ATTACHMENT A
SCOPE OF SERVICES

SEDALIA STORM DRAINAGE IMPROVEMENTS
Project Area 14

Task 1 – Topographic and Utility Survey

1.1 Property Research

Perform a field search to recover existing monumentation (existing front property corners and right-of-way markers). Review the subdivision plats and field research to develop the existing property lines and establish the existing right-of-way. This work task is not intended to be a property survey.

1.2 Horizontal and Vertical Control

Set three (3) control points at each project area. The control will be tied to Missouri State Plane – Central Zone (NAD 83) & NAVD 88 Vertical Datum.

1.3 Utility Survey

Locate marked utilities at each project area including, but not limited to, water, sewer, gas, power, telephone, cable TV, and fiber optics. Buried utility companies will be contacted through the Missouri One-Call system and as supplemented by the City for those utilities not associated with the One-Call system. Utilities will be horizontally field located according to the field marks made by the utility companies or the One-Call locator. The inflow/outflow elevations for storm and sanitary sewer structures will be located along with the size and type of structure and the size and type of the conduit entering and leaving the structure.

1.4 Topographic Survey

Perform field surveys to obtain sufficient detail for the project design. The field information shall include topographic information to clearly identify breaklines, slopes, and terrain issues including paving, sidewalks, entrances & utilities.

1.5 Documentation

Prepare a CADD drawing of the property lines, right-of-way, existing utilities, existing topographic features, and spot elevations that will be used to supplement the City GIS/Lidar data. This drawing will be used as the basemap for the design and plan preparation.

1.6 Easement Documents

Prepare easement documents as required for temporary construction, channel grading, and/or surface drainage in swales.

Task 2 – Plan Preparation

2.1 Preliminary Plan Preparation (60% Plans)

Based on the Wilson & Company Stormwater Master Plan – Priority Projects Memorandum dated April 12, 2018; plans will be prepared for the Project Area 14 – Alternative #1.

Plan sheets will be developed as required to convey sufficient detail for construction. The following sheets will be prepared for the Preliminary Plan submittal:

- Title Sheet
- General Layout Sheet
- Plan & Profile Sheets
- Erosion Control Sheets
- Traffic Control Sheets

The Preliminary Plans and Engineer's Opinion of Probable Construction Cost will be submitted to the City for review. City comments will be addressed and written responses will be prepared and submitted with Final Plans.

2.2 Final Plans and Project Manual Preparation (100% Plans)

Based on comments received during the Preliminary Plan review, Final Plans will be revised. A written list of comments from the Preliminary Plan review will be assembled into a single document and responses to each comment will be provided. A Project Manual will be developed using the City's standard front end documents and technical specifications.

The Final Plans, Project Manual and Engineer's Opinion of Probable Construction Cost will be submitted to the City for review. City comments will be addressed and written responses will be prepared prior to advertising the project for Bid.

2.3 Post Design Services

The following post design services will be provided:

- Submit Final Plans and Project Manual documents in PDF format for bidding the project by the City.
- Answer questions and issue addendums, if required, during the project advertisement period.
- Review shop drawings
- Address contractor RFIs during construction

Items Not Included in the Scope of Services

1. Any work requested by the City that is not included in the basic services will be classified as supplemental services. Supplementary services shall include, but are not limited to the following:
    a. Changes in the scope, extent, or character of the project.
    b. Revisions to the plans when inconsistent with previous approvals or instructions by the City.
    c. Updating plans to reflect development that has occurred after the Final Plans are complete.
2. Utility coordination except as specifically stated in Task 1.3.
3. Obtaining Ownership & Encumbrance or Title Reports for the adjacent properties.
4. Public Involvement or meetings with the adjacent property owners.
5. Design of sidewalks or handicap ramps.
6. Full property survey or setting of new property corners if they are missing is not required.
7. Environmental permitting.
8. Construction Phase Services:
    a. Construction inspection or testing.
    b. Substantial and Final completion inspections.
    c. Preparation of record drawings.

WILSON &COMPANY

EXHIBIT A
FEE ESTIMATE WORKSHEET

Proj.: Storm Drainage Improvements
By: GJLust
Date: October 28, 2021
Client: Sedalia, MO
Notes: Project Area 14

TASK I.D.	WORK TASK DESCRIPTION	ESTIMATED MANHOURS						TOTAL HOURS	LABOR EFFORT	EXPENSE EFFORT	TOTAL FEE
	TASK CODE	P5	P3	OD4	FS6	FS5	FS4				
	WCI CLASS										
	TITLE	Project Manager	Design Engineer	CADD Technician	Survey Manager	Chief Surveyor	Survey Tech				
TASK 1 - RIGHT-OF-WAY and UTILITY SURVEY											
1.1	Property Research			4	2			6.00	$ 624.00	$ -	$ 624.00
1.2	Horizontal & Vertical Control					8	8	16.00	$ 1,680.00	$ 925.50	$ 2,605.50
1.3	Utility Survey					16	16	32.00	$ 3,360.00	$ 617.00	$ 3,977.00
1.4	Topographic Survey					24	24	48.00	$ 5,040.00	$ 1,667.50	$ 6,707.50
1.5	Documentation			32	8			40.00	$ 3,776.00	$ -	$ 3,776.00
1.6	Easement Documents			4	2			6.00	$ 624.00	$ -	$ 624.00
	Subtotal	0	0	40	12	48	48	148.00	$ 15,104.00	$ 3,210.00	$ 18,314.00
TASK 2 - PLAN PREPARATION											
2.1	60% Plans	48	160	112				320.00	$ 35,376.00	$ 336.00	$ 35,712.00
2.2	Final Plans and Project Manual Preparation	24	80	56				160.00	$ 17,688.00	$ 110.00	$ 17,798.00
2.3	Post Design Services	4	12					16.00	$ 2,048.00	$ 128.00	$ 2,176.00
	Subtotal	76	252	168	0	0	0	496.00	$ 55,112.00	$ 574.00	$ 55,686.00
	TOTALS	**76**	**252**	**208**	**12**	**48**	**48**	**644.00**	**$ 70,216.00**	**$ 3,784.00**	**$ 74,000.00**

Improvement Area 14 – South Center Avenue and East Broadway Boulevard

Location Map

Benefit Point Total	250
Project Cost	$306,988
Cost/Benefit Score	1228

Project Problem and Solution Summary

Street flooding and home flooding are reported in this project area by both the City and residents. Stormwater flows from the north collecting on South Center Avenue. An existing stormwater system is in place in this area but is undersized. The stormwater then flows to the south over East Broadway Boulevard. The stormwater system in this area turns to the east on East 9th Street and empties into an open channel. The home at 1410 East Broadway Boulevard floods when stormwater pools in the alley behind the home and floods the attached garage.

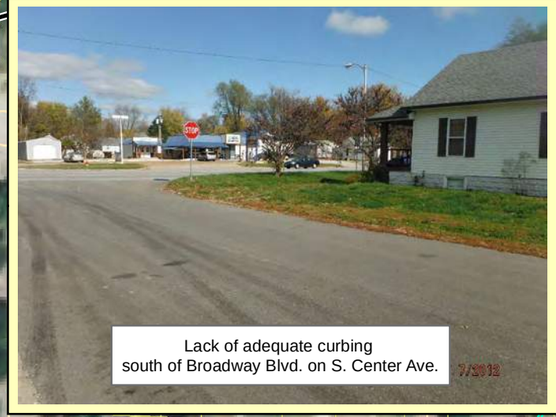
The solution for this project area includes an upgraded stormwater system and improved open channels. The new stormwater system will begin at the intersection of East 7th Street and South Center Avenue. The new stormwater system will then continue to the south along South Center Avenue. The upgraded stormwater system will follow the alignment of the existing stormwater system along East 9th Street. To prevent 1410 East Broadway from flooding a inlet and storm sewer will be added in the alley to capture stormwater and direct it to an improved ditch along South Center Avenue. The open channel south of East 9th Street will also need to be altered to improve conveyance. This improved channel will prevent the backup of water into the proposed stormwater system. For final design survey information will be needed for home low openings, utility information, more detailed topographic data and existing storm sewer information to provide more accurate alignment and channel and pipe sizing.

Cost Estimate				
Item Description	***Quantity***	***Qty. Units***	***Unit Cost***	***Total Cost***
Pipe 21" and Larger - Street	1023	LF	$210	$214,830
Pipe 21" and Smaller - Street	144	LF	$180	$25,920
Channel	242	LF	$20	$4,840
			Subtotal	$245,590
			Utilities and Misc. Contingency (25%)	$61,398
			Total	$306,988

Rear of 1400 Broadway Blvd.
Lack of flow path allows water to flow into home

Undersized storm sewer causes street flooding
at the intersection of E. 7th St. and S. Center Ave.

Inadequate channel and restrictions
and restrictions near 1404 E. 9th St.



Lack of adequate curbing
south of Broadway Blvd. on S. Center Ave.

Inadequate culvert under E. 9th St.

E. 7th St.
S. Engineer Ave.
S. Wagner Ave.
South Center Ave.
E. Broadway Blvd.
E. Broadway Blvd.
14
S. Porter Ave.
E. 9th St.
S. New York Ave.
S. Emmet Ave.
Ware Ave.
E. 10th St.
S. Summ

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Legend

- Proposed Channel
- Proposed Pipes
- Street Flood
- Potential System Improvements
- Surface Water, Ground Water and Sanitary Sewer Backup
- Surface Flooding
- Ground and Surface Water Flooding
- Sanitary Sewer Backup
- Returned Questionnaires with No Major Issues
- Surface Flooding and Sanitary Sewer Backup
- Ground Water Flooding and Sanitary Sewer Backup
- Ground Water Flooding

City of Sedalia, MO
Potential System Improvements
Project ID #14

0 125 250 500 Feet

N

OLSSON ASSOCIATES

WILSON & COMPANY

Memorandum

Alaska
Arizona
California
Colorado
Kansas
Louisiana
Missouri
Nebraska
New Mexico
Oklahoma
Texas
Utah

To: City of Sedalia, Missouri

From: Wilson & Company, Inc., Engineers & Architects

CC:

Date: April 12, 2018 **File Number:** 14-100-509-00

Re: Stormwater Master Plan Improvement Areas – No. 14

From the field investigation, it appears that the primary issue with this location is that the existing enclosed system is undersized. The drainage area to this location is large and the pipes in the area are undersized to carry the runoff. The existing enclosed system is extensive in the area covered, making it hard to replace the whole system. The issue behind 1410 E Broadway Blvd. is primarily because the yard is lower than the alley. The main solution to alleviate the homeowner's problem is to raise the yard to be higher than the alley, which is not the city's responsibility.

Based on 2013 aerial imagery and 2011 LiDAR contours, the area of concern has a drainage area of approximately 99 acres. Based on rational method and drainage area parameters, the 1% design storm will yield a peak discharge of approximately 440 cfs.

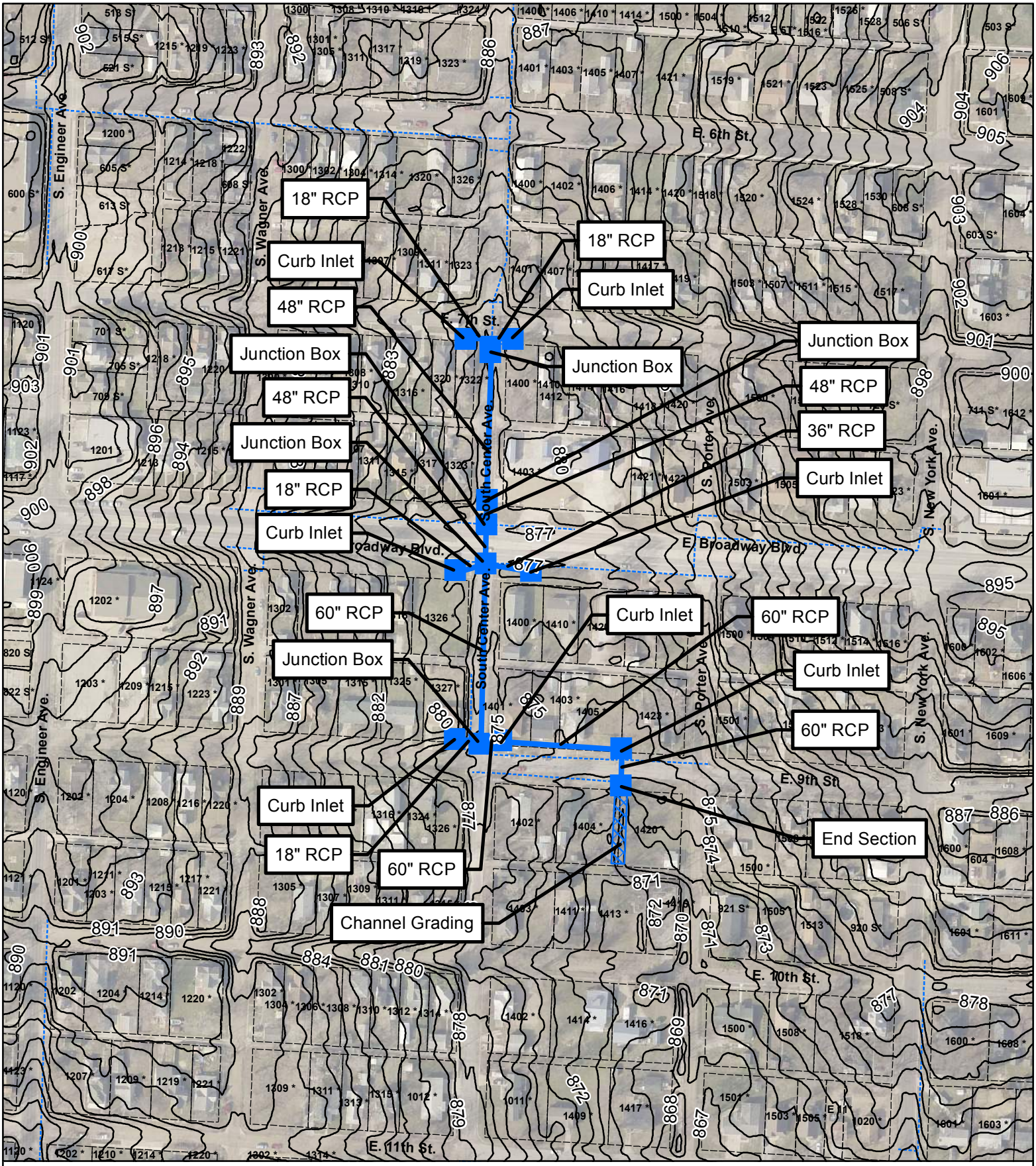
Alternative #1:

Alternative #1 includes replacing the main trunk line and adding inlets toward the downstream end of the existing enclosed system. The main line from 7th St. and Center Ave. to the outlet into the existing channel near 9th St. and Porter Ave. will be replaced. Additional inlets will be added at the intersections of S Center Ave. and E 7th St., Center Ave. and E Broadway Blvd., and Center Ave. and E 9th St. Curb and gutter would be added to the east side of Center between Broadway and 9th. New inlets, 48" RCP and 60" RCP will make up the new enclosed system. The channel at the downstream outlet will be cleaned out and graded to improve conveyance. The street and alleys will need to be patched. The new system will be located within the Right-of-Way, so no easements will be required.

Alternative #1 Cost Estimate:

Item	Quantity	Unit	Unit Price	Total
Clearing and Grubbing	1	LS	$ 12,000	$ 12,000
Channel Grading	50	CY	$ 20	$ 1,000
Inlet	7	EA	$ 6,000	$ 42,000
Junction Box	5	EA	$ 6,000	$ 30,000
Storm Sewer (18")	100	LF	$ 100	$ 10,000
Storm Sewer (36")	100	LF	$ 180	$ 18,000
Storm Sewer (48")	350	LF	$ 250	$ 87,500
Storm Sewer (60")	550	LF	$ 300	$ 165,000
End Section	1	EA	$ 4,000	$ 4,000
Street Patch	800	SY	$ 120	$ 96,000
			Sub-Total	$ 465,500
			Contingency (20%)	$ 93,100
			Total	**$ 558,600**

HIGHER Relationships
SHARED OWNERSHIP • COLLABORATION
INTENSITY • DISCIPLINE • SOLUTIONS



Legend

- Proposed Berm
- Proposed Channel
- Proposed Storm Sewer
- Proposed Storm Structure
- Existing Storm Sewer
- Corporate_limits
- Parcel

0 100 200 400 Feet

City of Sedalia, Missouri

Stormwater Master Plan Improvements

Improvement Area: 14

April 2018

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