



2010—2011 Annual Report of the Engineer

This report is prepared by the Allen County Engineer as directed by Section 5543.02 of the Ohio Revised Code



2010 A 'Normal' Year For Co. Engineer After coming off of some huge construction projects in 2008 and 2009 such as Eastown Road, Thayer Road, Pike Run Ditch and Friend Road Bridge, 2010 was more of a building year to prepare for projects in 2011. Still, we were able to complete three ditch projects (Speedco Ditch 1262, Colucci Ditch 1243 and Springhill Ditch 1272) and had a \$518,000 contract paving project utilizing **Ohio Public Works (OPWC)** for funding a major portion of the paving. In fact, in the last 5 years ('06-'10) the Allen County Engineer's Department has **averaged \$5.2 million dollars per year in road, bridge and drainage work contracted out** to local contractors. This is a huge boost to our local economy keeping people employed while **completing major infrastructure improvement projects** in our county.

Winter of 2010-11 Was Very Hard on Budget: The winter of 2010-11 was the **3rd most expensive** in the last 16 years for our department. The cost to fight winter storms this winter, including salt, grits, fuel and overtime was **\$455,000**. Only the winters of 2007-8 and 2008-9 were more expensive, topping \$462,000 for both winters. We spent **\$140,000 more** fighting winter storms this year than the 10-year average of \$314,000. The additional expense has caused us to revamp our planned road and bridge programs for this year to make up for the additional cost. But we recognize that clearing the roads of snow is a vital part of our job at the Allen County Engineer's department. I want **to thank our County snowplow drivers and thank the Township drivers** for their diligent efforts to help keep our county & township roads cleared of snow and ice and safe for the traveling public. **Good job guys!**

Severe February Flood Hits Allen County Hard: On February 28th a rain-storm dumped between 2 and 3 inches of rain on Allen County. Combined with the 6 inches of snow on the ground that melted and ran off of frozen ground, it was the equivalent of a 5-inch rainfall event. This caused massive flooding, first in the local creeks and ditches and then on the Ottawa and Auglaize Rivers. Allen County had 19 roads that were closed due to water over the road. In some locations, water was the highest it has been in the last 50 years. Numerous locations had vehicles



stranded where people tried to drive through flowing water across the pavement. This is quite dangerous but fortunately

nobody was hurt. County and Township crews worked for 3 days, first closing roads where creeks had overflowed and then moving signs to the roads where the Ottawa and Auglaize Rivers had flooded roadways. By the time they were done, over 700 tons of stone was used for repairing wash-outs along berm areas and one culvert was closed due to being undermined. Thank you to all of the workers that kept track of posting signs and repairing roads. Michael Lewis of the **National Weather Service** provided Allen County with a pair of signs that read: **"When Flooded, Turn Around, Don't Drown"** which were installed on Dutch Hollow Road north of Neff Road (see photo) by our county sign crew.



2011 To Be Another Busy Year At Allen County

After a "normal" year of construction last year our department will be gearing up for a very busy 2011. As you will read on subsequent pages, we have many projects planned for this year. Welty Ditch, Lost Creek Ditch and W.B. Berryman Ditch are already under construction by contractors. Dutton Ditch, American Village Ditch and Elmview Drive Ditch could be under construction by fall. Additionally, our office will be overseeing the reconstruction of Edgewood Drive, between Cole Street and Augusta Drive. American Township is doing the project using **OPWC funding**. We will also be constructing three **federally funded bridges** on Bliss Road, Bowsler Road and Osman Road. The total cost of these three bridge projects is **\$2.7 million dollars with 80% being paid by federal funds**. Inspection of the bridge projects will be done **in-house**. Also in the works for 2011 is the removal of joints and resurfacing of Lincoln Highway from S.R. 115 to Cairo. **80%** of the estimated cost of \$623,000 for the project will be paid by **federal funds**.

State Legislature Eliminates Axle Loading Requirements:

In March of this year, the Ohio House and Ohio Senate passed HB 114 which effectively eliminates truck axle loading requirements for trucks carrying stone, hot mix, concrete, coal, garbage, farm products and lumber products. While raising the maximum load from 40 tons to 42 tons, the legislature eliminated the axle load limits, in effect allowing a dump truck with just two axles to carry 42 tons. **This could be devastating to our county and township roads**. We will monitor the situation to see if future legislation will be needed.

Tim Piper

Roadway Projects

David R. Louth, P.E., S.I., Roadway Engineer



In 2010, over \$1.5 million dollars were spent for county, township & village road work. Our county road crews and our paving contractor were very busy paving 22 miles of county, township and village roads and sealing 38 miles of roads; sealing is another name for tar & chip application to the surface of the roadway. Seal acts as a water sealant to keep pavement from absorbing water. Also in 2010, the Allen County Engineer applied for and received \$225,776 in State Issue I funding for the resurfacing of 4.02 miles of county roads. That funding helped to pay for 80% of the total cost of the \$282,220 project. The remaining 20% or \$56,444 was paid out of local funds by the Allen County Engineer. This

paving work, along with an additional 2.96 miles of village and township roads, was performed by the Shelly Company this year. The Allen County Roadway Engineer also assisted American Township with the application for funding from the OPWC to reconstruct a section of Edgewood Drive, from Augusta Dr. to Cole Street. American Township received a \$515,161 grant to completely reconstruct 2,344 feet of Edgewood Drive in the Edgewood Subdivision. The Roadway Department filed the grant paperwork and designed the plans in 2010. The project will be bid in the spring of 2011 with construction to follow in the summer. The Allen County Engineer will manage the construction of the entire project.

David Louth

Traffic Department — By: Steve Howell, Traffic Supervisor

The traffic department striped just under 300 miles of roads in 2010; a combination of county, township and village roads.



Our traffic department continues to update signs to meet reflective standards set for 2015.

They also installed thermoplastic at various locations; Greely Chapel Road was completely updated after the road was sealed this past summer.

Battery back-up systems were installed at 3 signalized intersections; Bluelick Road & Sugar Street, Cable Road and Edgewood Drive and Eastown Road and Market Street.

Allen County has 379 bridges through out the county; which includes 6 bridges that are closed and 15 that have load limits. In 2001 we had 26 bridges with posted weight limits. We have made great progress over the last 10 years.



Building & Grounds — by PJ Johnson, Equipment Superintendent

In an effort to be more environmentally friendly and save on natural gas expenses, we purchased a waste oil heater to better utilize the waste oil we generate while providing heat for the shop and warmth to help thaw the plow trucks during the winter months. This was the first winter using the waste oil heater; which the mechanics have seen a greater comfort and has reduced heat recovery time after opening the exterior door. We also purchased an oil filter crusher which will remove up to 98% of the captured oil within a filter and then the crushed filter can be sold as scrap metal rather than being deposited into a landfill.



WINTER SNOW REMOVAL

The 2010-2011 winter cost Allen County over \$455,000; which included over 3500 tons of salt, 4400 tons of ice grits, 29,000 gallons of fuel and over 2700 hours of overtime. The road salt price remained the same as last year. Average price for fuel was \$3.00 /gal. The winter of 08-09 has been our highest at \$464,000.

Allen County has 1,252.55 miles of roadway



County — 342.08 miles
Township — 530.49 miles
City & Village — 221.91 miles
State — 158.07 miles

Population for Allen County is 105,233

2010-11 Bridges & Culverts

By: Brion E. Rhodes, P.E., P.S.— Chief Deputy Engineer / Bridge Engineer

The Allen County Engineer is responsible for the inspection, maintenance and replacement of over 379 bridges in the county system. To manage such a large system, Tim Piper relies on the bridge department to maintain each bridge for as long as possible. While the average bridge is expected to last fifty years, actual life expectancy can vary anywhere from 25 to 100+ years.

Bentley Road Culvert

In 2010, rehabilitation projects occurred on bridges and culverts of varying ages and types. In the spring, County Bridge Crews re-



Bentley Road Culvert

habilitated a flagstone arched culvert on Bentley Road just south of Bluffton. New footers and wing-walls were added to strengthen the structure. The structural integrity of the arch

was sound, so in the process of reconstructing new wing-walls and correcting slope failure, the arch was tuck-pointed and saved and the roadway was slightly widened to complete this project.



Rehabilitation of Thayer Road Bridge

During the summer, an extensive rehabilitation of the Thayer Road bridge over the Ottawa River occurred. This bridge is just north of State Route 81 and was originally constructed in 1984. The structural steel at each end was deteriorated to the point where the problem that had to be addressed. In this process, each end of the



Thayer Road Bridge

before placing a new course of asphalt roadway to complete the job.



Thayer Road Bridge

McBride Road Bridge

This fall, County crews were able to complete the necessary work in order to open the newly built McBride Road bridge over Honey Run just north of Zion Church Road in Amanda Township. The previous steel beam bridge had been constructed in 1929 and stood until its closure 79 years later. A rehabilitation had occurred in 1962, but a bad deck and weakened beams created a reduced weight limit being placed on the original structure near the end of its service. The construction of the new pre-cast concrete beam bridge was accomplished entirely with in-house labor. The final paving of the bridge deck will occur this spring.

Overview

As usual, the Culvert Crew also had a very active year. This group tends to work behind the scenes and does not get a lot of credit or notoriety. However, when the Culvert Crew is needed it always seems to be immediate and the service they perform is nothing short of miraculous. Between those calls for immediate assistance, this crew helps maintain the many miles of underground drainage tiles and systems which run throughout Allen County. One of the Culvert Crew's most active pieces of equipment is the hydro cleaner. It is used in both preventative work and in unclogging specific problem areas in drainage systems. This piece of machinery, as the name implies, uses water under high pressure and a jetting nozzle to clean out underground conduits of all kinds. By eliminating sediment, tree roots and other debris which collect in the bottom, peak flow is maintained when heavy rainfall events occur.

2010 Drainage Engineering ~ Year in Review and 2011 Work Elements Forecast

By: Douglass S. Degen, Drainage Engineer

All engineering and administrative work conducted by the **Drainage Engineering Department** is supervised and approved by **Timothy J. Piper, the Allen County Engineer**. This department has a dual role within the county structure. It operates as the reviewing agency for commercial, industrial, and residential developments, as well as the drainage consultant for the County Commissioners. Within this realm we are responsible for all Petitioned Drainage Improvements of which the Commissioners have final authority.

Douglass S. Degen, Drainage Engineer is the Supervisor of the Drainage Engineering Department as well as Superintendent of the Ditch Maintenance Department and as such is responsible for reviewing all of the work, budget, and assessment procedures, conducted by the engineering and ditch maintenance departments. To assist with these endeavors in the department are Assistant Drainage Engineers **Nathan Davis** and **Andrea Rode**. They have been in the Drainage Department for a number of years and provide a wealth of knowledge.

Brandon Brenneman supervises all documentation and work completed within the Ditch Maintenance Department. All projects constructed through petition are placed on permanent maintenance once construction is completed. The Ditch Maintenance Crew also includes Josh Foster and Jeff Holmes.

As the drainage consultant for the Commissioners we manage the entire process of Petitioned Drainage Improvements. During the 2009 – 2010 construction seasons, five significant drainage improvements have been completed. Currently we maintain 186 miles of Open Ditch, 27 miles of Agricultural and Residential Conduits, 13 miles of Waterways, and 12 Detention Ponds.

Three projects are currently under construction including Welty 1281, in Shawnee Township, awarded to Edge Excavating LLC; which includes 1,330 linear feet of Open Ditch Cleaning, installing 3,184 linear feet of Storm Sewer and catch basin replacements at a total cost of \$158,000. Lost Creek 1251 was started in December by Turf Concepts LLC. This project consists of reconstructing 11.4 Miles of Open Ditch Cleaning, primarily consisting of clearing & grubbing; flush cutting trees on banks and in the flowline; stump treatment; dip-out of flowline; seeding, fertilizing, and mulching; log jam removal; solid waste removal; bank erosion repair; and outlet repair. This cost is \$800,000 which is located in Perry, Bath, and Jackson Townships. W.B.

Berryman 1252 Drainage Improvement is under construction by Miller Contracting Group, consisting of 3,222 linear feet Storm Sewer, Waterway Re-grading, Residential Driveways Cut & Repair, Soil Retention Blankets, Seeding, & Fertilizing.

The total cost of this project is \$314,000. Jim Dutton 1231 is currently out for bid and construction is anticipated to begin late April with completion by mid June.

Eight additional petitioned improvements are on our roster and we are coordinating the Surveying, Engineering, Plan Preparation, and Public Hearing Preparation. Our responsibility includes the management of over \$14.25 million dollars in drainage improvements, benefiting 189,982 watershed acres. Funding for the engineering, administration, construction and maintenance of petitioned drainage improvements is derived from funds acquired from parcel owners within the watershed of each project. The method and process are outlined in the Ohio Revised Code, Sections 6131, 6133, and 6137.

We are also the County Engineer's compliance coordinators of the OEPA's Phase II Stormwater Regulations. An integral component of this program, of which our department manages for the **County Commissioners**, is the Stormwater Management & Sediment Control Regulations (SMSCR). A comprehensive re-writing of the SMSCR is underway and shall be adopted yet this spring. These regulations are necessary to be in compliance with the latest mandates by Ohio EPA. The Stormwater Regulations are a self-supporting entity funded entirely from permit and review fees acquired from developers. At the same time the county is also in the process of adopting Illicit Discharge Regulations. Representatives of the Drainage Department have been instrumental in every aspect of regulation development.

The Drainage Department in conjunction with the Regional Planning Commission has continued to be the Allen County coordinators of a **Cooperating Technical Partnership** with FEMA and the United States Geological Survey to update the **FEMA Floodplain Maps**. In 2004, The Allen County Engineer, Allen County Auditor, and the Board of Allen County Commissioners entered into agreements with the Federal Emergency Management Agency (FEMA), the United States Geological Survey (USGS), and Woolpert, Inc. for the purpose of providing funding dollars for the Cooperating Technical Partnership /Floodplain Map Modernization Project. The entire project is extremely complex utilizing LiDAR Generated Ground Contours and Hydrologic & Hydraulic Stream Modeling, resulting in digital FEMA Floodplain Maps, for the entire county, based upon actual surface data. These will be an asset to numerous governmental agencies such as Homeland Security, Zoning, Economic Development, as well as the Insurance Industry and Banking Institutions. Effective Floodplain Management Draft Maps have arrived and Public Hearings were conducted to enable parcel owners to understand any modifications to the proposed FEMA Floodplain Maps. We are currently reviewing all received mapping and will coordinate the final mapping upgrade with FEMA.

If you would like additional information on any of our current projects, contact the **Allen County Engineers Office, Drainage Engineering Department, Phone 419.228.3196**.



Lost Creek Ditch
currently under construction



Ditch Maintenance performing
Rock Channel Protection



Springhill & Oakwood



Springhill & Oakwood
Drive Ditch After