

# Memorandum

## City of Lawrence

### Public Works Department

**TO:** Mark Thiel, Assistant Public Works Director

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**Date:** August 4, 2014

**RE:** **2014 Engineering Division and Traffic Operations Mid Year Report**

The Engineering Division is responsible for the review and approval of all public improvement plans for streets, sidewalks, rights of way, driveways and storm sewers. The division administers designs and inspects these projects. The division evaluates pavement condition and contracts for major pavement restoration and replacement. The Engineering Division solicits grants and other funding for major reconstruction or new construction projects.

In addition to project management, Engineering includes work groups for Storm water Engineering, Traffic Engineering, Bridge inspection, Levee inspection / monitoring, Surveying and supports services, including providing mapping and GIS functions for public information. The Engineering Division is responsible for the Farmland Industries redevelopment project including remediation efforts of ground water and future development as industrial site.

The Traffic Engineering Division is responsible for the installation, maintenance, safe operation of all traffic control systems throughout the city. These control systems include the traffic signals, the various traffic control signs, all pavement markings, and the school zone beacon system. The division also designs, maintains, and implements all traffic coordination timing plans as well as all the Intelligent Traffic System (ITS) software and equipment, including the fiber optic network that interconnects the various systems as well as the Traffic Operations Center (TOC) which is the main "hub" for all the ITS systems and allows remote viewing and programming of the traffic signals connected to the system. Emergency maintenance and repair is handled on a 24-hour basis by designated "on call" personnel. Division Personnel also do all traffic counts and studies to keep the signal timing and coordination patterns up to date based on the latest traffic volumes and makes changes as needed for major construction projects. Division personnel also inspect and make recommendation concerning new construction projects that affect the various traffic control systems and even design some of the signals, signs, and other projects as needed.

## **23rd & Iowa Project**

Construction for the \$4.0M 23rd & Iowa intersection improvement project began in May and is on schedule to be complete this fall, entering phase 6 of 8 in early August. The project includes reconstruction of the intersection in concrete, new storm sewer, traffic signals, landscaping and dual left turn lanes for all approaches.



*23rd & Iowa*

## **6th & Iowa Project**

The \$2.0M 6th & Iowa project began in May and will be complete in the fall. The first phase included extending both RCB structures under 6th Street to extend and complete maintenance patching. In July, work began on widening 6th Street to the north to accommodate a dedicated westbound left turn lane and new 10' shared-use path. Work on the north side is expected to be complete by September and the contractor will move to the south side of the intersection to complete additional grading, sidewalk and pavement work. Traffic will be shifted to the north to allow for all 4 lanes to be open. The project will include new traffic signals and LED street lights. Construction will conclude with a mill and overlay in the fall.



*6th & Iowa*

### **Iowa Pavement Marking**

Last year's Iowa Reconstruction project concluded at the end of the year and pavement marking was completed with paint due to temperatures. Engineering staff let a pavement marking project to install long lasting grind and glue pavement marking on the project in June. To further enhance the project, Parks & Rec staff worked with contractor to install retaining wall and landscaping on the northeast corner of the intersection. In addition, this fall some areas of the project will be reseeded.



## **Rock Chalk Park**

The engineering division has been involved with the progression of the Rock Chalk Park development including construction inspection, monthly infrastructure updates, reviewing contractor submittals and working on plans and permits for the low water crossings on the 5k trails. Staff is developing a punch list for completion of a majority of the infrastructure items.



*Rock Chalk Park*

## **Wakarusa Drive Reconstruction - Oread West to north of Inverness Drive**

Wakarusa Drive reconstruction started July 7th. This project was designed in-house and will add bike lanes and a center left turn lane from Oread West Drive to north of Inverness Drive & Legends Drive. It will also include a roundabout at the intersection of Wakarusa Drive and Inverness Drive/Legends Drive. The contractor is currently reconstructing the east side of Wakarusa while traffic is maintained on the west side of Wakarusa. The project is expected to be complete in late fall 2014.

## Venture Park Infrastructure

The \$7.0M Venture Park Infrastructure project involves the construction of new streets including the construction of O'Connell from 23rd St to 19th Street and an east/west street from O'Connell to the East Hills Business Park. The improvements also include storm sewer, rough site grading, water line improvements, sanitary sewer, and sidewalks. All new streets include on-street bike lanes that will further enhance the area bicycle network. The infrastructure project is on schedule to be substantially complete in September 2014 with additional landscaping and irrigation to be completed later in the fall.



*Venture Park Drive*



*Venture Park 23rd & Harper looking east*

### **Venture Park remediation of former Farmland site**

Environmental Remediation efforts continue at the park with the advertisement of a construction project to build a regional stormwater detention facility, that will handle stormwater runoff for a majority of the site. The detention facility will be constructed this fall and complete by the end of 2014. Additionally, plans are being developed for the construction of a ground water interceptor trench that is being coordinated with KDHE.

In addition to the regional detention facility, a work plan is currently being finalized by City staff for the remediation of the RCRA Site. This area currently has recorded levels of low pH in the soil. The project under development will remediate the low pH and will remove the RCRA designation from the site. The preliminary work plan has already been reviewed by KDHE. The work plan will be resubmitted to KDHE by the first week of August. A 45 day public comment period will then be required with its estimated conclusion around the middle of October. Advertisement for the construction of this project is scheduled for this fall 2014.

### **31st Street and the South Lawrence Trafficway**

Engineering division staff is inspecting the \$4.0M construction of the approximate 1 mile extension of 31st Street from Haskell to O'Connell that is tied into construction of the \$130M South Lawrence Trafficway project. The project is about 25% complete, the grading of 31st Street is ongoing with concrete pavement to begin this fall. Staff worked with Westar on a project this summer to bury the distribution line adjacent to the neighborhood north of 31st St.

The city streets being reconstructed with the SLT project are anticipated to be complete in Summer 2015 including 31st Street from Louisiana to O'Connell, Louisiana north of 31st Street and Haskell north of 31st Street. Relocated Louisiana street south of 31st Street will be constructed in 2015. The SLT project is expected to be complete by the end of 2016.



*Grading 31st Street - Haskell to O'Connell*



*28th and Haskell looking south*



*31st Street and SLT from 31st & Haskell looking west*

## Vermont Street - Brick reconstruction and semi-diverter

The Vermont Brick Street reconstruction started July 16th. This project was designed in-house and replaced the previous street, that was past its years of service, with new brick pavers on the 2100 block of Vermont Street. The project also included a semi-diverter at the north leg of 23rd and Vermont that restricts traffic from entering onto Vermont Street. This project was completed by the August 8th completion date.



*Vermont Street*

## 9th & Kentucky

The 9th and Kentucky project was a KDOT let project that included the installation of new traffic signals and controller unit for the 9th & Kentucky intersection. This project adds to the improvements that were made on the 9th Street corridor last year at the 9th & Tennessee intersection. New traffic signals and pavement improvements were constructed with that project. Federal safety funds covered 90% of the 9th & Kentucky project cost with the city contributing the remaining 10%. The project was designed in-house and was inspected by city staff. Construction began in July 2014 and will be complete in early August.



*9th & Kentucky Traffic Signals*

## **9th Street (Avalon to Arkansas)**

The 9th Street (Avalon to Arkansas) project includes a mill and overlay of the roadway between Avalon Road and Arkansas Street. New pavement striping will be placed to make a 3-lane corridor. There will be one thru lane and one bike lane in each direction as well as a center left turn lane on 9th Street. New traffic signals and new ADA compliant sidewalk ramps will be installed at the 9th and Emery Road intersection. Also, sidewalk in poor condition will be replaced on the south side of 9th Street between Emery Road and Arkansas Street. Public Works staff designed this project in-house and will provide construction inspection. Construction began July 14, 2014. Signal pole bases have been installed and sidewalk construction is currently under way. Mill and overlay operations will begin in August. New signal poles have been ordered and will be installed in September. In addition, city staff will be re-marking 9<sup>th</sup> Street between Arkansas Street and Illinois Street to 3-lanes (one through lane in each direction with a center left-turn lane) with bicycle lanes. Federal safety funds were allocated for 90% of the 9th Street project cost with the city contributing the remaining 10%. The construction cost is \$300k.



*Sidewalk improvements on 9th Street*

## **Maple Street Pump Station**

Plans for the pump station are 90% complete and a public information meeting was held on Monday July 28th at the Train Depot in North Lawrence. Staff is working with utilities now to relocate facilities any minimize concerns from neighbors. Plans have been submitted to the US Army Corps of Engineers for review. The Corps review is expected to be returned with comments in August and plans will be complete this fall for construction letting.

## **KLINK - 6th Street from Folks Rd to K-10**

The 2014 KLINK project includes a 2" mill and overlay of 23rd street between Iowa Street and Ousdahl Road that will coordinated with the mill and overlay on the 23rd & Iowa project in late fall. Also included with this project is microsurfacing of pavement on 6th Street from K-10 interchange to Folks Road. New pavement markings will be placed on top of the microsurfaced pavement. Public Works staff designed this project in-house and will provide construction inspection. Microsurfacing on 6th Street is set to begin in August and be completed by August 31, 2014. The construction cost of the project is \$667k.

## **2014 Overlay, Patch, and Microsurfacing Program**

As of the end of July, the asphalt patching portion of the project is approximately 30% complete and the microsurfacing (surface sealing) portion of the project is planned to begin in mid to late August. In various locations, reestablishment of pavement markings will need to be completed along with the addition of 84 Shared Lane Use Markings (Sharrows) on bike routes based on Bicycle Advisory Committee recommendations. This project includes a number of City residential and collector streets. Streets included for patching and microsurfacing were determined to be in a generally good condition. These streets were included with the microsurfacing planned process as a preventative maintenance work activity to preserve the streets while also addressing some structural deficiencies to prolong pavement life cycle and effectively sustain the infrastructure assets. City streets that are deteriorated beyond the recommended condition for microsurfacing will be typically included in the maintenance plan for milling and overlay. There are some mill and overlay streets included in this project and planned for completion in August. Construction cost is \$1.35M with estimated completion by September.



*Street patching*

## **2014 Overlay and Concrete Rehabilitation Program**

Currently, the project is approximately 65% complete. This milling and overlay, curb and gutter, and concrete pavement rehabilitation project includes several City arterial, collector, and residential streets. The street sections to be worked on were determined to be in generally a fair to poor condition and the planned maintenance work will lead to improved drainage, structural capacity, and rideability characteristics. Other work items of note include the addition of some new concrete intersections/valley gutters and the installment of approximately 20 concrete access ramps. Pavement markings are being reestablished as well as the addition of 25+ Shared Lane Use Markings (Sharrows) on bike routes based on Bicycle Advisory Committee recommendations. The completion for this project is late September of 2014 with construction cost of \$1.5M.



*Princeton Mill & Overlay with bike lanes and parking*

### **2014 Crosswalk Marking Project**

The \$35,000 annual crosswalk marking project began in June and will be complete in August. Approximately 30 crosswalks at over 10 intersections will be completed.



*New crosswalks at 23rd & Massachusetts intersection*

### **Haskell Rail Trail Shared-use path**

Engineering staff completed in-house plans for the construction of 10' concrete shared-use path on existing aggregate trail. The shared-use path will connect the Burroughs Creek Rail Trail to the South Lawrence Traffic way shared-use path. The project will let in September with construction to occur in late 2014/early 2015. The project is being funded by Transportation Alternative program through KDOT.

### **BBP/K-10 Interchange Project (KDOT)**

Construction is underway on the \$18.3M KDOT Bob Billings project that is anticipated to be complete in 2016. Staff is working with KDOT on coordination of the project and city street work.



*BBP/K-10 looking east*

### **ITS Project**

This fall staff will complete an ITS project for installation of equipment to add 12 intersections along 6th St from K-10 to Wakarusa; on Wakarusa from 6th Street to Clinton Parkway; on Clinton Parkway from Wakarusa to Iowa; and adding the recently completion intersection of 23rd & O'Connell. In 2012 Verizon Wireless installed a 1 1/4 inch conduit for the city alongside their conduit for a project they constructed and the city partnered with the University of Kansas to install 288 fiber optic cable in the conduit. Equipment at the 12 intersections include installing new controllers, PTZ cameras and cabinet modifications to enhance traffic flow, traffic safety and monitor each intersection.

### **Menards public improvements**

Public improvement plans are complete for the Menard's development on 31st Street. Work includes widening 31st Street to install turn lane, and street construction to north to serve development. The existing Naismith Valley Park shared-use path will be extended through the site and connected to 31st Street. Construction is expected to begin in August with public improvements complete by end of 2014.

### **Fox Chase public improvements**

Another addition of Fox Chase adjacent to DeVictor Park is under construction and public improvements are being inspected by Engineering Division staff. Construction is 100% privately funded and expected to be complete in 2014.



*Grading for street extension for Fox Chase*

### **Fairfield Farms public improvements**

Fairfield Farms East Addition southeast of 25th & O'Connell is under construction and work is being inspected by staff. Infrastructure work is 100% privately funded and expected to be complete in late summer.



*Fairfield Farms public improvements*

### **Red Bud public improvements**

Construction of Red Bud Lane east of the commercial redevelopment on the northeast corner of 27th & Iowa began this summer. Public improvement work includes street construction, waterline, storm sewer and sidewalks. Construction is 100% privately funded and expected to be complete in 2014.



*Red Bud Lane public improvements*

## Langston Heights public improvements

Construction for Langston Heights addition west of George Williams Way began this spring and public improvements are being inspected by Engineering Division staff. Work includes sewer, waterline, street, and storm sewer. Construction is 100% privately funded and expected to be complete in 2014.



*Langston Heights public improvements*



*Langston Heights*

## Traffic Engineering Division

The Traffic Engineering operations has Completed/Started several projects as of June 30<sup>th</sup> 2014:

- Installation of CCTV's at 6<sup>th</sup> & Wakarusa, and Clinton & Wakarusa.
- Replaced/Repaired 30 Streetlights.
- Inspection of 23<sup>rd</sup> & Iowa, 9<sup>th</sup> & Emery, 9<sup>th</sup> & Kentucky, 6<sup>th</sup> & Iowa
- Inspection of crosswalks, pavement markings contract.
- Inspection of KU/City Fiber Project.

- Inspection of Wakarusa & Inverness roundabout.
- 105 Locates
- Upgrade of 9<sup>th</sup> & Kentucky Intersection.
- Replacement of one Video Detection Unit at 6<sup>th</sup> & Wakarusa.
- Upgrade of Traffic software in the Traffic operations Center to enhance the Lawrence ITS system.
- Inspection of Fiber(Conduit) Installation at Venture Park.
- Installation of a Battery Backup system at 23<sup>rd</sup> & Naismith.
- Painting crews started painting in June and have completed 8 lane miles of pavement marking.



*Pavement Marking*

- Repaired 920 signs that were damaged, worn, or stolen.
- Installed 56 new signs.
- Inspected 154 signs for wear and/or deterioration.
- Performed preventative maintenance on 11 intersections
- Handled 306 traffic calls.
- Performed 97 Vehicle counts.
- Inspection of Pavement Markings on Princeton Blvd and Lawrence Avenue
- Installation of lighted hospital sign at 6th & Maine



*Installing lighted hospital sign*

## **Future Projects**

Engineering staff has been working on plans, schedules, utility conflicts and cost estimates for several future projects.

- Bob Billings Reconstruction from Wakarusa to Foxfire. Plans are being completed in-house for reconstruction of the street pavement. Construction will be funded from infrastructure sales tax.
- Bob Billings Parkway and George Williams Way intersection improvements. Plans for construction of a traffic signal and turn lanes at the intersection will be complete in 2014 with construction planned for 2015.
- Staff is working on RFQ for solicitation of engineering/art design team for the 9th Street project from Massachusetts to Delaware Street.
- 6th & K-10 interchange improvements. KDOT is working on plans for improvements to the interchange to reconstruct as a diverging diamond. The project field check (50% plans complete) is August. There have been no funds allocated yet to construction of the project.
- KDOT has begun the process to design the expansion of the current west leg of K-10 SLT from the turnpike to Iowa Street from a 2-lanes to 4-lanes. The surveying is underway with study to examine future intersection/interchange improvements to follow.
- CDBG Sidewalk Gap Program plans underway for construction in Spring 2015.