### Nur Hossain, P.E.

3937 24 <sup>th</sup> Ave SE, Apt # 7       (405) 429         Norman, OK 73071       hossain_nur@o	
Objective	Pursue a successful career in Civil/ Geotechnical Engineering
Education	<b>Doctor of Philosophy, Civil/Geotechnical Engineering</b> (Summer, 2017), GPA: 4.0 The University of Oklahoma (OU), Norman, Oklahoma
	<i>Master of Science,</i> Geotechnical Engineering (August, 2010), GPA: 4.0 The University of Oklahoma (OU), Norman, Oklahoma
	<b>Bachelor of Science, Civil Engineering,</b> (June, 2007), GPA: 3.31 Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
Certification	Professional Engineer - Oklahoma # 28222 - Texas # 119173
Experience	
02/2015- Present	<ul> <li>Project Manager/Office Manager, Kleinfelder, Norman, OK</li> <li>Started the Greater Oklahoma City operation for Kleinfelder.</li> <li>Responsible for business development, client management, revenue generation, staff management, and project management.</li> <li>Typical project management operations include overall coordination, work breakdown, report review and delivery within the allocated budget and time.</li> </ul>
	Major Project Specific Experience
	Transportation Sector

## Oklahoma Turnpike Authority (OTA)

Involved as the project manager for overall geotechnical investigations and supervision of the projects. The geotechnical tasks of the OTA projects typically include subsurface investigation for pavements, bridge, retaining wall, embankments and cut sections. Typical field investigation involves collecting soil and rock samples, Falling Weight Deflector Testing, Dilatometer testing, Refraction Microtremor (ReMi) testing etc. Typical laboratory testing include soil classifications, triaxial tests, consolidation tests, standard proctor and resilient modulus tests, pH, resistivity and soluble sulfate content tests etc. Typical geotechnical analyses include pavement design, foundation design for bridge and retaining walls, slope stability and settlement analyses for embankments, determination of rock rippability for cut sections etc.

#### Major OTA Projects:

- Project Manager, Northeast Oklahoma County Loop- Middle Section, near Oklahoma City, OK: OTA Project # EOC-2403. Total geotechnical fees for the project is approximately 1.1-Million USD.
- Project Manager, Will Rogers Turnpike Pavement Rehabilitations, near Miami, OK- from MM 316 to MM 320.

- Project Manager, H.E. Bailey Turnpike Toll plaza and Pavement Rehabilitations, near Cyril, OK.
- Project Manager, Muskogee Turnpike Pavement Rehabilitations, near Muskogee, OK- from MM 0 to MM 9.5.
- Project Manager, Indian Nation Turnpike Pavement Rehabilitations, Okmulgee & McIntosh Counties, OK- from MM 96 to MM 104.

#### Oklahoma Department of Transportation (ODOT)

Involved as the project manager for overall geotechnical investigations and supervision of the projects. Typical geotechnical tasks for the ODOT projects typically include subsurface investigation for bridge, embankments, Reinforced Concrete Box (RCB) structures, retaining wall, embankments and cut sections. Typical field investigation involves pedological and geological soil sampling, collecting soil and rock samples, Falling Weight Deflector Testing, Dilatometer testing, in-situ pore pressure dissipation tests, Refraction Microtremor (ReMi) testing etc. Typical laboratory testing include soil classifications, triaxial tests, consolidation tests, standard proctor and resilient modulus tests, pH, resistivity and soluble sulfate content tests etc. Typical geotechnical analyses include foundation design using AASHTO LRFD method for bridge and retaining walls, slope stability and settlement analyses for embankments, steady state seepage analyses, determination of rock rippability for cut sections etc.

#### Major ODOT Projects:

- Project Manager, State Highway (SH) 34 over Canadian River, Dewey County, OK: EC-1685A. This project involves replacing approximately 3,000-foot long bridge with 15-span 1,500-foot long bridge and approximately 1,400-foot long embankments. Total geotechnical fees for the project is approximately 0.25-Million USD.
- Project Manager, US 270 over Carter & Eight Unnamed Creeks, Seminole County, OK: State J/P No. 21006(04) and 21006(11). Total length of the project is approximately 8.5 miles.
- Project Manager, South 129th East Avenue over Interstate-244, Tulsa, OK: State J/P No. 28859(04).
- Project Manager, US 77 over Washita River Overflow, Garvin County, OK. State J/P No. 29544 (04).
- Project Manager, Rock Crusher Road over Interstate-35, Murray County, OK. State J/P No. 30363(04).
- Project Manager, State Highway 34 over North Fork of Red River, Beckham County, OK. State J/P No. 26999(04).

# 05/2011-Project Manager, Geotechnical Services, PSI, Inc., Oklahoma City, OK02/2015

#### Major Project Specific Experience

#### <u>Transmission Line</u>

 Project Manager, 345 KV Transmission Line, Woodward to Hitchland, Oklahoma Gas and Electric (OG&E), OK: The project consisted of 95 mile long Transmission line with tubular steel monopole installed on anchor bolted reinforced concrete pier foundations. Total value on the net fees for PSI was more than US \$ 200,000. The task includes site characterization using CPT, SPT, Dilatometer testing, Pressuremeter testing, Chemical Reactivity testing; geotechnical analyses include deep foundations design using LPILE, DRIVEN, p-y criteria for piles, site specific seismic hazard analyses etc.

#### <u>Stadium</u>

 Geotechnical Engineer, Nashville Sounds Stadium, Nashville Downtown, TN: The project consisted of construction of a new Minor League Baseball stadium for Nashville Sounds. Total value of the project is US \$37 million. Geotechnical analyses included p-y criteria development from the Dilatometer data, lateral load analyses using LPile, site specific seismic hazard analyses etc.

#### **Buildings & Industrial Plants**

- Project Manager, 11-storied Multi-use Parking Garage, Oklahoma City, OK: The geotechnical investigation included Pressuremeter Tests, Refraction Microtremor (ReMi) tests etc. Geotechnical analyses included bearing capacity calculation of the drilled pier from pressuremeter test results, lateral load capacities using LPile, site specific seismic hazard analyses etc.
- Geotechnical Engineer, The Edge at Midtown Apartment Complex, Oklahoma City, OK.
- Geotechnical Engineer, Numerous Wal-Mart and Sams Club in Oklahoma and Kansas.

#### **Transportation**

- Project Manager, I-35/I-240 Interchange Re-alignment, Oklahoma City, OK: Total PSI net fees for this project were approximately 0.8-Million USD.
- Project Manager, Widening of I-40 over Crutcho Creek, Del City, OK.
- Project Manager, Single Point Urban Interchange (SPUI), I-35 & Main Street, Norman, OK.

#### <u>Dam</u>

 Geotechnical Engineer, Phase III, Atoka Dam, City of Oklahoma City, Oklahoma Water Utilities Trust, OK: Responsible for geotechnical investigation, analysis and report preparation. The task includes site characterization using CPT, SPT, Dilatometer; geotechnical analyses include slope stability using SLOPE/W, steady state seepage with SEEP/W, rock rippability, site specific seismic hazard analysis, liquefaction analysis, earthquake response analyses using SHAKE software, piezometer test, lateral resistance parameters etc.

#### <u>Silos</u>

- Geotechnical Engineer, Grain Bins, Valley View Agri-Systems, Port 33 Facility, Catoosa, OK: Geotechnical investigation includes data collection using Dilatometer, SPT, TCP etc. Geotechnical recommendations included ring type foundation, strengthening the subgrade with a rammed aggregate system such as Geopier<sup>®</sup>, stone column etc.
- Geotechnical Engineer, Western Plains Energy, Oakley, KS: The project consists

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of geotechnical investigation for the construction of 4 digester tanks for ethanol storage. Geotechnical investigation includes subsurface exploration with Dilatometer, SPT, TCP etc. Analyses include settlement calculation and remediation for low-density windblown soil, pre-wetting of the subsurface and vibration compaction, foundation recommendation using stone column, drilled pier etc.

#### **Forensic Investigation**

- Geotechnical Lead, FedEx Facility in Tulsa Airport, OK: Performed as a geotechnical lead engineer to investigate slab failure during the repair work performed on tugs. Investigation included coring and testing of concrete samples, DCP test on subgrade, analyses of the failure and recommendation for new slab including recommendation of subgrade modulus.

## 08/2010-Geotechnical Engineer, Midwest Engineering & Testing Corporation,04/2011Oklahoma City, OK

#### **Major Projects**

- Geotechnical Engineer, Indian Nation Turnpike, Oklahoma Turnpike Authority, McAlester, OK.
- Geotechnical Engineer, Seven-storied Hotel Building, Oklahoma City, OK.
- Geotechnical Engineer, Schools, Various Locations, OK.
- Geotechnical Engineer, Waste-Water Treatment Plant, Guthrie, OK.
- Geotechnical Engineer, Drilled Pier Observation & Foundation Excavation, Various Locations, OK.

## 08/2008-<br/>08/2010Graduate Research Assistant, College of Engineering, The University of<br/>Oklahoma, Norman, OK

- Field Performance Monitoring and Modeling of Instrumented Pavement on I-35 in McClain County', Oklahoma Department of Transportation, OK: Performed laboratory and field tests (APA rut, Resilient Modulus, Fatigue, Compaction of specimens, density measurement of specimens, FWD, crack mapping, Field rut with Face Dipstick<sup>®</sup>) for the project. Developed strategy and analytical models to predict pavement performance and failure. Coordinated laboratory tests with NCAT and SEM Materials. Supervised one senior undergraduate student in laboratory tests. Prepared 15 monthly and 2 annual project progress reports. Presented a poster titled "Field and Laboratory Performance of Flexible Pavement Section on I-35" in the 2009 ODOT-OTC Research Day.

#### 07/2007- Junior Executive, HB Consultants Ltd., Dhaka, Bangladesh

07/2008

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- Worked in close collaboration with Donor Agency's (World Bank, Asian Development Bank, USAID, DFID) on Civil and Geotechnical Projects.
- Prepared Expression of Interest, Request for Proposals for the Donor funded projects

#### Skills Software Skills

gINT, LPile, Settle 3D, DRIVEN, SLOPE/W, SEEP/W, AASHTOWare ME, WinPAS, STABL, SHAKE, AUTOCAD, MODULUS 6.0, MS Office etc.

#### Equipment Handling Skills

Dilatometer, Pressuremeter, DCP Apparatus, Nuclear Density Gauge, Triaxial machine, Consolidation Machine, Atterberg Limit Test Apparatus, Concrete Field Testing Apparatus, Superpave Gyratory Compactor, APA Rut machine, PMW Linear Kneading Compactor, Face Dipstick<sup>®</sup>, NCAT Ignition Oven, Corelok machine, MTS machine, 4-point fatigue testing machine etc.

#### Publication Journal Papers

- Hossain, N., Singh, D., Zaman, M., Timm, D., and Solanki, P. (2017). "Contribution of Different Structural Layers to Pavement Rutting: A Case Study through Forensic Investigation of a Test Section on Interstate 35." *Journal of Road Materials and Pavement Design* (Under Review).
- Hossain, N., Singh, D., and Zaman, M. (2016). "Sensitivity of traffic input parameters on rutting performance of a flexible pavement using Mechanistic Empirical Pavement Design Guide." *International Journal of Pavement Research and Technology*, Vol. 9, No. 6, pp. 405-459.
- Hossain, N., Singh, D., Zaman, M. (2016). "Enhancing Rutting Prediction by MEPDG Using Data from Field Test Section in Oklahoma", *Transportation Research Record, No. 2590,* Transportation Research Board, Washington, D.C., pp. 28-36.
- Hossain, N., Singh, D., Zaman, M. (2015). "Development of Rut Prediction Models from an Instrumented In-service Test Section on Interstate-35", *International Journal of Pavement Research and Technology*, Vol. 8, No. 5, pp. 305-314.

#### **Conference Proceedings**

- Hossain, N., Singh, D., Zaman, M. (2016). "Sensitivity of Axle Load Spectra on Performance of a Flexible Pavement Using Mechanistic Empirical Pavement Design Guide", *TRG India Conference*.
- Hossain, N., Singh, D., Zaman, M., and Rassel, S. M. (2014). "Local Calibration of MEPDG Rut Models: Oklahoma's Experience from an Instrumented Pavement Section", The 14th International Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG), Kyoto, Japan.
- Hossain, N., Solanki, P., Zaman, M., Muraleetharan, K. K., and Singh, D. (2013). "Development of Field Rut Prediction Models from an Instrumented Test Section on Interstate-35", *Transportation Research Board 2013 Annual Meeting*, Washington, D.C.
- Hossain, N., Singh, D., and Zaman, M. (2013). "Dynamic Modulus-based Field Rut Prediction Model from an Instrumented Pavement Section", *2nd Conference of Transportation Research Group of India (2nd CTRG)*, Agra, India. Elsevier Procedia- Social and Behavioral Sciences, No. 104, pp. 129-138.
- Hossain, N., Solanki, P., and Zaman, M. (2011). "Development of a Rut Prediction Model from APA Rut Data", *International Association for Computer Methods and Advances in Geomechanics 2011 Conference*, Melbourne, Australia.

Academic-Secured 4th place in the Higher Secondary School Certificate examination withAchievements94.3 % marks (among approximately 1 million candidates)

- Board Scholarship in Secondary School Certificate examination with 91.6% marks.
- GPA 4.0 in both MS and PhD.