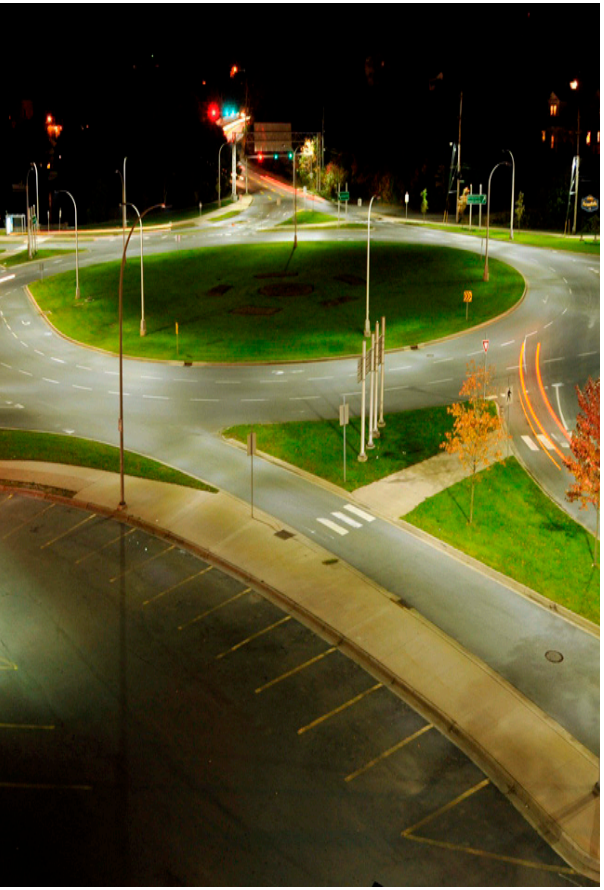
Surface Transportation Engineering



AMC ENGINEERS

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Safety and comfort is our ultimate focus

About Us

AMC Engineers

Founded in 1981, AMC Engineers offers value in horizontal construction having engineered and designed many of the electrical improvements that go hand in hand with large scale civil improvements such as roadway illumination, intersection signalization, coordinated utility relocates, culvert heat trace systems, and airport taxiway and runway lighting.

AMC has worked on numerous projects in the Central, Northern, and Southcoast regions on behalf of DOT&PF, providing electrical engineering services including highway illumination, RWIS installations, and ATR installations. AMC frequently works with the Alaska Department of Transportation & Public Facilities (DOT&PF), Ted Stevens Anchorage International Airport (ANC) and MOA Merrill Field (MRI), which have required us to be familiar with DOT&PF, Federal Highway Administration (FHWA) and Federal Aviation Administration (FAA) regulations.

AMC's thorough understanding of MOA standards, policies, and procedures ensures that project tasks are performed efficiently and cost effectively. We have a comprehensive understanding of MOA's Design Criteria Manual (DCM) and specifically the Roadways, Drainage, Electrical, Landscaping, and Trails chapters. We are also very familiar with the Municipality of Anchorage Standard Specifications (MASS). We understand MOA's review processes that are required during the development of projects including Urban Design Commission (UDC), Planning and Zoning Commission (P&Z), Parks and Recreation Commission (P&R), Purchasing, Development Services, and Office Equal Opportunity (OEO).AMC is an employee-owned company staffed by 24 Alaskans including 14 licensed professionals (seven mechanical PEs and seven electrical PEs), staff engineers, designers and a skilled support team.

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KEITH CONFER, PE, RCDD, CDT | *PRINCIPAL ELECTRICAL ENGINEER*

Arctic Engineering, University of Alaska, 2006; Electrical Engineering, University of Alaska Fairbanks; Registered Communications Distribution Designer (RCDD), 2004; Certified Document Technologist, Construction Specifications Institute, 1999; Certified Electrical Inspector, IAEI, 1996

Keith has 23 years of experience engineering and designing highway illumination and traffic signalization systems as well as coordinated utility relocates throughout Alaska. He offers the required diverse background of project experience of both simple and complex projects performed on behalf of local government. Experience also includes roadway lighting, park lighting, electrical and telecommunications bridge crossings, and culvert heat tracing for horizontal construction. Keith is a hands-on engineer who enjoys working directly with owners, facility maintenance personnel, and project managers to develop systems that match the needs of a facility or civil improvement and its' maintenance staff.

DOT&PF Glenn Highway Reconstruction, Phases 1 and 2

This project consists of adding a third lane on the northbound alignment and a third lane to the southbound alignment on the approximately 3.2 miles of the existing Glenn Highway near Eagle River between Hiland Road and Artillery Road. A new approximately 600-foot-long bridge over Eagle River is also incorporated into the design to alleviate some of the dangerous driving conditions using the current alignment. Work included designing and engineering highway illumination in accordance with ANSI/IES RP-8-14 and providing power to a Roadway Information System (RWIS) for DOT&PF's Central Region. Phase 1 was completed in 2015 and was very well received by both DOT and the public. Phase 2, consisting of the southbound alignment is design complete, but was shelved by DOT pending funding.

DOT&PF Seward Highway Milepost 17-22.5 Rehabilitation

Keith is currently the Electrical Project Manager and the Electrical Engineer of Record that seeks to rehabilitate approximately 5.5 miles of the Seward Highway near Moose Pass, Alaska. Project includes heat tracing of approximately seventy-five (75) roadway culvert creek crossings to alleviate any potential drainage issues during times of peak runoff and cold night time temperatures. Culvert heat trace stations were engineered for portable generator connection rather than utility power due to the lack of convenient access to utility power in the area.

DOT&PF Fairbanks Danby-Wembley Roundabout

AMC's currently providing a design for a large round-a-bout for replacement of the conventional intersection of Danby Street and Wembley Avenue for DOT&PF's Northern Region. A new highway illumination system designed in accordance with ANSI/IES RP-8-14 and IES DG-19-08 Design Guide for Roundabout Lighting and consisting of high efficiency LED luminaires is being provided. Identification and relocation of impacted utilities is also part of the design.

DOT&PF Northern Region Automated Vehicle Classifier Upgrades & Construction

AMC provided electrical engineering services in the form of plan review of two (2) sets of plans for DOT Northern Region. The first plan set involved the design of ten (10) Automated Vehicle Classification (AVC) Sites and the second plan set involved the design of twelve (12) AVC sites for Northern Region. AMC reviewed electrical aspects of the project and provided comments back to the Department in the form of red-lined drawings.

DOT&PF Juneau-Egan Dr. Salmon Creek Intersection Safety Improvements

AMC provided DOT&PF's Southcoast Region with engineering, design, and recommendations for the relocation of intersection signalization and adjacent highway illumination to facilitate construction of highway improvements designed into the Egan Drive-Salmon Creek Intersection Safety Improvements Project. Widening of the road required relocation of the northeast intersection signal arm and the adjacent highway illumination. The highway improvements include widening Egan Drive to add an acceleration lane for traffic traveling west on Glacier Highway and turning north onto Egan Drive, and a deceleration lane for traffic traveling south on Egan Drive and turning right onto Channel Drive.

Alaska Airlines Center/University of Alaska Anchorage (UAA) Elmore Road Roundabout

Working closely with the Project Civil Engineers and DOT&PF's Central Region, Keith designed a replacement highway illumination system for the addition of a new roundabout between Tudor Road and Providence Drive on Elmore Road in Anchorage. The design efficiently handles high volumes of roundabout traffic associated with the new 5,000 seat UAA Alaska Airlines Center Sports Arena. Although project funding was through UAA, the design was closely coordinated with and in accordance with DOT&PF Standard Specifications for Highway Construction. The design also required close coordination with Anchorage's Municipal Light & Power (ML&P) to relocate existing medium voltage facilities, and with Alaska Communication Systems (ACS) and General Communications, Inc. (GCI) to relocate both companies' telecommunications utility infrastructure.

UAA Drive Undercrossing

AMC was contracted by UAA to provide pedestrian tunnel lighting for a planned, approximate 100-foot-long, pedestrian undercrossing of UAA Drive. The electrical scope involves lighting the approach leading up to and leading away from the tunnel and providing lighting inside the tunnel. To provide for increased security, the lighting levels in the tunnel were increased to nearly 20 foot-candles, approximately five times the Illuminating Engineering Society of North America (IESNA) recommend levels. Coordination with existing underground power and communications, both with the local utilities and UAA's own utilities, provided additional design challenges.

Providence Alaska Medical Center Wellness Street Improvements, Phases 1, 2 & 3

AMC designed a replacement lighting system for Wellness Street between East 40th Avenue and Providence Drive as part of the enabling works for construction of UAA's new Alaska Airlines Center. He worked closely with the civil engineer and design the replacement lighting system. Work included relocating existing signalization poles to accommodate the reconstructed Wellness Street and relocating existing UAA telecommunication utilities.

DOT&PF Peger Road Re-Surfacing and Fairbanks Metropolitan Area Transportation System (FMATS) Improvements

This project recently completed construction and entailed replacement of existing high intensity discharge (HID) highway lighting luminaires with LED luminaires including the lighting of five intersections; the Peger Road/Van Horn Road intersection, the Peger Road/Mitchell Expressway intersection, the Peger Road/Davis Road intersection, the Peger Road/Airport Way intersection, and the Peger Road/Phillips Field Road intersection. The highway illumination was designed in accordance with ANSI/IES RP-8-14. AMC provided an initial study with supporting point-to-point lighting calculations of select replacement LED luminaires for DOT&PF Northern Region to select from. In addition, the project brought the electrolier foundations up to current DOT&PF standards. Pedestrian safety improvements were also provided along Lathrop Street, Davis Road, and Peger Road as part of the Project.

ANC Postmark Drive and Parking Garage LED Lighting

AMC designed approximately 2.5 miles of replacement highway lighting in accordance with ANSI/IES RP-8 along Postmark Drive, between International Airport Road and Northern Lights Boulevard for DOT&PF's Central Region in Anchorage. Replacement of 400 Watt and 250-Watt high pressure sodium lighting system with energy efficient LED fixtures provided DOT&PF's Central Region with a significant reduction in operational and maintenance costs. In addition, AMC designed the highway illumination system around the reuse of existing lighting poles to minimize installation costs.

DOT&PF Landside Civil Improvements for the ANC Terminal Expansion – Phases 1, 2, & 3

AMC worked closely with the Civil Engineer and DOT&PF's Central Region to engineer and design highway illumination and intersection signalization upgrades for the Anchorage International Airport Road to allow construction of the then new ANC Terminal Expansion Areas at the Anchorage

International Airport. Work included engineering and design of roadway, bridge, and parking lot illumination, intersection signalization, lighting inbound and outbound lanes of International Airport Road from the Terminal to the intersection of International and Jewel Lake Roads, and lighting a 15-acre parking lot from a multitude of different load centers. Parking lot incidentals included an access control system, closed circuit television monitoring of critical areas to increase public safety, and intercom communications to the parking control facility. Phase 1 included a 700-foot elevated bridge for passenger departures at C-Concourse.

MOA Street Lighting on Petersburg Street

This project provides illumination for a short section of Petersburg Street on behalf of the MOA to upgrade the roadway to municipal standards to support a future project development in the area. AMC performed point by point lighting calculations, provided the illumination design, and coordinated the location of the required load center with the local utility.

MOA Kincaid Soccer Stadium Trail Lighting

This project included the construction of seven natural grass soccer fields within the original area of the Kincaid Nike Missile Site, a new artificial turf field due south of the Kincaid Chalet, and three kilometers of paved trails. AMC provided electrical engineering and design to support these changes. Existing lighting and electrical distribution equipment and feeders were relocated to align with the new trail. The artificial turf field included a stadium that will hold 2,000+ people. AMC designed the power and communications systems to the new stadium scoreboard. AMC coordinated with MOA personnel to align the electrical circuit routing around the south side of the chalet near the old biathlon stadium.

MOA Mallard Lane Realignment Project

AMC ensured that LED luminaires, lighting and uniformity requirements adhered to MOA Standards, with special consideration for glare at intersections. To mitigate light pollution concerns, they strategically placed shielded luminaires to minimize light trespass outside designated areas.

MOA Hidden Hills Subdivision Phase II

AMC provided power and lighting design for both phases of the new Hidden Hills subdivision in Eagle River. The project entailed strategic placement of transformers for power pedestals serving individual lots. Transformers were placed to both coordinate with other utilities in the easement and limit associated material and labor costs, while maintaining strict adherence to national and local codes and Matanuska Electric Association (MEA) standards. The lighting was also designed to coordinate with other utilities, limit cost and meet required light levels as defined by the Illuminating Engineering Society (IES) and MEA.

DOT&PF Electrical Engineering Term Agreement

Under this term contract, AMC provided electrical design services for airports, buildings and roadways associated with various state and federally funded Capital Improvement Projects and Maintenance & Operation Projects. Electrical design systems include lighting, electrical power and communication installations.

DOT&PF Innovative Term Agreement for Constructability Reviews

Under this Term Contract primarily funded through Federal Highway Administration (FHWA) and Federal Aviation Administration (FAA) funding, AMC provided constructability and peer review for the Trunk Road Reconstruction Phase 1, Parks Highway to Palmer-Wasilla Highway Project illumination and electrical plans and specifications. AMC also provided electrical and mechanical engineering and design for the Kenai Combined Facility Parking Lot Renovation Project as well as for the Kenai Youth Facility Parking Lot Renovation Project under this Term agreement.

DOT&PF AMATS: O'Malley Road Reconstruction, Phase 1 – Seward Highway to Livingston Street

This Central Region project entails a major reconstruction of O'Malley Road in Anchorage between the Seward Highway and Livingston Street. AMC provided electrical engineering services in the form of plan review, load center calculations, verification of conduit fill, voltage drop calculations, and final sealing and signing those drawings pertaining to the electrical aspects of the project, including one AVC/ATR installation and related load center.

DOT&PF Anchorage International Airport Road Pavement Preservation: South Aircraft Drive to Homer Drive - Automated Traffic Recorders

This Central Region project entailed resurfacing of International Airport Road by milling the pavement and repaving from South Aircraft Drive to Homer Drive. Two ATR/AVCs installations were provided under this project. AMC provided electrical engineering services in the form of plan review, load center calculations, and final sealing and signing of plans providing for the installation of two separate and distinct AVC/ATR installations and related load centers.

DOT&PF ANC Taxiway R & T Rehabilitation Improvements (AIP # 3-02-0016-177-2016)

AMC provided electrical engineering for the ANC Taxiway R & T Rehabilitation Projects that rehabilitated the structural sections of Taxiways R and T at the Ted Stevens Anchorage International Airport (AIA or ANC), widened the taxiway safety area (TSA) to meet the design standards for Airplane Design Group (ADG) VI, widen the structural section at intersections and replaced medium intensity taxiway edge and centerline lights on approximately 50% of Taxiway R and all the medium intensity taxiway edge and centerline lights on Taxiway T. Also replaced were the hold lights leading

from Runway 15/33 onto Taxiway R, and approximately 80,000 feet of 5kV circuit conductor and 24,000 feet of conduit involving some eleven (11) airside lighting circuits. The Project was largely constructed at of the end of 2016 with a small portion of work completed in the late spring of 2017.

DOT&PF ANC Taxiway R Group VI Improvements (AIP # 3-02-0016-(TBD)-2018)

AMC is currently providing electrical engineering in support of DOT's Central Region Aviation Design Goup for the ANC Taxiway R Group VI Improvement Project that will rehabilitate the structural sections of the northern portion of Taxiway R at the Ted Stevens Anchorage International Airport (AIA or ANC), widen the taxiway safety area (TSA) to meet the design standards for Airplane Design Group (ADG) VI, widen the structural section at intersections and replace medium intensity taxiway edge and centerline lights on approximately 50% of Taxiway R. Also, being replaced are the hold lights leading from Runway 15/33 onto Taxiway R, and approximately 36,000 feet of 5kV circuit conductor and 15,000 feet of conduit involving some four (4) airside lighting circuits. The Project just recently its' PIH milestone and is just now beginning into PS&E.