



---

**McDonough Associates Inc.**  
**16634 South 107<sup>th</sup> Court**  
**Orland Park, Illinois 60467-8898**  
**708/226-9261 Fax: 708/226-9345**  
**[www.malengr.com](http://www.malengr.com)**

April 13, 2011

Mayor Daniel J. McLaughlin  
Village of Orland Park  
14700 Ravinia Avenue  
Orland Park, IL 60462

Re: Phase I Engineering Design Services  
143<sup>rd</sup> Street – Wolf Road to Southwest Highway

Dear Mayor McLaughlin:

Please find attached a proposal to complete Phase I Engineering Design Services for the above reference project. The proposed services account for changes to the scope of this project which are detailed in the attached documents.

We appreciate the opportunity to provide engineering services to the Village of Orland Park. Please call me at (312) 946-7104 if you have any questions or require additional information.

Very truly yours,  
McDonough Associates Inc.

Feroz Nathani, PE  
President

**Phase I Update**  
**Illinois Route 7 (143rd Street) - Wolf Road to Southwest Highway**  
**Village of Orland Park**

**Scope of Work**

**143rd Street Phase I Update**

The project will consist of updating the current Phase I Project Development report and environmental items based on the new right-of-way agreement with the Forest Preserve District of Cook County along with the new requirements from the March 15, 2001 FHWA/IDOT coordination meeting. Existing traffic will need to be counted and projected to 2040, geometry will need to be revised based on the new ROW as well as Complete Streets requirements, all environmental work will need to be revisited and closed, a new public meeting will need to be held and the Project Development report and exhibits will need to be revised and resubmitted to IDOT for approval. The Location Drainage Study and Hydraulic Report have previously been approved and will require addendums to account for the new geometry. All work will be performed in full accordance with IDOT standards, procedures, requirements and criteria. NOTE - This project will meet the limits of the improvements to Southwest Highway on the west leg of the intersection of Southwest Highway and 143rd Street.

**Southwest Highway Realignment Studies**

The project will consist of preparing an Intersection Design Study for the potential realignment of the intersection at 143rd Street and Southwest Highway. The project will update the recommendations and findings made in the IDOT Phase I Report for 143rd Street to reflect the recent clearing of commercial buildings on the NW corner of the intersection. The updated study will look at new alignment possibilities that were not available as alternatives during the original study. The project will also look at 2040 traffic projections for the intersection. A public meeting will be held to present the findings of the intersection improvement study to all stakeholders and interested parties. All work will be performed in full accordance with IDOT standards, procedures, requirements and criteria.

**143rd Phase I Update Working Tasks**

**Total Man-hours**

|                                                        |           |
|--------------------------------------------------------|-----------|
| <b>1.0 Update Data Collection / Gather Information</b> |           |
| Request and Plot Latest Utility Atlas Sheets           | 6         |
| Request Latest Existing Roadway Plans                  | 2         |
| Property Delineation and Ownership                     | 8         |
| Taxing Maps                                            | 2         |
| Planning Maps                                          | 2         |
| Existing Drainage Plans                                | 0         |
| Development Plans                                      | 4         |
| <i>Sub-Total</i>                                       | <b>24</b> |
| <b>2.0 Early Project Coordination</b>                  |           |
| Re-establish Design Criteria - Horizontal / Vertical   | 6         |
| Prepare New Work Plan                                  | 2         |
| Prepare New Project Schedule                           | 2         |
| <i>Sub-Total</i>                                       | <b>10</b> |
| <b>3.0 Update Phase I Field Survey</b>                 |           |
| Horizontal Control and Centerline Survey               | 8         |
| Vertical Control, Benchmarks and Ties                  | 8         |
| Topographic Information                                | 0         |
| Property Corners                                       | 0         |
| Drainage Survey                                        | 16        |
| New Developments and Construction                      | 48        |
| Cross Sections                                         | 0         |
| <i>Sub-Total</i>                                       | <b>80</b> |

|                                                                    |                    |
|--------------------------------------------------------------------|--------------------|
| <b>4.0 Update Traffic Analysis &amp; Intersection Design Study</b> |                    |
| 24 Hour machine counts                                             | included by others |
| AM Peak Hour Directional Counts                                    | included by others |
| PM Peak Hour Directional Counts                                    | included by others |
| Year 2040 Projected Traffic (ADT and DHV)                          | 16                 |
| Capacity Analysis                                                  | 24                 |
| Traffic Signal Warrants                                            | 12                 |
| Intersection Design Study Plans (3 Intersections)                  | 300                |
| Intersection Autoturn Exhibits                                     | 24                 |
| <i>Sub-Total</i>                                                   | 376                |
| <b>5.0 Update Crash Analysis</b>                                   |                    |
| Compile Crash Reports and Records (most recent three years)        | 4                  |
| Analysis of Collision Accident Data                                | 4                  |
| Prepare Crash Analysis Report and Exhibits                         | 16                 |
| <i>Sub-Total</i>                                                   | 24                 |
| <b>6.0 143rd Street Alternative Alignments and Design Analysis</b> |                    |
| Horizontal Alignment Analysis                                      | 24                 |
| Vertical Alignment Analysis                                        | 16                 |
| Typical Section Study                                              | 16                 |
| Roadway Geometrics, Lanes, Median and Widths                       | 4                  |
| Turn Storage Requirements, Tapers and Turn Radii                   | 4                  |
| Retaining Walls, Side slopes and Guardrail vs. ROW Issues          | 8                  |
| Temporary Construction Easements                                   | 2                  |
| Plan Geometrics for IDS                                            | 24                 |
| Profile Geometrics for IDS                                         | 24                 |
| Cross Section Impact Analysis                                      | 4                  |
| Determine Right-Of-Way and Easement Requirements                   | 4                  |
| Pavement Marking Details                                           | 2                  |
| Complete Streets Design                                            | 16                 |
| Utility Relocations                                                | 4                  |
| Safety Issues                                                      | 4                  |
| <i>Sub-Total</i>                                                   | 156                |
| <b>7.0 Streetscaping Issues</b>                                    |                    |
| Landscaping Issues                                                 | Not Included       |
| Street Lighting Issues                                             |                    |
| Decorative Features                                                |                    |
| <i>Sub-Total</i>                                                   |                    |
| <b>8.0 Socio-Economic Business Establishment Issues</b>            |                    |
| Meet with Businesses                                               | Not Included       |
| Economic Issues                                                    |                    |
| Traffic and Access Issues                                          |                    |
| Parking Issues                                                     |                    |
| Safety Issues                                                      |                    |
| <i>Sub-Total</i>                                                   |                    |
| <b>9.0 Maintenance of Traffic and Detour Route Analysis</b>        |                    |
| Detour Route Analysis                                              | 0                  |
| Construction Staging Issues                                        | 8                  |
| Plan Packaging Options                                             | 4                  |
| <i>Sub-Total</i>                                                   | 12                 |
| <b>10.0 Hydraulic Report Addendum</b>                              |                    |
| Hydraulic Analysis Based on New Culvert Length                     | 32                 |
| Revise Waterway Information Tables                                 | 16                 |
| Revise Compensatory Storage Calculations and Site Plan             | 16                 |
| Permit Summary for Floodway                                        | 8                  |
| Revise Hydraulic Report, Data Sheets, and PBDHR BLR 10210          | 32                 |
| Update General Plan and Elevation for Culvert                      | 8                  |
| <i>Sub-Total</i>                                                   | 112                |

|                                                                     |                |
|---------------------------------------------------------------------|----------------|
| <b>11.0 Location Drainage Study Addendum</b>                        |                |
| Update Existing Conditions                                          | 16             |
| Revise Proposed Drainage Plan and Profiles                          | 80             |
| Analyze New Drainage Alternatives                                   | 16             |
| Storm Sewer Calculations and Detention Calculations                 | 72             |
| Amend Location Drainage Study Report and Exhibits                   | 48             |
| Meetings and Coordination                                           | 24             |
| <i>Sub-Total</i>                                                    | 256            |
| <b>12.0 Structural Studies</b>                                      |                |
| Retaining Wall Analysis and Calculations                            | Not Included   |
| Culverts and Wingwall Analysis and Calculations                     |                |
| Retaining Wall Alternatives                                         |                |
| Culverts and Wingwall Alternatives                                  |                |
| Preliminary TS&L for Retaining Walls                                |                |
| Preliminary TS&L for Culverts and Wingwalls                         |                |
| Structural Recommendations                                          |                |
| Structural Cost Estimate                                            |                |
| <i>Sub-Total</i>                                                    |                |
| <b>13.0 Wetland Delineation, Classification, Mitigation</b>         |                |
| Delineation                                                         | Not Included   |
| Classification                                                      |                |
| Mitigation                                                          |                |
| Avoidance Alternatives                                              |                |
| Wetland Impact Re-Assessment and WIE Forms                          |                |
| <i>Sub-Total</i>                                                    | 16             |
| <b>14.0 Environmental Studies</b>                                   |                |
| Environmental Survey Request Form                                   | 0              |
| Eco Cat On-Line Application                                         | 2              |
| Archaeological, Historical and Architectural Inventory              | 0              |
| Preliminary Environmental Site Assessment                           |                |
| Hazardous Waste                                                     | 0              |
| Special Waste                                                       | 0              |
| Air Analysis                                                        | 0              |
| Noise Analysis                                                      | 0              |
| Section 4(f) Evaluation - Closeout with FPDCC                       | 24             |
| Wetland Permits                                                     | 0              |
| Revisit and Close all ECAD Items                                    | 32             |
| Floodway and Floodplain Permits                                     | 0              |
| Tree and Vegetation Evaluation                                      | 0              |
| <i>Sub-Total</i>                                                    | 58             |
| <b>15.0 Meetings, Coordination and Special Issues</b>               |                |
| Forest Preserve District of Cook County                             | 16             |
| Illinois Nature Preserve                                            | 0              |
| Cook County Highway Department                                      | 4              |
| Illinois Historic Preservation Officer                              | 0              |
| Illinois Department of Natural Resources                            | 0              |
| US Army Corps of Engineers                                          | 0              |
| Illinois Department of Transportation                               | 24             |
| FHWA                                                                | 4              |
| Coordination of Services by Others                                  | 2              |
| <i>Sub-Total</i>                                                    | 50             |
| <b>16.0 143rd Street Public Involvement (Informational Meeting)</b> |                |
| Compile Mailing List from List of Property Owners                   | 2              |
| Prepare and Mail Informational Brochures                            | 4              |
| Prepare Public Meeting Displays and Presentation                    | 24             |
| Secure Public Meeting Site                                          | by Orland Park |
| Hold Public Meeting and Gather Input                                | 16             |
| Prepare Summary of Comments at Public Meeting                       | 8              |
| Transportation to Meeting (2 trips)                                 |                |
| <i>Sub-Total</i>                                                    | 54             |

|                                                             |              |
|-------------------------------------------------------------|--------------|
| <b>17.0 Cost Estimate</b>                                   |              |
| Preliminary                                                 | 6            |
| Final                                                       | 4            |
| <i>Sub-Total</i>                                            | 10           |
| <b>18.0 143rd Street Phase I Project Development Report</b> |              |
| Revise PDR Text and Exhibits                                | 48           |
| Compile Final Report                                        | 16           |
| <i>Sub-Total</i>                                            | 64           |
| <b>19.0 In-House Direct Costs</b>                           |              |
| Printing and Reproductions                                  |              |
| Preliminary Submittal                                       |              |
| Xerox Copies                                                |              |
| Paper Plots                                                 |              |
| Blue-line Copies                                            |              |
| PreFinal Submittal                                          |              |
| Xerox Copies                                                |              |
| Paper Plots                                                 |              |
| Blue-line Copies                                            |              |
| Vellum Plots                                                |              |
| Final Submittal                                             |              |
| Xerox Copies                                                |              |
| Paper Plots                                                 | \$ 2,000.00  |
| Blue-line Copies                                            |              |
| Vellum Plots                                                |              |
| Mylar Plots                                                 |              |
| Survey Vehicle Transportation                               |              |
| Field Survey Trips                                          |              |
| Meeting Transportation                                      |              |
| Meeting Trips                                               |              |
| Special Meeting Exhibits and Presentation Material          |              |
| Public Meeting Room Rental                                  |              |
| Public Meeting Brochures                                    |              |
| Public Meeting Exhibit Printing/Mounting                    |              |
| <b>20.0 Services By Others</b>                              |              |
| Aerial Photography                                          | Not Included |
| Soil Borings / Wetland Borings / Pavement Cores             |              |
| Traffic Counting (Peak Hours, Directional and 24-Hour Tube) | \$ 6,000.00  |
| Hazardous / Special Waste Site Assessment Survey            |              |
| Air Analysis                                                |              |
| Noise Analysis                                              |              |
| Erosion Control Plans                                       | Not Included |
| Water Quality Issues                                        |              |
| Wetland Delineation and Classification                      |              |

|                                                             |                   |
|-------------------------------------------------------------|-------------------|
| <b>Estimate Total Man-Hours</b>                             | <b>1302</b>       |
| <b>Estimate Average Hourly Wage Rate \$</b>                 | <b>43.50</b>      |
| <b>Multiplier</b>                                           | <b>2.8</b>        |
| <b>Sub-Total \$</b>                                         | <b>158,583.60</b> |
| <b>In-House Costs and Services by Others (see above) \$</b> | <b>8,000.00</b>   |
| <b>Project Sub-Total \$</b>                                 | <b>166,583.60</b> |

# Southwest Highway Realignment Working Tasks

Total Man-hours

|                                                                                |                    |          |
|--------------------------------------------------------------------------------|--------------------|----------|
| <b>1.0 Southwest Highway Realignment Study &amp; Intersection Design Study</b> |                    |          |
| Horizontal Alignment Analysis                                                  | 24                 |          |
| Vertical Alignment Analysis                                                    | 16                 |          |
| Typical Section Study                                                          | 4                  |          |
| Roadway Geometrics, Lanes, Median and Widths                                   | 4                  |          |
| Turn Storage Requirements, Tapers and Turn Radii                               | 4                  |          |
| Retaining Walls, Side slopes and Guardrail vs. ROW Issues                      | 4                  |          |
| Temporary Construction Easements                                               | 2                  |          |
| Plan Geometrics for IDS                                                        | 8                  |          |
| Profile Geometrics for IDS                                                     | 8                  |          |
| Cross Section Impact Analysis                                                  | 4                  |          |
| Determine Right-Of-Way and Easement Requirements                               | 4                  |          |
| Pavement Marking Details                                                       | 2                  |          |
| School Access Issues                                                           | 16                 |          |
| Utility Relocations                                                            | 4                  |          |
| 24 Hour machine counts                                                         | included by others |          |
| AM Peak Hour Directional Counts                                                | included by others |          |
| PM Peak Hour Directional Counts                                                | included by others |          |
| Capacity Analysis                                                              | 12                 |          |
| Traffic Signal Warrants                                                        | 4                  |          |
| Intersection Design Study Plans (3 Intersections)                              | 100                |          |
| Intersection Autoturn Exhibits                                                 | 8                  |          |
|                                                                                | <i>Sub-Total</i>   | 228      |
| <b>2.0 Railroad Coordination</b>                                               |                    |          |
| Meetings and Coordination                                                      | 4                  |          |
| Grades and Crossing                                                            | 4                  |          |
| Signal Equipment & Railroad Preemption                                         | 4                  |          |
|                                                                                | <i>Sub-Total</i>   | 12       |
| <b>3.0 Southwest Highway Public Involvement (Informational Meeting)</b>        |                    |          |
| Prepare Public Meeting Displays and Presentation                               | 24                 |          |
| Secure Public Meeting Site                                                     | by Orland Park     |          |
| Hold Public Meeting and Gather Input                                           | 16                 |          |
| Public Outreach and Follow Up with School and Property Owners                  | 16                 |          |
| Transportation to Meeting (2 trips)                                            |                    |          |
|                                                                                | <i>Sub-Total</i>   | 56       |
| <b>4.0 Cost Estimate</b>                                                       |                    |          |
| Preliminary                                                                    | 6                  |          |
| Final                                                                          | 4                  |          |
|                                                                                | <i>Sub-Total</i>   | 10       |
| <b>5.0 Southwest Highway Phase I Project Development Report</b>                |                    |          |
| Prepare PDR Text and Exhibits                                                  | 24                 |          |
| Compile Final Report                                                           | 8                  |          |
|                                                                                | <i>Sub-Total</i>   | 32       |
| <b>6.0 In-House Direct Costs</b>                                               |                    |          |
| Printing and Reproductions                                                     |                    |          |
| Preliminary Submittal                                                          |                    |          |
| Xerox Copies                                                                   |                    |          |
| Paper Plots                                                                    |                    |          |
| Blue-line Copies                                                               |                    |          |
| PreFinal Submittal                                                             |                    |          |
| Xerox Copies                                                                   |                    |          |
| Paper Plots                                                                    |                    |          |
| Blue-line Copies                                                               |                    |          |
| Vellum Plots                                                                   |                    |          |
| Final Submittal                                                                |                    |          |
| Xerox Copies                                                                   |                    |          |
| Paper Plots                                                                    |                    |          |
|                                                                                | \$                 | 1,000.00 |

|                               |                                                             |              |
|-------------------------------|-------------------------------------------------------------|--------------|
|                               | Blueline Copies                                             |              |
|                               | Vellum Plots                                                |              |
|                               | Mylar Plots                                                 |              |
|                               | Survey Vehicle Transportation                               |              |
|                               | Field Survey Trips                                          |              |
|                               | Meeting Transportation                                      |              |
|                               | Meeting Trips                                               |              |
|                               | Special Meeting Exhibits and Presentation Material          |              |
|                               | Public Meeting Room Rental                                  |              |
|                               | Public Meeting Brochures                                    |              |
|                               | Public Meeting Exhibit Printing/Mounting                    |              |
| <b>7.0 Services By Others</b> |                                                             |              |
|                               | Aerial Photography                                          |              |
|                               | Soil Borings / Wetland Borings / Pavement Cores             | Not Included |
|                               | Traffic Counting (Peak Hours, Directional and 24-Hour Tube) | \$ 2,000.00  |
|                               | Hazardous / Special Waste Site Assessment Survey            |              |
|                               | Air Analysis                                                |              |
|                               | Noise Analysis                                              |              |
|                               | Erosion Control Plans                                       | Not Included |
|                               | Water Quality Issues                                        |              |
|                               | Wetland Delineation and Classification                      |              |

|                                                             |                  |
|-------------------------------------------------------------|------------------|
| <b>Estimate Total Man-Hours</b>                             | <b>338</b>       |
| <b>Estimate Average Hourly Wage Rate \$</b>                 | <b>43.50</b>     |
| <b>Multiplier</b>                                           | <b>2.8</b>       |
| <b>Sub-Total \$</b>                                         | <b>41,168.40</b> |
| <b>In-House Costs and Services by Others (see above) \$</b> | <b>3,000.00</b>  |
| <b>Project Sub-Total \$</b>                                 | <b>44,168.40</b> |

**PROJECT GRAND TOTAL \$ 210,752.00**