



# CITY of NOVI CITY COUNCIL

**Agenda Item C**  
**April 22, 2014**

**SUBJECT:** Approval to award an engineering services agreement to Spalding DeDecker Associates, Inc. (SDA) for engineering services related to the North Hills/Timber Ridge/Westridge Downs/Orchard Ridge Sanitary Manhole Rehabilitation Project in the amount of \$18,500.

**SUBMITTING DEPARTMENT:** Department of Public Services, Water and Sewer Division **TDK**  
 Department of Public Services, Engineering Division

**CITY MANAGER APPROVAL:** 

<b>EXPENDITURE REQUIRED</b>	<b>\$ 18,500</b>
<b>AMOUNT INCLUDED IN C.I.P.</b>	<b>\$ 325,000</b>
<b>ADDITIONAL AMOUNT REQUIRED</b>	<b>\$ 0</b>
<b>LINE ITEM NUMBER</b>	<b>592-592.00-936.500</b>

**BACKGROUND INFORMATION:**

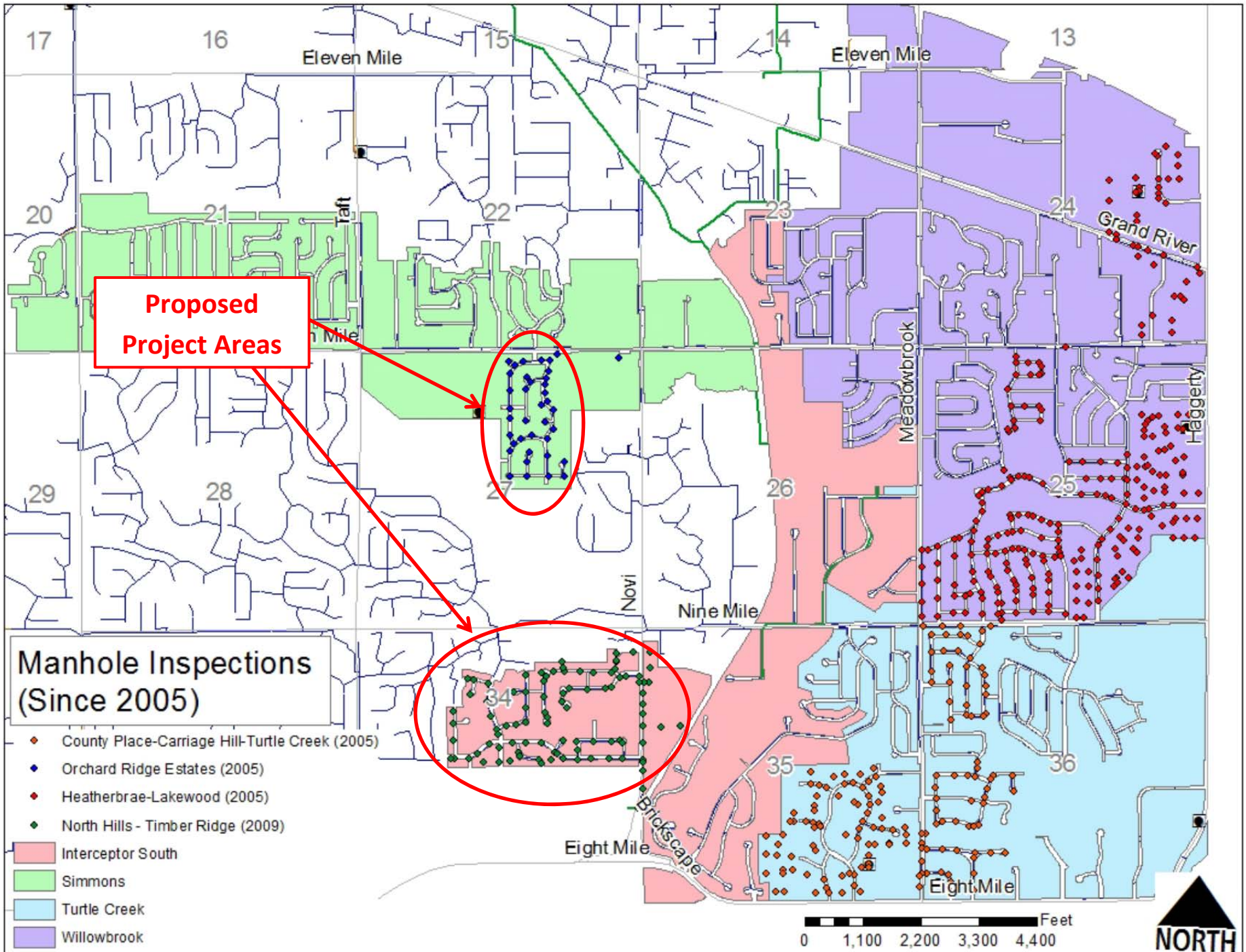
The proposed North Hills/Timber Ridge/Westridge Downs/Orchard Ridge Sanitary Manhole Rehabilitation Project is part of the continuing Capacity Management, Operations, and Maintenance (CMOM) program in an effort to actively maintain the sanitary collection system to reduce system failures and eliminate infiltration and inflow into the collection system. The project area is depicted on the attached map. The proposed project involves inspection of 130 manholes within the project area and also includes alternatives evaluation and contract document development to rehabilitate manhole defects identified as part of the inspections.

The Agreement for Professional Engineering Services for Public Projects does not contain a fee category for this type of project, so proposals were requested from the City's three pre-qualified engineering firms. City staff reviewed the proposals and recommends that design engineering for this project be awarded to SDA. SDA's proposal was deemed to best meet the requirements of the Request for Proposals, and SDA submitted the lowest fee for services. SDA's proposal and a summary of the review scoring are attached.

**RECOMMENDED ACTION:** Approval to award an engineering services agreement to Spalding DeDecker Associates, Inc. (SDA) for engineering services related to the North Hills/Timber Ridge/Westridge Downs/Orchard Ridge Sanitary Manhole Rehabilitation Project in the amount of \$18,500.

	1	2	Y	N
<b>Mayor Gaff</b>				
<b>Mayor Pro Tem Staudt</b>				
<b>Council Member Casey</b>				
<b>Council Member Fischer</b>				

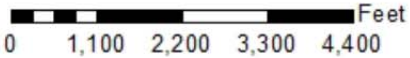
	1	2	Y	N
<b>Council Member Markham</b>				
<b>Council Member Mutch</b>				
<b>Council Member Wrobel</b>				



**Proposed  
Project Areas**

**Manhole Inspections  
(Since 2005)**

- ◆ County Place-Carriage Hill-Turtle Creek (2005)
- ◆ Orchard Ridge Estates (2005)
- ◆ Heatherbrae-Lakewood (2005)
- ◆ North Hills - Timber Ridge (2009)
- Interceptor South
- Simmons
- Turtle Creek
- Willowbrook



**Reviewer**

**Summary**

(Note: OHM did not submit proposal)

Rate 1 to 2 (2 = best)

	Firm:	SDA	URS
<u>Criteria</u>	<u>Weight</u>		
Professional Qualifications	25	4	5
Project Experience	25	5.5	3.5
Work Plan	25	4	5
Fee Proposal	25	6	3
		487.5	412.5

**Comments**

See individual reviewers for comments

OHM

SDA

URS

## City of Novi Sanitary Sewer Manhole Rehabilitation Projects

Engineering Service Proposal  
Due: March 21, 2014  
SDA PR14-053



### **Detroit**

1435 Randolph St., Suite 400  
Detroit, Michigan 48226  
(313) 967-4700  
Fax (313) 967-4707

### **Rochester Hills**

905 South Blvd. East  
Rochester Hills, Michigan 48307  
(248) 844-5400  
Fax (248) 844-5404

### **San Antonio**

9120 Old Dietz Elkhorn Rd.  
Fair Oaks Ranch, Texas 78015  
(830) 755-8434  
Fax (830) 755-8435

### **Livonia Field Office**

39293 Plymouth Rd., Suite 102  
Livonia, Michigan 48150  
(734) 293-5200  
Fax (734) 293-5202

### **Monroe Field Office**

25 South Monroe St., Suite 305  
Monroe, Michigan 48161  
(734) 242-6816  
Fax (734) 242-6817

### **Cleveland Field Office**

5555 Canal Rd.  
Cleveland, Ohio 44125  
(216) 789-0748



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## SPALDING DEDECKER ASSOCIATES, INC.

905 South Boulevard East • Rochester Hills • Michigan 48307 • Tel 248 844 5400 • Fax 248 844 5404  
www.sda-eng.com

March 20, 2014

Timothy Kuhns, PE  
Water and Sewer Engineer  
City of Novi  
26300 Lee BeGole Drive  
Novi, Michigan 48375

**Re: Engineering Services for North Hills / Timber Ridge / Westridge Downs / Orchard Ridge  
Sanitary Sewer Manhole Rehabilitation Projects  
Job No.: PR14-053**

Dear Mr. Kuhns:

Spalding DeDecker Associates, Inc. (SDA) is pleased to provide the following proposal for Sanitary Sewer Manhole Rehabilitation Projects. We have assembled a strong team from our Municipal Design and Construction Engineering disciplines to deliver the project on-time and within budget. We believe we are exceptionally qualified for a number of reasons:

- SDA's Project Team is very familiar with sewer system evaluation surveys (SSES) and sanitary rehabilitation design standards and construction.
- SDA's Project Team is ready to initiate work on this project immediately to meet the deadlines specified in the RFP and our proposal.
- Our key design and construction personnel are very familiar with the City of Novi construction standards.
- We will use our past experience with sanitary manhole rehabilitation projects to identify and implement value-added services for this project.

The following proposal provides our proposed approach, a sample of project profiles that illustrate our experience in performing this type of work, and a fee for project. We have also included resumes for our key personnel.

We are committed to delivering quality consulting engineering services and outstanding design products to the City of Novi, and we look forward to working with you on this project.

Sincerely,

**SPALDING DEDECKER ASSOCIATES, INC.**

David E. Richmond, PE  
Project Manager

Engineering Consultants

Infrastructure • Land Development • Surveying



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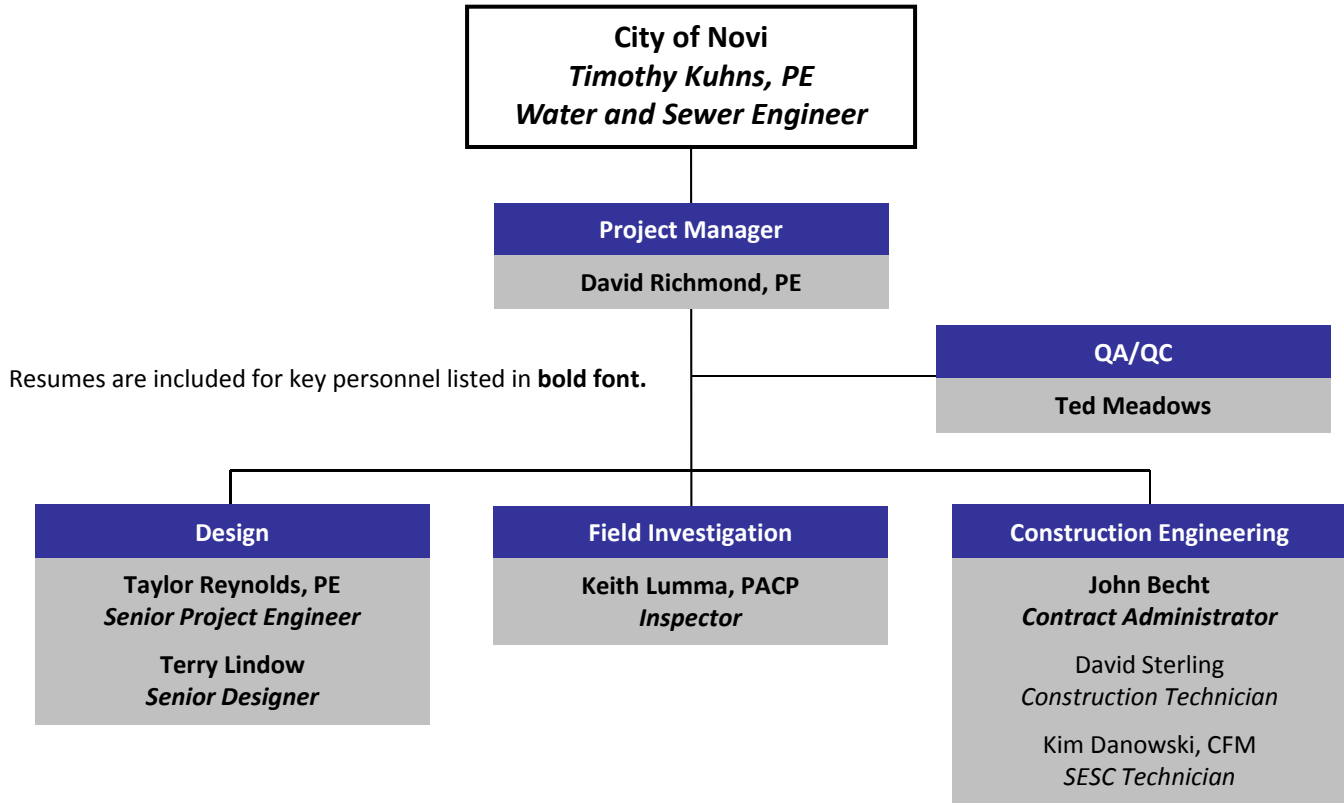
**City of Novi**  
**Sanitary Sewer Manhole Rehabilitation Projects**  
**PR14-053**  
**Due: March 21, 2014**

- 1 Professional Qualifications
- 2 Past Involvement with Similar Projects
- 3 Proposed Work Plan
- 4 Fee Proposal



# Professional Qualifications

## Organizational Chart



# David E. Richmond, PE

## Project Manager

David E. Richmond, PE is an accomplished project manager in municipal and private land development. With over 28 years of experience, he is a recognized expert by his peers in stormwater, water distributions and wastewater collection systems. Mr. Richmond has led the design and construction efforts for several local units of government in a variety of stormwater, water distribution and wastewater collection systems in Michigan and North Carolina. David possesses a proficient technical background, strong organizational abilities and is dedicated to the success of his projects.

As Project Manager of SDA's Municipal Engineering Services Group, Mr. Richmond is responsible for project and staff management on water/wastewater and water resources projects ranging from sanitary sewer overflow (SSO) control programs, to detailed drainage studies, watershed master plans, design of sanitary and storm sewer collection systems, design of water distribution systems and facilities, and natural stream channel design. He has also managed projects utilizing Green Infrastructure and Low Impact Development (LID) techniques, including bio-swales, and bio-engineered detention facilities.

David's primary focus is on the design and construction of wastewater collection systems (sanitary sewer systems) as well as combined and stormwater systems and water distribution networks. Mr. Richmond is also responsible for the management of municipal clients, including assisting staff with the review of permit applications sent to the municipality, preparation of design and construction plans for various infrastructure projects, assistance with permitting projects and providing general assistance with engineering related issues.

David has also managed several large scale private land development projects in Michigan and North Carolina including multi-use residential developments, industrial subdivisions, commercial and industrial buildings and large scale computer data centers. Mr. Richmond has performed several floodplain/floodway studies to obtain Letters of Map Changes (LOMCs) from FEMA for small- and large-scale site developments.

Through these years and diverse projects, David has acquired significant knowledge and understanding of Michigan DOT, Michigan DEQ, U.S. Army Corps of Engineers, and FEMA permitting requirements and technical standards.

### RELEVANT EXPERIENCE

#### WATER/WASTEWATER EXPERIENCE

##### **Burris Road Wastewater Pump Station, City of Newton, Catawba Co., NC**

Project Manager responsible for the design and preparation of construction documents, permitting through the state of North Carolina Department of Water Quality, and bidding and contract documents for the construction of duplex pump station and 12,500 linear feet. The project was needed to eliminate overflows associated with an inadequate pump station and gravity sewer. Prepared the analysis of the existing pump station and infrastructure and developed the conceptual layout of the new system to eliminate the overflows into the surrounding streams during periods of peak flows. Managed the development of the hydraulic model and final layout of the system and assisted the community in securing financing from

#### EDUCATION

- B.S., Civil/Environmental Engineering, Lawrence Technological University (1996)

#### REGISTRATION/CERTIFICATIONS

- Professional Engineer, Michigan (1998)
- Professional Engineer, North Carolina (2007)
- Professional Engineer, Virginia (2010)

#### TECHNICAL CAPABILITIES

**Other:** Microsoft Word, Excel, PowerPoint,

#### TRAINING/SEMINARS

- Wetland Determination, Feb. 1998
- Sediment and Erosion Control, May 2008
- Urban Stormwater Techniques, September 2011
- Management Training, June 1999

#### PROFESSIONAL AFFILIATIONS

- American Public Works Association





# David E. Richmond, PE

## Project Manager

Clean Water Management Trust Fund and the State of North of Carolina.

### **W. 18<sup>th</sup> to W. 15<sup>th</sup> Sanitary Sewer Replacement, City of Newton, Catawba Co., NC**

Project Manager responsible for preparing construction documents and the construction of 2,300 linear feet of a failing gravity sanitary sewer line that ranged in depth from 8 feet to 24 feet and is adjacent to a stream and a shopping center. A portion of the sewer that is 24 feet deep is in a 50 foot wide corridor bounded by a shopping center on one side and a 24 foot high embankment down to the stream on the other side. Through upstream analysis, it was determined that the sewer could be elevated 2 feet allowing the new sewer line to be jack and bored adjacent to the building and avoid disturbing the building foundation and the stream. The remainder of the line was replaced adjacent to the existing line and the old line removed once the new line was tested and placed into service. Permits were required from North Carolina Department of Water Quality and North Carolina Department of Environment and Natural Resources.

### **Shannonbrook Water Line Replacement – Phases 1-3, City of Newton, Catawba County, NC**

Project Manager responsible for the preparation of construction and bid documents and oversee the construction for the replacement of 15,000 linear feet of 8" watermain. The project was completed in 3 phases, each consisting of approximately 5,000 linear feet. The project consisted of replacing an existing 8" pvc watermain with 8" ductile iron watermain and appurtenances, and replacing water meters within the subdivision without service disruption to the existing customers.

### **City of Newton Water System Model, City of Newton, Catawba Co., MI**

Project Manager responsible for the development of a water system model and study for a portion of the City water system to determine areas of potential service and low pressure issues should there be a problem with one of the systems storage tanks and /or pumps. The study identified areas of concern due to an aging water system and previous improvements that were accomplished without the use of detailed hydraulic modeling. Upon completion of the study, options were discussed with the City's staff to alleviate their concerns and through those discussions it was determined that the best course of action was to place a third distribution pump at the water treatment facility to provide the additional flow that may be needed and correct any areas of low pressure in the system. Managed the preparation of the construction plans and bid documents for the addition of the pump and associated line work at the water treatment facility. A permit was secured through the North Carolina Department of Environment and Natural Resources.

### **South Mills Low Pressure Sewer System, Camden Co., NC**

Project Manager responsible for the coordination and development of construction plans, bid documents and securing necessary permits to serve a community with several failing septic fields with low pressure sewer system. The Village of South Mills, located in Camden County, North Carolina sits adjacent to Great Dismal Canal scenic inter-coastal waterway and has experienced several residences on small lots that were experiencing failing septic fields with no room to replace them. Camden County applied for, and received grants from Clean Water Management Trust Fund and Rural Center of North Carolina to install low pressure sewer

# David E. Richmond, PE

## Project Manager

system to serve the community. The construction involved the placement of 100 individual pumps, associated line work and a duplex pump station to convey the effluent to the county's wastewater treatment plant. The permit process involved North Carolina Department of Environment, North Carolina Department of Water Quality, North Carolina Department of Transportation and the U.S. Army Corps of Engineers.

### **US HWY 17 Rest Area Wastewater Pump Station, Camden Co., NC**

Project Manager responsible for design and construction of a duplex wastewater pump station to serve the existing North Carolina Department of Transportation rest area facility. The rest area wastewater was being conveyed to two separate septic fields that were experiencing issues and in conjunction with the South Mills sewer project the rest area was connected to Camden County's public sanitary sewer system. The pump station was designed to pump into an existing force main along US HWY 17 that was connected to the county's wastewater treatment facility. The project was bid in accordance with North Carolina Department of Transportation requirements. Permits were obtained from North Carolina Department of Transportation and North Carolina Department of Water Quality.

### **North River Campground Watermain Extension, Camden Co., NC**

Project Manager responsible for the design, bidding and construction of 6,500 linear of 6" watermain extension to serve an existing campground with public water. The watermain was designed adjacent to the existing asphalt roadway through a low lying area along the coast of North Carolina. A portion of the watermain was directionally drilled due to high water table and the proximity to the roadway. Permits were required from North Carolina Department of Transportation and North Carolina Department of Environment and Natural Resources.

# Ted Meadows

## QA/QC

Ted has 16 years of quality experience in municipal construction engineering. In his role as Contract Administrator, Ted is responsible for managing public and private construction engineering projects. Construction Engineering (CE) management involves the coordination of all aspects of a project including client relations and working with a project team to meet the requirements of the scope of work. Ted provides field and office expertise for the successful support and continuous improvement of CE projects to provide quality in workmanship and value for projects.

Currently Mr. Meadows is the construction operations supervisor for projects primarily within the City of Novi but for other municipal clients as well. Ted has worked in the construction phase of numerous public works and private development projects on behalf of our municipal clients. As the supervisor of the construction staff, Ted is responsible for the daily construction activities for all projects including staff scheduling, construction observation procedures, staff training, as-built plan review, walkthroughs, punch lists, and project close out.

### RELEVANT EXPERIENCE

**West Bloomfield Sanitary Manhole Rehabilitation, West Bloomfield Township, MI** - Senior Construction Technician responsible for rehabilitation of over 20 sanitary manholes within an existing subdivision. The manhole rehabilitation consisted of removal and replacement of leaking sanitary manhole adjustments and castings as well pressure grouting section joints and later cement lining the interior walls of the structures.

**General Engineering and Construction Services, City of Novi, MI** – Currently the Contract Administrator, supervising field and office construction technicians. Performs project quality control, construction contract administration, soil erosion and sedimentation control procedures, surveying, and observation of public utility construction, tunneling and paving operations. Oversees work done in multifamily, single family, commercial, retail and industrial developments throughout Oakland, Wayne and Washtenaw County.

**General Engineering and Construction Services, Plymouth Township, MI** – Currently the Contract Administrator, supervising field and office construction technicians. Performs project quality control, construction contract administration, soil erosion and sedimentation control procedures, surveying, and observation of public utility construction, tunneling and paving operations. Oversees work done in multifamily, single family, commercial, retail and industrial developments within Plymouth Township.

**General Engineering and Construction Services, Northville Township, MI** - Senior Construction Technician that supervised field and office construction technicians. Performed project quality control, construction contract administration, soil erosion and sedimentation control procedures, surveying, and observation of utility construction, paving and tunneling operations. Oversees work done in many multifamily and single family developments throughout Wayne County.

**City of Novi – 2012 Sanitary Sewer Rehabilitation Areas B, C1 & G** - Contract Administrator for sanitary sewer rehabilitation project consisting of cleaning, television, and installing cured in

### EDUCATION

BS, Environmental Science, University of Kansas, 1997

### SPECIALIZED TRAINING / CERTIFICATIONS

MDOT Certified Density Technician  
MDOT Certified Aggregate Technician  
MDOT Concrete Paving Inspector  
MDOT Bituminous Paving  
Concrete Technician & Concrete  
Construction Inspector, Level I  
Concrete Field Testing Technician,  
Level I  
Project Management Boot Camp I

MDEQ Certificate of Training for Part 91  
Soil Erosion and Sedimentation Control,  
Cert. No. C-10-0089, Exp. 3/5/15

MDEQ Stormwater Management,  
Construction Site A-1j, No. C-15125, Exp.  
7/1/15

USDOT HAZMAT Certified  
Radiation Safety Officer  
HDPE Pipe Fusion Academy  
Compliance Solutions – HAZWOPER

# Ted Meadows

## QA/QC

place pipe lining for sanitary sewer repairs. Sewer pipes ranged in diameter from 6 to 15 inches totaling over 4 miles with a construction cost of over \$600,000. Coordinated and managed with the City of Novi and the contractor during the lining of the sewers. Responsible for over seeing inspection, contract documentation, and processing change orders and pay certifications.

**2010 Sanitary Pump Station Upgrades, City of Novi, MI** – Contract Administrator for construction improvements to aging pump stations. The project consisted of site, structural, electrical, and mechanical upgrades to the Drakes Bay Sanitary Pump Station and to the Park Place Sanitary Pump Station. Coordinated and managed with the City of Novi and the contractor during the construction of the pump station improvements. Responsible for over seeing inspection, contract documentation, and processing change orders and pay certifications.

**SAD 170 Phase 1B and 2B, City of Novi, MI** – Senior Construction Technician responsible for the supervision of installation of over 10,000 feet of new trunk line sanitary sewer. Responsible for over seeing inspection, pavement and site restoration, contract documentation, and processing pay certifications.

**Aberdeen, Arlington, Oakview, and Brookline Roads Water Main Replacement, Canton Township, MI** – Construction Manager for replacement of 8-inch ductile iron water main for a total of 1 mile by pipe bursting methods with a pre-chlorinated HDPE water main. This project replaced high maintenance existing water mains on each street for the Township of Canton. Coordinated and managed with Canton Township and the contractor during the construction of the water main. Responsible for over seeing inspection, contract documentation, and processing change orders and pay certifications.

**City of Novi – 2012 SAD 176 Woodham Road Water Main Extension** – Contract Administrator for water main project consisting of installing approximately 520 linear feet of 8" ductile iron water main, 2 hydrants, and 1 gate valve and well. Coordinated and managed with the City of Novi and the contractor during the construction of the water main. Responsible for over seeing inspection, contract documentation, and processing change orders and pay certifications.

**11 Mile Road / Delwal Drive WaterMain, Novi, MI** – Construction Manager for installation of 0.5 mile of new water main including a 170 LF directional drill of HDPE pipe under a stream. This project completed a water main loop for the City of Novi's Department of Public Works office. Coordinated and managed with the City of Novi and the contractor during the construction of the water main. Responsible for over seeing inspection, contract documentation, and processing change orders and pay certifications.

**2006 Northville Township Water Main Improvements, Northville Township, MI** – Senior Construction Technician responsible for the replacement of one mile of existing watermain in existing subdivisions and related pavement and site restoration. Responsible for over seeing inspection, contract documentation, and processing pay certifications.

**Bradner and Franklin Road Water Main Replacement, Northville Township, MI** - Senior Construction Technician responsible for the replacement of two miles of existing water main in

# Ted Meadows

## QA/QC



an existing subdivision and related pavement and site restoration. Responsible for over seeing inspection, contract documentation, and processing pay certifications.

**Northville Road Water Main Replacement, Northville Township, MI** - Senior Construction Technician responsible for the replacement of one mile of existing watermain with directionally drilled HDPE water main through the Middle Rouge Watershed site. Responsible for over seeing inspection, site restoration, contract documentation, and processing pay certifications.

**Five Mile Road Water Main Replacement, Phase I, Northville Township, MI** - Senior Construction Technician responsible for the replacement of one mile of existing water main with directionally drilled ductile iron lock joint pipe in existing subdivisions. Responsible for over seeing inspection, pavement and site restoration, contract documentation, and processing pay certifications.

# Taylor E. Reynolds, PE

## Senior Project Engineer

Ms. Reynolds has 17 years of experience in municipal engineering including the design of pathways, roadways, sanitary sewer, storm sewer, and water main. She is responsible for the day to day client communication required for complex and varied projects. Her varied projects have provided Ms. Reynolds with expansive opportunities in client and resident coordination. Ms. Reynolds' experience includes multiple years of pathway design, meeting the ever-changing ADA standards, while finding a balance between client needs and resident satisfaction. She pursues continued training by outside agencies to be up to speed on ADA compliance concerns for our clients, including compliance for development sites, pedestrian facilities along public right-of-way, as well as ADA compliance of pedestrian detours around construction activities and ADA compliant snow removal practices. She has been responsible for presenting projects to residents and Municipal Boards. Ms. Reynolds has worked closely with local, county, and state permit agencies and private utilities for project coordination. Ms. Reynolds has extensive experience in site plan review for conformance to local, state and federal regulations and in accordance with accepted engineering practices.

### RELEVANT EXPERIENCE

**Municipal Engineering, City of Novi, MI** – Responsible for Acceptance Document reviews and Developer coordination required for private development projects. Supervised review and inspection services for individual Land Improvement Permits for new residential construction and improvements to existing structures throughout subdivided and scattered lots of the City.

**Upper Straits Beach and Upper Long Lake Woods Low Pressure Sanitary Sewer SAD's, Charter Township of West Bloomfield, MI** - Project Engineer for the Upper Straits Beach and Upper Long Lake Woods Low Pressure sanitary sewer system extensions. These projects were constructed as Special Assessment Districts to bring sanitary sewers to lake areas where septic field leachate had become a concern for the residents. These projects involved the design and construction of over 8,000 linear feet of 2" and 3" and 6" HDPE low-pressure sewer directionally drilled to minimize disruption to the existing residents. This project made public sanitary sewers available to approximately 125 properties in established subdivisions previously served by private septic systems.

**Sanitary Sewer Engineering, Charter Township of White Lake, MI** – Served as a municipal engineer for this fast growing community in northern Oakland County from 1999 to 2007. Responsibilities included maintenance of the Township Sanitary Sewer Master Plan, design and construction engineering coordination for trunkline sewer extensions. Responsible for sanitary sewer review of site plans and engineering plans for commercial, industrial, and residential developments throughout the Township. This included gravity mains, low pressure systems with grinder pumps, force mains, and pump stations. Additionally responsible for sanitary sewer designs for special assessment districts and developer funded projects. Responsible for permitting of all projects with Oakland County and the MDEQ, and coordination of sewer capacity with Commerce Township.

**Sanitary Sewer Special Assessment Projects, Charter Township of White Lake, MI** - Developed special assessment projects for gravity sewers and low pressure sewer systems, including

### EDUCATION

Bachelor of Science Civil Engineering  
University of Kansas, 1996

### REGISTRATION

Professional Engineer  
Michigan, 2001, #47487

### TRAINING

OSHA 30, 2012

### ORGANIZATIONS

Orion Safety Path Advisory Committee  
Chair since 2012  
Member since 2010

Oakland County Trails  
Water Land Alliance  
Member since 2010

# Taylor E. Reynolds, PE

## Senior Project Engineer

preparing project cost estimates and establishing districts of benefited parcels.

**Pontiac Lake Sanitary Sewer Extension, Charter Township of White Lake, MI** - Project Engineer responsible for coordinating the construction of a \$4.9 million sanitary sewer extension in the residential communities surrounding Pontiac Lake. This project included the directionally drilled installation of 29,000 feet of low-pressure sewer and associated grinder pump systems. The project required the abandonment of septic tanks and connection of grinder pumps for over 400 residences on lake property to improve lake quality. The project locations featured limited workspace and required coordination with contractors, residents and Township Officials. Ms. Reynolds was the primary resident contact for this complex project. This project featured SRF funding from the State of Michigan with extensive coordination required throughout its construction.

**Elizabeth Lake Road / M-59 Pumping Station and Trunkline Sanitary Sewer Extension, Charter Township of White Lake, MI** – Project Engineer for the design completion and construction management of a 3.5 mile transmission sanitary sewer which included both gravity and force main extensions as well as a regional pumping station to serve a new development area within White Lake Township. Responsible for permitting activities through the MDEQ, MDOT, RCOC and local jurisdictions. Coordination with new development construction activities and easement acquisition. This project included significant modification of the Township’s Sanitary Sewer Master Plan and re-establishment of the sewer district served by the trunkline extension.

**Bogie Lake Road Sanitary Sewer Extension, Charter Township of White Lake, MI** – Project Engineer responsible for the design and permitting of a low pressure sanitary sewer system within RCOC right-of-ways along Bogie Lake Road and Oxbow Lake Road. This sewer was designed to serve a residential development and also included a larger future service area within the Township.

**Oxbow Lake Road Sanitary Sewer, Charter Township of White Lake, MI** - Design 2,200 feet of low pressure sewer to serve a proposed subdivision and upstream areas within the district.

**Cascade/Union Lake Road Sanitary Sewer, Charter Township of White Lake, MI** – Design Engineer on a developer funded Township project consisting of 2200 feet of 10” and 12” trunkline sanitary sewer in an existing residential area.

**Teggerdine Road Sanitary Sewer, Charter Township of White Lake, MI** – Project Engineer for the design of 3,000 feet of low pressure sewer to serve an existing subdivision and adjacent commercial properties.

**Cedar Island Road Sanitary Sewer SAD, Charter Township of White Lake, MI** – Project Engineer for the design of 1,200 feet of low pressure sewer to serve an existing subdivision, and coordinate the SAD process.

**Nordic Drive Sanitary Sewer, Charter Township of White Lake, MI** – Responsible for the design of 300 feet of low-pressure sewer to serve an existing commercial subdivision.

# Taylor E. Reynolds, PE

## Senior Project Engineer

**Williams Lake Road Sanitary Sewer and Pump Station, Charter Township of White Lake, MI** – Project Engineer responsible for the design and construction of a gravity sewer, force main and pump station project extension serving two residential developments and other tributary areas.

**21 Mile Road Sanitary Sewer, Macomb Township, MI** - A developer funded project consisting of 1200 feet of 36" trunkline sanitary sewer, including tunneling beneath a County Drain.

**Romeo Plank Road Sanitary Sewer, Macomb Township, MI** - A developer funded Township project consisting of 1000 feet of 12" trunkline sanitary sewer.

**Card Road Sanitary Sewer, Macomb Township, MI** - A developer funded Township project consisting of 1 Mile of 10", 15", and 21" trunkline sanitary sewer.

**North Avenue Sanitary Sewer Project, Charter Township of Clinton, MI** – Design Engineer on 3,350 feet of 10" sanitary sewer ranging in depth from 10 feet to 22 feet, including a railroad crossing, in existing industrial and residential areas. Responsible for writing contract specifications and obtaining municipal approvals and permits.

**Sanitary Sewer Evaluation Study, Charter Township of Clinton, MI** - Provided coordination between the Township staff and field crews. Prepared exhibits and work plan for SSES report and submittal. Data entry from smoke testing field reports for analysis.

**Garfield Road Sanitary Sewer Interceptor, DWSD, Macomb Twp, MI** - Project Engineer for the preliminary design of the 9-foot interceptor.

**Crowe/Ingersol Drive Reconstruction, City of Novi, MI** – Project Engineer responsible for the design and construction of a commercial public road reconstruction project in the high traffic Town Center area of the City of Novi. This project involved removal and replacement of the roadway, curbing, and some sidewalks, as well as improvements to drainage.

**11 Mile Delwal Water Main Extension, City of Novi, MI** – Project Engineer responsible for the design and construction engineering services for a 3,000 foot 8", 12", and 16" diameter water main to provide a master planned water main loop serving existing and future developments. This project required the design of a directionally-drilled HDPE pipe segment under a stream regulated by Oakland County and the MDEQ. Also responsible for the development of required specifications to provide connections between differing water main pipes for the project.

**Meadowbrook Commons Detention Basin Rehabilitation, City of Novi, MI** – Project Engineer responsible for evaluating capacity deficiencies in an existing detention basin facility and development of basin clean-out and structure modification plan. This project included converting the existing dry pond to a permanently wet basin.





# Terence E. Lindow

## Senior Designer

Mr. Lindow has 24 years of experience in civil, mechanical, and structural CAD design. His responsibilities include lead designer for a variety of civil projects as well as CAD data management for system evaluation studies and large construction projects. His responsibilities also include revising and implementing CAD data and drafting standards. His design experience includes watermain, sanitary sewer, storm sewer, forcemain, pump stations, stormwater management, including detention design, road design, pavement design, site layout, and site grading.

Mr. Lindow is experienced in local, county, and state permit guidelines and standards. Terry designs sites to comply with Americans with Disabilities Act (ADA) and is proficient at safe traffic and pedestrian circulation design. He also places a strong emphasis on environmental preservation through innovative stormwater design, minimizing environmental impact.

### RELEVANT EXPERIENCE

#### Large SSO/CSO Design Projects

**Eastern Outfall CSO Control Program, Inkster, MI** – Lead Designer – Project includes the construction of approximately 38,500 ft of storm and combined sewers ranging in size from 12” to 72”. Extensive coordination with private and public facilities. Also included are the construction of a 26,800 gpm pump station, water main replacement, upgrade of several regulator chambers, and the reconstruction of over seven miles of local roads.

**Trenton SSO Elimination Program, MI** – Under current MDEQ standards, the City of Trenton was required eliminate wet weather Sanitary Sewer Overflows (SSO). SDA was contracted to design and administer the construction of the proposed improvements that would allow for the transport, storage, and treatment of wet weather flows up to and including flows from a 100 year – 24 hour design rain event. Upgrades include the construction of new sanitary sewer trunk line and pump stations, the enlargement of the existing retention basin, the upgrade of all existing pump stations, the elimination of overflow bypasses, and the elimination of wet weather infiltration and inflow sources.

- River North Interceptor – Designed and prepared construction plans and specifications for 8,300 lft of 24” to 60” interceptor sewer. The depth of cut ranged from 20 to 35 feet. The project also included miscellaneous utility relocations, new water mains to improve pressure and new street construction.
- Jefferson Ave. Pump Station - Served as Designer responsible for all aspects of the design of a 27,000 gpm bypass pump station with vertical mixed flow pumps. Included in the design were modifications to the WWTP chlorination system and bypass controls.
- Waste Water Treatment Plant Pump Station - The pump station was designed to lift the excess flows from the WWTP to the enlarged retention basin. The pump station was designed to lift flows using variable vertical turbine speed pumps ranging in speed from 4,500 to 13,500 gpm. The pump station was designed to have a circular wet-well with an inside diameter of 25 ft. and a depth of approximately 35-ft. A SCADA system was used for automatic operation of the pump station. Project also included site engineering including water main, sanitary sewer, storm drainage, grading, and paving.
- Elizabeth Park Pump Station - The lift station was designed to lift flows using vertical turbine

### EDUCATION

- Lawrence Technological University, Architecture Program

### PROFESSIONAL AFFILIATIONS

- Michigan Society of Professional Surveyors, Associate Member

### CERTIFICATIONS / SPECIALIZED TRAINING

- AutoCAD Civil 3D 2011

# Terence E. Lindow

## Senior Designer

variable speed pumps and a total capacity of 13,500 gpm (30 cfs). The lift station was designed to have a circular wet-well with an inside diameter of 17' and a depth of approximately 46'. Project also included site engineering including water main, sanitary sewer, storm drainage, grading, and paving

- Sanitary Retention Basin Enlargement - Enlargement of the retention basin from 1,400,000 cubic feet (10.5 mg) to 2,650,000 cubic feet (20 mg). The enlarged retention basin was designed to contain a 100 year – 24 hour rain event. The sizing of the basin was developed through the XP-SWMM Hydraulic Model developed by SDA for the City. The enlargement of the retention basin consisted of building an addition to the existing basin and connecting the two by a weir through the east basin wall. To comply with MDEQ standards, the enlarged basin was designed to drain automatically after each storm event. A new drainage system was designed, which includes two drainage points in the existing basin, and a new geo-membrane coating placed on the finished basin.

**Lake St. Clair Clean Water Initiative CSO Control Projects - for Macomb County Public Works Commissioner's Office and Southeast Macomb Sanitary District.** During wet weather storm events, the collection system surcharges due to excessive inflow and rainfall induced infiltration that results in basement flooding and combined and sanitary sewer overflow discharges into Lake St. Clair. The Clean Water Initiative project was set up to reduce the amount of combined and sanitary sewer overflow discharges into the lake. Projects included:

- Relief Sewer from Bon Brae to Hoffman Pump Station, Hoffman Pump Station Improvements and Martin Drain Throttling Gate – Lead Designer for the design including approximately 13,400 linear feet of 48-inch relief sewer parallel to Jefferson Ave. from the Hoffman Pump Station to Bon Brae including flow equalization chambers. The capacity of the existing Hoffman Pump Station was increased from 17.4 to 25 cfs. The improvements to the pump station included replacing the pumps, motors, electrical and mechanical systems and structural renovations. A new control building was added. A Regulator that controls the wet and dry weather flows was also replaced. The new gates were designed to connect to the SCADA system and are capable of modulating to maximize the transport ability of the interceptor. The project also included miscellaneous utility relocations and new street construction.
- Dry Weather Infiltration Removal - Developed a program to eliminate the dry weather infiltration sources in the South Macomb Sanitary District. The program includes sewer televising and cleaning, joint sealing and chemical root treatment.

**Detroit Water and Sewerage Department (CS-1264, Oakwood CSO Facility and Pumping Station)** – design of yard piping, sanitary sewer basin dewatering, effluent conduit and surge control structures.

### Sanitary Sewer System Design Projects

**Oakland Macomb Interceptor Drain (OMID) Repair Program, Macomb County, MI** – Part of SDA's design team on project that included several consultants. Project consists of the construction of five Control Structures on the existing interceptor to allow for the backup of flows for rehabilitation of the interceptor. Structures ranged in size from 16ft diameter to 50 ft diameter and from 44 ft to 85 ft deep. Project also included the rehabilitation and lining of the

# Terence E. Lindow

## Senior Designer

9'-6" to 12'-9" interceptor sewer.

**Pump Station #9 Replacement, Macomb Township, MI** – Assisted in the design of a 6,700 gpm pump station with four submersible pumps, a valve chamber, on-site generator, and open-cut and directional drilling of approximately 2,500 ft of 24" forcemain.

**North Gratiot Interceptor Phases 3 & 4, Macomb County, MI** – Assisted in the final design of approximately 2,700 ft of 36" sanitary sewer to connect phases 5 and 2.

**Lower Pettibone Lake Sanitary Drain, Highland Township, MI** – Lead Designer for the design of 2,000 feet of low-pressure sewer and associated grinder pump systems. The project required the abandonment of septic tanks and connection of grinder pumps for over 30 residences on lake property to improve lake quality.

**23 Mile Road Pump Station, Macomb Township, MI** - Served as designer responsible for the design of a 3,500 gpm pump station with submersible pumps. Included in the design is a 12-ft diameter wet well and a 14'x11' valve chamber and 1,600 ft of 20" force main.

**Miller Rd Pump Station Improvements, Dearborn, MI** - Served on the design team for the design of the upgrades to the station including all new pumps, mechanical and electrical upgrades, and extensive structural upgrades.

### Sewer System Studies and Investigations

**Sewer System Evaluation Study of Inflow / Infiltration Flows – Part I, DWSD CS-1374, Detroit, MI** – Served as Designer of support documentation for Flow Monitoring Program. Supervised documentation for delineation of 33,000 acre study area into 153 meter districts, metering program of 200 meters within districts, and calculation of base sanitary flows. Designated areas for further investigation within Part II of study. Also coordinated with sub-consultants and assisted in collecting demographic, water use and mapping data for Investigative Areas.

**SEMSD Sewer System Operational Plan – Macomb County, MI** – The Original Operation Plan was issued by SDA in 1995. Since then, new facilities were constructed and many of the existing facilities were upgraded within the District. Assisted in collecting data on the upgrades to the 21 facilities and sewer systems and updating record information.



# Keith Lumma, PACP/MACP

## Inspector

With 10 years of experience with SDA and 16 years in the industry, Mr. Lumma is an experienced sewer specialist trained in all aspects of sewer inspection including underground video inspection, tap sampling, sediment and depth testing, smoke testing, and dye testing. He is certified PACP. His sewer experience also includes temporary and permanent flow meter installation, calibration, download and repair. He is a confined space entry and rescue trainer and is a certified commercial diver.

Mr. Lumma is an instrumentation technician trained to operate leak detection and correlation equipment. He is experienced with crew operations to collect water samples for testing.

Lumma's Survey experience includes all aspects of surveying in the field and office. He is proficient in the use of field survey equipment, transferring of survey information to desktop applications, and experienced with producing AutoCAD drawings. He has experience creating field stakeout control data from construction plans; reviewing land title policy documentation; and transferring legal descriptions for property boundaries to drawings, easements, and parcel reconfigurations.

### RELEVANT EXPERIENCE

#### Sewer System Evaluation Surveys (SSES)

**Farnum West District SSES, Inkster, MI** – Served as Crew Chief in charge of the field portion of the SSES study which included inspection of 60 sanitary manholes, the smoke testing of 11,500 ft of sanitary sewer and several dye tests to locate the sources of inflow into the system.

**Lee Road SSES, Cleveland, OH** – Served as Crew Chief in charge in-charge of the inspection of 199 sanitary manholes to locate the sources of excessive inflow into the sanitary sewer system.

**Sewer System Evaluation Study of Inflow / Infiltration Flows –DWSD CS-1374, Detroit, MI** – Part of II of the \$4 million program included the assessment of the local combined sewer system. As part of the program, approximately 410 manholes were inspected, 80,000 ft of sewer was televised and 10 sites were picked for differential isolation testing.

#### Inspection

**Drain Siphon Inspection Under I-696, Oakland County, MI** – Physically entered and inspected 7 drains that siphon under the I-696 freeway for the Water Resources Commissioner of Oakland County to assess condition of siphons and amount of sediment in pipes. Siphon pipes ranged in size from 54" to 96" in diameter and 30 feet to 45 feet in depth. Also responsible for coordinating the dewatering of the siphons by a sub-contractor prior to performing entries.

**Sharkey Drain Siphon Inspection & Cleaning Under I-696 Freeway, Warren, MI** – Physically inspected the three drain siphon pipes under I-696 freeway for the Macomb County Public

### EDUCATION

- AAS, Computer-Aided Drafting, 1998, ITT Technical Institute, Troy, Michigan

### CERTIFICATIONS / SPECIALIZED TRAINING

- Certified Confined Space Entry, Attendant, and Rescue
- Certified Tunnel Rescue
- Hazardous Waste Operations & Emergency Response – OSHA
- Safe2Work Safety Training Program
- Pipeline Assessment Certification Program (PACP)
- Manhole Assessment Certification Program (MACP)
- Grade II System Collection System Maintenance – Michigan Water Environment Association
- Explosive Ordinance School
- US Navy SAR School
- US Navy Heavy Equipment Operator School

# Keith Lumma, PACP/MACP

## Inspector

Works Commissioner to assess the condition of the siphons and the amount of sediment in the pipes. During the cleaning phase of the project, performed the construction inspection to verify the volume of sediment being removed on a daily basis. Once the cleaning was completed, performed a post cleaning inspection of the three pipes to verify the removal of the sediment and to determine the condition of the siphons that could not be previously inspected due to the sediment.

**Schoenherr Relief Drain Siphon Inspection & Cleaning Under I-696 Freeway, Warren, MI** – Physically inspected the three drain siphon pipes under I-696 freeway for the Macomb County Public Works Commissioner to assess the condition of the siphons and the amount of sediment in the pipes. During the cleaning phase of the project, performed the construction inspection to verify the volume of sediment being removed on a daily basis. Once the cleaning was completed, performed a post cleaning inspection of the three pipes to verify the removal of the sediment and to determine the condition of the siphons that could not be previously inspected due to the sediment.

**2010 Middlebelt/13 Mile Emergency Repair, Farmington Hills, MI** – Construction Technician responsible for using FieldManager/Book software to track contractor work progress and observe collapsed sewer location and repair. Project involved open-cut sewer construction, by-pass pumping, soil dewatering, gas main protection, and road reconstruction.

**Oakland Macomb Interceptor Drain (OMID) Repair Program, Macomb County, MI** – Project consists of the construction of five Control Structures on the existing interceptor to allow for the backup of flows for rehabilitation of the interceptor. Performed entries at several locations on the existing interceptor during live conditions to verify elevations for design purposes. Interceptor depths varied from 44 ft to 85 ft.

**Chapaton Retention Basin Structural Inspection, St. Clair Shores, MI** – Crew Chief for visual structural evaluation of support columns, walls and roof for 30 million gallon retention basin. Floor and roof of retention basin were inspected visually for scum coverage. Also led field crew in inspection of flushing system, entry and exit hatches, gates, and trenches.

**2006-2010 North Gratiot Interceptor (NGI), Lenox Twp, MI** -- Construction technician responsible for observing/inspecting construction of 6 miles of new sanitary sewer with diameter ranging from 36" to 15". Project also involved the construction of a Parshall Flume metering station. Required confined space entry to verify flume dimensions and record all as-built elevations of the inlet and outlet pipe inverts as well as the key elevations within the Parshall Flume itself.

### Flow Monitoring Studies

**Lee Road Flow Monitoring Program, Cleveland, OH** – Served as Field Supervisor in charge of the installation, download, and maintenance of ten (10) flow meters and a rain gauge in the Lee Road District in the City of Cleveland. Purpose of the metering is to locate the source of the excessive I/I in the system and to determine the sewer system capacity.

**Project Performance Certification, Trenton, MI** – Served as Field Supervisor in charge of the

# Keith Lumma, PACP/MACP

## Inspector

PPC flow metering program which includes the installation, maintenance and download of eleven (11) flow meters and two (2) rain gauges for a period of 7 months.

**Lake St. Clair Clean Water Initiative Drain Project Performance Certification, Southeast Macomb Sanitary District, MI** – Assisted in the PPC flow monitoring program which included installing 13 meters in pipes ranging in size from 24” to 102” inches. The metering program was for nine months and included meter installation, download, and maintenance.

**Metering Program, Macomb Township, MI** - Installed three meters and a rain gauge to collect data on dry and wet weather flow conditions. Performed bi-weekly data downloads and meter calibrations as well as monthly meter maintenance on the meters. Maintenance includes regular probe cleaning inside the pipes as well as meter calibration. Instantaneous level and velocity checks are performed during each visit.

**2002 - 2006 Flow Monitoring Program, Clinton Township, MI** – Annually installed flow metering equipment and collected flow data for 4-meter sites for dry and wet weather standards for separate spring and fall flow monitoring. Downloaded, cleaned and maintained all flow monitoring equipment for the duration of the flow monitoring program.

### Illicit Discharge Elimination Programs (IDEP)

**Illicit Discharge Elimination Project – Part 2, Macomb County, MI** – Assisted the Macomb County Public Works Commissioner’s Office in their IDEP program. Field Manager in charge of developing the internal inspection of the Schoenherr Relief Drain. The drain ranges in size from 9 ft to a twin 13 ft horseshoe sewer that extends from 9 Mile Road to the Red Run Drain, a distance of approximately six miles. Located sources of illicit discharge into the sewer, to locate any visible structural defects, and identified hydraulic deficiencies in the outfall system.

**Illicit Discharge Elimination Project, Mt. Clemens, MI** – Currently working in cooperation with the Mt. Clemens Utilities Department in inspecting 52 storm outfalls for illicit discharges. Program also includes upstream investigation of contaminated outfalls and dye testing of contaminated leads. Program is being funded through an EPA Grant.

**Lorraine Drain, Macomb County, MI** – In charge of the sewer inspection involving underground video inspection, tap sampling, sediment and depth testing, structural inspection, and water and air quality sampling to detect presence of E.Coli.

# John E. Becht

## Contract Administrator

Mr. Becht has more than 28 years of experience in commercial and construction engineering. In his role as Contract Administrator, John is responsible for managing public and private construction engineering projects. This involves the coordination of all aspects of a project including client relations and working with a project team to meet the requirements of the scope of work.

Currently Mr. Becht is the construction operations supervisor for projects within the cities of Monroe, Rochester Hills, Troy and Livonia. John has worked on numerous public works and private development projects on behalf of our municipal clients. As a Contract Administrator of the construction staff, John is responsible for supervising on-site construction technicians, reviewing construction daily reports, responding to resident complaints, hosting construction progress meetings, reviewing project pay applications and quantities with the contractors, negotiating contractor construction claims, and assisting in project close-out and acceptance reports.

### RELEVANT EXPERIENCE

**Oakland Macomb Interceptor Drain (OMID) Repair Program, Macomb County, MI** – Engineer overseeing submittals, RFIs, certified payrolls, and reviewing daily construction reports. Project consists of the construction of five Control Structures on the existing 108” and 144” interceptor to allow for the backup of flows for rehabilitation of the interceptor. Structures ranged in size from 16ft diameter to 50 ft diameter and from 44 ft to 85 ft deep. Project also included the design of stop logs as well as site work.

**Dearborn Heights Relief Sewer, Dearborn Heights, MI** – Construction Manager responsible for the construction of 2.5 miles of 42” sanitary relief sewer. This work included 37,500 sy of concrete road replacement through the entire project, 25 cross connections to existing sewers, and associated work, all while maintaining local traffic. Responsibilities included reviewing daily construction reports, verified quantities against design requirements, processed pay certifications, negotiated change orders and contractor claims, and maintained contract documentation.

**Banner Street Pump Station, Wayne County, MI** – Contract Administrator for the construction of the upgrades to the existing sanitary pump station and force main, including structural, mechanical, and electrical upgrades including installation of new chopper pump.

**Avalon Street Sewer Repair, Wayne County, MI** – Contract Administrator for the repair of a damaged section of 36”/48” sanitary sewer under Avalon Street. Project included slip lining of the sewer with A-2 pipe and soil stabilization through the injection of grout from the surface.

**Heide, Thunderbird, Oliver Water Main Replacement, Troy, MI** – Resident Project Engineer for water main replacement with 5700 feet of 16” ductile iron pipe in poly wrap located in an industrial subdivision. Access to the businesses was maintained during the water main and road replacement. Responsibilities included reviewing daily construction reports, verified quantities against design requirements, processed pay certifications, negotiated change orders and contractor claims, and maintained contract documentation.

### EDUCATION

Bachelor of Science in Construction Engineering, 1984  
Lawrence Technological University

### PROFESSIONAL AFFILIATIONS

American Public Works Association (APWA)  
Southern Oakland County Municipal Engineers (SOCME)

### SPECIALIZED TRAINING

APWA Certified Public Infrastructure Inspector

Compliance Solutions – Certificate No. 754792956, Certified 40 hours HAZWOPER in accordance with 29 CFR 1910.120(e), 3/20/09

MDEQ Certificate No. C-10-0046 for Part 91, Soil Erosion and Sedimentation Control, exp. 2/16/15

MDEQ Certificate No. C-04089 A-1j Stormwater Management – Construction Site, exp. 2/16/15

MDOT Field Manager Certification  
Bituminous Inspection  
Concrete Inspection  
Office Technician

Michigan State University - Pavement Design, Pavement Rehabilitation

CAMTEC – OSHA-MIOSHA 10 Hour Construction Safety Course

Excavation Safety – Competent Person Training

Certified Confined Space Entrant, Attendant, and Entry Supervisor

# John E. Becht

## Contract Administrator

**Teggerdine Road Sanitary Sewer, Charter Township of White Lake, MI** – Construction Manager for the construction of 3,000 feet of low pressure sewer to serve an existing subdivision and adjacent commercial properties. Responsibilities included reviewing daily construction reports, verified quantities against design requirements, processed pay certifications, negotiated change orders and contractor claims, and maintained contract documentation.

**Cedar Island Road Sanitary Sewer SAD, Charter Township of White Lake, MI** – Construction Manager for the construction of 1,200 feet of low pressure sewer to serve an existing subdivision. Responsibilities included reviewing daily construction reports, verified quantities against design requirements, processed pay certifications, negotiated change orders and contractor claims, and maintained contract documentation.

**Macomb Street Bridge Rehabilitation, Monroe, MI** – Resident Engineer for the replacement of the entire bridge superstructure including deck, beams, sidewalk, and railings as well as the rehabilitation of portions of the existing substructure. The project also includes the replacement of 12" diameter water main and the reconstruction of the adjacent approach pavement on both sides of the structure. SDA provided complete construction engineering services including construction inspection, contract administration, material testing and construction survey.

**Avon – Livernois Aesthetic Improvements, Rochester Hills, MI** – Resident Engineer for the aesthetic improvements at the intersection of Avon and Livernois Roads. The work involved a pedestrian bridge removal, retaining wall construction, concrete curb and gutter replacement, ADA ramp installation, concrete non-motorized pathway, landscaping, and restoration. SDA provided complete construction engineering services including construction inspection, contract administration, material testing QA and construction survey. (MDOT Local Agency Project)

**Stephenson Highway, 14 Mile to I-75, Troy, MI** – Lead Construction Inspector for construction of this pavement rehabilitation project. John was responsible for full construction engineering of 1.75 miles of rehabilitation of Stephenson Highway from 14 Mile to I-75. The project included concrete curb repair and placement; installation of storm sewer to provide for drainage; relocation and rehabilitation of crossover lanes; pavement and joint repair; replacement of sections of roadway; bituminous overlay; and geometric improvements. SDA provided complete construction engineering services including construction inspection, contract administration, material testing and construction survey QA. (MDOT Local Agency Project)

**Schoolcraft Road Rehabilitation, Livonia, MI** – Project Engineer for 0.31 miles of hot mix asphalt resurfacing cold milling, concrete road repairs, and storm drainage improvements. Responsible to review daily construction reports, verify quantities, process pay certifications, negotiate change orders and contractor claims, and maintain contract documentation. (MDOT Local Agency Project)

**Newburgh Road Rehabilitation, Livonia, MI** - Project Engineer for 0.90 miles of hot mix asphalt resurfacing cold milling, concrete road repairs, and storm drainage improvements. Responsible to review daily construction reports, verify quantities, process pay certifications, negotiate change orders and contractor claims, and maintain contract documentation. (MDOT Local Agency Project)



# John E. Becht

## Contract Administrator

Agency Project)

**Inkster 2007 Road Repair Program, Inkster, MI** – Contract Administrator for over 11 miles of hot mix asphalt resurfacing cold milling, concrete road repairs, and joint repairs on 38 streets throughout the City. Responsible to review daily construction reports, verify quantities, process pay certifications, negotiate change orders and contractor claims, and maintain contract documentation.

**Livonia 2005 - 2007 Asphalt Paving Road Program, Livonia, MI** – Contract Administrator for \$4,800,000.00 of asphalt roadway rehabilitation and reconstruction as part of their Asphalt Paving Program over 3 years. Responsibilities included reviewing daily construction reports, verified quantities against design requirements, processed pay certifications, negotiated change orders and contractor claims, and maintained contract documentation. Responsible to coordinate with contractors to solve problems and implement ideas to facilitate project completion. Implemented traffic control plans.

**West Bloomfield Township 2007 Pedestrian Safety Path Program** – Contract Administrator for the construction of new pathway and associated related work including ADA ramps as well as rehabilitation of existing pathways at multiple locations throughout the Township. Responsibilities included reviewing daily construction reports, verified quantities against design requirements, processed pay certifications, negotiated change orders and contractor claims, and maintained contract documentation.

**MDOT Taylor TSC Permits Department** – Construction Engineer for As-Needed Services working primarily in the Permits Department at the Taylor TSC. Services included reviewing permit applications, checking sites for permit compliance, and processing completed permits for release.

**Redford Township CSO Demonstration Basin, Wayne County, MI** – Construction Engineer responsible for the on site engineering services for the 2 mg basin project. The Project consisted of constructing a 60 feet diameter wet well with six variable speed pumps, 60" influent pipe, 24" force main, two 1 mg retention basins, removal of eight outfalls, and associated piping. Emergency generator installation and inspection for facility support. Inspected the electrical system installation with generator to include transfer switch and controls.

**Taylor Water Main Replacement, Wayne County, MI** – Construction Engineer responsible for the replacement of three miles of existing water main in an existing subdivision and related restoration. Responsible for over seeing inspection, contract documentation, processed pay certifications and negotiated change orders.



## Sanitary Sewer Manhole Rehabilitation Operations

Clinton Township, Michigan

The Charter Township of Clinton is located in Macomb County and encompasses an area of approximately 28 square miles. The sewage collection system is comprised of approximately 300 miles of sanitary sewer and approximately 5,300 sanitary manholes. The age of the Township's sanitary sewer collection system and the existence of sanitary sewer overflows warranted investigation into the cause of high flow rates in the system. Excessive Inflow and Infiltration (I/I) was defined as a major concern. The Township became proactive in resolving the source of the high I/I flows.

In an effort to decrease the excess I/I on the sewer system, **Spalding DeDecker Associates, Inc. (SDA)** performed a Sanitary Sewer Evaluation Survey (SSES) of a segment of the sewer system. A portion of the SSES consisted of performing a physical inspection of the sanitary manholes and recording the internal conditions of the structure and the surrounding ground conditions. SDA incorporated this information into a database and generated a cost-effective analysis for the necessary work needed.

By analyzing the field data of the manhole inspection, SDA and the Township determined the best means of rehabilitating the manholes to eliminate the I/I from entering into the manholes. The majority of the project consisted of replacing manhole lids and frames, installation of an internal or external chimney seal, and installation of a spray sealant on the inside of the manhole structure.

### SPECIAL FEATURES

Based on SDA's knowledge of the many manufactured products available for manhole rehabilitation, a solution was chosen that met the needs and requirements within the respective area(s). SDA generated plans and specifications and provided construction administration services for over 850 sanitary manholes in Clinton Township.

#### OWNER / CLIENT

Charter Township of Clinton  
Superintendent Water & Sewer  
Kenneth Jasinski  
(586) 286-9300

#### PROJECT START - END

September 2001 - March 2005

#### PROJECT COST

\$1,300,000.00

#### SDA PROJECT NO.

CL01-004

## Sanitary Sewer Rehabilitation Projects Clinton Township, Michigan



The Charter Township of Clinton is located in Macomb County and encompasses an area of approximately 28 square miles with 95,000 residents. The sewage collection system is comprised of approximately 300 miles of sanitary sewer and approximately 5,300 sanitary manholes. Excessive inflow and infiltration (I/I) were defined as major concerns. The Township became proactive in resolving the source of these high flows, including complying with the Administrative Consent Order (ACO) issued by the Michigan Department of Environmental Quality (MDEQ). The ACO was issued to municipalities and required them to upgrade their sanitary sewer systems to eliminate Sanitary Sewer Overflows (SSO). The ACO also provided guidelines for required improvements to sanitary sewer systems.

To define and locate the excess infiltration/inflow in the sewer system, **Spalding DeDecker Associates, Inc. (SDA)** performed a Sanitary Sewer Evaluation Survey (SSES) of the sewer system, which included smoke testing, flow metering, rain gauging, manhole evaluations, and a hydraulic flow model which simulated sanitary sewer flow characteristics for certain rain events. Based on results of the SSES, SDA provided a preliminary report outlining a cost-effective complete rehabilitation program.



The next step was to prioritize which specific area of the Township to rehab and by which method. By using a combination of the television inspection and the smoke testing operations, SDA and the Township determined the locations of the sewers that required the different rehab methods. These sewer segments were chosen due to the condition of the pipe/manhole and the amount of infiltration entering into the sewers. Rehabilitation efforts included sanitary sewer lining (CIPP), televising and cleaning (TV & CLNG), footing drain disconnection (FTNG DRN DIS), and manhole rehabilitation (MH REHAB).

SDA also performs annual pre- and post-rehab flow monitoring to quantify the affect of each rehab method. This flow monitoring allows the Township to financially analyze each method of rehab.

### OWNER / CLIENT

Charter Township of Clinton  
Kenneth Jasinski  
Superintendent Water and Sewer

### PROJECT START - END

April 2000 - 2010

### PROJECT COST

\$13,000,000

### SDA PROJECT NOS.

CL00-008 SSES  
CL00-010 TV & CLNG  
CL00-024 TV & CLNG  
CL00-032 CIPP  
CL00-033 TV & CLNG  
CL01-004 MH REHAB  
CL01-006 TV & CLNG  
CL01-013 TV & CLNG  
CL01-015 FTNG DRN DIS  
CL02-005 CIPP  
CL02-008 FLOW MON  
CL02-026 CIPP  
CL03-011 CIPP  
CL03-017 FLOW MON  
CL03-018 FTNG DRN DIS  
CL03-023 MH REHAB  
CL03-032 CIPP  
CL04-009 HYD MODEL  
CL04-013 FLOW MON  
CL05-017 TV & CLNG  
CL05-018 MH REHAB  
CL05-029 FLOW MON  
CL05-032 CIPP  
CL05-034 CIPP  
CL06-008 MH REHAB  
CL06-018 FLOW MON  
CL06-020 CIPP  
CL07-009 MH REHAB  
CL07-013 CIPP  
CL08-014 MH REHAB  
CL08-015 CIPP

## Farnum West Area Sewer System Evaluation Survey (SSES)

Inkster, Michigan

The Farnum West Study Area is located in the southwest section of the City of Inkster. Hydraulic modeling of the sanitary sewer system determined that large amounts of inflow and infiltration (I&I) may be entering the sewer system in the Farnum West Area creating a backwater condition that is causing overflows.

**Spalding DeDecker Associates, Inc. (SDA)** was contracted by the City of Inkster to perform a Sewer System Evaluation Survey (SSES) in the Farnum West Study Area to locate the sources of I&I.

The scope of the field work for the SSES included the following:

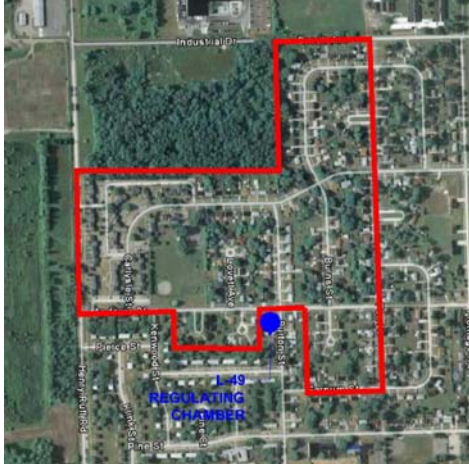
1. Manhole Inspection
2. Smoke Testing
3. Dye Testing

The results of the SSES study did not reveal any direct inflow cross connection sources.



However, the SSES results indicated the following:

- 30 manholes were located and inspected. In general, the sanitary manholes were in good condition with some leaking through the walls, corbels, and chimneys.
- 22 manholes could not be inspected. The majority of these manholes are buried.
- One cleanout was found to be broken.



### OWNER / CLIENT

City of Inkster  
Muzaffar Lakhani  
Public Services  
(313) 563-9773

### PROJECT START - END

March 2009 – May 2009

### PROJECT COST

\$17,000

### SDA KEY PERSONNEL

Keith Lumma, MACP, PACP

### SDA PROJECT NO.

MN09-005

## Lee Road District Flow Metering Study and Sewer System Evaluation Survey Cleveland, Ohio

The Lee Road District is located in the southeastern part of the City of Cleveland. This District is one of a few areas in the City with separated sewers. The sanitary sewer system in the District transports the flow east to the main interceptor sewer on Lee Road. The flow is then transported south along Lee Road to the Mill Creek Interceptor.

The City of Cleveland contracted with **Spalding DeDecker Associates, Inc. (SDA)** and its sub-consultants in 2007 to perform a flow metering study followed by a Sewer System Evaluation Survey (SSES).

The purpose of the **Flow Metering Study** was to:

- Determine the amount of Inflow and Infiltration (I/I) entering the system
- Identify the sub-districts where the high I/I is entering the system
- Determine if the sanitary sewers should be upsized to store and transport the excessive flows
- Develop a Sewer System Evaluation Survey (SSES) Program to locate the sources of I/I that can be rehabilitated to reduce the amount of I/I in the system without upsizing the sewers (if possible)

The Lee Road District was delineated into six meter districts. A total of 11 temporary flow meters and one rain gauge were installed in the sanitary system. The meters collected data for a period of three months. The results indicated that in general, infiltration levels into the system were within acceptable EPA levels, but that all six meter districts had significant inflow entering the sanitary sewers during rain events.

An **SSES** was then performed to locate the sources of excessive inflow entering the system. Approximately 200 manholes were inspected by opening each manhole to identify conditions and type of material used. Any sources of I&I within the manholes were identified. Approximately 42,000 feet of sewer pipe were smoke tested. A downspout inspection program was performed during smoke testing to identify storm connections to the sanitary sewer system.

A Microsoft Access database was developed to assemble the inspection data. A cost-benefit analysis was performed for a cost-effective rehabilitation program. The rehabilitation program included recommendations for manhole lining, manhole frame and cover rehabilitation, and the disconnection of sewer cross-connections.

353 homes were found to have downspouts connected directly to the sanitary sewer system and forty five storm manholes and catch basins were found to be connected directly to the sanitary sewer system.



### OWNER / CLIENT

City of Cleveland  
Commissioner  
Department of Public Works  
Division of Water Pollution Control  
Rachid Zoghaib  
(216) 664-3785

### PROJECT START - END

I/I: May 2007 – March 2008  
SSES: April 2008 - January 2009

### PROJECT COST

\$212,300

### SDA KEY PERSONNEL

Keith Lumma, MACP, PACP

### SDA PROJECT NO.

NP08-011

## Sanitary Sewer Rehabilitation – Areas B, C1, & G Novi, Michigan



The City of Novi is currently implementing a Capacity, Management, Operations, and Maintenance (CMOM) Program.

As part of the program, the Department of Public Services regularly cleans and televises the sanitary sewer pipes looking for potential defects and sources of Inflow and Infiltration (I/I).

**Spalding DeDecker Associates, Inc. (SDA)** was contracted by the City of Novi to review the DVDs for Areas B, C1, and G, evaluate the condition of the pipes, and develop recommendations for sewer repair or replacement.

SDA has its in-house database that incorporates the televising Contractor's results electronically. SDA staff uses the PACP rating system to rank the severity of the deteriorations directly into the database to be used in the prioritization list.

As part of the review, SDA staff develops rehabilitation recommendations which are incorporated into the database. The database generates the associated costs for each pipe section and a list is generated from the database, prioritizing the rehabilitation with an estimated cost of rehabilitation.

The sewer evaluation is followed by a report prioritizing the sewers to be rehabilitated and the associated costs for each segment.

The City of Novi requested construction details and bidding documents to be prepared. The City's current manhole numbering system was used on this project and was shown on the maps. This will provide the City with consistency between the bid documents and the City's GIS System.

SDA will also be performing construction administration and observation using SDA's PACP certified Inspectors.

### OWNER / CLIENT

City of Novi  
Benjamin Croy  
Civil Engineer  
(248) 347-0454

### PROJECT START - END

July 2011 - Ongoing

### PROJECT COST

\$750,000

### SDA FEE

\$11,500.00

### SDA PROJECT NO.

NV11-003

## Manhole Rehabilitation Program

Rochester Hills, Michigan

**Spalding DeDecker Associates, Inc. (SDA)** was responsible for the survey, design, and construction engineering services for the City's program of manhole rehabilitation.

SDA designed and implemented a program to rehabilitate over 569 manholes in the City of Rochester Hills. The rehabilitation involved the following tasks:

- Replacing manhole frames and covers
- Wrapping the frames
- Installing CRETEX chimney sealant

In addition, SDA provided construction administration and observation/inspection services during the project duration. Within the scope of construction, SDA also performed additional related tasks, such as lowering or raising structures, sealing joints, and other structural components and removing and replacing adjacent pavement and material, as necessary.

The inspection of the manholes was performed using confined space entry procedures, with certified Confined Space Entry and Tunnel Rescue personnel from SDA.

### SPECIAL FEATURES

SDA worked closely with the City of Rochester Hills to coordinate manhole construction operations and traffic control measures.



#### OWNER / CLIENT

City of Rochester Hills  
Paul Davis, PE  
(248) 841-2486

#### PROJECT START - END

August 2001 – February 2002

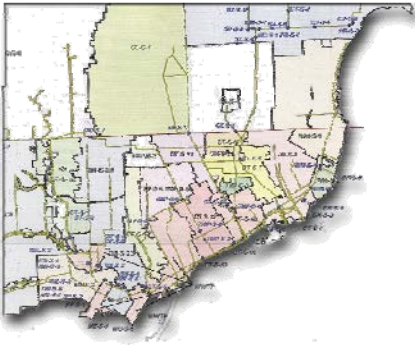
#### PROJECT COST

\$684,000

#### SDA PROJECT NO.

OM01-013

## CS-1374 Sewer System Evaluation Survey of Inflow/Infiltration Flows Detroit, Michigan



The purpose of the Sewer System Evaluation Study of Inflow/Infiltration (I/I) Flows was to investigate the sources of extraneous dry weather flows within the City of Detroit wastewater collection system and determine if a cost-effective program to remove these flows could be developed. This would reduce operating costs and re-claim some lost dry weather flow capacity in the system.

### OWNER / CLIENT

Detroit Water and Sewerage Department  
Mr. Mirza Rabbaiq, PE  
Head Engineer - CSO Control Program  
(313) 964-9880

### PROJECT START - END

February 2002 - February 2005

### PROJECT COST

\$4,200,000

### SDA PROJECT NO.

OM02-003

### SCOPE OF PROJECT

- Review existing on-going project and historical information;
- Delineate investigative areas;
- Collect demographic, water use, and mapping data for investigative areas;
- Install wastewater flow monitoring and data acquisition equipment;
- Determine dry weather I/I flow rates;
- Assess existing DWSD facilities through manhole inspection, sewer televising and cleaning, smoke testing, dye testing, and water main leak detection;
- Conduct cost effectiveness analyses and assess various alternatives' impact on DWSD's collection system; and ;
- Implement a pilot program to target rehabilitation, replacement, and operational methods to determine the feasibility and cost-effectiveness of implementing a system-wide I/I program.

The **Spalding DeDecker Associates, Inc. (SDA)** Team evaluated seven areas (totaling 42,000 acres) in the City of Detroit that had previously been identified as having high I/I under dry weather conditions. The areas were broken into over 150 smaller meter districts. Approximately 200 temporary flow meters were placed in these meter districts to collect dry weather flow data in the sewer system. The collected meter data was compared to existing population data, demographics, water use rates, and industrial user flows to calculate the amount of dry weather I/I entering these meter districts. The analysis provided a more accurate inflow/infiltration rate for each meter district, allowing the Team to focus on districts with high I/I.

SDA performed a comprehensive manhole investigation on 20 meter districts with the highest I/I (total of 2,650 manholes). Based upon queries of an extensive database of documented manhole defects, internal sewer televising and cleaning and field infiltration testing was performed in five of the 20 districts (113,500 ft) to further quantify the sources of I/I.

An innovative pilot program was implemented for three of the five meter districts. Several rehabilitation and replacement options (e.g., sewer reconstruction, manhole rehabilitation, etc.)



were examined. A cost-benefit analysis was performed to identify the most appropriate rehabilitation methods for DWSD's sewer system. SDA provided overall project management, while also engaging in various key engineering services, including field investigation with confined space entry, flow monitoring program management, flow monitoring, demographic and water consumption data analysis, cost benefit analysis, design, and construction administration services.

## **SPECIAL FEATURES**

This was the largest inflow/infiltration study in Michigan at the time, with more than 200 sewage flow meters concurrently monitoring wastewater under dry and wet weather conditions.

## Sanitary Sewer System Evaluation Survey (SSES): Phase I-II

Rochester Hills, Michigan

The purpose of the Sewer System Evaluation Survey (SSES) was to locate sources and quantify the volume of I&I and rate the structural condition of the sewer system.

**Spalding DeDecker Associates, Inc. (SDA)** collected field data for over 800 manholes and over 104,000 linear feet of sewer. SDA reviewed the City of Rochester Hills Geographic Information System's (GIS) database and archived materials to prioritize the SSES investigations by location, construction period, historical flooding, and known problems. The project was conducted in five phases and consisted of the following tasks:

- Research, Planning And Coordination
- Manhole Inspection
- Flow Monitoring
- Flow Data Analysis
- Flood Testing (Inflow Rates)
- Cleaning & Videotape Inspection
- Smoke Testing
- Cost-Effective Analysis
- Specifications for Rehabilitation
- Bid Document Quantities



The analysis of the manholes and sewer system was completed using the results of the physical surveys conducted by SDA field crews; the videotaped inspection of sewer lines was performed by National Industrial Maintenance (NIM). The results of the condition surveys were compiled in a database created by SDA. The database analyzed the structures for physical defects.

Other Inflow and Infiltration (I/I) sources were developed from the smoke testing results for select areas throughout the City. A cost-to-benefit analysis was performed to provide the City with the best reduction in flow for the money available.

### SPECIAL FEATURES

A Global Positioning System (GPS) was used to locate manholes along drains, creeks, and wetland areas.

#### OWNER / CLIENT

City of Rochester Hills  
Paul Davis, PE  
(248) 841-2486

#### PROJECT START - END

May 1998 - November 2002

#### PROJECT COST

\$273,796.78

#### SDA PROJECT NO.

OM98-009

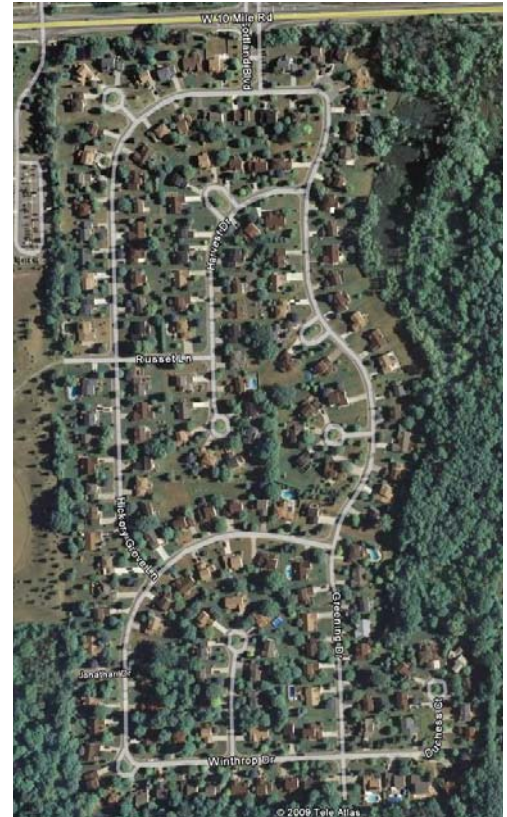
Spalding DeDecker Associates, Inc. (SDA) has reviewed and understands the requirements detailed in the Request for Proposals (RFP) dated March 7, 2014 for **North Hill/Timber Ridge/Westridge Downs/Orchard Ridge Sanitary Manhole Rehabilitation** Projects.

## PROJECT APPROACH

The project consists of rehabilitating approximately 130 sanitary manholes within the North Hill/Timber Ridge/Westridge Downs Subdivisions located generally south of Nine Mile and west of Novi Road and Orchard Ridge Subdivision located along the south side of Ten Mile Road, west of Novi Road. SDA will be responsible for field investigations of the manholes, providing GPS location of the structures, preparing plans showing the locations of the subject manholes as well as standard details and specifications for the proposed work, bidding the projects, and providing construction administration.

According to the information supplied in the RFP, the City completed a Sewer System Evaluation Survey (SSES) in 2005 for Orchard Ridge Subdivision and in 2009 for North Hill, Timber Ridge, and Westridge Downs Subdivisions. This SSES identifies problems with the existing manholes and provides recommendations for rehabilitation. The field investigation for this project will be to supplement and verify the existing SSES, since they were completed 5-9 years ago.

We also understand that the anticipated budget for this project could range from \$136,000 to \$238,000. It will be necessary for SDA to provide cost estimates and recommendations on prioritization of work for the City, should the budget be exceeded. Lower priority rehabilitation work will be bid as alternates.



## PROGRESS STATUS REPORTS

Throughout the duration of the project, David Richmond, PE, the overall Project Manager, will keep the City of Novi updated on the progress of the project. This will formally be done through bi-weekly Progress Status Reports submitted to the City every other Friday. Our staff is familiar with the report format. Even though we will be submitting the reports every other week, we will also stay in touch with the City team verbally, as well as through electronic mail and written communications on a regular basis.

## SSES REVIEW

The SSES performed in 2005 and 2009 contain recommendations for rehabilitating the manholes surveyed and will be reviewed prior to beginning the field work. With the age of the SSES, SDA will survey the manholes and provide updated conditions and recommendations for repair. SDA staff has performed many SSES programs for communities all over the metro Detroit area. We have inspected over 4,000 manholes, smoke tested over 150 miles of sewer, and analyzed approximately 100 miles of sewer video tapes. SDA has the experience to properly review the SSES recommendations.

## KICK-OFF MEETING

To ensure that the proposed design and construction staging meet the needs of the City, SDA design staff will attend a City of Novi-hosted kick-off meeting with the City Staff, as soon as the project is awarded, to discuss the proposed design and construction aspects of the project.

## FIELD INVESTIGATIONS

SDA's qualified team will perform field investigations of the sewer manholes in the project area and prepare a comprehensive list of the repair recommendations for the individual manholes.



## EXISTING CONDITIONS

Based on available information and our site visits, it appears that the majority of the existing sanitary manholes are located outside the influence of the public roadways. Some manholes are located within existing paved residential driveways. The remaining manholes are located primarily within lawn areas. The sewer inverts in these manholes vary from approximately 8.0 to 22-feet-deep.

In addition to the sanitary sewers, the existing subdivisions are served by other utilities (storm, water, gas, phone, cable, electric, etc.) running along the road right-of-way in the area of the existing manholes. Early in the design phase, SDA will contact the other utility agencies within the project limits of the proposed work to locate their utilities. We will coordinate with each utility owner to resolve potential conflicts during design to minimize conflicts during construction.



## CONTRACT DOCUMENTS

### Construction Details and Specifications

After kicking off the project with the City, details and specifications for construction will be prepared. The construction drawings will include plan views of the sanitary sewer system showing the location of each manhole to be rehabilitated. The City's current manhole numbering system will be used on this project and will be shown on the maps. This will provide the City with consistency between the bid documents and the City's existing GIS system.



The rehabilitation techniques recommended in the SSES will be reviewed as discussed earlier. The manholes are all pre-cast with plastic steps and either pre-cast or brick rings. SDA staff has worked with many manhole rehabilitation techniques such as the Calcium Aluminate mortar liner that not only reduces inflow and infiltration from entering the manhole but also is structural and corrosion resistant. The liner can be applied to a manhole and be in service within a few hours. Calcium Aluminate liner is relatively expensive but is very effective in preventing hydrogen sulfide (H<sub>2</sub>S) corrosion. If H<sub>2</sub>S corrosion is not a concern, a less expensive Portland cement liner can be used. If H<sub>2</sub>S is a serious concern, a Calcium Aluminate

liner with an epoxy top coat would be effective.

It is usually recommended that the manhole steps be removed prior to spraying the liner. The removal and re-installation of the steps is another item that will be reviewed and discussed with the City.

Heat shrinkable manhole wraps are an effective method to reduce inflow into the top section of a manhole. The membrane is wrapped around the outside of the manhole and casting and is heat activated to attach to the structure. The material has a high tensile and elongation strength that allows it to move during the freezing and thawing seasons. If the manhole frame and cover is being adjusted, raised, or replaced as part of the manhole rehabilitation program, then installing the wrap while the outside of the manhole is exposed is a relatively inexpensive method to prevent inflow from entering the structure.

If the outside of the manhole is not exposed, and especially if the manhole is in concrete, then exposing the manhole to install the exterior wrap may be too expensive, and an internal seal may be more appropriate. Internal seals are now being made with a 500% elongation capability to allow for movement during the freezing and thawing seasons.

Standard details of the final rehabilitation recommendations will be incorporated into the bidding documents. Each rehabilitation technique will also have a numbering system that will be incorporated into the bid proposal as well as the location map. Specifications for any rehabilitation technique that is not covered in the City's standard specifications will be developed and included in the bid documents.



The plans will be designed in accordance with City of Novi standards, and the City's Standard Detail sheets will be included in the plan set as appropriate.

## Permit Acquisition

SDA will prepare the permit applications (at approximately 60% design completion) for the Michigan Department of Environmental Quality (MDEQ) in the City of Novi's name and provide all supporting documentation and plans necessary for the permit application. The permit application packages will be forwarded to the City for review and submittal.

Plans will also be submitted for a City of Novi Soil Erosion and Sedimentation Control (SESC) permit in accordance with Part 91 and Chapter 29 of the City Code. The SDA Design Team will provide permit follow-up and will field any questions or requests from permitting agencies, as directed by the City, necessary to secure permit approvals.

## 90% Plans

90% complete design plans, one set of specifications, and an updated construction estimate will be submitted to the City for review as is required. Per our ISO requirements, a meeting will be held with the City to discuss the documents and the revised construction cost estimate.

## **BIDDING**

Once the Permitting Agency and City's comments have been reviewed and incorporated into the final plans, the bid documents will be issued (four sets of plans and specifications). SDA will then facilitate the pre-bid meeting, prepare and issue addendums as needed, respond to contractor inquiries, review the bids, and provide recommendations for award.

## **CONSTRUCTION**

### Construction Administration

John Becht will be the Contract Administrator for the project. John has supervised the construction engineering for the installation of underground utilities, including manhole rehabilitation projects, throughout his career. This project is similar in nature to previous rehabilitation projects John has been involved with, which consisted of replacing castings and adjustment as well, as sealing leaks with injected grout and eventual complete manhole structure rehabilitation with cement lining. For this project, John will conduct an internal kick-off meeting with the design group, ensuring a smooth transition from design bid phase to the construction phase of the project.

During the comprehensive pre-construction meeting, all pertinent items will be addressed. Possession of required permits will be verified; emergency contact information will be exchanged; construction schedules will be submitted and reviewed; communication protocols will be established; pay estimate protocol will be explained; and project close-out and successful completion criteria will be established. Shop drawings will be collected from the Contractor and reviewed prior to construction.

### Soil Erosion and Sedimentation Control (SESC)

During the construction phase, SDA will be responsible for administering and enforcing the SESC plan. The inspections will be performed by Kim Danowski, CFM. Kim currently manages and performs soil erosion inspections on projects throughout the City of Novi. She is very familiar with current City staff, details, and



procedures to maintain and enforce the City's soil erosion control standards. Ms. Danowski currently holds certifications through the MDEQ under Part 91.

## Inspection

David Sterling will be SDA's on-site Construction Technician inspecting the day-to-day construction operations for this project. Mr. Sterling will be documenting the project using Field Manager software. He will make as-built sketches where necessary, including invert depths and will capture project progress with digital photographs. A web-based project portal site will be created specifically for this project, and construction daily reports, project photographs, and engineer pay certificates will be posted.

## Communication

John Becht will respond quickly to homeowner questions and concerns during the construction phase of the project. Mr. Becht will be in daily contact with the City's Project Manager as well. SDA will continue providing the City with Progress Status reports during the construction phase of this project.

## **SCHEDULE**

We have prepared a schedule for the design and construction of this project. We are familiar with the design and construction of manhole rehabilitation projects, having gone through many of them in several other communities. As the schedule shows, it is our intention to begin work immediately upon award of the project. Our schedule has been developed assuming a 30-day permitting time frame which we believe could be conservative given the current MDEQ review schedule. It is our intention to complete the design by the end of June, so the construction can begin and be completed before the start of the cold weather in November.

## **VALUE-ADDED CONCEPTS**

As described in greater detail throughout our Project Approach, SDA offers the following Value-Added Concepts:

- Our experience with SSES's and manhole rehabilitation techniques will allow us to provide a fair review of the currently proposed rehabilitation techniques and provide alternatives if needed.
- Local Knowledge – SDA's design and construction administration experience, as well as our continued presence in the City, provides us with a great amount of local knowledge to make this project run smoothly and efficiently.

Spalding DeDecker Associates, Inc. strives to be "The Benchmark of Excellence" for our clients through applications of its Guiding Principles and Quality Procedures. SDA will provide innovative design and engineering solutions that ultimately result in a better quality of life for residents and visitors in the City of Novi. Thank you for considering our services.



# MANHOLE INSPECTION FORM

CLIENT: _____	PROJECT: _____	PROJECT NO: _____
MH #: _____	DISTRICT: _____	DATE: _____
STREET: _____		TIME: _____
ADDRESS: _____		WEATHER: _____
INSPECTOR: _____	CERTIFICATION NO: _____	INSPECTION LEVEL: <input type="checkbox"/> LEVEL ONE
INSPECTOR: _____	CERTIFICATION NO: _____	<input type="checkbox"/> LEVEL TWO

<b>GENERAL</b> <b>PURPOSE OF INSPECTION:</b> <input type="checkbox"/> Routine Assessment <input type="checkbox"/> I/I Investigation <input type="checkbox"/> Post Rehab Survey <input type="checkbox"/> SSES <input type="checkbox"/> New Sewer Acceptance <input type="checkbox"/> _____ <b>SYSTEM TYPE:</b> <input type="checkbox"/> Sanitary <input type="checkbox"/> Combined <input type="checkbox"/> Storm <input type="checkbox"/> _____	<b>ACCESS TYPE:</b> <input type="checkbox"/> Manhole <input type="checkbox"/> Wastewater Access <input type="checkbox"/> Special Chamber <input type="checkbox"/> Catch Basin <input type="checkbox"/> Cleanout <input type="checkbox"/> Wet Well <input type="checkbox"/> _____ <b>PRE-CLEANING:</b> <input type="checkbox"/> None <input type="checkbox"/> Not Known <input type="checkbox"/> Jetting <input type="checkbox"/> Heavy Cleaning	<b>LOCATION OF MH:</b> <input type="checkbox"/> Main Highway <input type="checkbox"/> Road <input type="checkbox"/> Driveway <input type="checkbox"/> Sidewalk <input type="checkbox"/> Yard-Front <input type="checkbox"/> Yard-Back <input type="checkbox"/> Yard-Side <input type="checkbox"/> Parking Lot <input type="checkbox"/> Alley <input type="checkbox"/> Woods <input type="checkbox"/> Ditch <input type="checkbox"/> Creek <input type="checkbox"/> _____	<b>GROUND SURFACE TYPE:</b> <input type="checkbox"/> Concrete <input type="checkbox"/> Asphalt <input type="checkbox"/> Gravel <input type="checkbox"/> Grass <input type="checkbox"/> Dirt <input type="checkbox"/> _____ <b>PAVT CONDITION:</b> <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <b>EVIDENCE OF SURCHARGE:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>INSPECTION STATUS:</b> <input type="checkbox"/> Surface Inspection <input type="checkbox"/> Descent Inspector <input type="checkbox"/> Remote Camera <input type="checkbox"/> Not Found <input type="checkbox"/> Not Opened <input type="checkbox"/> Surcharged/Debris <input type="checkbox"/> Traffic <input type="checkbox"/> Burried <input type="checkbox"/> No Access <b>PHOTOS:</b> <input type="checkbox"/> Exterior: # _____ <input type="checkbox"/> Interior: # _____
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<b>COVER</b> <b>COVER SHAPE:</b> <input type="checkbox"/> Circular <input type="checkbox"/> Oval <input type="checkbox"/> Rectangular <input type="checkbox"/> Square	<b>COVER MATERIAL:</b> <input type="checkbox"/> Cast Iron <input type="checkbox"/> Concrete <input type="checkbox"/> Ductile Iron <input type="checkbox"/> Fiberglass <input type="checkbox"/> _____	<b>COVER TYPE:</b> <input type="checkbox"/> Solid <input type="checkbox"/> Vented <input type="checkbox"/> Bolted <input type="checkbox"/> Hatch <input type="checkbox"/> Inner Cover <input type="checkbox"/> Locking	<b>GRADE (in):</b> <input type="checkbox"/> At Grade <input type="checkbox"/> Below Grade <input type="checkbox"/> Burried <input type="checkbox"/> Above Grade <b>COVER SIZE (IN):</b> Length/Dia: _____ Width: _____	<b>COVER FIT:</b> <input type="checkbox"/> Good <input type="checkbox"/> Tight <input type="checkbox"/> Loose <input type="checkbox"/> Rocks/Wobbles <b>GASKETED:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>COVER CONDITION:</b> <input type="checkbox"/> Sound <input type="checkbox"/> Cracked <input type="checkbox"/> Broken <input type="checkbox"/> Missing <input type="checkbox"/> Corroded <input type="checkbox"/> Bolts Missing <input type="checkbox"/> _____
VENT HOLE DIA (IN): _____		VENT HOLE NUMBER: _____			

<b>COVER ADJUSTMENT RING</b> <b>TYPE:</b> <input type="checkbox"/> Solid <input type="checkbox"/> Adjustable <input type="checkbox"/> None <b>HEIGHT (IN):</b> _____	<b>MATERIAL:</b> <input type="checkbox"/> Grade Ring <input type="checkbox"/> Conc Precast <input type="checkbox"/> Conc Poured <input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Cast Iron <input type="checkbox"/> _____	<b>CONDITION:</b> <input type="checkbox"/> Sound <input type="checkbox"/> Cracked <input type="checkbox"/> Broken <input type="checkbox"/> Leaking <input type="checkbox"/> Corroded <input type="checkbox"/> Poor Installation
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<b>FRAME</b> <b>MATERIAL:</b> <input type="checkbox"/> Iron <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> _____ <b>OFFSET (in):</b> _____ <b>CLEAR OPENING DIA (in):</b> _____ <b>FRAME DEPTH (in):</b> _____	<b>CONDITION:</b> <input type="checkbox"/> Sound <input type="checkbox"/> Cracked <input type="checkbox"/> Broken <input type="checkbox"/> Missing <input type="checkbox"/> Corroded <input type="checkbox"/> Loose <input type="checkbox"/> Offset	<b>INFLOW:</b> <input type="checkbox"/> None <input type="checkbox"/> Weeper <input type="checkbox"/> Dripper <input type="checkbox"/> Runner <input type="checkbox"/> Gusher <input type="checkbox"/> Stains <b>BEARING SURFACE:</b> Width (in): _____ Depth (in): _____
---	--	--

<b>CHIMNEY</b> <b>MATERIAL:</b> <input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Conc Precast <input type="checkbox"/> Conc Poured <input type="checkbox"/> Fiberglass <input type="checkbox"/> _____ <b>CLEAR OPENING DIA (in):</b> _____	<b>INFLOW:</b> <input type="checkbox"/> None <input type="checkbox"/> Weeper <input type="checkbox"/> Dripper <input type="checkbox"/> Gusher <input type="checkbox"/> Stains	<b>CHIMNEY LINER:</b> <input type="checkbox"/> No <input type="checkbox"/> Interior Type: _____ <input type="checkbox"/> Exterior Type: _____ <b>CONDITION:</b> <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <b>CHIMNEY DEPTH (ft):</b> _____
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<b>CONE</b> <b>CONE TYPE:</b> <input type="checkbox"/> Concentric <input type="checkbox"/> Eccentric <input type="checkbox"/> Flat Top <input type="checkbox"/> Other _____ <b>CONDITION:</b> <input type="checkbox"/> Good <input type="checkbox"/> Poor <input type="checkbox"/> Fair	<b>MATERIAL:</b> <input type="checkbox"/> None <input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Conc Precast <input type="checkbox"/> Conc Poured <input type="checkbox"/> _____ <b>CONE LINER:</b> <input type="checkbox"/> No <input type="checkbox"/> Interior Type: _____ <input type="checkbox"/> Exterior Type: _____	<b>INFLOW:</b> <input type="checkbox"/> None <input type="checkbox"/> Weeper <input type="checkbox"/> Dripper <input type="checkbox"/> Runner <input type="checkbox"/> Gusher <input type="checkbox"/> Stains <b>CONE DEPTH (ft):</b> _____
--	---	--



# MANHOLE INSPECTION FORM

<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">WALL</div> <p><b>MATERIAL:</b></p> <input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Conc Precast <input type="checkbox"/> Conc Poured <input type="checkbox"/> Fiberglass <input type="checkbox"/> _____	<p><b>INFILTRATION:</b></p> <input type="checkbox"/> None <input type="checkbox"/> Weeper <input type="checkbox"/> Dripper <input type="checkbox"/> Runner <input type="checkbox"/> Gusher <input type="checkbox"/> Stains <b>WALL DIA (in):</b> _____ <b>WALL DEPTH:</b> _____	<p><b>CONDITION:</b></p> <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <p><b>WALL LINER:</b></p> <input type="checkbox"/> No <input type="checkbox"/> Type: _____	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">BENCH</div> <p><b>MATERIAL:</b></p> <input type="checkbox"/> None <input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Conc Precast <input type="checkbox"/> Conc Poured <input type="checkbox"/> Fiberglass <input type="checkbox"/> _____	<p><b>INFILTRATION:</b></p> <input type="checkbox"/> None <input type="checkbox"/> Weeper <input type="checkbox"/> Dripper <input type="checkbox"/> Runner <input type="checkbox"/> Gusher <input type="checkbox"/> Stains	<p><b>CONDITION:</b></p> <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <p><b>BENCH LINER:</b></p> <input type="checkbox"/> No <input type="checkbox"/> Type: _____
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<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">CHANNEL</div> <p><b>TYPE:</b></p> <input type="checkbox"/> None <input type="checkbox"/> Pipe <input type="checkbox"/> Formed <input type="checkbox"/> Precast <input type="checkbox"/> Insert <input type="checkbox"/> _____	<p><b>INFILTRATION:</b></p> <input type="checkbox"/> None <input type="checkbox"/> Weeper <input type="checkbox"/> Dripper <input type="checkbox"/> Runner <input type="checkbox"/> Gusher <input type="checkbox"/> Stains	<p><b>CONDITION:</b></p> <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <p><b>EXPOSURE</b></p> <input type="checkbox"/> Closed <input type="checkbox"/> Springline Open <input type="checkbox"/> Full Bench Open	<div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">STEPS</div> <p><b>MATERIAL:</b></p> <input type="checkbox"/> None <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Iron <input type="checkbox"/> _____	<p><b>CONDITION:</b></p> <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <p><b># OF STEPS:</b> _____</p> <p><b># OF MISSING STEPS:</b> _____</p> <p><b>SURCHARGE EVIDENCE (FT):</b> _____</p>
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PIPES	PIPE#1	PIPE#2	PIPE#3	PIPE#4	PIPE#5	PIPE#6
<b>IN - OUT:</b>	_____	_____	_____	_____	_____	_____
<b>CLOCK POSITION (N is 12):</b>	_____	_____	_____	_____	_____	_____
<b>PIPE SHAPE:</b>	_____	_____	_____	_____	_____	_____
<b>RIM TO INVERT(ft):</b>	_____	_____	_____	_____	_____	_____
<b>RIM TO WSEL (ft):</b>	_____	_____	_____	_____	_____	_____
<b>RIM TO TOP OF SED. (ft):</b>	_____	_____	_____	_____	_____	_____
<b>RIM TO GRADE (ft):</b>	_____	_____	_____	_____	_____	_____
<b>DIAMETER (in.):</b>	_____	_____	_____	_____	_____	_____
<b>DIAMETER 2 (in.):</b>	_____	_____	_____	_____	_____	_____
<b>PIPE MATERIAL:</b>	_____	_____	_____	_____	_____	_____
<b>PIPE CONDITION:</b>	_____	_____	_____	_____	_____	_____
<b>DROP CONN (INT OR EXT):</b>	_____	_____	_____	_____	_____	_____
<b>SEAL CONDITION:</b>	_____	_____	_____	_____	_____	_____

**REMARKS:** \_\_\_\_\_

\_\_\_\_\_

**RECOMMENDATIONS:** \_\_\_\_\_

\_\_\_\_\_

SKETCH





# Fee Proposal

Spalding DeDecker Associates, Inc. proposes to perform the requested scope of services for the following fees:

**Field Investigation, Lump Sum: \$10,100.00**

**Design, Construction and Bid Documents, Lump Sum: \$8,400.00**

**Construction Phase Services: 10.50% of Construction Cost**

**Permit Fees are not included in the Lump Sum Fee and will be billed as a separate expense.**



SPALDING DEDECKER ASSOCIATES, INC.

Engineering Consultants  
Infrastructure | Land Development | Surveying | Landscape Architecture  
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City of Novi  
Sanitary Sewer Manhole Rehabilitation Projects  
PR14-053

**SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT**

**NORTH HILLS/TIMBER RIDGE/WESTRIDGE DOWNS/ORCHARD RIDGE  
SANITARY MANHOLE REHABILITATION PROJECT**

This Agreement shall be considered as made and entered into as of the date of the last signature hereon, and is between the City of Novi, 45175 W. Ten Mile Road, Novi, MI 48375-3024, hereafter, "City," and Spalding DeDecker Associates, Inc., whose address is 905 South Boulevard East, Rochester Hills, MI 48307, hereafter, "Consultant."

**RECITALS:**

This Agreement shall be supplemental to, and hereby incorporates the terms and conditions of the AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR PUBLIC PROJECTS, and attached exhibits, entered into between the City and the Consultant on December 17, 2012.

The proposed project involves inspection of 130 manholes within the project area and also includes alternatives evaluation and contract document development to rehabilitate manhole defects identified as part of the inspections.

NOW, THEREFORE, in consideration of the foregoing, the City and Consultant agree as follows:

**Section 1. Professional Engineering Services.**

For and in consideration of payment by the City as provided under the "Payment for Engineering Services" section of this Agreement, Consultant shall perform the work described in the manner provided or required by the following Scope of Services, which is attached to and made a part of this Agreement as Exhibit A, all of said services to be done in a competent, efficient, timely, good and workmanlike manner and in compliance with all terms and conditions of this Agreement.

Exhibit A                      Scope of Services

**Section 2. Payment for Professional Engineering Services.**

1. Basic Fee.

Design Phase Services: The Consultant shall complete the design phase services as described herein for a lump sum fee of \$ \$18,500, as described in the attached proposal.

2. Payment Schedule for Professional Engineering Services Fee.

Consultant shall submit monthly statements for professional engineering services rendered. The statements shall be based on Consultant's estimate of the proportion of the total services actually completed for each task as set forth in Exhibit A at the time of billing. The City shall confirm the correctness of such estimates, and may use the City's own engineer for such purposes. The monthly statements should be accompanied by such properly completed reporting forms and such other evidence of progress as may be required by the City. Upon such confirmation, the City shall pay the amount owed within 30 days.

Final billing under this agreement shall be submitted in a timely manner but not later than three (3) months after completion of the services. Billings for work submitted later than three (3) months after completion of services will not be paid. Final payment will be made upon completion of audit by the City.

3. Payment Schedule for Expenses.

All expenses required to complete the scope of services described herein, including but not limited to costs related to mileage, vehicles, reproduction, computer use, etc., shall be included in the basic fee and shall not be paid separately. However, as compensation for expenses that are not included in the standard scope of services, when incurred in direct connection with the project, and approved by the City, the City shall pay the Consultant its actual cost times a factor of 1.15.

**Section 4. Ownership of Plans and Documents; Records.**

1. Upon completion or termination of this agreement, all documents prepared by the Consultant, including tracings, drawings, estimates, specifications, field notes, investigations, studies, etc., as instruments of service shall become the property of the City.

2. The City shall make copies, for the use of the Consultant, of all of its maps, records, laboratory tests, or other data pertinent to the work to be performed by the Consultant under this Agreement, and also make available any other maps, records, or other materials available to the City from any other public agency or body.

3. The Consultant shall furnish to the City, copies of all maps, records, field notes, and soil tests that were developed in the course of work for the City and for which compensation has been received by the Consultant.

**Section 5. Termination.**

1. This Agreement may be terminated by either party upon 7- days' prior written notice to the other party in the event of substantial failure by the other party to fulfill its obligations under this agreement through no fault of the terminating party.

2. This Agreement may be terminated by the City for its convenience upon 90 days' prior written notice to the Consultant.

3. In the event of termination, as provided in this Article, the Consultant shall be paid as compensation in full for services performed to the date of that termination, an amount calculated in accordance with Section 2 of this Agreement. Such amount shall be paid by the

City upon the Consultant's delivering or otherwise making available to the City, all data, drawings, specifications, reports, estimates, summaries, and that other information and materials as may have been accumulated by the Consultant in performing the services included in this Agreement, whether completed or in progress.

**Section 6. Disclosure.**

The Consultant affirms that it has not made or agreed to make any valuable gift whether in the form of service, loan, thing, or promise to any person or any of the person's immediate family, having the duty to recommend, the right to vote upon, or any other direct influence on the selection of consultants to provide professional engineering services to the City within the two years preceding the execution of this Agreement. A campaign contribution, as defined by Michigan law shall not be considered as a valuable gift for the purposes of this Agreement.

**Section 7. Insurance Requirements.**

1. The Consultant shall maintain at its expense during the term of this Agreement, the following insurance:

- A. Worker's Compensation insurance relative to all Personnel engaged in performing services pursuant to this Agreement, with coverage not less than that required by applicable law.
- B. Comprehensive General Liability insurance with maximum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate and minimum Property Damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- C. Automotive Liability insurance covering all owned, hired, and non-owned vehicles with Personal Protection insurance to comply with the provisions of the Michigan No Fault Insurance Law including Residual Liability insurance with minimum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate minimum property damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- D. The Consultant shall provide proof of Professional Liability coverage in the amount of not less than \$1,000,000 (One Million Dollars) per occurrence and/or aggregate, and Environmental Impairment coverage.

2. The Consultant shall be responsible for payment of all deductibles contained in any insurance required hereunder.

3. If during the term of this Agreement changed conditions or other pertinent factors should in the reasonable judgment of the City render inadequate insurance limits, the Consultant will furnish on demand such additional coverage as may reasonably be required under the circumstances. All such insurance shall be effected at the Consultant's expense, under valid and enforceable policies, issued by the insurers of recognized responsibility which are well-rated by national rating organizations and are acceptable to the City.

4. All policies shall name the Consultant as the insured and shall be accompanied by a commitment from the insurer that such policies shall not be canceled or reduced without at least thirty (30) days prior notice to the City.

With the exception of professional liability, all insurance policies shall name the City of Novi, its officers, agents, and employees as additional insured. Certificates of Insurance evidencing such coverage shall be submitted to Sue Morianti, Purchasing Manager, City of Novi, 45175 West Ten Mile Road, Novi, MI 48375-3024 prior to commencement of performance under this Agreement and at least fifteen (15) days prior to the expiration dates of expiring policies.

5. If any work is sublet in connection with this Agreement, the Consultant shall require each subconsultant to effect and maintain at least the same types and limits of insurance as fixed for the Consultant.

6. The provisions requiring the Consultant to carry said insurance shall not be construed in any manner as waiving or restricting the liability of the Consultant under this Agreement.

**Section 8. Indemnity and Hold Harmless.**

A. The Consultant agrees to indemnify and hold harmless the City, its elected and appointed officials and employees, from and against any and all claims, demands, suits, losses and settlements, including actual attorney fees incurred and all costs connected therewith, for any damages which may be asserted, claimed or recovered against the City by reason of personal injury, death and/or property damages which arises out of or is in any way connected or associated with the actions or inactions of the Consultant in performing or failing to perform the work.

The Consultant agrees that it is its responsibility and not the responsibility of the City to safeguard the property and materials used in performing this Agreement. Further, this Consultant agrees to hold the City harmless for any loss of such property and materials used pursuant to the Consultant's performance under this Agreement.

**Section 9. Nondiscrimination.**

The Consultant shall not discriminate against any employee, or applicant for employment because of race, color, sex, age or handicap, religion, ancestry, marital status, national origin, place of birth, or sexual preference. The Consultant further covenants that it will comply with the Civil Rights Act of 1973, as amended; and the Michigan Civil Rights Act of 1976 (78. Stat. 252 and 1976 PA 4563) and will require a similar covenant on the part of any consultant or subconsultant employed in the performance of this Agreement.

**Section 10. Applicable Law.**

This Agreement is to be governed by the laws of the State of Michigan and the City of Novi Charter and Ordinances.

**Section 11. Approval; No Release.**

Approval of the City shall not constitute nor be deemed release of the responsibility and liability of Consultant, its employees, associates, agents and subconsultants for the accuracy and competency of their designs, working drawings, and specifications, or other documents and services; nor shall that approval be deemed to be an assumption of that responsibility by the City for any defect in the designs, working drawings and specifications or other documents prepared by Consultant, its employees, subconsultants, and agents.

After acceptance of final plans and special provisions by the City, Consultant agrees, prior to and during the construction of this project, to perform those engineering services as may be required by City to correct errors or omissions on the original plans prepared by Consultant and to change the original design as required.

**Section 12. Compliance With Laws.**

This Contract and all of Consultants professional services and practices shall be subject to all applicable state, federal and local laws, rules or regulations, including without limitation, those which apply because the City is a public governmental agency or body. Consultant represents that it is in compliance with all such laws and eligible and qualified to enter into this Agreement.

**Section 13. Notices.**

Written notices under this Agreement shall be given to the parties at their addresses on page one by personal or registered mail delivery to the attention of the following persons:

City: Rob Hayes, P.E., Director of Public Services and Maryanne Cornelius, Clerk, with a copy to Thomas R. Schultz, City Attorney

Consultant: Cheryl Gregory, P.E., Vice President SDA

**Section 14. Waivers.**

No waiver of any term or condition of this Agreement shall be binding and effective unless in writing and signed by all parties, with any such waiver being limited to that circumstance only and not applicable to subsequent actions or events.

**Section 15. Inspections, Notices, and Remedies Regarding Work.**

During the performance of the professional services by Consultant, City shall have the right to inspect the services and its progress to assure that it complies with this Agreement. If such inspections reveal a defect in the work performed or other default in this Agreement, City shall provide Consultant with written notice to correct the defect or default within a specified number of days of the notice. Upon receiving such a notice, Consultant shall correct the specified defects or defaults within the time specified. Upon a failure to do so, the City may terminate this Agreement by written notice and finish the work through whatever method it deems appropriate, with the cost in doing so being a valid claim and charge against Consultant;



or, the City may preserve the claims of defects or defaults without termination by written notice to Consultant.

All questions which may arise as to the quality and acceptability of work, the manner of performance and rate of progress of the work, and the interpretation of plans and specifications shall be decided by the City. All questions as to the satisfactory and acceptable fulfillment of the terms of this agreement shall be decided by the City.

**Section 16. Delays.**

No charges or claims for damages shall be made by the Consultant for delays or hindrances from any cause whatsoever during the progress of any portions of the services specified in this agreement, except as hereinafter provided.

In case of a substantial delay on the part of the City in providing to the Consultant either the necessary information or approval to proceed with the work, resulting, through no fault of the Consultant, in delays of such extent as to require the Consultant to perform its work under changed conditions not contemplated by the parties, the City will consider supplemental compensation limited to increased costs incurred as a direct result of such delays. Any claim for supplemental compensation must be in writing and accompanied by substantiating data.

When delays are caused by circumstances or conditions beyond the control of the Consultant as determined by the City, the Consultant shall be granted an extension of time for such reasonable period as may be mutually agreed upon between the parties, it being understood, however, that the permitting of the Consultant to proceed to complete the services, or any part of them, after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the City of any of its rights herein set forth.

**Section 17. Assignment.**

No portion of the project work, heretofore defined, shall be sublet, assigned, or otherwise disposed of except as herein provided or with the prior written consent of the City. Consent to sublet, assign, or otherwise dispose of any portion of the services shall not be construed to relieve the Consultant of any responsibility for the fulfillment of this agreement.

**Section 18. Dispute Resolution.**

The parties agree to try to resolve any disputes as to professional engineering services or otherwise in good faith. In the event that the parties cannot resolve any reasonable dispute, the parties agree to seek alternative dispute resolution methods agreeable to both parties and which are legally permissive at the time of the dispute. The parties agree to use their best efforts to resolve any good faith dispute within 90 (ninety) days notice to the other party. In the event the parties cannot resolve that dispute as set forth above, they may seek such remedies as may be permitted by law.

WITNESSES

Spalding DeDecker Associates, Inc.

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
By:  
Its:

The foregoing \_\_\_\_\_ was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_, by \_\_\_\_\_ on behalf of  
\_\_\_\_\_.

\_\_\_\_\_  
Notary Public  
\_\_\_\_\_ County, Michigan  
My Commission Expires: \_\_\_\_\_

WITNESSES

CITY OF NOVI

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
By:  
Its:

The foregoing \_\_\_\_\_ was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_, by \_\_\_\_\_ on behalf of the City of Novi.

\_\_\_\_\_  
Notary Public  
Oakland County, Michigan  
My Commission Expires: \_\_\_\_\_

## **EXHIBIT A - SCOPE OF SERVICES**

Consultant shall provide the City professional engineering services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include serving as the City's professional engineering representative for the Project, providing professional engineering consultation and advice and furnishing customary civil, structural, mechanical and electrical engineering services and customary engineering services incidental thereto, as described below.

### **A. Basic Services.**

1. See attached.

### **B. Performance.**

1. The Consultant agrees that, immediately upon the execution of this Agreement, it will enter upon the duties prescribed in this agreement, proceed with the work continuously, and make the various submittals on or before the dates specified in the attached schedule. The City is not liable and will not pay the Consultant for any services rendered before written authorization is received by the Consultant.
2. The Consultant shall submit, and the City shall review and approve a timeline for submission of plans and/or the completion of any other work required pursuant to this Scope of Services. The Consultant shall use its best efforts to comply with the schedule approved by the City.
3. If any delay is caused to the Consultant by order of the City to change the design or plans; or by failure of the city to designate right-of-way, or to supply or cause to be supplied any data not otherwise available to the Consultant that is required in performing the work described; or by other delays due to causes entirely beyond the control of the Consultant; then, in that event, the time schedules will be adjusted equitably in writing, as mutually agreed between the City and the Consultant at the moment a cause for delay occurs.
4. Since the work of the Consultant must be coordinated with the activities of the City (including firms employed by and governmental agencies and subdivisions working with the City), the Consultant shall advise the City in advance, of all meetings and conferences between the Consultant and any party, governmental agency, political subdivision, or third party which is necessary to the performance of the work of the Consultant.