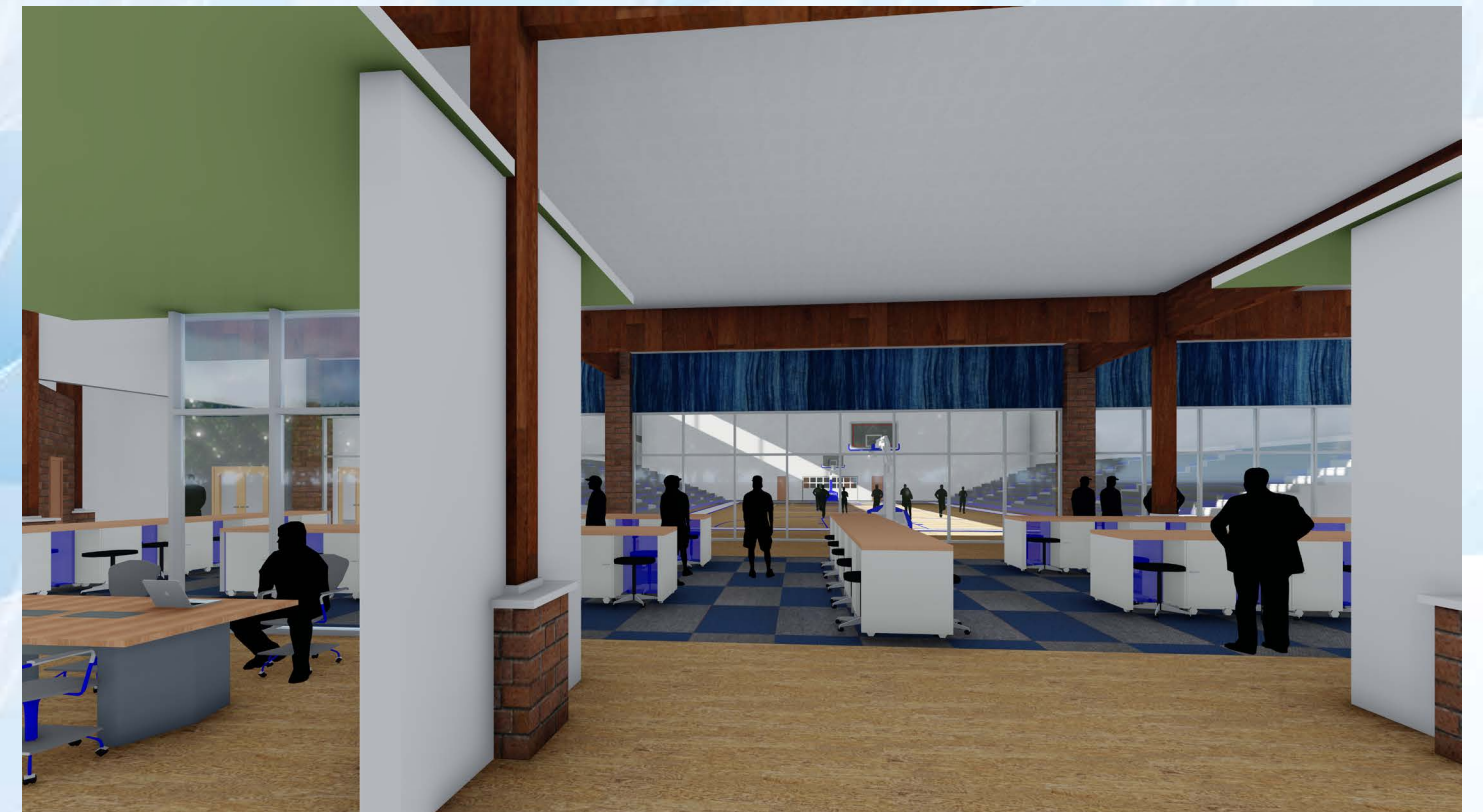
PRESENTATION

Figure: 121
Item: Bully Free Presentation

BULLY FREE

BY:DAVID FYRE

WHAT IS BULLYING?
Bullying is a repetitive act, based on an imbalance in power between a bully (or bullies) and a chosen victim, who plays the role of a constant target for aggression.

How can architecture decrease the act of bullying within a high school?

GENERAL
Failure to reduce bullying in schools correlates with other forms of problematic behaviors through adolescence and adulthood. These behaviors include sexual harassment, dating violence, alcohol/drug use and so on.

PERSONALLY
I find that decreasing the amount of bullying within a school will allow for students to learn at their highest level.

PROJECT DESCRIPTION AND SITE
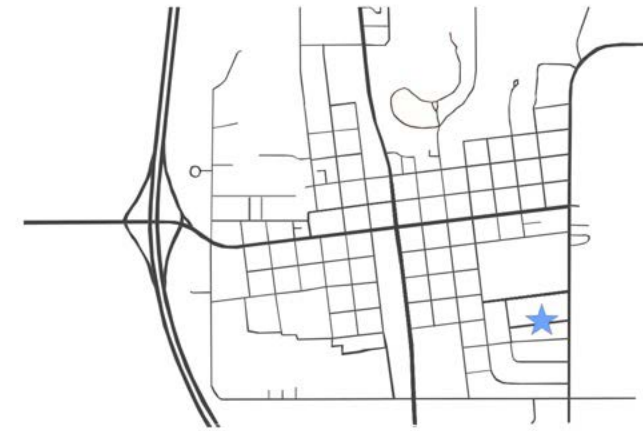
Hillsboro has built a new elementary school and sports facily recently. The schools sit on the East side of town with 25mph roads surrounding its perimeters. The roads all are low traffic areas besides when school is starting and ending. The site sits just north of a new residential development and south of the new elementary.
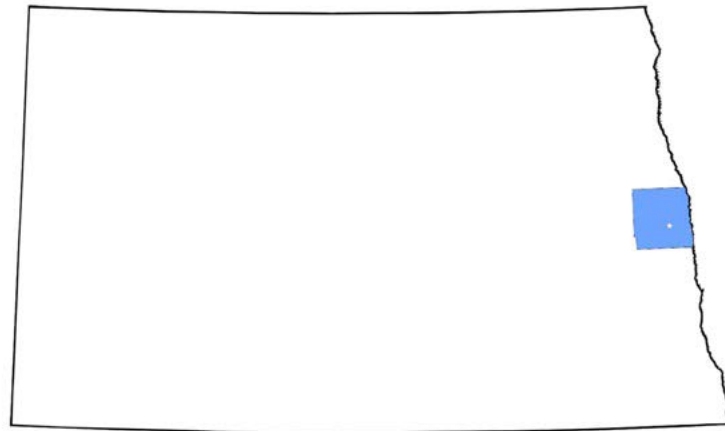
Hillsboro, North Dakota is located in Traill County. Hillsboro is a part of the Red River Valley that runs along the state line of North Dakota and Minnesota. Hillsboro has a population of 1603. Hillsboro is considered a farming community. Many residents commute for work because of being located in-between Fargo and Grand Forks, ND along Interstate 29.
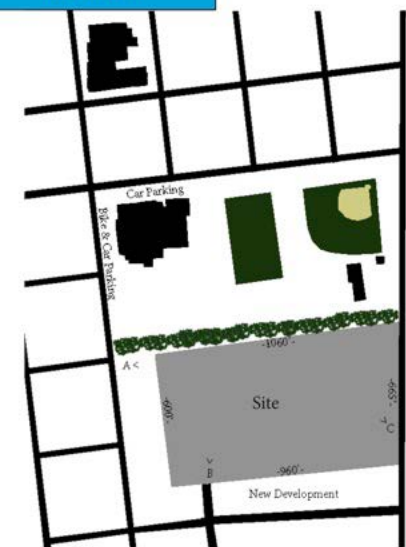
VIEW (A)

VIEW (B)

VIEW (C)

VIEW (D)

High School Grades: 7th-12th Grade
High School Population: 192
Teacher to Student Ratio: 1:16
Avg. High School Grade Population: 32
Avg. Elem. School Grade Population: 43

CURRICULUM SPACES NEEDED
Math (3)(S.T.E.A.M)
Science (2) (S.T.E.A.M)
Tech Class (S.T.E.A.M)
Art (S.T.E.A.M)
History (2)(TEAM TEACH)
English (2) (TEAM TEACH)
Business (1)
Music
Library (City Library)
Special Education
Gym
Shop

HOW DO WE ACCOMPLISH DECREASING THE AMOUNT OF
BULLING WITHIN A SCHOOL SYSTEM?

EMANCIPATORY APPROACH

Strategy
Qualitative
Logical Arguments
Holistic Case Studies

Tactics
Literature Review
Personal Interviews
Logical Iterations

JIM JOHNSON

NDSBA State President (1 Yr)
NDSBA State Member (6 Yrs)
NDSBA Member of the Fargo School District (16 Yrs)
Masters Degree in Finance from Bryn Mawr
Bachelors Degree in Finance from NDSU

KRISTINE PARANICA

NDSU Ombud (3 Yrs)
Director of the UND Conflict Resolution Center (17 Yrs)
Certified Transformative Mediator Fellow of the Institute for
the Study of Conflict Transformation (4 Yrs)
Prosecutor in Criminal Law In Bismarck (6 Yrs)
Law Degree from UND
Bachelors Degree in Social Work from UND

BRIAN BERG

Zerr Berg Architecture (16 Yrs)
Masters Degree in Architecture from NDSU

TIM ZERR

Zerr Berg Architecture (16 Yrs)
Masters Degree in Architecture from NDSU

NICK VARIANO

MPCG High School Counselor (26 Yrs)
Masters Degree in Counseling from Minnesota State
Teaching Degrees in History & English from Minnesota
State

ADAM SOLA

MPCG Math Teacher (1 Year)
North Sergeant Math Teacher (9 Years)
Double Majored In Math and History

TERRY BAESLER

Hillsboro High School Principle (9 Years)
Northern Cass Principle (2 Years)
Science Teacher in Fischer (4 Years)
Masters Degree in Educational Leadership from NDSU
Bachelors in Science from Mayville State

DAVE SCHILL
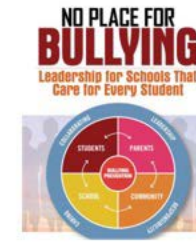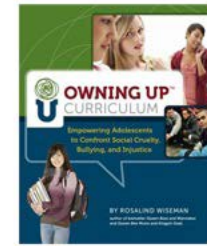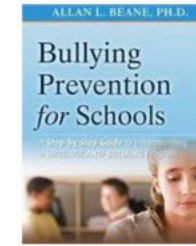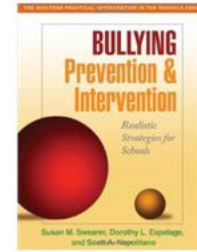
Hillsboro High School Counselor (23 yrs)
Sheldon High School Counselor (2 yrs)
Sheldon High School Tech Ed Teacher (5 yrs)
Graduate Degree from NDSU
Bachelors Degree from Valley City State

OTHERS

PAULA SUDA

Hillsboro High School Superintendent

MATT HELGERSON

Jordan Middle School Superintendent

LITERATURE REVIEW & INTERVIEW TAKE AWAYS

*School Atmosphere

*Hot Spots

SCHOOL ATMOSPHERE

*Anti-Bully Programs are only as good as a school makes them.

*Students need to be educated about bullying (IBP)

*Students must develop their social skills

*Empathy (Kristine Paranica)

*Students-Teacher Trust (Non-Room Ownership)(Matt Helgerson)

*Limit Hierarchy (Kristine Paranica)

HOT SPOTS

*Hallways

*Locker Bays

*Cafeteria

*Restrooms

*Locker Rooms

*Gymnasiums

HILLSBORO 7TH GRADE STUDENT STUDY

BULLY HOT SPOT SHADING

Take Aways
*Locker Hall-Heavy Shade
*Faded Hallway (Principals Office & No Lockers)
*Gym & Restroom-Heavy Shade

Faded Hallway   Heavy Shaded Hallway

How do we get supervision in these hot spot areas?

A difficult situation that often occurs when a student reports a bullying situation that was not witnessed by a teacher or administrator. Some school personnel tell us that their school has a policy of "If I don't see it, there's nothing I can do about it!" Policies like this serve to support and increase bully behavior. Of coarse, students who bully others are not going to do so right under the watchful eye of an adult (Swearer, 2009)
(Literature Review)

ISOVIST ANALYSIS
Isovist analysis is the study of a volume of space visible from a given point.

Classroom-Hallway Connection

Why is the traditional classroom design still used?

Isovist shows minimal visibility from classroom even with the door open.

Why not have classrooms open to the hallway?

ADVANTAGES
*S.T.E.M. Classes
*Supervision
*Price

DISADVANTAGES
*Noise? (New Students)(Special Needs)
*Movement?
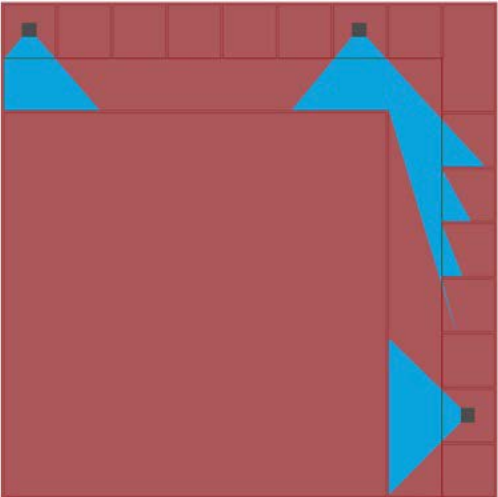
Deerwood & Woodland Elementary School (Case Study)

What are some temporary wall/door options and how can you use them to your advantage?

OPTIONS
*Garage doors
*Barn doors
*NanaWall

ADVANTAGES
*Team Teach
*S.T.E.A.M. Classes
*Supervision
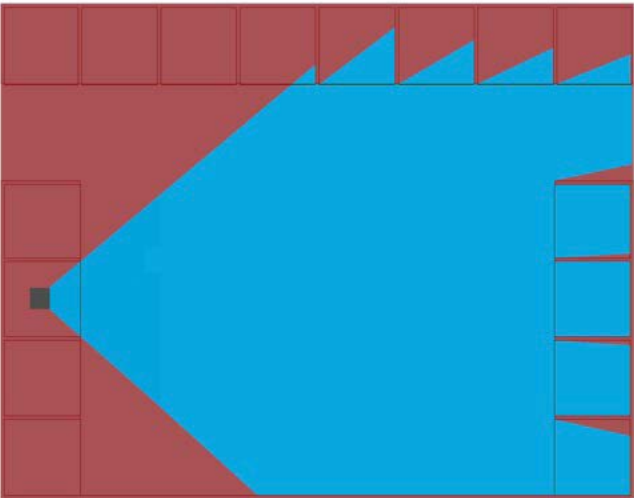
Jordan Middle School (Case Study)

How does supervision change as visual barriers
are taken away?

3-Wall

How does supervision change as visual barriers
are taken away?

3-Wall

How does supervision change as visual barriers
are taken away?

2-Wall
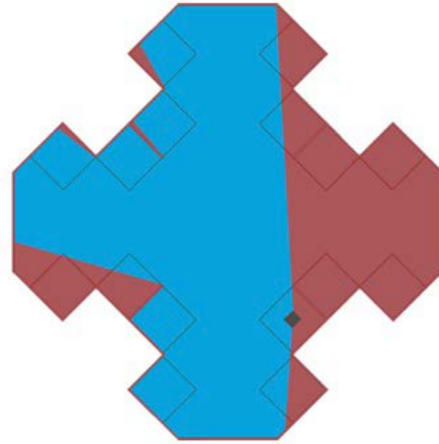
BULLY FREE DESIGN

Brainstorming Layout
*Distance between classes
*Too many outside corners
*Programming public and private spaces
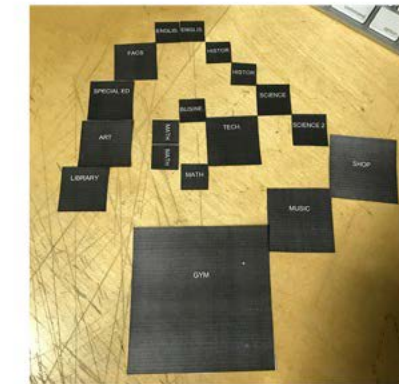
CONCLUSIONS
*Temporary walls/doors
*Maximize wall area towards hallway/commons areas that are transparent
*Limit hallways

BULLY FREE DESIGN
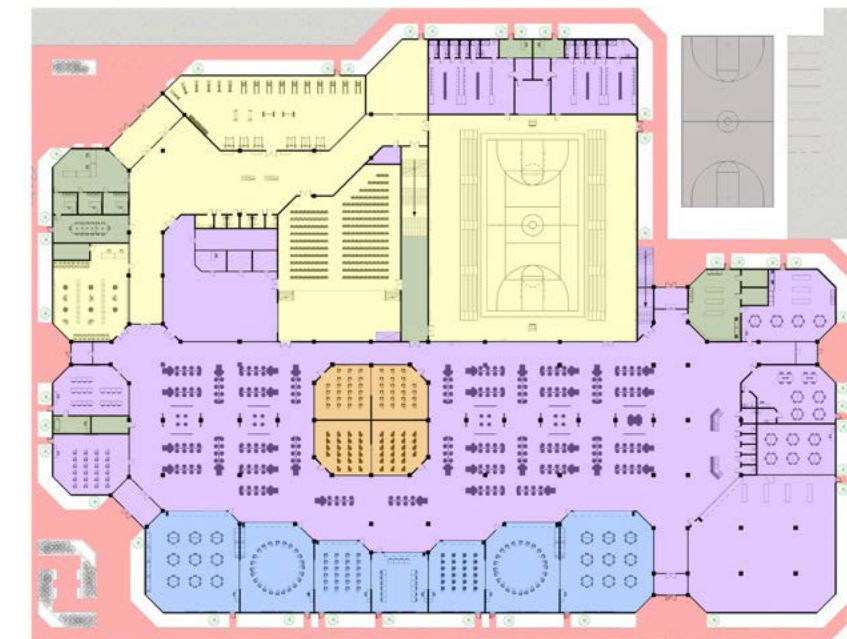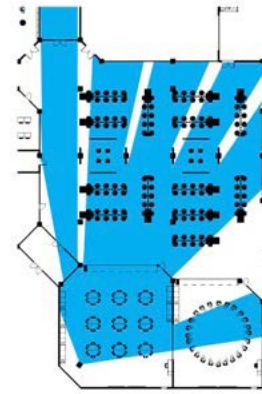
LOCKER DESIGN

Lockers are a key area of a school. Students use lockers to store personal and school belongings. The use of lockers will promote cleanliness throughout the school and will lessen the chance of students that carry backpacks throughout the school day can cause back pain. Locker areas are a key location where the act of bullying can occur for multiple reasons.

Issues
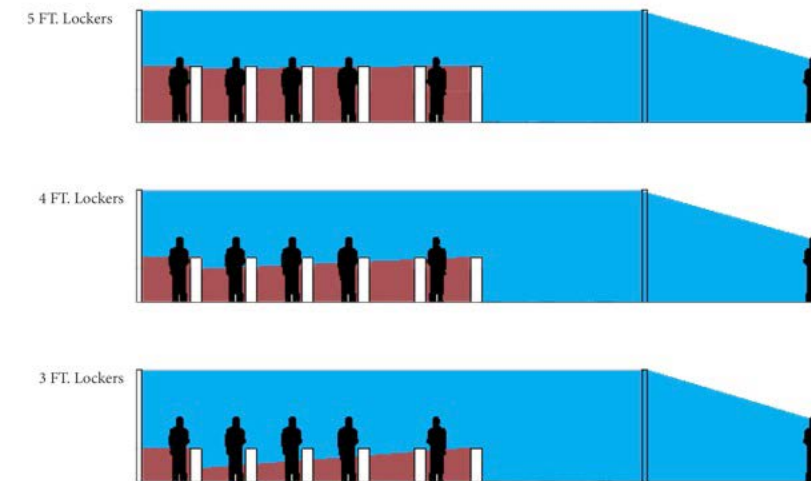Locker Size
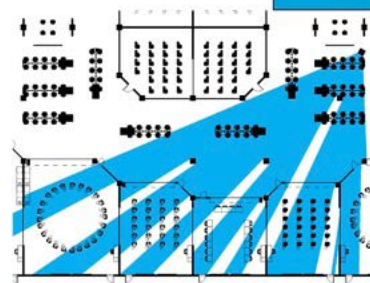Locker Layout
Locker Location
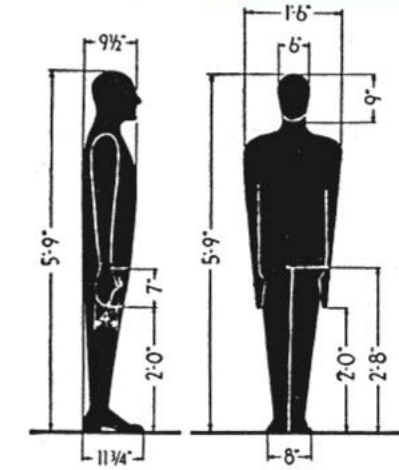
LOCKER DESIGN

LOCKER HEIGHT ITERATION

5 FT. Lockers

4 FT. Lockers

3 FT. Lockers

BULLY FREE DESIGN

DESIGN CONCLUSIONS
*Solves Cafeteria Space
*Aids is Multi-functioning spaces (S.T.E.A.M.)
*Alternate Classroom Option
*Teacher Used (Student Relationship)
*Provides Supervision
*Eye Contact

RESTROOM DESIGN

RESTROOM DESIGN

Restrooms are an important human need. Many people prefer their time in a restroom to be very private. Supervision in these areas is not permitted by camera or by school staff. Without supervision, restrooms are a common area that the act of bullying occurs.

Recently, the location of where homosexual, bisexual, and transgender students go to the bathroom has come into question. Solving this topic is a key component of a schools restroom design.

Issues
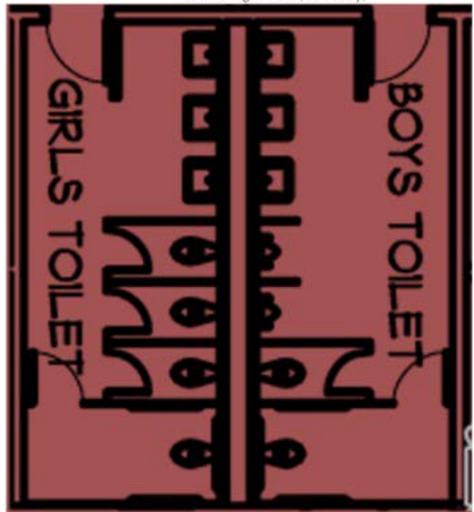Privacy
Gender Norms
No Supervision
Bathroom Noises

TRADITIONAL RESTROOM DESIGN

Issues
*Gender Norms
*No Supervision

Kindred High School (Case Study)
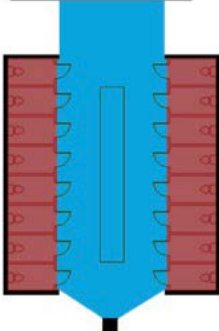
Deerwood Elementry School (Case Study)

NEW DESIGN
*Supervision of all non-private areas
*Takes gender problems out of picture
*Privacy for toilet areas
*Forces everyone to wash hands
*Design idea can be used in locker rooms too

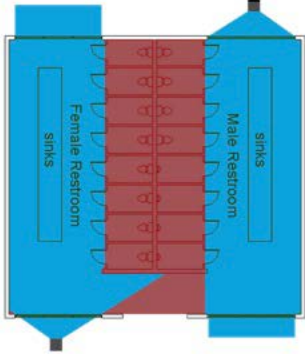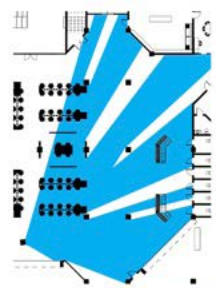Jordan Middle School (Case Study)

NEW DESIGN
*Allows supervision of sink area
*Follows gender norms
*Can hear noise from hallway
*Privacy for toilet areas

Overview of Design

SOUTHWEST CORNER

SITE
*Car Zones
*Relationship To Existing Complexes
*Buffer Zone for Residential

ENTRANCE

ENTRANCE

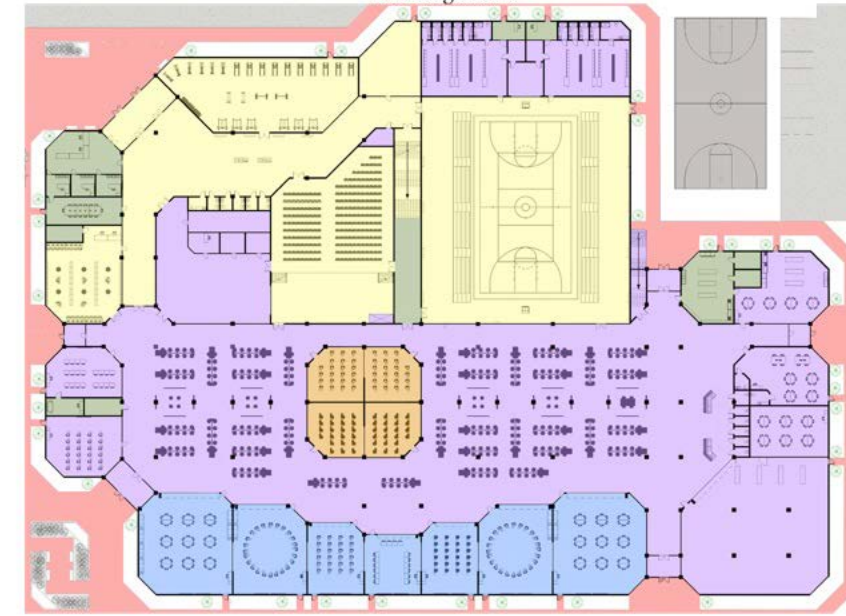## SPACE BREAKDOWN
*Public Space
*Counselor Location
*Learning Zones

ENTRANCE

CLASSROOM LAYOUT

GYM DESIGN

PROJECT INSTALLATION

Figure: 122
Item: Project Installation 1

BULLY FREE

QUESTIONS?

Figure: 123
Item: Project Installation 2
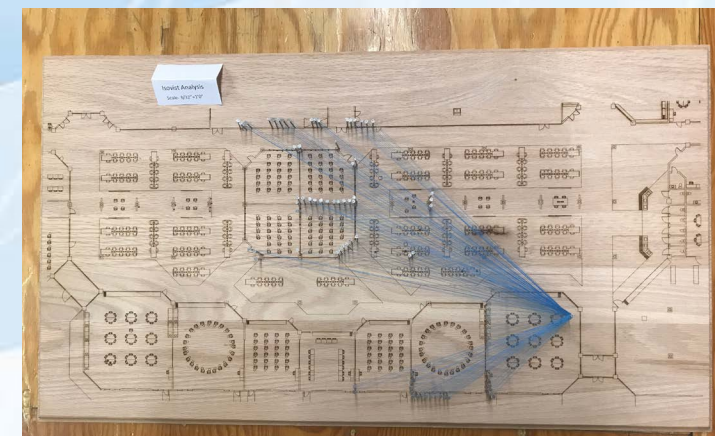
APPENDIX

REFERENCE LIST

Deerwood Elementary [Personal interview]. (2017, February 23).

Terry Baesler [Personal interview]. (2017, February 1).

Bazelon, E. (2014). Sticks and stones: defeating the culture of bullying and rediscovering the power of character and empathy. New York: Random House Trade Paperbacks.

Beane, A. L. (2009). Bullying prevention for schools: a step-by-step guide to implementing a successful anti-bullying program. San Francisco, CA: Jossey-Bass.

Zerr Berg, Brian Berg [Personal interview]. (2017, January 30).

Dillon, J. (2014). No place for bullying: leadership for schools that cre for every student. Cheltenham, Vic.: Hawker Brownlow Education.

Matt Helgerson [Personal interview]. (2017, February 23).

Jim Johnson [Personal interview]. (2017, January 30).

Kristine Paranica [Personal interview]. (2017, February 1).

Dave Schill [Personal interview]. (2017, February 2).

Adam Sola [Personal interview]. (2017, February 2).

Paula Suda [Personal interview]. (2017, February 1).

Swearer, S. M. (2009). Bully Prevention and Intervention:Realistic Strategies for Schools. New York, NY: The Guilford Press.

Deerwood Elementary [Personal interview]. (2017, February 23).

Nick Variano [Personal interview]. (2017, February 2).

Wiseman, R. (2009). Owning up curriculum: empowering adolescents to confront social cruelty, bullying, and injustice. Champaign, IL: Research Press.

Zerr Berg, Tim Zerr [Personal interview]. (2017, January 30).

<u>Permanent Address</u>
606 3rd Ave NE
Hillsboro, ND 58045

<u>Phone Number</u>
210-557-2920

<u>Home Town</u>
Portland, North Dakota

<u>Quote about NDSU</u>
NDSU has given me many memories that I will keep for the rest of my life.

Previous Studio Experience

2nd Year (Fall) 2009- Joan Vorderbruggen - Teahouse; Boathouse
2nd Year (Spring) 2010 - Joan Vorderbruggen - Montessori School, Small Dwelling
3rd Year (Fall) 2010 - Paul Gleye - Fire House, Retail Store
3rd Year (Spring) 2011 - Regin Schwaen - Homeless Shelter, Coffee Shop
4thYear (Fall) 2011 - Alyahmed Bakr - Highrise Cancer Hospital and Hotel
4th Year (Spring) 2012 - Ronald Ramsay - Baseball Stadium
5th Year (Fall) 2016 - Regin Schwaen - Highrise Water Treatment Plant
5th Year (Spring) 2017- David Crutchfield - Bully Free High School