

City of Ladue

**PROJECT IDENTIFICATION INFORMATION SHEET**

Storm Water Management Program  
Phase II: Master Plan  
Ladue, Saint Louis County, Missouri

**PROJECT NAME: Babler Lane**  
**LOCATION: Babler Lane**  
**PROJECT No: 1602**

**STATUS:**

Pending  
 Approved  
 Construction

Easements Required:	12
Properties Benefited:	12
Properties Impacted:	12
Project Benefit Points:	1445
Property Benefit Multiplier: X	1.00
Priority WGT Multiplier: X	1.15
Adj Prjct Benefit Points:	1661.75
EOPC, thousand:	\$1,703.33
Cost Sharing, MSD:	
Cost Sharing, Other:	
Adj EOPC, thousand:	\$1,703.33
<b>Benefit to Cost Ratio:</b>	<b>0.98</b>

- Project Source:**
- Citizen Complaint
  - Ladue
  - MSD
  - Other:
- Coordination Required:**
- MSD
  - Corps of Engineers
  - MO DNR
  - MODOT
  - County Highways
  - City Streets
  - City Parks
  - County Parks
  - Municipality: City of Ladue; Possibly City of Frontenac
  - Railroad:
  - Subdivision Trustees
  - Other: Local Utilities; Possibly Special School District

**Problem Categories:**

- | <input checked="" type="checkbox"/> WGT  | Description                                                                 |
|------------------------------------------|-----------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> 1.15 | Habitable structural flooding & erosion from overland flow (non-floodplain) |
| <input type="checkbox"/> 1.15            | Public roadway flooding & erosion                                           |
| <input checked="" type="checkbox"/> 1.10 | Private roadway flooding & erosion                                          |
| <input checked="" type="checkbox"/> 1.05 | Flooding from inadequate sinkhole                                           |
| <input type="checkbox"/> 1.05            | Maintenance of stormwater system facilities                                 |
| <input checked="" type="checkbox"/> 1.05 | Non-habitable structural flooding & erosion                                 |
| <input checked="" type="checkbox"/> 1.00 | Yard erosion & erosion of common ground or unmaintained area                |
| <input checked="" type="checkbox"/> 1.00 | Yard flooding                                                               |
| <input type="checkbox"/> 0.85            | Structural flooding from creeks or rivers (floodplain)                      |

**Benefited Property Definition:**

- 1 A benefited property is one at which flooding and/or erosion is reduced;
- 2 A property that does not receive an actual reduction in flooding or erosion from the construction of storm water improvements is NOT a benefited property; and
- 3 A property that only receives a financial gain from the construction of storm water improvements is NOT a benefited property.

**Impacted Property Definition:**

- 1 An impacted property is one at which physical disturbance occurs to construct storm water improvements.

MSD/MO American Water Base Map Number(s): 20M  
Laclede Gas Map Number(s): 155-65; 155-66  
FEMA FIRM Map Number(s): 29189C0194K  
USGS Quadrangle Map(s): Creve Coeur, MO

**Attachments**

- Scope of Work
- Benefit Points Calculation
- Engineer's Opinion of Probable Construction Cost
- Property Contact Information
- Improvement Concept Plan

**Notes:** A sinkhole report is required in areas identified as a sinkhole area (MSD Rules & Regs, 4.020.08). Potential conflict with 8-inch sanitary sewer. 2001 Lindbergh Blvd (Frontenac) is scheduled to be redeveloped with 'back to grass' detention requirements.

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### **SCOPE OF WORK**

#### **Problem Description:**

The stormwater collection system at Babler Ln consists of roadside ditches and driveway culverts. The majority of flow in the area comes from pipes under Lindbergh Blvd to the west and Litzinger Rd to the south. The various roadside ditches and driveway culverts are unable to handle this flow.

In addition, everything coming through the Babler Lane subdivision drains to a series of sinkholes at #5 Babler Ln where the creek abruptly ends. Downstream of the sinkholes, there is no defined drainage path to the 54-inch diameter culvert at Winding Ridge Rd. Immediately downstream of the sinkholes the overland topography is slightly uphill (#5 Babler Lane) detaining runoff before flowing to the culvert. Based on field observations and the photos provided, once the sinkhole's outlet and sinkhole's storage has reached its capacity, the water backs up onto Babler Lane and onto the adjacent yards, creating flooding and erosion.

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#### **Proposed Solution:**

Construct approximately 1,781 lineal feet of storm pipe sewer varying in size from 15-in to 48-in diameter and appurtenances meeting a level of service of 1:15. Remove and replace approximately 533 lineal feet of 12-in sanitary sewer running parallel to the project alignment. This project will be built under the provisions of the "Standard Construction Specifications of The Metropolitan St. Louis Sewer District," dated 2009, except as modified.

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#### **Commentary:**

MSD requires preparation of a sinkhole report for locations identified as a sinkhole area (MSD Rules & Reg's, 4.020.08). This project would require a sinkhole report.

PROJECT NAME: Babler Lane  
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**BENEFIT POINTS CALCULATION**

PROBLEM SOLVED CATEGORY		Chronic (<=2-Yr) Flooding		Frequent (>2<=15-Yr) Flooding		Infrequent (>15-Yr) Flooding		Total Points		
		Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	Points per Category	No. Lots Affected			
Note: Problem points are awarded only for those problems solved by the proposed solution.										
1.0 STREAM	1.1. FLOODING	1.1.1. Structure Flooding								
		Habitable 1st floor, residential; includes spaces with mechanical equipment (1 lot per structure) Address:	300		150		25			
		Basement (1 lot per structure) Address:	200		100		15			
		Attached Garage (1 lot per structure) Address:	100		50		8			
		Misc. structures including patio/decks, pools, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address:	50		25		4			
		Industrial, office, commercial and warehouse (1 lot per 2,500 sf of floor space flooded) Address:	300		150		25			
		Yard Flooding (1 per lot) Address:	10		5		0			
		1.1.2. Roadway Flooding (allocate 1 lot per 250' of roadway impacted & 2 lots per intersection impacted)								
		Emergency Access restricted (>12" water over only access route to habitable structure), pts per structure Address:5, 7, 10 Babler Ln.	200		100	3	15		300	
	Traffic obstruction (> 6" of water) on arterial street Address:5, 7, 10 Babler Ln.	50		25	3	4		75		
	Traffic obstruction (> 6" of water) on collector street Address:	25		12		2				
	Traffic obstruction (> 6" of water) on residential street Address:9, 11, 12 Babler Ln.	10		5	3	1		15		
	1.2. EROSION	1.2.1.	Threatening Structure (Ratio=Height of bank / distance from structure)	Pts. for Ratio > 0.70	No. Lots	Pts. for Ratio 0.36 - 0.70	No. Lots	Pts. for Ratio 0.15- 0.35	No. Lots	
			Habitable structures, residential (1 lot per structure) Address:	300		200		50		
			Misc structures including pools, patio/decks, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address:	150		100		25		
			Industrial, office, commercial and warehouse (1 lot per structure) Address:	300		200		50		
		1.2.2.	No. of lots (from 1.2.1) on outside of bend		lots	10 points per lot				
		1.2.3.	Threatening Roadway (Ratio=Height of bank / distance from structure)	Pts. for Ratio > 0.70	No. Lots	Pts. for Ratio 0.36 - 0.70	No. Lots	Pts. for Ratio 0.15- 0.35	No. Lots	
Arterial Road: Address:			75		50		12			
Collector Road: Address:			35		25		6			
Residential Road: Address:	20			12		3				

CONTINUED:

2.0 STORM SEWER / OVERLAND FLOW	2.1. FLOODING	PROBLEM SOLVED CATEGORY, CONT.		Chronic (<=2-Yr) Flooding		Frequent (>2<=15-Yr) Flooding		Infrequent (>15-Yr) Flooding		Total Points	
		Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	Points per Category	No. Lots Affected				
		Note: Problem points are awarded only for those problems solved by the									
2.1.1. Structure Flooding											
		Habitable 1st floor, residential; Includes spaces with mechanical equipment (1 lot per structure)* Address:	350		250		65				
		Basement (1 lot per structure)* Address: #7, 10, 12 Babler	250	3	200		50			750	
		Industrial, office, commercial and warehouse (1 lot per 2,500 sf of floor space flooded)* Address:	300		200		50				
		If there is an existing public system and points are taken for any of the 3 items above, add 50 points.	Existing System Y/N								
		Attached Garage (1 lot per structure) Address:	100		75		25				
		Misc. structures including patio/decks, pools, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address: #7, 9, 12 Babler	50	3	35		12			150	
		Yard Flooding (1 per lot) Address: #9, 10, 12, 15, 17, 19 Babler Ln.	10	6	6		0			60	
2.1.2.											
		Roadway Flooding (allocate 1 lot per 250' of roadway impacted & 2 lots per Intersection impacted)									
		Emergency Access restricted (>12" water over only access route to habitable structure), pts per structure Address	200		150		25				
		Traffic obstruction (> 6" of water) on arterial street Address:	50		35		6				
		Traffic obstruction (> 6" of water) on collector street Address:	25		15		2				
		Traffic obstruction (> 6" of water) on residential street Address:	10		6		1				
		Ponding (per ponding area) Address:	No. Ponds:		Points/pond:		5				
		2.2. Moderate Risk Erosion of misc. structures Address:	No. Lots:		Points/lot:		20				
		2.3. Yard Erosion (1 per lot) Address: #9, 10, 12, 15, 17, 19 Babler Ln.	No. Lots:		Points/lot:		10			60	
		2.4. Age of Existing System Points for Age	>50 yrs (30 pts)		26-50 yrs (15 pts)		<25 yrs (0 pts)				
Note: Problem points are awarded only for those problems solved by the proposed solution.										<b>TOTAL PROBLEM POINTS</b>	<b>1410</b>

CONTINUED:

SOLUTION BENEFIT CATEGORY					
3.0 REGIONAL	3.1. Reduction of flowrate leaving site	% reduction of peak flowrate :	0%	Max points:	1000
	3.2. Combines smaller projects into regional solution (see note)	No. Add'l Projects:	0	Points per Add'l Proj.:	50
4.0 ENVIRONMENTAL / WATER QUALITY	4.1. Addresses pollutants:		No. Units	Points per Unit	
		Bioswales	PER 100 LF	10	
		Forebays	AC	200	
		Wet Ponds	AC	100	
		Wetlands	AC	50	
		Biostabilization of banks (per bank)	0 PER 100 LF	10	
		Riffle Pool Complex	PER 100 LF	10	
		4.2. Eliminates combined sewer (per project)	EA	100	
	4.3. Eliminates inflow into sanitary system (1 each per basement flooded, yard vent overtopped, street inlet or driveway drain connected to sanitary/combined system, etc.)	3	EA	10	30
5.0 MISC.	5.1. Ease of Implementation (No. of Easements)	0-5 (20 pts)	6-10 (10 pts)	11-15 (5 pts)	>15 (0 pts)
	Points for Easements	5			5
	5.2. Recreational/Educational	Yes = 100, pts	no = 0	0	
<b>TOTAL SOLUTION POINTS</b>					<b>35</b>
<b>TOTAL BENEFIT POINTS</b>					<b>1445</b>

Note: A regional solution combines several smaller projects into a watershed or subwatershed solution.

TOTAL COST IN THOUSANDS=

\$1,703.33

MSD BENEFIT/ COST RATIO= TOTAL POINTS/ TOTAL COST IN THOUSANDS=

0.85

<b>PROJECT NAME:</b>		Babler Lane			
<b>PROJECT No:</b>		1602			
<b>ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST</b>					
ITEM NUMBER	PAY ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
1	Mobilization	1	Lump Sum	\$27,378.44	\$27,378.44
2	Bottom Sect. Of Manhole-48 Inch Pipe	6	Each	\$6,100.00	\$36,600.00
3	Excavation Class "A"	257	Cubic Yards	\$190.00	\$48,851.11
4	Excavation Class "B"	26	Cubic Yards	\$55.00	\$1,414.11
5	Flared End Section 48 Inch Pipe	1	Each	\$3,600.00	\$3,600.00
6	Inlet (Area,Street, etc.)	3	Each	\$2,500.00	\$7,500.00
7	Inlet Manhole	7	Each	\$3,200.00	\$22,400.00
7	Manhole	5	Each	\$3,000.00	\$15,000.00
9	Pipe Sewer (SAN)	533	Linear Feet	\$230.58	\$122,900.92
10	Pipe Sewer 15-Inch	95	Linear Feet	\$197.65	\$18,776.43
11	Pipe Sewer 24-Inch	37	Linear Feet	\$238.78	\$8,834.95
12	Pipe Sewer 36-Inch	38	Linear Feet	\$246.31	\$9,359.93
13	Pipe Sewer 42-Inch	203	Linear Feet	\$282.76	\$57,399.82
14	Pipe Sewer 48-Inch	1,408	Linear Feet	\$290.51	\$409,042.54
15	Sodding - Bluegrass	5,142	Square Yards	\$13.00	\$66,848.89
16	Street Pavement - Asphalt Concrete	35	Square Yards	\$85.00	\$2,975.00
17	Stormwater Management-Water Quality	2,628	Cubic Feet	\$11.00	\$28,908.00
18	Stormwater Mngmnt-Channel Protection	2,633	Cubic Feet	\$11.00	\$28,963.00
19	Vegetated Reinforced Earthen Swale	664	Square Yards	\$35.00	\$23,240.00
20	Protection and Restoration of Site	1	Lump Sum	\$140,999.00	\$140,999.00
21	Utility Relocation (Allowance)	1	Lump Sum	\$18,800.00	\$18,800.00
*Excavation Class "C" cost included in unit price					
				Sub-Total:	\$1,099,792.13
				Estimated Construction Engineering Fee:	\$18,842.75
				Estimated Construction Survey Fee:	\$3,123.90
				Estimated MSD Construction Permit Fee:	\$195.00
				Estimated MSD Stormwater Construction Inspection Fee:	\$4,452.50
				Estimated MSD Sanitary Construction Inspection Fee:	\$1,806.87
Estimated area disturbed:		1.21	ac		
				Estimated MDNR Land Disturbance Permit Fee:	\$500.00
				Estimated CWA 404/401 Permit Fee:	
				Sub-Total:	\$1,128,713.15
				30% Contingency:	\$338,613.94
				<b>SUB-TOTAL - CONSTRUCTION:</b>	<b>\$1,467,327.09</b>
				Estimated Design Engineering Fee:	\$106,775.59

		Estimated MSD Plan Review Submittal Fee:	
		Estimated MSD Conceptual Review Fee:	
		Estimated MSD Plan Review Fee:	
		<i>Note: MSD submittal &amp; review fees are waived by reciprocal agreement with the City of Ladue.</i>	
		CWA 404/401 Permit Application Preparation:	\$3,000.00
		MDNR Land Disturbance Permit Application & SWPPP Preparation:	\$5,000.00
		Sinkhole Report:	\$5,000.00
		Floodplain Study:	
		No Rise Certification or LOMR:	\$5,000.00
	Estimated Geotechnical Engineering Fee:	8 Borings @ \$2000/each =	\$16,000.00
		Estimated Property Strip Map Survey Fee:	\$18,000.00
		Estimated Topographic Survey Fee:	\$10,413.00
	Estimated Property Title/Easement Search Report Fee:	12 ESR's @ \$500/each =	\$6,000.00
	Estimated Easement Preparation:	12 Plats @ \$450/each =	\$5,400.00
		Estimated Saint Louis County Recording Fee - Easements:	\$540.00
		Sub-Total:	\$181,128.59
		30% Contingency:	\$54,338.58
		<b>SUB-TOTAL - DESIGN:</b>	<b>\$236,007.17</b>
		<b>TOTAL PROJECT:</b>	<b>\$1,703,334.26</b>

**PROJECT NAME:** Babler Lane  
**PROJECT No:** 1602

**PROPERTY CONTACT INFORMATION**

<b>BENEFITED PROPERTY OWNERS</b>			
<b>Count</b>	<b>Property Address</b>	<b>Contact Name</b>	<b>Phone Number</b>
1	#5 Babler Ln	Pruellage John K Trustee	
2	#6 Babler Ln	Schoedinger Asset Management Llc	grs_3@aol.com
3	#7 Babler Ln	Leonard Donald J & Carmella A H/W	
4	#9 Babler Ln	Zalk Thelma P Trustee	
5	#10 Babler Ln	Schael Linda S & John M Trustees	314-997-3648
6	#11 Babler Ln	Yoffie Jerome J Sally J	
7	#12 Babler Ln	Wilson Martin D & Carole J Living Trust	314-707-4233
8	#15 Babler Ln	Goldstein Ellen Jane Trustee	
9	#17 Babler Ln	Heins Dale Suzanne H/W	
10	#19 Babler Ln	Parvin Casey & Jaleh H/W	H:314-432-4733 C:314-477-9495
11	#10091 Litzinger Rd	Mattis Stephen V & Christy B H/W	
12	Subdivision Private Road R/W	Babler Lane Subdivision Trustees	
<b>IMPACTED PROPERTY OWNERS</b>			
<b>Count</b>	<b>Property Address</b>	<b>Contact Name</b>	<b>Phone Number</b>
1	#5 Babler Ln	Pruellage John K Trustee	
2	#6 Babler Ln	Schoedinger Asset Management Llc	grs_3@aol.com
3	#7 Babler Ln	Leonard Donald J & Carmella A H/W	
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6	#11 Babler Ln	Yoffie Jerome J Sally J	
7	#12 Babler Ln	Wilson Martin D & Carole J Living Trust	314-707-4233
8	#19 Babler Ln	Parvin Casey & Jaleh H/W	H:314-432-4733 C:314-477-9495
9	#10075 Litzinger Rd	Schmitt Daniel J Revoc Living Trust	
10	#10057 Litzinger Rd	Ladue Corner Llc	
11	#10094 Winding Ridge Rd	Soffer Mary Elisabeth P Revocable Trust	
12	Subdivision Private Road R/W	Babler Lane Subdivision Trustees	
<b>EASEMENTS REQUIRED</b>			
<b>Count</b>	<b>Property Address</b>	<b>Contact Name</b>	<b>Phone Number</b>
1	#5 Babler Ln	Pruellage John K Trustee	
2	#6 Babler Ln	Schoedinger Asset Management Llc	grs_3@aol.com
3	#7 Babler Ln	Leonard Donald J & Carmella A H/W	
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10	#10057 Litzinger Rd	Ladue Corner Llc	
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