

## RESOLUTION NO. 21075

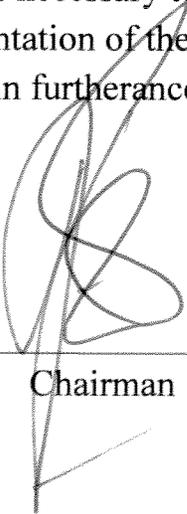
**Background**

The Illinois State Toll Highway Authority (the "Tollway") previously established personnel policies to describe the expectations of its employees and to act as a guideline for daily personnel administration. These expectations were set forth in a Policy and Procedures Manual that outlined the policies, programs and benefits available to Tollway employees. It is in the best interest of the Tollway to periodically update its Policy and Procedures Manual.

**Resolution**

It is hereby declared that the Policy and Procedures Manual, attached hereto and presented to the Tollway Board of Directors at its regular meeting held on July 28, 2016, is adopted and supersedes all such manual(s) or similar material previously in force at the Tollway. The Chairman, Executive Director, Chief of Administration, and any other authorized Tollway personnel are hereby authorized to take all actions necessary to effectuate the purpose of this Resolution to achieve prompt implementation of the Policy and Procedures Manual, and all actions taken by such persons in furtherance hereof are ratified and approved.

Approved by: \_\_\_\_\_

  
Chairman

## RESOLUTION NO. 21076

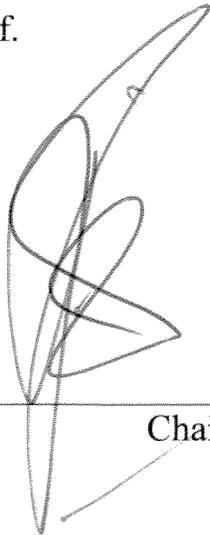
**Background**

The Illinois State Toll Highway Authority (the "Tollway") is interested in procuring a Microsoft Support Agreement for Windows Server through the Central Management Services ("CMS") master contract with CDW Government LLC (Tollway Contract No. 16-0050) for an upper limit of compensation not to exceed \$823,500.00. These goods and/or services are being obtained pursuant to JCAR Section 1.1040 of the Central Procurement Authority of the Chief Procurement Officer for General Services.

**Resolution**

The utilization of the CMS master contract for the purchase of a Microsoft Support Agreement for Windows Server from CDW Government LLC (Tollway Contract No. 16-0050) is approved in an amount not to exceed \$823,500.00. As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by:



Chairman

RESOLUTION NO. 21077

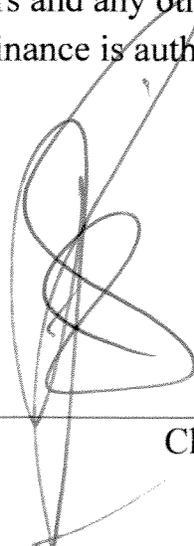
**Background**

The Illinois State Toll Highway Authority (the "Tollway") is interested in procuring Fleet Fuel Card Services through the Central Management Services ("CMS") master contract with WEX Bank (Tollway Contract No. 16-0085) for an upper limit of compensation not to exceed \$300,000.00. These goods and/or services are being obtained pursuant to JCAR Section 1.1040 of the Central Procurement Authority of the Chief Procurement Officer for General Services.

**Resolution**

The utilization of the CMS master contract for the purchase of Fleet Fuel Card Services from WEX Bank (Tollway Contract No. 16-0085) is approved in an amount not to exceed \$300,000.00. As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by:



\_\_\_\_\_  
Chairman

## RESOLUTION NO. 21078

**Background**

The Illinois State Toll Highway Authority (the "Tollway") is interested in procuring Mowing Tractors and Equipment. Pursuant to the Tollway's Invitation for Bid No. 14-0179, the Tollway has determined that Buck Bros., Inc.; Green Climber of North America Corporation; Pillar Equipment, Inc.; and Arends Hogan Walker LLC (d.b.a. AHW LLC) are the lowest responsive and responsible bidders for Mowing Tractors and Equipment for an aggregate upper limit of compensation not to exceed \$1,565,721.08.

**Resolution**

The bids from Buck Bros., Inc.; Green Climber of North America Corporation; Pillar Equipment, Inc.; and Arends Hogan Walker LLC (d.b.a. AHW LLC) for the purchase of Mowing Tractors and Equipment are accepted. Contract No. 14-0179 is approved in an aggregate amount not to exceed \$1,565,721.08. As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

  
Chairman

RESOLUTION NO. 21079

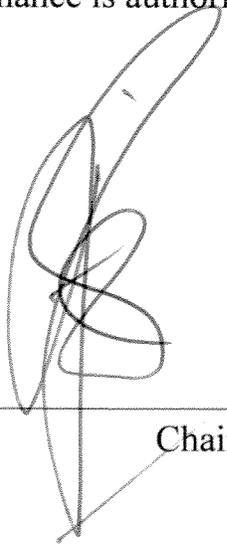
**Background**

The Illinois State Toll Highway Authority (the "Tollway") is interested in procuring Trailers, as more fully described in the Tollway's Invitation for Bid No. 16-0007. Pursuant to such Invitation for Bid, the Tollway has determined that West Side Tractor Sales Co. and McCann Industries, Inc. are the lowest responsive and responsible bidders for Trailers for an aggregate upper limit of compensation not to exceed \$133,908.90.

**Resolution**

The bids from West Side Tractor Sales Co. and McCann Industries, Inc. for the purchase of Trailers are accepted. Contract No. 16-0007 is approved in an aggregate amount not to exceed \$133,908.90. As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_



Chairman

RESOLUTION NO. 21080

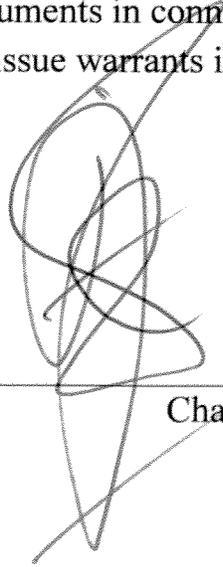
**Background**

The Illinois State Toll Highway Authority (the "Tollway") has previously purchased Hewlett-Packard Software, Licenses, Maintenance, and Support (Contract No. 15-0078) from Aptude, Inc. It is in the best interest of the Tollway, pursuant to the terms and conditions of the contract, to exercise the renewal option and increase the upper limit of compensation of said contract by an amount not to exceed \$229,621.65 for the purchase of additional Hewlett-Packard Software, Licenses, Maintenance, and Support.

**Resolution**

The renewal option and associated increase to the upper limit of compensation of Contract No. 15-0078 for the purchase of additional Hewlett-Packard Software, Licenses, Maintenance, and Support from Aptude, Inc. is approved in an amount not to exceed \$229,621.65 (increase from \$219,086.58 to \$448,708.23). As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_  
Chairman



RESOLUTION NO. 21081

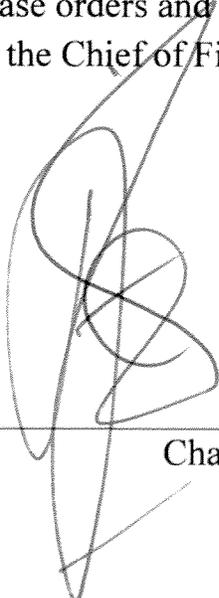
**Background**

The Illinois State Toll Highway Authority (the "Tollway") has previously purchased Aluminum Extrusions (Contract No. 13-0013) from MDSolutions, Inc. It is in the best interest of the Tollway, pursuant to the terms and conditions of the contract, to exercise the renewal option and increase the upper limit of compensation of said contract by an amount not to exceed \$280,000.00 for the purchase of additional Aluminum Extrusions.

**Resolution**

The renewal option and associated increase to the upper limit of compensation of Contract No. 13-0013 for the purchase of additional Aluminum Extrusions from MDSolutions, Inc. is approved in an amount not to exceed \$280,000.00 (increase from \$820,553.76 to \$1,100,553.76). As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_



Chairman

RESOLUTION NO. 21082

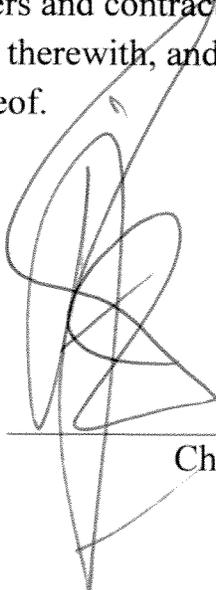
**Background**

The Illinois State Toll Highway Authority (the "Tollway") has previously purchased Replacement Doors and Hardware (Contract No. 12-0188) from American Building Services, LLC. It is in the best interest of the Tollway, pursuant to the terms and conditions of the contract, to exercise the renewal option and increase the upper limit of compensation of said contract by an amount not to exceed \$34,855.00 for the purchase of additional Replacement Doors and Hardware.

**Resolution**

The renewal option and associated increase to the upper limit of compensation of Contract No. 12-0188 for the purchase of additional Replacement Doors and Hardware from American Building Services, LLC is approved in an amount not to exceed \$34,855.00 (increase from \$34,855.00 to \$69,710.00). As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by:



Chairman

## RESOLUTION NO. 21083

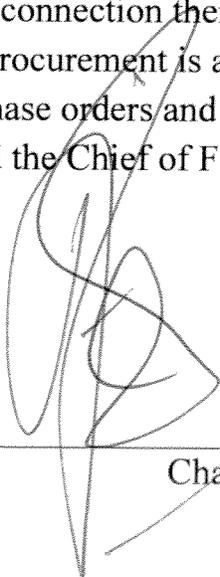
**Background**

The Illinois State Toll Highway Authority (the "Tollway") is interested in procuring Mainframe Maintenance and Support as a Sole Source Contract (No. 16-0023) from Unisys Corporation for an upper limit of compensation not to exceed \$1,371,771.92. While the new Enterprise Resource Planning ("ERP") solution is designed and implemented, it is imperative that Unisys continues to provide maintenance and support to the Tollway's mainframe system. The Tollway is authorized to procure these items pursuant to Section 30 ILCS 500/20-25 of the Illinois Procurement Code, which requires statutory advance public notice of at least two weeks. No interested parties requested a hearing to contest a contract award to Unisys Corporation and, with no objections having been noted, it was approved by the State's Chief Procurement Officer for General Services.

**Resolution**

The sole source quote from Unisys Corporation for the purchase of Mainframe Maintenance and Support is accepted. Contract No. 16-0023 is approved in an amount not to exceed \$1,371,771.92. As may be necessary, the Chairman or the Executive Director is authorized to execute the appropriate documents in connection therewith, subject to the approval of the General Counsel, the Chief of Procurement is authorized to issue the necessary purchase orders and contract purchase orders and any other necessary documents in connection therewith, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by:

  
\_\_\_\_\_  
Chairman

## RESOLUTION NO. 21084

**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Construction Management Services, on the Jane Addams Memorial Tollway (I-90) at Milepost 15.4 (M-7 Maintenance Facility), on Contract No. RR-14-4202. Ardmore Associates, LLC has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$3,582,822.61. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with Ardmore Associates, LLC to obtain Construction Management Services, for Contract No. RR-14-4202, with an upper limit of compensation not to exceed \$3,582,822.61, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

Chairman

RESOLUTION NO. 21085

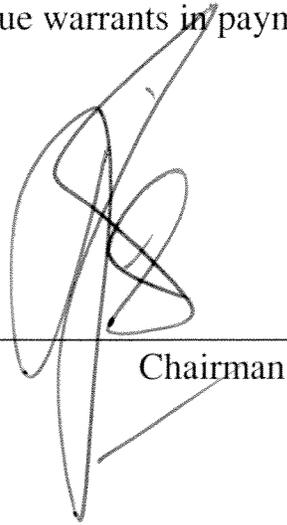
**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Design Services, on the Reagan Memorial Tollway (I-88) from Milepost 76.1 (IL 251) to Milepost 91.4 (Annie Glidden Road), on Contract No. RR-16-4253. Lochmueller Group, Inc. has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$5,713,801.15. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with Lochmueller Group, Inc. to obtain Design Services, for Contract No. RR-16-4253, with an upper limit of compensation not to exceed \$5,713,801.15, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_



Chairman

## RESOLUTION NO. 21086

**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Design Services, on the Reagan Memorial Tollway (I-88) from Milepost 91.4 (Annie Glidden Road) to Milepost 113.3 (IL 56), on Contract No. RR-16-4254. EJM Engineering, Inc. has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$7,098,410.24. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with EJM Engineering, Inc. to obtain Design Services, for Contract No. RR-16-4254, with an upper limit of compensation not to exceed \$7,098,410.24, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

Chairman

RESOLUTION NO. 21087

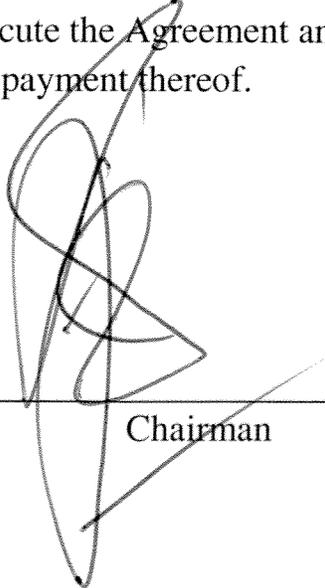
**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Design Services, on the Veterans Memorial Tollway (I-355) from Milepost 12.3 (I-55) to Milepost 22.3 (Butterfield Road), on Contract No. RR-16-4255. Primera Engineers, Ltd. has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$9,253,293.29. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with Primera Engineers, Ltd. to obtain Design Services, for Contract No. RR-16-4255, with an upper limit of compensation not to exceed \$9,253,293.29, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_



Chairman

## RESOLUTION NO. 21088

**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Design Services, on the Veterans Memorial Tollway (I-355) from Milepost 22.3 (Butterfield Road) to Milepost 29.8 (Army Trail Road), on Contract No. RR-16-4256. Patrick Engineering, Inc. has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$5,954,232.28. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with Patrick Engineering, Inc. to obtain Design Services, for Contract No. RR-16-4256, with an upper limit of compensation not to exceed \$5,954,232.28, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

Chairman

## RESOLUTION NO. 21089

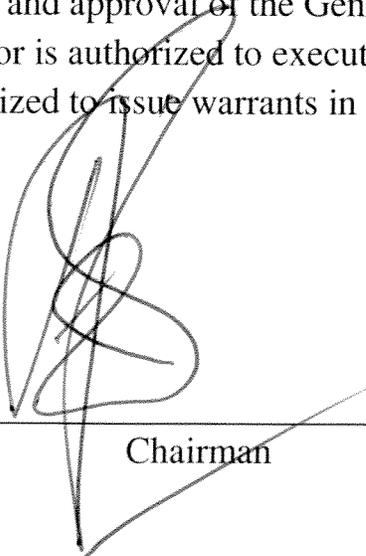
**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Construction Management Services, Systemwide, on Contract No. RR-16-4252. ESI Consultants, LTD has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$4,000,000.00. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with ESI Consultants, LTD to obtain Construction Management Services, for Contract No. RR-16-4252, with an upper limit of compensation not to exceed \$4,000,000.00, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

  
Chairman

RESOLUTION NO. 21090

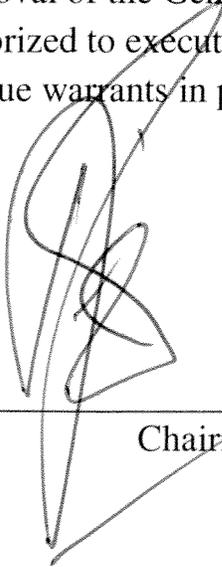
**Background**

It is necessary and in the best interest of The Illinois State Toll Highway Authority (the "Tollway") to obtain Environmental Studies Upon Request, Systemwide, on Contract No. I-16-4257. Huff & Huff, Inc. has submitted a proposal to provide the services for an upper limit of compensation not to exceed \$5,000,000.00. The proposal is for professional services and the services were procured pursuant to 30 ILCS 500/30-15 of the Illinois Procurement Code.

**Resolution**

The Chief Engineer is authorized to negotiate an agreement with Huff & Huff, Inc. to obtain Environmental Studies Upon Request, for Contract No. I-16-4257, with an upper limit of compensation not to exceed \$5,000,000.00, subject to review and approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_



Chairman

## RESOLUTION NO. 21091

**Background**

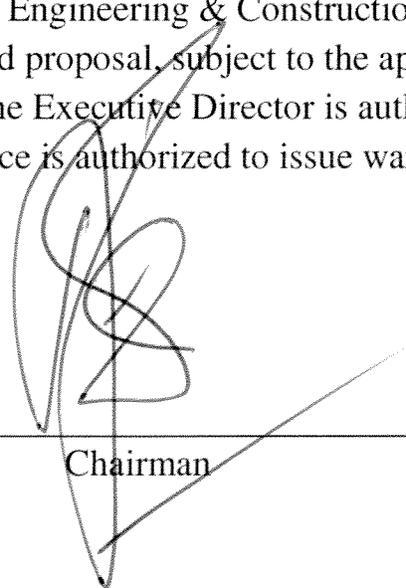
The Illinois State Toll Highway Authority (the "Tollway"), pursuant to Resolution No. 20010 approved June 27, 2013 entered into an Agreement with Milhouse Engineering & Construction, Inc. on Contract I-11-4020 for Construction Management Services for Elmhurst Road Interchange on the Jane Addams Memorial Tollway (I-90) at Milepost 73.5 (Elmhurst Road).

Per Tollway request, Milhouse Engineering & Construction, Inc. has submitted a proposal to provide Supplemental Construction Management Services for Contract I-11-4020, increasing the contract upper limit by \$ 2,200,000.00, from \$6,023,065.50 to \$8,223,065.50. It is necessary and in the best interest of the Tollway to accept the proposal from Milhouse Engineering & Construction, Inc.

**Resolution**

The Chief Engineer is authorized to negotiate a Supplemental Agreement with Milhouse Engineering & Construction, Inc. consistent with the aforementioned proposal, subject to the approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

  
Chairman

## RESOLUTION NO. 21092

**Background**

The Illinois State Toll Highway Authority (the "Tollway"), pursuant to Resolution No. 20548 approved December 18, 2014 entered into an Agreement with Michael Baker International, Inc. (formerly Michael Baker Jr.) on Contract RR-13-5660 for Construction Management Services for Roadway Resurfacing on the Reagan Memorial Tollway (I-88) from Milepost 44.2 (US 30) to Milepost 55.1 (US 52).

Per Tollway request, Michael Baker International, Inc. has submitted a proposal to provide Supplemental Construction Management Services for Contract RR-13-5660, increasing the contract upper limit by \$1,497,642.62, from \$4,651,075.50 to \$6,148,718.12. It is necessary and in the best interest of the Tollway to accept the proposal from Michael Baker International, Inc.

**Resolution**

The Chief Engineer is authorized to negotiate a Supplemental Agreement with Michael Baker International, Inc. consistent with the aforementioned proposal, subject to the approval of the General Counsel. The Chairman or the Executive Director is authorized to execute the Agreement and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

Chairman

RESOLUTION NO. 21093  
(AMENDING RESOLUTION NO. 20828)

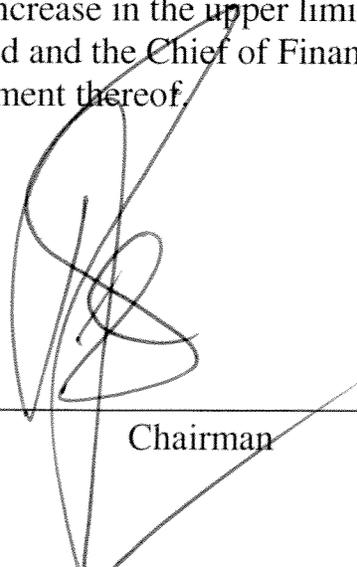
**Background**

The Illinois State Toll Highway Authority (the “Tollway”), pursuant to Resolution No. 20302 approved on March 27, 2014 entered into an Agreement for Contract No. I-13-4618 with F.H. Paschen, S.N. Nielsen & Associates, LLC for Elmhurst Road West Bridge and Interchange on the Jane Addams Memorial Tollway (I-90) at Milepost 73.5 (Elmhurst Road); and Elmhurst Road from South of Landmeier to Oakton. Resolution No. 20828 preliminarily increased the upper limit of compensation by \$397,390.03 via change order to provide compensation to the contractor for subgrade soil modification. This amendment provides for an additional \$364,273.90 to that change order to establish a total net adjustment to the contract of \$761,663.93. The work performed by the contractor was necessary and in the best interest of the Tollway.

**Resolution**

Resolution 20828 is amended to authorize additional funding of \$364,273.90 to the original change order amount of \$397,390.03 (net total of \$761,663.93) and the associated increase in the upper limit of compensation on Contract No. I-13-4618 is approved and the Chief of Finance is authorized to issue and deliver warrants in payment thereof.

Approved by: \_\_\_\_\_



Chairman

RESOLUTION NO. 21094  
AMENDING RESOLUTION NO. 21048

**Background**

Resolutions 20894, 20227, 19882, and 19584, authorized acquisition of needed parcels and expenditures up to \$360,000,000.00 for any and all land acquisition fees and costs needed for the Elgin O'Hare Western Access Project, Project No. I-11-4011. Resolution 21048, as preceded by Resolutions 21027, 21002, 20976, 20941, 20863, 20836, 20772, 20712, 20652, 20586, 20493, 20445, 20395, 20368, 20340, 20317, 20273, 20191, 20157, 20130, 20086, 20048, 20018 and 19986 identified specific parcels that were required for Tollway purposes. Resolution 21048 must be further amended to identify and add additional parcels and to provide Land Acquisition the authority to acquire all needed parcels necessary for the Elgin O'Hare Western Access Project; including fee title, permanent easements, temporary easements and access control relative to said Project. Pursuant to ISTHA v. DiBenedetto, 275 Ill. App 3d 400, 404 (1<sup>st</sup> Dist., 1995), the Tollway is required to reasonably describe the real property that may need to be acquired by eminent domain. This Resolution, amending Resolution 21048, identifies additional parcels and satisfies this requirement.

**Resolution**

Acquisition is authorized for any and all needed real property and interests in real estate and includes but is not limited to the Identified Parcels listed herein on Exhibit "A" ("Identified Parcels") which is attached hereto and incorporated herein by this reference. These acquisitions are necessary and convenient to secure all needed real property and the interests in real estate. The Tollway's Engineering Department by and through its Land Acquisition Manager, together with authorized employees, vendors and agents are authorized to acquire all real estate interests and to spend sums up to an amount not to exceed \$360,000,000.00 to pay for any and all land acquisition fees and costs including, but not limited to, consideration, settlements, purchase price, fees, costs, closing costs, appraisers, negotiators,

RESOLUTION NO. 21094  
AMENDING RESOLUTION NO. 21048

**Resolution – Continued**

surveyors, close and make deposits to close in escrow, title work, title insurers, agents, owners, relocation expenses, relocation benefits, relocation costs, Special Assistant Attorneys General, payment of preliminary just compensation, damages and all such other experts retained for the purpose of acquiring all needed real property and interests in real estate, as well as final just compensation and to pay any and all such other acquisition costs, fees and expenses.

In the event all or the part of the Parcels identified on Exhibit “A” cannot with reasonable diligence be purchased via negotiations, administrative documentation, or settlement then upon the recommendation of the Land Acquisition Manager, and the General Counsel, the Land Acquisition Unit and the Legal Department are authorized and directed to retain the services of Special Assistant Attorneys General to acquire those needed Identified Parcels by instituting and proceeding to acquire said Identified Parcels by eminent domain in the name of the Tollway.

The Executive Director, or the Chief of Staff and/or the Land Acquisition Manager, subject to form and constitutionality approval of the General Counsel, state and federal law and then existing Land Acquisition policies and procedures are authorized to enter into and execute any real estate contract for the acquisition or conveyance of all needed real estate for the Project; the Land Acquisition unit is authorized to acquire and purchase property by and through escrow closings with its approved title insurance vendors; the Chief of Finance is authorized to issue warrants from time to time to pay for any and all land acquisition fees and costs including but not limited to purchase price, acquisition fees, costs, closing costs, appraisers, negotiators, surveyors, title insurers, deposit preliminary just compensation amounts, deposit sums to close in escrow, agents, relocation costs, Special Assistant Attorneys General and all such other experts retained for the purpose of acquiring all real estate needed for the project as well as the Identified Parcels and for the payment of preliminary just compensation as well as final just

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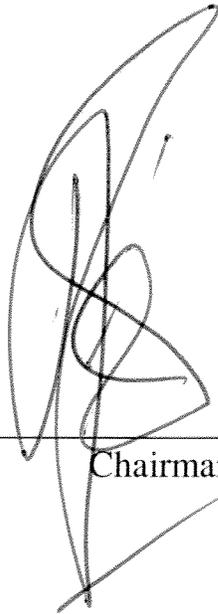
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RESOLUTION NO. 21094  
AMENDING RESOLUTION NO. 21048

**Resolution – Continued**

compensation to the owners of said Identified Parcels and to pay any and all such other acquisition costs and expenses, not to exceed the sum of \$360,000,000.00.

Approved by: \_\_\_\_\_

A large, stylized handwritten signature in black ink, consisting of several overlapping loops and a long vertical stroke, positioned over a horizontal line.

Chairman

07/28/16

6.4/12

RESOLUTION NO. 21094  
AMENDING RESOLUTION NO. 21048

**Resolution – Continued- Exhibit ‘A’**

**PROJECT: I-11-4011- IDENTIFICATION OF PARCELS**

**ELMHURST INTERCHANGE AND EOWA**

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

<b>Elmhurst Road Interchange</b>	<b>PREVIOUSLY IDENTIFIED</b>
<b><u>PARCEL NUMBER</u></b>	<b><u>COOK COUNTY PIN NUMBER/OR DESCRIPTION</u></b>
NW-7A-12-001	08-25-302-001
NW-7A-12-002	08-25-300-001
NW-7A-12-008	08-25-100-006, 08-25-101-004, 08-25-101-005, 08-25-102-015, 08-25-102-017, 08-25-103-004, 08-25-100-005, 08-25-101-003
NW-7A-12-010	08-24-304-015
NW-7A-12-011	08-24-304-005, 08-25-304-006
NW-7A-12-013	08-24-304-002, 08-24-304-003, 08-24-304-004, 08-24-304-009, 08-24-304-010, 08-24-304-013, 08-24-304-014
NW-7A-12-016	08-24-304-001
NW-7A-12-018	08-26-411-008, 08-26-411-006 & 08-26-411-010
NW-7A-12-019	08-26-411-009, 08-26-411-013
NW-7A-12-021	08-26-401-038
NW-7A-12-022	08-26-401-031
NW-7A-12-023	08-26-401-030 & 08-26-401-039
NW-7A-12-034	08-26-201-030
NW-7A-12-035	08-26-201-018
NW-7A-12-036	08-26-201-024
NW-7A-12-037	08-23-402-012
NW-7A-12-038	08-23-402-014
NW-7A-12-039	08-23-402-004, 08-23-402-005, 08-23-402-006, 08-23-402-013
NW-7A-12-040	08-26-401-024, 08-26-401-037, 08-26-401-040 & 08-26-400-009
NW-7A-12-041	08-24-303-012
NW-7A-12-043	08-24-303-011
NW-7A-12-044	08-24-303-025 & 08-24-303-026
NW-7A-12-050	08-24-302-021 & 08-24-302-022

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

**Elmhurst Road Interchange      PREVIOUSLY IDENTIFIED**

<b><u>PARCEL NUMBER</u></b>	<b><u>COOK COUNTY PIN NUMBER/OR DESCRIPTION</u></b>
NW-7A-12-051	08-24-302-023
NW-7A-12-055	08-26-201-027
NW-7A-12-058	08-26-201-009
NW-7A-12-059	08-26-201-008
NW-7A-12-060	08-26-201-006 & 08-26-201-007
NW-7A-12-064	08-23-402-009
NW-7A-12-900	That part of Landmeier Road, as dedicated per the Plat of O'Hare International Center for Business located in the east half of the southeast quarter of section 25, township 41 north, range 11
NW-7A-12-005	08-25-102-011, 08-25-102-016 08-25-102-018, 08-25-103-005
NW-7A-12-033	08-26-201-031
NW-7A-12-025	08-26-200-016, 08-26-200-017, 08-26-201-023
NW-7A-12-032	08-26-201-015 & 08-26-201-025
NW-7A-12-071	COMMENCING AT THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 25; THENCE SOUTH 00 DEGREES 53 MINUTES 43 SECONDS EAST, ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 25, 1333.39 FEET TO THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 25, SAID POINT ALSO BEING THE POINT OF BEGINNING; THENCE NORTH 88 DEGREES 48 MINUTES 52 SECONDS EAST, ON SAID SOUTH LINE, 65.00 FEET; THENCE SOUTH 00 DEGREES 53 MINUTES 43 SECONDS EAST, ON A LINE 65.00 FEET PERPENDICULARLY DISTANT FROM AND PARALLEL WITH SAID WEST LINE, 24.96 FEET TO THE NORTH LINE OF THE SOUTH 40 ACRES OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 25; THENCE SOUTH 88 DEGREES 39 MINUTES 58 SECONDS WEST, ON SAID NORTH LINE, 65.00 FEET TO THE WEST LINE OF SAID SOUTHWEST QUARTER; THENCE NORTH 00 DEGREES 53 MINUTES 43 SECONDS WEST, ON SAID WEST LINE, 25.13 FEET TO THE POINT OF BEGINNING

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

Elgin O'Hare Western Access	PREVIOUSLY IDENTIFIED	
<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>	<u>County</u>
EO-1A-12-003	07-34-402-020	Cook
EO-1A-12-004	07-34-407-008	Cook
EO-1A-12-005	07-34-407-009	Cook
EO-1A-12-006	07-34-407-010	Cook
EO-1A-12-007	07-34-407-011	Cook
EO-1A-12-008	07-34-407-012	Cook
EO-1A-12-018	07-34-401-021 07-34-401-022	Cook
EO-1A-12-021	02-01-200-031 02-01-200-032	DuPage
EO-1A-12-023	02-01-400-018	DuPage
EO-1A-12-024	03-06-300-009	DuPage
EO-1A-12-036	07-34-400-025 07-34-400-026	Cook
EO-1A-12-037	07-34-401-013 07-34-400-019 07-34-402-030 07-34-402-024	Cook
EO-1A-12-045	02-01-200-034	DuPage
EO-1A-12-046	02-01-200-035	DuPage
EO-1A-12-047	02-01-200-036	DuPage
EO-1A-12-048	03-06-100-008 03-06-200-001	DuPage
EO-1A-12-049	03-06-100-009 03-06-200-011	DuPage
EO-1A-12-900	That part of Hamilton Parkway in Hamilton Lakes Commerce Center Subdivision in the northeast quarter of section 1, township 40 north, range 10	DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

**Elgin O'Hare Western Access      PREVIOUSLY IDENTIFIED**

<b><u>Parcel</u></b>	<b><u>PIN NUMBER/OR DESCRIPTION</u></b>	<b><u>County</u></b>
EO-1A-12-901	That part of a public street lying east of block 8 in unit 2 - the Itasca Industrial Development of the Central Manufacturing District, in section 1, township 40 north, range 10	DuPage
EO-1A-12-902	03-06-300-010	DuPage
EO-1B-12-002	03-06-403-054	DuPage
EO-1B-12-149	03-06-402-008	DuPage
EO-1B-12-150	03-06-402-007	DuPage
EO-1B-12-151	03-06-403-055	DuPage
EO-1B-12-162	03-07-205-015	DuPage
EO-1B-12-163	03-07-217-002	DuPage
EO-1B-12-164	03-07-203-009	DuPage
EO-1B-12-165	03-07-203-010	DuPage
EO-1B-12-166	03-07-217-004 & 03-07-203-003	DuPage
EO-1B-12-167	03-07-217-005 & 03-07-203-004	DuPage
EO-1B-12-168	03-07-217-006 & 03-07-203-005	DuPage
EO-1B-12-169	03-07-217-007 & 03-07-203-006	DuPage
EO-1B-12-170	03-07-217-008 & 03-07-203-007	DuPage
EO-1B-12-171	03-07-217-009	DuPage
EO-1B-12-172	03-07-217-010	DuPage
EO-1B-12-173	03-07-204-002 & 03-07-217-011	DuPage
EO-1B-12-174	03-07-204-003 & 03-07-217-012	DuPage
EO-1B-12-175	03-07-204-004 & 03-07-217-013	DuPage
EO-1B-12-176	03-07-204-005 & 03-07-217-014	DuPage
EO-1B-12-177	03-07-204-006 & 03-07-217-015	DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

**Elgin O'Hare Western Access PREVIOUSLY IDENTIFIED**

<b>Parcel</b>	<b>PIN NUMBER/OR DESCRIPTION</b>	<b>County</b>
EO-1B-12-178	03-07-204-007 & 03-07-217-016	DuPage
EO-1B-12-179	03-07-204-008 & 03-07-217-017	DuPage
EO-1B-12-180	03-07-204-009 & 03-07-217-018	DuPage
EO-1B-12-181	03-07-217-019	DuPage
EO-1B-12-182	03-07-217-021 & 03-07-217-022	DuPage
EO-1B-12-903	That part of Clover Ridge Lane lying within Clover Ridge Subdivision of part of the southeast quarter of section 6, township 40 north, range 11	DuPage
EO-1A-12-026	03-06-101-015 & 03-06-201-005	DuPage
EO-1B-12-004	03-05-404-003	DuPage
EO-1B-12-005	03-05-404-002	DuPage
EO-1B-12-007	03-05-404-032	DuPage
EO-1B-12-008	03-05-405-030	DuPage
EO-1B-12-011	03-05-405-021	DuPage
EO-1B-12-012	03-05-405-027	DuPage
EO-1B-12-013	03-05-405-028 & 03-05-405-029	DuPage
EO-1B-12-075	03-05-309-001	DuPage
EO-1B-12-078	03-05-300-018	DuPage
EO-1B-12-081	03-05-400-002	DuPage
EO-1B-12-083	03-05-200-028	DuPage
EO-1B-12-084	03-05-400-003	DuPage
EO-1B-12-146	03-05-302-054	DuPage
EO-1B-12-155	03-05-302-073	DuPage
EO-1B-12-156	03-05-403-007, 03-05-403-008 & 03-05-302-072	DuPage
EO-1A-12-058	03-06-400-012, 03-06-400-011, 03-06-400-004	DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

<b>Elgin O'Hare Western Access</b>	<b>PREVIOUSLY IDENTIFIED</b>	
<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>	<u>County</u>
EO-1A-12-061	03-06-300-005, 03-06-400-002	DuPage
EO-1B-12-079	03-05-101-017	DuPage
EO-1B-12-091	03-05-402-004	DuPage
EO-1B-12-014	03-04-302-010	DuPage
EO-1B-12-095	03-05-402-011	DuPage
EO-1B-12-152	03-05-313-001 thru 03-05-313-188, 03-05-301-063	DuPage
EO-1B-12-153	03-05-313-001 thru 03-05-313-188, 03-05-301-063	DuPage
EO-1B-12-154	03-05-313-001 thru 03-05-313-188, 03-05-301-063	DuPage
EO-1B-12-904	That part of Park Boulevard as shown on the plat of dedication for parts of a public street to be known as Park Boulevard, being part of sections 5 and 6 in township 40 north, range 11	DuPage
EO-1B-12-908	That part of Prospect Avenue as shown on the plat of Grant to the Village of Itasca, being part of the southwest quarter of section 4 and northwest quarter of section 9, township 40 north, range 11	DuPage
EO-1B-12-062	03-02-401-005	DuPage
EO-1B-12-063	03-02-401-006	DuPage
EO-1B-12-064	03-02-401-002 & 03-11-200-002	DuPage
EO-1B-12-066	03-11-200-006	DuPage
EO-1B-12-068	03-11-202-012 & 03-11-202-013	DuPage
EO-1B-12-069	03-11-202-046	DuPage
EO-1B-12-070	03-11-202-043	DuPage
EO-1B-12-101	03-04-301-009	DuPage
EO-1B-12-102	03-04-101-022	DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

<b>Elgin O'Hare Western Access</b>		<b>PREVIOUSLY IDENTIFIED</b>	
<b>Parcel</b>	<b>PIN NUMBER/OR DESCRIPTION</b>		<b>County</b>
EO-1B-12-086	03-05-200-034, 03-05-200-035		DuPage
EO-1B-12-098	That part of lot 8 in Addison Township Supervisor's Assessment Plat No. 15, being part of the east half of Section 5 Township 40 north, Range 11		DuPage
EO-1B-12-183	03-05-404-004		DuPage
EO-1B-12-067	03-11-202-036		DuPage
EO-1B-12-085	03-05-200-030		DuPage
EO-1B-12-134	03-02-400-001		DuPage
EO-1B-12-135	03-02-400-029		DuPage
EO-1B-12-905	THAT PART OF ARLINGTON HEIGHTS ROAD AS SHOWN ON CHANCELLORY ASSESSMENT PLAT NO. 2 IN SECTION 5 AND THE EAST HALF OF SECTION 6, ALL TOWNSHIP 40 NORTH, RANGE 11		DuPage
EO-1B-12-920	THAT PART OF LOT 3 IN LUEHRING'S LAWRENCE AVENUE GARDENS, A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 40 NORTH, RANGE 11		DuPage
EO-1B-12-921	THAT PART OF LOT 2 IN LUEHRING'S LAWRENCE AVENUE GARDENS, A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 40 NORTH, RANGE 11		DuPage
EO-1B-12-025	03-04-406-027		DuPage
EO-1B-12-099	03-05-402-012, 03-04-300-004, 03-04-300-005		DuPage
EO-1B-12-912	THAT PART OF A.E.C. DRIVE AS DEDICATED AS PART OF FOREST CREEK UNIT 4, BEING A RESUBDIVISION IN PART OF THE SOUTHEAST QUARTER OF SECTION 4 AND PART OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ALSO BEING A RESUBDIVISION OF PART OF OUT-LOTS A AND B, IN FOREST CREEK UNIT 2, ALL ACCORDING TO THE PLAT THEREOF RECORDED JULY 10, 1984 AS DOCUMENT NUMBER R1984-053434		DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

Elgin O'Hare Western Access      PREVIOUSLY IDENTIFIED

<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>	<u>County</u>
EO-1B-12-927	THAT PART OF ARLINGTON HEIGHTS ROAD AS SHOWN ON CHANCELLORY ASSESSMENT PLAT NO. 2 IN SECTION 5 AND THE EAST HALF OF SECTION 6, ALL TOWNSHIP 40 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED AS DOCUMENT R92-254005 ON DECEMBER 30, 1992, ALSO THAT PART OF ARLINGTON HEIGHTS ROAD AS DESCRIBED IN THE DEDICATION DEED RECORDED FEBRUARY 9, 1939 AS DOCUMENT R1939-396978	DuPage
WA-1D-12-041	12-19-400-159	Cook
WA-1D-12-103	12-19-400-121	Cook
EO-1B-12-024	03-04-402-021	DuPage
EO-1B-12-038	03-03-304-021	DuPage
EO-1B-12-105	03-04-301-002	DuPage
EO-1B-12-907	THAT PART OF PARKSIDE AVENUE AS SHOWN ON LUEHRING'S LAWRENCE AVENUE GARDENS, A SUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 40 NORTH, RANGE 11	DuPage
EO-1B-12-911	THAT PART OF MITTEL DRIVE AS DEDICATED AS PART OF FOREST CREEK UNIT 3, BEING A RESUBDIVISION IN PART OF THE NORTHWEST QUARTER OF SECTION 9 AND PART OF THE SOUTH HALF OF SECTION 4, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 8, 1983 AS DOCUMENT NUMBER R1983-090012	DuPage
EO-1B-12-913	THAT PART OF CENTRAL AVENUE AS DEDICATED AS PART OF KLEFSTAD'S WOODDALE INDUSTRIAL PARK UNIT ONE, BEING A SUBDIVISION IN SECTIONS 3 AND 10, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE VILLAGE OF WOODDALE, ACCORDING TO THE PLAT THEREOF RECORDED MARCH 22, 1973 AS DOCUMENT NUMBER R73-15596	DuPage
EO-1B-12-915	THAT PART OF SIVERT DRIVE AS DEDICATED AS PART OF KLEFSTAD'S WOODDALE INDUSTRIAL PARK UNIT ONE, BEING A SUBDIVISION IN SECTIONS 3 AND 10, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE VILLAGE OF WOODDALE, ACCORDING TO THE PLAT THEREOF RECORDED MARCH 22, 1973 AS DOCUMENT NUMBER R1973-15596	DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

Elgin O'Hare Western Access      PREVIOUSLY IDENTIFIED

<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>	<u>County</u>
EO-1B-12-917	THAT PART LIVELY BOULEVARD AS DEDICATED AS PART OF KLEFSTAD'S WOODDALE INDUSTRIAL PARK UNIT ONE, BEING A SUBDIVISION IN SECTIONS 3 AND 10, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE VILLAGE OF WOODDALE, ACCORDING TO THE PLAT THEREOF RECORDED MARCH 22, 1973 AS DOCUMENT NUMBER R1973-15596	DuPage
EO-1B-12-918	THAT PART DILLON DRIVE AS DEDICATED AS PART OF O'HARE - THORNDALE CENTER FOR BUSINESS, BEING A RESUBDIVISION IN CHARLES BOESCHE'S DIVISION IN SECTIONS 3 AND 10, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF RESUBDIVISION THEREOF RECORDED NOVEMBER 15, 1984 AS DOCUMENT NUMBER R1984-092708	DuPage
EO-1B-12-919	THAT PART EDGEWOOD AVENUE AS DEDICATED AS PART OF THORNDALE BUSINESS PARK IN WOOD DALE, BEING A RESUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 40 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 12, 1984 AS DOCUMENT NUMBER R1984-004337	DuPage
TW-7-12-002	15-06-100-011, 15-06-100-033	Cook
TW-7-12-025	03-36-400-004, 03-36-400-005	DuPage
WA-1D-12-031	12-19-100-061	Cook
WA-1D-12-086	12-20-300-081, 12-20-300-082	Cook
WA-1D-12-104	12-19-400-120	Cook
EO-1B-12-133	03-02-303-008, 03-02-303-010	DuPage
WA-1D-12-060	12-19-100-122	Cook
WA-1D-12-083	12-19-300-015	Cook
WA-1D-12-084	12-19-300-018	Cook
WA-1D-12-085	12-19-300-013	Cook
WA-3D-12-047	08-36-200-003, 08-36-200-004, 08-36-200-005, 08-36-200-006	Cook
EO-1B-12-053	03-02-301-019	DuPage
EO-1B-12-056	03-02-301-017	DuPage

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

Elgin O'Hare Western Access	PREVIOUSLY IDENTIFIED	
<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>	<u>County</u>
EO-1B-12-121	03-03-400-019	DuPage
EO-1B-12-123	03-03-400-028	DuPage
EO-1B-12-033	03-03-302-035, 03-04-403-005, 03-04-403-006	DuPage
EO-1B-12-058	03-02-301-007	DuPage
EO-1B-12-126	03-02-300-019	DuPage
WA-1D-12-011	12-19-400-151	Cook
EO-1B-12-059	03-02-302-005	DuPage
EO-1B-12-106	03-04-400-011	DuPage
EO-1B-12-131	03-02-303-011, 03-02-303-012, 03-02-400-036, 03-02-400-037	DuPage
EO-1B-12-184	03-02-302-006	DuPage
EO-1B-12-185	03-02-304-010, 03-02-304-011	DuPage
WA-1D-12-010	12-19-400-049	Cook
WA-3D-12-048	08-36-200-018, 08-36-200-011, 08-36-200-019, 08-36-200-017	Cook
NW-7B-12-004	08-25-400-007	Cook
EO-1B-12-107	03-04-400-007	DuPage
EO-1B-12-932	THAT PART OF LOT 9 IN THORNDALE DISTRIBUTION PARK IN BENSENVILLE, UNIT NO. 2, BEING A SUBDIVISION OF PART OF THE SOUTH HALF OF SECTION 2, TOWNSHIP 40 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN	DuPage
EO-1B-12-933	THAT PART OF LOT 8 IN THORNDALE DISTRIBUTION PARK IN BENSENVILLE, UNIT NO. 2, BEING A SUBDIVISION OF PART OF THE SOUTH HALF OF SECTION 2, TOWNSHIP 40 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN	DuPage
WA-1D-12-006	12-19-400-119	Cook

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

Elgin O'Hare Western Access	PREVIOUSLY IDENTIFIED	
<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>	<u>County</u>
WA-1D-12-007	12-19-400-117, 12-19-400-167	Cook
WA-1D-12-012	12-19-400-084, 12-19-400-104	Cook
WA-1D-12-014	12-19-400-056	Cook
WA-1D-12-015	12-19-400-150	Cook
WA-1D-12-016	12-19-400-152	Cook
WA-1D-12-080	12-19-400-079	Cook
WA-1D-12-107	12-19-400-168	Cook
WA-1D-12-108	12-19-400-102	Cook
EO-1B-12-029	03-04-406-023	DuPage
EO-1B-12-129	03-02-304-012, 03-02-300-022	DuPage
EO-1B-12-930	THAT PART OF SUPREME DRIVE AS SHOWN ON THORNDALE DISTRIBUTION PARK IN BENSENVILLE UNIT NO. 2, BEING A SUBDIVISION OF PART OF THE SOUTH HALF OF SECTION 2, TOWNSHIP 40 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED AS DOCUMENT R1977-102030 ON NOVEMBER 7, 1977	DuPage
NW-7A-12-101	08-36-102-001	Cook
WA-1D-12-048	03-13-406-001, 03-13-403-002, 03-13-509-003	DuPage
EO-1B-12-031	03-04-406-029, 03-04-406-030	DuPage
EO-1B-12-189	03-04-406-028	DuPage
EO-1B-12-928	THAT PART OF THOMAS DRIVE AS SHOWN ON THORNDALE DISTRIBUTION PARK IN BENSENVILLE, UNIT NO. 8, BEING A RESUBDIVISION OF PART OF THE SOUTHEAST QUARTER OF SECTION 2, TOWNSHIP 40 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED AS DOCUMENT R1987-006314 ON JANUARY 14, 1987 IN DUPAGE COUNTY, ILLINOIS	DuPage
WA-1D-12-004	12-19-400-078	Cook

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

Elgin O'Hare Western Access		PREVIOUSLY IDENTIFIED	
<u>Parcel</u>	<u>PIN NUMBER/OR DESCRIPTION</u>		<u>County</u>
WA-1D-12-009	12-19-400-019, 12-19-400-063		Cook
WA-1D-12-046	03-13-509-003		DuPage
WA-1D-12-066	12-19-200-002, 12-18-501-001, 12-18-400-015-6001, 12-18-400-019, 12-18-201-015, 12-20-100-028		Cook
WA-2D-12-191	03-12-509-001		DuPage
EO-1B-12-051	03-03-403-013		DuPage
TW-7-12-003	12-31-301-019		Cook
TW-7-12-026	03-36-206-040		DuPage
WA-1D-12-044	03-13-504-012		DuPage
WA-1D-12-068	12-18-400-014, 12-18-500-006		Cook
EO-1B-12-130	03-02-303-013		DuPage
NW-7A-12-088	08-36-100-004		Cook
NW-7A-12-089	08-36-100-005, 08-36-100-009		Cook
NW-7A-12-090	08-36-100-006		Cook
NW-7A-12-091	08-36-100-011		Cook
NW-7A-12-092	08-36-100-012		Cook
NW-7A-12-093	08-36-100-013		Cook
NW-7A-12-094	08-36-100-016		Cook
NW-7A-12-095	08-36-100-019		Cook
NW-7A-12-096	08-36-101-008		Cook
NW-7A-12-097	08-36-101-029, 08-36-101-030		Cook
NW-7A-12-100	08-36-101-023, 08-36-101-024, 08-36-101-028		Cook
NW-7A-12-102	08-36-102-002, 08-36-102-028, 08-36-102-029 08-36-102-030, 08-36-102-036, 08-36-102-037		Cook
NW-7A-12-103	08-36-102-027		Cook

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

<b>Elgin O'Hare Western Access</b>	<b>PREVIOUSLY IDENTIFIED</b>	
<b>Parcel</b>	<b>PIN NUMBER/OR DESCRIPTION</b>	<b>County</b>
NW-7A-12-105	08-36-102-022, 08-36-102-033, 08-36-102-034 08-36-102-035, 08-36-102-042	Cook
NW-7A-12-110	08-36-100-008	Cook
NW-7A-12-112	08-36-100-019	Cook
TW-7-12-004	12-31-301-028	Cook
TW-7-12-040	A STRIP OF LAND BETWEEN THE EAST RIGHT OF WAY LINE OF COUNTY LINE ROAD/MT. PROSPECT ROAD AND THE WEST RIGHT OF WAY LINE OF I-294	Cook
TW-7-12-902	A STRIP OF LAND BETWEEN THE EAST RIGHT OF WAY LINE OF COUNTY LINE ROAD/MT. PROSPECT ROAD AND THE WEST RIGHT OF WAY LINE OF I-294	Cook
TW-7-12-903	A STRIP OF LAND BETWEEN THE EAST RIGHT OF WAY LINE OF COUNTY LINE ROAD/MT. PROSPECT ROAD AND THE WEST RIGHT OF WAY LINE OF I-294	DuPage
WA-3D-12-064	08-25-301-006	Cook
WA-3D-12-065	08-25-301-007, 08-25-301-007, 08-25-301-008 08-25-301-009, 08-25-301-010, 08-25-301-011	Cook
NW-7A-12-017	08-26-411-002	Cook
NW-7A-12-073	08-25-301-005	Cook
NW-7A-12-076	08-26-409-007, 08-26-409-008 08-26-409-009, 08-26-409-017	Cook
NW-7A-12-081	08-26-410-002, 08-35-201-003	Cook
NW-7A-12-082	08-26-411-003, 08-26-411-005	Cook
NW-7A-12-084	08-26-411-018	Cook
NW-7A-12-085	08-35-201-009	Cook
NW-7A-12-086	08-35-203-016, 08-35-203-019	Cook
NW-7A-12-099	08-36-101-027	Cook
NW-7A-12-111	08-26-410-001	Cook
NW-7A-12-113	08-35-201-012, 08-26-410-006	Cook

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

<b>Elgin O'Hare Western Access</b>	<b>PREVIOUSLY IDENTIFIED</b>	
<b>Parcel</b>	<b>PIN NUMBER/OR DESCRIPTION</b>	<b>County</b>
WA-3D-12-054	08-36-201-011	Cook
WA-3D-12-079	09-30-300-051	Cook
WA-3D-12-080	09-30-300-050, 09-03-300-060	Cook
WA-3D-12-081	09-30-300-059	Cook
WA-1D-12-062	12-19-100-035, 12-19-100-001	Cook
TW-7-12-031	12-30-100-016-6001, 12-30-100-016-6002	Cook
WA-1D-12-001	12-19-500-006, 12-19-500-008	Cook
WA-1D-12-074	12-19-500-004, 12-18-500-006	Cook
WA-1D-12-081	12-18-300-012, 12-18-300-056 12-18-300-064, 12-18-300-065 12-18-300-066, 12-18-300-060, 12-18-300-044	Cook
WA-1D-12-092	03-13-510-001	DuPage
WA-2D-12-184	03-12-505-004, 03-01-505-004, 03-12-510-001	DuPage
WA-2D-12-216	03-12-100-002, 03-13-100-017, 03-13-100-021, 03-13-100-022 03-13-100-023, 03-13-100-024, 03-13-100-031 03-13-100-032 03-13-100-033, 03-13-100-037, 03-13-100-038, 03-13-100-040 03-13-100-041, 03-13-100-043, 03-13-100-042, 03-13-100-046 03-13-100-047, 03-13-100-039, 03-13-100-045, 03-13-100-048 03-12-510-001, 03-13-510-001, 03-13-100-009, 03-13-100-010	DuPage
WA-2D-12-218	03-01-504-001 08-36-500-021	DuPage Cook
WA-3D-12-002	08-36-300-007	Cook
WA-1D-12-022	03-24-201-013, 03-24-201-014	DuPage
WA-1D-15-001	12-19-100-036	Cook
WA-2D-12-195	03-01-509-001, 03-01-509-002, 03-01-100-003	DuPage
WA-3D-12-003	08-36-300-009, 08-36-300-012, 08-36-300-013	Cook
WA-3D-12-006	08-36-300-010	Cook
WA-3D-16-001	09-31-100-004	Cook

**EXHIBIT "A"**  
**Project I-11-4011**  
**Elmhurst Road**  
**Elgin O'Hare Western Access**

<b>Elgin O'Hare Western Access</b>		<b>ADDED IDENTIFIED PARCELS</b>	
<u><b>Parcel</b></u>	<u><b>PIN NUMBER/OR DESCRIPTION</b></u>	<u><b>County</b></u>	
WA-1D-12-023	03-24-201-019	DuPage	
WA-1D-12-024	03-24-201-020	DuPage	
WA-1D-12-025	03-24-201-006, 03-24-201-015	DuPage	
WA-1D-12-027	12-19-100-066	Cook	
WA-1D-12-028	12-19-100-065	Cook	
WA-1D-12-029	12-19-100-084	Cook	
WA-1D-12-030	12-19-100-083	Cook	
WA-1D-12-032	12-19-100-096	Cook	
WA-1D-12-033	12-19-100-112- 1001, 12-19-100-112- 1002 12-19-100-112- 1003, 12-19-100-112- 1004 12-19-100-112- 1005, 12-19-100-112- 1006	Cook	
WA-1D-12-034	12-19-100-038	Cook	
WA-1D-12-035	12-19-100-019	Cook	
WA-1D-12-037	12-19-100-026	Cook	
WA-1D-12-109	12-19-100-078	Cook	

RESOLUTION NO. 21095  
AMENDING RESOLUTION NO. 20942

**Background**

Resolutions 19584 and 21069 authorized acquisition of needed parcels and expenditures up to \$6,900,000.00 for any and all land acquisition fees and costs needed for the Tri-State Tollway Project, Project No. RR-11-4010. Resolution 20942 as preceded by Resolution 20771 identified specific parcels that were required for Tollway purposes. Resolution 20942 must be further amended to identify and add additional parcels and to provide Land Acquisition the authority to acquire all needed parcels necessary for the Elgin O'Hare Western Access Project; including fee title, permanent easements, temporary easements and access control relative to said Project. Pursuant to ISTHA v. DiBenedetto, 275 Ill. App 3d 400, 404 (1<sup>st</sup> Dist., 1995), the Tollway is required to reasonably describe the real property that may need to be acquired by eminent domain. This Resolution, amending Resolution 20942, identifies additional parcels and satisfies this requirement.

**Resolution**

Acquisition is authorized for any and all needed real property and interests in real estate and includes but is not limited to the Identified Parcels listed herein on Exhibit "A" ("Identified Parcels") which is attached hereto and incorporated herein by this reference. These acquisitions are necessary and convenient to secure all needed real property and the interests in real estate. The Tollway's Engineering Department by and through its Land Acquisition Manager, together with employees, vendors and agents are authorized to acquire all real estate interests and to spend sums up to an amount not to exceed \$6,900,000.00 to pay for any and all land acquisition fees and costs including, but not limited to, consideration, settlements, purchase price, fees, costs, closing costs, appraisers, negotiators, surveyors, close and make deposits to close in escrow, title work, title insurers, agents, owners, relocation expenses, relocation benefits, relocation costs, Special Assistant Attorneys General, payment of preliminary just compensation, damages and all such other experts retained for the purpose of acquiring all needed real property and interests in real estate, as well as final just compensation and to pay any and all such other acquisition costs, fees and expenses.

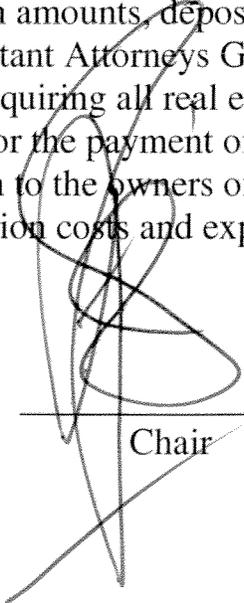
RESOLUTION NO. 21095  
AMENDING RESOLUTION NO. 20942

**Resolution – Continued**

In the event all or the part of the Parcels identified on Exhibit “A” cannot with reasonable diligence be purchased via negotiations, administrative documentation, or settlement then upon the recommendation of the Land Acquisition Manager, and the General Counsel, the Land Acquisition Unit and the Legal Department are authorized and directed to retain the services of Special Assistant Attorneys General to acquire those needed Identified Parcels by instituting and proceeding to acquire said Identified Parcels by eminent domain in the name of the Tollway.

The Executive Director, or the Chief of Staff and/or the Land Acquisition Manager, subject to form and constitutionality approval of the General Counsel, state and federal law and then existing Land Acquisition policies and procedures are authorized to enter into and execute any real estate contract for the acquisition or conveyance of all needed real estate for the Project; the Land Acquisition unit is authorized to acquire and purchase property by and through escrow closings with its approved title insurance vendors; the Chief of Finance is authorized to issue warrants from time to time to pay for any and all land acquisition fees and costs including but not limited to purchase price, acquisition fees, costs, closing costs, appraisers, negotiators, surveyors, title insurers, deposit preliminary just compensation amounts, deposit sums to close in escrow, agents, relocation costs, Special Assistant Attorneys General and all such other experts retained for the purpose of acquiring all real estate needed for the project as well as the Identified Parcels and for the payment of preliminary just compensation as well as final just compensation to the owners of said Identified Parcels and to pay any and all such other acquisition costs and expenses, not to exceed the sum of \$6,900,000.00.

Approved by: \_\_\_\_\_  
Chair



07/28/16

6.4/13

RESOLUTION NO. 21095  
AMENDING RESOLUTION NO. 20942

**Resolution – Continued- Exhibit ‘A’**

**PROJECT: RR-11-4010- IDENTIFICATION OF PARCELS**

**TRI-STATE TOLLWAY**

**EXHIBIT "A"**  
**Project RR-11-4010**  
**Tri-State Tollway**

<b>TRI-STATE TOLLWAY</b>	<b>ADDED IDENTIFIED PARCELS</b>
<b><u>PARCEL NUMBER</u></b>	<b><u>COOK COUNTY PIN NUMBER/OR DESCRIPTION</u></b>
TW-5-16-001	18-19-301-004, 18-19-301-005

RESOLUTION NO. 21096

**Background**

It is in the best interest of the Illinois State Toll Highway Authority (the “Tollway”) to enter into an Intergovernmental Agreement with the University of Illinois (“University”). The Tollway will sponsor the University’s research which will provide for the validation of intelligent compaction to characterize pavement foundation mechanical properties. The research is expected to create statistically valid relationships between intelligent compaction measurement values and mechanical properties of compacted materials. The term of the agreement is from August 16, 2016 to August 15, 2018. The estimated cost to the Tollway is \$200,000.

**Resolution**

The Chief Engineer and the General Counsel are authorized to negotiate and prepare an Intergovernmental Agreement between the Illinois State Toll Highway Authority and the University of Illinois in substantially the form of the Intergovernmental Agreement attached to this Resolution. The Chairman or the Executive Director is authorized to execute said agreement.

Approved by: \_\_\_\_\_

Chairman

**INTERGOVERNMENTAL AGREEMENT BETWEEN  
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY  
AND  
THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS  
FOR THE VALIDATION OF INTELLIGENT COMPACTION TO CHARACTERIZE  
PAVEMENT FOUNDATION MECHANICAL PROPERTIES**

This INTERGOVERNMENTAL AGREEMENT (“AGREEMENT”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY, an instrumentality and administrative agency of the State of Illinois, hereinafter called the "ILLINOIS TOLLWAY", and THE BOARD OF TRUSTEES of the UNIVERSITY OF ILLINOIS, a body politic and corporate of the State of Illinois, hereinafter called the "UNIVERSITY", individually referred to as “PARTY” and collectively as “PARTIES”.

**WITNESSETH:**

WHEREAS, the ILLINOIS TOLLWAY, in order to facilitate the free flow of traffic and ensure safety to the motoring public, approved a 15 year Capital Program, “Move Illinois; *The Illinois Tollway Driving the Future*,” desires to conduct research for the Validation of Intelligent Compaction to Characterize Pavement Foundation Mechanical Properties (“PROJECT”);

WHEREAS, developing statistically valid relationships between Intelligent Compaction (“IC”) measurement values and mechanical properties of compacted materials will provide contractors and owners with mechanical property outputs in real-time with nearly 100% spatial coverage of the project and will substantially reduce the risk of not meeting pavement design criteria and will help to ensure long term performance; and

WHEREAS, the UNIVERSITY has demonstrated the necessary expertise and facilities to perform research for the PROJECT in partnership with Ingios Geotechnics, Inc. (“Ingios”); and

WHEREAS, the UNIVERSITY and the ILLINOIS TOLLWAY by this instrument, which for ILLINOIS TOLLWAY recording purposes shall be known as #2016-13, intend to outline their respective responsibilities toward implementation and funding for the research and development of the PROJECT. A copy of the UNIVERSITY’s PROPOSAL is incorporated into this AGREEMENT by reference and attached hereto as “EXHIBIT A”; and

WHEREAS, the ILLINOIS TOLLWAY by virtue of its powers as set forth in the "Toll Highway Act," 605 ILCS 10/1 is authorized to enter into this AGREEMENT; and

WHEREAS, the UNIVERSITY by virtue of its powers as set forth in the University of Illinois Act 110 ILCS 305/1 is authorized to enter into this AGREEMENT; and

WHEREAS, a cooperative Intergovernmental Agreement is appropriate and such an Agreement is authorized by Article VII, Section 10 of the Illinois Constitution and other provisions of Illinois Law.

NOW, THEREFORE, in consideration of the aforementioned recitals and the mutual covenants contained herein, the PARTIES hereto agree as follows:

### **ARTICLE I – Sponsorship/Scope**

- A. The ILLINOIS TOLLWAY agrees to sponsor the UNIVERSITY in its research and development of the PROJECT.
- B. The UNIVERSITY is to create a synthesis of literature and manufacturer information that identifies methods used to compare IC measurements to soil mechanical properties and the success of those methods; develop a criteria or procedure for field validating the relationship between IC measurements and soil mechanical properties; and demonstrate the field calibration process using three different IC technology providers.

### **ARTICLE II – Deliverables**

- A. The tasks as outlined in this plan are detailed in the PROPOSAL that is included herein as EXHIBIT A. The schedule for Deliverables of any task shall comply with the PROPOSAL included in EXHIBIT A.
- B. Comprehensive Literature Review – the UNIVERSITY shall conduct a thorough review of technical literature and vendor information to evaluate and summarize previous efforts to develop relationships between IC measurements and mechanical properties.
- C. Development of an IC certification process – the UNIVERSITY shall develop an implementable process for collecting IC measurements and field verification data to ensure confidence in the relationship between the two sets of data.
- D. Demonstration projects – the UNIVERSITY shall arrange field demonstrations for the IC technologies during the 2016 and 2017 ILLINOIS TOLLWAY construction seasons. The task will require working with the ILLINOIS TOLLWAY to identify potential contracts for the field demonstrations, and with the providers of IC technology to coordinate collection of IC measurements and provide data for analysis.

### **ARTICLE III – Research Results and Implementation**

- A. The UNIVERSITY shall provide thorough unbiased results and methods that can determine the intended mechanical properties in the field to readily determine if pavement design targets have been achieved.
- B. The UNIVERSITY shall provide a statistically defensible framework to use IC data with high reliability to estimate mechanical properties of earth materials in embankment fill and pavement foundation layers.

- C. The UNIVERSITY shall create a practical and statistically defensible IC certification process.

#### **ARTICLE IV – Financial Terms**

- A. The ILLINOIS TOLLWAY as sponsor will compensate the UNIVERSITY as outlined in this AGREEMENT and in the UNIVERSITY's PROPOSAL.
- B. The funding for the PROJECT shall be provided directly by the ILLINOIS TOLLWAY to the UNIVERSITY.
- C. The UNIVERSITY will be paid based upon its invoice(s) which shall include a detailed description of the services performed, administration costs of performance, and all other charges as contemplated by this AGREEMENT in substantial conformance with the Itemized Budget in the PROPOSAL.
- D. The UNIVERSITY shall certify in writing, upon presentment of each invoice hereunder, that work as invoiced has been actually performed and that the UNIVERSITY is in fact complying with all other provisions of this AGREEMENT. Invoicing shall be sufficiently itemized to permit the ILLINOIS TOLLWAY or its consultant(s) or cooperating governmental unit(s) to verify performance of the work so invoiced.
- E. It is mutually agreed that the estimated budget shall not exceed \$200,000.00 for the term of this AGREEMENT from August 16, 2016, to February 15, 2018.
- F. Pursuant to the PROPOSAL, there is no travel associated with this AGREEMENT.

#### **ARTICLE V – Work Product and Documents**

- A. The UNIVERSITY shall retain title to equipment and all other items purchased with the funds provided by the ILLINOIS TOLLWAY under this AGREEMENT.
- B. Each PARTY, including its agents and subcontractors, to this AGREEMENT may have or gain access to confidential data or information owned or maintained by the other PARTY in the course of carrying out its responsibilities under this AGREEMENT. (Confidential Data). Any form of data resulting from the finished research and development the PROJECT that is generated from any input data of or from the ILLINOIS TOLLWAY shall be considered Confidential Data. For any remaining data, preferably prior to disclosure or transmission of Confidential Data to the receiving PARTY, the disclosing PARTY shall designate the data or information as being confidential. Disclosure of Confidential Data, which shall include, but not be limited to written, oral or visual disclosures, shall not be disclosed except as required by law, without the advanced written approval of the other PARTY. The receiving PARTY must return any and all data collected, maintained, used or resulting from the ILLINOIS TOLLWAY's Confidential Data in the course of the

performance of the AGREEMENT at the conclusion of this AGREEMENT, or earlier if requested by the other PARTY. In the alternative, the receiving PARTY may provide written certification of the destruction of the Confidential Data to the other PARTY. The foregoing obligations shall not apply to Confidential Data or information lawfully in the receiving PARTY's possession prior to its acquisition from the disclosing PARTY; received in good faith from a third-party not subject to any confidentiality obligation to the disclosing PARTY; now is or later becomes publicly known through no breach of confidentiality obligation by the receiving PARTY; or is independently developed by the receiving PARTY without the use or benefit of the disclosing PARTY's confidential information. The confidentiality requirements in this Section will not prohibit the UNIVERSITY from publishing as outlined in ARTICLE V-F.

- C. If the UNIVERSITY receives a request under the Illinois Freedom of Information Act or a request by legal process to disclose confidential information. The UNIVERSITY will provide prompt notice to the ILLINOIS TOLLWAY, and will not release any documents until at least fifteen (15) business days after providing the ILLINOIS TOLLWAY with notice.
- D. **OWNERSHIP.** Deliverables are those tangible items and the intangible (intellectual) property identified and included in EXHIBIT A. The UNIVERSITY grants the ILLINOIS TOLLWAY shared ownership of all such work product identified and detailed in EXHIBIT A as a Deliverable except as detailed within this paragraph. The UNIVERSITY shall retain the rights to all methodologies, technologies, algorithms, source codes, and know-how described and/or incorporated into the Deliverables for the development of the use and end-of-life phases of the research and development of the PROJECT ("UNIVERSITY Intellectual Property"). The UNIVERSITY and the ILLINOIS TOLLWAY shall jointly retain ownership of all methodologies, technologies, algorithms, source codes, and know-how described and / or incorporated into the Deliverables for the development of the materials, construction, and operation / maintenance phases of the research and development of the PROJECT ("Jointly-Owned Intellectual Property"). Each PARTY retains the rights to use, modify, maintain, and create derivative works from the Jointly-Owned Intellectual Property of these Deliverables. The UNIVERSITY retains the rights to (a) use the Deliverables containing both the UNIVERSITY's Intellectual Property and Jointly Owned Intellectual Property for research and academic purposes; (b) continue further development of these specific Deliverables; and (c) share these specific Deliverables with public bodies provided the UNIVERSITY recognizes the contributions of the ILLINOIS TOLLWAY. If the ILLINOIS TOLLWAY determines the need for modifications to the Deliverables containing only UNIVERSITY Intellectual Property, the terms and conditions of any further work shall be addressed in a separate agreement between the PARTIES.
- E. **TEST METHOD.** All research and development of the PROJECT shall be developed by the UNIVERSITY using the format provided in Table 2 of the PROPOSAL.

- F. The UNIVERSITY shall have the right to publish or otherwise disclose the results of the research and development of the PROJECT, except for any Confidential Data as defined in Article V. Publications and disclosures resulting from this AGREEMENT shall acknowledge the ILLINOIS TOLLWAY's contribution and participation.
- G. The UNIVERSITY shall furnish to the ILLINOIS TOLLWAY, no later than the time of the final invoice, or within forty-five (45) days of termination of this AGREEMENT, whichever is earlier, a final technical report summarizing the work performed and the results thereof.

#### **ARTICLE VI – Term and Termination**

- A. The tasks set forth in EXHIBIT A shall be performed beginning August 16, 2016, and shall be completed no later than to February 15, 2018.
- B. Nothing in this AGREEMENT shall be construed to require the PARTIES to contract for services and studies or to preclude the PARTIES from entering into a subsequent Agreement or Agreements as to some or all of the components of EXHIBIT A, or for other or different studies, consultations or services in relation to the same subject matter of this AGREEMENT.
- C. In the event of any termination prior to completion of the research and development of the PROJECT, the amount due to the UNIVERSITY from the ILLINOIS TOLLWAY shall not exceed \$200,000.00, the total cost set forth above in ARTICLE IV. The ILLINOIS TOLLWAY will pay for all costs incurred through the date of termination including all non-cancelable obligations. The UNIVERSITY will furnish to the ILLINOIS TOLLWAY a final technical report summarizing the work performed and results thereof, through the date of termination.

#### **ARTICLE VII – General Provisions**

- A. The UNIVERSITY shall acknowledge the contribution and participation of the ILLINOIS TOLLWAY in any project where the ILLINOIS TOLLWAY funds are used to develop statistically valid relationships between IC measurement values and mechanical properties of compacted materials. Such acknowledgement shall be made in any project reports or presentations.
- B. Neither PARTY will state or imply in any publication, advertisement, or other medium that any product or service bearing the name of the other PARTY, and manufactured, sold or distributed by that PARTY were approved or endorsed by the other PARTY.
- C. Each PARTY shall be responsible for injuries to persons and damages to tangible property and professionally responsible to the extent that such acts were caused by its actions, inactions, errors and omissions, including those of its officers, employees and

agents, acting in the scope of their employment or agency in performing this AGREEMENT.

- D. The UNIVERSITY agrees that in the performance of this AGREEMENT and the development of the PROJECT, the UNIVERSITY, including its officers, employees and agents will comply with all applicable state, federal and local statutes, ordinances and regulations.
- E. Each PARTY represents that no person or agency has been employed to solicit, secure or facilitate this AGREEMENT for a commission, percentage, brokerage or contingent fee.
- F. This AGREEMENT may not be assigned or transferred by either PARTY without the prior written consent of the other.
- G. It is understood and agreed that this AGREEMENT constitutes the complete and exclusive statement of the agreement of the PARTIES relative to the subject matter hereof and supersedes all previous oral and written proposals, negotiations, representations or understandings concerning such subject matter.
- H. Wherever in this AGREEMENT approval or review by either the UNIVERSITY or the ILLINOIS TOLLWAY is provided for, said approval or review shall not be unreasonably delayed or withheld.
- I. In the event of a dispute between the UNIVERSITY and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT, the Chief Engineer of the ILLINOIS TOLLWAY and the Associate Vice Chancellor for Research, Director of Office of Sponsored Programs and Research Administration of the UNIVERSITY shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of a dispute concerning the carrying out of the terms of this AGREEMENT, the decision of the Chief Engineer of the ILLINOIS TOLLWAY shall be final.
- J. This AGREEMENT may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which shall be deemed one and the same instrument.
- K. Under penalties of perjury, the UNIVERSITY certifies that its correct Federal Tax Identification number is 37-6000511 and it is doing business as a governmental entity, whose mailing address is University of Illinois, c/o Office of Sponsored Programs and Research Administration, 506 South Wright Street, Urbana, Illinois 61801,
- L. This AGREEMENT may only be modified by written modification executed by duly authorized representatives of the PARTIES hereto.
- M. This AGREEMENT shall be binding upon and inure to the benefit of the PARTIES hereto and their respective successors and approved assigns.

- N. The failure by the ILLINOIS TOLLWAY or the UNIVERSITY to seek redress for violation of or to insist upon the strict performance of any condition or covenant of this AGREEMENT shall not constitute a waiver of any such breach or subsequent breach of such covenants, terms, conditions, rights and remedies. No provision of this AGREEMENT shall be deemed waived by the ILLINOIS TOLLWAY or the UNIVERSITY unless such provision is waived in writing.
- O. It is agreed that the laws of the State of Illinois shall apply to this AGREEMENT.
- P. All written reports, notices and other communications related to this AGREEMENT shall be in writing and shall be personally delivered, mailed via certified mail, overnight mail delivery, or electronic mail delivery to the following persons at the following addresses:

To the ILLINOIS TOLLWAY:                   The Illinois Toll Highway Authority  
2700 Ogden Avenue  
Downers Grove, Illinois 60515  
Attn: Chief Engineer

To the UNIVERSITY:                        The University of Illinois  
Office of Sponsored Programs (OSP)  
1901 South First Street, Suite A  
Champaign, Illinois 61820  
Attn: David Richardson

- Q. Forced Labor. The UNIVERSITY certifies it complies with the State Prohibition of Goods from Forced Labor Act, and certifies that no foreign-made equipment, materials, or supplies furnished to the ILLINOIS TOLLWAY under this AGREEMENT have been or will be produced in whole or in part by forced labor, or indentured labor under penal sanction (30 ILCS 583).
- R. The UNIVERSITY shall maintain books and records relating to the performance of this AGREEMENT necessary to support amounts charged to the ILLINOIS TOLLWAY. Books and records, including information stored in databases or other computer systems, shall be maintained by the UNIVERSITY for a period of three (3) years from the later of the date of final payment under this AGREEMENT or completion of the work performed under this AGREEMENT. Books and records required to be maintained under this section shall be available for review or audit by representatives of the Auditor General, the Executive Inspector General, the Illinois Tollway Inspector General, State of Illinois internal auditors or other governmental entities with monitoring authority, upon reasonable notice and during normal business hours.
- S. The introductory recitals included at the beginning of this AGREEMENT are agreed to and incorporated into this AGREEMENT.

IN WITNESS THEREOF, the PARTIES have executed this AGREEMENT on the dates indicated.

**THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS**

By: \_\_\_\_\_  
Walter K. Knorr, Comptroller

Date: \_\_\_\_\_

**THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

By: \_\_\_\_\_  
Greg M. Bedalov, Executive Director

Date: \_\_\_\_\_

Approved as to Form and Constitutionality

\_\_\_\_\_  
Robert T. Lane, Senior Assistant Attorney General, State of Illinois

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN



Office of Sponsored Programs

1901 S. First Street, Suite A  
Champaign, Illinois 61820

February 18, 2016

Illinois State Toll Highway Authority

U of I REF. NO. 2016-05107  
TITLE: Validation of Intelligent Compaction to Characterize Pavement Foundation Mechanical Properties  
REQUESTED AMOUNT: \$ 200,000.00  
PERIOD: 8/16/16-2/15/18  
PRINCIPAL INVESTIGATOR(s): Erol Tutumluer  
DEPARTMENT: CEE  
TYPE OF REQUEST: New Request

This proposal has been approved for submission by the proper University administrative official(s). Your consideration will be appreciated. Any contract or grant supporting the above described project must be issued in the University's corporate name, The Board of Trustees of the University of Illinois.

Furthermore, we understand if funding for this project is subject to PHS regulations, the terms and conditions of any agreement for participation in the project shall require our organization certify compliance with those regulations.

In anticipation of such an award, University of Illinois ensures that it has a financial conflict of interest policy compliant with the PHS regulations, and shall apply that policy to all University of Illinois Investigators proposed under the research.

Any questions of a non-technical nature regarding this proposal should be addressed to **PROPOSAL COORDINATOR** at (217) 333-2187: Julie McCabe

Sincerely,

*David W. Richardson*

David W. Richardson  
Associate Vice Chancellor for Research  
Director of Office of Sponsored Programs  
University of Illinois at Urbana - Champaign

**ATTACHMENT TO PROPOSAL TRANSMITTAL LETTER**

(The following General Information is provided to assist potential Sponsors. It is recognized some information may not be applicable to this specific proposal and, if inappropriate, should be disregarded.)

1. **The University of Illinois reserves the right to negotiate the terms and conditions of any definitive Contract/Grant which may result from this proposal application. The University of Illinois is a public research university subject to an increasing number of state and federal regulations that are unique to higher education. As a result, most contracts provided by our sponsors require minor revisions before we can legally sign them.**
2. **Any resulting Contract/Grant should be made in the University's legal corporate name, "The Board of Trustees of the University of Illinois", c/o Office of Sponsored Programs, at the address listed below in item 3.**

3. **All contractual correspondence should be mailed to:** **Authorized Organizational Representative (legal signatory):**

University of Illinois  
Office of Sponsored Programs (OSP)  
1901 South First Street, Suite A  
Champaign, IL 61820  
E-mail: [osp@illinois.edu](mailto:osp@illinois.edu)

Walter K. Knorr, Comptroller

4. **General Information, Mailing Instructions, Representations/Certifications, etc: (217) 333-2187**

Proposals/Contracts/Grants

Katie Einck	(217) 333-4938	Jennifer Ford	(217) 300-2002
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5. **University Contacts related to Proposal Review: PHONE (217) 333-2187 FAX #(217) 239-6830**

Kathy Dams, Assistant Director (217) 244-8212

Bryan Bachman	(217) 265-0082	Scott Corum	(217) 265-7794
Geoff Dehler	(217) 265-7687	Stephanie Fellmann	(217) 265-7682
Julie McCabe	(217) 244-9029	Tim Tufte	(217) 265-7708

6. **Cognizant Federal Admin. Agency:**  
Office of Naval Research  
230 South Dearborn Avenue, Rm. 380  
Chicago, IL 60604-1595  
Attn: Administrative Contact  
(312) 886-5423; E-Mail: [ONR\\_Chicago@onr.navy.mil](mailto:ONR_Chicago@onr.navy.mil)

7. **Contract/Grant payments should be mailed to:**  
University of Illinois  
Grants & Contracts  
28392 Network Place  
Chicago, IL 60673-1283  
DUNS # 04-154-4081  
FEIN # 37-6000511  
Cage Code: 4B808

8. **Authorized Officials for Submitting Proposal Applications:**  
Institutional: Peter Schiffer, Chair, Research Board  
Administrative: David W. Richardson, AVCR/Director, OSP

9. **Please use the following link for access to indirect cost rates, fringe benefit rates and tuition remission rates that have been currently negotiated with the Office of Naval Research:**  
<https://www.obfs.uillinois.edu/government-costing/rate-schedules/urbana-champaign/>



**VALIDATION OF INTELLIGENT COMPACTION TO CHARACTERIZE  
PAVEMENT FOUNDATION MECHANICAL PROPERTIES**

SOLICITATION #16-01

<b>Submitted By:</b>	University of Illinois at Urbana-Champaign
<b>Proposed Investigator(s):</b>	Erol Tutumluer, Ph.D. (UIUC) and David J. White, Ph.D., P.E. (Ingios Geotechnics)
<b>Corresponding Investigator Name:</b>	Erol Tutumluer, Ph.D. (UIUC)
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<b>Submission Date</b>	February 18, 2016

## 2. RESEARCH PLAN

### (A) Introduction

Although intelligent compaction (IC) technologies have been used in the U.S. on over 200 pilot/demonstration projects since year 2000, current specifications lack a detailed framework for calibration (i.e., corrections from independent testing) and validation of results (i.e., accuracy and system quality checks) in terms of mechanical soil properties. The next big leap forward in earthwork construction and pavement foundation construction quality will be realized through developing statistically valid relationships between IC measurement values (MVs) and mechanical properties of compacted materials. Providing contractors and owners with mechanical property outputs in real-time with nearly 100% spatial coverage of the project will substantially reduce risk of not meeting the pavement design criteria, thus helping to insure long-term performance.

The University of Illinois in partnership with Ingios Geotechnics, Inc. (Ingios) is pleased to submit this proposal in response to Illinois Tollway RFP #16-01 “*Validation of Intelligent Compaction to Characterize Pavement Foundation Mechanical Properties.*” Proposed herein is a research program that will help achieve the following objectives of this project, in accordance with the RFP:

- (1) To create a synthesis of literature and manufacturer information that identifies methods used to compare IC measurements to soil mechanical properties, and the success of those methods;
- (2) To develop a criteria or procedure for field validating the relationship between IC measurements and soil mechanical properties; and
- (3) To demonstrate the field calibration process using three different IC technology providers.

The research team has highly specialized expertise with IC systems, data visualization and analytics, in situ testing, in-ground instrumentation, laboratory testing and soils/materials characterization, application of pavement design tools, roadway construction specifications, and delivering effective implementation and technology transfer programs. The research team has received written commitments from Caterpillar, Inc., Sakai America, Inc., and Hamm/Wirtgen America, Inc., to provide IC equipped rollers during the field demonstration and testing phases of the project. Ingios Geotechnics, Inc. will also provide a retrofit IC kit that measures multiple MVs simultaneously and includes the *Validated Integrated Compaction Monitoring* (VICM) system developed in 2014.

The research team also brings expertise with both laboratory and in situ field testing equipment and methods for characterizing compaction of earth materials. Ingios developed the Automated Plate Load Test (APLT) system to rapidly characterize the in situ resilient modulus, shear strength, and penetration resistance of compacted materials. The APLT system is equipped with 6 to 30 in. plate assemblies, cone penetration test (CPT) equipment, in-ground instrumentation capabilities, tube sampling capabilities, and other field test equipment with integrated RTK-GPS position measurements. Ingios will use the APLT system along with other standard testing methods to independently determine in situ mechanical properties. We believe that high quality, rigorous, independent field measurement of mechanical

properties, together with laboratory testing and characterization of field samples as needed, will provide the information needed to advance IC MVs toward use as construction acceptance.

Erol Tutumluer, Ph.D. will serve as the principal investigator (PI) and lead the project team. Dr. Tutumluer has been active in transportation geotechnics and pavement engineering research, education, and practice for over 20 years. His research focuses on laboratory and full-scale testing, characterization, and modeling of subgrade soils and base/subbase aggregates, mechanistic-empirical pavement design, and sustainability issues, such as the recent Illinois Center for Transportation (ICT) projects investigating effects of virgin, unconventional and recycled aggregate type and quality on field compaction and construction practices and subgrade replacement and subbase.

David J. White, Ph.D., P.E. will serve as the co-principal investigator (Co-PI). Dr. White has been involved with evaluating and developing IC technologies for 14 years. Dr. White has also been involved with writing performance specifications at a national level and has published more than 100 technical papers and reports on the topic of compaction technologies and currently leads the on-going TPF-5(233) Technology Transfer Intelligent Compaction Consortium (TTICC) with participation from eleven state DOTs. Dr. White served as Co-PI for the NCHRP 676 project. Dr. White is the progenitor of the VICM and APLT systems.

### **(B) Research Approach/Work Plan**

The objectives of this research will be achieved through three research tasks, in accordance with the RFP. Details of each task and deliverable are provided below.

***TASK 1: Comprehensive literature review*** – *Conduct a thorough review of technical literature and vendor information to evaluate and summarize previous efforts to develop relationships between IC measurements and mechanical properties. (Months: 1-3). **Deliverable:** Draft Literature Review and Final Literature Review (incorporating Tollway comments and suggestions for draft document).*

The project Co-PI Dr. David White was involved in developing a detailed literature review on published correlations between IC MVs obtained from different vendors and mechanical properties as part of the *NCHRP Report 676: Intelligent Soil Compaction Systems* published in 2010. Since then, Dr. White has been involved with numerous field studies evaluating the relationships between different IC measurement systems and soil engineering parameters. The synthesis that will be developed for this study will summarize these studies and build on them by documenting the various recently completed research and on-going studies, and U.S. State DOT experiences over the past six years with implementing the IC technologies. The research team is up-to-date on this topic, and a formal review will be provided as part of this task.

This task will involve the following subtasks:

- (a) Identify the mechanical properties used in the design of embankment fill materials and design of pavement foundation layers for asphalt and concrete pavements;

- (b) Document studies to-date that show relationships between mechanical properties of earth materials and IC measurement values by different manufacturers and identify limitations associated with the IC MV to mechanical property derived relationships.

**Task 1a: Mechanical properties of foundation layers in embankment and pavement design**

An initial summary of mechanical properties used in design of embankment fill layers and pavement foundation subgrade and base layers is provided in Table 1. The embankment fill section is divided into three parts: (1) embankment fill > 3 ft. below pavement, (2) pavement foundation layers ≤ 3ft. of pavement including earth fills in critical areas (e.g., box culverts), and (3) fill materials in critical areas such as box culverts and bridge backfills, etc. Geotechnical design criteria for these conditions are summarized. The pavement foundation layer mechanical properties are summarized based on three different pavement design procedures. Other design procedures will also be considered as part of this task. An updated version of this table will be provided to Illinois Tollway for review and feedback. The associated field and laboratory test measurements to determine mechanical properties are identified in Table 2. Pending feedback, the highlighted test methods are proposed as the focus of Tasks 2 and 3.

**Task 1b: Correlations between mechanical properties and IC MVs**

The main goal of subtask 1b is to identify the documented relationships between mechanical properties and various IC MVs. Currently, there are many IC technology providers that offer vibratory-based MVs, which can be related to mechanical properties such as stiffness, modulus, or shear strength. The various vibratory based measurement technologies include compaction meter value (CMV), continuous compaction value (CCV), roller-integrated stiffness ( $k_B$ ), and vibratory modulus ( $E_{VIB}$ ). Details regarding these measurement technologies and correlations between these IC MVs and various in situ test methods have been well-documented since 1980 (see White et al. 2011, Mooney et al. 2010). A condensed summary of some key correlation studies is provided in Table 3. Results show that all IC MVs generally yield better correlations with in situ modulus or stiffness measurements compared to shear strength or dry density measurements.

For static rollers, Caterpillar developed the machine drive power (MDP) measurement, which is based on rolling resistance. It is applicable to both vibratory and non-vibratory compaction (White et al. 2005). More recently, Kimmel and Mooney (2011) documented a “smart pad” method which involves an instrumented roller pad with sensors to monitor normal force, contact stress distribution, and pad deflection. According to Kimmel and Mooney (2011), by combining these measurements, soil stiffness or modulus can be potentially determined. The procedure is relatively new, however, and has not yet been fully developed and validated.

XMV is a new technique that uses advanced data analytics and requires site specific calibration of the IC MVs using in situ plate load test measurements (i.e., modulus of subgrade reaction, in situ elastic modulus, or in situ resilient modulus). Recent field calibrations on subgrade and base materials showed coefficient of determination ( $R^2$ ) > 0.95 (see Table 3) are achievable using this technique [compared to  $R^2$  of 0.6 using CMV for the same data (White et al. 2014b)]. The site calibration process significantly

reduces the measurement error associated with correlation. Ingios developed a retrofit kit that can be mounted on any existing vibratory roller to measure CMV, CCV, RMV, and XMV to independently and simultaneously evaluate these MVs and relationships to mechanical properties of earth materials. The retrofit kit will be used to efficiently collect multiple IC MVs on existing contractor equipment as part of the field demonstration testing.

**Table 1. Summary of key mechanical properties for embankments and pavement foundations**

Foundation Layers	Design Procedure	Mechanical Properties*
Embankment fill (> 3ft below pavement layer)	Limit equilibrium slope stability analysis with FS $\geq$ prescribed value (e.g., 1.5)	Effective cohesion $c'$ and effective friction angle $\phi'$ , or undrained cohesion $c_u$ or undrained friction angle $\phi_u$ (accounting for geometric factors and water table)
	Total settlement criteria (e.g., $\leq 2\%$ of fill height)	Modulus of subgrade reaction $k$ -value
	Differential settlement criteria (e.g., $\leq 1$ in.)	$w\% \geq$ strain softening condition for post-saturation and $\leq$ required to achieve strength/stiffness criteria
Pavement foundation layers (subgrade, stabilized subgrade, unbound base and fill $\leq 3$ ft. below bottom of pavement layer) – new construction	1993 AASHTO Guide for Design of Pavement Structures	$k$ -value for subgrade based on 30-in. plate diameter, composite $k$ -value based on empirical relationships with base layer thickness and elastic modulus ( $E$ ).
	2001 United Facilities Criteria (UFC) 3-260-02 Pavement Design for Airfields	<u>CBR Method for HMA</u> : California Bearing Ratio (CBR) <u>Layered Analysis Method for HMA</u> : $M_r$ on saturated specimens or empirical relationships with CBR, unconfined compressive strength (for stabilized materials), <u>PCC</u> : $k$ -value for subgrade based on 30-in plate diameter and corrected for bending and saturation.
	AASHTOWare™ Pavement ME Design**	<u>Level 1</u> : $M_r$ coefficients $k_1$ , $k_2$ , and $k_3$ from AASHTO T307 or NCHRP 1-28A testing, Poisson's ratio (assumed), soil-water characteristic curve (SWCC) fitting parameters from pressure plate (ASTM C1699) or filter paper (ASTM D5298) testing.
		<u>Levels 2 and 3</u> : $M_r$ based on soil classification, and $w_{opt}$ , maximum $\gamma_d$ , and SWCC parameters from empirical relationships with gradation parameters.
Fill materials in critical areas (e.g., structural foundations and box culverts)	Total settlement criteria (e.g., $\leq 1\%$ of fill height)	Modulus of subgrade reaction $k$ -value
	Differential settlement criteria (e.g., $\leq 0.5$ in.)	$w\% \geq$ strain softening condition for post-saturation and $\leq$ required to achieve strength/stiffness criteria

\*Properties related stability are provided and properties related to drainage and freeze-thaw assessment are omitted.

\*\* AASHTOWare™ (2015) Level 1 input parameters were developed using APLT on Illinois Tri-State Tollway Field Project by Ingios Geotechnics, Inc (White et al. 2016a,b).

**Table 2. Summary of test methods to determine mechanical properties of earth materials**

Mechanical Property	Lab/Field	Test Method/Reference	Measurement Devices	Comments
California Bearing Ratio (CBR)	Lab	ASTM D1883	CBR test device	Sample is compacted in lab. Differences in field vs. lab compaction and boundary conditions can influence results.
	Field	ASTM D6951	Dynamic Cone Penetrometer (DCP)	Empirically related to CBR. Can determine individual layer CBR in situ.
Resilient Modulus ( $M_r$ )	Lab	AASHTO T-307 NCHRP 1-28A	Repetitive triaxial test device	Sample is compacted in lab. Differences in field vs. lab compaction and boundary conditions can influence results.
	Field	ASTM E1196 AASHTO T-307* NCHRP 1-28A*	Automated Plate Load Test (APLT)	Can <i>directly</i> measure confining stress dependent $M_r$ values to determine $k_1$ , $k_2$ , and $k_3$ values. Test measures composite moduli values, but layered moduli can be determined based on layered analysis.
		ASTM D4694	Falling weight deflectometer (FWD)	Layered analysis can be performed for individual layer moduli determination
		ASTM E2583 ASTM E2835 Nazarian et al. (1995)	Light weight deflectometer (LWD) Seismic pavement analyzer (SPA)	Results can be empirically correlated to $M_r$ (Nazarian et al. 2014)
Elastic Modulus (E)	Field	ASTM D1196 AASHTO T222	APLT	Test measures composite moduli values, but layered moduli can be determined based on layered analysis.
		ASTM E2583	Light weight deflectometer (LWD)	
Modulus of subgrade reaction $k$ -value	Field	AASHTO T222 CRD-C 655-95 ASTM D1196	Automated Plate Load Test (APLT)	Can be determined using 30 in., 18 in., 12 in., and 8 in. diameter plates
Shear strength parameters ( $c_u$ , $c'$ , $\phi_u$ and $\phi'$ )	Lab	ASTM D4767 ASTM D2850	Triaxial testing	Need an undisturbed sample from field for fine-grained soils.
		ASTM D3080	Direct shear testing	For coarse-grained soils only.
	Field	Handy (2002)	Borehole shear test (BST)	Can directly measure the effective shear strength parameters in situ.
		ASTM D5778 ASTM D2573	Cone penetration test (CPT) Vane shear test (VST)	Can provide layered profile along with pore-pressure measurements. Can only measure undrained shear strength parameters.
Soil water characteristic curves (SWCC)	Lab	ASTM C1699	Pressure plate	Can directly measure the SWCC parameters needed in design.
		ASTM D5298	Filter paper	
		ASTM D2325	Tempe cell	

\*APLT can be configured to perform in accordance with the stress sequences listed;

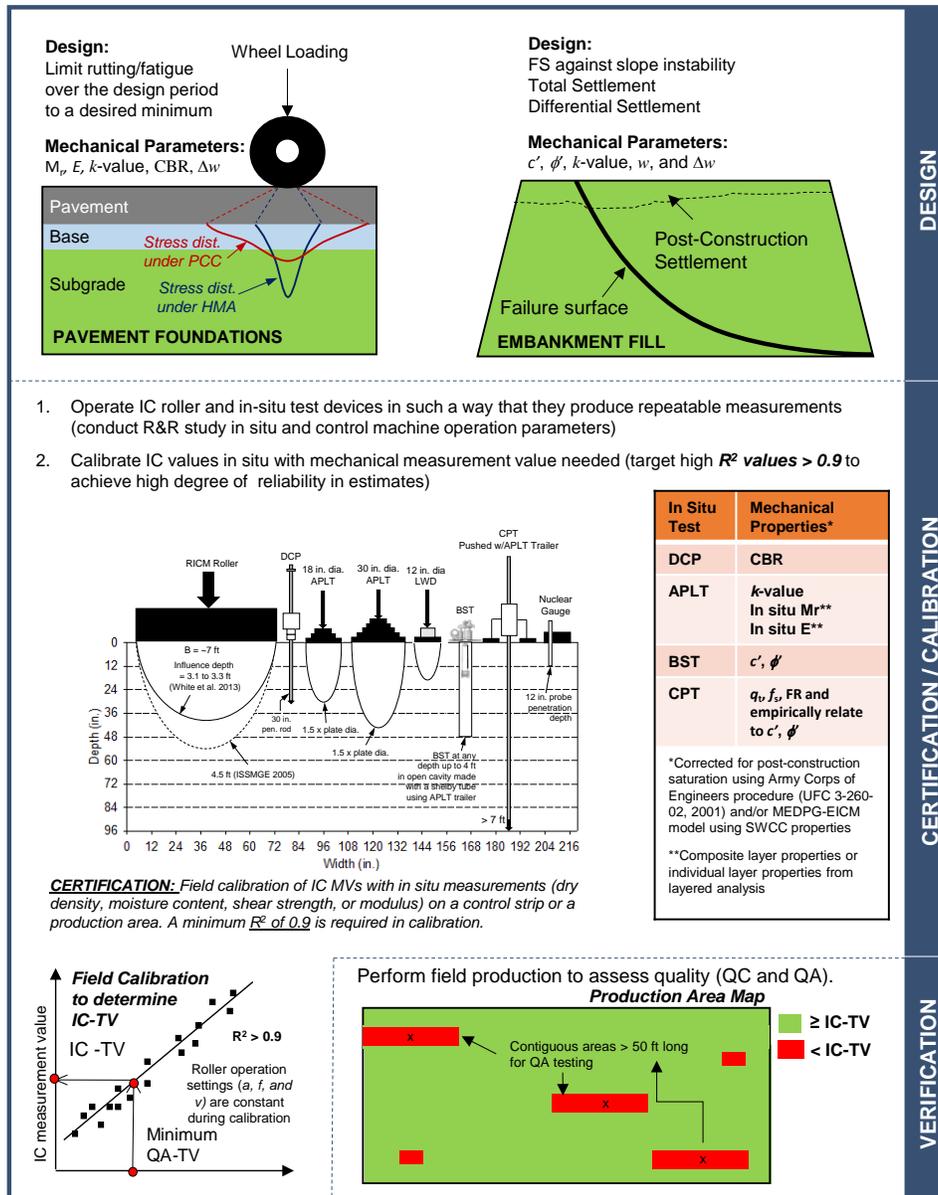
NOTE: Highlighted are testing capabilities that the research team members will utilize in this research study.

**Table 3. Summary of range of R<sup>2</sup> values between different RICM measurement values**

RICM Value	Soil Type	Mechanical Property	Range of R <sup>2</sup> values	References
CMV	Granular and Non Granular Soils	Elastic and Reload Modulus	0.2 to 0.9	Brandl and Adam (1997), White et al. 2011, 2013a, Vennapusa et al. 2012, Mooney et al. (2010)
		CBR	0.2 to 0.6	
		Dry Density	0 to 0.4	
CCV	Granular Non Granular Soils	Elastic and Reload Modulus	0.2 to 0.9	White et al. (2009), Mooney et al. (2010)
		CBR	0.2 to 0.4	
		Dry Density	0 to 0.1	
k <sub>B</sub>	Granular Soil	Elastic and Reload Modulus	0 to 0.8	Preisig et al. (2006), Mooney et al. (2010)
		CBR	0.2 to 0.6	
		Dry Density	0 to 0.5	
E <sub>VIB</sub>	Granular and Non Granular Soils	Elastic and Reload Modulus	0.3 to 0.9	White et al. (2010), Mooney et al. (2010)
		CBR	0.1 to 0.5	
		Dry Density	0 to 0.5	
MDP*	Granular and Non Granular Soils	Elastic Modulus	0.3 to 0.6	White et al. (2011) White et al. (2015)
		CBR	0.1 to 0.5	
		Dry Density	0.0 to 0.4	
XMV	CCP Stack	Elastic Modulus	0.97	Unpublished field study in 2014 at TVA Power Plant
	Granular and Non Granular	Resilient Modulus	0.96	White et al. (2014)

**TASK 2: Development of an IC certification process** – Based on the lessons learned in Task 1, develop an implementable process for collecting IC measurements and field verification data to ensure confidence in the relationship between the two sets of data. (Months 3-4). **Deliverable:** Draft Certification Process and Final Certification Process (incorporating Tollway comments and suggestions for draft document).

This task will involve drafting a practically implementable and statistically defensible certification process that will use both IC and field verification measurements for quality acceptance. The approach will primarily involve developing a process that will ensure repeatable IC measurements and high degree of confidence and correlation coefficients ( $R^2 > 0.9$ ), in relating mechanical properties of compacted materials to the IC MVs. A preliminary concept of how to link (i) design assumed mechanical properties, (ii) various in situ test measurements available to measure the mechanical properties, and (iii) certification/calibration process to IC measurements and mechanical properties and field verification process is illustrated in Figure 1. This concept will be further refined based on lessons learned from Task 1 and will be submitted to Tollway for review and comments.



**Figure 1. Preliminary concept of field certification / calibration and verification process in relationship with design assumed mechanical properties**

Field calibration of the IC MVs with mechanical property values is an important task to successfully implement IC for field verification. The following factors will be integrated into the experimental plan developed for Task 2 and for evaluation in Task 3:

- Uncertainty associated with the IC versus mechanical property relationships: This can be quantified with  $R^2$  values and standard error in prediction values. The higher the  $R^2$  value and the lower the standard error in prediction values, the higher is the confidence in the mechanical property target value and subsequent identification of areas of non-compliance.
- Impacts of factors affecting the IC-MVs: Various factors such as machine operational parameters (i.e., speed, frequency, and amplitude) affect the IC MVs, which can be addressed with a

repeatability and reproducibility (R&R) study. Other factors such as soil layering, in situ moisture content, and post-construction saturation are important factors and must be considered in the certification process. An approach to link design values for individual layers versus composite values measured by the IC is needed to address this issue. This issue is particularly important for pavement foundation layer construction. The project team has recently developed approaches to address the soil layering and moisture issues; they have been used on a field project (see White et al. 2014b) for pavement foundation design verification.

3. Impact of factors affecting the in situ test MVs: Impacts of soil layering and moisture content are important to assess in case of in situ test MVs, similar to the IC MVs. An approach to link design values for individual layers versus composite values measured is needed to address this issue. The approaches used for (2), will also be used here to evaluate the impacts of these factors on in situ MVs.

**Task 3: Demonstration projects** – *Field demonstrations will be arranged for the IC technologies during the 2016 and 2017 Tollway construction seasons. This task will require working with the Tollway to identify potential contracts for the field demonstrations, and with the providers of IC technology to coordinate collection of IC measurements and providing data for analyses. (Months 4-20). **Deliverable:** Proposed list of Tollway contracts and IC technologies for demonstration, with tentative schedule of each demonstration effort.*

The research team will work closely with the Tollway authorities to identify the potential contracts during the 2016 and 2017 construction seasons for field demonstrations using IC technologies. As described earlier, letters of commitment have been received from Caterpillar, Sakai, and Hamm/Wirtgen America manufacturers to provide the IC equipped rollers. In addition, Ingios's retrofit kit will also be installed and evaluated. The main objective of the field demonstration will be to field evaluate the IC certification process developed under Task 2. As part of this task deliverable, a detailed test plan will be developed and submitted for Tollway's review and comments, prior to the demonstration projects. The test plan will include which IC technologies will be evaluated at each of the identified project site and how along with a tentative schedule.

The research team will provide trained field personnel that can execute the tasks in a safe and efficient manner. The field testing plan will include a job safety plan (JSA) that details the various tasks, hazards associated with each task, and the training required for field personnel to safely execute the field tasks.

A comprehensive final report will be developed and submitted to Tollway with all of the details listed in the task description above. The proposed IC certification process will be refined based on findings from the Task 3 field demonstration work. The draft final report will be submitted to Tollway 45 days prior to the project completion date. Tollway's comments will be addressed before publishing it as a final report. In addition to the final report, a one-page technical brief will be prepared summarizing the key findings from the research effort.

## **(C) Anticipated Research Results and Implementation Plan**

Our goal is to develop methods/guidelines for the Tollway that effectively integrate IC technologies for quality inspection and field control of earthwork and pavement foundation construction.

### ***Anticipated Research Results***

At the conclusion of this study, the research team anticipates that the following results will be obtained:

- Thorough unbiased results and methods that can determine the intended mechanical properties in the field to readily determine if pavement design targets have been achieved.
- Statistically defensible framework to use IC data with high reliability to estimate mechanical properties of earth materials in embankment fill and pavement foundation layers.
- A practical and statistically defensible IC certification process.

### ***Implementation Plan***

To implement the results obtained from this research, we propose the following:

- Provide short articles in trade magazines (e.g., *TRB News*, *FWHA Focus*, *Roads and Bridges*, *ENR*, *Civil Engineering* magazine) that describe the various methods described in this research, its value, and the potential applications.
- In addition to disseminating results through peer-reviewed professional papers and conferences, deliver presentations at conferences where practicing engineers (i.e., DOT engineers, contractors, and industry personnel) regularly attend, recognizing that the target audience is wider than that of peer-reviewed journals.

## **(D) Applicability of Results to Tollway Practice**

The results of this research effort have significant practical implications on how the quality of earth materials are assessed. A few instances are highlighted below:

- The findings from this study will provide the Tollway with valuable information on how the mechanical properties of earth materials in situ are directly related to what was assumed during the design phase, which virtually does not exist in the current practice.
- Implementation of these results means changes to the current state-of-the-practice by using a whole new framework for QC/QA of pavement foundation materials.
- The recommendations for data documentation protocols will provide consistency among how it is collected, analyzed, visualized, and archived, thus eliminating bias towards a specific technology.
- Calibrated IC data with high degree of reliability not only provides high quality data to ensure critical mechanical properties have been achieved, but it also provides a rich database with numerous opportunities to how we analyze failures/performance of embankment fills and pavement foundations.
- With focus on measuring the critical mechanical properties in-situ in the proposed research, the uncertainty involved with linking field and laboratory measured values (as identified in numerous research studies in the past) is virtually eliminated.

- If results from this study show positive benefits, the established techniques will lead to reduced life-cycle costs.

### **3. QUALIFICATIONS AND ACCOMPLISHMENTS OF THE RESEARCH TEAM**

#### **(A) Qualifications**

The proposed research team is well-experienced on the topics of IC, earthwork compaction QC/QA, pavement mechanistic analysis, and laboratory and in situ testing. The team brings in tremendous knowledge and commitment to the project, and are very active in technical and professional organizations, teaching, and research, and have extensive contacts both nationally and internationally. Due to space limitations only thumbnail sketches of the team's qualifications are presented below with a statement of the team members' role in this project..

#### **University of Illinois Team Members**

**Erol Tutumluer, Ph.D.**, Professor and Paul F. Kent Endowed Faculty Scholar, Director of International Programs, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, 205 N. Mathews, Urbana, IL 61801, Phone: (217) 333-8637; E-mail: [tutumlue@illinois.edu](mailto:tutumlue@illinois.edu); <http://cee.illinois.edu/faculty/eroltutumluer>

Dr. Erol Tutumluer will serve as the Principal Investigator (PI) of the project. Dr. Tutumluer has research interests and expertise in characterization of pavement and railroad track geomaterials, i.e., subgrade soils and base/ballast unbound aggregates, modeling granular foundation systems using innovative techniques, and sustainable use of foundation geomaterials and construction practices for transportation infrastructure. Dr. Tutumluer has served as an investigator on over 65 research projects with grants received from Federal agencies including FHWA, FAA, FRA, US Army Corps of Engineers, NCHRP, NEXTRANS and NURAIL University Transportation Center, and NSF; state agencies including numerous single grants from Illinois, Indiana, North Carolina and Minnesota DOTs and pool-funded research contributions from 5 other state DOTs; and private/industry. Dr. Tutumluer has authored and co-authored over 250 peer reviewed publications from his research projects. These projects have dealt with structural considerations of unbound aggregate pavement layers and development of aggregate models for the resilient and permanent deformation behavior from laboratory and full-scale pavement testing, which demonstrated the importance of nonlinear and anisotropic aggregate behavior and how it is linked to various qualities of unbound materials (including particle shape, texture and angularity and type and amount of fines), field compaction and construction practices, and pavement designs. He served as a co-PI on NCHRP 4-30 and 4-34 projects focused on aggregate size and shape characterization and he was the consultant working on the 2013 NCHRP Synthesis 445: Practices for Unbound Aggregate Pavement Layers which consolidated information on the state-of-the-art and state-of-the-practice of designing and constructing unbound aggregate pavement layers to potentially improve pavement performance and longevity. Dr. Tutumluer is the Co-Editor-in-Chief of the new Transportation Geotechnics Elsevier journal and he is the Chair of the ISSMGE Technical Committee 202 on Transportation Geotechnics. Dr.

Tutumluer served as the Chair of the ASCE Geo-Institute's Pavements Committee in 2006-2012. Dr. Tutumluer is currently the Chair of the AFP70 Mineral Aggregates and an active affiliate of the Transportation Research Board (TRB). He was the 2000 recipient of the TRB's Fred Burgraff award for Excellence in Transportation Research; he also received TRB's Geology and Earth Materials Section Best Paper Awards in 2009 and 2012.

### **Ingios Team Members**

**David J. White, Ph.D., P.E.**, President and Chief Engineer, Ingios Geotechnics, Inc., P.O. Box 184, Gilbert, Iowa, 50105, Ph: 515.509.7587, Email: [david.white@ingios.com](mailto:david.white@ingios.com)

(Other Appointments: Collaborator Professor of Civil Engineering, Department of Civil, Construction and Environmental Engineering, Iowa State University, 422 Town Engineering Bldg, Ames, Iowa 50011, Ph: 515.294.1463 Fax: 515.294.0467 Email: [djwhite@iastate.edu](mailto:djwhite@iastate.edu))

Dr. White will serve as the Co-Principal Investigator for the project. Dr. White has authored over 150 publications and completed several research and consulting projects covering topics of earthwork construction, soil stabilization, in-ground instrumentation, evaluation and development of in situ technologies and machine-integrated monitoring systems including intelligent compaction, and writing construction specifications. Dr. White has been PI/co-PI 80 projects involving with sponsorship from FHWA, NCHRP, state DOTs, NSF, TVA, and many industry sponsors. Dr. White conceived and designed the Iowa State University Geo-Mobile Laboratory specifically for rapid field testing and nationwide training on intelligent construction systems and pavement foundation layer evaluation. Dr. White is currently leading a team of researchers to develop a national level manual of practice for design, construction and testing of concrete pavement foundations. In 2007, Dr. White's research was implemented on a major joint project by the USACE and Australian Army Corps through the Joint Rapid Airfield (JRAC) Talisman Saber program where Dr. White assisted USACE and Caterpillar with field activities at the Bradshaw Airfield in the Northern Territory, Australia during construction of a new airfield. Dr. White served as the geotechnical team leader for SHRP R07, *Performance Specifications for Rapid Highway Renewal* and co-leader of the construction platform team for SHRP R02. Dr. White was co-PI of the study NCHRP 21-09, *Intelligent Soil Compaction Systems*. Dr. White recently served as the technical director for a multi-year research and implementation program for the Tennessee Valley Authority (TVA) to develop IC systems for compacting coal combustion product landfill sites. This project is being implemented at multiple site in 2015. Dr. White was the recipient of the 2007 Arthur Casagrande Professional Development Award – ASCE.

### **(B) Accomplishments**

The project team has best-in-class engineering capability and experience that uniquely qualifies it to meet the Illinois Tollway #16-01 project objectives and successfully execute all the tasks proposed. The Appendix summarizes selected projects/activities of the team members in areas relevant to the proposed scope of work and brief resumes. These descriptions represent the accomplishments in research,

implementation, and real-world applications in the areas of intelligent compaction, pavement foundations design and construction, pavement design analysis, field QC/QA, and specifications.

#### 4. OTHER COMMITMENTS OF THE RESEARCH TEAM

All members of the research team are committed to making themselves available to work on the project for the proposed activities. Described below are the current and future commitments of the key project team members during the proposed two phases of the project. As shown, current commitments of the team members leave time to fulfill the requirements of this project within the proposed 18-month schedule.

**Table 5. Summary of existing commitments and level of effort proposed for each year of the project (percent time)**

Team Member	(08/16/2016 – 08/15/2017)		(08/16/2017 – 02/15/2018)	
	Existing Commitments	Proposed Effort for this project	Existing Commitments	Proposed Effort for this project
Erol Tutumluer, Ph.D.	60%	9%	60%	9%
David J. White, Ph.D., P.E.	50%	9%	50%	9%

Note: The percentage of time listed in this table for each calendar year is based on an average of 1,850 hours per year, which excludes holiday and vacation time. This translates to 925 hrs. for 2015, 1,850 hrs. for 2016, 1,850 hrs. for 2017 and 925 hrs. for 2018.

#### 5. EQUIPMENT AND FACILITIES

##### (A) University of Illinois Equipment and Facilities

##### Advanced Transportation Research and Engineering Laboratory (ATREL)

A unique feature of the research facilities of the University of Illinois for pavement research is the Advanced Transportation Research and Engineering Laboratory (ATREL). This facility is a complete transportation research, educational, and testing laboratory. ATREL is located in Rantoul Illinois, and has three laboratories and high bay areas, which provide considerable space for large-scale testing and research. Major structures include the Transportation Facilities Laboratory (19,000-sq.ft) Materials Processing Laboratory (9,400-sq.ft) among others. The present infrastructure and laboratory equipment value at ATREL is estimated at about \$10 million.

##### Material Processing Facility

These facilities can handle and process the materials needed in pavement research, including specialized equipment for soils, aggregates, asphalt binder, hot mix asphalt, and Portland cement concrete. The laboratory houses several servo-hydraulic systems for hot-mix asphalt, soil, granular materials, and concrete testing, SuperPave™ binder and hot-mix asphalt equipment, linear rolling wheel compactor, triaxial shear apparatus, aggregate image analyzer, UI-FastCell capable of applying dynamic stresses on

a soil cylinder in both vertical and radial directions, as well as specialty designed devices including a system for reflective cracking research. In addition, large frames are available for full size testing of slabs and railroad beams.

### **Transportation Structures Laboratory**

The Transportation Structures Laboratory is capable of constructing and testing large models of transportation facilities. The Laboratory has a 30 gpm MTS hydraulic pump that can be connected to a variety of computer-controlled servo-actuators to simulate wheel loads. There is a large test frame that can accommodate beams up to 12 ft. long and 10 in. wide, which has been used to test full-scale wooden beams used in railroad bridges. Another test frame, 16 ft. long and 40 in. wide, allows for testing fully supported beams, such as reinforced concrete bridge girders cut from interstate highways. There is also an environmental chamber with a testing frame for reflective cracking studies, and a steel-testing box for testing pavement slabs on multi-layer soil support systems. Supplemental testing capabilities are provided at ATREL with two large scale Instron and MTS test frames, a 22-kip Instron testing machine, a 30-kip load frame with hydraulic ramps and pumps, 5-ton crane, front end loader, etc.

### **Transportation Soils and Aggregates Laboratory**

The Soils and Aggregates Laboratory has equipment for standard subgrade soil and aggregate tests as well as advanced research tools. For determination of resilient modulus and strength of fine-grained soils there is an Industrial Process Controls (IPC) servo-pneumatic test frame. For determination of resilient modulus, permanent deformation and strength of soils and aggregates, there are 10- and 22-kip servo-hydraulic triaxial test frames, and a Process Industrial Controls UI-FastCell capable of applying dynamic stresses on a soil cylinder in both vertical and radial directions. The effects of soil moisture on soil strength and erodability can also be modeled with test frames built by the machine shop. A constant head permeameter is available for hydraulic conductivity testing of 2ft. long 1ft. deep geomaterial samples. There are direct shear test equipment devices available for shear strength and residual strength testing of subgrade soils, fine aggregates and coarse aggregates. In addition, for aggregate shape, texture, and angularity characterization, there are two state of the art test devices: a recently re-developed unique three-camera based system, the Enhanced University of Illinois Aggregate Image Analyzer (E-UIAIA) with its readily available imaging based indices, and a 3-D Roland LPX 1200 Laser Scanner device.

## **(B) Ingios Equipment and Facilities**

Ingios Geotechnics, Inc. specializes in the development of innovative technologies to improve geoconstruction practices. Specializing in implementation of state-of-the-art systems for infrastructure projects, Ingios offers advanced testing, monitoring and data analytic services for pavement foundations to provide design cost-savings and construction and long-term performance risk reduction for project stake-holders. Various state-of-the-art testing equipment will be used for this project as described below, in addition to specialized data analysis software's and high-speed computing that will be utilized:

1. Automated plate load test (APLT) system (static and cyclic testing)
2. Light weight deflectometer (LWD)

3. Dynamic cone penetrometer (DCP)
4. Borehole shear test (BST)
5. Shelby tube testing for “undisturbed” sampling
6. Validated Integrated Compaction Monitoring (VICM) retrofit kit (measures multiple IC values).
7. “Undisturbed” Shelby tube sampling

APLT was developed to perform fully automated static and repetitive/cyclic plate load tests. These tests are performed in accordance with AASHTO, ASTM, and European test standards. Cyclic tests are performed with precise control with up to 100,000 cycles per test, and is setup with 6 in., to 30 in. diameter plates. APLT was designed for rapid deployment and testing of pavement foundations, stabilized materials, embankments, and compacted fill.

Ingios VICM retrofit kit that can be mounted on any existing vibratory smooth drum roller. The kit is equipped to readily measure CMV, CCV, RMV, and XMV measurement values. The XMV is a calibrated engineering measurement value (i.e., in situ  $M_r$ ,  $k$ -value, in situ elastic modulus, shear strength, etc.).

## 6. TIME REQUIREMENTS

The project timeline is summarized below. The review time by Tollway is highlighted in red for each of the task deliverables and the final report. The table also presents the timeframe for submitting quarterly progress reports, the draft final report and the final report.

**Table 6. Timeline for Work Plan**

TASK		Month																
		1-3			4-6			7-9			10-12			13-15			16-18	
1	Literature Review																	
2	IC Certification Process																	
3	Field Demonstration Projects																	
	Final Report																	
	QPRs		X		X			X			X			X				
	Draft Final Reports																D	F
	One-Page Technology Brief																	T

## 7. ITEMIZED BUDGET

Sponsor: Illinois Tollway						
Principal Investigators: Erol Tutumluer and David J. White						
Solicitation: Illinois Tollway #16-01						
Title: Validation of Intelligent Compaction to Characterize Pavement Foundation Mechanical Properties						
Project Period: 8/16/2016-2/15/2018						
<b>Budget</b>						
					Year 1	Year 2
						All Years
<i>A. Senior Personnel</i>						
	Erol Tutumluer	0.5	0.5 mos.	\$ 6,625	\$ 6,890	\$ 13,515
<i>B. Other Personnel</i>						
	Post Doctoral Research Associate	1.5	1.5 mos.	5,625	5,850	11,475
	Research Assistant - Post BS	0.0	0.0 mos.	-	-	-
	Research Assistant - Post MS	3.0	1.5 mos.	6,551	3,406	9,957
	Research Assistant - Post Prelim	0.0	0.0 mos.	-	-	-
	Hourly	0.0	0.0 hours	-	-	-
	<b>Total Salary and Wages</b>			<b>18,801</b>	<b>16,147</b>	<b>34,947</b>
<i>C. Fringe</i>						
	Academic 44.77%, RA 6.19%, Hourly 7.79%			5,890	5,915	11,804
	<b>Total Personnel</b>			<b>24,691</b>	<b>22,061</b>	<b>46,752</b>
<i>D. Equipment</i>						
	IC Equipment Manufacturers			30,000		30,000
<i>E. Travel</i>						
	Domestic			-	-	-
	Foreign			-	-	-
<i>G. Other Direct Costs</i>						
	Materials and Supplies			700	470	1,170
	Publications			-	-	-
	Services - ATREL fees			2,770	1,127	3,896
	Sub Contract - Ingios Geotechnics, Inc.			71,918	28,083	100,000
	Tuition -- N/A			-	-	-
	<b>Total Other Direct Costs</b>			<b>75,387</b>	<b>29,679</b>	<b>105,066</b>
	<b>Total Direct Costs</b>			<b>130,078</b>	<b>51,740</b>	<b>181,818</b>
<i>I. Indirect Costs</i>						
	Facilities and Admin. 10% of UIUC TDC			13,008	5,174	18,182
	<b>Total Project Cost</b>			<b>\$ 143,086</b>	<b>\$ 56,914</b>	<b>\$ 200,000</b>

## 8. COOPERATIVE FEATURES

The University of Illinois at Urbana-Champaign will serve as the lead agency and Ingios Geotechnics, Inc. (Ingios) as the subcontractor. All team members have specific roles and responsibilities as described throughout the proposal. Letters of commitment for field demonstrations task for this project were received from Caterpillar, Inc., Wirtgen/Hamm, and Sakai to provide IC equipment. Illinois Tollway Authorities involvement in providing input and access to potential field projects will be requested. As PI, Erol Tutumluer will lead and organize the project, serving as the responsible agent for overall conduct of the research, progress, and preparation of reports. David J. White will serve as the Co-PI and will assist the PI in all phases of the project and will lead the field investigation tasks of this project. The research team will conduct regular conference calls and on-line meetings throughout the project. As described in the Qualifications and Accomplishments sections, the project PI and the Co-PIs have successfully led and finished numerous research projects with multiple participants.

## 9. APPENDICES

### (A) References

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## (B) Summary of research team recent relevant project experience

Project title/Activity	Dates	Sponsor
Field Evaluation of Compaction Monitoring Technology-Phase I	2003-2004	Caterpillar, Iowa DOT
Field Evaluation of Compaction Monitoring technology-Phase II	2004-2005	Iowa AGC
Evaluation of Intelligent Compaction Systems	2005-2006	Caterpillar
Collaborative Research to Develop Onboard Machine Technology for Real-Time Determination of Soil Water Content	2005-2006	Caterpillar
Field Validation of Intelligent Compaction Monitoring Technology for Unbound Materials and Hot Mix Asphalt	2005-2006	Minnesota DOT and FHWA
NCHRP: 21-09 Intelligent Soil Compaction Systems	2006-2008	NCHRP
Investigation of Dual Roller-Integrated MDP/CMV Compaction Monitoring Technologies and Measurement Influence Depth	2007-2008	Caterpillar
Implementation of Intelligent Compaction Performance Based Specifications in Minnesota	2007-2009	Minnesota DOT and Caterpillar
Geotechnical Solutions for Soil Improvement, Rapid Embankment Construction, and Stabilization of the Pavement Working Platform; SHRP R02	2007-2012	SHRPR02
Intelligent Compaction for Non-Vibratory (800 Series) Machines	2007-2008	Caterpillar
FHWA TPF-5(128): Accelerated Implementation of Intelligent Compaction Technology for Embankment Subgrade Soils, Aggregate Base and Asphalt Pavement Material	2008-2011	FHWA
Intelligent Compaction and Research Implementation Work plan – Phases I & 2	2009-2011	Iowa DOT
Improving the Foundation Layers for Concrete Pavements	2009-2015	FHWA, CPTech Program
FHWA TPF-5(233): Technology Transfer Intelligent Compaction Consortium (TTICC)	2010-2015	FHWA
Boone County Research Phases I & II: Granular Road Compaction and Stabilization, and HMA Paving	2012-2014	Iowa DOT, FHWA
Field Assessment of Compaction Quality for Gypsum and Fly Ash Waste, Tennessee Valley Authority (TVA)	2012-2012	Tennessee Valley Authority
Performance Specifications for Rapid Highway Renewal; SHRP2R07	2012-2014	SHRP
Field Assessment of Geogrid Reinforced Base Layers using APLT	2014-2016	Tensar
ICM REPORT: Ohio River Bridges East End Crossing I-265, Section 6, Sta. 350+00 to 400+00	2014-2014	Walsh Vinci Construction
TVA QA/QC Demonstration Project in Shawnee Power Plant	2014-2014	Tennessee Valley Authority
Automated Plate Load Testing Report: I-294 NB and SB Lanes, MP. 30.0 to 40.0, Sta. 1612+00 to 2100+00, Cermak Rd. (22 St.) to Balmoral Ave.	2015-2015	Illinois Tollway Authority
Automated Plate Load Testing Report: I-294 NB and SB Lanes, MP. 18.0 to 28.5, Sta. 945+00 to 1510+00, 95th Street to Cermak Rd. (22nd St.)	2015-2015	Illinois Tollway Authority
Intelligent Compaction (IC) Program for Earth and Coal Combustion Product (CCP) Placement and Compaction	2015-Present	Tennessee Valley Authority

**(C) Commitment and support letters**

February 15, 2016

Erol Tutumluer, Ph.D., P.E.  
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**Re: Illinois Tollway RFP #16-01 “Validation of Intelligent Compaction to Characterize Pavement Foundation Mechanical Properties”**

Dear Prof. Tutumluer,

Ingios Geotechnics, Inc. (Ingios) is pleased to support the University of Illinois (UI) team as a subcontractor for the above referenced project. Ingios has specialized equipment and expertise, specifically with field evaluation and development of intelligent compaction technologies, which we believe is crucial in successful execution of this project. Ingios is committed to providing the time, personnel, equipment, and expertise necessary to accomplish all of the objectives of this project.

Ingios will work closely with the UI team on all three research tasks. A brief statement about our involvement in each of the tasks is provided below:

TASK 1 – Comprehensive literature review on correlations: Ingios team members conducted numerous field studies and authored reports documenting relationships between intelligent compaction (IC) measurements and mechanical properties of pavement foundation materials. We are also well aware of the literature that has been published on this topic both nationally and internationally. The Ingios team will work closely with the UI team in identifying the literature documents, completing Tasks 1a and 1b as outlined in the proposal, and developing the task deliverable.

TASK 2 – Developing IC certification process: This is one of the crucial tasks of this project and is an important one to advance the IC technology in terms of using the measurement values for quality acceptance. We have developed draft concepts as outlined in the proposal, and will closely work with the UI team to refine and update the process, and develop the task deliverable.

TASK 3 – Demonstration projects: Ingios research team will assist the UI team in developing an experimental plan to execute the process outlined in Task 2, and provide field testing services using automated plate load testing (APLT), dynamic cone penetrometer (DCP), bore hole shear test (BST), etc. Ingios will also provide an IC retrofit kit and install it in one of the rollers. Ingios team has successfully executed similar field demonstration projects in the past. Also, Ingios recently finished a field testing project on the Tri-State tollway project site and is familiar with the field safety protocols implemented by the Illinois Tollway Authority.

Attached to this letter is a proposed itemized budget including the cost of personnel, equipment, materials, travel, and overhead/indirect costs. A budget justification is also provided along with the budget.

To the best of our knowledge, there are no conflicts of interest that would prevent Ingios from participating in this project. We thank you for the opportunity to partner with you on this exciting project. If you require any additional information, please do not hesitate to contact me.

Sincerely,

*David J. White*

David J. White, Ph.D., P.E.  
President and Chief Engineer  
david.white@ingios.com  
515-509-7587

Attachments: Itemized budget and budget justification

**Illinois Tollway #16-01**  
**Ingios Geotechnics, Inc. Effort by Tasks (Hours and Costs)**

Principal Staff	Role in Study	Time (%)	Hours				0 - 12 Months	12 - 18 Months	
			Task 1	Task 2	Task 3	Rate			
<b>Ingios Geotechnics, Inc. (Subcontractor)</b>									
David J. White, PhD, PE	Principal Investigator	4%	10	10	105	\$ 236.11	\$ 29,513	\$ 22,076	\$ 7,437
Pavana Vennapusa, PhD, PE	Professional Staff	4%	20	10	108	\$ 148.41	\$ 20,481	\$ 15,672	\$ 4,808
Brendan FitzPatrick, PE	Coordination	1%	0	0	31	\$ 171.50	\$ 5,317	\$ 3,722	\$ 1,595
Heath Gieselman, MS	Professional Staff	3%	0	0	80	\$ 70.71	\$ 5,657	\$ 3,960	\$ 1,697
	Professional Staff	0%	0	0	0	\$ -	\$ -	\$ -	\$ -
	Secretarial support	0%	0	0	0	\$ -	\$ -	\$ -	\$ -
	<b>Ingios Geotechnics Total</b>	<b>12%</b>	<b>30</b>	<b>20</b>	<b>324</b>	<b>---</b>	<b>\$ 60,967</b>	<b>45,429.57</b>	<b>15,537.92</b>
	<b>\$ TOTALS/Task</b>		<b>5329</b>	<b>3845</b>	<b>51793</b>	<b>---</b>	<b>\$ 60,967</b>		

Note 1: Ingios rates are fully loaded rates, include fringe benefits and overhead.

Note 2: Percent of time over contract is based on 174 hours per month and 12 active work months. This does not include the time when Tollway reviews the final report.

**Ingios Geotechnics, Inc (Subcontractor) Budget Detail**

**Budget Summary Category**

**(a) Ingios Geotechnics, Inc. Wages**

**(b) Borrowed Personnel**

**(c) Consultants**

**(d) Subcontracts**

**(e) Capital Equipment**

**(f) Materials & Services**

Project supplies

Printing and copying (estimated at \$.05/B&W copy; \$.5 color)

Communications services (editorial, pubs, web)

Laboratory Fees

Field Testing Services (VICM, APLT, CPT, BST, DCP, Sampling)

**(f) Other Direct Costs**

**(g) Communications and Shipping**

Telecommunication charges (long distance, conference calls, etc.)

Postage, freight etc

**(h) Travel (Ingios)**

**(i) Meetings**

**Total direct costs**

**(j) Overhead at 10%**

**Total all costs**

Task 1	Task 2	Task 3	Total	0 - 12 Months	12 - 18 Months
\$ 5,329	\$ 3,845	\$ 51,793	\$ 60,967	\$ 45,430	\$ 15,538
			\$ -		
			\$ -		
			\$ -		
			\$ -		
			\$ -		
		\$ 450	\$ 450		\$ 450
		\$ 490	\$ 490		\$ 490
			\$ -		
			\$ -		
		\$ 20,000	\$ 20,000	\$ 14,000	\$ 6,000
			\$ -		
			\$ -		
			\$ -		
		\$ 502	\$ 502		\$ 502
		\$ 8,500	\$ 8,500	\$ 5,950	\$ 2,550
			\$ -		
\$ 5,329	\$ 3,845	\$ 81,735	\$ 90,909	\$ 65,380	\$ 25,530
\$ 533	\$ 385	\$ 8,174	\$ 9,091	\$ 6,538	\$ 2,553
\$ 5,862	\$ 4,230	\$ 89,909	\$ 100,000	\$ 71,918	\$ 28,083

Notes to categories above:

(a) Ingios rates are fully loaded rates, include fringe benefits and overhead. The hourly rate used is an estimate calculated by dividing the current fiscal year's annual salary by 2088

(b) No borrowed personnel are included in this budget.

(c) No consultants will be used on this project.

(d) Subcontractor's budget line item indicate hourly charges per task plus as itemized below.

(e) No capital equipment is being purchased

(f) Project supplies: expendible field supplies for soil sampling and testing

(g) Estimates include conference calls and webinar charges for coordination with subcontractors and reviewers and stakeholder discussions. Postage includes postage or courier service for shipping of reports and data collection.

(h) Budget includes: Travel for Ingios personnel to conduct field testing and attend meetings.

(i) Meeting budget includes:

(j) Overhead applied on all direct and indirect expenses

## **Budget Justification**

The subcontract portion of this project for Ingios is estimated at \$100,000 (\$60,967 for salaries + benefits, \$28,500 for field testing and travel, and \$1,442 for miscellaneous expenses). Dr. David White will serve as the Co-PI of the project and will coordinate all tasks between the UI and Ingios team members, and will be involved in all project tasks. Dr. Vennapusa will provide assistance in all project tasks. Mr. FitzPatrick will assist in administrative aspects of this project. Mr. Gieselman will provide assistance during field testing phase of the project.

The hourly rates indicated in the budget are determined by dividing the employee's annual salary by 2088 working hours per year. The rates are fully loaded with the fringe benefits and overhead.

Travel costs are estimated based on field testing at two sites (one each in 2016 and 2017 construction seasons). We anticipate 2 to 3 Ingios team members on-site for about 5-6 days at each site. A lump sum cost of \$20k is being requested for field testing including APLT, DCP, BST, CPT, VICM, and field sampling of materials. Miscellaneous charges in the budget are related to purchasing expendable field supplies for sampling and testing purposes, printing and copying, and postage charges (for any materials).

A 10% overhead rate is applied on all direct and indirect expenses.



**Caterpillar Paving Products Inc.**

11601 93rd Avenue North  
Maple Grove, MN 55369  
Telephone: (763) 315-5555

February 8, 2016

Professor Erol Tutumluer  
Department of Civil and Environmental Engineering  
University of Illinois at Urbana-Champaign  
1205 Newmark Civil Engineering Laboratory  
205 N Mathews, M/C 250  
Urbana, Illinois 61801  
Ph. (217) 333-8637  
[tutumlue@illinois.edu](mailto:tutumlue@illinois.edu)

Subject: Letter of Support  
Proposal for Validation of IC to Characterize Pavement Foundation Mechanical Properties  
Illinois Tollway

Dear Professor Tutumluer:

Caterpillar Inc. is pleased to provide intelligent compaction (IC) support by making an IC equipped roller available to the University of Illinois in support of the above subject Illinois Tollway project. We understand that the project dates and locations are to be determined, but that a roller will be needed for about 2 weeks each in 2016 and 2017. Caterpillar Inc.'s estimated total budget for providing and delivering the roller to the project sites is \$10,000. Caterpillar Inc. looks forward to the opportunity to demonstrate our IC roller capability as part of this project.

We appreciate the opportunity to partner with you and your team on this very important project for the Illinois Tollway and IC equipment manufacturing industries. Should you need any additional information regarding our project role and contribution, please do not hesitate to contact me.

Sincerely,

Fred Rio  
Technical Manager  
Caterpillar Inc.  
Ph. 763-493-1336  
[Rio.Fred\\_B@cat.com](mailto:Rio.Fred_B@cat.com)



# WIRTGEN AMERICA



Wirtgen America, Inc.  
6030 Dana Way · Antioch · TN 37013 USA  
Phone (615) 501-0600 – Fax (615) 501-0691  
[www.wirtgenamerica.com](http://www.wirtgenamerica.com)

February 12, 2016

Professor Erol Tutumluer  
Department of Civil and Environmental Engineering  
University of Illinois at Urbana-Champaign  
1205 Newmark Civil Engineering Laboratory  
205 N Mathews, M/C 250  
Urbana, Illinois 61801  
Ph. (217) 333-8637  
[tutumlue@illinois.edu](mailto:tutumlue@illinois.edu)

Subject: Letter of Support  
Proposal for Validation of IC to Characterize Pavement Foundation Mechanical Properties  
Illinois Tollway

Dear Professor Tutumluer:

Wirtgen America Inc. is pleased to provide intelligent compaction (IC) support by making an IC equipped roller available to the University of Illinois in support of the above subject Illinois Tollway project. We understand that the project dates and locations are to be determined, but that a roller will be needed for about 2 weeks each in 2016 and 2017. Wirtgen America Inc.'s estimated total budget for providing and delivering the roller to the project sites is \$10,000. Wirtgen America Inc. looks forward to the opportunity to demonstrate our IC roller capability as part of this project.

We appreciate the opportunity to partner with you and your team on this very important project for the Illinois Tollway and IC equipment manufacturing industries. Should you need any additional information regarding our project role and contribution, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Tim Kowalski".

Tim Kowalski  
Application Support Manager  
Wirtgen America Inc.  
Ph. (615) 594-4604  
[tkowalski@Wirtgenamerica.com](mailto:tkowalski@Wirtgenamerica.com)

# SAKAI AMERICA, INC.

90 International Parkway • Adairsville, GA 30103



Tel (770) 877-9433  
Fax (770) 877-9886

February 15, 2016

Professor Erol Tutumluer  
Department of Civil and Environmental Engineering  
University of Illinois at Urbana-Champaign  
1205 Newmark Civil Engineering Laboratory  
205 N Mathews, M/C 250  
Urbana, Illinois 61801  
Ph. (217) 333-8637  
[tutumlue@illinois.edu](mailto:tutumlue@illinois.edu)

Subject: Letter of Support  
Proposal for Validation of IC to Characterize Pavement Foundation Mechanical Properties  
Illinois Tollway

Dear Professor Tutumluer:

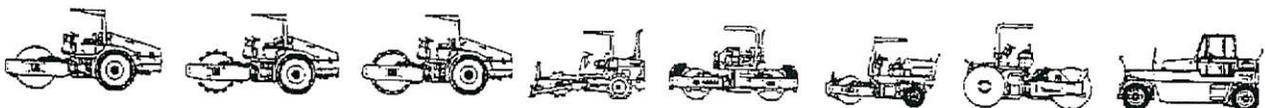
Sakai America, Inc. is pleased to provide intelligent compaction (IC) support by making an IC equipped roller available to the University of Illinois in support of the above subject Illinois Tollway project. We understand that the project dates and locations are to be determined, but that a roller will be needed for about 2 weeks each in 2016 and 2017. Sakai America, Inc.'s estimated total budget for providing and delivering the roller to the project sites is \$10,000. Sakai America, Inc. looks forward to the opportunity to demonstrate our IC roller capability as part of this project.

We appreciate the opportunity to partner with you and your team on this very important project for the Illinois Tollway and IC equipment manufacturing industries. Should you need any additional information regarding our project role and contribution, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "JH", is written over a white background.

Josh Steele  
Sakai America, Inc.  
Ph. (770) 773-6133  
[j-steele@sakaiamerica.com](mailto:j-steele@sakaiamerica.com)



## RESOLUTION NO. 21097

**Background**

It is in the best interest of the Illinois State Toll Highway Authority (the "Tollway") to enter into an Intergovernmental Agreement with the University of Illinois ("University"). The University will investigate and evaluate modular approach slab designs. The Tollway will sponsor the research, which is anticipated to lead to improved bridge approach slab performance and reduced maintenance costs. The term of the agreement is August 15, 2016 through August 14, 2019. The estimated cost to the Tollway is \$315,000.

**Resolution**

The Chief Engineer and the General Counsel are authorized to negotiate and prepare an Intergovernmental Agreement between the Illinois State Toll Highway Authority and the University of Illinois in substantially the form of the Intergovernmental Agreement attached to this Resolution. The Chairman or the Executive Director is authorized to execute said agreement.

Approved by: \_\_\_\_\_

Chairman

**INTERGOVERNMENTAL AGREEMENT BETWEEN  
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY  
AND  
THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS  
FOR THE INVESTIGATION OF APPROACH SLAB CONSTRUCTION AND  
EVALUATION OF MODULAR APPROACH SLAB DESIGNS**

This INTERGOVERNMENTAL AGREEMENT (“AGREEMENT”) is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY, an instrumentality and administrative agency of the State of Illinois, hereinafter called the "ILLINOIS TOLLWAY", and THE BOARD OF TRUSTEES of the UNIVERSITY OF ILLINOIS, a body politic and corporate of the State of Illinois, hereinafter called the "UNIVERSITY", individually referred to as “PARTY” and collectively as “PARTIES”.

**WITNESSETH:**

WHEREAS, the ILLINOIS TOLLWAY, in order to facilitate the free flow of traffic and ensure safety to the motoring public, approved a 15 year Capital Program, “Move Illinois; *The Illinois Tollway Driving the Future*,” desires to conduct research for the Investigation and Evaluation of Modular Approach Slab Designs (“PROJECT”);

WHEREAS, this investigation and evaluation will lead to improved performance and reduced maintenance and bridge approach slabs along the ILLINOIS TOLLWAY; and

WHEREAS, the UNIVERSITY has demonstrated the necessary expertise and facilities to perform research for the PROJECT; and

WHEREAS, the UNIVERSITY and the ILLINOIS TOLLWAY by this instrument, which for ILLINOIS TOLLWAY recording purposes shall be known as #2016-15, intend to outline their respective responsibilities toward implementation and funding for the research and development of the PROJECT. A copy of the UNIVERSITY’s PROPOSAL is incorporated into this AGREEMENT by reference and attached hereto as “EXHIBIT A”; and

WHEREAS, the ILLINOIS TOLLWAY by virtue of its powers as set forth in the "Toll Highway Act," 605 ILCS 10/1 is authorized to enter into this AGREEMENT; and

WHEREAS, the UNIVERSITY by virtue of its powers as set forth in the University of Illinois Act 110 ILCS 305/1 is authorized to enter into this AGREEMENT; and

WHEREAS, a cooperative Intergovernmental Agreement is appropriate and such an Agreement is authorized by Article VII, Section 10 of the Illinois Constitution and other provisions of Illinois Law.

NOW, THEREFORE, in consideration of the aforementioned recitals and the mutual covenants contained herein, the PARTIES hereto agree as follows:

## **ARTICLE I – Sponsorship/Scope**

- A. The ILLINOIS TOLLWAY agrees to sponsor the UNIVERSITY in its research and development of the PROJECT.
- B. The UNIVERSITY is to identify (from structural, materials, geotechnical perspectives) the fundamental cause(s) of the cracking issues the ILLINOIS TOLLWAY has experienced at Integral Abutment Bridges (IAB) approach slabs (through drawing review, field instrumentation, data collection, and analysis); develop improved design criteria, construction details, and other procedures for preventing and/or mitigating approach slab cracking in the future; and evaluate efficient full-depth precast modular approach slab designs (including the proposed designs already developed by the ILLINOIS TOLLWAY) that could replace the current cast-in-place and Illinois Department of Transportation (IDOT) precast options, with potential future application in the context of accelerated bridge construction.

## **ARTICLE II – Tasks**

- A. To accomplish the overall objectives of the PROPOSAL, a series of four tasks will be undertaken and completed:
  - a. A literature search / agency survey;
  - b. An investigation of current ILLINOIS TOLLWAY IAB approach slab cracking;
  - c. Development of cast-in-place approach slab improvements; and
  - d. Identifying potential modular precast approach slab options.
- B. The tasks as outlined in this plan are detailed in the PROPOSAL that is included herein as EXHIBIT A. The schedule for Deliverables of any task shall comply with the PROPOSAL included in EXHIBIT A.

## **ARTICLE III – Research Results and Implementation**

- A. Research results and implementation are detailed in the PROPOSAL that is included herein as EXHIBIT A.

## **ARTICLE IV – Financial Terms**

- A. The ILLINOIS TOLLWAY as sponsor will compensate the UNIVERSITY as outlined in this AGREEMENT and in the UNIVERSITY's PROPOSAL.
- B. The funding for the PROJECT shall be provided directly by the ILLINOIS TOLLWAY to the UNIVERSITY.

- C. The UNIVERSITY will be paid based upon its invoice(s) which shall include a detailed description of the services performed, administration costs of performance, and all other charges as contemplated by this AGREEMENT in substantial conformance with the Itemized Budget in the PROPOSAL.
- D. The UNIVERSITY shall certify in writing, upon presentment of each invoice hereunder, that work as invoiced has been actually performed and that the UNIVERSITY is in fact complying with all other provisions of this AGREEMENT. Invoicing shall be sufficiently itemized to permit the ILLINOIS TOLLWAY or its consultant(s) or cooperating governmental unit(s) to verify performance of the work so invoiced.
- E. It is mutually agreed that the estimated budget shall not exceed \$315,000.00 for the thirty-six (36) month term of this AGREEMENT, with an anticipated start date of August 15, 2016.
- F. To the extent that travel will be required for specific tasks of this AGREEMENT, it will be reimbursed according to travel regulations of the PARTIES. Out of state travel when appropriate, must be approved by the Associate Vice Chancellor for Research, Director of Office of Sponsored Programs and Research Administration of the UNIVERSITY and the Chief Engineer of the ILLINOIS TOLLWAY.

#### **ARTICLE V – Work Product and Documents**

- A. The UNIVERSITY shall retain title to equipment and all other items purchased with the funds provided by the ILLINOIS TOLLWAY under this AGREEMENT.
- B. Each PARTY, including its agents and subcontractors, to this AGREEMENT may have or gain access to confidential data or information owned or maintained by the other PARTY in the course of carrying out its responsibilities under this AGREEMENT (Confidential Data). Any form of data resulting from the finished research and development the PROJECT that is generated from any input data of or from the ILLINOIS TOLLWAY shall be considered Confidential Data. For any remaining data, preferably prior to disclosure or transmission of Confidential Data to the receiving PARTY, the disclosing PARTY shall designate the data or information as being confidential. Disclosure of Confidential Data, which shall include, but not be limited to written, oral or visual disclosures, shall not be disclosed except as required by law, without the advanced written approval of the other PARTY. The receiving PARTY must return any and all data collected, maintained, used or resulting from the ILLINOIS TOLLWAY's Confidential Data in the course of the performance of the AGREEMENT at the conclusion of this AGREEMENT, or earlier if requested by the other PARTY. In the alternative, the receiving PARTY may provide written certification of the destruction of the Confidential Data to the other PARTY. The foregoing obligations shall not apply to Confidential Data or information lawfully in the receiving PARTY's possession prior to its acquisition from the disclosing PARTY; received in good faith from a third-party not subject to

any confidentiality obligation to the disclosing PARTY; now is or later becomes publicly known through no breach of confidentiality obligation by the receiving PARTY; or is independently developed by the receiving PARTY without the use or benefit of the disclosing PARTY's confidential information. The confidentiality requirements in this Section will not prohibit the UNIVERSITY from publishing as outlined in ARTICLE V-F.

- C. If the UNIVERSITY receives a request under the Illinois Freedom of Information Act or a request by legal process to disclose confidential information. The UNIVERSITY will provide prompt notice to the ILLINOIS TOLLWAY, and will not release any documents until at least fifteen (15) business days after providing the ILLINOIS TOLLWAY with notice.
- D. **OWNERSHIP.** Deliverables are those tangible items and the intangible (intellectual) property identified and included in EXHIBIT A. The UNIVERSITY grants the ILLINOIS TOLLWAY shared ownership of all such work product identified and detailed in EXHIBIT A as a Deliverable except as detailed within this paragraph. The UNIVERSITY shall retain the rights to all methodologies, technologies, algorithms, source codes, and know-how described and/or incorporated into the Deliverables for the development of the use and end-of-life phases of the research and development of the PROJECT ("UNIVERSITY Intellectual Property"). The UNIVERSITY and the ILLINOIS TOLLWAY shall jointly retain ownership of all methodologies, technologies, algorithms, source codes, and know-how described and / or incorporated into the Deliverables for the development of the materials, construction, and operation / maintenance phases of the research and development of the PROJECT ("Jointly-Owned Intellectual Property"). Each PARTY retains the rights to use, modify, maintain, and create derivative works from the Jointly-Owned Intellectual Property of these Deliverables. The UNIVERSITY retains the rights to (a) use the Deliverables containing both the UNIVERSITY's Intellectual Property and Jointly Owned Intellectual Property for research and academic purposes; (b) continue further development of these specific Deliverables; and (c) share these specific Deliverables with public bodies provided the UNIVERSITY recognizes the contributions of the ILLINOIS TOLLWAY. If the ILLINOIS TOLLWAY determines the need for modifications to the Deliverables containing only UNIVERSITY Intellectual Property, the terms and conditions of any further work shall be addressed in a separate agreement between the PARTIES.
- E. **TEST METHOD.** All research and development related to the PROJECT shall be developed by the UNIVERSITY using the format provided in the PROPOSAL.
- F. The UNIVERSITY shall have the right to publish or otherwise disclose the results of the research and development, with prior written consent from the ILLINOIS TOLLWAY, except for any Confidential Data as defined in Article V. Permitted publications and disclosures resulting from this AGREEMENT shall acknowledge the ILLINOIS TOLLWAY's contribution and participation.

- G. The UNIVERSITY shall furnish to the ILLINOIS TOLLWAY, no later than the time of the final invoice, or within forty-five (45) days of termination of this AGREEMENT, whichever is earlier, a final technical report summarizing the work performed and the results thereof.

#### **ARTICLE VI – Term and Termination**

- A. The tasks set forth in EXHIBIT A shall be performed beginning August 15, 2016.
- B. Nothing in this AGREEMENT shall be construed to require the PARTIES to contract for services and studies or to preclude the PARTIES from entering into a subsequent Agreement or Agreements as to some or all of the components of EXHIBIT A, or for other or different studies, consultations or services in relation to the same subject matter of this AGREEMENT.
- C. In the event of any termination prior to completion of the research and development of the PROJECT, the amount due to the UNIVERSITY from the ILLINOIS TOLLWAY shall not exceed \$315,000.00, the total cost set forth above in ARTICLE IV. The ILLINOIS TOLLWAY will pay for all costs incurred through the date of termination including all non-cancelable obligations. The UNIVERSITY will furnish to the ILLINOIS TOLLWAY a final technical report summarizing the work performed and results thereof, through the date of termination.

#### **ARTICLE VII – General Provisions**

- A. The UNIVERSITY shall acknowledge the contribution and participation of the ILLINOIS TOLLWAY in any project where the ILLINOIS TOLLWAY funds are used to develop statistically valid relationships between IC measurement values and mechanical properties of compacted materials. Such acknowledgement shall be made in any project reports or presentations.
- B. Neither PARTY will state or imply in any publication, advertisement, or other medium that any product or service bearing the name of the other PARTY, and manufactured, sold or distributed by that PARTY were approved or endorsed by the other PARTY.
- C. Each PARTY shall be responsible for injuries to persons and damages to tangible property and professionally responsible to the extent these acts are caused by its actions, inactions, errors and omissions, including those of its officers, employees and agents, acting in the scope of their employment or agency in performing this AGREEMENT.
- D. The UNIVERSITY agrees that in the performance of this AGREEMENT and the development of the PROJECT, the UNIVERSITY, including its officers, employees and agents will comply with all applicable state, federal and local statutes, ordinances and regulations.

- E. Each PARTY represents that no person or agency has been employed to solicit, secure or facilitate this AGREEMENT for a commission, percentage, brokerage or contingent fee.
- F. This AGREEMENT may not be assigned or transferred by either PARTY without the prior written consent of the other.
- G. It is understood and agreed that this AGREEMENT constitutes the complete and exclusive statement of the agreement of the PARTIES relative to the subject matter hereof and supersedes all previous oral and written proposals, negotiations, representations or understandings concerning such subject matter.
- H. Wherever in this AGREEMENT approval or review by either the UNIVERSITY or the ILLINOIS TOLLWAY is provided for, said approval or review shall not be unreasonably delayed or withheld.
- I. In the event of a dispute between the UNIVERSITY and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT, the Chief Engineer of the ILLINOIS TOLLWAY and the Associate Vice Chancellor for Research, Director of Office of Sponsored Programs and Research Administration of the UNIVERSITY shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of a dispute concerning the carrying out of the terms of this AGREEMENT, the decision of the Chief Engineer of the ILLINOIS TOLLWAY shall be final.
- J. This AGREEMENT may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which shall be deemed one and the same instrument.
- K. Under penalties of perjury, the UNIVERSITY certifies that its correct Federal Tax Identification number is 37-6000511 and it is doing business as a governmental entity, whose mailing address is University of Illinois, c/o Office of Sponsored Programs and Research Administration, 1901 South First Street, Suite A, Research Park, Champaign, Illinois 61820-7406.
- L. This AGREEMENT may only be modified by written modification executed by duly authorized representatives of the PARTIES hereto.
- M. This AGREEMENT shall be binding upon and inure to the benefit of the PARTIES hereto and their respective successors and approved assigns.
- N. The failure by the ILLINOIS TOLLWAY or the UNIVERSITY to seek redress for violation of or to insist upon the strict performance of any condition or covenant of this AGREEMENT shall not constitute a waiver of any such breach or subsequent breach of such covenants, terms, conditions, rights and remedies. No provision of this AGREEMENT shall be deemed waived by the ILLINOIS TOLLWAY or the UNIVERSITY unless such provision is waived in writing.



IN WITNESS THEREOF, the PARTIES have executed this AGREEMENT on the dates indicated.

**THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ILLINOIS**

By: \_\_\_\_\_  
Walter K. Knorr, Comptroller

Attest: \_\_\_\_\_  
Michele M. Thompson, Secretary

Date: \_\_\_\_\_

Approved as to Form:

By: \_\_\_\_\_  
University Legal Counsel

Date: \_\_\_\_\_

**THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

By: \_\_\_\_\_  
Greg M. Bedalov, Executive Director

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Michael Colsch, Chief of Finance

Date: \_\_\_\_\_

By: \_\_\_\_\_  
David A. Goldberg, General Counsel

Date: \_\_\_\_\_

Approved as to Form and Constitutionality

\_\_\_\_\_  
Robert T. Lane, Senior Assistant Attorney General, State of Illinois

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN



Office of Sponsored Programs

1901 S. First Street, Suite A  
Champaign, Illinois 61820

February 19, 2016

Illinois State Toll Highway Authority  
Attn: Steven Gillen

U of I REF. NO. 2016-05139  
TITLE: Investigation of Approach Slab Construction and Evaluation of Modular Approach Slab Designs  
REQUESTED AMOUNT: \$ 315,000.00  
PERIOD: 1/1/17-12/31/19  
PRINCIPAL INVESTIGATOR(s): Larry Fahnestock  
DEPARTMENT: CEE  
TYPE OF REQUEST: New Request

This proposal has been approved for submission by the proper University administrative official(s). Your consideration will be appreciated. Any contract or grant supporting the above described project must be issued in the University's corporate name, The Board of Trustees of the University of Illinois.

Furthermore, we understand if funding for this project is subject to PHS regulations, the terms and conditions of any agreement for participation in the project shall require our organization certify compliance with those regulations.

In anticipation of such an award, University of Illinois ensures that it has a financial conflict of interest policy compliant with the PHS regulations, and shall apply that policy to all University of Illinois Investigators proposed under the research.

Any questions of a non-technical nature regarding this proposal should be addressed to **PROPOSAL COORDINATOR** at (217) 333-2187: Julie McCabe

Sincerely,

*David W. Richardson*

David W. Richardson  
Associate Vice Chancellor for Research  
Director of Office of Sponsored Programs  
University of Illinois at Urbana - Champaign

**ATTACHMENT TO PROPOSAL TRANSMITTAL LETTER**

(The following General Information is provided to assist potential Sponsors. It is recognized some information may not be applicable to this specific proposal and, if inappropriate, should be disregarded.)

1. **The University of Illinois reserves the right to negotiate the terms and conditions of any definitive Contract/Grant which may result from this proposal application. The University of Illinois is a public research university subject to an increasing number of state and federal regulations that are unique to higher education. As a result, most contracts provided by our sponsors require minor revisions before we can legally sign them.**
2. **Any resulting Contract/Grant should be made in the University's legal corporate name, "The Board of Trustees of the University of Illinois", c/o Office of Sponsored Programs, at the address listed below in item 3.**

3. **All contractual correspondence should be mailed to:** **Authorized Organizational Representative (legal signatory):**

University of Illinois  
Office of Sponsored Programs (OSP)  
1901 South First Street, Suite A  
Champaign, IL 61820  
E-mail: [osp@illinois.edu](mailto:osp@illinois.edu)

Walter K. Knorr, Comptroller

4. **General Information, Mailing Instructions, Representations/Certifications, etc: (217) 333-2187**

Proposals/Contracts/Grants

Katie Einck	(217) 333-4938	Jennifer Ford	(217) 300-2002
Sabrina Scott	(217) 244-3604	Kristie Warner	(217) 244-7637

5. **University Contacts related to Proposal Review: PHONE (217) 333-2187 FAX #(217) 239-6830**

Kathy Dams, Assistant Director (217) 244-8212

Bryan Bachman	(217) 265-0082	Scott Corum	(217) 265-7794
Geoff Dehler	(217) 265-7687	Stephanie Fellmann	(217) 265-7682
Julie McCabe	(217) 244-9029	Tim Tufte	(217) 265-7708

6. **Cognizant Federal Admin. Agency:**  
Office of Naval Research  
230 South Dearborn Avenue, Rm. 380  
Chicago, IL 60604-1595  
Attn: Administrative Contact  
(312) 886-5423; E-Mail: [ONR\\_Chicago@onr.navy.mil](mailto:ONR_Chicago@onr.navy.mil)

7. **Contract/Grant payments should be mailed to:**  
University of Illinois  
Grants & Contracts  
28392 Network Place  
Chicago, IL 60673-1283  
DUNS # 04-154-4081  
FEIN # 37-6000511  
Cage Code: 4B808

8. **Authorized Officials for Submitting Proposal Applications:**  
Institutional: Peter Schiffer, Chair, Research Board  
Administrative: David W. Richardson, AVCR/Director, OSP

9. **Please use the following link for access to indirect cost rates, fringe benefit rates and tuition remission rates that have been currently negotiated with the Office of Naval Research:**  
<https://www.obfs.uillinois.edu/government-costing/rate-schedules/urbana-champaign/>



**APPENDIX C:  
PROPOSAL COVER SHEET FOR  
SOLICITATION #16-03**

**INVESTIGATION OF APPROACH SLAB CONSTRUCTION AND  
EVALUATION OF MODULAR APPROACH SLAB DESIGNS**

**DUE FEBRUARY 19, 2016  
TO [sgillen@getipass.com](mailto:sgillen@getipass.com)**

<b>Submitted by: (Include Name and Address of Organization)</b>	Dept. of Civil & Envir. Engineering 2108 Newmark Lab, MC-250 Univ. of Illinois @ Urbana-Champaign 205 N. Mathews Ave. Urbana, IL 61801
<b>Proposed Investigator(s):</b>	Larry A. Fahnestock, P.E. (PI) James M. LaFave, P.E. (Co-PI)
<b>Corresponding Investigator Name:</b>	Larry A. Fahnestock
<b>Corresponding Investigator Phone:</b>	(217) 265-0211
<b>Corresponding Investigator Fax:</b>	NA
<b>Corresponding Investigator Email:</b>	fhnstck@illinois.edu
<b>Submission Date:</b>	2/19/2016

**Proposal to the Illinois Tollway**  
**in Response to Request for Proposal (RFP) #16-03:**  
**“Investigation of Approach Slab Construction and Evaluation of Modular**  
**Approach Slab Designs”**

**Larry A. Fahnestock and James M. LaFave**  
**Department of Civil and Environmental Engineering**  
**University of Illinois at Urbana-Champaign**

**Research Plan**

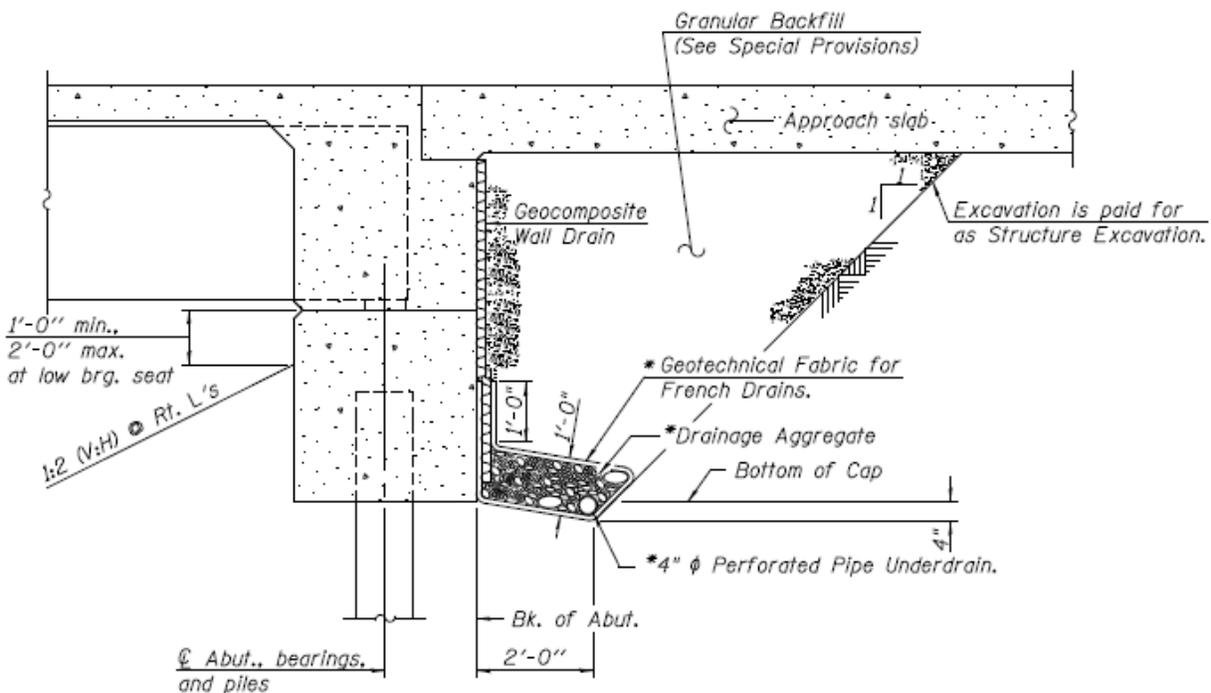
**Introduction and Research Idea Statement**

Integral abutment bridges (IABs) eliminate the need for joints in bridge decks, and as a result reduce the potential for water and salt damage to a bridge’s superstructure and substructure. Generally speaking, IABs have decreased maintenance costs and increased service life compared to comparable jointed bridges, but the primary behavioral implication of integral construction is the need to accommodate thermal movements through deformation and movement in the substructure and approach elements of the bridge. Recent research (LaFave et al. 2015) has demonstrated that longitudinal movement of IABs is roughly 90% of the theoretically-calculated free expansion, so approach slabs of IABs, which are positively attached to the abutments (Fig. 1), experience translations of this magnitude as they move along with the abutments. An apparent consequence of the additional demand placed on approach slabs of IABs is approach slab cracking, which requires maintenance, repair, and even premature replacement that can somewhat offset the other significant long-term benefits of IABs.

***Background***

Approach slab cracking has become a serious problem for many Illinois Tollway (“the Tollway”) IABs built within the last ten years. A recent survey of six pairs of I-90 mainline IABs, built between Elgin and Rockford in 2013-14, found that nearly 60% of the approach slabs had noticeable cracks (S.T.A.T.E. Testing 2014). This kind of early cracking is presenting significant challenges for the Tollway with respect to ongoing maintenance and repair, and it may even require replacement at a juncture much earlier than anticipated. Cracking has been especially problematic in certain cases where cast-in-place approach slabs have been used by the

Tollway, particularly for abutments with mechanically stabilized earth (MSE) walls. Thus, the Tollway has considered using precast modular approach slab construction as an alternative. However, the current Illinois Department of Transportation (IDOT 2012a) precast details, which consist of longitudinal precast planks, are intended for tangent sections with flat panels, they require a subsequent cast-in-place wearing surface, and they are not intended for non-planar slabs and/or super-elevated approaches. When the IDOT precast approach slab details have been applied by the Tollway to IABs built for crossroads, cracking of the wearing surface of the precast system has frequently occurred. IDOT criteria for when a precast approach slab (versus a cast-in-place approach slab) is required appear to be fairly subjective and mainly applicable to longer-span IABs. However, cracking has even been found to be a common issue for Tollway IAB approach slabs that were suitable for cast-in-place construction in accordance with IDOT design criteria, and so it appears that more rigorous criteria are needed for assessing when precast approach slabs should be required on IABs, including for shorter spans.



**Fig. 1** – Typical section through IDOT integral abutment (IDOT 2012b).

Given the shortcomings in current IDOT precast approach slab details, in conjunction with the extent of cracking in IAB cast-in-place approach slabs built on Tollway bridges not requiring a precast approach according to current IDOT criteria, improved approach slab designs are a critical near-term need so that the Tollway can implement them during the

reconstruction of the central Tri-State. The ongoing Tollway bridge construction along I-90 and the Elgin-O'Hare corridor provides an immediate opportunity for field investigation and instrumentation of approach slabs during the 2016 and/or 2017 construction seasons. The Tollway has already developed design base sheets for full-depth modular precast concrete bridge approach slabs, with plans for application of these designs on a Tollway demonstration project in 2016. Additional potential bridge demonstration and/or instrumentation sites will be built on the Tollway over the course of the next three years as well. Results from the field instrumentation and related analyses of modular precast approach slabs can then be ready in time to inform one of the next major Tollway bridge replacement jobs, starting in 2019, when reconstruction of the central Tri-State begins.

### ***Prior Research***

Although a comprehensive literature review will be conducted as a task within the scope of the proposed research, it is still helpful to make brief note here of some related research projects that provide valuable context for the proposed work. Based on a review of the relevant literature, the current state of practice, especially as noted above for Illinois (IDOT 2012a), has been to use cast-in-place approach slabs for relatively short IABs and precast approach slabs (with a fairly thin wearing surface) for longer IABs. These approach slabs are designed to move along with the bridge, while relative movement is allowed at the approach slab / pavement interface. There is an ongoing research study about IABs, sponsored by both the Tollway and IDOT, which has instrumented two IABs in the field (LaFave et al. 2015). One of the approach slabs on a skewed IAB in that project has been instrumented, and so those field data can be a starting point for the proposed work, along with the other temperature and movement data being collected for both of those IABs (as well as the analytical modeling of those two bridges).

In Iowa, instrumentation was installed on two nearly identical bridges, one with a longer precast approach slab and the other with a shorter cast-in-place approach slab; the measured field data demonstrated that approach slab differences affected bridge behavior, including mid-span girder moments and slab strain patterns (Greimann et al. 2008). There has also been some limited related work on approach slab connections to IABs and approach slab cracking in Iowa and New Jersey (Phares et al. 2013; Nassif et al. 2009). Studies conducted in Louisiana and Missouri have investigated potential alternate approach slab designs differing from the conventional procedures of their respective DOTs (Abu-Farsakh et al. 2014; Ajgonkar et al. 2010). A limited field study was conducted in Louisiana using pressure cells and strain gages, whereas the Missouri research only made use of finite element analysis. These few studies are the extent of prior work on approach slabs, and construction details like those typically used in

Illinois and/or for precast systems have not been specifically considered. In addition, field monitoring can significantly expand the understanding of IAB approach slab behavior.

### **Objectives**

As indicated by the brief summary of observed field behavior and sparse prior study of IAB approach slabs, additional research is still needed. Broadly speaking, this research should lead to improved performance and reduced maintenance at bridge approach slabs all along the Tollway. Expected benefits include improved ride quality, reduced approach slab repair / replacement costs, and efficient future approach slab construction. Thus, the proposed research has three primary objectives:

- To identify (from structural, materials, and geotechnical perspectives) the fundamental cause(s) of the cracking issues the Tollway has experienced at IAB approach slabs (through drawing review, field instrumentation, data collection, and analysis).
- To develop improved design criteria, construction details, and other procedures for preventing and/or mitigating approach slab cracking in the future.
- To evaluate efficient full-depth precast modular approach slab designs (including the proposed designs already developed by the Tollway) that could replace the current cast-in-place and IDOT precast options, with potential future application in the context of accelerated bridge construction.

### **Research Approach / Work Plan**

To accomplish the overall objectives of this research project, a series of four tasks – a literature search / agency survey, an investigation of current Tollway IAB approach slab cracking, development of cast-in-place approach slab improvements, and identifying potential modular precast approach slab options – will be undertaken and completed. This will culminate in the preparation of draft guidelines and design criteria for improved cast-in-place approach slab performance, as well as for precast approach slab construction that can successfully be used with IABs of various span lengths and skews without presenting other challenges. Although the various tasks are described as discrete activities, they are in fact quite integrated, in that findings developed from one task can potentially inform others and influence decisions that are made within those other tasks. More detailed work descriptions, itemizing the tasks that comprise the overall research approach, are given in the sub-sections below. One of the first steps upon initiating this Tollway research project will be to have a meeting with the project's technical review panel (TRP), in order to establish (with their guidance) an even more detailed

plan of work, specifically including all milestones and deliverables. For the time being, though, each of the tasks described below already includes a brief description of the anticipated deliverables.

### ***Task 1 – Literature Review and Agency Survey***

As described in a bit more detail below, a detailed review will be conducted of the available research literature about the general subject of bridge approach slabs, which will also be accompanied by a survey of other highway agencies to identify best practices and potential details for precast approach slabs.

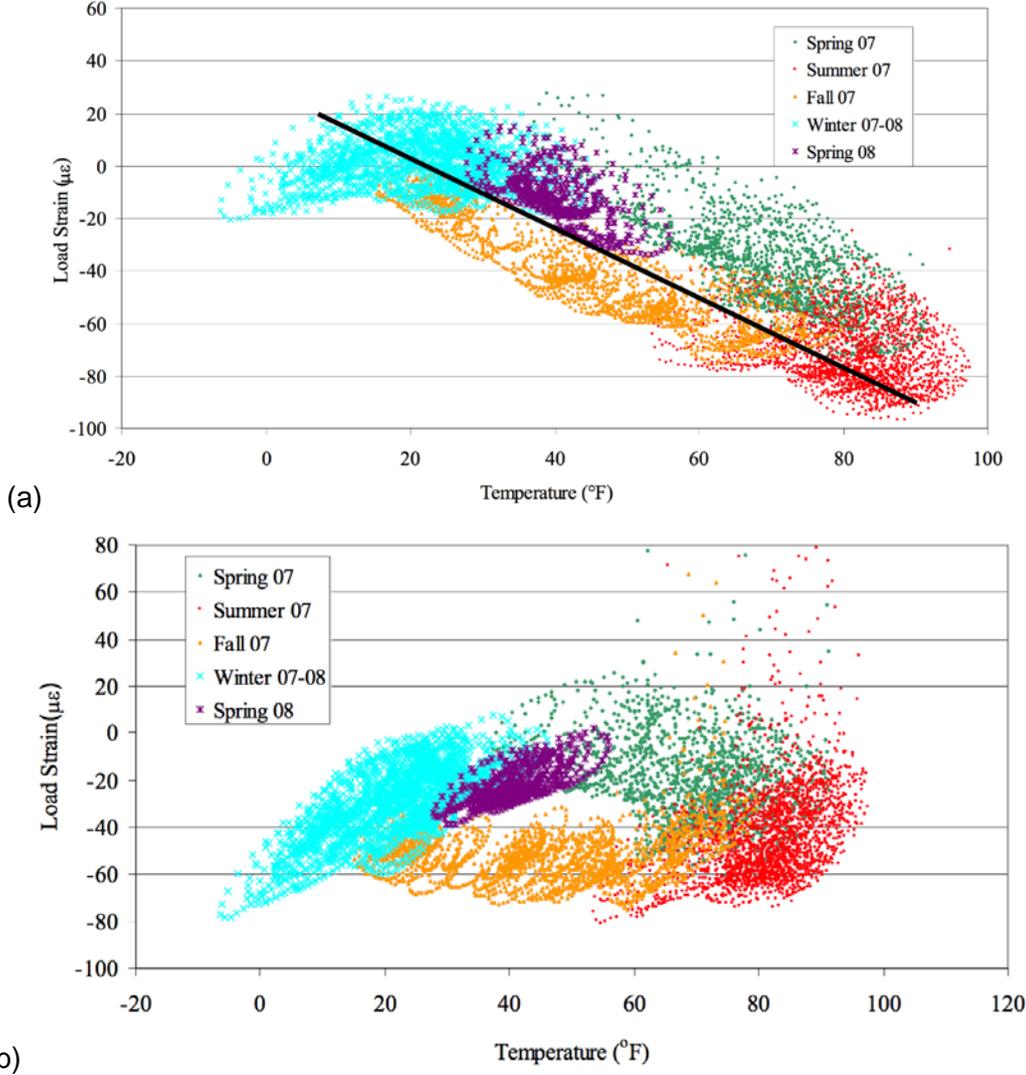
#### **1.1 Literature Review of Prior Research**

A thorough review of the existing research literature, including studies pertaining to other states' design and construction policies for IAB approach slabs, will be conducted. This will be done at the outset of the project, to inform, guide, and provide context to the researchers as they prepare for later field observation, data collection, analysis, and design recommendations. As reported in an earlier section of this proposal, the researchers have already begun this literature review process, in conjunction with some ongoing related work about Tollway IABs and their approach slabs. For example, Fig. 2 shows distinctly different strain-temperature behavior for precast and cast-in-place approach slabs monitored in Iowa (Greimman et al. 2008). By critically examining prior studies related to approach slabs, the research team may generate new ideas about how to productively build upon successful earlier work, and will also observe any limitations and/or shortcomings of those previous field investigations or analytical research programs. The research team will continue to review additional relevant approach slab research throughout the duration of the project, in order to corroborate observations and preliminary results of the study as they become available, and to provide insight into other research avenues worthy of exploration.

#### **1.2 Agency Survey of Design and Construction Practices**

At the same time as the literature review is being performed, the researchers will also develop and then conduct a survey of various other highway and transportation agencies in terms of how they address approach slabs in their IAB design and construction practice. In particular, an e-mail survey will be conducted by directly contacting appropriate state bridge officials for their perspectives on approach slabs, with further telephone follow-up as necessary to ensure a high response rate and to clarify certain aspects of some responses. The survey will elicit responses pertaining to past issues that other agencies have experienced with approach slab cracking, as well as typical details they use for both cast-in-place and precast approach slabs at IABs. This is similar to what was successfully done by the proposed Co-PI

and others as part of a previous Illinois Center for Transportation (ICT) project at UIUC on IAB substructures, where nearly two-dozen other states were surveyed about their typical IAB design, detailing, construction, and maintenance practices (Olson et al. 2009). In that prior project, this exercise was extremely valuable in guiding the research; it is expected to be equally beneficial as part of the proposed work. The overall deliverables from Task 1 are expected to include a draft literature review that also includes a listing of approach slab options that have been used to date elsewhere, especially in states with similar climates to that of Illinois. A final version of the literature review will then be prepared by the researchers, after incorporating input from the Tollway's review of the draft, for publication as part of the final project report.



**Fig. 2** – Approach slab average load strain: (a) precast; (b) cast-in-place (Greimann et al. 2008).

## ***Task 2 – Investigation of Current IAB Approach Slab Cracking***

In conjunction with the Task 1 activities described above, a specific investigation will be conducted into the current IAB approach slab cracking issues that are being experienced along the Tollway.

### **2.1 Bridge Plan Review and Supplemental Field Inspection**

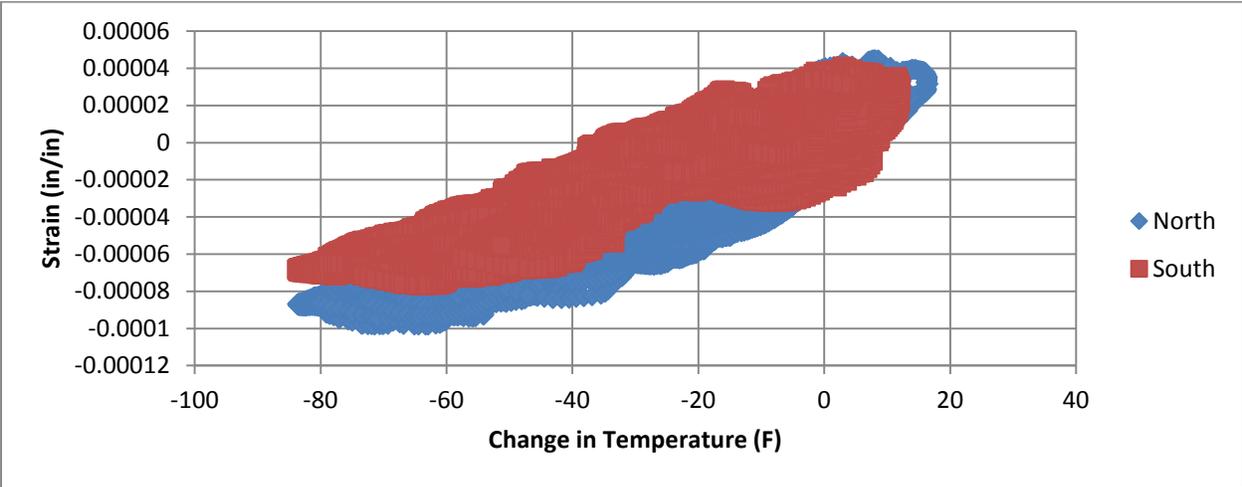
This task will include a detailed review of the construction drawings and other related information for approach slabs that are experiencing cracking, as well as for other approach slabs that are not, in order to try and better understand any pertinent patterns at bridges constructed over the course of roughly the last ten years. These patterns could be related to a wide range of variables, including bridge span length, skew, abutment type, and approach slab support details. Our understanding of which IAB approach slabs are experiencing cracking, as well as of the extent and nature of that cracking, will start with resource documents already available from the Tollway (e.g., the S.T.A.T.E. Testing (2014) report), but will be enhanced by further field visits of the project team to bridge sites. Such site visits will consist of making additional field observations (including detailed crack-mapping assessments) and also, as necessary, some limited non-destructive evaluation related to the conditions observed at the bridges (for instance, in order to better evaluate the extent of any erosion or settling that has occurred under an approach slab, or the ability for relatively free expansion or contraction at intended locations). In addition, finite element models of selected approach slabs will be developed to provide a basis for correlating field observations with numerical simulations. These linear elastic solid element models will be used to detect regions of high stress where cracking is likely to occur. After the modeling framework is established, it will be used in later portions of the research.

### **2.2 Instrumentation and Field Monitoring of Tollway IAB Approach Slabs**

Complementary to the bridge plan review and field inspection activities described above, targeted field instrumentation and data collection of approach slabs at selected Tollway IABs will also be performed. The starting point for this will be a careful re-examination of all the field data collected to date on the I-90 bridge over the Kishwaukee River, which is currently being monitored – as part of the ongoing ICT / Tollway project – about the analysis of superstructures of IABs. This bridge has six embedded strain gages in one approach slab, along with displacement transducers at the abutment-approach slab joint and approach slab-transition slab joint (on both edges of the slab). These gages have performed very well and have provided reliable data through two winters (Fig. 3). As expected, each strain gage and displacement transducer has reported readings that track linearly with temperature. The field measurements

from the Kishwaukee River bridge provide only a small window into approach slab behavior, as the primary objectives of that monitoring were not specifically related to approach slabs, but they do provide an indication that approach slabs can be monitored successfully in the field. For the proposed research, new approach slabs will be instrumented with a dense array of strain gages so that variations in behavior can be detected, particularly with respect to factors that can influence cracking. Periodic use of high-definition imaging techniques, such as laser scanning or digital image correlation, will also be considered as a means to detect and track approach slab behavior.

Through consultation with the Tollway, several existing and new IABs will be selected for approach slab field monitoring, including cast-in-place and precast options. For the existing bridges, external displacement transducers will monitor global movement, and visual observations along with correlated time-lapse photographs will track development and propagation of cracking. These same techniques will be used for new bridges, with the addition of internal approach slab strain gages installed during field construction (cast-in-place) or plant fabrication (precast). Observations and collected data will feed into the companion numerical simulations that are also part of Task 2.



**Fig. 3** – Approach slab average strain for Kishwaukee River bridge.

**2.3 Numerical Modeling of Tollway IAB Approach Slabs**

Using the modeling framework described above, finite element models will be developed for the monitored approach slabs, and field measurements will be used to further calibrate / validate the modeling approach. Subsequently (Task 3), the finite element modeling framework will be employed to consider a wider range of approach slab configurations. The overall deliverables from Task 2 are expected to be draft findings about the situations where approach

slab cracking is most likely to occur, including initial strategies related to preventing cracking. A final version of these findings will be included in the overall project's final report, after incorporating Tollway comments and suggestions for the draft. In addition, the modeling work from Task 2 will feed into Tasks 3 and 4.

### ***Task 3 – Cast-in-Place Approach Slab Improvements***

The field observations / measurements and numerical simulation results from Task 2 will be used to improve the design and detailing requirements of cast-in-place approach slabs. Finite element models developed in Task 2 will be utilized to conduct a parametric study considering selected critical parameters across a range of potential bridge and approach slab configurations. Factors that influence cracking will be identified, and measures to prevent cracking in new cast-in-place approach slabs will be developed. Simplified modeling approaches that enable designers to identify problematic approach slab conditions will also be proposed. The primary deliverables from Task 3 will be draft findings on improving the in-service performance of cast-in-place approach slabs. A final version of these findings will be included in the overall project's final report, after incorporating Tollway comments and suggestions for the draft.

### ***Task 4 – Recommendation for Precast Approach Slabs***

Similar to Task 3, field observations / measurements, and numerical simulation results from Task 2 will be used to study a range of potential precast approach slab options and ultimately identify selected configurations with the best performance (i.e., efficient and easily movable sections that can also prevent restraint cracks off the nosings). The primary starting point for developing these recommendations will be the design base sheets for full-depth modular precast approach slabs that the Tollway has developed. Finite element models developed in Task 2 will be used to conduct a parametric study considering selected critical parameters for a range of precast approach slab configurations. The overarching goal of this task is to provide a comprehensive framework for implementing precast approach slabs, including situations with non-planar slabs and/or super-elevated approaches. The primary deliverables from Task 4 will be draft findings on the development of robust precast approach slabs for enhanced long-term service performance. A final version of these findings will be included in the overall project's final report, after incorporating Tollway comments and suggestions for the draft.

## **Anticipated Research Results**

The proposed research will broadly provide a fundamental understanding of IAB approach slab behavior. Products of this research will include a thorough investigation, from field observations, recorded data, and related analyses, of the cracking issues that the Tollway has been experiencing at IAB approach slabs. This study will identify the key parameters that affect cracking, and will develop improved construction details and procedures for preventing / mitigating such cracking. Enhanced performance for cast-in-place approach slabs will be realized, and efficient full-depth precast modular approach slab designs will also be developed. These precast approach slabs have the potential to replace traditional cast-in-place and/or IDOT-precast approach slab options. Throughout the project, progress will be documented with quarterly reports, in electronic format, containing a summary of effort performed during the quarter and expected progress for the following quarter. Biannual presentations will be given to a Tollway technical work group, and feedback provided at these meetings will be incorporated into the evolving research activities. A thorough final report will summarize the results and recommendations developed through this research effort, and all draft findings from the tasks will be incorporated into this final report, including revisions based on Tollway feedback. A succinct one-page technical briefing document will encapsulate the most important aspects of the research effort for publicity and broad distribution.

## **Applicability of Results to Illinois Tollway Practice**

This research will enhance the constructability, serviceability, and overall quality of approach slabs for Illinois Tollway integral abutment bridges, and as a result it will increase safety and reduce maintenance costs for the Tollway. Overall, this research will lead to improved performance and reduced maintenance at bridge approach slabs all along the Tollway. In addition, the robust modular precast approach slab designs that will be developed are envisioned to have future application in the context of accelerated bridge construction. Specific benefits of this research effort include improved ride quality, reduced approach slab repair / replacement costs, and efficient future approach slab construction. With the ongoing Tollway bridge construction along I-90 and the Elgin-O'Hare corridor, this research can immediately investigate and instrument approach slabs in the field during the 2016 construction season. Results from that field instrumentation and related analyses of modular precast approach slabs can then be ready in time to inform one of the next major Tollway bridge replacement jobs, starting in 2019, when the central Tri-State enters reconstruction. The

database of field observations / data and numerical simulation results will be a valuable resource for the Tollway, and the design / construction recommendations that are developed will directly improve the quality of service provided by the Tollway to its customers and reduce Tollway costs.

### **Qualifications and Accomplishments of the Research Team**

The proposed Principal Investigator (PI) for this project is Prof. Larry A. Fahnestock, P.E., from the University of Illinois at Urbana-Champaign. Larry brings to the project expertise related to field and laboratory testing, analysis, design, and behavior of large-scale structural components and systems. His current bridge-related research includes (as Co-PI): i) an in-progress field and analytical study of integral abutment bridge (IAB) behavior and design, sponsored by both the Illinois Center for Transportation (ICT) and the Illinois Tollway, designated as *ICT Project R27-115 / ITHA Project RR-11-9120* (“Analysis of Superstructures of IABs”); and ii) an in-progress ICT study of seismic bridge behavior in Illinois, designated as *ICT Project R27-133* (“Calibration and Refinement of Illinois’ Earthquake Resisting System Bridge Design Methodology: Phase II”). His prior bridge-related research experience includes an investigation of local stability for plate girders fabricated of high-performance steel (including large-scale laboratory testing), and (as Co-PI) a completed experimental and analytical ICT study of seismic bridge performance in Illinois, *ICT Project R27-70* (“Calibration and Refinement of Illinois’ Earthquake Resisting System Bridge Design Methodology”). Broadly speaking, his research work focuses on integrating numerical and experimental simulations for greater understanding of the performance of civil engineering structures and to develop innovative structural engineering solutions that can be directly implemented into practice.

The proposed Co-PI for this project is Prof. James M. LaFave, P.E., also from the University of Illinois at Urbana-Champaign. Jim has a broad range of structural engineering behavior, testing, analysis, and design experience and expertise, especially with respect to structural concrete / structural connections and as applied to research problems in the field of bridge engineering. He served as the structural engineering faculty member as part of the project team on two previous research projects for IDOT about IAB substructures (*ICT Projects R27-25 and R27-55*), and he is now the PI for joint *ICT Project R27-115 / ITHA Project RR-11-9120* (“Analysis of Superstructures of IABs”). In addition, he was PI for *ICT Project R27-70* (“Calibration and Refinement of Illinois’ Earthquake Resisting System Bridge Design Methodology”) and is now PI for *ICT Project R27-133* (“Calibration and Refinement of Illinois’

Earthquake Resisting System Bridge Design Methodology: Phase II"). He has also previously served as PI or Co-PI on IDOT projects concerning the seismic performance of wall pier bridges and wind performance of aluminum sign truss support structures.

Together, Prof. Fahnstock and Prof. LaFave will bring a broad range of technical expertise and experience to this project. They also have extensive experience in working with the Tollway on a multi-faceted funded research project, which will allow them to quickly engage with the TRP on this new research project and make expedient progress.

### **Other Commitments of the Research Team**

The proposed investigators for this project are actively engaged in other experimental (field and laboratory) and analytical structural engineering research projects (some of which are closely related to the proposed work) sponsored by various funding agencies. This demonstrates their expertise, relevant professional activity, and ability to address the needs identified in the present proposal. While both the PI and Co-PI each have a number of active research projects, they also have a strong track record of managing multiple projects and achieving favorable outcomes with high impact. Furthermore, some of their current projects will be reaching completion by late-2016 / early-2017, so they will be well-positioned to make good progress on the proposed work from the outset on through the three-year term of the project, as further outlined in the project timeline shown below.

### **Equipment and Facilities**

The equipment and facilities available through the University of Illinois at Urbana-Champaign (UIUC) provide the necessary resources to successfully conduct the proposed research.

- Grainger Engineering Library is the largest engineering library in the country and one of the most technologically advanced information management and retrieval centers in the world. Opened in 1994, Grainger is a 92,000-square-foot facility that seats 1,300 patrons, accommodates 220,000 volumes of library materials, and provides computing and networking capacity to meet enhanced user information access needs. Grainger will be an invaluable asset for conducting the literature search that is part of the proposed research.
- Analyses and simulations will be conducted in part using the general-purpose commercial finite element software package Abaqus, which is available through the existing computing

infrastructure at UIUC. High-end workstation computer systems will be used for conducting simulations and processing the field data. Existing computer resources will partially meet the project needs, and an additional laptop will be purchased with research funding.

- The Newmark Structural Engineering Laboratory (NSEL) at UIUC has a long history of excellence in large-scale experimental research. A unique feature of the NSEL is a full-service machine shop run by a staff of technicians with broad expertise in testing of concrete structures. Work associated with preparing for the field effort in the proposed research program will be performed in-house by NSEL staff, in conjunction with a graduate student researcher assigned to the project. Computer data acquisition systems and a wide variety of instrumentation are available for monitoring and recording structural behavior (i.e., displacement, rotation, force, etc.) during experiments and field testing, and digital cameras are available to capture photographs and video footage.
- For the field observation and monitoring activities in the proposed research, additional instrumentation and data acquisition supplies will be purchased, where necessary.

### **Time Requirements / Project Timeline**

The time required to execute the proposed research is 36 months (3 years), with an anticipated start date of August 15<sup>th</sup>, 2016. The table below shows how this will be broken down by the tasks and sub-tasks comprising the work. Each project year is divided into four quarters (Q1 = Aug 15 – Nov 14, Q2 = Nov 15 – Feb 14, Q3 = Feb 15 – May 14, Q4 = May 15 – Aug 14).

	<u>Task description</u>	<u>2016-17</u>				<u>2017-18</u>				<u>2018-19</u>			
1	Literature search and agency survey												
	Research review (1.1)	*	*										
	Design/construction practice survey (1.2)	*	*	*									
	Summarize and synthesize			*	*								
2	Investigation of current approach slab cracking												
	Plan review and field inspection (2.1)	*	*	*									
	Instrumentation and field monitoring (2.2)			*	*	*	*	*	*	*	*	*	*
	Numerical modeling (2.3)		*	*	*	*	*	*	*	*	*	*	*
	Summarize and synthesize											*	*

3	Cast-in-place approach slab improvements																		
	Define parametric space & prototype slabs				*	*	*												
	Numerical modeling					*	*	*	*	*	*	*							
	Summarize and synthesize															*	*		
	Analysis/design guidelines									*	*	*	*	*	*				
4	Precast approach slab development																		
	Define parametric space & prototype slabs				*	*	*												
	Numerical modeling					*	*	*	*	*	*	*							
	Summarize and synthesize															*	*		
	Analysis/design guidelines									*	*	*	*	*	*				

### Itemized Budget

An itemized budget for the entire project is provided in the table below, including all the costs associated with personnel (faculty, grad students, and their fringe benefits), travel, materials and supplies, equipment, shop time, and overhead / indirect costs.

<u>Item</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Total</u>
Faculty	18,686	19,246	19,824	57,756
Graduate Students	47,292	48,710	50,171	146,173
Fringe Benefits	11,293	11,632	11,981	34,905
<u>Total Personnel</u>	<u>77,270</u>	<u>79,588</u>	<u>81,976</u>	<u>238,833</u>
Travel	1,530	2,000	1,750	5,280
Materials & Supplies	7,750	8,000	7,750	23,500
Non-Capital Equipment	5,250	5,750	5,250	16,250
NSEL / Machine Shop	750	1,000	750	2,500
<u>Total Direct Costs</u>	<u>92,550</u>	<u>96,338</u>	<u>97,476</u>	<u>286,364</u>
Facilities & Admin. (10%)	9,255	9,634	9,748	28,636
<b><u>Total Tollway Project Cost</u></b>	<b><u>\$101,805</u></b>	<b><u>\$105,972</u></b>	<b><u>\$107,223</u></b>	<b><u>\$315,000</u></b>

A more detailed explanation / justification of all the items comprising this itemized budget is as follows:

- Faculty costs support partial salary recovery for the PI and Co-PI to cover work conducted on this project during the summer. Specifically, Profs. Larry Fahnestock and Jim LaFave are each funded for 0.75 months of summer salary every year for the three-year duration of the project. Their budgeted salary includes a 3% increase in each of the 2<sup>nd</sup> and 3<sup>rd</sup> years. They will supervise all aspects of the research (including the grad students working on both field and analytical portions of the work), lead the project meetings, assist in preparing all publications and presentations associated with the proposed work (including the final report), and present the research results for dissemination to the broader community.
- Graduate student costs will provide stipend support for two graduate student research assistants (one at the MS-level and one at the PhD-level) throughout the three-year term of the project. For each of them, 11 months of 50%-time support will be provided in every year (again, with an assumed 3% increase in budgeted stipend per year). Together they will be responsible for executing all of the key proposed field and analytical research tasks.
- Fringe benefits represent all the required benefits (health & worker's compensation insurance, etc.) associated with the project staff. They are computed at the usual UIUC institutional rate of 44.77% for faculty and 6.19% for graduate student research assistants.
- Travel costs include expenses associated with faculty and grad students attending project meetings around the state of Illinois throughout the duration of the project, as well as trips to bridge sites for purposes of inspection and also for installing and collecting data from field monitoring systems. They also cover one domestic trip during the life of the project for a member of the project team to present results of the work at an engineering conference.
- Materials and supplies costs represent the purchase of key non-perishable instrumentation (e.g., displacement transducers) and other expendable instrumentation (e.g., strain gages), as well as related supplies such as wiring and materials for field-mounting fixtures.
- Non-capital equipment costs comprise a laptop computer and software for analysis and remote data acquisition, as well as data-loggers, multiplexers, and a modem for field data collection and data transfer.
- NSEL / machine shop costs are for technician time to help construct the required fixtures for field instrumentation, and any charges associated with other field-work preparations that need to be made using the UIUC CEE shop facilities, testing equipment, and/or personnel.
- Finally, the allowance for facilities & administration (indirect cost) is simply at the standard rate for a UIUC project with the Tollway (10% of all direct costs).

## Appendix

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- Phares, B.M., Faris, A.S., Greimann, L., and Bierwagen, D. (2013), "Integral Bridge Abutment to Approach Slab Connection," *ASCE Journal of Bridge Engineering*, vol. 18, no. 2, pp. 179-181.
- S.T.A.T.E. Testing (2014), *I-90 Jane Addams Memorial Tollway Elgin to Rockford: Mainline Bridge Approach Slab Survey – December 2014*, East Dundee, Illinois.

## RESOLUTION NO. 21098

**Background**

It is in the best interest of the Illinois State Toll Highway Authority (the "Tollway") to enter into an Intergovernmental Agreement with the Village of Posen Park District ("Park District"). The Tollway will convey excess land, Parcel T-1C-277, to the Park District for public use.

The Park District recently conducted a real estate survey, which revealed that a shed belonging to the Park District is situated on property currently owned by the Tollway. The parcel is adjacent to a Posen playground located on the western side of I-294 and north of 149<sup>th</sup> Street. The Park District will pay the Tollway \$1,000 for this remnant Tollway parcel.

**Resolution**

The Chief Engineer and the General Counsel are authorized to negotiate and prepare an Intergovernmental Agreement between the Illinois State Toll Highway Authority and the Posen Park District in substantially the form of the Intergovernmental Agreement attached to this Resolution. The Chairman or the Executive Director is authorized to execute said agreement.

Approved by: \_\_\_\_\_

Chairman

**INTERGOVERNMENTAL AGREEMENT BETWEEN  
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY  
AND  
THE POSEN PARK DISTRICT**

This INTERGOVERNMENTAL AGREEMENT (hereinafter referred to as the "AGREEMENT") is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY, an instrumentality and administrative agency of the State of Illinois, hereinafter called the "ILLINOIS TOLLWAY", and the "POSEN PARK DISTRICT", hereinafter referred to as "PARK DISTRICT", individually referred to as "PARTY", and collectively referred to as "PARTIES".

**WITNESSETH:**

WHEREAS, the ILLINOIS TOLLWAY in order to facilitate the free flow of traffic and ensure safety to the motoring public, has improved the Tri-State Tollway (I-294) (hereinafter sometimes referred to as the "Toll Highway"), and included in ILLINOIS TOLLWAY multiple construction contract(s) (hereinafter referred to as the "PROJECT"); and

WHEREAS, the PARK DISTRICT recently conducted a real estate survey which revealed that a shed belonging to the PARK DISTRICT, is situated on property currently owned by the ILLINOIS TOLLWAY. More specifically, ILLINOIS TOLLWAY parcel number T-1C-277 (hereinafter referred to as the "PARCEL") is located on the western side of I-294, north of 149<sup>th</sup> Street (Exhibit "A"); and

WHEREAS, it is not anticipated that the PARCEL will be required for Toll Highway maintenance, operations or future construction improvements and therefore is considered excess to the needs of the ILLINOIS TOLLWAY; and

WHEREAS, it is in the best interest of the PARTIES that the ILLINOIS TOLLWAY transfer the PARCEL to the PARK DISTRICT for public use; and

WHEREAS, an appraisal of the PARCEL (the "Appraisal") was prepared by a licensed appraiser and it was determined that the value of the PARCEL would be set at \$1,000.00; and

WHEREAS, this instrument shall be known as Number #2016-21 for ILLINOIS TOLLWAY recording purposes; and

WHEREAS, the ILLINOIS TOLLWAY by virtue of its powers as set forth in the "Toll Highway Act," 605 ILCS 10/1 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the PARK DISTRICT by virtue of its powers as set forth in the Park District Code 50 ILCS 605/0.001 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, a cooperative Intergovernmental Agreement is appropriate and such an Agreement is authorized by Article VII, Section 10 of the Illinois Constitution and the “Intergovernmental Cooperation Act”, 5 ILCS 220/1 *et seq.*

NOW, THEREFORE, in consideration of the aforementioned recitals and the mutual covenants contained herein, the PARTIES hereto agree as follows:

### **I. TRANSFER OF OBLIGATIONS**

- A. The PARK DISTRICT agrees to accept conveyance from the ILLINOIS TOLLWAY of the PARCEL listed and described on the attached Exhibit.
- B. The PARCEL is now owned by the ILLINOIS TOLLWAY and has the following PARCEL number as identified on the Exhibit as provided herein: T-1C-277.
- C. The PARTIES agree to cooperate in preparing any documents as may be necessary and convenient to complete the conveyance of the PARCEL.

### **II. CONSIDERATION**

- A. The PARTIES mutually agree that this conveyance is based upon the appraised value of the PARCEL at \$1,000.00, which will be paid by the PARK DISTRICT to the ILLINOIS TOLLWAY; and the PARK DISTRICT agrees to assume and accept the responsibilities and duties associated with the ownership of the PARCEL including but not limited to maintenance.

### **III. CONVEYANCE OF THE PARCEL**

- A. The PARK DISTRICT agrees to accept conveyance of the PARCEL from the ILLINOIS TOLLWAY via a Quit Claim Deed.
- B. The ILLINOIS TOLLWAY shall convey the PARCEL to the PARK DISTRICT, provided, however, that:
  - 1. It is understood that the aforementioned PARCEL was acquired and is being conveyed for public use, and that upon conveyance of any portion of any of the PARCEL to a private party within ten (10) years of the date of this Agreement, the PARK DISTRICT shall reimburse the ILLINOIS TOLLWAY for any portion of the sale proceeds in excess of the amount originally paid for the PARCEL to the ILLINOIS TOLLWAY pursuant to the Tollway’s Excess Real Property Declaration and Disposal Policy dated November 2015; and

2. In the event any portion of the PROPERTY is required in the future for Toll Highway improvements, the PARK DISTRICT will re-convey the required portion of the PARCEL to the ILLINOIS TOLLWAY upon demand and at fair market value.
3. In the event any portion of the PROPERTY is conveyed, sold or vacated, the PARK DISTRICT will provide the ILLINOIS TOLLWAY with advance written notice.
4. The Quit Claim deed from the ILLINOIS TOLLWAY to the PARK DISTRICT shall contain the following covenant: "Pursuant to Tollway's Excess Real Property Declaration and Disposal Policy dated November 2015, the Grantee, their successors and assigns agree not to build or cause to be built or erected upon the subject property any advertising sign or structure directed, whether in whole or part, to users or patrons on the adjacent toll highway or any structure that in the opinion of the Chief Engineer of the Illinois State Toll Highway Authority, Grantor, would in any way interfere with the safe operation of the Illinois State Toll Highway Authority system."

#### **IV. GENERAL PROVISIONS**

- A. It is understood and agreed that this is an AGREEMENT between the PARK DISTRICT and the ILLINOIS TOLLWAY.
- B. It is understood and agreed that this AGREEMENT constitutes the complete and exclusive statement of the agreement of the PARTIES relative to the subject matter hereof and supersedes all previous oral and written proposals, negotiations, representations or understandings concerning such subject matter.
- C. In the event of a dispute between the PARK DISTRICT and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT, the Chief Engineer of the ILLINOIS TOLLWAY and the President of the Board of Commissioners for the PARK DISTRICT shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of a dispute concerning the carrying out of the terms of this AGREEMENT in reference to the PROPERTY, the decision of the Chief Engineer of the ILLINOIS TOLLWAY shall be final.
- D. In the event there is a conflict between the terms contained in this document and the attached Exhibit, the terms included in this document shall control.
- E. This AGREEMENT may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which shall be deemed one and the same instrument.

- F. This AGREEMENT may only be modified by written modification executed by duly authorized representatives of the PARTIES hereto.
- G. This AGREEMENT shall be binding upon and inure to the benefit of the PARTIES hereto and their respective successors and approved assigns.
- H. The failure by the ILLINOIS TOLLWAY or the PARK DISTRICT to seek redress for violation of or to insist upon the strict performance of any condition or covenant of this AGREEMENT shall not constitute a waiver of any such breach or subsequent breach of such covenants, terms, conditions, rights and remedies. No provision of this AGREEMENT shall be deemed waived by the ILLINOIS TOLLWAY or the PARK DISTRICT unless such provision is waived in writing.
- I. It is agreed that the laws of the State of Illinois shall apply to this AGREEMENT and that, in the event of litigation, venue shall lie in Du Page County, Illinois.
- J. All written reports, notices and other communications related to this AGREEMENT shall be in writing and shall be personally delivered, mailed via certified mail, overnight mail delivery, or electronic mail delivery to the following persons at the following addresses:

To the ILLINOIS TOLLWAY:                   The Illinois Toll Highway Authority  
2700 Ogden Avenue  
Downers Grove, Illinois 60515  
Attn: Chief Engineer

To the PARK DISTRICT:                   The Posen Park District  
P. O. Box 206  
Attn: Board of Commissioners  
President

- K. The PARK DISTRICT agrees to maintain books and records related to the performance of this AGREEMENT and necessary to support amounts charged to the ILLINOIS TOLLWAY and/or the PARK DISTRICT under the AGREEMENT for a minimum of three (3) years from the last action on the AGREEMENT. The PARK DISTRICT further agree to cooperate fully with any audit and to make its books and records, and books and records within its custody or control available to the Illinois Attorney General, the Illinois Auditor General, the ILLINOIS TOLLWAY Inspector General, the ILLINOIS TOLLWAY Department of Internal Audit, the ILLINOIS TOLLWAY or any other governmental agency or agent thereof that is authorized to audit or inspect such books and records.

The introductory recitals included at the beginning of this AGREEMENT are agreed to and incorporated into this AGREEMENT.

IN WITNESS THEREOF, the PARTIES have executed this AGREEMENT on the dates indicated.

**THE POSEN PARK DISTRICT**

By: \_\_\_\_\_  
Jody Chmielak  
Board of Commissioners  
President

Attest: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
(Please Print Name)

**THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

By: \_\_\_\_\_  
Greg M. Bedalov, Executive Director

Date: \_\_\_\_\_

Approved as to Form and Constitutionality

\_\_\_\_\_  
Robert T. Lane, Senior Assistant Attorney General, State of Illinois



RESOLUTION NO. 21099

**Background**

It is in the best interest of the Illinois State Toll Highway Authority (the "Tollway") to enter into an Intergovernmental Agreement with the City of DesPlaines ("City"). The Tollway will convey excess land, consisting of 1,282 square feet, to the City. The parcel is generally located south of I-90 and west of the Canadian National Railroad right-of-way near U.S. 12/20/45. The Park District will pay the Tollway \$6,750 for this remnant Tollway parcel.

**Resolution**

The Chief Engineer and the General Counsel are authorized to negotiate and prepare an Intergovernmental Agreement between the Illinois State Toll Highway Authority and the City of Des Plaines in substantially the form of the Intergovernmental Agreement attached to this Resolution. The Chairman or the Executive Director is authorized to execute said agreement.

Approved by: \_\_\_\_\_  
Chairman

**INTERGOVERNMENTAL AGREEMENT BETWEEN  
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY  
AND  
THE CITY OF DES PLAINES**

This INTERGOVERNMENTAL AGREEMENT (hereinafter referred to as the "AGREEMENT") is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY, an instrumentality and administrative agency of the State of Illinois, hereinafter called the "ILLINOIS TOLLWAY", and THE CITY OF DES PLAINES, a municipal corporation of the State of Illinois, hereinafter called the "CITY", individually referred to as "PARTY", and collectively referred to as "PARTIES".

**WITNESSETH:**

WHEREAS, the ILLINOIS TOLLWAY in order to facilitate the free flow of traffic and ensure safety to the motoring public, intends to improve the Jane Addams Memorial Tollway (I-90) from the John F. Kennedy Expressway to Interstate Route 39 (hereinafter sometimes referred to as "Toll Highway"), and included in multiple ILLINOIS TOLLWAY construction contracts (hereinafter referred to as the "PROJECT"); and

WHEREAS, the CITY owns real property consisting of approximately 5.1 acres located south of I-90 and between U.S. 12/20/45 and the Canadian National Railroad right-of-way which was made available to the ILLINOIS TOLLWAY or the ILLINOIS TOLLWAY's contractor and used for construction staging for the PROJECT from May 19, 2014 through April 2, 2016; and

WHEREAS, the ILLINOIS TOLLWAY, owns real property consisting of approximately 1,282 square feet located south of I-90 and west of the Canadian National Railroad right of way as depicted on the Parcel Plat (hereinafter referred to as "PARCEL") in the attached Exhibit (Exhibit "A"); and

WHEREAS, the CITY requests that the ILLINOIS TOLLWAY convey the PARCEL to the CITY to provide access to a redevelopment project; and

WHEREAS, it is in the best interest of the PARTIES that the ILLINOIS TOLLWAY transfer the PARCEL to the CITY; and

WHEREAS, it is not anticipated that the PARCEL will be required for Toll Highway maintenance, operations or future construction improvements and therefore is considered excess to the needs of the ILLINOIS TOLLWAY; and

WHEREAS, an appraisal of the PARCEL (the "Appraisal") was prepared by a licensed appraiser and it was determined that the value of the PARCEL will be set at \$6,750.00; and

WHEREAS, this instrument shall be known as Number #2016-17 for ILLINOIS TOLLWAY recording purposes; and

WHEREAS, the ILLINOIS TOLLWAY by virtue of its powers as set forth in the Toll Highway Act, 605 ILCS 10/1, *et seq.*, is authorized to enter into this AGREEMENT; and

WHEREAS, the CITY by virtue of its powers as set forth in the Illinois Municipal Code 65 ILCS 5/1-1-1, *et seq.*, is authorized to enter into this AGREEMENT; and

WHEREAS, this AGREEMENT, which shall be known for recording purposes as ILLINOIS TOLLWAY Agreement #2016-17, is further authorized by Article VII, Section 10 of the Illinois Constitution and the Intergovernmental Cooperation Act, 5 ILCS 220/1, *et seq.*;

NOW, THEREFORE, in consideration of the aforementioned recitals and the mutual covenants contained herein, the PARTIES hereto agree as follows:

### **I. TRANSFER OF OBLIGATIONS**

- A. The CITY agrees to accept conveyance from the ILLINOIS TOLLWAY of the PARCEL identified below and as depicted in the attached Exhibit A.
- B. The PARCEL is now owned by the ILLINOIS TOLLWAY and has the following PARCEL number as identified on the Exhibit as provided herein: N-7B-198.EX.
- C. The PARTIES agree to cooperate in preparing any documents as may be necessary and convenient to complete the conveyance of the PARCEL.

### **II. CONSIDERATION**

- A. The PARTIES mutually agree that this conveyance is made based upon the appraised value of the PARCEL at \$6,750.00, which will be paid by the CITY to the ILLINOIS TOLLWAY; and the CITY agrees to assume and accept the responsibilities and duties associated with the ownership of the PARCEL including, but not limited to maintenance.

### **III. CONVEYANCE OF THE PARCEL**

- A. The CITY agrees to accept conveyance of the PARCEL from the ILLINOIS TOLLWAY via a Quit Claim Deed.
- B. The ILLINOIS TOLLWAY shall convey the PARCEL to the CITY, provided, however, that:
  - 1. It is understood that the PARCEL at issue was acquired and is being conveyed to provide access to a redevelopment project, and that upon conveyance of any portion of any of the PARCEL to a private party within ten (10) years of the date of this Agreement, the CITY shall reimburse the ILLINOIS TOLLWAY for any portion of the sale proceeds in excess of the amount originally paid for the PARCEL to the ILLINOIS TOLLWAY pursuant to the Tollway's Excess Real Property Declaration and Disposal Policy dated November 2015.

2. In the event any portion of the PARCEL is required in the future for Toll Highway improvements, the CITY will re-convey that portion of the PARCEL to the ILLINOIS TOLLWAY upon demand and at fair market value.
3. In the event any portion of the PROPERTY is conveyed, sold or vacated, the CITY will provide the ILLINOIS TOLLWAY with advance written notice.
4. The Quit Claim deed from the ILLINOIS TOLLWAY to the CITY shall contain the following covenant: "Pursuant to Tollway's Excess Real Property Declaration and Disposal Policy dated November 2015, the Grantee, their successors and assigns agree not to build or cause to be built or erected upon the subject property any advertising sign or structure directed, whether in whole or part, to users or patrons on the adjacent toll highway or any structure that in the opinion of the Chief Engineer of the Illinois State Toll Highway Authority, Grantor, would in any way interfere with the safe operation of the Illinois State Toll Highway Authority system."

#### **IV. GENERAL PROVISIONS**

- A. It is understood and agreed that this is an AGREEMENT between the CITY and the ILLINOIS TOLLWAY.
- B. It is understood and agreed that this AGREEMENT constitutes the complete and exclusive statement of the agreement of the PARTIES relative to the subject matter hereof and supersedes all previous oral and written proposals, negotiations, representations or understandings concerning such subject matter.
- C. In the event of a dispute between CITY and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT, the Chief Engineer of the ILLINOIS TOLLWAY and the Mayor of the CITY shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of a dispute concerning the carrying out of the terms of this AGREEMENT in reference to the PARCEL, the decision of the Chief Engineer of the ILLINOIS TOLLWAY shall be final.
- D. In the event there is a conflict between the terms contained in this document and the attached Exhibit, the terms included in this document shall control.
- E. This AGREEMENT may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which shall be deemed one and the same instrument.
- F. This AGREEMENT may only be modified by written modification executed by duly authorized representatives of the PARTIES hereto.
- G. This AGREEMENT shall be binding upon and inure to the benefit of the PARTIES hereto and their respective successors and approved assigns.



**THE CITY OF DES PLAINES**

By: \_\_\_\_\_  
Matthew Bogusz, Mayor

Attest: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
(Please Print Name)

**THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

By: \_\_\_\_\_  
Greg M. Bedalov, Executive Director

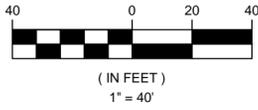
Date: \_\_\_\_\_

Approved as to Form and Constitutionality

\_\_\_\_\_  
Tiffany B. Schafer, Senior Assistant Attorney General, State of Illinois

IGA\_DesPlaines\_excess property.7.11.16.

GRAPHIC SCALE



# GREMLEY & BIEDERMANN

A DIVISION OF  
**PLCS Corporation**

LICENSE No. 184-005332

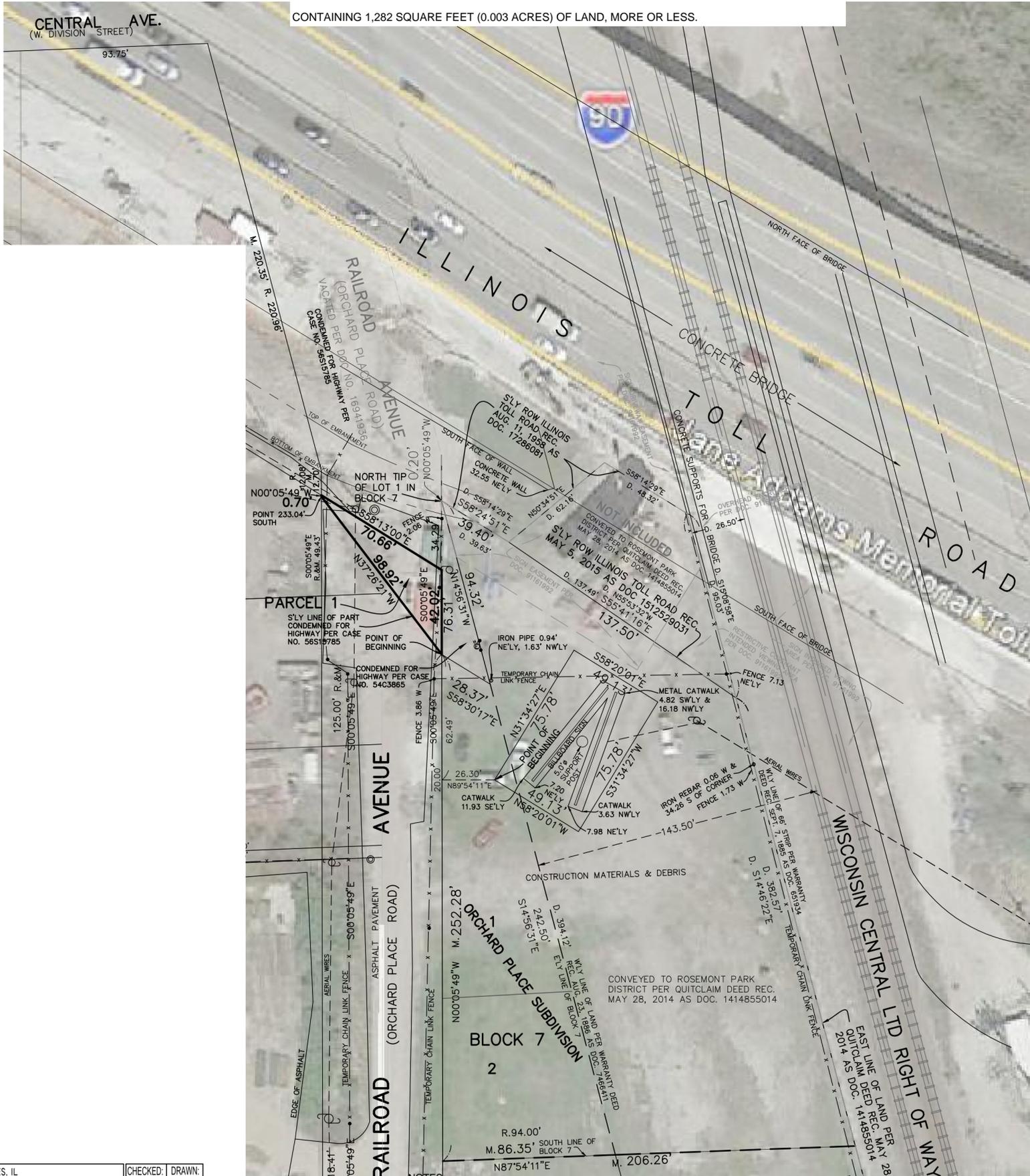
PROFESSIONAL LAND SURVEYORS

4505 NORTH ELSTON AVENUE, CHICAGO, IL 60630  
TELEPHONE: (773) 685-5102 FAX: (773) 286-4184 EMAIL: INFO@PLCS-SURVEY.COM

## EXHIBIT

PARCEL 1:  
THAT PART OF VACATED ORCHARD PLACE ROAD, VACATED BY DOCUMENT NUMBER 16941936, AND CONDEMNED FOR HIGHWAY IN CASE NUMBER 56S15785, LYING EASTERLY AND ADJOINING THAT PART OF LOT 1 CONDEMNED FOR HIGHWAY IN CASE NUMBER 54C3865, IN BLOCK 7 IN ORCHARD PLACE, BEING A SUBDIVISION (EXCEPT THE RIGHT OF WAY AND GROUNDS OF WISCONSIN CENTRAL RAILWAY COMPANY) OF PART OF THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 41 NORTH, RANGE 12, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF, RECORDED MAY 9, 1888 IN BOOK 29, PAGE 30, AS DOCUMENT 955011, BEING DESCRIBED AS FOLLOWS:  
**BEGINNING** AT A POINT IN THE WEST LINE OF SAID LOT 1, SAID POINT BEING 76.31 FEET SOUTHERLY OF THE NORTH TIP OF SAID LOT 1, MEASURED ON THE WEST LINE THEREOF; THENCE NORTH 37°26'21" WEST ALONG THE SOUTHERLY LINE OF THAT PART CONDEMNED FOR HIGHWAY IN CASE NUMBER 56S15785 AFORESAID, 98.92 FEET TO THE WEST LINE OF ORCHARD PLACE ROAD AT A POINT 233.04 FEET SOUTH OF THE SOUTH RIGHT OF WAY LINE OF CENTRAL AVENUE AS MEASURED ALONG SAID RIGHT OF WAY LINE OF ORCHARD PLACE ROAD; THENCE NORTH 00°05'49" W ALONG SAID WEST LINE OF ORCHARD PLACE ROAD 0.70 FEET; THENCE SOUTH 58°13'00" EAST 70.66 FEET TO THE EAST LINE OF ORCHARD PLACE ROAD AND THE WEST LINE OF SAID LOT 1 IN BLOCK 7 AFORESAID AT A POINT 34.29 FEET SOUTH OF THE NORTH TIP OF LOT 1 AFORESAID, MEASURED ON THE WEST LINE THEREOF; THENCE SOUTH 00°05'49" EAST ALONG THE WEST LINE OF LOT 1 AFORESAID, 42.02 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

CONTAINING 1,282 SQUARE FEET (0.003 ACRES) OF LAND, MORE OR LESS.



ORDERED BY: CITY OF DES PLAINES, IL	CHECKED: BSS	DRAWN: BSS
ADDRESS: MANHEIM HIGGINS TIF #6, DES PLAINES, IL		
 <b>GREMLEY &amp; BIEDERMANN</b> A DIVISION OF <b>PLCS CORPORATION</b> LICENSE No. 184-005332 EXPIRES 4-30-2017 PROFESSIONAL LAND SURVEYORS 4505 NORTH ELSTON AVENUE, CHICAGO, IL 60630 TELEPHONE: (773) 685-5102 FAX: (773) 286-4184 EMAIL: INFO@PLCS-SURVEY.COM		
ORDER NO. <b>2016-22257-002</b>	DATE: APRIL 18, 2016 SCALE: 1 INCH = 40 FEET	PAGE NO. <b>1 OF 1</b>

NOTES:  
Measurements shown hereon are both Record (R.) & Measured (M.) unless otherwise noted.  
Distances are marked in feet and decimal parts thereof. Compare all points BEFORE building by same and at once report any differences BEFORE damage is done.  
For easements, building lines and other restrictions not shown on survey plat refer to your abstract, deed, contract, title policy and local building line regulations.  
NO dimensions shall be assumed by scale measurement upon this plat.  
Unless otherwise noted hereon the Bearing Basis, Elevation Datum and Coordinate Datum if used is ASSUMED.  
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## RESOLUTION NO. 21100

**Background**

It is in the best interest of the Illinois State Toll Highway Authority (“Tollway”) to enter into an Intergovernmental Agreement with the Illinois Department of Transportation, the County of DuPage (“County”), the City of Wood Dale (“City”), the Village of Bensenville (“Village”) and the Bensenville Fire Protection District in connection with the improvements to the Illinois Route 390 near Route 83. Certain construction contracts occur within County, Village and City jurisdictional limits, The County has requested installation of LED signage and other enhancements, and the Village and City have requested the construction of shared use paths and other enhancements in the project area, which the Tollway agrees to subject to reimbursement. The Tollway will pay to the Village an estimated amount of \$275,557.27, calculated by subtracting the Village’s enhancements (\$321,442.73 estimated) from Tollway’s purchase of Village property (\$597,000.00). The City is reimbursing Tollway for requested enhancements (\$403,279.07 estimated), which will be satisfied by reducing the Tollway’s outstanding balance to the City. The County is reimbursing Tollway for its enhancements (\$69,759.00 estimated), which will be satisfied by reducing the Tollway’s outstanding balance to the County. This Intergovernmental Agreement further sets forth the respective rights and responsibilities of the parties as to the maintenance of the work following construction.

**Resolution**

The Chief Engineer and the General Counsel are authorized to negotiate and prepare an Intergovernmental Agreement among the Illinois State Toll Highway Authority, the Illinois Department of transportation, the County of DuPage, the City of Wood Dale, the Village of Bensenville, and the Bensenville Fire Protection District in substantially the form attached to this Resolution, the Chief of Finance is authorized to issue warrants in payment thereof, and the Chairman or the Executive Director is authorized to execute said agreement.

Approved by: \_\_\_\_\_

Chairman

**INTERGOVERNMENTAL AGREEMENT BETWEEN  
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY  
THE ILLINOIS DEPARTMENT OF TRANSPORTATION,  
THE COUNTY OF DUPAGE,  
THE CITY OF WOOD DALE,  
THE VILLAGE BENSENVILLE  
AND  
THE BENSENVILLE FIRE PROTECTION DISTRICT**

This INTERGOVERNMENTAL AGREEMENT (hereinafter referred to as the "AGREEMENT") is entered into this \_\_\_\_\_ day of \_\_\_\_\_AD, 2016, by and between THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY, an instrumentality and administrative agency of the State of Illinois, hereinafter called the "ILLINOIS TOLLWAY", THE STATE OF ILLINOIS, acting by and through its DEPARTMENT OF TRANSPORTATION, hereinafter called the "DEPARTMENT", COUNTY OF DUPAGE, a body corporate and politic of the State of Illinois, hereinafter called the "COUNTY", THE CITY OF WOOD DALE, a municipal corporation of the State of Illinois, hereinafter called the "CITY", THE VILLAGE OF BENSENVILLE, a municipal corporation of the State of Illinois, hereinafter called the "VILLAGE", and THE BENSENVILLE FIRE PROTECTION DISTRICT NO. 2, a unit of local government of the State of Illinois, hereinafter called the "DISTRICT", individually referred to as "PARTY", and collectively referred to as "PARTIES".

**WITNESSETH:**

WHEREAS, the ILLINOIS TOLLWAY in order to facilitate the free flow of traffic and ensure safety to the motoring public, intends to improve the Elgin O'Hare Expressway, extend the expressway from its eastern terminus at Rohlwing Road (Illinois Route 53) to O'Hare International Airport (ORD) to be known in its entirety as Illinois Route 390, and construct the Western Access connecting the Jane Addams Memorial Tollway (I-90) with the Tri-State Tollway (I-294) (hereinafter sometimes referred to as the Elgin O'Hare Western Access "EOWA"), and included in multiple ILLINOIS TOLLWAY construction contract(s). The ILLINOIS TOLLWAY will implement, operate and maintain the mainline improvements as tolled facilities (hereinafter sometimes referred to as the "Toll Highway"); and

WHEREAS, certain construction contracts occur within the DEPARTMENT's, the COUNTY's, the CITY's, the VILLAGE's, and the DISTRICT's jurisdiction. This AGREEMENT includes the scope of improvements of ILLINOIS TOLLWAY Contract I-14-4644, Illinois Route 390 from Lively Boulevard to Illinois Route 83 (hereinafter referred to as the "PROJECT") by making the following improvements:

The scope of work of the PROJECT includes construction of Illinois Route 390 from Lively Boulevard to Illinois Route 83, new bridge structures over Illinois Route 83, frontage roads, and improvements to Lively Boulevard, Illinois Route 83, and Supreme

Drive. Dual two span structures will be constructed over Illinois Route 83 to carry eastbound and westbound Illinois Route 390. New frontage roads will be constructed along the south side of Illinois Route 390 from Edgewood Avenue to Thomas Drive and along the north side of Illinois Route 390 from Lively Boulevard to Supreme Drive. Two new at-grade crossings of the Chicago Terminal Railroad (CTM) with the North and South Frontage Roads will be constructed and the existing CTM crossing at Thorndale Avenue will be removed. Off-system improvements include the reconstruction and widening of Illinois Route 83 and the reconstruction of Lively Boulevard and Supreme Drive. Traffic signals, including emergency vehicle pre-emption (EVP) equipment, will be installed at the intersection of Illinois Route 83 with the North and South Frontage Roads and at the intersection of Supreme Drive with the North Frontage Road. The work also includes installation of storm sewers and drainage improvements, construction of a new detention pond east of Edgewood Avenue, retaining wall construction, earthwork, installation of eastbound and westbound All Electronic Tolling (AET) Plazas, installation of Intelligent Transportation Systems (ITS) elements, signing, pavement markings, roadway lighting, landscaping, water main and sanitary sewer relocation, and all other work necessary to complete the PROJECT in accordance with the approved plans and specifications; and

WHEREAS, the CITY requests the ILLINOIS TOLLWAY include in its PROJECT a shared use path, stamped concrete decorative parkways along Lively Boulevard, and black coated access control fencing (hereinafter referred to as the "CITY's IMPROVEMENTS"); and

WHEREAS, VILLAGE requests the ILLINOIS TOLLWAY include in its PROJECT shared use path, special form liner signage, a special handrail along the shared use path over the Illinois Route 83 culvert and black coated access control fencing (hereinafter referred to as the "VILLAGE's IMPROVEMENTS"); and

WHEREAS, the COUNTY requests that the ILLINOIS TOLLWAY include in its PROJECT, the installation of LED illuminated signage mounted to the proposed black coated traffic signals to be installed by the PROJECT at the intersections of Illinois 83 with the North and South Frontage Roads and at the intersection of Supreme Drive with the North Frontage Road (hereinafter referred to as the "COUNTY's IMPROVEMENTS"), and black paint to be added on the toll plaza monotubes installed at the ILLINOIS TOLLWAY Plaza 320 (Lively Boulevard); and

WHEREAS, the ILLINOIS TOLLWAY agrees to the CITY's, the VILLAGE's and the COUNTY's requests; and

WHEREAS, the PARTIES by this instrument, desire to determine and establish their respective responsibilities toward engineering, right of way acquisition, utility relocation, construction, funding and maintenance of the PROJECT as proposed; and

WHEREAS, the ILLINOIS TOLLWAY by virtue of its powers as set forth in the "Toll Highway Act," 605 ILCS 10/1 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the DEPARTMENT by virtue of its powers as set forth in the "State Administration of Highway Act," 605 ILCS 5/4-101 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the COUNTY by virtue of its powers as set forth in the "Counties Code," 55 ILCS 5/1-1001 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the CITY by virtue of its powers as set forth in the "Illinois Municipal Code," 65 ILCS 5/1-1-1 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the VILLAGE by virtue of its powers as set forth in the "Illinois Municipal Code," 65 ILCS 5/1-1-1 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the DISTRICT by virtue of its powers as set forth in the "Fire Protection District Act," 70 ILCS 705/0.01 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, a cooperative Intergovernmental Agreement is appropriate and such an Agreement is authorized by Article VII, Section 10 of the Illinois Constitution and the "Intergovernmental Cooperation Act," 5 ILCS 220/1 *et seq.*

NOW, THEREFORE, in consideration of the aforementioned recitals and the mutual covenants contained herein, the PARTIES hereto agree as follows:

**I. ENGINEERING**

- A. The ILLINOIS TOLLWAY agrees to perform preliminary and final design engineering, obtain necessary surveys, and prepare the final plans and specifications for the PROJECT, subject to reimbursement by the COUNTY, the CITY, and the VILLAGE as hereinafter stipulated. During the design and preparation of the plans and specifications, the ILLINOIS TOLLWAY shall submit the plans and specifications to the DEPARTMENT, COUNTY, the CITY and the VILLAGE for its review and comment at the following stages of plan preparation:

60% Complete

95% Complete (pre-final)

Final

- B. The final approved plans and specifications for the PROJECT shall be promptly delivered via hard copy and DVD format to all PARTIES by the ILLINOIS TOLLWAY.
- C. All PARTIES shall review the plans and specifications which impact their respective maintained highways within thirty (30) calendar days of receipt thereof. If the ILLINOIS TOLLWAY does not receive comments or objections from any particular PARTY within this time period, or receive a request for an extension of time, which request shall be reasonably considered, the lack of response shall be deemed the PARTY's approval of the plans and specifications. Approval by the PARTIES shall mean the respective PARTIES agree with all specifications in the plans, including alignment and location of the PROJECT improvements which impact their maintained highways. In the event of disapproval, any PARTY shall detail in writing its objections to the proposed plans and return them to the ILLINOIS TOLLWAY for review and consideration.
- D. The PARTIES shall work cooperatively to address and resolve the review comments and objections. Any dispute concerning the plans and specifications shall be resolved in accordance with Section IX of this AGREEMENT.
- E. The ILLINOIS TOLLWAY agrees to assume the overall PROJECT responsibility, including assuring that all permits and approvals (U.S. Army Corps of Engineers, Illinois Department of Natural Resources, Metropolitan Water Reclamation District of Greater Chicago, Kane-DuPage Soil and Water Conservation District, DuPage County, including but not limited to the Building & Zoning Department and Division of Transportation, Illinois Environmental Protection Agency, Village of Bensenville, City of Wood Dale, etc.) and joint participation and/or force account agreements (County, Township, Municipal, Railroad, Utility, etc.), as may be required by the PROJECT, are secured by the PARTIES hereto in support of general project schedules and deadlines. All PARTIES hereto agree to cooperate, insofar as their individual jurisdictional authorities allow, with the timely acquisition and clearance of said permits and agreements and in complying with all applicable Federal, State, and local regulations and requirements pertaining to work proposed for the PROJECT.
- F. All PARTIES shall grant and consent to any and all permits, rights of access (ingress and egress), and temporary use of its property within the PROJECT limits to the ILLINOIS TOLLWAY and/or its agents, without charge of permit fees to the ILLINOIS TOLLWAY. Any permit for right of access and/or temporary use of any of the PARTIES property shall not be unreasonably withheld by any PARTY.
- G. The ILLINOIS TOLLWAY shall require all construction performed within the ILLINOIS TOLLWAY's rights of way to comply with the current Illinois Department of Transportation Standard Specifications for Road and Bridge

Construction and the ILLINOIS TOLLWAY Supplemental Specifications for construction, issued March 2014, as amended, and shall require all work performed within the DEPARTMENT's rights of way to conform to the same current Standards and Specifications.

## II. RIGHT OF WAY

- A. The ILLINOIS TOLLWAY shall perform any and all necessary survey work and prepare all parcel plats and legal descriptions for all right of way (both permanent and temporary) necessary for the construction of the PROJECT pursuant to the plans and specifications.
- B. Right of way acquired exclusively for construction of Illinois Route 390 or for other improvements to be maintained by the ILLINOIS TOLLWAY (if needed), shall be acquired in the name of the ILLINOIS TOLLWAY, by the ILLINOIS TOLLWAY.
- C. Parcel plats and legal descriptions for property required for ILLINOIS TOLLWAY facilities shall conform to the Illinois State Toll Highway Authority format.
- D. The acquisition or transfer of permanent right of way interests required from the COUNTY for the construction of the PROJECT pursuant to the approved plans and specifications will be conveyed via a separate Intergovernmental Agreement with the COUNTY. The intent and fee associated with the land conveyance is part of the COUNTY's in-kind contribution toward the entire EOWA project and in accordance with the Memorandum of Understanding between the COUNTY and the ILLINOIS TOLLWAY dated December 9, 2014 and fully executed on December 31, 2014, with the exception of Parcel EO-1B-12-011 which is located at the southwest corner of Thorndale Avenue and Prospect Avenue and required for contract I-14-4642.
- E. The COUNTY agrees to include the ILLINOIS TOLLWAY in future negotiations for new or modified access control limits adjacent to Toll Highway ramp merge locations within the COUNTY's future right of way for maintenance and operation of their highways.
- F. To effectuate the transfers contemplated in Section II. D above, the ILLINOIS TOLLWAY shall provide necessary documents, including plats, legal descriptions and all necessary title documents to affect the transfer of properties to the COUNTY, the VILLAGE and the TOWNSHIP.
- G. Prior to any transfer of real property owned by the PARTIES, to advance the PROJECT and not delay any schedules, the PARTIES shall grant the ILLINOIS TOLLWAY use, access, ingress, and egress necessary for the construction of the PROJECT. The PARTIES shall grant the ILLINOIS TOLLWAY access and use

of its property without charge and shall waive any and all surety or bonding requirements. In any event the ILLINOIS TOLLWAY, to the extent permitted by law, shall indemnify and hold the other PARTIES and their employees, officers, directors and agents harmless from all claims for death, injuries and damages to persons or property resulting from the negligence or intentional misconduct of the ILLINOIS TOLLWAY or its agents.

### **III. UTILITY RELOCATION**

- A. The ILLINOIS TOLLWAY agrees to provide all PARTIES, as soon as they are identified, the locations (existing and proposed) of public and/or private utility facilities within existing PARTY rights of way which require adjustment as part of the PROJECT. As part of its PROJECT engineering responsibilities, the ILLINOIS TOLLWAY shall identify adjustments to the aforementioned existing utilities.
- B. The ILLINOIS TOLLWAY agrees to make all reasonable efforts to minimize the number of utility adjustments in the design of improvements.
- C. The PARTIES agree to make arrangements for and issue all permits for the PROJECT and cooperate with necessary adjustments to existing utilities located within existing PARTY rights of way, and on proposed PARTY rights of way where improvements to the respective PARTY highways are proposed by the PARTY to be done in conjunction with the PROJECT, without charge of permit fees to the ILLINOIS TOLLWAY.
- D. The ILLINOIS TOLLWAY agrees to make arrangements for and issue all permits for the PROJECT required adjustments to utility facilities located on proposed ILLINOIS TOLLWAY rights of way which are outside areas of the other PARTIES jurisdiction, where improvements to ILLINOIS TOLLWAY facilities are proposed to be done as part of the PROJECT, at no expense to the PARTY.
- E. At all locations where utilities are located on rights of way owned by the ILLINOIS TOLLWAY that are planned to be subsequently transferred to another PARTY and must be adjusted due to work proposed by the ILLINOIS TOLLWAY, the PARTY agrees to cooperate with the ILLINOIS TOLLWAY in making arrangements with the applicable utility and issue all permits for the requisite adjustment(s) without charge of permit fees to the ILLINOIS TOLLWAY upon transfer of that right of way to another PARTY. Subsequent to transfer of that right of way to another PARTY, the ILLINOIS TOLLWAY agrees to reimburse and/or credit the COUNTY, CITY, DISTRICT and/or VILLAGE for any and all utility relocation costs the PARTY may incur that are reimbursable to the utility company for PROJECT required adjustments.
- F. At all locations where utilities are located on rights of way owned by any PARTY that are subsequently planned to be transferred to the ILLINOIS TOLLWAY and

must be adjusted due to work proposed by any PARTY, the ILLINOIS TOLLWAY agrees to make arrangements with the applicable utility and issue all permits for the requisite adjustment(s). The respective PARTY permits will no longer apply after transfer of right of way to the ILLINOIS TOLLWAY and any future relocation caused by any PARTY would result in that PARTY reimbursing the utility company. At all locations where any PARTY's utilities are located on ILLINOIS TOLLWAY rights of way or on other PARTY's rights of way and must be adjusted due to work proposed by the PARTY, the PARTY in question agrees to obtain from the ILLINOIS TOLLWAY and/or another PARTY, an approved permit for the facility, and to abide by all conditions set forth therein. The PARTY agrees to reimburse the ILLINOIS TOLLWAY for any and all utility relocation costs the ILLINOIS TOLLWAY may incur in causing the aforementioned utility or utilities to be adjusted.

- G. The ILLINOIS TOLLWAY will cause all utility companies to protect, adjust, relocate or remove utility facilities in conflict with the PROJECT, at no cost to the PARTIES.
- H. The PARTIES agree to accept applications for permits from utility companies to perform utility relocation work within the PROJECT and located on its property. All such applications for permits shall include an executed Utility Work Order approved by the ILLINOIS TOLLWAY.
- I. During the duration of the PROJECT, the PARTIES agree to issue utility permits within the PROJECT limits in accordance with its' regular permit process and only for utility work as documented by a Utility Work Order that is approved by the ILLINOIS TOLLWAY and/or coordination with the ILLINOIS TOLLWAY.
- J. In the event utility facilities are relocated within the PROJECT limits, the ILLINOIS TOLLWAY shall grant to the utility company and its successors and assigns, owning or operating any utility facilities, the right to operate the same in the new location or locations on the property for as long a period and upon the same terms and conditions as it had the right to maintain and operate the facilities in their former location or locations.
- K. In the event utility facilities are located on property transferred to any of the PARTIES from the ILLINOIS TOLLWAY, the respective PARTY agrees to issue a permit without charge of permit fees, for all utility work associated with or relocated as a result of the PROJECT. All subsequent maintenance, repairs or modifications to these utility facilities will require that permits be issued in accordance with the PARTIES' current Permit Ordinance.

#### IV. CONSTRUCTION

- A. The ILLINOIS TOLLWAY shall advertise and receive bids, provide construction engineering inspections for and cause the PROJECT to be constructed in accordance with the PROJECT plans and specifications.
- B. After award of the construction contract(s), any proposed deviations from the plans and specifications that affect any of the PARTIES shall be submitted to the respective PARTY for approval prior to commencing such work. The respective PARTY shall review the plans and specifications which impact the PARTY's maintained highways within thirty (30) calendar days of receipt thereof. If the ILLINOIS TOLLWAY does not receive comments or objections from the respective PARTY within this time period, or receive a request for an extension of time, which request shall be reasonably considered, the lack of response shall be deemed their approval of the plans and specifications. Approval by the PARTIES shall mean they agree with all specifications in the plans pertaining to the alignment and location of the PROJECT deviations which impact their respective maintained highways. In the event of disapproval, the respective PARTY will detail in writing its objections to the proposed plans and return them to the ILLINOIS TOLLWAY for review and consideration.
- C. After award of the construction contract(s), assuming there are no proposed deviations from the plans and specifications that affect any of the PARTIES, the ILLINOIS TOLLWAY shall provide no less than thirty (30) calendar days' written notice to the PARTIES prior to commencement of work on the PROJECT.
- D. All PARTIES and their authorized agents shall have reasonable rights of inspection (including pre-final and final inspection) during the progress of work included in the PROJECT that affects their system. All PARTIES may assign personnel to perform inspections on behalf of the respective PARTY of all work included in the PROJECT that affects the respective PARTY's system, and will deliver written notices to the Chief Engineer of the ILLINOIS TOLLWAY advising the ILLINOIS TOLLWAY as to the identity of the individual(s) assigned to perform said inspections.
- E. Notices required to be delivered by either PARTY pursuant to this AGREEMENT shall be delivered as indicated in Section IX of this AGREEMENT.
- F. The ILLINOIS TOLLWAY shall require its contractor(s) working within any of the PARTIES rights of way to comply with the indemnification provision contained at Section 107.26 in the ILLINOIS TOLLWAY Supplemental Specifications for construction, issued March 2015, or the indemnification provision in the applicable version of the Illinois State Toll Highway Authority's Standard Specifications subsequently in effect.

- G. The ILLINOIS TOLLWAY shall require that the PARTIES, and their agents, officers and employees be included as additional insured parties in the General Liability Insurance the ILLINOIS TOLLWAY requires of its contractor(s) and that the PARTIES will be added as an additional protected PARTY on all performance bonds required of the contractor(s). These requirements shall be included in the Special Provisions of the construction contract(s).
- H. The ILLINOIS TOLLWAY shall give notice to the PARTIES upon completion of 70% and 100% of all PROJECT construction contracts to be subsequently maintained by the PARTIES, and the PARTIES shall make an inspection thereof not later than fifteen (15) calendar days after notice thereof. If any PARTY does not perform a final inspection within twenty-one (21) calendar days after receiving notice of completion of 100% of all PROJECT construction contracts or other inspection arrangements are not agreed to by the PARTIES hereto, the PROJECT shall be deemed accepted by that PARTY. At the request of any PARTY, the ILLINOIS TOLLWAY's representative shall join in on such inspection. In the event said inspections disclose work that does not conform to the approved final plans and specifications, the respective PARTY's representative shall give immediate verbal notice to the ILLINOIS TOLLWAY's representative of any deficiency, and shall thereafter deliver within fifteen (15) calendar days a written list identifying such deficiencies to the Chief Engineer of the ILLINOIS TOLLWAY. Deficiencies thus identified shall be subject to joint re-inspection upon completion of the corrective work. The respective PARTY shall perform such joint re-inspections within ten (10) calendar days after receiving notice from the ILLINOIS TOLLWAY that the deficiencies have been remedied.
- I. The ILLINOIS TOLLWAY shall have the right, in its sole judgment and discretion, to cancel or alter any or all portions of the work, except as referenced in Section IV B, due to circumstances either known or unknown at the time of bidding or arising after the Contract(s) was entered into, in accordance with the Canceled Items Provision 109.06 included in the most current version of the ILLINOIS TOLLWAY Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction.
- J. As-built drawings of utility relocations performed by the ILLINOIS TOLLWAY shall be provided to the CITY and VILLAGE, in both paper format and electronically, within sixty (60) calendar days after completion of the work.

## **V. FINANCIAL**

- A. Except as otherwise identified herein, the ILLINOIS TOLLWAY agrees to pay all PROJECT related engineering, right of way, construction engineering and construction costs subject to reimbursement by the COUNTY, the CITY and the VILLAGE as hereinafter stipulated.

- B. It is mutually agreed by the PARTIES hereto that preliminary and design engineering costs shall be computed as 5% of the actual construction costs and that construction engineering shall be computed as 10% of actual construction costs.
- C. It is mutually agreed by the PARTIES hereto that the estimated costs to the CITY for the CITY's IMPROVEMENTS are as follows:
1. The construction of the shared use path along the west side of Lively Boulevard and along the South Frontage Road from Edgewood Avenue to Illinois Route 83, estimated at \$119,568.50;
  2. The installation of stamped concrete on Lively Boulevard under the Illinois Route 390 Bridge, as shown on the approved plans, estimated at \$162,441.00;
  3. The cost differential to install black coated access control fencing along the west and north sides of the new detention basin east of Edgewood Avenue and along the south side of the North Frontage Road from Lively Boulevard to Illinois Route 83, estimated at \$68,667.95.
  4. The total cost of the CITY's IMPROVEMENT's are estimated at \$350,677.45 for construction costs, \$17,533.87 (5% of construction costs) for preliminary and design engineering, \$35,067.75 (10% of construction costs) for construction engineering, for a total estimated cost of \$403,279.07.
- D. The CITY, in separate documents, has conveyed parcels required for the Illinois Route 390 construction to the ILLINOIS TOLLWAY that are to be the financial responsibility of the ILLINOIS TOLLWAY and has requested additional enhancements that are to be the financial responsibility of the CITY. The balance of the ILLINOIS TOLLWAY's financial responsibility less the CITY's financial responsibility defined under previous agreements is to be carried over and applied to the CITY's financial responsibilities for the CITY's IMPROVEMENTS in this AGREEMENT and in future EOWA project agreements involving the CITY. Including the Intergovernmental Agreement between the CITY, the COUNTY and the ILLINOIS TOLLWAY, still pending at the time of this AGREEMENT, for ILLINOIS TOLLWAY contract I-14-4640, the Wood Dale Road Bridge over Illinois Route 390, the CITY has an estimated remaining balance of \$701,527.44 owed to the CITY by the ILLINOIS TOLLWAY on that agreement to be used to offset the CITY's IMPROVEMENTS as part of this AGREEMENT.
- E. The cost of the CITY's IMPROVEMENTS as stated above are less than the amount to be owed to the CITY by the ILLINOIS TOLLWAY, therefore the CITY's IMPROVEMENT's shall be paid for by the ILLINOIS TOLLWAY. The remaining balance of approximately \$298,248.37 shall be carried over and applied to the CITY's cost responsibilities in future EOWA project agreements involving the CITY. The CITY will contribute the remaining balance owed to the CITY by

the ILLINOIS TOLLWAY as an in-kind contribution towards the EOWA project cost after construction of EOWA improvements are complete and the cost differential between the land conveyance and CITY requested enhancements (CITY IMPROVEMENTS) is finalized.

- F. It is mutually agreed by the PARTIES hereto that the estimated costs to the VILLAGE for the VILLAGE's IMPROVEMENTS are as follows:
1. The construction of the shared use path along the west side of Illinois Route 83 from Mark Street to the South Frontage Road, along the east side of Illinois Route 83 from the South Frontage Road to Bryn Mawr Avenue, and along the South Frontage Road from Illinois Route 83 to Supreme Drive, estimated at \$249,569.84;
  2. The installation of special form liner signage on the north and south parapet walls of the Illinois Route 83 Bridge, estimated at \$12,000.00;
  3. The cost differential to install black coated access control fencing on the east and west sides of the Illinois Route 83 Bridges, estimated at \$16,505.58.
  4. The cost differential to install a special handrail along the shared use path over the Illinois Route 83 culvert, estimated at \$1,440.00
  5. The total of the VILLAGE's IMPROVEMENTS is estimated at \$279,515.42 for construction costs, \$13,975.77 (5% of construction costs) for preliminary and design engineering, \$27,951.54 (10% of construction costs) for construction engineering, for a total estimated cost of \$321,442.73.
- G. The VILLAGE in separate documents has conveyed Parcels EO-1B-12-928 and EO-1B-12-930 required for the Illinois Route 390 construction to the ILLINOIS TOLLWAY as shown on "EXHIBIT A". The approved appraised market values are \$560,000.00 and \$37,000.00 respectively, for a total of \$597,000.00 to be credited to the VILLAGE to offset the cost of the VILLAGE's IMPROVEMENT's.
- H. The cost of the VILLAGE's IMPROVEMENTS as stated above are less than the amount to be credited to the VILLAGE by the ILLINOIS TOLLWAY, therefore the VILLAGE's IMPROVEMENTS shall be paid for by the ILLINOIS TOLLWAY. The remaining balance of approximately \$275,557.27 shall be paid by the ILLINOIS TOLLWAY to the VILLAGE within sixty (60) days following the final approval of this AGREEMENT.
- I. The VILLAGE understands per Section V.L. that it is responsible for its obligations based on final costs. Should the final costs be greater than the estimated costs in Section V.F.5., the VILLAGE will pay to the ILLINOIS

TOLLWAY the remainder of its obligations in a lump sum, upon completion of the PROJECT, but not prior to January 1, 2018.

- J. Should the final costs be lesser than the estimated costs in Section V.F..5., the ILLINOIS TOLLWAY will pay to said VILLAGE the remainder of its obligation in a lump sum, upon completion of the PROJECT, based on final costs, within sixty (60) days following January 1, 2018.
- K. It is mutually agreed by the PARTIES hereto that the estimated costs to the COUNTY for the COUNTY's IMPROVEMENTS are estimated at \$60,660.00 for construction costs, \$3,033.00 (5% of construction costs) for preliminary and design engineering, \$6,066.00 (10% of construction costs) for construction engineering, for a total estimated cost of \$69,759.00. The estimated construction costs to the COUNTY are as follows:
  - 1. The installation of LED illuminated signage mounted to the proposed black coated traffic signals to be installed by the PROJECT at the intersections of Illinois 83 with the North and South Frontage Roads and the intersection of Supreme Drive with the North Frontage Road, estimated at \$15,276.00.
  - 2. Cost differential for black painted monotubes at the toll plaza - \$45,384.00.
- L. It is further agreed that notwithstanding the estimated cost, the CITY, the VILLAGE and the COUNTY shall be responsible for the costs associated with their requested IMPROVEMENTS as described in the Recital section of this AGREEMENT and as stated above. All payments and credits shall be based upon actual final costs.
- M. The COUNTY in separate documents shall convey Parcel EO-1B-12-011 to the ILLINOIS TOLLWAY. The approved appraised market value is \$445,700.00 to be credited to the COUNTY to offset the cost of the COUNTY's IMPROVEMENTS.
- N. Since the cost of the COUNTY's IMPROVEMENTS are less than the value of Parcel EO-1B-12-011, the ILLINOIS TOLLWAY shall be responsible for the costs associated with the cost differential of the black monotubes and the LED signage referenced in this AGREEMENT. The COUNTY's remaining balance shall be carried over as a credit and applied to other EOWA project agreements involving the COUNTY.
- O. The COUNTY and the ILLINOIS TOLLWAY agree that a portion of the parcel credit of \$445,700.00 has previously been deducted for Contract I-14-4642 (estimated to be \$167,068.00) and Contract I-13-4629 (estimated to be \$100,207.55) leaving an estimated balance of \$178,424.45. The COUNTY agrees that their total estimated costs in this AGREEMENT for the COUNTY IMPROVEMENTS are \$69,759.00. The COUNTY and the ILLINOIS

TOLLWAY agree that the COUNTY shall use the credit balance for the Parcel as stated above to offset the cost of the COUNTY IMPROVEMENTS, leaving an estimated balance due the COUNTY of \$108,665.45. The COUNTY's remaining balance shall be carried over as a credit and applied to other EOWA project agreements involving the COUNTY.

- P. Any PARTY may request, after the construction contract(s) are let by the ILLINOIS TOLLWAY, that supplemental work that increases the total costs of the PROJECT or more costly substitute work be added to the construction contract(s). The ILLINOIS TOLLWAY will cause said supplemental work or such substitute work to be added to the construction contract(s), provided that said work will not delay construction of the PROJECT. The PARTY requesting or causing said supplemental work or more costly substitute work shall pay for the cost increases of said work in full.

## **VI. MAINTENANCE - DEFINITIONS**

- A. The term "local" means any PARTY to this AGREEMENT other than the ILLINOIS TOLLWAY. With respect to this AGREEMENT, it means the DEPARTMENT, the COUNTY, the CITY, the VILLAGE and the DISTRICT.
- B. The term "local road" refers to any highway, road or street under the jurisdiction of the DEPARTMENT, the COUNTY, the CITY or the VILLAGE.
- C. As used herein, the terms "maintenance" or "maintain" mean keeping the facility being maintained in good and sufficient repair and appearance. Such maintenance includes the full responsibility for the construction, removal, replacement of the maintained facility when needed, and unless specifically excluded in Section VII, MAINTENANCE - RESPONSIBILITIES, other activities as more specifically set forth in the following subparts of this Section VI. Maintenance includes but is not limited to:
  - 1. "Routine maintenance" refers to the day to day pavement maintenance, pothole repair, anti-icing and de-icing, snow removal, sweeping, pavement marking, mowing, litter and debris removal, and grate and scupper cleaning and repair, including compliance with state laws and local ordinances.
  - 2. "Structural maintenance" refers to the integrity of the grade separation structure, including abutments and piers, bridge girders/beams, bridge deck, expansion joints, parapet walls and drainage structures.
  - 3. "Signal maintenance" refers to all aspects of installation, repair, replacement, timing, and operation of traffic signals, including signal loops, signal supports or bases, interconnects to Ramp Queue Detection Warning Systems and power, but shall not include permanently installed variable message signs or temporary signals or signs relating to construction or repair projects.

4. "Lighting maintenance" refers to all aspects of installation, repair, replacement and operation of roadway lighting including power, but shall not include temporary lighting relating to construction or repair projects.
  5. "Emergency maintenance" refers to any maintenance activity which must be performed immediately in order to avoid or to repair a condition on the roadway or right of way which causes or threatens imminent danger or destruction to roadway facilities or rights of way of the PARTIES hereto, to the motoring public, to public health, safety or welfare, including but not limited to accident restoration, chemical or biological removal or remediation, or response to acts of God or terrorism.
- D. The term "drainage facilities" refers to both open and enclosed systems. The term "drainage structures" refers to enclosed systems only, and includes those elements of the drainage facility affixed to the bridge superstructures downstream from the scupper.
- E. The terms "notify", "give notice" and "notification" refer to written, verbal or digital communication from one PARTY to another concerning a matter covered by this AGREEMENT, for which the PARTY transmitting the communication produces and retains a record which substantiates the content, date, time, manner of communication, identification of sender and recipient, and manner in which the recipient may respond to the sender, as to the communication.
- F. The terms "be responsible for" or "responsibility" refer to the obligation to ensure performance of a duty or provision of a service under this AGREEMENT, provided, that a PARTY may arrange for actual performance of the duty or provision of the service by another competent entity if the other PARTY to this AGREEMENT is notified of such arrangement, but in no case shall the entity with the duty be relieved of ultimate responsibility for performance of the duty or provision of the service.
- G. The terms "consultation" or "consult with" refer to the duty of a PARTY to give notice to the other PARTY of a proposed action, with reasonable time for that PARTY to respond, but the PARTY with the duty to consult may proceed with the proposed action if the other PARTY does not respond within the time frame set forth in the notice provided, or in the case of the ILLINOIS TOLLWAY, it may proceed with the proposed action if deemed necessary by the Chief Engineer.
- H. The term "approve" refers to the duty of a PARTY not only to consult with the other PARTY but also to provide consent for the proposed action and to retain a record which documents such consent.

- I. The term "grade separation structure" refers to all structural elements between the abutments and below the wearing surface of a bridge carrying one roadway over another, unless otherwise specified.
- J. These are three types of bridge structures that intersect the ILLINOIS TOLLWAY rights of way:
  1. Type 1. An intersection where a grade separation structure has been constructed to carry the toll highway over the local road.
  2. Type 2. An intersection where a grade separation structure has been constructed to carry the local road over the toll highway.
  3. Type 3. An intersection where a partial or complete ramp interchange system, as well as a grade separation structure, has been constructed between the local road and the toll highway.

## **VII. MAINTENANCE - RESPONSIBILITIES**

- A. The maintenance responsibilities are as shown on "EXHIBIT B" and as detailed below.
- B. The ILLINOIS TOLLWAY agrees to maintain Illinois Route 390, including the retaining walls north of Illinois Route 390 and east of Lively Boulevard, the retaining walls along the east and west sides of Illinois Route 83 under the Illinois Route 390 over the Illinois Route 83 bridges, the new detention basin east of Edgewood Avenue and south of the South Frontage Road, the Illinois Route 390 mainline lighting and the ramp lighting, in its entirety.
- C. The DEPARTMENT agrees to maintain, or cause to maintain, Illinois Route 83, including the drainage culverts across Illinois Route 83 north and south of Illinois Route 390, the closed separate drainage system along Illinois Route 83, the lighting along Illinois Route 83 including the lighting on traffic signals and underpass lighting mounted to the Illinois Route 390 over Illinois Route 83 bridges, the traffic signals at the intersections of Illinois Route 83 with the North and South Frontage Roads, the landscaping along DEPARTMENT right of way, and any work the ILLINOIS TOLLWAY is including in the PROJECT for the DEPARTMENT at their request, in its entirety.
- D. The COUNTY agrees to maintain, or cause to maintain, the North Frontage Road from Lively Boulevard to Supreme Drive, the South Frontage Road from Edgewood Avenue to east of Thomas Drive, the closed separate drainage system along the frontage roads, the traffic signal at the intersection of Supreme Drive with the North Frontage Road including the combination lighting on the traffic signal, the LED illuminated signage, and any work the ILLINOIS TOLLWAY is including in the PROJECT for the COUNTY at their request, in its entirety. The

COUNTY is responsible for the future costs associated with maintaining the black coating on the toll plaza monotubes installed at the ILLINOIS TOLLWAY Plaza 320 (Lively Boulevard) and the LED illuminated signage. If, in the future, the DEPARTMENT adopts a roadway or traffic signal improvement including any of the aforementioned intersections requiring modification or reconstruction to the said traffic signals, then the COUNTY hereby agrees to be financially responsible for the cost differential to relocate or reconstruct the LED illuminated signage in conjunction with the DEPARTMENT's proposed improvement. The COUNTY further agrees to accept the assignment of the Occupancy Agreement CTM 150209 dated August 26, 2015 and Occupancy Agreement CTM 150210 dated August 26, 2015, from the ILLINOIS TOLLWAY for the grade crossings of the North and South Frontage Roads. Said Occupancy License Agreements are referenced herein and made a part hereof, attached as "EXHIBIT C". Acceptance of said assignments by the COUNTY of the Occupancy License agreements shall be by the COUNTY Engineer, and the COUNTY Engineer is authorized to execute any and all documents related thereto.

- E. The CITY agrees to maintain, or cause to maintain, Lively Boulevard south of the North Frontage Road, Dillon Drive, Edgewood Drive, the CITY's relocated water main on the south side of the South Frontage Road between Edgewood Avenue and Illinois Route 83, the shared use path on the west side of Lively Boulevard, the shared use path south of the South Frontage Road from Edgewood Avenue to Illinois Route 83, additional costs that are incurred by the TOLLWAY for replacing the black access control fencing along the west and north sides of the new detention basin in kind in the future as compared to replacing with standard access control fencing (i.e.. galvanized steel without black coating), the stamped concrete under Illinois Route 390 and any work the ILLINOIS TOLLWAY is including in the PROJECT for the CITY at their request, in its entirety.
- F. The VILLAGE agrees to maintain, or cause to maintain, Supreme Drive, Thomas Drive, the lighting along Supreme Drive, the relocated water main located along the west side of Illinois Route 83 between Bryn Mawr Avenue and the North Frontage Road, the relocated water main on the west side of Supreme Drive from south of the South Frontage Road to north of the North Frontage Road, the added casing pipe around the existing sanitary sewer across Illinois Route 83 between the North Frontage Road and Tower Lane, the shared use path on the west side of Illinois Route 83 from Mark Street to the South Frontage Road, the shared use path on the east side of Illinois Route 83 from the South Frontage Road to Bryn Mawr Avenue, the shared use path on the south side of the South Frontage Road from Illinois Route 83 to Supreme Drive, costs that the TOLLWAY incurs for maintaining the parapet messaging on both the north and south bridge parapet walls of Illinois Route 83, additional costs that are incurred by the TOLLWAY for replacing the black access control fencing on the east and west sides of the Illinois Route 83 bridges in kind in the future as compared to replacing with standard access control fencing (i.e. galvanized steel without black coating), the special handrail along the shared use path over the Illinois Route 83 culvert, and

any work the ILLINOIS TOLLWAY is including in the PROJECT for the VILLAGE at their request, in its entirety.

- G. The DISTRICT agrees to be financially responsible for the maintenance of the emergency vehicle pre-emption system installed on the traffic signals on Illinois Route 83 at the North and South Frontage Roads, and any work the ILLINOIS TOLLWAY is including in the PROJECT for the DISTRICT at their request, in its entirety. If, in the future, the DEPARTMENT adopts a roadway or traffic signal improvement including any of the aforementioned intersections requiring modification or reconstruction to the said traffic signals, then the DISTRICT hereby agrees to be financially responsible for the entire cost to relocate or reconstruct the emergency vehicle pre-emption system in conjunction with the DEPARTMENT's proposed improvement.
- H. The bridge improvements being constructed under this AGREEMENT are of the following types as described in Section VI, Paragraph J above and involve the following roadway(s):

Type of Bridge Structure	Affected Roadway
Type 1	Eastbound Illinois Route 390 over Illinois Route 83
Type 1	Westbound Illinois Route 390 over Illinois Route 83

Type 1 - ILLINOIS TOLLWAY Right of Way over a Local Road

- a. The DEPARTMENT has all maintenance responsibility as to the following:
  - i. All DEPARTMENT right of way, highway roadways, guardrail and other protective devices, pier protective structures or devices, roadway slopes and shoulders, including but not limited to the portions thereof underneath the grade separation structure;
  - ii. All drainage facilities on DEPARTMENT right of way which drain DEPARTMENT highway facilities, except such facilities installed by the ILLINOIS TOLLWAY on DEPARTMENT property for the purpose of carrying exclusively Toll Highway drainage;
  - iii. All underpass lighting;
  - iv. All DEPARTMENT traffic signals;
- b. The ILLINOIS TOLLWAY has all maintenance responsibility as to all remaining portions of the ILLINOIS TOLLWAY right of way at an intersection not maintained by the DEPARTMENT, as set forth herein, including but not limited

to the entire grade separation structure, drainage facilities, bridge slope walls and embankments within ILLINOIS TOLLWAY access control fencing, and fences.

- I. The PARTIES agree that the ILLINOIS TOLLWAY reserves the exclusive right to review and approve the following:
  1. Any and all signage affixed to the grade separation structure or placed on ILLINOIS TOLLWAY right of way;
  2. The permitting of any and all loads traversing a grade separation structure over the ILLINOIS TOLLWAY issued in accordance with 92 Illinois Administrative Code 554, Subchapter f, Subpart F, Section 554.605 (Super load Moves);
  3. Restriction of load limits for the grade separation structure, in the event bridge conditions so warrant, provided that the ILLINOIS TOLLWAY will consult with the DEPARTMENT as to the bridge conditions which warrant such restrictions;
  4. Closure of lanes of traffic on the grade separation structure, for a repair or replacement project or in the event bridge conditions so warrant, provided that the ILLINOIS TOLLWAY will consult with the DEPARTMENT before such closure;
  5. Attachment to the grade separation structure, or placement on or across ILLINOIS TOLLWAY right of way, of any and all conduit, pipe, wire, pole, device or appurtenance, provided that if such attachment or placement is directly in connection with operation of the DEPARTMENT roadway or performance of DEPARTMENT maintenance obligations under this AGREEMENT, the DEPARTMENT may make such attachment or placement after consultation with the ILLINOIS TOLLWAY.
- J. The PARTIES agree that each PARTY has the duty to perform such regular inspections, surveys and reviews as are reasonably necessary to fulfill their respective obligations under this AGREEMENT.
- K. In the event that one PARTY observes that emergency maintenance is needed, then the observing PARTY shall immediately notify the other of the observed condition, the nature of the immediate need, and a general description of the measures the observing PARTY intends to take to remedy the immediate need. The observing PARTY may then implement such measures without consultation, provided however that the observing PARTY remains subject to such emergency response and disaster protocols as apply generally to governmental entities. The other PARTY shall not be charged for the cost of the emergency measures taken by the observing PARTY, except after consultation and then only to the extent such maintenance is within the duties of the other PARTY under this AGREEMENT. The costs charged the other PARTY shall be only the actual costs

of the emergency measures to the PARTY taking such measures exclusive of all administrative fees, penalties, or other such added charges.

- L. In the event that either PARTY places, on the grade separation structure or on the right of way of the other, appurtenances such as architectural enhancements, "gateway logos", conduit pipe, or other devices which are not directly required in connection with the ILLINOIS TOLLWAY or DEPARTMENT roadway operations or required for the performance of maintenance obligations of the respective party under this AGREEMENT, then the PARTY placing such appurtenances shall have sole responsibility for all maintenance, repair, replacement, removal and/or renewal of such items, including such maintenance, repair, replacement, removal and/or renewal of such items which is necessitated by maintenance projects performed by the other PARTY pursuant to this AGREEMENT and in accordance with the approved permits.
- M. Signalization and pavement markings at the interchange, if any, will be under the control of the DEPARTMENT. The PARTIES shall cooperate regarding signal timing and intersection operation such that traffic exiting the Toll Highway is not unnecessarily delayed. The DEPARTMENT consents when required to the future interconnection of a Ramp Queue Detection/Warning System installed on Toll Highway exit ramps to both the temporary and permanent traffic signal system and will program the traffic signal operation to give exit ramps priority to preclude exiting traffic from unnecessarily backing up onto ILLINOIS TOLLWAY mainline pavement.

### **VIII. ADDITIONAL MAINTENANCE PROVISIONS**

- A. It is understood and agreed by the PARTIES hereto that this AGREEMENT shall supersede any and all earlier Agreements entered into by the PARTIES hereto regarding maintenance of any PARTY's highways and Toll Highway facilities within the limits of this PROJECT.
- B. During construction, the PARTIES shall continue to maintain all portions of the PROJECT within the respective PARTY's right of way that are not to be improved or maintained by the construction contractor(s) pursuant to the approved plans and specifications.
- C. All items of construction which are stipulated in this AGREEMENT to be maintained by the PARTIES respectively shall, upon completion of construction and final inspection, be the sole maintenance responsibility of the respective PARTY
- D. The responsibilities for snow and ice removal from the roadways under jurisdiction of the respective PARTIES and for mowing and litter removal will be handled under a separate agreement between the PARTIES.

- E. Nothing herein is intended to prevent or preclude the PARTIES from entering into reciprocal agreements in the future for any particular interchange for the efficient removal of snow, ice, and debris or for incident management.
- F. Attached as Exhibits A and B are diagrams of the interchanges and other intersections included within the PROJECT as well as a description and identification of the PARTIES respective maintenance responsibilities. In the event there is a conflict between the aforementioned Exhibits and the maintenance provisions contained in Section VII of this AGREEMENT, the text in Section VII shall control.
- G. The DEPARTMENT agrees to allow the ILLINOIS TOLLWAY to review and will consider comments on major roadway access issues along Illinois Route 83 that arise within one half (1/2) mile from the centerline of Illinois Route 390. All access control shall be addressed for the mutual benefit of the DEPARTMENT and the ILLINOIS TOLLWAY in an effort to maintain free traffic movement at points of intersection. The DEPARTMENT and the ILLINOIS TOLLWAY encourage private sector funding of regional collector/distributor roadways to minimize throughway traffic impacts. For those sections where access control has been purchased by the ILLINOIS TOLLWAY, the ILLINOIS TOLLWAY agrees to review and coordinate access requests with the DEPARTMENT. For those sections with no access control, the DEPARTMENT shall retain the exclusive statutory right to control access to Illinois Route 83.
- H. The DEPARTMENT and the ILLINOIS TOLLWAY agree to cooperatively manage incidents as expeditiously as possible to minimize impact and maximize response efficiency. Each agency shall be responsible for incident management within their jurisdictional limits and shall provide reciprocal timely incident response, management, and notification as need demands regardless of incident location.

## **IX. GENERAL PROVISIONS**

- A. It is understood and agreed that this is an AGREEMENT between the Illinois Department of Transportation (DEPARTMENT), the County of DuPage (COUNTY), the City of Wood Dale (CITY), the Village of Bensenville (VILLAGE), the Bensenville Fire Protection District (DISTRICT) and the Illinois State Toll Highway Authority (ILLINOIS TOLLWAY).
- B. It is understood and agreed by the PARTIES hereto, that the PARTIES shall have jurisdiction of the roadways and facilities as stated in Section VII. For the purpose of this AGREEMENT, jurisdiction shall mean the authority and obligation to administer, control, construct, maintain, and operate.
- C. It is understood and agreed that this AGREEMENT constitutes the complete and exclusive statement of the agreement of the PARTIES relative to the subject

matter hereof and supersedes all previous oral and written proposals, negotiations, representations or understandings concerning such subject matter.

- D. Wherever in this AGREEMENT approval or review by any of the PARTIES is provided for, said approval or review shall not be unreasonably delayed or withheld.
- E. Not later than thirty (30) calendar days after execution of this AGREEMENT each PARTY shall designate in writing a representative who shall serve as the full time representative of the said PARTY during the carrying out of the execution of this AGREEMENT. Each representative shall have authority, on behalf of such PARTY, to make decisions relating to the work covered by this AGREEMENT. Representatives may be changed, from time to time, by subsequent written notice. Each representative shall be readily available to the other PARTY.
- F. In the event of a dispute between PARTIES in the carrying out of the terms of this AGREEMENT, the Chief Engineer of the ILLINOIS TOLLWAY, the Deputy Director/Region One Engineer of the DEPARTMENT, the Director of Public Works of the CITY, the Director of Public Works of the VILLAGE and the Fire Chief of the DISTRICT shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of a dispute concerning the plans and specifications for the PROJECT, the decision of the Chief Engineer of the ILLINOIS TOLLWAY shall be final.
- G. In the event of a dispute between the COUNTY and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT in reference to the COUNTY's IMPROVEMENTS, or a dispute concerning the plans and specifications for the COUNTY's IMPROVEMENTS, the Director of Transportation/County Engineer of the COUNTY and the Chief Engineer of the ILLINOIS TOLLWAY shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of the dispute concerning the COUNTY's IMPROVEMENTS, the decision of the Director of Transportation/County Engineer of the COUNTY shall be final as long as that decision does not delay delivery of the PROJECT or be detrimental to the maintenance and operation of the Toll Highway.
- H. In the event of a dispute between the CITY and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT in reference to the CITY's IMPROVEMENTS, or a dispute concerning the plans and specifications for the CITY's IMPROVEMENTS, the Chief Engineer of the ILLINOIS TOLLWAY and the Director of Public Works of the CITY shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of the dispute concerning the CITY's IMPROVEMENTS, the decision of the Director of Public Works of the CITY shall be final as long as that decision does not delay delivery of the PROJECT or be detrimental to the maintenance and operation of the Toll Highway.

- I. In the event of a dispute between the VILLAGE and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT in reference to the VILLAGE's IMPROVEMENTS, or a dispute concerning the plans and specifications for the VILLAGE's IMPROVEMENTS, the Chief Engineer of the ILLINOIS TOLLWAY and the Director of Public Works of the VILLAGE shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of the dispute concerning the VILLAGE's IMPROVEMENTS, the decision of the Director of Public Works of the VILLAGE shall be final as long as that decision does not delay delivery of the PROJECT or be detrimental to the maintenance and operation of the Toll Highway.
- J. In the event of a dispute between the DISTRICT and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT in reference to the emergency vehicle pre-emption system installed on the traffic signals on Illinois Route 83 at the North and South Frontage Roads, or a dispute concerning the plans and specifications for the emergency vehicle pre-emption system installed on the traffic signals on Illinois Route 83 at the North and South Frontage Roads, the Chief Engineer of the ILLINOIS TOLLWAY, the Deputy Director/Region One Engineer of the DEPARTMENT, and the Fire Chief of the DISTRICT shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of the dispute concerning the emergency vehicle pre-emption system installed on the traffic signals on Illinois Route 83 at the North and South Frontage Roads, the decision of the Fire Chief of the DISTRICT shall be final as long as that decision does not delay delivery of the PROJECT or be detrimental to the maintenance and operation of the Toll Highway.
- K. In the event there is a conflict between the terms contained in this document and the attached Exhibit(s), the terms included in this document shall control.
- L. This AGREEMENT may be executed in six (6) or more counterparts, each of which shall be deemed an original and all of which shall be deemed one and the same instrument.
- M. The ILLINOIS TOLLWAY agrees that in the event any work is performed by other than ILLINOIS TOLLWAY forces, the applicable provisions of the "Prevailing Wage Act" 820 ILCS 130/1 shall apply.
- N. The PARTIES shall maintain books and records relating to the performance of this AGREEMENT necessary to support amounts charged to the ILLINOIS TOLLWAY. Books and records, including information stored in databases or other computer systems, shall be maintained by the PARTIES for a period of three years from the later of the date of final payment under this AGREEMENT or completion of the work performed under this AGREEMENT. Books and records required to be maintained under this section shall be available for review or audit by representatives of the Auditor General, the Executive Inspector

General, the Illinois Tollway Inspector General, State of Illinois internal auditors or other governmental entities with monitoring authority, upon reasonable notice and during normal business hours.

- O. Under penalties of perjury, the COUNTY certifies that its correct Federal Tax Identification number is 36-6006551 and it is doing business as a governmental entity, whose mailing address is The DuPage County Division of Transportation, Jack T. Knuepfer Administration Building, 421 North County Farm Road, Wheaton, Illinois 60187.
- P. Under penalties of perjury, the CITY certifies that its correct Federal Tax Identification number is 36-6008457 and it is doing business as a governmental entity, whose mailing address is The City of Wood Dale, 404 North Wood Dale Road, Wood Dale, Illinois 60191.
- Q. Under penalties of perjury, the VILLAGE certifies that its correct Federal Tax Identification number is 36-6005794 and it is doing business as a governmental entity, whose mailing address is The Village of Bensenville, 12 S. Center Street, Bensenville, Illinois 60106.
- R. This AGREEMENT may only be modified by written modification executed by duly authorized representatives of the PARTIES hereto.
- S. This AGREEMENT and the covenants contained herein shall become null and void in the event the contract covering the construction work contemplated herein is not awarded within three (3) years subsequent to the date of execution of this AGREEMENT.
- T. This AGREEMENT shall be binding upon and inure to the benefit of the PARTIES hereto and their respective successors and approved assigns.
- U. The failure by any PARTY to seek redress for violation of or to insist upon the strict performance of any condition or covenant of this AGREEMENT shall not constitute a waiver of any such breach or subsequent breach of such covenants, terms, conditions, rights and remedies. No provision of this AGREEMENT shall be deemed waived by the PARTIES unless such provision is waived in writing.
- V. It is agreed that the laws of the State of Illinois shall apply to this AGREEMENT and that, in the event of litigation, venue shall lie in Du Page County, Illinois.
- W. All written reports, notices and other communications related to this AGREEMENT shall be in writing and shall be personally delivered, mailed via certified mail, overnight mail delivery, or electronic mail delivery to the following persons at the following addresses:

To the ILLINOIS TOLLWAY: The Illinois Toll Highway Authority  
2700 Ogden Avenue  
Downers Grove, Illinois 60515  
Attn: Chief Engineer

To the DEPARTMENT: The Illinois Department of  
Transportation  
201 W. Center Court  
Schaumburg, Illinois 60196  
Attn: Deputy Director/Region One  
Engineer

To the COUNTY: The DuPage County Division of  
Transportation  
Jack T. Knuepfer Administration  
Building  
421 North County Farm Road  
Wheaton, Illinois 60187.  
Attn: Director of  
Transportation/County  
Engineer

To the CITY: The City of Wood Dale  
404 North Wood Dale Road  
Wood Dale, Illinois 60191  
Attn: City Manager

To the VILLAGE: The Village of Bensenville  
12 S. Center Street  
Bensenville, Illinois 60106  
Attn: Director of Public Works

To the DISTRICT: The Bensenville Fire Protection  
District No. 2  
500 S. York Road  
Bensenville, Illinois 60106  
Attn: Fire Chief

- X. The PARTIES agree to maintain books and records related to the performance of this AGREEMENT and necessary to support amounts charged to any PARTY under the AGREEMENT for a minimum of three (3) years from the last action on the AGREEMENT. The PARTIES further agree to cooperate fully with any audit and to make its books and records, and books and records within its custody or control available to the Illinois Attorney General, the Illinois Auditor General, the ILLINOIS TOLLWAY Inspector General, the ILLINOIS TOLLWAY Department of Internal Audit, the ILLINOIS TOLLWAY or any other

governmental agency or agent thereof that is authorized to audit or inspect such books and records.

- Y. The introductory recitals included at the beginning of this AGREEMENT are agreed to and incorporated into this AGREEMENT.

(This section intentionally left blank)

DRAFT

IN WITNESS THEREOF, the PARTIES have executed this AGREEMENT on the dates indicated.

**THE BENSENVILLE FIRE PROTECTION DISTRICT NO. 2**

By: \_\_\_\_\_  
Michael Spain, Fire Chief

Attest: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
(Please Print Name)

**THE VILLAGE OF BENSENVILLE**

By: \_\_\_\_\_  
Frank Soto, President

Attest: \_\_\_\_\_

Ilsa Revera – Trujillo  
Village Clerk

Date: \_\_\_\_\_

**THE CITY OF WOOD DALE**

By: \_\_\_\_\_  
Nunzio Pulice, Mayor

Attest: \_\_\_\_\_

Shirley J. Siebert  
City Clerk

Date: \_\_\_\_\_

**COUNTY OF DUPAGE**

By: \_\_\_\_\_  
Daniel J. Cronin, Chairman  
DuPage County Board

Attest: \_\_\_\_\_

Paul Hinds, County Clerk

Date: \_\_\_\_\_

**THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

By: \_\_\_\_\_  
John A. Fortmann, P.E.  
Deputy Director/Region  
One Engineer

Attest: \_\_\_\_\_

Date: \_\_\_\_\_

**THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

By: \_\_\_\_\_  
Greg M. Bedalov, Executive Director

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Michael Colsch, Chief of Finance

Date: \_\_\_\_\_

By: \_\_\_\_\_  
David A. Goldberg, General Counsel

Date: \_\_\_\_\_

Approved as to Form and Constitutionality

\_\_\_\_\_  
Tiffany B. Schafer, Assistant Attorney General, State of Illinois

RESOLUTION NO. 21101

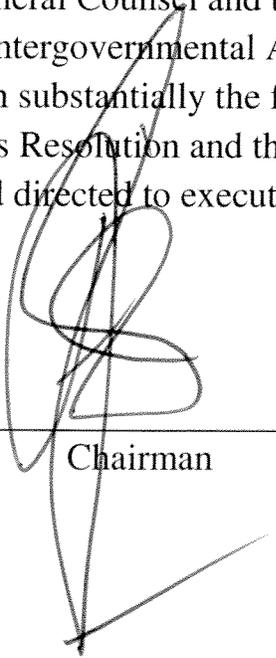
**Background**

It is in the best interest of the Illinois State Toll Highway Authority (the “Tollway”) to enter into an Intergovernmental Agreement with the Forest Preserve District of Will County (“District”) granting the District permission to construct a 10 foot wide bike path across certain Tollway property. The bike trail will be constructed immediately adjacent to the east side of I-355 from the Hadley Valley Trail (southwest of the Bruce Road entrance) to 135<sup>th</sup> Street. The District will be responsible for the construction, operation, and maintenance of the bike trail.

**Resolution**

The General Counsel and the Chief of Engineering are hereby authorized to enter into an Intergovernmental Agreement with the Forest Preserve District of Will County in substantially the form of the Intergovernmental Agreement attached to this Resolution and the Chairman or the Executive Director is hereby authorized and directed to execute the Intergovernmental Agreement.

Approved by: \_\_\_\_\_  
Chairman

A large, stylized handwritten signature in black ink, written over a horizontal line. The signature is highly cursive and loops around itself. Below the signature, the word "Chairman" is printed.

**INTERGOVERNMENTAL AGREEMENT BETWEEN  
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY  
AND  
THE FOREST PRESERVE DISTRICT OF WILL COUNTY  
FOR A PUBLIC BIKEWAY**

This INTERGOVERNMENTAL AGREEMENT (hereinafter referred to as the "AGREEMENT") is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY, an instrumentality and administrative agency of the State of Illinois, hereinafter called the "ILLINOIS TOLLWAY", and THE FOREST PRESERVE DISTRICT OF WILL COUNTY, a State of Illinois body politic and corporate, hereinafter called the "DISTRICT", individually referred to as "PARTY", and collectively referred to as "PARTIES".

**WITNESSETH:**

WHEREAS, the ILLINOIS TOLLWAY in order to facilitate the free flow of traffic and ensure safety to the motoring public, has constructed the Veterans Memorial Tollway Extension (I-355) from I-55 to I-80, which extends through DuPage, Cook and Will Counties (hereinafter sometimes referred to as "Toll Highway"); and

WHEREAS, the DISTRICT requests that the ILLINOIS TOLLWAY accommodate a potential public bikeway for non-motorized activities (i.e. hiking, bicycle riding, cross country skiing, etc.) in various areas within its right of way where such rough grading was feasible during the construction of its Toll Highway so that a public bikeway may be placed to connect other existing public bikeways; and

WHEREAS, the ILLINOIS TOLLWAY agrees to the DISTRICT's request to accommodate a potential public bikeway for non-motorized activities; and

WHEREAS, the ILLINOIS TOLLWAY, the DISTRICT and the Village of Woodridge executed an Agreement and a Supplemental Letter of Agreement on August 21, 2009 for the construction of such a public bikeway on ILLINOIS TOLLWAY property immediately adjacent to the east side of I-355 from International Parkway to Bluff Road which crossed underneath the Des Plaines River Valley Bridge to ILLINOIS TOLLWAY right of way on the west side of I-355 and connected to the existing Centennial Trail; and

WHEREAS, the DISTRICT intends to construct a 10' wide path with 3' wide mowed turf shoulders within generally a 20' wide corridor area for grading, tree trimming, drainage swales and culverts, barricades and signing, entirely or in part on ILLINOIS TOLLWAY property immediately adjacent to the east side of I-355 from the Hadley Valley Trail southwest of the Bruce Road entrance to 135<sup>th</sup> Street (hereinafter referred to as the "PROJECT"); and

WHEREAS, the ILLINOIS TOLLWAY agrees to the DISTRICT's request to construct the public bikeway (hereinafter referred to as the "BIKEWAY") on ILLINOIS TOLLWAY property for free use by the general public; and

WHEREAS, subsequent to this AGREEMENT, the DISTRICT agrees to obtain from the ILLINOIS TOLLWAY an approved permit for the PROJECT located on ILLINOIS TOLLWAY property, and to abide by all conditions set forth therein; and

WHEREAS, the PARTIES agree that the DISTRICT shall install three (3) wayside directional signs and one (1) informational sign to be placed within PROJECT limits, all signs will explain the site features, the wildlife, the ecosystems, the history of the land use, the changes in landscaping, the restoration of the landscaping, and the partnership of the ILLINOIS TOLLWAY and the DISTRICT. Any signs funded or provided by the ILLINOIS TOLLWAY shall highlight the ILLINOIS TOLLWAY's contribution to the PROJECT and shall recognize the ILLINOIS TOLLWAY as a participating partner by displaying the ILLINOIS TOLLWAY logo; and

WHEREAS, the ILLINOIS TOLLWAY and the DISTRICT by this instrument, which shall be known for recording purposes as #002015-13, desire to determine and establish their respective responsibilities toward engineering, right of way acquisition, utility relocation, construction, funding and maintenance of the PROJECT as proposed; and

WHEREAS, the ILLINOIS TOLLWAY by virtue of its powers as set forth in the "Toll Highway Act," 605 ILCS 10/1 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, the DISTRICT by virtue of its powers as set forth in 70 ILCS 805/.001 *et seq.* is authorized to enter into this AGREEMENT; and

WHEREAS, a cooperative Intergovernmental Agreement is appropriate and such an Agreement is authorized by Article VII, Section 10 of the Illinois Constitution and the "Intergovernmental Cooperation Act," 5 ILCS 220/1 *et seq.*

NOW, THEREFORE, in consideration of the aforementioned recitals and the mutual covenants contained herein, the PARTIES hereto agree as follows:

**I. ENGINEERING**

- A. The DISTRICT agrees, at its sole expense, to perform preliminary and final design engineering, obtain necessary surveys, and prepare the final plans and specifications for the PROJECT.
- B. The ILLINOIS TOLLWAY shall review the plans and specifications for the PROJECT within thirty (30) calendar days of receipt thereof. The ILLINOIS TOLLWAY shall send its comments or objections to the DISTRICT within this

time period. Approval by the ILLINOIS TOLLWAY shall mean the ILLINOIS TOLLWAY agrees with all specifications in the plans, including alignment and location of the PROJECT improvements which impact the ILLINOIS TOLLWAY's maintained highways. In the event of disapproval, the ILLINOIS TOLLWAY will detail in writing its objections to the proposed plans and specifications for review and consideration by the DISTRICT. Upon the ILLINOIS TOLLWAY's final approval of the Plans and Specifications, the ILLINOIS TOLLWAY shall issue the DISTRICT an approved permit for the PROJECT, without charge of permit fees to the DISTRICT.

- C. Any dispute concerning the plans and specifications shall be resolved in accordance with Section IX of this AGREEMENT.
- D. The final approved Plans and Specifications for the PROJECT shall be promptly delivered to the ILLINOIS TOLLWAY by the DISTRICT.
- E. The DISTRICT agrees to assume the overall PROJECT responsibility, including assuring that all permits and approvals (U.S. Army Corps of Engineers, Illinois Department of Natural Resources, including but not limited to Illinois Environmental Protection Agency, the Will South Cook Soil and Water Conservation District etc.) and joint participation and/or force account agreements (County, Township, Municipal, Railroad, Utility, etc.), as may be required by the PROJECT, are secured by the PARTIES hereto in support of general project schedules and deadlines. All PARTIES hereto agree to cooperate, insofar as their individual jurisdictional authorities allow, with the timely acquisition and clearance of said permits and agreements and in complying with all applicable Federal, State, and local regulations and requirements pertaining to work proposed for the PROJECT.
- F. The DISTRICT agrees to obtain from the ILLINOIS TOLLWAY an approved permit for the bikeway and enhanced landscaping to be located on ILLINOIS TOLLWAY property, and to abide by all conditions set forth therein, provided that said conditions are not inconsistent with the terms of this AGREEMENT. If the application for the permit complies with the provisions of this AGREEMENT, the ILLINOIS TOLLWAY shall issue the permit.

## **II. RIGHT OF WAY**

- A. The transfer of property interests is not required between the PARTIES for this PROJECT, nor is the transfer of any interest in land deemed necessary for the future maintenance and operation of their respective facilities. Therefore, it is understood by the PARTIES hereto that there will be no exchange of any property interests pursuant to this AGREEMENT
- B. If during the construction of the PROJECT it becomes necessary for either PARTY to enter upon and temporarily use lands owned by the other PARTY, then permission for the temporary use, entry and subsequent restoration will not

be unreasonably delayed. This permission will be granted with waiver of all fees and free of any consideration.

### **III. UTILITY RELOCATION**

- A. As part of its PROJECT engineering responsibilities, the DISTRICT shall identify adjustments to the aforementioned existing utilities and agrees to make all reasonable efforts to minimize the number of utility adjustments in the design of PROJECT.
- B. At all locations where the DISTRICT's utilities are located on ILLINOIS TOLLWAY rights of way and must be adjusted due to work proposed by the DISTRICT, the DISTRICT agrees to obtain from the ILLINOIS TOLLWAY an approved permit for the facility, and to abide by all conditions set forth therein. The DISTRICT agrees to reimburse the ILLINOIS TOLLWAY for any and all out of pocket costs the ILLINOIS TOLLWAY may incur in causing the aforementioned utility or utilities to be adjusted.
- C. In the event that the work proposed by the DISTRICT results in a conflict with the ILLINOIS TOLLWAY's fiber optic cable system, the DISTRICT shall reimburse the ILLINOIS TOLLWAY for the cost to locate, mark, design, protect, adjust and/or relocate the system.
- D. At all locations where the ILLINOIS TOLLWAY's infrastructure (remote traffic microwave sensors, message signs, weather stations, weigh-in-motion sites, signs, roadway lighting controllers, electrical services and data connections) that are currently in place within the PROJECT limits and must be adjusted due to work proposed by the DISTRICT, the DISTRICT agrees to reimburse the ILLINOIS TOLLWAY for any and all out of pocket costs the ILLINOIS TOLLWAY may incur in causing the aforementioned infrastructure to be adjusted.

### **IV. CONSTRUCTION**

- A. The DISTRICT shall advertise and receive bids, provide construction engineering inspections for and cause the PROJECT to be constructed in accordance with the PROJECT plans and specifications.
- B. After award of the construction contract(s), any proposed deviations from the plans and specifications that affect the ILLINOIS TOLLWAY shall be submitted to the ILLINOIS TOLLWAY for approval prior to commencing such work. The ILLINOIS TOLLWAY shall review the proposed deviations and indicate its approval or disapproval thereof in writing. If the proposed deviation to the plans and specifications are not acceptable, the ILLINOIS TOLLWAY shall detail in writing its specific objections. If the DISTRICT receives no written response from the ILLINOIS TOLLWAY within fifteen (15) calendar days after delivery

to the ILLINOIS TOLLWAY of the proposed deviation, the proposed deviation shall be deemed approved by the ILLINOIS TOLLWAY.

- C. After award of the construction contract(s), assuming there are no proposed deviations from the plans and specifications that affect the ILLINOIS TOLLWAY, the DISTRICT shall provide no less than fifteen (15) calendar days' written notice to the ILLINOIS TOLLWAY prior to commencement of work on the PROJECT.
- D. The DISTRICT shall require its contractor(s) working within the ILLINOIS TOLLWAY's rights of way to comply with the indemnification provision contained at Section 107.26 in the ILLINOIS TOLLWAY Supplemental Specifications for construction, issued March 2014, or the indemnification provision in the applicable version of the Illinois State Toll Highway Authority's Standard Specifications subsequently in effect.
- E. The DISTRICT shall require that the ILLINOIS TOLLWAY, and its agents, officers, directors and employees be named as "additional insured" PARTIES in the General Liability Insurance and any other type of insurance coverage that the DISTRICT requires of its contractor(s) and that the ILLINOIS TOLLWAY be added as an additional protected PARTY on all performance bonds required of the DISTRICT's contractor(s). The above referenced insurance requirements must be incorporated into any and all contract(s), construction, maintenance, or otherwise, that might be entered into in furtherance of this AGREEMENT. In addition, the DISTRICT must include contractual language in any of its contracts entered into in furtherance of this AGREEMENT requiring its contractor(s) to maintain documentation throughout the duration of this AGREEMENT evidencing the existence of required ILLINOIS TOLLWAY insurance coverage. The required insurance documentation shall include, but not be limited to: copies of policies, certificates of insurance and additional insured endorsements.
- F. The DISTRICT, its contractor, subcontractors or vendor shall procure and maintain for the duration of the contract, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work by the DISTRICT, its contractor, vendor, his agents, representatives, employees or subcontractors. Work shall not commence until all insurance required by this section has been obtained. All coverages must be with Insurance Companies with an A.M. Best Company financial strength rating of "A minus" or better.
- G. Scope of Insurance - Coverage shall be at least as broad as:
  - 1. Commercial General Liability - Include coverage for premises and operation, broad form property damage, products completed operations, independent contractor's personal injury liability and contractual obligations. Policy coverage

shall be on Insurance Service Office (ISO) occurrence form CG 00 01 12 04 (or a substitute form providing equivalent protection).

2. Business Automobile Liability – Covering owned, hired and non-owned vehicles and includes any required uninsured and underinsured insurance coverage for all operators. Policy coverage shall be on the latest filed ISO occurrence form (or a substitute form providing equivalent protection).
  3. Workers’ Compensation Insurance - As required by the Workers’ Compensation Act of the State of Illinois. Contractor may use a Self-Insured plan if the plan is approved by the State of Illinois and certified by the Illinois Workers’ Compensation Commission.
  4. Excess/Umbrella Liability – To apply over the limits and coverage provided through Commercial General Liability, Business Automobile Liability and Employers Liability Insurance. Coverage shall include drop-down provisions if the underlying coverage is exhausted.
  5. Limits of Liability – Limits of liability will be provided for the following provisions, minimum limit requirements shown may be fulfilled with those indicated or the higher limits carried by the Contractor.
  6. Commercial General Liability – Limits of liability of not less than \$1,000,000 per occurrence and \$2,000,000 annual general aggregate. The general aggregate limit shall be endorsed on a per project basis. Products completed operations coverage will be maintained by the Contractor for a minimum of two (2) years following acceptance of work.
  7. Business Automobile Liability: Limit liability of not less than \$1,000,000 combined single limit per accident for bodily injury and property damage per accident.
  8. Employers Liability of \$1,000,000 per accident, per disease, including voluntary compensation and where applicable, United States Longshoreman and Harbor Workers.
  9. Excess/Umbrella Liability – In addition to the limits of coverage specified in paragraphs (6), (7) and (10) above, not less than \$5,000,000 per occurrence and annual aggregate per project will be maintained by the Contractor.
  10. Worker’s Compensation and Employers Liability: Statutory Limits with Employers Liability limit of \$500,000 per occurrence.
- H. The ILLINOIS TOLLWAY shall be named “Additional Insured” for the commercial general liability and automobile liability coverage. This coverage shall be primary for the Additional Insured and not contributing with any other

insurance or similar protection available to the Additional Insured, whether said other coverage be primary, contributing or excess.

- I. All deductibles or self-insured retentions must be declared and any self-insured retention in excess of \$50,000 must be approved and accepted by the ILLINOIS TOLLWAY. Evidence of insurance shall be provided for review by the ILLINOIS TOLLWAY and shall include originals of the applicable “additional insured” endorsements for approval of the ILLINOIS TOLLWAY. Any failure by the ILLINOIS TOLLWAY to request proof of insurance will not waive the requirement of maintenance of minimum protection specified.
- J. For any work, alterations, or changes made or undertaken by or on behalf of the ILLINOIS TOLLWAY in, on or around the improvements contemplated and made hereunder by the DISTRICT, to the extent allowed by law, the ILLINOIS TOLLWAY agrees to hold harmless and indemnify the DISTRICT, its Commissioners, officers, directors, employees, representatives, and agents from any and all claims for personal injury or property damage alleged or claimed to be the result of any work done by, on behalf of, or at the direction of the ILLINOIS TOLLWAY.
- K. The ILLINOIS TOLLWAY and its authorized agents shall have all reasonable rights of inspection (including pre-final and final inspection) during the progress of work included in the PROJECT that affects the ILLINOIS TOLLWAY right of way. The ILLINOIS TOLLWAY shall assign personnel to perform inspections on behalf of the ILLINOIS TOLLWAY of all work included in the PROJECT that affects the ILLINOIS TOLLWAY right of way, and will deliver written notices to the Project Manager of the DISTRICT advising the DISTRICT as to the identity of the individual(s) assigned to perform said inspections.
- L. Notices required to be delivered by either PARTY pursuant to this AGREEMENT shall be delivered as indicated in Section IX of this AGREEMENT.
- M. No inspections or approvals by the ILLINOIS TOLLWAY or its employees, officers or agents shall relieve the DISTRICT's contractor(s) of responsibility and liability for the proper performance of the work as determined by the ILLINOIS TOLLWAY. DISTRICT inspections and approvals shall not be considered a waiver of any right the ILLINOIS TOLLWAY may have at law or pursuant to this AGREEMENT. All ILLINOIS TOLLWAY communications and correspondence with the DISTRICT's contractor(s) or relating to a contract shall be through the DISTRICT, unless otherwise specifically directed by the DISTRICT. In the event an ILLINOIS TOLLWAY representative discovers ILLINOIS TOLLWAY related work that is not being performed or has not been performed in accordance with the approved plans and specifications, the representative shall promptly notify in writing the DISTRICT or the DISTRICT's duly designated representative.

## **V. FINANCIAL**

- A. Except as otherwise identified herein, the DISTRICT agrees to pay all PROJECT related engineering, right of way, construction engineering and construction costs.
- B. Either the DISTRICT or the ILLINOIS TOLLWAY may request, after the construction contract(s) are let, that supplemental work that increases the total costs of the PROJECT or more costly substitute work be added to the construction contract(s). The DISTRICT will cause said supplemental work or such substitute work to be added to the construction contract(s), provided that said work will not delay construction of the PROJECT. The PARTY requesting or causing said supplemental work or more costly substitute work shall pay for the cost increases of said work in full.

## **VI. MAINTENANCE - DEFINITIONS**

- A. As used herein, the terms "maintenance" or "maintain" mean keeping the facility maintained in good and sufficient repair and appearance. Such maintenance includes the full responsibility for the construction, removal, replacement of the maintained facility when needed, and unless specifically excluded in Section VII, MAINTENANCE - RESPONSIBILITIES, other activities as more specifically set forth in the following subparts of this Section VI. Maintenance includes but is not limited to:
  - 1. "Routine maintenance" refers to the day to day pavement maintenance, pothole repair, pavement marking, mowing, litter and debris removal, and grate and scupper cleaning and repair, including compliance with state laws and local ordinances.
  - 2. "Emergency maintenance" refers to any maintenance activity which must be performed immediately in order to avoid or to repair a condition on the roadway or right of way which causes or threatens imminent danger or destruction to roadway facilities or rights of way of the PARTIES hereto, to the motoring public, to public health, safety or welfare, including but not limited to accident restoration, chemical or biological removal or remediation, or response to acts of God or terrorism.
- B. The term "drainage facilities" refers to both open and enclosed systems. The term "drainage structures" refers to enclosed systems only, and includes those elements of the drainage facility affixed to the bridge superstructures downstream from the scupper.
- C. The terms "notify", "give notice" and "notification" refer to written, verbal or digital communication from one PARTY to another concerning a matter covered by this AGREEMENT, for which the PARTY transmitting the communication produces and retains a record which substantiates the content, date, time, manner

of communication, identification of sender and recipient, and manner in which the recipient may respond to the sender, as to the communication.

- D. The terms "be responsible for" or "responsibility" refer to the obligation to ensure performance of a duty or provision of a service under this AGREEMENT, provided, that a PARTY may arrange for actual performance of the duty or provision of the service by another competent entity if the other PARTY to this AGREEMENT is notified of such arrangement, but in no case shall the entity with the duty be relieved of ultimate responsibility for performance of the duty or provision of the service.
- E. The terms "consultation" or "consult with" refer to the duty of a PARTY to give notice to the other PARTY of a proposed action, with reasonable time for that PARTY to respond, but the PARTY with the duty to consult may proceed with the proposed action if the other PARTY does not respond within the time frame set forth in the notice provided, or in the case of the ILLINOIS TOLLWAY, it may proceed with the proposed action if deemed necessary by the Chief Engineer.
- F. The term "approve" refers to the duty of a PARTY not only to consult with the other PARTY but also to provide consent for the proposed action and to retain a record which documents such consent.

## **VII. MAINTENANCE - RESPONSIBILITIES**

- A. The ILLINOIS TOLLWAY agrees to maintain I-355 in its entirety.
- B. The DISTRICT agrees to maintain, or cause to maintain, all facilities, sidewalks, bike paths, and any and all fences, signage installed, walls or appurtenances built to separate vehicular traffic from pedestrian traffic, lighting, landscaping, etc., the BIKEWAY, and all other work included in the PROJECT for the DISTRICT located on ILLINOIS TOLLWAY right of way, in its entirety.
- C. The PARTIES agree that each PARTY has the duty to perform such regular inspections, surveys and reviews as are reasonably necessary to fulfill their respective obligations under this AGREEMENT.
- D. The DISTRICT agrees to assume responsibility for the reconstruction and maintenance of all facilities, sidewalks, bike paths, and any and all fences, signage installed, walls or appurtenances built to separate vehicular traffic from pedestrian traffic, lighting, landscaping, the BIKEWAY, etc., and all other work included in the PROJECT for the DISTRICT located at and on ILLINOIS TOLLWAY property, in its entirety.
- E. The DISTRICT agrees to indemnify and hold the ILLINOIS TOLLWAY and its employees, officers, directors and agents harmless from all claims for death, injuries and damages to persons or property relating to the use, maintenance,

construction or reconstruction of all facilities, sidewalks, bike paths, and any and all fences, signage installed, walls or appurtenances built to separate vehicular traffic from pedestrian traffic, lighting, landscaping, the BIKEWAY, etc.

- F. If in the future, the ILLINOIS TOLLWAY adopts a roadway or other improvement which requires modification, relocation or reconstruction to said BIKEWAY, then the DISTRICT hereby agrees to be financially responsible for the entire cost to modify, relocate or reconstruct said BIKEWAY in conjunction with the ILLINOIS TOLLWAY's proposed improvement.
- G. The DISTRICT agrees to maintain or cause to be maintained all enhanced landscape improvements constructed on ILLINOIS TOLLWAY property, (within the area identified on the site plan attached hereto as "Exhibit A"), including the eradication of all aggressive weed species and replacement of plant material as necessary, to the ILLINOIS TOLLWAY's satisfaction. In the event the DISTRICT fails to provide satisfactory care of the enhanced landscaping on ILLINOIS TOLLWAY property, as determined by the ILLINOIS TOLLWAY, and any or all of the improvements constructed on the ILLINOIS TOLLWAY's property, the DISTRICT shall, at the DISTRICT's sole cost and expense, either correct the said deficiencies or with the approval of the ILLINOIS TOLLWAY and in accordance with the applicable portions of the ILLINOIS TOLLWAY's current Standard Specifications remove the enhanced landscaping and/or other improvements built as part of this PROJECT within ninety (90) calendar days of notice by the ILLINOIS TOLLWAY to the DISTRICT via registered mail, replacing it with sod or other materials as directed by the ILLINOIS TOLLWAY, restoring the ILLINOIS TOLLWAY's property to its previous condition (prior to construction of the PROJECT). The ILLINOIS TOLLWAY shall thenceforward maintain or cause to be maintained the ILLINOIS TOLLWAY's property. Should the DISTRICT find the continued maintenance of the ILLINOIS TOLLWAY's property beyond their financial or other means, the DISTRICT may remove the enhanced landscaping and/or other improvements, replacing it as specified above with the ILLINOIS TOLLWAY similarly accepting the maintenance of the ILLINOIS TOLLWAY's property subject to the aforescribed conditions.

#### **VIII. ADDITIONAL MAINTENANCE PROVISIONS**

- A. During construction, the PARTIES shall continue to maintain all portions of the PROJECT within their respective right of way that are not to be improved or maintained by the construction contractor(s) pursuant to the approved plans and specifications.
- B. All items of construction which are stipulated in this AGREEMENT to be maintained by the DISTRICT shall, upon completion of construction and final inspection, be the sole maintenance responsibility of the DISTRICT.

#### **IX. GENERAL PROVISIONS**

- A. It is understood and agreed that this is an AGREEMENT between the Forest Preserve District of Will County and the Illinois State Toll Highway Authority.
- B. Wherever in this AGREEMENT approval or review by either of the PARTIES is provided for, said approval or review shall not be unreasonably delayed or withheld.
- C. Not later than fourteen (14) calendar days after execution of this AGREEMENT each PARTY shall designate in writing a representative who shall serve as the full time representative of the said PARTY during the carrying out of the execution of this AGREEMENT. Each representative shall have authority, on behalf of such PARTY, to make decisions relating to the work covered by this AGREEMENT. Representatives may be changed, from time to time, by subsequent written notice. Each representative shall be readily available to the other PARTY.
- D. In the event of a dispute between DISTRICT and the ILLINOIS TOLLWAY in the carrying out of the terms of this AGREEMENT, the Chief Engineer of the ILLINOIS TOLLWAY and the DISTRICT's Planning and Operations Director shall meet and resolve the issue. In the event that they cannot mutually agree on the resolution of a dispute concerning the plans and specifications for the PROJECT or in the carrying out of the terms of this AGREEMENT in reference to the PROJECT, the decision of the Chief Engineer of the ILLINOIS TOLLWAY shall be final.
- E. In the event there is a conflict between the terms contained in this document and the attached Exhibit(s), the terms included in this document shall control.
- F. This AGREEMENT may be executed in two (2) or more counterparts, each of which shall be deemed an original and all of which shall be deemed one and the same instrument.
- G. Under penalties of perjury, the DISTRICT certifies that its correct Federal Tax Identification number is 36-6006668 and it is doing business as a governmental entity, whose mailing address is Forest Preserve District of Will County, 17540 W. Laraway Road, Joliet, Illinois 60433.
- H. This AGREEMENT may only be modified by written modification executed by duly authorized representatives of the PARTIES hereto.
- I. This AGREEMENT shall be binding upon and inure to the benefit of the PARTIES hereto and their respective successors and approved assigns.
- J. The failure by the ILLINOIS TOLLWAY or the DISTRICT to seek redress for violation of or to insist upon the strict performance of any condition or covenant of



(This section intentionally left blank)

IN WITNESS THEREOF, the PARTIES have executed this AGREEMENT on the dates indicated.

**THE FOREST PRESERVE DISTRICT OF WILL COUNTY**

By: \_\_\_\_\_  
Suzanne Hart, President  
Board of Commissioner's

Attest: \_\_\_\_\_  
\_\_\_\_\_  
(Please Print Name)

Date: \_\_\_\_\_

**THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

By: \_\_\_\_\_  
Greg M. Bedalov, Executive Director

Date: \_\_\_\_\_

Approved as to Form and Constitutionality

\_\_\_\_\_  
Robert T. Lane, Senior Assistant Attorney General, State of Illinois

## RESOLUTION NO. 21102

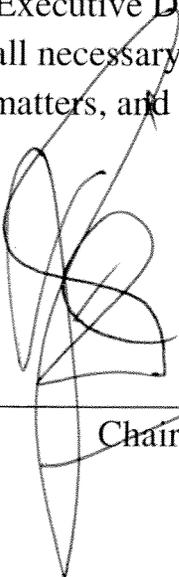
**Background**

The Illinois State Toll Highway Authority (the "Tollway") has negotiated a proposed settlement regarding a worker's compensation claim with Beverly O'Shea as recommended by defense counsel Nyhan, Banbrick Kinzie & Lowry. It is in the best interest of the Tollway to go forward with the settlement.

**Resolution**

The settlement of Beverly O'Shea's workers compensation claim is approved. The General Counsel is authorized to finalize the settlement agreement consistent with the terms presented to the Board in executive session. The Chairman or the Executive Director and the General Counsel are authorized to execute any and all necessary documents to effectuate this settlement and resolve all adjunct legal matters, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by: \_\_\_\_\_

  
Chairman

RESOLUTION NO. 21103

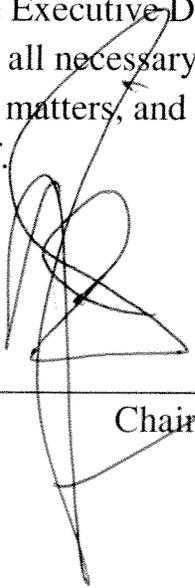
**Background**

The Illinois State Toll Highway Authority (the “Tollway”) has negotiated a proposed settlement regarding an employment litigation matter involving a class of employees, with Shelly Stivers being the named plaintiff. As recommended by defense counsel, Franczek Radelet, PC, and the Tollway’s Legal Department, it is in the best interest of the Tollway to go forward with the class settlement.

**Resolution**

The settlement of the class action matter (Case No. 15-cr-09030, ND Ill.) is approved. The General Counsel is authorized to finalize the settlement agreement consistent with the terms presented to the Board in executive session. The Chairman or the Executive Director and the General Counsel are authorized to execute any and all necessary documents to effectuate this settlement and resolve all adjunct legal matters, and the Chief of Finance is authorized to issue warrants in payment thereof.

Approved by:

  
\_\_\_\_\_

Chairman