



ST. MICHAEL SPEEDWAY & RESORT THESIS PROPOSAL

ST. MICHAEL MOTORWAY & RESORT

A DESIGN THESIS SUBMITTED TO THE DEPARTMENT
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BY

AUSTIN STOKKE

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Cindy L. Urness
PRIMARY THESIS ADVISOR

M. J. Murphy
SECONDARY THESIS ADVISOR

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THESIS NARRATIVE

ABSTRACT & IDEA

ABSTRACT

RACEWAYS ARE UNCOMMONLY THOUGHT OF AS A PUBLIC AMENITY AND EVEN MORE UNCOMMONLY THOUGHT OF AS A PUBLIC HEALTH SOLUTION. ALTHOUGH THIS MAY BE AN INCORRECT IMPLICATION. FOR INSTANCE, RACE TRACKS COULD SERVE AS AN OUTLET FOR THOSE WHO ENJOY THE AUTOMOTIVE INDUSTRY. PARTICULARLY INDIVIDUALS WHO USE PUBLIC STREETS AND HIGHWAYS FOR RACING AND TEST & TUNING NEW UPGRADES. THE RACEWAY WOULD ALSO INCLUDE PUBLIC AMENITIES, SUCH AS HOTELS AND COMMERCIAL SPACES. THE UNITED STATES HAS A LARGE MARKET FOR THE RACING INDUSTRY. WHICH IS IMPORTANT TO NOTE AS MINNEAPOLIS IS ONE OF THE LARGER CITIES IN AMERICA YET TO HAVE A NATIONALLY RECOGNIZED RACE TRACK. THE INSTALLATION OF A RACEWAY WOULD DRAW A LARGE AMOUNT OF VISITORS AND WOULD DRAMATICALLY BOOST THE LOCAL ECONOMY.

THE HOPE IS THAT A RACEWAY WILL IMPACT PUBLIC HEALTH BY REMOVING A SIGNIFICANT AMOUNT OF SPEEDING AND STREET RACING FROM THE STREET, SUBSTITUTING THE STREET FOR THE TRACK.

RESEARCH WILL BE DONE BY SURVEYING THE GENERAL PUBLIC AND REVIEWING DOT STATISTICS IN HOPES OF FINDING A CORRELATION BETWEEN THE ADDITION OF A RACE TRACK AND THE AMOUNT OF TICKETS WRITTEN FOR STREET RACING. THIS RESEARCH WILL ESTABLISH WHETHER OR NOT A RACEWAY MAY HAVE AN IMPACT ON PUBLIC HEALTH AND WILL ALLOW ME TO INVESTIGATE PARTICULAR TRACKS IN ORDER TO DETERMINE WHAT HELPS DRAW IN AUTOMOTIVE ENTHUSIASTS TO THAT TRACK.

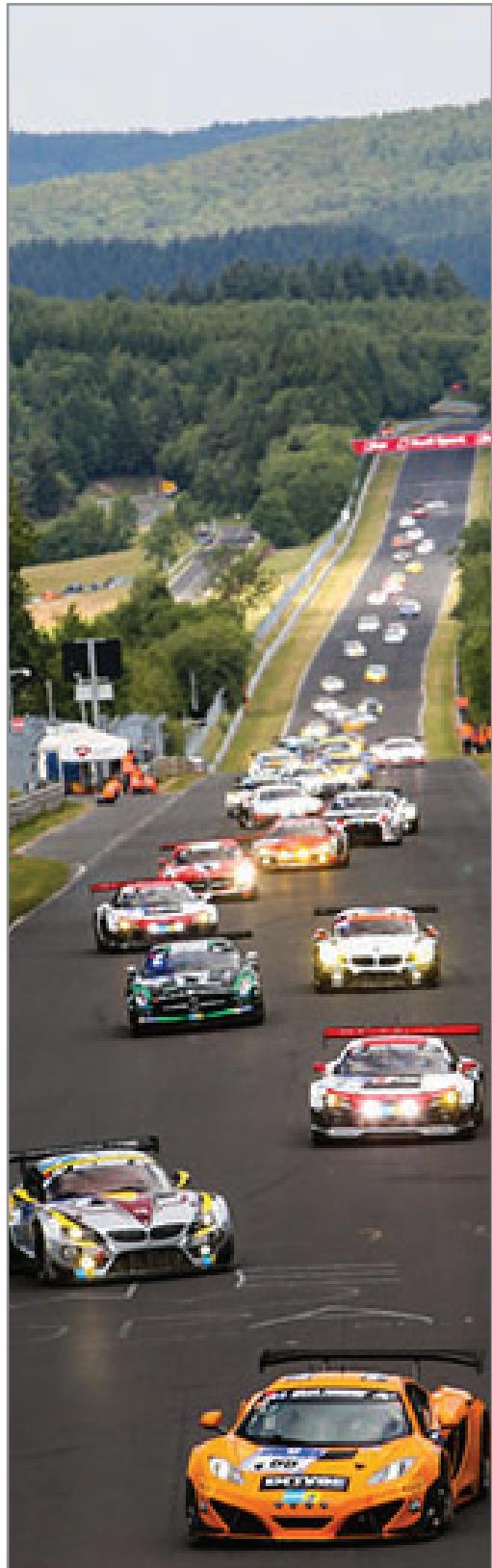


FIGURE 02: NURBURGRING

UNIFYING IDEA

RACEWAYS ARE UNIQUE IN THE FACT THAT THEY SERVE A SPECIFIC PURPOSE FOR A RELATIVELY SMALL PORTION OF THE POPULATION. BUT IF DESIGNED WELL AND LOCATED WITHIN THE CORRECT AREA. THE RACEWAY MAY HAVE A LARGER IMPACT ON PUBLIC HEALTH THAN WE MAY REALIZE. FOR INSTANCE A RACE TRACK THAT ALLOWS FOR "TRACK DAYS", WHICH ARE DAYS USUALLY ON THE WEEKEND THAT ALLOW FOR THE GENERAL PUBLIC TO BRING AND RACE THEIR OWN PERSONAL CARS. THESE DAYS ARE A MASSIVE SUCCESS AMONG THE CAR COMMUNITY. THESE TRACKS PROVIDE A MEETING LOCATION FOR THOSE WHO SHARE A SIMILAR PASSION. THESE TRACKS ALSO PROVIDE A SAFE AND REGULATED AREA FOR RELATIVELY DANGEROUS ACTIVITIES THAT WOULD OTHERWISE HAVE TAKEN PLACE ON PUBLIC STREETS AND HIGHWAYS.

THROUGH THE PROCESS OF THIS PROJECT, I WILL BE CONDUCTING LARGE SCALE SURVEYS IN ORDER TO IDENTIFY WHAT MAKES AND BREAKS THE SUCCESS OF LOCAL RACE TRACKS. SURVEYS WILL HELP IN IDENTIFYING WHAT THE USERS OF AND GENERAL PUBLIC THINK ABOUT HAVING A RACEWAY LOCATED NEAR THEM AND WHAT IS NEEDED IN THE OVERALL DESIGN IN ORDER TO BECOME A SUCCESSFUL DESIGN.

THE PROJECT AND UNIFYING IDEA IS IMPORTANT TO ME BECAUSE I'M AN AUTOMOTIVE ENTHUSIAST MYSELF AND THROUGH PERSONAL EXPERIENCE AND OBSERVATION OF OTHERS WITHIN THE COMMUNITY I HAVE SEEN AN UNDERLYING ISSUE. WHICH IS, A LACK OF LOCATIONS IN WHICH PEOPLE WITHIN THE AUTOMOTIVE COMMUNITY ARE ABLE TO SAFELY ENGAGE IN ACTIVITIES THAT COULD BE DANGEROUS TO THE GENERAL PUBLIC. WHICH LEADS TO THE REASON WHY IT IS IMPORTANT TO SOCIETY.

WITH THE CURRENT SITUATION THE GENERAL PUBLIC IS OCCASIONALLY PUT IN DANGEROUS SITUATIONS WHEN CERTAIN MEMBERS OF THE AUTOMOTIVE COMMUNITY TAKE TO THE STREETS IN ORDER TO ENGAGE IN ACTIVITIES SUCH AS STREET RACING OR TEST & TUNNING THEIR PERSONAL CARS.

SOCIETAL BENEFITS

ALTHOUGH THIS COULD CHANGE IN A VARIETY OF WAYS. FOR INSTANCE THE LOCAL COMMUNITY WOULD BENEFIT FROM A DECREASE IN STREET RACING AND SEE A SIGNIFICANT BOOST TO THE LOCAL ECONOMY. FROM AN INCREASE IN SUPPORT FOR CURRENT AND NEW AUTOMOTIVE BUSINESSES. TO AN INCREASE IN OUT OF STATE VISITORS. MEANING AN INCREASED DEMANDS FOR HOTELS, SHOPPING AND TRANSPORTATION. A NEW RACE TRACKS BENEFITS DRAMATICALLY OUT-WAY THE NEGATIVE STIGMA ASSOCIATED WITH BUILDING A NEW TRACK WITHIN A CITIES LIMITS.

THE AUTOMOTIVE AFTER-MARKET INDUSTRY IS SO LARGE, FOR COMPARISON. THE AFTER-MARKET INDUSTRY GROSSED ROUGHLY 227.4 BILLION DOLLARS IN 2018. THE ECONOMIC VALUE IN SUPPORTING A NEW RACEWAY COULD BE VERY DRAMATIC.

RESEARCH METHOD

AS STATED PREVIOUSLY, I PLAN TO CONDUCT LARGE SCALE SURVEYS IN ORDER TO IDENTIFY THE NEEDS AND WANTS OF THE USER. THESE NEEDS AND WANTS OF THE USERS WILL HOPEFULLY DRAW IN PEOPLE TO UTILIZING THE TRACK RATHER THAN THE STREET. I THINK THIS LARGE SCALE OPEN ENDED SURVEYS WILL PRODUCE A MORE HONEST, NONE BIASED LIST OF NEEDS AND WANTS. THE SURVEYS WILL BE ANALYZED BY GATHERING LIKE WORDS TOGETHER IN ORDER TO COUNT WHAT NEEDS AND WANTS ARE MORE COMMONLY WANTED WITHIN THE DEVELOPMENT.

IT MAY ALSO BE HELPFUL TO ANALYZE STREET RACING TICKET STATISTICS. AND TRY TO FIND CORRELATIONS BETWEEN WHEN A RACE TRACK WAS INTRODUCED TO THE COMMUNITY AND WHETHER OR NOT THAT COMMUNITY SAW A SIGNIFICANT DROP OF TICKETS ASSOCIATED TO STREET RACING. ANOTHER MAJOR RESEARCH METHOD THAT WILL BE CONDUCTED THROUGH THIS PROJECT ARE CASE STUDIES. THESE CASE STUDIES WILL HELP TO PROVIDE A BASE LINE OF INFORMATION THAT WILL HELP IN ESTABLISHING WHAT THE CORE REQUIREMENTS ARE OF THIS TYPE OF DEVELOPMENT. ALONG WITH CASE STUDIES WILL PROVIDE A OBSERVATION OF WHAT MAKES A SUCCESSFUL RACE TRACK.

THREE TYPES OF FINDINGS MAY OCCUR, EITHER THE EVIDENCE WILL SUPPORT THE IDEA THAT A RACE TRACK HAS THE ABILITY TO ALTER THE LIKELIHOOD THAT PEOPLE WILL ENGAGE IN STREET RACING. OR THE OPPOSITE WILL BE IDENTIFIED, EVIDENCE THAT SHOWS NO SIGNIFICANT DROP IN TICKETS. OR THE THIRD POSSIBILITY THAT MAY HAPPEN WOULD BE THAT THERE IS NOT ENOUGH EVIDENCE TO SHOW SUPPORT OR REFUTE THE HYPOTHESIS.



FIGURE 03: YAS ISLAND HOTEL

THE SITE

INTRODUCTION

SITE

WHY THIS SITE?

THE SITE IS LOCATED IN ST. MICHAEL, MN. THIS SITE IS OF PARTICULAR INTEREST DUE TO THE FACT THAT IT IS CLOSELY RELATED TO AND RELATIVELY CLOSE TO THE TWIN CITIES MAIN HIGHWAYS AND STREETS. ALONG WITH AREA. THIS IS IMPORTANT BECAUSE THE DISTANCE BETWEEN THE TRACK AND THE CLOSEST AIRPORT OR CITIES WILL DRAMATICALLY AFFECT THE SUCCESS OF THE PROJECT.

THE SITE HAS SOME INTERESTING LANDSCAPE ELEMENTS THAT HAVE THE POSSIBILITY TO HEIGHTEN THE INTEREST OF THE PROJECT BY INCORPORATING ELEMENT OF THE PROJECT THAT INTERACT WITH THESE LAND ELEMENTS.

ST. MICHAEL IS ALSO CLOSELY LOCATED TO THE LARGEST INTERSTATE HIGHWAY IN THE STATE. MEANING THAT THIS SITE WILL BE EASIER TO ACCESS THAN A SITE THAT IS LOCATED LARGE DISTANCES FROM MAIN STREETS AND HIGHWAYS.

SITE ELEMENTS

RACEWAYS DO NOT LEND THEMSELVES TO BEING MASS PRODUCED. MAINLY BECAUSE NOT ALL TRACKS INCLUDE THE SAME ELEMENTS AND ARE NOT ALWAYS DEVELOPED WITHIN A SITE THAT ARE SIMILAR. AND THIS

THE SITE IS LARGE AND INCLUDES A VARIETY OF LANDSCAPE ELEMENTS. FOR INSTANCE, COMMON FOR THIS PARTICULAR SITE TO BE THE SITE IS APPROXIMATELY 406 ACRES. AND FOUND AGAIN IN ANOTHER AREA. THUS THE INCLUDES ELEMENTS LIKE 12+ ACRES OF FORESTED AREAS AND 2.25 MILES OF LAKE-SPECIFIC SHORE.

SITE ISSUES

THIS PARTICULAR SITE INCLUDES A COUPLE OF ISSUES. FOR EXAMPLE, THE SITE IS LOCATED RELATIVELY CLOSE TO A RESIDENTIAL DEVELOPMENT. WHICH MAY IN THE LONG TERM CAUSE NOISE COMPLIANCE ISSUES. ALSO THE SITE CONTAINS A LARGE LAKE, WHICH TAKES UP A LARGE PORTION OF THE 406 ACRES. MEANING THAT THE DEVELOPMENT OF THE RACEWAY WOULD HAVE TO ADDRESS BUILDING AROUND THE LAKE WHILE TRYING NOT TO DISTURB THE NATURAL ENVIRONMENT.

SITE IMAGES**FIGURE 04: SITE AERIAL****FIGURE 05: SITE LAKE AERIAL**

SITE LOCATION

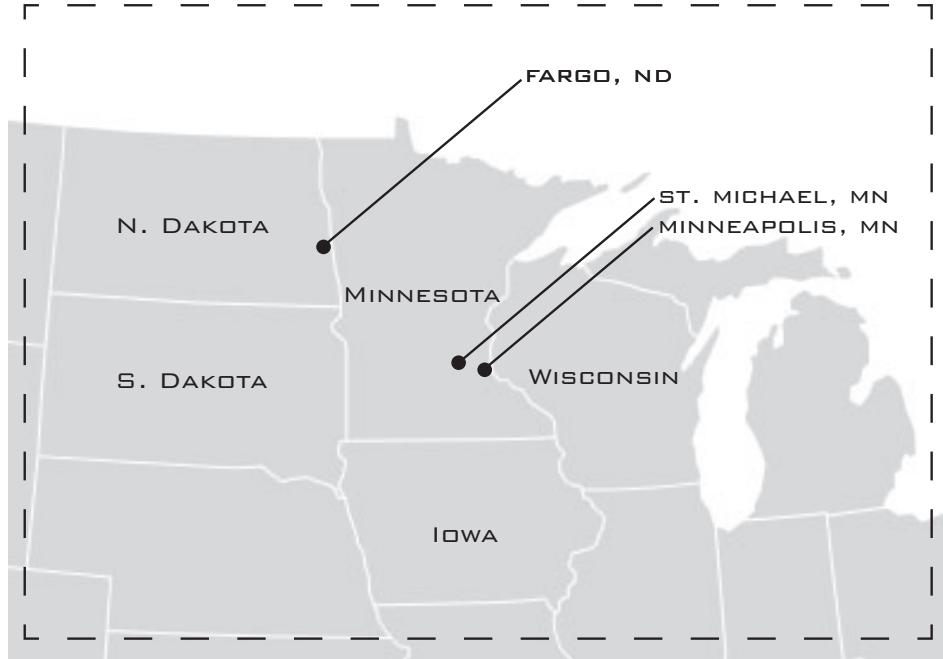


FIGURE 06: REGIONAL MAP

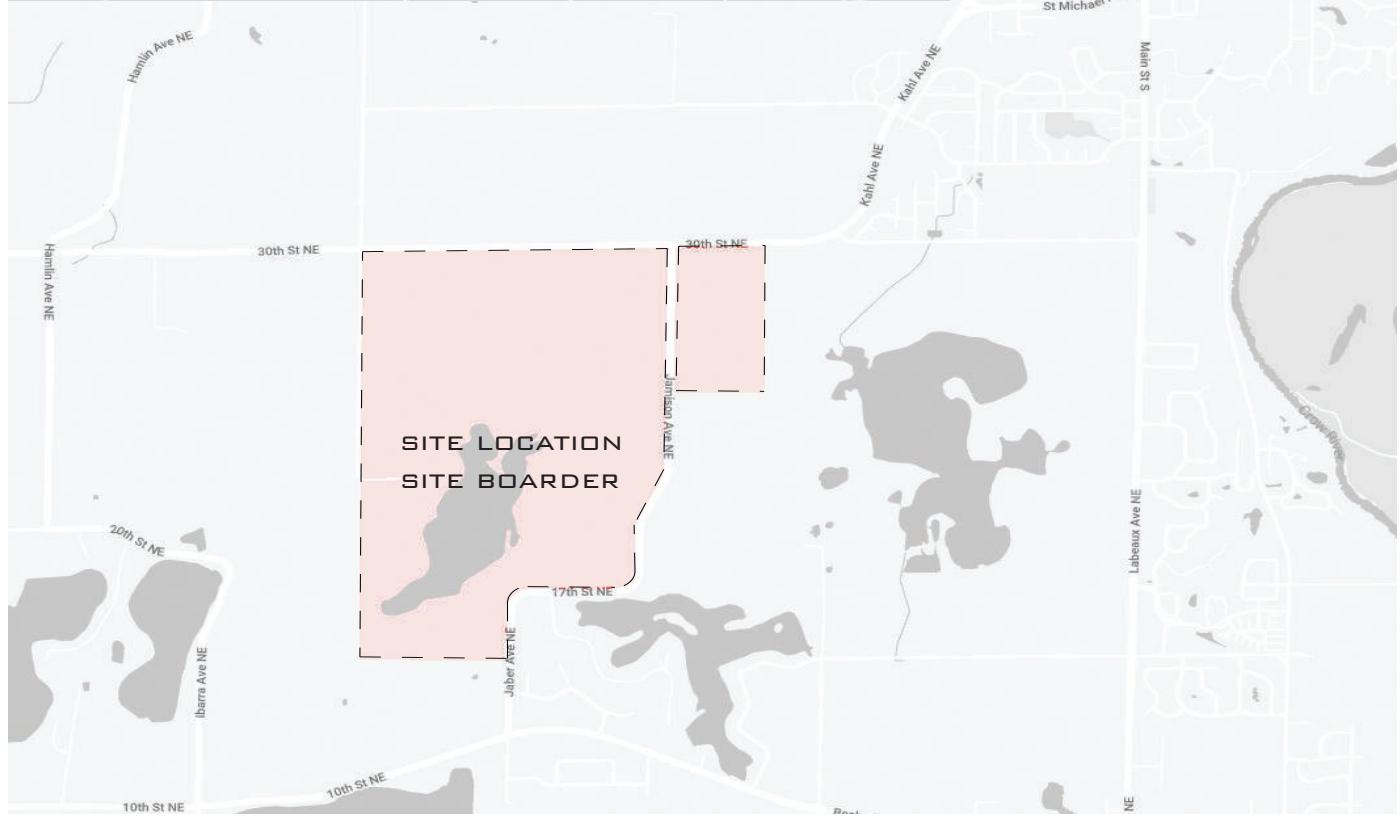


FIGURE 07: SITE LOCATION

PROJECT TYPOLOGY

TYPOLOGY & RESEARCH

PROJECT TYPOLOGY

• MIXED USE AUTOMOTIVE RACEWAY

THE MAIN USE OF THE PROJECT WILL BE THE RACEWAY AND ALL THE BUILDINGS ASSOCIATED WITH RACING. INCLUDING GRAND STANDS, TEAM PITS, PARKING AND VENDOR AREAS. THE ADDITIONAL BUILDINGS BEING PROPOSED ARE MIXED USE TYPES. THE USE OF HOTEL WILL BE BENEFICIAL TO THE CITY IN TERMS OF INCOME BUT ALSO WILL PROVIDE AN AREA FOR THE INFLUX OF VISITORS THAT WILL BE IN THE CITY DURING RACING EVENTS. THE HOTEL AND SHOPPING AREAS WILL ALSO BE CONVENIENT FOR THOSE WHO COME TO VISIT SPECIFICALLY FOR THE RACING, AS THE DEVELOPMENT WILL BE MOST IF NOT ALL THE AMENITIES THAT THE VISITORS WILL NEED. THIS WILL HELP ALLEVIATE SOME BURDEN PLACED ON THE INFRASTRUCTURE OF THE HOST CITY.

• HOTEL

THE HOTEL HAS THE ABILITY TO MAKE OR BREAK THE OVERALL SUCCESS OF THE PROJECT. THE HOTEL ALLOWS THE GUEST OF THE AREA TO STAY NEAR THE EVENT THAT THEY TRAVELED FOR. THE HOTEL ALSO EASES THE BURDEN PLACED ON THE HOST CITY OF THE RACEWAY.

THE HOTEL ALSO PROVIDES AN INCREASE IN ACTIVITY FOR THE AREA REGARDLESS OF WHETHER OR NOT A RACE EVENT IS TAKING PLACE.

• SHOPPING

IT IS IMPORTANT TO NOTE THAT THE MIXED USE TYPOLOGY OF THE DEVELOPMENT WILL BE A LARGE INFLUENCE ON THE OVERALL SUCCESS OF THE PROJECT. AS THE MIXED USE PORTION OF THE DEVELOPMENT WILL PRODUCE A MORE ACTIVE SPACE THROUGH TIMES WHEN THE RACE TRACK IS NOT IN OPERATION.

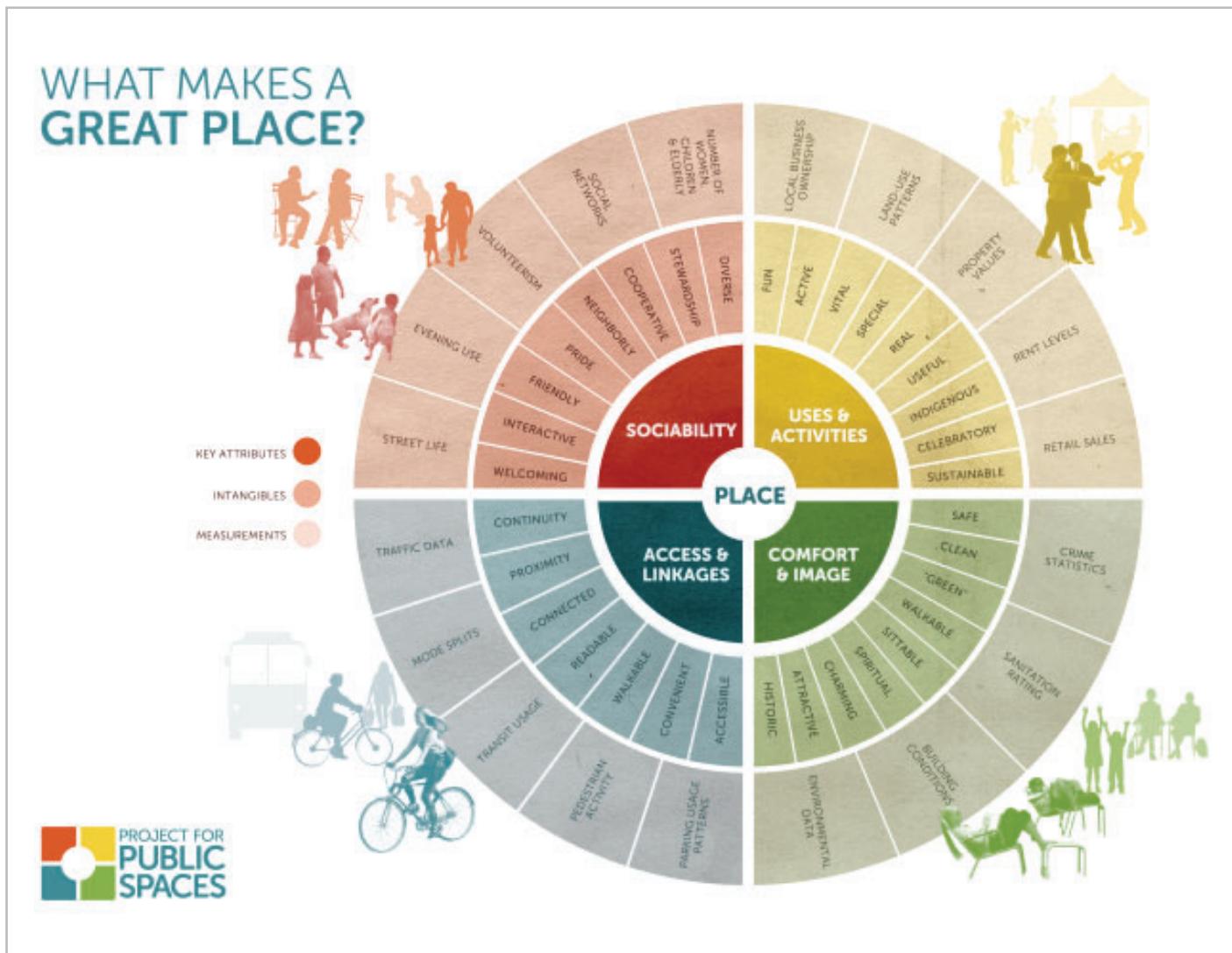
THE SHOPPING CENTER HAS THE SAME IMPACT AS THE HOTEL. MAINLY DUE TO THE FACT THAT SHOPPING DOES SOME OF THE SAME THINGS THAT THE HOTEL DOES. FOR INSTANCE, THE SHOPPING CENTER WILL INCREASE THE ACTIVITY LEVEL OF THE DEVELOPMENT REGARDLESS OF WHETHER OR NOT A RACING EVENT IS TAKING PLACE. AND AGAIN THE SHOPPING CENTER PORTION OF THE PROJECT WILL ALLOW FOR A MORE INCLUSIVE EXPERIENCE FOR THOSE WHO ARE VISITING.

MAJOR PROJECT ELEMENTS

• RACE TRACK

THE MOST IMPORTANT PORTION OF THE PROJECT WILL BE THE RACE TRACK PORTION AS THIS IS THE PORTION THAT IS MOST SIGNIFICANT IN THE DEVELOPMENT OF THE THESIS AND THE SUCCESS OF THE DESIGN.

THE SHOPPING AREA ALSO PROVIDES AN AREA FOR THE VENDORS WHO ARE A LARGE PART OF THE AUTOMOTIVE COMMUNITY AND REGULARLY CIRCULATE AUTOMOTIVE EVENTS.



WHAT MAKES A GREAT PLACE?

THIS IS AN IMPORTANT QUESTION, IDENTIFYING WHAT MAKES A GREAT PLACE IS IMPORTANT TO THE SUCCESS OF ANY DEVELOPMENT. ESPECIALLY A DUE TO THE FACT THAT THIS IS A MORE USER SPECIFIC SPACE THAN THE TYPICAL MIXED USE DEVELOPMENT.

FIGURE 08: MIXED USE GRAPHIC

TYPOLOGICAL RESEARCH

CASE STUDIES

TYPOLOGY: RACEWAY
LOCATION: NURBURG, GERMANY
SIZE: 17 +/- MILES
COMPLETION: 1925

MAJOR CHARACTERISTICS

THE NURBURGRING IS THE MOST FAMOUS RACE TRACK TO EVER BE BUILT. THE RACEWAY IS EXTREMELY UNIQUE AROUND EVERY CORNER FOR A VARIETY OF REASONS. FOR EXAMPLE, THE RACE TRACK IS BUILT IN A VERY UNIQUE MOUNTAINOUS LOCATION IN GERMANY. SURROUNDED BY VERY LARGE, HEAVILY FORESTED AREA. THE ELEVATION CHANGE ALONE IS ROUGHLY 900FT BETWEEN THE HIGHEST POINT AND THE LOWEST POINT. ALL OF THIS ALONG WITH THE FACT THAT THE RACETRACK IS BUILT UNLIKE ANY OTHER TRACK, EXTREMELY NARROW WITH VERY SMALL OR NO SAFETY RUN-OFF AREAS. MAINLY DUE TO THE TRACK HAVING BEEN BUILT IN 1925 BEFORE HEAVY REGULATIONS AND SAFETY STANDARDS WERE ADOPTED BY RACING ORGANIZATIONS. BECAUSE OF THIS THE TRACK IS SO UNIQUE THAT IT BRINGS IN TOURISTS FROM AROUND THE WORLD. IT IS NOT UNCOMMON FOR PEOPLE TO SHIP THEIR VEHICLES LONG DISTANCES JUST IN ORDER TO DRIVE THEIR PERSONAL VEHICLES ON THIS WORLD FAMOUS TRACK. INCLUDING ALL OF THE MAJOR VEHICLE COMPANIES WHO UTILIZE THE TRACK AS A TESTING GROUNDS.

PROGRAM ELEMENTS:

- RACEWAY
- ENTRY GATE & OFFICE
- TRACK SEATING
- NATURAL SCENERY
- ELEVATION CHANGE
- PIT-STOPS

CASE STUDY TAKEAWAYS:

THE NURBURGRING HAS SEVERAL TAKEAWAYS. THE MOST IMPORTANT OF WHICH IS THE INCREASED RISK FACTOR THAT THIS IN PARTICULAR TRACK EXHIBITS. THE INCREASE IN DANGER INCREASES THE DRIVE OF THE PARTICIPANTS TO CONQUER THIS ROAD COURSE.



FIGURE 09: NURBURGRING LAYOUT



FIGURE 10: NURBURGRING #2



FIGURE 11: NURBURGRING #3

TYPOLOGY: RACEWAY
LOCATION: AUSTIN, TEXAS
SIZE: 3.4 +/- MILES
COMPLETION OCTOBER 2012

MAJOR CHARACTERISTICS

CIRCUIT TO THE AMERICAS FEATURES A FEW PROMINENT CHARACTERISTICS. ONE OF WHICH IS THE LARGE STRAIGHT AWAY. THIS STRAIGHT AWAY ALLOWS FOR A SPECTACULAR AREA FOR A LARGE GRANDSTAND AND A LARGE PIT-STOP AREA. ANOTHER CHARACTERISTICS THAT MAKES THIS TRACK STAND OUT IS THE ELEVATION CHANGE FOUND THROUGHOUT THE TURNS. INCLUDING THE LARGEST ELEVATION CHANGE, THAT TAKES PLACE ON THE FIRST TURN. THIS TURN IS NOT ONLY EXCITING DUE TO THE ELEVATION CHANGE, BUT IT BECAUSE IT IS SUCH A SHARP TURN SHORTLY FOLLOWING A LONG STRAIGHT. THE RACERS WILL BE ENTERING THIS TURN AFTER HARD BRAKING FROM THE HIGH SPEEDS GAINED DURING THE LONG STRAIGHT.

THIS TRACK MUCH LIKE THE ALL OTHER TRACKS EXHIBITS LARGE RUN-OFF AREAS. THESE AREAS ARE DESIGNED TO GIVE RACERS AN AREA TO SLOW DOWN IN AN ATTEMPT TO KEEP THE RACERS FROM IMPACTING THE SAFETY WALL. AND ALTHOUGH THESE SAFETY ZONES OFTEN DECREASE THE AMOUNT OF RISK AND THEREFOR EXCITEMENT CREATED BY THE TRACK. CIRCUIT OF THE AMERICAS SOMEHOW RETAINS A CERTAIN LEVEL OF EXCITEMENT THROUGH THE DESIGN OF TURNS AND BUILDING DEVELOPMENT.

PROGRAM ELEMENTS:

- RACEWAY
- GRANDSTANDS
- PIT-STOP
- ENTRY GATE & OFFICE
- SAFETY BARRIERS
- NATURAL LAND

CASE STUDY TAKEAWAYS:

THE FIRST AND MAYBE MOST IMPORTANT TAKEAWAY OF THIS RACEWAY IS THE LARGE STRAIGHT. THIS PORTION OF THE TRACK IS WHERE INVESTORS ARE GOING TO BE MOST INTERESTED IN. MAINLY DUE TO THE LARGE GRANDSTAND SEATING SECTION THAT IS LOCATED PARALLEL TO THE PIT-STOP ON THE OPPOSITE SIDE OF THE TRACK. THIS IS IMPORTANT FOR INVESTORS BUT ALSO IMPORTANT TO THE SPECTATORS AS THIS SETUP GIVES A PROMISING VIEW OF THE PIT-STOP WITH ENDLESS EXCITEMENT.

THE SECOND BIG TAKEAWAY FROM THIS RACEWAY IS THE TRACK ITSELF. THE ROAD COURSE HAS A SERIES OF ELEVATION CHANGES AND MIXTURE OF DIFFERING LEVELS OF DIFFICULTY IN TURNS THROUGHOUT THE TRACK.

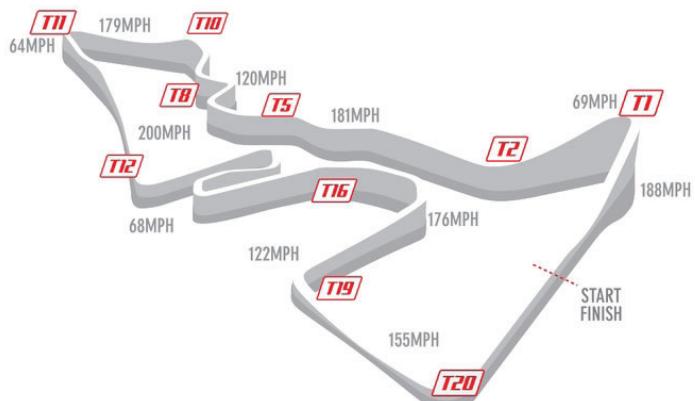


FIGURE 12: CIRCUIT OF THE AMERICAS LAYOUT

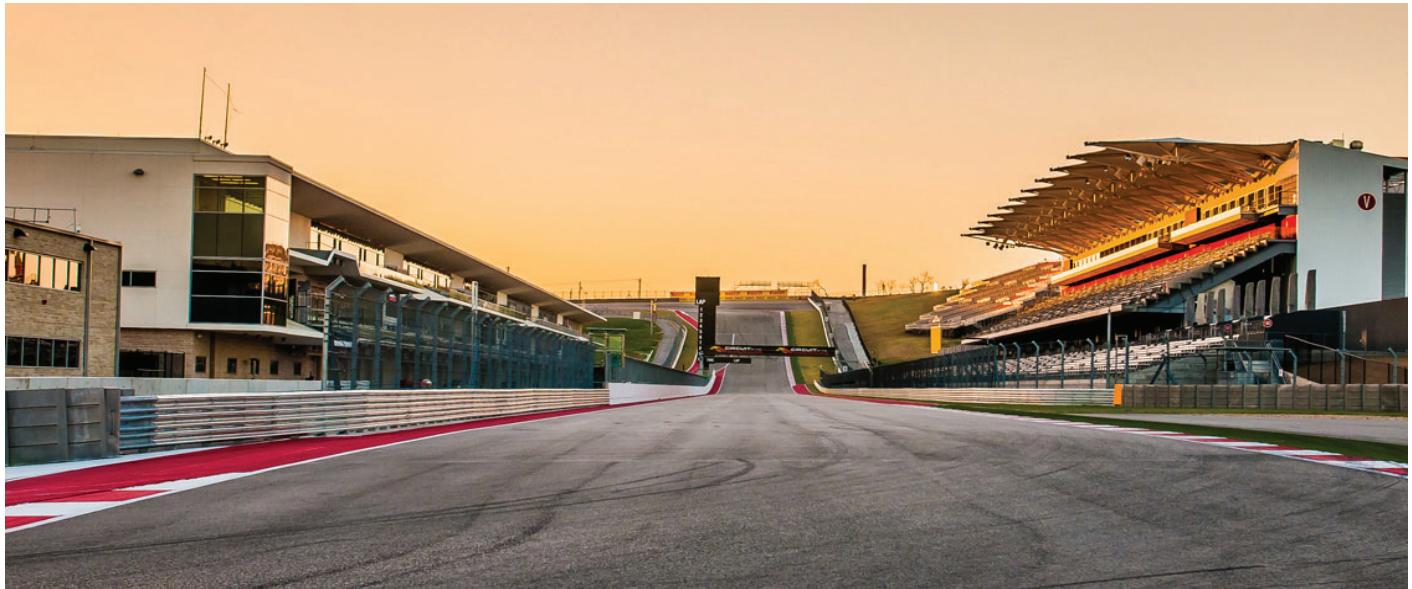


FIGURE 13: CIRCUIT OF THE AMERICAS GRANDSTAND



FIGURE 14: CIRCUIT OF THE AMERICAS AERIAL

TYPOLOGY:	RACEWAY
LOCATION:	AUSTIN, TEXAS
SIZE:	3.0 & 2.0 +/- MILES
COMPLETION:	AUGUST 2019

MAJOR CHARACTERISTICS

THE AMOUNT OF UNIQUE CHARACTERISTICS THAT THIS TRACK EXHIBITS IS UNLIKE ANY THAT NORTH AMERICA HAS SEEN. FOR EXAMPLE, THIS PARTICULAR RACEWAY EXHIBITS SEVERAL DIFFERENT TRACK TYPES. INCLUDED WITHIN THESE ARE TWO DIFFERENT TYPES OF ROAD COURSES. ONE ROAD COURSE FOR RACERS WITH PROFESSIONAL LEVEL VEHICLES. AND A ROAD COURSE THAT IS DESIGNED FOR THE WEEKEND WARRIOR TYPE RACER. THIS DOUBLE ROAD COURSE OFFERS TWO VERY UNIQUE EXPERIENCES THAT ALLOW YOU TO PICK WHAT TRACK TO RACE FOR THE TYPE OF VEHICLE YOU HAVE. BOTH TRACKS HAVE THEIR CHALLENGES. FOR INSTANCE, THE LARGER TRACK HAS LONG STRAIGHTS THAT ALLOW YOU TO PUSH YOUR VEHICLE TO ITS LIMITS. WHILE THE SMALLER TRACK EXHIBITS MORE TURNS ALLOWING YOU TO TEST YOUR VEHICLES HANDLING. TWO VERY DIFFERENT TYPES OF RACING. AND IF THIS WASN'T ENOUGH, THE RACEWAY HAS THE ELEVATION CHANGES THAT EVERY TRACK SHOULD EXHIBIT. ELEVATION CHANGES THAT TEST EVEN PROFESSIONAL DRIVING SKILLS.

THIS FACILITY ALSO INCLUDES A SKID PAD FOR THOSE WHO LIKE TO SPIN THEIR CARS AROUND AND A KART TRACK FOR THOSE WHO RACE GO-KARTS. THIS TRACK HAS ALL OF THE AMENITIES THAT YOU COULD POSSIBLY ASK FOR.

APART FROM THE TRACK ITSELF. THIS MOTORSPORT COMPLEX OFFERS MORE THAN JUST A UNIQUE RACING EXPERIENCE. THIS RACEWAY INCLUDES A RESORT AND THE POSSIBILITY TO OWN A VACATION HOME LOCATED ON THE MOTORSPORTS SITE. THIS RACEWAY IS MORE THAN JUST A RACING EXPERIENCE BUT ALSO A FAMILY EXPERIENCE. SOMEWHERE FOR THE FAMILY TO EXPERIENCE NATURE AND VISIT THE POPULAR BADLANDS EVEN WITHIN THE COMPLEX ITSELF. AS THE SITE INCLUDES WALKING PATHS AND RETENTION PONDS AND NATURAL PRAIRIE GRASSES. THESE NATURAL ELEMENTS WILL BE PRESERVED AS MUCH AS POSSIBLE.

PROGRAM ELEMENTS:

- MULTIPLE RACETRACKS
- LARGE GRANDSTANDS
- PIT-STOP
- ENTRY GATE & OFFICE
- RESORT
- RIVERS AND PONDS
- FAMILY AMENITIES

CASE STUDY TAKEAWAYS:

SOME OF THE MOST IMPORTANT TAKEAWAY WILL COME FROM THIS CASE STUDY. FOR INSTANCE, ONE OF THE MAJOR ONES IS THE WAY IN WHICH THEY INCORPORATED MULTIPLE FUNCTIONS AND FAMILY ORIENTED ACTIVITIES INTO THE OVERALL RACING COMPLEX. THIS WILL BE A LARGE DESIGN ASPECT OF MY THESIS AND THIS CASE STUDY WILL SERVE ME WELL. ANOTHER IMPORTANT TAKEAWAY IS THE IDEA OF MULTIPLE TRACK SET-UPS, THIS IS VERY UNIQUE AND WILL HELP TO SERVE MORE OF THE AUTOMOTIVE ENTHUSIASTS WHO PLAN TO UTILIZE THE RACING COMPLEX.



FIGURE 15: AMR&R AERIAL



FIGURE 16: AMR&R AERIAL LOCATION



FIGURE 17: AMR&R LAYOUT

CASE STUDY SUMMARY COMBINED ANALYSIS

UNIFYING IDEAS

THE UNIFYING IDEA WITHIN THIS THESIS PROJECT WAS LARGELY UNAFFECTED BY THE CASE STUDIES. THIS IS MAINLY DUE TO THE FACT THAT THE UNIFYING IDEA WAS BASED UPON PREVIOUS KNOWLEDGE OF HOW RACE TRACKS ARE TYPICALLY DESIGNED AND WHAT ELEMENTS ARE INCLUDED.

COMMON PROJECT ELEMENTS:

- SPECTATOR SEATING
- RACE TRACK LAYOUT/TYPE
- ENTRY GATE AND TICKET OFFICE
- SAFETY BARRIERS/RUN-OFF ZONES
- ELEVATION CHANGES

THESE THREE RACEWAYS HAVE THE ABOVE LIST OF THINGS IN COMMON. THIS IS IMPORTANT IN ORDER TO ESTABLISH WHAT A TYPICALLY RACE TRACK INCLUDES, AS FAR AS MAJOR PROJECT ELEMENTS ARE CONCERNED. ALSO FROM THIS LIST ARE SEVERAL TAKEAWAYS. FOR INSTANCE, SPECTATOR SEATING IS VERY IMPORTANT TO THE OVERALL SUCCESS OF THE PROJECT BOTH IN TERMS OF VISITOR ACTIVITY BUT ALSO IN TERMS OF PROFITABILITY. ELEVATION CHANGE IS ANOTHER VERY IMPORTANT COMMON THREAD AMONGST THESE CASE STUDIES. WHICH IS ONE OF MANY REASONS THAT I CHOSE THEM. ELEVATION CHANGE PLAYS A MAJOR ROLE IN THE SUCCESS OF A RACETRACK. MAINLY BECAUSE THE MORE ELEVATION CHANGE, THE MORE CHALLENGING THE TRACK IS IN ORDER TO OBTAIN A FAST LAP TIME OR BEAT THE COMPETITION.

UNCOMMON PROJECT ELEMENTS:

NURBURGRING:

- ELEVATION CHANGE
- ELEVATION CHANGE FOR THE NURBURGRING FALLS UNDER BOTH COMMON AND UNCOMMON AMONGST OTHER TRACKS. THIS IS BECAUSE MOST TRACKS HAVE ELEVATION CHANGE. WHAT IS UNCOMMON ABOUT THE ELEVATION CHANGE AT THE NURBURGRING IS THE SHEER AMOUNT OF IT. THE CHANGE FROM THE LOWEST POINT TO THE HIGHEST IS ROUGHLY 1,000 FEET. THIS ALONE MAKES THE TRACK UNLIKE ANY IN THE WORLD. AND IS SOMETHING THAT ALL OTHER TRACKS WISH THEY COULD ACCOMPLISH.

CIRCUIT OF THE AMERICAS:

- SEATING CAPACITY
- CIRCUIT OF THE AMERICAS HAS A IMPRESSIVE SEATING CAPACITY OF 120,000. THIS IS UNLIKE ANY OTHER STRUCTURED SEATING CAPACITY OF THE OTHER TWO CASE STUDIES. AND IS A REASON THIS CASE STUDY WAS CHOSEN. AS THE SEATING IS VITAL TO THE SUCCESS OF THE PROJECT.

AMR&R:

- RESORT
- MULTIPLE TRACK LAYOUT

THIS IS NOT ONLY UNLIKE THE TWO OTHER CASE STUDIES BUT IS LARGELY UNLIKE ALL RACEWAYS BUILT. THE IDEA OF COMBINING HOTELS/RESORTS WITHIN THESE COMPLEXES IS A FAIRLY NEW CONCEPT. ALSO THE IDEA OF COMBINING MULTIPLE RACING TYPES WITHIN ONE COMPLEX IS UNCOMMON BOTH AMONGST THESE CASE STUDIES BUT ALSO TRACKS IN GENERAL. MAINLY DUE TO THE AMOUNT OF LAND REQUIRED IN ORDER TO ACCOMPLISH THIS. THIS CASE STUDY WAS CHOSEN FOR BOTH OF THESE UNCOMMON ELEMENTS.

RESEARCH SUMMARY

PROJECT ELEMENTS

SPECIFICS

PROJECT ELEMENTS

PROJECT ELEMENTS AS OF OCT. 2018

- SITE
 - PARKING LOT
 - WALKING PATHS
 - ADA RAMPS/COMPLIANCE
 - NATURAL LAND
- GATE ENTRY & TICKET OFFICE
 - TICKET OFFICE
 - GATE ENTRY WINDOW
- RACE TRACK
 - SAFETY BARRIERS
 - PIT-STOP LANE
 - TECH. INSPECTION
- PIT-STOP
 - GARAGE SPACE
 - TOOL SPACE
- GRANDSTANDS
 - SEATING
 - ADA RAMPS/COMPLIANCE
 - FOOD & DRINK VENDOR
- HOTEL (GENERAL MASSING)
 - BALCONY | PORCH
 - WALKING PATHS
 - PARKING
 - FIRE PIT
 - LAKE DOCK

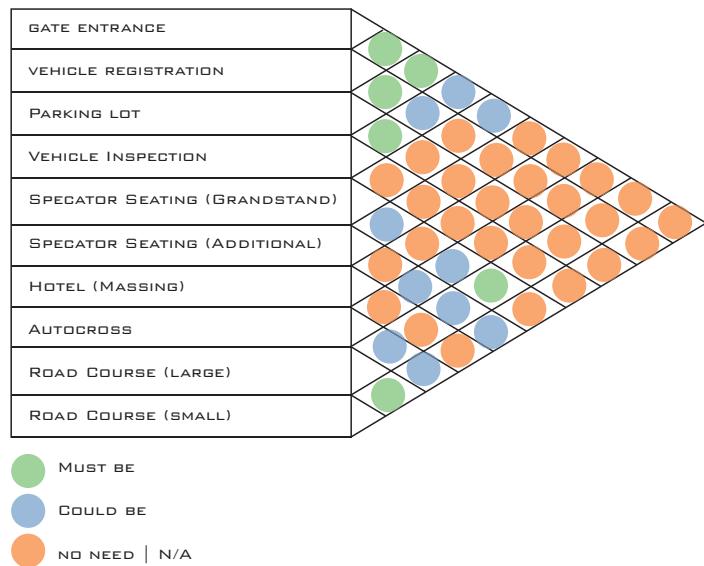


FIGURE 18: SPACIAL RELATIONS

Space Allocation Table			
	Small	Average	Large
Square Feet			
Gate Entrance	50	100	150
Vehicle Registration	500	800	1,000
Parking Lot	1,000	4,000	6,000
Vehicle Inspection	500	800	1,000
Spectator Seating (Grandstand)	10,000	18,000	25,000
Spectator seating (Adjacent seating)	2,000	3,000	5,000
Hotel (Massing)	30,000	50,000	80,000
Autocross	1,000	3,000	5,000
Unit Miles			
Road Course	2	4	12
Road Course (Small)	0.5	1	2.5

FIGURE 19: SPACIAL ALLOCATION

USER

THE USERS WILL VARY DRAMATICALLY AS THE DEVELOPMENT INCLUDES A SECTION OF MIXED USED. SO THE USERS OF THE AREA WILL VARY FROM THOSE WHO COME TO SHOP, THOSE WHO COME TO VISIT MINNESOTA WHILE STAYING IN THE HOTEL AND THOSE WHO COME SPECIFICALLY TO PARTICIPATE IN THE RACING EVENTS.

IT'S ALSO IMPORTANT TO UNDERSTAND THAT THIS RACEWAY WILL BE OPEN TO THE GENERAL PUBLIC DURING CERTAIN EVENTS. MEANING THAT THE USERS OF THE SPACE WIDE AND FAR BETWEEN.

WHICH IS IMPORTANT TO THE OVERALL SUCCESS OF THE PROJECT. ESPECIALLY BECAUSE THE MAIN PROJECT ELEMENT IS A RACE TRACK WITH A SPECIFIC USER BASE. SO THE ADDITIONAL ELEMENTS OF THE PROJECT WILL BE SIGNIFICANTLY IMPORTANT TO THE DEVELOPMENTS SUCCESS.

USER REQUIREMENTS

THE USERS OF THIS RACING COMPLEX REQUIRE SEVERAL THINGS SPECIFIC TO THIS TYPE OF DEVELOPMENT. FOR EXAMPLE, THE USERS WILL NEED A LARGE PARKING LOT IN ORDER TO ACCOMMODATE THE MULTIPLE USES AND HANDICAPPED SPOT WILL NEED TO BE PLACED THROUGHOUT THE COMPLEX. THE USER WILL ALSO NEED A SIGNIFICANT AMOUNT OF SEATING LOCATED ALONG THE TRACK. THIS IS USUALLY ACCOMPLISHED WITH A GRANDSTAND PLACED ALONGSIDE THE START OF THE RACE TRACK.

CLIENT

THE CLIENT FOR THIS TYPE OF DEVELOPMENT WOULD MORE THAN LIKELY BE A PERSONAL DEVELOPER OR A DEVELOPER ASSOCIATED WITH A RACING ORGANIZATION. OFTEN THE DEVELOPER WILL PROPOSE BUILDING A RACING FACILITY AND FROM THERE BEGIN TO WORK WITH BOTH RACING ORGANIZATIONS SUCH AS NASCAR OR FORMULA 1 IN ORDER TO ESTABLISH THE TRACK WITHIN THE RACING ORGANIZATIONS CIRCUIT. ALONG WITH ASSOCIATING THEMSELVES WITH A RACING ORGANIZATION, THE DEVELOPER WILL OFTEN SEEK OUTSIDE PERSONAL INVESTORS.

ALTHOUGH THE CLIENT OR DEVELOPER MAY BE ASSOCIATED WITH A RACING ORGANIZATION. IT IS UNCOMMON THAT THE CLIENT IS ALSO THE USER. AS THE USER IS TYPICALLY THE RACERS AND GENERAL PUBLIC.



FIGURE 20: TRACK DAY USERS

PROJECT EMPHASIS

WHAT IS THE EMPHASIS?

- MAIN PROJECT EMPHASIS

THE MOST IMPORTANT PORTION OF THIS PROJECT IS THE RACEWAY ITSELF. MAINLY DUE TO THE FACT THAT IF THE RACEWAY PORTION OF THE TRACK FAILS TO BE SUCCESSFUL, THEN THE REST OF THE UNIFYING IDEA SURROUNDING THE PROJECT WILL FAIL. IN OTHER WORDS, IF THE RACEWAY DOES NOT DRAW IN THE USERS THAT THE PROJECT IS AIMED FOR, THEN THOSE USERS WILL MOST LIKELY STILL BE USING PUBLIC STREETS AND HIGHWAYS, LEAVING LITTLE TO NO IMPACT ON THE GENERAL PUBLIC HEALTH.

- SECOND PROJECT EMPHASIS

THE MIXED USE PORTION OF THE PROJECT IS A VERY CLOSE SECOND IN IMPORTANCE OF THE PROJECT EMPHASIS. THE ONLY REASON THAT THE MIXED USE PORTION OF THE PROJECT FALLS BEHIND THE RACEWAY PORTION OF THE PROJECT IS BECAUSE THE RACEWAY IS THE MAIN UNIFYING IDEA, AND THE MIXED USE IS AN ADDITION TO HELP IN MAKING THE MAIN PROJECT EMPHASIS SUCCESSFUL.



FIGURE 21: TRACK EMPHASIS

GOALS LIST

ACADEMIC GOALS:

- EDUCATION GOAL

ONE OF THE BIGGEST GOAL IN PARTICIPATING IN THIS DESIGN THESIS. IS TO EDUCATE MYSELF ON A TOPIC THAT I HAVE BEEN ASSOCIATED WITH FOR MANY YEARS. THAT I JUST HAVEN'T ANALYZED IN THIS TYPE OF WAY.

- CHALLENGING MY SKILL SET

MY SECOND ACADEMIC GOAL IS TO PUSH MY BOUNDARIES AND MY SKILL SET. TO TRY AND ACCOMPLISH SOMETHING THAT I'M NOT ENTIRELY SURE THAT I CAN DO. AND SO THIS PROJECT, AT THIS SCALE IS DEFINITELY PUSHING THE LIMITS OF WHAT I THINK THAT I AM CAPABLE OF.

- ACADEMIC PERSPECTIVE

MY LAST BUT CERTAINLY NOT LEAST IMPORTANT GOAL ACADEMICALLY IS TO ALTER IN SOME WAY MY ACADEMIC PERSPECTIVE. I THINK THIS THESIS WILL OPEN UP NEW VIEWS AND TECHNIQUES THAT I OTHERWISE WOULD NOT HAVE BEEN INTRODUCED TO, THERE BY ALTERING MY PERSPECTIVE AND APPROACH.

PERSONAL GOALS:

- PERSONAL PERSPECTIVE

PROBABLY THE MOST IMPORTANT GOAL OF MINE, PERSONALLY. IS TO ALTER MY PERSPECTIVE OF THE INDUSTRY. THERE ARE A LOT OF QUESTIONS THAT I TEND TO HAVE WHEN VISITING RACE TRACKS OR WHEN I SEE THEM. SO IT WILL BE INTERESTING TO MORE FULLY UNDERSTAND WHAT IT TAKE TO NOT ONLY DESIGN SOMETHING LIKE THIS.

- COMMUNITY IMAGE

I WOULD VERY MUCH LIKE TO ALTER THE PERSPECTIVE SOME PEOPLE FROM THE COMMUNITY HAVE OF THE AUTOMOTIVE COMMUNITY. I THINK THAT WE GET SORT OF A BAD REPUTATION SOMETIMES BECAUSE A SELECT FEW PARTICIPATE IN BEHAVIORS THAT ARE DANGERS AND CAUSE INJURY OR DEATH. AND ALTHOUGH I DON'T THINK THIS PROJECT WILL DO MUCH TOWARDS THIS GOAL. IT CERTAINLY IS SOMETHING THAT I THINK OUR COMMUNITY SHOULD BE WORKING TOWARDS.

- GREED

I'LL BE HONEST, I REALLY WANT A RACE TRACK NEAR WHERE I LIVE, SOMEWHERE CLOSER THAN 4 HOURS AWAY. AND FROM THE SEVERAL FAILED ATTEMPTS BY OTHERS, IT SEEMS THIS IS PROBABLY GOING TO BE THE CLOSEST I GET TO HAVING SOMETHING THIS COOL NEAR THE TWIN CITIES.

CONTINUED GOALS LIST

PROFESSIONAL GOALS:

- PROFESSIONAL ABILITY

I THINK THIS THESIS WILL HELP TO ESTABLISH MY ABILITIES AND MY GOAL IS TO USE THIS PROJECT IN ORDER TO SHOW MY CAPABILITIES. WHETHER IT RENDERING, DRAFTING, RESEARCH OR THE ABILITY TO STEP OUTSIDE OF MY COMFORT ZONE. AND INTO A PROJECT THAT IS FAR BEYOND WHAT I HAVE DONE BEFORE.

- BE INTENTIONAL

I'D LIKE TO USE THIS THESIS PROJECT TO SHOW FUTURE EMPLOYERS THAT I HAVE THE ABILITY TO BE INTENTIONAL WITH MY DECISIONS. THAT I CAN BE INTENTIONAL WITH MY THOUGHT PROCESS AND HOW I CAN TAKE THAT INTENTION AND MANIFEST IT INTO SOMETHING THAT HAS A PURPOSE.



FIGURE 22: RACING HISTORY

PLAN FOR PROCEEDING

DIRECTION & TIMELINE

DEFINITION OF RESEARCH DIRECTION

RESEARCH QUESTIONS & AREAS TO ADDRESS

THEORETICAL PREMISE / UNIFYING IDEA:

- IDENTIFY STREET RACING CAUSES
- IDENTIFY SPECIFIC USER NEEDS/WANTS
- ESTABLISH A SURVEY/INTERVIEW PARTICIPANT BASE.

MEANS OF ANALYSIS:

- ORGANIZED GROUP OF AUTOMOTIVE ENTHUSIASTS WILLING TO PARTICIPATE IN SURVEYS AND INTERVIEWS.

EXPECTED RESULT:

- ANALYSIS OF CAUSATION ASSOCIATED WITH THE UNIFYING IDEA. AND STRONGER UNDERSTANDING OF UNIFYING IDEA

PROJECT TYPOLOGY:

- IDENTIFY CLIENT & COMMUNITY GOALS AND CONCERNs.

MEANS OF ANALYSIS:

- TYPOLOGICAL RESEARCH, COMMUNITY OPINIONS

EXPECTED RESULT:

- INFORMATION PROVIDED BY THE COMMUNITY WILL ESTABLISH COMMUNITY GOALS AND CONCERNs. THE INFORMATION PROVIDED WILL ESTABLISH DESIGN ELEMENTS.

HISTORICAL CONTEXT:

- IDENTIFY HISTORICAL RACING FACILITIES
- HOW DOES COMMUNITY SUCCESS EFFECT FACILITY SUCCESS?
- IDENTIFY IF ANY HISTORICAL RACING FACILITIES ARE IN OPERATION.

MEANS OF ANALYSIS:

- ORGANIZED GROUP OF AUTOMOTIVE ENTHUSIASTS WILLING TO PARTICIPATE-IN SURVEYS AND INTERVIEWS.

EXPECTED RESULT:

- ANALYSIS OF CAUSATION ASSOCIATED WITH THE UNIFYING IDEA. AND STRONGER UNDERSTANDING OF UNIFYING IDEA

DEFINITION OF RESEARCH DIRECTION

RESEARCH QUESTIONS & AREAS TO ADDRESS

SITE ANALYSIS

- IDENTIFY SITE CHARACTERISTICS.
- IDENTIFY POSSIBLE SUSTAINABLE DESIGN OPTIONS.

MEANS OF ANALYSIS:

- SITE VISITS, CLIMATE DATA.

EXPECTED RESULT:

- OPPORTUNITIES IN WHICH SUSTAINABLE DESIGN WILL BECOME CLEAR.
- IDENTIFICATION OF SITE CHARACTERISTICS (BUILDABLE AREA, ELEVATION, ETC.)

PROGRAM REQUIREMENTS:

- WHAT SPACIAL REQUIREMENT ARE NEEDED BY THE USER AND CLIENT?
- WHAT SAFETY REQUIREMENTS ARE NEEDED?

MEANS OF ANALYSIS:

- TYPOLOGICAL RESEARCH CASE STUDIES, ADDITIONAL SAFETY STUDIES.
- COMMUNITY INVOLVEMENT (INTERVIEWS, SURVEYS).

EXPECTED RESULT:

- ALTERATION OF SPATIAL NEEDS / WANTS.
- LOGICAL SPATIAL ORGANIZATION,
- SAFETY REQUIREMENTS MET OR ALTERED.

DEFINITION OF RESEARCH DIRECTION

RESEARCH QUESTIONS & AREAS TO ADDRESS

DESIGN METHODOLOGY

QUANTITATIVE ANALYSIS:

THE FIRST STEP IN DESIGNING THIS THESIS PROJECT IS TO ESTABLISH A QUANTITATIVE ANALYSIS OF THE NUMERICAL DATA GATHERED THROUGH COMMUNITY INVOLVEMENT (INTERVIEWS, SURVEYS). THIS DATA WILL BE INVESTIGATED AND ORGANIZED BY PRIORITY OF DESIGN ELEMENTS AND FOCUS.

QUALITATIVE ANALYSIS:

THIS PHASE OF THE DESIGN METHODOLOGY WILL INVOLVE INTERPRETATION OF THE INFORMATION GATHERED THROUGH BOTH COMMUNITY INVOLVEMENT AND THROUGH THE INFORMATION GATHERED BY CASE STUDIES.

ANALYSIS BY EXPLORATION:

THE EXPLORATION PHASE OF THE DESIGN MAYBE THE MOST IMPORTANT PORTION. THIS PORTION IS WHERE THE QUANTITATIVE AND QUALITATIVE PORTIONS OF THE PROJECT WILL COME TOGETHER IN ORDER TO INFORM DESIGN ELEMENTS. THIS WILL BE COMMUNICATED THROUGH MULTIPLE ITERATIONS UNTIL A VIABLE DESIGN ACCOMMODATE THE PREVIOUS DATA AND ANALYSIS.

DOCUMENTATION OF DESIGN PROCESS

TOOLS UTILIZED DURING DESIGN PROCESS:

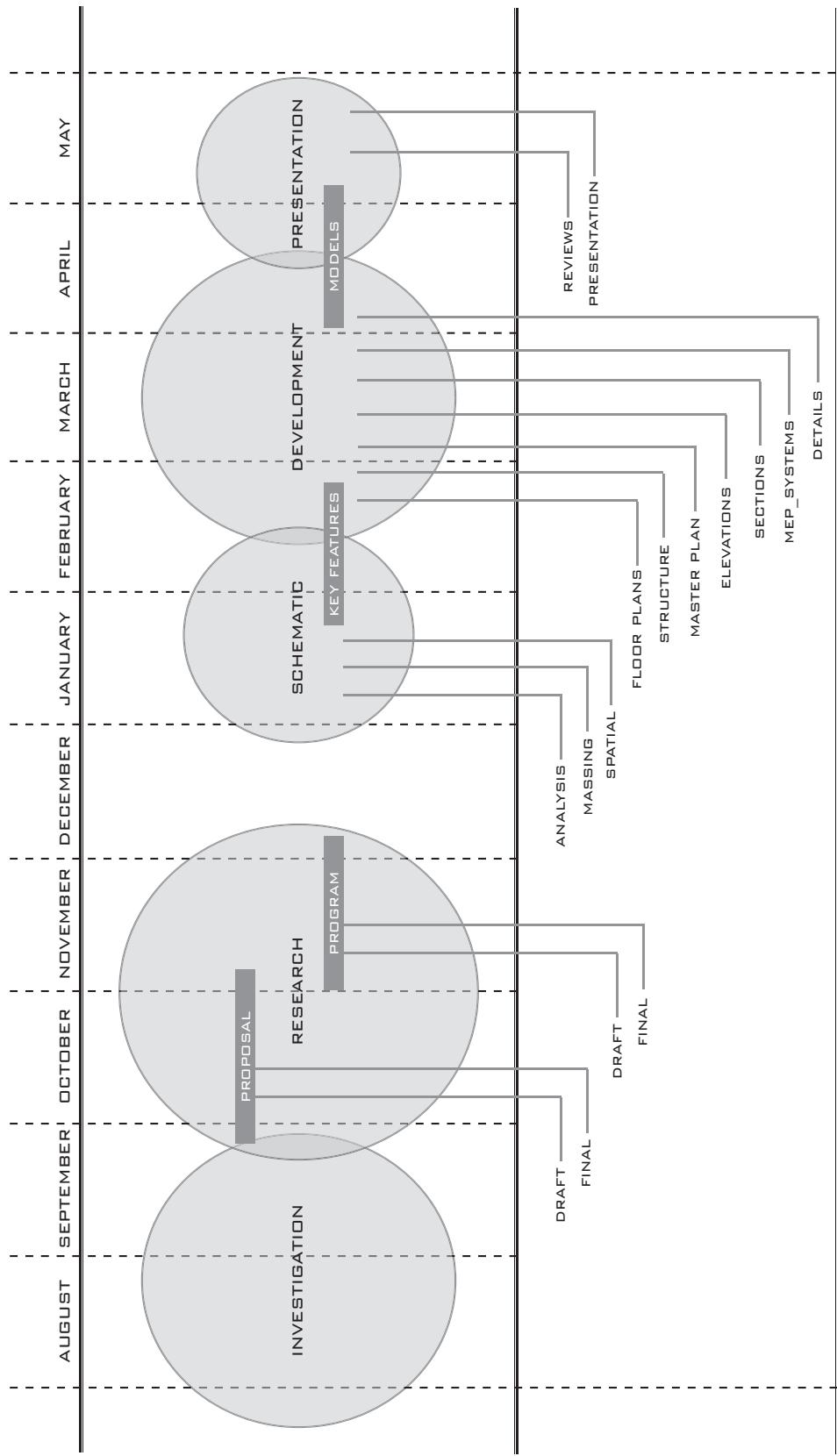
- HAND SKETCHING
- MODELING
- AUTODESK (REVIT, CAD)
- SKETCHUP
- ADOBE ILLUSTRATOR
- ADOBE INDESIGN
- ADOBE PHOTOSHOP

PRESERVATION OF DESIGN PROCESS:

- SCANNING OF ALL DESIGN DOCUMENTS
- NOTES CREATED AND SAVED (REFERENCED DURING DESIGN)
- BACKUP FILES SAVED IN SEPARATE LOCATION

PUBLICATION OF DESIGN:

- FORMAL BOOK (PROFESSIONALLY PRINTED)
- PRESENTATION BOARDS (FINAL REVIEW)
- NDSU INSTITUTIONAL REPOSITORY



ST. MICHAEL MOTORWAY & RESORT THESIS PROGRAM

RESEARCH RESULTS

RESULTS & REVIEW

INTRODUCTION

PROFESSIONAL MOTORSPORTS ARE ON A DECLINE IN THE UNITED STATES. THE PROFESSIONAL RACING INDUSTRY IS LOSING VIEWERS EVERY YEAR AND THE GOVERNMENT IS ENFORCING REGULATION AFTER REGULATION ON THE INDUSTRY. MAKING IT MORE AND MORE DIFFICULT TO SUSTAIN THE CURRENT AUDIENCE. AND WHILE THE PROFESSIONAL RACING INDUSTRY IS ON THE DECLINE, LOCAL AND REGIONAL MOTORSPORTS ARE BUSIER THAN EVER BEFORE. THE NEED FOR MORE LOCAL SPEEDWAYS IS INCREASING YEAR OVER YEAR. ON TOP OF AN INCREASING NEED FOR MORE SPEEDWAYS, IF THE NEED GOES UNMET. AN INCREASING ILLEGAL RACING IS MORE THAN LIKELY TO SPIKE IN THE UPCOMING YEARS. PROVIDING AN OUTLET IS AT THE LEVEL NEEDED OF THAT IN THE EARLY 1950'S POST WORLD WAR II. UNFORTUNATELY SPEEDWAYS ARE MORE DIFFICULT TO GET APPROVED THAN THEY WERE BEFORE. THIS IS MAINLY BECAUSE THE SPEEDWAYS AS MENTIONED IN THE PREVIOUS PORTION OF THIS DOCUMENT, NEED CITY APPROVAL. MUCH THE SAME WAY THAT NEW FOOTBALL STADIUM NEED CITY APPROVAL. BECAUSE OF THIS NEED FOR CITY APPROVAL, I WILL BE ATTEMPTING TO MIX TYPOLOGIES AND APPLY TECHNIQUES AND STRATEGIES TOWARDS A NEW SPEEDWAY THAT WILL INCREASE THE LIKELIHOOD OF CITY AND POPULATION APPROVAL.

THROUGH THE CASE STUDIES, SURVEYS AND LITERATURE REVIEW I HAVE GATHERED INFORMATION THAT WILL BE VALUABLE IN DESIGN CHOICES. FOR INSTANCE, THE THREE RESEARCH METHODS HAVE PROVIDED ME WITH A GREATER UNDERSTANDING OF THE HISTORICAL CONTEXT FOR WHICH THE PROJECT LIVES. IT HAS PROVIDED ME WITH A SOCIAL AND ECONOMIC CONTEXT THAT WILL ULTIMATELY HELP IN DETERMINING PERFORMANCE CRITERIA AND OVERALL SUCCESS.

MOVING FORWARD, I WILL CONTINUE TO CONDUCT SURVEYS IN ORDER TO ESTABLISH A COMMUNITY INVOLVEMENT. COMMUNITY INVOLVEMENT WILL PROVIDED ME AN OPPORTUNITY TO DIRECTLY INVEST THE COMMUNITY INTO THE PROJECT AND WILL PROVIDE ME AN OPPORTUNITY TO INCLUDE INTO THE PROJECT VARIOUS ELEMENTS. OUTSIDE OF THE VARIOUS PROJECT ELEMENTS THAT I WILL BE INCLUDING THROUGH THE ITERATIVE DESIGN PROCESS. DIRECT COMMUNITY INVOLVEMENT SHOULD HELP TO ME IN ESTABLISHING THE OVERALL DESIGN DIRECTION AND PROJECT SUCCESS WELL BEFORE THE PROJECT END.

THE FAST AND THE FATAL: STREET RACING FATAL CRASHES IN THE UNITED STATES

CONTENT

AUTOMOTIVE FATALITIES ACCOUNT FOR APPROXIMATELY 149,568 DEATHS BETWEEN THE YEARS OF 1998 AND 2001. OF THESE 149,568 CRASHES, 315 OF THEM INVOLVED SOME FORM OF STREET RACING. WITHIN THESE 315 CRASHES, 399 FATALITIES HAVE OCCURRED. ONE OF THE KEY TAKEAWAYS, IS THAT DEATHS RELATED TO STREET RACING TYPICALLY INVOLVE MORE THAN THOSE WHO WERE STREET RACING. THIS INCLUDES, PASSENGERS OF THE VEHICLES INVOLVED.

UNFORTUNATELY ALSO INCLUDES A PORTION OF GENERAL PUBLIC. FROM THOSE IN OTHER CARS ON A HIGHWAY TO THOSE WHO HAVE GATHERED TO WATCH ON AN URBAN ROAD JUST OUT OF SIGHT. THE POINT BEING THAT, FATALITIES AMONG CRASHES INVOLVING STREET RACING OFTEN CAUSE MORE DEATHS THAN NUMBER OF THOSE WHO ARE DIRECTLY INVOLVED.

IT IS ALSO IMPORTANT TO NOTE THAT STREET RACES ARE MORE LIKELY TO OCCUR ON "URBAN ROADWAYS" AND WERE NEARLY SIX TIMES MORE LIKELY TO OCCUR AT TRAVEL SPEEDS IN EXCESS OF 65 MPH. ILLEGAL RACING OFTEN OCCURS ON URBAN ROADS JUST OUT SIGHT OF THE PUBLIC BECAUSE FOR MOST CITIES AND TOWNS. THESE LOCATIONS ARE LESS LIKELY TO HAVE RESIDENTIAL HOMES AND MORE LIKELY TO POPULATED BY COMMERCIAL BUSINESSES. THIS IS OFTEN A SOUGHT AFTER LOCATION BECAUSE IT MEANS COPS ARE LESS LIKELY TO BE CALLED ON OR DURING THESE RACES. THIS LIMITS THE POTENTIAL OF BEING CAUGHT.

AND ALTHOUGH THE RACING ON PUBLIC ROADS IS ILLEGAL. OFTEN THE FINES AND CONSEQUENCES OF THESE RACES ARE RARELY UPHELD. THIS IS TYPICALLY BECAUSE MOST POLICE OFFICERS ARRIVE ON SITE AFTER THE RACE IS OVER AND THEREFORE CANNOT FULLY ENFORCE THE LAWS.

CONCLUSION

THE MAJOR TAKE AWAY FROM THIS JOURNAL ARTICLE IS TO ACKNOWLEDGE WHERE AND WHEN ILLEGAL STREET RACING OCCURS. I THINK THIS PROVIDES A UNIQUE INSIGHT INTO THE WORLD OF ILLEGAL RACING. IT ALSO PROVIDES AND UNDERSTANDING OF THE SITE LOCATION. FOR EXAMPLE, THE SITE MUST BE LOCATED WITHIN A RELATIVELY CLOSE DISTANCE TO WHERE ILLEGAL RACING OCCURS. THIS SHOULD INCREASE THE LIKELIHOOD OF ALTERATION TO THE RACING HABITS. THIS ARTICLE IS ALSO AN INDICATION OF WHERE RACING CULTURE IS MOST POTENT AND SIMULTANEOUSLY UNDER-SERVED.

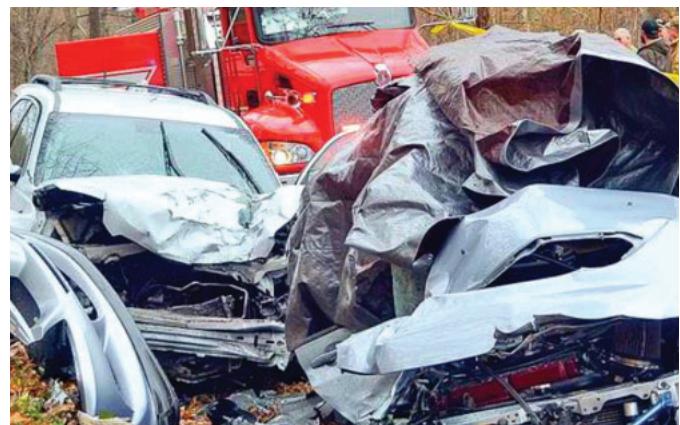


FIGURE 23: ILLEGAL RACE CRASH

RACING, REGION, AND THE ENVIRONMENT: A HISTORY OF AMERICAN MOTORSPORTS

INTRO

IN ORDER TO UNDERSTANDING THE HISTORY OF AMERICAN AUTOMOTIVE INDUSTRY AND THE AMERICAN NEED FOR SPEED. WE NEED TO UNDERSTAND THE HISTORY THAT LED UP TO THIS POINT AND TRY TO MAKE CONNECTIONS BETWEEN WHAT HAPPENED AND WHAT IS HAPPENING.

CONTENT PHASE I

PLACES, SPACES, AND RACES: THE BEGINNING, (1895-1918)

CHAPTER TWO STARTS OUT WITH MAKING AN ASSUMPTION. THAT IS, THE ASSUMPTION THAT BEFORE AUTOMOBILE HAD EVEN EXISTED. THERE MORE THAN LIKELY WERE UNORGANIZED AND POSSIBLY ILLEGAL SPEED CHALLENGES AMONGST HORSE DRAWN CARRIAGES. THIS MIGHT SEEM ODD TO SOME, BUT IT REALLY SHOULDN'T. HORSE RACING IS A POPULAR SPORT AMONGST CERTAIN POPULATIONS AND COUNTRIES. SO THE IDEA THAT THE RACING HORSE ON THE STREET WITH CARRIAGES IS NOT BEYOND COMPREHENSION. AND I THINK I SLIGHTLY TOUCHES ON AN IMPORTANT TOPIC, WHICH IS THAT THE AUTOMOTIVE RACING, ALTHOUGH A SIGNIFICANT PORTION OF WHICH HAS TO DO WITH THE CAR. SOME OF WHICH DOESN'T, THAT THE RACE IS MORE CHALLENGE BETWEEN TWO OR MORE PEOPLE IS THE DRIVING FACTOR FOR SOME.



FIGURE 24: VANDERBILT CUP #53

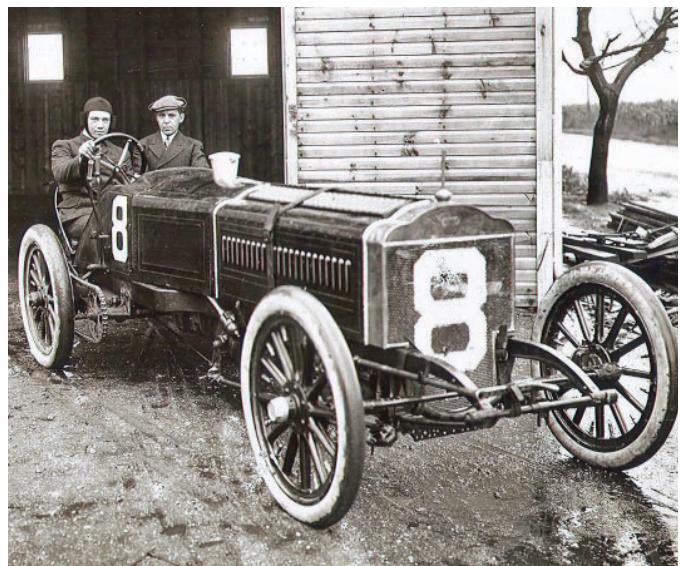


FIGURE 25: VANDERBILT CUP #8

LITERATURE REVIEW

CHAPTER TWO THEN DIVES INTO THE BEGINNING OF THE AUTOMOTIVE RACING HISTORY. IN WHICH THE JOURNAL DISCUSSES THE FIRST ORGANIZED AUTO RACE IN THE WORLD. HELD IN FRANCE IN 1894 AND A LITTLE MORE THAN A YEAR LATER, THE CHICAGO TIMES-HERALD SPONSORED THE FIRST ORGANIZED AMERICAN AUTOMOBILE RACE. THIS RACE SPARKED A SHIFT IN THE AMERICAN POPULATION. IN THE MATTER OF A FEW YEARS THE AMERICAN POPULATION WOULD WITNESS AND EXPLOSION AUTOMOTIVE RACING. MOST POPULAR WITHIN MID-SIZED CITIES LIKE CHICAGO, NEW YORK AND BOSTON. THESE CITIES SAW A SIGNIFICANT AMOUNT OF AUTOMOTIVE GROWTH. AND WITHIN A FEW YEARS, THAT GROWTH OUT GREW THOSE CITIES AND AUTOMOTIVE RACING BRANCHED OUT TO SMALLER CITIES AND RURAL POPULATIONS. OFTEN IN THE FORM OF REGIONAL TRACKS AND THE PUBLIC TAKING TO THE STREETS IN ORDER TO FULFILL THEIR NEED FOR SPEED.

CONCLUSION PHASE I

AN UNDERLYING IDEA AMONGST THIS JOURNAL BECOMES APPARENT FROM THE VERY BEGINNING. WHICH SHOULDN'T BE MUCH OF A SURPRISE, BUT IT'S THAT RACING CULTURE HAS LONG BEEN A PART OF AMERICAN CULTURE. AND THAT WHETHER WE ENDORSE THE CULTURE AND TRY TO HELP GROW THE ENVIRONMENT IN A HEALTHY FASHION OR IF WE JUST LEAVE IT TO FOSTER ON ITS OWN. RACING IS GOING TO HAPPEN AND IT WILL CONTINUE TO GROW REGARDLESS THE AMOUNT OF HELP. THIS PROVIDES AN INSIGHT INTO THE CULTURE OF AUTOMOTIVE RACING AND IT SHOWS THE EXTENT TO WHICH PEOPLE WILL GO IN ORDER TO CHALLENGE THEMSELVES AND EACH OTHER. I THINK IT ALSO PROVIDES AN EXAMPLE FOR WHY THERE IS A NEED FOR THE PROPOSED PROJECT.



FIGURE 26: VANDERBILT CUP #5

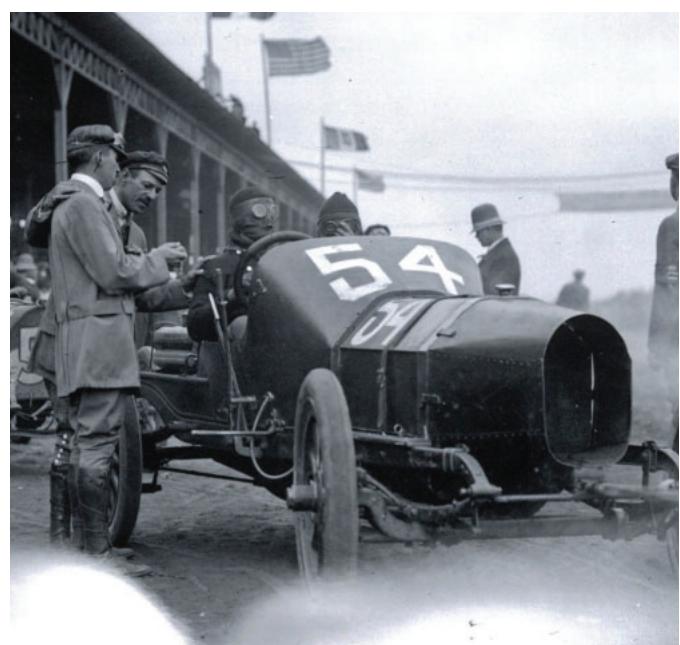


FIGURE 27: VANDERBILT CUP #54

CONTENT PHASE II

MINOR LEAGUES, FUEL, AND THE GREAT DEPRESSION, (1919-1944)

SHORTLY AFTER WORLD WAR I, THE UNITED STATES FELL ON HARD TIMES. THE TIME HAS BEEN DUBBED THE GREAT DEPRESSION. DURING THIS TIME THE UNITED STATES IN ALL AREAS AND ALL PROFESSIONAL OF ALL BUSINESSES EXPERIENCED ROUGH TIMES. ESPECIALLY BUSINESSES THAT WERE NOT NECESSITIES THAT REQUIRED AN ECONOMIC STATUS ALLOWING FRIVOLOUS SPENDING. THIS IS OBVIOUS, BUT WHAT MAY BE LESS OBVIOUS IS THAT RACING NEVER LEFT DIED OUT DURING THESE TIMES. AS THE JOURNAL POINTS OUT, THE RACING INDUSTRY FELL ON HARD TIMES MUCH LIKE THE REST OF THE COUNTRY. BUT IT NEVER DIED OUT COMPLETELY, AND THIS IS IMPORTANT BECAUSE NOT ONLY DOES THIS ILLUSTRATE A DEEP SEDED DESIRE FOR A RACING INDUSTRY. BUT IT IS INTERESTING THE WAY IN WHICH THE RACING INDUSTRY COPED WITH MARKET THAT HAD LESS MONEY TO SPEND ON PAYING PROFESSIONAL DRIVERS AND COMPANIES WHO FELT THEIR MONEY WAS BETTER SPEND ELSEWHERE THAN ON SPONSORING RACERS.

SO AS THE JOURNAL MAKES NOTE OF IN THIS CHAPTER IS THAT THE RACING INDUSTRY ADAPTED. PROFESSIONAL RACE TRACKS AROUND THE WORLD AND ESPECIALLY IN THE UNITED STATES, BEGAN TO OPEN THEIR DOORS TO THE PUBLIC. THEY REALIZED THAT WHILE MOST DID NOT HAVE THE MONEY TO PAY A SIGNIFICANTLY HIGHER PRICES TO WATCH PROFESSIONALS RACE. THEY WOULD HOWEVER PAY A SMALLER PRICE AND IN ORDER FOR THEMSELVES TO RACE. AND SO BEGAN AN AREA OF WHAT IS NOW REFERRED TO AS "TRACK DAYS".

WHILE THIS HELPED ELEVATE THE PRESSURE PLACED ON PROFESSIONAL TRACK OWNERS DURING THE ECONOMIC DEPRESSION. LITTLE DID THEY KNOW THAT THIS ADAPTION TO THE ECONOMY WOULD SPAWN A NEW TYPE OF RACING, AND FOREVER BE A PART OF RACING CULTURE. A CULTURE THAT WOULD CONTINUE TO GROW FOR YEARS AFTEWARDS. COMPANIES WHO PRODUCED ENGINE PARTS, SUSPENSION PARTS, BRAKE PARTS AND EVERYTHING IN-BETWEEN BEGAN TO SPRING UP ALL ACROSS AMERICA.



FIGURE 28: MILLER-FORD 1935

CONCLUSION PHASE II

THERE ARE SORT OF THREE IMPORTANT TAKE-AWAYS FROM THIS SECTION OF THE JOURNAL. THE FIRST BEING, A REINFORCEMENT OF THE FIRST SECTION MENTIONED PREVIOUSLY. AND THAT IS TO SHOW AN APPETITE FOR RACING OF THE AMERICAN PEOPLE EVEN WHEN FACED WITH SUCH UNFAVORABLE CIRCUMSTANCES. SECONDLY, THE JOURNAL TOUCHES ON THE BEGINNING OF TRACK DAYS AND THIS IS IMPORTANT TO NOTE. MAINLY BECAUSE WITHOUT THIS EVER HAVE HAPPENING, THIS TESIS WOULD MORE THAN LIKELY NOT EXIST AND I DON'T THINK THE RACING INDUSTRY WOULD BE WHAT IT IS TODAY. AND TODAY, I THINK SAFE TO SAY THAT THE MARKET FOR WHAT WE WILL CALL "PERSONAL RACING" OR TRACK DAY TYPE RACING IS FAR LARGER THAN THE MARKET FOR PROFESSIONAL RACING. IN FACT, THE RACING MARKET FOR PROFESSIONAL RACING IS SHRINKING, WHILE THE REGIONAL OR LOCAL TRACKS ARE ON A CONTINUED GROWTH PREDICTION. AND LASTLY, THIS SECTION OF THE JOURNAL TOUCHES ON THE TOPIC OF GROWTH AMONGST THE AUTOMOTIVE ENVIRONMENT. WHICH I THINK IS IMPORTANT BECAUSE IN A WAY IT SORT OF FRAMES THE ENVIRONMENT IN WHICH AUTOMOTIVE ENTHUSIASTS THRIVE. AND IS KEY TO UNDERSTAND THE PROJECT AND THE BACKGROUND OF THE PROJECT AS A WHOLE.



FIGURE 29: GWENDA STEWART 1935



FIGURE 30: 1920 HUDSON SUPER SIX

CONTENT PHASE III

IF YOU BUILD IT, THEY WILL RACE (1945-1955)

IN 1942, THE WORLD WAR II HAD AN UNEXPECTED EFFECT ON THE AMERICAN PEOPLE, AN AFFECT UNSEEN IN THE PREVIOUS WORLD WAR. IN EARLY 1942, THE OFFICE OF DEFENSE TRANSPORTATION BANNED AUTO RACING. THE REASON, TO CONSERVE RUBBER, FUEL AND METAL. THE RAW MATERIAL OF TECHNOLOGY THAT HELP FUEL WAR. THIS LEFT MANY RACE STARVED AND EXPLORING OTHER HOBBIES AND ACTIVITIES TO FILL TIME. THE BAN ON AUTOMOTIVE RACING WASN'T LIFTED IMMEDIATELY AFTER WORLD WAR II AND THIS LEFT A LOT ON THE TABLE FOR MANY AMERICANS. MAINLY BECAUSE AMERICA SAW AN ECONOMIC POST-WAR BOOM IN THE EARLY 1950'S WHICH MIRRORED THAT OF THE 1920'S. THIS MEANT THAT MOST AMERICANS HAD SOME CASH BURNING A HOLE IN THEIR POCKET. AND MANY WHERE WANTING TO SPEND IN ON THEIR CARS AND RACING.

ONCE THE AUTOMOTIVE RACING BAN WAS LIFTED. "MORE AMERICANS BOUGHT RACE CARS AND SPENT THEIR LEISURE DOLLARS ON ATTENDING RACES. ACCORDING TO A 1952 WALL STREET JOURNAL ARTICLE, FOR THE 1951 SEASON, 35 MILLION FANS, HALF OF THEM FEMALE, PAID A RECORD 65 MILLION DOLLARS TO ATTEND RACES." THE AUTOMOTIVE SCENE REACHED ACROSS DEMOGRAPHIC LINES AND THE WORLD OF CARS SAW LARGER AND LARGER NUMBERS OF WOMEN AROUND THE RACE TRACK.

AFTER THE POST-WAR AUTOMOTIVE BOOM, CERTAIN TRENDS BECAME APPARENT IN THE AUTOMOTIVE WORLD THAT WOULD END UP AFFECTING THE INDUSTRIES GROWTH. IT TURNS OUT THAT IF YOU BREAK DOWN THE DEMOGRAPHICS OF RACING MARKETS. TEENAGERS MADE UP THE MAJORITY OF THOSE INVOLVED IN STOCK CAR RACES AND ADULT SPECTATORS FAVERED CHAMPIONSHIP RACING. BECAUSE OF THE WAY THE DEMOGRAPHICS BREAK DOWN FOR THE RACING MARKET. LOCAL TRACKS AND SMALLER FACILITIES EXPERIENCED A SMALLER GROWTH POST-WAR UNLIKE THE GROWTH EXPERIENCED IN THE PROFESSIONAL RACING CIRCUITS. MAINLY BECAUSE TEENAGERS HAVE LESS MONEY TO SPEND FRIVOLOUSLY ON RACING. THIS REALLY ALTERED THE RACING ENVIRONMENT AT LOCAL TRACKS. IT MADE RACING MORE ENGAGING AND LESS EXPENSIVE. TRACKS BEGAN TO SPRING UP EVERYWHERE ON THE LOCAL LEVEL. THEY WERE EASY AND CHEAP TO BUILD. ESPECIALLY WHEN THEY WERE STILL DIRT TRACKS AND ALL THAT WAS NEEDED WAS SOME LAND AND BULLDOZER.



FIGURE 31: RACING BEGINS 1945

CONCLUSION PHASE III

THERE A COUPLE OF IDEAS AND THINGS THAT ONE COULD TAKE AWAY FROM THIS JOURNAL CHAPTER, BUT I THINK THE MOST IMPORTANT OF THOSE IS THE UNDERSTANDING OF THE DEMOGRAPHICS AND HOW IT BREAKS DOWN IN ASSOCIATION WITH THE LOCAL AND REGIONAL TRACKS. IT GIVES A BETTER UNDERSTANDING OF WHY THESE TRACKS ARE SO POPULAR AND WHY SOME MANY PEOPLE WOULD LIKE TO SEE MORE OF THESE BUILT. I ALSO THINK THAT IT IS IMPORTANT TO NOTE THAT THE AUTOMOTIVE SCENE, ALTHOUGH PRIMARILY MALE DOMINANT DOES NOT SOLELY CONSISTS OF MALES. ATTENDANCE OF ANY AUTOMOTIVE EVENT, WHETHER IT BE CAR SHOWS OR RACES MAKES IT CLEAR THAT THE DEMOGRAPHICS ARE MORE SPREAD OUT THAN YOU MIGHT THINK. CHILDREN AND WOMEN ARE LARGE PART OF THE AUTOMOTIVE WORLD.

AND SECONDLY I THINK FROM THIS CHAPTER IN THE JOURNAL. ALTHOUGH REFERRING TO THE MID 1940'S AND EARLY 1950'S. I THINK THIS CHAPTER PROVIDES AN INSIGHT TO AUTOMOTIVE MARKET. IT EXPLAINS IN A ROUNDABOUT WAY, WHY THESE SMALLER TRACKS WERE BUILT AND WHO USED THEM. IT SHOWS DESIRE FOR THESE TYPES OF FACILITIES AND I THINK THIS IS IMPORTANT BECAUSE I IDENTIFIES THE GROUP OF INDIVIDUALS WHO ARE MORE LIKELY TO TAKE TO THE STREETS IN ORDER TO GET THEIR SPEED FIX IF NOT PROVIDED WITH THE MEANS TO DO SO SAFELY.



FIGURE 32: 1950's MASERATI 250F

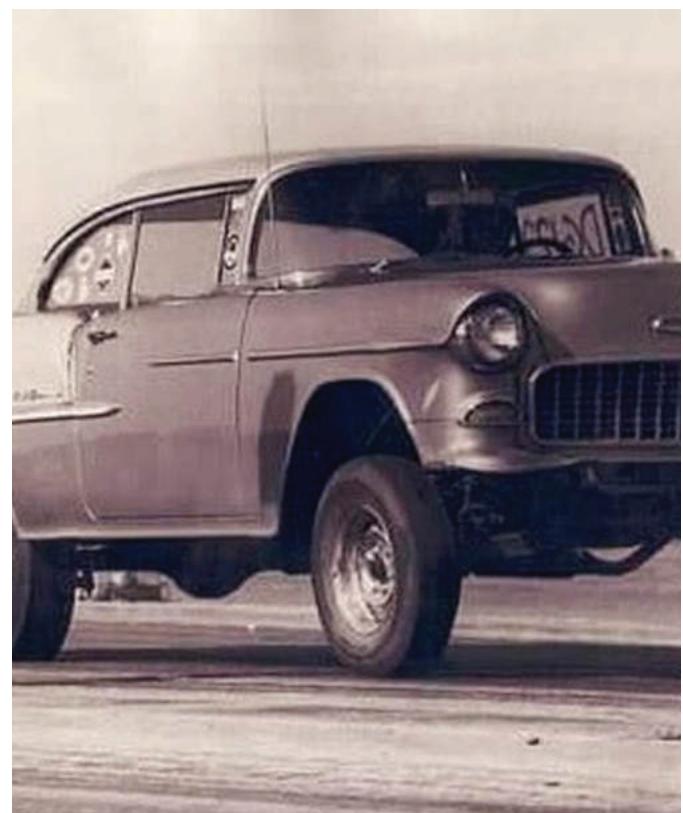


FIGURE 33: 1955 CHEVROLET GASSER

LITERATURE SUMMARY OVERVIEW:

NOTE: FOR MORE DETAILED SUMMARY OF THE LITERATURE REVIEW. EACH LITERATURE REVIEW INCLUDES MULTIPLE SUMMARIES. SOME BROKEN DOWN BY CHAPTER OF THE JOURNAL.

THE LITERATURE REVIEW PROVIDED A NEW FOUND INSIGHTS INTO THE PROJECT OVERVIEW. FOR INSTANCE THE FIRST LITERATURE ARTICLE PROVIDES AN INSIGHT INTO THE WORLD ILLEGAL STREET RACING. THE ARTICLE BREAKS DOWN PORTIONS OF THE DEMOGRAPHICS MOST ASSOCIATED WITH THESE EVENTS. AND THE ARTICLE PROVIDES SUPPORT FOR PORTIONS OF THE PROJECT. FOR INSTANCE, THE ARTICLE MENTIONS THAT MOST ILLEGAL STREET RACING TAKES PLACE ON URBAN ROADS IN AREAS OF HIGH COMMERCIAL BUILDINGS. THIS PROVIDES SUPPORT FOR SITE LOCATION, BY SHOWING THAT THE SITE MUST BE LOCATED CLOSE TO WHERE THIS ACTIVITY IS MOST LIKELY TO HAPPEN IN ORDER TO THE LARGEST IMPACT. BRINGING THE FACILITY TO THE RACERS IS MORE LIKELY TO ENGAGE THE RACERS THAN SUGGESTING THAT THEY DRIVE HOURS AWAY IN ORDER TO PARTICIPATE IN SOMETHING THEY CAN DO FOR FREE ON PUBLIC ROADS.

THE SECOND LITERATURE REVIEW JOURNAL; RACING, REGION, AND THE ENVIRONMENT: A HISTORY OF AMERICAN MOTORSPORTS. THIS JOURNAL PROVIDES A DEEP INSIGHT TO THE HISTORY OF THE AUTOMOTIVE WORLD THAT SO MANY OF US LIVE IN. IT WILL PROVIDE THIS PROJECT WITH A SIGNIFICANT HISTORICAL CONTEXT ALLOWING ME TO FRAME THIS PROJECT IN A CERTAIN SPACE AND TIME THAT WILL ALLOW THE PROJECT TO RELATE TO THE HISTORY OF MOTORSPORTS.

THIS JOURNAL NOT ONLY PROVIDES INFORMATION RELATED TO THE HISTORY OF MOTORSPORTS. BUT THROUGH TALKING ABOUT THE HISTORY, RESULTED IN PROVIDING INFORMATION AND CLUES INTO THE OTHER ASPECTS OF THE AUTOMOTIVE WORLD. FOR INSTANCE, THE JOURNAL TOUCHED ON HOW BOTH WORLD WARS Affected THE AUTOMOTIVE INDUSTRY. IT TOUCHED ON TOPICS OF DEMOGRAPHICS, THE ECONOMY, CARS, MANUFACTURES AND EVERYTHING IN-BETWEEN. THIS INFORMATION PROVIDED FROM THIS JOURNAL IS MORE THAN HELPFUL IN FRAMING THE PROJECT IN MORE THAN JUST A HISTORICAL CONTEXT.



FIGURE 34: FORD GT40 TEAM LEMANS



FIGURE 35: FORD GT40 LEMANS

LITERATURE REVIEW SUMMARY

PROJECT JUSTIFICATION

IMPORTANCE

IMPORTANCE:

THIS PROJECT IS IMPORTANT TO ME AND TO OUR SOCIETY FOR A VARIETY OF REASONS.

IMPORTANCE TO ME:

- **PASSION**

THIS PROJECT MEANS A LOT TO ME. MAINLY DUE TO THE PASSION THAT I HAVE FOR THE AUTOMOTIVE WORLD. CARS HAVE BEEN A LARGE PART OF MY LIFE EVER SINCE I CAN REMEMBER. FOR ME CARS HAVE A RELAXING QUALITY TO THEM THAT NOTHING ELSE SEEMS TO HAVE. AND I ALREADY KNOW THAT FOR THE REST OF MY LIFE I WILL BE BROKE!

#JUST.ONE.MORE.CAR

- **FAMILY**

PROBABLY THE ORIGIN OF MY PASSION STEMS FROM MY FAMILY. FOR AS LONG AS I KNOW, MY FAMILY HAS BEEN INVOLVED IN THE AUTOMOTIVE HOBBY. MY GRANDFATHER HAS OWNED SEVERAL CLASSIC CARS. MY FATHER HAS ALSO HAD SO MANY CLASSIC CARS THROUGHOUT HIS TEENAGE YEAR/LIFE. AND NOW I HAVE TAKEN THE PLUNGE AND BOUGHT MYSELF A 1973 DATSUN 240Z (CLASSIC!).

AND NOT ONLY HAVE I BEGAN COLLECTING CARS MYSELF. BUT I HAVE CARS ARE A FAMILY HOBBY. MY FATHER AND I PARTICPATE IN AUTOMOTIVE EVENTS DURING THE WARMING SEASON OF THE YEAR.

- **EXPERIENCE**

I HAVE SEEN THE AUTOMOTIVE MARKET MYSELF. BEING THAT I HAVE FRIENDS AND FAMILY WHO ARE INVOLVED IN THE AUTOMOTIVE WORLD. I HAVE SEEN THE EXTENT OF THE MARKET AND WHAT IT IS THAT THE MINNEAPOLIS AREA IS MISSING OUT ON.

IMPORTANCE TO SOCIETY:

- **COMMUNITY BUILDING**

THE AUTOMOTIVE COMMUNITY IS LARGE AND GROWING. MAINLY DUE TO THE ORGANIZED AUTOMOTIVE EVENTS THAT ARE SEEM TO BE GROWING. FOR EXAMPLE, BACK TO THE FIFTIES IS ONE OF THE LARGEST CAR SHOWS THAT TAKES PLACE IN MINNESOTA AND IN 2018 HAD ROUGHLY 75,000 PARTICIPANTS.

- **SAFETY**

THIS RACEWAY COMPLEX MAY HAVE A LARGE IMPACT ON THE PUBLIC THAN ONE MAY THINK. THE POSSIBILITY TO CHANNEL BAD DRIVING HABITS INTO A WELL ORGANIZED AND SAFE ENVIRONMENT. HAS THE POTENTIAL TO PREVENT SOME ACCIDENTS, INJURIES OR WORSE.

- **EXPERIENCE**

I HAVE SEEN THE AUTOMOTIVE MARKET MYSELF. BEING THAT I HAVE FRIENDS AND FAMILY WHO ARE INVOLVED IN THE AUTOMOTIVE WORLD. I HAVE SEEN THE EXTENT OF THE MARKET AND WHAT IT IS THAT THE MINNEAPOLIS AREA IS MISSING OUT ON.

JUSTIFICATION:

- KNOWLEDGE

I THINK THIS PROJECT WOULD BE A GREAT DEMONSTRATION OF MY KNOWLEDGE IN A VARIETY OF APPLICATIONS AND PROJECT DIVISIONS. I THINK THE PROJECT EXHIBITS PORTIONS OF THE PROJECT THAT I AM FAMILIAR WITH. BUT ALSO PORTIONS OF THE PROJECT THAT I HAVE NOT EXPERIENCED. I THINK THIS PROJECT BOTH DEMONSTRATES MY EXISTING KNOWLEDGE WHILE ALSO SHOWING MY ABILITY TO GROW MY KNOWLEDGE THROUGH EXPERIENCE.

- SKILLS

THIS PROJECT IS LARGE IN SCALE. AND I BELIEVE THAT THIS PROJECT EXHIBITS A DIFFICULTY THAT WILL SHOW THE SKILLS THAT I HAVE IN VARIOUS PORTIONS OF THE PROJECT. FOR EXAMPLE, TECHNICAL SKILLS, COMPUTER SKILLS AND SCHEMATIC SKILLS TO NAME A FEW.

MUCH LIKE I HAD MENTIONED IN THE ABOVE SECTION. I THINK THIS PROJECT WILL BE A GREAT DEMONSTRATION OF MY ABILITY TO ADAPT MY KNOWLEDGE AND MY SKILLS. IN ORDER TO GROW AND BECOME SUCCESSFUL IN MY CAREER FIELD.



FIGURE 36: SKILL GRAPHIC

THESIS CONTEXT

THE PHYSICAL & MORE

HISTORICAL CONTEXT

THIS PROJECT IS SIMILAR TO A LOT OF OTHER PROJECTS OF THE SAME TYPOLOGY. RACEWAYS HAVE BEEN BUILT ALL ACROSS THE SURFACE OF THIS PLANET. AND IN TERMS OF TYPOLOGY, THIS PROJECT IS NOT MUCH DIFFERENT THAN MOST OTHER RACING TRACKS. THE ISSUES THAT MY RESEARCH FOCUS ON AND THE ISSUES THAT I PLAN TO TRY AND DESIGN FOR ARE WHAT SEPARATES THIS PROJECT FROM THE OTHERS.

THIS PROJECT ALSO BUILDS OFF OF HISTORICAL CONTEXT. USING PREVIOUSLY BUILT RACING COMPLEXES AS CASE STUDIES AND ANALYZING WHAT IS SUCCESSFUL AND WHAT IS NOT. MEANING THAT A PORTION OF THIS PROJECT RELATES TO IT'S HISTORICAL CONTEXT BECAUSE IT IS A DIRECT RESULT OF PREVIOUS RACING TRACKS.

SOCIAL TRENDS

THIS PROJECT FOLLOWS SOCIAL TRENDS WITHIN THE AUTOMOTIVE COMMUNITY. THE TRACK WILL BE DESIGNED IN ORDER TO INCORPORATE PREVIOUS RACING TRENDS BUT ALSO TO INCORPORATE NEW TRENDS THAT REQUIRE A DIFFERENT TRACK SETUP. THIS RELATES THE TRACK TO IT'S USERS WHICH THEN WILL PROVIDE A BETTER EXPERIENCE.

PHYSICAL CONTEXT

THIS RACEWAY IS SET WITHIN A CONTEXT THAT IS UNIQUE AMONG MOST MODERN TRACKS. MAINLY BECAUSE THE TRACK IS SET WITHIN A SITE THAT IS NOT A FLAT FIELD JUST OUTSIDE A CITY. BUT RATHER THE SITE IS ROUGHLY 400+ ACRES WITH A FAIRLY LARGE LAKE. A PIECE OF PROPERTY THAT WOULD UNCOMMONLY BE UTILIZED FOR THIS TYPOLOGY.

SOCIAL CONTEXT

THE PROJECT FITS WITHIN THE SOCIAL CONTEXT OF THOSE WHO ARE INVOLVED WITHIN THE RACING AND AUTOMOTIVE INDUSTRIES. THE PROJECT ALSO HAS TO POTENTIAL TO CREATE IT'S OWN SOCIAL CONTEXT. AS THE TRACK ALONE WILL BRING TOGETHER PEOPLE OF THE SAME PASSION. THUS CREATING IT'S OWN CONTEXT. WITHIN THE SOCIAL CONTEXT OF THE LARGER AUTOMOTIVE COMMUNITY.

IT IS ALSO IMPORTANT TO NOTE THAT THE AUTOMOTIVE INDUSTRY, SUCH AS RETAILERS AND AUTOMOTIVE SHOPS. ARE LIKELY TO SUPPORT AND BE INVOLVED IN THE SUCCESS OF SUCH PROJECT AND COMPLEXES AS THEY THRIVE ON THE AUTOMOTIVE COMMUNITIES PASSION AND TESTIMONY.

SITE ANALYSIS

MAPS & MORE



FIGURE 37: SITE LOCATION MAPS

INTRODUCTION TO SITE

THE PROPOSED SITE, IDENTIFIED IN GREEN ON THE LOWER MAP. PRESENTED ON THE PREVIOUS PAGE IS MADE UP OF MULTIPLE SITE PARCELS BEING SOLD TOGETHER. THESE PARCELS ARE CURRENTLY ZONED AS RESIDENTIAL DEVELOPMENT. NEEDING TO BE REZONED IN ORDER TO DEVELOP THE PROPOSED TYPOLOGY.

THE SITE WAS CHOSEN FOR SEVERAL REASONS, SOME OF WHICH HAVE BEEN MENTIONED IN THE PREVIOUS PORTION OF THIS DOCUMENT. FOR ONE, I REQUIRED THAT THE SITE MUST ACTUALLY BE LISTED FOR SALE. TWO, THE SITE MUST BE LOCATED OUTSIDE OF THE DOWNTOWN AREA. THIS IS FOR OBVIOUS REASONS WHICH INCLUDE NOISE POLLUTION AND SIZE OF SITE. AS THE PROPOSED TYPOLOGY WILL REQUIRE A LARGER THAN NORMAL SITE. AND THIRD, THE SITE MUST BE LOCATED WITHIN A RELATIVELY CLOSE DISTANCE TO ONE OR MORE MAJOR ROADWAYS.

DUE TO THESE RESTRICTIONS THAT I PLACED ON THE DECISION OF CHOOSING A SITE. ST. MICHAEL WAS SHORT LISTED TO THE TOP OF THE OPTIONS OUT OF A COLLECTION OF FOUR SITE CHOICES.

SITE SPECIFICS

SITE SIZE: 400+ ACRES LAKE SIZE: 12 +/- MILES OF SHORE TREE COVERAGE: MEDIUM/DISCONTINUOUS DISTANCE FROM TOWN CENTER: 3.5 MILES

DISTANCE TO MAJOR ROADWAY: 7 MILES

DISTANCE TO MINNEAPOLIS: 33 MILES

THE 400+ ACRES THAT THIS SITE CONTAINS SHOULD BE MORE THAN ENOUGH SPACE IN ORDER TO IMPLEMENT ALL OF THE ARCHITECTURAL AND ENVIRONMENTAL SPACES THAT WILL BE REQUIRED WITHIN THE SITE.

THE LAKE CONSUMES A LARGE PORTION OF SITE, LIMITING THE AREA THAT IS AVAILABLE TO BE DEVELOPED. BUT THIS PORTION OF THE SITE HOLDS A LARGE IMPORTANCE ON THE OVERALL SUCCESS OF THE PROJECT.

THE TREE COVER ON THE SITE IS FAIRLY DENSE IN THE AREAS THAT HAVE TREE COVERAGE. WHICH ARE MOSTLY LOCATED AROUND THE LAKE AREA AND A SQUARE PATCH LOCATED JUST NORTH OF THE LAKE. THE TREES WITHIN THIS SITE WERE PLANTED LONG AGO AND HAVE REMAINED. SOME OF WHICH SERVED HAS SHELTER BELTS FOR THE FARM LAND. WHICH MAKES UP A SIGNIFICANT PORTION PARCELED LAND.

FIGURE 39: SITE IMAGES

DESCRIPTIONS & CHARACTERISTICS

VIEWS & VISTAS:

THE MAJORITY OF THE SITE HAS DECENT VIEWS. THESE VIEWS ARE MOSTLY WIDE OPEN FARM FIELDS, WITH THE HORIZON BLOCKED BY TREE LINE. OF COURSE, THE SITE ALSO CONTAINS A FAIRLY LARGE LAKE. THIS LAKE PROVIDES SIGNIFICANT PORTION OF THE SITE WITH DESIRABLE VIEWS. THE LAKE IS MOSTLY UNTOUCHED DUE TO BEING A WAYS OFF OF THE NEAREST ROAD. IT ALSO HAS NO PUBLIC ACCESS FOR BOATING OR FISHING. FROM ANALYZING PARCEL MAPS, THE LAKE SEEMS TO BE SPLIT AMONGST THE PARCELS OF LAND BEING SOLD. MEANING THAT THE LAKE IS ENTIRELY PRIVATE TO THOSE WHO OWN PROPERTY THERE.

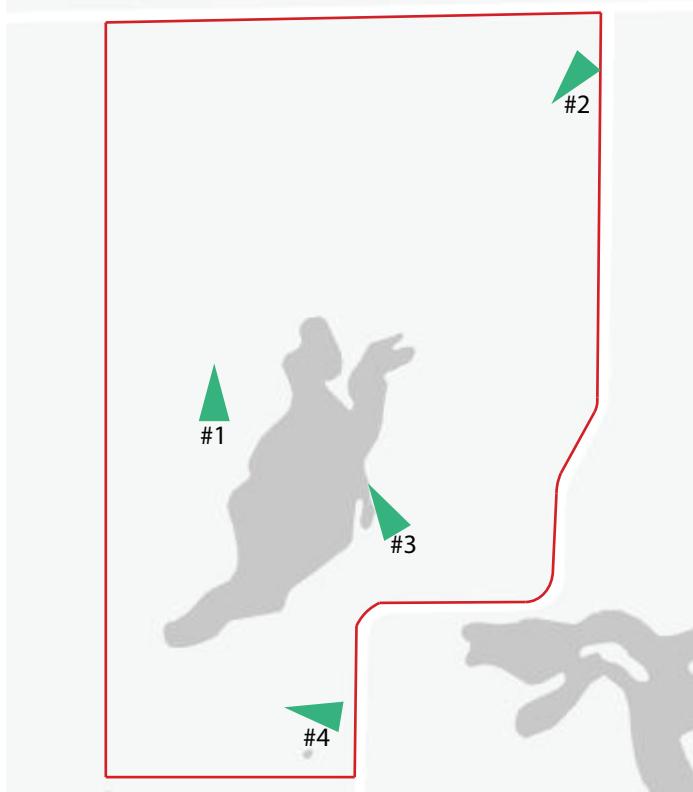


FIGURE 38: PHOTO DIRECTIONS



#1 VIEWS NORTH: FARM FIELDS



#2 VIEW OF ROLLING HILLS



#3 VIEW OF ROLLING HILLS



#4 VIEWS WEST: FARM FIELDS

LIGHT QUALITY

INTENSITY & SHADOWS:

THE SITE IS WIDE OPEN TO A LOT OF SUN-LIGHT. THIS IS MAINLY DUE TO THE AMOUNT OF FARMING FIELDS AND LACK OF TREE COVERAGE. THE DIAGRAM BELOW SHOWS THE DIRECTION OF THE SUN RELATIVE TO THE SITE. WHICH MOVES ACROSS THE SOUTHERN BORDER OF THE SITE FROM EAST TO WEST. THE TREE COVERAGE IS ALSO SHOWN IN THIS DIAGRAM AS THE GREEN OVALS. AS YOU CAN SEE, THE MAJORITY OF THE SITE LACKS TREE COVERAGE. BUT WHERE THE TREES ARE IS DENSE. THIS CAST SHADOWS, ESPECIALLY DURING THE WINTER MONTHS WHEN THE SUN IS MUCH LOWER. REGARDLESS THE LIGHT IS FAIRLY INTENSE NO MATTER WHERE YOU ARE ON THE SITE.

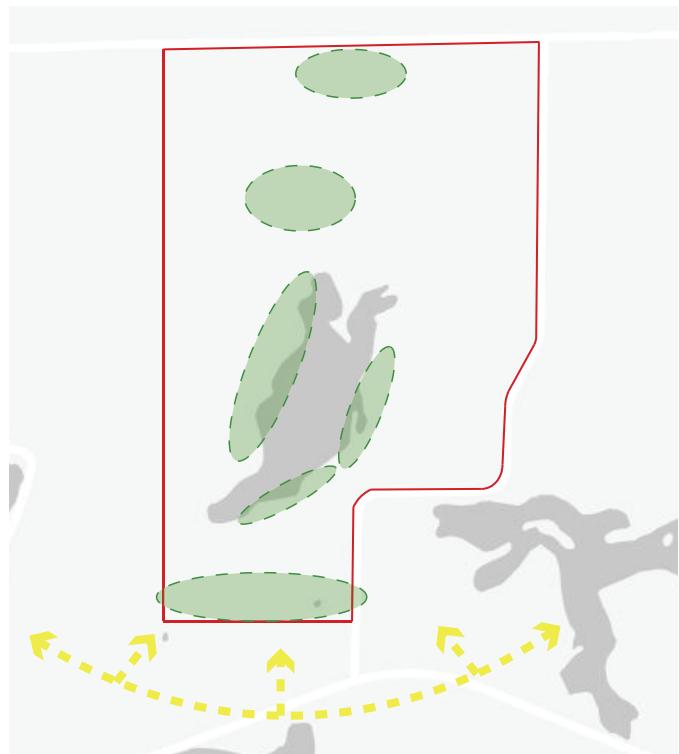


FIGURE 40: SUN & TREE COVERAGE

VEGETATION

PLANT COVERAGE:

THE PLANT COVERAGE WITHIN THE SITE VARIES DEPENDING ON THE TYPE OF PLANT. TREES ARE FAIRLY SEGREGATED INTO DENSE GROUPS. THESE AREAS EXPERIENCE THE MOST SHADE AND THE MOST GREENERY. THE TREE COVERAGE IS TENDS TO REMAIN AROUND THE LAKE AREA AND SMALLER PATCHES AROUND THE SITE, PROBABLY UTILIZED AS SHELTER BELTS FOR THE FARM LAND AND FARM HOUSES. OTHER PLANT MATERIAL CONSISTS OF SHRUBBERY, GRASS AND VEGETATION LEFT BEHIND BY FARMING EQUIPMENT.

WATER:

UHL LAKE

ONE OF THE MAIN ELEMENTS OF THE SITE IS THE LAKE THAT IS LOCATED TOWARDS THE CENTER. THERE ARE NO RIVERS ATTACHED TO THE LAKE AND THEREFOR THE LAKE IS STILL. UNSURE HOW CLEAN THE WATER IS, BUT DUE TO THE LACK OF HUMAN INTERACTION ALONG THE LAKE FRONT. I WOULD IMAGINE THAT LAKE IS FAIRLY CLEAN. WITH THE ONLY POSSIBLE ISSUE BEING THAT OF AGRICULTURE RUN-OFF SEEPING INTO THE LAKE. AS WITH ALL LAKES, UHL LAKE GOES THROUGH PERIODS OF LOW WATER LEVEL DURING DRY PERIODS. BUT EVEN DURING THESE DRY PERIODS, THE LAKE REMAINS.

THE SITE ALSO CONTAINS A SMALL POND AND STREAM THAT FROM THE POND TO A LOCATION OUTSIDE OF THE SITE BOUNDARIES. THIS STREAM IS MOVING, BUT VERY SLOWLY AND IS MOSTLY FROZEN DURING THE WINTER MONTHS.

HUMAN CHARACTERISTICS

ENVIRONMENT:

THE SITE DEFINITELY SHOWS SIGNS OF USE. AS THE MAJORITY OF THE SITE IS FARM LAND, WHICH HAS BEEN USED UP UNTIL THE END OF THIS GROWING SEASON. THE LAND ALSO SHOWS USES RELATED TO RECREATIONAL ACTIVITIES CLOSE TO THE LAKE. FOR INSTANCE I WITNESSED A PADDLE BOAT AND CANOE SITTING ON SHORE NEXT TO A DOCK. YOU CAN ALSO SEE FARM HOUSES THAT WERE BUILT DECADES AGO.

CURRENTLY, THE SITE IS BEING USED AS FARM LAND BUT IS CURRENTLY FOR SALE AND IN THE PROCESS OF BEING ZONED FOR RESIDENTIAL DEVELOPMENT.

DISTRESS:

THERE IS A SMALL AMOUNT OF DISTRESS ON THE SITE. IT CAN BE SEEN IN THE SOILS BEING USED FOR FARMING. AND A PORTION OF THE TREE COVERAGE IS DYING OR DEAD. SOME OF THIS IS CLEARLY DUE TO THE TIME OF YEAR. BUT A PORTION OF THE DEAD TREE COVERAGE LOOKS TO HAVE BEEN DEAD FOR AWHILE. I DO NOT BELIEVE THE AMOUNT OF DISTRESS IS OUT OF THE ORDINARY.

WIND ANALYSIS

WIND DIRECTION DIAGRAM:

THIS PARTICULAR SITE SUSTAINS MOST OF ITS WIND FROM TWO PARTICULAR DIRECTIONS. THESE BEING FROM THE SOUTH-EAST AND THE NORTH-WEST, AS SEEN IN THE DIAGRAM BELOW. MOST OF THIS WIND IS UNOBSTRUCTED BY ANY BUILT OR NATURAL ELEMENTS. THE ONLY PORTION OF THE SITE WHERE THE WIND MAY BE OBSTRUCTED IS AROUND THE LAKE AREA. THIS IS DUE TO HOW THE TREE COVERAGE AND DENSITY INCREASES. MEANING THE LAKE IS LARGELY PROTECTED BY ANY HARSH WINDS.

WIND SPEEDS RANGE FROM ANYWHERE BETWEEN A COMMON 5 TO 15 MPH, WHILE ON OCCASION CAN REACH SPEED OF UP TO 30MPH DURING GUSTS.

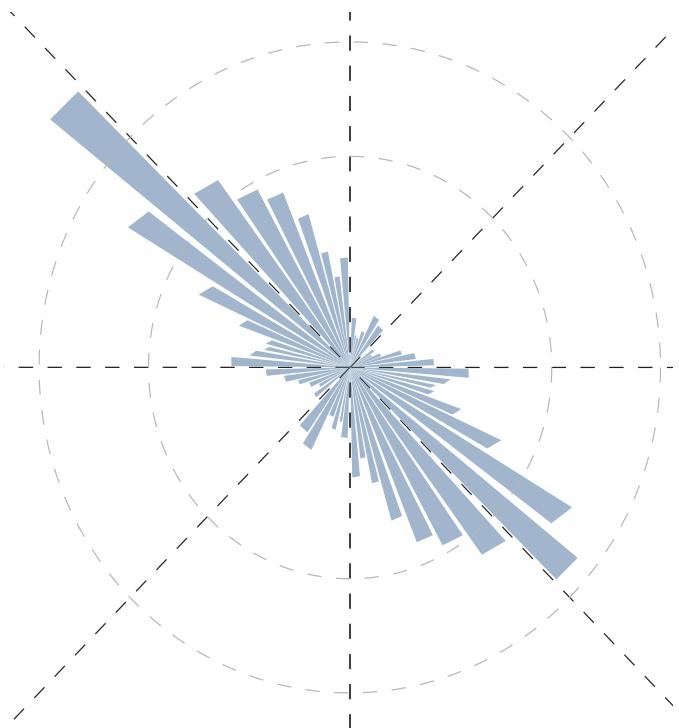


FIGURE 41: WIND DIRECTION ANALYSIS

CLIMATE

TEMPERATURE & RAINFALL:

THE ST. MICHAEL AREA SEES A RELATIVELY COMPARABLE CLIMATE TO FARGO, NORTH DAKOTA. MUCH LIKE THE REST OF THE MIDWEST. SPECIFICALLY THE ST. MICHAEL AREA SEES AN ANNUAL AVERAGE OF 43.4 DEGREES. WITH A TYPICAL TEMPERATURE SWING BETWEEN 10.2 DEGREES AND 71.4, FOR A TEMPERATURE SWING OF ROUGHLY 60 DEGREES BETWEEN JANUARY AND JULY.

THE ANNUAL AVERAGE RAINFALL IN ST. MICHAEL IS ABOUT 30.30 INCHES WITH THE LARGEST RAINFALL SWING BEING .86 IN JAN TO 4.51 IN JUN FOR A COMMON ANNUAL RAINFALL SWING BEING ABOUT 3.5 INCHES.

OTHER CLIMATE CHARACTERISTICS:

HUMIDITY:

MUCH LIKE THE REST OF MINNESOTA. ST. MICHAEL AND THIS SITE WILL EXPERIENCE PERIODS OF HIGH HUMIDITY. THIS POSSIBILITY IS INCREASED IN THIS AREA DUE TO THE AMOUNT OF LAKES IN THE AREA.

CLOUDINESS:

THE SITE SEES A SIGNIFICANT AMOUNT OF SUNLIGHT THROUGH THE YEAR. DURING THE SUMMER MONTHS, THE SITE SEES ROUGHLY 15-16HRS OF DAYLIGHT RANGING FROM MORNING TO SUNSET. AND DURING THE WINTER MONTHS THE SITE MUCH LIKE THE REST OF THE MIDWEST SEES ROUGHLY 8-10HRS OF DAYLIGHT.

CLOUDINESS PLAYS A MAJOR ROLE IN THE AMOUNT OF DAYLIGHT THE SITE RECEIVES. THE SITE EXPERIENCE A LIMITED AMOUNT OF CLOUDINESS FOR MOST OF THE YEAR. OF COURSE THE SITE IS SUBJECT TO STORM LIKE EVERYWHERE ELSE.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max °F	20.6	27.5	39.4	55.6	69.2	78.2	82.2	79.8	71.1	59.0	40.0	25.2	54.0
Mean °F	10.2	16.8	29.3	44.2	57.9	67.2	71.4	68.9	59.2	47.5	31.3	16.3	43.4
Min °F	-0.3	6.1	19.2	32.7	46.5	56.2	60.5	57.9	47.3	36.0	22.5	7.4	32.7
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Inch	0.86	0.69	1.75	2.49	3.45	4.51	4.22	4.26	3.14	2.21	1.89	0.83	30.30

FIGURE 42: CLIMATE DATA

VEHICULAR TRAFFIC

VEHICULAR TRAFFIC IS KEPT TO A MINIMUM FOR MOST OF THE SITE. THIS IS DUE TO VARIOUS REASONS. FIRST OF COURSE IS THAT THE SITE IS LOCATED OUTSIDE OF THE DOWNTOWN AREA. SECONDLY THE SITE IS SO LARGE AND SECLUDED FROM OTHER COMMERCIAL TYPE BUILDINGS. THIS MEANS THE TRAFFIC THAT IS THERE IS EITHER PASSING BY OR FROM THOSE WHO LIVE ON THE OUTSKIRTS OF TOWN.

MOST OF THE TRAFFIC IS ISOLATED TO THE NORTH AND EAST EDGES OF THE SITE. THE NORTH EDGE OF THE SITE ENDS AND MEETS A COUNTY ROAD THAT CONNECTS RIGHT INTO DOWNTOWN ST. MICHEAL. AND THE EAST EDGE OF THE SITE CONNECTS WITH ANOTHER COUNTY ROAD. THIS COUNTY ROAD IS MUCH LESS TRAVELED THAN THE ROAD TO THE NORTH. THE ROAD TO THE EAST CONNECTS THE TOWN OF ST. MICHEAL TO A RELATIVELY SMALL NEIGHBORHOOD TO THE VERY SOUTH EAST CORNER OF THE SITE.

PEDESTRIAN TRAFFIC

VERY LITTLE TO NO PEDESTRIAN TRAFFIC AT ALL. THIS IS TO BE EXPECTED FROM A LOCATION THAT IS AS DETACHED FROM ANY TOWN ACTIVITY AS THIS SITE IS. ANY PEDESTRIAN TRAFFIC THAT MAY OCCUR IN THE VICINITY OF THE SITE IS LIKELY TO BE FROM HOME OWNERS. PEDESTRIAN TRAFFIC CONSISTING OF CASUAL WALKS AROUND THE AREA.

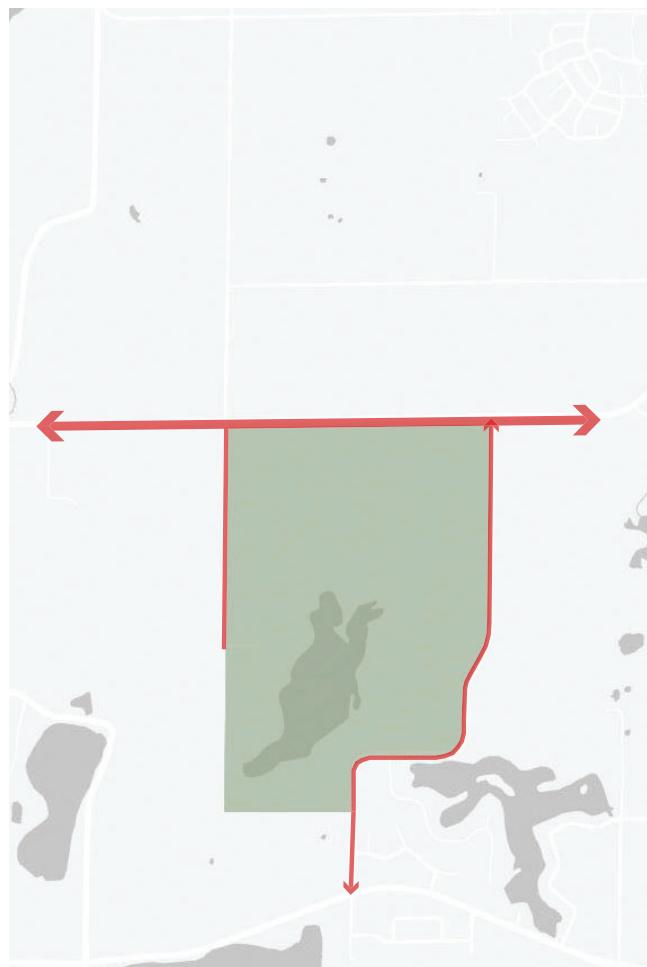


FIGURE 43: MAJOR ROADWAYS | TRAFFIC

TOPOGRAPHIC ANALYSIS

GENERAL:

FROM VARIOUS SITE VISITS AND THE TOPOGRAPHIC ANALYSIS FROM MAPS LIKE THE ONE BELOW. SEVERAL OBSERVATIONS HAVE BEEN ESTABLISHED. FOR ONE, THE SITE HAS A MAXIMUM ELEVATION CHANGE OF ROUGHLY 20FT. WHICH IS SIGNIFICANTLY MORE THAN PREVIOUS ASSUMPTIONS.

IT IS IMPORTANT TO NOTE THAT THE LAKE PLAYS AN IMPORTANT ROLE IN THE AMOUNT ELEVATION CHANGE. AS THE LAKE IS SIGNIFICANTLY LOWER THAN THE REST OF THE SITE.

SLOPE:

THE SITE FEATURES VARYING SLOPES DEPENDING THE AREA OF THE SITE. BECAUSE THE SITE IS SO LARGE, THE SLOPES MAY CHANGE DRAMATICALLY ACROSS THE SITE. FOR INSTANCE, ONE PORTION OF THE EAST EDGE OF THE SITE FEATURES A SLOPE OF AROUND 33%. WHILE OTHER PORTIONS OF THE SITE FEATURE SLOPES OF AROUND 5% TO 15%.

THE SITE SHOWS AN ABILITY TO DRAIN WATER WELL. AS MOST OF THE SITE SLOPES TOWARDS THE LAKE AT THE CENTER OF THE SITE.



FIGURE 44: TOPOGRAPHIC MAP

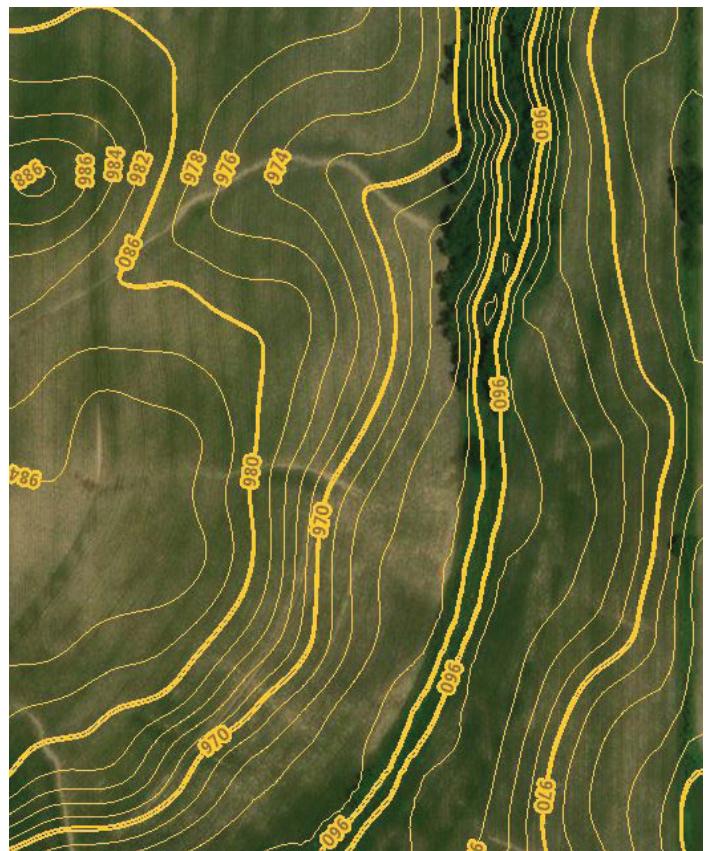


FIGURE 45: TOPOGRAPHIC MAP VALLEY

ARIAL PHOTOGRAPHS



FIGURE 46: ARIAL PHOTOGRAPH #1

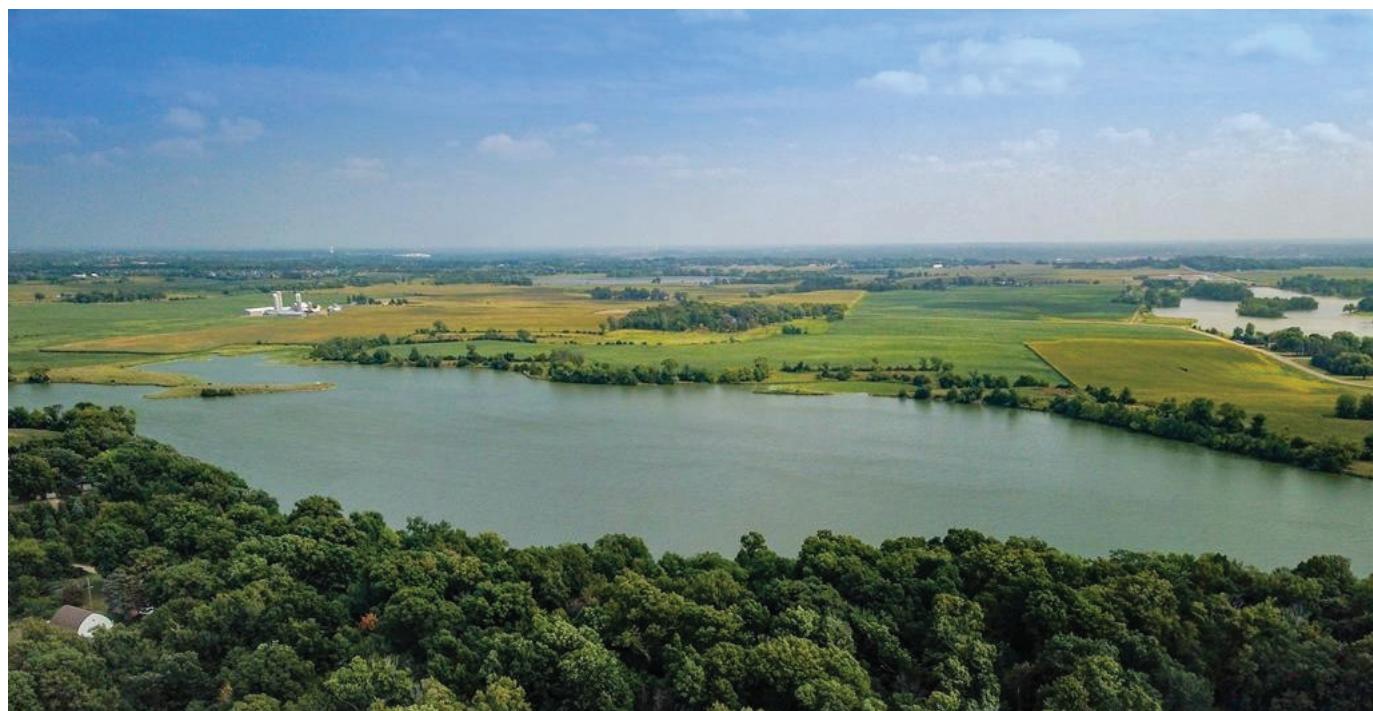


FIGURE 47: ARIAL PHOTOGRAPH #2

PERFORMANCE CRITERIA

QUALIFICATIONS

SPACIAL ALLOCATION**PERFORMANCE MEASURE:**

CERTAIN SPACIAL PORTIONS OF THE PROJECT WILL BE CALCULATED IN MILES, WHILE OTHER PORTIONS OF THE PROJECT WILL BE CALCULATED IN SQUARE FEET.

AS MENTIONED PREVIOUSLY, PORTIONS OF THE PROJECT WILL BE DETAILED MASSING RATHER THAN FULL DESIGNS. THESE PORTIONS OF THE PROJECT WILL BE PART OF THE SPACIAL ALLOCATION BUT CALCULATED WITHIN A RANGE. WHILE OTHER PORTIONS OF THE PROJECT WILL BE CALCULATED AS SPECIFIC DIMENSIONS OR MILES.

PERFORMANCE ANALYSIS:

ANALYSIS WILL MOST LIKELY BE DONE THROUGH COMPARISON (CASE STUDIES). ALSO DRAWINGS/SKETCHES, SCALED MODELS AND COMPUTER SIMULATIONS ARE OPTIONS THAT MAY BE USED IN ORDER TO ACCOMPLISH THE SET GOALS AND ESTABLISH PERFORMANCE.

PERFORMANCE JUDGMENT:

MEASUREMENTS WILL BE CONDUCTED THROUGH THE VARIOUS WAYS MENTIONED ABOVE. THE JUDGMENT OF PERFORMANCE SHOULD BE FAIRLY OBJECTIVE. ALLOWING JUDGMENT FROM MYSELF AND OTHER TO BE FAIRLY EASY.

ENVIRONMENTAL IMPACT**PERFORMANCE MEASURE:**

A SET GOAL OF LEAVING A CERTAIN PERCENTAGE OF THE SITE UNDISTURBED DURING CONSTRUCTION AND DEVELOPMENT. ALLOWING THE NATURAL PORTIONS OF THE SITE TO BECOME A PART OF THE DESIGN AND DEVELOPMENT OF THE PROJECT.

PERFORMANCE ANALYSIS:

DESIGN STANDARDS WILL BE ESTABLISHED THROUGH COMPARISON OF CASE STUDIES AND OTHER PROJECT TYPOLOGIES. THE PERFORMANCE OF THE PROJECT WILL BE CALCULATED AND PROCESSED THROUGH DRAWINGS, DESIGN SOFTWARE AND THE GENERAL DESIGN PROCESS.

PERFORMANCE JUDGMENT:

AFTER AN ESTABLISHMENT OF PERCENTAGE GOAL. THE JUDGMENT WILL BE OBJECTIVE THROUGH TYPICAL CALCULATIONS THAT CAN BE DONE BY ANYONE GIVEN THE CORRECT AND NECESSARY DATA/INFORMATION.

PSYCHOLOGICAL IMPACT

PERFORMANCE MEASURE:

NOISE POLLUTION IS A SIGNIFICANT WORRY OF THOSE WHO LIVE NEAR A RACEWAY. IT IS ALSO A WORRY OF THOSE WHO SIT ON A CITIES/TOWN COUNCIL IN DETERMINING IF A PROJECT OF THIS TYPOLOGY WILL BE APPROVED FOR DEVELOPMENT.

NOISE POLLUTION WILL BE MEASURED IN DECIBELS.

PERFORMANCE ANALYSIS:

COMPUTER SOFTWARE/ACOUSTIC SOFTWARE MAY BE USED IN ORDER TO ESTABLISH THE DECIBEL LEVEL AT CERTAIN LOCATION OR AT CERTAIN DISTANCES. ALTERATIONS MAY BE MADE IN THE DESIGN THROUGH THE USE OF THESE SOFTWARE USES.

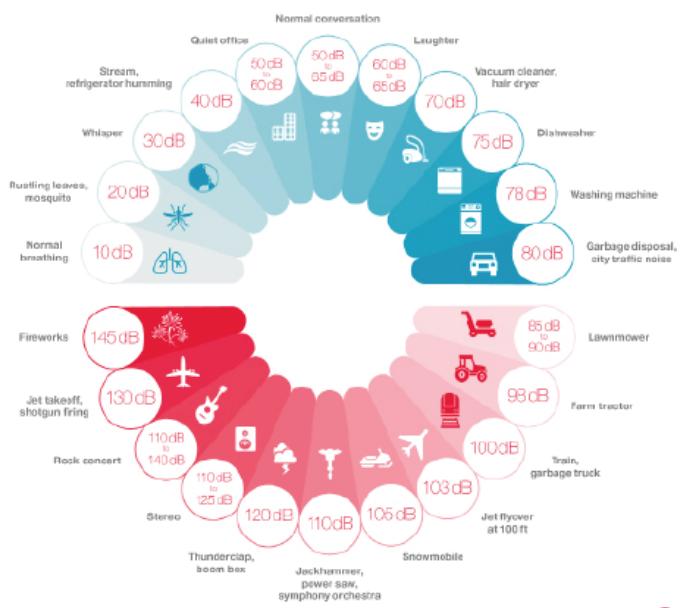
PERFORMANCE JUDGMENT:

SEVERAL OUTSIDE SOURCES HAVE ESTABLISHED DECIBEL LEVELS AND WHAT THEY EQUATE TO. FOR INSTANCE, 50 TO 65 DECIBELS ARE NORMAL CONVERSATION. STUDIES HAVE ALSO DETERMINED THE DECIBEL LEVEL AT WHICH NOISE BECOMES "LOUD" OR "OBNOXIOUS". THESE HAVE BEEN ESTABLISHED BY AN AVERAGES BY SURVEY STUDIES CONDUCTED ON SEVERAL OCCASIONS. I WILL USE THESE AVERAGES AND STUDIES TO JUDGE THE PERFORMANCE.

DECIBEL LEVELS:

ESTIMATION OF THE DECIBEL LEVELS IS POSSIBLE USING THE INVERSE SQUARE LAW. THIS WILL HELP IN THE ABILITY TO DESIGN PORTIONS OF THE PROJECT AND HELP IN THE JUDGMENT.

How loud is too loud?



EarQ

FIGURE 48: COMMON DECIBEL LEVELS

MATERIAL DECISIONS

- TRACK

THE RACE TRACK MATERIALS VARY THROUGH OUT THE COMPLEX. FOR INSTANCE, THE TRACK ITSELF WILL BE CONSTRUCTED OUT OF TYPICAL ASPHALT. WHILE THE SKID PAD/ DRIFT SECTIONS OF THE COMPLEX WILL BE CONSTRUCTED OUT OF CONCRETE.

THE BUILDING WILL BE STRUCTURALLY CON-
STRUCTED USING CONCRETE OR STEEL/ALUMI-
NUM. AND THE AESTHETIC PORTIONS OF THE
BUILDINGS WILL CONTAIN MATERIALS THAT
RELATE ITSELF TO THE SITE CONTEXT. MEAN-
ING THAT SOME OF THE BUILDING WILL CON-
TAIN STONE OR BRICK FEATURES. AND CO-
LORED TEXTURES THAT RESEMBLE THE SITE.
FOR EXAMPLE BROWNS, GREENS, TAN, BLUE.

FIGURE 49: MATERIAL CHOICES



TAN CONCRETE EXAMPLE



ALUMINUM SIDING EXAMPLE



TAN BRICK EXAMPLE

FINAL DESIGN

CONCLUSION

RESEARCH QUESTION

DUE TO CHANGES OF THE PROJECT THROUGHOUT THE SEMESTER. I THINK IT IS IMPORTANT TO ACKNOWLEDGE THOSE CHANGES.

THEREFORE I HAVE INCLUDED AN ITERATION OF THE RESEARCH QUESTION AND THESIS STATEMENT AS AN UPDATE TO THE PREVIOUS NARRATIVE AT THE BEGINNING OF THIS DOCUMENT.

RESEARCH QUESTION:

HOW ARCHITECTURE AND DIVERSIFYING TYPOLOGY MIGHT BE IMPLEMENTED IN ORDER TO AID IN THE SOLUTION OF ECONOMIC HURDLES RELATED TO THE CURRENT TREND OF REGIONAL RACEWAY TYPOLOGY AND DESIGN.

THESIS STATEMENT:

REGIONAL AUTOMOTIVE RACING FACILITIES COST A SIGNIFICANT AMOUNT OF CAPITAL TO BUILD AND MAINTAIN. ADDITIONALLY THESE FACILITIES ARE OFTEN LEFT VACANT IN NORTHERN PORTIONS OF THE COUNTRY THROUGHOUT WINTER. IT IS BOTH INEFFICIENT IN TERMS OF BOTH THE ECONOMICS AND LAND USE ASSOCIATED WITH THESE PROJECTS.

I HAVE FOCUSED MY ATTENTION TO ALTERING THE FUTURE DESIGN OF AUTOMOTIVE SPEEDWAYS THROUGH DIFFERENCES IN TYPOLOGY AND ARCHITECTURE IN ATTEMPTS OF JOINING MULTIPLE TYPOLOGIES WITH ONE UNIFIED PROJECT.

WHY IS IT IMPORTANT?

REGIONAL RACEWAYS OFFER A LOCATION FOR THOSE IN THE COMMUNITY WHO SHARE A PASSION FOR THE AUTOMOTIVE WORLD TO COME TOGETHER AND FOSTER RELATIONSHIPS BETWEEN FRIENDS, FAMILY AND THE COMMUNITY. IN ADDITION TO THE ECONOMIC BENEFITS THAT REGIONAL RACEWAYS PROVIDE THE HOSTING COMMUNITY. THEY ALSO PROVIDE A SMALL BUT IMPORTANT SOLUTION TO A MINOR PUBLIC HEALTH ISSUE. DANGEROUS DRIVING BEHAVIOR'S ARE AND ALWAYS HAVE BEEN A SUBCULTURE TO THE AUTOMOTIVE COMMUNITY. THESE BEHAVIOR'S OFTEN MANIFEST THEMSELVES AS "STREET RACING", OCCASIONALLY ENDING IN SERIOUS WRECKS WITH THE POSSIBILITY OF INJURY OR DEATH AMONG THE GENERAL PUBLIC.

ADDITIONALLY, ON A MORE PERSONAL LEVEL OF IMPORTANCE, MY RELATION TO THIS PROJECT RELATES MORE TO THE FIRST LINE OF THE THESIS STATEMENT. WHICH IS THAT I BELIEVE FACILITIES LIKE THESE HAVE THE ABILITY TO FOSTER RELATIONSHIPS BETWEEN PEOPLE. IT'S CERTAINLY EVIDENT IN MY LIFE AS I BELONG TO THE AUTOMOTIVE COMMUNITY AND HAVE A STRONG RELATIONSHIP WITH MY FATHER FROM ALL THE TIMES WE SPENT TOGETHER AT CAR SHOWS AND RACING EVENTS. AND FROM ALL THE TIMES THAT I HAVE SPOKEN WITH OTHERS WHO ENJOY THE SAME HOBBY. IT SEEMS WE ALL HAVE A SIMILAR STORY.

AND FOR THAT REASON, THIS PROJECT WAS IMPORTANT TO ME AND PROVIDED MYSELF A CHANCE TO WORK ON A PROJECT THAT I DON'T SEE MYSELF WORKING ON IN THE FUTURE.

RESEARCH METHODS

REITERATION OF THE RESEARCH METHODS CONDUCTED AND CHOICE OF SITE.

IN ORDER TO FULLY UNDERSTAND THE PROJECT, ITS HISTORY AND THE CURRENT TRENDS. A VARIETY OF RESEARCH METHODS, FROM AN INTERPRETIVE ANALYSIS OF LITERATURE AND CASE STUDIES TO AN ANALYSIS OF THEIR SUCCESS WERE CONDUCTED. ENDING IN A REPPLICATION PROCESS CONSISTING OF HAND DRAWINGS, DIGITAL MODELS AND LOGICAL ITERATIONS.

CHOICE OF SITE:

I CHOSE THIS SITE FOR THESE REASONS. THE SITE IS ROUGHLY 400 ACRES, LARGE ENOUGH TO CONTAIN THE ENTIRE PROJECT, ABOUT 12 ACRES OF FORESTED LAND AND APPROXIMATELY 2 MILES OF LAKE SHORE, BOTH BEING CHARACTERISTICS OF THE SITES IN THE CASE STUDIES. THE SITE IS ALSO LOCATED WITHIN SHORT DISTANCE OF I94 AND HIGHWAY 10 FOR EASE OF COMMUTE TO AND FROM THE SITE.

DESIGN INSPIRATION

IN ADDITION TO THE INSPIRATION TAKEN FROM THE CONTEXT OF THE SITE. MOSTLY BUT NOT LIMITED TO THE INSPIRATION OF MATERIAL CHOICES AND BUILDING PLACEMENT WITHIN THE OVERALL SITE.

I ALSO ESTABLISHED A SECOND DESIGN INSPIRATION. MY ADDITIONAL INSPIRATION CAME IN THE FORM OF THE AUTOMOTIVE ROLL CAGE, A SAFETY FEATURE ADDED TO RACE VEHICLES. THROUGH THE MULTIPLE INSPIRATION OVER THE SEMESTER. I CHOSE THIS ONE BECAUSE IT RELATED BACK TO THE LAST LINE IN THE THESIS STATEMENT. WHICH MENTIONS THE IMPORTANCE OF THE ABILITY FOR THIS PLACE TO BE A LOCATION FOR SAFER DRIVING BEHAVIORS BY PROVIDING AN OUTLET FOR BAD DRIVING BEHAVIORS.



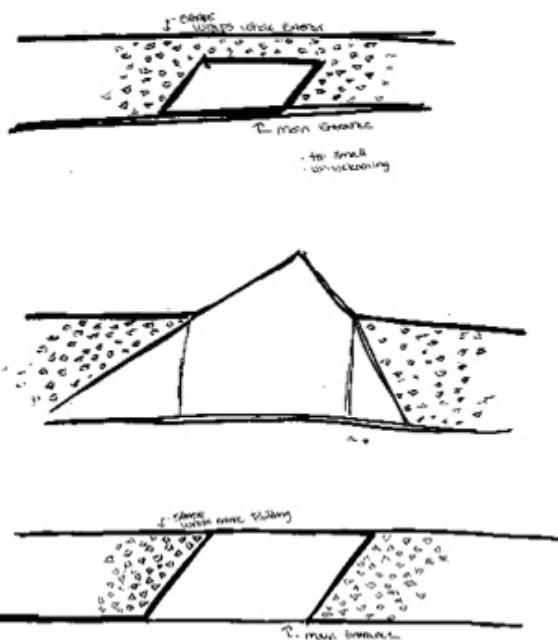
DESIGN ITERATION PROCESS

IN STARTING THE ITERATION PROCESS I SET FORTH A FEW IMPORTANT ASPECTS OF DESIGN.

- UTILIZATION OF THE DESIGN INSPIRATION
- FRAMING OF VIEWS
- DAYLIGHTING NEEDS
- PROTECTION FROM WIND
- AND CREATING UNITY IN SPACES

I THEN SET FORWARD WITH THE ITERATION PROCESS. THIS BEGAN AS HAND DRAWINGS AND SKETCHES.

AS DECIDED WITH MY STUDIO PROFESSOR, THE MAIN FOCUS OF THE DESIGN WOULD BE ON THE MAIN REGISTRATION BUILDING. AND THOSE DESIGN CONCEPTS WOULD THEN BE CARRIED OVER INTO THE OTHER BUILDINGS. THOSE BUILDINGS WILL BE CONCEPTUAL MASSING.

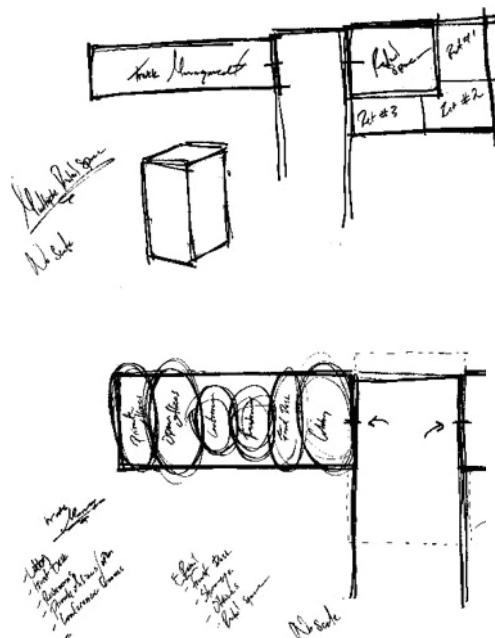


FORM ITERATIONS

WHAT I WAS ABLE TO ESTABLISH FROM THIS DESIGN ITERATION PROCESS WAS A VARIETY OF TAKEAWAYS THAT LASTED ALL THE WAY THROUGH THE ENDING OF THE PROJECT.

FOR INSTANCE, FROM THE DESIGN ITERATION PROCESS, I WAS ABLE TO ESTABLISH A VARIETY OF ASPECTS THAT FOLLOWED THROUGH TO THE FINAL DESIGN.

THE BUILDING IS TO BE LOCATED ON THE WESTERN EDGE OF THE SITE, IN ORDER FOR THE LINEAR LAYOUT OF SPACES TO TAKE FULL ADVANTAGE OF THE SITE CHARACTERISTICS. ALSO CREATING A LINEAR FORM AND PROMINENT ENTRANCE I WAS ABLE TO CREATE A SENSE OF PLACE BY FRAMING THE VISITORS VIEW.

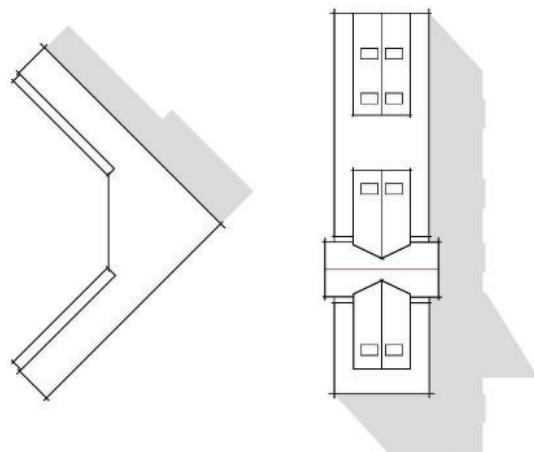


FLOOR PLAN ITERATIONS

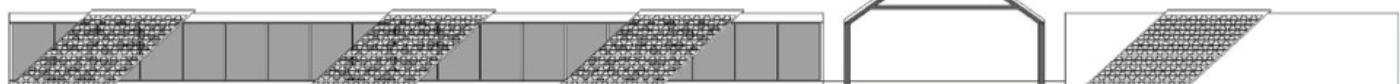
DESIGN ITERATION PROCESS

IN ADDITION TO THE DESIGN CONCEPTS THAT EMERGED DURING THE HAND DRAWING PHASE OF THE ITERATION PROCESS, I WAS ABLE TO MOVE ONTO A PROCESS OF 3D MODELING. THE PROCESSES OF 3D MODELING AND THE HAND DRAWING PRIOR OVERLAPPED A BIT. TOGETHER THE PROCESS ALLOWED FOR A FURTHER UNDERSTANDING OF THE DESIGN CONCEPTS.

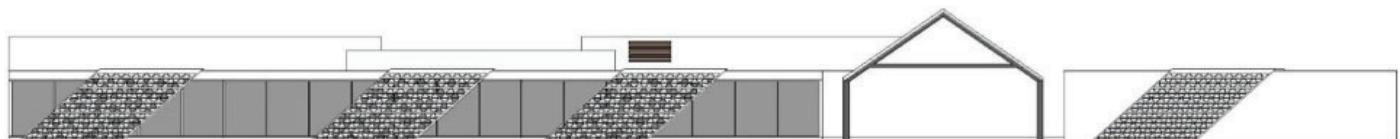
THE FOLLOWING IMAGES ARE 3D SKETCHUP MODELS AND DRAWINGS OF THOSE MODELS.



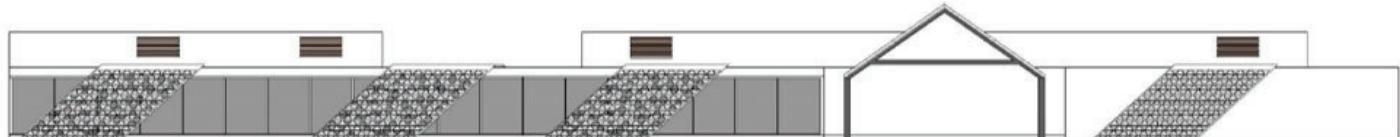
3D MODEL & DRAWING ITERATIONS



ELEVATION ITERATION



ELEVATION ITERATION



ELEVATION ITERATION

FINAL DESIGN

THE FINAL DESIGN WAS A COMBINATION OF SEVERAL DESIGN CONCEPTS THAT FOLLOWED THROUGH FROM THE BEGINNING OF THE DESIGN ITERATION PROCESS UP TO THIS POINT. IN ADDITION TO THESE DESIGN CONCEPTS, A FEW KEY ASPECTS THAT I THINK MADE THIS THE FINALIZED THIS DESIGN. WAS THE ABILITY TO CREATE AND MAINTAIN A CERTAIN DESIGN AESTHETIC THROUGHOUT THE ENTIRE DESIGN. AND THE SECOND KEY ASPECT THAT I THINK MADE THIS THE FINAL DESIGN WAS THAT IT CREATED A SENSE OF UNITY ACROSS ALL OF THE DIFFERENT TYPOLOGIES AND THAT IT CREATED A SENSE OF PLACE WITHIN THE SITE. THIS WAS IMPORTANT AS THE PROJECT AIMED NOT TO SIMPLY PLACE MULTIPLE TYPOLOGIES WITHIN ONE SITE BUT UNIFY THEM TOGETHER IN A WAY THAT WOULD MAKE THEM SEEM AS THOUGH THEY WERE ONE PROJECT. AND I THINK THIS DESIGN OF ALL THE DESIGN ITERATIONS DID THIS BEST.

IN THE PERSPECTIVE AT THE BOTTOM, YOU CAN SEE HOW THE DESIGN ITERATION PROCESS INSPIRED THE FINAL DESIGN. FROM A VERY LINEAR FORM TO THE OVERLY PROMINENT ENTRANCE CANOPY. I THINK YOU CAN ALSO SEE IN A VARIETY OF DESIGN ASPECTS WHERE I TOOK INTO CONSIDERATION BOTH DESIGN INSPIRATIONS.

FOR EXAMPLE, THE MATERIAL CHOICES WERE A 50/50 OF BOTH INSPIRATIONS. THE INSIDE OF ALL VAULTED CEILINGS ARE WOOD TO MATCH THE CONTEXT OF THE SITE. WHILE MATERIAL CHOICES OF THE CANOPY STRUCTURE TO THE MATERIAL OF THE SUN SHADES AND THE EXTERIOR FACADE ARE ALUMINUM IN ORDER TO RELATED THE DESIGN BACK TO THE AUTOMOTIVE TYPOLOGY AND THE INSPIRATION.

THESE MATERIAL CHOICES AND DESIGN DECISIONS ARE WHAT FOLLOW THROUGHOUT ALL BUILDINGS IN THE PROJECT, EVEN IF MANIFESTED IN DIFFERENT WAYS.



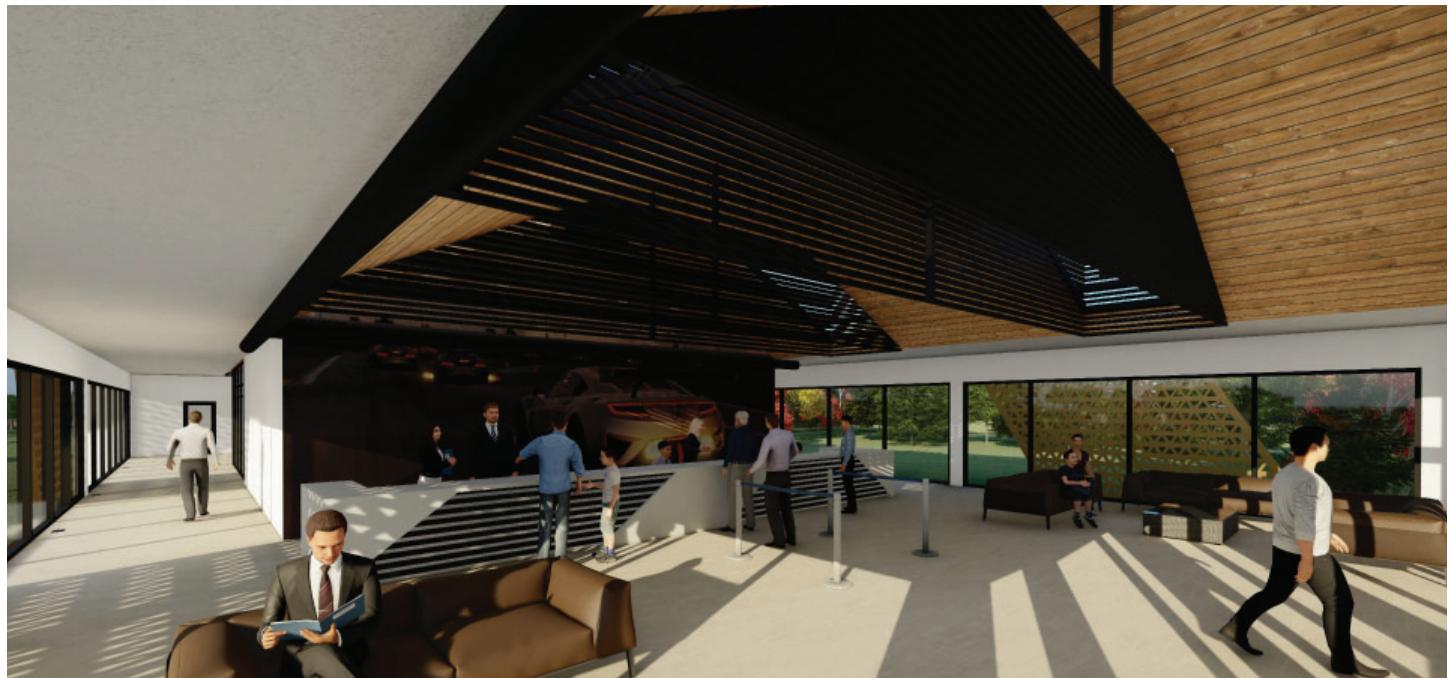
REGISTRATION EXTERIOR PERSPECTIVE

FINAL DESIGN

THE INTERIOR OF THE DESIGN FOLLOWS THE SAME DESIGN CONCEPTS THAT WERE INTRODUCED ON THE EXTERIOR. THE FORM IS LINEAR AND CONTAINS VAULTED PORTIONS OF THE INTERIOR IN ORDER TO CREATE A DRAMATIC AND INTERESTING POINT OF FOCUS. THIS BUILDING IS THE AREA IN WHICH THE VISITORS WILL FIRST ENCOUNTER ALONG THEIR WAY THROUGH THE SITE. AND IS THE FOCAL POINT AS THEY ENTER THE SITE. THE INTERIOR UTILIZES THE SAME MATERIAL CHOICES AS THE EXTERIOR OF THE BUILDING.

FOR EXAMPLE, THE VAULTED CEILINGS ARE CLAD IN WOOD MUCH LIKE THE EXTERIOR. AND THE SKYLIGHT SHADES THAT EXTEND FROM THE CEILING ARE ALUMINUM, ALONG WITH THE MATERIALS THAT MAKE UP THE FRONT DESK.

THE TILING OF THE FLOOR MATCHES THE TILING OF THE EXTERIOR PATH WAYS. THIS HELPS IN CREATING A SENSE THAT THE INTERIOR IS OPEN TO THE EXTERIOR.



REGISTRATION INTERIOR PERSPECTIVE



REGISTRATION INTERIOR PERSPECTIVE



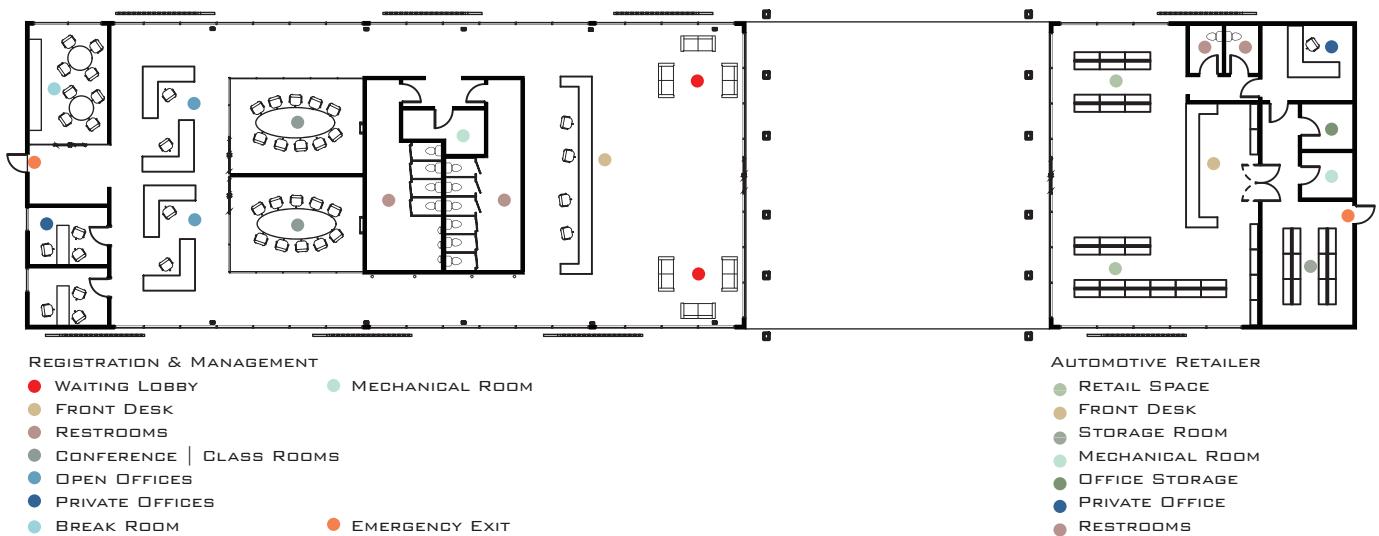
RETAIL INTERIOR PERSPECTIVE

FINAL DESIGN

THE FLOOR PLAN, CONSISTS OF PRIVATE AND CLOSED SPACES IN THE CENTER OF THE PLAN WHILE PUBLIC PORTIONS OF THE PLAN ALLOW FOR FLOW AND CROSS UTILIZATION OF MULTIPLE SPACES FOR DIFFERENT USES. THIS MAXIMIZED THE AMOUNT OF UTILITY GIVEN BY THE AMOUNT OF SPACE PROVIDED.

AS SEEN BY USING THE FLOOR PLAN GUIDE, THE PRIVATE AND MECHANICAL SPACES ARE HOUSED IN THE CENTER OF THE PLAN. THIS ALLOWS FOR MAXIMUM AMOUNT OF DAYLIGHTING BY MAXIMIZING THE AMOUNT OF EXTERIOR GLAZING PLACED ALONG BOTH SIDES OF THE BUILDING.

ADDITIONALLY THE FLOOR PLAN SHOWS THAT BOTH PORTIONS OF THE BUILDING SHARE A SIMILAR ENTRANCE. BOTH HOUSED UNDER THE PROMINENT CANOPY ENTRANCE TO THE SITE ARE TWO IDENTICAL ENTRANCES MIRRORED ACROSS FROM EACH OTHER.



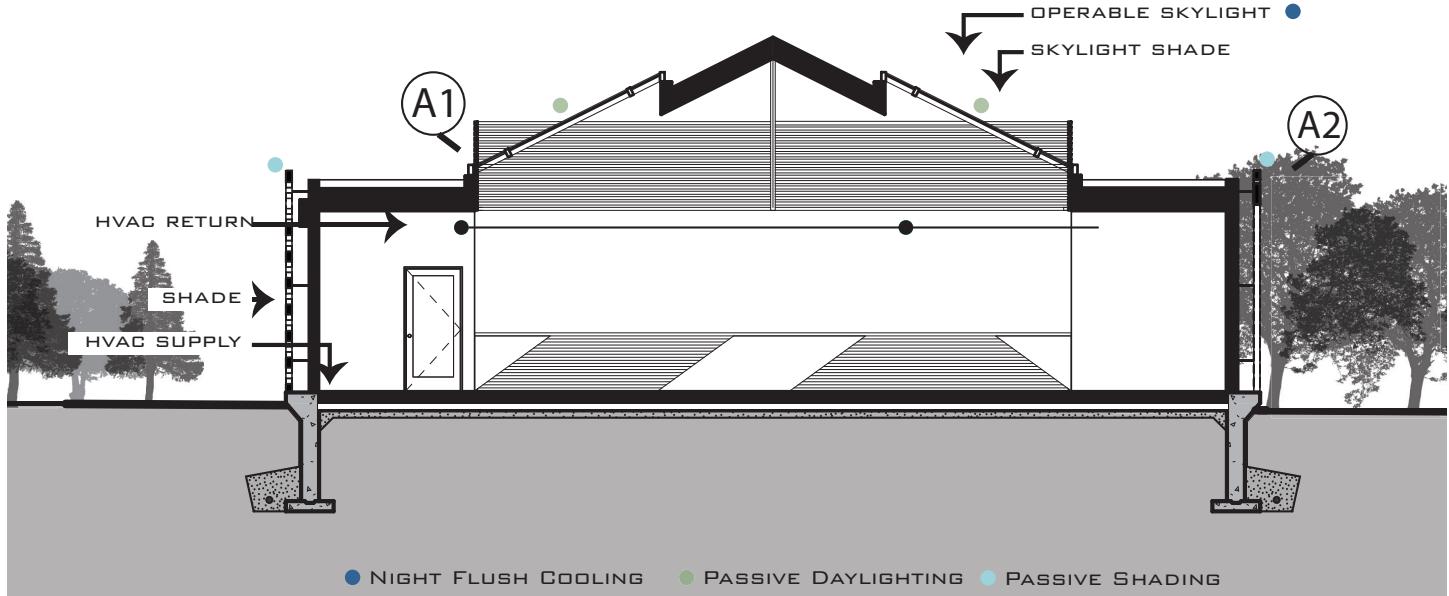
R&R FLOOR PLAN

FINAL DESIGN | PASSIVE

THE DESIGN OF THE BUILDING ALSO FEATURES A COUPLE PASSIVE DESIGN SOLUTIONS. THE FIRST OF WHICH IS NIGHT FLUSH COOLING, THIS IS DONE BY USING OPERABLE SIDE WINDOWS AND SKYLIGHTS. THIS ALLOWS THE BUILDING TO FLUSH OUT WARM AIR FROM THE DAY AND REPLACE IT WITH COOLED AIR FROM OVERNIGHT. THESE WINDOWS ALSO ALLOW THE BUILDING TO GAIN FRESH AIR THROUGHOUT THE DAY IF WANTED.

THE SECOND SYSTEMS BEING PASSIVE DAYLIGHTING. THIS WAS DONE BY DESIGNING THE BUILDING MAXIMIZE THE AMOUNT OF EXTERIOR GLAZING ON EITHER SIDE OF THE BUILDING. THIS DAYLIGHTING CUTS DOWN ON THE AMOUNT OF ACTIVE LIGHTING USED WITHIN THE BUILDING.

THE THIRD PASSIVE DESIGN SOLUTION USED WAS THE OPERABLE PASSIVE SHADING SYSTEM ON THE EXTERIOR FAÇADE OF THE BUILDING. THEY NOT ONLY PROVIDE A DYNAMIC DESIGN TO THE FAÇADE BUT THEY ALSO PROVIDE SHADE WHERE AND WHEN THE OPERATORS OF THE BUILDING DECIDE. THIS SYSTEM CUTS CAN ULTIMATELY HELP LOWER THE AMOUNT OF COOLING THAT THE BUILDING OR CERTAIN ROOMS WITHIN THE BUILDING NEEDS.



BUILDING SECTION

FINAL DESIGN

AS PREVIOUSLY MENTIONED, THE PROJECT INCLUDES BUILDINGS THAT ARE EITHER COMPLETELY DESIGNED AS THE PREVIOUS BUILDING AND OTHERS THAT ARE SIMPLY CONCEPTUAL MASSING. THESE MASSING ALLOW ME TO ILLUSTRATE THE ABILITY TO UNIFY THE DESIGN ACROSS MULTIPLE ASPECTS OF THE PROJECT. AND ALLOWS ME TO SHOW THE COMPLETE EXTENT THE PROJECT AIMS TO INCORPORATE.

THE FIRST OF THOSE BUILDINGS IS THE SPECTATOR SEATING BUILDING. THIS BUILDING HOUSES FOUR INDIVIDUAL ROOMS THAT CAN BE UTILIZED FOR CONCESSIONS. THE BUILDING ALSO INCORPORATES SEATING FOR ROUGHLY 2,000 SPECTATORS.

THIS DESIGN FEATURES THE SAME DESIGN AESTHETIC AS THE PREVIOUS BUILDING AND FOLLOWS THE SAME DESIGN CONCEPTS. THE SAME DESIGN CONCEPTS THAT WERE ESTABLISHED DURING THE DESIGN ITERATION PROCESS. THE ONLY DIFFERENCE IS THAT THE DESIGN UTILIZED THE ROOF STRUCTURE CONCEPT AND MULTIPLIED IT ACROSS THE ENTIRE BUILDING. CREATING A DIFFERENT BUT ALSO SIMILAR DESIGN THAT UNIFIES THE PROJECT.

THE FOLLOWING ARE RENDERING OF THE SPECTATOR SEATING BUILDING.



SEATING ENTRANCE PERSPECTIVE



SEATING EXTERIOR PERSPECTIVE



RACING PERSPECTIVE



CONCESSIONS PERSPECTIVE

FINAL DESIGN

THE SECOND CONCEPTUAL MASSING PORTION OF THIS PROJECT IS THE HOTEL. AGAIN, THE REASON FOR THIS BUILDING IS THAT IT HELPS TO BRING IN REVENUE TO THE ENTIRE PROJECT THEREFORE CREATING VIABILITY TO THE DEVELOPMENT OF THE PROJECT.

THE HOTEL ALSO FOLLOWS THE SAME DESIGN CHARACTERISTICS AND KEY CONCEPTS THAT ALLOWED THE FINAL DESIGN OF THE PREVIOUS TWO BUILDINGS.

FOR EXAMPLE, THE BUILDING UTILIZES THE SAME VAULTED ROOF STRUCTURE THAT WAS ESTABLISHED IN THE FIRST BUILDING. THE ONLY DIFFERENCES IS THAT THE CONCEPTS ARE MANIFESTED IN DIFFERENT WAYS. FOR EXAMPLE THE VAULTED ROOF STRUCTURE BECOMES THE OVERALL BUILDING FORM OF THE HOTEL INSTEAD OF AN ASPECT OF THE DESIGN.

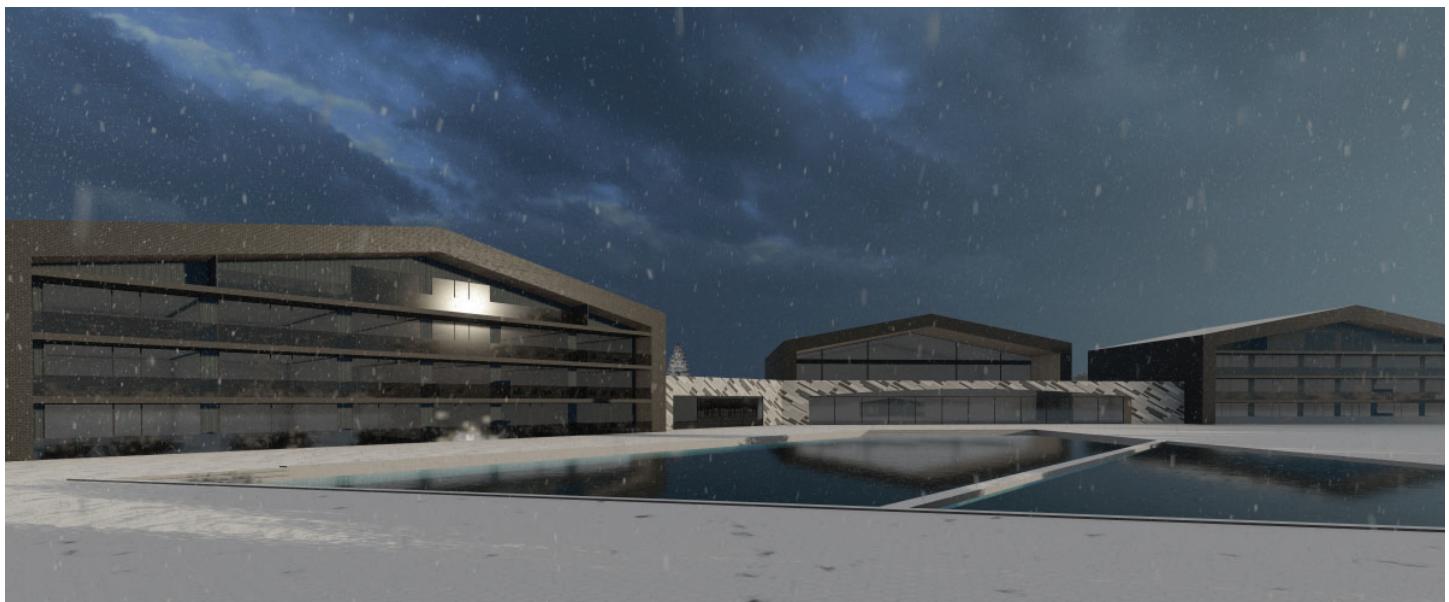
THE HOTEL ALSO INCLUDES THE SAME USE OF MATERIALS. FOR INSTANCE, THE INSIDE OF ALL VAULTED CEILINGS ARE CLAD IN WOOD TO RELATE BACK TO THE SITE CONTEXT. WHILE THE PLACEMENT OF THE BUILDING ALSO UTILIZES A SITE CHARACTERISTICS ESTABLISHED DURING THE DESIGN ITERATIONS AND SITE ANALYSIS. THAT IS, THE BUILDING SITS WITHIN A LARGE COMPLEX OF TREES, THIS NOT ONLY PROVIDES PRIVACY TO THE HOTEL BUT ALSO USES NATURAL WIND BLOCKS.



HOTEL ENTRANCE PERSPECTIVE



HOTEL ENTRANCE PERSPECTIVE



HOTEL PERSPECTIVE

APPENDIX

REFERENCES

APPENDIX

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PREVIOUS STUDIO EXPERIENCE

2ND YEAR | FALL SEMESTER
JOAN VORDERBRUGGEN

PROJECTS:

- TEA HOUSE

TAKEAWAYS:

- ATTENTION TO SITE CONTEXT AND ANALYSIS OF CONTEXTUAL ELEMENTS.

2ND YEAR | SPRING SEMESTER
DARRYL BOOKER

PROJECTS:

- MONTESSORI SCHOOL
- BIRD HOUSE
- MARFA DWELLING

TAKEAWAYS

- INTRODUCTION TO DESIGNING WITH GUIDELINES AND REGULATIONS.
- DESIGNING WITHIN LIMITED SPACE.
- INTRODUCTION TO TRADITIONAL WOODWORKING TECHNIQUES.

3RD YEAR | FALL SEMESTER
MIKE CHRISTENSON

PROJECTS:

- BOAT HOUSE
- WAREHOUSE RENOVATION

TAKEAWAYS:

- ATTENTION TO HISTORICAL CONTEXT.
- INTRODUCTION TO SOFTWARE (REVIT & RHINO).

3RD YEAR | SPRING SEMESTER
MARK BARNHOUSE

PROJECTS:

- APPAREO SYSTEMS (CONCRETE)
- SANFORD CLINIC (STEEL)

TAKEAWAYS

- UNDERSTANDING OF CONCRETE STRUCTURES. AND MULTIPLE USE SPACES.
- UNDERSTANDING OF STEEL STRUCTURES. PLUS ATTENTION TO PRIVACY AND MEDICAL SPATIAL REQUIREMENTS.

4TH YEAR | FALL SEMESTER
DAVID CRUTCHFIELD

PROJECTS:

- HIGH RISE

TAKEAWAYS:

- ATTENTION TO SITE, REGIONAL AND HISTORICAL CONTEXT.
- STRICT ATTENTION TO CODE.

4TH YEAR | SPRING SEMESTER
DAVID CRUTCHFIELD

PROJECTS:

- SOUTH FARGO PUBLIC LIBRARY

TAKEAWAYS

- MASTER PLAN DEVELOPMENT.
- COMMUNITY INVOLVEMENT.

AUSTIN R. STOKKE

2745 OLIVE LN.

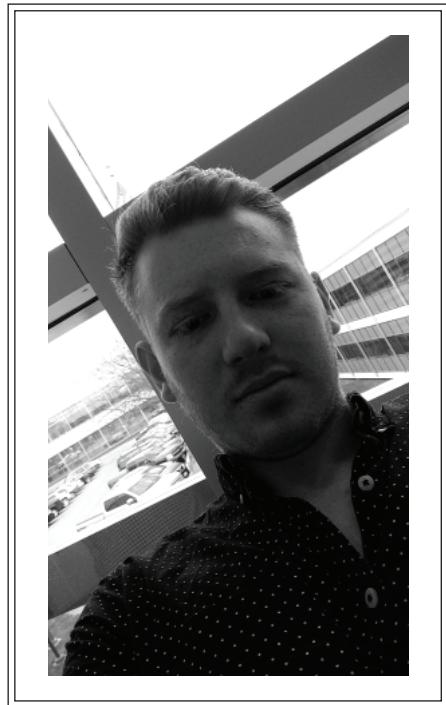
PLYMOUTH, MN.

PERSONAL CONTACT

763_447_0463

AUSTINSTOKKE@GMAIL.COM

[HTTPS://AUSTINSTOKKE.WIXSITE.COM/MY-PORTFOLIO](https://austinstokke.wixsite.com/my-portfolio)



THANK YOU,
AUSTIN STOKKE