

2020 Engineering Excellence Awards

A section prepared by the staff
of the Midlands Business Journal



Grand Award

HDR Global Headquarters | HDR for Noddle Companies

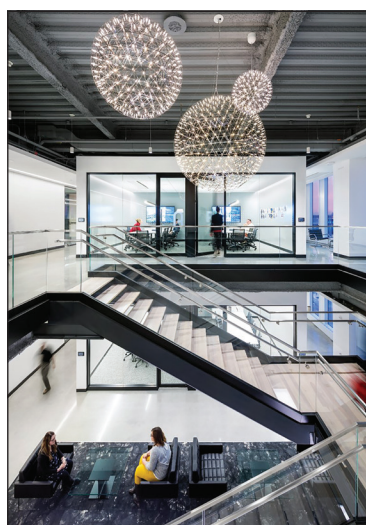
Headquartered in Omaha since 1917, global design firm HDR sought a new headquarters building that reflected the talents and skills of its architects, engineers, and planners. HDR partnered with owner Noddle Companies to design a 10-story, 240,000-square-foot multi-use office building located in the mixed-use Aksarben Village neighborhood. The end result is a striking building whose design respects its context and fosters collaboration and in which engineering plays a significant role.

This project illustrates the importance of engaging all parties early in the design process. The building's unique form is chamfered at the corners to maximize square footage on upper floors while opening walkable space on the ground level to activate engagement with the surrounding neighborhood. Rather than having "front" and "back" sides, space that would have typically been used for a loading dock was reimagined as a retail alley.

HDR committed to a rigorous, integrated design process, which resulted in the building's LEED New Construction v4 Gold-level rating. Specific performance achievements include:

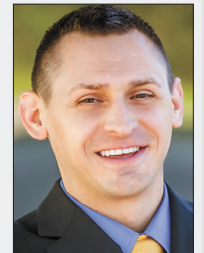
- 68% Energy Use Intensity reduction compared to the regional average
- 31% water use reduction
- 87% irrigation reduction
- Lighting Power Density that is 38% better than code
- Estimated 15% Material Carbon Impact reduction over a comparable building
- Saving over 67 tons of steel by using SidePlate® steel connections, a first in Nebraska.

The building earned a three-star rating from Fitwel, the highest rating possible for this certification that optimizes buildings to support occupant health.



Young Professional of the Year Award

Josh Palik, a professional engineer with Felsburg Holt & Ullevig, has been selected as the 2020 Young Professional of the Year by the American Council of Engineering Companies of Nebraska (ACEC NE). The award recognizes accomplishments of Nebraska engineers under age 35 who have contributed to the engineering profession in the state and made a positive community impact.



Palik

Palik has spent most of his 14-year career focused on transportation engineering, working on roadway design projects that make life better for the traveling public. Most notably, he served as the lead engineer on the City of Lincoln's high profile, 14th and Old Cheney Improvement Project. "This technically challenging and politically charged project pushed me to grow in unexpected ways," Palik said. "Because of high public interest, I was asked to give dozens of project presentations. I found that educating the community about the value of engineering and its ability to change a situation for the better, really energized me." Other award-winning project work includes Sarpy County's Giles Road widening from 144th to 156th streets, as well as the City of Omaha's 42nd & Q streets Roundabouts Design and 144th Street Reconstruction from West Dodge Road to Eagle Run Drive.

Palik has served in numerous industry roles including Chapter President of the Eastern NE – National Society of Professional Engineers (NSPE), as well as active involvement with ACEC-NE and the Lincoln-Omaha-Council Bluffs Association of Transportation Engineers (LOCATE). Josh volunteers with MathCounts as well as Engineering Adventures at the Kroc Center for grade school students.

Rob Vanderveen, a professional engineer with Lamp Rynearson, has been selected as the 2020 Young Professional of the Year by the American Council of Engineering Companies (ACEC NE). The award recognizes accomplishments of Nebraska engineers under age 35 who have contributed to the engineering profession in the state and made a positive community impact.

As a licensed, project engineer with a bachelor's degree in Civil Engineering from the University of Nebraska-Omaha, Vanderveen enjoys working on a mix of projects such as housing, schools, site plans and public improvements, and the impact they have on the community. Noteworthy clients include the Omaha Public Schools, State of Nebraska, City of Omaha, and land developers.



Vanderveen

A community volunteer committed to numerous civic and philanthropic organizations, Vanderveen is co-founder of Hope Dwells, a not-for-profit created to provide resources and educations surrounding the pursuit of homeownership for refugees. He has volunteered for Upward Bound, Boys Town as a Math Mentor, Habitat for Humanity, Public Park Cleanup, City of Omaha Flood Cleanup, Keep Omaha Beautiful, Yellow Door, Bridges Humanitarian Initiative and Helping Hands Refugee Organization. With an 8-year career in engineering, Vanderveen has volunteered his energy and time - both within the firm and through civic and industry organizations.

Lamp Rynearson's Omaha office has had four young professionals selected to receive this award in the last 15 years.

ACEC Nebraska 2020 Charles Durham Achievement Award

The ACEC Board of Directors is honored to announce that the recipient of the Charles Durham Achievement Award this year is John S. Olsson, Executive Vice President of Olsson Inc.

As EVP for consulting services, Olsson works with teams throughout the firm to identify and prioritize large public sector clients and projects, and works with Olsson's practice leaders to enhance the firm's standing at the municipal and state level.

Olsson has served in several leadership roles since he joined the firm in 1989. He was named leader of the Civil Municipal team in 2001, became the firm's Lincoln office leader in 2007 and two years later was selected to serve on the first firmwide operations team.

Olsson exemplifies the firm's community focused values through his involvement in various nonprofit and civic organizations. He served as president for the Nebraska Society of Professional Engineers and was a past director for ACEC Nebraska. In 2015, Olsson helped establish the Olsson Foundation, a 501(c)(3) private foundation that supports education, communities and the environment.

John graduated with a Bachelor of Science degree in civil engineering from the Colorado School of Mines and earned a master's degree in engineering from the University of Nebraska-Lincoln.

He is the son of the firm's founder, John E. Olsson.

The Charles Durham Achievement Award was created to honor Charles Durham's leadership in the engineering profession and his community stewardship through civic involvement. Durham served as chairman and CEO of Henningson, Durham and Richardson, (HDR) the international engineering and architectural firm headquartered in Omaha. Over the years, he and his wife Marge were active in their community serving in leadership roles with many community organizations and donating millions of dollars to worthy causes.



Olsson

Honor Awards



1201 Cass Commercial Office Alvine Engineering for Alvine and Associates

The 1201 Cass Commercial Office project was designed according to the WELL Building Standard™ with the goal of International WELL Building Institute™ certification. Focus was placed on the architectural layout and programming of the space and all MEP, fire protection, and technology systems. In order to achieve the owner's goals, systems required innovative solutions while remaining in compliance with WELL standards. The lighting system consists of tunable fixtures that balance electric light with daylight to provide adequate lighting, while reducing eye fatigue and encouraging a healthy circadian rhythm. The underfloor air distribution systems allow workstation users to have control of airflow at each desk, promoting the WELL benefit of individual thermal comfort.

The owner's goal was not only to gain a better understanding of the WELL Building Standard through design and construction, but also to share the lessons and innovation. The building is designed to be a living learning lab with MEP and technology systems on display. Visitors can view the mechanical room from a window in the lobby, the underfloor air distribution system is exposed in one conference room, and the lighting lab features changeable light fixtures for demonstrations.

The greatest measure of success for project has been the positive feedback from employees who take full advantage of the WELL benefits that promote a healthier lifestyle.

Tri-Faith Campus Abraham's Bridge Olsson for the Tri-Faith Initiative

The Tri-Faith Initiative, a bold interfaith endeavor in the heartland, is comprised of three intentionally co-located congregations of the Abrahamic faiths (Islam, Judaism, and Christianity). The Initiative occupies 38 acres in the Sterling Ridge development near 132nd and Pacific streets in Omaha. The Tri-Faith Initiative's vision called for three worship-education centers, all facing one another, and a shared Tri-Faith Center to serve as a communal gathering spot for programs, events,

and activities. To reinforce this vision, the Initiative's board of directors desired a circular boardwalk feature to physically connect the three places of worship over the stream referred to as "Hell Creek." Olsson was engaged to complete the unique design and bring the circular bridge into existence. Civil and structural engineers designed a 450-foot diameter feature that reinforces the geometry of the site, while floodplain management and environmental specialists worked to make sure the structure was compliant with federal regulations. The result is an idyllic setting to cultivate community, respect, and harmony.



Aquifer Storage and Recovery Program Services, HDR for Hastings Utilities

Hastings Utilities (HU) was faced with a difficult decision to provide a reliable long-term drinking water source. The wells in the city were seeing high levels of nitrate and uranium. Traditional solutions included constructing a full-scale water treatment plant, which would cost more than \$100 million and severely impact utility rates. Aquifer Storage and Recovery (ASR) is a complex, innovative and developing technology, requiring careful design and implementation.



In the case of HU, ASR is being used to treat high concentration nitrate water and injecting it in back in the aquifer upstream to create a water bubble that has a lower nitrate concentration. This clean water bubble is projected to move downstream to the city's drinking water wells providing a clean drinking water source. ASR is a subsurface storage technology, more resilient and protected than alternative and traditional storage technologies. Stored water is protected from evaporation, pollutants, and extreme weather events. Advanced hydro-geologic assessment techniques were used for proper selection of the site and water storage zones. The project provides a sustainable, cost effective solution to the community's drinking water needs.

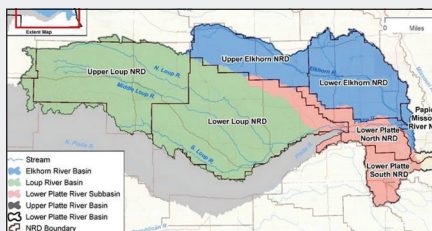
Upper Prairie-Silver-Moores Flood Risk Reduction, JEO Consulting Group for Central Platte Natural Resources District

The Central Platte Natural Resources District hired JEO to provide flood risk reduction and resilience to the northwest area of Grand Island. The project's primary objective was to provide flood risk reduction for the 100-year storm to residential and commercial properties. Estimates indicate that the completed project reduces flood damages by approximately \$47 million from a 100-year event. The project's secondary objective was to revise FEMA floodplain maps to accurately reflect the reduction in flood risk, including removal of approximately 500 homes and businesses from the regulatory floodplain. The structural flood risk reduction components include a large detention cell, four dry dams, and a levee. The nonstructural efforts included a city-wide public education event: the Flood Control Stroll.

In spring of 2019, floodwaters tore through Nebraska, leaving many of its communities and farms destroyed, houses and livelihoods underwater, and roads, bridges, and dams washed away. And yet, Grand Island, Nebraska, a city



Merit Award Recipients



Lower Platte River Drought Contingency Plan,
HDR for Lower Platte River Consortium



Live NoDo Technology Integration,
IP Design Group for Alvine and Associates

Study Goals and Performance Measures

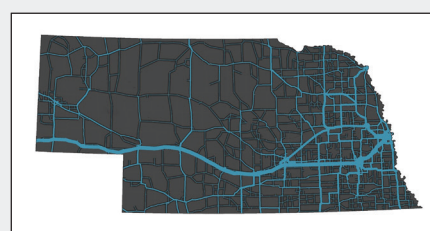


SYSTEM PRESERVATION
Achieve state-of-good-repair by effectively maximizing the life span of existing infrastructure.

Metro Area Travel Improvement Study,
HDR for Metropolitan Area Planning Agency/
Nebraska Department of Transportation



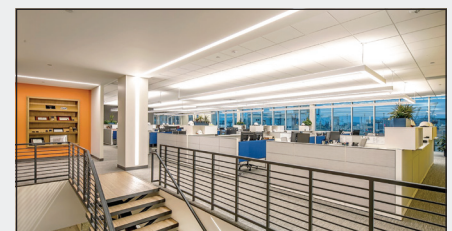
LES Operations Center Thermal Energy Plant,
Olsson for District Energy Corporation



Nebraska Statewide Truck Model, HDR for
Nebraska Department of Transportation



Schramm Education Center, HDR for the
Nebraska Game and Parks Commission



1201 Cass Commercial Office Acoustics,
IP Design Group for Alvine and Associates



City of York Water Reclamation Facility,
HDR for the City of York

Honor Awards

historically prone to extremely severe floods, remained dry. Their resilience was possible largely in thanks to the Upper Prairie/Silver/Moore's Flood Risk Reduction project.

This spring's flooding was estimated to be a 500-year flood event near Grand Island. The Upper Prairie/Silver/Moore's project successfully prevented these flood waters from entering the city. Grand Island was not only protected from a 100-year event, but safely withstood a 500-year flood event. During this flood event and another, the project has performed as expected and prevented over \$90 million in damages; meaning the project essentially paid for itself almost four times over.



The Atlas Lamp Rynearson for NuStyle Development

How do you wipe away the images of a sterile hospital, sitting amid a sea of deteriorated parking? Developer NuStyle had a vision of what the 1972 hospital and site could become. Instead of scrapping both, a high-flying redevelopment project now takes its place – one to inspire anyone who appreciates the unexpected. This 732-unit apartment project boasts new residential amenities, commercial and green spaces, a large detention pond, landscaping, and a new connection to the neighborhood north of the project via the North Freeway Pedestrian Bridge. What do you name this truly unique project? The Atlas! Nebraska-based civil engineering firm Lamp Rynearson was an integral part of a collaborative team selected to put the project together. Researching the area's aging infrastructure and designing for the project's complex goals were elements of the team's responsibilities. Knowledge of the City of Omaha's sewer separation plan positioned Lamp Rynearson for success. 3D scanning, traditional survey, and site design "set the stage" for a winning project. Multiple studies of the urban watershed, an area of land that separates waters flowing to the Missouri River, provided information to aid in the

project's layout. A Nebraska Environmental Trust grant, Tax Increment Financing, and a City of Omaha alliance combined to secure the additional financial assistance needed to complete the Atlas, a public private partnership. Who stands to gain from this urban redevelopment project? The neighborhood, community, Boys Town Lied Learning & Technology Center, Creighton University, the environment, local economy, and residents who benefit from the remarkable "hospital to home" shift.

Papillion Creek Water Resource Recovery Facility Emergency Flood Services, HDR for the City of Omaha

In March 2019, after heavy precipitation fell upon frozen ground throughout Omaha, the levees adjacent to the Papillion Creek Water Resource Recovery Facility (PCWRRF) overtopped, forcing staff to shut down power and quickly evacuate as floodwaters began to rise. Within hours, most of the facility was submerged in more than 8 feet of floodwater, rendering infrastructure unusable and shutting down the plant. Before floodwaters receded, the city and HDR worked together to determine timeframes for restoration of facility operations and developed a process to quickly implement task orders under the city's emergency procurement methods. The team faced difficult conditions: no access road, no power, raw sewage, and high river levels causing security and safety concerns. Solutions were cost-effective and allowed competitive pricing, even with a shortage of construction workers due to widespread flooding. One month after the flood event, primary treatment and solids dewatering were achieved, and within two months, pre-flood treatment was achieved. This was an extraordinary effort that took 24/7 dedication from the city and the HDR team.



UNL Johnny Carson Center for Emerging Media Arts Audio-Visual Systems, Morrissey Engineering for University of Nebraska-Lincoln

Morrissey Engineering was retained to provide Audio-

Visual systems design and Commissioning Services for the 52,000 SF Johnny Carson Center for Emerging Media Arts. Morrissey helped define the Audio-Visual system needs and use cases through meetings with faculty as well as industry influencers and advisory board members. The facility is designed to accommodate tomorrow's technology and adaptability is taken to a whole new level. Current and emerging technologies are used together to create Audio-Visual systems that move the needle of possibility and improve usability.



UNMC Rooftop Solar Photovoltaic Systems, Morrissey Engineering for the University of Nebraska Medical Center

Morrissey Engineering evaluated existing conditions at UNMC's Omaha Campus and developed solar array concepts that demonstrate UNMC's commitment to be carbon-neutral by 2030. Morrissey Engineering followed project development with full design and construction administration for installation of nearly 1,500 solar panels installed atop three UNMC campus buildings. This project is the largest rooftop solar array in Nebraska and is supported by a partnership with UNMC's electric energy provider OPPD.



Merit Award Recipients



Missouri River Water Resource Recovery Facility Improvements Project, Jacobs for the City of Omaha



Dakota City Wastewater Treatment Facility, JEO Consulting Group for the City of Dakota City



Columbus 3rd & 18th Avenues Viaducts Project: Grade Separation of Railroad Corridor, HDR for the City of Columbus



Keep Omaha Moving: 168th Street – West Dodge Road to West Maple Road, HDR for the City of Omaha



150th and West Dodge Interchange, HGM Associates for Lamp Rynearson, Noddle Companies, Nebraska Department of Transportation, City of Omaha



US 30 Schuyler to Rogers, Schemmer Associates for the Department of Transportation



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