2020
ANNUAL REPORT
DEKALB COUNTY
HIGHWAY DEPARTMENT

Presented by
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County Engineer
# Index

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Introduction

For over 100 years, the DeKalb County Highway Department has constructed and maintained critical highways in DeKalb County. In the 1910s, the projects were 100% funded by local property taxes. The state motor fuel tax didn’t start until 1929 and the federal motor fuel tax in 1932. Salt used as snow and ice control wasn’t used in the area until the 1940s. Other critical changes over the decades include the increased size and power of our trucks and equipment, the size and weight of vehicles using the highways, the increased use of technology, and the increased state and federal mandates to improve the transportation experience for the public.

The days of a highway department with little to no technology and very few state or federal requirements are long gone. Now the Department operates with three divisions, each with its own division manager: the Engineering Division, the Support Services Division, and the Operations Division. The Engineering Division is overseen by the assistant county engineer. There are 2 engineering technicians and one bridge technician. These employees help prepare bid proposals, inspect construction, and process the mountains of paperwork for projects on county and township highways. The bridge technician also regularly inspects bridges on the local agency highway network. Currently, one of the engineering technician positions is vacant.

The Support Services Division is overseen by the support services manager. He oversees a permit technician, an administrative clerk, the building maintenance worker, and two traffic control technicians. The permit technician primarily handles all the oversize vehicle permits, utility permits, and entrance permits. The administrative clerk handles the county and township motor fuel tax databases as well as the monthly claims and payroll. Building maintenance takes care of the buildings and grounds at both the DeKalb main campus as well as the Waterman satellite location. The traffic control technicians inspect each of the signs on the county highway system on a weekly basis. They also help maintain the traffic signals over which DeKalb County has jurisdiction.

The last division is the most visible by the public. The Operations Division is overseen by the operations manager. He oversees the foreman, two mechanics, and nine maintainers. The Operations Division handles a large variety of tasks, some of which include plowing snow, crack filling, replacing pipe culverts, mowing ditches, regrading ditches, maintaining aggregate shoulders, pavement sweeping, underground tile repairs, tree trimming, and painting crosswalks, stop bars, and railroad crossings.

The DeKalb County Highway Department is also hosting the DeKalb-Sycamore Area Transportation Study (DSATS). DSATS provides support for the DeKalb, Sycamore, and Cortland areas in regards to planning for future transportation needs. The County Engineer, in addition to overseeing the Highway Department and stormwater management in unincorporated DeKalb County, is the director of DSATS. There is one fulltime employee of DSATS who coordinates and creates the various planning documents for the community.

The Highway Department receives input and guidance from the Highway Committee of the County Board. It is through the good relationship with and support from the Committee and Board that the Department is able to provide an excellent level of service. We look forward to continued improvements to the road network and related benefits to the public and other public agencies.
COVID-19

In 2019, an outbreak of a new virus occurred which was called the 2019 novel coronavirus. The World Health Organization officially named the virus the Coronavirus Disease 2019, or COVID-19. It was detected in the US in January 2020. In February, the Centers for Disease Control and Prevention made several recommendations to the public including practices such as avoid sick people, avoid touching the eyes and mouth, and wash hands for 20 seconds.

In March, DeKalb County offices were closed to the public. The County created guidelines to help employees who needed to stay at home due to reasons related to COVID-19. The supply of toilet paper, paper towels, and hand sanitizer disappeared overnight from stores. The Governor issued a Stay At Home Executive Order for all except essential businesses. Transportation related businesses were considered essential so the Highway Department personnel continue their work as we were headed into the busy spring maintenance season.

As March transitioned into April, guidance was regularly updated as legislation was passed and the medical community learned more about the virus. Eventually, the first vaccines were distributed in December. While there have been plenty of challenges, the Highway Department personnel once again did a good job stepping up to complete our projects.
McNeal Road Bridge

This project included the replacement of a 42-year old bridge on McNeal Road just east of the Ogle County line in Franklin Township. The 196 ft long bridge had a weight limit of 5 tons due to significant section loss in the precast prestressed box beams which make up the bridge deck. The allowable weight limit of the bridge was lower than the weight of most ambulances, fire trucks, and school buses.

The new structure is 217 ft long and was completed with the road opened to traffic just before winter. The landscaping will be completed in spring 2021.

Sjostrom & Sons, Inc. of Rockford, IL was the contractor on this $1,976,413 project. The estimated cost of the project was $2,602,356. The project was paid using Federal Surface Transportation Funds (STP-Br) for 80% of the project, State Township Bridge Program funds for 16% of the project, the local Aid to Bridges Tax fund for 2% of the project, and the remaining 2% by the Franklin Township Road District.

Baxter & Woodman, Inc. of Crystal Lake, IL performed the preliminary and design engineering. Jerry Busse of the County Highway Department performed the construction inspection.
South First Street Box Culvert

This project included the replacement of a 61-year old, double 8 ft x 8 ft concrete box culvert. The structure carries South First Street over the Afton-DeKalb Drainage Ditch No 5 on the south side of the intersection with Gurler Road. This project is on the southwest side of DeKalb, IL.

The drainage ditch was realigned at the road for better hydraulics. The outlet of the new structure redirects the water downstream into the channel instead of into a residential lot. The structure was replaced in preparation for the resurfacing of South First Street in 2021.

The structure under the road was completed and the pavement rebuilt to safely allow traffic during the winter. However, the outlet of the new structure and the landscaping will be completed during spring 2021 due to utility conflicts during construction.

Martin & Company of Oregon, IL was the contractor on this $401,079 project. The estimated cost of the project was $577,763. The project was paid using the County Aid to Bridges funds. HR Green of McHenry, IL performed the preliminary and design engineering. Brad Hunold and Brian Oberg of the County Highway Department performed the construction inspection.
Motel Road Bridge

This project included the replacement of a 38-year old bridge on Motel Road on the west side of Sycamore, IL. The 125 ft long bridge had a weight limit of 22 tons due to cracked beams in the deck of the bridge. The new structure will be 167 ft long and 32 feet wide compared to the previous width of 28 feet.

Because the low bid came in higher than the estimate of cost, IDOT did an extra detailed review of the bid. This delay, compounded with delays due to COVID, caused the contract to be executed months after the letting date. At that point, the bridge would not be able to be completed before winter. With the township highway commissioner’s concurrence, the project was allowed to proceed with the bridge expected to be finished by summer 2021.

Civil Constructors, Inc. of Freeport, IL was the contractor on this $1,463,053 project. The estimated cost of the project was $1,359,549. The project was paid using a federal grant (Illinois Special Bridge Funding) for 60.15% of the project, State Township Bridge Program funds for 31.88% of the project, the local Aid to Bridges Tax fund for 7.97% of the project, and the remaining 7.97% by the Mayfield Township Road District. Wendler Engineering of Dixon, IL performed the preliminary and design engineering. Jerry Busse of the County Highway Department performed the construction inspection.
Peace Road & Mercantile Drive Resurfacing

This project included paving on Peace Road from Bethany Road to a point just south of Illinois Route 64 and on Mercantile Drive from Illinois Route 23 to Peace Road. Even though the project included just over 2 centerline miles, a total of 10 lane miles was paved. This section of Peace Road was last paved in 2007.

This project is the merger of 3 small projects and includes intergovernmental cooperation between DeKalb County and the City of Sycamore. By working together, drivers were inconvenienced during one project instead of with multiple projects. Also, better construction prices were realized by combining the individual projects.

Curran Contracting Company of Crystal Lake, IL was the contractor on this $1,072,296 paving project. The estimate of cost was $1,362,384. Federal Surface Transportation Funds - Urban (STU) through the DeKalb-Sycamore-Cortland MPO (DSATS) paid 80% of the project cost. The remaining 20% was paid using local County Matching Tax funds and local City funding.

The County Highway Department performed the preliminary and design engineering for the project. Brad Hunold of the County Highway Department performed the construction inspection.
Timber Pile Repairs on the Anderland Road and Haumesser Road Bridges

In the mid to late 1900’s, many bridges were built throughout the nation using timber piles. Piling is driven into the ground and is the structural support for the abutments and piers which hold up the bridge deck. Bridges with timber piles built in the 1960’s and 1970’s have had deterioration problems in recent years with the wood rotting from the inside out.

As a part of the County’s biennial bridge inspections, the Anderland Road bridge south of Perry Road on the Milan Township/Afton Township line was identified with advanced deterioration in 9 of its 18 timber piles. Also, the Haumesser Road bridge north of Perry Road in Milan Township had advanced deterioration in 4 of its 12 timber piles. Subsequently, the bridges were posted at a reduced maximum weight limit.

Civil Constructors, Inc. of Freeport, IL was the contractor on this $248,632 project to repair the thirteen deteriorated piles in the two bridges. The estimated cost of the project was $195,000. The project was paid using $83,601 from County Aid to Bridges funds, $50,160.60 from Afton Township Road District, and $114,870.70 from Milan Township Road District. Brian Oberg of the County Highway Department was the resident inspector on the project. The DeKalb County Highway Department and IDOT prepared the structural plans for the timber pile repair project.
Suydam Road Pipe Culverts

In the County’s Transportation Improvement Plan, Suydam Road is scheduled to be paved east of Illinois Route 23 in 2021. Prior to resurfacing a road, the Highway Department inspects the crossroad and driveway culverts to determine what needs to be replaced.

The Highway Department replaced 11 crossroad pipes and 22 driveway pipes in 2020. All work was performed using in-house labor by the Highway Department.

The DeKalb County Highway Department performed the surveying, design, and construction on this project. The cost of the pipe materials was $37,381.
New Salt Storage Shed

In typical years, the County Highway Department uses between 4,000 and 6,000 tons of rock salt in our winter snow & ice removal operations. In some winters, when Mother Nature gives us storm after storm, salt deliveries can be delayed if every other public entity is ordering salt at the same time. During particularly cold winters, salt deliveries via barges can be halted if the river completely freezes over.

In 2020, the Highway Department constructed a second salt storage shed to double our current storage capacity of 2,400 tons to 4,800 tons. As we build up our salt supplies, this additional building will allow us to enter into future winter seasons with the majority of the salt we can expect to use.

The design of and the timber materials for the building cost $131,100. Construction of the building including the concrete footings cost $219,485. The paving of the building floor and miscellaneous parking lot patching cost $56,169. The installation of security cameras on the new building cost $5,000. The site preparation was completed by in-house crews in 2019. The complete project was paid using $210,000 from the County Farm Fund and the balance from the Highway Department’s R & R Highway Facilities Fund.
Township Resurfacing Projects

Each year, township road districts request the County Highway Department to prepare proposals and contracts as well as oversee construction activities. Some of these activities include hot-mix asphalt paving on subdivision streets and rural roads.

In 2020, 10 township road districts completed hot-mix asphalt paving projects throughout the County. These projects covered 15.9 miles of road at a cost of $1,907,612. They were paid using a combination of Township Motor Fuel Tax funds and Township local funds. The DeKalb County Highway Department prepared the plans for these paving projects and performed the construction inspection.

Seal Coat Projects

In 2020, 12 townships and 1 municipality joined the County’s seal coat contract. Seal coat is a preventative maintenance process used to extend the life of a pavement. The County seal coated 11.6 miles at a cost of $244,997. The township road districts seal coated 44.2 miles at a cost of $690,545. The municipality seal coat work cost $26,920. Brad Hunold of the County Highway Department was the resident engineer on these projects. The DeKalb County Highway Department prepared the plans for these seal coat projects and performed the construction inspection.

Rejuvenator Projects

The County also uses a liquid rejuvenator as a way to extend the life of its roads. 4.9 miles of multi-lane county roads were sprayed at a cost of $94,757. One township road district sprayed 0.27 miles of roads at a cost of $30,982. Brad Hunold of the County Highway Department was the resident engineer on these projects. The DeKalb County Highway Department prepared the plans for these projects and performed the construction inspection.
Crack Routing and Filling Projects

Crack filling is another preventative maintenance program used to extend the life of pavements. While the County uses in-house crews to rout and fill cracks on its roads, the townships and municipalities hire contractors to perform this work. In 2020, 4 townships had roads under this contract at a cost of $55,465. Two municipalities had streets under this contact at a cost of $69,064. Brad Hunold of the County Highway Department was the resident engineer on these projects. The DeKalb County Highway Department prepared the plans for these projects and performed the construction inspection.

Other Township Maintenance Projects

In addition to the above work, 15 of the 19 township road districts and 2 municipalities had the County prepare various maintenance contracts on their behalf in 2020. In addition to the above described projects, these included bituminous patching materials, various aggregates, calcium chloride, centerline and edge line striping, and drainage pipes. The DeKalb County Highway Department prepared the plans for these contracts.
2021 Projects

Suydam Road Bridge

The Suydam Road bridge over the Indian Creek is east of unincorporated Rollo in Paw Paw Township. It is approximately 3 miles south of Shabbona Lake State Park and located next to the historic Stone House Park. The 78 ft long bridge was built in 1956 and has advanced deterioration of the concrete bridge deck. This has caused the bridge to be posted for no overweight loads.

In 2021, the bridge is scheduled to be replaced with a cast-in-place concrete deck bridge. The estimated cost of the project is $1,135,000 with 80% paid using Federal Illinois Special Bridge grant funds and the 20% local match from the County’s local Matching Tax funds.

McGirr Road Bridge

The McGirr Road bridge over the Battle Creek is north of the Village of Hinckley in Pierce Township. The 49 ft long bridge was built in 1984 and has significant section loss in the precast concrete deck beams.

In 2021, the bridge is scheduled to be replaced with an updated and improved design of the precast concrete deck beams plus a concrete overlay. The estimated cost of the project is $747,149 with 80% paid using Federal Surface Transportation Funds (STP-Br), 16% from State Township Bridge Program funds, and the remaining 4% local match to be split between the County’s local Aid to Bridges Tax fund and the Pierce Township Road District.
Somonauk Road Box Culvert Extensions

This project is the extension of seven culverts under Somonauk Road and one culvert under Perry Road. Six of the culverts under Somonauk Road are located in the 2-mile stretch between Perry Road and Keslinger Road. These locations have steep foreslopes outside the roadway shoulders. The other culvert under Somonauk Road is located immediately south of Barber Greene Road. The culverts will be extended to widen the roadway shoulders and eliminate guardrail at that location. The last location is approximately ¼ mile east of Somonauk Road on Perry Road. This structure will be extended to eliminate a steep slope on one side of the road and eliminate the need for guardrail on the other side of the road.

Over 30,000 cubic yards of fill material was stockpiled on property owned by DeKalb County during the recent I-88 Tollway construction project. That material has been made available to backfill the culvert extensions and provide better slopes along Somonauk Road.

If the additional right of way needed for this project cannot be acquired by the spring letting season, the project will be postponed until 2022.

The estimated cost of the project is $500,000 and is budgeted to be paid using a combination of the County Motor Fuel Tax and local Aid to Bridges Tax fund.

South First Street / Waterman Road Resurfacing

South First Street between Perry Road and the municipal limits of the City of DeKalb was previously a township road. In 2008, the Afton Township Road District and DeKalb County entered into a jurisdictional transfer which relieved the road district of the road. Recently, the road district has asked for the road to be returned back under their jurisdiction. DeKalb County has scheduled the road to be resurfaced prior to the jurisdictional transfer back to the road district.

Waterman Road between the Village of Waterman and Perry Road was originally a single lane concrete road. It was later widened to 2 lanes with hot mix asphalt and eventually deteriorated requiring reconstruction. The County started a multi-year reconstruction in 2017 by rebuilding the pavement structure. In 2019 & 2020, the County completed the ditch regrading and shoulder widening. The County is scheduled to complete the last phase of the Waterman Road reconstruction with a 2021 paving project.

Because of the close proximity of South First Street to Waterman Road, and because of the expected cost savings of a single larger project, both South First Street and Waterman Road will be paved under a single contract. The estimated cost of the project is $2,650,000 and is budgeted to be paid using the County Motor Fuel Tax fund. This project would not be possible in 2021 without the statewide Motor Fuel Tax increase in 2019.
Chicago Road Resurfacing

Chicago Road between Shabbona Road and Illinois Route 23 is showing serious distress from traffic, particularly along the pavement edges. In 2021, this section of road is scheduled to be resurfaced including paved safety shoulders. It was last paved in the early 1990s.

The estimated cost of the project is $1,350,000 and is budgeted to be paid using a combination of the County Motor Fuel Tax and local Matching Tax fund.

Suydam Road Resurfacing

Suydam Road between Illinois Route 23 and Gletty Road at the Sandwich Fairgrounds in the City of Sandwich is scheduled to be resurfaced in 2021. It was last paved in the mid-1990s. The resurfacing includes paved safety shoulders.

The estimated cost of the project is $1,250,000 with 80% paid using Federal Surface Transportation Funds (STP-R) and the 20% local match from the County’s local Matching Tax funds.

Suydam Road Culverts

Similar to the culvert replacements along Suydam Road east of Illinois Route 23 in 2020, the County Highway Department expects to replace the culverts west of Illinois Route 23 in 2021. The culvert work is in anticipation of the road being repaved in 2022.

The Highway Department is planning to take advantage of low traffic volumes due to Suydam Road being closed for the bridge replacement at Stone House Park. In-house labor and equipment will be used to replace 21 crossroad pipe culverts and 17 entrance pipe culverts.
Notes for the Structurally Deficient Structures chart

- Structurally deficient means one of the main components of the structure (deck, superstructure, substructure) is in poor condition and needs repairs

- A structurally deficient classification does not mean the structure is unsafe to use

- Of the 8 structurally deficient county structures, 5 are scheduled for replacement

- Of the 14 structurally deficient township structures, 9 are scheduled for replacement

- Of the 6 structurally deficient municipal structures, 3 are scheduled for replacement
Highway Department Funding Levels

- Highway
- Aid to Bridges
- Motor Fuel Tax
- Federal Hwy Match

Fiscal Year

Property Tax Levy
or State Distribution of MFT

$0

$500,000

$1,000,000 $1,500,000 $2,000,000 $2,500,000

Highway Department Tax Levy Rates

Property Tax Levy Rate

Assessment Year

Highway
Aid to Bridge
Federal Hwy Match