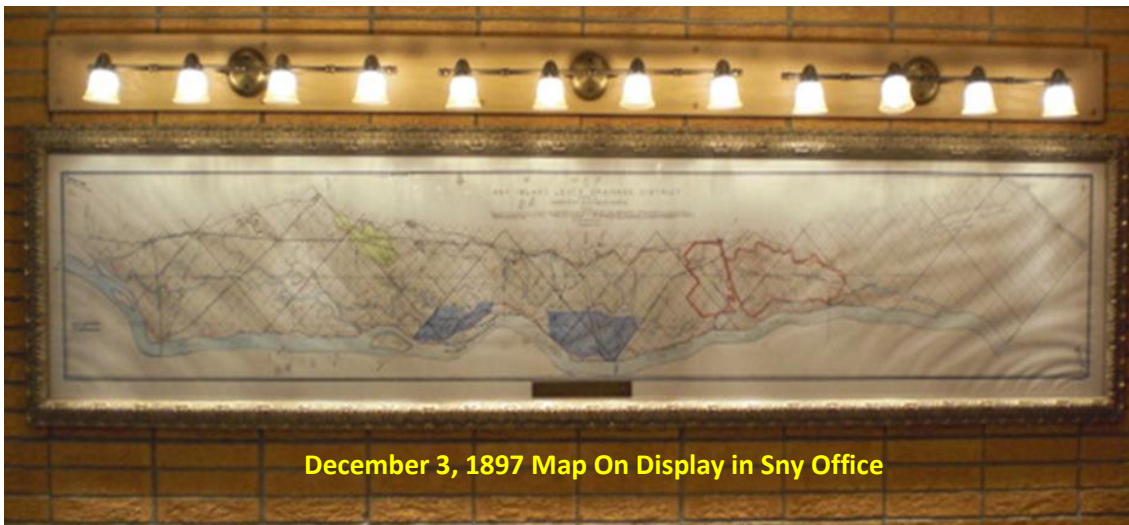


SNY ISLAND LEVEE DRAINAGE DISTRICT

2017 ANNUAL NEWSLETTER

When one thinks of the Sny Island Levee Drainage District, “flood protection” is probably your first thought. If it’s not your first thought, it’s more than likely high up on the priority list in terms of descriptive phrasing. When we say “flooding”, we’re talking about flooding not only from the Mississippi River, but also flooding from within due to heavy rainfall. Another term that may come to mind is “opportunity”; opportunity to grow, become prosperous, create a way of life. The phrase “sense of community” is also descriptive of the Sny along with “system”. You can’t talk about the Sny without thinking of all the communities within its boundaries coming together in the many flood events, working together to fight back against the floodwaters of the mighty Mississippi River. And yet the term “system” accurately



December 3, 1897 Map On Display in Sny Office

describes what the Sny is. It’s a flood control system comprised of many facets, all working as one for the benefit of many. For without the system, there would be no Sny as we have come to know it.

Just about any organization or individual can look back on their histories and identify specific events that are remembered for laying the foundation upon which opportunity is made possible. In the Sny’s case, it all started in the 1870s when Hannibal resident C.N. Clark led a group who envisioned land in the Sny protected from the ravages of Mississippi River flooding by levees. It was the effort of these Sny pioneers that led to the initial organization of the Sny Island Levee Drainage District on September 18, 1871. Even though Illinois drainage law

providing for this initial designation was eventually declared unconstitutional, the effort laid the foundation for what is now recognized as the official beginning of the Sny on May 24, 1880. These people of action, inspired by Mr. Clark's dream of what could be, put in place the building block that provided the opportunity for families to build a life in the Sny not only then, but now.

But work didn't stop there. From the 1950s until 1967, Sny officials and a committee of local landowners worked tirelessly with elected officials in Washington, D.C. and the Corps of Engineers to fund and construct the system that is the Sny Island Levee Drainage District today. The effort that culminated in its completion took years. It simply didn't happen overnight. The

Pump Station 1 - Hull



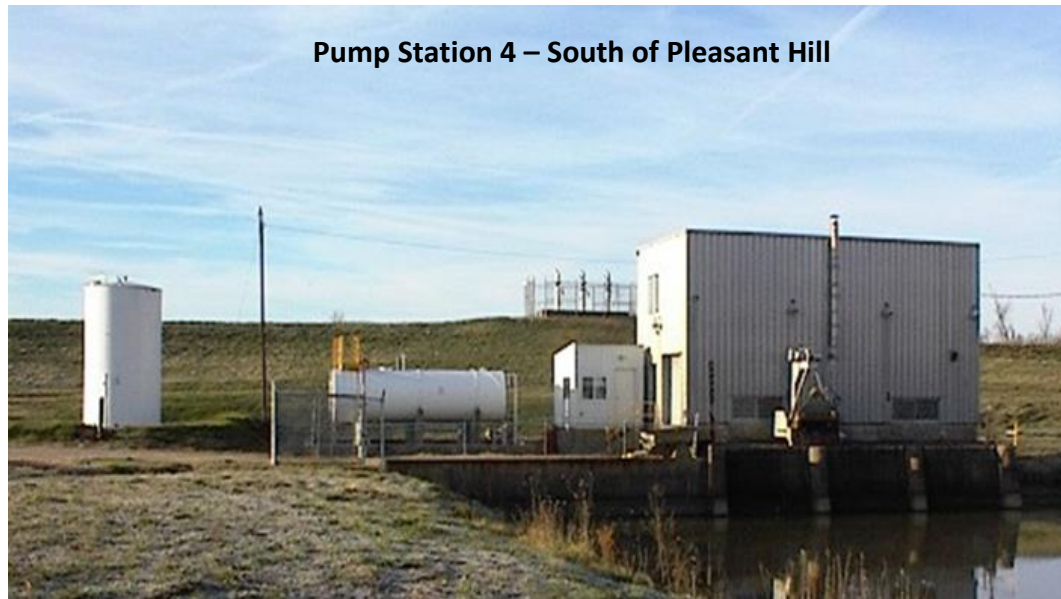
Federal share of the project totaled more than \$15,500,000.00 with the Sny share nearly \$3,400,000.00. Local landowners were assessed roughly \$30.00 per assessed acre on land valued at approximately \$283.00/acre in 1958 to cover the local share. What were the results of that investment? The largest levee and drainage district on the Mississippi River north of St. Louis. A drainage system that

includes three pumping stations capable of pumping 1,100,000 gallons of water per minute under optimum conditions, 54 miles of mainstem Mississippi River levee providing 100-year flood protection, more than 260 miles of district ditches providing interior drainage to a modern Sny channel equipped with aqueducts through which the water flows to the three pump stations, more than 2,600

Pump Station 3A – Pleasant Hill



acres of sedimentation basins controlling the release of runoff from the upland watershed areas into the drainage system and more than 100 miles of additional levees.



Our levee and drainage system has admirably served the landowners and residents of the Sny for more than 50 years. It's a system that

has led land values in the Sny to increase to more than \$10,000.00 per acre. Regrettably, the main stem levee breached in 1993 resulting in devastating damages in Reach 1 of the Sny. However, since that time, the system has prevented more than \$1,000,000,000.00 in damages from Mississippi River flood events in 2001, 2008, 2011, 2013 and 2014. It has insured the viability of the Interstate 72/172 transportation corridors through west central Illinois. It will insure the viability of the U.S. 54 corridor through Reach 3 of the district upon completion of the new Champ Clark Bridge in late 2019. Yet another building block providing opportunity for families in the Sny, not only then but now, to grow and prosper.

However, as critical as the main stem river levee is to flood prevention, it also serves as a “saddle dam” to contain the river facilitating the success of an inland navigation network anchored by the Mississippi River that is the envy of the



world. From the old time steamboat traffic that introduced the concept of transporting goods

up and down the Mississippi to modern towboats with 16-barge tows we regularly see on this part of the river, a Midwest economy has grown and flourished. Now, food and fiber from



Mississippi River at New Orleans

middle America moves down the Mississippi to New Orleans where much of it is loaded on ocean going vessels and transported to all parts of the world.

As successful as the system has been in preventing flooding from the

river, we have been challenged by heavy rain events that have led to interior flooding in the last few years. A 50 year old system designed for conditions that existed in the 1950s is being challenged to effectively and efficiently operate in very different conditions today. Heavy rain events in the summer of 2010, the spring of 2013, the summer of 2015 and the winter of 2016, coupled with higher than normal river stages during those events, resulted in thousands of acres being underwater in the Sny for weeks at a time. The pump stations today are equipped with pumps that operate efficiently when river stages are near normal. But when river stages approach and exceed flood stage, their efficiency decreases rapidly. In effect, we are not able to get the water out of the system in timely manner. Depending on the time of year, crop loss is inevitable, and in fact was wide spread.



16TH ADDITIONAL ASSESSMENT



In the aftermath of these interior flood events, the focus of public meetings in 2014, 2015 and 2016 was improving our drainage system to meet the challenges presented by events today as well as in the future. Throughout this more than two year planning process, every effort was made to address concerns expressed and answer all

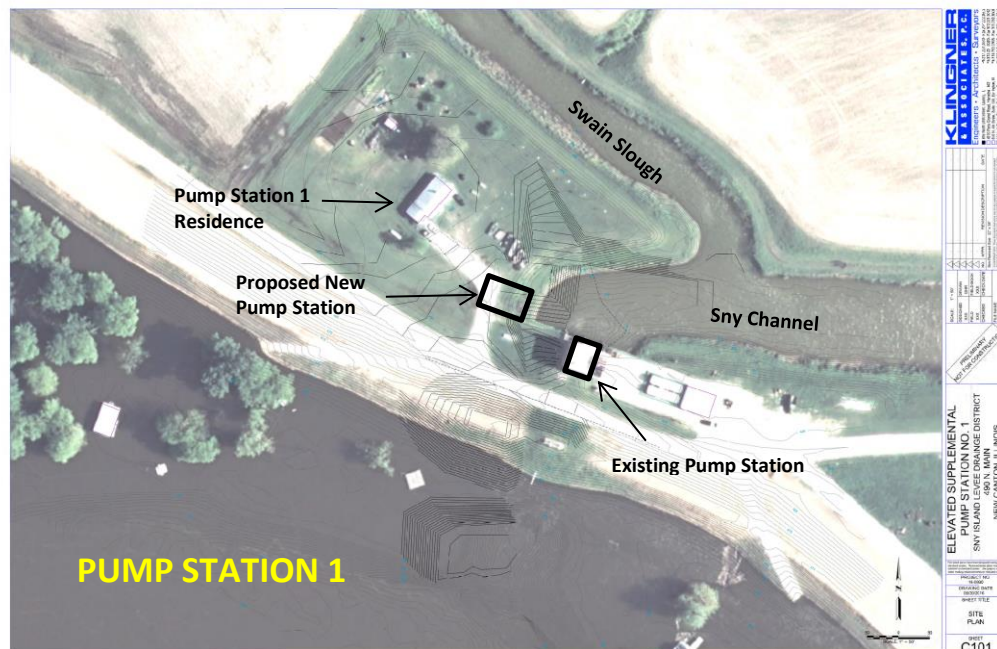
questions posed. At least three of the sessions were attended by representatives of the District's engineering firm, Klingner & Associates. In the end, a plan was arrived at that consisted of constructing two new pump stations; one adjacent to the existing Pump Station 1 and the other adjacent to the existing Pump Station 3A. Also included was the construction of 3.9 miles of levee berm to address seepage problems along the main stem Mississippi River levee from what is locally known as Brockmeyer's Crossing to the south end of the '93 Break

Site in
Reach 1.

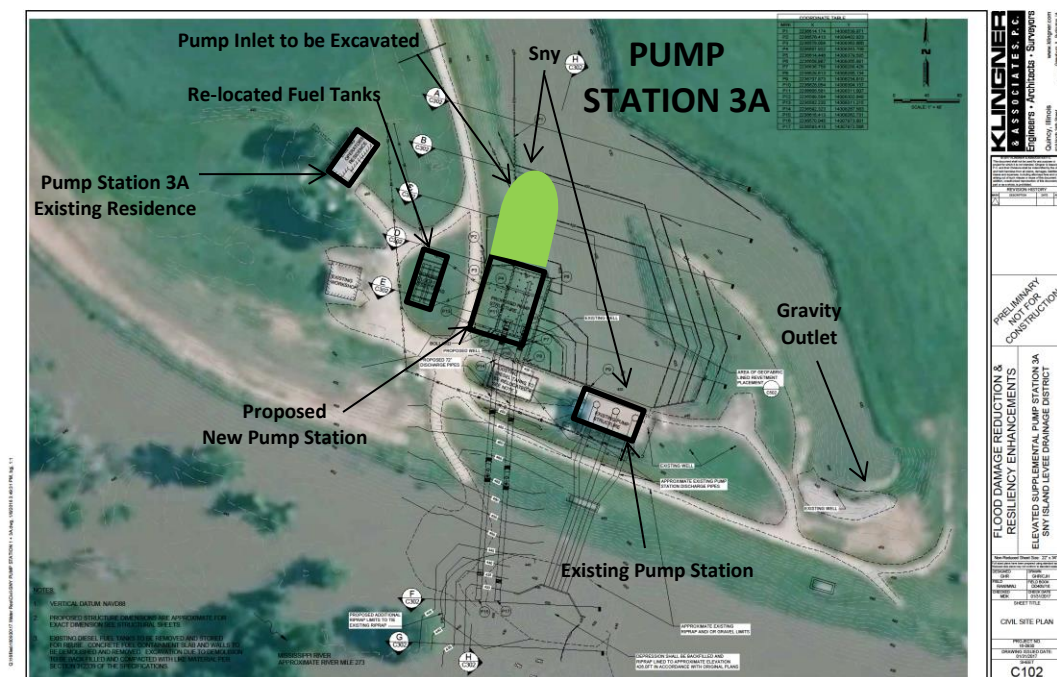
In
addition, a
cut-off
wall is to
be
installed

on the
river side
of the
main stem
river levee
at Pump
Station 1
to resolve

seepage issues that have led to the development of sink holes around the pump



station during the last few flood events. These seepage issues have persisted during high water events since the construction of the pump station in the mid '60s. The Commissioners submitted the plan for approval by the Circuit Court of the 8th Judicial Circuit at the Pike County Courthouse in Pittsfield on October 3, 2017. A public hearing on the plan was held on December 4, 2017 at which testimony was offered on behalf of the plan and concerns expressed by those opposing it. On December 22, 2017, another date marking a turning point in the history of the Sny, the Court ruled in favor of the Commissioners and approved the plan, directing that an assessment roll be prepared and submitted to the Court detailing the revenue source to pay the estimated \$25,132,998.00 project cost plus financing, if necessary, associated with the improvement projects. The development of the assessment roll is currently underway. Once completed, landowners will be notified of another Court hearing at which the assessment roll will be considered for approval by the Circuit Court. It is anticipated this process will take place sometime in the first quarter of this year, 2018.



At the same time work on the assessment roll moves forward, detailed specifications for the two pump stations are being prepared. It is anticipated that bidding on the purchase of the pumps and engines will be accomplished late spring or early summer of 2018. Bidding on the buildings and cut-off wall will follow immediately. Weather and river conditions permitting, the pump stations are to be completed and operational in late 2019 or early 2020.

Work on construction of the 3.9 mile levee berm is underway. Through negotiations with a local landowner, a borrow site in Adams County within ½ mile of the levee was selected for the excavation of approximately 380,000 cubic yards of sand needed for the berm. 2' – 2.5' of topsoil is being removed to expose the deposit of sand using Sny staff and equipment. The sand is being loaded on three rented 40-ton Volvo quarry trucks to transport the sand from the borrow site to the levee.

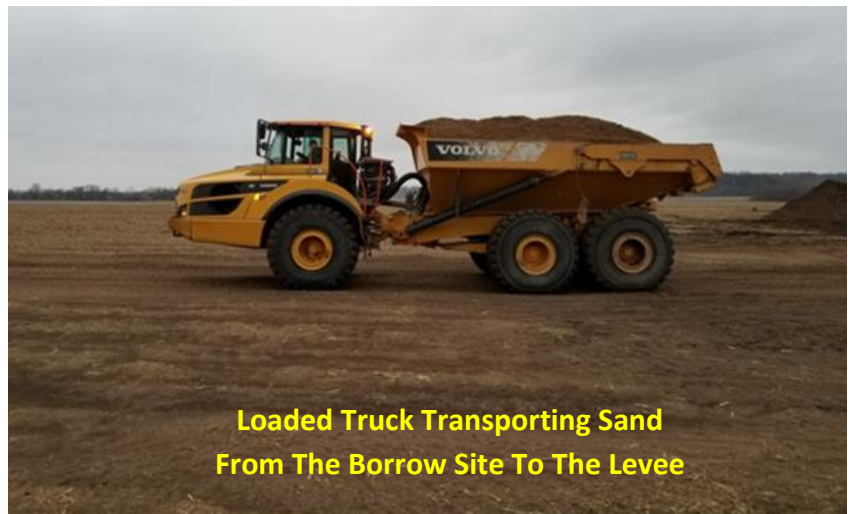
**Top Soil
Removed
To
Expose
Sand**



**Initial Cut of Borrow Site
Sand Exposed**



**Sny 350 L Excavator Loading
40-Ton Quarry Truck**



**Loaded Truck Transporting Sand
From The Borrow Site To The Levee**

Engineering estimates put the amount of sand required to construct the 3.9 mile segment of berm at 380,000 cubic yards. The berm is to be completed in the fall of 2018.

Levee Section Prior to Addition of Sand



**Sand Dumped By Quarry Trucks
For Berm Construction**



Finished Berm



The completion of these projects will help insure that generations of landowners and residents in the Sny over the next 50 years will have the same opportunities to grow and flourish as we have. Perhaps then when major improvements far off in the Sny's future are needed, those landowners will look back on landowners today in the same way we look back on the decision makers in the 1950s and 60s as well as those in the 1880s and 90s that, were it not for the wisdom in the tough decisions they made, we wouldn't be where we are today.

CHAMP CLARK BRIDGE

As noted earlier in this newsletter, for more than two years the Sny has wrestled with the decision of undertaking the projects associated with the 16th Additional Assessment. During a part of that more than two year span, the Sny also worked with the Illinois Department of Transportation, the Missouri Department of Transportation and the U.S. Army Corps of

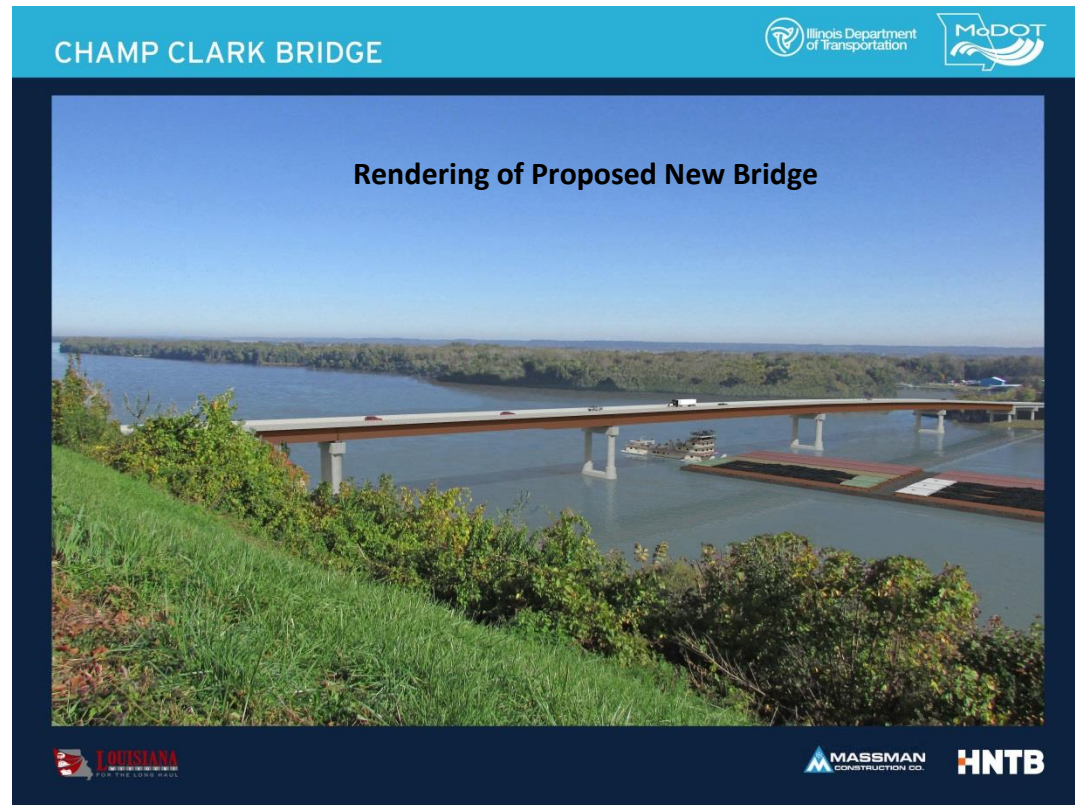


Engineers on plans for a \$60,000,000.00 bridge to replace the Champ Clark Bridge crossing the Mississippi from Reach 3 of the Sny into Louisiana, Missouri. This

long overdue project is currently under construction with its opening tentatively scheduled for November 1, 2019. Getting to the construction phase proved to be a tremendous challenge.

The initial scoping meeting for the project was held in August of 2012. From that point on, Sny officials, along with representatives from the Salt River Association from Missouri, alerted officials from both MoDOT and IDOT on the need to improve the design of the new structure (specifically the earthen embankment Illinois approach) to lessen the impact of flooding upstream of the structure. After all, improving the Illinois approach to eliminate overtopping from flood events leading to the closing the new bridge accomplishes nothing if the threat of overtopping mainstem river levee upstream of the structure increases. If the levee breaches, the bridge is still closed because Reach 3 of the Sny, including U.S. 54, is flooded. The

frequency of meetings involving officials from agencies previously noted increased along with the intensity of negotiations over the next several months. These discussions culminated in an exchange of letters of agreement in April of 2017 between MoDOT and Sny officials on maximum impacts the design of the new project would have on future flood events.



The current bridge is composed of two 10' lanes with no shoulders.

The proposed new bridge, to be constructed

immediately downstream of the current structure, will have two 12' lanes along with two 10' shoulders. Construction on the new structure commenced this fall. Considerable work on site preparation for the new Illinois approach is underway. Construction on the support piers has begun. This new structure should serve the region well for generations to come.



2017 PUMP STATION OPERATIONS

Total Gallons of diesel fuel delivered to pump stations 1, 3A, & 4 "by month" per individual year.														Yearly
	January	February	March	April	May	June	July	August	September	October	November	December	Total Gal	
1996	0	0	43,708	21,650	108,839	58,505	22,202	0	0	0	29,207	7,400	291,511	
1997	0	14,518	36,478	7,300	58,119	22,309	0	0	0	0	0	0	138,724	
1998	0	30,005	36,204	80,214	59,260	44,014	45,005	15,001	14,435	0	29,701	0	353,839	
1999	0	14,701	22,000	59,700	29,301	52,099	22,102	0	0	0	0	22,199	222,102	
2000	0	0	0	0	0	37,105	14,900	0	0	0	0	0	52,005	
2001	0	7,402	29,909	44,014	111,912	59,171	22,627	0	0	0	0	0	275,035	
2002	0	0	15,057	29,800	112,357	44,506	0	0	0	0	0	0	201,720	
2003	0	0	0	0	21,730	29,311	14,808	0	0	0	0	14,804	80,653	
2004	0	0	44,123	14,732	29,916	43,718	0	14,694	15,000	0	0	0	162,183	
2005	0	0	29,596	14,604	35,905	0	0	0	0	0	0	0	80,105	
2006	0	0	14,698	15,061	7,484	15,100	0	0	0	0	0	0	52,343	
2007	0	0	0	37,038	29,583	0	44,702	21,911	0	0	0	0	133,234	
2008	0	22,734	37,006	22,195	126,786	126,478	119,234	29,975	44,918	0	0	22,098	551,424	
2009	22,384	0	37,587	51,600	90,230	37,084	7,600	22,697	0	29,728	74,535	22,549	395,994	
2010	0	15,170	50,981	75,016	60,111	118,892	88,951	74,564	82,060	14,684	7,600	0	588,029	
2011	0	14,760	44,874	82,244	82,694	89,616	22,454	14,600	0	0	0	0	351,242	
2012	0	22,235	0	15,000	7,500	7,451	0	0	0	0	0	0	52,186	
2013	0	0	22,501	97,087	156,097	103,911	22,585	0	0	0	0	0	402,181	
2014	0	0	0	37,109	30,198	37,200	81,354	22,204	22,031	29,590	0	0	259,686	
2015	0	29,718	0	0	14,520	125,588	125,849	22,205	0	0	15,002	80,999	413,881	
2016	29,346	14,863	36,179	14,621	36,611	0	22,366	14,405	21,927	14,704	14,813	7,598	227,433	
2017	14,845	7,503	15,113	37,515	134,157	51,795	7,002	0	0	7,359	0	7,338	282,627	

The chart above tracks the amount of diesel fuel delivered to all three pump stations per month and for the year. You will note the records date back to 1996 so it will give you an idea of how much usage has changed beginning with 2008. In fact, it's more than doubled what it was prior to 2008. At that same time, our hours of operation also dramatically increased. From 1996 to 2007, the average amount of fuel delivered annually to all three stations was 170,288 gallons. From 2008 on that figure is **352,468 gallons**. This impacts not only revenue spent for the fuel, it impacts labor, electric and oil costs (the engines at 3A and 4 are designed to burn a certain amount of oil) as well as wear and tear on the engines and pumps.

We were fortunate that we didn't incur any major malfunctions at any of the three stations this past year. Our staff, both full and part time, strives to keep the stations clean and the equipment well-maintained. We believe these efforts will minimize breakdowns. That same effort will continue with the addition of two new stations. Even though two new pump stations are scheduled to be open in late 2019 or early 2020, the current pump stations will continue to be maintained and operated, as conditions dictate, in addition to the new pumps. We anticipate being able to continue to operate both the old and new pump stations with one employee per shift. As a side note, our current pumping capacity is 1,100,000 gallons of water per minute at optimum conditions. We will be adding more than 600,000 gallons/minute capacity with the addition of the two new stations.

As you know, Pump Stations 3A and 4 are equipped with gravity outlets so if the river stage at those locations gets low enough, we can shut down our pumps and open the gravity gates allowing the Sny to free flow to the river, thus reducing operational costs. For the first time in many, many years, we have been able to open our gravity outlets at both locations. In fact, at Pump Station 3A, the gravity gates have been open continuously since November 16.

FIELD WORK

The Sny's interior drainage system is comprised of multiple structures, ditches and channels all functioning as one to facilitate the movement of water from inside the district to the river. Our pumping stations were just discussed. However other components merit mentioning. The Sny maintains more than 150 miles of river, creek and sedimentation basin levees, more than 260 miles of district ditches and nearly 40 miles of creek channels not to mention the more than 50 miles of Sny channel itself. In addition, our district is unique in its construction of more than 2,600 acres of sedimentation basins located from one end of the District to the other. These basins hold storm run-off from the upland watershed, restricting its flow into the district ditches. This serves as interior flood control for the system and also allows sediment to settle out in the basins before getting into the Sny's ditches. The system is 60 miles long on the bluff side and 54 miles on the river. It's the largest levee and drainage district north of St. Louis. Due to its size, a key component of maintaining it properly is each landowner. You see your district ditches and levees more often than anyone. If you see an issue that needs attention, call the



**Wagway Brush Cutter Attachment
On Caterpillar 324 DL Excavator**

Sny office so we can give it the proper attention it demands. If brush along a district ditch on your property is an issue,

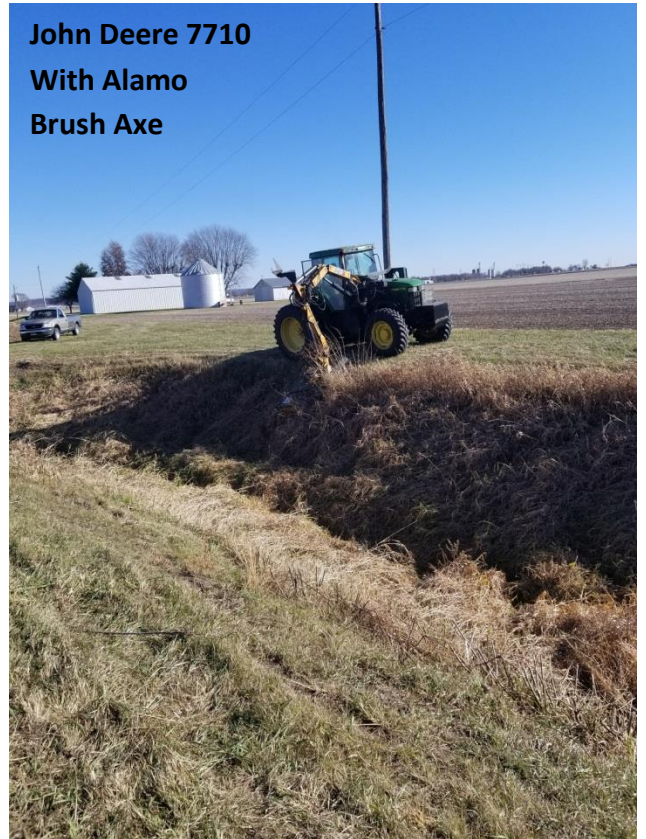
please call. The Sny has brush cutting equipment on one of its John Deere tractors as well as on

the 324DL excavator. In addition, the Sny continues its brush control program by offering herbicide to landowners to apply to district ditches on their property. All that is required is the landowner secure a voucher for the product from the Sny Office, pick it up from the Sny vendor and apply it to district ditches on his/her land.

Ditch Excavation Required



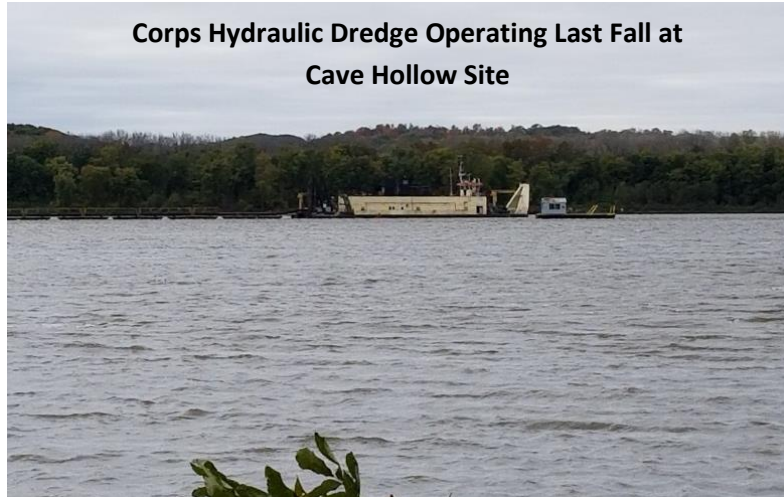
**John Deere 7710
With Alamo
Brush Axe**



**Ditch Excavation Underway
Cat 350L Excavator**



Nearly 20 years ago, the Sny entered into a collaborative arrangement with the Rock Island District, U.S. Army Corps of Engineers to establish dredge material disposal sites on the land side of the main stem river levee throughout the system. Sny drainage officials have long advocated the placement of sand hydraulically removed during the Corps' channel

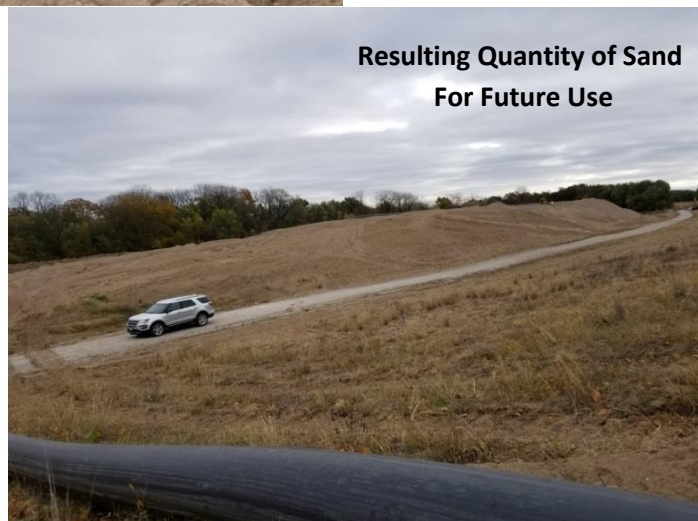


maintenance program to sites outside the floodway. With the cooperation of Sny landowners and the Corps, we have successfully established five such sites. The two most recent Corps channel maintenance dredge events at a site called the "Cave Hollow" south of Hannibal resulted in more than 200,000 cubic yards of sand placed at one



of the Sny disposal sites. Over the years, the Corps has dredged more than 1,000,000 cubic yards of sand from the river and deposited it on Sny disposal sites. Much of it has been used for slope improvements in the District, however a

considerable amount has been transported to the Illinois River for recent flood fighting efforts there. An important aspect to all of this is the sand is removed from the floodway permanently and put to good use. Our efforts continue to establish additional sites throughout the rest of the system.



With these many capital projects moving forward yet today as well as the routine work that goes into the operation of a levee and drainage district such as the Sny, we cannot forget the importance of staying active locally, regionally, state wide and nationally on the political scene. On several occasions in the past, Sny landowners have contributed private funds in support of various elected officials who are definitely **"Friends of the Sny"**. The Sny is represented at least



twice per year in Washington, D.C. through affiliation with the Mississippi Valley Flood Control Association and the National Waterways Conference. The focus of our efforts in these organizations is not only flood control, but regulatory relief from the improper application of Section 408 requirements on local levee

improvements. We have been joined in this effort by folks from throughout the valley as well as from Texas and Nebraska in addressing this issue. Commissioner Koeller serves on the Executive Committee of the Mississippi Valley Flood Control Assoc. headquartered in Memphis, Tennessee representing the State of Illinois. Commissioners Borrowman and Lundberg have served on committees of that Association and Superintendent Reed has twice chaired the Engineering Committee. Reed also sits on the Board of the National Waterways Conference headquartered in Arlington, Virginia. Regionally, we are active in the Upper Mississippi, Illinois and Missouri Rivers Association headquartered in Quincy. Not only in UMIMRA are we continuing the fight against the Section 408 mis-application, but we are working to achieve a comprehensive plan for flood control in the upper valley. We are also continuing our cooperation with the Pike County Farm Bureau's nutrient management efforts to prevent phosphates and nitrogen from getting into the river. We pledge to continue to represent the interests of our landowners as best we can, and to move forward with not only maintaining this great Sny Island Levee Drainage District for all of us now, but improving it for future generations. Thank you for your support.


Dan Lundberg - President


Brady Borrowman - Secretary


Russell Koeller - Commissioner