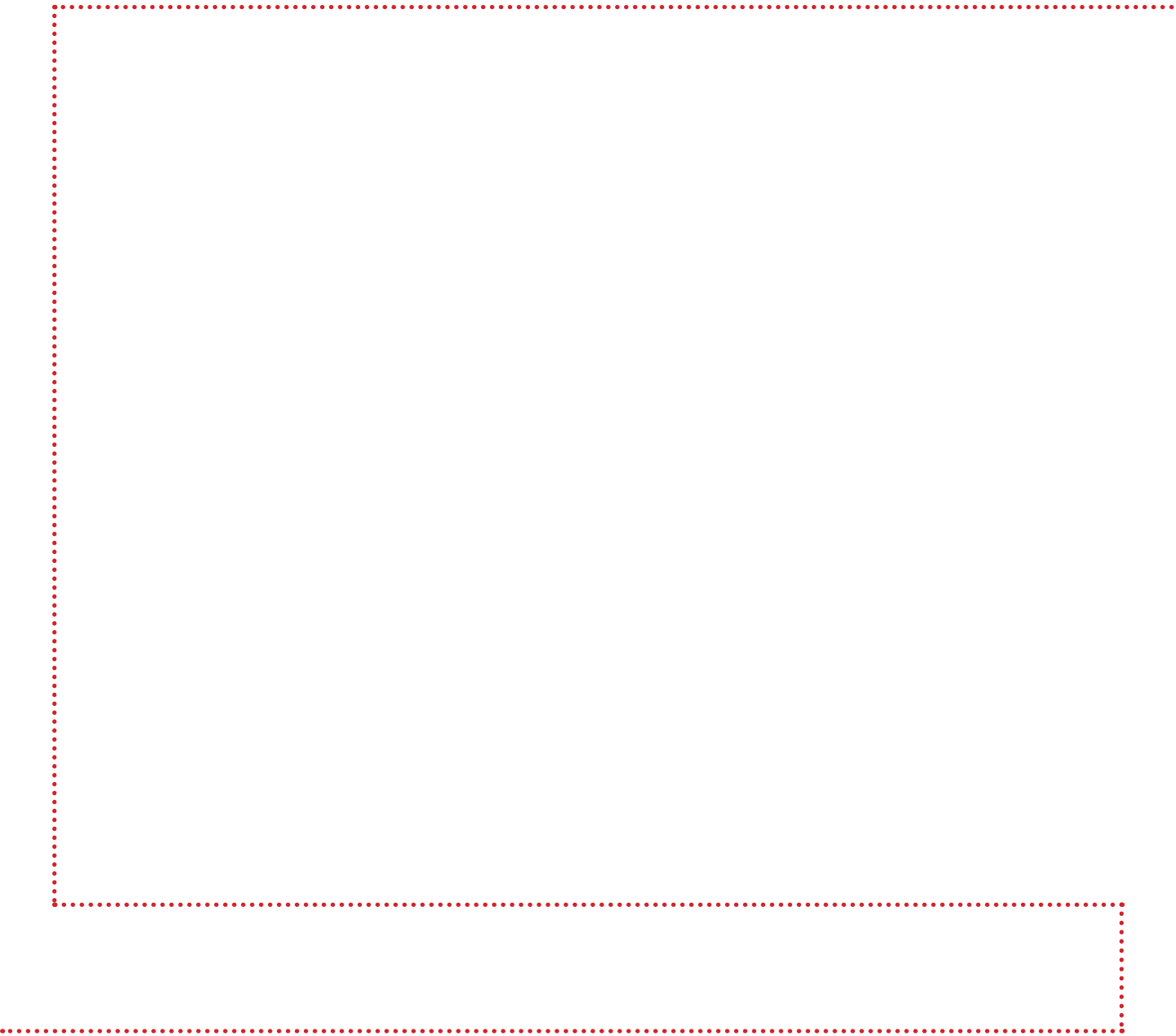


MORGAN CITY 2011
DOCUMENTING THE FLOODS
FOR THE MORGAN CITY ARCHIVES

TULANE UNIVERSITY
SCHOOL OF ARCHITECTURE
SERVICE LEARNING :: FALL 2011







DOCUMENTING THE 2011 FLOODS FOR THE MORGAN CITY ARCHIVES

As the 2011 flood waters slowly made their way down the Mississippi River, the state of Louisiana was assessing the potential impact to the river's immediate neighbors. Based on projected water quantities, officials decided to open the Morganza floodway for the second time in its existence, diverting vast amounts of the river overflow from Baton Rouge and New Orleans into the Atchafalaya Basin and inevitably the surrounding communities. Morgan City entered the national spotlight as the last stop on this diversion into the Basin. As the waters rose, Morgan City prepared to be flooded and eventually was so.

In a series of interviews, Tulane School of Architecture second year students documented the businesses hardest hit by the flooding. They then compiled their material into this volume presented to the Morgan City Archives, which does not have the excess labor to gather the information on their own accord, but thrives on the personal stories of its citizens.



TULANE SCHOOL OF ARCHITECTURE



This project would not have been possible without the support of Morgan City's **Mayor Tim Matte** and the **Chief Administrative Officer Lorrie Braus**.

Special thanks also go to the interviewees below:

Ellis Braus

Mike Breaux

Keith Daigle

Greg Dillon

Jerry Gauthier

Jerry Hoffpauir

Wayne Lancon

George Lange

Calvin Leleaux

Brandon Leonard

Chris Lipari

Bill New

Mike Patterson

Dale Rentrop, Jr.

Charlie Solar

Darby Washburn

Frankie Yates

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MORGAN CITY AND THE FLOOD OF MAY 2011



Andrew Liles

Along the quiet shores of the gulf, rising into the Atchafalaya Bay, whose estuaries run into the large surging basin that carves into the foot of Louisiana, abides the fortification of dwelling and industry that is Morgan City. Curbing its rim, a massive wall that encloses the interior negotiates the land and river, safeguarding the urban fabric with its formidable envelope.

Here abides twenty two feet of forcible concrete and steel rising from the city perimeter with its large apertures leading to the other side, lined with docks hugging the water's

edge. Their closure hides the waters and shields the streets; their opening bridges the industries of work and life.

Here abides the birthplace of offshore oil drilling and the title of Jumbo Shrimp Capital. Here is a city of towering oil rigs and trolling shrimp boats, two resources together in one system of industry, where those ways of life are celebrated annually by the spirit of the whole community. At this time, the Shrimp and Petroleum Festival of Morgan City has had 76 anniversaries and is still as alive as ever. And here abides a place founded on the very notion of support.

HERE ABIDES TWO RESOURCES TOGETHER IN ONE SYSTEM OF INDUSTRY, WHERE THOSE WAYS OF LIFE ARE CELEBRATED ANNUALLY BY THE SPIRIT OF THE WHOLE COMMUNITY...

And support was called upon in early May of the summer of 2011 when the water released from the Morganza Floodway descended the Atchafalaya Basin and rushed towards the city. The people had been initially warned of an eight foot water level increase, an inconvenience, but enough to close the large gates of the seawall. As the time approached, within hours the predictions increased to 9.5 feet, a level that was beginning to touch something of a major concern. Still more threatening conditions surged inward as word of a 12 to 13ft flood leaked into the backbay, and now the northern Lake Palourde was swelling - so was concern for the stability of its surrounding levees. The water's crest was now approaching an unsettling level: at 10.3 feet, it hadn't been this high since the monstrous flood of 1973.

The escalating situation had then gained national attention, and some began to see its potential severity. The National Guard swooped in, filling three miles worth of Hesco baskets with sand in hopes to bolster the levees against the northern lake. In further efforts to divert the flow of water in the backwater area, the local levee district (with the strong endorsement of the local government) spearheaded the sinking of a massive 500' long 40' high barge in Bayou Chene. Some citizens chose to escape the impending surge while others remained to tend to their makeshift walls of bagged sand.

Intense preparations paired with overspeculation paid off as the city's core was spared from any major flooding. A number of unprotected businesses residing in the more sensitive areas, however, did experience various degrees of water damage. Their operations then ceased, not in attempts to prevent the oncoming of water, but in order to speed up their recovery processes. The experiences of such businesses (and other individuals) have been documented by students of the Tulane School of Architecture with the goal to create an archive of rich historical events.

Despite its threatening indifference, the river still remains tightly connected to the community and industry of Morgan City as an integral part that defines its system of life and dwelling. The people of Morgan City acknowledge this by nurturing the connection. Waterfront events including concerts and gatherings consistently reconnect the people to the river. As the swirl of the rising river subsided for the second time in May of 2011, the water and its beneficiaries both remained close, unified throughout the ordeal. Literally and figuratively, Morgan City is once again reopened. Here, we find a dynamically woven and responsive community that remains proud, still bending and molding with the land and water from which it so delicately grew.

All information in this narrative has been extracted from a speech given by the mayor of Morgan City to the second year students.



THE MORGAN CITY FLOODWALL



www.cityofmc.com

Morgan City as it is would not exist without the Atchafalaya River. Although the river provides for Morgan City - both the shrimping and petroleum industries depend on the water - its constant flux can deliver times of both high prosperity and complete devastation.

Following years of flooding and attempts at river control, the U.S. government created the Mississippi River Commission in 1879, which was charged with developing and implementing a comprehensive plan to improve

navigation and prevent destructive floods; a tremendous aid to the Army Corps of Engineers. However, their ability to design and construct new structures was severely limited to that of navigational concerns.

It was not until the first federal Flood Control Act of 1917 that the government began to appropriate resources solely committed to the task of protecting the public from flooding along the Mississippi River, allowing the MRC to begin construction of flood levees that were near

MORGAN CITY AS IT IS WOULD NOT EXIST WITHOUT THE ATCHAFALAYA RIVER. ALTHOUGH THE RIVER PROVIDES FOR MORGAN CITY ... ITS CONSTANT FLUX CAN DELIVER TIMES OF BOTH HIGH PROSPERITY AND COMPLETE DEVASTATION.

completion by 1926.

However, the destructive nature of the river was soon displayed. Continuous rainstorms that began in August, 1926, caused the Mississippi River to swell in volume, eventually inundating approximately 16,570,627 acres of land in the Mississippi River Basin. Morgan City, located in the bottom of this basin, is the last town the water reaches before entering the Gulf of Mexico.

The flooding in the town was devastating, particularly because at the time there was no barrier between the town and the turbulent waters. The flood left 246 fatalities, 600,000 homeless, and \$230 million (\$5 billion at current value) of damage in its wake.

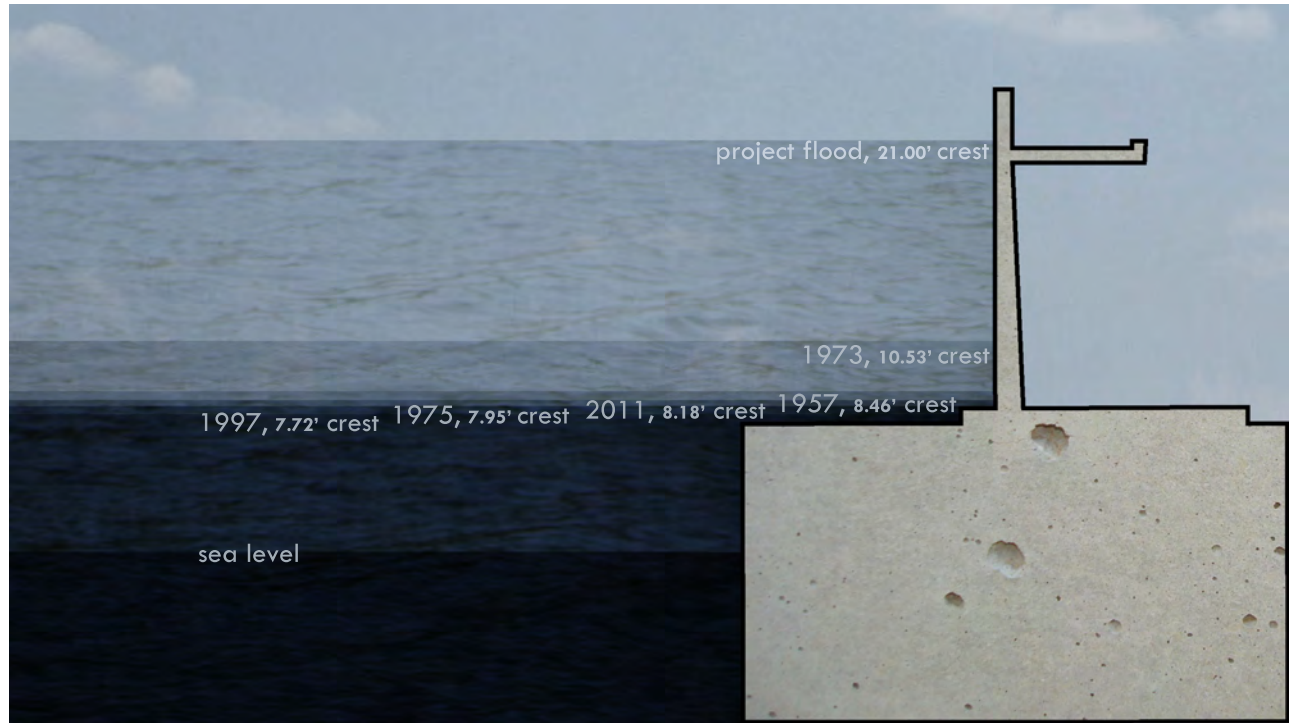
Morgan City needed help. With the Flood Control Act of 1928, the beginnings of a comprehensive flood strategy involving military engineers, the government, and the public was put in place. No longer were levees designed to simply withstand the worst previous flood but were constructed to protect against future disasters.

As part of the “Project Design Flood,” Morgan City serves as one of two outlets where 1.5 million cubic feet of water is meant to flow in a controlled manner. By the next major flood in the spring of 1973, the levee along Morgan City’s historic downtown had evolved into a 7-foot high floodwall, 13 feet above the height of the river. This proved to be just enough to prevent major flooding of downtown Morgan City - the water rose 10.5 feet from its normal height.

In 1987, the U.S. Army Corps of Engineers again upgraded the levee protecting downtown Morgan City, replacing the existing 7-foot high floodwall from the 1940s with a new 17-foot high floodwall stretching the 11,500 feet along both sides of the river. At the time, the Corps developed the largest steel closure gates for its type, as well as the highest and longest floodwall of its type for \$24.4 million. A series of walkways and stairs along the top of the wall, in addition to landscaping and cast in place graphics, helped to alleviate the immense verticality of the concrete floodwall. This design won numerous engineering awards, while also serving as the first of its kind for the Army Corps of Engineers.



HISTORIC FLOODS OF MORGAN CITY



Flood crest heights found on the National Weather Service website, diagram by the authors

In response to a massively destructive flood of the Mississippi in 1927, Congress directed the US Army Corps of Engineers to find a way to control the Mississippi. The Corps began an ambitious control project that included dramatic changes to the Atchafalaya Basin, an area formed by the Atchafalaya River, a tributary of the Mississippi also hit hard by the 1927 flooding.

Major floods of the Mississippi River and its tributaries occurred in 1927, 1937, 1945, and 1957. The Corps built the Morganza Spillway to restrict the water

flow into the Atchafalaya River. The Spillway would redirect 30% of the water from the Mississippi River and the nearby Red River into the Atchafalaya, and towards Morgan City.

The flood of 1927 had an estimated recurrence interval of 50 years, and 46 years later in 1973, another flood threatened the waterways. In 1973, the Morganza Spillway was opened to relieve water from the Mississippi River causing a ten foot crest that flooded the city.

At that time Morgan City had about a ten-foot floodwall. Today it stands twenty-two feet tall. The current

THE MORGAN CITY FLOODWALL IS BUILT TO WITHSTAND A FLOODWATER CREST AT 21 FEET. THAT'S TWICE AS MUCH AS THE BIGGEST FLOOD ON RECORD, THE FLOOD OF 1973.

floodwall has twenty seven gates that can be individually opened and closed depending on the water levels. The changes made to the wall height were coupled with the addition of more pumps. This allows more precise control over the water.

The water came to the top of the previous floodwall in 1973; it did not flood the city, nor were any of the city's levees breached. The water came to the brink of the city's control, but did not overpower the wall.

The National Weather Service lists on their website crest levels according to severity. A rise of 4 feet is a flood stage and requires action. Some of the floodwall gates are closed to protect the city. At 7 feet the moderate flood stage starts. Since 1957 there have only been 8 floods that have reached this stage, in 1957, then in 1973, 1975, 1976, 1983, 1997, 2009, and 2011.

The final flood stage is a major flood stage, and isn't reached until the maximum water height reaches 12 feet. Morgan City has yet to experience a flood of that magnitude; the largest flood was that 1973 flood that prompted the raising of the wall to its current height. The current wall is able to withstand a project flood of 21 feet, far beyond the major flood stage.

37 years after the 1973 flood, which had an estimated 40 year resurgence interval, in 2011 another flood came. The flooding of the Mississippi threatened Louisiana's capitol of Baton Rouge and the major city of New Orleans. The Morganza Spillway was opened for the second time to again relieve the surging water of the Mississippi River. More than 125,000 cubic feet of water per second was diverted from the Mississippi River to the Atchafalaya Basin.

The spillway was operating at only 21% of its total capacity, but the diversion was deemed necessary to protect the levees and prevent major flooding in Baton Rouge and New Orleans. The price of this diversion was the possibly severe flooding in the Atchafalaya Basin, which includes Morgan City at its base.

By May 18th, 2011, a total of 17 gates in the Morganza Spillway had been opened, surpassing all previous records. This caused water levels to rise up to 13 feet in Morgan City. This is the highest the floodwater has ever gotten in Morgan City, and would have over-topped the floodwall in 1973. The current 22-foot floodwall was more than adequate to protect the city and the businesses on Front St., all because of the 12-foot addition built after the 1973 scare.



TRACKING THE FLOOD



Sunken Barge in Bayou Chene taken by Team New Orleans, US Army Corps of Engineers

Through interviews, news updates, and statements from the Mayor of Morgan City, a sense of the scope of the situation can be attained through the lens of those who before, during, and after faced the Morgan City flood firsthand. This timeline, or journal, will generate a sequence of the events to recreate the experience that occurred.

5/7/11 _ Mayor of Morgan City issued a statement to his community addressing that part of the Morganza Spillway system would be opened by the Army Corps of Engineers.

Larry Callais states in his interview with ABA Banking Journal that at this time the water level of Morgan City was at 7.55 feet. Flood level in Morgan City is merely four feet, and the Morganza Spillway had begun to open, a structure which diverts part of the flow of the Mississippi River through the Atchafalaya River which in turn goes down to Morgan City. The plan was to open 25% of the bays which would bring the water level to 11 feet by May 25th. However if 50% were to open as originally planned, the level would be 13 feet -- overtaking the major flood stage of 12 feet.

“IT IS GREAT TO SEE HOW A COMMUNITY COMES TOGETHER AND WORKS FOR THE BENEFIT OF ALL...” NOTES LARRY CALLAIS, PRESIDENT AND CEO OF MORGAN CITY BANK AND TRUST CO.

5/8/11_Morgan City resident Benjamin Davis builds a 2-foot levee to protect his family. Benjamin had been informed that the Morganza Spillway would open and might potentially flood within Morgan City. Benjamin noted that his mother-in-law who experienced the 1973 flood had 3 feet of water her house; sandbags were not able to keep the water out, but he added, "...we've got to try." Today, the river level in Morgan City remains at 7.55 feet.

5/12/11_In St. Mary Parish and St. Landry Parish the National Guard helps fill more than a half-mile of HESCO baskets, huge containers made of cloth and steel mesh that are filled with sand, soil, and rubble to protect Morgan City. Governor Bobby Jindal reports that the water is expected to reach the trigger point on Saturday, May 14th.

5/17/11_The Corps of Engineers, which man the Morganza Spillway, has not opened as many spillway bays as originally planned. Residents remain optimistic as long as the forecast remains at 25% of bay openings, shielding them from the 13 foot flood waters. The National Guard along with the community work 24/7 and continue to fortify the levee with HESCO bags. The community in turn provides meals and water to the National Guard.

5/18/11_An email from Larry Callais: "Here is the waterfront in Morgan City this morning... The gates are closed; the level is up to about 8 feet and the Morganza Spillway waters should begin to reach us today." A total of 17 of the 125 gates have been opened. By May 25th, residents anticipate 11-foot water level.

5/20/11_To protect the territories unguarded by the wall of Morgan City, the Bayou Chene project is initiated. It consists of a dam constructed by means of a large barge sunk into the river perpendicular to both banks. This was later fortified with sheet pile driven into the bed of the river as well as rocks and HESCO bags. This project was used to divert the backward flow of water into the surrounding marshlands, down the bayou, and into Lake Palourde.

5/26/11_One of the 17 bays is closed today. Original plans were approximately 60 bays, now revised to a number of 31. "This is good news and gives us a bit of indication that what has been done to this point to alleviate the pressure on the levee in Baton Rouge and New Orleans is working," says Callais.

5/31/11_Flood level reaches its peak of only 10.35 feet, 2 inches below historic high in 1973. From this point, the water levels have begun to slowly decrease.



BAKER HUGHES



Keith Daigle

When our class visited Morgan City, we were able to gain insight regarding the impact of the flooding on the city. With the floodwall looming over the entirety of Front Street, the surrounding environment felt bleak, yet I constantly reminded myself that what may seem a hindrance to the beauty of the riverfront is a very important aspect to the people and their livelihood. Without the protection that the wall provides, the threat of flooding would undoubtedly sweep away all hope of existence on

this historical site.

Through our investigation of Morgan City and our subsequent interview with the members of the community, we were able to discover some interesting and fascinating details about the people, the culture, and the threats of natural disasters. The community depends on this wall for protection, yet in what seems a paradoxical enigma, it is the wall itself which creates a division between the river (the industry of shrimp and petroleum) and the

HERE WE GO AGAIN.

people.

Our particular interviewee, Keith Daigle, is a plant manager at Baker Hughes, which is one of the largest companies in the area. Baker Hughes particular area of expertise is to provide supplies and services for the oil industry. Not only is Mr. Daigle involved with oil but his family has been a part of the industry for about 40 years. He has been living in the Morgan City area for 52 years, the entirety of his life. During the course of our interview, Mr. Daigle expressed his unique love for the city he lives in. Being of Cajun heritage, his culture and the people are very important to him. When asked if he would ever leave the area because of major flooding issues, he adamantly declared: "NO."

The flood of 2011 was expected to be of major concern. When the city first notified the community, Daigle's initial reaction was, "Here we go again!" According to him, many people and businesses, including Baker Hughes, spent a lot of money and time in order to prepare for this disaster. Businesses along the floodwall shut down, sacrificing income. Although the prediction of extremely high water levels was incorrect, Daigle noted city officials handled the situation very well, even better than the Corps of Engineers did because they were more accurate in their estimate of what might happen.

Because flood threats happen every few years in the Morgan City area, Daigle claims that the Corps should handle these situations better than they have been since they have more accurate predictions of water levels. He says, "They know that the flooding will happen so why don't they open the spillway earlier and let water out, rather than to do nothing and wait till it's about to overflow the gates." He also considers the floodwall a positive addition to Morgan City, as most citizens do, because it protects their beloved city from flooding. Overall, no matter the threats of flooding, Keith Daigle does not plan on moving any time soon. The thought of losing his cultural influences is more frightening to him than flooding and its consequences.



CANDY FLEET CORPORATION



Candy Fleet

Candy Fleet is a leading provider of technologically advanced offshore supply vessels. The business is a proud family owned company, positioned in Morgan City, Louisiana. Since 1973, Candy Fleet has been serving the offshore energy business. They manufacture the most efficient equipment available for safe vessel oil companies.

An anonymous employee of Candy Fleet, Joe, describes Morgan City as his home. Joe describes his town by saying, "Morgan City is a nice, small town along the river, with a definite sense of community." Raised in Ohio, he initially came

to Morgan City for work in 1976. However, two years later, he found his current job at Candy Fleet ("Fleet" for short) where he makes a comfortable living: "I make good money at Candy Fleet."

Since he has been working at Fleet, Joe has settled in Morgan City. He has started and enjoys raising his family in this quiet community. One of Joe's favorite things about Morgan City is its illustrious Shrimp and Petroleum Festival, the oldest festival in the state. When asked what he liked most about it he responded, "I really enjoy all the different bands the festival attracts. It brings in around 60,000 – 70,000 people, from outside Morgan City

MY FRIENDS WERE LAUGHING AT HOW THE MEDIA WAS TRYING TO MAKE A BIG DEAL OUT OF NOTHING. THE MEDIA WAS WORSE THAN THE FLOOD.

and has many attractions from the bands, the park, and the fireworks on the barge.” One of the nights the festival sets off fireworks from the barges. Everyone at the festival gathers to watch the fireworks from the Long Allen Bridge. This is an event Joe always enjoys experiencing with his children.

When Morgan City is not hosting the festival, it continues on with its usual business routine just like any other city. However, most cities do not have to worry about the threat of flooding. The 2011 spring flood, that was a result of the opening of the Morganza Spillway, had a direct effect on Morgan City. Some businesses were damaged and harmed, while others were fine. For example, Joe spoke about how Candy Fleet, a boat company specializing in marine transportation, survived the flood relatively unscathed. Joe continued to explain the precautionary steps the company took to prepare for the high waters: “we tied the boats to the dock, closed the seawall so water couldn’t come in, closed commercial traffic, and moved our boats into Bayou Teche, docking them in the Berwick/ Bayou Vista area. Since we work out of different ports, we just sent the boats out to other locations, similar to what we do in hurricane season. We were only out of the office for six weeks.” Joe thought the whole flood was blown out of proportion, stating, “nothing was flooded in the downtown area. Front Street was left dry; there was only one house that was flooded.” The wall along Front St. protects the town from any flooding. Joe explained that the wall could have taken fourteen more feet of water before the river started to spill over the wall. He went on to describe one house on the riverside of the wall that had experienced major flooding but that was all the damage he recognized. Joe said this house became the target for news reporters and a muse for photographers: “my friends were laughing at how the media was trying to make a big deal out of nothing. The media was worse than the flood.” According to Joe, nothing positive came from all the media attention. The only thing the media did was create a story that did not exist.

Luckily, people in Morgan City took the necessary precautions in order to successfully prevent long-term damages to the town. They presented a united front and were successful in keeping their City safe. Joe emphasized that after the flood Morgan City is “still the same.” The only thing Joe would like to see improved in Morgan City is restoration of the old historic buildings on Front Street. Aside from the preservation efforts on Front St, Joe is happy with Morgan City and “would not change a thing.”



CENTRAL BOAT RENTAL COMPANY



Greg Dillon

In 1973, the first opening of the Morganza spillway caused massive flooding all through Morgan City, and in the summer of 2011, the same spillway was opened again. After interviewing local businessmen from the Central Boat Rental Company, the narrative describes the impact of the most recent flooding on their business. Mike Patterson, vice president, and Greg Dillon, controller, discussed their time in Morgan City and Berwick during the rise of the water. Patterson and Dillon were notified

about a month and a half before the flooding began to start their preparations for keeping the business safe from the oncoming waters. About 15 people contributed to the preparation efforts. The company spent between \$40,000 and \$50,000 to keep their properties in both Morgan City and Berwick safe. Only about ten percent of what they spent was overkill, but was a nice security to have. Central Boats ended up having to move everything out of their warehouse building and to higher ground to prevent dam-

THE WALL SURROUNDING MORGAN CITY HAD A TREMENDOUS EFFECT ON KEEPING THE CITY SAFE DURING THE FLOODING, AND IN THEIR OPINION IS A GREAT ASSET TO THE CITY.

age. Dirt was ordered to build a levee around the warehouse but ended up being used for a levee around the office building. They also completely gutting the building to prevent future mold damage. This man-made levee kept their company well-protected and the gutting of the building able for a new office facility for Central Boats. They had based a lot of their calculations off of the flood of 1973 in which Patterson's father had been in the same situation.

The flooding lasted for about a month. The height of the floodwaters caused Central Boats to close their locations in Berwick and Morgan City during this time. Due to their secondary location in Franklin they were allowed to continue their business during the flood. The most the company had to deal with after the flooding was cleaning up the sediment left by the receding floodwaters.

The wall surrounding Morgan City had a tremendous effect on keeping the city safe during the flooding, and in their opinion is a great asset to the city. They laughed when we asked if the wall was an important part of their city. This wall not only protects the city during large floods, but also during storm surges created by hurricanes, such as Rita. In preparation for the flood over the summer of 2011, a barge was also sunk in Bayou Chene in order to keep the city safe from flooding along the east side.

The largest inconvenience one of the men described was the annoyance the water created when he wanted to go out fishing. He had to drain the water out of his boat in order to go out.



COASTAL TANK CLEANING



Matthew Hinton_The Times Picayune

When viewing the site of the floodwall in Morgan City, Louisiana, the division between the river and public areas of Front Street is clear: The logical assumption is that this town was very divided and not extremely community oriented, but after speaking to the owner of Coastal Tank, Mr. Brandon Leonard, our perspectives changed. He grew up in Morgan City and lived there his entire life with his extended family. He has now started his own life in Morgan City with his wife and children and owns his own business on the wharf.

Having a business so close to the water can be a dangerous risk when levels begin to rise. Businesses are typically given at least a week's notice before a flood, if not longer. Once notified, preparations and movement to temporary offices begin immediately, especially in severe floods like the one last summer. Ideally, flooding does not shut down operations completely, but sometimes the effects are unavoidable.

According to our contact, this summer's flood did not leave the area of Morgan City entirely in chaos.

WHILE THE DECISION WHETHER OR NOT TO OPEN THE GATES AND EXPOSE MORGAN CITY TO FLOODING, RATHER THAN SUBJECT NEW ORLEANS OR BATON ROUGE, IS OFTEN CONTROVERSIAL, MR. LEONARD BELIEVES IT IS A NECESSARY FUNCTION, BOTH FOR THE AREA AND FOR THE GREATER GOOD.

However, at one point the flooding reached nearly two feet in the company's parking lot, which meant vehicles and equipment had to be relocated. When the company found out about the flooding, they were given one week to clear all of their equipment out of the yard. The Army Corps of Engineers opened the spillway slowly, which eased tension for many of the workers at Coastal Tank. Although the decision on whether or not to open the gates and expose Morgan City to flooding, rather than subject New Orleans or Baton Rouge, is often controversial, the owner, Mr. Leonard, believes that it is a necessary function, both for the area and for the greater good. Companies will at first have to shut down, but the necessary initial sacrifice will leave them better off in the long run. Companies who are still in their first years of business are usually the most affected by the flooding; as Coastal Tank has been well established for some time, they now know how to properly handle flood situations. Over the course of the last five years, Coastal Tank has had to shut down only three times, the worst being this past summer. According to Mr. Leonard, the aspect of flooding has been well controlled and doesn't end up significantly altering the industry or the way business is conducted.

Morgan City is well known for its annual Shrimp and Petroleum Festival, but much has changed since the original days when the town revolved around the shrimping business. Morgan City today has more shrimp imported than domestic shrimp caught, mostly due to the economics of high-energy costs and annual flooding. Although this has hurt the industry, new technology that helps to offset these effects has been invented that reuses water and conserves energy by using natural gas.

People may see the flooding in Morgan City as a negative effect, but in reality, many good things came of the floods. Reporters called daily for updates and interviews, which brought a high amount of traffic to the area. The city gained recognition and outsiders began to learn more about the character and lifestyle of Morgan City.

The challenge today is to remind people what an amazing place Morgan City remains. While they still have their annual Shrimp and Petroleum Festival, a poor economic and industrial environment has drastically affected the city, causing people to shy away from what used to be the lively Jumbo Shrimp Capital of the world.



CONRAD INDUSTRIES



Frankie Yates

Present in Morgan City since 1948, Conrad Industries is a shipbuilding company that specializes in small- and mid-sized ships for both commercial and governmental ventures. In addition to facilities in Amelia, LA, and Orange, TX, the company's Morgan City facility is home to a dry-dock, enclosed building areas, rolling cranes, and slips. Their business is not just limited to the oil industry, but also transportation and infrastructural needs. During the 2011 flood, Facilities Manager Frankie Yates stayed on-site 24 hours a day for the duration of flood preparations. This proactivity helped the shipbuilding facilities suffer less damage than in the 1973 flood. According to Yates, "the flood had a relatively minimum effect on

our facility due to planning and preventive measures executed by Conrad's personnel."

Prior to 1973, the company owned a number of dry-docks and facilities on the Atchafalaya River. However, the general lack of preparedness and the resulting devastation by the flood forced the company to move all but one dry-dock to separate locations. Morgan City is home to Conrad's only facility on the Atchafalaya, due to the city's important proximity and presence to the numerous Gulf industries. Federal measures to prevent a disaster of the same scale have contributed negatively to the river-bound industries, as silt buildup has increased riverbanks due to

EVENTS SUCH AS THE 2011 FLOOD FORCE THE COMMUNITY TO WORK CLOSER THAN NORMAL. HOWEVER, THIS PARTICULAR COMMUNITY IS COMMONLY CLOSE AND READY TO HELP EACH OTHER HOWEVER THEY CAN.

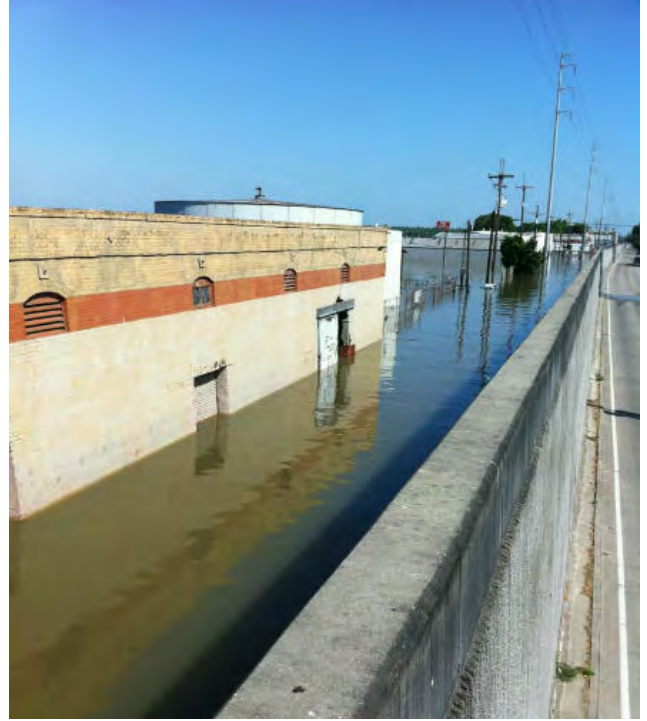
the location of the levees. This forces Conrad to dredge the riverbed twice a year to provide enough berth for the newly-constructed vessels. "The flood of 1973 inundated the facility, leaving massive amounts of sediment requiring months of clean up," Yates recalls. The facility was out of operation and underwater for eight months. The lessons learned from the devastation of the 1973 flood helped to better prepare Conrad Industries in the face of any future floods.

The main reason for Conrad's successful recovery after the 2011 flood was the use of a series of strong flood preparation plans and an organized approach to addressing the flood and the safety of the workers, equipment, customers, and property. "Conrad's Management Team formulated a series of plans in order to prepare for the impending flood that addressed: protection levee system around the facility, obligation to customers, relocating projects and equipment, obligation to workers, safety (emergency evacuation of flood team personnel, emergency rescue of flood team personnel), and restarting operations after the flood," Yates states. The company and its personnel successfully built a barrier around their facilities that managed to hold back the flood waters and leave their property high and dry. In addition to the work done on company property alone, "Conrad offered assistance to its neighbors in order to help them prepare and reduce exposure." In reference to the governmental involvement with flood preparation, "City officials worked to ensure safe access to the facility for large equipment and high capacity trucks by minimizing spectator traffic during the massive equipment and material mobilization that was necessary for the protection/relocation Conrad's operations, and helped in securing resources and sharing vital information concerning the flood by opening direct channels for all businesses and residents located in the flood prone areas in which information could be shared and questions could be answered." Any project that was in progress in Morgan City had to be transferred to either the Amelia or the Orange facilities. "Projects that had been relocated to nearby facilities had to be completed before equipment and personnel could return to the main facility. This lasting effect carried on through October and is now returning to normal."

The flood proved to be a strong litmus test for the city's sense of community. The general preparations needed and the struggle for survival brought the community closer together, united both in commercial and personal interests. Yates mentions that "this particular community is commonly close and ready to help each other however they can." Conrad looked to the surrounding community for help, adding additional work force to help carry out preparation plans. In regards to the future, Yates believes that "The community should continue to meet and discuss possible ways to offset the considerable cost to businesses and residents located in flood prone areas. These areas are known as deliberate flood areas designed for flood prevention of the larger cities along the Mississippi River and, when needed, save billions of dollars in flood damages." As Conrad Industries and Morgan City continue to coexist with the constant ebb and flow of the Mississippi and Atchafalaya rivers and as the company's current plans uphold their resilience to floodwaters, the company finds itself growing more rooted into the urban fabric, a reflection of the city's resilience itself.



JESSE J. FONTENOT INC.



Wayne Lancon

Jesse Fontenot, Incorporated, is a company that was formed in 1962 at the beginning of the oil and gas industry in the Gulf of Mexico. As a wholesaler of gasoline and oil products, a location with easy access to the gulf oil fields was crucial. For this reason the company located their main facilities in Morgan City on the banks of the Atchafalaya River. The owners were aware of the potential risks of this waterfront property, but due to the nature of their business and clients, it was a necessary risk

for them.

The 1973 flood was one of the largest floods on record for the Atchafalaya River. During this flood, Jesse Fontenot, Inc., was forced to relocate from its riverfront location. The recovery effort from this flood took approximately half of a year after the water receded. There were also significant economic losses. The flood that occurred this past summer affected the business significantly more than the last flood. The original reaction of the

THE FLOOD THAT OCCURRED THIS PAST SUMMER AFFECTED THE BUSINESS SIGNIFICANTLY MORE THAN THE LAST FLOOD. THE ORIGINAL REACTION OF THE COMPANY WAS OF CONCERN INSTEAD OF PANIC.

company was of concern instead of panic because they have experienced many floods in the past and had no major issues. However, this year's flood was different. In the past, they were able to work in the facilities they had, but due to the projected high water this year, they could not operate in their waterfront location.

In an email interview conducted November 7th with Mr. Wayne Lancon, Vice President/General Manager Jesse Fontenot, Inc., Mr. Lancon shared the company's reaction to the 2011 flood: "Early on we started to scout for a new location for our warehouse and repackaging facility as well as administration offices. After it was made clear that the coming flood event would exceed 8 feet, what we considered to be the maximum level we can work at, we secured one of the vacant buildings to relocate our facility. We moved all of the warehouse inventory and equipment in our first phase. We then emptied, cleaned, and secured our large bulk tanks to avoid a pollution issue should damage occur. We pumped fresh water into the tanks above what the projected river level was to be to stabilize and avoid any kind of movement."

After preparing for the flood, and after the water level reached a point where they could no longer operate, it was a matter of waiting until the water receded. During this time, the company operated out of its relocated offices. They continued to monitor the flood levels by checking the reports from the Army Corps of Engineers and the mayor's daily news briefings, and physically monitoring the river levels from the bridges and floodwall.

After the water receded, they immediately began the process of recovery. They stipulate that there have been significant economic losses, portions of which are not covered by their flood insurance, and there is still more loss due to the lack of marine traffic on the river, which the business relies on. This makes it impossible to estimate the actual total losses incurred by the flood. They have been working hard to clean up their waterfront property since the flood, but have yet to fully mend the damages to their site.

When asked about what they would do differently to minimize damage, Mr. Lancon stated that they would prepare the same way. He pointed out, however, that the more advanced notice they are given about the opening of the Morganza Spillway or coming floods, the better.



JOHNNY'S PROPELLER SHOP



Heritage Media LLC

Morgan City may not be booming with an influx of new citizens, but those who remain are loyal to their hometown. This is certainly the case with Ellis Braus, a fifty seven year-old man who has lived in Morgan City for his entire life. Ellis does not remember a time without the floodwall (initially the shorter ten-foot wall and now this twenty-two foot wall) and believes that it is a necessary part of the continuing existence of his city. This may be in part because he vividly remembers the flood of 1973

which inspired this newer, taller wall. In that flood he, as a nineteen year-old recent high school graduate, helped to make the sandbags that temporarily raised the height of the pre-existing wall. He feels that this most recent flood of the summer of 2011 seemed much more severe than the flood of 1973; Ellis claims it seemed so severe that this twenty-two-foot wall felt exponentially higher because of the sheer amount of water which he knew to exist on the riverside: a side, that contains his current place of employ-

ELLIS EXPRESSES HIS GRATITUDE TO THE ARMY CORPS OF ENGINEERS FOR THEIR ASSISTANCE DURING THE FLOOD AND TO THE FACT THAT HE LOST NOTHING TANGIBLE AND HAS BEEN ABLE TO MAINTAIN HIS JOB IN THE MIDST OF SUCH CHAOS.

ment. Ellis is the Vice President and General Manager of Johnny's Propeller. He has worked there since 1985, when he first started as a sales representative after being laid off from his job as a human resources director at an oil company.

Ellis says that luckily this flood inflicted no damages on the building because it is protected by a small levee built by the neighboring business. He points out that this is a very worthy investment, as the building of the levee cost approximately \$4000, and the damages that would have been inflicted without the levee would have been over \$500,000 to repair. Although the flood did not destroy any part of the business structurally, it has made it inoperable in its current location and Ellis had to remove equipment, renting a storage space within the city limits and moving the actual operating business to forty-five miles outside of Morgan City. He is now in the process of searching for a business location on the protected side of the wall; this will be a big change for the company, which has been on the unprotected side of the wall since 1945.

Ellis says he plans on never leaving Morgan City; it is his home, where he raised both his daughters (one who now lives in Baton Rouge, and the other in New Orleans), saw them become queens of the Shrimp and Petroleum Festival, and has his business. He believes the decline in population during the eighties was much more due to the failing oil industry than to the heightening of the wall, and says that in order to regain some of its population, Morgan City needs to have more housing development (meaning large land owners need to sell their land in order to allow for smaller plots to be built on, as well as for FEMA to approve land that is not necessarily a "plus six" or six feet above sea level). More than anything, however, Ellis expresses his gratitude to the Army Corps of Engineers for their assistance during the flood and to the fact that he lost nothing tangible and has been able to maintain his job in the midst of such chaos.



LANGE'S MARINE TOWING



Dick's Tugboat Gallery-George Lange

When we addressed the first component of this service-learning project, calling our interviewee, we prepared a list of comprehensive questions that would allow us to get a better understanding of the events that took place in the spring of 2011. Going into the interview, we had expectations. We expected the story to be the same as everyone else's in Morgan City that we had heard. That is the story of some minor property damages but nothing too bad. Although we were aware of the fact that Lange Towing, the company which we were assigned to interview, was located on the "river-side," we weren't exactly expecting a riveting story.

After speaking with George Lange for a few minutes, the story we were getting was quite unexpected.

George Lange is a third generation businessman who operates a marine towing business with his father and grand-father. He is one of three other full time tug boat captains who are employed under Lange Towing. George's days are spent trolling the waters of the Atchafalaya pushing barges of goods to as far west as Beaumont, Texas, to as far east as Mobile, Alabama. That is essentially the business plan of Lange's Marine Towing. With all of the chemical processing plants in southern Louisiana, several tug companies are needed to transport barges of chemical-based

MORGAN CITY IS HOME.

goods to their next destination.

Our first thoughts on how the flood would affect the tug pushing business was that it must've shut down the waterways for a few weeks at the most causing some financial losses to Lange's Towing, but George's story was considerably different from what we anticipated. During high water times like those during the flood, the United States Coast Guard imposes and enforces safety regulations regarding the movement of barges on the Atchafalaya's waterways. In fact, George explained to us that these regulations can result in a positive effect for the barge pushing industry. He happily shared the logistics of the whole operation with us.

"When waters get too high, the Coast Guard makes us break down our typical barge loads. That means we will have to divide one barge into three and sometimes four separate barges. The reason for this is that moving a smaller barge is much more manageable than a larger one. We will make more money doing this because we get paid on a 'per-barge' basis."

This opened a whole new side of the flood story to us. In any situation, good or bad, there is always a beneficiary. In this particular situation, George Lange and his family's business benefitted. However, George was quick to add that this is not something he wishes for. There is never a time that he hopes for a situation that causes harm to the town and the people that he has lived with for his entire life. The flooding is just a fact of life on the Atchafalaya.

Since flooding is such a large part of Morgan City, it begs one to question why anyone would decide to live in this town, and that is essentially what we asked George. Caught a bit off guard, George quickly retorted: "Morgan City is home."

Do not underestimate George Lange's statement as one of a "narrow-minded southern man" who is defending his hometown because it is all he knows. George Lange travels the expanse of the Gulf Coast on a daily basis and has seen the best that it has to offer. George's statement is one of supreme loyalty. He truly believes that Morgan City is the best city and he wouldn't have it any other way.

As the interview began to wrap up, we began to comment on some of the recent weather happenings. High waters on the Atchafalaya are dependent upon the rain and snow fall that occurs in the Mississippi River watershed. Recent snowfall in the state of Ohio has been rather uncharacteristic and this raises some concern with George. George is rather experienced with watching the weather and predicting how it will affect the waterways because it is essential to his business to be aware of this. Even when the Army Corps of Engineers were predicting such high waters in the spring, George knew what was really going to happen: he knew that these estimations were grossly out of proportion. Regarding the recent snowfall in Ohio, George somewhat giddily explained that more high waters were to come, which is something he and the other marine towers of the Atchafalaya cannot ignore.



NEW INDUSTRIES



New Industries

Bill New is the founder, owner, and president of New Industries, a company that manufactures steel parts for the offshore oil and gas industry as well as parts for marine transportation. He first lived in Morgan City for a short time in 1979, then again from 1980 to 1983; he moved back in 1986 and has been living here since then. His business is located on Railroad Avenue, just east of the Morgan City Cemetery at an elevation of eight feet on the protected side of the river. Knowing the history of flooding

in Morgan City, this was a conscious decision on his part.

New Industries was founded in 1986 and stands to provide “quality, safe, and on time steel fabrication services to the offshore oil and gas and marine industries.” The business focuses on large diameter, shop-manufactured pressure vessels. New Industries makes it clear how important it is to provide “on time” steel fabrication services, and with the incoming flood it was important for New Industries to remain open to provide their customers with full satisfac-

HIS BUSINESS “WAS NOT ABOUT TO BE WASHED INTO THE GULF OF MEXICO,” AND IT WOULD BE “BUSINESS AS USUAL” AT NEW INDUSTRIES DURING THE FLOOD.

tion of their services.

Knowledge of the flood this spring in May, 2011, did not alarm Mr. New. In fact, he knew both his family and his business would not be disturbed by the flood. His business remained open throughout the course of the flood and lost only one commission. Mr. New blames the loss of valuable business on the overly dramatic news reports and their tendencies to exaggerate the truth of the situation.

Mr. New's clients, friends, and family outside of Morgan City watching coverage of the flood were more worried about the safety of his business and his family than Mr. New was himself. He spent a good deal of time explaining to customers that his business "was not about to be washed into the Gulf of Mexico," and it would be "business as usual" at New Industries during the flood. Mr. New felt that news networks, like CNN for example, were playing "fast and loose" with the facts surrounding the flood and did more to increase ratings than portray the flood realistically.

Mr. New knows that flooding in Morgan City is inevitable, albeit very unusual, but feels that its inhabitants are well prepared for such emergency incidents and asserts that residents of Morgan City know exactly what kind of flood situations they have had and probably will have in the future. Mr. New feels that the presence of the floodwall along Front St. is necessary and important to the community's protection. He does not feel that increasing the height of the wall will be necessary any time in the near future. Because of its prominence along the river, the floodwall has, if anything, fostered a sense of community spirit and pride among Morgan City's inhabitants. They look to the wall as their protector, and put their faith in its structural system and integrity.

New Industries has been in business for twenty-five years and Mr. New expects his business to grow. He does not anticipate the prospect of future flooding inhibiting that growth in any way whatsoever. The building of his company on elevated ground is evidence of his preparation for the future. Mr. New asserts that his business goes "to work every day with one goal: CREATE A DIFFERENCE THAT MATTERS," and they will continue to make this difference in the Morgan City community, the oil and natural gas industry, and beyond.



NEWPARK ENVIRONMENTAL SERVICES



Newpark Resources

Mike Breaux is the supervisor of the Morgan City branch of Newpark Environmental. Located on Second Street just a block up from the walled area of Morgan City, Mike's office was directly impacted by the flooding this past May. Newpark Environmental works alongside Morgan City's leading industry, the oil drilling industry. Their primary responsibility is to remove non-hazardous waste from drilling sites. They are also involved in the cleanup processes that happen during and after drilling.

Mr. Breaux works primarily from Lafayette, LA, where he controls regional operations. He travels to Morgan City about 2 to 3 times a month to check on the branch. For the most part, modern technology allows him to supervise operations from a distance. Mr. Breaux tells us that Morgan City is a very strategic location for their business, and they would never consider moving the Morgan City branch. Mr. Breaux says that the professional relationships facilitated by the physical proximity to other businesses involved in the

WHEN ASKED IF THE DANGER OF FLOODING WAS AN INCENTIVE TO MOVE THE BRANCH, MR. BREAUX WAS QUICK TO SAY NO. IN HIS BUSINESS, THE PROFIT OUTWEIGHS THAT THREAT BY A LONG SHOT.

drilling industry is extremely important to Newpark. When asked if the danger of flooding was an incentive to move the branch, Mr. Breaux was quick to say no. In his business, the profit outweighs that threat by a long shot.

Mr. Breaux estimates that the Morgan City office is responsible for extracting about 30,000 to 40,000 barrels of waste per month, creating a revenue of about \$500,000 to \$700,000 monthly - a very profitable business indeed. However, this revenue was directly impacted by the flooding this past May. The Newpark Morgan City branch had to close for two months and suffered almost \$100,000 in damages. Mr. Breaux stated that his business was not the only one impacted in his area. There were, however, some that suffered minimal damage. Some business owners decided to raise their buildings above the water plain; unfortunately, Newpark was not among them.

Newpark relied on the city and accurate weather predictions to track the flooding down to almost the exact date and time. This allowed the business to be fully functional until right before the flood. They were aware of the possibility of flooding almost two months before it happened, giving Newpark ample time to prepare efficiently. According to Mike, the city was very helpful with providing information to the businesses and residents of Morgan City. He says that the storm was tracked on the Morgan City website, and that they received a biweekly water level prognosis. There were also city-wide meetings to determine the best collective approaches to deal with the flooding and cleanup processes. Even though the city failed to provide help with the cleanup due to budget restrictions, Mr. Breaux claims that they were as helpful as possible on the information front and is pleased with the way city officials handled it.

The cleanup process for Newpark was completely privately funded. Morgan City did everything possible to speed up the recovery, fast-tracking cleaning permits and other administrative issues. Fortunately, Newpark does have flood insurance and they were able to claim most of their losses. Since Newpark has been in operation in Morgan City it has experienced similar flooding three times. For Newpark, the benefits of their location make the prospect of moving the branch highly unlikely. Mike Breaux and Newpark Environmental will continue to be a part of the fabric of Morgan City for years to come.



OCEANEERING INTERNATIONAL, INC.



Oceaneering International, Inc.

“I’ve lived in Morgan City for forty-two years, which means I’ve been around both times they’ve opened the Morganza Spillway to flood the Atchafalaya. I’ve lived through many ‘floods’ of Morgan City.

“My name is Jerry Gauthier, and I’m the vice president of Oceaneering International, Inc. We build and operate ROV’s—remotely operated underwater vehicles—in deep waters all around the world. Our ROV’s are used for underwater oil and mining operations, under-

water recovery, and oceanographic research. Just a few weeks ago we did some work in the Red Sea off the coast of Saudi Arabia. Needless to say, some of the equipment is pretty expensive and we have to take a lot of precautions when we transport and operate our machinery in foreign waters, but we seldom have any real issues with damaged goods. Our guys are well trained and really enjoy what they do. Most of the guys are just happy they get to dive and explore oceans for a living. Who wouldn’t like that?

WE’RE A CITY OF ABOUT 12,000. BATON ROUGE IS OVER 200,000; NEW ORLEANS IS OVER 300,000. THAT’S MORE THAN A HALF A MILLION PEOPLE COMPARED TO 12,000. I COMPLETELY UNDERSTAND WHY WE TAKE THE WATER FOR THEM.

“So when we first heard that they were going to open the spillway, I was a bit concerned, seeing as we just finished construction on a new \$25 million facility on the river side of the wall. To ensure our equipment wasn’t in jeopardy, we put it all on barges. Our products are designed to be underwater, so it wasn’t necessary that we keep them dry.

“During the first flood I didn’t really see all that much damage, so I wasn’t expecting much this time either, especially since the wall has been beefed up since the 70’s and the pump system technology has been improved as well. I didn’t evacuate the first time, and evacuating didn’t even cross my mind this time.

“When the water finally did reach us, there was hardly any damage to anyone’s property at all. Our business wasn’t affected. I know a few people had some property damage, but overall the town was fine. The National Guard was a huge help. They came in with a plan, fortified the wall, and made sure the town stayed dry. After it was over, they came back and cleaned up. I tip my hat to these guys for what they did for us.

“Some people get bent out of shape about the fact that our city gets flooded so that Baton Rouge and New Orleans can stay dry, but I don’t agree. We’re a city of about 12,000. Baton Rouge is over 200,000; New Orleans is over 300,000. That’s more than a half a million people compared to 12,000. I completely understand why we take the water for them.

“In my opinion, the media blew things out of proportion. I remember seeing pictures of devastated houses and ruined buildings, but there were only a few on the river side of the wall. It was just the same house and couple of buildings photographed over and over. Not everyone here minded that, though, and, in a way, it was nice for our small town to get some national attention.

“I could never see myself living anywhere else. Morgan City is where I was born and raised. I got married here and I raised my children here. There’s no way that the possibility of a flood every thirty or forty years is going to keep me from the city. People deal with earthquakes on the west coast and tornadoes in the Midwest, and we get hurricanes almost every year. I think I can deal with a little bit of water every now and then.”



THE PORT OF MORGAN CITY



Morgan City, LA_Chris Rombouts

In May of 2011, when the waters of the mighty Mississippi were predicted to inundate the giant wall guarding Morgan City, Jerry Hoffpauir was prepared to face the flood. He and other citizens of Morgan City have to take the possibility of a flood into consideration every year. The potential flood of 2011 “just had higher predictions.” Mr. Hoffpauir would know because his job as executive director of The Port of Morgan City allowed him to work alongside the citizens and businesses of the town as they prepared for the flood.

In the Port of Morgan City, there are three employees in all and each of them lives within the port district. Mr. Hoffpauir believes that the Port would benefit rather than suffer from more employees. He is very involved with the rest of the community through his job, and his favorite part happens to be interacting with the public.

Mr. Hoffpauir is a dedicated citizen of Morgan City, Louisiana. His background is spread across the south: he was born in Orange, Texas, raised in northern Florida, and finally settled in Morgan City 55 years ago to date. His marine,

ONCE THE WATERS GO DOWN, THIS IS WHEN OUR BATTLE ACTUALLY BEGINS.

shipyard and political experiences are what brought him to the Port, where he has stayed for eleven years, and where he plans to stay until he retires. None of his children join him at the Port, although some are still fellow working citizens of Morgan City.

During his 55 wonderful years in Morgan City, another flood did strike, and it was a bad and memorable one - the flood of 1973. This flood was enough to warn the citizens for every subsequent year of the possibility of another, which is one reason why this year went so smoothly. According to Mr. Hoffpauir, the Port had "excellent communication" with Morgan City's mayor, Tim Matte, and they had plenty of time to prepare for the flood. With help from the Army Corps of Engineers, the Coast Guard, and the NOAA, they were able to remove the equipment from the dock and shut the dock down before it was submerged in the flood. In the words of Mr. Hoffpauir, "Kudos to them." However, finding places to store and protect marine assets was one of the biggest problems for workboat owners and operators. Another bad effect of the flood was the fact that the dock was shut down for 30 days, something extremely inconvenient for the Port of Morgan City.

After the flood, the Port remains positive and opportunistic. It is currently working on identifying how much sediment was left on the river bottom from the flood, which is a challenge because the dredging budget has been cut and is currently less than \$8 million, so they must start lobbying for money. Mr. Hoffpauir believes that the Port's business would greatly increase if Morgan City were able to get more attention for its many resources.

Throughout preparations for the flood, Morgan City got much coverage in the news. Mr. Hoffpauir was approached by Channel 9, Daily Review, and even Workboat Magazine to be interviewed about the flood and the Port. But, according to Mr. Hoffpauir, Morgan City is always in the news for hurricanes.

The people of Morgan City hold a fantastic community dynamic and everyone is involved in the community. While the town holds many workers who commute from far away as well as many passersby and a few tourists, the locals of Morgan City are born and raised on marine culture. Mr. Hoffpauir says that on a typical Saturday afternoon, locals and tourists alike can be seen walking along the "seawall" and shopping downtown. The seawall he refers to is a 22-foot tall concrete barrier wall that stands between the water and Front Street of Morgan City, protecting the city from floods, and potentially blocking the views of the downtown façade. When asked if its placement affected the Port or community dynamic in Morgan City, Mr. Hoffpauir replied that it hasn't affected it at all.



CHARLIE SOLAR'S RIVER SAND



Charlie Solar

Charlie Solar is a native of Morgan City. He owns businesses in Morgan City called Charlie's Pawn Shop and Charlie Solar's River Sand. Since he was born and has been living there for about 59 years, he remembers the very first flood of Hurricane Audrey in about 1958: "I remember that water coming up from the storm," he said, "every year you get a little bit of water, you just clean up and go about your business for the next year." In 1973 he lived outside of the wall and the water was still higher then. This year, flooding came again as well as the oil spill. Fortunately, his business isn't directly related to the oil industry.

Thus, he wasn't really affected by that disaster. In regards to the flood, he was lucky that his business is selling sand. As a result of the flood, people were buying sand around the city; especially when they had leaks in the barge, he provided the sand to block it up.

Mr. Solar is also the owner of another business, Charlie's Pawn Shop. Since his shop is on high ground and he has moved with his family within the wall in the city, he wasn't as affected by the flood. Actually, he benefited from it. This has given him a different perspective on the events that occurred this summer.

THE LEVEE WALL DEFINITELY IS IMPORTANT TO PROTECT THE PEOPLE FROM THE FLOOD. TO CHARLIE, IT IS NOT AS IF THEY COULD TAKE THE LEVEE DOWN, IT WAS SOMETHING THAT HAD TO BE BUILT, SO THE CITY HAS MADE THE BEST OUT OF A NECESSITY.

When asked his initial reaction to the flood, he said he knew that his business would sell a lot of sand. People usually buy up sand under such circumstances. On the other hand, he prepared himself for 18 inches of water in his pawnshop by moving everything off of the ground and routinely checking to make sure they stayed that way. He even expected to get more than the 18 inches, and was relieved when it didn't happen.

In fact, he said he doesn't think that anyone was really affected other than a few businesses that had to temporarily move. He stated that everybody has to be prepared (and generally is) for what's going to happen because flooding is part of the way of life in Morgan City. A company, he said, even built a levee around their building to prepare for flooding; even with these precautions, they decided to move their operations during the flood, even though it may not have been necessary.

The levee wall definitely is an important component to protecting the people from the flood. To Charlie, it is not as if they could take the levee down, it was something that had to be built, and so he thinks the city has made the best out of a necessity. When asked about the whole flood system (such as the Morganza and Old River control centers), he said they keep saying that they are controlling the river, but that's pretty much impossible. However, when the gates are opened this benefits Mr. Solar, "the Corps, when they pump out the river, they pump the sand out of the river and into my pit, so it fills her up." The dredge only comes once a year and he is there at the pit often to make sure everything is operating well. "I've got my own little spillway going through my pit," he stated. The Corps of Engineers sort of does the same thing as he does when he figures out how to manipulate the sand to go from this side to that. He can understand how a lot of people don't see what the Corps is doing, and thus they get a bad reputation. Because of his line of work, however, he understands the difficulties they face. When asked what he would say to the Corps about the control system, he said, "If I was to ask them one question it would be, why didn't they open the gate a little earlier?" Apparently, he has asked them and they replied by saying that because of New Orleans they can't open it too soon. He thinks this process needs to be rethought because they didn't have any water before the flood and then it came rushing in, and it seems to be a flawed system.

After the flood, everything went back to normal. The cleanup was done well. There were still some flood protection effects lying around post-flooding, but they were left for the hurricane season. The city inside the wall wasn't really affected so there wasn't much to fix. When asked, Mr. Solar said that he never thought about moving; Morgan City is where he grew up. He said some young people leave and come back when they can, but his favorite part about the city is knowing everyone and being known. He has accepted flooding as part of life and is proud to call Morgan City his home.



SUB SURFACE TOOLS, INC.



Sub Surface Tools Inc.

Morgan City, located off of the Atchafalaya River in Louisiana, was hit by severe rain to such a high degree that Morganza Spillway had to be opened for only the second time in history. As a result, there was flooding throughout many parts of Morgan City in the spring of 1973. Recently, during the summer of 2011, Morgan City experienced high rising water once again. What began as a small inconvenience for a couple of businesses close to the Mississippi's bank, quickly became a major point of concern for many businesses and residents on the protected side of the city's flood wall.

We were fortunate enough to talk to Mr. Chris Lipari. He is the Financial Executive of Sub Surface Tools, Inc. He explained to us how the flooding did not actually affect the stream of revenue that was coming into his business. The two aspects that were affected the most were time and energy. With the threat of severe water damage looming in the near future, the decision was made to relocate important assets and inventory to another property owned by Sub Surface Tools that was more protected by the city's floodwall.

EVEN THOUGH THE FLOOD WAS A MAJOR ISSUE FOR US, WE WERE ABLE TO MAINTAIN FOCUS AND CONTINUE BUSINESS; WE WERE ALL PREPARED FOR WHAT COULD AND DID HAPPEN.

During and after the relocation process business went on as usual and sales continued to be made because their clientele is made up of a plethora of businesses and companies that are widespread across the country, some even international. Mr. Chris Lipari expounded on the situation when he informed us that the majority of money made comes from the orders that large oil companies make. Since Sub Surface Tools only sells machinery parts for underwater endeavors and does not deal with any assembly, they were able to ship their relocated inventory to their customers without interference.

Chris Lipari was quick to let us know how well he believed the Army Corps of Engineers and local authorities handled the severe weather and threat it posed to communities affected by the Mississippi River. From his perspective, Morgan City made the best of a bad situation and took everything in stride. “Even though the flood was a major issue for us, we were able to maintain focus and continue business. We were all prepared for what could and did happen.” When all was said and done, it was still business as usual at Sub Surface Tools.



SWIFTSHIPS



Swiftships_145 foot supply and support vessel

Nearing seventy years old, engineer and current president of Swiftships in Morgan City, Louisiana, Calvin Leleaux has lived the majority of his life among boats and the Mississippi River. Leleaux was born in New Iberia and attended the University of Southernwestern Louisiana. In 1968, he moved to Berwick, Louisiana, where he worked in the boating industry until he was drafted into the military and joined the Air Force. While he was successful in the military, he felt he was a boat builder at heart. In 1972, Leleaux moved back to Berwick, where he still lives to this day, and became an engineer at Swiftships, a boat building

company.

Leleaux describes himself as someone who takes care in making decisions; he chose not to live in Morgan City, as he did not want to live in a “fishbowl.” When looking for a home, he was very aware of the consequences of living in an area with a constant threat of flooding. He came to the conclusion that “it is better to spend money on something that you know will be around for a long time.” Unfortunately, Leleaux’s business relies on direct access to the water front, and is therefore on the other side of the flood-wall. Swiftships was able to petition to the Army Corps of

WE'LL LEARN A BIT MORE, WE'LL PROTECT OURSELVES A BIT MORE, AND WE WILL OVERCOME THE NEXT ONE.

of Engineers to get a personal protective wall built around their business in an attempt to protect their assets in a flood. The wall that was built was ten feet high; however, the floodwaters from this past flood rose up to twelve feet, and the business was unable to escape unscathed.

With the Cajun “never say die” attitude, the oncoming threat of the flood caused Swiftships to take matters into their own hands and make precautions, especially as Morgan City seemed to be more focused on the people rather than the businesses. Swiftships put three thousand, two-ton sandbags around their ship yard, moved offices and important administrative spaces to higher levels, and moved valuable assets to other locations. When asked how the flood affected daily business life, Leleaux remarked that the flood was not going to deter the company from functioning: “we are going to keep striving and working...not gonna let people go...use clever techniques to survive...and use all of our brain power.” After the waters receded, it took six to eight weeks for Swiftships to fully function again and they hope to return to normalcy by the end of this year; however, the two and a half million dollar hit that the company took due to the flood is still a hurdle Swiftships will need to overcome.

Mr. Leleaux felt that not enough attention was paid to the businesses in Morgan City. He felt that it is important that the people are protected, but that the businesses are just as vital to the city and should therefore get the same opportunities as the citizens. He feels that if the businesses cannot survive, then the workers will lose their jobs. Since the Army Corps of Engineers made the decision to open the Morganza Floodway, the city is no longer considered a disaster area. This means that the businesses get no monetary assistance from the government in order to rebuild. Since the government feels that Swiftships is part of a “critical industry,” and has strong ties to the U.S. Navy, Mr. Leleaux has taken it upon himself to file a government claim to help cover for some of the losses.

Mr. Leleaux comments that he has learned a lot from the flood and hopes to use his experience to help the company grow and better cope with the next flood. He notes that “we’ll learn a bit more, we’ll protect ourselves a bit more, and we will overcome the next one.” Leleaux hopes to advocate more for himself and his company when he feels that his business has been overlooked and has decided to add more employees to his company that deal specifically with flood protection. Unfortunately, he feels the one lesson that does not seem to be acknowledged is how vital and essential the waterfront industries are to Morgan City. People think that these are big businesses that can rebuild themselves because they have the money, but that is not true for the majority; the waterfront industries are “mostly mom and pop businesses.”



TIGER TUGZ, LLC



Photo Courtesy of tugboatgallery.com

“We had a perfectly ample warning.” said Dale Rentrop, Jr., owner of Tiger Tuggz, LLC, “I was never worried.” He was reflecting on the summer Atchafalaya River flood of 2011 during an interview. He went on to explain that Morgan City officials had given businesses on the river side of the seawall an exaggerated warning multiple weeks in advance in order to help them prepare for the effects. However, even with an early warning, it still took

Dale and his employees about 5-6 days of hard labor to prepare for the flood. All computers and electronics had to be moved out of the building. They had to disconnect the air conditioning and sewage. Also, the majority of their boats and floating merchandise was moved to the other side of the river with the higher boat dock, because the Morgan City side dock was underwater.

Thanks to the fair warning and heavy preparation, Dale managed to avoid his business being completely

NATURE IS NATURE. WHAT CAN WE DO BUT KEEP MOVING FORWARD?

swept away by the flood. However, that is not saying that the preparation and unavoidable damage didn't cost anything. Because insurance did not help cover any damages or preparations, the flood ended up costing Tiger Tuggz about \$20,000, according to Dale. Nonetheless, the potential damage could have been significantly worse and Mr. Rentrop noted that, because of the early preparation, the business did not suffer any permanent damage.

A surprising effect that floods had all across the Atchafalaya Basin was not noticed until after the waters had subsided. Such a great volume of water also brought with it an exceptional amount of silt deposit. Mr. Rentrop reported that there was up to about six inches of silt left in the building and other areas that the water had flooded. According to him, clearing the silt was the most difficult part of the entire cleanup process. Also, Tiger Tuggz had to utilize a few of its tugboats to help relieve a few barges that were stuck in mud up in the swamps due to the increase in silt.

Various people and businesses place blame on the Army Corps of Engineers for the harmful flooding effects of the summer. Mr. Rentrop had a different opinion, explaining that he and his colleagues were aware of the dangers when they settled on the location. He asserted that "nature is nature," and all one can do is allow it to run its course and prepare himself by cutting the most losses. Although this is the first major flood that the business has experienced since its founding, a few other smaller floods had backed up the city's storm drains which caused minor flooding on Tiger Tuggz's side of the seawall.

Although this was the worst flood that Tiger Tuggz has ever seen, the lengthy forewarning that the city gave the business allowed Mr. Rentrop and his employees to appropriately prepare for the impending flood. The preparation, damage, and cleanup duties were fairly costly, but nothing close to how expensive the flood could have been. So when asked how he might change his business or prepare for the next flood, Dale Rentrop replied, "Nature is nature. What can we do but keep moving forward?"



WASHBURN MARINE, LLC



Chris Dunn_Bing Maps

Ship repair is an important facet of the economy and continued functionality of a river-based city like Morgan City. Dozens of companies along the riverfront both upstream and downstream rely on having well-maintained and working boats, thus companies such as Washburn Marine are essential to keeping the region running at full steam. Darby Washburn, the proprietor of Washburn Marine, has been in Morgan City for twenty-three years, the last four of which he has been in the ship repair business. Though he

did not follow his family into the business of shipyard repair, his family did have a history of working with ships, as they previously worked in gas freeing and cleaning boats.

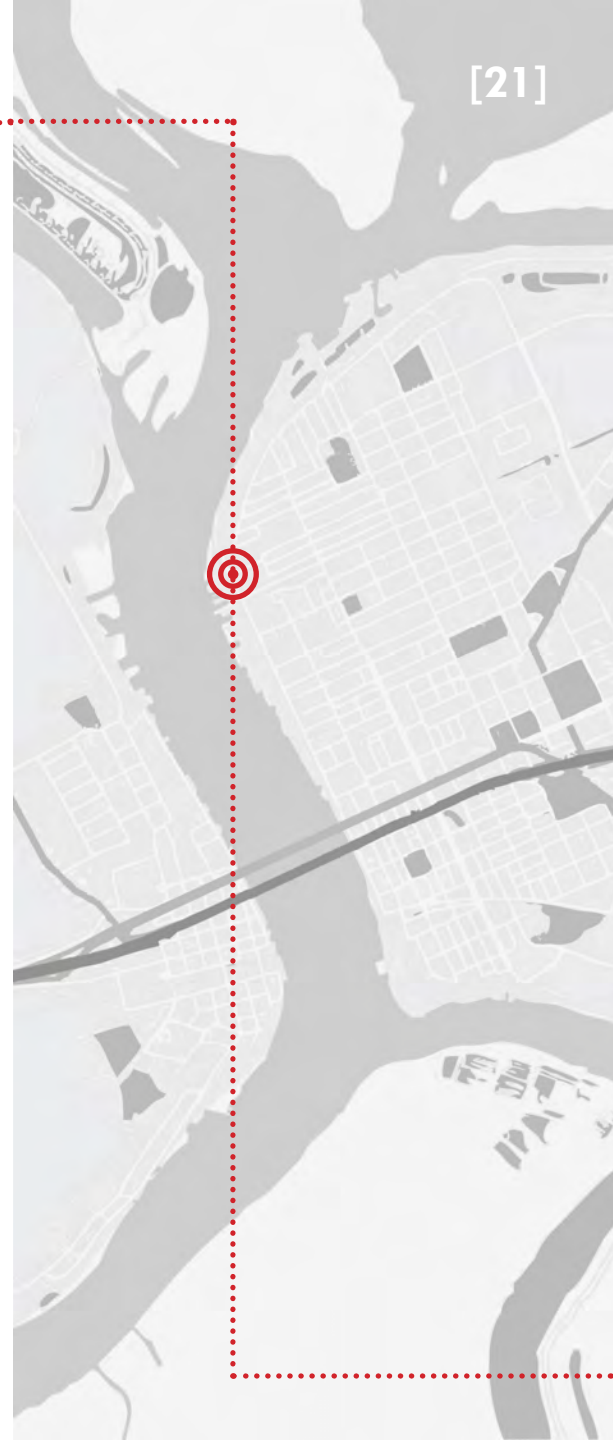
Washburn Marine is only one of the companies in the area that repairs ships, but it manages to remain competitive due to the quality of its work. Washburn Marine only has twelve employees, yet despite this they still manage to repair two or three ships in a month. Washburn Marine typically repairs inland tow-vessels and barges, as these are

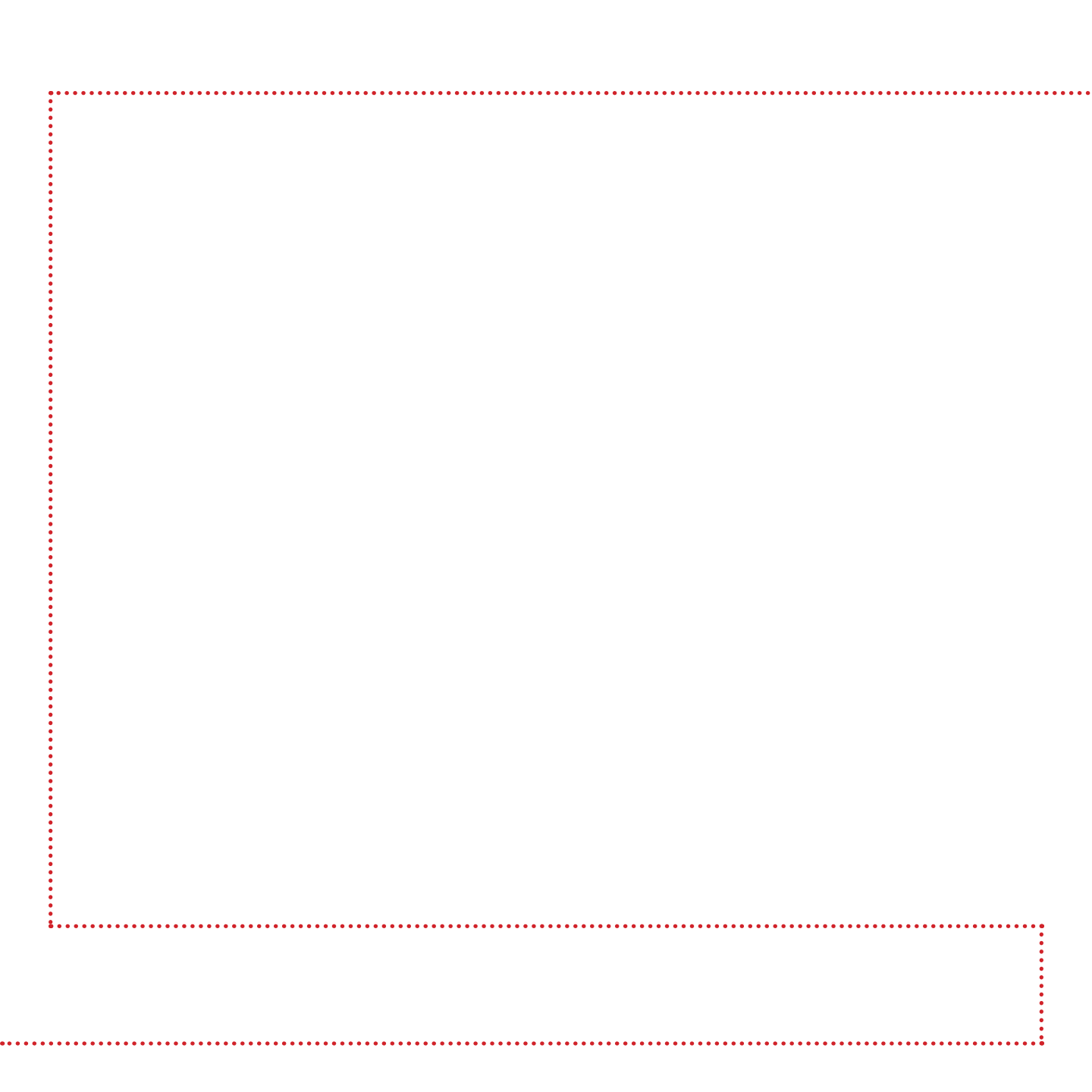
THE FLOODING THAT SO RARELY AFFECTS THE PORTION OF MORGAN CITY PROTECTED BY THE SEAWALL ACTUALLY HITS THE BUSINESSES ON THE RIVER-SIDE OF THE WALL ROUGHLY EVERY OTHER YEAR.

the primary types of ships that are used in the area, reflecting the hub-like nature of Morgan City. The repairing of each ship entails cutting off any parts which may not be functioning at full capacity and simply putting new pieces and parts into their respective places. For each ship, the average time required for repair is three weeks, although this can fluctuate depending on the severity of the damage. This yields a surprisingly clean-looking final product, of which both owner and repair-maker can be proud.

The flooding that so rarely affects the portion of Morgan City protected by the seawall actually hits the businesses on the river-side of the wall roughly every other year. Sometimes flooding will even occur in subsequent years, depending on the prevailing river conditions. During the May, 2011, flood, Washburn Marine was forced to close down for about eight weeks. Despite the length of the closure due to flooding, less than \$50,000 worth of damage was done. However, roughly \$300,000 were spent preparing the offices for flooding. The warehouses were the only parts of the business that were significantly damaged, with about eighteen inches of water getting above the eight-foot flood wall and over the floor of the warehouse.

Washburn Marine did not receive much business after the flood; in fact, they lost two jobs which totalled approximately \$200,000. Despite the inevitability of future flooding, it seems that there is little that Washburn Marine can do to prepare for future flooding; floods always have been, and seemingly always will be a part of Morgan City.





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TULANE SCHOOL OF ARCHITECTURE

A Critical Eye on the Service Learning Experience

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The main focus of our studies this semester in the sophomore year at Tulane School of Architecture was the Atchafalaya Basin in Louisiana, an important part of not only recent events but of the watershed for a third of the country. The recent recognition of its importance is due to the flooding that occurred the summer of 2011. This flooding was caused by both melting snow and rain from areas farther north in the country. For the service learning project in Professor Andrew Liles' class, our first semester sophomore Design Studio course, we studied the effect this flooding had on the area and precautions occupants took on both an individual scale and with regard to city planning.

Within the architecture studio work we studied, diagrammed, and conceptually mapped the watershed area to gain further understanding of its inner workings. We did this by looking at and critically examining the site, context, and infrastructure. This research provided us with the information that we could then use to influence our museum designs in order to make them relevant to the area. The goal of our Design Studio Project was to design a museum that highlighted shrimp and petroleum, the major industries of Morgan City. This museum would also include a performance space, shop, and café. The information came into play when we were deciding how to respond to the infrastructure of the area when designing the layout of the building as well as the façade treatments. We were also able to find planning systems within the site and then adapt those systems for the organization of our proposals.

Continuing with this line of investigation, the service learning added to this exploration by bringing in another level – the human scale, not physically, but emotionally and rationally. The citizens of this area were affected in different ways and we wanted to know how these affects reflected on the area as a whole. The people of Morgan City, as the class had been told, love to know and celebrate their history. This service learning project assisted them in being able to document what occurred in the recent flood, a significant event in their history. During the last flood of 1973, Morgan City officials attempted to collect the stories of the people in the affected areas. They were successful in gaining some documentation, but the information was never circulated, as demonstrated in a photograph of the records sitting in a box, seemingly untouched for years. For our project, students interviewed many different business owners who live in and around Morgan City to gain different perspectives on the effects of the flood. Each group wrote an article on their interviewee's experience and provided a photograph relevant to the individual's story. These narratives were printed in the book, *Morgan City 2011: Documenting the Floods for the Morgan City Archives*.

My thoughts about this project are mixed. Interviewing Charlie Solar in Morgan City did not influence my studio project because it happened too late in the design phase. From the interviews we learned that many citizens, including Solar, raised their furniture on cinder blocks to keep their belongings dry. This was one of the more helpful tips for our design, but by the time we had interviewed the citizens, we had already discovered the benefit of raising our building through our site research of the downtown area of Morgan City.

While this project didn't influence my studio design directly, I think it will ultimately influence my strategies as an architect. I say this because it caused me to look more at the affects that the site and context have at the human scale. In this stage of my architectural education, I

have often had a hard time understanding the effect that ceiling height, light, and other design elements have on a person's experience in a space. As a result, my spaces haven't been as rich as they could be because I do not connect as much with the human scale.

However, Solar's and other interviewees' experiences were not affected by the flood to the extent many of us expected. There wasn't as strong of an emotional connection to this event to inspire our emotional connection as student designers. This made the idea of the human scale harder to grasp. Yet I do feel that in the future, when confronted with a project in an affected area, I could apply similar research methods. This could allow me to connect at the human level, which would add richness to my designs by being sensitive to and understanding the experiences of those in the area.

In addition, the service learning did give me information I didn't previously know about the area before the semester, and it influenced my ideas of how to approach the investigation of a site. I realized that a person's sense of community and home can be so strong that they will live in a potentially dangerous area rather than move to a safer location. I also learned that that the flood was not negative for everyone. For example, Solar makes a living not only through his pawnshop, but also by selling sand. He profits financially when there is flooding because sand is led directly into his pit, and he can sell it back to the citizens and the city. His property was not flooded because he lives within the levee walls of the city, but he knew he had to prepare for the flood and acted accordingly. When asked why he chose to live in an area that is within the flood zone of the Atchafalaya Basin, Solar explained that it is where he grew up and he loves that he knows everyone in the town, and they know him. Morgan City is his home, and he doesn't want to move anywhere else. As a business owner and resident, Solar had a different perspective on the issues relating to the flood and strengthened the idea that each person's ideas have been shaped by their personal and community experiences and can provide insight that someone had not thought of before.