



# CITY of NOVI CITY COUNCIL

Agenda Item F  
February 25, 2008

**SUBJECT:** Approval to award an engineering contract for design engineering services for the Orchard Hill Place Reconstruction project to Fishbeck, Thompson, Carr & Huber, Inc., for a not-to-exceed design fee of \$35,038.

**SUBMITTING DEPARTMENT:** Engineering *R24*

**CITY MANAGER APPROVAL:** *[Signature]*

EXPENDITURE REQUIRED	\$ 35,038
AMOUNT BUDGETED	\$500,000
LINE ITEM NUMBER	202-202.00-805.457 (Major Street Fund)

### BACKGROUND INFORMATION:

The project includes the reconstruction of Orchard Hill Place, which connects Haggerty Road and Eight Mile Road in Section 36 and serves as the primary access to a number of office buildings. The existing asphalt road was identified with a PASER rating of 3 when last rated in 2004, which makes it one of the worst-rated streets in the city. The work will include the full removal and replacement of the existing road with a new asphalt cross-section which will include adequate base course and underdrains.

The attached Request for Proposals for engineering services was sent to the six firms that City Council pre-qualified for roadway-related projects. Six proposals were received and each was evaluated using *Qualifications Based Selection*. The following table summarizes the results of the proposal review process:

Firm	Design Fee	Staff Review Score	Proposal Rank
<b>Fishbeck Thompson Carr &amp; Huber</b>	<b>\$ 35,038.00</b>	<b>1800</b>	<b>1</b>
Orchard Hiltz & McCliment	\$ 44,300.00	1727.5	2
URS Corporation	\$ 35,500.00	1312.5	3
Stantec	\$ 49,000.00	1250	4
Spalding DeDecker	\$ 43,475.00	1215	3
Anderson Eckstein & Westrick	\$ 56,000.00	1095	5

Of the six firms that submitted proposals, Fishbeck Thompson Carr & Huber (FTC&H) had the lowest fee, met all requirements listed in the request for proposals and had the most comprehensive proposal (see attached FTCH's proposal dated February 5, 2008 and the Engineering Department's scoring summary for reference).

FTCH has completed engineering services for many roadway projects within the City including Meadowbrook Road (12 Mile to Grand River), Nine Mile Road (Novi to Meadowbrook); as well as the 2007 Pathway Rehabilitation project and the 2006 Sidewalk Program.

Because the funds for project construction have not been fully appropriated for this fiscal year, only the design engineering is being awarded at this time. (Currently, \$500,000 of the estimated \$1,077,000 required to fund the project has been appropriated.) As part of the proposal, the

Engineering Department requested that the consultants provide construction phase fees to facilitate award of the construction phase in the next fiscal year. If the remainder of the project is funded for FY08-09, then FTCH's fee would be amended at that time to accommodate construction engineering services. FTCH's construction engineering fee of 4.89% (or an estimated amount of \$43,017 based on the City's \$879,700 construction cost estimate) was also the lowest construction engineering fee submitted.

If funded in FY08-09, the project would begin construction in late July and be completed in late October 2008.

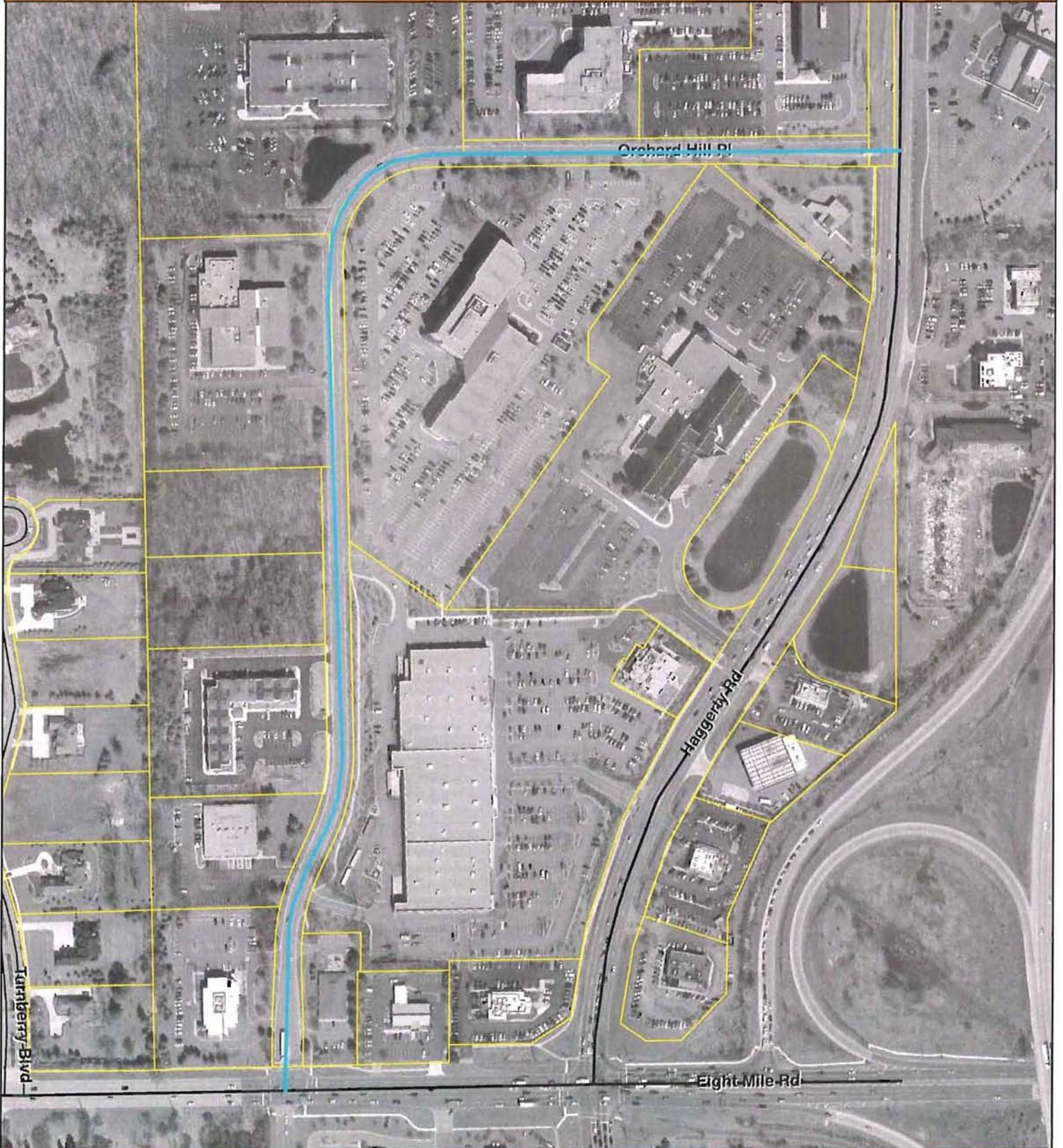
**RECOMMENDED ACTION:** Approval to award an engineering contract for design engineering services for the Orchard Hill Place Reconstruction project to Fishbeck, Thompson, Carr & Huber, Inc., for a not-to-exceed design fee of \$35,038.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Capello				
Council Member Crawford				
Council Member Gatt				

	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Staudt				

# LOCATION MAP

## Orchard Hill Place Reconstruction



### CITY OF NOVI

ENGINEERING DIVISION

45175 W. TEN MILE ROAD

NOVI, MI 48375-3024

(248) 347-0454

MAP AUTHOR: BRIAN COBURN, P.E.



0 115 230 450 690

FEET

1 INCH EQUALS 300 FEET

MAP PRINT DATE: 2/15/08

### MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and was the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

## SCORING SUMMARY

Project Description: Orchard Hill Place

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RANK 1= LOW, x= BEST (x = number of firms repending)

<b>TOTAL SCORES</b>	<i>Item weight:</i>	20	15	30	20	15	Totals	<i>Rank</i>
		1	2	3	4	5		
Anderson Eckstein & Westrick		8	13	10	13	12	<b>1095</b>	6
Fishbeck Thompson Carr & Huber		24	14	20	18	10	<b>1800</b>	1
Orchard Hiltz & McCliment		12	17	19	20	17.5	<b>1727.5</b>	2
Stantec		4	16	14	12	18	<b>1250</b>	4
Spalding DeDecker		16	10	11.5	14	8	<b>1215</b>	5
URS Corporation		20	14	9.5	7	18.5	<b>1312.5</b>	3
<b>TOTALS</b>		<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>	<b>84</b>		

### SCORING CRITERIA

1. Engineering Fee
2. Evaluation of Schedule
3. Evaluation of Approach, Statement of Understanding of Project, and proposed staff
4. Analysis of subjective statements applicable to the project as required on the RFP (Value added items)
5. Evaluation of past performance on City projects

FEE SUMMARY FOR ORCHARD HILL PLACE

Firm	Design Fee	Eng Cost Estimate	City Cost Estimate	% Const Fee	EngConstruction Fee	Total	Rank
Fishbeck Thompson Carr & Huber	\$ 35,038.00	\$ 993,201.00	\$ 879,700.00	4.89%	\$ 43,017.33	\$ 78,055.33	1
URS Corporation	\$ 35,500.00	\$ 850,000.00	\$ 879,700.00	7.00%	\$ 61,579.00	\$ 97,079.00	2
Spalding DeDecker	\$ 43,475.00	\$ 850,000.00	\$ 879,700.00	6.90%	\$ 60,699.30	\$ 104,174.30	3
Orchard Hiltz & McCliment	\$ 44,300.00	\$ 835,000.00	\$ 879,700.00	8.90%	\$ 78,293.30	\$ 122,593.30	4
Anderson Eckstein & Westrick	\$ 56,000.00	\$ 1,000,000.00	\$ 879,700.00	7.75%	\$ 68,176.75	\$ 124,176.75	5
Stantec	\$ 49,000.00	\$ 750,000.00	\$ 879,700.00	9.70%	\$ 85,330.90	\$ 134,330.90	6



## REQUEST FOR PROPOSALS CITY OF NOVI

### ENGINEERING SERVICES FOR ORCHARD HILL PLACE RECONSTRUCTION

January 22, 2008

This Request for Proposals (RFP) for ORCHARD HILL PLACE REHABILITATION is being sent to the firms selected in the Roadway Qualification Process completed on March 19, 2007.

#### Project Description

The project includes the reconstruction of Orchard Hill Place which connects Haggerty Road and Eight Mile Road in Section 36 and serves as the primary access to a number of office buildings. The work will include the full removal and replacement of the existing road with a new cross-section. The road is under the jurisdiction of the City of Novi; however the approaches at Haggerty Road and Eight Mile Road are under the jurisdiction of Oakland County and Wayne County, respectively. The northern portion of road was constructed in the late 1970's while the southern portion of the road was constructed in 1984. There were spot repairs completed in 1996. Although the plans for the southern portion of the road indicated that a 10-inch deep strength asphalt was likely constructed on compacted subgrade with some areas on constructed on base with edge drains, the existing soil conditions and exact pavement cross-section are unknown. Therefore, we will perform pavement cores and soil borings under a separate contract (discussed below).

The attached photos of the existing roadway show the condition of the pavement and curb. The road will be completely reconstructed with a cross-section to be determined by the findings of the geotechnical report (to be completed under a separate contract). The new cross-section will consist of an HMA cross-section and adequate aggregate base, edge drain and new concrete curb. All existing storm catch basins within the roadway shall be inspected by the consultant along with City staff to determine if repairs are necessary. Existing sidewalks at the Eight Mile Road and Haggerty Road approaches shall be reviewed and redesigned, if necessary, to meet ADA requirements. The consultant will also be responsible for review of existing geometrics, signage and striping to determine if changes are needed to meet current standards.

The project is currently funded for design only, although the project will be presented for potential construction funding in the 2008-09 fiscal year (beginning July 1, 2008). Construction engineering will be awarded once construction is funded, which will be with local funds.

We anticipated award of the engineering contract by February 25, 2008. The design should be completed no later than May 15. We anticipate that bidding will take place in June 2008 for a July 7, 2008 construction award (assuming FY 08/09 construction funding is approved).

#### SCOPE OF SERVICES

The selected consultant shall conduct the following activities:

- I.) Upon authorization by the City Council and the City Engineer, the Consultant shall:
  - Meet with the City at the beginning of the project to verify the scope of the project.
  - The City will provide information as needed in the form of recording drawings of existing roadways and utilities (as available), standard details, specifications, benchmarks, etc., as required to assist the Consultant in completing the work.

- Visit the site to understand existing site conditions.
  - Develop specifications for geotechnical services and obtain proposals from a minimum of three geotechnical consultants. The City will award a separate purchase order to the geotechnical consultant directly based on the recommendation from the Consultant.
  - Contact and coordinate with all utility companies with facilities within the project limits.
  - Provide preliminary design and project cost estimate at 30% complete for review and comment.
  - Provide final plans and contract documents for the project at the time of 90% review. The front-end documents will be provided by the City of Novi, the specifications shall be prepared by the Consultant, and contract documents shall be prepared, printed, assembled, and distributed by the Consultant.
  - A revised construction cost estimate shall be provided at the time of 90% review by the City.
  - The plans shall be designed in accordance with the City of Novi Design and Construction Standards, Chapter 11, Novi Code of Ordinances, and RCOC requirements as applicable. The final design shall incorporate all items list above.
  - The Consultant shall be responsible for specifying protection of existing survey monumentation and coordinating with the County surveyor as required.
- 2.) The Consultant shall complete a soil erosion and sedimentation control plan for the project in compliance with Part 91 of P.A. 451 of 1994, Chapter 29 of the Novi Code of Ordinances and the City of Novi SESC Program Manual.
  - 3.) The Consultant shall submit five (5) sets of plans and cost estimates for review to the City Engineer at 30% complete. The Consultant shall submit five (5) sets of plans and two (2) sets of specifications at 90% complete for review and comment. The Consultant shall submit five (5) sets of as-bid drawings and specifications to the City at the time of construction bidding, as well as a CD of the digital file converted to AutoCAD format. The Consultant shall also provide all plan sets required for permit application submittal to any agencies as required. All bidding activities shall be coordinated through the Engineering Division and Purchasing Department.
  - 4.) As a part of the Design Phase, the Consultant shall prepare bid documents and provide assistance to the City Engineering and Purchasing Departments with the bidding of the project, including coordinating and facilitating the pre-bid meeting, preparation of contract addenda, plan revisions, responding to bidder inquiries, review of bids, and recommendation of award to City Engineering.
  - 5.) Contract administration services shall include, but not be limited to: reviewing shop drawings furnished by the contractor at the pre-construction meeting, coordinating and running the pre-construction meeting, ensuring compliance with contract documents, regular consultation with City Engineering, interpretation of plans and specifications, preparation and certification of pay estimates, staking, full-time construction inspection during active construction, and materials testing along with final testing and project review. The Consultant must also promptly attend to resident concerns and complaints as they become known.
  - 6.) Construction phase services shall also include submittal to City Engineering of all project reports and documents, and written recommendation regarding final acceptance of the project. The Consultant, within this phase, shall also prepare record drawings and transmit one (1) digital copy of as-built plan in .tif format (400 dpi minimum), two (2) plan copies, and a CD containing the digital file of the record drawings in the City standard format (AutoCAD), and provide such information to the Engineering Division within three (3) months following substantial completion of the project.

- 7.) During the construction phase the Consultant shall be responsible for administering and enforcing the soil erosion and sedimentation control plan as an agent for the City under the Authorized Public Agency (APA) program in compliance with the City of Novi *Authorized Public Agency Soil Erosion and Sedimentation Control Program Manual*. The Consultant shall also be responsible for soil erosion and sedimentation control inspections of the project for compliance with the approved soil erosion and sedimentation control plan. The inspections must be completed by an individual who has current certification through the Michigan Department of Environmental Quality under Part 91. The inspections must occur at regular intervals and soil erosion and sedimentation control inspection logs must be maintained and provided to City staff as required. The Consultant shall also be responsible for instituting corrective measures in the field to prevent soil erosion and sedimentation as required, and for overseeing the Contractor's Storm Water Operator.

### **DOCUMENT AND FILE FORMAT**

All documents shall be submitted to the City of Novi in an electronic format as specified by the Engineering Division.

Documents: MS Word

Digital copies of files, maps, or drawings:  
files: ArcView Shape file, AutoCAD,  
maps/drawings: ArcView layouts print file or  
AutoCAD format (.dxf)

All digital data should correspond to:  
Project – State Plane Coordinate System  
Michigan, South Zone – 6401  
Datum – NAD83, NAVD 88  
Spheroid – GRS1980  
Units – International Feet

### **CONSULTANT QUALIFICATIONS**

The Consultant has been pre-qualified to provide engineering consulting services for 2007-2008 Roadway Projects.

### **CONSULTANT SELECTION**

As a pre-qualified consultant, the selection for this roadway project will be based on an evaluation of the fee proposal, which is labeled as Exhibit A, in addition to the Consultant's project understanding, approach, schedule, staffing plan, past performance on City engineering projects, and value-added concepts that would improve the overall project (i.e., cost savings, time savings, innovation, etc.).

By submitting a proposal, the Consultant agrees that neither the firm, sub-contractors, nor suppliers will discriminate against any person with respect to hiring or employment on the basis of religion, race, color, national origin, age, sex, height, weight, marital status, or a handicap that is unrelated to the individual's ability to perform tasks particular to a job or position.

The selected consultant will enter into an agreement with the City of Novi to perform the services listed in this Request for Proposals. The City's standard Consulting Engineering Agreement is included as Exhibit C.

### **PROPOSAL SUBMITTALS**

To be considered, sealed proposals (one UNBOUND original and five bound copies) must arrive at the Purchasing Department, 45175 W. Ten Mile Road, Novi, Michigan 48375 on or before **3:00 PM**. Local Prevailing Time, **Thursday, February 7, 2008** addressed to **Carol J. Kalinovik, Purchasing Director**, and clearly labeled **ENGINEERING SERVICES FOR**

**ORCHARD HILL PLACE RECONSTRUCTION.** There will be no exceptions to this requirement and the City of Novi shall not be held responsible for late, lost, or misdirected proposals. **USE OF THE CITY LOGO IN YOUR PROPOSAL IS PROHIBITED.** As a pre-qualified consultant, the selection for this roadway project will be based on the fee proposal, which is labeled as Exhibit A, in addition to the consultant's project understanding, approach, schedule, staffing plan, and past performance on City engineering projects. The selection criteria and their corresponding weights for this project are as follows:

<u>Criteria</u>	<u>Weight</u>
Engineering Fee	20%
Evaluation of Schedule, and Proposed Staff	15%
Evaluation of Approach and Understanding of Project	30%
Analysis of subjective statements included in the Consultant's proposal (Innovative and/or value-added items)	20%
Evaluation of past performance on City projects	15%

All proposals must remain valid for one hundred twenty (120) days from due date and cannot be withdrawn during this period.

Questions regarding this Request for Proposals may be directed to:

City Engineer, Robert F. Hayes, P.E. (248) 735-5606

-or-

Civil Engineer, Brian T. Coburn, P.E. (248) 735-5632

The City of Novi reserves the right to accept any or all alternative proposals and to award the project to other than the firm with the lowest fee proposal, waive any irregularities or informalities, or both, to reject any or all proposals, and in general, to make award in any manner deemed by the City, in its sole discretion, to be in the best interests of the City of Novi.

**Exhibits**

- A - Fee Proposal
- B - Background Information (Photos, Location Map)
- C - Engineering Consultant Agreement



**EXHIBIT A  
FEE PROPOSAL  
CITY OF NOVI**

**ENGINEERING SERVICES FOR  
ORCHARD HILL PLACE RECONSTRUCTION**

We the undersigned propose to furnish to the City of Novi services consistent with the Request for Qualifications dated January 11, 2007 and Request for Proposals dated January 18, respectively. Design fees will be paid on an hourly basis for actual work performed to a maximum as proposed. A separate fee schedule is being provided should the City request additional work on an hourly basis.

Project	Phase	Total Fee
ORCHARD HILL PLACE RECONSTRUCTION	Design Phase (no soil borings)	\$
	Construction Cost Estimate: \$ _____	\$
	Construction Phase: _____% of Construction Cost	\$
	<b>ESTIMATED TOTAL FEE*</b>	\$

\*Total Estimated Fee consists of a not-to-exceed design phase fee (which includes geotechnical costs if applicable) and a fixed percentage construction phase fee which is used to estimate an approximate fee amount based on the cost estimate above. The actual construction phase fee will be established when the project is awarded to a contractor by multiplying the fixed percentage provided and the bid price of the successful bidder. We expect the consultant to honor their construction percentage as stated above should construction be funded in fiscal year 2008-09 (beginning July 1, 2008).

***PLEASE NOTE THAT ONLY THE DESIGN PHASE OF THE PROJECT IS FUNDED FOR FY2007-08.***

**PLEASE TYPE:**

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

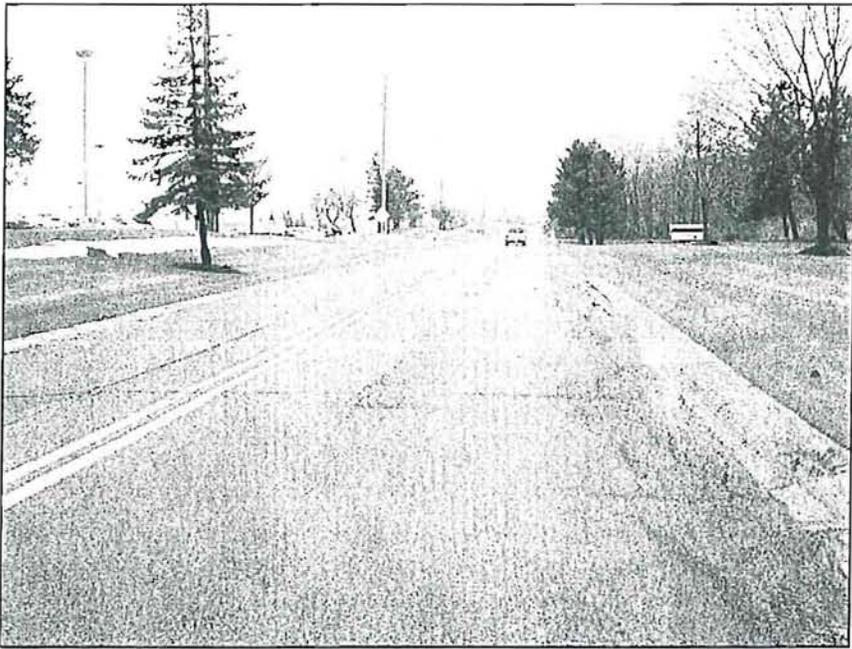
Agent's Name: \_\_\_\_\_

Agent's Title: \_\_\_\_\_

Agent's Signature: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

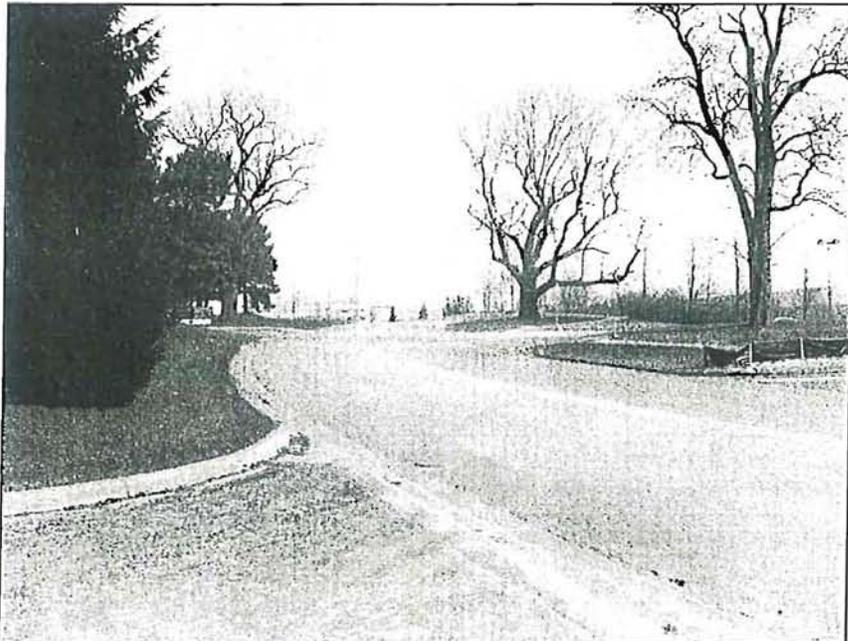
E-mail Address: \_\_\_\_\_ Date: \_\_\_\_\_



Proposal for

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City of Novi  
Engineering Services  
for Orchard Hills Place  
Reconstruction



**ftc&h**

fishbeck, thompson, carr & huber  
engineers • scientists • architects • constructors



February 5, 2008

Ms. Carol J. Kalinovik, Purchasing Director  
City of Novi  
Purchasing Department  
45175 West Ten Mile Road  
Novi, MI 48375

Re: Engineering Services for Orchard Hill Place Reconstruction

Dear Ms. Kalinovik:

Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H) is pleased to present our project approach and fee proposal for the proposed reconstruction of Orchard Hill Place between Haggerty Road and Eight Mile Road.

Our proposal includes a statement of understanding, project approach, design and construction team, summary of hours and proposed maximum fee, and a schedule for the overall project. As requested, the fees listed are a maximum not-to-exceed amount, as work will be billed on an hourly basis. The information presented takes into account what is known about the projects from the Request for Proposal (RFP); our own investigation of the roadway; and discussions with City engineering staff.

We look forward to continuing our work with the City in improving local roadways. As with all FTC&H work, we are committed to producing quality plans and providing excellent construction engineering services. If you have any questions or require additional information, please call.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

Stephen C. Nichols, P.E.

David P. Eno, P.E.

1at  
Enclosures

39255 Country Club Dr.  
Suite B-25  
Farmington Hills, MI  
48331  
ph: 248.324.2090  
fax: 248.324.0930  
[www.ftch.com](http://www.ftch.com)



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### Project Understanding

The City of Novi desires to reconstruct the Orchard Hill Place roadway from Haggerty Road to Eight Mile Road, which is approximately 3,300 feet long, with a bituminous paved roadway and valley gutter on both sides. Full removal and replacement of the aggregate base, valley gutter, and driving surface are anticipated. Right-of-way (ROW) acquisition is not expected to be required for the project, but grading permits based on our review of the project may be possible. Geotechnical investigation (pavement cores and soil borings) are not a part of this base design proposal, but bids will be solicited upon award of the design contract after discussion with City Engineering staff. The project is currently funded for design only, but will be presented for construction funding in the fiscal year 2008-09 budget, which begins July 1, 2008.

Our proposal is based on the RFP dated January 22, 2008, visits to the roadway, and discussions with City engineering staff.

We have partnered with Schleede-Hampton Associates (SHA) to perform construction materials sampling and testing.

### Design Approach

The project will begin with a kickoff meeting with City engineering and FTC&H staff to discuss the project scope, schedule, and budget, and obtain any available plans or background information for the intersection. Recommendations for geotechnical analysis will be discussed with three firms selected to receive requests for quotes to perform the work.

### Topographic Design Survey

FTC&H will survey the roadway following City standards and requirements, as needed, for the removal and replacement of the curb and gutter and pavement. We will locate trees and document their type, size, and condition, and submit a summary report to the City.

FTC&H will collect surface utility information from topographic surveys in conjunction with information provided from utility companies and City records. We will show surface and underground utilities as accurately as possible. Survey will be performed to approximately 10 feet behind the existing curb, in general, to obtain surface water drainage patterns, and as-needed at driveway openings.

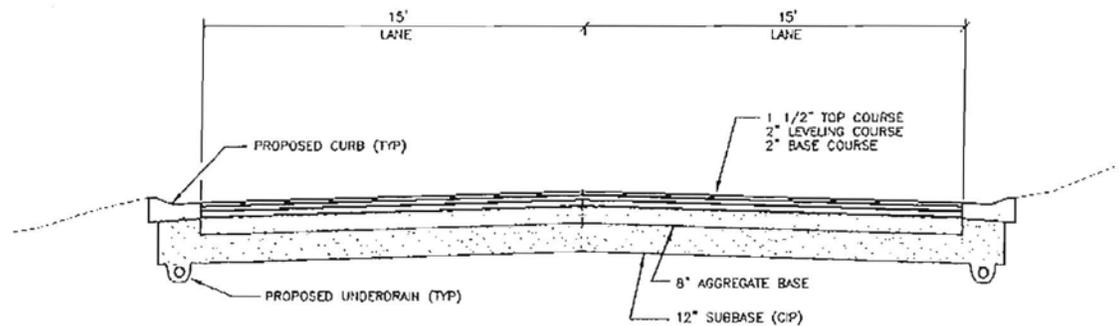
Prior to our field visits, we were considering the potential for simply witnessing the existing curb, and staking the proposed roadway based on putting the curb back in the same elevation at all locations. This approach could work for portions of the road, but field observations following rain events indicate drainage problems, particularly the middle one-third of the project length in the vicinity of the Cooper-Standard driveway. The longitudinal slope is not adequate in this area, and may be corrected by introducing some short vertical curves in the gutter.

We will place control in the field and leave it for future construction staking, as required for use by FTC&H or the City. Topographic survey will be performed by experienced FTC&H staff.

### Roadway Design and Plan Preparation

Preliminary plans will show existing and proposed curb and gutter, catch basins, contours, trees, and other information, as needed, to clearly show the proposed project. FTC&H will present plans and preliminary estimates for review at approximately 30 percent complete. We will indicate any grading permits at this stage, if needed. The following sections summarize the key design elements with our observations and preliminary recommendations.

**Typical Cross Sections** — The existing bituminous roadway is approximately 30 feet wide with one lane each way, and 2.5-foot-wide concrete valley gutter (or mountable curb) on both sides of the road. The proposed roadway will be established in the same location and width as the existing road, and will include a subgrade underdrain to facilitate drainage of subsurface water accumulation. Refer to the figure below for the section assumed for estimating purposes.



**PROPOSED TYPICAL SECTION**  
FOR PROPOSAL ESTIMATE PURPOSES ONLY — ORCHARD HILL PLACE

**Drainage** — Storm water is currently collected via 16 curb catch basins and underground storm sewer. The existing catch basins will be reviewed for current condition, and in conjunction with City engineering staff, recommended for repair or replacement, as needed. Based on our observations of some of the basins, a majority of the basins will require repair. We have assumed all catch basin covers/castings will be replaced.

As previously mentioned, some drainage problems were observed in portions of the roadway. The existing driveways will prevent significant changes in the longitudinal slope of the gutter, but improvements can be realized by constructing subtle vertical curves and installing additional catch basins. For budgeting purposes, we have assumed four catch basins will be added to the current total of 16 catch basins. It is assumed (but not yet known) that the storm sewer is within the roadway and additional basins can be added without long runs of new sewer.



**Hydrants** — During field observations, it was noted four of the existing fire hydrants are within approximately six feet of the back-of-the-valley gutter. City construction standards require hydrants be installed at least 10 feet, but not more than 15 feet, from the back of curb. The City may wish to take this opportunity to relocate the four hydrants to the minimum offset distance. This has been assumed in our construction estimate. Hydrant spacing and compliance with City construction standards was not performed as part of this proposal, but will be done as a part of formal design. Any deficiencies will be brought to the attention of the City Engineer for direction.



**Driveways** — The existing drives have barrier curb and gutter, with a detail M driveway opening (at all but one of the 18 locations) that carries the main roadway gutter through the driveway. We do not intend to replace complete drive approaches, but only the curb and gutter on the drive radius, and pavement behind the reconstructed M-opening, as needed, to facilitate construction of the new curb and roadway. Each driveway will be reviewed and general and location-specific details drawn to ensure a consistent and appropriate treatment at each location. In areas requiring grade modification to improve drainage, the drives may be reconstructed 10 to 15 feet behind the M-opening. By detailing the amount of work at each driveway, the bidding and construction of the project will go smoother, and maintenance of traffic to businesses will be well understood.

**Intersections** — At the intersection with Haggerty Road, there is an existing curbed island splitter and sidewalk on the south side of the intersection. The existing walk will be reviewed with compliance to current Americans with Disabilities Act of 1990 (ADA) guidelines (including tactile warning devices), and redesigned if needed. The island and approach, within 60 feet of the centerline of Haggerty Road, are within the jurisdiction of the Road Commission for Oakland County (RCOC). We will coordinate with the RCOC to obtain the required review and permits to perform work with their ROW, as needed.

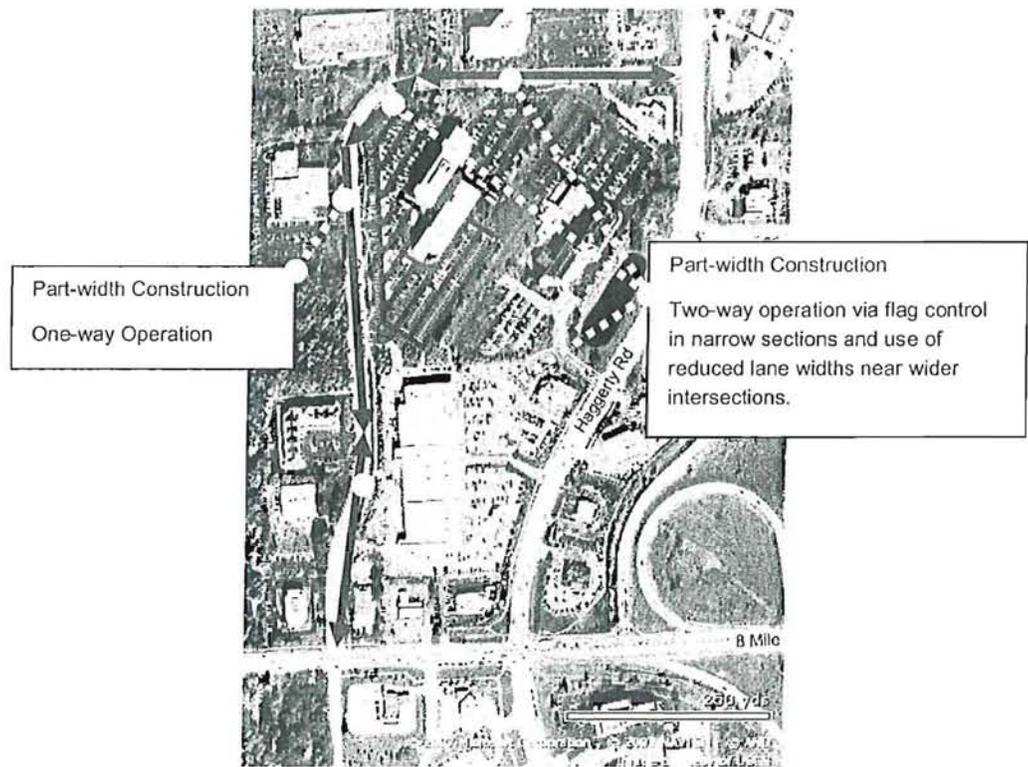
The intersection of Orchard Hill Place and Eight Mile Road are within the jurisdiction of the Wayne County Department of Public Services (WCDPS). At this intersection, there is sidewalk on both sides of Orchard Hill Place and a striped crosswalk. The existing sidewalk ramps will be reviewed with compliance to current ADA guidelines and upgraded, as needed. FTC&H will coordinate with the WCDPS to ensure the required reviews and permits are obtained for the proposed work within their jurisdiction.

**Maintaining Traffic** — Due to the number and size of businesses located along, and accessing Orchard Hill Place, it is of the utmost importance traffic be maintained during construction in an effective and efficient manner. There are 18 commercial driveways on Orchard Hill Place, and while most businesses are served by more than one drive opening (allowing one to be closed at a time) several drives are the sole point of access. These driveways will be required to remain open at all times, and therefore, part-width construction will be necessary there.



It is critical inbound access be maintained from Haggerty Road and Eight Mile Road. This will allow emergency medical, police, and fire access from both directions, in addition to serving general business traffic. Providing efficient means of egress from Orchard Hill Place onto Haggerty and Eight Mile Roads is of similar importance.

One possible option to maintain traffic, given these circumstances, includes performing part-width construction for the entire length of roadway. Advance Warning signage, including Special Signs to accurately describe closure dates, would be in place for at least seven days prior to the start of construction. Portable, changeable message signs are effective traffic control devices that could also be discussed for consideration by the City. Construction staging options include identifying a long section of Orchard Hill Place to be designated as one-way traffic movement, and the remaining segments would be reconstructed under two-way operations. The two-way operations would be maintained using flag control, and where necessary, reduced lane widths to a minimum of 10 feet. This maintenance of traffic plan will impact construction costs; however, it will provide the accessibility this road requires based on business and safety perspectives.



The first step in developing an effective and efficient method for reconstructing the road will be to conceptualize a plan and review it with City staff. We then propose distributing the plan to the affected businesses and hosting a meeting to discuss the maintenance of traffic plan. After reviewing their comments/concerns, we will revise the plan, as needed, to address critical needs and redistribute to businesses. We will also coordinate the plan

with the WCDPS and RCOC to discuss the need to adjust signal phasing and timing at the Eight Mile Road signal during construction.

### **Bidding and Award**

Plans will proceed to 90 percent completion and be submitted to the City for final review. We will prepare and submit a soil erosion and sedimentation control (SESC) plan at, or prior to, the 90 percent completion stage.

After final plan review, FTC&H will proceed with final bid document preparation, including all specifications and contract requirements. The project will be advertised by the City, and FTC&H will prepare and distribute bidding documents. We will prepare and distribute any required addenda prior to the bid opening. After the bid opening, FTC&H will compile the results, verify contractor qualifications and references, and provide the City with a recommendation for award.

### **Construction Approach**

Once the City awards the project to the selected contractor, FTC&H will begin the construction services phase. As representatives of the City, we will seek to minimize disruptions due to construction operations, and pay close attention to ensure the concerns of adjacent businesses are addressed quickly and in a professional, friendly manner.

**Michael D. Stieler, P.E.** will act as the construction project engineer during the construction phase, coordinating our inspectors and testing services. He will request and lead a kickoff meeting between the City, FTC&H, and the selected contractor to review the project and emphasize key issues, such as maintaining traffic and work zone safety. The schedule will be reviewed in detail, and the contractor informed that deviation from the approved schedule will result in liquidated damages being assessed.

FTC&H will provide the following services:

- We will serve the City as the project engineer, utilizing City and FTC&H practices, in accordance with the specifications, plans, proposal, and any other applicable references, guidelines, or procedures manuals.
- Full-time inspection throughout the project. We will utilize MDOT's FieldBook and FieldPad record keeping system and maintain communication with office engineers and support staff. Material certifications will be received and density reports ordered by our field staff. We anticipate providing one full-time inspector for this project.
- Conduct or oversee material sampling and density control, as required by the specifications. Samples and/or tests of materials incorporated in the work include concrete quality assurance (QA) testing (air, slump, and compressive tests), hot mix asphalt (HMA) compaction verification, and onsite aggregate base density testing and reporting. Onsite materials sampling and density verifications will be performed by our subconsultant, SHA.
- Construction staking will be provided based on anticipated work and progress, with restaking due to contractor error as an extra service charged to the contractor.



- Monitor rain events, and inspect and document project sites following precipitation events to ensure compliance with the SESC plan and permit(s). These records will be kept current during the project and will be available for review by the City or MDEQ at all times.
- Resolve any plan errors and discrepancies, or provide clarification of plan intent during construction.
- Coordinate and cooperate with the RCOC and WCDPS; other consultants and contractors; residents; utilities; businesses; and local police, fire, and emergency services that may be affected by the project.
- Maintain as-constructed plans during the job, and prepare and submit final as-constructed drawings upon completion of the project, showing any field changes, final utility locations, and quantity changes. Within three months of project completion, two bound sets of as-constructed plans will be submitted, as well as a compact disc containing the drawings in TIF and AutoCAD format.
- Final negotiations and project closeout will occur following completion of project punch list work items. Prompt closeout of the project will be emphasized beginning at the kickoff meeting, with clear instructions to the contractor for what will be needed to complete the final contract requirements.

### Summary

Our staff has design and construction experience with the City, the RCOC, and WCDPS. We are confident our approach to the project will yield improvements, while staying within the intentions of the City in the Orchard Hill Place reconstruction. The following sections include a summary of design and construction hours and fees, a construction cost estimate, proposed schedule, and design and construction team charts.

**EXHIBIT A  
FEE PROPOSAL  
CITY OF NOVI**

**ENGINEERING SERVICES FOR  
ORCHARD HILL PLACE RECONSTRUCTION**

We the undersigned propose to furnish to the City of Novi services consistent with the Request for Qualifications dated January 11, 2007 and Request for Proposals dated January 18, respectively. Design fees will be paid on an hourly basis for actual work performed to a maximum as proposed. A separate fee schedule is being provided should the City request additional work on an hourly basis.

Project	Phase	Total Fee
ORCHARD HILL PLACE RECONSTRUCTION	Design Phase (no soil borings)	\$ 35,038
	Construction Cost Estimate: \$ <u>993,201</u>	
	Construction Phase: <u>4.89</u> % of Construction Cost	\$ 48,536
	<b>ESTIMATED TOTAL FEE*</b>	<b>\$ 83,574</b>

\*Total Estimated Fee consists of a not-to-exceed design phase fee (which includes geotechnical costs if applicable) and a fixed percentage construction phase fee which is used to estimate an approximate fee amount based on the cost estimate above. The actual construction phase fee will be established when the project is awarded to a contractor by multiplying the fixed percentage provided and the bid price of the successful bidder. We expect the consultant to honor their construction percentage as stated above should construction be funded in fiscal year 2008-09 (beginning July 1, 2008).

***PLEASE NOTE THAT ONLY THE DESIGN PHASE OF THE PROJECT IS FUNDED FOR FY2007-08***

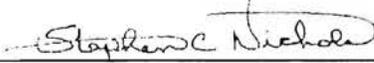
**PLEASE TYPE:**

Company Name: Fishbeck, Thompson, Carr & Huber, Inc.

Address: 39255 Country Club Drive, Suite B-25, Farmington Hills, MI 48331

Agent's Name: Stephen C. Nichols, P.E.

Agent's Title: Senior Vice President

Agent's Signature: 

Telephone Number: (248) 324-2090 Fax Number: (248) 324-0930

E-Mail Address: scnichols@ftch.com Date: February 6, 2008

## Rate Schedule

### Staff Assigned to Project

<u>Primary Project Staff</u>	<u>Hourly Rate</u>
David P. Eno, P.E., Project Manager	\$138
Christopher E. Wall, P.E., Design Engineer	\$138
Michael D. Stieler, P.E., QA/QC and Field Services Supervisor	\$138
Michelle L. Nitengale, P.E., Survey Specialist	\$90
Benjamin D. Ridderbos, Technician	\$64
Gregory J. Carlson, C.S.T., Survey Specialist	\$90
Andrew T. Peters, Staff Engineer/Inspector	\$69
Sarah K. Deuel, Office Technician	\$76
Kelly R. Norton, Production Support	\$59

<u>Other Staff Available</u>	<u>Hourly Rate</u>
Karen E. Carnago, P.E., Engineering Support	\$104
Thomas L. Gray II, P.E., Field Services Supervisor	\$138

The following pages include our standard rate schedule, an estimate of hours used to determine the fee for this project, and a construction estimate based on a review of the project and anticipated unit prices.



# Rate Schedule

June 16, 2007

Principal	\$175
Senior Associate	\$138-\$168
Associate	\$104-\$138
Architect/Architectural Specialist/Construction Services/ Engineer/Engineering Specialist/Environmental Specialist/ Geologist/Hydrogeologist/Industrial Hygienist/Interior Designer/ Operations Specialist/Program Manager/Project Manager/ Scientist/Technical Specialist	
Senior Level	\$90-\$168
Mid Level	\$69-\$112
Staff Level	\$59-\$90
Surveyor/Survey Specialist	
Senior Level	\$90
Mid Level	\$76-\$90
Staff Level	\$69
Technician	
Senior Level	\$80-\$106
Mid Level	\$69-\$104
Staff Level	\$43-\$64
Production Support	\$43-\$59
Photocopies	\$0.10/Copy
Mileage/Passenger Vehicles	\$0.58/Mile
Field and Services Vehicles	\$0.75/Mile (\$30/day min.)
Global Positioning Systems	\$50/hour
Robotic Total Station	\$35/hour
Environmental Equipment Schedule	Separate Schedule
Expenses and Outside Services	Cost Plus 10%

39255 Country Club Dr.  
Suite B-25  
Farmington Hills, MI  
48331  
ph: 248.324.2090  
fax: 248.324.0930  
www.fitch.com

Compensation to be at one and one-half times the hourly rate for approved overtime for all Mid and Staff Levels, Senior Technicians, and Production Support Staff.

Invoices are rendered every four weeks and payment is due upon receipt. A service charge of 1% per four-week period is added to accounts unpaid after 28 days from date of billing.

06/07

Fishbeck, Thompson, Carr & Huber, Inc.

**Detailed Hours/Cost Estimate**  
**City of Novi**  
**Orchard Hill Place Reconstruction**

**Design Cost**

	Title							Total
	Survey	Project Manager	Senior Engineer	Staff Engineer	CAD Technician	Department Assistant	QA/QC	
Hours	40	40	88	80	64	24	4	340
Rate +/-	\$90	\$138	\$138	\$69	\$64	\$59	\$138	
Labor Fee (\$)	\$3,600	\$5,520	\$12,144	\$5,520	\$4,096	\$1,416	\$552	\$32,848

**Design Summary**

FTC&H	\$32,848	Roadway Design, Bidding, Project Management
Expenses (mileage, survey equipment, reproduction)	2,190	
<b>Design Engineering Total</b>	<b>\$35,038</b>	

**Construction Cost**

	Title							Total
	Survey	Inspector	Senior Inspector	Project Engineer	Office Technician	CAD Technician	Department Assistant	
Hours	24	300	30	24	10	8	8	404
Rate +/-	\$90	\$69	\$104	\$138	\$76	\$64	\$59	
Labor Fee (\$)	\$2,160	\$20,700	\$3,120	\$3,312	\$760	\$512	\$472	\$31,036

**Construction Summary**

Construction Observation (FTC&H)	\$31,036	<b>Inspection Hours Estimate</b>	
Materials Testing Budget (SHA)	15,000	Mobilization/Traffic Control	8
Expenses (mileage and equipment use)	2,500	Removals	64
<b>Construction Engineering Total</b>	<b>\$48,536</b>	Roadway Preparation/Grading	80
		Curb and Gutter/Sidewalk	64
<b>Total Proposed Budget (Design and Construction):</b>	<b>\$83,574</b>	Paving (Base Through Top)	64
		Restoration/Punch List	12
Project Construction Estimate (FTC&H estimate):	\$993,201		<u>292</u>

Based on the above, construction engineering is: **4.89%** of the estimated construction cost.

# Construction Cost Estimate

**Fishbeck, Thompson, Carr & Huber, Inc.**

39255 Country Club Drive, Suite B-25, Farmington Hills, MI 48331

Telephone: (248) 324-2090 FAX: (248) 324-0930

Project: Proposal - City of Novi Engineering Department  
 Location: Orchard Hill Place Roadway  
 Work: Roadway reconstruction

Date: 2/6/2008  
 Project No. NMP  
 Prepared by: DPE/MDS

**Pre-Engineering Estimate - For proposal purposes only**

	Item Description	Unit	Est. Quantity	Unit Price (\$)	Total Cost (\$)
<b>General Items</b>					
	Mobilization (3% of Roadway Items)	LS	1.00	26,000.00	26,000.00
	SESC Measures	LS	1.00	1,500.00	1,500.00
	Maintaining Traffic, Temporary Pavement Markings	LS	1.00	5,000.00	5,000.00
			<i>Subtotal - General Items:</i>		<i>32,500.00</i>
<b>Roadway Items</b>					
	Remove Pavement and Earth Excavation	SYD	13,000.00	17.00	221,000.00
	Remove Concrete Curb and Gutter	FT	6,800.00	6.00	40,800.00
	Subbase, CIP, 12 inches	CYD	4,300.00	12.00	51,600.00
	Aggregate Base, 8 inches	SYD	13,000.00	6.50	84,500.00
	Underdrain, Subbase, 6 inch	FT	6,600.00	5.00	33,000.00
	Concrete Curb and Gutter	FT	5,650.00	20.00	113,000.00
	Detail M Drive Opening	FT	1,150.00	15.00	17,250.00
	Concrete Sidewalk Ramp	SFT	240.00	5.00	1,200.00
	Reconstruct/Repair Catch Basin	EA	12.00	400.00	4,800.00
	Replace Existing or New Catch Basin	EA	8.00	1,200.00	9,600.00
	Drainage Structure Cover	LB	10,000.00	1.00	10,000.00
	ADA Detectable Surface	SFT	32.00	30.00	960.00
	Hot Mix Asphalt, 3C, Two 2-inch Lifts	SYD	13,000.00	15.00	195,000.00
	Hot Mix Asphalt, 4C, One 1/2-inch Lift	SYD	13,000.00	6.00	78,000.00
	Relocate Hydrant (10' min behind curb)	EA	4.00	800.00	3,200.00
	Permanent Pavement Markings	LS	1.00	3,000.00	3,000.00
	Restoration	LS	1.00	3,500.00	3,500.00
			<i>Subtotal - Roadway Items:</i>		<i>870,410.00</i>
			<b>Subtotal - All Items:</b>		<b>902,910.00</b>
			<b>Contingency (10%):</b>		<b>90,291.00</b>
<b>TOTAL CONSTRUCTION ESTIMATE</b>					<b>\$ 993,201.00</b>

## Project Schedule

The following table summarizes the intended design and construction schedule for the project by major tasks.

Task	Start Date	Completion Date
<b>Project Kickoff</b> <ul style="list-style-type: none"> <li>• Notification of award</li> <li>• Kickoff meeting</li> <li>• Request utility company records</li> </ul>	2/25/2008 2/26/2008 2/26/2008	
<b>Preliminary Plans</b> <ul style="list-style-type: none"> <li>• Survey</li> <li>• Prepare preliminary road plans</li> <li>• QA/QC – Preliminary plan review</li> <li>• Submit 30 percent plans to the City for review</li> <li>• Preliminary plan review meeting</li> </ul>	2/28/2008 3/05/2008 3/24/2008 3/28/2008 4/07/2008	3/04/2008 3/21/2008 3/26/2008
<b>Final Plans</b> <ul style="list-style-type: none"> <li>• Develop final plans and specifications</li> <li>• QA/QC final plans</li> <li>• Submit 90 percent plans and specifications to the City</li> <li>• Final review meeting or receipt of comments</li> <li>• Complete plans and proposal to 100 percent</li> </ul>	4/07/2008 4/30/2008 5/05/2008 5/16/2008 5/30/2008	4/28/2008 5/02/2008
<b>Bidding and Construction</b> <ul style="list-style-type: none"> <li>• Advertise for bids (four weeks)</li> <li>• Open bids</li> <li>• Award by Council</li> <li>• Construction</li> <li>• Final project acceptance</li> <li>• Contract closeout, final payment authorization, warranty begins</li> </ul>	6/02/2008 7/01/2008 7/07/2008 7/28/2008 10/01/2008 10/08/2008	6/30/2008 9/08/2008



FTC&H realizes the importance of evaluating and assigning appropriate staff members to each project. The team of professionals we assemble is uniquely qualified to provide the full range of professional services necessary and is available to commit the time needed to see the project through to completion. All members of the team assigned to this project have worked on previous City projects or are familiar with the City's standards and procedures. The team will be supplemented by additional members of our technical and clerical support staff to ensure schedules are met efficiently and effectively.

### **FTC&H Staff**

The team assigned to this project includes the following key FTC&H members:

**David P. Eno, P.E.** — Project manager/point-of-contact

**Stephen C. Nichols, P.E.** — Principal-in-Charge

**Christopher E. Wall, P.E.** — Lead design engineer

**Michael D. Stieler, P.E.** — Plan review - design QA/QC and construction inspection supervisor

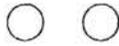
**Thomas L. Gray II, P.E.** — Plan review - construction QA/QC

Mr. Stieler and Mr. Wall's resumé's have been included in this section. Their resumé's were not originally included in our qualifications for 2007-2008 roadway and pathway projects dated February 1, 2007.

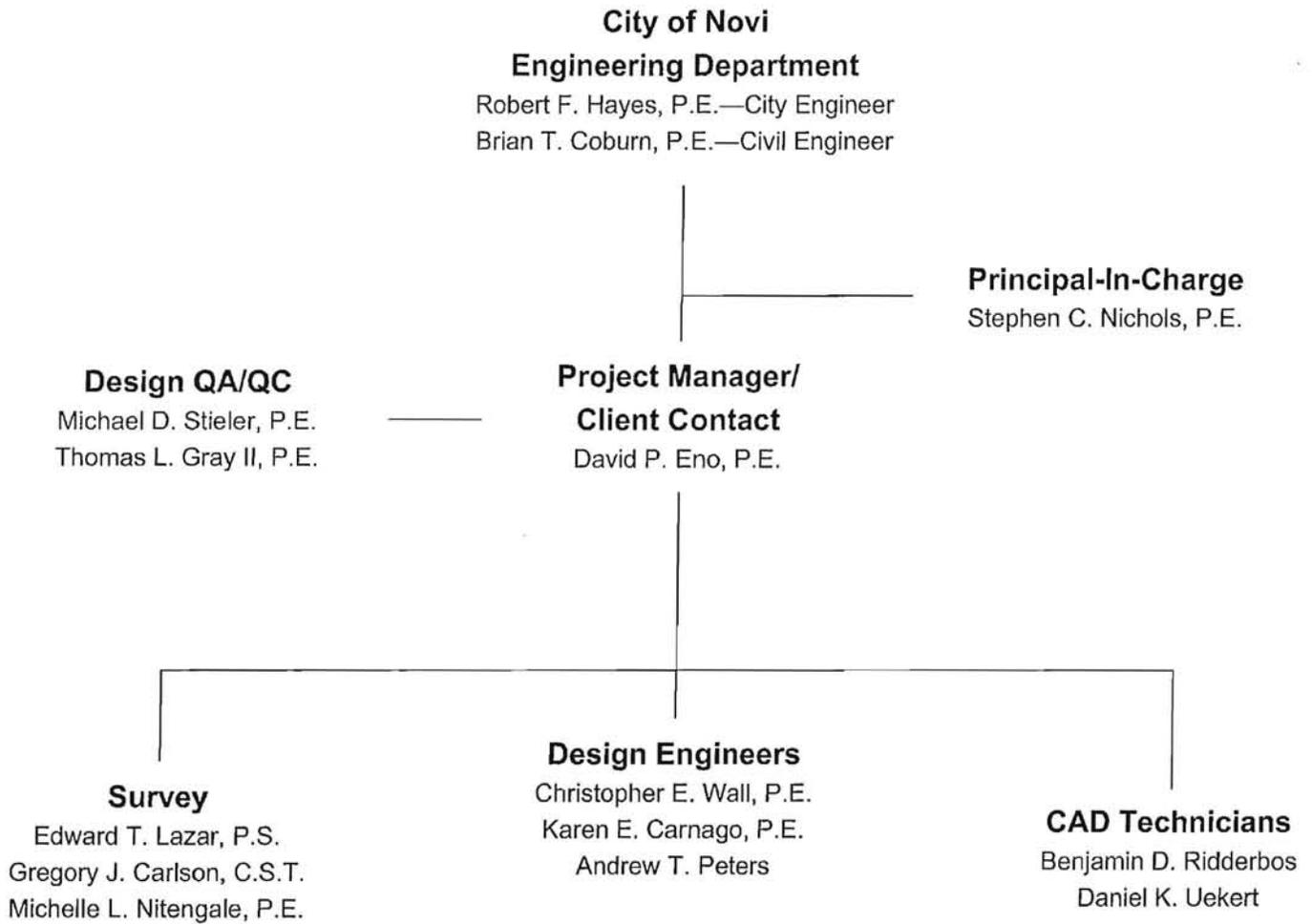
### **Subconsultant Information**

#### **SHA**

SHA will provide materials testing services during the construction phase.

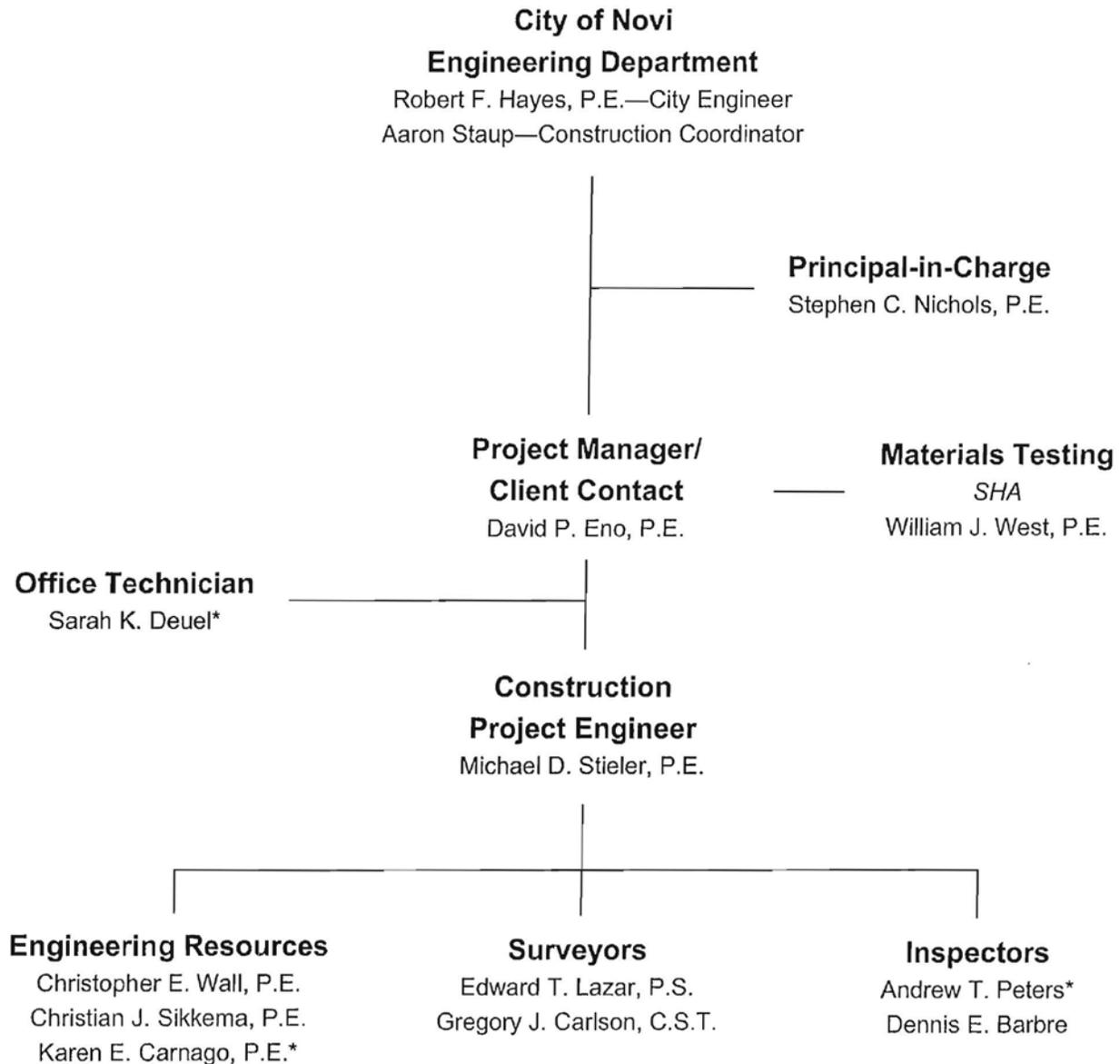


**Design Project Team**  
City of Novi  
Orchard Hill Place Reconstruction





**Construction Project Team**  
City of Novi  
Orchard Hill Place Reconstruction



\*Individual MDEQ Part 91 Certified and may be assigned to observe construction projects in the City of Novi.



**Role in Project**

Design Engineer and  
Maintaining Traffic Engineer

**Registration/Certification**

Professional Engineer –  
Michigan

Professional Traffic Operations  
Engineer (PTOE) - Pending

**Education**

M.S. in Civil Engineering,  
Pending, Michigan State  
University

B.S. in Civil Engineering,  
Michigan State University

**Years of Experience**

with FTC&H since  
December 2007  
14 with other firms  
14 years total

**Training**

GeoPack Road Level 1 & 2

Synchro/SimTraffic  
Seminar, Trafficware

HEC-RAS Training

Mr. Wall has experience in the design and construction of civil engineering projects including all phases of roadway, utility, and site development projects and traffic studies. Responsibilities have included maintenance of traffic design; pavement marking and signage design; project grading; horizontal and vertical design; alignment design; utility design; and traffic operation analysis, optimization, and simulation. He is experienced in monitoring local agency construction projects to ensure compliance with MDOT/Federal standards.

➤ City of Ann Arbor, Michigan

- Maple Road/M-14 Roundabouts — Managed the planning, design, and construction of three modern roundabouts. This project was on a fast-track, requiring effective and efficient coordination with MDOT, Washtenaw County Road Commission (WCRC), City of Ann Arbor, local agencies, utility agencies, Ann Arbor Public Schools, various consultants/contractors, and the public. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, and traffic analysis.
  - Liberty Street Reconstruction — Engineered the design and construction phases of the roadway reconstruction project. Coordination with City of Ann Arbor, MDOT, and adjacent residences and businesses. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, utility replacements, streetscape design, and traffic analysis.
  - Huron Parkway Reconstruction — Managed the planning, design, and construction of a boulevard reconstruction project as part of a Pfizer project. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, utility replacements, streetscape design, and traffic analysis.
  - Traffic Studies — Performed traffic engineering services for numerous residential, office, and retail sites within the City. Coordination with the City of Ann Arbor Transportation Department, MDOT, and local residents.
- Independence Township, Michigan, M-15/I-75 Traffic Study — Managed traffic analysis for impacts and mitigation for a large medical complex. Numerous traffic operation iterations were performed including boulevard option and roundabout options, along with signal optimization, corridor progression, and simulation. Coordination with MDOT, Road Commission of Oakland County, Independence Township and public.
- Pittsfield Township, Michigan
- Platt Road Widening — Managed the planning, design, and construction phases of the roadway widening project as part of a school site plan project. Coordination with WCRC, Pittsfield Township, and adjacent property owners. Performed maintenance of traffic design, pavement marking and signage design,



project grading, horizontal and vertical design, alignment design, and traffic analysis.

- Masjid Bilal — Project manager for planning and design of community mosque complex. Coordination with the Washtenaw County Drain Commissioner (WCDC), Pittsfield Township, MDOT, and public. Conducted public hearing on project with over 200 residents/members in attendance and gained Township support for project.
  - Eastern Washtenaw Multicultural Academy — Managed the planning, design, and construction of a school site plan project. Project was under a very strict timeline and included temporary structures for classes concurrent with construction of final school building. Project required intense coordination with Township staff, WCDC, and WCRC.
- Ann Arbor Township, Michigan
- Plymouth/Earhart Road Reconstruction — Managed the planning, design, and construction phases of the intersection and roadway reconstruction project. Coordination with MDOT, WCRC, Ann Arbor Township, Domino Farms, and adjacent businesses and schools. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, and traffic analysis.
  - Dixboro Road and Bridge Reconstruction — Managed design team consisting of roadway, bridge, geotechnical, and signal design firms through phases of planning, preliminary design, detailed design, and construction for an award-winning project consisting of 1 mile of roadway and a new 4-lane bridge. Coordination involved working with the WCRC, MDOT, various local agencies, railroad, numerous utility agencies, and the public. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, traffic analysis, and utility improvements. Project constraints included design modifications for a railroad, artesian flows, dam, electrical substation, river, sanitary treatment plant access, sensitive utilities, and critical slopes. Maintained heavy traffic flows from adjacent hospital and community college.
- City of Chelsea, Michigan, Freer Road Reconstruction — Managed and performed traffic study, planning, design, and construction. Study included level of service evaluation, peak hour evaluation, proposed mitigation evaluation, capacity analysis, trip generation forecasts, warrant analysis, and recommendations. The plans included construction staging, roadway widening and reconstruction, utility upgrades, road striping, and signage plans.
- City of Saline, Michigan
- Old Creek — Managed numerous design and construction projects. The Old Creek project consisted of water main replacement; repair of sanitary sewer and storm sewer utilities; edge drains; ADA compliant sidewalk ramps; removal and replacement of twin 60-inch elliptical storm sewer with a pre-cast box culvert;



new concrete curb and gutter; and the design of a water garden to comply with the City's storm water discharge permit, maintenance of traffic plans, and pavement markings and signage.

- North Maple Road — Managed the design and construction phases of the intersection and roadway reconstruction project. Coordination with City of Saline, MDOT, and adjacent residences and businesses. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, and traffic analysis.
- Bemis Road and South Maple Road — Engineered the design and construction phases of the intersection and roadway reconstruction project. Coordination with City of Saline, MDOT, and adjacent businesses. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, and traffic analysis.
- City of Monroe, Michigan, M-50 Reconstruction — Engineer for the design and construction phases of the boulevard and intersection reconstruction project. Coordination with MDOT, local agencies, and adjacent businesses. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, water main and utility replacement, and traffic analysis.
- Village of Jonesville, Michigan, US-12 Reconstruction — Engineered the design and construction phases of the concrete roadway reconstruction project. Coordination with MDOT, local agencies, sub-consultants, and adjacent businesses. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, utility replacements, streetscape design, and traffic analysis.
- City of Ypsilanti, Michigan
  - US-12 Michigan Avenue Brick Median Project — Engineer for the design and construction phases of the streetscape enhancement project including lighting and planters. Performed traffic analysis and simulation of roadway with consideration for median. Coordination with MDOT, local agencies, and adjacent businesses. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, alignment design, and traffic analysis.
  - Cross Street Traffic Study — Performed traffic engineering for one-way road study that analyzed and simulated options including modifications to lane widths, parking, two-way operations, road closures, etc. Coordinated with local agencies, MDOT, and Eastern Michigan University.
- City of Whitmore Lake, Michigan, High School Traffic Study — Managed traffic study for new high school. Study included review of existing traffic at old high school, generation of traffic rates for new high school, review of area roads and intersections, and recommendation for geometric road improvements.



- Northfield Township, Michigan, North Territorial Traffic Study — Engineer for comprehensive traffic study and preliminary design of various road and bridge configurations for roadway redesign. The project was part of a large, multi-party, development consisting of retail, office, and high density residential components. Coordination with MDOT, WCRC, local agencies, and adjacent businesses.
- Charter Township of Ypsilanti, Michigan
  - Cherry Creek Condominium — Project manager for an 82-unit, single-family home development. Engineered layout for optimal housing distribution, designed storm water management system, water main, and sanitary sewer systems. Performed traffic impact study for site and adjacent roadway improvements. Performed maintenance of traffic design, pavement marking and signage design, project grading, horizontal and vertical design, and alignment design.
  - Sunset Computers — Engineer for commercial development on redevelopment site. Performed building and parking lot layout, grading, retaining wall design, utility services, and traffic impact study.
- Northville Township, Michigan
  - Highwood Traffic Study — Performed traffic engineering services for major retail and residential development. Coordinated with MDOT, Wayne County Department of Public Services, and local agencies on study. Study reviewed numerous scenarios and site phases with recommendations for road and intersection control improvements.
  - Bosch — Engineered traffic impact study for large office complex that included various traffic operation scenarios and recommended geometric road improvements. Coordinated with Wayne County Department of Public Services.
- City of Brighton, Michigan, University of Michigan Medical Facility Traffic Study — Performed preliminary traffic engineering study for large medical facility proposed near Mt. Brighton ski area. Analysis included review of three phases of development, traffic from background developments, and road and intersection improvement recommendations.

#### **Affiliations**

American Council of Engineering Companies  
 American Society of Civil Engineers  
 Institute of Transportation Engineers  
 National Society of Professional Engineers  
 Transportation and Development Institute, Charter Member  
 Women's Transportation Seminar, Charter Member

**Role in Project**

Design QA/QC and  
Construction Project Engineer

**Registration/Certification**

Professional Engineer -  
Michigan

**Education**

B.S. Degree in  
Civil Engineering,  
Michigan Technological  
University

**Years of Experience**

with FTC&H since  
May 2007  
20 with other firms  
20 years total

Mr. Stieler has experience managing the planning, design, construction engineering, and contract administration of infrastructure improvement projects ranging from bridge replacements to major underground utility projects. He is responsible for overseeing the daily operations and staffing of projects including monitoring schedules and budgets. Mr. Stieler's understanding of project requirements, from conceptual planning to project completion, combined with his attention to detail result in successful projects for clients.

**Roads/Highways — Design**

- City of Detroit, Michigan, Intervale, Cloverdale, Lyndon, Livernois (ICLL) Industrial Subdivision Reconstruction — Design and construction engineering for \$1 million federally-funded, local roadway improvements within a Renaissance Zone located in northwest Detroit. Responsibilities included managing the design and engineering team, while coordinating with the owner, local agencies and businesses, consultants, and the contractor to provide right-of-way improvements for the City.
- City of Ferndale, Michigan, Nine Mile Road Milling and Resurfacing — Design and construction engineering for the 0.75-mile, City-funded road improvement project. Responsibilities included managing the design and inspection team.
- Macomb County, Michigan
  - 21 Mile Road Paving — Design of a 1.5-mile county road paving and drainage improvement project.
  - Heydenreich Road Paving — Design of this 1-mile county road paving and drainage improvement project.
- City of Pontiac, Michigan
  - 1990 Local Street Improvements — Design and construction engineering for a \$2.5 million local streets rehabilitation project.
  - 1989 Local Street Improvements — Design and construction engineering for a \$2 million local streets rehabilitation project.

**Roads/Highways — Construction**

- City of Farmington Hills, Michigan
  - Nine Mile Road from West of Tuck Road to Middlebelt Road — Responsible for oversight of constructability QA/QC and construction contract administration of this 0.75 mile roadway rehabilitation project including HMA resurfacing, pavement repairs, intersection repairs, and drainage improvements. This was a 2007 MDOT Local Agency Program (LAP) project.
  - Eleven Mile Road from Farmington Road to Orchard Lake Road, Drake Road from Twelve Mile Road to Thirteen Mile Road, and Inkster Road from Northwestern Highway to Thirteen Mile Road — Project manager for the construction engineering portion of the project. Responsibilities included oversight of the project engineer and inspection staff, coordination of the



materials testing subconsultant, approval of construction pay estimates, and client invoicing. This was a 2004 MDOT LAP project.

- City of Livonia, Michigan
  - Stark Road Rehabilitation and Schoolcraft Road Reconstruction — 1.18 miles of concrete pavement rehabilitation including concrete patches and concrete pavement repairs; and 0.09 miles of concrete pavement reconstruction including concrete pavement removal, CSX Railroad crossing approach work, aggregate base installation, concrete paving, HMA resurfacing, intersection improvements, and pavement markings on Stark Road from Plymouth Road to eastbound Schoolcraft Road and from Stark Road to Farmington Road. Project manager for the construction engineering portion of the project. This was a 2006 MDOT LAP project utilizing Jobs Today funding.
  - Newburgh Road and Bridge Widening — Inspection for the installation of this \$5 million, single-span bridge rehabilitation and 0.5-mile, road-widening project.
- City of Ypsilanti, Michigan
  - Traffic Signal Modernization and Interconnection — Responsible for oversight of traffic maintenance within the project work zone for concrete sidewalk and concrete curb and gutter removal and replacement at 19 locations. This was a congestion mitigation and MDOT LAP project.
  - River Street Road Reconstruction and Water Main Replacement — 0.46 miles of road reconstruction including removing existing pavement, storm sewer installation, sanitary sewer repairs, aggregate base installation, concrete curb and gutter, HMA paving, water main installation, sidewalk ramps, pavement markings, and restoration on River Street from Forest Avenue to Holmes Road. This was an MDOT LAP project. Responsible for oversight of traffic maintenance within the project work zone.
- City of Romulus, Michigan, Goddard Road Rehabilitation and Intersection Reconstruction — 0.91 miles of pavement rehabilitation including pavement removal, aggregate base installation, HMA paving, storm sewer installation, drainage improvements, intersection improvements, and pavement markings on Goddard Road from Middlebelt Road to Inkster Road. This was an MDOT LAP project. Responsible for oversight of traffic maintenance within the project work zone.
- MDOT
  - Old M-14 (Ann Arbor Road) at Ridge Road, Plymouth Township, Wayne County, Michigan — 0.49-mile of safety improvements including widening for a left turn lane, shoulder upgrades, HMA cold-milling and resurfacing, concrete pavement repairs, concrete curb and gutter, sidewalk and ADA ramp replacements, guardrail upgrades, mainline pavement vertical curve corrections, cleaning ditches, and drainage structures.
  - I-96 Milling and Resurfacing from Novi Road to the West Oakland County Line, Cities of Wixom and Novi, Oakland County, Michigan — This HMA, critical path



method project included night work, concrete and bituminous patching, new high-resolution pavement markings, and recessed pavement markings. Responsible for oversight of traffic maintenance within the project work zone.

- I-96/Spencer Road Park-N-Ride Lot, Livingston County, Michigan — HMA project including staged construction between two lots, and shoulder, guardrail, and fencing upgrades. Responsible for oversight of traffic maintenance within the project work zone.
- M-52 from US-12 to Austin Road, Manchester Township, Washtenaw County, Michigan — 5.24 miles of cold-milling and HMA overlay on M-52. Work included pavement joint and crack repair, and shoulder improvements. Responsible for oversight of traffic maintenance within the project work zone.
- I-94 from Pelham to Wyoming, Cities of Dearborn and Allen Park, Wayne County, Michigan — Freeway reconstruction project with an accelerated schedule. The complex nature of the scope of work provided a challenge to the team and contractors to meet the demanding schedules and work efforts. Complexities included the staging and traffic control plan, bridge rehabilitations, subgrade bridge strut replacement, highly sensitive utility conflicts, and expedited schedule. Responsible for oversight of maintenance of traffic within the project work zone.
- M-53 from Gratiot Avenue to Eight Mile Road (M-102), City of Detroit, Michigan — 0.58 miles (Gratiot to Harper) of total pavement reconstruction including sidewalk replacement, storm sewer, and water main construction. Reconstruction limits are gapped at the I-94 bridge, 4.28 miles (Harper to south of Eight Mile) of full-width milling, resurfacing, pavement and curb repairs, minor sidewalk replacement, and ramp upgrades. Unique features included an urban area and major traffic control. The water main installation had many conflicts with existing utilities; Kettering High School was within the construction influence area; and there were conflicts with existing abandoned light rail lines. Responsible for oversight of traffic maintenance within the project work zone.

#### **Affiliations**

American Society of Civil Engineers  
Michigan Concrete Paving Association  
Michigan Infrastructure and Transportation Association